DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, DC 20380

MCO 8420.13
CBG
20 Aug 91

MARINE CORPS ORDER 8420.13

From: Commandant of the Marine Corps
To: Distribution List

Subj: MATERIEL FIELDING PLAN (MFP) FOR THE M1A1 TANK

Ref: (a) MCO P4105.3

Encl: (1) Materiel Fielding Plan for the M1A1 Tank

1. Purpose. The enclosure is published in accordance with the provisions of reference (a). It is intended to serve as the single, stand-alone document which consolidates all actions, schedules, procedures, requirements, and information necessary to ship, deprocess, deploy, and sustain the M1A1.

2. Information. The MFP provides information in sufficient detail, accuracy, and timeliness to allow field commanders of the receiving and supporting units to plan and budget for the arrival and support of the M1A1. The M1A1 may be placed in service upon attainment of the criteria set forth in reference (a).

3. M1A1 Accelerated Fielding. On 17 September 1990, the Commandant of the Marine Corps approved the accelerated fielding of the M1A1 Main Battle Tank (to meet requirements in Southwest Asia. Accelerated fielding will be executed using M1A1 tanks and associated equipment provided on a temporary loan basis by the U.S. Army. Accelerated fielding will not be addressed in this MFP, except in relation to its impact on the Marine Corps M1A1 Common Tank program. In those cases where the impact has not been determined (e.g., force structure, fielding schedules, retrograde schedules, etc.), the pertinent paragraphs and appendices will be notated as "to be provided separately".

4. Action. The procedures contained in this Order will be adhered to for fielding and placing the M1A1 tank in service. The primary responsibilities and implementing activities are defined under each major section.

5. Reserve Applicability. This Order is applicable to the Marine Corps Reserve.

R. A. TIEBOUT
By direction

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MATERIEL FIELDING PLAN FOR THE M1A1 TANK

1. Introduction

a. Source of the Requirement. The Marine Corps requirement for the M1A1 tank is documented by Department of the Army (DA) Approved Revised Materiel Need (Engineering Development) (MN (ED)) for an MBT, CDOG Para 336a(13), ACN 20337 (U) as initially approved by CMC letter RDD-26, 22 September 1975, Subj: MBT Required Operational Capability (ROC), and revised in CMC letter RDD260601np, 3 December 1987, Subj: MBT ROC. The CMC letter stated that the MN(ED) meets USMC requirements with the additional requirement that the tank have a vehicle navigational assistance device and a Deep Water Fording Kit (DWFK). The Marine Corps requires the M1A1 to be capable of operation in an amphibious environment to include provisions for transportation aboard U.S. Navy amphibious ships. The Marine Corps plans to procure and deploy the M1A1 tank system to selected active Fleet Marine Force (FMF) and reserve component tank units as a replacement for the M60A1 Reliability Improved Selected Equipment (RISE)/Passive (R/P) Tank. The M1A1 tank will be procured with current production line configuration modifications as agreed to in annual reviews.

b. Points of Contact. The Assistant Program Manager (APM), Tank Systems Branch, Ground Weapons (CBGT), Marine Corps Research, Development, and Acquisition Command (MCRDAC), will serve as the focal point for all logistics assistance during initial fielding and assist in the resolution of problems which are neither addressed in this Materiel Fielding Plan (MFP) nor solvable through the efforts of normal logistical channels.

Grade	Name	Position	Command	Code	Phone
Col	Hendrickson	PM, Ground Weapons	MCRDAC, Quantico, VA	CBG	DSN 278-2136
LtCol	Varela	APM, Tank Systems Branch	MCRDAC, Quantico, VA	CBGT	DSN 278-2137
Maj	Oneal	M1A1 Project Officer	MCRDAC, Quantico, VA	CBGT	DSN 278-2137
Maj	Thaler	OIC, NETT	MCRDAC, Quantico, VA	CBGT	DSN 952-5741
Maj	Gerardi	Training	MCRDAC, Quantico, VA	PSL-T	DSN 278-3739
Maj	Thomas	Ord Vehicle Maint Officer	MCRDAC, Quantico, VA	CBGM	DSN 278-2137
Maj	Miller	Requirements & Programs	MCCDC, Quantico, VA	WF11B	DSN 278-3321
Maj	Beal	Liaison Officer	TACOM, Warren, MI	SFAE-ASN-MCLNO	DSN 786-6337
GS-12	DuPonte	WS/EM	MCLB, Albany, GA	833-3	DSN 567-6548
GS-11	Bell	Inventory Manager	MCLB, Albany, GA	833-3	DSN 567-6548

c. Fielding Methodology

(1) General Fielding Plan. The M1A1 will be fielded "vertically" in view of industrial, budgetary, training, and various other resource constraints. The submission of requisitions for the M1A1 is not required. Annex I to appendix A reflects the allowances and projected deliveries for the M1A1.

During the M1A1 phase-in, the Marine Corps will be required to maintain a diminishing M60A1 R/P capability until M1A1 fielding is complete.

(2) Method of Fielding. The M1A1 and its support packages will be force-fed to gaining commands utilizing the U.S. Army's Total Package Fielding (TPF) concept. The TPF process provides for and coordinates the concurrent fielding of the M1A1 system and required support, to include initial spares/repair parts, starter set of publications, special tools and test equipment, and ancillary equipment. Tanks will be deprocessed by a Materiel Fielding Team (MFT) Deprocessing Team comprised of personnel from Anniston Army Depot (ANAD) augmented by Marine Corps personnel. In concert with M1A1 fielding, all M60A1 R/P assets will be declared excess and retrograded to the Primary Inventory Control Activity (PICA) for disposal.

(a) Active. A Marine Corps New Equipment Training Team (NETT) will conduct New Equipment Training (NET) in company-sized evolutions. Tank companies will cycle through MCAGCC for 29 training days of M1A1 NET. Active assets will be shipped to sites of gaining commands in accordance with a prescribed production schedule, deprocessed, and subsequently placed in service.

(b) Reserve. Designated M1A1 reserve tank companies will also undergo NET at MCAGCC.

d. Replaced Systems/Equipment

(1)

Items Replaced	TAMCN	NSN
Tank, M60A1 R/P	E1875	2350-01-059-1503
Tank, M60A1 R/P w/Applique Armor	E1875	2350-01-225-7484
Tank, M60A1 R/P w/M9 Bulldozer Kit	E1876	2350-01-052-7373
Tank, M60A1 R/P w/M9 Bulldozer Kit w/Applique Armor	E1876	2350-01-273-9395

(2) Retrograde. Annex II of appendix A reflects the projected retrograde schedule for the M60A1 R/P. Once the M1A1 is placed in service, disposition instructions for the M60A1 R/P will be requested by gaining commands from the Commanding General (CG), MCLB (Code 833), Albany, GA. Separate instructions will be promulgated for tank units scheduled to redesignate and deactivate. The M60A1 R/P will be retrograded with all component items listed in SL-3-07585 except those listed below. Of the items listed below, only excesses generated by conversion from the M60A1 R/P to the M1A1 will be retrograded.

(a) Supply System Responsibility

NSN	Item Identification
5820-00-223-7417	Radio Set: AN/VRC 44 and TSEC module w/cables
5935-01-032-5404	Adapter, Connector: MIL SPEC M55339/14-00306
5820-00-832-5532	Bag: MCLB ESD 198740
5830-01-137-7986	Intercommunication Set: AN/VIC-1 or N/VIC-2
5995-01-043-3872	Cable Assembly, Special Purpose, Electrical, Branch

(b) Collateral Materiel

NSN	Item Identification
6545-00-922-1200	First Aid Kit, General Purpose

(c) Using Unit Responsibility

NSN	Item Identification
1005-01-128-9936	Rifle, 5.56mm, 716A2
7240-00-222-3088	Can, Gasoline, Military, Steel, 5 Gallon
7420-00-089-3827	Can, Water, Military, 5 Gallon
8465-01-004-2893	Goggles, Sun, Wind, and Dust: w/Carrying case
8415-00-094-2679	Helmet, CVC, Vehicle Crewman
7420-00-177-6154	Spout, Can, Flexible: 16-inches w/Filter Screen
2590-00-140-7961	Cable Kit, Special Purpose
8345-00-174-6865	Panel Marker, Aerial Liaison
8415-01-092-0039	Mitten, Heat Protective, Ambidextrous
8345-00-375-0223	Flag Set, M238

2. System Description

a. Administrative Information

(1) Nomenclature: Tank, Combat, FT, 120 mm Gun, M1A1

(2) TAMCN: E1888 VII MP

(3) Stores Account Code: 3

(4) NSN: 2350-01-087-1095

(5) Unit of Issue: ea

(6) Hardware Unit Cost: $2,112,000 (FY 89 HWE Cost)

(7) Support Costs: Table 1

(8) Equipment Density: Normal

(9) Identification Number: 08953A

(10) Readiness Reporting: The M1A1, a combat essential item of equipment, is readiness reportable in accordance with MCO P3000.11, "Marine Corps Automated Readiness Evaluation System (MARES) Introduction/Policy Manual," and MCO P3000.13, "Marine Corps Status of Resources and Training System (SORTS) Standing Operating Procedures."

(a) MARES. Commanders will begin reporting on the M1A1 upon achieving Initial Operational Capability (IOC). Specific instructions will be published in Marine Corps Bulletins of the 3000 series. Commanders of active M60A1 R/P units will continue to report until directed otherwise. Footnote comments, if appropriate, will accompany reports.

(b) SORTS. When a battalion enters into M1A1 NET, it will be temporarily unavailable for operational commitments and its status will be reflected in SORTS as follows:

1 Report Category Level "C-5."

2 Reason organization not "C-1": "N" (resource allocation by CMC does not permit higher C-level).

3 Current status and activity code: "CV" (organization major equipment conversion).

4 Report measured resource levels (P, S, R, and T) with a "C-5" until all four respective areas have reached "C-3" level.

5 Ensure appropriate "RM3" resource area remarks are submitted, to include forecast. An "RM3" with the label "TREAD" is required; indicating the actual measured resource levels for P, S, R, T.

6 When all four measured resource area levels reach "C-3":

a Report unit status and activity code in the operational category "OP" (organization performing normal operational mission). (The "CV" to "OP" status transition can only be accomplished once per battalion for this transition.)

b Commence reporting overall level and measured resource area levels "C-1" through "C-4," as applicable.

Table 1.--Support Costs.

1. Annual support cost estimates for an M1A1 represent the sum of fuel, repair parts, and component repair costs. The current estimate of $77,346 (FY 90 constant dollars) per tank per year is based on empirical data and assumes 850 mean miles usage.

2. Predict M1A1 annual support costs using the following formulas until such time as they may be supplanted by actual expense data:

$$C_{T(\$/yr)}=C_{F(\$/yr)}+C_{RP(\$/yr)}+C_{CR(\$/yr)}$$

where

$C_{T(\$/yr)}$=Total Cost (Dollars/Year)

$C_{F(\$/yr)}$=Fuel Cost (Dollars/Year)

$C_{RP(\$/yr)}$=Repair Parts Cost (Dollars/Year)

$C_{CR(\$/yr)}$=Component Repair Cost (Dollars/Year)

$$C_{F(\$/yr)}=[\tilde{}c_{G(\$/g)}]*[\tilde{}f_{C(g/tk/m)}]*[F_{POL}]*[\tilde{}d_{(m/tk/yr)}]*[N]*[F_I]$$

$$C_{RP(\$/yr)}=[\tilde{}p_{(\$/tk/m)}]*[\tilde{}d_{(m/tk/yr)}]*[N]*[F_I]$$

$$C_{CR(\$/yr)}=[\tilde{}m_{CR(\$/tk/m)}+\tilde{}l_{CR(\$/tk/m)}]*[\tilde{}d_{(m/tk/yr)}]*[N]*[F_I]$$

where

$\tilde{}c_{G(\$/g)}$=Mean Cost per Gallon (Dollars/Gallon)

$\tilde{}f_{C(g/tk/m)}$=Mean Fuel Consumption (Gallons/Tank/Mile)

F_{POL}=Factor (Other POL)

$\tilde{}d_{(m/tk/yr)}$=Mean Distance (Miles/Tank/Year)

N=Number of Tanks

F_I=Factor (Inflation)

$\tilde{}p_{(\$/tk/m)}$=Mean Repair Parts Cost (Dollars/Tank/Mile)

$\bar{m}_{CR(\$/tk/m)}$=Mean Material Cost (Dollars/Tank/Mile)

$\bar{l}_{CR(\$/tk/m)}$=Mean Labor Cost (Dollars/Tank/Mile)

3. Estimated annual support costs in FY90 constant dollars were derived as follows:

$C_{T(\$/yr)}=C_{F(\$/yr)}+C_{RP(\$/yr)}+C_{CR(\$/yr)}$

$C_{F(\$/yr)}=[\bar{c}_{G(\$/g)}]*[\bar{f}_{C(g/tk/m)}]*[F_{POL}]*[\bar{d}_{(m/tk/yr)}]*[N]*[F_I]$

$C_{F(\$/yr)}=[\$0.65/g]*[5.93g/m]*[1.13]*[850m/tk/yr]*[1tk]*[1]$

$C_{F(\$/yr)}=\$3,702.25$

$C_{RP(\$/yr)}=[\bar{p}_{(\$/tk/m)}]*[\bar{d}_{(m/tk/yr)}]*[N]*[F_I]$

$C_{RP(\$/yr)}=[\$58.81/tk/m]*[850m/tk/yr]*[1tk]*[1]$

$C_{RP(\$/yr)}=\$49,988.50$

$C_{CR(\$/yr)}=[\bar{m}_{CR(\$/tk/m)}+\bar{l}_{CR(\$/tk/m)}]*[\bar{d}_{(m/tk/yr)}]*[N]*[F_I]$

$C_{CR(\$/yr)}=[\$18.90/tk/yr+\$8.93/tk/yr]*[850m/tk/yr]*[1tk]*[1]$

$C_{CR(\$/yr)}=\$23,655.50$

$C_{T(\$/yr)}=\$3,702.25+\$49,988.50+\$23,655.50=\$77,346.25$

4. The FY90 amounts derived from the Baseline Cost Estimate provided by U.S. Army Tank-Automotive Command are as follows:

Mean Cost per Gallon (Dollars/Gallon)	$ 0.65
Mean Fuel Consumption (Gallons/Tank/Mile)	5.93
Other POL Factor	1.13
Mean Repair Parts Cost (Dollars/Tank/Mile)	$58.81
Mean Material Cost (Dollars/Tank/Mile)	$18.90
Mean Labor Cost (Dollars/Tank/Mile)	$ 8.93

b. Physical Characteristics (See **figures 1** through 7)

(1) Dimensions

Length (Gun Forward)	386.94 in
Length (Gun Forward w/DWFK)	404 in
Length (Gun Rearward)	355.64 in
Length (Hull)	312 in
Width	144 in
Width (Less Skirts)	137 in

Width (w/Mine Clearing Blade (Closed))	154 in
Width (w/Mine Clearing Blade (Open))	182 in
Height	113.65 in
Height (w/DWFK)	140 in
Square	386.94 fty
Cube	3664.64 ft(3)
Ground Clearance: Hull Center	18.5 in
Other	16.5 in
Vehicle Center of Gravity	
(x) Longitudinal (forward of final drive centerline)	126.31 in
(y) Lateral (positive, right on centerline)	1.20 in
(z) Vertical (above ground line)	52.14 in
Vehicle Frontal Area	75.9 fty
Vehicle Side Area	162 fty
Vehicle Top Area	311 fty

(2) Weight

Weight (Combat Load)(1)	67.50 tons
Weight (Nominal)(2)	63.11 tons
Weight (Amphib Embark/Transport)	64.59 tons
Weight (MPS Embark/Transport)	63.56 tons
Weight (Turret)	22.32 tons
Ground Pressure (Average)	14.95 psi

Note 1: Combat load weight is the maximum vehicle weight of a fully fueled, production-configuration tank loaded with ammunition, component equipment, crew, and supplies. It is the maximum weight of a tank.

Note 2: Nominal weight is fully fueled, but without ammunition, component equipment, crew, and supplies. This approximates the weight of a tank in the tank park or maintenance bay.

(3) Armament

Main Weapon	120 mm, M256
Coaxial Machinegun	7.62 mm, M240
Commander’s Machinegun	.50 cal, M2
Loader’s Machinegun	7.62 mm, M240
Rifle	5.56 mm, M16A2
Smoke Grenade Launcher	40 mm, M257

(4) Ammunition Stowage

Main Weapon (120 mm, M256)	40 rds
Coaxial Machinegun (7.62 mm, M240)	10,000 rds
Commander’s Machinegun (.50 cal, M2)	1,000 rds

Loader’s Machinegun (7.62 mm, M240)	1,400 rds
Crew Weapon (5.56 mm M16A2 rifle)	210 rds
Hand Grenades (M67)	8 grenades
Grenades (M76/L8A3)	24 rds

(5) Fire Control and Surveillance

Gunner’s Primary Sight (GPS)	
Dual day optics (narrow field of view)	6.2o at 9.5X
Dual day optics (wide field of view)	16o at 3X
Close-in surveillance (unit field of view)	18o at 1X
Night vision (thermal imaging) optics (narrow field of vision)	2.5o by 5.0o at 9.8X
Night vision (thermal imaging) optics (wide field of view)	8.0o by 15o at 3X
Sight stabilization	Elevation
Nd: Yag laser range finder ranging capability	200 to 7,980 meters
Gunner’s Auxiliary Sight	8o at 8X
Emergency Firing Device	Standard M60A2-Type
Ballistic Computer	Digital Self-Checking
Gun/Turret Drive and Stabilization	Elevation and Azimuth
Commander’s Primary Weapon Sight	Optical Ext. of GPS
Commander’s Weapon Sight	20o at 3X
Commander’s Day Vision Periscopes	8 per tank, 360o at 1X
Loader’s Day Vision Periscope	360o at 1X
Driver’s Day Vision Periscopes	3 per tank, 120o at 1X
Driver’s Night Vision Periscope (image intensifier)	35o by 45o at 1X

(6) Suspension

Type	Hydromechanical
Road Wheel Stations	7 per side
Torsion Bars	7 per side
Shock Absorbers (modular rotary)	3 per side
Track	T-158
Track Blocks/Pads (per side)	78/156

(7) Electrical System

Electrical Power (6 batteries, 12 volts)	24 V dc
Electrical Capacity (battery only)	360 amp hours

Alternator (charging system)	650 amps
Voltage Regulator	Solid State

(8) Communications (Marine Corps initial issue configuration)

Intercom	AN/VIC-1 OR AN/VIC-2 (V)
Radio Sets	1 ea AN/VRC-12
Security System	TSEC/KY-57
Position Location Reporting Reporting System (PLRS)	AN/VSQ-1

(9) Engine

Type (two spool gasifier/free-shaft power turbine with recuperator)	AGT-1500
Gross Horsepower	NBC on, 1463 hp at 3000 rpm NBC off, 1500 hp at 3000 rpm
Gross Torque	NBC on, 2561 ft lb at 3000 rpm NBC off, 2626 ft lb at 3000 rpm
Maximum Torque	NBC on, 3842 ft lb at 1500 rpm NBC off, 3885 ft lb at 1500 rpm
Engine Output Speed at Maximum Tank Speed (41.5 mph)	NBC, on, 3150 rpm NBC, off, same
Fuel Capacity (usable)	495 gals

Fuel

CONUS:

20oF (-6oC) TO 115oF (45oC)	DF-2
-25oF (-32oC) TO 20oF (-6oC)	DF-1 ASTM D 975 Grade 1-D
Below -25oF (-32oC)	Jet A-1 VV-F-800 Grade

OCONUS:

20oF (-6oC) to 115oF (45oC)	DF-2 OR JP8
-10oF (_23oC) to 20oF (-6o)	Blend half and half NATO F-54 and F-34, or F-35, F-44, F-58, or ASTM D1655 Grade Jet-A-1. If blending isn't possible, use NATO F-34 or F-35, F-44, F-58, or ASTM D1655 Grade Jet-A-1.
Between -10oF (-23oC) and -25oF (-32oC)	NATO F-34 or F-35, F-44 or ASTM D1655 Grade Jet-A-1
Below -25oF (-32oC)	ASTM D1655 Grade Jet-A-1
Oil Capacity (including oil cooler and lines)	6.25 gals

(10) Transmission

Type (hydrokinetic-fully automatic)	X1100-3B
Torque Converter (TC-897)	3 Element
Transmission Ranges	4 Forward 2 Reverse
Steering (integral steer/throttle T-Bar control)	Hydrostatic
Turning Radius	Pivot to Infinity Variable
Braking (two fully independent systems)	Hydraulic and Mechanical
Oil Capacity (including oil coolers and lines)	45 gallons

(11) Final Drive

Type	Coaxial Planetary Gear Drive
Gear Reduction Ratio (final drive input to sprocket drive output)	4.67 to 1

(12) Turret

Main Gun/Coaxial Weapon	
Elevation limit-forward (100o right and left of tank centerline)	-9.5o to +20o
Elevation limit-rearward (70o right and left of tank centerline)	0o to +20o
Traverse capability (in either direction)	360o

Elevation tracking rate (powered)	0.25 mils/sec to 25 mils/sec
Elevation tracking rate (manual)	10 mils/crank rev
Traverse tracking rate (powered)	0.25 mils/sec to 75 mils/sec
Traverse tracking rate (manual)	5 or 10 mils/crank rev
Elevation maximum slew rate (control handles)	400 mils/sec
Elevation maximum slew rate (control handles and stabilization commands)	750 mils/sec
Traverse tracking rate (silent watch control)	up to 75 mils/sec
Elevation tracking rate (silent watch control)	up to 25 mils/sec
Slew rates for 1500 mil duration silent watch control)	up to 300 mils/sec

(13) Commander’s Weapon

Elevation limit	-10o to +65o
Traverse capability (in either direction)	360o
Traverse tracking rate (powered)	Variable up to 400 mils/sec
Traverse tracking rate (manual)	Variable up to 178 mils/sec
Elevation tracking rate (manual)	Variable up to 110 mils/sec

(14) Loader’s Weapon

Elevation limits	-35o to +65o
Firepower coverage (loader’s sector of responsibility to left of turret)	265o

(15) Nuclear, Biological, and Chemical (NBC)

Minimum Crew Compartment Pressurization (hatches closed): Normal	3.7 inches H(2)O
Gun Firing	0.0 inches H(2)O
Controllable Temperature	
High	80 oF
Low	65 oF
Minimum Ventilated-Face-Piece Air Supply	3 std ft(3)/min (each)
Minimum Air Cooled Vest Air Supply	14 std ft(3)/min (each)

(16) Auxiliary Automotive

Batteries	Military Type 6TN (lead acid)
Quantity	6
Connection	Series-Parallel
Capacity	300 ampere hours
Voltage	24 V dc

(17) Fire Detection/Suppression System

Type	Dual optical IR
Operation	Automatic
Suppressant	Halon 1301
Number of Sensors	7
Response Time	2 millisec maximum

(18) Power Requirements None

c. Operational Characteristics. The M1A1 tank is a full-tracked, highly mobile, direct fire, armored combat vehicle capable of sustained offensive and defensive combat in a Nuclear, Biological, and Chemical (NBC) environment. Operated by a crew of four, the tank is designed to close with and destroy enemy forces, fortifications, and materiel using armor protection, firepower, mobility, and shock action in both amphibious assaults and subsequent operations ashore. The M1A1 tank will satisfy the Marine Corps tank requirement during the near and midterm.

(1) Power Train. The M1A1 power pack consists of a 1500-horsepower turbine engine (AGT-1500), a hydrokinetic automatic transmission (X1100-3B), two final drives, the air cleaner system, the scavenging blower, and the cooling system. The powerpack and accessories are designed for ease of maintenance and have "quick disconnects" to facilitate removal. The AGT-1500 is a multifuel engine and will burn virtually any distillate for internal combustion engines. Transmission output is through identical left and right final drives to the track drive hub and sprocket assemblies. The governed engine speed allows a vehicle top speed of 41.5 mph on level, hard-surface roads. The power pack weighs approximately 8500 pounds and is 119-inches long, 80-inches wide, and 47-inches high.

(2) Suspension. The suspension system, with seven road wheels per side, is torsion bar-sprung and hydraulically dampened to provide tank mobility over cross-country terrain at speeds up to 30 mph.

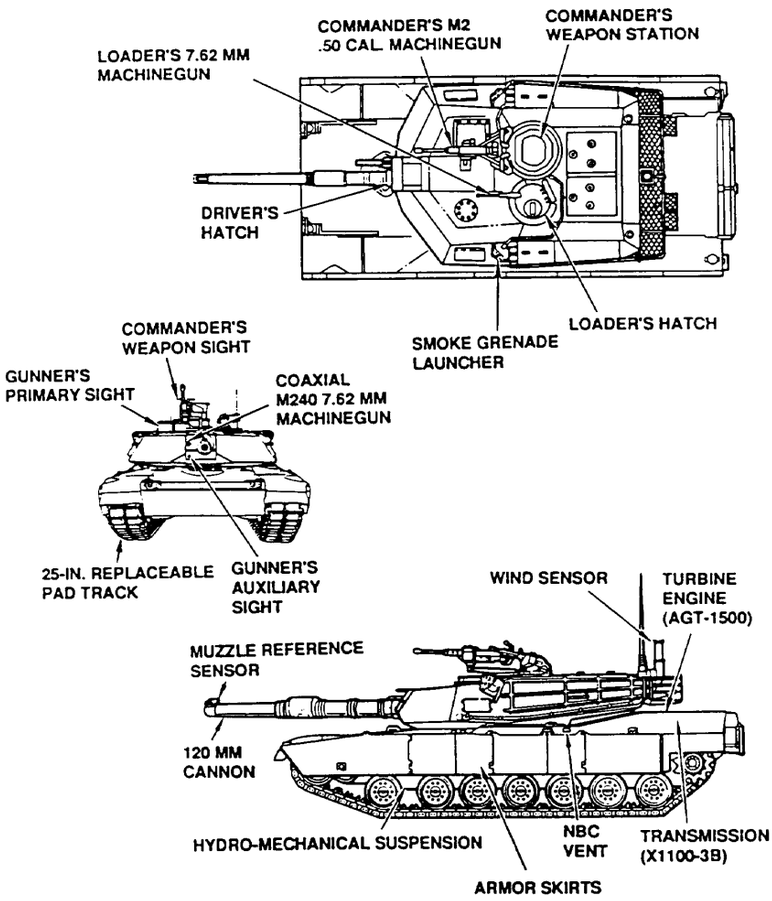

Figure 1.--M1A1 Tank External Features.

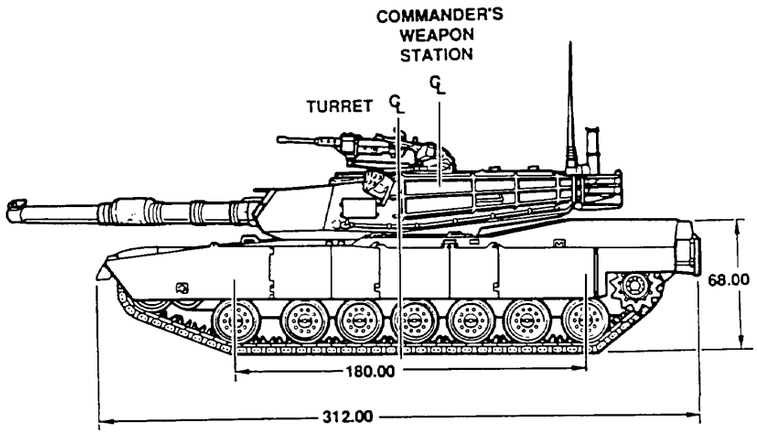

Figure 2.--M1A1 Tank Dimensional Characteristics (Left Side).

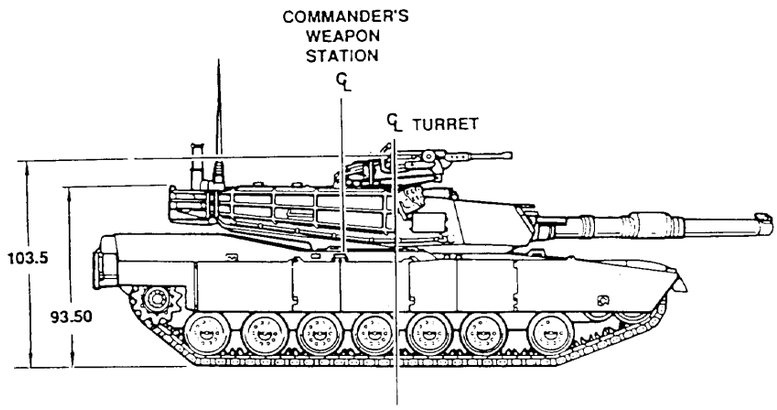

Figure 3.--M1A1 Tank Dimensional Characteristics (Right Side).

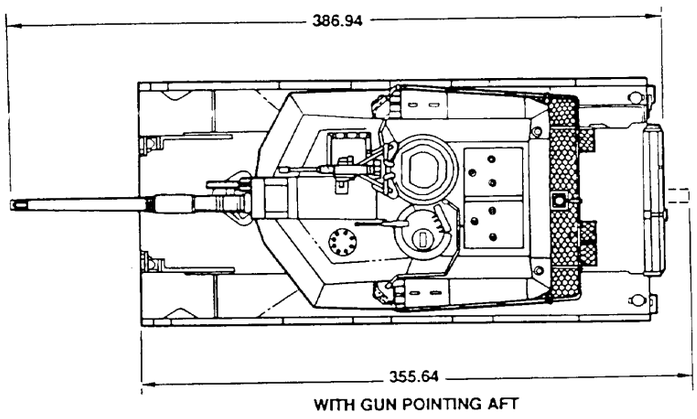

Figure 4.--M1A1 Tank Dimensional Characteristics (Top View).

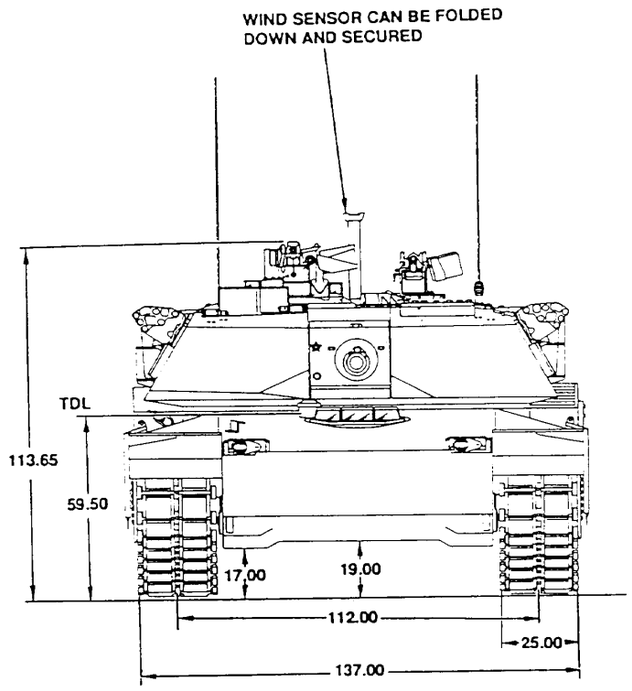

Figure 5.--M1A1 Tank Dimensional Characteristics (Front View).

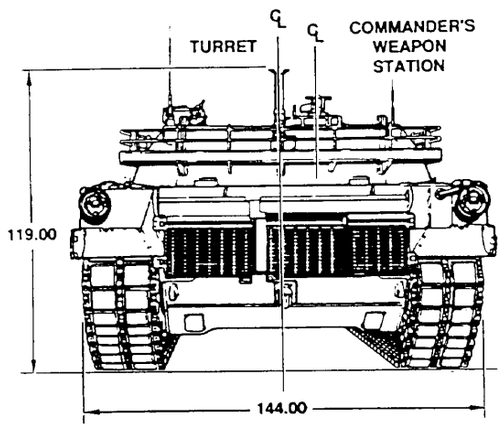

Figure 6.--M1A1 Tank Dimensional Characteristics (Rear View).

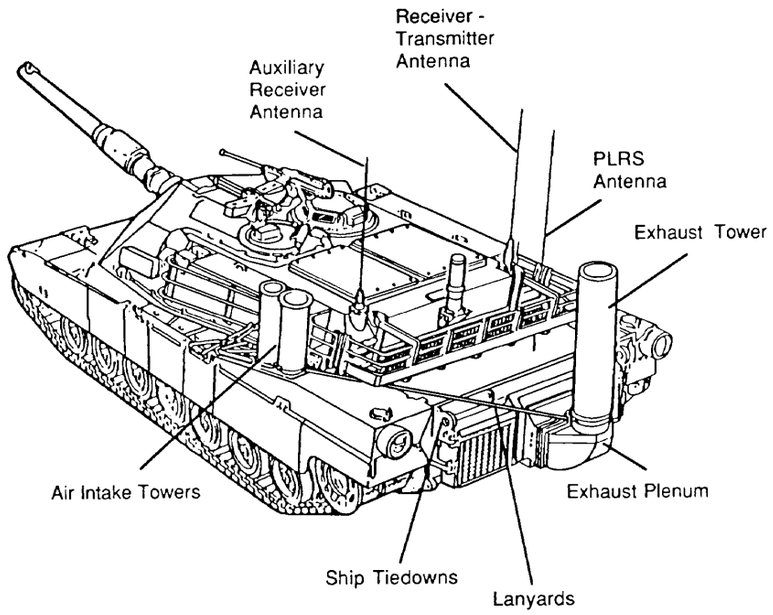

Figure 7.--M1A1 Tank (3/4 Left Rear View), DWFK Installed.

(3) Main Armament. The 120 mm, M256 smoothbore gun, mounted in a traversable turret, is used against moving or stationary armored vehicles, fortifications, and enemy troops. Capable of destroying any weapon system on the modern battlefield, it is used primarily to destroy enemy armored vehicles, but can also be used to destroy fortified material-type target and enemy troops.

(4) Secondary Armament. The secondary weapons consist of two 7.62 mm, M240 machineguns and a .50 caliber, M2 machinegun. One 7.62 mm, M240 machinegun is coaxially mounted on the right side of the main gun mount and is intended for use against soft targets. The other 7.62 mm, M240 machinegun is skate-mounted at the loader's station and is used against soft targets and aircraft. The .50 caliber, M2 machinegun mounted at the Commander's Weapon Station (CWS) is used against soft targets, lightly armored vehicles and aircraft. Additionally, the M257 smoke grenade launchers (eight tubes per side) provide the tank with a means of evading the enemy and/or defending against antitank, optically guided missiles. When both sets of grenade launchers are fired, they produce a 120o smoke screen 30 meters in front of the tank. The launchers, which are mounted externally on the turret, are aimed by rotating the turret. Each launcher holds four 40 mm grenades, which are electrically fired. One reload complement is stowed outside the turret.

(5) NBC Defense. NBC protection is provide primarily through an overpressure protection system (filtered air for breathing and crew compartment pressurization). Individual protection (ventilated face piece and protective overgarment) is also provided as a backup should the primary system fail. Cooled air to the crew compartment and to each crewman's ventilated face piece and air-cooled vest provide protection against heat stress. The NBC system uses bleed air from the engine, which is passed through an air cycle system where it is cooled by a heat exchanger and expansion turbine. The cooled air then proceeds through the NBC composite filters where contaminants are removed. Finally, the cooled air is circulated to each crewman's ventilated face piece and air-cooled vest as well as the crew compartment. In the event of a malfunction of the main NBC system, the backup NBC system will supply the crew compartment with filtered air. An AN/VDR-2 radiac meter is located in the crew compartment to detect low threshold gamma radiation. Decontamination capability is provided by three ABC-M11 DS-2 decontamination devices (one stowed in the crew compartment and one in each turret cargo stowage box).

(6) Fire Control. The fire control system integrates a 120 mm smoothbore cannon with a laser range finder, full solution solid-state digital computer, environmental sensors, stabilized

gun, and stabilized day/thermal sights to optimize first round hit probability. The tank's stabilization system permits accurate firing-on-the-move capability at cross-country speeds up to 30 mph. The gunner merely places his reticle on the target, lases, and fires. The laser determines the range, and the computer determines and applies the weapon sight offset angles necessary to obtain a target hit when the gunner squeezes the trigger. The M1A1 MBT Fire Control System will be calibrated (boresight and zero) in accordance with U.S. Marine Corps Technical Manual TM 08953A-10/1-3.

(7) Ergonomics. Human factors have been optimized in the design of crew stations. Simple controls are grouped so that crew operations are performed at maximum efficiency.

(8) Armor Protection. Weld-fabricated, rolled, homogeneous armor, combined in the hull and turret armor assemblies, provides frontal armor protection. The turret front and sides, including the gun shield, are protected against the specified large caliber threats. Large caliber protection for the hull front is provided by high obliquity upper and lower glacis armor assemblies across the entire hull width. Hull and turret side protection consists of armor assemblies and armored skirting. The rear hull and turret armor assemblies and rear grille doors protect the tank's rear turret and power pack compartments.

(9) Survivability. Crew and tank survivability are enhanced by compartmentalized stowage of fuel and ammunition, by minimizing visual and noise signatures, and by nuclear hardening electronic components. Compartmentalized stowage of fuel and ammunition reduces the likelihood of secondary fires or explosions which may destroy the tank or injure the crew. Minimizing visual and noise signatures reduces the probability of being detected for attack by mortars, rockets, or missiles. Nuclear hardening ensures that the tank's electronic subsystems will remain operable after a nuclear explosion which will generate various effects, including: shock, thermal, Electromagnetic Pulse (EMP), and transient radiation.

(10) Operational Data

Gross Horsepower-to-Weight Ratio (combat loaded tank)	22.4 hp/ton
Maximum Forward Governed Speed (hard, level surface)	41.5 mph
Sustained Speed (60 percent grade) NBC off 4.1 mph	NBC on 4.0 mph
Cross-Country Speed	up to 30 mph
Acceleration (forward direction, 0 to 20 mph, dry and level paved roads)	NBC on 7.1 sec NBC off 6.8 sec

Refueling Rate	50 gpm (per fill point)
Cruising Range (29 mph on dry, level, secondary roads)	279 miles with NBC on 289 miles with NBC off
Obstacle Crossing	
Vertical	42 in
Trench	9 ft
Fording Depth	
Without kit	48 in
With kit	78 in (w/one ft free board)
Braking	
From speeds between 30 mph to maximum speeds on dry, level, paved roads	13 ft/sec2

d. Associated Systems/Equipment

	TAMCN	NSN
(1) Unit Conduct-of-Fire Trainer (U-COFT)	F2063	6920-01-179-2638
(2) Blade, Mine Clearing, Tank Mounted, MI	E0996	2590-01-230-8862
(3) Deep Water Fording Kit (DWFK)	Not Assigned	2540-00-039-8376
(4) Armored Vehicle Launched Bridge (AVLB)	E0150	5420-00-889-2020
(5) Test Set, Direct Support Electrical System-Thermal Imaging System (DSESTS-TIS)	E1906	6625-01-120-0764
(6) Test Set, Simplified Test Equipment (STE-M1)	E1910	4910-01-135-4389
(7) Power Supply (PP-7545U)	E1221	6130-00-148-1796
(8) Tool Set, M1A1 Tank, 2d Echelon	E2933	5180-01-336-2880
(9) Tool Set, M1A1 Tank, 3d Echelon	E2934	5180-01-336-2878
(10) Tool Set, M1A1 Tank, Hull and Turret 4th Echelon	E2932	5180-01-336-2879

(11) Tool Set, M1A1 Tank, Electronics/Optics 4th Echelon	E2931	5180-01-337-9983
(12) Tool Kit, Organizational Maintenance, M240 Machinegun	E2829	5180-01-147-2467
(13) Tool Kit, Intermediate Maintenance, M240 Machinegun	E2656	5180-01-147-2468
(14) M27A1 Muzzle Boresight 120 mm, w/case	Not Assigned	4933-01-236-2884
(15) M240 Machinegun 7.62 mm	E0998	1005-01-025-8095
(16) M2 Machinegun .50 cal Heavy Barrel (Turret type M48)	E0984	1005-00-726-5636
(17) M257 Smoke Grenada Launcher	Not Assigned	1040-00-000-0138
(18) Vest, Conditioning, Microclimatic	C1281	8415-01-217-5634
(19) Connector, Vest, Conditioning	K4228	8415-01-217-5633
(20) Mobile Conduct-of-Fire Trainer (M-COFT)	Not Assigned	6290-01-173-3134
(21) Tow Bar, M1A1	Pending	Pending
(22) AN/VSQ-1 PLRS	A2151	5820-01-199-8625
(23) M88A1 Recovery Vehicle, Full Tracked	E1377	235-00-122-6826

3. Logistic Support

a. Maintenance Support

(1) General. The maintenance concept for the M1A1 tank is in consonance with Marine Corps maintenance policy as defined by MCO 4856.1, "Marine Corps Maintenance Policy," and as amplified by the forthcoming M1A1 Maintenance Plan. The Marine Corps will mirror and parallel U.S. Army maintenance efforts on the M1A1. The M1A1 tank will be supported under MCO P4790.2, "Marine Corps Integrated Maintenance Management System (MIMMS)

Field Procedures Manual, "which contains policy and procedures for the maintenance management of ground equipment. The key to successful M1A1 maintenance is the scrupulous performance of scheduled checks and services. Systemic features of M1A1 maintenance are:

(a) Subsystem configurations incorporate relatively inexpensive consumable parts, standardization, and modularity to simplify maintenance and enhance efficiency.

(b) The M1A1 embodies numerous line replaceable units (LRU's) designed for rapid fault isolation and replacement.

(c) Use of test equipment is fundamental to the maintenance effort.

(d) Maintenance is accomplished at the lowest level, as far forward as possible.

(e) Authorization, level, and procedures for system preventive/corrective and scheduled/unscheduled maintenance activities are contained in applicable technical manuals (TM's).

(2) Categories/Echelons. Maintenance of the M1A1 will be conducted in accordance with the maintenance levels (organizational through depot) and corresponding echelons (first through fifth) contained in MCO P4790.1, "MIMMS Introduction Manual." Maintenance will be performed only within the echelon(s) authorized to perform the functions. Preventive maintenance will be conducted primarily as a first-echelon function (less semiannual servicing), and corrective maintenance will be accomplished at the lowest appropriate echelon. Replacement of failed or worn components will be accomplished at the appropriate echelon, depending upon the requirements for special tools, facilities, procedures, or particular skills necessary to accomplish the corrective action.

(3) Responsibilities. Tank company personnel are responsible for performing organizational (first and second echelon) maintenance. The tank battalion Headquarters and Service Company (H&S Co) is authorized to conduct organizational and intermediate maintenance (up to and including third echelon) on the tank and vehicular components, vehicle-mounted weapons, and vehicle-mounted VHF radio equipment. Force Service Support Groups (FSSG's) will perform intermediate (third echelon) maintenance beyond the tank battalions' capabilities (overflow) as well as general support (fourth echelon) maintenance. Depot-level (fifth echelon) maintenance will be accomplished through depot support (external to the Marine Corps) via Depot Maintenance Interservice Support Agreements (DMISA's) and contractor support. Lead service responsibility for depot

maintenance is the U.S. Army. Depots authorized to perform M1A1 maintenance are Anniston Army Depot and Mainz Army Depot.

(4) Levels of Maintenance

(a) Organizational Level. Maintenance in this category consists of functions performed in the first and second echelons. Approximately 90 percent of all malfunctions are detectable and correctable at the organizational level. Both Built-In Test Equipment (BITE) and portable field test sets are used to rapidly isolate malfunctions. Applicable functions and the performing agency at each echelon are:

1 First Echelon. Maintenance functions in this echelon are performed by the crews of individual tanks. Crew maintenance consists of Preventive Maintenance Checks and Services (PMCS) (daily, weekly, and monthly), lubrication, limited troubleshooting and repair, and monitoring/reporting system conditions. Authorized functions for this echelon are limited to preventive maintenance for:

a Vehicle and Vehicular Components. Inspection, lubrication, cleaning, preserving, tightening, and performing minor adjustments to mechanical, electrical, hydraulic, and pneumatic systems are crew functions. Examples are lamp replacements, resetting tripped circuit breakers, and securing loose electrical connectors. Daily checks are simplified by use of PMCS lists provided in the operator’s manual. Hull service items such as engine transmission oil levels, filters, fuel pumps, and fuel control need attention only when indicated by the maintenance monitors on the Driver’s Instrument Panel (DIP) or where warranted by PMCS. BITE information is displayed on the DIP, the computer control panel, and the Gunner’s Primary Sight (GPS) panel. Any evidence of a system malfunction which the crew cannot clear is reported to company maintenance for fault isolation and correction.

b Main Gun and Other Vehicle-Mounted Weapons. Maintenance consists of inspecting, cleaning, lubricating, and adjusting.

c Vehicle-Mounted Radio Equipment. Maintenance consists of inspection and cleaning of exterior components and associated equipment.

d Fire Control System. Maintenance consists of cleaning optics and inspection of the Muzzle Reference Sensor (MRS) for missing and damaged hardware, scratches, moisture, or dirt in the sight. Cleaning is performed when necessary. The same procedure is followed for the other fire control system components.

2 Second Echelon. Maintenance personnel organic to the tank company (aided by the tank crew) will perform selected preventive and corrective maintenance functions within this maintenance echelon. Second-echelon maintenance can fault isolate to the LRU. Major assemblies or modular components which require repair beyond the capabilities of the tank company will be evacuated to battalion maintenance.

a Vehicle and Vehicular Components. Maintenance consists of diagnosis and fault isolation of malfunctions in major assemblies or modular components using instrumentation installed on the vehicle or test equipment authorized in the tank company Table of Equipment (T/E). Replacement of defective major assemblies or modular components is performed if such replacement can be accomplished with organic common tools and if the replacement item does not require critical adjustment or alignment in order to perform as intended. An organizational test set, the Simplified Test Equipment-M1 (STE-M1), which plugs into subsystems, is used to supplement BITE for fault isolation.

b Main Gun and Other Vehicle-Mounted Weapons. Maintenance consists of preventive maintenance, fault diagnosis, and piece part replacement (machinegun firing pins, for example).

c Vehicle-Mounted Radio Equipment. Maintenance consists of preventive maintenance, fault diagnosis, and replacement of easily accessible piece parts, such as knobs, indicator lamps, handsets, and headphones.

d Fire Control System. Maintenance consists of diagnosis and fault isolation of malfunctions in components using instrumentation installed in the tank, or test equipment authorized by the tank company T/E; replacement of defective parts and components is performed as necessary.

(b) Intermediate Level. Maintenance in this category consists of functions performed in the third and fourth echelons. Applicable functions and the performing agencies are as follows:

1 Third Echelon. the tank battalion (H&S Co) will perform the following third-echelon maintenance using organic maintenance personnel, repair parts, and secondary reparables from the Supported Activity Supply System (SASSY) Management Unit (SMU). LRU’s are fault-isolated and repaired by module or component replacement.

a Vehicle and Vehicular Components. Maintenance consists of diagnosis/fault isolation, adjustment/alignment of modular components which can be accomplished with organic test equipment, replacement of

components in the engine, and light body repairs involving straightening, welding, sanding, or painting. The M1A1 tank is designed to take advantage of its fault isolation and component replacement capability. In the engine compartment, for example, the following components are replaceable without removing the power pack:

Starter
Fuel Control
Ignition Components
Hydraulic Pump
Air Filter
Oil Filter
Fuel Filter
Cooling Fan
Cooling Fan Drive
Alternator

Removal and reinstallation of the power pack at the intermediate level can be accomplished using the battalion's M88A1 recovery vehicle, or 5-ton wrecker. All fluid, electrical, and mechanical interfaces use quick-disconnect hardware and are functionally grouped to facilitate removal and reinstallation of the power pack. For simplicity, efficiency, and readiness considerations, faulty power packs may be replaced as entire units and subsequently fault-isolated and repaired.

b Main Gun and Other Vehicle-Mounted Weapons. Maintenance consists of fault diagnosis and piece-part replacement.

c Vehicle-Mounted Radio equipment. Maintenance consists of diagnosis and repair of components within the fault capability of assigned Test, Measurement, and Diagnostic Equipment (TMDE) and replacement and repair of lowest replaceable items

d Fire Control System. Maintenance consists of diagnosis/fault isolation, replacement, and subsequent repair of components.

2 Fourth Echelon. Fourth-echelon maintenance will be performed by the supporting FSSG through equipment evacuation to the FSSG or contact teams from the FSSG. The principal function of fourth-echelon maintenance is to repair subassemblies, assemblies, LRU's, and major items for return to ready-for-issue status. When the nature of the defect and operational commitments require, Operational Readiness Float (ORF) exchange will be used. Fourth-echelon maintenance functions consist of:

a Diagnosis and fault isolation of malfunctions to the internal piece-part level; adjustment, alignment, and repair, as necessary, for restoration to required tolerances or standards.

b Replacement of defective modular components which are beyond the authorized capability of lower echelons of maintenance.

c repair of major modular components by grinding, adjusting, or aligning such items as fuel pumps, transmission cross drive, and brakes.

d Repairing modular components by replacing internal and external piece parts. This includes such components as the telescope and cable assembly of the GPS.

e Performance of hull and turret repair, including steel and aluminum welding, machine cutting, pressing, shearing, sanding, and painting.

(c) Depot Level. Maintenance procedures applicable to depot-level operations are performed in accordance with Depot Maintenance Work Requirements (DMWR's) and Technical Data Packages (TDP's). Depot-level maintenance and fifth-echelon maintenance are synonymous. Unserviceable major components, test sets, and end items undergo repair or refurbishment (overhaul, rebuild, or Inspect and Repair Only As Necessary (IROAN)) at depot.

1 Components requiring special equipment and technology, alignment fixtures, and/or other special high-value resources, which cannot be economically justified at an intermediate level of field maintenance, are repaired at depot. For example, defective printer circuited boards are removed/replaced at intermediate level and returned to depot for repair. Recoverable items will be handled in accordance with MCO P4400.82, "Regulated/Controlled Item Management Manual." Due to the modular nature of the M1A1, the majority of depot work will be directed toward repair of Secondary Depot Reparables (SDR's).

2 Short of catastrophic incident or accident involving damage to the chassis and/or turret structures, the vehicle should not require fifth-echelon level end-item refurbishment. The Maintenance Directorate, MCLB, Albany, will establish and implement a CVE program. Accordingly, no end-item refurbishment cycle is established based strictly on hours, miles, or time-in-service criteria. A Combat Vehicle Evaluation (CVE) program, however, will be utilized to inspect and validate vehicles as candidates for depot refurbishment. The Maintenance

Directorate, MCLB, Albany (Code 88) will establish and implement a CVE program. Vehicles selected for refurbishment will be sent to depot for IROAN.

3 MCLBs will not facilitize for M1A1 maintenance. Accordingly, CG, MCLB, (Code 88) Albany will negotiate an umbrella DMISA with the U.S. Army for all M1A1 SDR's.

(5) Maintenance Personnel. Table 2 reflects personnel/skills necessary for maintenance of the M1A1.

Table 2.--Maintenance Personnel.

MOS	TITLE	ECHELON 2	3	4
1316	Metal Worker	X	X	X
2102	Ordnance Officer		X	X
2110	Ordnance Vehicle Maintenance Officer		X	X
2111	Small Arms Repairer/Technician	X	X	X
2120	Weapons Repair Officer		X	X
2125	Electro-Optic Instrument Repair Officer		X	X
2146	M1A1 Tank Mechanic	X	X	X
2149	Ordnance Vehicle Maintenance Chief		X	X
2161	Machinist		X	X
2171	Electro-Ordnance Technician		X	X
2181	Ground Ordnance Weapon Chief		X	X
2802	Electronics Maintenance Officer (Ground)		X	
2805	Data/Communications Maintenance Officer		X	X
2811	Telephone Technician	X	X	X
2841	Ground Radio Repairer	X	X	X
2861	Radio Technician	X	X	X
2871	TMDE Technician		X	X
2874	Metrology Technician		X	X
2891	Data/Communications Maintenance Chief		X	X

b. Contractor Support

(1) Depot. Contractor depot support will not be utilized. However, contractor support will be utilized to assist in the training of key depot maintenance personnel.

(2) M1A1 Fielding. contractor Field Service Representative (FSR) support from General Dynamics Land Systems (GDLS) and Textron will be utilized to support NET, assist the MFT to deprocess and issue M1A1's, and provide post-fielding on-site support (first through fifth echelon maintenance and supply) as reflected below. All FSR costs will be borne by CG, MCRDAC.

(a) Deprocessing, NETT, and 3d Tank Battalion support at MCAGCC from 1 November 1990 through 30 September 1992:

1 GDLS Site Supervisor(1)
1 GDLS System Technician
1 GDLS Test Set Technician
1 Textron Engine Technician

Note 1: Site Supervisor arrives and opens office 1 November 1990.

(b) Mobile FSR team to support deprocessing/fielding at scheduled sitesy from 1 June 1991, through 29 March 1992:

1 GDLS Supervisor
1 GDLS System Technician
1 GDLS Test Set Technician
1 Textron Engine Technician

Note 2: MCB, Camp Lejeune, NC: 1 June 1991 to 31 July 1991 MCLB, Albany, GA: 1 September 1991 to 29 March 1992

(c) Post-fielding, on-site support at MCB, Camp Lejeune, NC from 1 June 1991 to 30 June 1992.

1 GDLS System Technician

(3) U-COFT. Regional, on-call FSR support will be available for each system. The FSR will perform second-echelon maintenance and above on the U-COFT, as required. Gaining commands must provide their own Instructor-Equipment Operator (I-EO) and perform first-echelon maintenance. System support will be borne by CG, MCRDAC.

(4) M-COFT. A regional contractor FSR will accompany each M-COFT to install/remove the system and will be on call to perform second-echelon maintenance and above. The gaining command is responsible for first-echelon maintenance. System support will be borne by CG, MCRDAC.

(5) Maritime Prepositioning Ships (MPS). Maintenance of MPS stocks, up to and including fourth echelon, will be performed by a vendor contracted by the CG, MCLB, Albany, GA.

c. Manpower, Personnel, and Training

(1) Personnel Requirements. There will be no changes in the number of tank crewmen needed to operate the M1A1. The four-man crew consists of: tank commander, gunner, loader, and

driver. There will, however, be adjustments to organizational structures.

(a) Tables of Organization (T/O's)

1 Changes. Manpower savings, within gaining commands, resulting from the decrease from five to four tanks per platoon are partially offset by an increase in requirements for support personnel. The following T/O's are affected by the transition from the M60A1 R/P to M1A1:

T/O No. M60A1	T/O No. M1A1	Unit
4233M	4234G	Tank Company, Tank Battalion
4657M		H&S Company, 1st Armored Assault Battalion
4237Q	4237G	H&S Company, Tank Battalion (3 companies)
4237P		H&S Company, Tank Battalion (4 companies)

The M1A1 T/O's are delineated in appendix B.

2 Implementation. In order to minimize organizational and personnel turbulence, battalion conversion to the four-tank platoon will occur concurrently with placement of the M1A1 into service.

(b) Military Occupational Specialties (MOS's)

1 Changes. Two new MOS's (1812 and 2146) have been created attendant to the fielding of the M1A1. MOS 1812 (M1A1 Tank Crewman) will be awarded to crewmen who successfully complete M1A1 NET or an appropriate formal school at the U.S. Army Armor Center (USAARMC), Ft. Knox, KY. MOS 2146 (M1A1 Tank Mechanic) will be awarded to mechanics who complete an appropriate formal school at USAARMC. MOS's 1812 and 2146 will not be assigned by virtue of on-the-job training (OJT).

2 Implementation. MOS's 1812 and 2146 will be reflected as primary MOS's. MOS's 1811 and 2145 will be reflected as additional MOS's and not deleted until such time as M60A1 R/P phaseout is complete. Instructions pertaining to the deletion of MOS's 1811 and 2145 from personnel records and the Manpower Management System (MMS) will be the subject of separate correspondence.

(2) Training

(a) Approach. The Marine Corps approach to M1A1 tank training is to adapt the Army's training programs for Marine Corps use. The Marine Corps will rely on the Army school system for the institutional training of tank crewmen and maintenance

personnel. For transition training, the Marine Corps will adopt the Army's current materiel fielding concept which includes NET. The concept of M1A1 NET is equipment-oriented, "hands on" training. Training criteria are referenced with performance evaluation of the "go/no go" variety. An all Marine NETT will train active and Reserve forces at MCAGCC. The NETT will provide training in individual and crew member operations and maintenance; collective training in crew operations, gunnery, and operational techniques; U-COFT instruction; DWFK installation training; and use of the M1 Mine Clearing Blade.

(b) Retraining. Table 3 reflects retraining requirements attendant to M1A1 fielding.

Table 3.--Retraining Requirements.

MOS	TITLE	TRAINING REQUIRED
1316	Metal Worker	MOJT
1802	Tank Officer	MOJT
1811	Tank Crewman	Yes
1812	Tank Crewman (M1A1)	No
2102	Ordnance Officer	MOJT
2110	Ordnance Vehicle Maintenance Officer	MOJT
2111	Small Arms Repairer/Technician	MOJT
2120	Weapons Repair Officer	MOJT
2125	Electro-Optic Instrument Repair Officer	MOJT
2145	Combat Tank Repairer/Technician	Yes
2146	M1A1 Tank Mechanic	No
2149	Ordnance Vehicle Maintenance Chief	MOJT
2161	Machinist	No
2171	Electro-Ordnance Technician	Yes
2181	Ground Ordnance Weapon Chief	MOJT
2802	Electronics Maintenance Officer (Ground)	MOJT
2805	Data/Communications Maintenance Officer	No
2811	Telephone Technician	No
2841	Ground Radio Repairer	No
2861	Radio Technician	No
2871	TMDE Technician	MOJT
2874	Metrology Technician	MOJT
2891	Data/Communications Maintenance Chief	No

(c) NET (Active Forces)

1 Marine Corps NETT. The mission of the NETT is to train tank crewmen to the level of confidence, at individual and crew duties, in all equipment-related areas of operations, maintenance, and gunnery. The NETT members were identified and commenced their individual training in October 1988. All NETT members completed their individual training in July 1989, and executed permanent change of station orders to Ft. Carson, CO, in

August 1989. While at Ft. Carson (from September 1989 to June 1990), the Marine Corps NETT participated with the U.S. Army NETT in the transition of the 4th Infantry Division (Mechanized) from the M60A3 to the M1A1, and attended M1 to M1A1 rollover training at Ft. Riley, KS. Subsequently, the Marine NETT will execute a unit move to MCAGCC, establish NETT facilities, and prepare to initiate Marine Corps tank company NET cycles. The composition of the NETT is shown in table 4.

Table 4.--NETT Personnel.

Headquarters Section		
Officer-in-Charge (OIC)	Maj	1
Assistant OIC	Capt	1
Support Section		
Maintenance Officer/Instructor	CWO/Lt	1
Maintenance Chief	MSgt/GySgt	1
Supply NCO	Sgt	1
Warehouseman	LCpl	1
MIMMS Clerk	Sgt	1
Clerk Typist	GS-5	1
Collective Training Section		
NCOIC	MSgt	1
Master Gunner/Instructor	GySgt	2
Master Gunner/Instructor	SSgt	2
Individual Training Section		
NCOIC	SSgt	1
Individual Training Instructor	SSgt	4
Individual Training Instructor	SSgt	11
U-COFT Training Section		
U-COFT Instructor	SSgt	2

2 Eligibility. Marines Whose Expiration of Active Service (EAS) date is at least 30 days after completion of NET may attend. Additionally, a Marine in receipt of Permanent Change of Station Orders (PCSO) with an execution date at least 30 days subsequent to completion of NET may attend.

3 Composition. The composition of tank companies (augmented by H&S Co personnel) for NET, including the advance party, is shown below. Reserve tank company Inspector-Instructor (I-I) Staffs, will attend NET with the regular establishment as a prelude to the training of their respective units.

TANK COMPANY

MIN	MAX	MOS	DESCRIPTION
2	5	1802	Tank Officer
1	1	0411	Maintenance Management Specialist
1	1	1316	Metal Worker
48	63	1811	Tank Crewman
1	2	2111	Small Arm Repairer/Technician
4	6	2145	Combat Tank Repairer/Technician
2	3	2531	Field Radio Operator
1	2	2841	Ground Radio Repairer
1	1	3051	Warehouse Clerk
1	1	9999	First Sergeant

HEADQUARTERS AND SERVICE COMPANY

MIN	MAX	MOS	DESCRIPTION
	3	1802	Tank Officer
1	1	1345	Engineer Equipment Operator
	9	1811	Tank Crewman
2	2	2171	Electro-Ordnance Technician
2	2	2311	Ammunition Technician
1	1	3043&	Supply Admin and Operations Clerk
1	1	3051&	Warehouse Clerk
1	1	3521	Organizational Automotive Mechanic
5	5	3531	Motor Vehicle Operator
2	2	8404&	Field Service Technician

& Report to CSSD-12 MIP
* One refueler operator and two with ammunition licenses.
@ Report to Naval Hospital, MCAGCC.

4 Advance Party. Five days prior to the commencement of its NET, the tank company will furnish an advance party to coordinate support and training preparation with CG, MCAGCC and the OIC, NETT, respectively. The advance party will consist of:

BILLET	QTY	GRADE#	MOS
Company Executive Officer	1	Lt	1802
Tank Leader	1	MSgt	1811
Maintenance Chief	1	GySgt	2146
Infantry Weapon Repairer	1	Cpl	2111
Ground Radio Repairer	1	LCpl	2841
Tank Crewman	1	Cpl	1811

BILLET	QTY	GRADE#	MOS
Tank Crewman	4	LCpl/below	1811
Property NCO	1	Sgt	3051
Automotive Mechanic%	1	Cpl	3521

Appropriate grade substitutions are authorized.
% Augmentee (H&S Co)

5 Length. Each NET evolution is 29 training days (39 calendar days).

6 Location. All NET for active and Reserve forces will be conducted at MCAGCC.

7 Content

a Individual Training. The purpose of individual training is to transition drivers, loaders, gunners, and tank commanders from the M60A1 R/P to the M1A1. The program of instruction consists of driver's training and turret training. Driver training will emphasize M1A1 safety, fire prevention, driver's station operation, hull PMCS, emergency procedures (to include troubleshooting the engine and transmission), and day and night driving proficiency. Turret training will emphasize station operations for the tank commander, gunner, and loader; fire prevention; turret PMCS; pre-/post-firing checks and services; and boresighting/zeroing tank-mounted weapons.

b Conduct-of-Fire Training. Two U-COFT's will be located at MCAGCC to support NET. The U-COFT (figure 8) is a tank gunnery training device for the M1A1 commander-gunner teams. The U-COFT places the tank commander and gunner in realistically simulated crew stations and presents them with a full range of target engagement situations controlled by an Instructor-Operator. The result is challenging, progressive gunnery training despite range, time, and funding constraints. Conduct-of-fire training utilizing the U-COFT will be integrated with NET collective training to introduce tank crewmen to the U-COFT and to accelerate attainment of crew firing proficiency. Priority of use for the U-COFT's at MCAGCC will go the NETT.

c Collective Training. The purpose of collective training is to train tank crews in a series of exercises which will enable them to effectively engage targets with tank-mounted weapons, and to standardize crew duties. Crew training will encompass conduct-of-fire and U-COFT exercises, crew drill training, crew subcaliber training device exercises, boresighting and zeroing tank-mounted weapon systems, live-fire gunnery training on tank tables, and a qualification gunnery exercise on Tank Table VIII (FM 17-12-1).

d Maintenance Training. FSR's, supplementing the NETT, will provide reinforcement training for tank mechanics. The NETT Maintenance Officer and Maintenance Chief will supervise tank mechanics during NET, evaluate training given to the unit mechanics, and provide follow-on training, if needed. Company maintenance personnel will maintain NETT tanks during their NET.

e Ancillary Equipment. The NETT will conduct training on installation, use, and maintenance of both the DWFK and the M1 Mine Clearing Blade.

8 Support

a A Memorandum of Agreement (MOA) between CG, MCRDAC and CG, MCAGCC defines the responsibilities and working relationship between the two parties for execution of M1A1 NET, as well as control and support of the NETT. A MOA between CG, MCRDAC and CG, 1st FSSG defines the responsibility of CSSD-12 in support of NET. Additionally, a Letter of Instruction (LOI) will be promulgated for each NET evolution to assign responsibilities and define relationships between commands undergoing NET and both CG, MCRDAC and CG, MCAGCC.

b An MOA between CG, MCRDAC and CG, 1st FSSG provides the basis for the following support furnished at MCAGCC: dining facility; billeting; medical; dental (emergency only); religious services; AUTODIN message traffic; postal; transportation for administrative exigencies; and morale, welfare, and special services (exchange, commissary, laundry, barber shop, hobby shops, library, athletic facilities, and all clubs).

9 Administration

a Fitness reports attendant to NET will be prepared in accordance with MCO P1610.7, "Performance Evaluation System."

b Leave will be granted to personnel undergoing NET on an emergency basis only.

c Disbursing services will not be provided at MCAGCC.

d Units undergoing NET will not be required to furnish messmen to a dining facility.

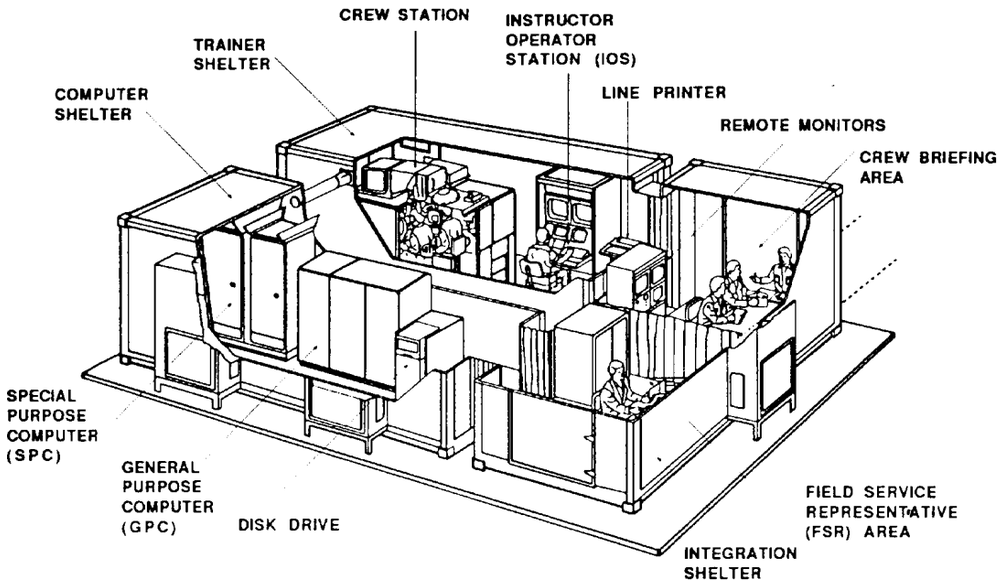

Figure 8.--U-COFT.

e Personnel undergoing M1A1 NET are eligible to stand duty watches during non-training hours.

f The gaining command will provide CG, MCRDAC (CBGT/PSL-T), info CMC (MM) and CG, MCAGCC, with a roster of all personnel (name, grade, SSN, MOS, and tank crew number (operators only)) slated to attend NET at least 30 days prior to the evolution. Changes thereto will be appropriately coordinated with all concerned.

g Upon successful completion of M1A1 NET at MCAGCC, the NETT administrative section will prepare and award a graduation certificate/diploma to each graduate. The graduates parent command will make appropriate Service Record Book/MMS entries to reflect successful completion of M1A1 NET.

h Licensing of individuals subsequent to successful completion of NET will be accomplished by the parent command in accordance with local licensing procedures.

10 Funding. Temporary Additional Duty (TAD) expenses for active units undergoing NET will be borne by CG, MCRDAC (CBGT), via Operations and Maintenance, Marine Corps (O&MMC) funding. CG, MCRDAC (PSL-T) will provide appropriation data and coordinate transportation requirements in support of NET.

11 Equipment. Individual and organizational equipment requirements for NET are contained in appendixes C and D.

12 Schedule. The M1A1 NET schedule is reflected in appendix E.

(d) NET (Reserve Forces)

1 Marine Corps NETT. The mission of the NETT will remain unaltered insofar as training Reserve personnel is concerned.

2 Eligibility. Reserve Marines whose Expiration of Current Contract (ECC) date is at least 30 days after completion of NET may attend.

3 Composition. The composition of tank companies (supported by FMFPac personnel) for NET, including the advance party, is shown below. Reserve tank company I-I Staffs will attend NET concurrently with their respective Reserve units. Other personnel may be integrated into Reserve NET cycles depending upon the availability of quotas.

TANK COMPANY

MIN	MAX	MOS	DESCRIPTION
2	5	1802	Tank Officer
1	1	0411	Maintenance Management Specialist
1	1	1316	Metal Worker
48	63	1811	Tank Crewman
1	2	2111	Small Arm Repairer/Technician
4	6	2145	Combat Tank Repairer/Technician
2	3	2531	Field Radio Operator
1	2	2841	Ground Radio Repairer
1	1	3051	Warehouse Clerk
1	1	9999	First Sergeant

FMFPAC AUGMENTATION

MIN	MAX	MOS	DESCRIPTION
1	1	1345	Engineer Equipment Operator
2	2	2171	Electro-Ordnance Technician
2	2	2311	Ammunition Technician
1	1	3043&	Supply Admin and Operators Clerk
1	1	3051&	Warehouse Clerk
1	1	3521	Organizational Automotive Mechanic
5	5	3531*	Motor Vehicle Operator
2	2	8404@	Field Service Technician

& Report to CSSD-12 MIP
* One refueler operator and two with ammunition licenses.
@ Report to Naval Hospital, MCAGCC.

4 Advance Party. Three days prior to the commencement of NET, the tank company will furnish an advance party to coordinate support and training preparation with the CG, MCAGCC and the OIC, NETT, respectively. The advance party will consist of the tank company I-I Staff and the following Reservists:

BILLET	QTY	GRADE	MOS
First Sergeant	1	1stSgt	9999
Property NCO	1	Sgt	3051
Infantry Weapon Repairer	1	Cpl	2111

* Appropriate grade substitutions are authorized.

5 Length. Each NET evolution is 29 training days (39 calendar days).

6 Location. All NET for Reserve forces will be conducted at MCAGCC.

7 Content. The content of Reserve NET is identical to that of the active forces.

8 Support. The support parameters delineated for active forces shall remain in effect for Reserve units undergoing NET.

9 Administration

a Fitness reports attendant to NET will be prepared in accordance with MCO P1610.7.

b Disbursing services will not be provided at MCAGCC.

c Units undergoing NET will not be required to furnish messmen to a dining facility.

d Personnel undergoing M1A1 NET will not be assigned to duty watches.

e The CG, 4th Marine Division will provide CG, MCRDAC (CBGT/PSL-T), info CMC (MO) and CG, MCAGCC, with a roster of all personnel (name, grade, SSN, MOS, and tank crew number (operators only)) slated to attend NET at least 30 days prior to the evolution. Changes thereto will be appropriately coordinated with all concerned.

10 Funding. Annual Training Duty (ATD) NET-related expenses for units undergoing M1A1 transition will be borne by CG, MCRDAC (CBGT), via O&MMC funding. CG, MCRDAC (PSL-T) will provide appropriation data in support of NET.

11 Equipment. Individual and organizational equipment requirements for NET are contained in appendixes C and D.

12 Schedule. The M1A1 NET schedule is reflected in appendix E.

(e) Institutional Training. The Marine Corps will utilize schools at the USAARMC, Ft. Knox, KY, and the U.S. Army Ordnance Center and School (USAOC&S), Aberdeen Proving Ground, MD, for entry-level training and subsequent skill progression training. Commencing in January 1990, all Marines attending entry-level armor crewman training will receive M1A1 training and be assigned MOS 1812. Commencing in October 1990, all Marines attending entry-level tank-peculiar repair training will receive M1A1 training and be assigned MOS 2146. M1A1 instruction for intermediate-level maintenance will commence 1 October 1990. Appendix F contains pertinent data on available institutional courses of instruction. Requests for school quotas, if required, should be made through normal channels.

(f) U-COFT. The U-COFT is a powerful tool for armor trainers at all levels. The Marine Corps has procured four U-COFT’s which will ultimately be located at MCAGCC and Camp Lejeune. The U-COFT is housed in three isorigid, air-conditioned shelters, each occupying 159 fty (19.9-feet by 8-feet by 8-feet). The total system weights 27,660 pounds. Maintenance (above first echelon) on the U-COFT will be performed by an on-call contractor FSR for the life of the system. Table 5 shows the U-COFT delivery/ready for training schedule dates.

Table 5.--U-COFT Delivery/Ready For Training Schedule.

T/E No.	UNIT TITLE	QTY	DATE
N1531	H&S Co, 3d TkBn	2	Jul-Aug 1991
N1521	H&S Co, 2d TkBn	2	Jul-Aug 1991

(g) M-COFT. The M-COFT has the identical capabilities and power requirements as the U-COFT. The M-COFT, however, is trailer-mounted to facilitate system mobility. The Marine Corps will procure two M-COFTs for use by the Reserves. Figure 9 depicts a typical layout for the M-COFT. Table 6 depicts the M-COFT delivery schedule.

Table 6. --M-COFT Delivery Schedule.

Unit	QTY	DATE
Tank Co, West Coast	1	Jun 1992
Tank Co, East Coast	1	Jul 1992

(h) Depot Maintenance Training. As the Marine Corps will not perform M1A1 depot-level maintenance, there are no depot maintenance training requirements.

(i) Maritime Prepositioning Shipping (MPS) Training. The CG, MCLB, Albany, has overall responsibility for training MPS maintenance personnel. CG, MCRDAC (CBGT) will assist with M1A1 driver training by providing an M1A1 tank and instructors. MCLB, Albany will issue M1A1 tank individual drivers licenses upon successful completion of the driving course. CG, MCRDAC (PSL-T) will coordinate driver training.

(j) Training Publications. The following references contain myriad information which may assist in establishing and maintaining appropriate training:

FM 17-12-1	Tank Combat Tables, M1
FM 17-12-7	Tank Combat Training Devices
FM 17-15	Tank Platoon
FM 25-2	Unit Training Management
FM 25-3	Training In Units
FM 25-4	How To Conduct Training Exercises
FM 25-5	Training For Mobilization And War
FM 25-7	Training Ranges
FM 71-1	Tank And Mechanized Infantry Company Team
FM 71-2	Tank And Mechanized Infantry Battalion Task Force
FM 71-3	Armored And Mechanized Infantry Brigade
FM 71-100	Armored And Mechanized Division Operations

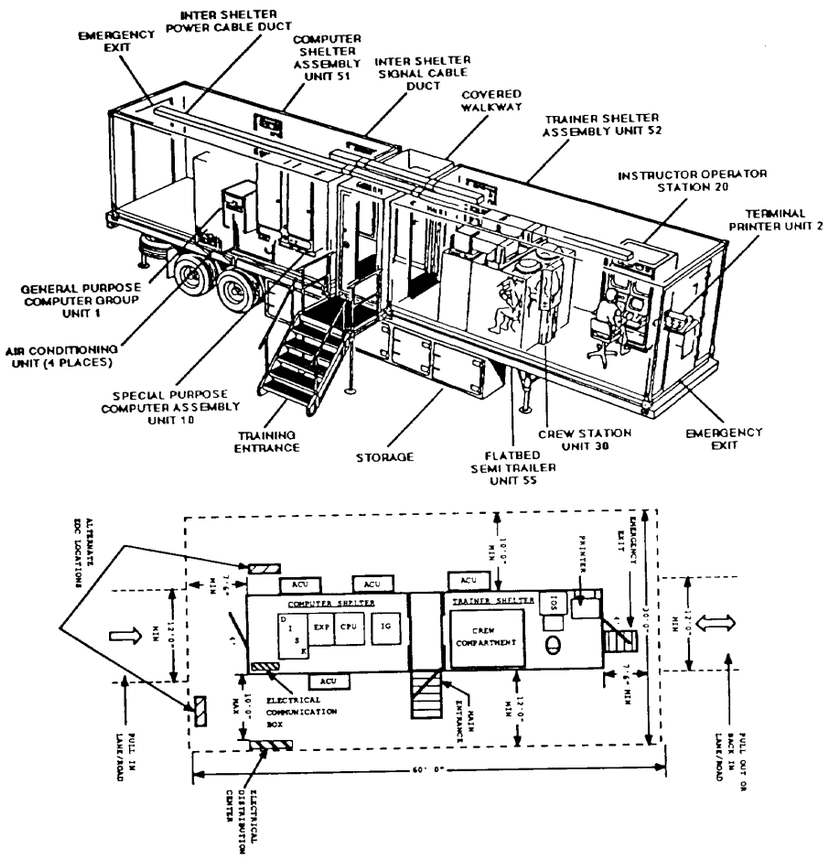

Figure 9.--M-COFT Layout.

d. Supply Support

(1) General. The supply support program is designed to provide timely acquisition, provisioning, and inventory replenishment of system/ancillary equipment components, spares, repair parts, and consumable supplies necessary to maintain the M1A1 in a high state of readiness. The fleet readiness goal is 85 percent for the M1A1, a combat essential item of equipment.

(2) Supply Concept. The procedures set forth in this MFP will govern the initial distribution of end items; spares/repair parts; special tools; special purpose test equipment; technical manuals; and other ancillary equipment required to operate and maintain the M1A1. The U.S. Army Tank-Automotive Command (TACOM) is designated the PICA for the M1A1. The Marine Corps (MCLB, Albany) is designated the Secondary Inventory Control Activity (SICA). MCLB, Albany is responsible for all provisioning, cataloging, and loading the Master Header Information File (MHIF) with the Principal End Items (PEI) and all associated equipment, i.e. special tools, test sets, collateral equipment. Fielding will be accomplished via the TPF concept originated by the U.S. Army. Both the MFT’s Deprocessing Team and contractor FSR’s under the purview of the APM, Tank Systems Branch, Ground Weapons (CBGT), MCRDAC, will be available to furnish assistance and resolve problems that occur during the deprocessing period. For sustainment, standard requisitioning/supply procedures Military Standard Transaction and Issue Procedures (MILSTRIP)/SASSY will be utilized. Field commands will be furnished with O&MMC (New Equipment) funding for their first year of M1A1 operation.

(3) Total Package Fielding

(a) Under the TPF concept, the materiel fielder/executor (MCRDAC/TACOM) assume additional responsibilities to relieve gaining commands of much of the logistics burden previously associated with the fielding process. The materiel fielder develops, plans, and procures the materiel system and all its support; coordinates materiel requirements with the gaining command; consolidates and packages support; delivers; deprocesses; trains; performs a joint inventory at handoff; and provides documentation for materiel to be posted to unit records.

(b) Initial spares/repair parts (60 day allocations will be delivered, inventoried (with MCRDAC/GDLS/MCLB, Albany assistance), and loaded approximately 30 days prior to

deprocessing. TPF includes concurrent deprocessing/handoff of the M1A1 and its other associated support packages:

1 All component major items, ancillary equipment, and collateral materiel.

2 Special purpose tool sets.

3 Special purpose test equipment.

4 Special mission kits/equipment.

5 Starter set of technical publications.

6 Customer documentation.

(c) The fielding command (MCRDAC) is responsible for assuring the successful fielding and initial supportability of the M1A1. The fielding command has herein identified items and actions required to initially support the M1A1. Attainment of the following items, however, is the responsibility of the gaining command:

1 Expendable supplies and materiel (Class II).

2 Bulk petroleum products and chemicals (Class III).

3 Conventional ammunition (Class V).

(d) The materiel fielder’s responsibilities are:

1 In coordination with MCCDC, identify the total materiel, facility, personnel, and training requirements.

2 Coordinate total materiel, facility, personnel, and training requirements with the gaining commands.

3 Program and budget funds to accomplish all scheduled TPF.

4 Coordinate project code(s) and provide instructions to gaining commands pertaining to TPF.

5 Procure requisite Class II, Class VII, Class IX, and technical publications.

6 Establish and maintain accountability and visibility records for all TPF assets until handoff.

7 Provide a starter set of technical publications.

8 Coordinate identification of delivery, storage, staging, inventory, deprocessing, and handoff sites for the system with the executor (TACOM) and gaining commands.

9 Coordinate with gaining commands to ascertain that adequate Class II expendables, Class III, and Class V will be available.

10 Ensure that the gaining commands are apprised of ammunition requirements. Advise gaining commands of the level of war reserve stocks available (in days of supply) to support weapons fielded.

11 Advise the gaining command of the percent of fill for packages and identify back-ordered items/expected date for delivery. Coordinate with gaining command prior to movement of materiel to gaining command facility.

12 Verify handoff schedules, locations, and support needs.

13 Ensure that gaining commands understand the scope and duration of the services to be provided by the fielding command before, during, and after the handoff.

14 Coordinate shipping instructions for delivery, storage, staging, inventory, and handoff sites with gaining commands and executor (TACOM), as required.

15 Accomplish deprocessing to ensure that all materiel systems are operationally ready at the time of handoff.

16 Prepare a customer documentation package in user format. Prepare joint inventory documentation to include a listing of shortage items owed to the customer. Conduct a joint inventory of all packages with the gaining command prior to handoff.

17 Provide assistance to gaining units to assure establishment of user receipt, asset accountability, and visibility records for all TPF materiel.

18 Prepare and submit through proper channels Quality Deficiency Reports (QDR’s) resulting from deprocessing, handoff, and NET.

19 Track fielding discrepancies and deficiencies for monitoring and analysis by:

a Department of Defense Activity Address Code (DODAAC).

b End item NSN.

c Unit identification code (UIC).

20 Maintain a file of lessons learned and initiate corrective actions to preclude recurrence of similar problems in subsequent fieldings.

21 Coordinate with supporting and gaining commands to ensure that NET requirements for all systems involved in the fielding are coordinated and accomplished.

(e) The gaining command responsibilities are:

1 Designate a single point of contact for fielding authority/responsibility and overall coordination with the fielding command.

2 Coordinate with all affected agencies to ensure that adequate support is provided throughout the fielding process.

3 Coordinate with the fielding command to determine all materiel, facility, personnel, and training requirements requisite for system fielding.

4 Ensure receipt of valid T/O and T/E documents to facilitate planning and effect necessary conversions.

5 Program, budget for, and requisition Class II expendables, Class III, and Class V.

6 Designate delivery, storage, staging, inventory, deprocessing, and handoff sites.

7 Verify and coordinate inventory, deprocessing, and handoff schedules, as well as personnel and materiel support to be provided by the gaining command.

8 Provide required personnel, materiel, facilities, and tools to assist in deprocessing and handoff.

9 Perform unit-level deprocessing of materiel such as cleaning, unit marking, and operator checks and maintenance.

10 Fill out and submit through proper channels any QDR's or warranty claims that may be appropriate.

11 Sign joint inventory forms and post necessary receipts and other accounting documentation at appropriate levels.

(f) To aid in implementation of TPF, a team from MCRDAC (CBGT) and TACOM will brief each gaining command on the entirety of the TPF concept approximately nine months prior to scheduled fielding (M1A1 delivery). The team will return to each gaining command approximately 6 months prior to fielding to effect coordination of all site-specific requirements and details.

(4) Supply Procedures for TPF

(a) Using Unit Procedures

1 All items being transferred during TPF will be jointly inventoried and inspected by the using unit, MCRDAC, MCLB, Albany and GDLS Logistics Center representatives of the MFT. Reports of Discrepancy (ROD's) (SF's 364) will be completed as required by GDLS representatives and verified by an official of the gaining command. A TPF report (inventory) will be provided to the unit by the MFT; this report will display both the authorized and delivered quantities of each item of supply.

2 The authorized quantities on the TPF report will be reconciled against the current Equipment Allowance File (EAF) and discrepancies reported to both the OIC of the MFT and the major command. Allowances for all items will be loaded to the unit's Mechanized Allowance List (MAL) as currently reflected on the EAF. (See UM 4400-124 paragraph 2.3.)

3 A "Receipt Not From Due" transaction (document identifier code (DIC) "D6A") will be processed for the quantities actually received. The document number assigned to these transactions will reflect the using unit Activity Address Code (AAC), the Julian date, and the document serial number indicated on the shipping documentation. The supplementary address will be left blank. A "Purpose Code Transfer" transaction (DIC "DAD") will be processed to move the items from purpose code "A" to purpose code "C". A "no cost" Job Order Number (JON) will be assigned to these transactions and the document numbers assigned will match those on the corresponding receipt transactions.

4 The Reporting Unit Allowance File (RUAF) should be updated as appropriate using the procedures described in UM 4400-124 paragraph 2.5. This must be completed immediately

upon arrival of end items to facilitate use of MIMMS during deprocessing.

(b) Supporting Unit Procedures

1 Class IX repair parts, both consumable and reparable, will be delivered to the designated issue point by the MET. The OIC of the SMU will ensure that the appropriate issue points are designated to provide support to both the using unit and the MFT during equipment deprocessing. In those instances where a using unit issue point is to receive reparable items, a contact team from the main float will assist in the joint inventory of the items at the issue point in order to expedite the loading of assets to appropriate accounting records. Items must be made available for issue no later than the start of deprocessing. Due to the unique nature of TPF, some of the procedures outlined herein may differ from the guidance contained in MCO 4400.150, MCO 4400.151, UM 4400-123, and UM 4400-124. In these instances, the procedures described herein will take precedence.

a The 1st FSSG will be provided with two Class IX packages; one to support the NETT and one to support the 3d Tank Battalion. The 2d FSSG will be provided with one Class IX package to support 2d Tank Battalion. Project code I50 applies to all Class IX packages. The packages contain only Garrison Operating Level (GOL) stocks. No Initial Issue Control File (IICF) will be produced for project I50, and normal provisioning project reporting requirements are waived. Upon receipt by the issue points, stock levels will be protected during the demand development period in the same manner as other provisioning projects.

b The CG, MCLB, Albany will provide SMU’s and designated issue points with NSN’s, document numbers, and quantities expected to be received in Class IX blocks. If desired, issue points may load these items to SASSY files as dues. DIC "ZBE" transactions citing the RIC of the general account and control code "3" or "4" should be used. The issue point’s AAC must be substituted for the AAC contained in the original document number, and the document’s date and serial number retained. Additionally, DIC "AE1" status transactions should be inducted containing status code "BA" in order to preclude automatic follow-up transactions from being generated.

c Standard MIMMS procedures will be used to support deprocessing. A unique JON will be assigned to capture deprocessing costs. Priorities on all requisitions incidental to deprocessing will be under Force/Activity Designator (F/AD) "II" or "III" and Urgency of Need Designator "A" as identified in MCO 4400.16, "Uniform Materiel Movement and Issue Priority System

(UMMIPS)." Upon completion of deprocessing, standard UMMIPS priority codes will be used. Liaison with SMU operations should be maintained to assign source of supply codes to balance file records that will support this priority for replenishment requisitions. When dues are preloaded, receipt from due transactions DIC "DGT" should be used instead of DIC "D6A" indicated in the instructions below.

2 Reparable Item Procedures

a The total authorized quantity for each stock number will be loaded to the main float as a provisioning allowance reflecting the current date as the provisioning date on a DIC "YGB" transaction.

b A "Receipt Not From Due" transaction (DIC "D6A") will be used to receipt for the items citing the main float or using unit issue point, as appropriate, in the document number. The document date and serial number will match those on the shipping documentation.

c In the case of controlled items, "Controlled Items Allowance Change" transactions (DIC "WAA") will be prepared and transmitted to MCLB, Albany, GA. Arrangements should be made with the SMU Operations Officer to ensure that these transactions are transmitted by electronic means.

3 Consumable Item Procedures

a The total authorized quantity for each stock number will be loaded to the Reorder Objective (RO) and/or Minimum Stockage Level-Reorder Objective (MSL-RO) fields of the General Account Balance File/Loaded Unit Balance File (GABF/LUBF) in accordance with the current edition of UM 4400-1233 or UM 4400-124 as appropriate.

b A "Receipts Not From Due" transaction (DIC "D6A") will be used to receipt for the items as described above.

4 Class IX items are provided to the issue points concurrently with end item fielding in order to ensure availability of spares during deprocessing. It is imperative that these items are situated so as to be readily available to the MFT during deprocessing operations.

5 In order to monitor the cost associated with M1A1 deprocessing, all issues of these items and repair of maintenance float items will cite a unique JON. The total charges incurred will be reported to the OIC of the MFT.

(c) NETT SUPPORT. NETT assets will be deprocessed and supported in a similar fashion to all "battalion sets."

1 The CG, FMFPac will provide the following in support of NET:

a Augmentation team and Reserve tank companies.

b A reimbursable JON.

c An ERO matrix for MIMMS processing.

d Supply and maintenance (third and fourth echelon) support.

2 The NETT will be assigned its own Department of Defense Activity Address Code (DODAAC).

(5) Tables of Equipment (T/Es). T/Es for M1A1-equipped units are contained in appendix G.

(6) Components of the M1A1

(a) Components of the M1A1 fall into three categories:

1 Supply System Responsibility. Items that are furnished with and must be turned in with the end item. Any item requiring replacement is the responsibility of the holding unit.

2 Collateral Materiel. Items that are supplied with the initial issue of the end item and are retained by the unit. Collateral materiel (referred to by the U.S. Army as basic issue items) and supply system responsibility items will be shipped overpacked with the M1A1.

3 Using Unit Responsibility. Items that are not issued with the end item. They must be requisitioned, as required, through the supply system by the using unit or holding organization.

(b) **Appendix H** contains a component checklist for the M1A1.

(c) **Appendix I** contains a listing of component materiel on equipment repair parts.

(7) Class II (Expendables). Bulk and package Class II supplies associated with the M1A1 are listed in appendix J. They

will not be furnished under the TPF concept and must be requisitioned.

(8) Class III (POL). These supplies will be obtained by the gaining unit under existing procedures. Appendix K lists the associated M1A1 POL products required to be on hand.

(9) Class V (Ammunition). Support for ammunition will continue to be promulgated in accordance with MCO 8010.1, "Class V (W) Supply Rates for FMF Combat Operations," and MCO P8011.4, "Marine Corps Table of Allowances for Class V (W) Materiel (Peacetime)." Detailed information regarding the M1A1 family of ammunition is found in appendix L. Ammunition will not be provided under the TPF concept. Tank companies are allocated ammunition to conduct two gunnery exercises (Tank Tables I through VIII) annually. Each company will fire one of its two allocations at NET. The other will be used for sustainment training at the home station.

(10) Class VII (Secondary Weapons). all secondary weapons (machineguns, rifles, and grenade launchers) are listed in appendix G. MCLB, Albany is tasked to convert 296 machineguns .50 cal M2 (Purpose Code "E") to machineguns .50 cal M2 turret type (M48) (Purpose Code "A") to support fielding. All machineguns, M240 and M2, will be furnished (pushed) by MCLB, Albany. M257 grenade launchers will be a part of the TPF items and will be delivered with the TPF for application during deprocessing by the MFT. M16A2 rifles are the responsibility of the using unit. A delivery schedule for machineguns is contained in annexes I and II of appendix M. All secondary weapons will be accounted for in accordance with MCO P4400.150, "Consumer Level Supply Policy Manual," and MCO 8300.1, "USMC Serialized Control of Small Arms System."

(11) Class IX

(a) Initial Spares/Repair Parts Packages. Upon receipt of a funded Military Interdepartmental Purchase Request (MIPR) from CG, MCLB, Albany, the Program Manager (PM), ABRAMS Tank Systems, TACOM, will requisition the initial spares/repair parts package contents under project code I50 to coincide with fielding of Marine Corps battalion sets. The SMU will be provided with appropriate data to load to the supply system at the time of fielding. Initial spares/repair parts packages will arrive prior to the M1A1 and other support packages at gaining commands. End items and the initial spares/repair parts packages will be jointly inventoried by the gaining command and the MFT. Initial spares/repair parts packages under TPF will contain consumables and reparables (Direct Exchange (DX) items) for loading to the general account and maintenance float, respectively. The MFT will, however, be granted full access to

the initial spares/repair parts package during each deprocessing evolution. An allotment of $2,500 (O&M, New Equipment) per tank has been established to reimburse gaining commands for potential Class IX consumed by the MFT during deprocessing. The content of initial spares/repair parts packages to support each active tank battalion is contained in appendix N, ; the content of the initial spares/repair parts packages to support each MPS is listed in appendix N, annex II.

(b) Replenishment. Replenishment will be conducted through normal budgeting, funding, and MILSTRIP/SASSY procedures.

e. Support Equipment

(1) General. The equipment listed herein is required for the operation and maintenance of the M1A1 Tank. Unless annotated otherwise, all special tool sets and special purpose test equipment will be furnished (pushed) during the fielding period to arrive concurrently with the M1A1.

(2) Requirements

(a) Special Tools

Echelon	Nomenclature	TAMCN
2d, 3d	Tool Set, M1A1 Tank, Second Echelon	E2933
3d	Tool Set, M1A1 Tank, Third Echelon	E2934
4th	Tool Set, M1A1 Tank, Hull and Turret, 4th Echelon	E2932
4th	Tool Set, M1A1 Tank, Electronics/ Optics, 4th Echelon	E2931

(b) Common Tools

Echelon	Nomenclature	TAMCN
4th	Automatic Transmission Test Stand and Adapters	C9210
3d, 4th	Borescope, 58mm 8 in., M3	E0139
2d, 3d	Boresight, 105 mm/120 mm	E0141
3d, 4th	Chest, Oil Pump, w/Components, M3	E0170
3d, 4th	Gauge Kit, Pullover, Complete	E0500
4th	Multimeter, Digital	A1066
2d, 3d, 4th	Multimeter, Digital, Hand Held	H2336
3d, 4th	Ohmmeter, AN/PSM-43	H2342
3d, 4th	Oscilloscope, TEK 2336YA	A1195
3d, 4th	Purging Kit	E1255
3d, 4th	Recharging Unit, Carbon Dioxide/Hlon, SC-5	E1353

Echelon	Nomenclature	TAMCN
2d, 3d, 4th	Regulator, Charging Accumulator	E1379
3d, 4th	Shop Equipment, General Purpose Repair, Set-1	E1951
3d, 4th	Tester, Hydraulic, In-Line	C9659
2d, 3d, 4th	Tool Kit, Electronic Maintenance	H7920
3d, 4th	Tool Kit, Fire Control, Repairman	E2515
2d, 3d, 4th	Tool Kit, Mechanics	C6490
3d	Tool Kit, Machinists, Organizational Maintenance	E2670
2d, 3d	Tool Set, Common No. 1, OM, 2d Echelon	C9672
3d, 4th	Tool Set, Common No. 2, IM, 3d/4th Echelon	C9673
2d, 3d, 4th	Tool Set, Wrench, Impact	E3170
2d, 3d, 4th	Torque Wrench Kit, PD704	E0760
3d, 4th	Welding Machine, Arc, Trailer-Mounted	B2685

(c) Special Purpose Test Equipment

Echelon	Nomenclature	TAMCN
2d, 3d, 4th	Simplified Test Equipment (STE-M1)	E1910
3d, 4th	Direct Support Electrical System Test Set-Thermal Imaging Sight (DSESTS-TIS)	E1906
3d, 4th	Power Supply (PP-7545U)	E1221

(d) Secondary Weapons Tool Kits

Echelon	Nomenclature	TAMCN
2d, 3d, 4th	Tool Kit, OM, M240 Machinegun	E2829
3d, 4th	Tool Kit, IM, M240 Machinegun	E2656

(e) Vest and Connector, Conditioning, Microclimatic. The vest and connector are worn by tank crewmen during the operation of the tank. Protection against heat stress is provided by circulating cooled, filtered air through each crewman’s vest.

(f) Fabricated Tools. An illustrated list of items to be locally manufactured is contained in TM 9-2350-264-34-2-2. Of particular importance in preparation for fielding the M1A1 is the fabrication of exhaust deflectors.

(3)

(a) Special Tool Set Allowances and Delivery Schedule. Appendix O

(b) Special Purpose Test Equipment Allowances and Delivery Schedules. Appendix P

(c) Vest and Connector, Conditioning, Microclimatic. Appendix Q

(4) Components

(a) Special Tool Sets. Appendix R

(b) Special Purpose Test Equipment

1 STE-M1. The STE-M1 (figure 10) is an automated electronic test set used primarily to troubleshoot the electrical systems of the hull, turret, engine, transmission, stabilization, and fire extinguisher installations. It will fault isolate down to the LRU. The STE-M1 consists of core equipment and M1 equipment. Core equipment (NSN 4910-01-135-4389) is composed of three cases: Vehicle Test Meter (VTM)/Set Communication (SET COM), Controllable Interface Box (CIB), and cable case. M1 equipment (NSN 4910-01-142-2640) consists of four cases of adapters and cable assemblies to interface the set with the tank's LRU's and harness connectors. This equipment is used at the organizational level to check the functional operation of vehicle systems and troubleshoot malfunctions.

2 DSESTS-TIS. The DSESTS-TIS (figure 11a) is used at the intermediate level to fault-isolate defective components of LRU's removed from the tank. The tank system is automatically selected via electrical key coding within each LRU. DSESTS-TIS is a micro-computer controlled test device. Stored programs configured to support the M1A1 system control the sequence of operation, measurement and stimulus functions, and perform the test logic to isolate faults to a replaceable module/subassembly of an LRU. DSESTS-TIS consists of core equipment, M1 equipment, and TIS equipment. The core equipment (NSN 6625-01-236-0423) consists of an Operator Interface Unit (OIU) and a General Purpose Interface Assembly (GPIA). Three cable cases comprise the M1 equipment (NSN 6625-01-234-8163). The TIS equipment (NSN 4931-01-263-7972) is composed of two cases plus eight items of Government Furnished Equipment (GFE). A Power Supply PP-7545/U is necessary to provide appropriate current to the DSESTS-TIS. The DSESTS-TIS will be housed in the M934, 5-Ton Expandable Shop Van (figure 11b) which will be a collateral item to the DSESTS-TIS. The driver for the M934 will be incidental to the tank battalion maintenance platoon.

f. Technical Publications

(1) General. The Marine Corps will make maximum use of Army technical information, to include publications, drawings, specifications, packaging and preservation data sheets, quality

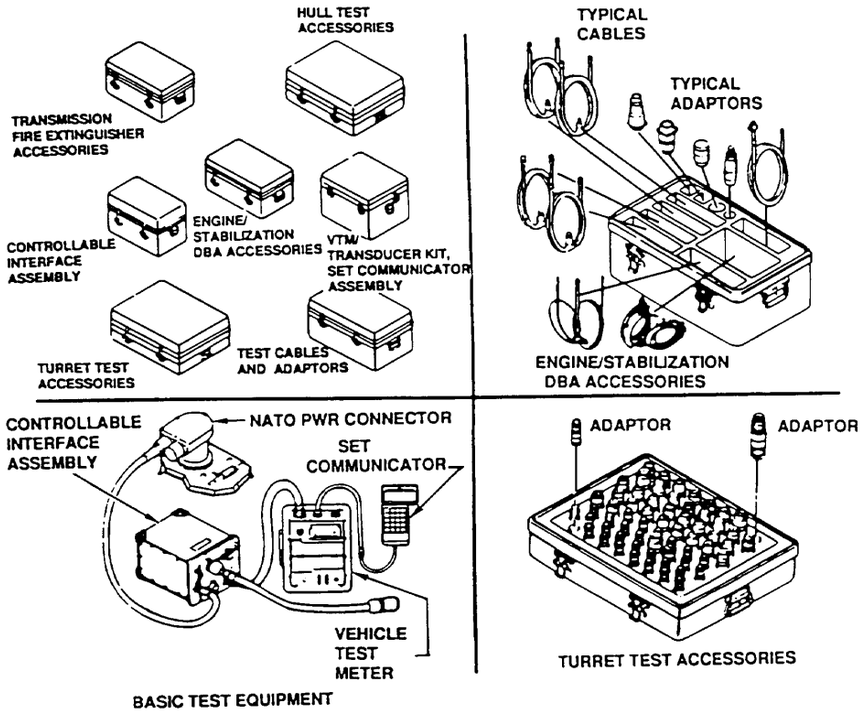

Figure 10.--STE-M1.

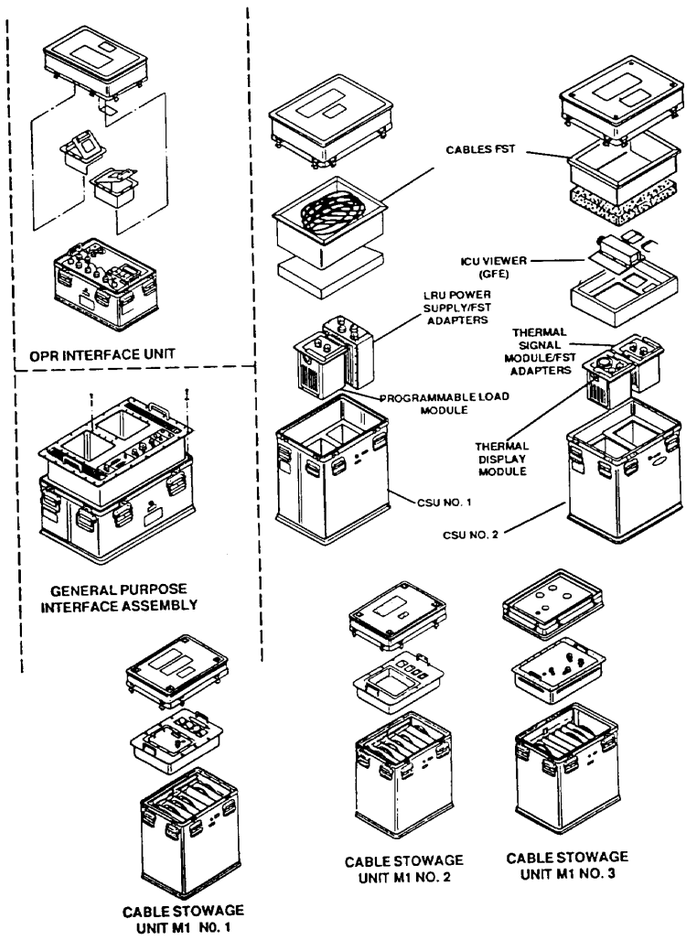

Figure 11a.--DSESTS-TIS.

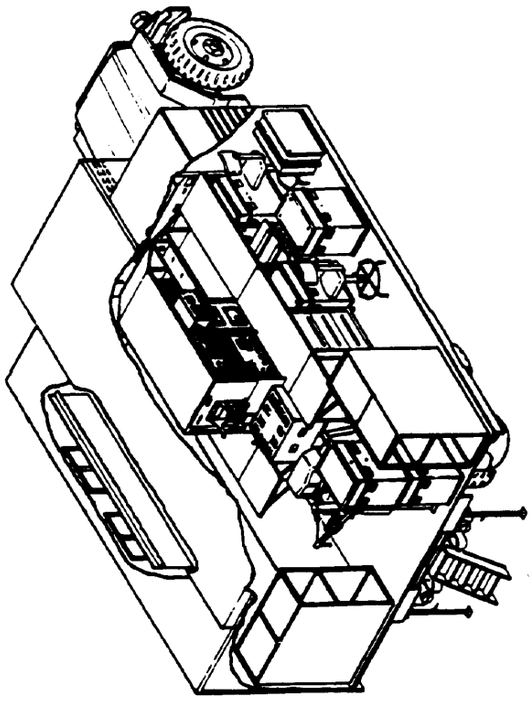

Figure 11b.--5T Expansible Shop Van Truck M934.

assurance provisions, equipment lists, repair parts lists, and inspection records.

(2) Manuals. The U.S. Army's TM's for the M1A1 and associated equipment will be used by the Marine Corps. Unique changes or deviations, if required, will be issued either as Alpha Marine Corps changes to the Army TM's or as Marine Corps TM's or addendums. Appendix S contains a listing of TM's associated with the M1A1. Publications will be pushed to gaining commands by pinpoint distribution prior to receipt of tanks. A starter set, consisting of two of each M1A1 peculiar manual, will be provided as part of TPF.

(3) DMWR's. The DMWR's listed in appendix T are currently in use for the M1A1.

g. Computer Resources Support

(1) M1A1. The U.S. Army Armament, Munitions, and Chemical Command/Armament Research, Development, and Engineering Center (AMCCOM/ARDEC) share responsibility as the Software Support Activity for the M1A1. Necessary software changes will be effected in the field by commercial contractor contact teams.

(2) U-COFT/M-COFT. AMCCOM is responsible for software support for the U-COFT and M-COFT. Software updates will be executed in the same fashion as that for the tank.

(3) STE-M1/DSESTS-TIS. TACOM (Program Executive Office, Armor Systems Modernization) is responsible for updating and supporting software for the test equipment. Updates will be effected at unit sites.

(4) Software Updates. Units will automatically receive updates as a part of the TPF concept.

h. Facilities. There are no unique facilities requirements associated with the M1A1. However, organizational, structural, and equipment/operational deviations associated with the conversion from the M60A1 R/P to the M1A1 influence facility considerations. Key comparisons with facilities impacts are:

Supply (Per Tank)	M60A1 R/P	M1A1
Fuel-Annual Peacetime Consumption	3230 gal	5043 gal
Fuel-Daily Combat Allowance	335 gal	586 gal
Main Gun-Annual Training Allowance	139 rds	188 rds

Force Structure	Marine Tanks/Enlisted	Marine Tanks/Enlisted
2d Tank Battalion	70/729	44/531
3d Tank Battalion	53/617	44/531
1st Armored Assault Battalion	34/482	
4th Tank Battalion	53/617	
8th Tank Battalion	70/729	
MPS (total)	159/90	

(1) Supply. Facility requirements for repair parts for the M1A1 are anticipated to be equal to that of the M60A1 R/P. However, different combat allowances and annual training allocations for fuel and ammunition will alter demands for storage in supply dumps and ships.

(a) Fuel Storage. Annual training requirements for the M1A1 are a function of consumption rates, numbers of operational tanks, and annual usage. Projected annual training requirements are based on consumption of 5043 gallons (850 miles @ 5.93 gpm, active) per tank per year. This amounts to 5,281 barrels of fuel per year per tank battalion. Combat fuel requirements are based on a worst-case 14.5 hour Battlefield Day (3.8 hrs idle, 5.6 hrs cross-country and 5.1 hrs. secondary roads. Expressed as a 30-day requirement, this amounts to 18,233 barrels per tank battalion.

(b) Ammunition Storage. Allowances contained in MCO 8010.1, "Class V (W) Support for FMF Combat Operations," and MCO P8011.4, "USMC Table of Allowances for Class V (W) Materiel (Peacetime)," are used to compute ammunition requirements.

Additional radiological controls are not required for the M829A1 Depleted Uranium (DU) tank round, as existing ammunition storage, handling, transportation, and accountability procedures adequately satisfy radiological safety concerns. Authorization for Navy and Marine Corps possession and storage of DU munitions is granted by Navy Radioactive Material Permit #1300164-L1NP. As conditions of this permit, firing of DU rounds for testing or training is not authorized at any Marine Corps installation. Any noncombatant firing of the M829A1 round must be performed at firing ranges or facilities specifically authorized to conduct such firings by a separate Nuclear Regulatory Commission (NRC) license or Navy Radioactive Material Permit. Changes in storage requirements are a function of four factors: two 7.62 mm machineguns per M1A1 vice one per M60A1 R/P; reduced quantity of tanks in the operational fleet; different allowances per tank; and an approximate 87 percent increase in the volume of packaged 120 mm cartridges vice 105 mm cartridges. Projected ammunition storage requirements for training reflect the annual requirement.

Storage requirements in Measurement Tons (MT's (40 ft(3))) for combat reflect 90-day requirements (60-days at the assault rate and 30-days at the sustaining rate) for active forces.

	Training	Combat
2d Tank Battalion	662 MT	1,183 MT
3d Tank Battalion	662 MT	1,183 MT
Reserve Tank Company	100 MT	

(2) Maintenance Shop Requirements. M1A1 characteristics should be checked against Naval Facilities Engineering Command (NAVFAC) P-272, Part 4, and local maintenance facilities to validate compatibility. The following factors must be considered for performance of maintenance in existing facilities as well as for influence on potential new construction plans.

(a) Power PacK. To pull the power pack, the turret must be traversed to the left approximately 90o. Thus, the gun tube will extend beyond the hull approximately 12- to 13-feet, and the back to the turret will extend beyond the hull approximately 5-feet. In existing facilities, this may limit or preclude use of adjacent maintenance bays. Clearance to fixed/immovable objects must also be considered. A maintenance bay which is 32-feet by 32-feet will readily accommodate the M1A1 with the turret traversed left for power pack removal.

(b) Protective Armor Skirts. Protective armor skirts will require up to 7-feet 2-inches of space to be opened. This may require that tanks be "strategically spotted" in work bays. Armor skirts may be removed, if required, to eliminate clearance problems. Armor skirts must be appropriately safeguarded. A maintenance bay of 32-feet by 32-feet will permit the longest skirts on both the left and right sides of the tank to be opened simultaneously, provided the tank is centered in the bay.

(c) Exhaust Ventilation. Exhaust volume and temperature for the M1A1's turbine engine are greater than that for the M60A1 R/P diesel. The M1A1 may emit up to 15,000 ft(3) of air per minute at 930o F when operating at maximum power. Most engine operations in the maintenance shop, however, will be at idle with discharges of approximately 2,700 ft(3) per minute at temperatures up to 480o F. The power pack may be operated in the shop either in the tank or in a "ground-hopped" configuration, provided that appropriate measures are taken for ventilation of exhaust gases.

(d) Turret. Some maintenance procedures require the turret to be pulled at the fourth and fifth echelons of

maintenance. Turret weight for the M1A1 is approximately 48,000 pounds.

(3) Housing and Community. Although the transition to the M1A1 involves some manpower reductions, changes in troop housing and dining facilities are not warranted.

(4) Utilities and Ground Improvement

(a) Electrical Distribution Lines. Power will be required for the U-COFT/M-COFT and for perimeter/security lighting in M1A1 tank parks. NAVFAC P-80, CNN 812-30 provides general guidelines for electrical distribution planning.

(b) Perimeter/Security Lighting. NAVFAC P-80, CNN 812-40 requires the conduct of an engineering survey to determine illumination, intensity, number, and location of lights.

(c) Ground Fencing. As with perimeter/security lighting, fencing provides a complementary means of augmenting security of M1A1 tank parks. NAVFAC P-80, CNN 872-15 provides design criteria for perimeter fencing, to include height, type of fencing, and distances from objects to be secured.

(d) Parking. The overlap between the M60A1 R/P and the M1A1 will cause a temporary imbalance in parking space requirements. Criteria for ground unit parking areas is found in NAVFAC P-80, CNN 852-10.

(e) Gunnery Ranges. Range requirements for annual gunnery training require reexamination by each Marine Corps Base in light of the operational characteristics and capabilities of the M1A1. The M1A1 can travel faster while engaging both stationary and moving targets at greater ranges and with greater accuracy. The ballistic characteristics of 120 mm ammunition may alter existing range restrictions. FM 17-12-1 contains gunnery range requirements for the M1A1. It should be noted that laser certification of ranges is required to effectively range using the laser rangefinder.

(5) U-COFT

(a) Introduction. The contractor will prepare individual systems for shipment and delivery, and will install all systems at the designated sites. The facilities requirements contained herein are to be satisfied by incorporation into a site, either by modification of an existing site or design of a new site. All resulting designs and preparation work by the Marine Corps shall be performed to all current applicable codes. Site preparation, excluding the U-COFT systems with pads provided

by the contractor, is the responsibility of the gaining command. The contractor will install one concrete pad per U-COFT.

(b) Civil

1 Access Roads. U-COFT systems will be delivered to each site on 18-wheel tractor-trailer (flatbed) vehicles with overall dimensions of 8-feet 6-inches wide by 13-feet 6-inches high by 65-feet 0-inches overall length. Total maximum loads for each axle shall be:

Axle	Load
Tractor Steering Axle Load	12,000 lbs
Tractor Rear Tandem Axle Load	34,000 lbs
Semitrailer Rear Tandem Axle Load (Total)	34,000 lbs

The tractor with a 42-feet flatbed trailer requires a minimum turning radius of 50-feet. All roadways and service roads of the base required for access to each site shall be capable of allowing passage of the tractor-trailer and loads described above in all types of weather conditions. Removal or temporary relocation of all vertical obstructions is the responsibility of the Marine Corps. If the site is located on a dead-end road, a turnaround area for the tractor-trailer shall be provided as follows:

Type Turnaround	Size
180o Turnaround	120-feet by 120-feet
Back Up Into a Lane Turnaround	Lane: 12-feet by 75-feet Corner Radius: 50-feet

2 Unloading Area. The gaining command shall provide an unloading area contiguous to the front side of each U-COFT system. It shall be at least 12-feet wide and 110-feet long and subject to the aforementioned turnaround conditions. U-COFT shelters will be unloaded directly from the trailer and placed at their final locations on the U-COFT system pads. A contractor furnished, mobile-type 30-ton crane will be utilized for unloading the shelters.

3 Access to Supporting Facilities. Determination of supporting facilities for U-COFT, such as toilets, water fountains, parking areas, vending machine areas, and janitorial storage areas, is the responsibility of the gaining command.

a During U-COFT installation, the contractor will require the following support from the Marine Corps:

(1) Access to water.

(2) 120/208 V, 60 amp electrical power supply within 500-feet of each site.

(3) Temporary base access permits for contractor or subcontractor personnel and vehicles.

b During training operations:

(1) Access to water.

(2) Access by FSR's to toilets, drinking fountains, and dining facilities.

(3) Permanent access permits for FSR's.

(4) Access permits for subcontractor personnel.

(5) Access to U-COFT systems for FSR's maintenance van.

(6) Parking area (overnight) for FSR's maintenance van.

(c) Architectural. The gaining command shall be responsible for selecting a site for installation of U-COFT and shall determine if single or multiple systems will be located at each site. Using Government criteria, the contractor has determined the optimum arrangement of a single U-COFT system. Multiple U-COFT systems could be arranged in a number of site plans. Accordingly, it is recommended that a site plan philosophy be adopted that logically allows placement of additional systems at one site, as described below. A single U-COFT system, as shown in figure 12, utilizes a cleared site area which shall be 32-feet x 40-feet, minimum. The U-COFT system will be placed in the center of the cleared area. Multiple systems shall be added by placing single U-COFT system cleared areas, figure 13, adjacent to one another as shown in figure 14. The U-COFT pad shall consist of a wire-mesh, reinforced, 33-feet 6-inches x 24-feet 8-inches x 0-feet 6-inches (nominal thickness) concrete pad capable of withstanding the loads/weights of the U-COFT system and pedestrian traffic. A roadway which is a minimum 12-feet wide shall be located at the front of single or multiple U-COFT systems, as shown in figure 14. Site orientation is not an important factor for

consideration of solar heat gains unless located in the shade of trees, hills/mountains, structures, or buildings which reduce solar heat gains.

1 Location. The location of single or multiple U-COFT sites shall be selected by the gaining command. The following shall be considered when selecting a site:

a U-COFT systems shall not be located under overhead utilities or electrical power lines.

b U-COFT systems shall not be located at sites which equal or exceed radio frequency radiation limits prescribed herein.

c Sites shall be well drained.

d Sites shall not have a grade slope over two percent.

e The site(s) shall be located a safe distance (minimum of 50-feet) from any hazardous/flammable materials or operations, such as fuel storage, ammo dumps, radar, and firing ranges, as determined by the Base Safety Officer.

f Sites shall be clear of all obstacles or obstructions. Underground utilities or other obstacles must be a minimum of 2-feet below grade. Any underground utilities or other obstacles between 2-feet and 3-feet below grade must be identified and properly marked at ground level.

2 Physical Arrangement and Orientation. The layout of the shelters for the U-COFT system is provided in figure 15. A listing of the sheltered system equipment and characteristics is provided in appendix U. The sheltered layout was developed with the prime objective of achieving an arrangement of the shelters which would optimize the use of space for each site.

3 Landscaping/Drainage/Slope Requirement. The gaining command will provide a level site with well drained soil which has been stripped of sod and all organic material and provide all drainage structures, access roads, and utilities external to the site. Sites with well drained soil shall be as follows:

a The site shall be adequately drained to prevent water flowing into, or ponding on, the site. When site conditions require, ditches, swales, or underground drains shall be provided by the gaining command to intercept surface water and

conduct the surface water from the site.

b The slabs shall be constructed on soils which readily drain. Generally, the following soil types are readily drained:

(1) Well grounded gravels, gravel-sand mixtures, little or no fines.

(2) Poorly graded gravels or gravel-sand mixtures, little or no fines.

(3) Well graded sands, gravelly sands, little or no fines.

c Any soil that has a percolation rate of more than 15 minutes per inch will not meet the "well drained" criteria.

The percolation rate shall be determined in accordance with the following procedure:

(1) Dig or bore a hole not less than 4-inches in diameter or more than 12-inches in diameter and 36-inches deep.

(2) The bottom and sides of the hole shall be carefully scratched to remove any smeared soil surfaces. All loose material shall be removed from the hole and 2-inches of fine gravel added to prevent scouring.

(3) The hole shall be carefully filled with clear water to a depth of 12-inches.

(4) After maintaining the water level at the 12-inches depth for 15 minutes by adding water as required, measure the time for the water level to drop 3-inches.

(5) If more than 45 minutes is required for the water level to drop 3-inches, the soil does not meet the "well drained" criteria.

d All roots, vegetation, and other organic or unsuitable materials shall be removed to a depth of 16-inches below the top of the original ground surface. The material removed shall be replaced by compacted, well drained soil capable of supporting 2,500 pounds per fty. The contractor shall dress

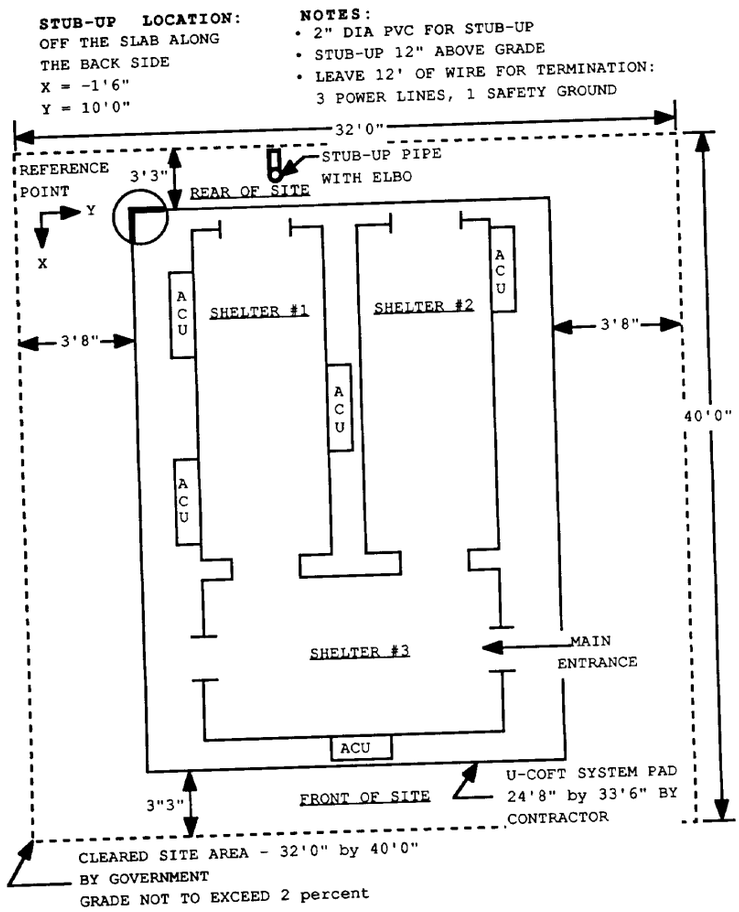

Figure 12.--U-COFT Single System Layout.

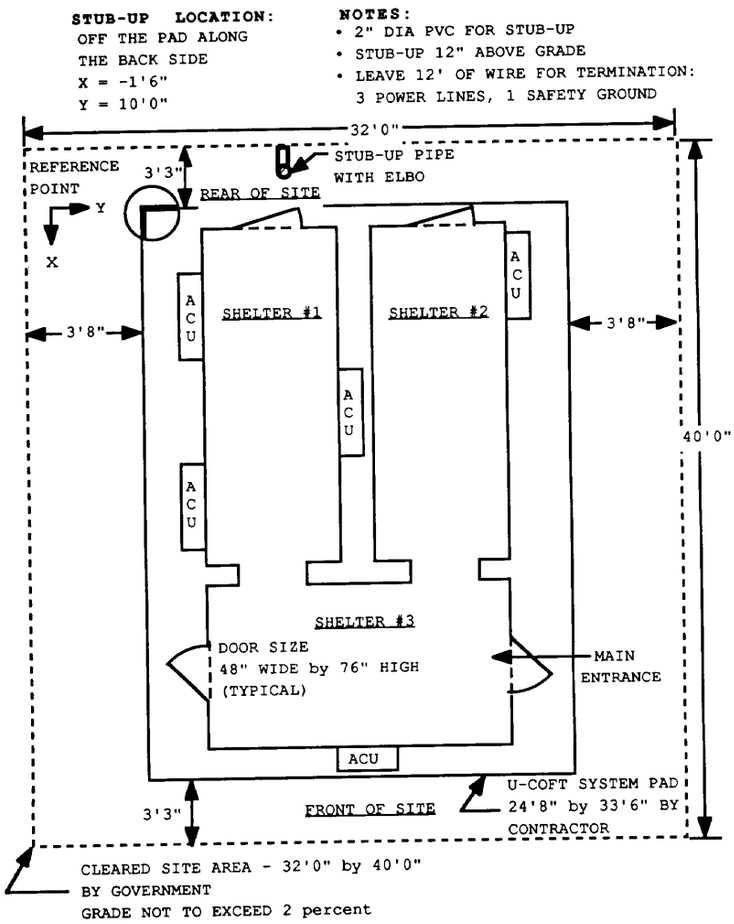

Figure 13.--U-COFT Multi-System Suite Layout.

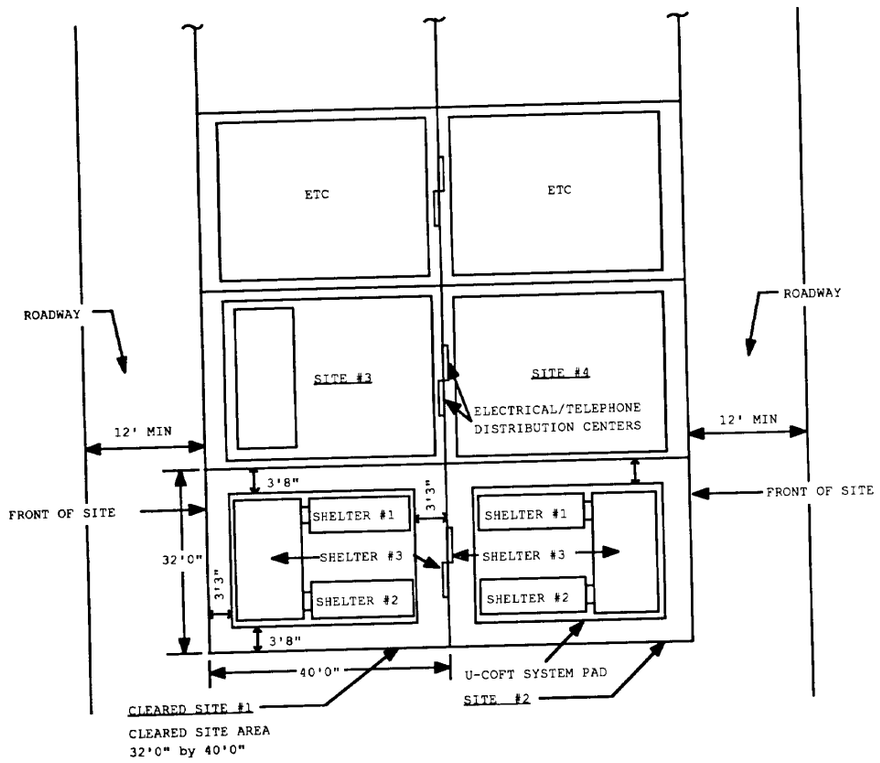

Figure 14.--U-COFT Multi-System Configuration.

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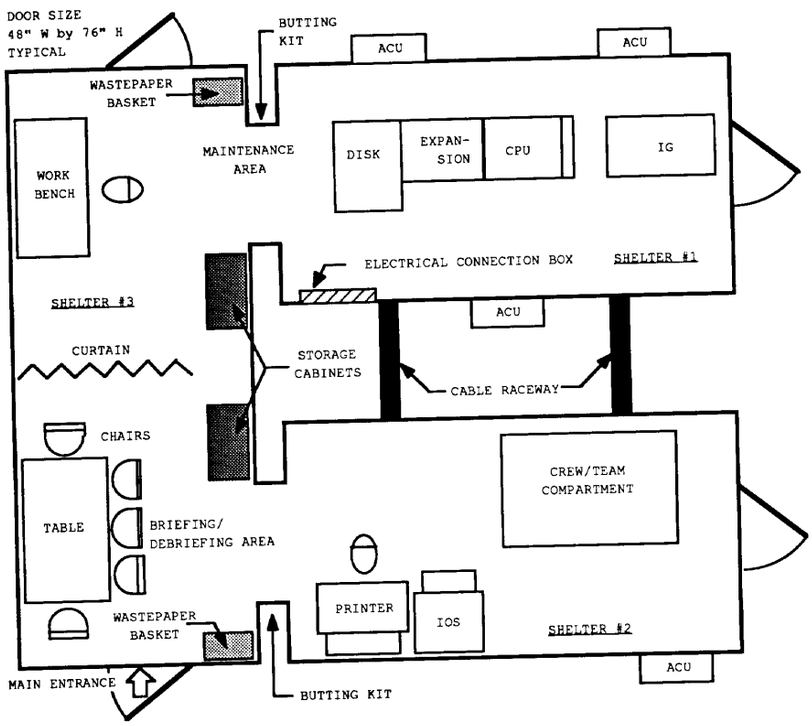


Figure 15.--U-COFT Floor Plan.

and restore the site after the installation of the U-COFT system(s) to its condition prior to the contractor's arrival.

4 Site Information. Each gaining command shall provide a site planning packet which will provide adequate information for the contractor to transport and install the U-COFT system(s). The packet will be furnished to the contractor via the Commandant of the Marine Corps (CMC) (LF). The contractor will conduct a site survey visit not later than 15 months prior to start of installation. CMC (LF) will coordinate all site surveys. Additional information may be required as a result result of the site survey. Such information, if required, will be provided within 30 days of the request. The contractor will notify the Marine Corps within 30 days of receipt of any information that presents unsatisfactory conditions. Installation will commence approximately 38 weeks prior to the ready-for-training date. At a minimum, the following information or documents shall be included:

a Map of base on which site is located.

b Utility plans showing all overhead and underground utilities and telephone lines in the site area.

c Site drainage plans.

d Construction specifications and drawings of site preparation.

e Results of Electromagnetic Interference (EMI) site survey, as required.

f Maps showing locations and access to water/electrical power for construction to be done by the contractor.

g Names, locations, and telephone numbers of base personnel involved in the transportation and installation of the U-COFT.

h Tables showing average low and high temperatures, worst frost depth, humidity, rainfall, snowfall, wind direction, and wind speed on a monthly basis for a year.

i Soil investigation reports, logs of hole borings, and soil compaction reports.

j Procedure for contractor/subcontractor personnel and vehicles to gain access to the base.

k Base's list of approved general and electrical contractors for work on base.

l Site plans showing all existing or proposed contours, roads, sidewalks, boundaries, and the like.

m Load limits of on-base bridges and highways over which the system will travel to the site.

n Vertical clearances of all overhead utilities, bridges, and trees.

5 Working Clearances and Access. Figure 15 shows the interior layout for a single U-COFT system. The layout shows the clearance around each piece of equipment and the location and size of doors. Figures 12, 13, and 14 show exterior clearance dimensions. These spaces are the minimum required for access and working clearances for satisfactory performance of operational and maintenance functions.

6 Personnel Occupancy. The maximum number of personnel to be present in a single U-COFT system during normal operations is depicted below. If maintenance or repairs require a contractor FSR or subcontractor, it is anticipated that training will cease and students will leave the shelters.

Shelter No.	Personnel	Type Personnel
1	1	Contractor FSR (Normally sits in Shelter No. 3)
2	1	Instructor/Operator (Training)
	2	Students
	1	Instructor/Operator Debriefing/Debriefing)
	2	Students
3	2	Visiting Observers
Roaming at Large	1	Supervisor
TOTAL	10	

(d) Structural

1 Ground Loads. The native soil at sites selected shall have a minimum load-bearing capacity of 2,00 pounds per square foot. If the site has a grade slope of more than two percent, the gaining command is responsible for improving the area to be under the U-COFT system pads. The grade slope of each site shall not exceed two percent after improvement. If required to meet load-bearing capacity, the soil shall be compacted by the gaining command to the following standards:

Method	Standard
95 percent Modified Proctor Test	AASHO T-180, or ASTMD-1557
100 percent Standard Proctor Test	AASHO T-99, or ASTM D-698

2 Trenches/Penetrations. Trenches and penetrations required at each site are listed below. Additional penetrations required for installation of Government-installed systems or equipment shall be the responsibility of the gaining command.

a Trenches. Trenches (4-feet deep) required for underground electrical and telephone service.

b Penetrations. The following penetrations shall be done by the contractor:

(1) 10-feet long ground rods.

(2) Holes (6-feet deep maximum) for posts supporting the contractor-installed electrical service panel.

3 Special Handling Equipment. The contractor will provide all equipment required to remove U-COFT shelter units from the transporting trailers and install the units on the U-COFT system pads. All uplifting equipment will be capable of lifting 150 percent of the heaviest load. Mobile-type 30-ton cranes may be used as lifting equipment. The crane booms will extend to a vertical height of approximately 60-feet. All electrical lines which may interfere with the crane operation will be temporarily removed or relocated by the gaining command.

4 Equipment Mounting. The contractor will provide and install all shelter hold-down attachment devices on the shelter and embedded in the U-COFT system pad. All such devices will be designed and installed according to applicable Government installation codes. Details will be provided in the base drawing package at the time of installation.

(e) Mechanical

1 Air-Conditioning/Heating. There will be no air-conditioning/heating equipment requirements imposed on sites by the U-COFT system. The air-conditioning system for the shelters consists of packaged units that are a part of each shelter of a U-COFT system. The gaining command is responsible for providing electrical power to packaged Air-Conditioning Units (ACU’s). The electrical power for ACU’s and the balance of the

entire U-COFT system shall be provided by the gaining command to a single point site interface. The capacity and dispersement of ACU's are as listed below. Figure 15 shows ACU locations.

Shelter No.	Installed ACUs per Shelter	Total ACU Capacity per Shelter (ACU tons & Btu/hr)	Heating Capacity
1	3	9 tons or 108,000 Btu/hr	24.6 KW
2	1	3 tons or 36,000 Btu/hr	8.2 KW
3	1	3 tons or 36,000 Btu/hr	8.2 KW

2 Physical Security Features. It is the responsibility of the gaining command to provide security fencing and intruder detection, if required. The gaining command shall provide lighting (five foot candles average minimum) adequate for personnel to safely gain access to the shelters on a moonless night.

(f) Electrical

1 Electrical Services Required--Type and Characteristics for 60-Hz Sites. The U-COFT system has been designed to operate from a secondary electrical power source with the basic characteristics and steady-state requirements listed below. The input voltage, when filtered by General Electric supplied equipment (removes 99 percent of random noise and 99 percent of 60-Hz harmonics), shall meet the stated steady-state requirements.

Voltage to Transformer	480 VAC
Frequency	60 Hz ¤ 10 percent
Phase	3-Phase--Delta Connected
Number of Wires	4 Wires (4th wire for safety ground)

Voltage to EDC	208/120 VAC ¤ 10 percent
Phase	3-Phase--Wye Connected
Number of Wires	5 Wires (5th wire for safety ground)

2 Power Interruptions and Transients. The following nonsimultaneous conditions of the trainer's power source shall not cause failure of any part or prevent resumption of normal service when the conditions have ceased:

a Any interruption of power that will be restored within 16 milliseconds to 30 seconds, occurring not more than once every 5 minutes.

b A voltage transient will not exceed 3.5 times normal voltage to one-tenth (0.1) of normal voltage except for short durations (less than one cycle).

c A frequency variation of plus or minus 15 percent for periods up to 10 seconds, no more than once every five minutes.

3 Simulator System Equipment Loads. Presented in table 7 is a summary of the electrical equipment loads for the U-COFT system. Presented in table 8 is a summary of the utility equipment loads for the U-COFT system.

Table 7.--U-COFT 60-Hz System Electronic Equipment Load.

Item	Description		Load (KVA)
1	Image Generator		11.41
2	VAX 11/780/Expansion Cabinet		3.89
3	Disk Unit		0.77
4	Printer		0.34
5	IOS & Crew/Team Compartment		3.70
6	Test Equipment Reserve*		0.03
	Electronic Equipment Load	SUBTOTAL	20.14
	Required Design Reserve		4.02
	Electrical Equipment Load	TOTAL	24.16

*Test equipment reserve is an average load.

Table 8.--U-COFT 60-HZ System Utility Equipment Load.

Item	Description		Load (KVA)
1	ACU System (Worst Case Condition: 5 ACUs)		61.90
2	Lights		2.38
3	Work Bench		1.25
4	Maintenance Equipment		0.89
	Utility Equipment Electrical Load	SUBTOTAL	66.42
	Required Design Reserve		13.26
	Utility Equipment Electrical Load	TOTAL	79.68

4 Service Distribution Requirement. Figure 16 is a single-line electrical diagram showing the distribution of electrical services from the site source to the U-COFT equipment for 60-Hz sites. The source from the electrical service to the U-COFT system will be derived from a contractor provided transformer, as shown in figure 16. The Marine Corps will provide electrical services (480 V primary power) to the transformer location. The transformer shall be dedicated for use by the U-COFT equipment and shall have a 3-phase delta primary with a secondary of 208/120 VAC, 3-phase, 4-wire-wye. The transformer shall be provided with an electrostatic shield between the primary and secondary windings to reduce interwiring capacitance, thus increasing isolation from transients on the

primary. The power rating of the contractor furnished isolation transformer is 112.5 KVA. The secondary service shall have a short circuit interrupting rating of 22,000 amps root-mean-square (RMS) symmetrical or less. The Marine Corps shall provide an accessible on/off switch, such as a fused quick-disconnect box, at the secondary side of the utility pole. Figure 17 shows an electrical power diagram for the U-COFT site.

5 Initial Service Distribution--Provided by the Marine Corps. The gaining command shall leave 12-feet of excess feeder wires for termination by the contractor. The secondary electrical service from the contractor installed transformer shall be extended to the location of the site Electrical Distribution Center (EDC) (figures 12, 13, and 17).

6 Interface Definition. This paragraph defines the interface for the electrical distribution system for the contractor provided electrical distribution center and the Marine Corps provided electrical service feeder. The contractor shall provide the electrical distribution center interface requirements which are defined in figures 16, 17, and 18. The Marine Corps provided electrical service feeder is also defined on the referenced figures. U-COFT 60-Hz electrical layouts for single-system and multi-system sites are displayed at figures 19 and 20 respectively.

a Site Electrical Service Interface

(1) Physical. As part of the site preparation, the gaining command will provide electrical service to a location shown on figures 15, 16, and 17. The gaining command will leave 12-feet of excess feeder wires for termination by the contractor. The service shall be: 480 VAC, 60-Hz, 3-phase delta, 3 power wires plus separate safety ground wire.

(2) Functional. The contractor shall connect the Marine Corps-provided 480 V primary power to a contractor-furnished isolation transformer. This will in turn be connected to a contractor provided electrical distribution center. The U-COFT system will be plugged into the electrical distribution center.

b Site Telephone Service Interface

(1) Physical. As part of the site preparation, the gaining command will provide a telephone service in conduit located as shown in figures 16 and 18. The gaining command will leave 10-feet of excess wire in the conduit for termination at the time the contractor installs the distribution center. The service shall be one line of Class "C" (into the

local existing base network) and one line of Class "A" (into the local commercial telephone company capable of transmitting 1,200 baud) military service.

(2) Functional. The Marine Corps provided telephone service shall be connected to a contractor provided distribution center assembly (figures 16, 17, and 18). The U-COFT system will be plugged into the telephone receptacle, a part of the electrical distribution center.

7 Grounding. The contractor will provide and install the secondary grounding at each site as specified in Military Specification MIL-T-23991 for contractor installed equipment.

8 Lighting. There will be no exterior lighting installed by the contractor or as part of the U-COFT system. The site at which the shelters and equipment will be located shall have area lighting with a minimum average level of five footcandles to be provided by the gaining command.

9 Electromagnetic Interference. The gaining command will conduct an EMI survey as required at each U-COFT site and provide the results to the contractor during the site survey visit. To ensure proper operation of U-COFT equipment, the field intensity at each U-COFT site should be less than the values shown below.

Frequency	E-Field (Volts/Meter)
14 kHz to 2 MHz	1
2 MHz to 30 MHz	10
30 MHz to 2,000 MHz	5
2 GHz to 10 GHz	5
Above 10 GHz	20

10 Lightning Protection. The contractor will provide and install a lightning protection system at each site for the contractor installed equipment.

(g) Safety. The contractor will meet all base safety requirements applicable at the installation site.

(6) M-COFT

(a) Introduction. The Marine Corps Reserve Training Centers (MCRTC's) of the East and West Coast Reserve companies will each develop an M-COFT site. The contractor will install concrete pads for each trailer-mounted M-COFT. Additionally, he

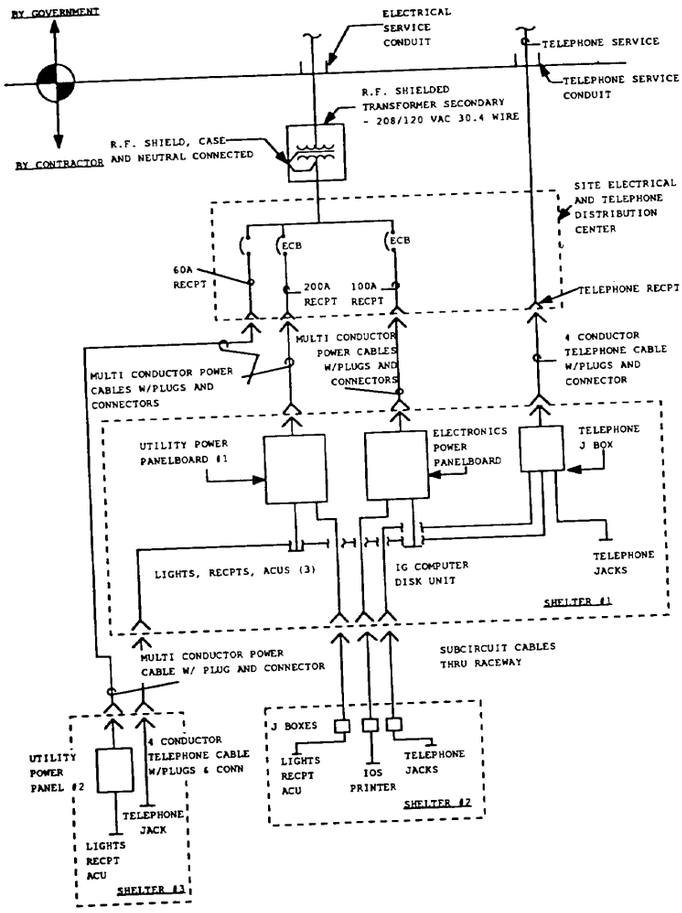


Figure 16.--U-COFT Electrical One-Line Diagram.

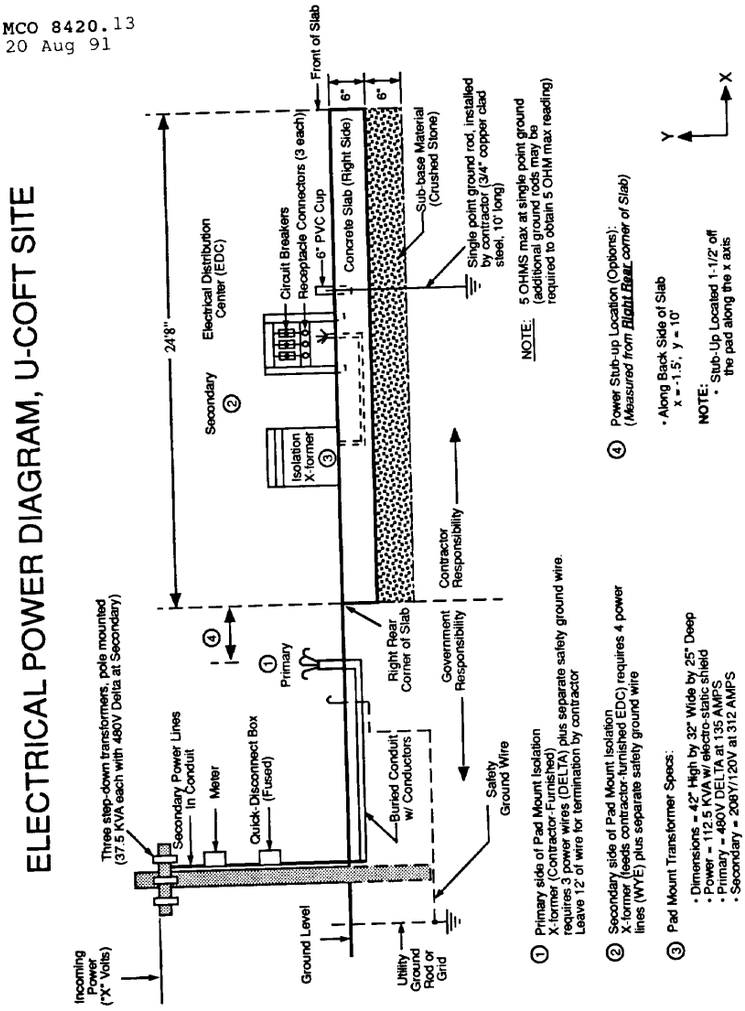


Figure 17.--Electrical Power Diagram, U-COFT Site.

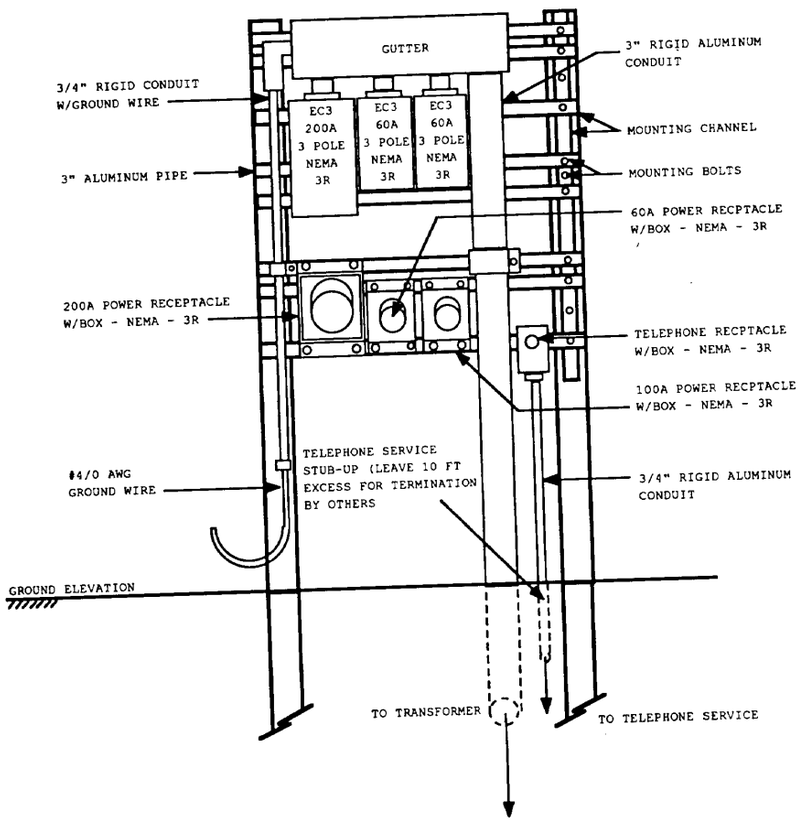


Figure 18.--U-COFT 60-Hz Electrical Distribution Center Layout and Interface.

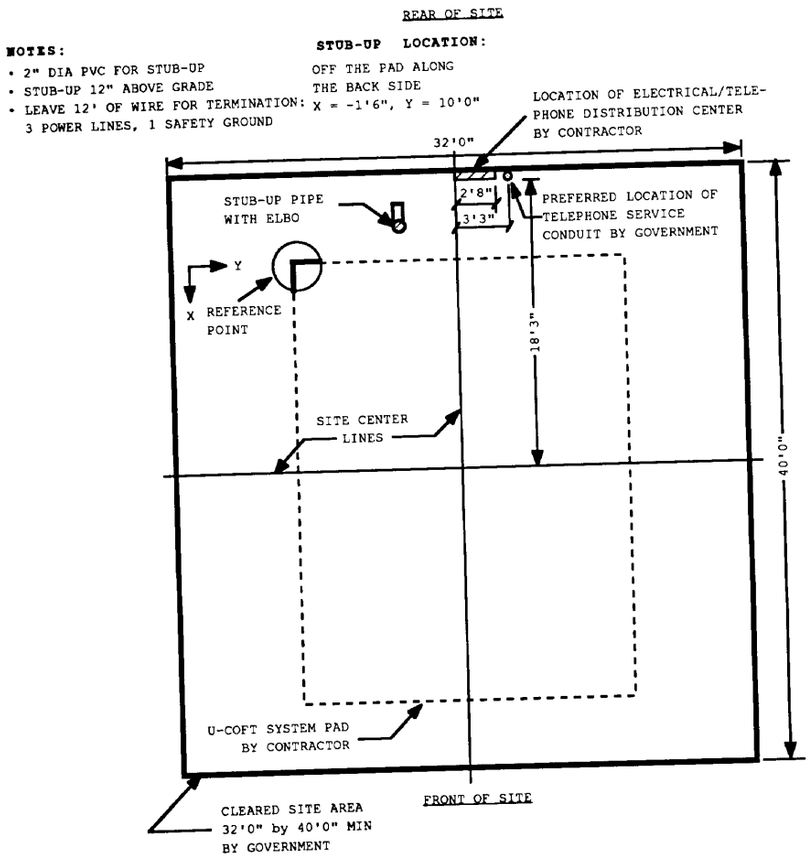


Figure 19.--U-COFT 60-Hz Electrical Single Site Layout.

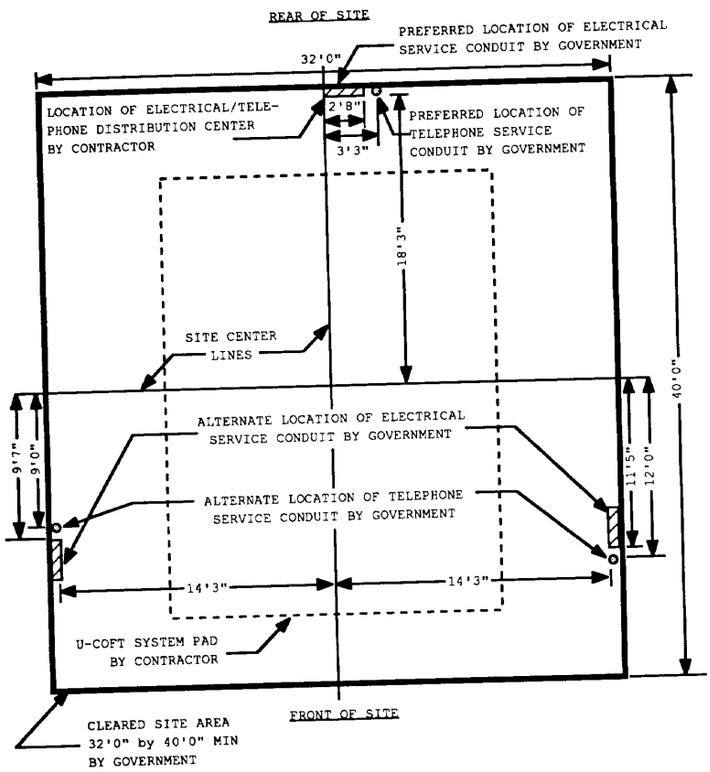


Figure 20.--U-COFT 60-Hz Electrical Multi-System Site Layout.

will prepare individual systems for shipment, will provide first destination delivery, and will install all systems at designated sites. Facilities requirements contained herein are to be satisfied by incorporation into a site, either by modification of an existing site or design of a new site. All designs and preparation work by the Marine Corps Reserve shall be performed to all current applicable codes. Site preparation, excluding the M-COFT systems with pads and electrical distribution centers provided by the contractor, are the responsibility of the gaining command. The M-COFT may be towed by any suitable fifth-wheel tractor, military or commercial, but the gaining command is responsible for all second and subsequent destination transportation.

(b) Civil

1 Access Roads. M-COFT systems will be installed in and delivered to each site on 18-wheel tractor-trailer (flatbed) vehicles with overall dimensions of 8-feet wide by 13-feet 6-inches high by 66-feet 0-inches overall length. Total maximum loads for each axle are:

Axle	Load
Tractor Steering Axle Load	12,000 lbs
Tractor Rear Tandem Axle Load	25,000 lbs
Semitrailer Rear Tandem Axle Load (Total)	25,000 lbs
Landing Gear Load	20,000 lbs

The tractor with a 45-feet flatbed trailer requires a minimum turning radius of 50-feet. All roadways and service roads of the MCRTC required for access to each site location shall be capable of allowing passage of the truck trailer and loads described above in all types of weather conditions. Removal/temporary relocation of all vertical obstructions is the responsibility of the Marine Corps. If the site is located on a dead-end road, a turnaround area for the tractor-trailer shall be provided as follows:

Type Turnaround	Size
180o Turnaround	120-feet by 120-feet
Back Up Into a Lane Turnaround	Lane: 12-feet by 85-feet Corner Radius: 60-feet

2 Access to Supporting Facilities. Determination of supporting facilities for M-COFT, such as toilets, water fountains, parking areas, vending machine areas, and janitorial storage areas, is the responsibility of the gaining command.

a During M-COFT installation, the contractor will require the following support from the Marine Corps:

(1) Access to water.

(2) 120/208 V, 60 amp electrical power supply within 500-feet of each site.

(3) Temporary MCRTC access permits for contractor or subcontractor personnel and vehicles.

b During training operations:

(1) Access to water.

(2) Access by FSR's to toilets, drinking fountains, and dining facilities.

(3) Permanent access permits for FSR's.

(4) Access permits for subcontractor personnel.

(5) Access to M-COFT systems for FSR's maintenance van.

(6) Parking area (overnight) for FSR's maintenance van.

(7) Use of classroom.

(c) Architectural

1 M-COFT Trailer Site. The gaining command shall be responsible for selecting a site or sites for installation of M-COFT. Using Government criteria, the contractor has determined the optimum arrangement of a single M-COFT system. An M-COFT system, as shown in figure 21, utilizes a concrete pad which shall be 60-feet by 30-feet by 6-inches, minimum, if it is going to be located on grass, dirt, or some other unfinished surface. If it is located on blacktop or another finished area, the size of the concrete pad can be reduced to 48-feet by 14-feet by 6-inches. The limits of the site will remain unchanged if the smaller pad is used. The M-COFT system will be placed in the center of the pad. An access, maneuvering and egress area shall also be provided to accommodate the truck and trailer during installation of the M-COFT. A roadway with a minimum 12-foot width shall provide access to the M-COFT site. Site orientation is not an important factor for consideration of solar heat gains, unless located in the shade of trees, hills/mountains, structures, or buildings which reduce solar heat gains.

2 M-COFT Support Facilities. Each MCRTC will provide a work area within the MCRTC for the FSR repairers. The requirement is not for dedicated space and will apply only during the time the M-COFT is at the site. The following support will be provided to the FSR, as required, within the MCRTC:

a One workbench 30-inches by 60-inches by 36-inches high.

b One workbench light (with adjustable arms).

c One lockable storage cabinet (36-inches by 18-inches by 72-inches high).

d One wastebasket.

e One chair/stool for workbench.

f Telephone (extension to M-COFT system).

g Three 120 V, 20-amp duplex receptacles adjacent to workbench.

3 Instructional Support Facilities. During training operations, each MCRTC will provide a classroom (14-feet by 20-feet minimum) which will accommodate at least eight students, two visitors, and an instructor. The classroom will be equipped with:

a Ten chair desks, or chairs and tables.

b Blackboard.

c Magnetic/White board.

d Projection screen.

e Vu-graph projector.

f 35 mm slide projector.

g Lectern.

4 Location. The location of single or multiple M-COFT sites shall be selected by the gaining command. The following shall be considered when selecting a site:

a M-COFT systems shall not be located under overhead utilities or electrical power lines.

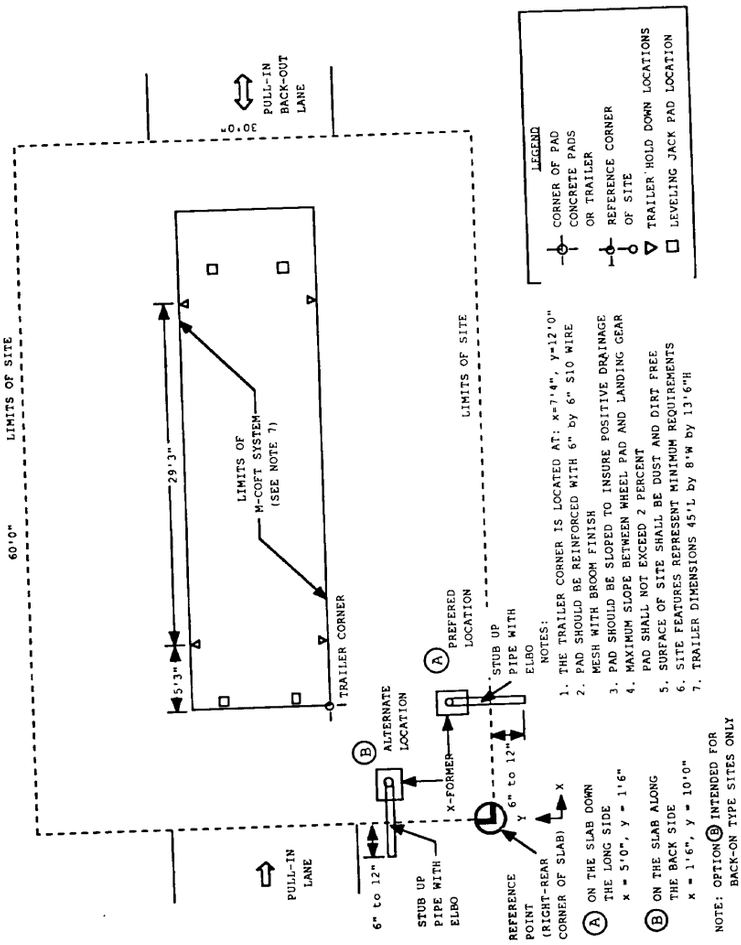


Figure 21.--M-COFT Single System Site Layout.

b M-COFT systems shall not be located at sites which equal or exceed radio frequency radiation limits prescribed herein.

c Sites shall be well drained.

d Sites shall not have a grade slope which exceeds two percent.

e The site(s) shall be located a safe distance (minimum of 50-feet) from any hazardous materials or operations, such as fuel storage, ammo dumps, radar, and firing ranges, as determined by the I-I Safety Officer.

f Sites shall be cleared of all obstacles or obstructions. Underground utilities or other obstacles must be a minimum of 2-feet below grade. Any utilities or other obstacles between 2-feet and 3-feet below grade must be identified and properly marked at ground level.

5 Physical Arrangement and Orientation. The layout of the shelters for the M-COFT system is provided in figure 9. A listing of the sheltered system equipment and characteristics is provided in appendix U. The layout considered: equipment configuration and functional groupings; operator and maintenance personnel activities; power, signal and grounding cabling and system constraints; and movement and use of maintenance equipment. The layout represents the minimum space required to accommodate a single system.

6 Landscaping/Drainage/Slope Requirement. The gaining command will provide a site for each M-COFT with the dimensions detailed in figure 21. The finished grade shall not exceed a slope of two percent. The gaining command shall provide a level, well drained, dust/soil-free site which will support the wheels, stairs, leveling jack, and landing gear loads of the trailer without causing settlement or deformation of the site surface; and shall provide all drainage structures, access roads, and utilities external to the site.

7 Site Information. Each gaining command shall provide a site planning packet which will provide adequate information for the contractor to transport and install the M-COFT system(s). The packet will be furnished to the contractor via CMC (LF). The contractor will conduct a site survey visit not later than nine months prior to start of installation. CMC (LF) will coordinate all site surveys. Additional information may be required as a result of the site survey. If required, such information will be provided within 30 days of the request. The contractor will notify the Marine Corps within 30

days of receipt of any information that presents unsatisfactory conditions. Installation will commence approximately 20 weeks prior to the ready-for-training date. At a minimum, the following information or documents shall be included:

a Map of installation on which site is located.

b Utility plans showing all overhead and underground utilities and telephone lines in the site area.

c Site drainage plans.

d Construction specifications and drawings of site preparation.

e Results of EMI site survey, as required.

f Maps showing locations and access to water/electrical power for construction to be done by the contractor.

g Names, locations, and telephone numbers of center personnel involved in the transportation and installation of the M-COFT.

h Procedure for contractor/subcontractor personnel and vehicles to gain access to the center.

i MCRTC list of approved general and electrical contractors for work on the center.

j Site plans showing all existing or proposed contours, roads, sidewalks, boundaries, and other similar information.

8 Working Clearances and Access. Figure 9 shows the interior layout for an M-COFT system. The layout shows the clearance around each piece of equipment and the location and size of doors. Figure 21 shows exterior clearance dimensions. These spaces are the minimum required for access and working clearances for satisfactory performance of operational and maintenance functions.

9 Personnel Occupancy. The maximum number of personnel to be present in a single M-COFT system during normal operations is depicted below. If maintenance or repairs require a contractor FSR or subcontractor, it is anticipated that training will cease and students will leave the shelters.

Shelter No.	Personnel	Type Personnel
Computer	1	Contractor FSR
Trainer	1	Instructor/Operator (Training)
	2	Students
	2	Visiting Observers
Roaming at Large	1	Supervisor
TOTAL	7	

(d) Structural

1 Ground Loads. The site surface selected shall have a load bearing capacity sufficient to support wheels, stairs, landing gear, and leveling jack loads of a trailer without causing deformation of the site surface. The slope of each site shall not exceed more than two percent.

2 Trenches/Penetrations. Trenches and penetrations required at each site are listed below. Additional penetrations required for installation of Government-installed systems or equipment shall be the responsibility of the gaining command.

a Trenches. Trenches required for underground electrical and telephone service from the MCRTC-installed electrical service panel and/or transformer.

b Penetrations

(1) Ground rods (ten 30-feet long).

(2) Holes (3-feet deep nominal) for posts supporting the contractor-installed electrical service panel.

3 Special Handling Equipment. There will be no requirement for the Marine Corps to provide lifting or handling equipment.

4 Equipment Mounting. The contractor shall provide a tie-down system for the M-COFT trailer which shall consist of a ground anchor and a cable/strap/chain with a tensioning device. The tie-down system shall be designed and installed in accordance with applicable building codes. The ground anchors and cables/straps/chains will be required at four locations for each trailer. Holes through which the slings can be fastened are located on both sides of the trailer 65-inches from the rear edge and 124-inches from the front edge. All holes are 3-inches high and 2-inches wide (oblong), with the bottom located approximately 46-inches above the ground plane. The holes are 7/8-inch thick.

(e) Mechanical

1 Air-Conditioning/Heating. There will be no air-conditioning/heating equipment requirements imposed on sites by the M-COFT system. The air-conditioning system for the shelters consists of packaged units that are a part of each shelter of an M-COFT system. The gaining command is responsible for providing electrical power to packaged ACU's. The electrical power for ACUs and the balance of entire M-COFT system shall be provided by the gaining command to a single electrical distribution center. The capacity and dispersement of ACUs are as listed below. ACU locations are shown in figure 9.

Shelter	Installed ACUs per Shelter	Total ACU Capacity per Shelter (ACU tons & Btu/Hr)	Heating Capacity
Computer	3	9 tons or 108,000 Btu/hr	24.6 KW
Trainer	1	3 tons or 36,000 Btu/hr	8.2 KW

2 Physical Security Features. It is the responsibility of the gaining command to provide security fencing and intruder detection, if required. The gaining command shall provide lighting (five footcandles average minimum) adequate for personnel to safely gain access to the shelters on a moonless night.

(f) Electrical

1 Electrical Services Required--Type and Characteristics for 60-Hz Sites. The M-COFT system has been designed to operate from a secondary electrical power source with the basic characteristics and steady-state requirements listed below. The input voltage, when filtered by General Electric supplied equipment (removes 99 percent of random noise and 99 percent of 60-Hz harmonics), shall meet the stated steady-state requirements.

Voltage to Transformer	480 VAC
Frequency	60 Hz + 10 percent
Phase	3-Phase--Delta Connected
Number of Wires	4 Wires (4th wire for safety ground)
Voltage to EDC	208/120 VAC + 10 percent
Phase	3-Phase--Wye Connected
Number of Wires	5 Wires (5th wire for safety ground)

2 Power Interruptions and Transients. The following nonsimultaneous conditions of the trainer's power

source shall not cause failure of any part or prevent resumption of normal service when the conditions have ceased:

a Any interruption of power that will be restored within 16 milliseconds to 30 seconds, occurring not more than once every five minutes.

b A voltage transient will not exceed 3.5 times normal voltage to one-tenth (0.1) of normal voltage, except for short durations (less than one cycle).

c A frequency variation of plus or minus 15 percent for periods up to 10 seconds, occurring no more than once every five minutes.

3 Simulator System Equipment Loads.

Presented in table 9 is a summary of the electrical equipment loads for the M-COFT system. Presented in table 10 is a summary of the utility equipment loads for the M-COFT system.

Table 9.--M-COFT 60-Hz System Electronic Equipment Load.

Item	Description		Load (KVA)
1	Image Generator		11.41
2	VAX 11/780/Expansion Cabinet		3.89
3	Disk Unit		0.77
4	Printer		0.34
5	IOS & Crew/Team Compartment		3.70
6	Test Equipment Reserve*		0.03
	Electronic Equipment Electrical Load	SUBTOTAL	20.14
	Required Design Reserve		4.02
	Electrical Equipment Electrical Load	TOTAL	24.16

*Test equipment reserve is an average load.

Table 10.--M-COFT 60-Hz System Utility Equipment Load.

Item	Description		Load (KVA)
1	ACU System (Worst Case Condition: 4 ACU’s)		63.73
2	Lights		2.00
3	Maintenance Equipment		0.89
	Utility Equipment Electrical Load	SUBTOTAL	66.62
	Required Design Reserve		13.32
	Utility Equipment Electrical Load	TOTAL	79.94

4 Service Distribution Requirement. Figure 22 is a single-line electrical diagram showing the distribution of electrical services from the site source to the M-COFT equipment for 60-Hz sites. The Marine Corps will provide electrical services (480 V primary power) to the transformer location. The source from the electrical service to the M-COFT system will be derived from a contractor furnished transformer, as shown in figures 22 and 23. The transformer shall be dedicated for use by the M-COFT equipment and shall have a 3-phase delta primary with a secondary of 208/120 VAC, 3-phase, 4-wire-wye. The power rating of the contractor furnished transformer is 112.5 KVA. The transformer shall be provided with an electrostatic shield between the primary and secondary windings to reduce interwiring capacitance, thus increasing isolation from transients on the primary. The secondary service shall have a short circuit interrupting rating of 22,000 amps RMS symmetrical or less. The Marine Corps shall provide an accessible on/off switch, such as a fused quick-disconnect box, at the secondary side of the utility pole. Figure 23 is an electrical power diagram for the M-COFT site.

5 Initial Service Distribution--Provided by the Marine Corps. The gaining command shall leave 12-feet of excess feeder wires for termination by the contractor. The secondary electrical service from the contractor provided transformer shall be extended to the location of the site electrical distribution center (figure 9).

6 Interface Definition. This paragraph defines the interface for the electrical distribution system for the contractor provided electrical distribution center and the Marine Corps provided electrical service feeder. The contractor shall provide the electrical distribution center interface requirements which are defined in figures 22, 23, and 24. The Marine Corps provided electrical service feeder is also defined on the referenced figures.

a Site Electrical Service Interface

(1) Physical. As part of the site preparation, the gaining command will provide electrical service to a location shown on figure 21. The gaining command will leave 12-feet of excess feeder wires for termination by the contractor. The service shall be: 480 VAC, 60-Hz, 3 phase delta, 3 power wires plus separate safety ground wire. Figures 25 and 26 show detail plans of conduits and the electrical distribution center elevation.

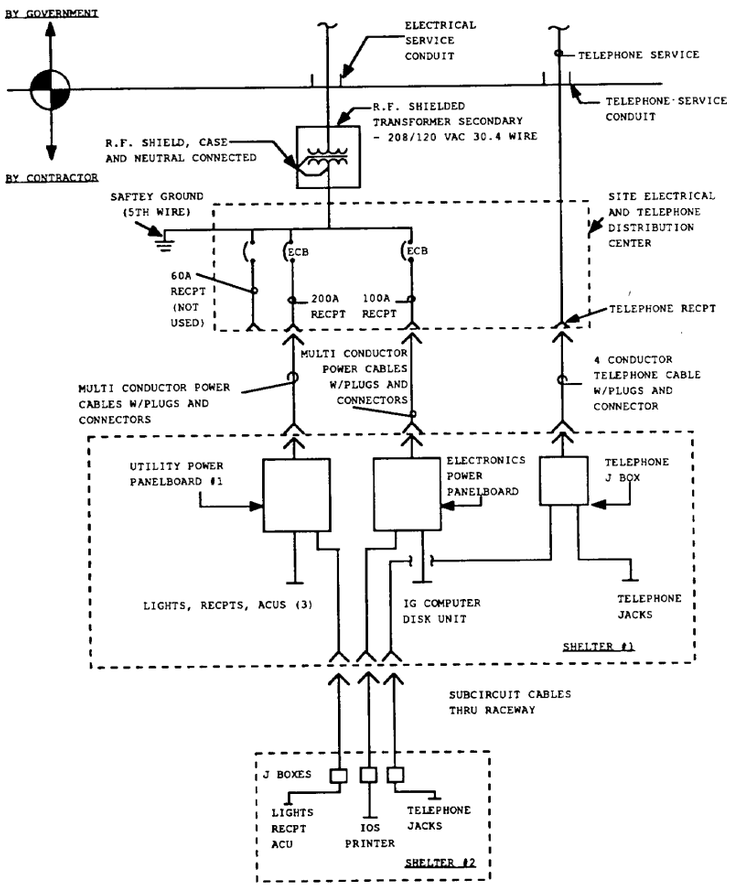


Figure 22.--M-COFT Electrical One-Line Diagram.

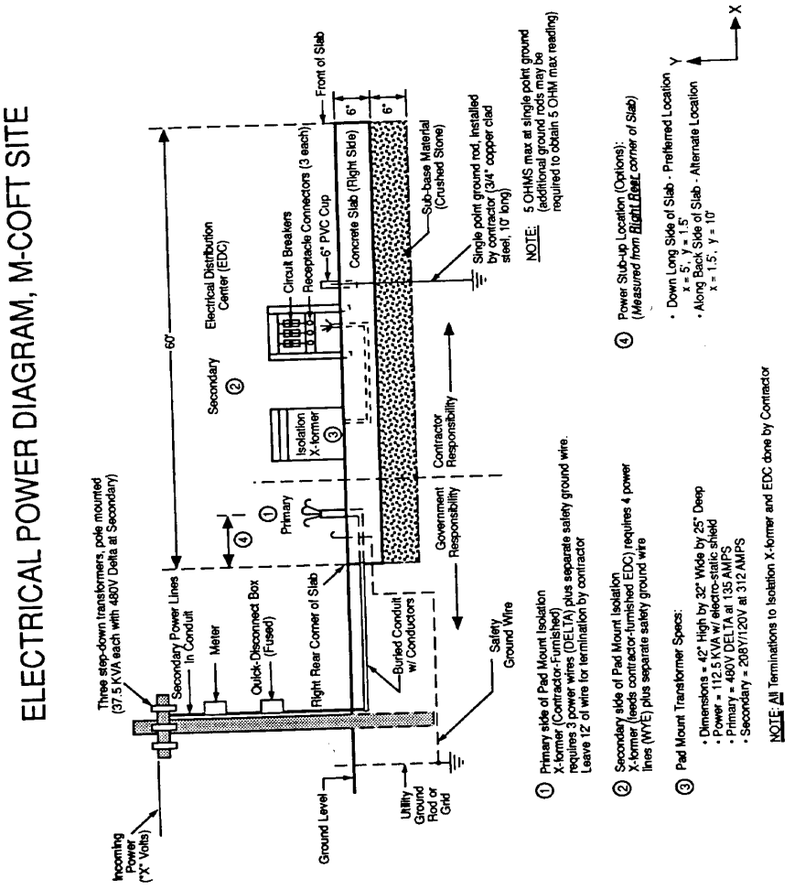


Figure 23.-- Electrical Power Diagram, M-COFT Site.

(2) Functional. The contractor shall connect the Marine Corps provided electrical service to a contractor-provided electrical distribution center assembly. The M-COFT system will be plugged into the electrical distribution center.

b Site Telephone Service Interface

(1) Physical. As part of the site preparation, the gaining command will provide a telephone service in conduit located as shown in figures 22 and 24. The gaining command will leave 10-feet of excess wire in the conduit for termination at the time the contractor installs the distribution center. The service shall be one direct private line to the local commercial telephone company capable of transmitting 1,200 baud and one extension line into the MCRTC.

(2) Functional. The Marine Corps provided telephone service shall be connected to a contractor provided distribution center assembly (figures 22 and 24). The M-COFT system will be plugged into the telephone receptacle, a part of the electrical distribution center.

7 Grounding. The gaining command will provide and install the necessary secondary grounding at each site as specified in Military Specification MIL-T-23991 for the contractor installed electrical distribution center.

8 Lighting. There will be no exterior lighting installed by the contractor or as part of the M-COFT system. The site at which the shelters and equipment will be located shall have area lighting with a minimum average level of five footcandles provided by the gaining command.

9 Electromagnetic Interference. The gaining command will conduct an EMI survey as required at each M-COFT site and provide the results to the contractor during the site survey visit. To ensure proper operation of M-COFT equipment, the field intensity at each M-COFT site should be less than the values shown below.

Frequency	E-Field (Volts/Meter)
14 kHz to 2 MHz	1
2 MHz to 30 MHz	10
30 MHz to 2,000 MHz	5
2 GHz to 10 GHz	5
Above 10 GHz	20

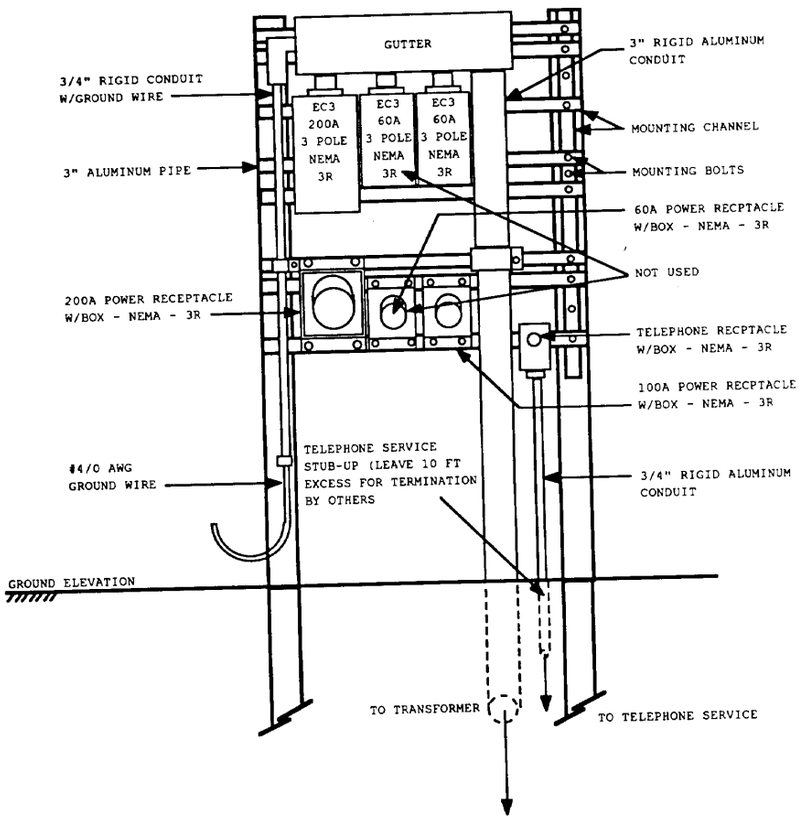


Figure 24.--M-COFT 60-Hz Electrical Distribution Center Layout and Interface.

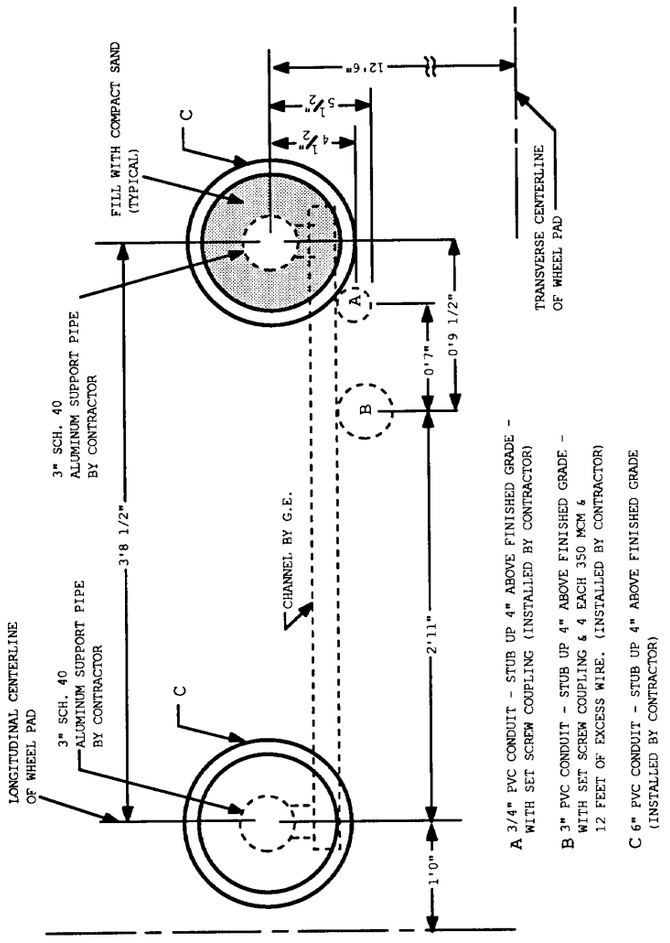


Figure 25.--M-COFT Forms and Tubes Conduit Plan.

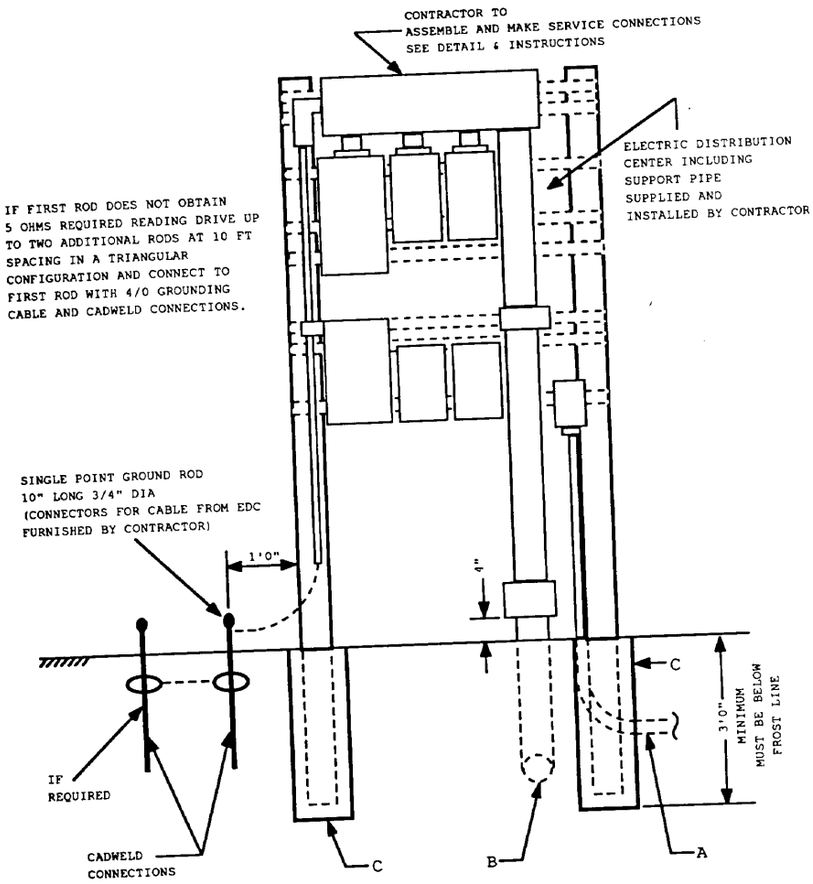


Figure 26.--M-COFT Electrical Distribution Center Elevation.

10 Lightning Protection. The gaining command will provide and install a lightning protection system at each site for the M-COFT and contractor installed electrical distribution center.

(g) Safety. The contractor will meet all center safety requirements applicable at the installation site.

(7) FSR Support

(a) The following support will be required at MCAGCC and during deprocessing at each site:

Item	Qty
Office (Site Supervisor)	1
Office (Technicians)	1
Desk, Secretarial	1
Desk, Double Pedestal	4
Chair, Secretarial	1
Chair, Swivel, w/Arms	4
Class "A" Phone (2 Lines)	2
Book Case, Military, Sectional	8
File Cabinet, 4-Drawer	1

(b) In addition to reprographic (copier) support, the following support will be required at both MCAGCC and Camp Lejeune during the post-fielding period:

Item	Qty
Office	1
Desk, Secretarial	1
Chair, Secretarial	1
Class "A" Phone (2 Lines)	1
Book Case, Military, Sectional	4
File Cabinet, 4-Drawer	1

(8) GDLS TPF Handoff/Inventory Representatives. The following support will be required for two GDLS Logistics Center representatives at each fielding location during the two weeks required for inventory/handoff:

Item	Qty
Office	1
Desk, Secretarial	1
Chair, Secretarial	2
Class "A" Phone	1

(9) Armory. Space demands for the storage of individual and crew-served weapons will change based on changes in the number personnel and vehicles per unit as well as a change in the number of crew-served weapons per tank. The overlap period between the M60A1 R/P and the M1A1 will create temporary imbalances in the storage requirements for crew-served weapons. The following listing identifies net changes in weapons and space allocation per NAVFAC P-80:

Unit	Individual Weapons	Vehicle Rifles	Machinegun 7.62 mm	Machinegun .50 cal
Tank Co	-25	-3	+11	-3
H&S Co, 2d TkBn	+12	3	+ 2	0
H&S Co, 3d TkBn	+20	0	+ 2	0

i. Packaging, Handling, Storage, and Transportation

(1) Packaging

(a) Processing for Shipment. The M1A1 Tank will be preserved in accordance with TM 38-450. Standard packaging of spare and repair parts is in accordance with MIL-STD-2073-1A.

(b) Deprocessing. The MFT's Deprocessing Team will perform all actions necessary to prepare tanks for issue at the site of each active gaining command. Those actions include providing data on the initial spares/repair parts package to load to SASSY, depreservation and preparation of tanks for inspection, initial technical inspection, correction of deficiencies, final technical inspection, inventory, and handoff to the receiving unit.

1 Deprocessing Team. As shown in table 11, the Deprocessing Team will be composed of a permanent core of personnel from ANAD, augmented by Marine Corps personnel from MCRDAC (CBGT), MCLB (Code 833-3), Albany, and the fielding location.

Table 11.--Deprocessing Team.

Anniston Army Depot Team

Team Chief	1
Automotive Repairers/Inspectors	3
Artillery (Turret) Repairers/Inspectors	1
Fire Control Repairers/Inspectors	2
Communications Repairers/Inspectors	1

Marine Corps Augmentees		MOS
M1A1 Project Officer (Maj)	1	1802 (MCRDAC)
Ordnance Vehicle Maintenance Chief	1	2149
Tank Crewman	3	1811 or 1812
Ground Radio Repairer	1	2841
Supply Technician (GS-11/GySgt)	1	3043 (MCLB, Albany)

2 Support. In addition to providing augmentees, the following specific requirements are to be furnished at each fielding location:

a 1,500 fty of shop space with electrical, compressed air, and water access, as well as use of various maintenance equipment organic to installation maintenance units (i.e., borescope, pullover gauge, welding apparatus, and gun tube sling). The deprocessing site will have at least a 50-feet by 50-feet hardstand and a maintenance bay with minimum overhead lift capacity of 30 tons and a hook height of 27-feet. Secure holding space for tanks must be provided in the immediate vicinity of the deprocessing site. Additionally, secure storage must be provided for three general mechanic’s tool sets, two turret mechanic’s tool sets, and one STE-M1.

b Self-service supplies consumed by the MFT will be funded by the gaining command for active forces and by MCLB, Albany for MPS assets.

c Office space, including janitorial services, with one Class "A" and one Class "C" phone, to be furnished as follows:

Item	Qty
Desk, Secretarial	2
Chair, Secretarial	2
Desk, Double Pedestal	3
Chair, Swivel, w/Arms	3

Item	Qty
File Cabinet, 4-Drawer	2
Copier	1

d Vehicular support (with operators) on an on-call basis, consisting of:

Vehicle	Qty
Blazer 4 by 4/HMMWV	1
5-Ton Truck	1
M88 Retriever	1
6000 lb RT Forklift	1

e One 8 yd(3) dumpster (to be emptied daily).

f Two AN/VRC 12 radios.

g On-call access to a steam cleaner.

h Road test track at least one mile in length.

3 Schedule. Appendix V contains the deprocessing schedule.

(2) Handling. Items of information pertaining to the M1A1 and portions of the tank itself are classified and require special handling. Accordingly, the Security Classification Guide at appendix W contains special instructions pertaining to the handling and safeguarding of the M1A1 data and hardware.

(a) Laser

1 The fire control system for the M1A1 incorporates a Laser Range Finder (LRF) which can cause permanent blindness to personnel not wearing laser safety goggles. The LRF should be treated as a direct fire weapon with a hazardous range of 8,000 meters. MCO P3570.1, "Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat," prescribes safety procedures to be followed in the use of laser devices.

2 All M1A1 operators, maintainers, and supervisory personnel are required to receive laser safety training commensurate with the hazard potential of the system. SPAWARINST 5100.12, "Navy Laser Radiation Hazards Prevention Program," provides requirements for the Department of the Navy laser radiation hazards prevention program. A school-trained Laser System Safety Officer is required for all bases where the M1A1 is operated. Requests for school quotas for course ST460 at the Naval Safety School, Bloomington, IN, will be forwarded via the chain of command to CG, MCCDC (TE33), Quantico, VA 22134-5000.

3 Only ranges which have been surveyed and certified in accordance with SPAWARINST 5100.12 may be lased with or without attenuation filters. Requests for formal laser range certification can be requested from SPAWARSYSCOM (OOF) via the chain of command and CMC (LPO). It is noted that effective training requires that all M1A1 training ranges be laser safety certified.

4 Safety information for the AN/UVG-3(M1) is as follows:

Nominal Ocular Hazard Distances:
Single pulse = 7 km (3.78 NM)
with 8-cm objective lens = 35 km (18.89 NM)
with 12-cm objective lens = 43.5 km* (23.47 NM)

Diffuse Reflection Hazard: None

Skin Hazard: None

Material Hazards: None

Eye Protection Required for Intrabeam Viewing:
Unaided OD = 4.0
Aided OD - 4.7

Recommended Protection Devices:
Unaided viewing - LGS - NDGA - Goggle or NDGA-7448-1 spectacles
Optically aided viewing - 4 mm thick KG-3 Filter

Assigned Buffer Zone: 5 mrad

Reference: Radiation Protection Special Study No. 25-42-0318-84, "Hazard Evaluation of the Production Model M1 Tank Laser Rangefinder," 17-20 July 1983.

* Information was not provided in the referenced report; therefore, it is calculated using the worst-case parameters provided in the report.

** An Eyesafe Laser Filter (ELF) has been installed into all rangefinders during production. ELF must be removed prior to actual combat operations.

(b) Radioactive Materials. The M1A1 contains the following radioactive materials:

1 Depleted Uranium

a Parts of the armor package and the M829A1 120 mm kinetic energy round contain DU. In both cases the DU is completely encased and direct body contact is prevented. Appendices W and X contain instructions on the safeguard and field expedient repair of DU armor. Appendix X also provides emergency procedures for peacetime accidents involving DU material.

b M1A1's with DU armor are identified by turret serial numbers having "U" for a suffix. The operator will know that his tank contains DU armor somewhere in the turret. No. operator or unit-level PMCS is required for DU armor. TB 9-1300-278 and TM-9-2350-200-BD contain specific instructions for evaluating, decontaminating, and repairing DU armor.

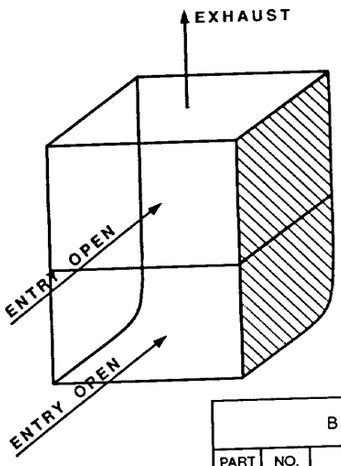
2 Tritium (H3). The M1A1 muzzle reference sensor contains 10 curies of tritium gas in a sealed module. This sensor poses no radiological concern to personnel unless the radioactive vial is damaged. Although most of the tritium dissipates into the air if the vial is broken, residual tritium contamination, in excess of peacetime limits, may remain on surfaces. TI 5101-15/2A contains specific handling guidance for tritium devices.

3 Thorium. The antireflective coating on M1A1 infrared optics contains thorium fluoride, which is radioactive. Internal body contamination by ingestion presents the only potential hazard of the material. Appropriate warning statements are included in M1A1 TM's.

(c) Exhausts. The M1A1 exhaust temperatures and volumes range from 480 oF and 2,700 ft(3)/min at idle to 930 oF and 15,000 ft(3)/min at maximum power. This presents a potential hazard to personnel/material in near proximity to the rear grille, particularly in "close quarters" which may be experienced in maintenance bays or aboard amphibious shipping. To alleviate such problems, exhaust deflectors may be locally fabricated using figures 27 through 31.

(d) Turret/Hull Separation. Certain maintenance procedures require that the turret be removed from the hull. ANAD will fabricate a turret stand for both 1st and 2d FSSG's. These turret stands will be force fed to 1st and 2d FSSG's.

M1A1 TANK
EXHAUST DEFLECTOR



NOTES:

1. ALL WELDS $^1/_4$ FILLET UNLESS NOTED
2. SIDE PANELS (ITEM #11) - CUT TO FIT INSIDE
   VERTICAL ANGLES (ITEM #7) - CONTINUOUS
   WELD INSIDE - 3 @ 6" OUTSIDE
   ROUND OFF ALL SHARP EDGES & CHECK FOR BURRS
4. GRIND OFF WELD SPLATTER
5. CURVED SECTIONS BENT ON 12" RADIUS
6. ALL ITEMS ARE MADE FROM 6061-T6 ALUMINUM

BILL OF MATERIAL

PART NO.	NO. REQD	DESCRIPTION	SIZE
1	1	BASE PLATE	$^1/_2$" by 2" by 28 $^3/_8$"
2	2	SIDE SUPPORT	$^1/_4$" by 1" by 1" by 28$^1/_2$"
3	1	GRATING SUPPORT	$^1/_4$" by 1" by 1" by 28$^1/_2$"
4	2	TOP SUPPORT	$^1/_4$" by 1" by 1" by 30"
5	2	HORIZONTAL BRACING	$^1/_4$" by 1" by 1" by 20"
6	1	HORIZONTAL BRACING	$^1/_4$" by 1" by 1" by 30"
7	2	SHEET METAL SUPPORT	$^1/_4$" by 1" by 1" by 43"
8	2	TOP SUPPORT	$^1/_4$" by 1" by 1" by 2"
9	1	HANGAR SUPPORT	16GA by 8" by 24"
10	1	BACK PANEL (CHUTE)	16GA by 27$^3/_4$" by 43"
11	2	SIDE PANEL (CHUTE)	16GA by 19$^3/_4$" by 2$^1/_2$"
12	2	HANDLE-SOLID BAR	$^5/_8$" by 12" BAR STOCK
13	1	HANGER	16GA by 14" by 28$^1/_2$"

Figure 27.--Exhaust Deflector.

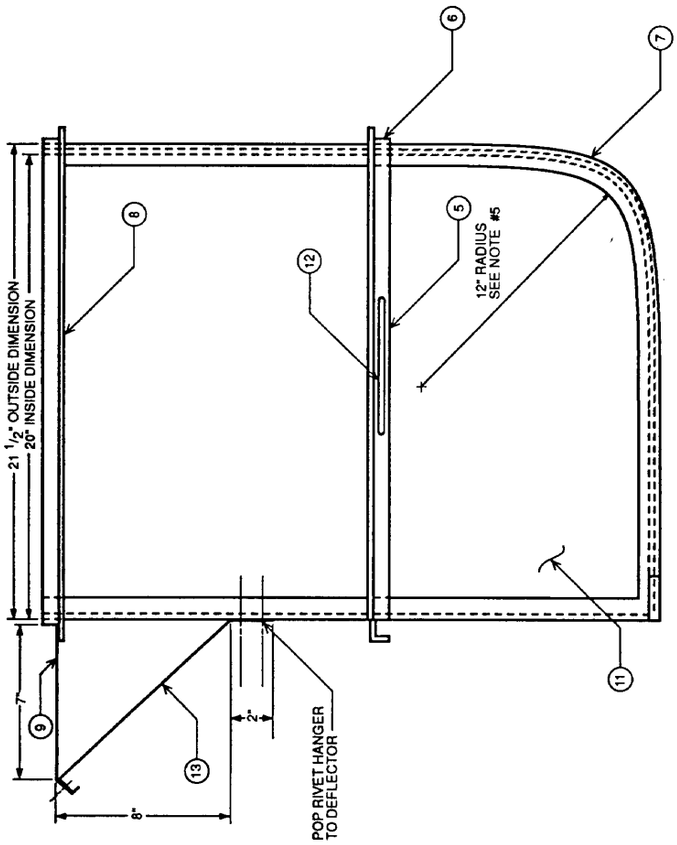


Figure 28.--Exhaust Deflector (Side View).

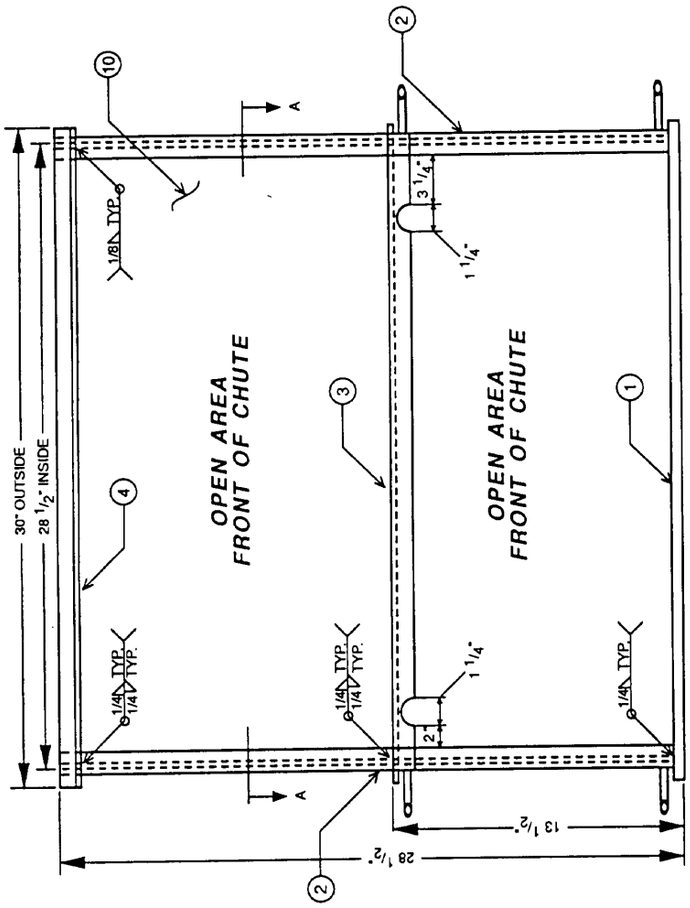


Figure 29.--Exhaust Deflector (Front View).

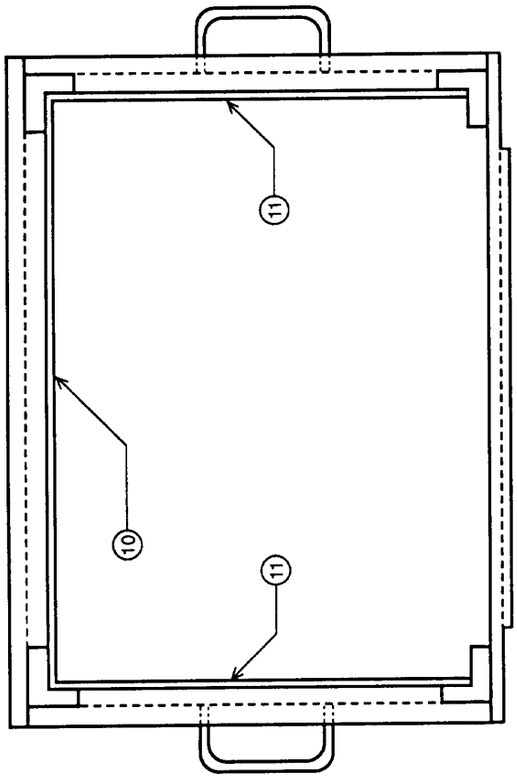


Figure 30.--Exhaust Deflector (View A-A).

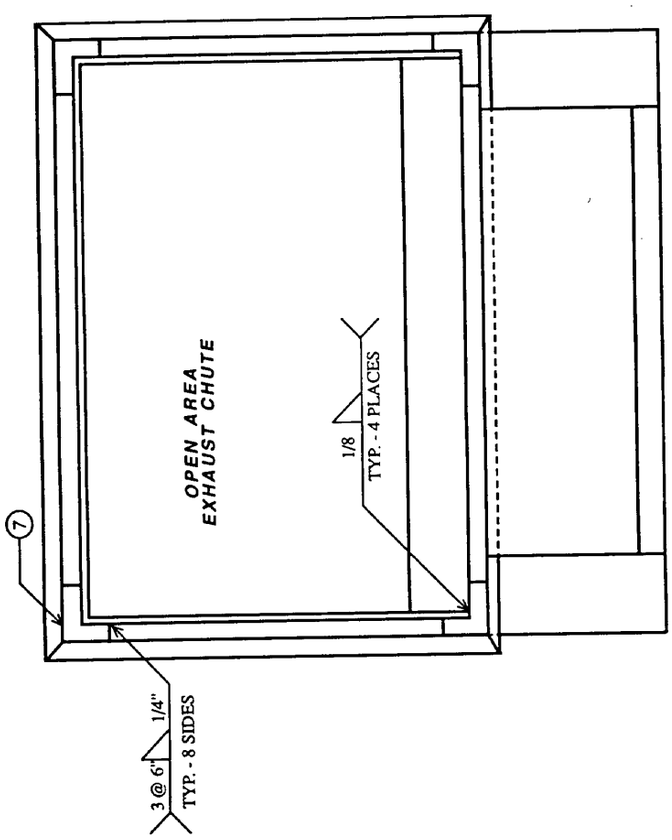


Figure 31.--Exhaust Deflector (Top View).

(3) Storage. Special storage considerations for the M1A1 and components are addressed in appendix W. MPS assets will be stored under controlled humidity conditions and in accordance with TM 38-450.

(4) Transportation. The size and weight of the M1A1 present unique considerations in transportation planning. TM 55-2350-255-14, "Transportability Guidance, Tank, Combat, Full-Tracked M-1 Series" provides transportability guidance for logistical handling and movement of the M1A1. It also contains important safety measures for proper transport of the tank.

(a) Air. The M1A1 is transportable only by C-5A aircraft.

(b) Highway. Although the tracks of the M1A1 are rubber padded, movement over paved public highways should not be attempted without specific approval. When loaded aboard a suitable semi-trailer, the M1A1 can be transported over highways. Nonetheless, movement over public highways in the Continental United States (CONUS) and overseas should be made only when other transport modes cannot be used due to special permit considerations (length, width, weight) and bridge limitations. The Marine Corps will field 22 M1000 Transporters by September 1991. The M1000 is capable of transporting up to 80-ton loads and is equipped to transport the M1A1. In conjunction with the MK48/16 (modified), the M1000 has limited cross-country capability.

(c) Marine

1 Amphibious. Subject to deck and frame limitations, the M1A1 can be transported by most amphibious shipping (Landing Platform Dock (LPD), Landing Ship Dock (LSD), Landing Ship, Helicopter/Dock (LHD), and Landing Platform, Helicopter Assault (LHA)). Amphibious shipping limitations are based on expressed M1A1 weight data. It is assumed that parking will occur in storm seas and traversing, at worst case, will occur in Sea State 3.

	Embarked Weight	Ship-To-Shore Combat Weight
Predicted Factory Configuration	124,958	124,958
75 percent Fuel Load	2,666	2,666
Component Equipment	1,243	1,243
DWFK	315	315
Crew		837
Main & Subcaliber Ammunition		3,003
Organizational Equipment		1,219
TOTAL	129,174	134,233

Ship/Class	Location	Embarked Weight Park/Traversing	Ship-To-Shore Combat Weight Park/Traversing
LHA 1	Well	Y/Y	Y/Y
	3d, fr 42-65	Y/Y	N/Y
	3d, Fr 65-89	Y/Y	Y/Y
LHD 1	Well	Y/Y	Y/Y
	3d	Y/Y	Y/Y
LPD 1-2	Well	Y/Y	N/Y
	3d	N/R1	N/N
LPD 4-6	Well	Y/Y	N/Y
	3d	N/R1	N/N
LPD 7-15	Well	Y/Y	Y/Y
	3d	Y/Y	Y/Y
SD 36	Well, F 52-105	Y/Y	Y/Y
	Well, Fr 105-184	N/R1	N/N
	Well, Fr 184-270	Y/Y	Y/Y
LSD 41-43	Well, Fr 35-42	Y/Y	Y/Y
	Well, Fr 42-67	R2/Y	R2/Y
	Well, Fr 67-74	Y/Y	Y/Y
	Well, Fr 74-98	R2/Y	R2/Y
	Well, Fr 98-145	Y/Y	Y/Y
LSD 44-49	Well	Y/Y	Y/Y

Y = Deck is certified structurally without restrictions.
N = Deck is not certified structurally.
R1 = Tank may traverse over the area at pierside or close to shore under calm seas only.
R2 = Tanks may be positioned two abreast symmetrically about ship centerline. Tanks must be centered on frames 50, 60, 80, and 90.

a LHA Class, LHD Class, LPD 1-15 (with Shipalt LPD-916K), LSD 36 Class, and LSD 41 Class ships are structurally capable of transporting "parked" Landing Crafts Air Curshion (LCAS's), which have been preloaded with an M1A1, in all seas through Sea State 8. However, a preloaded LCAC transported aboard LPD 1-15 and the LSD 36 Class ships cannot be carried on docking blocks in the aftmost position. Preloaded LCAC's must be lashed in accordance with current Sea Ops Manuals.

b The aforementioned limitations are being incorporated into a "USMC Vehicle Characteristics and Shipboard Lashing Requirements" NAVSEA technical note to be issued in the fourth quarter, FY90. The LSD 28 Class is not addressed due to the inactivation schedule. The LST 1179 Class is not certified structurally to transport the M1A1.

2 Inland/Commercial. The M1A1 can be transported by a great variety of inland waterway cargo carriers and lighters (LCAC, LARC-LX, LCM-8, LCU-1466, LCU-1610, and BDL-MK I), and by seagoing cargo vessels. The tank, in its combat-ready condition, can be handled aboard U.S. flag merchant vessels, including Military Sealift Command (MSC) controlled ships, as follows:

a With its gun facing to the rear, on or below decks of any breakbulk ship with hatches at least 30-feet 8-inches long and 13-feet 0-inches wide, with clear headroom of at least 10-feet 0-inches and a minimum lift availability of 60 long tons.

b Aboard any Roll-On/Roll-Off (RO/RO) ship with a minimum clear headroom of 10-feet 0-inches and ramps at least 14-feet 0-inches wide with a capacity of 60 long tons.

c On any Lighter, Aboard Ship (LASH) or Sea Barge Carrier (SEABEE) which can be loaded and unloaded using shoreside cranes.

3 Dock, crane, boom, deck, and ramp capacities must be validated prior to commencement of any loading/unloading evolution.

(d) Rail. Movement of the M1A1 in CONUS and overseas will require special arrangements to confirm clearances. Rail movements entail suitable flatcars and will likely involve circuitous routing. Appendix W contains security procedures to be observed for rail movements.

(e) AVLB. The AVLB is approved for transit by the M1A1 but the following conditions must be observed until such time as an anticipated upgrade of the AVLB (to Class 70) is approved.

1 Maximum span length is 50-feet.

2 The M1A1 is centered on the bridge.

3 The maximum speed is 8 mph.

4 No starting, stopping, accelerating, or gear shifting on the AVLB.

5 Only one vehicle at a time is permitted on the bridge.

(f) M88A1 Recovery Vehicle. The M1A1 can be towed by the M88A1, provided the following provisions are strictly observed:

1 Personnel will not ride on or in an M1A1 while being towed.

2 On hard, level, smooth roads, tow at 5 mph or slower using a tow bar.

3 For cross-country, tow at 2 mph or slower using only tow cables.

4 Do not make sharp turns or sudden stops. Make gradual, wide turns in first gear.

5 The use of a second tank as a holdback vehicle is required even when using a tow bar. This will help prevent the heavier M1A1 from pushing the M88A1 to the side or jackknifing when stopping.

6 Safety precautions found in TM 9-2350-256-10, "Operator's Manual," and TM 20-22, "Vehicle Recovery Operations," will be followed.

j. Warranties

(1) General. The objectives of the Marine Corps Warranty Program, as stated in MCO 4105.2, are to ensure that the weapon systems procured: (1) perform as required; (2) conform to the design and manufacturing requirements specified; (3) are free from defects in materials and workmanship; and (4) contribute to increased readiness throughout the Marine Corps. M1A1 warranty administration is the responsibility of the Commanding General, MCLB (Code 833-3), Albany, GA 31704. The manufacturer of the M1A1 Abrams Tanks is General Dynamics Land Systems Division, P.O. Box 1743, Warren, MI 48090. The warranty on the M1A1 tank is acquired from the contractor via the U.S. Army. All M1A1 warranty provisions are "transparent" to the using unit. Reimbursements are made to the Government, but no reimbursements, either materiel or monetary, are made to using units. The DD Form 250 acceptance date for each tank determines the start date for the warranty period of each warranted component. The DD Form 250 acceptance date for a tank is contained in its Weapons Record Book. Additionally, it may be obtained upon request from the Commander, TACOM (AMSTA-MMAP), Warren, MI 48397-5000.

(2) Systems, Durations, and Provisions. The warranty covers the following specific items of the M1A1:

(a) Transmission. The X1100-3B Transmission, manufactured by Detroit Diesel Allison Division, General Motors Corporation, is covered for 19 months from the date of vehicle acceptance. The warranty does not apply to spare transmissions or to any final drives. Any failed component is warranted during the warranty period.

(b) Engine. The AGT 1500 Engine (rear gear box, accessory drive gear box, reduction gear box, forward module, and rear module), manufactured by Textron Lycoming, is warranted for 15 months from the date of vehicle acceptance. The warranty provisions do not apply to spare engines. Any failed component is warranted during the warranty period.

(c) Vehicle/Chassis. All fourth and fifth-echelon components ("H" and "D" coded items) are warranted for 15 months from the date of vehicle acceptance.

(3) Field Actions Required to Keep M1A1 Tank Warranty Current

(a) Alterations/Modifications. Unauthorized alterations and modifications to the vehicles shall not be performed.

(b) Nullification

1 Warranty provisions do not apply to defects or failures resulting from:

a Improper Government installation, operation, or maintenance of item(s) under warranty.

b Unauthorized Government modification and/or repair.

c Combat damage.

d Accidental damage.

e Acts of God.

f The Government’s use of unapproved supplies.

g Misuse or abuse of supplies.

h Subversion, riots, vandalism, sabotage or fire/explosion from sources external to the warranty items.

2 Either of the following events will void a part's warranty:

a The contractor does not receive initial notification within 60 days of replacement of a failed warranted component.

b The contractor does not receive final notification within 120 days of warranted component repair/identification of lowest failed component(s).

(c) Identification of Failed Items. When the lowest failed component(s) is identified, it will be tagged using NAVMC 1018 (Inspection/Repair Tag). It will be retained for 30 days after final notification is provided to the warranty administrator. While the warranty claim is being processed, the item will be adequately handled and stored to prevent improper repair, use, disposal, or cannibalization.

(4) NSN's Covered by Warranty. The components/NSN's listed in appendix Y are under warranty coverage.

(5) Field Actions Required Wherein Warranted Item Fails. Certain procedures must be followed by the user of equipment under warranty contracts to ensure the warranty claim system will function as intended.

(a) Responsibilities

1 Warranty coordinators shall be appointed within both Fleet Marine Forces. These warranty coordinators will ensure that warranty coordinators are appointed at all subordinate commands possessing intermediate maintenance capabilities.

2 Warranty coordinators are the focal point for coordinating all warranty actions between the using unit and the warranty administrator.

3 Warranty coordinators provide information to the using units on warranty coverage and exclusions, clarify warranty claim issues, and provide assistance to implement the system warranties.

4 CG, MCLB (Code 833-3), Albany shall be the single point of contact between the Marine Corps and TACOM/AMCCOM

concerning warranty matters and shall act as the Marine Corps warranty administrator.

(b) Notification of Warranty Defect

1 The using unit will immediately notify the warranty coordinator when a warranted item has failed. Warranty coordinators shall notify the warranty administrator immediately thereafter via the chain of command. The warranty administrator will notify the TACOM and/or AMCCOM warranty administrator, as appropriate. Initial notification of the failure of a warranted item must be made to the TACOM and/or AMCCOM warranty administrator within 60 days of replacement of a failed LRU or assembly and must contain the item's serial number. Final notification must be made within 120 days of identification of the lowest failed component(s) and must reference the initial notification.

2 Warranty coordinators within the chain of command will receive copies of all warranty related reports. They have the responsibility for planning, execution, and monitoring of all warranty matters within the designated command. They will possess an overall perspective of the warranty related problems of the using units within the designated command/area.

3 The TACOM and/or ASMCCOM warranty administrator shall provide any special disposition instructions to the warranty administrator, if appropriate.

4 Upon receipt of any special disposition instructions, the warranty administrator will expeditiously notify the appropriate command of required actions.

(6) Warranty Coverage. The contractor warrants that all M1A1 vehicles and parts listed in appendix Y are free from defects in design, material, and workmanship, and will conform with the specifications contained in the Engineering Release Records. The contractor will reimburse the Government for the cost of replacing/repairing warranted items.

(7) Warranty Claims Processing. All warranty claims will be reported using Quality Deficiency Report (QDR) (SF 368) message format in accordance with MCO 4855.10. The QDR includes the Vehicle Identification Number (VIN), serial number of failed item (if applicable), and identifies the communique as warranty related.

(8) Safety Recall

(a) if a safety recall occurs during the equipment warranty period, the term of the warranty for each piece of equipment involved may be extended on an item-by-item basis by a period equal to the time required to make necessary safety defect corrections on each piece of equipment. Extensions of warranty coverage shall be annotated in the remarks section of the Weapons Record Book.

(b) Once it has been determined by TACOM and/or AMCCOM that a problem is safety related, appropriate instructions will be furnished to CG, MCRDAC and CG, MCLB (Code 833-3), Albany for appropriate Marine Corps action.

(c) The contractor, as defined by the terms of the contract, shall remedy safety defects or failures, including the replacement or correction of defective parts in the Government inventory.

4. Actions Required To Place Equipment In Service

a. General. This section lists major actions and responsible organizations to coordinate fielding of the M1A1 and associated equipment.

b. Gaining Commands

(1) Commanding General, Fleet Marine Force, Atlantic

(a) Appoint a single POC, at each of the following levels, responsible for coordinating the fielding of the M1A1 and ancillary equipment:

1 2d Marine Division

2 2d FSSG

2d Tank Battalion

(b) Host TPF conferences at the fielding site to coordinate all schedules, locations, and support requirements.

(c) Budget for/requisition all Class II expendables, Class III, and Class V items to be on hand to support the fielding schedule.

(d) Ensure security measures prescribed in appendix W are established prior to initial delivery of the M1A1.

(e) Appoint warranty coordinators to implement warranty procedures and expedite warranty actions, as required.

(f) Cycle tank companies through NET at MCAGCC per appendix E.

(g) Provide specified administrative, logistics, and personnel augmentation support to the Deprocessing Team and FSR's.

(h) Conduct joint inventory of end items, ancillary equipment, and initial spares/repair parts concurrently with the MFT.

(i) Sign joint inventory forms, report receipt/acceptance of materiel, post documentation, and establish equipment accountability.

(j) Report acceptance of warranted items in accordance with MCO 4105.2.

(k) Report any deficiencies and/or problems relevant to the fielding process to CG, MCRDAC (CBGT) prior to acceptance.

(l) Assign radiological safety officers in accordance with TI 5104-15/2A.

(m) Ensure compliance with laser safety requirements contained in MCO P3570.1.

(n) Effect T/E and T/O structural conversions per the direction of CMC (P).

(o) Place the M1A1 and ancillary equipment in service per reference (a), "Policy for Logistics Support for New Equipment Introduced into the Marine Corps."

(p) Retrograde M60A1 R/P tanks and associated equipment in accordance with instructions solicited from CG, MCLB, Albany.

(q) Conduct readiness reporting per MCO P3000.11 AND MCO P3000.13.

(r) Receipt for O&M (New Equipment) funding from CG, MCRDAC, and distribute to subordinate commands as required.

(s) Coordinate M1A1 related formal school requirements, if required, with CG, MCDC (TE 33).

(t) Establish an identifier code within JONs to track M1A1 fielding.

(u) Coordinate U-COFT site selections with CG, MCB, Camp Lejeune, NC.

(v) Make appropriate entries in MMS and service records for Marines who successfully complete M1A1 NET.

(2) Commanding General, Fleet Marine Force, Pacific

(a) Appoint a single POC, at each of the following levels, responsible for coordinating the fielding of the M1A1 and ancillary equipment:

1 7th Marine Expeditionary Brigade

2 1st FSSG

3 3d Tank Battalion

4 CSSD-12

(b) Host TPF conferences at each fielding site to coordinate all schedules, locations, and support requirements.

(c) Budget for/requisition all Class II expendables, Class III, and Class V items to be on hand to support the fielding schedule.

(d) Ensure security measures prescribed in appendix W are established prior to initial delivery of the M1A1.

(e) Appoint warranty coordinators to implement warranty procedures and expedite warranty actions, as required.

(f) Cycle tank companies through NET at MCAGCC per appendix E.

(g) Provide specified administrative, logistics, and personnel augmentation support to the Deprocessing Team, NETT, and FSR’s.

(h) Conduct joint inventory of end items, ancillary equipment, and initial spares/repair parts concurrently with the MFT.

(i) Sign joint inventory forms, report receipt/acceptance of materiel, post documentation, and establish equipment accountability.

(j) Report acceptance of warranted items in accordance with MCO 4105.2.

(k) Report any deficiencies and/or problems relevant to the fielding process to CG, MCRDAC (CBGT) prior to acceptance.

(l) Assign radiological safety officers in with TI 5104-15/2A.

(m) Ensure compliance with laser safety requirements contained in MCO P3570.1.

(n) Effect T/E and T/O structural conversions per the direction of CMC (P).

(o) Place the M1A1 and ancillary equipment in service per reference (a).

(p) Retrograde M60A1 R/P tanks and associated equipment in accordance with instructions solicited from CG, MCLB (Code 833-3), Albany.

(q) Conduct readiness reporting per MCO P3000.11 and MCO P3000.13.

(r) Receipt for O&M (New Equipment) funding from CG, MCRDAC, and distribute to subordinate commands as required.

(s) Coordinate M1A1 related formal school requirements, if necessary, with CG, MCCDC (TE 33).

(t) Establish an identifier code within JON’s to track M1A1 fielding.

(u) Coordinate U-COFT sites selection with CG, MCAGCC.

(v) Make appropriate entries in MMS and service records for Marines who successfully complete M1A1 NET.

(3) Commanding General, Fourth Marine Division

(a) Select and prepare M-COFT sites in accordance with requisite standards.

(b) Cycle tank companies and I-I staffs through NET at MCAGCC per appendix E.

(c) Effect T/E and T/O structural conversions per the direction of CMC (P).

(d) Retrograde M60A1 R/P tanks and associated equipment in accordance with instructions solicited from CG, MCLB, Albany.

(e) Coordinate M1A1 related formal school requirements, if necessary, with CMC (MO) and CG, MCCDC (TE 33).

(f) Coordinate M-COFT site selections with host activities.

(g) Make appropriate entries in MMS and service records for Marines who successfully complete M1A1 NET.

(h) Provide specified support to M-COFT FSR’s.

c. Commanding General, Marine Corps Logistics Base, Albany, GA

(1) Procure M1A1 initial spares/repair parts packages via funded MIPR to the Commander, TACOM, Warren, MI 48397-5000. Ensure that adequate system stock is procured to support M1A1 fielding.

(2) Convert 296 .50 caliber M2 machineguns to .50 caliber M2, turret type (M48) machineguns. Effect delivery of M2 and M240 machineguns to field commands per appendix M.

(3) Ensure security measures prescribed in appendix W are established prior to initial delivery of the M1A1.

(4) Act as warranty administrator to implement warranty procedures and expedite warranty actions per MCO 4105.2.

(5) Assign radiological safety officers in accordance with TI 5104-15/2A.

(6) Ensure compliance with laser safety requirements contained in MCO P3570.1.

(7) Provide specified administrative, logistics, and personnel augmentation support to the Deprocessing Team and FSR’s.

(8) Conduct joint inventory of end items and ancillary equipment with the MFT.

(9) Sign joint inventory forms, report receipt/acceptance of materiel, post documentation, and establish equipment accountability.

(11) Report any deficiencies and/or problems relevant to the fielding process to CG, MCRDAC (CBGT).

(12) Provide retrograde instructions for M60A1 R/P tanks and associated equipment when requested by field commands and/or when directed by CMC (P).

(13) Assume logistical support responsibility for M1A1 and ancillary equipment in accordance with the provisions of MCO 4105.1 "Weapon System/Equipment Support Management within the Marine Corps."

(14) Assume responsibility for training MPS maintenance personnel.

d. Marine Corps Posts and Stations

(1) Commanding General, Marine Corps Air-Ground Combat Center, Twentynine Palms, CA

(a) Make necessary facilities preparations to support M1A1 fielding.

(b) Coordinate U-COFT and M-COFT site selections and site surveys with appropriate tenant commands and CMC (LF).

(c) Prepare COFT sites in accordance with requisite standards.

(d) Provide required support to the NETT.

(e) Provide required support to units undergoing NET.

(2) Commanding General, Marine Corps Base, Camp Lejeune NC

(a) Make necessary facilities preparations to support M1A1 fielding.

(b) Coordinate U-COFT and M-COFT site selections and site surveys with appropriate tenant commands and CMC (LF).

(c) Prepare COFT sites in accordance with requisite standards.

e. Commanding General, Marine Corps Research, Development, and Acquisition Command, Quantico, VA

(1) Assume overall responsibility for the fielding of the M1A1 and ancillary equipment.

(2) Assign an M1A1 Project Officer (Major) to provide onsite control, coordination, and oversight of the overall fielding process.

(3) Establish and direct the activities of an M1A1 NETT.

(4) Schedule and chair TPF conferences at gaining commands.

(5) Coordinate all TPF requirements and activities between gaining commands, CG, MCLB, Albany, and Commander, TACOM.

(6) Conduct NET at MCAGCC per appendix E.

(7) Provide O&M (New Equipment) funding to each gaining command for its first year of M1A1 operation.

(8) Provide formal, timely notification to the commands of Marines that successfully complete, as well as fail to complete, M1A1 NET.

TANK SCHEDULES

M1A1 TANK ALLOWANCES AND DELIVERY SCHEDULE

E1888

M1A1 TANK ALLOWANCES AND DELIVERY SCHEDULE

E1888

T/E No	Unit Title	Per T/E	Total T/E	Planned Allowance FY 91 1	2	3	4	FY 92 1	2	3	4
7014	MCLB, Albany M/F	19	19	4*				15			
	Reserve TkCo (West Coast)	8	8	8							
	Reserve TkCo (East Coast)	8	8	8							
H1521	H&SCo, TkBn, MPS I	2	2		2						
H1524	TkCo, TkBn, MPS I	14	28		28						
I1521	H&SCo, TkBn, MPS II	2	2		2						
I1524	TkCo, TkBn, MPS II	14	28		28						
J1521	H&SCo, TkBn, MPS III	2	2			2					
J1524	TkCo, TkBn, MPS III	14	28			28					
N1521	H&SCo, 2d TkBn, 2d MarDiv	2	2						2		
N1524	TkCo, 2d TkBn, 2d MarDiv	14	42						42		
N1531	H&SCo, 3d TkBn, 7th MEB	2	2		2						
N1534	TkCo, 3d TkBn, 7th MEB	14	42	16	26						
N3247(M4001)	ORF, 1st FSSG	4	4	2	2						
N3247(M4002)	ORF, 2d FSSG	4	4						4		
Total			221								

* Will be used for New Equipment Training at MCAGCC.

Annex I to
Appendix A to
ENCLOSURE (1)

M60A1 (R/P) TANK RETROGRADE SCHEDULE

E1875/E1876

Annex II to

MCO 8420.13
20 AUG 1991

M60A1 (R/P) TANK RETROGRADE SCHEDULE

E1875/E1876

							Planned Retrograde							
				FY 91				FY 92				FY 93		
I/E No	Unit Title	Per I/E	Total I/E	1	2	3	4	1	2	3	4	1	2	3	4
6102	MB, Guantanamo	5	5							5					
7011	MCLB, Barstow	119	119							119					
7014	MCLB, Albany	63	63							63					
7450	TBS, MCCDC	5	5							5					
7711	MCAGCC (EAP)	5	5							5					
H1521	H&SCo, TkBn, MPS I	2	2												2
H1524	TkCo, TkBn, MPS I	17	51												51
I1521	H&SCo, TkBn, MPS II	2	2												2
I1524	TkCo, TkBn, MPS II	17	51												51
J1521	H&SCo, TkBn, MPS III	2	2							2					
J1524	TkCo, TkBn, MPS III	17	51							51					
N1511	H&SCo, 1st TkBn, 1st MarDiv	2	2							2					
N1514	TkCo, 1st TkBn, 1st MarDiv	17	68							68					
N1521	H&SCo, 2d TkBn, 2d MarDiv	2	2						2						
N1524	TkCo, 2d TkBn, 2d MarDiv	17	68						68						
N1531	H&SCo, 3d TkBn, 7th MEB	2	2					2							
N1534	TkCo, 3d TkBn, 7th MEB	17	51					51							
N1541	H&SCo, 4th TkBn, 4th MarDiv	2	1							1					
N1544	TkCo, 4th TkBn, 4th MarDiv	17	39							39					
N1581	H&SCo, 8th TkBn, 4th MarDiv	2	0												
N1584	TkCo, 8th TkBn, 4th MarDiv	17	58							58					
N1635	TkCo, 1st AA Bn, 3d MarDiv	17	34							34					
N3247(M4001)	ORF, 1st FSSG	5	5					5							
N3247(M4002)	ORF, 2d FSSG	3	3						3						
N3247(M4003)	ORF, 3d FSSG	20	20							20					
N3247(M4004)	ORF, 4th FSSG	7	7							7					
Total			716												

Appendix A to
ENCLOSURE (1)

TABLES OF ORGANIZATION (T/O)

Appendix B to
ENCLOSURE (1)

TABLE OF MANPOWER REQUIREMENTS

T/O 4234G: TkCo, (M1A1) 120 mm, TkBn, FMF

4234G T/O CHECKLIST 27 NOV 1990 PAGE 1

T/O 4234G TANK COMPANY (M1A1)

T/E NO T/MRCA

LINE NO.	ENGLISH DESCRIPTION	BILL SPON	ALPHA GRADE	MOS	F B T S N N P A	MARINES OFF ENL	OTHER SERVICES OFF ENL	CONT F/A OFF ENL	CIV	S W C P C N	S E S EDUP C LNG	SERV SCH	T/MRCA	EFF DATE	ADD DEL
1	COMPANY HEADQUARTERS														
2	HEADQUARTERS SECTION		CAPT	1802	M O	1				P					
3	COMPANY COMMANDER		LT	1802	M O	1				P					
4	EXECUTIVE OFFICER		1STSGT	8999	M E		1			P					
5	FIRST SERGEANT		SGT	3061	M E		1			M					
6	PROPERTY NCO														
10	OPERATIONS SECTION									P					
11	TANK LEADER		MSGT	1812	M E	1				P					
12	MASTER GUNNER		SSGT	1812	M E	1				M					
13	FIELD RADIO OPERATOR		SGT	2631	M E	1				M					
14	RECON/LIAISON NCO		CPL	1812	M E	1				M					
15	FLD RADIO OPR/DRIVER		CPL	2631	M E	1				M					
16	RECON/LIAISON/DRIVER		LCPL	1812	M E	2				M					
17	FIELD RADIO OPR/DRIVER		LCPL	2631	M E	1				M					
18	RECON/LIAISON/DRIVER		PVT	1812	M E	2				M					
22	MAINTENANCE SECTION									P					
23	MAINTENANCE CHIEF		GYSGT	2146	M E	1				P					
24	CMBT TK RPR/VTR CDR		SGT	2146	M E	1				M					
25	INF WPN REPAIRER		CPL	2111	M E	1				P					
26	CMBT TK RPR/VTR CREWMAN		CPL	2146	M E	1				M					
27	COMBAT TANK REPAIRER		CPL	2146	M E	1				M					
28	GRND RADIO REPAIRER		CPL	2841	M E	1				P					
29	METAL WORKER/VTR CREWMAN		LCPL	1316	M E	1				P					
30	CMBT TK RPR/VTR CREWMAN		LCPL	2146	M E	1				M					
31	COMBAT TANK REPAIRER		LCPL	2146	M E	1				M					
32	GROUND RADIO REPAIRER		LCPL	2841	M E	1				M					
33	MAINT MNGMT SPECIALIST		LCPL	0411	M E	1				M					
34	INF WEAPON REPAIRER		PVT	2111	M E	1				M					
38	TANK SECTION									P					
39	COMBAT TANK SECTION LDR		SSGT	1812	M E		1			P					
40	COMBAT TANK COMMANDER		SGT	1812	M E		1			P					
41	COMBAT TANK CREWMAN		CPL	1812	M E		2			P					
42	COMBAT TANK CREWMAN		LCPL	1812	M E		2			P					
43	COMBAT TANK CREWMAN		PVT	1812	M E		2			P					
48	TANK PLATOON						3 EACH			P					
49	PLATOON LEADER		LT	1802	M O	1				P					
50	PLATOON SERGEANT		GYSGT	1812	M E		1			P					
51	COMBAT TANK SECTION LDR		SSGT	1812	M E		1			P					
52	COMBAT TANK COMMANDER		SGT	1812	M E		2			P					
53	COMBAT TANK CREWMAN		CPL	1812	M E		4			P					
54	COMBAT TANK CREWMAN		LCPL	1812	M E		4			P					

T/O 4237G H&S CO. (M1A1) TK BN. FMF

T/O CHECKLIST 27 NOV 1990 PAGE 2

4234G

T/O 4234G TANK COMPANY (M1A1)

T/E NO T/MRCA

LINE NO.	ENGLISH DESCRIPTION	BILL SPON	ALPHA GRADE	MOS	F B T S T R Y T N N P A	MARINES OFF ENL	OTHER SERVICES OFF ENL	CONT F/A OFF ENL	CIV	S W C P C N	S S E S EDU P C LNG	SERV SCH	T/MRCA	EFF DATE	ADD DEL
66	COMBAT TANK CREWMAN		PVT	1812	M E		4			P					
	SECTION TOTAL MARINE						6 80								

ORGANIZATIONAL TOTALS

MARINE
CHARGEABLE 5 80

INDIVIDUAL WEAPONS
PISTOL REVOLVER RIFLE AR SMG UNARMED REVOLVER S. N.
16
68

LN NO	TO LN NO	PEN	MCC
		2021 1M	VTE
		2021 1M	VTF
		2021 1M	VTG
		2021 1M	1EF

4234G TABLE OF MANPOWER REQUIREMENTS 27 NOV 1990 PAGE 1

RECAPITULATION BY MOS

T/E

T/O 4234G TANK COMPANY (M1A1)

LINE NO	MOS	E9 GS18	GEN E8 GS17	COL E7 GS16	LTCOL E6 GS16	MAJ E5 GS14	CAPT E4 GS13	LT E3 GS12	WO E2/1 GS11	GS10	GS9	GS8	GS7	GS6	GS5	GS4	GS3	GS2 UNGR	GS1 EXC	LINE TOTAL
MARINE	OFFICERS																			
	1802						1		4											5
	TOTAL						1		4											5
	TOTAL						1		4											5
MARINE	ENLISTED																			
2	0411								1											1
3	1316								1											1
4	1812			1	3	6	7	15	16	16										63
5	2111				1			1		1										2
6	2146						1	2	2											5
7	2631						1	1	1											3
8	2841						1	1												2
9	3061								1											1
10	9999		1		4	6	10	20	22	17										80
	TOTAL		2																	

GRADE AVERAGE	MARINE OFFICER	2.20
GRADE AVERAGE	MARINE ENLISTED	3.80
GRADE AVERAGE	CIVILIAN	

135 Blank

TABLE OF MANPOWER REQUIREMENTS

T/O 4237G: H&SCo, (M1A1) TkBn (3 COs), FMF

4237G T/O CHECKLIST 28 NOV 1990 PAGE 1

T/O 4237G H&S CO, (M1A1) TK BN, FMF

LINE NO.	T/E NO / T/MRCA / ENGLISH DESCRIPTION	BILL SPON	ALPHA GRADE	MOS	F B T S T R Y T N N P A	MARINES OFF ENL	OTHER SERVICES OFF ENL	CONT F/A OFF ENL	CIV	S W C P C N	S E S EDU P CLNG	SERV SCH	T/MRCA	EFF DATE	ADD DEL
1	BATTALION HEADQUARTERS														
2	HEADQUARTERS SECTION		LTCOL	1802	M O	1				P					
3	BATTALION COMMANDER		MAJ	1802	M O	1				P					
4	BN EXECUTIVE OFFICER		SGTMAJ	8998	M E		1			P					
5	BN SERGEANT MAJOR														
6	S-1 SECTION		LT	0180	M O	1				P					
7	S-1/ADJUTANT		WO	0170	M O	1				P					
8	PERSONNEL OFFICER		GYSGT	0183	M E		1			P					
9	BN PERSONNEL CHIEF		SSGT	0183	M E		2			P					
10	ADMIN CHIEF		SSGT	8421	M E		1			M					
11	CAREER PLANNER		SGT	0121	M E		1			M					
12	PERSONNEL CLERK		SGT	0131	M E		1			M					
13	UNIT DIARY CLERK		SGT	0151	M E		1			M					
14	ADMIN CLERK		CPL	0121	M E		1			M					
15	PERSONNEL CLERK		CPL	0131	M E		1			M					
16	UNIT DIARY CLERK		CPL	0151	M E		1			M					
17	ADMIN CLERK		CPL	0161	M E		1			M					
18	LEGAL ADMIN CLERK		LCPL	0121	M E		1			M					
19	PERSONNEL CLERK		LCPL	0131	M E		1			M					
20	UNIT DIARY CLERK		LCPL	0161	M E		1			M					
21	ADMIN CLERK		LCPL	0161	M E		2			M					
22	PAY ADMIN CLERK		LCPL	0161	M E		2			M					
23	PERSONNEL CLERK		PVT	0121	M E		2			M					
24	UNIT DIARY CLERK		PVT	0131	M E		2			M					
25	ADMIN CLERK		PVT	0161	M E		3			M					
26	S-2 SECTION		CAPT	0202	M O	1				P					
27	S-2		SSGT	0231	M E		1			P					
28	BN INTELL CHIEF		SGT	0231	M E		1			M					
29	INTELL SPECIALIST														
30	S-3 SECTION		MAJ	1802	M O	1				P					
31	S-3		CAPT	0802	M O	1				P					
32	FIRE SUPPORT COORDINATOR		CAPT	7207	M N	1				P					
33	AIR LIAISON OFFICER		LT	1802	M O	1				P					
34	ASST S-3		LT	7202	M N	2				P					
35	FWD AIR CONTROLLER		WO	8702	M O	1				P					
36	ASST S-3/NBC DEF OFF		MGYSGT	1812	M E		1			P					
37	BN OPERATIONS CHIEF		MSGT	1812	M E		1			M					
38	MASTER GUNNER		SGT	1812	M E		1			M					
39	RECONN NCO		SGT	6711	M E		1			M					
40	NBC DEFENSE SPECIALIST		LCPL	0161	M E		1			M					
41	ADMIN CLERK		PVT	0161	M E		1			M					
42	ADMIN CLERK		PVT	6711	M E		1			M					
43	NBC DEFENSE SPECIALIST														

T/O 4237G H&S CO, (M1A1) TK BN, FMF

42370 T/O CHECKLIST 26 NOV 1990 PAGE 2

T/O 42370 H&S CO, (M1A1) TK BN, FMF

T/E NO T/MRCA

LINE NO.	ENGLISH DESCRIPTION	BILL SPON	ALPHA GRADE	MOS	F B T S T R Y T N N P A	MARINES OFF ENL	OTHER SERVICES OFF ENL	CONT F/A OFF ENL	S W C P C N CIV	S E S EDU P C LNG	SERV SCH	T/MRCA	EFF DATE	ADD DEL
44	S-4 SECTION		MAJ	1802	M O	1				P				
45	S-4		CAPT	0402	M O	1				P				
46	MAINT MNGMNT OFFICER		LT	0402	M O	1				P				
47	ASST S-4		MSGT	1812	M E		1			P				
48	LOGISTICS CHIEF		GYSGT	0491	M E		1			P				
49	BN COMBAT SUPPORT CHIEF		GYSGT	0411	M E		1			M				
50	BN MAINT MNGMT CHIEF		SGT	0411	M E		1			M				
51	MAINT MNGMT SPECIALIST		SGT	0431	M E		1			M				
52	LOG/EMBARK SPECIALIST		CPL	0431	M E		1			M				
53	LOG/EMBARK SPECIALIST		LCPL	0411	M E		1			M				
54	MAINT MNGMT SPECIALIST		PVT	0431	M E		1			M				
55	LOG/EMBARK SPECIALIST/DR													
56	DINE FAC SECTION		GYSGT	3381	M E	1				P				
57	FOOD SERVICE TECH		SSGT	3381	M E	1				P				
58	DINING FAC MANAGER		SGT	3381	M E	2				M				
59	CHIEF FOOD SVC SPECIALIST		SGT	3381	M E	4				M				
60	FOOD SVC SPECIALIST		CPL	3081	M E	1				M				
61	SUBS SUPPLY CLERK		CPL	3381	M E	1				M				
62	FOOD SVC SPL/BAKER		LCPL	3381	M E	6				M				
63	FOOD SERVICE SPECIALIST		LCPL	3381	M E	2				M				
64	FOOD SERVICE SPL/BAKER		LCPL	0151	M E	1				M				
65	ADMIN CLERK		PVT	3381	M E	6				M				
66	FOOD SERVICE SPECIALIST													
67	MEDICAL SECTION									P				
68	MEDICAL OFFICER		LT	2100	N O		1			P				
69	MEDICAL ADMIN TECH		HMC	8426	N E			1		P				
70	FLD SER TECH		HM1	8404	N E			1		P				
71	FLD SER TECH		HM2	8404	N E			4		P				
72	MED ADMIN TECH		HM2	8426	N E			1		P				
73	FLD SER TECH		HM3	8404	N E			8		P				
74	FLD SER TECH		HN	8404	N E			18		P				
75	CHAPLAIN SECTION									U				
76	CHAPLAIN		LCDR	4100	N O		1			U				
77	ASST BN CHAPLAIN		LT	4100	N O		1			M				
78	REL PROG ASST		RP2	2401	N E R			1		M				
79	REL PROG SPEC		RPSN	2401	N E R			1						
97	TANK SECTION									P				
98	CMBT TANK SECTION LEADER		SSGT	1812	M E	1				P				
99	COMBAT TANK CDR		SGT	1812	M E	1								

4237G T/O CHECKLIST 28 NOV 1990 PAGE 3

T/O 4237G H&S CO. (M1A1) TK BN. FMF

T/E NO T/MRCA

LINE NO.	ENGLISH DESCRIPTION	BILL SPON	ALPHA GRADE	MOS	F B T S T R Y T N N P A	MARINES OFF ENL	OTHER SERVICES OFF ENL	CONT F/A OFF ENL	CIV	S W C P C N	S E S EDU P C LNG	SERV SCH	T/MRCA	EFF DATE	ADD DEL
100	COMBAT TANK CREWMAN		CPL	1812	M E	2				P					
101	COMBAT TANK CREWMAN		LCPL	1812	M E	2				P					
102	COMBAT TANK CREWMAN		PVT	1812	M E	2				P					
103	AVLB SECTION														
104	AVLB SECTION LEADER		SSGT	1812	M E	1				P					
105	ASLT BRIDGE CDR		SGT	1812	M E	3				P					
106	ASLT BRIDGE CREWMAN		LCPL	1812	M E	4				P					
	SECTION TOTAL					15	81	2	34						
	MARINE							1	1						
	NAVY														
	RESERVE														
107	COMM PLATOON														
108	PLATOON HEADQUARTERS														
109	PLATOON CMDR/BN COMM OFF		CAPT	2602	M O	1				P					
110	BN COMMUNICATIONS CHIEF		MSGT	2581	M E		1			P					
111	MAINT MNGMT SPECIALIST		LCPL	0411	M E		1			M					
112	COMMUNICATIONS SECTION														
113	RADIO CHIEF		SSGT	2637	M E		1			P					
114	WIRE CHIEF		SGT	2612	M E		1			M					
115	FIELD RADIO OPERATOR		SGT	2631	M E		1			M					
116	FIELD RADIO OPERATOR		CPL	2631	M E		2			M					
117	FIELD WIREMAN		LCPL	2612	M E		3			M					
118	FIELD RADIO OPERATOR		LCPL	2631	M E		6			M					
119	FIELD WIREMAN		PVT	2612	M E		2			M					
120	FIELD RADIO OPR/DR		PVT	2631	M E		11			M					
121	TACTICAL AIR CNTRL PARTY														
122	FIELD RADIO OPERATOR		CPL	2631	M E		1			M					
123	FIELD RADIO OPR/DR		PVT	2631	M E		3			M					
124	MAINTENANCE SECTION														
125	RADIO OFFICER		WO	2805	M E	1				P					
126	RADIO TECHNICIAN		GYSGT	2861	M E		1			P					
127	RADIO TECHNICIAN		SSGT	2861	M E		1			P					
128	GRND RADIO REPAIRER		SGT	2841	M E		1			M					
129	TELEPHONE TECHNICIAN		CPL	2811	M E		1			M					
130	GRND RADIO REPAIRER		CPL	2841	M E		6			M					
	SECTION TOTAL					2	37								
	MARINE														

T/O 4237G H&S CO. (M1A1) TK BN. FMF

139

T/O 4237G H&S CO, (M1A1) TK BN, FMF

T/E NO T/MRCA

LINE NO.	ENGLISH DESCRIPTION	BILL SPON	ALPHA GRADE	MOS	FTN	BTRN	STYP	SCA	SWCN	SEDU	SSPC	SLNG	SERV SCH	T/MRCA	EFF DATE	ADD DEL	MARINES OFF ENL	OTHER SERVICES OFF ENL	CONT F/A OFF ENL	CIV
131	MOTOR TRANSPORT PLATOON																			
132	PLATOON HEADQUARTERS																			
133	PLATOON CMDR/BN MT OFF		CAPT	3502		MO			P								1			
134	BN MT CHIEF		MSGT	3537		ME			P									1		
135	MV OPER/DISPATCHER		SGT	3531		ME			M									1		
136	MAINT MNGMT SPECIALIST		LCPL	0411		ME			M									1		
137	MAINTENANCE SECTION																			
138	MT MAINT OFFICER		LT	3510		MO			P								1			
139	MT MAINT SECTION LEADER		SSGT	3529		ME			P									1		
140	AUTOMOTIVE MECHANIC		SGT	3521		ME			M									1		
141	AUTOMOTIVE MECHANIC		CPL	3521		ME			M									3		
142	AUTOMOTIVE MECHANIC		LCPL	3521		ME			M									4		
143	VEHICLE RECOVERY MECH		LCPL	3523		ME			M									2		
144	AUTOMOTIVE MECHANIC		PVT	3521		ME			M									3		
146	MEDIUM VEHICLE SECTION																	2 EACH		
146	MT SECTION LEADER		SSGT	3537		ME			P									1		
147	MV OPERATOR		SGT	3531		ME			M									2		
148	MV OPERATOR		CPL	3531		ME			M									3		
149	MV OPERATOR		LCPL	3531		ME			M									6		
160	MV OPERATOR		PVT	3531		ME			M									15		
161	HEAVY VEHICLE SECTION																			
162	HVY VEH SECTION LEADER		SSGT	3537		ME			P									1		
153	LVS OPERATOR		SGT	3533		ME			M									1		
154	LVS OPERATOR		CPL	3533		ME			M									3		
156	LVS OPERATOR		LCPL	3533		ME			M									12		
		SECTION TOTAL MARINE															2	88		
156	MAINTENANCE PLATOON																			
157	PLATOON HEADQUARTERS																			
158	PLATOON CDR/BN MAINT OFF		CAPT	2110		MO			P								1			
159	BN MAINTENANCE CHIEF		MGYSGT	2149		ME			P									1		
160	ELECTRICIAN		SGT	1141		ME			M									1		
161	ELECT EQP RPR SPECIALIST		CPL	1142		ME			M									1		
162	ENGR EQUIP MECHANIC		CPL	1341		ME			M									1		
163	MAINT MNGMT SPECIALIST		LCPL	0411		ME			M									1		
164	INSTRUMENT/ORD SECTION																			

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T/O 4237G H&S CO, (M1A1) TK BN, FMF

T/E NO TAMRCA

LINE NO.	ENGLISH DESCRIPTION	BILL SPON	ALPHA GRADE	MOS	F B T S T R Y T N N P A	MARINES OFF ENL	OTHER SERVICES OFF ENL	CONT F/A OFF ENL	CIV	S W C P C N	S E S EDU P C LNG	SERV SCH	TAMRCA	EFF DATE	ADD DEL
165	WEAPONS REPAIR OFFICER		LT	2120	M O	1				P					
166	CHIEF TURRET REPAIRER		GYSGT	2146	M E		1			P					
167	OPTICAL INST REPAIRER		SSGT	2171	M E		1			P					
168	INF WPN REPAIRER		SGT	2111	M E		1			M					
169	TURRET REPAIRER		SGT	2146	M E		7			M					
170	OPTICAL INST REPAIRER		SGT	2171	M E		1			M					
171	INF WPN REPAIRER		CPL	2111	M E		1			M					
172	TURRET REPAIRER		CPL	2146	M E		13			M					
173	OPTICAL INST REPAIRER		CPL	2171	M E		3			M					
174	INF WPN REPAIRER		PVT	2111	M E		1			M					
175	TANK MAINTENANCE SECTION														
176	TANK MAINTENANCE OFFICER		WO	2110	M O	1				P					
177	TK MAINT SECTION CHIEF		MSGT	2149	M E		1			P					
178	COMBAT TANK REPAIRER		SSGT	2146	M E		2			P					
179	METAL WRK/R/VTR CREWMAN		SGT	1316	M E		1			M					
180	METAL WORKER		SGT	1316	M E		1			P					
181	CBT TK RPR/VTR CDR		SGT	2146	M E		1			M					
182	COMBAT TANK REPAIRER		SGT	2146	M E		4			M					
183	REPAIR SHOP MACHINIST/DR		SGT	2161	M E		1			M					
184	METAL WORKER/DRIVER		CPL	1316	M E		2			M					
185	ENGR EQUIP OPERATOR		CPL	1345	M E		1			M					
186	COMBAT TANK REPAIRER		CPL	2146	M E		6			M					
187	REPAIR SHOP MACHINIST/DR		CPL	2161	M E		1			P					
188	CBT TK RPR/VTR CREWMAN		LCPL	2146	M E		2			M					
189	COMBAT TANK REPAIRER		LCPL	2146	M E		7			M					
190	REPAIR SHOP MACHINIST/DR		LCPL	2161	M E		1			P					
191	CBT TK RPR/VTR CREWMAN		PVT	2146	M E		1			M					
192	COMBAT TANK REPAIRER		PVT	2146	M E		8			M					
	SECTION TOTAL MARINE					3	76								
193	SUPPLY PLATOON														
194	PLATOON HEADQUARTERS		CAPT	3002	M O	1				P					
195	PLATOON CDR/BN SUP OFF		LT	3002	M O	1				P					
196	ASST SUPPLY OFFICER		GYSGT	3043	M E		1			P					
197	SUPPLY CHIEF		SGT	3043	M E		1			M					
198	SUPPLY ADMIN CLERK		PVT	0161	M E		1			M					
198A	ADMIN CLERK														

T/O 4237G H&S CO, (M1A1) TK BN, FMF

T/O 4237G H&S CO, (M1A1) TK BN, FMF

T/E NO T/MRCA

LINE NO.	ENGLISH DESCRIPTION	BILL SPON	ALPHA GRADE	MOS	F T N	B R N	T Y P	S A	MARINES OFF	MARINES ENL	OTHER SERVICES OFF	OTHER SERVICES ENL	CONT F/A OFF	CONT F/A ENL	CIV	S C C	W P N	EDU	S E S P	C LNG	SERV SCH	T/MRCA	EFF DATE	ADD DEL
199	ACCOUNTING SECTION																P							
200	SUPPLY SECTION CHIEF		GYSGT	3043		M	E			1							M							
201	SUPPLY ADMIN CLERK		SSGT	3043		M	E			1							M							
202	SUPPLY ADMIN CLERK		SGT	3043		M	E			1							M							
203	SUPPLY ADMIN CLERK		CPL	3043		M	E			3							M							
204	SUPPLY ADMIN CLERK		LCPL	3043		M	E			3							M							
205	WAREHOUSE CLERK		LCPL	3051		M	E			1							M							
206	SUPPLY ADMIN CLERK		PVT	3043		M	E			4							M							
207	STORAGE SECTION																M							
208	WAREHOUSE CHIEF		SGT	3051		M	E			1							M							
209	WAREHOUSE CLERK		CPL	3051		M	E			1							M							
210	WAREHOUSE CLERK		LCPL	3051		M	E			3							M							
211	SUPPLY ADMIN CLERK		LCPL	3043		M	E			1							M							
212	WAREHOUSE CLERK		PVT	3051		M	E			3							M							
213	FUEL/AMMO SECTION																P							
214	AMMO SECTION CHIEF		SSGT	2311		M	E			1							M							
215	AMMO TECHNICIAN		SGT	2311		M	E			1							M							
216	AMMO TECHNICIAN		CPL	2311		M	E			2							M							
217	FUEL HANDLERS		PVT	1812		M	E			6							M							
218	AMMO TECHNICIAN		PVT	2311		M	E			5							M							
		SECTION TOTAL MARINE							2	41														
219	COMPANY HEADQUARTERS																P							
220	COMPANY COMMANDER		MAJ	1802		M	O		1								P							
221	CO EXECUTIVE OFFICER		CAPT	1802		M	O		1								P							
222	FIRST SERGEANT		1STSGT	9998		M	E				1						P							
223	GUNNERY SERGEANT		GYSGT	1812		M	E				1						P							
224	PROPERTY NCO		SGT	3051		M	E				1						M							
		SECTION TOTAL MARINE							2	3														

T/O 4237G H&S CO, (M1A1) TK BN, FMF

T/E NO T/MRCA

LINE NO.	ENGLISH DESCRIPTION	BILL SPON	ALPHA GRADE	MOS	F T N	B R N	T Y P	S T A	MARINES OFF	MARINES ENL	OTHER SERVICES OFF	OTHER SERVICES ENL	CONT F/A OFF	CONT F/A ENL	CIV	S C C	W P N	S E EDU	S P C	S LNG	SERV SCH	T/MRCA	EFF DATE	ADD DEL
	ORGANIZATIONAL TOTAL																							
	MARINE																							
	CHARGEABLE																							
	NAVAL AVIATOR								3															
	OTHER								23	330														
	TOTAL								26	330														
	NAVY																							
	RESERVE										1	1												
	CHARGEABLE										2	24												

INDIVIDUAL WEAPONS

PISTOL	REVOLVER	RIFLE	AR	SMG	UNARMED	REVOLVER	S.N.
116		276			2		

TABLE OF MANPOWER REQUIREMENTS 27 NOV 1990 PAGE 1

RECAPITULATION BY MOS

T/E

4234G H&S CO, (M1A1) TK BN, FMF

T/O 4237G

LINE NO.	MOS	EB GS18	GEN EB GS17	COL E7 GS16	LTCOL E6 GS15	MAJ E5 GS14	CAPT E4 GS13	LT E3 GS12	WO E2/1 GS11	GS10	GS9	GS8	GS7	GS6	GS5	GS4	GS3	GS2 UNGR	GS1 EXC	LINE TOTAL
1	0000								1											1
2	4100						1													1
	TOTAL						1		1											2
NAVAL AVIATORS																				
3	7207						1	2												3
	TOTAL						1	2												3
MARINE OFICERS																				
4	0170									1										1
5	0180								1											1
6	0202						1													1
7	0402						1		1											2
8	0802						1													1
9	1802					1	1	1	1											4
10	2110						1			1										2
11	2120							1	1											2
12	2602						1													1
13	2805									1										1
14	3002						1	1												2
15	3502						1		1											2
16	3510							1												1
17	5702									1										1
	TOTAL					1	4	8	8	4										23
	TOTAL					1	4	10	9	4										28
MARINE ENLISTED																				
18	0121						1	1	1	2										5
19	0131						1	1	1	2										5
20	0161						1	2	5	6										13
21	0193				2															3
22	0231			1		1														2
23	0411			1			1		4											6
24	0431						1	1		1										3
25	0491			1																1
26	1141						1													1
27	1142							1												1
28	1316						2	2												4
29	1341							1												1
30	1345							1												1
31	1812		1	2	1	2	5	2	6	8										27

4234G TABLE OF MANPOWER REQUIREMENTS 27 NOV 1990 PAGE 2

RECAPITULATION BY MOS
T/E

T/O 42370 H&S CO, (M1A1) TK BN, FMF

LINE NO.	MOS	E9 GS18	GEN E8 GS17	COL E7 GS16	LTCOL E6 GS15	MAJ E5 GS14	CAPT E4 GS13	LT E3 GS12	WO E2/1 GS11	GS10	GS9	GS8	GS7	GS6	GS5	GS4	GS3	GS2 UNGR	GS1 EXC	LINE TOTAL
32	2111				1	2	1	1		1										3
33	2146						12	19	9	10										53
34	2149		1																	2
35	2161	1		1			1	1	1											3
36	2171					1	1	3												5
37	2311					1	1	2		5										8
38	2612						1		3	2										6
39	2631						1	3	6	14										23
40	2637				1															1
41	2681			1				1												1
42	2811							1												1
43	2841					1		6		1										7
44	2881				1	1														2
45	3043			1	1	1	2	3	4	4										16
46	3061						2	1	4	3										10
47	3081							1												1
48	3381				1	1	2	5	7	6										22
49	3621						1	3	4	3										11
50	3623								2											2
51	3629					1	5	6	12	30										1
52	3631						1	3	12											63
53	3633				3															16
54	3637			1			1			1										4
55	5711																			2
56	8421				1															1
57	9999	1		1																2
	TOTAL	3		7	8	18	47	70	80	97										330
NAVAL OFFICERS																				
58	2100						1	1												1
59	4100						1	1												1
	TOTAL						1	1												2
NAVAL ENLISTED																				
60	2401						1													1
61	8404					1	4	8	18											31
62	8426				1		1													2
	TOTAL				1	1	6	8	18											34

GRADE AVERAGE	2.56
GRADE AVERAGE	3.61
GRADE AVERAGE	

MARINE OFFICER
MARINE ENLISTED
CIVILIAN

Annex II to
Appendix B to
ENCLOSURE (1)

NEW EQUIPMENT TRAINING
ORGANIZATIONAL EQUIPMENT REQUIREMENTS

TANK COMPANY

TAMCN	NOMENCLATURE	QTY
C6490	Tool Kit, Mechanics (W/Metric Tools)	7
K4385	Gloves, Leather, Work, Form Fitting, (Pair)	
K4390	Goggles, Industrial, W/Clear Glass Lens	8
K4625	Padlock, Combination, High Security	10
N6001	Binocular System, M22, 7X50	14
N/A	Hard Hats	8
N/A	Shoes, Safety (Pair)	8

HEADQUARTERS AND SERVICE COMPANY

TAMCN	NOMENCLATURE	QTY
C6490	Tool Kit, Mechanics (W/Metric Tools)	5
K4390	Goggles, Industrial, W/Clear Glass Lens (Pr/Man)	1
C3360	Pouch, Magazine, Pistol, 9mm	2
N/A	Shoes, Safety (Pr/Man)	1
N/A	Shoulder Holster	2

NEW EQUIPMENT TRAINING

INDIVIDUAL EQUIPMENT REQUIREMENTS

TAMCN	NOMENCLATURE	CREW	OTHER
N/A	Ear Plugs (pair)	1	1
N/A	Identification Card	1	1
N/A	Identification Tags, Pair	1	1
N/A	Lock, Combination/Key (Optional)	1	1
N/A	Pen	2	2
N/A	Pencil, Lead	5	5
N/A	Service Uniform, Seasonal	1	1
N/A	Shaving Kit/Soap/Toilet Articles	1	1
N/A	Sweater (Seasonal)	1	1
N/A	Towels	4	4
K5009	Trousers, Wet Weather	1	1
N/A	Utilities, Camouflage (Set)	4	4
C0030	Bag, Duffel	1	1
C0340	Socks, Men’s w/Cushion Sole (Pair)	4	4
C0415	Undershirt, Men’s, Cotton OG	3	3
C1060	Coat, Cold Weather, Camouflage, (Field Jacket) w/Liner (Seasonal)	1	1
C1065	Coverall, Combat Vehicle Crewman	2	
C1090	Drawers, Wool, Cotton, Bottoms (Seasonal)	2	2
C1107	Gloves, Shells, Leather, Black, w/Liners (Pair) (Seasonal)	1	1
C1130	Jacket, CVC	1	
C1180	Parka, Wet Weather	1	1
C1260	Undershirt, Wool, Cotton, Tops (Seasonal)	2	2
C1281	Vest, Micro-Climatic Cooling (If Available)	1	
C2260	Mask, CB Protective, M25A1, w/Carrier and Hood	1	
C3040	Belt, Individual Equipment, Nylon, Webbing OD	1	1
C3060	Canteen, Water, Plastic	2	2
C3130	Cover, Water, Canteen	2	2
C3140	Cup, Water, Canteen	1	1
C3150	First Aid Kit, (LINCLOE)	1	1
C3215	Helmet, Fragmentation Protective (Complete)	1	1
C3310	Pad, Sleeping, Cold Weather	1	1
C3336	Pack, Field, Medium, w/o Liner	1	1
C3400	Poncho, Wet Weather	1	1
C3420	Sleeping Bag, Intermediate Cold	1	1
C3445	Suspenders, Belt, Individual Equipment (opt)	1	1
C3495	Armor, Body, Upper Torso, Fragmentation	1	1
C3720	Liner, Wet Weather, Poncho	1	1
C4992	Helmet, CVC	1	
C6684	Watch, Wrist, Complete (Optional)	1	1
K4030	Bag, Waterproof, Clothing	1	1
K4238	Coveralls, Men’s Cotton, OG	1	1
K4392	Goggles, Sun, Wind, and Dust	1	1
V4078	Drawers, Mens, Cotton	6	6
V4149	Boots, Combat/Jungle, (Pair)	1	1
V4350	Scarf, Neckwear, Wool, OG (Seasonal)	1	1

M1A1 NEW EQUIPMENT TRAINING SCHEDULE

MCAGCC, TWENTYNINE PALMS, CA

UNIT	DATES
Co, 3d TkBn	06 May 91 to 06 Jun 91
Co, 3d TkBn	11 Jun 91 to 05 Jul 91
Co, 3d TkBn	22 Jul 91 to 21 Aug 91
Co, 2d TkBn	31 Oct 90 to 23 Nov 90
Co, 2d TkBn	25 Nov 90 to 08 Dec 90
Co, 2d TkBn	10 Dec 90 to 23 Dec 90
Reserve Co	26 Dec 90 to 17 Jan 91
Reserve Co	23 Jan 91 to 13 Feb 91

COURSES OF INSTRUCTION

U.S.ARMY ARMOR SCHOOL

COURSE TITLE	USMC COURSE NO	USA COURSE NO	MOS	RECOMMENDED GRADES	COURSE LENGTH*
Armor Crewman Course	A13TBM1	020-1812	1812	Pvt-LCpl	63
Armor Advanced NCO Course	A13RGS1	020-19E40/19K40	1812	SSgt	88
Master Gunner Course	A13TBH1	020-AS1AB	1812	SSgt	77
Tank Commander Certification Course	A13TBJ1	2E-S13M 020-19K2/3/4(T)	1812	Sgt-MGySgt	13
Master Gunner Transition Course	A13TBP1	020-AS18-T	1812	SSgt-GySgt	30
Tank Systems Mechanic	A13GBN1	611-63E10	2146	Pvt-LCpl	55
Tank Turret Mechanic	A13GBP1	643-45E10	2146	Pvt-LCpl	75
Armor Officer Basic	A13T611	2-17-C20	1802	Lt	114
Armor Officer Advanced Course	A13RGF1	2-17-C22	1802	Capt	140
Junior Officer Maintenance Course	A13CEP1	8C-77D	1802	Lt-Capt	42
Sr. Officer Logistics Management Course	A13HAG1	8A-F23	1802	Maj-LtCol	5
Pre-Command Course (Phase II)	A13TBA1	2G-F24	1802	Maj-LtCol	21

U.S. ARMY ORDNANCE SCHOOL

COURSE TITLE	USMC COURSE NO	USA COURSE NO	MOS	RECOMMENDED GRADES	COURSE LENGTH*
Small Arms Repairer	A0121M1	641-2111(45B)	2111/2112	Pvt-LCpl	45
E-O Ordnance Repairer (Ph II)	A0121Y1	670-2171(45G)	2171	Pvt-LCpl	73
Vehicle Body Repairer	A0135K1	704-3513(44B)	3513/1316	Pvt-LCpl	49
USMC Ordnance Vehicle Technician	A01GBT1		2149	MSgt/MGySgt	28
USMC Ordnance Officer	A01RGZ1	4-9-USMC	2102	WO	30
USMC Weapons Technician	A01GBS1		2181	MSgt/MGySgt	20
Tank System Technician	A011BG1	643-2145(45K)(63H)	2146	Sgt-GySgt	44

MCLB, ALBANY

COURSE TITLE	USMC COURSE NO	USA COURSE NO	MOS	RECOMMENDED GRADES	COURSE LENGTH*
E-O Ordnance Repairer (Ph I)	M0757L1		2171	Pvt-LCpl	154

* Days

TABLE OF EQUIPTMENT
FLEET MARINE FORCE UNITS

Appendix G to
ENCLOSURE (1)

TABLE OF EQUIPMENT

T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

18 APRIL 1990

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
A0004 VIIG	ACCESSORY MAINTENANCE KIT, TELEPHONE MK-1823(V)/TT	KT	1		1	
A0009 VIIGP	AN/UYT/TACTERM SET AN/USC-43(V)2 PLANNED ALLOWANCES FOR FY-90	EA	4	4		
A0059 VIIGP	ANTENNA MAST F/SINCGARS PLANNED ALLOWANCES FOR FY-93	EA	6	2	6	2
A0080 VIIG	AUTOMATED DATA PROCESSING EQUIPMENT, F/FMF	EA	2		2	
A0092 VIIG	BATTERY CHARGER PP-7286	EA	2		2	
A0098 VIIGP	BATTERY MAINTENANCE SYS PLANNED ALLOWANCES FOR FY-94	EA	2		2	
A0319 VIIG	CONTROL, RADIO SET C-6709/G	EA	2		2	
A0661 VIIG	FMF END USER COMPUTING EQUIP (FMF-EUCE) AN/UYK-83	EA	11		11	

TABLE OF EQUIPMENT

TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
A0662 VIIGP	FMF DOWNSIZED END-USER COMPUTING EQUIP AN/UYK-85	EA				
	PLANNED ALLOWANCES FOR FY-90			6		5
	PLANNED ALLOWANCES FOR FY-91			3		4
A0805 VIIG	GENERATOR SIGNAL, ELCTRONIC 86408-003	EA	9		9	
A0815 VIIG	HELIPORT LIGHTING SET PORTABLE	EA				
	PLANNED ALLOWANCES FOR FY-91		1		1	
A0817 VIIGP	GLOBAL POSITIONING SYS, NAVSTAR, MANPACK AN/PSN-8	EA				
	PLANNED ALLOWANCES FOR FY-94		2		2	
A0890 VIIG	LIGHTWEIGHT DIGITAL FACSIMILE AN/UXC-7	EA	2		2	
A0918 VIIGP	MARINE FLEXIBLE FIRE SUPPORT SYSTEM	EA				
	PLANNED ALLOWANCES FOR FY-92					3
	PLANNED ALLOWANCES FOR FY-95		3			
A1195 VIIG	OSCILLOSCOPE TEK 2336YA	EA	3		3	

TABLE OF EQUIPMENT

18 APRIL 1990

TYPE 1 ITEMS

T/E FOR FMF UNITS INDICATED

1 TAM CONTROL NO.	2 NOMENCLATURE	3 UNIT	4 N 1521	5 N 1524	6 N 1531	7 N 1534	8	9	10	11	12	13	14
A1220 VIIGP	PORTABLE HELIPORT LIGHTING SET PLANNED ALLOWANCES FOR FY-92	EA	1		1								
A1226 VIIG	BASIC USING UNIT RADIO, PLRS	EA	6	6	6	6							
A1250 VIIG	POWER SUPPLY SET PP-6836/G	EA	2		2								
A1253 VIIG	POWER SUPPLY PP-7333	EA	3		3								
A1254 VIIG	POWER SUPPLY PP-6224/4	EA	2		2								
A1255 VIIG	POWER SUPPLY PP7332/U	EA	2		2								
A1305 VIIG	PUBLIC ADDRESS SET AN/UIQ-10(V) ACTIVE FORCES ONLY	EA	2		2								
A1635 VIIG	RADIAC SET AN/PDR-63	EA	9	1	9	1							
A1815 VIIG	RADIO SET AN/GRC-160	SE	3	4	3	4							

TABLE OF EQUIPMENT

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

1	2	3	4	5	6	7	8	9	10	11	12	13	14
TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
A1816 VIIG	RADIO SET, GROUND (PLRS) AN/GRC-210	EA	1		1								
A1930 VIIG	RADIO SET AN/MRC-110A	EA	5	1	5	1							
A1935 VIIG	RADIO SET AN/MRC-138A	EA	3		3								
A2040 VIIG	RADIO SET AN/PRC-75A	EA	2		2								
A2050 VIIG	RADIO SET AN/PRC-77	EA	15	2	15	2							
A2051 VIIG	RADIO SET (PLRS) AN/PSQ	EA	3		3								
A2065 VIIG	RADIO SET AN/PRC-104 PLANNED ALLOWANCES FOR FY-92	EA	1 3		1 3								
A2069 VIIG	RADIO SET,UHF AN/PRC-113(V)3 PLANNED ALLOWANCES FOR FY-90	EA	2 2		2 2								
A2070 VIIGP	RADIO SET AN/PRC-119 PLANNED ALLOWANCE FOR FY-93	EA	15	2	15	2							
A2130 VIIG	RADIO SET AN/VRC-12	SE	3	3	3	3							

TABLE OF EQUIPMENT

TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
A2151 VIIG	RADIO SET, VEHICLE (PLRS) AN/VSQ-1	EA	5	17	5	17
A2164 VIIG	RADIO SET AN/VRC-83(VI(2)	EA	3		3	
A2167 VIIGP	RADIO SET AN/VRC-88 PLANNED ALLOWANCE FOR FY-93	EA	3	4	3	4
A2168 VIIGP	RADIO SET AN/VRC-89(I PLANNED ALLOWANCES FOR FY-93	EA	3	3	3	3
A2170 VIIGP	RADIO SET AN/VRC-91(I) PLANNED ALLOWANCES FOR FY-93	EA	7	18	7	18
A2171 VIIGP	RADIO SET AN/VRC-92(I) PLANNED ALLOWANCES FOR FY-93	EA	4	1	4	1
A2298 VIIG	REPEATER REGENERATIVE MX-9331B/URC	EA	3		3	

TABLE OF EQUIPMENT

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7	8	9	10	11	12	13	14
A2299 VIIGP	REMOTE CONTROL UNIT SINCGARS	EA				
	C-11561/U		10	4	10	4							
	PLANNED ALLOWANCES FOR FY-93												
A2301 VIIG	SERVICE MONITOR 30008	EA	4		4								
A2335 IIBP	SHELTER, 10FT, EMI, MAINT	EA											
	COMPLEX 82A5049A000												
	PLANNED ALLOWANCES FOR FY-90		2		1								
	PLANNED ALLOWANCES FOR FY-91		1		2								
A2238 IIBP	SHELTER, 10 FT, RIGID, MAINT	EA											
	COMPLEX 87A036A0000												
	PLANNED ALLOWANCES FOR FY-92		3		3								
A2420 VIIGP	SMALL UNIT NAVIGATION SYSTEM	EA											
	QTY 1 PLND FY-96		6		6								
	PLANNED ALLOWANCES FOR FY-95												
A2480 VIIG	SWITCHBOARD, TELEPHONE, MANUAL	EA	2		2								
	SB-22A/PT												
A2505 VIIG	SWITCHBOARD, TELEPHONE,	EA	2		2								
	AUTOMATIC SB-3614(V)1/T												

TABLE OF EQUIPMENT

T/E FOR FMF UNITS INDICATED — TYPE 1 ITEMS — 18 APRIL 1990

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
A2510 VIIGP	SYSTEM PLANNING, ENGR AND EVAL DEVICE PLANNED ALLOWANCES FOR FY-92	EA	1		1	
A2632 VIIGP	TACTICAL TELEPHONE ADAPTER HYX-65-1 PLANNED ALLOWANCES FOR FY-90	EA	2		2	
A2633 VIIGP	TACTICAL TELEPHONE ADAPTER REMOTE UNIT HYX--65-2 PLANNED ALLOWANCES FOR FY-90	EA	2		2	
A2635 VIIG	TELEPHONE SET TA-838A/TT	EA	14		14	
A2930 VIIG	TEST SET,RADIO AN/GRM-114A	EA	2		2	
A7021 VIIG	FREQUENCY COUNTER, ELECTRONIC HP-5328AF/096	EA	7		7	
A7030 VIIG	COUNTER, ELECTRONIC, DIGITAL READOUT, 3-18 GHZ EIP 451 PLANNED ALLOWANCES FOR FY-90	EA	1		1	

TABLE OF EQUIPMENT

T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

18 APRIL 1990

1	2	3	4	5	6	7	8	9	10	11	12	13	14
TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
A7039 VIIGP	GENERATOR, PULSE PROGRAMMABLE 8160A	EA											
	PLANNED ALLOWANCES FOR FY-90		1		1								
A7051 VIIGP	GENERATOR, SIGNAL PROGRAMMABLE 9087-11	EA											
	PLANNED ALLOWANCES FOR FY-90		1		1								
A7055 VIIG	MONITOR UNIT, RADIO FREQUENCY TS-4161/P	EA	2		2								
A7072 VIIGP	TEST ADAPTOR, SINCGARS RADIO J-4843/GRM1148	EA											
	PLANNED ALLOWANCES FOR FY-92		2		2		1						
	PLANNED ALLOWANCES FOR FY-93		1	1	1		1						
	PLANNED ALLOWANCES FOR FY-94			1									
A7080 VIIG	TEST SET, RADIO VHF 4131	EA	3	2	3	2							
A7082 VIIGP	TEST RADIO SET TS-4317/GRM	EA											
	PLANNED ALLOWANCES FOR FY-92		2		2		2						
	PLANNED ALLOWANCES FOR FY-93		2	2	2		1						
	PLANNED ALLOWANCES FOR FY-94			1									
A7090 VIIG	TIME DOMAIN REFLECTOMETER 15038/03MOD MC	EA	2		2								

TABLE OF EQUIPMENT

18 APRIL 1990

TYPE 1 ITEMS

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
A7501 VIIGP	MCATES, AUTOMATIC TEST EQUIPMENT SYSTEM MC PLANNED ALLOWANCES FOR FY-90	EA	1		1	
A7505 VIIGP	MCATES, INSTRUMENT CONTROLLER C-11654/USM PLANNED ALLOWANCES FOR FY-90	EA	1		1	
A7510 VIIGP	MCATES, AUDIO ANALYZER PROGRAMMABLE PLANNED ALLOWANCES FOR FY-90	EA	1		1	
A7520 VIIG	MCATES, ANALYZER SPECTRUM, PROGRAMMABLE 8568B/E44 PLANNED AALLOWANCES FOR FY-90	EA	1		1	
A7575 VIIGP	MCATES, POWER SUPPLY SYSTEM PROGRAMMABLE 079383 PLANNED ALLOWANCES FOR FY-90	EA	1		1	
A7590 VIIG	MCATES, TEST SET DIGITAL CARD AN/USM-465B PLANNED ALLOWANCES FOR FY-91	EA	2		2	
A8023 VIIGP	DATA TRANSFER DEVICE (DTD) AN/CY2-10 PLANNED ALLOWANCES FOR FY-92	EA	30	30	30	30

8	9	10	11	12	13	14

TABLE OF EQUIPMENT

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
A8024 VIIG	GENERAL PURPOSE TAPE READER TSEC/KOI-18	EA	6	4	6	4
A8025 VIIG	ELECTRONIC TRANSFER DEVICE TSEC/KYK-13	EA	20	20	20	20
A8026 VIIG	NET CONTROL DEVICE TSEC/KYX-15	EA	6	6	6	6
A8027 VIIG	VEHICULAR POWER SUPPLY TSEC/HYP-57	EA	43	44	43	44
A8028 VIIG	WIRELINE ADAPTER TSEC/HYX-57	EA	3	1	3	1
A8029 VIIG	TACT SPEECH SECURITY EQP HALF-DUP VEHICULAR TSEC /KY-65	EA	6		6	
A8031 VIIG	SPEECH SECURITY EQP TACT HALF-DUP W/8 MANPACK TSEC-KY-57	EA	43	44	43	44

TABLE OF EQUIPMENT

TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
A8047 VIIGP	ANDVT/MINITERM TERMINAL TSEC/KY-99	EA				
	PLANNED ALLOWANCE FOR FY-92		16		16	
A8050 VIIG	BATTERY CASE TSEC/Z-AIJ	EA	15	2	15	2
A8081 VIIGP	ANDVT/TACTERM COMSEC MODULE KYV-5/TSEC	EA				
	PLANNED ALLOWANCES FOR FY-90		3		3	
A8082 VIIG	GENERAL PURPOSE TELEGRAPHY ENCRYPTION EQUIP TSEC/KG-84A	EA	2		2	
A8083 VIIGP	DIGITAL SUBSCRIBER VOICE TERMINAL TSEC/KY-68	EA				
	PLANNED ALLOWANCES FOR FY-90		2		2	
B0003 VIIB	AIR CONDITIONER MCS VERTICAL 60HZ 18000 BTU	EA				
	PLANNED ALLOWANCES FOR FY-90		3		3	
	PLANNED ALLOWANCES FOR FY-92		3		3	
B0214 VIIG	BUCKET GEN PURP 2.5 YD F/TRACTOR	EA	1		1	
B0335 VIIBP	CLEARED LANE MARKING SYSTEM	EA				
	PLANNED ALLOWANCES FOR FY-93			4		4

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TABLE OF EQUIPMENT

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T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

1	2	3	4	5	6	7	8	9	10	11	12	13	14
TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
B0465 VIIB	DECONTAMINATING APPARATUS, PD, SKD-MTD 500 GAL M12A1	EA	5		5								
B0579 VIIB	DUMMY LOAD, GENERATOR SET, ELECT 100KW, TRLR-MTD	EA	1		1								
B0630 VIIB	FLOODLIGHT SET, ELECT, ESSEX, TRLR-MTD A265	EA	1		1								
B0635 VIIB	FLOODLIGHT SET, SKID MTD W/TOWER	EA	1		1								
B0730 VIIB	GENERATOR SET, 3KW, 60 HZ SKID-MTD MEP-016B	EA		1		1							
B0891 VIIB	GENERATOR SET, 10KW, 60 HZ, SKID-MTD MEP-003A	EA	3		3								
B0953 VIIB	GENERATOR SET, 30KW, 60 HZ, SKID-MTD MEP-005A	EA	3		3								

TABLE OF EQUIPMENT

TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

1	TAM CONTROL NO.	2 NOMENCLATURE	3 UNIT	4 N 1521	5 N 1524	6 N 1531	7 N 1534	8	9	10	11	12	13	14
B1280	IIE	LIGHT SET GENERAL ILLUMINATION LARGE	SE	2		2								
	B1291 VIIBP	LTWT DECONTAMINATING SYSTEM M1731	EA											
		PLANNED ALLOWANCES FOR FY-90		14	4	14	14							
	B1580 VIIBP	PUMP MODULE, FUEL (SIXCON)	EA											
		PLANNED ALLOWANCES FOR FY-90		8		8								
	B1581 VIIBP	PUMP, MODULE WATER	EA											
		PLANNED ALLOWANCES FOR FY-90		4		4								
	B1951 VIIB	SHOP EQUP, GEN PURP REPAIR, SET-1 SGPRSMD	EA	1		1								
	B2004 VIIB	SKID MOUNTING ASSEMBLY, REMOTE, AIR CONDTNR TYPE B	EA											
		SM-V18												
		PLANNED ALLOWENCES FOR FY-90		3		3								
	B2085 VIIBP	STORAGE TANK MODULE, FUEL (SIXCON)	EA											
		PLANNED ALLOWANCES FOR FY-90		20		20								

TABLE OF EQUIPMENT

TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
1	2	3	4	5	6	7	8	9	10	11	12	13	14
B2086 VIIB	STORAGE TANK MODULE, WATER (SIXCON) MWT:166	EA	4		4								
B2220 IIE	TOOL KIT, CARPENTERS, USMC	EA	1		1								
B2240 IIE	TOOL KIT, LINEMANS, ELECTRICIANS	EA	1		1								
B2560 VIIB	TRUCK, FORKLIFT MC-6000RTL	EA	1		1								
B2561 VIIB	TRUCK, FORKLIFT, EXTENDABLE BOOM 10,000# CAP PLANNED ALLOWANCES FOR FY-90	EA	1		1								
B2685 VIIB	WELDING MACHINE, ARC, TRL-MTD DCC-353-P	EA	2		2								
C1023 IIF	BALACLAVA, COMBAT VEHICLE CREWMAN	EA	98	96	98	96							
C1026 IIF	BIB OVERALL, INSULATED, COMBAT VEHICLE CREWMAN	EA	98	96	98	96							

TABLE OF EQUIPMENT

T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

18 APRIL 1990

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
C1055 IIF	CAP, KNIT (WATCH CAP) 1 PER INDIV FMF	EA				
C1060 IIF	COAT, COLD WEATHER WOODLAND CAMOUFLAGE (FIELD JACKET) 1 PER INDIV FMF	EA				
C1065 IIF	COVERALL, COMBAT VEHICLE CREWMAN	PR	42	234	42	234
C1090 IIF	DRAWERS COLD WEATHER COT/WOOL KNIT ANKLE LENGTH 2 PER INDIVIDUAL	PR				
C1095 IIF	FACE MASK, COMBAT VEHICLE CREWMAN PLANNED ALLOWANCES FOR FY-90	EA	98	96	98	96
C1100 IIF	GLOVES, COLD WEATHER , COMBAT VEHICLE CREWMEN PLANNED ALLOWANCES FOR FY-90	EA	98	96	98	96
C1105 IIF	GLOVES, HOT WEATHER, COMBAT VEHICLE CREWMAN	PR	46	78	46	78

TABLE OF EQUIPMENT

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
1	2	3	4	5	6	7	8	9	10	11	12	13	14
C1106 IIF	GLOVES INSERTS, WOOL AND NYLON KNIT, OG 2 PER INDIVIDUAL	PR											
C1107 IIF	GLOVES, SHELLS, LEATHER, BLACK 1 PER INDIVIDUAL FMF	PR											
C1130 IIF	JACKET, COMBAT VEHICLE CREWMAN	EA	46	78	46	78							
C1150 IIF	LINER, COLD WEATHER COAT NYLON (FLD JACKET LINER) 1 PER INDIVIDUAL FMF	EA											
C1155 IIF	LINER, COVERALLS, COMBAT VEHICLE CREWMAN	EA	98	96	98	96							
C1156 IIF	LINER, COVERALLS, COMBAT VEH CREWMAN, LOWER	EA	98	96	98	96							
C1170 IIF	OVERALLS, WET WEATHER, NYLON TWILL, GREEN 1 PER INDIVIDUAL FMF	PR											

TABLE OF EQUIPMENT

18 APRIL 1990

TYPE 1 ITEMS

T/E FOR FMF UNITS INDICATED	TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	C1180 IIF	PARKA, WET WEATHER, 1 PER INDIVIDUAL FMF	EA										
	C1260 IIF	UNDERSHIRT CLD WTHR COT/WOOL KNIT FULL LNTH SLEEVE 2 PER INDIVIDUAL	EA										
	C1280 IIF	VEST, FRAGMENTATION, CVC	EA	98	96	98	96						
	C1281 IIFP	VEST, CONDITIONING, MICROCLIMATIC	EA										
		PLANNED ALLOWANCES FOR FY-91			62	10	62						
		PLANNED ALLOWANCES FOR FY-92		10									
	C2004 IIEP	ALARM CHEMICAL AGENT, AUTO, PORTABLE, MANPACK M8A1	EA										
		PLANNED ALLOWANCES FOR FY-90		5	24	5	24						
	C2010 IIF	APRON, TOXICOLOGICAL AGENTS, PROTECTIVE	EA	30	15	30	15						
	C2020 IIF	BAG, WATERPROOFING, PROTECTIVE MASK M1 2 PER MASK PROTECTIVE	EA										

TABLE OF EQUIPMENT

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
C2032 VIIAP	CHEMICAL AGENT MONITOR PLANNED ALLOWANCES FOR FY-90	EA	4	3	4	3
C2070 IIE	DECONTAMINATING AGENT, STB. 50LB DRUM	DR	4	4	4	4
C2080 IIE	DECONTAMINATING APPARATUS, PORTABLE, DS ABC-M11 1 PER MOTORIZED VEHICLE/CREW SERVED WEAPON/NBC DEFENSE TEAM	EA				
C2085 VIIB	DECONTAMINATING APPARATUS, PORTABLE 14 LITER M13 1 PER TACTICAL VEHICLE (OTHER THAN M88A1, LAV, AAV7A1, M60A1 AND M1A1 TANKS)/CREW SERVED WEAPON LARGER THAN .50 CAL/NBC DEFENSE TEAM	EA				
C2101 IIE	DETECTOR KIT, CHEMICAL AGENT M256	EA	15	20	15	20
C2110 IIE	PAPER, CHEMICAL AGENT DETECTOR M9 1 PER INDIVIDUAL FMF	EA				

8	9	10	11	12	13	14

TABLE OF EQUIPMENT

TYPE I ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
C2130 IIF	FOOTWEAR COVER, CHEMICAL PROTECTIVE (OVERBOOTS) 1 PER INDIVIDUAL FMF	PR				
C2150 IIF	GLOVES SET, CHEMICAL PROTECTIVE 2 PER INDIVIDUAL	SE				
C2170 IIF	HOOD MASK, CBR, F/MASK M17 M6A2 1 PER INDIVIDUAL FMF	EA				
C2190 IIF	HOOD, MASK, CBR F/M14A2/M25A1 MASKS M5	EA	30	107	30	107
C2196 IIEP	INSTALLATION KIT, CHEM AGENT AUTO ALARM F/TRK 1/4T PLANNED ALLOWANCES FOR FY-90	EA	2		2	
C2205 IIE	KIT, DECONTAMINATING, SKIN M258A1 1 PER INDIVIDUAL FMF	EA				
C2260 IIE	MASK, CB PROTECTIVE, TANK M25A1	EA	24	87	24	87

TABLE OF EQUIPMENT

TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
C2270 IIE	MASK, CB PROTECTIVE, FIELD M17A2 1 PER INDIV FMF LESS M25A1	EA				
C2279 IIEP	MOUNTING KIT, CHEM AGENT AUTO ALARM HI PROFILE M228 PLANNED ALLOWANCES FOR FY-90	EA		2	2	
C2289 IIFP	PORTABLE COLLECTIVE PROTECTION SYSTEM PLANNED ALLOWANCES FOR FY-90 PLANNED ALLOWANCES FOR FY-93	EA		1 1	2	
C2300 IIF	SUIT, CHEMICAL PROTECTIVE (OVERGARMENT) 2 PER INDIV FMF PLUS 2 PER INDIV FMF PLND FY89-94	EA				
C3040 IIF	BELT, INDIVIDUAL EQUIPMENT, COTTON WEBBING, OD 1 PER INDIVIDUAL FMF	EA				
C3060 IIE	CANTEEN, WATER, PLASTIC OD 1 QT RIGID W/CHEM PROT 2 PER INDIVIDUAL	EA				

N 1534						
8	9	10	11	12	13	14

TABLE OF EQUIPMENT

18 APRIL 1990

TYPE 1 ITEMS

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
C3070 IIE	CARRIER, INTRENCHING TOOL, HAND, FOLDING LTWT (LINCLOE) 1 PER INDIVIDUAL FMF	EA				
C3115 IIF	CASE, SMALL ARMS AMMUNITION 30 RD U/W M16 RIFLE (LINCLOE) 2 PER IND W/M16 RIFLE	EA				
C3117 IIF	CASE, SMALL ARMS AMMO POUCH F/SAW 4 PER M249 SAW	EA				
C3124 IIE	COVER, HELMET, CAMOUFLAGE, WOODLAND BLEND 1 PER INDIVIDUAL FMF	EA				
C3130 IIE	COVER, WATER, CANTEEN NYLON, OG (LINCLOE) 2 PER INDIVIDUAL	EA				
C3140 IIE	CUP, WATER CANTEEN, CRS, W/WIRE HANDLE 1 PER INDIVIDUAL FMF	EA				

8	9	10	11	12	13	14

TABLE OF EQUIPMENT

18 APRIL 1990

TYPE 1 ITEMS

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7	8	9	10	11	12	13	14
C3148 IIEP	DECONTAMINATING KIT INDIVIDUAL EQUIP M280 1 PER 10 INDIV FMF	EA				
C3150 IIF	FIRST AID KIT (LINCLOE) 1 PER INDIVIDUAL FMF	EA				
C3180 IIF	INSECT NET, HEAD, NYLON, GREEN 1 PER INDIVIDUAL FMF	EA				
C3195 IIF	FRAME, FIELD PACK (LINCLOE) 1 PER INDIVIDUAL F/INF/RECON/ ANGLICO UNITS AND/INTERP/CI/ SSC TEAMS. 10% T/O FSSG UNITS. 25% T/O OTHER GROUND UNITS. NOT AUTH AVIATION UNITS.	EA				
C3215 IIE	HELMET, FRAGMENTATION PROTECTIVE, PASGT 1 PER INDIVIDUAL FMF	EA				
C3222 IIEP	INDIVIDUAL EQUIP DECONTAMINATING TRNG 3 PER 20 INDIV FMF PLNF FY89	EA				

TABLE OF EQUIPMENT

TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
C3230 IIE	INTRENCHING TOOL COMBINATION (LINCLOE) 1 PER INDIVIDUAL FMF	EA				
C3250 IIE	KNIFE, COMBAT 1 PER PISTOL CAL 45 1 PER REVOLVER CAL 38	EA				
C3270 IIF	LINER, WET WEATHER, PONCHO 1 PER INDIVIDUAL FMF	EA				
C3310 IIE	MATTRESS, PNEUMATIC, INSULATED (LINCLOE) 1 PER INDIVIDUAL FMF	EA				
C3330 IIE	NECKLACE, PERSONNEL ID TAG 1 PER INDIVIDUAL FMF	EA				
C3350 IIE	PIN, WOOD, TENT SHELTER HALF 5 PER INDIVIDUAL	EA				

TABLE OF EQUIPMENT

18 APRIL 1990

TYPE 1 ITEMS

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7 8 9 10 11 12 13 14
C3390 IIE	POLE, SECTION, TENT 3 PER INDIVIDUAL	EA				
C3400 IIF	PONCHO, WET WEATHER, WOODLAND CAMOU PATTERN 1 PER INDIVIDUAL FMF	EA				
C3410 IIF	SHELTER, HALF, TENT, OG. 1 PER INDIVIDUAL FMF	EA				
C3420 IIF	SLEEPING BAG INTERMEDIATE COLD 1 PER INDIVIDUAL FMF	EA				
C3423 IIE	STAND, CANTEEN CUP 1 PER INDIV FMF	EA				
C3440 IIF	SUITCASE, CENTER FOLDING TYPE 1 PER OFF/SNCO	EA				

TABLE OF EQUIPMENT

18 APRIL 1990

TYPE 1 ITEMS

T/E FOR FMF UNITS INDICATED

1	TAM CONTROL NO.	2 NOMENCLATURE	3 UNIT	4 N 1521	5 N 1524	6 N 1531	7 N 1534	8	9	10	11	12	13	14
	C3445 IIF	SUSPENDERS, BELT INDIVIDUAL EQUIPMENT (UNCLOE) 1 PER INDIVIDUAL FMF	EA											
	C3480 IIE	TAG, IDENTIFICATION, PERSONNEL 2 PER INDIVIDUAL	EA											
	C3490 IIE	TRUNK, LOCKER BARRACK, PLYWOOD 1 PER OFF/SNCO	EA											
	C3495 IIE	VEST, FRAGMENTATION PROTECTION, GROUND TROOPS 1 PER INDIVIDUAL FMF	EA											
	C3498 IIFP	VEST INDIV TACTICAL LOAD BEARING 1 PER INDIV FMF PLND FY-90	EA											
	C4000 IIE	ACCESSORY OUTFIT, GASOLINE FIELD RANGE	EA	12		12								
	C4010 IIE	ADDING AND SUBTRACTING MACHINE, LISTING	EA	1		1								

TABLE OF EQUIPMENT

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
C4015 IIE	ADDING & SUBTRACTING MACHINE, ELAPSED TIME	EA	1		1	
C4110 IIE	BAG, WATER STERILIZING, 36 GAL CAP	EA		2		2
C4140 IIE	BARBER KIT	EA	2	1	2	1
C4145 VIIBP	FIELD KITCHEN SYSTEM PLANNED ALLOWANCES FOR FY-91	EA	3		3	
C4235 IIE	CALCULATING MACHINE, NON-LISTING ELECT OPRD	EA	1		1	
C4250 IIE	CALCULATOR, PRT DBL, INDEPENDENT REGISTERS CRDT BA	EA	1		1	
C4260 IIF	CAMOUFLAGE SCREEN SUPPORT SYSTEM	EA	263	125	263	125
C4261 IIF	CSS-LWEIGHT, RADAR SCATTER WOODLAND BLND, W/O SS	EA	263	125		

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T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

16 APRIL 1990

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534	8	9	10	11	12	13	14
1	2	3	4	5	6	7							
C4263 IIE	CSS-LWEIGHT, R S DESERT W/O SS (I MEF ONLY) 170560	EA			263	125							
C4312 IIEP	CARRYING CASE, COPY MACHINE PLANNED ALLOWANCES FOR FY-90	EA	2		2								
C4335 IIE	CHAPLAINS KIT, INDIVIDUAL COMBAT (ASSAULT) PLANNED ALLOWANCES FOR FY-90	EA	1		1								
C4340 IIE	CHEST, ARTILLERY, EMPTY	EA	2	1	2	1							
C4431 IIEP	CONTAINER, PALLET PLANNED ALLOWANCES FOR FY-90	EA	48	12	48	12							
C4433 IIEP	CONTAINER, QUADRUPLE PLANNED ALLOWANCES FOR FY-90	EA	17	3	17	5							
C4434 IIEP	CONTAINER, PALLET/QUADRUPLE INSERT PLANNED ALLOWANCES FOR FY-90	EA	288	72	288	72							
C4436 IIE	CONTAINER, WATER, PLASTIC	EA	115	60	115	60							

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T/E FOR FMF UNITS INDICATED — TYPE 1 ITEMS — 18 APRIL 1990

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
C4437 IIEP	CONTAINER RACK, PALLET PLANNED ALLOWANCES FOR FY-90	EA	20	2	20	2
C4438 IIEP	CONTAINER RACK, QUADRUPLE PLANNED ALLOWANCES FOR FY-90	EA	3	1	3	1
C4477 IIE	COPY MACHINE, TABLE-TOP, PHOTO W/RED CAP	EA	2		2	
C4478 IIEP	COPY MACHINE, TABLE TOP 7020S PLANNED ALLOWANCES FOR FY-90	EA	2		2	
C4545 IIEP	DISPENSER, BEVERAGE, 5 GAL LIQID PLANNED ALLOWANCES FOR FY-91	EA	24		24	
C4660 IIE	DUPLICATING SET, STENCIL PROCESS	SE	1		1	
C4680 IIE	DUSTER, MAN. OPR TUBULAR PUMP F/LOUSE, ANT, ROACH	EA	2	1	2	1
C4690 IIE	EMBOSSING MACHINE, ADDRESS PLATE	EA	2		2	

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TYPE 1 ITEMS

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
C4790 IIE	FILE SET, OFFICE RECORD	SE	2	1	2	1
C4812 IIE	FILING CABINET 2-DRAWER W/COMB LOCK	EA	6		6	
C4820 IIE	FILING CABINET LEGAL 2 DRAWER	EA	7		7	
C4870 IIF	FLY TENT, STORAGE	EA	9	2	9	2
C4880 IIE	FOOD CONTAINER, INSULATED, 5 GAL CAP	EA	47		47	
C4890 IIE	FORK, TABLE 1 FORK PER INDIVIDUAL AND 1 FORK PER INDIVIDUAL FOR UNITS SUPPORTED	BX				
C4901 IIEP	FRAME A, ADJUSTABLE, 5 TON PLANNED ALLOWANCES FOR FY-91	EA	2		2	
C4905 VIIBP	FRAME, SHIPPING 4'X6-2/3'X8' PLANNED ALLOWANCES FOR FY-90	EA	15		15	

8	9	10	11	12	13	14

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TYPE 1 ITEMS

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
C4930 IIT	GRINDING MACHINE, BENCH HAND OPERATED	EA	1	1	1	1
C4980 IIE	HEATER, IMMERSION, LIQUID FUEL FIRED M-67	EA	26		26	
C4992 IIF	HELMET, CVC/SP ARTY W/COMM & KVLR SHL DH-132A (SM)	EA	50	98	50	98
C5080 IIT	JACK, DOLLY, TYPE-10	EA	2		2	
C5105 VIIBP	JOINING CORRIDOR 7X7X12 FT (MCESS) PLANNED ALLOWANCES FOR FY-90	EA	2		2	
C5110 IIE	JUG, VACUUM, 3 GAL CAP	EA	24		24	
C5140 IIE	KNIFE TABLE, CRS BLADE AND HANDLE 1 KNIFE PER INDIVIDUAL AND 1 KNIFE PER INDIVIDUAL FOR UNITS SUPPORTED	BX				
C5200 IIE	LANTERN SET, GASOLINE.	SE	6	1	6	1

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TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED	TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7	8	9	10	11	12	13	14
C5320 IIE		OFFICE SUPPLY SET, FIELD DESK	SE	5	2	5	2						
C5400 IIE		OFFICE SUPPLY SET, FLD, TYPEWRITER, 11 IN	SE	13	1	13	2						
C5410 IIE		OFFICE SUPPLY SET, FLD TYPEWRITER, 18-20 IN	SE	1		1							
C5765 IIE		PRESS, LAMINATING GBC 425LM	EA	1		1							
C5820 IIE		RANGE OUTFIT, FIELD GASOLINE, 8 PACK M1959	EA	19		19							
C5870 IIB		REPAIR KIT, TENTAGE	EA	2	1	2	1						
C5920 IIE		SAFE, EXPLOSIVE RESISTANT	EA	2		2							
C5930 IIE		SECURITY FILING CABINET	EA	4	1	4	1						
C5940 IIT		SANDER, DISC, ELECTRIC, PORTABLE	EA	2		2							

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T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
C6030 IIE	SEAL, HAND, IMPRESSION -OFFICIAL USMC SEAL-	EA	1		1	
C6113 VIIBP	SHELTER, GENERAL PURPOSE, SOFT 20' X 33' PLANNED ALLOWANCES FOR FY-90	EA	4		4	
C6123 VIIBP	SHELTER, RIGID, 8X8X10 GP PLANNED ALLOWANCES FOR FY-92	EA	3		3	
C6140 IIE	SIREN, HAND OPERATED, W/CARRYING STRAP	EA	1	1	1	1
C6200 IIE	SPOON, DESSERT, CRS 1 SPOON PER INDIVIDUAL AND 1 SPOON PER INDIVIDUAL FOR UNITS SUPPORTED	BX				
C6220 IIE	SPRAYER, INSECTICIDE, CAP 2 GAL	EA	4	1	4	1
C6250 IIT	STAND, PORTABLE, ELECTRIC DRILL VERTICAL	EA	1		1	

TABLE OF EQUIPMENT

TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

1	2	3	4	5	6	7	8	9	10	11	12	13	14
TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
C6260 IIE	STATIONERY SET, COMM CENTER, M1952	SE	2		2								
C6370 IIE	TABLEWARE OUTFIT	EA	4		4								
C6388 IIF	TARPAULIN 26 FT X 22 FT	EA	8	23	8	23							
C6390 IIF	TENT, COMMAND POST M1945	EA	8	1	8	1							
C6410 IIF	TENT, GENERAL PURPOSE, MEDIUM	EA	12	2	12	2							
C6420 IIF	TENT, MAINTENANCE, SHELTER	EA	6		6								
C6490 IIT	TOOL KIT, MECHANICS	EA	70	6	70	6							
C6500 IIT	TOOL KIT, CANVAS WORKERS	KT	1	1	1	1							
C6510 IIT	TOOL KIT, CARPENTERS COMPANY	EA	1	1	1	1							

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TYPE 1 ITEMS

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
C6620 IIE	TRAY, MESS, COMPARTMENTED, STEEL 1 PER INDIVIDUAL FMF	EA				
C6621 VIIBP	TRAY RATION HEATING SYSTEM PLANNED ALLOWANCES FOR FY-93	EA	3		3	
C6650 IIT	TRUCK, LIFT, WHEEL	EA	1		1	
C6670 IIE	TYPEWRITER, PORTABLE, PICA	EA	1		1	
C6678 IIE	VIEWER, MICROFICHE, PORTABLE, DUAL LENS	EA	1	1	1	1
C6681 IIE	VIEWER/PRINTER, MICROFICHE, DUAL LENS	EA	1		1	
C6682 IIE	TYPEWRITER, ELECTRIC, OCR, TYPE-A FONT 90C	EA	7		7	

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TYPE 1 ITEMS

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T/E FOR FMF UNITS INDICATED														
TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
C8570 VIII	SURGICAL INSTRUMENT AND SUPPLY SET, IND 1 PER MEDICAL DEPT MEMBER	SE												
C8638 VIII	AMAL 635-AID STATION EQUIPMENT	EA	1		1									
C8640 VIII	AMAL 636-AID STATION CONSUMABLES	EA	1		1									
C9200 VIIG	ANALYZER, SET ENGINE (STE/ICE)	EA	2	2	2	2								
C9659 IIB	TEST SET, HYDRAULIC, IN-LINE 4222-GOV	EA	2		2									
C9672 IIB	TOOL SET, COMMON NO.1, OM, 2D ECH	EA	1	1	1	1								
C9673 IIB	TOOL SET, COMMON NO.2, IM, 3D/4TH ECH	EA	1		1									
D0070 IIE	CHARGER, BATTERY, AUTOMATIC, METALIC	EA	8		8									

TABLE OF EQUIPMENT

TYPE 1 ITEMS

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T/E FOR FMF UNITS INDICATED

1	2	3	4	5	6	7	8	9	10	11	12	13	14
TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
D0080 VIIK	CHASSIS, TRLR, GENERAL PURPOSE, 3 1/2 TON, 2-WHL M-353	EA	2		2								
D0085 VIIK	CHASSIS, TRAILER, 3/4 T 2 WHEEL M116A2	EA	3	1	3	1							
D0090 VIIK	CLEANER, STEAM PRESSURE JET, TRLR MTD -JOM-1-	EA	4	1	4	1							
D0100 IIE	DEGREASER, PORTABLE TYPE, 20 GAL	EA	4		4								
D0190 VIIK	LUBRICATING AND SERVICING UNIT POWER OPERATED 4A032-11	EA	2		2								
D0195 VIIKP	LUBRICATING & SERVICE UNIT, POWER OPERATED SKID MT PLANNED ALLOWANCES FOR FY-90	EA	2		2								

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TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
D0206 IIEP	MOUNTER-DEMOUNTER TIRE PLANNNED ALLOWANCES FOR FY-91	EA	1	1	1	
D0209 VIIK	POWER UNIT, FRONT, 12 1/2 TON, 4X4 MK48 MOD 0	EA	6	6	6	
D0420 IIE	TESTER, DIESEL FUEL INJECTOR NOZZLE	EA	3	3	3	
D0475 IIE	TOOL KIT, OM, 2D ECH HMMWV	EA	4	4	4	
D0478 IIE	TOOL KIT, OM, 2D ECH, LVS	EA	2	2	2	
D0740 IIE	TOOL KIT TRK OM 2D ECH SPL BASIC SET B F/2-1/2T	EA	2	2	2	
D0755 IIE	TOOL KIT, OM, 2D ECH 5 TON M809/M939	EA	2	2	2	
D0778 IIE	TOOL KIT, OM, 2D ECH CUCV	EA	1	1	1	

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TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
D0860 VIIK	TRAILER, CARGO, 1-1/2T, 2 WHL, M106A2	EA	21		21	
D0876 VIIK	TRLR, POWERED, 22 1/2 T CONTAINER HAULER, 4X4 MK14 MOD 0	EA	6		6	
D0879 VIIK	TRLR, POWERED, 20 T 4X4 DROPSIDE CARGO W/CRANE MK17 MOD 0 PLANNED ALLOWANCES FOR FY-93	EA		6		6
D0880 VIIK	TRAILER, TANK, WATER, 400 GAL, 1 1/2T 2-WHL M149A2	EA	8			8
D1002 VIIK	TRK AMB, 2 LITTER, SOFT TOP, 1 1/4 TON HMMWV M1035	EA	5			5
D1016 VIIK	TRUCK, CARGO, 1 1/4 TON DIESEL 4X4 M1008	EA	3			3
D1035 VIIKP	TRUCK, CARGO, ISO BED, 5T PLANNED ALLOWANCES FOR FY-93	EA	41			41

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T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
1	2	3	4	5	6	7	8	9	10	11	12	13	14
D1059 VIIK	TRUCK, CARGO, 5T, 6X6 W/O WINCH M-923	EA	41		41								
D1110 VIIK	TRUCK, TANK FUEL SERV'G 1200 GAL 2-1/2T 6X6 W/OW M49A2C	EA	7		7								
D1158 VIIK	TRK, UTILITY, CARGO TRP CARRIER 5/4 TON W/EQUIP HM M998	EA	9	4	9	4							
	PLANNED ALLOWANCES FOR FY-90		5		5								
	PLANNED ALLOWANCES FOR FY-93												
D1212 VIIK	TRUCK, WRECKER, 5T 6X6 M936	EA	2		2								
D1250 IIE	WRENCH, WHL BEARING ADJ NUT F/M295, M105A2, M295A1	EA	4		4								
E0050 IIE	BAYONET-KNIFE, W/SCABBARD F/RIFLE M-16 M7	EA											
	1 PER RIFLE M16												
	1 PER AUTOMATIC RIFLEMAN												
	1 PER SHOTGUN												
E0113 IIE			14	23	14	23							

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TYPE 1 ITEMS

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
E0139 IIE	BORESCOPE, 58MM 8 IN. M3	EA	2		2	
E0141 VIIB	BORESIGHT, 105MM W/CASE M26A1	EA	1	4	1	4
E0149 VIIB	BRIDGE, SCISSOR FOR AVLB	EA	6		6	
E0150 VIIB	BRIDGE, ARMORED VEHICLE LAUNCHED M60A1	EA	4		4	
E0170 IIE	CHEST, OIL PUMP, W/COMPONENTS M-3	EA	2		2	
E0210 IIE	COMPASS, MAGNETIC, UNMOUNTED, W/E M2	EA	2	4	2	4
E0325 VIIBP	NIGHT VISION EQUIPMENT SET (MULE) AN/UAS-12D PLANNED ALLOWANCES FOR FY-90	EA	1		1	
E0500 IIE	GAUGE KIT, PULLOVER, COMPLETE	EA	2		2	
E0760 IIE	TORQUE WRENCH KIT PD 704	EA	2	1	2	1

8	9	10	11	12	13	14

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T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
1	2	3	4	5	6	7	8	9	10	11	12	13	14
E0892 VIIM	LAUNCHER, GRENADE 40MM M203	EA	10		10								
E0960 VIIM	MACHINE GUN, LIGHT, SQUAD, AUTOMATIC WEAPON M249	EA	8		8								
E0980 VIIM	MACHINE GUN, CAL. 50, BROWNING, HB FLEXIBLE M2 PLANNED ALLOWANCES FOR FY-90 PLANNED ALLOWANCES FOR FY-91	EA	15	1	15	1							
E0984 VIIMP	MACHINE GUN, CALIBER, 50, M2 M2 PLANNED ALLOWANCES FOR FY-91	EA	2	14	2	14							
E0992 VIIM	MACHINE GUN, 7.62MM, F/TANKS M-60E2	EA	2	17	2	17							
E0993 VIIM	MACHINE GUN, 7.62MM M60E3	EA	6	4	6	4							
E0994 VIIM	MACHINE GUN, 40MM MK 19 MOD 3	EA	4		4								
E0995 VIIM	MACHINE GUN, 50 CALIBER M85	EA	2	17	2	17							
E0096 VIIMP	MAIN BATTLE TANK (MBT) TRACK WIDTH MINE PLOW (TWMP) PLANNED ALLOWANCES FOR FY-90	EA	4		4								

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T/E FOR FMF UNITS INDICATED

TYPE 1 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
E0998 VIIM	MACHINE GUN 7.62MM LH M240 PLANNED ALLOWANCES FOR FY-90 PLANNED ALLOWANCES FOR FY-91	EA	4	28	4	28								
E1045 VIIB	MODULAR UNIVERSAL LASER EQUIPMENT (MULE) AN/PAQ-3	EA	2		2									
E1115 IIBP	MOUNT HEAVY MACHINE GUN, IMPROVED PLANNED ALLOWANCES FOR FY-93	EA	17	15	17	15								
E1120 IIM	MOUNT, TRIPOD, MG, 7.62MM, M122	EA	6	4	6	4								
E1123 IIM	MK 64, MOD 4 CRADLE ASSY	EA	4		4									
E1126 IIB	MOUNT TRIPOD MACHINE GUN M3 PLANNED ALLOWANCES FOR FY-90	EA	17 2	18 17	17 2	1 16								
E1150 IIM	MOUNT, TRUCK M36A1	EA	8		8									
E1151 IIB	NIGHT VISION GOGGLES, INDIVIDUAL AN/PVS-5A	EA	30	36	30	36								
E1158 VIIG	NIGHT VISION SIGHT, INDIVIDUAL SERVED WEAPON AN/PVS-4	EA	10		10									

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TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
E1159 IIB	NIGHT VISION SIGHT, CREW SERVED WEAPON AN/TVS-5	EA	8		8	
E1180 IIM	PISTOL, AUTO., CAL 45 M1911A1 AS PER T/O	EA				
E1221 VIIGP	POWER SUPPLY PP-7545/U PLANNED ALLOWANCES FOR FY-90 PLANNED ALLOWANCES FOR FY-91	EA		1	1	
E1250 IIM	PISTOL, 9MM, SEMIAUTOMATIC M9 AS PER T/O	EA				
E1255 IIE	PURGING KIT	EA	1		1	
E1353 IIE	RECHARGING UNIT, CARBON DIOXIDE/HALON SC-5	EA	2		2	
E1377 VIIK	RECOVERY VEHICLE, FULL TRACKED, MEDIUM, W/E M88A1	EA	2	1	2	1

TABLE OF EQUIPMENT

TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

1	2	3	4	5	6	7	8	9	10	11	12	13	14
TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
E1379 IIE	REGULATOR, CHARGING ACCUMULATOR	EA	2	1	2	1							
E1441 IIM	RIFLE (IMPROVED) 5.56MM M16A2 AS PER T/O PLUS	EA	6	21	6	21							
E1680 VIIB	SHOP SET, MACHINE BASIC	EA	1		1								
E1835 VIIG	STABILIZATION ADD-ON TEST SET	EA	6		6								
E1875 VIIM	TANK COMBAT FT 105MM GUN M60A1 (RISE/PA)	EA	2	16	2	16							
E1876 VIIM	TANK, COMBAT, FT, W/M9 BULLDOZER KIT M60A1 (RISE/PA)	EA		1		1							
E1888 VIIMP	TANK, COMBAT, FT, 120MM GUN M1A1 PLANNED ALLOWANCES FOR FY-91	EA		2	14	2	14						
E1900 VIIB	TELESCOPE, OBSERVATION W/E M49	EA	2		2								

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TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

1	2	3	4	5	6	7	8	9	10	11	12	13	14
TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
E1906 VIIGP	TEST SET, DIRECT SUPPORT ELECT SYSTEM DSESTS	EA											
	PLANNED ALLOWANCES FOR FY-90				1								
	PLANNED ALLOWANCES FOR FY-91		1										
E1910 VIIGP	TEST SET, SIMPLIFIED TEST EQUIP STE/M1A1	EA											
	PLANNED ALLOWANCES FOR FY-90				3		1						
	PLANNED ALLOWANCES FOR FY-91		3	1									
E1955 IIE	TESTER, AIRFLOW, FILTER UNIT, GAS-PARTICULATE	EA	1	1			1						
E1975 VIIGP	THERMAL IMAGING SYSTEMS	EA											
	PLANNED ALLOWANCES FOR FY-94		5		5								
E2095 IIE	TOOL KIT, DIRECT AND GENERAL SUPPORT MAINTENANCE	EA	2		2								
E2515 IIE	TOOL KIT, FIRE CONTROL, REPAIRMAN	EA	4		4								

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TYPE 1 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

1	2	3	4	5	6	7	8	9	10	11	12	13	14
TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
E2934 IIEP	TOOL SET, M1A1 TANK, 3D ECH PLANNED ALLOWANCES FOR FY-90 PLANNED ALLOWANCES FOR FY-91	EA	1		1								
E3035 IIE	TOOL SET DIRECT AND GENERAL SUPPORT MAINT	SE	2		2								
E3094 IIE	MK 19 TOOL SET ORG	SE	1		1								
E3126 IIE	TOOL SET, SPECIAL FIELD MAINT..3D ECH M88A1	EA	2		2								
E3128 IIE	TOOL SET, ORGAN MAINT, 2D ECH M88A1	EA		1		1							
E3170 IIE	TOOL SET, WRENCH IMPACT	KT	1	1	1	1							
V4504	PACK, FIELD, LARGE W/O LINER	EA											

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T/E FOR FMF UNITS INDICATED

TYPE 2 ITEMS

1	2	3	4	5	6	7	8	9	10	11	12	13	14
TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
H2010 IIE	ADAPTER, TONE SIGNALLING TA-977( )/PT	EA	1		1								
H2044 IIE	ANTENNA AS-2259	EA	4		4								
H2045 IIE	ANTENNA RC-292	EA	6	2	6	2							
H2055 IIB	AXLE RL-27-B	EA	1		1								
H2075 IIE	CABLE ASSEMBLY, POWER ELECT, JB-110	EA	6		5								
H2081 IIB	CABLE ASSEMBLY, TELEPHONE CX4566A/G	EA	2		2								
H2083 IIB	CABLE ASSEMBLY, TELEPHONE -100 FT CX4566A/G	EA	1		1								
H2084 IIB	CABLE ASSEMBLY, TELEPHONE -250 FT- CX4566A/G	EA	6		6								

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T/E FOR FMF UNITS INDICATED

TYPE 2 ITEMS

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1	2	3	4	5	6	7	8	9	10	11	12	13	14
TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
H2087 IIB	CABLE ASSEMBLY, TELEPHONE -15 FT CX-7760A	PR	2		2								
H2090 IIB	CABLE, TELEPHONE WD1A-1	RL	6		6								
H2100 IIB	CABLE, TELE ON RL DR-8 WD-1/TT	RL	2		2								
H2105 IIB	CABLE, TELE ON RL 159 WD-1/TT	RL	7		7								
H2128 IIE	CASE BC-5	EA	3	1	3	1							
H2175 IIE	CLIP, ELECTRICAL TYPE TC	PG	1		1								
H2207 IIB	DISTRIBUTION BOX J1077A	PR	8		8								
H2218 IIE	DUMMY LOAD, ELECTRICAL 8431	EA	2		2								
H2240 IIE	GAUGE, GAFF TL-144	EA	1		1								

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TYPE 2 ITEMS

T/E FOR FMF UNITS INDICATED

1	2	3	4	5	6	7	8	9	10	11	12	13	14
TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
H2246 IIE	GENERATOR, SIGNAL SG-1152/U	EA	4	4	4								
H2250 IIE	HANDSET-HEADSET H-81	EA	1	1	1								
H2280 IIE	HEADSET, MICROPHONE	EA	10	10	7	10	7						
H2301 IIB	INTERCOMMUNICATION SET AN/VIC-2(V)	EA	1	1	1								
H2316 IIBP	KIT CABLE REPAIR (FIELD EXPEDIENT SPLICE) PLANNED ALLOWANCES FOR FY-90	EA		1	1								
H2335 IIE	VOLTMETER AN/USM-224 (34)	EA	6	6	6								
H2336 IIE	MULTIMETER, DIGITAL, HANDHELD 8024B	EA	2	2	1	6	1						
H2342 IIE	OHMMETER AN/PSM-43	EA	1	1	1								
H2346 IIB	PANEL, PATCHING COMMUNICATION SB3659/U	EA	4	4	4								

TABLE OF EQUIPMENT

TYPE 2 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED	TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1		2	3	4	5	6	7
	H2355 IIB	POLE, LANCE PO-2	EA	6		6	
	H2357 IIB	POWER SUPPLY PP-6224B/U	EA	2	2	2	2
	H2363 IIB	PUBLIC ADDRESS SET AN/PIQ-5A	EA	2		2	
	H2365 IIEP	RADIAC SET AN/VDR-2 PLANNED ALLOWANCES FOR FY-90	EA	4	4	4	4
	H2368 IIE	RADIAC SET AN/PDR-27S	EA	8		8	
	H2369 IIE	RADIAC DETECTOR CHARGER, PP4276C/PD	EA	1	1	1	1
	H2370 IIEP	RADIAC, INDICATOR, COMPUTER CP-696/PDR-75 PLANNED ALLOWANCES FOR FY-90	EA	1	1	1	1
	H2372 IIE	RADIAC METER IM-1438/PD	EA	10	10	10	10
	H2374 IIE	RADIAC METER IM-1748/PD	EA	2	2	2	2

TABLE OF EQUIPMENT

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TYPE 2 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
H2379 IIB	RADIO SET, CONTROL GROUP AN/GRA-39B	EA	12	7	12	7
H2385 IIB	REEL UNIT RL-31-E	EA	2		2	
H2405 IIE	RETRANSMISSION CABLE KIT, MK-456/GRC	EA	1	1	1	1
H2410 IIB	ROD, GROUND GP-16	EA	5		5	
H2425 IIB	STAPLE, WIRING, IW-6	BX	3		3	
H2432 IIE	TABLE, ELECTRICAL TEST AND MAINTENANCE	EA	2		2	
H2435 IIE	TAG, BLANK, ASSORTED COLORS MX-893/G	BD	7		7	
H2442 IIE	TELEPHONE SET TA-1/PT	EA	20		20	
H2443 IIE	TELEPHONE SET TA-312/PT	EA	29		29	

TABLE OF EQUIPMENT

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TYPE 2 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
H2444 IIE	TELEPHONE SET TA-938/G ACTIVE FORCES ONLY	SE	10		10	
H2465 IIB	TERMINAL BOX TA-125/GT	EA	4	1	4	1
H2466 IIE	TEST KIT MK-992/VRC-12	EA	2	2	2	2
H2471 IIE	TEST SET, BATTERY TS/183B/U	EA	1		1	
H2480 IIB	TOOL KIT, LINEMANS TE-27	EA	1		1	
H2485 IIB	TOOL KIT TE-33	EA	12		12	
H2510 IIB	WIRE, ELECTRICAL, SPOOL W-107	LB	10		10	
H2515 IIB	WIRE SPLICING KIT MK-356-G	EA	1		1	
H3200 IIB	CONTROL RADIO SET AN/GRA-6	EA	1		1	

TABLE OF EQUIPMENT

TYPE 2 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534						
1	2	3	4	5	6	7	8	9	10	11	12	13	14
H3220 IIB	CABLE, SPECIAL PURPOSE PNON503127	EA	4		4								
H3340 IIE	MULTIMETER, DIGITAL 8010M-01	EA	1		1								
H7920 IIE	TOOL KIT, ELECTRONIC MAINTENANCE MK-2569/P	EA	5	3	5	3							
J3005 IIE	BELT, SAFETY, INDUSTRIAL, LC-23	EA	5		5								
J3040 IIE	CLIMBERS, POLE	SE	5		5								
J3075 IIE	LATRINE BOX, PREFABRICATED	EA	3	2	3	2							
J3183 IIB	PROJECTOR SET, PHOTO SLIDE W/4 TO 6 IN ZOOM LENS	SE	1		1								
J3191 IIB	REFRIGERATOR, MECH HOUSEHOLD	EA	2		2								
J3205 IIE	ROPE, MANILA, 1/4 IN DIAMETER	CL	1	1	1	1							

TABLE OF EQUIPMENT

18 APRIL 1990

TYPE 2 ITEMS

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
1	2	3	4	5	6	7	8	9	10	11	12	13	14
J3270 IIE	SPRAY OUTFIT, PAINT, 1 QT RATED CAP.	EA	1		1								
J3330 IIE	WELDING ACCESSORY KIT	EA	2		2								
J3335 IIE	WELDING ELECTRODE SET, F/WELDING MACHINE ARC	SE	1		1								
J3350 IIE	WELDING ROD SET, GAS	SE	1	1	1	1							
J3380 IIT	WIRE ROPE, STEEL, 1 1/8 IN	FT	500	500	500	500							
K4004 IIE	ARMOR, BODY LOWER TORSO FRAGMENTATION PROTECTIVE OG 107	EA	50	25	50	25							
K4006 IIE	AURAL PROTECTOR, SOUND	EA	109	8	109	8							
K4010 IIF	BAG, DECEASED MILITARY PERSONNEL, PERSONAL EFFECTS	EA	17	6	17	6							

TABLE OF EQUIPMENT

TYPE 2 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
K4012 IIE	BAG, MAIL CARRIERS	EA	1		1									
K4030 IIF	BAG, WATERPROOF, CLOTHING 1 PER INDIV FMF	EA												
K4036 IIF	BLANKET, BED, GREEN 1 PER INDIV FMF	EA												
K4049 IIF	BRASSARD, MILITARY POLICE	EA	25		25									
K4080 IIE	BRUSH, GREASE, COOKING-BAKING	EA	24		24									
K4106 IIE	CABINET, FILING, ADDRESS PLATE SBC 3	EA		1		1								
K4108 IIE	CABINET, FILING, ADDRESS PLATE SBC 6	EA	2		2									
K4128 IIE	CAN, GASOLINE, MILITARY, SCREW CAP	EA	280	45	280	45								
K4140 IIE	CANDLE, ILLUMINATING	EA	85	27	85	27								

TABLE OF EQUIPMENT

18 APRIL 1990

TYPE 2 ITEMS

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
K4143 IIE	CANTEEN AND CARRIER, COLLAPSIBLE, 5 QUART 1 PER 5 INDIV FMF	EA				
K4146 IIE	CARRIER CLUB, POLICEMANS	EA	25		25	
K4154 IIE	CASE, MAP AND PHOTOGRAPH	EA	2		2	
K4156 IIE	CASE, FIELD 1ST AID DRESSING-UNMTD MAGN COMPASS	EA	6	10	6	10
K4179 IIE	CHEST, FIELD COMPANY, RECORD	EA	5	1	5	1
K4182 IIE	CHEST, PISTOL, WOOD	EA	3	2	3	2
K4185 IIE	CLOCK, ALARM	EA	2		2	
K4204 IIE	CLUB, POLICEMANS	EA	25		25	
K4222 IIE	COMPASS, MAGNETIC, UNMOUNTED,	EA	20	20	20	20

TABLE OF EQUIPMENT

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TYPE 2 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
K4228 IIFP	CONNECTOR, VEST, CONDITIONING, MICROCLIMATIC PLANNED ALLOWANCES FOR FY-91	EA	8	56	8	56
K4235 IIE	CORD, LIGHT EXTENSION 110V HEAVY DUTY	EA	6	2	6	2
K4236 IIE	COT, FOLDING, ALUMINUM AND NYLON	EA	313	85	313	85
K4238 IIF	COVERALLS, MEN'S COTTON, SATEEN, OG	EA	225	100	225	100
K4270 IIE	DECONTAMINATING AGENT, 5 GAL DRUM DS-2 1 PER M11	CN				
K4275 IIE	DETERGENT, GENERAL PURPOSE	GL	6	6	6	6
K4285 IIE	DISINFECTANT, GERMICIDAL AND FUNGICIDAL	GL	1	1	1	1
K4286 IIE	DISPENSING PUMP, HAND DRIVEN,	EA	10	2	10	2

TABLE OF EQUIPMENT

T/E FOR FMF UNITS INDICATED — TYPE 2 ITEMS — 18 APRIL 1990

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
K4287 IIE	DISPENSING PUMP, HAND DRIVEN,	EA	14	2	14	2
K4288 IIT	DRILL, ELECTRIC, PORTABLE	EA	1		1	
K4291 IIT	DRILL, ELECTRIC, PORTABLE	EA	1	1	1	1
K4310 IIE	DRY CLEANING SOLVENT	CN	15	10	15	10
K4319 IIE	EXTINGUISHER, FIRE, CARBON DIOXIDE, CAP 15 LB	EA	1	1	1	1
K4321 IIE	EXTINGUISHER, FIRE, DRY CHEMICAL CAP 10LB	EA	100	15	100	15
K4335 IIT	FAUCET, SINGLE, SELF-CLOSING	EA	8	3	8	3
K4342 IIE	FINGERPRINT IDENTIFICATION KIT GG-F-355	EA	1		1	
K4344 IIE	FIRST AID KIT, GENERAL PURPOSE	EA	80	23	80	23

TABLE OF EQUIPMENT

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TYPE 2 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
K4352 IIE	FLASHLIGHT, TUBULAR CASE, PLASTIC BATON TYPE	EA	4		4	
K4360 IIT	FLUX, SOLDERING	CN	1		1	
K4370 IIE	FUNNEL, STEEL TINNED, CAP 1 QT	EA	3	2	3	2
K4385 IIF	GLOVES, LEATHER, WORK, LINEMANS	PR	12	6	12	6
K4390 IIT	GOGGLES, INDUSTRIAL, W/CLEAR GLASS LENS	PR	2	1	2	1
K4392 IIE	GOGGLES, SUN, WIND AND DUST	PR	313	90	313	90
K4400 IIE	HANDCUFFS	EA	3		3	
K4429 IIE	INSECT BAR, NYLON NETTING, COT TYPE OD	EA	313	85	313	85
K4490 IIT	INSULATING TAPE, ELEC	RO	1	2	1	2

TABLE OF EQUIPMENT

TYPE 2 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
K4501 IIE	LADDER, EXTENSION, MAX LENTH 30 FT	EA	2		2	
K4507 IIE	LANTERN, ELECTRIC, 6V	EA	6	4	6	4
K4509 IIE	LANTERN, KEROSENE	EA	10	11	10	11
K4513 IIE	LIGHT MARKER DISTRESS BATTERY OPERATED	EA		6		6
K4515 IIE	LIPSTICK, ANTI-CHAP, HOT CLIMATE	HD	3	1	3	1
K4520 IIE	MACHETE, RIGID HANDLE	EA	4	2	4	2
K4528 IIE	MATTOCK, W/HANDLE, 5 LB	EA	5	5	5	5
K4530 IIE	MEASURE, LIQUID, 1 QT CAP	EA	2	1	2	1
K4535 IIE	MEASURE, LIQUID, 2 QT CAP	EA	2		2	

TABLE OF EQUIPMENT

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TYPE 2 ITEMS

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
K4540 IIE	MEASURE, LIQUID, 4 QT CAP. W/DISPENSING SPOUT	EA	2	2	2	2
K4615 IIE	OILER, HAND, 12 OZ CAP. SECURITY	EA		2		2
K4625 IIE	PADLOCK, COMBINATION, HIGH SECURITY	EA	3	1	3	1
K4700 IIE	PAPER, TOILET, ROLL TYPE	BX	2	1	2	1
K4701 IIF	PARKA, INSECT REPELLENT	EA	334	107	334	107
K4715 IIE	PLASTIC SHEET, 100 FT X 40 IN	RO	2		2	
K4731 IIE	POLE, FOLDING COT, INSECT BAR, SET OF FOUR	SE	313	85	313	85
K4736 IIE	PUMP, BUCKET	EA	4	5	4	5
K4740 IIF	RAG WIPING, 5 LB BALE	BE	2	2	2	2

TABLE OF EQUIPMENT

TYPE 2 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED			N 1521	N 1524	N 1531	N 1534							
TAM CONTROL NO.	NOMENCLATURE	UNIT											
1	2	3	4	5	6	7	8	9	10	11	12	13	14
K4785 IIT	SCALE, WHEEL-LOAD, 20,000 LBS CAPACITY	EA	8		8								
K4806 IIT	SEALER, STEEL STRAPPING, HAND	EA	2	1	2	1							
K4807 IIT	SEALER, STEEL, STRAPPING	EA	2	1	2	1							
K4810 IIE	SHEATH, MACHETE	EA	4	2	4	2							
K4840 IIE	SOAP GRIT, CAKE, 4-1/2 OZ	HD	2		2								
K4895 IIE	SPOUT, CAN, FLEXIBLE, 16 IN LG W/FILTER	EA	10	6	10	6							
K4901 IIT	STAND, MAINT, AUTOMOTIVE AXLE, FLOOR 5-T CAP	EA	30		30								
K4905 IIE	STAPLES	LB	5	5	5	5							
K4918 IIE	STENCIL, CUTTING MACHINE, HAND OPERATED, 1 INCH	EA	1		1								

TABLE OF EQUIPMENT

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TYPE 2 ITEMS

1	2	3	4	5	6	7	8	9	10	11	12	13	14
TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
K4946 IIE	STRAP, WEBBING, WAIST, W/QUICK RELEASE F/FRAME FP (LINCLOE) 1 PER FRAME FIELD PACK	EA											
K4947 IIT	STRETCHER, STEEL STRAPPING, HAND, 1/2-3/4 IN	EA	2	1	2	1							
K4948 IIT	STRETCHER, STEEL STRAPPING 1-1/4 - 2 IN	EA	2	1	2	1							
K4959 IIE	TABLE, FOLDING LEGS, TOP, WOOD	EA	1		1								
K4960 IIE	TABLET, WATER PURIFICATION	BT	339	110	339	110							
K4976 IIF	TARPAULIN, 14 FT X 6 FT	EA	10		10								
K4998 IIT	TOOL KIT, EXPENDABLE SUPPLIES SET, CANVAS, WORKERS	EA	1	1	1	1							
K5003 IIE	TRAINING SET, CHEMICAL AGENT IDENTIFICATION	SE	1	1	1	1							

TABLE OF EQUIPMENT

TYPE 2 ITEMS

18 APRIL 1990

T/E FOR FMF UNITS INDICATED

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534
1	2	3	4	5	6	7
K5005 IIF	TROUSERS, MEDICAL ASSISTANT	PR	120		120	
K5016 IIE	CLEANER, VACUUM, HD-448/U	EA	2		2	
K5018 IIF	VEST, GRENADE CARRYING NYLON, OG M-79	EA	10		10	
K5021 IIE	VIEWER, MICROFICHE, DUAL LENS	EA	2	3	2	3
K5025 IIF	WASTE, MATTED, YARNS	BE		1		1
K5028 IIE	WATCH, STOP	EA	2	1	2	1
K5040 IIE	WHISTLE, BALL, PLASTIC	EA	10	10	10	10
M5000 IIE	FILLER AND BLEEDER, HYDRAULIC SYSTEM	EA	2		2	
M5005 IIE	GAUGE, TIRE, PRESSURE	EA	6	1	6	1

TABLE OF EQUIPMENT

T/E FOR FMF UNITS INDICATED

TYPE 2 ITEMS

18 APRIL 1990

TAM CONTROL NO.	NOMENCLATURE	UNIT	N 1521	N 1524	N 1531	N 1534							
1	2	3	4	5	6	7	8	9	10	11	12	13	14
M5010 IIE	KIT, BATTERY, STORAGE	EA	3	2	3	2							
M5015 IIE	REFLECTOR AND FLAG KIT, HIGHWAY	EA	2		2								
M5025 IIE	TESTER, ANTIFREEZE	EA	1		1								
N6001 IIE	BINOCULAR SYSTEM M22 7X50 M22 PLANNED ALLOWANCES FOR FY-90	EA	14	24	14	24							
N6020 IIE	FIXTURE, MEASURING, TRIGGER PULL	EA	3	1	3	1							
N6021 VIIM	LAUNCHER, 35MM PRACTICE, TRAINING M190	EA	12	2	12	2							

M1A1 COMPONENTS LISTING

SUPPLY SYSTEM RESPONSIBILITY

ARMAMENT

NSN	DESCRIPTION	QTY
0000-00-005-9805	Book, Weapons Record: NAVMC 10588 Part 1	1
0000-00-005-9811	Book, Weapons Record: NAVMC 10558A Part 2	1

SIGHTING AND FIRE CONTROL

6650-01-093-5864	Driver’s Side Unity Periscope: (driver’s hatch); TACOM 12285082	2
1240-01-074-5766	Driver’s/Loader’s Unity Periscope: (driver’s hatch center position, loader’s hatch); TACOM 12285070	2
5855-01-096-0872	Viewer, Driver’s Night Vision AN/VVS 2 (V) 2 Assembly: (at loader’s station); CECOM SM-D-771480-2	2

VEHICLE

7510-00-889-3494	Book, Log, Ordnance Vehicle: Components List Item (SL3-03095A)	1
1040-01-070-1213	Launcher, Grenade, Smoke, RP M257: Consisting of:	2
	Discharger, Four Tube	2
	Discharger Caps	8
	Adapter Plate	1

TOOLS AND EQUIPMENT

5340-00-158-3807	Padlock, 1 3/4 in. with Clevis and Chain, Cadmium Plated Steel: (loader’s hatch); MIL-P-17802	1
	or	
5340-00-158-3805	Padlock, 1 3/4 in. without Clevis and Chain, Cadmium Plated Steel: (loader’s hatch); MIL-P-17802 (optional)	

M1A1 COLLATERAL MATERIEL

ON EQUIPMENT REPAIR PARTS

NSN	DESCRIPTION	QTY
2540-01-126-3567	Box, Vehicular Access (spare bulb): (in commander's oddment box); TACOM 12285463	1
2540-01-126-3567	Track Shoe Assembly: TACOM 12364336-1	4
2530-01-201-4816	Wheel, Solid Rubber: TACOM 12324548	1

TOOLS AND EQUIPMENT FOR VEHICLE

5820-01-085-4309	Accessory Kit (used with AN/VRC-12 radio): CECOM MK-2002/VRC Consisting of:	1
5935-01-032-5404	Adapter, Connector MIL-A-555339/14	1
5985-00-119-8831	Antenna Element CECOM MS-116A	1
5985-00-115-7149	Antenna Element CECOM) MS-117A	1
5985-00-238-7474	Antenna Element CECOM MS-118A	1
5820-00-942-9165	Antenna Sleeve: Colvin-Friedman Co CF4125	1
5985-00-930-7223	Antenna Tip Assy (for MS-118A); CECOM SC-C-446046	1
5820-00-200-2329	Bag CW-206/GR: CECOM SCDL23003	1
5820-00-892-3343	Control, Frequency Selector C-2742/VRC: CECOM	1
5895-00-908-6416	Antenna Tiedown Kit CECOM PPL3687	1
5965-00-179-7762	Microphone: JETDS M-80C/U; SCDL23003	1
4930-00-288-1511	Adapter, Grease Gun Coupling: (in tool bag); TACOM 6300333	1
5120-00-227-8088	Adapter Socket, 3/4 in Drive to 1/2 in Drive: (in tool bag); Fed Spec GGG-W-641	1

5110-00-293-2336	Ax, Single Bit, 4 lb: (in right sponson box); TACOM 6150925	1
2540-00-670-2459	Bag Assembly, Pamphlet: (under commander’s platform); TACOM 11676920	1
5140-00-473-6256	Bag, Tool Satchel: (in left cargo rack box); MIL-B-43663	1
5120-00-526-6044	Bar, Pinch: (in tool bag); Rock Island Arsenal 526604	1
5120-00-224-1389	Bar, Pry: (in tool bag); Stanley-Proto Industrial Works 2126	1
5306-01-209-3471	Bolt, Eye, Metric: (for lifting breechblock) (in tool bag); Watervliet Arsenal 12529607	2
8125-01-134-5409	Bottle, Applicator (Crosswind Sensor Cleaning Kit): (in right cargo rack box); TACOM 12285478	1
1015-01-170-5032	Brush, Cleaning, Artillery: (in left cargo rack box); Watervliet Arsenal WTV-C28670	1
8020-00-297-6657	Brush, Paint: (in tool bag); Fed Spec H-B-491	2
7920-00-291-5815	Brush, Wire, Scratch: (in tool bag); Fed Spec HB178	1
6150-01-133-7100	Cable Assembly, Power: (in tool bag); TACOM 12285595	1
5110-00-236-3272	Chisel, Cold, Hand: (in tool bag); Fed Spec GGG-C-313	1
1015-01-288-0997	Circuit Tester, Firing: (in commander’s oddment box); TACOM 10893619	1

5120-00-224-1390	Crowbar: (in right sponson box); Fed Spec GGG-B-101	1
5110-00-595-8229	Cutter, Wire Rope: (in tool bag); TACOM 11655981	1
5120-00-227-8074	Extension, Socket Wrench: 1/2 in Drive by 10 in Long (in tool bag); TACOM 11655788-1	1
5120-00-243-7326	Extension, Socket Wrench: 1/2 in Drive by 5 in Long (in tool bag); Fed Spec GGG-W-641	1
5120-00-243-7328	Extension, Socket Wrench: 3/4 in Drive by 8 in Long (in tool bag); Fed Spec GGG-W-641	1
4210-00-555-8837	Extinguisher, Fire, Monobro, Hand: (in front of commander’s oddment box and in left cargo rack box); TACOM 10916537	2
1015-01-209-3484	Extractor Tool, Cartridge: (in loader’s wall tray); Watervliet Arsenal 12519529	1
5110-00-156-0059	File, Hand: (in tool bag); Fed Spec GGG-F-325	1
5110-00-260-0543	File, Hand: (in tool bag); Fed Spec GGG-F-325	1
5120-00-086-8472	Fixture, Track Connecting, Manual Operation: (in right sponson box); TACOM 12284900	2
8345-00-375-0223	Flag Set M238 (Tank): Components List Item (SL3-00804A) Consisting of Assembly: 8345-00-178-8437 (Case) C590 8345-00-227-1405 (Yellow) MC 274 8345-00-227-1406 (Green) MC 275 8345-00-227-1511 (Red) MC 273 8345-00-242-3650 (Flag Staff) MC 270	1 1 1 1 1 3

6230-00-264-8261	Flashlight: (in commander's oddment tray, gunner's oddment tray, commander's lower oddment box, and driver's station left); CECOM MX991U	4
7240-00-243-3614	Funnel, Plastic: (in left cargo rack box); Fed Spec A-A-1663	1
7240-00-559-7364	Funnel, Steel, Flex-Spout: (in left cargo box); Fed Spec RR-F-800	1
8145-00-268-7860	Gloves, Leather, Gauntlet Cuff: Medium; Fed Spec A-A-50022	1
8145-00-268-7859	Gloves, Leather, Gauntlet Cuff: Large; Fed Spec A-A-50022	1
5120-00-061-8546	Hammer, Hand, Ballpeen, 2 lb: (in tool bag); TACOM 11677028-3	1
5120-00-243-2957	Hammer, Hand, Sledge, 10 lb: (in right sponson box); Fed Spec GGG-H-86	1
1015-01-173-9350	Handle, Breechblock (supplied with weapon): (on side of loader's knee guard); Watervliet Arsenal 12529685	1
5120-00-473-6320	Handle, Extension, Wrench, Chromium: (in right sponson box); Fed Spec GGG-W-636	1
5120-00-288-6574	Handle, Mattock, Pick: (in right sponson box); Fed Spec NN-H-93	1
5120-00-236-7590	Handle, Socket Wrench, Hinged 1/2 in Drive by 14-1/2 in Long: (in tool bag); TACOM 11655786-1	1
5120-00-249-1076	Handle, Socket Wrench, Ratchet 3/4 in Drive by 17 in Long: (in tool bag); Fed Spec GGG-W-641	1
5129-00-230-6385	Handle, Socket Wrench, Ratchet 1/2 in Drive: (in tool bag); Fed Spec GGG-W-641	1

5120-00-709-4072	Handle, Socket Wrench, Slide Tee 3/4 in Drive by 18 in Long: (in tool bag); Fed Spec GGG-W-641	1
3950-00-092-9064	Hoist, Chain 1/2 ton, 4 ft: (in right sponson box); Duff-Norton Co Inc MP10	1
2540-00-706-8219	Hook, Tow Cable, Light (in right sponson box); TACOM 7068219	4
5120-00-889-2163	Key, Socket, Head, 9/64 in: (in tool bag); Fed Spec GGG-K-275	1
5120-00-198-5392	Key, Socket, Head, 5/32 in: (in tool bag); Fed Spec GGG-K-275	1
5120-00-240-5300	Key, Socket, Head, 3/16 in: (in tool bag); Fed Spec GGG-K-275	1
5120-00-240-5268	Key, Socket, Head, 9/16 in: (in tool bag); Fed Spec GGG-K-275	1
5120-00-935-4641	Key Set, Socket, Head, Screw: (in tool bag); Fed Spec GGG-K-275	1
4730-01-246-1231	Kit, Vee Pack Cleaning, 41-in long (in left cargo rack box); TACOM 12345261	1
5120-01-086-1460	Lifter, Road Wheel: As Required; TACOM 12282461	1
6230-00-086-4293	Light, Extension: (in tool bag to be used with Cable Assembly, Power); TACOM 17-C-35079-47	1
4930-01-133-7143	Lubricating Gun, Hand: (in tool bag); TACOM 12312118	1
5120-00-246-2311	Lubrication Fitting Tool: (in tool bag); Thorson Tool Co 2311	1
	Manual, Crew Checklist: (in pamphlet bag); TM 9-2350-264-CL	4
	Manual, Lubrication Order: (in pamphlet bag); LO-9-2350-264-12	1

	Manual, Operator’s (in pamphlet bag); TM 9-2350-264-10 (3 volumes)	1
5120-00-243-2395	Mattock, Pick Unit, 5 lb: (in right sponson box); TACOM 11677022	1
8415-01-092-0039	Mittens, Heat Protective (pr): (in loader’s wall tray); MIL-M-11199	1
5340-00-158-3807	Padlock, 1 3/4 in with Clevis and Chain, Cadmium Plated Steel: (on stowage boxes); MIL-P-17802	6
	or	
5340-00-158-3805	Padlock, 1-3/4 in without Clevis and Chain, Cadmium Plated Steel: (on stowage boxes); MIL-P-17802	
8345-00-174-6865	Panel Marker, Aerial, Liaison: MIL-P-40061	1
5120-00-223-7397	Pliers, Slip-Joint with Cutter, 8 in Long: (in tool bag); TACOM 11655775-3	1
1015-01-209-3482	Plug, Muzzle, 120mm: (in left cargo rack box); Watervliet Arsenal 12529519	1
5120-01-052-5642	Puller and Pump, End Connector: (in right sponson box); TACOM 11669394	1
5120-00-293-3509	Punch, Center Solid: (in tool bag); Fed Spec GGG-P-831	1
5120-00-240-6104	Punch, Drive Pin: (in tool bag); Fed Spec GGG-P-831	1
1015-01-170-4911	Rammer, Artillery, Loading, M5: (in left cargo rack box); Watervliet Arsenal 12528317	1
5340-01-205-9963	Retainer, Nut and Bolt: (in gun tool roll); Watervliet Arsenal 12529617	1
4933-00-796-4537	Roll Assembly, Gun Tools and Equipment: (in loader’s wall tray); TACOM 7964537	1

5120-00-227-7356	Screwdriver, Flat Tip, 3/16 in by 6 in: (in tool bag); Snap-On Tools Corp SSDE66	1
5120-00-517-6906	Screwdriver, Flat Tip, 5/16 in by 4 in: (in tool bag); Fed Spec GGG-S-121	1
5120-00-180-0729	Screwdriver, Jeweler's: (in tool bag) Fed Spec GGG-S-1808	1
5120-00-293-3336	Shovel, Hand, Round Point: (in right sponson box) Fed Spec GGG-S-326	1
8415-00-164-0513	Sleeve, Welder's, Leather 18 in Long: Fed Spec KK-C-450	1
5130-01-045-8552	Socket, Socket Wrench, 13 mm, 6 Point 1/2 in Square Drive: (in tool bag); Snap-On Tools Corp IMM-130	1
5130-01-115-1132	Socket, Socket Wrench, 14 mm, 6 Point 1/2 in Square Drive: (in tool bag); Snap-On Tools Corp SIMM150	1
5130-01-045-8554	Socket, Socket Wrench, 15 mm, 6 Point, 1/2 in Square Drive: (in tool bag); Snap-On Tools Corp IMM150	1
5130-01-112-0552	Socket, Socket Wrench, 17 mm, 6 Point, 1/2 in Square Drive: (in tool bag); Snap-On Tools Corp SIMM170	1
5130-01-045-8557	Socket, Socket Wrench, 18 mm, 6 Point, 1/2 in Square Drive: (in tool bag); Snap-On Tools Corp IMM-180	1
5130-01-045-8558	Socket, Socket Wrench, 19 mm, 6 Point, 1/2 in Square Drive: (in tool bag); Snap-On Tools Corp IMM-190	1
5130-01-113-1558	Socket, Socket Wrench, 24 mm, 6 Point, 3/4 in Square Drive: (in tool bag); TACOM 12285501	1

5120-01-137-9572	Socket, Socket Wrench, 30 mm, 6 Point, 3/4 in Square Drive: (in tool bag); TACOM 12310948	1
5130-00-227-6677	Socket, Socket Wrench, 7/8 in, 6 Point, 3/4 in Square Drive: (in tool bag); Snap-On Tools Corp IM-282	1
5130-00-227-6681	Socket, Socket Wrench, 1 1/8 in, 6 Point, 3/4 in Square Drive: (in tool bag); Snap-On Tools Corp IM-362	1
5130-00-227-6684	Socket, Socket Wrench, 1 5/16 in, 6 Point, 3/4 in Square Drive: (in tool bag); Chicago Pneumatic Tool Co C67455	1
5130-00-236-3979	Socket, Socket Wrench, 1 1/2 in, 6 Point, 3/4 in Square Drive: (in tool bag); Snap-On Tools Corp IM-463	1
1015-00-699-0633	Staff Section, Cleaning, Artillery: (in left cargo rack box); Watervliet Arsenal 7309259	5
2450-00-587-2532	Tarpaulin, Nylon, 12 ft by 17 ft: (in rear turret bustle rack); TACOM 10936364	1
1015-01-170-4912	Tee Handle, Rammer Staff: (in left cargo rack box); Watervliet Arsenal WTV-C28880	1
5120-01-209-3462	Tool, Breech Block Detent: (in gun tool roll); TACOM 12310951	1
5120-00-115-9185	Extractor Tool, Bulb: (in spare bulb box); Augat Inc T114-1	1
5130-01-235-0367	Torgue Binder, Track: (in right sponson box); TACOM 12344373	1
5120-00-269-7971	Universal Joint, Socket Wrench 1/2 in Square Drive: (in tool bag); Fed Spec GGG-W-641	1

4010-00-202-2425	Wire Rope Assembly (Tow Cable): (on each side of turret); TACOM 7360553	2
5120-00-264-3796	Wrench, Adjustable, 12 in Long: (in tool bag); TACOM 5323324	1
5120-00-187-7123	Wrench, Open End, 7/16 in and 1/2 in: (in tool bag); Fed Spec GGG-W-636	2
5120-01-072-2954	Wrench, Open End, 13 mm and 15 mm: (in tool bag); Snap-On Tools Corp VOM1315	1
5120-01-210-4757	Wrench, Spanner, Bore Evacuator: (in left cargo rack box); Watervliet Arsenal 12529597	1
5120-01-100-0391	Wrench, Spanner, Track Adjusting Link: (in left cargo rack box); TACOM 12301553	1

VEHICLE

6545-00-922-1200	Kit, First Aid: (in commander’s lower oddment box and in left cargo rack box); TACOM 11677011	2
7510-00-X82-6514	Folder, Equipment Record: (in pamphlet bag)	3
4240-00-258-2054	Goggles, Laser Safety: ARDEC 10554508	4
6220-01-126-3586	Lens Light Assembly, Infra-Red: (in commander’s oddment box); TACOM 12287778	2
5315-00-350-4326	Pin, Lock: (in right sponson box); TACOM 5213744	8
5315-00-706-9195	Pin, Straight, Headless: (in right sponson box); TACOM 7069195	4
2540-01-212-2463	Stopper Assembly, Heater, Exhaust (in left cargo rack box); TACOM 12337107	2

SPECIAL MISSION KITS

2540-01-300-6502	Kit, Fording, Deep Water: As Required; TACOM 12345984	1

USING UNIT RESPONSIBILITY

ARMAMENT

NSN	DESCRIPTION	QTY
1005-01-025-8095	Machine Gun, 7.62mm, M240: ARDEC 11826290	2
1005-00-957-3893	Machine Gun, Caliber .50, M2: (M48 Turret Type) Rock Island Arsenal 5910630	1
1005-01-128-9936	Rifle, 5.56mm M16A2 with Sling and Magazine: ARDEC 9349000	1

COMMUNICATIONS

6145-00-226-8812	Cable, Telephone: WD-1/TT ON DR-8: MIL-C-13294	3
5830-01-137-7986	Intercommunication Set: AN/VIC-2(V); 4 station; 26 V dc, JETDS	1
5820-00-223-7412	Radio Set: AN/VRC-12: 10 channel; 24 V dc; 35 W, JETDS Consisting of:	1
5985-01-017-0785	Antenna Assembly: AS-2731/GRC (issued in lieu of AS-1729/VRC): JETDS Consisting of:	1
5985-01-017-0784	Antenna: AS-2732/GRC; JETDS	1
5995-01-038-2203	Cable Assembly: CX-13055/GRC; JETDS	1
5985-01-025-8892	Base, Matching Unit: MX-9146/GRC; JETDS	1
5820-00-892-0624	Receiver, Radio: R-442/VRC or R-442A/VRC; JETDS	1
5820-00-892-0623	Receiver-Transmitter: RT-246/VRC or RT-246A/VRC; JETDS	1

5810-00-434-3644	Speech Security Equipment, TSEC/KY57: NSA Consisting of:	1
5180-01-080-9777	Installation Kit: MK-1996/VRC (used with AN/VRC-12 radio); JETDS	1
5180-01-026-9621	Vehicle Power Adapter: HYP-57/TSEC; NSA ON241780	1
5805-00-521-1320	Telephone Set: TA-1/PT; JETDS	1

TOOLS AND EQUIPMENT FOR VEHICLE

1240-01-207-5787	Binocular System, 7 by 50, M22 with Equipment	1
2590-00-148-7961	Cable kit, Special Purpose (Slave Cable): TACOM 11682379-1	1

VEHICLE

7240-00-242-3767	Can, Water, Military 5-Gal: MIL-C-13984	1
8415-01-217-5633	Connector, Vest, Conditioning, Microclimatic: MIL-V-44132	4
4230-00-720-1618	Decontaminating Apparatus, Portable DS2, ABC-M11, 1 1/2 qt: MIL-D-51048	3
6665-01-016-8399	Detector Kit, Chemical Agent, M256: ARDEC C5-77-2011	1
5855-00-150-1820	Goggles, Night Vision: AN/PVS-5V; JETDS	1
8465-01-004-2893	Goggles, Sun, Wind, and Dust: MIL-G-43914	3

8415-00-094-2684	Helmet, CVC, Large: U.S. Army Natick Research and Development Center; Basic	4
	or	
8415-00-094-2691	Helmet, CVC, Medium: U.S. Army Natick Research and Development Center; Basic	
	or	
8415-00-094-2679	Helmet, CVC, Small: U.S. Army Natick Research and Development Center; Basic	
4240-00-994-8752	Mask, Chemical, Biological, M25A1, Large: ARDEC 5-1-325-30	4
	or	
4240-00-994-8750	Mask, Chemical, Biological, M25A1, Medium: ARDEC 5-1-325-20	
	or	
4240-00-994-8751	Mask, Chemical, Biological, M25A1, Small: ARDEC 5-1-325-10	
6665-01-222-1425	Radiac Set: AN/VDR-2; JETDS	1
6665-00-856-8037	Radiac Meter: IM-174/PD: JETDS	2
8415-01-217-5634	Vest, Conditioning, Microclimatic MIL-V-44132	4
	SPECIAL MISSION KITS	
5820-01-199-8625	Radio Set, Vehicle AN/VSQ-1: As Required; Huges Aircraft	1
2590-01-230-8862	M1 Mine Clearing Blade: As Required; IAI	1
N/A	Missile Countermeasure Device: As Required	1
N/A	Heat Deflector: As Required	1

EXPENDABLE SUPPLIES AND MATERIALS (CLASS II)

NSN	DESCRIPTION	U/M
8040-00-262-9028	Adhesive, General Purpose, Type I: (19203) 829899	pt
8040-00-664-4318	Adhesive, General Purpose, Type II: (35301) NE11535	pt
6850-00-901-0591	Anti-icing Fluid: (5-gal can) (81349) MIL-A-8243	gl
6135-00-120-1020	Battery, Flashlight Type, MIL-B-1819 BA30: (81349)	ea
6135-00-485-7402	Battery, Night Vision Viewer: (80058) BA 1567/U	ea
6810-00-286-3783	Battery Water, 1-gal bottle (81348) D-B-41	gl
8020-00-244-0153	Brush, Artist, MTL Ferrule Flair Point, 7/16 in wide: (81348) HB241	ea
8020-00-224-8024	Brush, Artist, MTL Ferrule, Round, TPR PT Style 9, Camel Hair: (81348) HB 118TICISA	ea
1015-00-615-7208	Brush, Section Cleaning: (19206) 6157208	ea
9150-01-054-6453	Cleaner, Lubricant, Preservative (CLP) 1-pt bottle: (81349) MIL-L-63460	pt
6850-00-188-9875	Cleaning Compound, Lens Liquid: (81349) MIL-C-43454	qt
6850-00-926-2275	Cleaning Compound, Windshield: O-C-1901	pt
5350-00-221-0872	Cloth, Abrasive, Crocus, 50-sheet: (81348) P-C-458	ea
8305-01-152-3587	Cloth, Cotton, Batiste (lint free)	yd
8030-00-903-0931	Compound, Corrosion Preventive (CT), Grade I, Type p-1: (02847) MIL-C-16173	pt
8030-00-137-1671	Compound, Corrosion Preventive (CT), Grade I, Type P-1, 5-gal can: (86459) MIL-C-372	gl
8030-00-174-9672	Compound, Corrosion Removing and Conditioning, Type I: (81349) MIL-C-10578	gl
5610-00-141-7838	Compound, Walkway, Olive Drab: (81349) MIL-W-5044	gl
6810-00-127-4532	Ethyl Alcohol (Ethanol) (81348) O-E-760	gl
4730-00-050-4208	Fitting, Lubrication: (96906) MS 15003-1	ea
9150-00-695-2382	Fluid, Hydraulic, Dextron II: (24612)	qt
9150-00-111-6256	Fluid, Hydraulic, FRH, 1-qt can: (81349) MIL-H-46170B	qt
9150-00-145-0268	Grease, Aircraft, General Purpose, 5-lb can: MIL-G-81322	lb
9150-00-257-5370	Grease, Graphite, GG1: (81348) VV-G-671	lb
6240-00-763-7744	Lamp, All Panels: (96906) MS25237-387 Lamp, Computer Control Panel: (96906) MS25327-385	ea
6240-00-155-7836	Lamp, GPS, Upper/Lower Panel Assembly: (96906) MS25327-327	ea
6240-00-368-4972	Lamp, Headlight: (96906) MS 18003-4811	ea
6240-00-480-7723	Lamp, Instrument Panel: (96906) MS25236-8623R	ea
6240-00-044-6914	Lamp, Stoplight and Domelight: (96906) MS35478-1683	ea
6240-00-019-3093	Lamp, Taillight: (96906) MS 15570-623	ea
6240-00-019-0877	Lamp, Taillight and Front Blackout Marker: (96906) MS15570-1251	ea
9150-00-754-0064	Lubricant, Solid Film, Air-cured: MIL-L-23398	oz
9150-00-782-2627	Lubricating Oil, Aircraft Turbine Engine, Synthetic, Can 1-qt: (81349) MIL-L-7808	qt
9150-00-985-7099	Lubricating Oil, Aircraft Turboshaft Engine, Synthetic, Can 1-qt: (81349) MIL-L-23699	qt

9150-00-186-6681	Lubricating Oil, Engine, Heavy Duty, OE/HDO-30, 1-qt Can: (81349) MIL-L-2104C	qt
9150-00-402-2372	Lubricating Oil, OEA: (81349) MIL-L-46167	gl
9150-00-231-2361	Lubricating Oil, Preservative, PL-M: (81349) MIL-L-3150	qt
9150-00-261-7899	Oil, Penetrating, 1-qt can: (81348) VV-P-216	pt
6640-00-285-4694	Paper, Lens, Tissue, Type 4, 100 sheets (7 by 11) in envelope: (81348) NNN-P-40	ea
5315-00-182-4127	Pin Assembly: (99984) 1600	ea
5315-00-012-0123	Pin, Cotter: MS24665-355 (96906)	ea
7920-00-205-1711	Rag, Wiping, Cotton, White, 50-lb Bale: (81348) DDD-R-30	lb
4020-00-689-5688	Rope, Manila: 3/4-inch	ft
6850-00-664-5685	SD Dry Cleaning Solvent, Can, 1-qt Can: (81348) P-D-680	qt
6850-00-880-7616	Silicone Compound: (19203) 801362	oz
1005-00-288-3565	Swab, Small Arms, 2-1/2 in Square, 1000 Pkg: (all except M16A1 rifle): (19204) 5019316	ea
8135-00-551-1245	Tape, Adhesive, 60-yd roll	yd
5970-00-198-8621	Tape, Insulation, Electrician’s: (81349) HH 1510	ft
7510-00-473-9513	Tape, Masking, 2-inch Wide: (81349) MIL-T-23397	ft
9505-00-596-0191	Wire, Steel, Carbon, 5-lb Roll: (81348) QQ-W-461	lb
5510-00-138-0216	Wood Block, 8 x 8 x 12 in	bf

POL (CLASS III)

DESCRIPTION OF POL PRODUCTS

DF-2: Diesel fuel, number 2 grade.

Grease A/C, MIL-G-81322 used for common lubrication of bearings in many combat and tactical vehicles.

CT CORROSION PREV COMPOUND: Cable, tow, corrosion preventive compound. Tow cables are cleaned with dry cleaning solvent P-D-680 and coated with corrosion preventive compound. This compound resists water and is often used to coat the surface of disassembled repair parts.

CLP: Cleaner, lubrication and preservative for weapons and weapon systems.

DEXTRON II: Traversing mechanism oil, for M1A1.

HYDRAULIC FLUID: Rust inhibitor, fire resistant synthetic hydrocarbon fluid used for turret system operation.

WTR GREASE, AIRCRAFT: General purpose, MIL-G-81322.

OE-30: Engine Oil (number designates viscosity of oil).

OIL, TURBINE: Special oil designated for M1A1 turbine engines.

BRAKE FLUID, SILICON: Special synthetic base fluid used for all Marine Corps equipment.

CLEANING SOLVENT: P-D-680 used for cleaning all metals; also provides a small amount of preservative.

OEA: Lubricating oil, MIL-L-46167, used for M1A1 shock absorbers.

PL-M: Lubricating oil, MIL-L-3150, preservative used to lubricate clevises, pins, hinges, pulleys, and latches.

PL-S: Lubricating oil, general purpose used for ballistic shield bellcranks, hinges, door latches, grille door hinges, and crosswind hinges.

LUBE, SOLID FILM: Used for lubrication of skirt hinge pins for M1A1 MIL-L-23398.

M1A1 TANK SYSTEM AMMUNITION

1. GENERAL. The M1A1 tank system is supported with the following ammunition items (see legend at end of paragraph):

a. MAIN ARMAMENT AMMUNITION

DODAC	P/S	WR Only	WR& TNG	TNG Only	Nomenclature
1315-C786	P	X			Ctg, 120mm APFSDS-T M829A1
1315-C787	P		X		Ctg, 120mm HEAT-MP-TM830
1315-C784	P			X	Ctg, 120mm TP-T M831
1315-C785	P			X	Ctg, 120mm TPCSDS-T

b. MACHINE GUN, M2HB, .50 CALIBER

1305-A576	P		X		Ctg, .50 cal 4 API, 1 API-T
1305-A543	S			X	Ctg, .50 cal API, M20 (used with Telfare)
1305-A585	S			X	Ctg, .50 cal API, M20 (used with Telfare)
1305-A598				X	Ctg, .50 cal blank M1A1 (used with MILES)

c. MACHINE GUN, M240, 7.62 mm

1305-A111	P			X	Ctg, 7.62mm blank
1305-A131	P		X		Ctg, 7.62mm 4 ball, 1 tracer

d. LAUNCHER, SMOKE GRENADE, M257

1330-G826	P		X		Grenade, smoke, infrared M76
1330-G815	P		X		Grenade, smoke L8A3
1330-G815	S		X		Grenade, smoke L8A1

e. ADDITIONAL AMMUNITION ITEMS IN SUPPORT OF THE CREW

(1) RIFLE, M16A2

1305-A059	P		X		Ctg, 5.56mm ball M855 (10/clip)
1305-A071	S		X		Ctg, 5.56mm ball M193 (10/clip)
1305-A063	P		X		Ctg, 5.56mm tracer M856 (Ctn pack)
1305-A068	S		X		Ctg, 5.56mm tracer M196 (10/clip)
1305-A080	P			X	Ctg, 5.56mm blank M200

(2) HAND GRENADES

1330-G881	P		X		Grenade, hand, fragmentation M67
1330-G811	P			X	Grenade, body, practice M69
1330-G878	P			X	Grenade, fuze, practice M228

f. LEGEND

(1) Department of Defense Ammunition Code (DODAC)--an eight-character designation comprised of the federal supply class (first four digits) and the Department of Defense identification code (DODIC) (last four characters). The DODAC (or DODIC) completely identifies the item of ammunition.

(2) P/S--prime/sub--this column identifies which items are considered prime (P) and which are authorized substitutes (S). The substitute items immediately follow the prime within the group being considered.

(3) WR only--items identified with an X in this column are authorized for war reserve (WR) stocks but are not authorized for use in training.

(4) WR & TNG--items identified with an X in this column have both war reserve and training applications. Paragraph above applies except that they are authorized for training as well.

(5) TNG only--items identified with an X in this column are training-unique. These items are not authorized nor required in war reserves nor would they be needed for basic load.

(6) Nomenclature--self explanatory.

2. AMMUNITION REQUIREMENTS IN SUPPORT OF NEW MATERIEL FIELDING

a. The M1A1 tank system will be fielded with sufficient ammunition to cover requirements in paragraphs 2b through 2c below. With the exception of the 120mm cartridges and the M76 IR Grenade, all ammunition items are mature, support other systems, and are available in the supply system as limited only by the current available supply rate (ASR) established by MCRDAC (AM).

b. COMBAT PLANNING RATES (CPR)

(1) Definition: CPR reflect the anticipated expenditure of ammunition per weapon over designated periods of combat operations. These rates are intended to be used for procurement guidance, transportation and resupply requirements planning, and storage facilities planning. The 60-day rates represent the maximum quantity the Marine Corps can procure or keep on hand.

(2) Current rates are:

30-DAY RATE

	ASSAULT INTENSE	SUSTAINING	60-DAY RATE
1315-C786	64.8	23.1	129.6
1315-C787	67.5	24	135
1330-G815	180	90	360
1330-G826	180	90	360

c. AMMUNITION REQUIREMENTS FOR ANNUAL TRAINING. There are three phases of tank gunnery training based on FM 17-12-1, which are used to compute the annual ammunition requirement:

(1) The basic Phase establishes individual crewman skills and crew collective skills using subcaliber devices, dry fire, and simulation. Table I through IV are used to meet this semi-annual requirement.

Table I - Basic Gunnery Skills (Individual).
Table II - Basic Gunnery Course (Individual/Crew).
Table III - Basic Training Course (Crew).
Table IV - Tank Crew Proficiency Course (TCPC).

(2) The Intermediate Phase develops crew skills on the tables V, VI, VII and culminates in crew qualification on table VIII. This is a semi-annual requirement which immediately follows the basic phase.

Zero - Main Gun and Machineguns
Table V - Preliminary Machinegun Training
Table VI - Preliminary Main Gun Training
Table VII - Intermediate Training Course
Table VIII - Intermediate Qualification Course

(3) The Advanced Phase develops section and platoon coordination on table IX and XI and culminates with section and platoon annual qualification on tables X and XII.

Table IX - Advanced Training Course (Section)
Table X - Advanced Training Course (Platoon)
(Section)
Table XI - Advanced Training Course (Platoon)

Table XII - Advanced Qualification Course
(Platoon)

(4) Ammunition requirements for each table within the three phases are listed in Tables L-1 through L-4. All figures given are rounds per tank whether firing singly, within a section, or within a platoon. The first number in each entry (10/20) represents the requirement for one iteration followed by the annual requirement for two iterations of the training table (10/20). The letter "A" denotes Day Tables; the Letter "B" denotes Night Tables.

Table L-1--BASIC PHASE.

TYPE AMMO DODIC	M55 LASER	5.56 mm A063	7.62 mm A585**	.50 CAL API-T	81 mm ILLUM C871
TABLE I-A (INDIVIDUAL)	X	63/126			
TABLE I-B (INDIVIDUAL)	X				
TABLE II-A (IND/CREW)	X	24/48			
TABLE II-B (IND/CREW)	X	24/48			6/12
TABLE III-*A (CREW)		20/40		20/40	
TABLE III-*B (CREW)		33/66			
TABLE IV-A (CREW)					
TABLE IV-B (CREW)					

* TYPE OF AMMUNITION FIRED DEPENDS ON AVAILABILITY AND OR RATE LIMITATIONS
** FOR USE WITH THE M179 TELFARE DEVICE

Table L-2--INTERMEDIATE PHASE.

TYPE AMMO DODIC	7.62 mm A131	.50 CAL API-T A585	.50CAL A576	81 mm ILLUM C871	HEAT TP-T C784	TPCSDS-T C785	HEAT MP-T C787
TABLE V-A (CREW)	400/800		200/400				
TABLE V-B	300/600		50/100	6/12			
ZEROING			50/100		4/8	5/10	4/8
TABLE VI-A (CREW)	50/100		50/100		4/8	5/10	
TABLE VI-B (CREW)						5/10	
TABLE VII-A (CREW)	50/100		50/100		2/4	10/20	
TABLE VII-B (CREW)	100/200			2/4	2/4	1/2	
TABLE VIII-A (CREW)	200/400		50/100		2/4	9/18	
TABLE VIII-B (CREW)	50/100			2/4	4/8	7/14	

Table L-3--ADVANCED PHASE.***

SECTION

TYPE AMMO	7.62 mm	.50 CAL API-T	.50CAL	L8SMK GRDS	81 mm ILLUM	HEAT TP-T	TPCSDS-T
DODIC	A131	A585	A576	G815	C871	C784	C785
TABLE IX A/B OFFENSE	300	26	150		3		
TABLE IX A/B DEFENSE	200	39	75		2		
TABLE X A/B OFFENSE	150	15	100		2	3	12
TABLE X A/B DEFENSE	200	15	200	18	2	3	12
PLATOON							
TABLE XI A/B OFFENSE	100	41	38		1		
TABLE XI A/B DEFENSE	525	34	38		1		
TABLE XII A/B OFFENSE	100		50	5	1	8	8
TABLE XII A/B DEFENSE	100		50	5	1	7	7

***Annual ammunition requirements per tank for firing advanced section or platoon qualification include quantities to conduct both day and night tables whether in the offense or defense. Any or all tasks may be fired using subcaliber or main gun rounds.

Table L-4--ANNUAL REQUIREMENT (ALL TABLES).

TOTALS

TYPE AMMO	M55 LASER	5.56 mm	7.62 mm	.50CAL API-T	.50CAL
DODIC		A063	A131	A585	A576
QUANTITY	X	164/328	2825/3975	246/322	1151/1601

TOTALS

TYPE AMMO	L8SMK GRDS	81 mm ILLUM	HEAT TP-T	TPCSDS-T	HEAT-MP-T
DODIC	G815	C871	C784	C785	C787
QUANTITY	28/28	29/45	39/57	81/123	4/8

D. AMMUNITION REQUIREMENTS FOR RESERVE TRAINING. Reserve tank crews will conduct one iteration of tank gunnery tables I - VIIIB annually. These tables and the number of crews to be

trained (28) serve as the basis for determining tank training ammunition requirements (Tables K-5 and K-6) for the Reserves.

Table L-5--BASIC PHASE (RES).

TYPE AMMO DODIC	M55 LASER	5.56 mm A063	.50 CAL A[I-T A585**	81 mm ILLUM C871
TANK TABLE				
TABLE I-A	X			
TABLE I-B	X			
TABLE II-A	X	24		
TABLE II-B	X	24		
TABLE III-A*		20	20	
TABLE III-B*		33	33	
TABLE IV-A			12	
TABLE IV-B			11	

* TYPE OF AMMUNITION FIRED DEPENDS ON AVAILABILITY AND/OR RANGE LIMITATIONS
** FOR USE WITH THE M179 TELFARE DEVICE

Table L-6--INTERMEDIATE PHASE (RES).

TYPE AMMO DODIC	7.62MM A131	.50 CAL A576	L8A1 SMK HEAT GRDS G815	TPT C784	TPCSDS-T C785	81MM ILLUM C871	HEAT MP-T C787
TABLE V-A	400	200					
TABLE V-B	300	50	6			6	
ZERO	50	50		4	5		4
TABLE VI-A		50		4	5		
TABLE VI-B					5	6	
TABLE VII-A	50	50	2	2	10		
TABLE VII-B	100			2	1	2	
TABLE VIII-A	200	50		2	9		
TABLE VIII-B	50		2	4	7	2	

Table L-7--ANNUAL RESERVE AMMUNITION REQUIREMENT.

TOTAL

TYPE AMMO DODIC	M55 LASER	5.56 mm A063	7.62 mm A131	.50CAL API-T A585	.50CAL A576
QUANTITY	X	101	1150	76	450

TOTALS

TYPE AMMO DODIC	L8SMK GRDS G815	81 mm ILLUM C871	HEAT TP-T C748	TPCSDS-T C785	HEAT-MP-T C787
QUANTITY	10	16	18	42	4

e. AMMUNITION REQUIREMENTS FOR NET AT MCAGCC. Tables L-7 and L-8 list the ammunition requirements and ammunition totals for NET at MCAGCC (16 tanks x 11 companies):

Table L-8--NET AMMUNITION REQUIREMENTS.

TYPE DODIC	.50CAL API-T A585	7.62 mm A131	.50CAL C576	TPCSDS-T C785	HEAT TP-T C784	HEAT MP-T C787
TABLE III-A	20					
TABLE III-B	33					
TABLE IV-A	12					
TABLE IV-B	11					
TABLE V-A		400(800*	200(400)*			
TABLE V-B		100	50			
ZERO		100	50	6**	4	4
VI-A			50	5		4
VI-B				5		
VII-A		50	50	10	2	
VII-B		100		1		2
VIII-A		200	50	9		2
VIII-B		50		7		4

* Tank crews will be required to conduct table V twice.
** Quantity includes one round required for acceptance firing.

Table L-9--TOTAL NET AMMUNITION REQUIREMENTS.

DODIC	DESCRIPTION	TK	CO	TOTAL
A131	7.62 mm	1,800	28,800	316,800
A576	.50 CAL	650	10,400	114,400
A585	.50 CAL	76	1,216	13,376
C785	TPCSDS-T	43	688	7,568
C784	HEAT-TP-T	18	288	3,168
G815	L8A1 SMOKE GRENADE	24	384	4,224
C787	HEAT-MP-T	4	64	704

f. M1A1 TANK AMMUNITION REQUIREMENTS FOR THE COMBINED ARMS EXERCISE (CAX) PROGRAM. Tank gunnery in the CAX program will be conducted in three phases. Phase one involves establishing a zero for the tank's weapons; in phase two, the tank unit participates in Pre-CAX training (Mobile Assault Course); phase three is the actual exercise. The anticipated changes to ammunition requirements for the M1A1 are due to the M1A1 tank's improved fire control system and the additional loader's 7.62mm M240 machine gun.

Table L-10--CAX AMMUNITION REQUIREMENTS.

TYPE	7.62 MM	.50CAL	HEAT-TP-T	TPCSDS-T	L8SMK
DODIC	A131	A576	C784	C785	G815
PH 1 (zero)	100	50	4	5	0
PH II (pre-CAX)	600	400	1	1	6
PH III (CAX)	3522	1408	14	14	12
TOTAL (Rds/Tank)	4222	1858	19	20	18

3. AMMUNITION ITEM DESCRIPTIONS

a. CARTRIDGE 120 mm APFSDS-T M829A1. The armor-piercing, fin-stabilized, discarding-sabot tracer M829a1 cartridge is a kinetic energy round. The complete round contains a propulsion system consisting of a metal cartridge case base with combustible sidewall, granular propellant JA2 within containment bags, and the M125 primer. The projectile consists of the subprojectile and aluminum sabot. Upon leaving the gun, aerodynamic forces cause the sabot to separate from the subprojectile. Target penetration is affected strictly by the high kinetic energy of the subprojectile's high density core, staballoy ((depleted uranium) (DU)), when it impacts. Procedures for handling fires involving DU tank ammunition have been developed and incorporated in appropriate munitions manuals and publications.

b. CARTRIDGE 120 mm HEAT-MP-T M830. The high explosive antitank, multipurpose (antiarmor and antipersonnel capabilities) tracer M830 cartridge consists of a steel body loaded with composition A3 type II explosive surrounding a copper-shaped charge liner and wave shaper. The round has a metal cartridge base with combustible sidewall, M123 primer, and DIGL-RP stick propellant in six individual bags. The projectile body has a

boom and fin assembly providing flight stabilization. The tracer is part of the fin. The M764 fuze provides for both nose and shoulder activation to assure full frontal and graze initiation.

c. CARTRIDGE, 120 mm TP-T M831. This cartridge is a target practice round used to simulate the ballistics of the M830 high explosive antitank multipurpose with tracer ammunition. The M831 cartridge external appearance is similar to that of the M830. Internally the round does not contain any explosives, shaped charge liner, base fuze, or impact switches. The round consists of a steel body with aluminum spike in addition to a fin and boom assembly with tracer. The round has a metal cartridge case base with combustible sidewall and M123 primer, and DIGL-RP stick propellant in six individual bags.

d. CARTRIDGE 12 mm TPCSDS-T M865. The target practice cone stabilized discarding sabot-tracer M865 is a kinetic energy cartridge. It is designed to duplicate the M829A1 characteristics. The round has a metal cartridge case base with combustible sidewall, granular single base propellant within containment bags, and the M125 primer. The projectile consists of the subprojectile and aluminum sabot. The stabilizing cone, consisting of nine holes, limits range to 800 m. Even though this is a target practice round, the core can cause damage and penetrate armored vehicles.

e. GRENADE, SMOKE IR M76. The M76 grenade consists of a plastic cylindrical main body containing an IR composition and a high explosive central burster, a safe and arm mechanism, a pyrotechnic delay, launch propellant, and electric match. The electric match, when initiated, ignites the propellant which discharges the grenade from the launcher. The burster charge, which activates 1.7 seconds after discharge, ruptures the plastic grenade body and disperses the mixture. The smoke screen forms 2 to 5 seconds after firing. The grenade, when fired from the smoke grenade launcher mounted on a vehicle, forms a cloud 7 meters high and obscures an arc of over 100 degrees, 30 meters in front of the vehicle. Cloud duration is approximately 45 seconds.

f. GRENADE, SMOKE SCREENING L8A3. The grenade consists of a rubber cylindrical body and a metal base. The rubber body contains 360 grams of red phosphorus/butyl rubber in a 95/5 proportion and a central plastic burster tube containing a burster charge of 1 gram of black powder. The metal base contains the electrical clips, F9 squib-type electric fuze, propellant charge (3.0 grams of black powder), and the delay assembly with delay composition (0.25 grams of black powder).

4. TABULATED DATA

a. CARTRIDGE, 120 mm APFSDS-T M829A1

COMPLETE ROUND:

TYPE	FIXED, APFSDS-T

WEIGHT	46 lb’s
LENGTH	36.75 in
ASSEMBLY DRAWING	12527400
COLOR	BLACK w/YELLOW MARKINGS
TEMPERATURE LIMITS:	
LOWER LIMIT	-25 oF (-32 oC)
UPPER LIMIT	+120 oF (+49 oC)
STORAGE*:	
LOWER LIMIT	-50 oF (-46 oC)
UPPER LIMIT	+145 oF (+63 oC)

* M829A1 MAY BE FIRED AT THESE TEMPERATURES, HOWEVER, PERFORMANCE DEGRADATION MAY OCCUR.

PERFORMANCE:	
CHAMBER PRESSURE	103000 PSI @ 70 oF 5100 BAR @ 21 oC
PACKAGING:	
INNER PACK DRAWING	9386832
OUTER PACK DRAWING	12630717
WEIGHT	66 lb’s
CUBE	1.5 ft(3)
DIMENSIONS	44.5 in by 7.75 in by 7.75 in
PACKING	1 ROUND PER METAL CONTAINER w/ HEX END 25 CONTAINERS PER WOODEN PALLET (UNITIZATION DRAWING NO. 12913702)

**SEE AMMO 1-2-3 FOR COMPLETE PACKING DATA INCLUDING NSN’s

SHIPPING AND STORAGE DATA:	
DOD HAZARD CLASS	(08) 1.2
STORAGE COMPATIBILITY GP	C
DOT SHIPPING CLASS	B
DOT DESIGNATION	AMMUNITION FOR CANNON WITH SOLID PROJECTILES
DODAC	1315-C786

Note: The M829A1 cartridge is a full service round which may only be fired during war. All peacetime firing are prohibited. Loss or authorized firings must be reported to CG, MCRDAC (CBGT) (DSN 278-2137) within 24 hours of the discovery. All transmission regarding incidents of this nature must be at a minimum classified CONFIDENTIAL. dsn 793-2969/2966/2967.

b. CARTRIDGE 120 mm	HEAT-MP-T-M830
COMPLETE ROUND:	
TYPE	FIXED, HIGH EXPLOSIVE ANTITANK MULTIPURPOSE w/TRACER
WEIGHT	53.4 lb’s

LENGTH	38.6 in
ASSEMBLY DRAWING	12526622
COLOR	BLACK w/YELLOW MARKINGS
TEMPERATURE LIMITS:	
FIRING:	
LOWER LIMIT	-50oF (-46oC)
UPPER LIMIT	+145oF (+63oC)
STORAGE:	
LOWER LIMIT	-50oF (_46oC)
UPPER LIMIT	+145oF (+63oC)
PERFORMANCE:	
CHAMBER PRESSURE	69600 PSI @ 70oF 4850 BAR @ 21oC
PACKAGING:	
INNER PACK DRAWING	9386833
OUTER PACK DRAWING	12630718
WEIGHT	76.4 lb’s
CUBE	1.5 ft(3)
DIMENSIONS	44.5 in by 7.75 in by 7.75 in
PACKING	1 ROUND PER METAL CONTAINER w/HEX END 25 CONTAINERS PER WOODEN PALLET (UNITIZATION DRAWING NO. 12913702)
SHIPPING AND STORAGE DATA:	
DOD HAZARD CLASS	(08) 1.2
STORAGE COMPATIBILITY GP	E
DOT SHIPPING	A
DOT DESIGNATION	AMMUNITION FOR CANNON WITH EXPLOSIVE PROJECTILES
DODAC	1315-C787

c. CARTRIDGE 120 mm: TP-T M831

COMPLETE ROUND:	
TYPE	FIXED, TARGET PRACTICE - TRACER
WEIGHT	53.4 lb’s
LENGTH	38.6 in
ASSEMBLY DRAWING	12527100
COLOR	BLUE w/WHITE MARKINGS
TEMPERATURE LIMITS:	
FIRING:	
LOWER LIMIT	-50oF (-46oC)
UPPER LIMIT	+145oF (+63oC)
STORAGE:	
LOWER LIMIT	-50oF (-46oC)
UPPER LIMIT	+145oF (+63oC)

PERFORMANCE:	
CHAMBER PRESSURE	73950 PSI @ 70 oF 4800 BAR @ 21 oC
PACKAGING:	
INNER PACK DRAWING	9386833
OUTER PACK DRAWING	12561724
WEIGHT	89 lb’s
CUBE	2.47 ft(3)
DIMENSIONS	45.6 in by 9.12 in by 10.25 in
PACKING	1 ROUND PER METAL CONTAINER 25 CONTAINERS PER WOODEN PALLET (UTILIZATION DRAWING NO. 12913738)
SHIPPING AND STORAGE DATA:	
DOD HAZARD CLASS	1.3
STORAGE COMPATIBILITY GP	C
DOT SHIPPING CLASS	B
DOT DESIGNATION	AMMUNITION FOR CANNON WITH EMPTY PROJECTILE
DODAC	1315-C784

d. CARTRIDGE 120 mm: TPCSDS-T M865

COMPLETE ROUND:	
TYPE	FIXED, TARGET PRACTICE CONE SIDEWALL DISCARDING SABOT-TRACER
WEIGHT	41.9 lb’s
LENGTH	34.7 in
ASSEMBLY DRAWING	12525000
COLOR	BLUE w/WHITE MARKINGS
TEMPERATURE LIMITS:	
FIRING:	
LOWER LIMIT	-50 oF (-46 oC)
UPPER LIMIT	+145 oF (+63 oC)
STORAGE:	
LOWER LIMIT	-50 oF (-46 oC)
UPPER LIMIT	+145 oF (+63 oC)
PERFORMANCE:	
CHAMBER PRESSURE	70325 PSE @ 70 oF 4850 BAR @ 21 oC
PACKAGING:	
INNER PACK DRAWING	12561271
OUTER PACK DRAWING	12561273
WEIGHT	78 lb’s
CUBE	2.47 ft(3)
DIMENSIONS	45.6 in by 9.12 in by 10.25 in

PACKING	1 ROUND PER METAL CONTAINER, 25 CONTAINERS PER WOODEN PALLET (UNITIZATION DRAWING NO. 12913739)

SHIPPING AND STORAGE DATA:

DOD HAZARD CLASS	(08) 1.2
STORAGE COMPATIBILITY CP	C
DOT SHIPPING CLASS	B
DOT DESIGNATION	AMMUNITION FOR CANNON WITH SOLID PROJECTILE
DODAC	1315-C785

e. GRENADE, SMOKE IR M76

UNIT OF ISSUE	ONE (FOUR TO A BOX)
WEIGHT	3412.8 lb's (1547 kg) Pallet (144 BOXES)
CUBE	50.5 ft(3) (1.6 CU METERS)
DOD HAZARD CLASS	(08) 1.2
STORAGE COMPATIBILITY CP	G
DOT SHIPPING CLASS	A

f. GRENADE, SMOKE SCREENING L8A3

COMPLETE ROUND:

TYPE	SMOKE, WHITE
WEIGHT	1.5 lb's
DIAMETER	2.5/8 in
LENGTH	7 9/32 in
CHARGE	360 GRAMS
BODY	CYLINDRICAL MOLDED RUNNER
FUZE	INTEGRAL F92 SQUIB
UNIT OF ISSUE	4 GRENADES TO A WATERPROOF BOX 144 BOXES TO A PALLET (1974 lb's)

5. CHARGE, LINEAR DEMOLITION, HE, M58A4 (1375-00-000-0000M913). Towing the MK 2 MOD O Mine Clearance System behind the M1A1 is prohibited. The extreme heat of the M1A1's exhaust system can ignite the M58 or M68 linear charge and the M22 rocket carried on the trailer.

6. 120 mm TANK SABOT AMMUNITION CARTRIDGES. Vulnerability tests indicate that M865 KE sabot training rounds may detonate rather than burn when impacted by other large caliber munitions, including another M865 round. The propellant causing this detonation is also found in the Federal Republic of Germany (FRG) equivalent DM38 120mm sabot and DM128 105mm sabot. Under similar conditions, all other 105mm sabot. Under similar conditions, all other 105mm and 120mm cartridges burn rather than detonate.

a. The potential exists during night firing exercises that vehicles can be mistakenly identified as targets, especially from

the rear, due to engine exhaust gases. Accordingly, it is possible that one tank could fire into the rear of another tank and impact the ammunition. The rear portion of the tank is not as heavily armored as the front.

b. Of particular concern are conditions where an uploaded tank is positioned or moving forward of another firing tank. Inadvertent engagement in the area of least armor protection could yield catastrophic detonation of ammunition in the ready, semi-ready, and hull ammunition racks. Extreme caution must be exercised in training events where these conditions exist.

MACHINE GUN ALLOWANCES AND DELIVERY SCHEDULE

M2 (M48 TURRET TYPE) MACHINE GUN ALLOWANCES AND DELIVERY SCHEDULE

E0984

T/E No	Unit Title	Per T/E	Total T/E	Planned Allowance FY 91 1	2	3	4	FY 92 1	2	3	4
7011	MCLB, Barstow	25	25	4*				21			
7014	MCLB, Albany	25	25					25			
	Reserve TkCo (West Coast)	8	8	8							
	Reserve TkCo (East Coast)	8	8	8							
H1521	H&SCo, TkBn, MPS I	2	2					2			
H1524	TkCo, TkBn, MPS I	14	28					28			
I1521	H&SCo, TkBn, MPS II	2	2		2						
I1524	TkCo, TkBn, MPS II	14	28		28						
J1521	H&SCo, TkBn, MPS III	2	2				2				
J1524	TkCo, TkBn, MPS III	14	28				28				
N1521	H&SCo, 2d TkBn, 2d MarDiv	2	2			2					
N1524	TkCo, 2d TkBn, 2d MarDiv	14	42			42					
N1531	H&SCo, 3d TkBn, 7th MEB	2	2		2						
N1534	TkCo, 3d TkBn, 7th MEB	14	42		42						
N3247(M4001)	ORF, 1st FSSG	10	10			10					
N3247(M4002)	ORF, 2d FSSG	10	10			10					
	PWR	32	32							32	
Total			296								

* Will be used for New Equipment Training at MCAGCC.

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M240 MACHINE GUN ALLOWANCES AND DELIVERY SCHEDULE

E0998

T/E No	Unit Title	Per T/E	Total T/E	Planned Allowance FY 91 1	2	3	4	FY 92 1	2	3	4
7014	MCLB, Albany M/F	38	38	8*				30			
	Reserve TkCo (West Coast)	16	16	16							
	Reserve TkCo (East Coast)	16	16	16							
H1521	H&SCo, TkBn, MPS I	4	4					4			
H1524	TkCo, TkBn, MPS I	28	56					56			
I1521	H&SCo, TkBn, MPS II	4	4	4							
I1524	TkCo, TkBn, MPS II	28	56	56							
J1521	H&SCo, TkBn, MPS III	4	4					4			
J1524	TkCo, TkBn, MPS III	28	56					56			
N1521	H&SCo, 2d TkBn, 2d MarDiv	4	4			4					
N1524	TkCo, 2d TkBn, 2d MarDiv	28	84			84					
N1531	H&SCo, 3d TkBn, 7th MEB	4	4		4						
N1534	TkCo, 3d TkBn, 7th MEB	28	84		32	52					
N3247(M4001)	ORF, 1st FSSG	8	8		4	4					
N3247(M4002)	ORF, 2d FSSG	8	8		4	4					
Total			442								

* Will be used for New Equipment Training at MCAGCC.

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INITIAL SPARES/REPAIR PARTS PACKAGE

INITIAL SPARES/REPAIR PARTS PACKAGE - NETT & ACTIVE BATTALIONS

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REPORT NO. 06 TOTAL PACKAGE FIELDING PACKAGE: S A1 88

TYPE PACKAGE: CLS-IX (CONSU) UNIT: M1A1 (MARINE)

CONSUMABLES NSN	TEC	LIN	NR	EC	RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE
2910011026868	R			C	AKZ	FILTER, FLUID		EA	3	3
2920010730738	R			C	AKZ	LEAD, ELECTRICAL		EA	4	4
2920010744982	R			C	AKZ	IGNITER, SPARK, GAS T		EA	10	10
2920011691863	R			C	AKZ	WIRING HARNESS, BRAN		EA	6	6
2920011816634	R			C	AKZ	WIRING HARNESS, 2W102		EA	3	3
2920012767477	R			C	AKZ	PARTS KIT, ENGINE GE		EA	11	11
2920012806686	R			C	AKZ	COIL, IGNITION		EA	6	6
2940011182868	R			C	AKZ	PARTS KIT, FLUID PRE		EA	8	8
3020010668209	R			C	AKZ	SPROCKET, WHEEL		EA	4	4
3040010746030	R			C	AKZ	CYLINDER ASSEMBLY, A		EA	2	2
3040011683971	R			J	AKZ	CAM, CONTOURED		EA	2	2
3040011683253	R			C	AKZ	SHAFT, SHOULDERED		EA	1	1
3040011683258	R			C	AKZ	SHAFT, SHOULDERED		EA	2	2
3040011657023	R			C	AKZ	GEARSHIFT, SPUR		EA	2	2
3110011683127	R			C	AKZ	BEARING, ROLLER, JOUR		EA	2	2
3110011683246	R			C	AKZ	PLATE RETAINING, BEA		EA	2	2
3110011687178	R			C	AKZ	BEARING, BALL, ANNULA		EA	2	2
4010011765988	R			G	B14	WIRE ROPE ASSEMBLY		EA	2	2
4030011683146	R			D	AKZ	HOOK, GRAB		EA	4	4
4240008283852	R			D	B14	FILTER, GAS, PART.		BX	8	8
4330011182068	R			J	AKZ	PARTS KIT, FLUID PRE		EA	8	8
4710012008151	R			C	AKZ	TUBE ASSEMBLY, METAL		EA	4	4
4730004196836	R			J	S8C	NIPPLE, TUBE		EA	1	1
4730010990183	R			C	AKZ	COUPLING ASSEMBLY, II		EA	2	2
5306000712070	R			C	S8I	SCREW		HD	8	8
5306004703321	R			C	S8I	SCREW		HD	1	1
5306007247221	R			C	S8I	SCREW		EA	60	60
5306009381538	R			J	S8I	SCREW, CAP, HEXAGON H		EA	120	120
5306011112268	R			C	AKZ	SCREW, SELF-LOCK		EA	4	4
5306011142804	R			C	AKZ	SCREW, ASSEMBLED WAS		EA	8	8
5306010818213	R			C	S8I	BOLT, MACHINE		EA	6	6
5306010868064	R			C	AKZ	BOLT, SELF-LOCKING		EA	10	10
5310006660975	R			C	S8I	WASHER, LOCK		HD	1	1
5310008349700	R			C	S8I	NUT, PLAIN, HEXAGON		HD	1	1
5310008358021	R			C	S8I	NUT, SELF LOCK		HD	1	1
5310121432606	R			G	B14	NUT, PLAIN, KNURLED		EA	3	3
5315008423044	R			C	S8I	PIN, COTTER		HD	1	1
5315011640857	R			G	B14	PIN, STRAIGHT, HEADLESS		EA	4	4
5330000200105	R			C	S8I	PACKING, PREFORMED		EA	7	7
5330001661022	R			C	S8I	PACKING, PREFORMED		EA	2	2
5330008080784	R			C	S8I	PACKING, PREFORMED		HD	1	1
5330010636787	R			C	AKZ	GASKET		EA	4	4
5330010636788	R			C	AKZ	GASKET		EA	1	1
5330010666208	R			C	AKZ	SEAL, PLAIN ENCASED		EA	8	8
5330010737848	R			C	AKZ	GASKET		EA	4	4
5330010766808	R			C	B14	GASKET		EA	4	4
5330010963703	R			C	AKZ	SEAL, PLAIN ENCASED		EA	6	6
5330010970237	R			C	AKZ	PACKING, PREFORMED		EA	1	1
5330010988807	R			G	AKZ	SEAL, RUBBER STRIP		EA	10	10
5330012136307	R			C	AKZ	SEAL RING, METAL INBCI		EA	2	2
5340010737675	R			C	AKZ	CLAMP, RETAINER		EA	18	18
5340011288654	R			C	AKZ	PLUG, PROTECTIVE, DUST		EA	14	14

TOTAL PACKAGE FIELDING

PACKAGE: S A1 88

REPORT NO. 06

TYPE PACKAGE: CLSJX (CONSU) UNIT: M1A1 (MARINE)

CONSUMABLES NSN	TEC	LIN	NR	EC	RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE
				C	AK2	COVER, ACCESS		EA	1	1
5340011583266	R			D	B14	GRILLE METAL		EA	2	2
5340011841707	R			D	S8G	KNOB		EA	1	1
5365009889882	R			G	B14	SPRING, HELICAL, COMP		EA	2	2
5360011840876	R			G	B14	SPRING, HELICAL, COMP		EA	2	2
5360121798827	R			C	S8I	RING, RETAIN, F/D		EA	2	2
5365001738069	R			C	S8I	RING, RETAIN, F/D		EA	4	4
5365002020194	R			C	S8I	PLUG, MACHINE		HD	1	1
5365006486688	R			C	S8I	RING, RETAIN, F/D		EA	2	2
5365007161162	R			C	S8I	PLUG, MACHINE THREAD		EA	2	2
5365010818267	R			C	S8E	SWITCH, PUSH		EA	1	1
5830001124326	R			C	S8E	SWITCH, TOGGLE		EA	1	1
5830001816108	R			C	S8E	SWITCH, TOGGLE		EA	2	2
5830008849871	R			J	AK2	PRESSURE SWITCH		EA	1	1
5930010728973	R			C	B14	SWITCH, PUSH		EA	2	2
5930010748403	R			D	AK2	SWITCH, VACUUM		EA	2	2
5930010854488	R			C	AK2	SWITCH, ROTARY		EA	3	3
5930010835656	R			C	AK2	SWITCH, PRESSURE THE		EA	1	1
5930010889142	R			C	AK2	SWITCH, PRESSURE - THE		EA	3	3
5930011286887	R			C	AK2	SWITCH, PRESSURE		EA	1	1
5930012113676	R			D	B14	SWITCH, SENSITIVE		EA	2	2
5935011128722	R			C	S8E	CONNECTOR, RECEPTACLE		EA	2	2
5946011004479	R			C	AK2	RELAY, ELECTROMAGNET		EA	2	2
5985011208668	R			C	AK2	CABLE ASSY., 3W102-1		EA	8	8
5985011208659	R			J	AK2	CABLE ASSY., 3W102-2		EA	1	1
5998010986488	R			J	B14	CIRCUIT CARD ASSY		EA	1	1
5998011164913	R			D	S8G	BACKPLANE ASSEMBLY		EA	2	2
6150002666466	R			C	AK2	LEAD, GRD STRAP		EA	1	1
6150011208487	R			C	AK2	CABLE ASSY 3W101-1		EA	1	1
6160011583139	R			D	B14	CABLE ASSY POWER		EA	1	1
6160011878719	R			D	B14	CABLE ASSEMBLY - SWIT		EA	2	2
6160011887868	R			G	B14	CABLE ASSEMBLY - SWITCH		EA	6	6
6160011903227	R			C	S8G	LENS		EA	1	1
6210004807862	R			D	B14	LENS, LIGHT		EA	11	11
6220011871028	R			C	S8G	LAMP, INCANDESCENT		EA	10	10
6240004801723	R			D	S8G	LAMP, INCANDESCENT		EA	4	4
6240007637744	R			C	AK2	VOLTMETER		EA	10	10
6820010706098	R			C	B14	TRANSDUCER, MOTIONAL		EA	10	10
6625010732185	R			J	AK2	INDICATOR, LIQUID QU		EA	4	4
6625010835494	R			J	AK2	INDICATOR, LIQUID QU		EA	4	4
6680012006887	R			C	AK2	TACHOMETER, ELECTRON		EA	8	8
6680012006045	R			C	AK2	SPEEDOMETER		EA	4	4
6680012014806	R			C	AK2	SPEED PICKUP, ELECTR		EA	3	3
6695010744946	R			C	AK2	DESICCANT, ACTIVATED		EA		
6850010814183	R			C	B14					

INITIAL SPARES/REPAIR PARTS PACKAGE - NETT & ACTIVE BATTALIONS

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REPORT NO. 06 TOTAL PACKAGE FIELDING PACKAGE: S A1 88

TYPE PACKAGE: CLS-IX (CONSU) UNIT: M1A1 (MARINE)

CONSUMABLES NSN	TEC	LIN	NR	EC	RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE
2910011026868	R			C	AKZ	FILTER, FLUID		EA	3	3
2920010730738	R			C	AKZ	LEAD, ELECTRICAL		EA	4	4
2920010744982	R			C	AKZ	IGNITER, SPARK, GAS T		EA	10	10
2920011691863	R			C	AKZ	WIRING HARNESS, BRAN		EA	6	6
2920011816634	R			C	AKZ	WIRING HARNESS, 2W102		EA	3	3
2920012767477	R			C	AKZ	PARTS KIT, ENGINE GE		EA	11	11
2920012806686	R			C	AKZ	COIL, IGNITION		EA	6	6
2940011182868	R			C	AKZ	PARTS KIT, FLUID PRE		EA	8	8
3020010668209	R			C	AKZ	SPROCKET, WHEEL		EA	4	4
3040010746030	R			C	AKZ	CYLINDER ASSEMBLY, A		EA	2	2
3040011683971	R			J	AKZ	CAM, CONTOURED		EA	2	2
3040011683253	R			C	AKZ	SHAFT, SHOULDERED		EA	1	1
3040011683258	R			C	AKZ	SHAFT, SHOULDERED		EA	2	2
3040011657023	R			C	AKZ	GEARSHIFT, SPUR		EA	2	2
3110011683127	R			C	AKZ	BEARING, ROLLER, JOUR		EA	2	2
3110011683246	R			C	AKZ	PLATE RETAINING, BEA		EA	2	2
3110011687178	R			C	AKZ	BEARING, BALL, ANNULA		EA	2	2
4010011765988	R			G	B14	WIRE ROPE ASSEMBLY		EA	2	2
4030011683146	R			D	AKZ	HOOK, GRAB		EA	4	4
4240008283852	R			D	B14	FILTER, GAS, PART.		BX	8	8
4330011182068	R			J	AKZ	PARTS KIT, FLUID PRE		EA	8	8
4710012008151	R			C	AKZ	TUBE ASSEMBLY, METAL		EA	4	4
4730004196836	R			J	S8C	NIPPLE, TUBE		EA	1	1
4730010990183	R			C	AKZ	COUPLING ASSEMBLY, II		EA	2	2
5306000712070	R			C	S8I	SCREW		HD	8	8
5306004703321	R			C	S8I	SCREW		HD	1	1
5306007247221	R			C	S8I	SCREW		EA	60	60
5306009381538	R			J	S8I	SCREW, CAP, HEXAGON H		EA	120	120
5306011112268	R			C	AKZ	SCREW, SELF-LOCK		EA	4	4
5306011142804	R			C	AKZ	SCREW, ASSEMBLED WAS		EA	8	8
5306010818213	R			C	S8I	BOLT, MACHINE		EA	6	6
5306010868064	R			C	AKZ	BOLT, SELF-LOCKING		EA	10	10
5310006660975	R			C	S8I	WASHER, LOCK		HD	1	1
5310008349700	R			C	S8I	NUT, PLAIN, HEXAGON		HD	1	1
5310008358021	R			C	S8I	NUT, SELF LOCK		HD	1	1
5310121432606	R			G	B14	NUT, PLAIN, KNURLED		EA	3	3
5315008423044	R			C	S8I	PIN, COTTER		HD	1	1
5315011640857	R			G	B14	PIN, STRAIGHT, HEADLESS		EA	4	4
5330000200105	R			C	S8I	PACKING, PREFORMED		EA	7	7
5330001661022	R			C	S8I	PACKING, PREFORMED		EA	2	2
5330008080784	R			C	S8I	PACKING, PREFORMED		HD	1	1
5330010636787	R			C	AKZ	GASKET		EA	4	4
5330010636788	R			C	AKZ	GASKET		EA	1	1
5330010666208	R			C	AKZ	SEAL, PLAIN ENCASED		EA	8	8
5330010737848	R			C	AKZ	GASKET		EA	4	4
5330010766808	R			C	B14	GASKET		EA	4	4
5330010963703	R			C	AKZ	SEAL, PLAIN ENCASED		EA	6	6
5330010970237	R			C	AKZ	PACKING, PREFORMED		EA	1	1
5330010988807	R			G	AKZ	SEAL, RUBBER STRIP		EA	10	10
5330012136307	R			C	AKZ	SEAL RING, METAL INBCI		EA	2	2
5340010737675	R			C	AKZ	CLAMP, RETAINER		EA	18	18
5340011288654	R			C	AKZ	PLUG, PROTECTIVE, DUST		EA	14	14

01/16/90

WEAPON SYSTEM PACKAGE ASSESSMENT REPORT

O.I.G. DATE: 06/40/00 — DODAAC: — UMFP/STAGING POINT:
HANDOFF DATE: 01/00/00 — UNIT: M1A1 (MARINE)
TYPE PACKAGE: CLS-IX (CONSU) — S A1 88

SUMMARY

TOTAL PACKAGE LINES:	148	MISSION ESSENTIAL LINES:	101	NON-MISSION ESSENTIAL LINES:	47
TOTAL PACKAGE CUBE:	286.662	PAA FUNDED:	$7,862.00		
TOTAL PACKAGE WEIGHT:	13,031.62	STOCK FUNDED:	$8,838.18		
		FREE ISSUE:	0.00		

LINES 100% FILLED:	0	0.0%
LINES PARTIALLY FILLED:	0	0.0%
LINES AT ZERO BALANCE:	148	100.0%

(AT UMFP, UMFP SHIPPED, HANDED OFF)

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TOTAL PACKAGE FIELDING

PACKAGE: SA1 89

REPORT NO. 05

TYPE PACKAGE: CLSIX (REP) UNIT: M1A1 (MARINE)

CONSUMABLES NSN	TEC	LIN	NR	EC	RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE
1005011716222	R			C	B14	FILTER ASSEMBLY, ELE		EA	2	2
1015010728044	R			C	B14	HANDLE ASSEMBLY, LEF		EA	1	1
1015010768738	R			C	B14	AZIMUTH SERVO		EA	2	2
1015010768740	R			J	B14	CDRS CONT HANDLE		EA	2	2
1015010766741	R			C	B14	ELEVATION MECH		EA	1	1
1015010766742	R			C	B14	GYRO		EA	1	1
1015010771620	R			J	B14	HANDLE, HYDRAULIC PU		EA	2	2
1015011228401	R			C	B14	SERVOMECHANISM, ELEV		EA	1	1
1015011787479	R			C	B14	GEARBOX ASSEMBLY		EA	1	1
1015011803612	R			D	B14	SLIP RING ASSEMBLY		EA	2	2
1015011871045	R			C	B14	BOARD, TRAV. (GTD ELV)		EA	3	3
1015011894663	R			C	B14	WIRING HARNESS, BRAN		EA	2	2
1015011894712	R			C	B14	HARNESS, 1W202-8		EA	2	2
1015011897723	R			C	B14	HARNESS, 1W200-8		EA	2	2
1015011903358	R			C	B14	WIRING HARNESS, BRAN		EA	3	3
1015011903360	R			C	B14	PCD ASSY (THB)		EA	4	4
1015011908658	R			C	B14	PCD A1 (THB)		EA	4	4
1015011811630	R			C	B14	CIRCUIT CARD ASSY		EA	2	2
1015012000128	R			C	B14	PCB, A3 (THB)		EA	2	2
1015012060084	R			C	B14	VALVE, TURRET, HYDRAU		EA	1	1
1015012098815	R			C	B14	TUBE, CANNON		EA	1	1
1015012368186	R			G	B14	MANUAL DRIVE ASSY		EA	3	3
1015012518646	R			C	B14	BOX ASSEMBLY, TURRET		AY	3	3
1015012692896	R			G	B14	BOARD SUBASSEMBLY E		EA	2	2
1015121780162	R			J	B14	EJECTOR, CARTRIDGE		EA	2	2
1080010766865	R			C	B14	GRIP ASSEMBLY, CONTR		EA	2	2
1220010766892	R			C	B14	CIR CARD (HOUS ASSEMBLY		EA	1	1
1220011768769	R			J	B14	CIRCUIT CARD ASSEMBLY		EA	2	2
1220011768771	R			C	B14	PCB ASSY, A4 (CS ASSY)		EA	3	3
1220012907508	R			C	B14	COMPUTER, FIRE CONTRO		EA	1	1
1220012909744	R			C	B14	COMPUTER CONTROL PA		EA	1	1
1230010828968	R			J	B14	PANEL ASSEMBLY, PRIM		EA	4	4
1240010746766	R			C	B14	PERISC. DRIVERS UNITY		EA	2	2
1240010749021	R			C	B14	CIRCUIT CARD ASSEMBLY		EA	2	2
1240010749022	R			C	B14	CIRCUIT CARD ASSEMBLY		EA	2	2
1240010749026	R			C	B14	PCB (IMAGE CONTROL)		EA	2	2
1240010749027	R			C	B14	CIRCUIT CARD ASSEMBLY		EA	1	1
1240010777698	R			C	B14	CIRCUIT CARD		EA	3	3
1240010783040	R			J	B14	PERISCOPE, TANK		EA	2	2
1240010808004	R			J	B14	PERISCOPE, TANK		EA	2	2
1240011387033	R			C	B14	PCB (THERMAL E.U.)		EA	4	4
1240011627683	R			C	B14	PCB (RANGE FINDER)		EA	1	1
1240011627822	R			J	B14	CIRCUIT CARD ASSEMBLY		EA	4	4
1240011712581	R			C	B14	LINEAR REGULATOR AS		AY	4	4
1240011714774	R			C	B14	ELECTRONIC UNIT, LOS		EA	2	2
1240011748279	R			C	B14	PCB ASSY, A3 (CIS ASSY)		EA	2	2
1240011878767	R			C	B14	PCB (RANGE FINDER)		EA	1	1
1240011908651	R			J	B14	DRIVE, ASSY, AZIMUTH		EA	3	3
1240012046766	R			C	B14	POWER CONTROL UNIT		EA	4	4
1240012172334	R			C	B14	CONVERTER (A2) C-PCU		EA		

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REPORT NO. 06 TOTAL PACKAGE FIELDING

TYPE PACKAGE: CLS-JX (REP) UNIT: M1A1 (MARINE) PACKAGE: SA1 69

CONSUMABLES NSN	TEC	LIN	NR	EC	RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE
1240012242780	R			C	B14	CIRCUIT CARD (LOS)		AY	2	2
1240012461872	R			C	B14	IMAGE CONTROL UNIT		EA	2	2
1240012461873	R			C	B14	THERMAL E.U.		EA	6	6
1240012616020	R			C	B14	BODY ASSY., GUN (OIP)		EA	2	2
1240012698086	R			C	B14	PERISCOPE, TANK (OIP)		EA	2	2
1240011258086	R			C	B14	GUNNERS AUX. SIGHT		EA	2	2
1240012642040	R			C	B14	LASER ASSY, GUNN (OIP)		EA	4	4
1240012686117	R			C	B14	HEAD ASSEMBLER W		EA	1	1
1240012718060	R			C	B14	THERMAL RECEIVE (OIP)		EA	3	3
2620010673843	R			C	AK2	FAN, TRANS. OIL COOLER		EA	2	2
2620010673873	R			C	AK2	COOLER, FLUID, TRANS		EA	3	3
2620010673884	R			C	AK2	COOLER, FLUID, TRANS		EA	2	2
2620010673894	R			C	AK2	CLUTCH, FRICTION		EA	2	2
2620010727704	R			C	AK2	VALVE ASSY, TRIM DOO		EA	3	3
2620011428251	R			C	AK2	SHIFT CONT ASSY		EA	2	2
2620011674282	R			C	AK2	FINAL DRIVE E1/PAA		EA	2	2
2620012108785	R			C	AK2	TRANSMISSION WITH C		EA	2	2
2630010636666	R			C	AK2	HUB, WHEEL ASSY		EA	4	4
2630010636668	R			C	AK2	SUPPORT RLR ASSY		EA	4	4
2630010638866	R			C	AK2	ARM ASSEMBLY, PIVOT.		EA	2	2
2630011662343	R			C	AK2	LINK, ADJ. TRK. LT		EA	4	4
2630011794416	R			C	AK2	ARM ASSEMBLY, PIVOT		EA	2	2
2630011794417	R			C	AK2	ARM ASSEMBLY, PIVOT		EA	2	2
2630011866974	R			C	AK2	ARM ASSY LEFT NO.2, 7		EA	240	240
2630012963177	R			C	AK2	TRACK SHOE ASSEMBLY		EA	4	4
2640011797623	R			C	AK2	DRVS INST PANEL E1		EA	3	3
2690010730126	R			C	AK2	WIRING HARNESS 2W104		EA	3	3
2690010730157	R			C	AK2	CIRCUIT CARD A3		EA	3	3
2690010730160	R			C	AK2	PC CARD, ASSY A1		EA	6	6
2690010730162	R			C	AK2	PCB ASSY, A4 (OIP)		EA	2	2
2690011866716	R			C	B14	WIRING HARNESS, BRAN		EA	4	4
2690012606841	R			C	AK2	CONT ASSY FUEL ECUP		EA	3	3
2835011181283	R			C	AK2	WIRING HARN 3W104-9		EA	2	2
2835011580117	R			J	AK2	PARTS KIT, REDUCTION		EA	2	2
2835011580133	R			C	AK2	GRILLE, METAL		EA	3	3
2835011787245	R			C	AK2	PCB ASSY, A4 (ECU)		EA	6	6
2835011787246	R			C	AK2	ENGINE MODULE REAR		EA	2	2
2835011878326	R			C	AK2	REDUCTION GEARBOX W		EA	2	2
2835012168639	R			C	AK2	GEARBOX, ACCESSORY D		EA	1	1
2835012227836	R			C	AK2	ENGINE W/CONTAINER		EA	3	3
2910011248326	R			C	AK2	ENGINE, MODULE FWD		EA	1	1
2810012142640	R			C	AK2	FUEL, NOZZLE (1 PC)		EA	1	1
2810012937131	R			C	AK2	FUEL, NOZZLE (2 PC)		EA	12	12
2920010676407	R			C	AK2	FUEL CONTROL, MAIN, T		EA	3	3
2920011451879	R			J	AK2	WIRING HARNESS 3W103		EA	2	2
2920011646898	R			C	AK2	SOLENOID, ELECTRICAL		EA	3	3
2920011789303	R			C	AK2	WIRING HARNESS 2W166		EA	2	2
2920012006223	R			C	AK2	WIRING HARN, 2W105-9		EA	2	2
2920012042606	R			C	AK2	WIRE HARNESS 2W301		EA	2	2
2930010673839	R			C	AK2	WIRING HARN, 2W168		EA	2	2
2930010673842	R			C	AK2	COOLER, ENG OIL		EA	2	2
						FAN & DRIVE UNIT/PAA		EA		

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Annex I to
Appendix N to
ENCLOSURE (1)

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REPORT NO. 06 TOTAL PACKAGE FIELDING PACKAGE: SA1 89

TYPE PACKAGE: CL&IX (REP) UNIT: M1A1 (MARINE)

CONSUMABLES NSN	TEC	LIN	NR	EC	RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE	
2940010904480	R			C	AKZ	FILTER, ELEMENT, INTA		EA	16	16	
2990010743488	R			C	AKZ	PUMP, OIL/PAA		EA	4	4	
2980011361208	R			C	AKZ	STARTER, ENGINE, GAS		EA	6	6	
4010010680483	R			C	AKZ	DRV UNIT, ANG LT		EA	2	2	
4010010690484	R			C	AKZ	DRV UNIT, ANG RT		EA	2	2	
4140011987587	R			D	AKZ	FAN, TUBEAXIAL		EA	1	1	
4240008661826	R			D	B14	FILTER, PARTICULATE		EA	4	4	
4240011613710	R			C	B14	FILTER, GAS-PARTICUL		EA	2	2	
4320010734289	R			C	AKZ	HYDRAULIC PUMP UNIT		EA	4	4	
4320010768286	R			J	B14	MOTOR, HYDRAULIC		EA	2	2	
4320011428288	R			C	AKZ	PUMP, MAIN HYD/PAA		EA	4	4	
4320012010814	R			C	B14	HAND PUMP ASSEMBLY		EA	2	2	
4730010811768	R			C	AKZ	MANIFOLD ASSY		EA	3	3	
4810012004108	R			C	AKZ	VALVE ASSEMBLY		EA	2	2	
4810012004585	R			D	AKZ	VALVE, SOLENOID		EA	10	10	
4820012281136	R			G	AKZ	VALVE, REGULATING, TE		EA	2	2	
5895011461390	R			C	B14	AMPLIFIER, VIDEO		EA	4	4	
5898011638228	R			C	AKZ	PCB, A1A1 (ECU)		EA	3	3	
5895011638230	R			C	AKZ	MODULATOR A3A1 (PCB)		EA	3	3	
5960010748964	R			C	B14	ELECTRON TUBE		EA	2	2	
5961011723055	R			C	B14	SEMICOND (A3) C-PCU		EA	4	4	
5980010768868	R			C	B14	RESOLVER, ELECTRICAL		EA	1	1	
5998010768886	R			C	B14	PCB (LOS) (ELEC UNIT)		EA	2	2	
5998010768886	R			C	B14	CIR CARD ASSY (LOS)		EA	2	2	
5998010768889	R			C	B14	CIRCUIT CARD (LOS)		EA	2	2	
5998010768900	R			C	B14	CIRCUIT CARD (LOS)		EA	2	2	
5998010768901	R			C	B14	CIRCUIT CARD (LOS)		EA	2	2	
5998010781307	R			C	B14	CIR CARD (LOS)(EU)		EA	2	2	
5998011718808	R			C	B14	PCB ASSEMBLY (LOS)		EA	2	2	
5998012897696	R			J	B14	CIRCUIT CARD ASSEMB		EA	1	1	
5998010746828	R			C	B14	CIR CARD (COMPUTER)		EA	2	2	
5998010768888	R			C	B14	CIR CARD (COMPUTER)		EA	2	2	
5998010768891	R			C	B14	CIR CARD (COMPUTER)		EA	2	2	
5998010835741	R			C	AKZ	PCB, A2 (DIF E A2A2(ECU)		EA	6	6	
5998011323921	R			C	AKZ	MODULE, DIF E A2A2(ECU)		EA	6	6	
5998011612756	R			C	AKZ	CIRCUIT CARD ASSEMB		EA	6	6	
5998011681575	R			C	B14	GID ELEVATION		EA	3	3	
5998011978323	R			C	AKZ	CIR. CARD A1A2 ECU		EA	6	6	
5998011970324	R			C	AKZ	CIR. CARD A2A1 ECU		EA	6	6	
5998011988956	R			C	AKZ	PCB ASSEMBLY (DIP)		AY	6	6	
5998012011167	R			C	AKZ	PCB, A3 (DIP)		EA	6	6	
5998012060123	R			J	B14	CIRCUIT CARD ASSY		EA	1	1	
5998012640807	R			J	B14	CIRCUIT CARD ASSY		EA	3	3	
5998012640808	R			J	B14	CIRCUIT CARD ASSY		EA	3	3	
5998012768092	R			C	B14	CIRCUIT CARD (A8)		EA	3	3	
6110010812888	R			C	AKZ	REGULATOR, VOLTAGE		EA	4	4	
6110011868106	R			C	B14	PCB, A1 (CPCU)		EA	3	3	
6110011885164	R			C	AKZ	DISTRIBUTION BOX		EA	1	1	
6110012563364	R			C	AKZ	DISTRIBUTION BOX		EA	7	7	
6130010773807	R			J	B14	POWER SUPPLY		EA	2	2	
6130011220690	R			J	B14	POWER SUPPLY		EA	1	1	
6160010729888	R			C	AKZ	WIRING HARNESS 2W116		EA	2	2	

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REPORT NO. 06

TOTAL PACKAGE FIELDING

PACKAGE: 5 A1 69

TYPE PACKAGE: CLS-IX (REP) UNIT: M1A1 (MARINE)

CONSUMABLES NSN	TEC	LIN	NR	EC	RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE
6160011428271	R			C	AKZ	WIRING HARNESS 2W114		EA	3	3
6150012664006	R			G	AKZ	CONSOLE, POWER DIST.		EA	6	6
6220011791061	R			D	AKZ	HEADLIGHT ASSEMBLY		EA	1	1
6220011876623	R			D	AK2	STOP LIGHT-TAIL LIGH		EA	4	4
6610012173872	R			J	B14	COMMANDERS CONTROL		EA	1	1
6660010836864	R			D	AK2	PERISCOPE, TANK		EA	3	3

01/16/90

WEAPON SYSTEM PACKAGE ASSESSMENT REPORT

O.I.G. DATE: 06/40/00
HANDOFF DATE: 01/00/00
TYPE PACKAGE: CLS=X (REP)

S A1 68

DODAAC:

UNIT: M1A1 (MARINE)

UMPP/STAGING POINT:

SUMMARY

TOTAL PACKAGE LINES:	161	MISSION ESSENTIAL LINES:	131
		NON-MISSION ESSENTIAL LINES:	30
TOTAL PACKAGE CUBE:	2,329.370	PAA FUNDS:	204,967.34
TOTAL PACKAGE WEIGHT:	66,636.72	STOCK FUNDS:	32,311.86
		FREE ISSUE:	0.00

LINES 100% FILLED:	161	100.0%
LINES PARTIALLY FILLED:	0	0.0%
LINES AT ZERO BALANCE:	161	100.0%

(AT UMPP SELECTED, HANDED OFF)

INITIAL SPARES/REPAIR PARTS PACKAGE - MPS

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REPORT NO. 05 TOTAL PACKAGE FIELDING PACKAGE: S A1 71

TYPE PACKAGE: CLS-IX (CONSU) UNIT: M1A1 (MOD ASL)

CONSUMABLES NSN	TEC	LIN	NR	EC	RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE
1015010724182	R			D	B14	SCREEN, TURRET BASKET		EA	1	1
1016010724183	R			D	B14	SCREEN, TURRET BASKET		EA	1	1
1016010724182	R			D	B14	GUARD, KNEE, RIGHT		EA	1	1
1016010733188	R			C	B14	SERVOVALVE, HYDRAULIC		EA	6	6
1015010787645	R			C	B14	AMPLIFIER, ELECTRONIC		EA	1	1
1016010781829	R			D	B14	LEVER		EA	2	2
1016010838012	R			C	B14	HANDLE ASSY, RIG		EA	3	3
1016011709835	R			D	B14	DOOR LINK, RIGHT		EA	1	1
1015011709836	R			D	B14	DOOR LINK, LEFT		EA	3	3
1016011866391	R			D	B14	GUARD, SAFETY		EA	4	4
1016011887988	R			C	B14	PCB (PWR CNTRL UNIT)		EA	3	3
1016012048807	R			G	B14	REPAIR KIT, ACTUATOR		EA	2	2
1015012316600	R			J	B14	KIT, SEAL, GUN MOUNT		KT	2	2
1015012788538	R			G	B14	STOP PIECE		EA	2	2
1016121790161	R			J	B14	EJECTOR, CARTRIDGE		EA	2	2
1016121790166	R			J	B14	EXTRACTOR SHAFT ASSY		EA	2	2
1016121822722	R			J	B14	PIN, FIRING		EA	10	10
1025004781338	R			C	B14	FILTER, DISK EQUILB		EA	3	3
1230010748918	R			J	B14	WINDOW, OBSERVATION		EA	2	2
1230012416438	R			J	B14	SENSOR, CROSSWIND		EA	2	2
2815010065833	R			C	AK2	TORSION BAR RT		EA	7	7
2520010729843	R			C	AK2	TORSION BAR LT		EA	7	7
2520010730740	R			C	AK2	HEAT EXCHANGER, HYDR		EA	2	2
2620010764824	R			C	AK2	DISK, CLUTCH		EA	26	26
2620011286668	R			C	AK2	HOUSING		EA	1	1
2520011324189	R			C	AK2	DISK, CLUTCH		EA	6	6
2520011683070	R			C	AK2	SOLENOID, TRANSMISSION		EA	4	4
2520011689173	R			C	AK2	CAM, CONTROL		EA	2	2
2620012042686	R			C	AK2	RING, PLASTIC, RETAIN		EA	2	2
2530010635862	R			C	AK2	SERVICE KIT, OIL FIL		EA	10	10
2530010666297	R			C	AK2	HUB CAP, WHEEL		EA	8	8
2530010669133	R			C	AK2	ARM ASSY, LEFT NO.1		EA	2	2
2630011191284	R			C	AK2	HUB, FINAL DRIVE		EA	2	2
2630011646805	R			C	AK2	PARTS KIT, TRANSMISS		EA	2	2
2630011865976	R			C	AK2	LINK, ADJ, TRK, RT		EA	4	4
2630012953112	R			C	AK2	ARM ASSY RT NO. 2, 7		EA	2	2
2630012953113	R			C	AK2	PARTS KIT, TRACK PAD		EA	400	400
2630012953114	R			C	AK2	PARTS KIT, TRACK END		EA	40	40
2640010728931	R			D	AK2	PARTS KIT, CENTER GUI		EA	30	30
2640010729932	R			D	AK2	SENSOR, RPM		EA	6	6
2640010737853	R			D	AK2	AMPLIFIER, CONTROL F		EA	2	2
2640010737846	R			C	AK2	BLADE, WINDSHIELD WI		EA	4	4
2590010729845	R			C	AK2	TRANSFORMER AND LEAD		EA	2	2
2590010806457	R			D	AK2	CONTROL ASSEMBLY, PU		EA	2	2
2590010811191	R			C	B14	BLASTING MACHINE		EA	2	2
2590010839011	R			D	B14	CYLINDER ASSEMBLY, A		EA	2	2
2835010743782	R			C	AK2	ADAPTER, SPEEDOMETER		EA	2	2
2835010744851	R			C	AK2	RING, METALLIC		EA	4	4
2835011181280	R			C	AK2	PARTS KIT, FORWARD E		EA	2	2
2835011181281	R			C	AK2	REPAIR KIT, DIESEL E		EA	2	2
2835011181282	R			C	AK2	PARTS KIT, ACCESSORY		EA	2	2
2910011026868	R			C	AK2	FILTER, FLUID		EA	3	3

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TOTAL PACKAGE FIELDING

PACKAGE: SA1 71

REPORT NO. 06

CONSUMABLES NSN	TEC	LIN	NR	EC	TYPE PACKAGE: CLSIX (CONSU) UNIT: M1A1 (MOD ASL) RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE
										4
2920010730736	R			C	AKZ	LEAD, ELECTRICAL		EA	4	4
2920010744982	R			C	AKZ	IGNITER, SPARK, GAS T		EA	10	10
2920011691863	R			C	AKZ	WIRING HARNESS, BRAN		EA	6	6
2920011816634	R			C	AKZ	WIRING HARNESS, 2W102		EA	3	3
2920012767477	R			C	AKZ	PARTS KIT, ENGINE GE		EA	11	11
2920012865686	R			C	AKZ	COIL, IGNITION		EA	6	6
2840011182868	R			C	AKZ	PARTS KIT, FLUID PRE		EA	8	8
3020010666209	R			C	AKZ	SPROCKET, WHEEL		EA	4	4
3040010746030	R			C	AKZ	CYLINDER ASSEMBLY, A		EA	2	2
3040011683071	R			J	AKZ	CAM, CONTROL		EA	1	1
3040011683267	R			C	AKZ	SHAFT, SHOULDERED		EA	2	2
3040011683268	R			C	AKZ	SHAFT, SHOULDERED		EA	2	2
3040011867023	R			C	AKZ	GEARSHIFT, SPUR		EA	2	2
3110011883127	R			C	AKZ	BEARING, ROLLER, JOUR		EA	2	2
3110011887378	R			C	AKZ	PLATE RETAINING, BEA		EA	2	2
4010011685146	R			G	B14	BEARING, BALL, ANNULA		EA	2	2
4030011683952	R			D	B14	WIRE ROPE ASSEMBLY		EA	4	4
4320011182069	R			J	AKZ	HOOK, GRAB		BX	8	8
4710012006151	R			C	AKZ	FILTER, GAS, PART		EA	8	8
4730004185836	R			J	58C	PARTS KIT, FLUID PRE		EA	4	4
4730010880183	R			C	AKZ	TUBE ASSEMBLY, METAL		EA	1	1
5305000712070	R			C	S8I	NIPPLE, TUBE		EA	2	2
5306004703321	R			C	S8I	COUPLING ASSEMBLY, II		HD	8	8
5306007247221	R			C	S8I	SCREW		HD	1	1
5306009381638	R			J	S8I	SCREW		HD	60	60
5306011112268	R			C	AKZ	SCREW, CAP, HEXAGON H		EA	120	120
5306011142804	R			C	AKZ	SCREW, SELF-LOCK		EA	4	4
5306010818213	R			C	S8I	SCREW, ASSEMBLED WAS		EA	8	8
5306010865054	R			C	AKZ	BOLT, MACHINE		EA	6	6
5310005690070	R			C	S8I	BOLT, SELF-LOCKING		EA	10	10
5310009348760	R			C	S8I	WASHER, LOCK		HD	1	1
5310009369021	R			G	B14	NUT, PLAIN, HEXAGON		HD	1	1
5310012432606	R			C	S8I	NUT, SELF LOCK		HD	1	1
5316008422064	R			G	B14	NUT, PLAIN, KNURLED		HD	3	3
5316011160967	R			C	S8I	PIN, COTTER		EA	1	1
5330000200105	R			G	S8I	PIN, STRAIGHT, HEADLESS		EA	4	4
5330001661022	R			C	S8I	PACKING, PREFORMED		EA	7	7
5330008808784	R			C	S8I	PACKING, PREFORMED		EA	2	2
5330010635797	R			C	AKZ	PACKING, PREFORMED		HD	1	1
5330010635798	R			C	AKZ	GASKET		EA	4	4
5330010666208	R			C	AKZ	GASKET		EA	1	1
5330010737848	R			C	AKZ	SEAL, PLAIN ENCASED		EA	8	8
5330010766808	R			C	B14	GASKET		EA	4	4
5330010863703	R			C	AKZ	SEAL, PLAIN ENCASED		EA	4	4
5330010870237	R			C	AKZ	PACKING, PREFORMED		EA	6	6
5330010886807	R			C	AKZ	SEAL, RUBBER STRIP		EA	1	1
5330012136307	R			G	AKZ	SEAL, RING, METAL (NBC)		EA	10	10
5340010737676	R			C	AKZ	CLAMP, RETAINER		EA	2	2
5340011280564	R			C	AKZ	PLUG, PROTECTIVE, DUST		EA	18	18
5340011683266	R			C	AKZ	COVER, ACCESS		EA	14	14
									1	1

Annex II to
Appendix N to
ENCLOSURE (1)

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REPORT NO. 06 TOTAL PACKAGE FIELDING 01/16/80 08:13 PAGE 8

TYPE PACKAGE: CLSJK (CONSOLI UNIT: M1A1 (MOD ASLI PACKAGE: SA1 71

CONSUMABLES NSN	TEC	LIN	NR	EC	RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE
5340011841707	R			D	B14	GRILLE METAL		EA	2	2
5365009689882	R			D	S8G	KNOB		EA	1	1
5360011640876	R			G	B14	SPRING, HELICAL, COMP		EA	2	2
5360121798627	R			G	B14	SPRING, HELICAL, COMP		EA	2	2
5365001738069	R			C	S8I	RING, RETAIN, F/D		EA	2	2
5365002020184	R			C	S8I	RING, RETAIN, F/D		EA	2	2
5365006486688	R			C	S8I	PLUG, MACHINE		EA	4	4
5365007151162	R			C	S8I	RING, RETAIN, F/D		HD	1	1
5365010818267	R			C	S8I	PLUG, MACHINE THREAD		EA	2	2
5930001124326	R			C	S8E	SWITCH, PUSH		EA	2	2
5930001916108	R			C	S8E	SWITCH, TOGGLE		EA	1	1
5930009849871	R			C	S8E	SWITCH, TOGGLE		EA	1	1
5930010728973	R			J	AK2	PRESSURE SWITCH		EA	2	2
5930010749802	R			C	B14	SWITCH, PUSH		EA	1	1
5930010835473	R			D	AK2	SWITCH, VACUUM		EA	2	2
5930010835486	R			C	AK2	SWITCH, ROTARY		EA	2	2
5930010836566	R			C	AK2	SWITCH, PRESSURE THE		EA	3	3
5930010899142	R			C	AK2	SWITCH, PRESSURE . THE		EA	1	1
5930011286887	R			C	AK2	SWITCH, PRESSURE		EA	3	3
5930012113676	R			D	B14	SWITCH, SENSITIVE		EA	1	1
5935011128722	R			C	S8E	CONNECTOR, RECEPTACLE		EA	2	2
5946011004479	R			C	S8E	RELAY, ELECTROMAGNET		EA	2	2
5998011208868	R			C	AK2	CABLE ASSY, 3W1021		EA	2	2
5998011208869	R			C	AK2	CABLE ASSY, 3W1022		EA	2	2
5998011096498	R			J	AK2	CIRCUIT CARD ASSY		EA	8	8
6898011164913	R			J	B14	BACKPLANE ASSEMBLY		EA	1	1
6150002656456	R			D	S8G	LEAD, GRD STRAP		EA	1	1
6150011208487	R			C	AK2	CABLE ASSY 3W101-1		EA	2	2
6150011683139	R			C	AK2	CABLE ASSY POWER		EA	1	1
6150011879719	R			D	B14	CABLE ASSEMBLY - SWIT		EA	1	1
6160011887869	R			D	B14	CABLE ASSEMBLY - SWIT		EA	1	1
6150011803327	R			G	B14	CABLE ASSEMBLY - SWITCH		EA	2	2
6210004807862	R			C	S8G	LENS		EA	6	6
6220011871028	R			D	B14	LENS, LIGHT		EA	1	1
6240004807723	R			C	S8G	LAMP, INCANDESCENT		EA	11	11
6240007637744	R			D	S8G	LAMP, INCANDESCENT		EA	10	10
6620012006086	R			C	AK2	VOLTMETER		EA	4	4
6626010733185	R			J	B14	TRANSDUCER, MOTIONAL		EA	10	10
6680010835484	R			J	AK2	INDICATOR, LIQUID QU		EA	10	10
6680012008887	R			C	AK2	INDICATOR, LIQUID QU		EA	4	4
6680012006046	R			C	AK2	TACHOMETER, ELECTRON		EA	4	4
6680012014806	R			C	AK2	SPEEDOMETER		EA	8	8
6696010744946	R			C	AK2	SPEED PICKUP, ELECTR		EA	4	4
6850010814183	R			C	B14	DESICCANT, ACTIVATED		EA	3	3

01/16/90

WEAPON SYSTEM PACKAGE ASSESSMENT REPORT

O.I.G. DATE: 06/40/00
HANDOFF DATE: 01/00/00
TYPE PACKAGE: CLSHA (CONSUI)

$ A1 UNIT: M1A1 MARINE (MOD ASSAULT) DODAAC: UMFP/STAGING POINT:

SUMMARY

TOTAL PACKAGE LINES:	148	MISSION ESSENTIAL LINES:	101	NON-MISSION ESSENTIAL LINES: 47
TOTAL PACKAGE CUBE:	274.262	PAA FUNDED:	$7,662.00	
TOTAL PACKAGE WEIGHT:	11,831.62	STOCK FUNDED:	$4,200.18	
			FREE ISSUE:	0.00

LINES 100% FILLED:	148	(AT UMFP, UMFP SBSP, OR MCD, HANDED OFF)	
LINES PARTIALLY FILLED:	0	0.0%	
LINES AT ZERO BALANCE:	148	100.0%	

Annex II to
Appendix N to
ENCLOSURE (1)

REPORT NO. 06 TOTAL PACKAGE FIELDING PACKAGE: S A1 72

TYPE PACKAGE: CLS-IX (REP) UNIT: M1A1 (MOD ASL)

CONSUMABLES NSN	TEC	LIN	NR	EC	RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE
1005011716222	R			C	B14	FILTER ASSEMBLY, ELE		EA	2	2
1016010728044	R			C	B14	HANDLE ASSEMBLY, LEF		EA	1	1
1016010766738	R			C	B14	AZIMUTH SERVO		EA	2	2
1016010786740	R			J	B14	CDRS CONT HANDLE		EA	2	2
1016010786741	R			C	B14	ELEVATION MECH		EA	2	2
1016010786742	R			C	B14	HANDLE, HYDRAULIC PU		EA	1	1
1016011729420	R			J	B14	SERVOMECHANISM, ELEV		EA	1	1
1016011729421	R			C	B14	GEARBOX ASSEMBLY		EA	2	2
1016011787478	R			C	B14	BRAKE ASSEMBLY		EA	1	1
1016011803612	R			D	B14	SLIP RING ASSEMBLY		EA	1	1
1016011871046	R			C	B14	BOARD, TRAV. (GTD ELV)		EA	2	2
1016011884663	R			C	B14	WIRING HARNESS, BRAN		EA	3	3
1016011894712	R			C	B14	HARNESS, 1W202-8		EA	2	2
1016011897723	R			C	B14	HARNESS, 1W200-8		EA	2	2
1016011903368	R			C	B14	WIRING HARNESS, BRAN		EA	2	2
1016011903360	R			C	B14	PCD ASSY (THBI		EA	3	3
1016011908668	R			C	B14	PCD A1 (THBI		EA	4	4
1016011911630	R			C	B14	CIRCUIT CARD ASSY		EA	4	4
1016012000128	R			C	B14	PCB, A3 (THBI		EA	2	2
1016012060084	R			C	B14	VALVE, TURRET, HYDRAU		EA	2	2
1016012098415	R			C	B14	TUBE, CANNON		EA	1	1
1016012128675	R			G	B14	MANUAL DRIVE ASSY		EA	1	1
1016012388188	R			C	B14	BOX ASSEMBLY, TURRET		EA	3	3
1016012618646	R			G	B14	BOARD SUBASSEMBLY E		AY	3	3
1016012692896	R			J	B14	EJECTOR, CARTRIDGE		EA	2	2
1016121190162	R			C	B14	CHIP ASSEMBLY, CONTR		EA	2	2
1090010766866	R			C	B14	CIRCUIT CARD ASSY		EA	2	2
1220011766942	R			C	B14	CIRCUIT CARD ASSEMBLY		EA	1	1
1220011768758	R			J	B14	PCB ASSY., A6 (CS ASSY)		EA	2	2
1220011768771	R			C	B14	COMPUTER FIRE CONTRO		EA	3	3
1220012907508	R			C	B14	COMPUTER CONTROL PA		EA	1	1
1220012908744	R			C	B14	PANEL ASSEMBLY, PRIM		EA	1	1
1230010828858	R			J	B14	PERISC. DRIVERS UNITY		EA	4	4
1240010745766	R			C	B14	CIRCUIT CARD ASSEMBLY		EA	2	2
1240010749021	R			C	B14	CIRCUIT CARD ASSEMBLY		EA	2	2
1240010749022	R			C	B14	PCB (IMAGE CONTROL)		EA	2	2
1240010749026	R			C	B14	CIRCUIT CARD ASSEMBLY		EA	2	2
1240010749027	R			C	B14	CIRCUIT CARD		EA	1	1
1240010777686	R			J	B14	PERISCOPE, TANK		EA	3	3
1240010793040	R			J	B14	PERISCOPE, TANK		EA	2	2
1240010808004	R			C	B14	PCB (THERMAL E.U.)		EA	2	2
1240011387033	R			C	B14	PCB (RANGE FINDER)		EA	4	4
1240011627683	R			J	B14	CIRCUIT CARD ASSEMBLY		EA	1	1
1240011623922	R			C	B14	LINEAR REGULATOR AS		EA	4	4
1240011712381	R			C	B14	ELECTRONIC UNIT, LOS		AY	4	4
1240011714774	R			C	B14	PCB ASSY, A3 (CS ASSY)		EA	2	2
1240011748279	R			C	B14	PCB (RANGE FINDER)		EA	2	2
1240011878767	R			J	B14	DRIVE, ASSY., AZIMUTH		EA	1	1
1240011908661	R			C	B14	POWER CONTROL UNIT		EA	3	3
1240012045766	R			C	B14	CONVERTER, A2 (CPCU		EA	4	4
1240012172334	R			C	B14	CIRCUIT CARD (LOS)		AY	2	2
1240012242780	R									

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ENCLOSURE (1)

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TOTAL PACKAGE FIELDING

PACKAGE: SA1 72

REPORT NO. 06

TYPE PACKAGE: CLS-IX (REP) UNIT: M1A1 (MOD ASL)

CONSUMABLES NSN	TEC	LIN	NR	EC	RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE
1240012481872	R			C	B14	IMAGE CONTROL UNIT		EA	2	2
1240012481873	R			C	B14	THERMAL E.U.		EA	2	2
1240012616020	R			C	B14	BODY ASSY, GUN (OIP)		EA	6	6
1240012698086	R			C	B14	PERISCOPE, TANK (OIP)		EA	2	2
1240011268086	R			C	B14	GUNNER'S AUX S (OIP)		EA	2	2
1240012642040	R			C	B14	LASER RANGEFINDER AV		EA	4	4
1240012686117	R			C	B14	HEAD ASSY, GUNNER (OIP)		EA	1	1
1240012716060	R			C	B14	THERMAL RECEIVE (OIP)		EA	3	3
2620010673843	R			C	AKZ	FAN ASSY, OIL COOLER		EA	2	2
2620010673873	R			C	AKZ	COOLER, FLUID, TRANS		EA	3	3
2620010673874	R			C	AKZ	COOLER, FLUID, TRANS		EA	2	2
2620010673899	R			C	AKZ	CLUTCH, FRICTION		EA	2	2
2620010737704	R			C	AKZ	VALVE ASSY, TRIM DOO		EA	3	3
2620011428261	R			C	AKZ	SHIFT CONT ASSY		EA	2	2
2620011674282	R			C	AKZ	FINAL DRIVE E\P\AA		EA	2	2
2620012160565	R			C	AKZ	TRANSMISSION WITH C		EA	4	4
2630010635656	R			C	AKZ	HUB, WHEEL ASSY		EA	4	4
2630010635656	R			C	AKZ	SUPPORT RLR ASSY		EA	4	4
2630011662343	R			C	AKZ	ARM ASSEMBLY, PIVOT.		EA	2	2
2630011791416	R			C	AKZ	LINK, ADJ, TRK, LT		EA	4	4
2630011791417	R			C	AKZ	ARM ASSEMBLY, PIVOT		EA	2	2
2630011865974	R			C	AKZ	ARM ASSEMBLY, PIVOT		EA	2	2
2630012863177	R			C	AKZ	ARM ASSY LEFT NO.2, ?		EA	240	240
2640011797823	R			C	AKZ	TRACK SHOE ASSEMBLY		EA	4	4
2680010730125	R			C	AKZ	DRVS INST PANEL E1		EA	3	3
2680010730167	R			C	AKZ	WIRING HARNESS 2W104		EA	3	3
2680010730180	R			C	AKZ	CIRCUIT CARD A3		EA	3	3
2680010730182	R			C	AKZ	PC CARD ASSY A1		EA	6	6
2680010766878	R			C	B14	PCB ASSY A4 (OIP)		EA	2	2
2680011964716	R			C	AKZ	WIRING HARNESS, 86AN		EA	4	4
2680012605941	R			C	AKZ	CONT ASSY FUEL ECUP		EA	3	3
2835011191283	R			C	AKZ	WIRING HARN 3W104-8		EA	2	2
2835011380812	R			J	AKZ	PARTS KIT, REDUCTION		EA	2	2
2835011601033	R			C	AKZ	GRILLE, METAL		EA	2	2
2835011787246	R			C	AKZ	PCB ASSY, A4 (ECU)		EA	3	3
2835011787246	R			C	AKZ	ENGINE MODULE REAR		EA	6	6
2835011787246	R			C	AKZ	REDUCTION GEARBOX W		EA	2	2
2835011787255	R			C	AKZ	GEARBOX, ACCESSORY D		EA	2	2
2835011868639	R			C	AKZ	ENGINE W/CONTAINER		EA	1	1
2835012227835	R			C	AKZ	ENGINE, MODULE FWD		EA	3	3
2910011248325	R			C	AKZ	FUEL, NOZZLE (1 PC)		EA	1	1
2910012142640	R			C	AKZ	FUEL, NOZZLE (2 PC)		EA	12	12
2910012837131	R			C	AKZ	FUEL CONTROL, MAIN, T		EA	3	3
2920010676407	R			C	AKZ	WIRING HARNESS 3W103		EA	2	2
2920011451878	R			J	AKZ	SOLENOID, ELECTRICAL		EA	3	3
2920011646888	R			C	AKZ	WIRING HARNESS 2W156		EA	2	2
2920011789303	R			C	AKZ	WIRING HARN, 2W105-9		EA	2	2
2920012006223	R			C	AKZ	WIRE HARNESS 2W301		EA	2	2
2920012042606	R			C	AKZ	WIRING HARN, 2W169		EA	2	2
2930010873839	R			C	AKZ	COOLER, ENG OIL		EA	2	2
2930010873842	R			C	AKZ	FAN & DRIVE UNIT PAA		EA	2	2
2940010804480	R			C	AKZ	FILTER, ELEMENT, INTA		EA	16	16

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TOTAL PACKAGE FIELDING

PACKAGE: SA1 72

CONSUMABLES NSN	TEC	LIN	NR	EC	TYPE PACKAGE: CLS-IX (REP) UNIT: M1A1 (MOD ASL) RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE
2890010743488	R			C	AKZ	PUMP, OIL/PAA		EA	4	4
2890011361206	R			C	AKZ	STARTER, ENGINE, GAS		EA	6	6
4010010690483	R			C	AKZ	DRV UNIT, ANG LT		EA	2	2
4010010690484	R			C	AKZ	DRV UNIT, ANG RT		EA	2	2
4140011887697	R			D	AK2	FAN, TUBEAXIAL		EA	1	1
4240008661826	R			D	B14	FILTER, PARTICULATE		EA	4	4
4240011613710	R			C	B14	FILTER, GAS-PARTICUL		EA	2	2
4320010734288	R			C	AK2	HYDRAULIC PUMP UNIT		EA	4	4
4320010756296	R			J	B14	MOTOR, HYDRAULIC		EA	2	2
4320011428288	R			C	AK2	PUMP, MAIN HYD/PAA		EA	4	4
4320012010814	R			C	B14	HAND PUMP ASSEMBLY		EA	2	2
4730010811768	R			C	AK2	MANIFOLD DIST ASSY		EA	3	3
4810012003108	R			G	AK2	VALVE ASSEMBLY		EA	2	2
4810012084695	R			D	AK2	VALVE, SOLENOID		EA	10	10
4820011231136	R			G	AK2	VALVE, REGULATING, TE		EA	2	2
5895011457390	R			C	B14	AMPLIFIER, VIDEO		EA	4	4
5895011538230	R			C	AK2	PCB, A1A1 (ECU)		EA	3	3
5895011538230	R			C	AK2	MODULATOR A3A1 (PCB)		EA	3	3
5960010748964	R			C	B14	ELECTRON TUBE		EA	2	2
5961011723065	R			C	B14	SEMICOND (A3) C-PCU		EA	4	4
5998010766868	R			C	B14	RESOLVER, ELECTRICAL		EA	1	1
5998010766886	R			C	B14	PCB (ILOS) (ELEC UNIT)		EA	2	2
5998010766896	R			C	B14	CIR CARD ASSY (ILOS)		EA	2	2
5998010766898	R			C	B14	CIRCUIT CARD (ILOS)		EA	2	2
5998010766900	R			C	B14	CIRCUIT CARD (ILOS)		EA	2	2
5998010766901	R			C	B14	CIRCUIT CARD (ILOS)		EA	2	2
5998010781307	R			C	B14	CIR CARD (LOSIE/U)		EA	2	2
5998011718608	R			C	B14	PCB ASSEMBLY (ILOS)		EA	2	2
5998012897696	R			J	B14	CIRCUIT CARD ASSEMB		EA	1	1
5998010745828	R			C	B14	CIR CARD (COMPUTER)		EA	2	2
5998010766888	R			C	B14	CIR CARD (COMPUTER)		EA	2	2
5998010766881	R			C	B14	CIR CARD (COMPUTER)		EA	2	2
5999010838741	R			C	AK2	PCB, A2 (DP E-1)		EA	6	6
5999011323921	R			C	AK2	MODULE, SIG A2A2(ECU)		EA	6	6
5999011612769	R			C	AK2	CIRCUIT CARD ASSEMB		EA	6	6
5998011806176	R			C	B14	GR ELEVATION A2A1		EA	3	3
5998011870223	R			C	AK2	CIR. CARD A1A2 ECU		EA	6	6
5998011870224	R			C	AK2	CIR. CARD A2A1 ECU		EA	6	6
5999011989856	R			C	AK2	PCB ASSEMBLY (DIP)		AY	6	6
5998012011157	R			C	AK2	PCB, A3 (DIP)		EA	6	6
5998012050123	R			J	B14	CIRCUIT CARD ASSY		EA	1	1
5998012640807	R			J	B14	CIRCUIT CARD ASSY		EA	3	3
5998012640808	R			J	B14	CIRCUIT CARD ASSY		EA	3	3
5998012768092	R			C	B14	CIRCUIT CARD (A6)		EA	3	3
6110010812898	R			C	AK2	REGULATOR, VOLTAGE		EA	4	4
6110011686106	R			C	B14	PCB, A1 (CPCU)		EA	3	3
6110011895184	R			C	AK2	DISTRIBUTION BOX		EA	1	1
6110012563364	R			C	AK2	DISTRIBUTION BOX		EA	7	7
6130010773607	R			J	B14	POWER SUPPLY		EA	2	2
6130011220690	R			J	B14	POWER SUPPLY		EA	1	1
6160010729886	R			C	AK2	WIRING HARNESS 2W116		EA	2	2
6160011428271	R			C	AK2	WIRING HARNESS 2W114		EA	3	3

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TOTAL PACKAGE FIELDING

PACKAGE: SA1 72

REPORT NO. 05

TYPE PACKAGE: CLS-IX (REP) UNIT: M1A1 (MOD ASL)

CONSUMABLES NSN	TEC	LIN	NR	EC	RIC	NOMENCLATURE	REQUIRED	UI	SLAC	ISSUE
6150012864006	R			G	AKZ	CONSOLE, POWER DIST.		EA	6	6
6220011791061	R			D	AKZ	HEADLIGHT ASSEMBLY		EA	1	1
6220011976623	R			D	AKZ	STOP LIGHT-TAIL LIGH		EA	4	4
6610012173872	R			J	B14	COMMANDERS CONTROL		EA	1	1
6660010936864	R			D	AKZ	PERISCOPE, TANK		EA	3	3

TOOL SET ALLOWANCES AND DELIVERY SCHEDULE

TOOL SET, M1A1 TANK, SECOND ECHELON
ALLOWANCES AND DELIVERY SCHEDULE

E2933

T/E No	Unite Title	Per T/E	Total T/E	Planned Allowance FY 91 1	2	3	4	FY 92 1	2	3	4
4444	Biennial Maint Cmd Group (Blount Isl, Fl)	3	3				3				
H1524	TkCo, TkBn, MPS I	1	2			2					
I1524	TkCo, TkBn, MPS II	1	2		2						
J1524	TkCo, TkBn, MPS III	1	2			2					
N1521	H&SCo, 2d TkBn, 2d MarDiv	2	2			2					
N1524	TkCo, 2d TkBn, 2d MarDiv	1	3			3					
N1531	H&SCo, 3d TkBn, 7th MEB	2	2		2						
N1534	TkCo, 3d TkBn, 7th MEB	1	3		3						
N3134	OrdMaintCo, MaintBn, 1st FSSG	1	1			1					
N3234	OrdMaintCo, MaintBn, 2d FSSG	1	1			1					
Total			21								

Annex I to
Appendix O to
ENCLOSURE (1)

TOOL SET, M1A1 TANK, THIRD ECHELON
ALLOWANCES AND DELIVERY SCHEDULE

E2934

T/E No	Unit Title	Per T/E	Total T/E	Planned Allowance FY 91 1	FY 91 2	FY 91 3	FY 91 4	FY 92 1	FY 92 2	FY 92 3	FY 92 4
	MCAGCC Non-FMF Allowance List	1	1	1*							
H1521	H&SCo, TkBn, MPS I	1	1			1					
I1521	H&SCo, TkBn, MPS II	1	1		1						
J1521	H&SCo, TkBn, MPS III	1	1			1					
N1521	H&SCo, 2d TkBn, 2d MarDiv	1	1			1					
N1531	H&SCo, 3d TkBn, 7th MEB	1	1		1						
Total			6								

* Will be used for New Equipment Training at MCAGCC.

Annex II to
Appendix O to
ENCLOSURE (1)

TOOL SET, M1A1 TANK, HULL & TURRET, FOURTH ECHELON
ALLOWANCES AND DELIVERY SCHEDULE

E2932

T/E No	Unit Title	Per T/E	Per T/E	Planned Allowance FY 91 1	FY 91 2	FY 91 3	FY 91 4	FY 92 1	FY 92 2	FY 92 3	FY 92 4
4444	Biennial Maint Cmd Group (Blount Isl, Fl)	1	1				1				
7011	MCLB, Barstow	2	2			2					
7014	MCLB, Albany	2	2			2					
H3234	Det, OrdMaintCo, MaintBn, MPS I	1	1			1					
H3236	Det, GenSptMaintCo, MaintBn, MPS I	1	1			1					
I3234	Det, OrdMaintCo, MaintBn, MPS II	1	1		1						
I3236	Det, GenSptMaintCo, MaintBn, MPS II	1	1		1						
J3234	Det, OrdMaintCo, MaintBn, MPS III	1	1			1					
J3236	Det, GenSptMaintCo, MaintBn, MPS III	1	1			1					
N3134	OrdMaintCo, MaintBn, 1st FSSG	3	3		3						
N3136	GenSptMaintCo, MaintBn, 1st FSSG	1	1		1						
N3234	OrdMaintCo, MaintBn, 2d FSSG	3	3			3					
N3236	GenSptMaintCo, MaintBn, 2d FSSG	1	1			1					
Total			19								

Annex III to
Appendix O to
ENCLOSURE (1)

TOOL SET, M1A1 TANK, ELECTRONICS/OPTICS, FOURTH ECHELON
ALLOWANCES AND DELIVERY SCHEDULE

E2931

T/E No	Unit Title	Per T/E	Total T/E	Planned Allowance FY 91 1	FY 91 2	FY 91 3	FY 91 4	FY 92 1	FY 92 2	FY 92 3	FY 92 4
4444	Biennial Maint Cmd Group (Blount Isl, Fl)	1	1				1				
7011	MCLB, Barstow	2	2			2					
7014	MCLB, Albany	2	2			2					
H3232	Det, Comm/ElecMaintCo, MaintBn, MPS I	2	2			2					
I3232	Det, Comm/ElecMaintCo, MaintBn, MPS II	2	2		2						
J3232	Det, Comm/ElecMaintCo, MaintBn, MPS III	2	2			2					
N3132	Comm/ElecMaintCo, MaintBn, 1st FSSG	4	4		4						
N3232	Comm/ElecMaintCo, MaintBn, 2d FSSG	4	4			4					
Total			19								

Annex IV to
Appendix O to
ENCLOSURE (1)

TEST SET ALLOWANCES AND DELIVERY SCHEDULE

TEST SET, SIMPLIFIED TEST EQUIPMENT (STE-M1)
ALLOWANCES AND DELIVERY SCHEDULE

E1910

T/E No	Unit Title	Per T/E	Total T/E	Planned Allowance FY 91 1	FY 91 2	FY 91 3	FY 91 4	FY 92 1	FY 92 2	FY 92 3	FY 92 4
4444	Biennial Maint Cmd Group (Blount Isl, Fl)	2	2						2		
7011	MCLB, Barstow	1	1						1		
7014	MCLB, Albany	1	1						1		
	MCAGCC Non-FMF Allowance List	2	2		2*						
H1524	TkCo, TkBn, MPS I	1	2				2				
I1524	TkCo, TkBn, MPS II	1	2	2							
J1524	TkCo, TkBn, MPS III	1	2		2						
N1521	H&SCo, 2d TkBn 2d MarDiv	2	2		2						
N1524	TkCo, 2d TkBn, 2d MarDiv	1	3		3						
N1531	H&SCo, 3d TkBn, 7th MEB	2	2	2							
N1534	TkCo, 3d TkBn, 7th MEB	1	3	3							
N3134	OrdMaintCo, MaintBn, 1st FSSG	3	3	3							
N3126	GenSptMaintCo, MaintBn, 1st FSSG	1	1	1							
N3234	OrdMaintCo, MaintBn, 2d FSSG	3	3		3						
N3236	GenSptMaintCo, MaintBn, 2d FSSG	1	1	1							
Total			30								

* Will be used for New Equipment Training at MCAGCC.

Annex I to
Appendix P to
ENCLOSURE (1)

DSESTS-TIS
ALLOWANCES AND DELIVERY SCHEDULE

E1906

T/E No	Unit Title	Per T/E	Total T/E	Planned Allowance FY 91 1	FY 91 2	FY 91 3	FY 91 4	FY 92 1	FY 92 2	FY 92 3	FY 92 4
4444	Biennial Maint Cmd Group (Blount Isl, Fl)	1	1						1		
7011	MCLB, Barstow	2	2						2		
7014	MCLB, Albany	2	2						2		
	MCAGCC Non-FMF Allowance List	1	1	1*							
H1521	H&SCo, TkBn, MPS I	1	1				1				
H3234	Det, OrdMaintCo, MaintBn, MPS I	1	1				1				
I1521	H&SCo, TkBn, MPS II	1	1		1						
I3234	Det, OrdMaintCo, MaintBn, MPS II	1	1		1						
J1521	H&SCo, TkBn, MPS III	1	1			1					
J3234	Det, OrdMaintCo, MaintBn, MPS III	1	1			1					
N1521	H&SCo, 2d TkBn, 2d MarDiv	1	1			1					
N1531	H&SCo, 3d TkBn, 7th MEB	1	1		1						
N3132	Comm/ElecMaintCo, MaintBn, 1st FSSG	1	1		1						
N3134	OrdMaintCo, MaintBn, 1st FSSG	2	2		2						
N3136	GenSptMaintCo, MaintBn, 1st FSSG	1	1		1						
N3232	Comm/ElecMaintCo, MaintBn, 2d FSSG	1	1			1					
N3234	OrdMaintCo, MaintBn, 2d FSSG	2	2			2					
N3236	GenSptMaintCo, MaintBn, 2d FSSG	1	1			1					
Total			22								

* Will be used for New Equipment Training Team at MCAGCC.

Annex II to
Appendix P to
ENCLOSURE (1)

VEST/CONNECTOR, CONDITIONING, MICROCLIMATIC
ALLOWANCES AND DELIVERY SCHEDULE

C1281/K4228

T/E NO	UNIT TITLE	Per T/E	Total T/E	Planned Allowance FY 91 1	2	3	4	FY 92 1	2	3	4
	MCAGCC Non-FMF Allowance List	66	66	66*							
	Maint Float MCLB, Albany	72	72					72			
H1521	H&SCo, TkBn, MPS I	10	10			10					
H1524	TkCo, TkBn, MPS I	58	116			116					
I1521	H&SCo, TkBn, MPS II	10	10	10							
I1524	TkCo, TkBn, MPS II	58	116	116							
J1521	H&SCo, TkBn, MPS III	10	10		10						
J1524	TkCo, TkBn, MPS III	58	116		116						
N1521	H&Co, 2d TkBn, 2d MarDiv	10	10		10						
N1524	TkCo, 2d TkBn, 2d MarDiv	58	174		174						
N1531	H&SCo, 3d TkBn, 7th MEB	10	10	10							
N1534	TkCo, 3d TkBn, 7th MEB	58	174	174							
Total			884								

* Will be used for New Equipment Training at MCAGCC.

Appendix Q To
ENCLOSURE (1)

TOTAL SET COMPONENTS

TOOL SET, M1A1 TANK, HULL AND TURRET, SECOND ECHELON

NOMENCLATURE	NSN	PTNUM	REMARKS
WIRING HARNESS ASSY	2590-01-199-2373	12337167	1 PER BREAKOUT BOX
WIRE HARNESS	2590-01-201-4799	1234264	
HOSE ASSEMBLY	4720-01-124-5205	12271350	
GROUND HOP INTERFACE KIT	4910-01-086-6793	12284862	
SLING ASSEMBLY	4910-01-086-6837	12282493	
POWER PACK MAINT STD	4910-01-086-8433	12345289	
LIFT TOOL	4910-01-127-2712	12301777	
FINAL DR OUT	4910-01-129-8795	12312211	
CROWFOOT ATTACHMENT	5120-00-184-8409	FC42	
CROWFOOT ATTACHMENT	5120-00-184-8414	FC52	
HAMMER, HAND	5120-00-194-1645	GGG-H-33 TY2CL1	
HAMMER, HAND	5120-00-242-3908	GGG-H-33	
WRENCH, OPEN END	5120-00-277-1239	6296262	
WRENCH, OPEN END 1 1/2	5120-00-277-1246	GGG-W-636	
WRENCH, OPEN END	5120-00-277-2322	GGG-W 2322	
WRENCH, OPEN END 1 3/4; 1 1/2	5120-00-277-2325	41W1176-82	
WRENCH, OPEN END	5120-00-277-2693	13656B	
WRENCH, OPEN END	5120-00-277-2694	726613	
WRENCH, OPEN END	5120-00-277-2695	1037E	
WRENCH, BOX AND OPEN 1 3/8	5120-00-277-8833	GGG-W-636 TY3	
WRENCH, BOX AND OPEN 1 1/2	5120-00-277-8834	1178	
WRENCH, OPEN END 1 1/2; 1 3/4	5120-00-277-9818	TKKX6	
CROWFOOT ATTACHMENT	5120-00-293-1282	1-230148	
CROWFOOT ATTACHMENT	5120-00-293-1285	AC40	
CROWFOOT ATTACHMENT	5120-00-293-2567	FC40	
REMOVER & REPLACER	5120-00-473-7373	7062876	
REPLACER, OIL SEAL	5120-00-473-7494	7078977	
DRIFT, DRILL	5120-00-528-2741	89-491	
REPLACER, COMP IDLER	5120-00-592-3672	8708188	
HANDLE, BEARING CUP	5120-00-708-3883	7083883	
LIFTER, ROADWHEEL	5120-01-086-1460	12304505	
WRENCH, SPANNER	5120-01-086-1604	11674379	
HEX HD DRIVER	5120-01-095-1138	12273500	
TOOL KIT, CROWFOOT	5120-01-117-7855	12285827	
PULLER, ROADWHEEL	5120-01-117-7856	12282447	
INSTALLER, SEAL	5120-01-127-2913	12311341	
INSTALLER, BEARING	5120-01-127-6313	12305074	
WRENCH, HUBCAP	5120-01-129-2138	12288805	
REMOVER, DRIVER HATCH	5120-01-129-7408	12282449	
BREAKOUT BOX	5120-01-130-8077	12311066	T/SET: CAGE 19200 P/N 9338570
ADAPTER, TORQUE	5120-01-158-0841	12316128	
SOCKET, SOCKET WRENCH	5120-01-255-7906	BT-J-140	
SOCKET, SOCKET WRENCH	5120-01-257-3892	BT-J-146	
SOCKET, SOCKET WRENCH	5130-01-117-6029	SIMM242	
WRENCH SOCKET	5130-01-156-0442	12316555	
WEB STRAP	5340-01-152-8321	12273481	
NBC PORT PLUG	5340-01-184-4865	12337123	
TEST GAGE, ADJUSTABLE	6685-01-130-3471	12310644	

TOOL SET, M1A1 TANK, HULL AND TURRET, THIRD ECHELON

NOMENCLATURE	NSN	PTNUM	REMARKS
WIRING HARNESS ASSY	2590-01-199-2373	12337167	1 PER BREAKOUT BOX
WIRE HARNESS	2590-01-201-4799	12324264	
HOSE ASSEMBLY	4720-01-124-5205	12271350	
GROUND HOP INTERFACE KIT	4910-01-086-6793	12284862	
SLING ASSEMBLY	4910-01-086-6837	12282493	
POWER PACK MAINT STD	4910-01-086-8433	12345289	
LIFT TOOL	4910-01-127-2712	12301777	
FINAL DR OUT	4910-01-129-8795	12312211	
CROWFOOT ATTACHMENT	5120-00-184-8409	FC42	
CROWFOOT ATTACHMENT	5120-00-184-8414	FC52	
HAMMER, HAND	5120-00-194-1645	GGG-H-33 TY2CL1	
HAMMER, HAND	5120-00-242-3908	GGG-H-33	
WRENCH, OPEN END,	5120-00-277-1239	6296262	
WRENCH, OPEN END 1 1/2	5120-00-277-1246	GGG-W-636	
WRENCH, OPEN END	5120-00-277-2322	GGG-W-2322	
WRENCH, OPEN END 1 3/4; 1 1/2	5120-00-277-2325	41W1176-82	
WRENCH, OPEN END	5120-00-277-2693	13656B	
WRENCH, OPEN END	5120-00-277-2694	726613	
WRENCH, OPEN END	5120-00-277-2695	1037E	
WRENCH, BOX AND OPEN 1 3/8	5120-00-277-8833	GGG-W-636 TY3	
WRENCH, BOX AND OPEN 1 1/2	5120-00-277-8834	1178	
WRENCH, OPEN END 1 1/2; 1 3/4	5120-00-277-9818	TKKX6	
CROWFOOT ATTACHMENT	5120-00-293-1282	1-230148	
CROWFOOT ATTACHMENT	5120-00-293-1285	AC40	
CROWFOOT ATTACHMENT	5120-00-293-2567	FC40	
REMOVER & REPLACER	5120-00-473-7373	7062876	
REPLACER, OIL SEAL	5120-00-473-7494	7078977	
DRIFT, DRILL	5120-00-528-2741	89-491	
REPLACER, COMP IDLER	5120-00-592-3672	8708188	
HANDLE, BEARING CUP	5120-00-708-3883	7083883	
LIFTER, ROADWHEEL	5120-01-086-1460	12304505	
WRENCH, SPANNER	5120-01-086-1604	11674379	
HEX HD DRIVER	5120-01-095-1138	12273500	
TOOL KIT, CROWFOOT	5120-01-117-7855	12285827	
PULLER, ROADWHEEL	5120-01-117-7856	12282447	
INSTALLER, SEAL	5120-01-127-2913	12311341	
INSTALLER, BEARING	5120-01-127-6313	12305074	
WRENCH, HUBCAP	5120-01-129-2138	12288805	
REMOVER, DRIVER HATCH	5120-01-129-7408	12282449	
BREAKOUT BOX	5120-01-130-8077	12311066	T/SET: CAGE 19200 P/N 9338570
ADAPTER, TORQUE	5120-01-158-0841	12316128	
SOCKET, SOCKET WRENCH	5120-01-255-7906	BT-J-140	
SOCKET, SOCKET WRENCH	5120-01-257-3892	BT-J-146	
SOCKET, SOCKET WRENCH	5130-01-117-6029	SIMM242	
WRENCH SOCKET	5130-01-156-0442	12316555	
WEB STRAP	5340-01-152-8321	12273481	
NBC PORT PLUG	5340-01-184-4865	12337123	
TEST GAGE, ADJUSTABLE	6685-01-130-3471	12310644	
LIFTING, KIT TUR	1015-01-195-3974	12311192	T/SET: CAGE 19200 P/N 9338572
GAGE AND ADAPTER	1015-01-196-8256	12321146	T/SET: CAGE 19200 P/N 9338572
GUNSHIELD TOOL	1015-01-198-8687	12315780	T/SET: CAGE 19200 P/N 9338572
ALIGNMENT TOOL	1015-01-203-3342	12283494	T/SET: CAGE 19200 P/N 9338572
PISTON DEPRESSOR	1015-01-204-2677	12321414	T/SET: CAGE 19200 P/N 9338572
CRADLE LIFTING	1015-01-204-2680	12310602	T/SET: CAGE 19200 P/N 9338572
TRACK KIT	1015-01-204-2686	12310601	T/SET: CAGE 19200 P/N 9338572
SERVICE KIT, GUN	1015-01-210-3709	9377014	T/SET: CAGE 19200 P/N 9338572
SLING LIFTING	3940-01-086-8453	12268013	
LIFT SLING ASSY	3940-01-115-8117	12271250	
LIFTING SLING, ACC	3940-01-115-8158	12271324	
LIFTING SLING ASSY	3940-01-115-8159	12271325	
HEATER, DUCT TYPE, PORTABLE	4520-00-086-7676	PHDT250	
ADAPTER	4730-01-203-3433	12273511	T/SET: CAGE 19200 P/N 9338572
SLING, TRANSMISSION	4910-01-086-1680	12284861	
SLING LIFTING	4910-01-086-1681	12268037	
SLING TRANS LIFT	4910-01-086-8475	12268035	
SLING LIFTING	4910-01-087-0155	12268036	
LIFT SLING ASSY	4910-01-127-2711	12271547	
F.D. TURNOVER	4910-01-226-0554	12321947	
COVER ASSY	4931-01-083-2033	12284849	T/SET: CAGE 19200 P/N 9338570
SLING ASSY, GUN	4931-01-083-2065	12282460	T/SET: CAGE 19200 P/N 9338570

NOMENCLATURE	NSN	PTNUM	REMARKS
COVER ASSY GPS	4931-01-083-9009	12284853	T/SET: CAGE 19200 P/N 9338570
REPAIR KIT, ELECT	4931-01-119-7103	12285360	T/SET: CAGE 19200 P/N 9338572
BLEED TUBE, ASSY	4933-01-083-2049	1228452	T/SET: CAGE 19200 P/N 9338570
LIFTING KIT, CWS	4933-01-108-4933	12284836	T/SET: CAGE 19200 P/N 9338570
SPRING PISTON REMOVAL	4933-01-204-2698	12304897	T/SET: CAGE 19200 P/N 9338572 9338572
PISTON COMPRESSOR	4933-01-204-8684	12529637	T/SET: CAGE 19200 P/N 9338570
SPRING COMPRESSOR	4933-01-206-0044	12316302	T/SET: CAGE 19200 P/N 9338572
WRENCH, OPEN END	5120-00-081-9100	GGG-W-636 TY4	
REMOVAL TOOL,CONNECT	5120-00-138-6795	06 7699 01	
MULTIPLIER, TORQUE WRENCH	5120-00-169-2986	PD1201	
WRENCH, OPEN END	5120-00-184-8566	GGG1201 1 3/4B	
WRENCH, BOX 1/1/4;	5120-00-184-8677	A-A1342 1 3/8	
ADAPTER TORQUEWRENCH	5120-00-215-8200	11663358	T/SET: CAGE 1900 P/N 9338572
EXTENSION, SOCKET	5120-00-240-8705	GGG-W-641 20 in 1/2 DR	
WRENCH, OPEN END	5120-00-277-2312	39A 1 5/16; 1 1/2	
WRENCH, OPEN END	5120-00-277-2326	TKTK X7E 1 5/8; 1 7/16	
WRENCH, OPEN END	5120-00-293-1330	GGG-W-636 1 1/2; 1 7/8 TY4	
WRENCH, OPEN END	5120-00-449-8141	40A 1/516; 1 11/16	
REMOVER & REPLACER, SPRT ROLL	5120-00-473-7374	7082834	
ADAPTER, TORQUE	5120-00-867-5517	12271351	
CLEANER, VEE PACK	5120-01-086-1459	12282452	
WRENCH ASSEMBLY	5120-01-086-1601	12282494	
WRENCH ASSEMBLY	5120-01-086-1602	12282495	
WRENCH SPANNER	5120-01-086-1603	12284929	
HOLDER, SLEEVE	5120-01-095-6912	12285592	
WRENCH, SPANNER	5120-01-095-7450	12268022	
WRENCH BRAKE SPLINE	5120-01-095-7452	12268034	
SEAL, INSTALLATION TOOL	5120-01-098-6737	12268052	
PULLER ASSY, SLIDE	5120-01-115-8154	12271333	
PULLER, SEAL, GEAR	5120-01-115-8155	12271330	
REMOVER & REPLACER	5120-01-120-0637	12282448	
WRENCH PLUG STRAIGHT	5120-01-121-4981	12284998	
REMOVER & REPL RDWHEL	5120-01-137-6064	12282489	
T-WRENCH	5120-01-145-9282	12311405	T/SET: CAGE 19200 P/N 9338570
COMPRESSOR ASSY	5120-01-199-5457	12321861	
PULLER BEARING	5120-01-201-7871	12321862	
TOOL KIT, GUN	5120-01-204-2693	9338574	T/SET: CAGE 19200 P/N 9338572
WRENCH SPANNER	5120-01-206-0203	12311211	T/SET: CAGE 19200 P/N 9338570
HEX HEAD DR	5120-01-210-9217	12311394	T/SET: CAGE 19200 P/N 9338572
SOCKET, SOCKET WRENCH 36 MM 3/4D	5130-01-112-0562	SIMM362	
TOOL KIT, REMOVAL	5180-01-086-1688	12284922	
REPAIR KIT NBC	5180-01-188-7546	12344166	
RESOLVER TOOL	5180-01-203-8552	12316127	T/SET: CAGE 19200 P/N 9338572
BREECHRING REMOVAL	5180-01-204-2702	9338573	T/SET: CAGE 19200 P/N 9338572
SERVICE KIT, GUN	5180-01-204-2703	12312413	T/SET: CAGE 19200 P/N 9338572
ROTOR LIFTING KIT	5180-01-206-0801	12305099	T/SET: CAGE 19200 P/N 9338572
RULE, STEEL, MACHINIST	5120-00-273-1960	GGG-R-791	
PIN LOCK OUT	5306-01-188-7455	12321860	
HANDLE, AGB	5340-01-129-0463	12271353	

TOOL SET, M1A1 TANK, HULL AND TURRET, FOURTH ECHELON

NOMENCLATURE	NSN	PINUM	REMARKS
WIRING HARNESS ASSY	2590-01-199-2373	12337167	1 PER BREAKOUT BOX
WIRE HARNESS	2590-01-201-4799	12324264	
HOSE ASSEMBLY	4720-01-124-5205	12271350	
GROUND HOP INTERFACE KIT	4910-01-086-6793	12284862	
SLING ASSEMBLY	4910-01-086-6837	12282493	
POWER PACK MAINT STD	4910-01-086-8433	12345289	
LIFT TOOL	4910-01-127-2712	12301777	
FINAL DR OUT	4910-01-129-8795	12312211	
CROWFOOT ATTACHMENT	5120-00-184-8409	FC42	
CROWFOOT ATTACHMENT	5120-00-183-8414	FC52	
HAMMER, HAND	5120-00-194-1645	GGG-H-33 TY2CL1	
HAMMER, HAND	5120-00-242-3908	GGG-H-33	
WRENCH, OPEN END	5120-00-277-1239	6296262	
WRENCH, OPEN END	5120-00-277-1246	GGG-W- 636	
WRENCH, OPEN END	5120-00-277-2322	GGG-W- 2322	
WRENCH, OPEN END	5120-00-277-2325	41W1176- 1 3/4; 1 1/2 82	
WRENCH, OPEN END	5120-00-277-2693	13656B	
WRENCH, OPEN END	5120-00-277-2694	726613	
WRENCH, OPEN END	5120-00-277-2695	1037E	
WRENCH, BOX AND	5120-00-277-8833	GGG-W- OPEN 1 3/8 636 TY3	
WRENCH, BOX AND	5120-00-277-8834	1178 OPEN 1 1/2	
WRENCH, OPEN END	5120-00-277-9818	TKKX6 1 1/2; 1 3/4	
CROWFOOT ATTACHMENT	5120-00-293-1282	1-230148	
CROWFOOT ATTACHMENT	5120-00-293-1285	AC40	
CROWFOOT ATTACHMENT	5120-00-293-2567	FC40	
REMOVER & REPLACER	5120-00-473-7373	7062876	
REPLACER, OIL SEAL	5120-00-473-7494	7078977	
DRIFT, DRILL	5120-00-528-2741	89-491	
REPLACER, COMP IDLER	5120-00-592-3672	8708188	
HANDLE, BEARING CUP	5120-00-708-3883	7083883	
LIFTER, ROADWHEEL	5120-01-086-1460	12304505	
WRENCH, SPANNER	5120-01-086-1604	11674379	
HEX HD DRIVER	5120-01-095-1138	12273500	
TOOL KIT, CROWFOOT	5120-01-117-7855	12285827	
PULLER, ROADWHEEL	5120-01-117-7856	12282447	
INSTALLER, SEAL	5120-01-127-2913	12311341	
INSTALLER, BEARING	5120-01-127-6313	12305074	
WRENCH, HUBCAP	5120-01-129-2138	12288805	
REMOVER, DRIVER HATCH	5120-01-129-7408	12282449	
BREAKOUT BOX	5120-01-130-8077	12311066	T/SET: CAGE 19200 P/N 9338570
ADAPTER, TORQUE	5120-01-158-0841	12316128	
SOCKET, SOCKET WRENCH	5120-01-255-7906	BT-J-140	
SOCKET, SOCKET WRENCH	5120-01-257-3892	BT-J-146	
SOCKET, SOCKET WRENCH	5130-01-117-6029	SIMM242	
WRENCH SOCKET	5130-01-156-0442	12316555	
WEB STRAP	5340-01-152-8321	12273481	
NBC PORT PLUG	5340-01-184-4865	12337123	
TEST CAGE, ADJUSTABLE	6685-01-130-3471	12310644	
LIFTING, KIT TUR	1015-01-195-3974	12311192	T/SET: CAGE 19200 P/N 9338572
GAGE AND ADAPTER	1015-01-196-8256	12321146	T/SET: CAGE 19200 P/N 9338572
GUNSHIELD TOOL	1015-01-198-8687	12315780	T/SET: CAGE 19200 P/N 9338572
ALIGNMENT TOOL	1015-01-203-3342	12283494	T/SET: CAGE 19200 P/N 9338572
PISTON DEPRESSOR	1015-01-204-2677	12321414	T/SET: CAGE 19200 P/N 9338572
CRADLE LIFTING	1015-01-204-2680	12310602	T/SET: CAGE 19200 P/N 9338572
TRACK KIT	1015-01-204-2686	12310601	T/SET: CAGE 19200 P/N 9338572
SERVICE KIT, GUN	1015-01-210-3709	9377014	T/SET: CAGE 19200 P/N 9338572
SLING LIFTING	3940-01-086-8453	12268013	
LIFTING SLING, ASSY	3940-01-115-8117	12271250	
LIFTING SLING, ACC	3940-01-115-8158	12271324	
LIFTING SLING ASSY	3940-01-115-8159	12271325	
HEATER, DUCT TYPE, PORTABLE	4520-00-086-7676	PHDT250	
ADAPTER	4730-01-203-3433	12273511	T/SET: CAGE 19200 P/N 9338572
SLING, TRANSMISSION	4910-01-086-1680	12284861	
SLING LIFTING	4910-01-086-1681	12268037	
SLING TRANS LIFT	4910-01-086-8475	12268035	
SLING LIFTING	4910-01-087-0155	12268036	
LIFT SLING ASSY	4910-01-127-2711	12271547	
F.D. TURNOVER	4910-01-226-0554	12321947	
COVER ASSY	4931-01-083-2033	12284849	T/SET: CAGE 19200 P/N 9338570
SLING ASSY, GUN	4931-01-083-2065	12282460	T/SET: CAGE 19200 P/N 9338570
COVER ASSY GPS	4931-01-083-9009	12284853	T/SET: CAGE 19200 P/N 9338570

NOMENCLATURE	NSN	PTNUM	REMARKS
REPAIR KIT, ELECT	4931-01-119-7103	12285360	T/SET: CAGE 19200 P/N 9338572
BLEED TUBE, ASSY	4931-01-083-2049	1228452	T/SET: CAGE 19200 P/N 9338570
LIFTING KIT, CWS	4933-01-108-4933	12284836	T/SET: CAGE 19200 P/N 9338570
SPRING PISTON	4933-01-204-2698	12304897	T/SET: CAGE 19200 P/N 9338572
PISTON COMPRESSOR	4933-01-204-8684	12529637	T/SET: CAGE 19200 P/N 9338570
SPRING COMPRESSOR	4933-01-206-0044	12316302	T/SET: CAGE 19200 P/N 9338572
WRENCH, OPEN END	5120-00-081-9100	GGG-W- 636 TY4	
REMOVAL TOOL,CONNECT	5120-00-138-6795	06 7699 01	
MULTIPLIER, TORQUE WRENCH	5120-00-169-2986	PD1201	
WRENCH, OPEN END	5120-00-184-8566	GGG-W- 1 3/4 636	
WRENCH, BOX	5120-00-184-8677	A-A1342 1 1/4 1 3/8	
ADAPTER TORQUE WRENCH	5120-00-215-8200	11663358-	T/SET: CAGE 2 19200 P/N 9338572
EXTENSION, SOCKET	5120-00-240-8705	GGG-W-641	T/SET: CAGE 20 IN 1/2 DR 19200 P/N 9338572
WRENCH, OPEN END	5120-00-277-2323	39A 1 5/16; 1 1/2	
WRENCH, OPEN END	5120-00-277-2326	TKTK X7E 1 5/8; 1 7/16	
WRENCH, OPEN END	5120-00-293-1330	GGG-W- 1 1/2; 1 7/8636 TY4	
WRENCH, OPEN END	5120-00-449-8141	40A 1 5/16; 1 11/16	
REMOVER & REPLACER, SPRT ROLL	5120-00-473-7374	7082834	
ADAPTER, TORQUE	5120-00-867-5517	12271351	
CLEANER, VEE PACK	5120-01-086-1459	12282452	
WRENCH ASSEMBLY	5120-01-086-1601	12282494	
WRENCH ASSEMBLY	5120-01-086-1602	12282495	
WRENCH SPANNER	5120-01-086-1603	12284929	
HOLDER, SLEEVE	5120-01-095-6912	12285592	
WRENCH, SPANNER	5120-01-095-7450	12268022	
ADAPTER, BRAKE SPLINE	5120-01-095-7452	12268034	
SEAL, INSTALLATION TOOL	5120-01-098-6737	12268052	
PULLER ASSY, SLIDE	5120-01-115-8154	12271333	
PULLER, SEAL, GEAR	5120-01-115-8155	12271330	
REMOVER & REPLACER	5120-01-120-0637	12282448	
WRENCH PLUG STRAIGHT	5120-01-121-4981	12284998	
REMOVER & REPL RDWHEL	5120-01-137-6064	12282489	
T-WRENCH	5120-01-145-9282	12311405	T/SET: CAGE 19200 P/N 9338570
COMPRESSOR ASSY	5120-01-199-5457	12321861	
PULLER BEARING	5120-01-201-7871	12321862	
TOOL KIT, GUN	5120-01-204-2693	9338574	T/SET: CAGE 19200 P/N 9338572
WRENCH SPANNER	5120-01-206-0203	12311211	T/SET: CAGE 19200 P/N 9338570
HEX HEAD DR	5120-01-210-9217	12311394	T/SET: CAGE 19200 P/N 9338572
SOCKET, SOCKET WRENCH 36 mm 3/4D	5130-01-112-0562	SIMM362	
TOOL KIT, REMOVAL	5180-01-086-1688	12284922	
REPAIR KIT NBC	5180-01-188-7546	12344166	
RESOLVER TOOL	5180-01-203-8552	12316127	T/SET: CAGE 19200 P/N 9338572
BREECHRING REMOVAL	5180-01-204-2702	9338573	T/SET: CAGE 19200 P/N 9338572
SERVICE KIT, GUN	5180-01-204-2703	12312413	T/SET: CAGE 19200 P/N 9338572
ROTOR LIFTING KIT	5180-01-206-0801	12305099	T/SET: CAGE 19200 P/N 9338572
RULE, STEEL, MACHINIST	5120-00-273-1960	GGG-R-791	
PIN LOCK OUT	5306-01-188-7455	12321860	
HANDLE, AGB	5340-01-129-0463	12271353	
CONTROL HANDLES	1015-01-203-8310	12283443	T/SET: CAGE 19200 P/N 9338571
CONTROL HANDLE	1015-01-206-0082	12283625	T/SET: CAGE 19200 P/N 9338572
FIRE EXIT VALVE	4210-01-230-0332	12337957	
SUPPORT, TRANSMISSION	4910-01-086-1457	12268025	
SUPPORT, TRANSMISSION	4910-01-086-1458	12268020	
FIXTURE, LEAK TEST	4910-01-095-6911	12268015	
TEST FIXTURE	4910-01-218-5896	12326061	
GROUND HOP SUPPORT SET	4910-01-231-0343	12345141	
ELEVATING MECHANISM TOOL	4933-01-143-9377	12283441	T/SET: CAGE 19200 P/N 9338571
PULLER TUBE	5120-01-095-6909	12268032	
BAR, LIFTING	5120-01-095-6910	12268026	
WRENCH, SPANNER	5120-01-095-7451	12268039	
SLEEVE, PISTON SEAL	5120-01-096-3493	12268021	
PULLER, BEARING	5120-01-096-3726	12268030	
SPANNER, WRENCH	5120-01-100-0391	12301553	
PULLER, TUBE	5120-01-120-0636	12268033	
TOOL, BRAKE	5120-01-127-6314	12288077	
PULLER, TUBE	5120-01-130-3436	12268031	
INSTALLATION TOOL	5120-01-222-7927	12325469	
SPANNER SOCKET	5120-01-222-7952	12325468	
FIRE EXT LOCK	5120-01-230-0282	12316699	
TRAVERSING MECH REPAIR	5180-01-206-0856	12321231	T/SET: CAGE 19200 P/N 9338571
BRACKET, TRANS LIFTING	5340-01-097-0719	12268023	
BRACKET, TRANS LIFTING	5340-01-097-0720	12268024	

NOMENCLATURE	NSN	PINUM	REMARKS
ADAPTER, CARRIER	5340-01-097-0721	12268027	
BRACKET, LIFTING	5340-01-097-0722	12268019	

NOMENCLATURE	NSN	PTNUM	REMARKS
WIRING HARNESS ASSY	2590-01-199-2373	12337167	1 PER BREAKOUT BOX
BREAKOUT BOX	5120-01-130-8077	12311066	T/SET: CAGE 19200 P/N 9338570
SLING ASSY, GUN	4931-01-083-2065	12282460	T/SET: CAGE 19200 P/N 9338570
REPAIR KIT, ELECT	4931-01-119-7103	12285360	T/SET: CAGE 19200 P/N 9338572
STAND, GPS	4931-01-083-2057	12284857	T/SET: CAGE 19200 P/N 9377124
TRU ALIGNMENT FIX	4931-01-152-9871	5002720	T/SET: CAGE 19200 P/N 9377124
TOOL KIT LASER	5120-01-083-2070	12285468	T/SET: CAGE 19200 P/N 9377124
WRENCH, SPANNER	5120-01-154-3832	12321493	T/SET: CAGE 19200 P/N 9377124
DRILL FIXTURE	5133-01-206-0010	12343887	T/SET: CAGE 19200 P/N 9377124

TOOL KIT, ORGANIZATIONAL MAINTENANCE, M240 MACHINE GUN
E2829

NOMENCLATURE	NSN	PTNUM	REMARKS
GAGE FIRING PIN	4933-01-043-9451		FOR M240 MG TOOL KIT
REAMERS CLEANING	4933-01-047-3394		FOR M240 MG TOOL KIT
TOOL COMBINATION	4933-01-033-1503		FOR M240 MG TOOL KIT
SCRAPER COMBINATION	4933-01-033-1504		FOR M240 MG TOOL KIT
TOOL REMOVING	4933-01-038-7179		FOR M240 MG TOOL KIT
WRENCH COMBINATION	4933-01-033-8324		FOR M240 MG TOOL KIT

Annex V to
Appendix R to
ENCLOSURE (1)

TOOL KIT, INTERMEDIATE MAINTENANCE, M240 MACHINE GUN
E2656

NOMENCLATURE	NSN	PTNUM	REMARKS
GAGE FIRING PIN	4933-01-043-9451		FOR M240 MG TOOL KIT
REAMERS CLEANING	4933-01-047-3394		FOR M240 MG TOOL KIT
TOOL COMBINATION	4933-01-033-1503		FOR M240 MG TOOL KIT
TOOL REMOVING	4933-01-038-7179		FOR M240 MG TOOL KIT
WRENCH COMBINATION	4933-01-033-8324		FOR M240 MG TOOL KIT
GAGE CREECH BORE	5210-01-082-1714		FOR M240 MG TOOL KIT
GAGE FIRING PIN	4933-01-043-9450		FOR M240 MG TOOL KIT
GAGE HEADSPACE	4933-01-043-8211		FOR M240 MG TOOL KIT
GAGE HEADSPACE	4933-01-043-8212		FOR M240 MG TOOL KIT
GAGE MUZZLE	5220-01-082-5564		FOR M240 MG TOOL KIT
TOOL DISASSEMBLY	4933-01-038-7183		FOR M240 MG TOOL KIT

TECHNICAL PUBLICATIONS

TECHNICAL MANUAL	TITLE
TM 9-2350-200-BD	Operations Manual, DS/GS M1A1 Tank Battle Damage Assessment and Repair
LO 9-2350-264-12	Lubrication Order, Tank, Combat, Full-Tracked: 120mm Gun, M1A1 General Abrams (2350-01-087-1095)
TM 9-2350-264-10-1	Operator's Manual, Operator Controls and PMCS for M1A1.
TM 9-2350-264-10-2	Operator's Manual for Operation Under Usual and Unusual Conditions for M1A1, Vol. 2 of 3.
TM 9-2350-264-10-3	Operator's Manual, Troubleshooting and Maintenance for M1A1, Vol. 3 of 3.
TM 9-2350-264-10-HR	Hand Receipt Manual Covering Content of Components of End Item (COEI), Basic Issue Items (BII), and Additional Authorization Lists (AAL) for M1A1.
TM 9-2350-264-20-1-1	Unit Maintenance Manual, Vol. 1 of 5 for M1A1.
TM 9-2350-264-20-1-2	Unit Maintenance Manual, Vol. 2 of 5 for M1A1.
TM 9-2350-264-20-1-3	Unit Maintenance Manual, Vol. 3 of 5 for M1A1.
TM 9-2350-264-20-1-4	Unit Maintenance Manual, Vol. 4 of 5 for M1A1.
TM 9-2350-264-20-1-5	Unit Maintenance Manual, Vol. 5 of 5 for M1A1.
TM 9-2350-264-20-2-1	Unit Maintenance Manual, Vol. 1 of 4 for M1A1.
TM 9-2350-264-20-2-2	Unit Maintenance Manual, Vol. 2 of 4 for M1A1.
TM 9-2350-264-20-2-3	Unit Maintenance Manual, Vol. 3 of 4 for M1A1.
TM 9-2350-264-20-2-4	Unit Maintenance Manual, Vol. 4 of 4 for M1A1.
TM 9-2350-264-24-1	Unit, Intermediate Direct Support and Intermediate General Support Maintenance Manual Systems Schematics for M1A1.
TM 9-2350-264-24-2	Unit, Intermediate Direct Support and Intermediate General Support Maintenance Manual Systems Schematics for M1A1.
TM 9-2350-264-24P-1	Organizational, Direct Support, and General Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts) for M1A1 Hull.
TM 9-2350-264-24P-2	Unit, Intermediate Direct Support and Intermediate General Support (Including Depot Maintenance Repair Parts) for M1A1 Turret.
TM 9-2350-264-34-1-1	Intermediate Direct Support and Intermediate General Support Maintenance Manual for M1A1 Hull, Vol. 1 of 2.
TM 9-2350-264-34-1-2	Intermediate Direct Support and Intermediate General Support Maintenance Manual for M1A1 Hull, Vol. 2 of 2.
TM 9-2350-264-34-2-1	Intermediate Direct Support and Intermediate General Support Maintenance Manual for M1A1 Turret, Vol. 1 of 2.
TM 9-2350-264-34-2-2	Intermediate Direct Support and Intermediate General Support Maintenance Manual for M1A1 Turret, Vol. 2 of 2.
TM 9-2350-264-CL	Crew Checklist for M1A1.
TM 9-2835-255-34	Intermediate Direct Support and Intermediate Support Maintenance Manual Turbine Engine, Field Service Model AGT 1500.
TM 9-2835-255-34P	Direct Support and General Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts) for Turbine Engine Field Service Model AGT 1500.

TECHNICAL MANUAL	TITLE
TM 9-2520-276-34	Intermediate Direct Support and Intermediate General Support Maintenance Manual for Transmission Assembly, Model X1100-3B.
TM 9-2520-276-34P	Direct Support and General Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts) for Transmission Assemblies.
TM 9-2520-276-34&P	Direct Support and General Support Maintenance Manual Including Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts) for Final Drive Assemblies, Model X1100-3B.
TM 9-1200-206-34-1	Intermediate Direct Support and Intermediate General Support Maintenance Manual Vol. 1 of 3 for M1 and M1A1 Sighting and Fire Control.
TM 9-1200-206-34-2	Intermediate Direct Support and Intermediate General Support Maintenance Manual Vol. 2 of 3 for M1 and M1A1 Sighting and Fire Control.
TM 9-1200-206-34-3	Intermediate Direct Support and Intermediate General Support Maintenance Manual Vol. 3 of 3 for M1 and M1A1 Sighting and Fire Control.
TM 9-1200-206-34P	Direct Support and General Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts) for M1, IPM1, and M1A1 Sighting and Fire Control Components, Cant Unit Assembly, Collimator Assembly, Commander’s Sight Extension, Commander’s Weapons Station Sight, Computer Control Panel, Computer Electronic Unit; Crosswind Sensor, Electronic Sensor (LOS), Electrical Resolver, Gunner’s Auxiliary Sight, Gunner’s Primary Sight, Power Control Unit (TIS), Thermal Electronic Unit, and Unity Periscope.
TM 9-2520-279-34&P	Direct Support and General Support Maintenance Manual Including Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts) for Final Drive Drive Assembly, Model X1100-3B.
TM 9-4931-586-12-1&P	Operations, Maintenance and Parts Manual for Test Set, Direct Support Electrical System Test Set for AN/USM-615.
TM 9-4931-586-12-2&P	Operations, Maintenance and Parts Manual for Test Set, Direct Support Electrical System Test Set for AN/USM-615.
TM 9-4931-586-12-3&P	Operations, Maintenance and Parts Manual for Test Set, Direct Support Electrical System Test Set for AN/USM-615
TM 9-4931-586-12-4&P	Operations, Maintenance and Parts Manual for Test Set, Direct Support Electrical System Test Set for AN/USM-615.
TM 9-4931-586-30-&P	Intermediate Direct Support Maintenance Manual and Repair Parts List for AN/USM-615
TM 11-6130-453-14	Operator’s, Organizational, Direct Support, and General Support Maintenance Manual for Power Supply, PP7545/U.
TM 11-6130-453-14-1	Operator’s Organizational, Direct Support, and General Support Maintenance Manual for Power Supply, PP7545/U.
TM 11-6130-453-24P	Operator’s Organizational, Direct Support, and General Support Maintenance Manual and Parts Manual for Power Supply, PP7545/U.
TM 11-6130-453-24P-1	Operator’s, Organizational, Direct Maintenance Manual and Parts Manual for Power Supply, PP7545/U.
NSN 5180-01-147-2467	Organizational Maintenance Tool Kit for M240 Machine Gun.

TECHNICAL MANUAL	TITLE
NSN 5180-01-147-2468	Intermediate Maintenance Tool Kit for M240 Machine Gun.
NSN 4933-01-236-2884	Technical Manual for M27A1 Muzzle Boresight, 120mm w/case.
TM 9-4910-751-14-1	STE M1/FVS
TM 9-4910-751-14-2	STE M1/FVS
TM 9-4910-751-14P	STE M1/FVS
TM 9-1300-251-20	Organizational Maintenance Manual for 40mm Grenade Launcher, M257.
TM 9-1300-251-34	Direct and General Support Maintenance Manual for 40mm Grenade Launcher, M257.
TM 43-0001-28	Ammunition Data Sheets.
TM 43-0001-28-3	Data Sheets for Guns.
TM 9-1005-313-23P	Organizational and Direct Support Maintenance Manual for 7.62mm Machine Gun.
TB 9-1300-278	Response to Accidents Involving Army Tank Munitions
TB 9-2350-320-14	120mm Ammunition.
TB 9-2350-283-23-1	Configuration Matrix.
TM 55-2350-255-14	Transportability Guidance, Tank, Combat, Full-Tracked M1 Series.
TM 20-22	Vehicle Recovery Operations

M1A1 DEPOT MAINTENANCE WORK REQUIREMENTS

HULL

DMWR	TYPE
9-2350-255-1-6	Hull
9-2350-255-3	Special Armor (CLASSIFIED)
9-2835-255-1-2	Engine
9-2520-276-1-2	Transmission
9-2520-279	Final Drive
9-2910-231	Electro-Mechanical Fuel System
9-2520-504	Electronic Control Unit
9-2520-526	Hydraulic Pump (Abex)
9-4320-326	Hydraulic Pump (Vickers)
9-2940-200	Lube Pump
9-2920-254	Generator (Westinghouse)
9-4800-206	NBC System
9-2920-259	Generator (Bendix)
9-XXXX-XXX	Generator - 850 AMP (Westinghouse)

TURRET

DMWR	TYPE
9-1200-206-GPS-1	Gunner’s Primary Sight
9-1200-206-GPS-2	Azimuth Drive
9-1200-206-GPS-2	Objective Relay
9-1200-206-STDA	Servo Torque Drive Assembly
9-1200-206-TICU	Thermal Image Control Unit
9-1200-206-TIS-C	Thermal Image System (Common)
9-1200-206-TRU-1	Thermal Receiver Unit
9-1200-206-TRU-2	Scan Position Sensor
9-1200-206-TEU	TIS Electronics Unit
9-1200-206-TPCU	TIS Power Control Unit
9-1200-206-CCP	Computer Control Panel
9-1200-206-CEU	Computer Electronics Unit
9-1200-206-LOSEU	Line of Sight Electronics Units
9-1200-206-GTR	Gun Trunnion Resolver
9-1200-206-LRF	Laser Range Finder
9-1200-206-GPSE	Gunner’s Primary Sight Extension
9-1200-206-GAS	Gunner’s Auxiliary Sight Extension
9-1200-206-CWSS	Gunner’s Weapon Station Sight
9-2350-255-2	Turret System
9-2350-255-2-1	Traverse Servomechanism
9-2350-255-2-2	Elevation Servomechanism
9-2350-255-2-3	Turret Distribution Valve
9-2350-255-2-4	Slip Ring
9-2350-255-2-5	Hydraulic Motor
9-2350-255-2-6	Fire Control System
9-2350-255-2-7	Turret Hydraulics System
9-2350-255-2-8	Armament Systems
9-2350-255-2-9	Commander’s Weapons System
9-2350-255-2-10	Turret Electrical System

Note: The -255 designation will change to -264 upon incorporation of M1A1 requirements.

COFT SYSTEM CHARACTERISTICS

U-COFT

Line No.	Unit No.	NOMENCLATURE	Qty	DIMENSIONS Wt (lbs)	W (in)	L (in)	H (in)	COOLING REQUIREMENTS Type	Air Flow (CFM)	Heat Dissip (KW)	POWER REQUIREMENTS Volts, Amps Phases, & No. of Wires	KVA	Power Factor	WIRING ACCESS Over	Under	REMARKS Hard Wired
1	10A1	Image Generator	1	3500	61.4	30	75	Room Ambient	2400	9.70	120/208 V ac 50 amps, 3 ph 5 W	11.41	**	X		
2	20	IOS Console w/Video Terminal	1	1041	41.4	51	72	Room Ambient	800	3.15	120/208 V ac 20 amps, 3 ph 5 W	3.70	**	X		Plug L-21-20P
3	30	Crew/Team Compartment	1	2700	64.5	89.5	83	Room Ambient	400	Remarks	Remarks ---					Heat Dissip Part of IOS System Elec Serv from IOS
4	1	11/780 Computer	1	1200	46.5	30	64.2	Room Ambient	200	3.31	120/208 V ac 30 amps, 3 ph 5 W	3.89	**	X		Plug L21-30P
5	1	Expansion Cab		600	25.75	30	64.2	Room Ambient	200	Remarks	120 V ac 30 amps, 1 ph 3 W	Remarks	**	X		Heat Dissip and Elec Power Included with 11/780 Computer Plug L5-30P
6	3	Disk Unit	1	370	21.3	36	41.8	Room Ambient	200	0.66	120 V ac 11 amps, 1 ph 3 W	0.77	**	X		Plug L5-30P
7	2	Printer	1	150	27.5	33.8 w/ basket	33	Room Ambient	75	0.29	120 V ac 5 amps, 1 ph 3 W	0.34	**	X		Plug L5-20P
8		Test Equipment Reserve						Room Ambient	N/A		120 V ac 2 amps, 1 ph 3 W	0.03	**			

** Worst case power factor for U-COFT system is .80

SUMMARY	KVA	KW
U-Coft Requirements	20.14	17.11
Required Design Reserve	4.02	3.42
Total Requirements	24.16	20.53 or 70,069 BTU/Hr

Unbalanced line currents in the system shall not exceed 7.5A

327
328 Blank

M-COFT

Line No.	NOMENCLATURE	Qty	DIMENSIONS Wt (lbs)	W (in)	L (in)	H (in)	COOLING REQUIREMENTS Type	Air Flow (CFM)	Heat Dissip (KW)	POWER REQUIREMENTS Volts, Amps Phases, & No. of Wires	KVA	Power Factor	WIRING ACCESS Over	Under	REMARKS Hard Wired
1	Image Generator	1	3500	61.4	30	75	Room Ambient	2400	9.70	120/208 V ac 50 amps, 3 ph 5 W	11.41	**			
2	IOS Console w/Video Terminal	1	1041	41.4	51	72	Room Ambient	800	3.15	120/208 V ac 20 amps, 3 ph 5 W	3.70	**		X	Plug L-21-20P
3	Crew/Team Compartment	1	2700	64.5	89.5	83	Room Ambient	400	Remarks	Remarks ---					Heat Dissip Part of IOS System Elec Serv from IOS
4	11/780 Computer	1	1200	46.5	30	64.2	Room Ambient	200	3.31	120/208 V ac 30 amps, 3 ph 5 W	3.89	**		X	Plug L21-30P
5	Expansion Cab		600	25.75	30	64.2	Room Ambient	200	Remarks	120 V ac 30 amps, 1 ph 3 W	Remarks	**		X	Heat Dissip and Elec Power Included with 11/780 Computer Plug L5-30P
6	Disk Unit	1	370	21.3	36	41.8	Room Ambient	200	0.66	120 V ac 11 amps, 1 ph 3 W	0.77	**		X	Plug L5-30P
7	Printer	1	150	27.5	33.8 w/ basket	33	Room Ambient	75	0.29	120 V ac 5 amps, 1 ph 3 W	0.34	**		X	Plug L5-20P
8	Test Equipment Reserve						Room Ambient	N/A		120 V ac 2 amps, 1 ph 3 W	0.03				

** Worst case power factor for M-COFT system is .80

SUMMARY	KVA	KW
M-Coft Requirements	20.14	17.11
Required Design Reserve	4.02	3.42
Total Requirements	24.16	20.53 or 70,069 BTU/hr

Unbalanced line currents in the system shall not exceed 7.5%

329
3308/Link

Annex II to
Appendix U to
ENCLOSURE (1)

DEPROCESSING SCHEDULE

UNIT/LOCATION	DATES	TANKS
4th TkBn	February 91	16
NETT, MCAGCC	March 91	4
3rd TkBn, MCAGCC	April 91 to May 91	44
CSSD-12, 1st FSSG, MCAGCC (ORF)	April 91 to May 91	4
MPS II, MCLB, Albany	April 91	30
MPS I, MCLB, Albany	June 91	30
MPS III, MCLB, Albany	August 91	30
MCLB, Albany (M/F)	October 91	15
2d TkBn, Camp Lejeune	January 92 to February 92	44
2d FSSG, Camp Lejeune (ORF)	February 92	4

M1A1 SECURITY CLASSIFICATION GUIDE

M1A1 TANK SECURITY CLASSIFICATION GUIDE

SECTION 1 - GENERAL INFORMATION

1. Purpose. The purpose of this document is to provide instructions and guidelines for the Marine Corps on the security classification of information and material pertaining to the M1A1 Main Battle Tank as classified by the U.S. Army. In addition, security procedures for protection of the system as it relates to the Marine Corps are contained within this document. The guide will be utilized in the preparation of DD Form 254, "Department of Defense Contract Security Classification Specification," issued to defense contractors performing on the program. Further, it is the intent of this guide that all good judgment and common sense should be employed to protect the tank and its components from any person/persons who might compromise its decisive edge in combat. This guide will be reviewed for accuracy and currency on a biennial basis. The highest level of information classified by this guide is SECRET. This guide is UNCLASSIFIED. The text of this guide is amplified by Annexes II through XIV.

2. Authority. The information contained in this guide is classified by authority of Commander, U.S. Army Tank-Automotive Command, Warren, MI, 48397-5000. This guide is prepared by the Commanding General, MCRDAC (CBGT), Quantico, VA 22134, from information contained in the "Security Classification Guide for Abrams Tank System," dated 25 Apr 91, issued by the Program Executive Officer, Armor Systems Modernization, Warren, MI 48397-5000.

3. Application. Changes in classification required by this guide will be made immediately.

4. Questions and Recommendations. Questions concerning the content and interpretations of this guide should be directed to the preparing activity. If the security classifications imposed by this guide are considered impracticable, documented (written) and justified recommendations should be made through appropriate channels to the preparing activity. If current conditions or progress made in this effort, scientific or technological developments, advances in the state of the art, or other factors indicate a need for change, similar written recommendations should be made. Pending a final decision, the information will be protected at either the current level or the recommended level, whichever is higher. Overclassification or incorrect classification should be brought to the attention of the preparing activity immediately. Any and all users of this guide are encouraged to assist in improving its currency and accuracy.

5. Public Release. The fact that this guide shows certain details of information to be unclassified does not allow automatic public release of them. Proposed public disclosures of unclassified/distribution "A" information regarding the M1A1 Tank shall be processed through appropriate publication approval channels. Defense contractors will comply with the instructions contained in the "Department of Defense Contract Security Classification Specification" DD Form 254, and paragraph 50 and Appendix IX of DoD 5220.22M, the "Industrial Security Manual For Safeguarding Classified Information."

6. Definitions. (Annex II).

7. Foreign Government Information and Foreign Military Sales. This program is subject to the Foreign Military Sales (FMS) Program. For information that could be disclosed by FMS, see paragraph 23a(3), Section 7.

SECTION 2 - OVERALL EFFORT

Information Revealing	Classification	Declassification or Review	Notes
8. Identification (nomenclature, part and identification numbers, code name and model designation	U	1	
9. Goal, mission, purpose, military application	U	1	
10. End Item:			
a. External view.	U	1	
b. Internal view.	U	1	
11. Main Weapon System:			
a. M256, 120mm cannon.	U	1	
b. Armament Enhancement Initiative (AEI).	U	1; 4	

Information Revealing	Classification	Declassification or Review	Notes
12. Complementary Weapons:			
a. .50 caliber machine gun.	U		1
b. 7.62mm machine gun.	U		1
13. Drawings, sketches or photographs:	U		Not revealing thickness of armors.
a. Showing thickness of armor cavities. (Example: turret left, right).	C	OADR	2
b. Photograph of an armor section with threat projectile.	S or S-SAR	OADR	2
c. Identifying thickness and material of a conventional armor plate but not showing the location on the tank.	U		1
d. Showing build-up of hull and turret structures with no reference to special armor design, configuration or specific location.	U		1
e. Any compilation of individually unclassified documents, technical drawings, sketches, briefings, photographs, mockups or parts which in total reveals the tank system design and/or reveals plans to improve the armor protection of the M1A1 vehicle.	C	OADR	Example: ECP documents with individual pertaining to armor components. 2

Information Revealing	Classification	Declassification or Review	Notes
f. Any compilation of individually unclassified armor component detail drawings showing length, width and thickness of Special Armor, Improved Special Armor and Heavy Armor.	S or S-SAR		2
g. External view of ballistic hull and turrets. Not showing any armor design information, configuration or location.	U		1
h. Skeleton turrets waiting armor installation	U		1
SECTION 3 - PERFORMANCE AND CAPABILITIES			
14. Main Weapon System:			
a. M256 120mm cannon (rate of fire).	U		1; 4
b. Performance and hit/kill probabilities of the M256 cannon, when associated with type of ammunition used.	C	OADR	2; 4
15. Complementary Weapons:			
a. .50 caliber machine gun.	U		1
b. 7.62 mm machine gun.	U		1

Information Revealing	Classification	Declassification or Review	Notes
16. Fire Control:			
a. Thermal imaging night vision devices (range and resolution).	C	OADR	Technical specifications and software only. Does not preclude normal crew training; 2; 4
b. Field of view for thermal imaging night vision device.	U	OADR	1; 4
c. Forward Looking Infrared (FLIR) ranging device (compilation of range data in conjunction with FLIR performance - threshold of detection).	C	OADR	Technical specifications and software only. Does not preclude normal crew training; 2; 4
d. Stabilization System.	U		1
e. Carbon Dioxide Laser Rangefinder Counter-measures/ Counter-Counter-measures (CM/CCM).	U		1; 4
f. Optical Improvement Program (OIP).	U		1; 4
SECTION 4 - SPECIFICATIONS			
17. Production characteristics:			
a. Specialized manufacturing specifications, processes for unique performance or producibility of night vision systems or components.	C	OADR	2; 4

Information Revealing	Classification	Declassification or Review	Notes
b. All automotive RAM-D criteria such as fuel capacity and consumption, weight, crew size, ammunition capacity and location.	U		1; 4
c. Details of specifications showing reliability of main gun ammunition.	C	OADR	2; 4
d. All reliability and maintainability statistical data.	U		1; 4
e. Details of Vetronics systems including bus architectures, operation, and interface requirements.	U		1; 4
SECTION 5 - CRITICAL ELEMENTS			
18. Special Armor:			
a. Specific location of special armors.	U		1
b. Phenomenology of Special Armor.	S	OADR	2
c. Information revealing vulnerabilities to nuclear, chemical or biological conditions.	S	OADR	2
d. All Special Armor designs/configurations/etc., to include, but not limited to, test section, range targets interim, final designs or equivalent documentation, to include a list of materials.	S	OADR	2

Information Revealing	Classification	Declassification or Review	Notes
e. All Special Armor fabrication techniques as described in the Technical Data Package (TDP).	S	OADR	2
f. Physical characteristics of Special Armor.	S	OADR	2
g. Methods of assembly employed to make a Special Armor design.	S	OADR	2
h. Armor scrap resulting from the Special Armor production process which discloses armor composition, configuration, and/or any other information covered by this guide.	S	OADR	2; 4; 5
i. Any final dimension, to include, length, width, thickness, and weight of a Special Armor Package.	S		2
j. Individual armor component detail drawings showing length, width, and thickness.	U		1; 4
k. Overall weight and/or areal density of the armor when associated with Special Armor.	S	OADR	2
l. The ability or inability of Special Armor to defeat threat projectiles.	S	OADR	2

Information Revealing	Classification	Declassification or Review	Notes
19. Improved Special Armor:			
a. Knowledge that Improved Special Armor is installed in the turret front of IPM1 and M1A1 tanks.	U		1
b. Phenomenology of Improved Special Armor.	S-SAR	OADR	2
c. Information revealing vulnerabilities to nuclear, chemical or biological conditions.	S-SAR	OADR	2
d. All Improved Special Armor designs/configurations/ etc., to include, but not limited to, test sections, range targets interim, final designs or equivalent documentation.	S-SAR	OADR	2
e. All Improved Special Armor fabrication techniques as described in the Technical Data Package (TDP).	S-SAR	OADR	2
f. Physical characteristics of Improved Special Armor.	S-SAR	OADR	2
g. Methods of assembly employed to make a Improved Special Armor design.	S-SAR	OADR	2
h. Armor scrap resulting from the Improved Special Armor production process which discloses armor composition, configuration, and/or any other information covered by this guide.	S-SAR	OADR	2; 4; 5

Information Revealing	Classification	Declassification or Review	Notes
i. Any final dimension, to include, length, width, thickness, and weight of Improved Special Armor Packages.	S-SAR	OADR	2
j. Overall weight and/or areal density of the armor when associated with Improved Special Armor.	S-SAR	OADR	2
K. The ability or inability of Improved Special Armor to defeat threat Projectiles.	S-SAR	OADR	2
20. Heavy Armor (DU):			
a. Identifying an M1A1 tank as having Heavy Armor.	U		1
b. Knowledge that Heavy Armor will be installed in the turret of M1A1 tanks.	U		1
c. Phenomenology of Heavy Armor.	S-SAR	OADR	2
d. Information revealing vulnerabilities to nuclear, chemical or biological conditions.	S-SAR	OADR	2
e. All Heavy Armor designs/configurations/etc., to include, but not limited to, test sections, range targets interim, final designs or equivalent documentation.	S-SAR	OADR	2

Information Revealing	Classification	Declassification or Review	Notes
f. All Heavy Armor fabrication techniques as described in the Technical Data Package (TDP).	S-SAR	OADR	2
g. Physical characteristics of Heavy Armor.	S-SAR	OADR	2
h. Method(s) of assembly employed to make a Heavy Armor design.	S-SAR	OADR	2
i. Armor scrap resulting from the Heavy Armor production process which discloses armor composition, configuration, and/or any other information covered by this guide.	S-SAR	OADR	2; 4; 5
j. Any final dimension, to include, length, width, thickness, and weight including package and detail parts.	S-SAR	OADR	2
k. Overall weight and/or areal density of the armor when associated with Heavy Armor.	S-SAR	OADR	2
l. The ability or inability of Heavy Armor to defeat threat projectiles.	S-SAR	OADR	2
SECTION 6 - VULNERABILITIES AND WEAKNESSES			
21. Total Tank System:			
a. Vulnerability to ballistic threats.	C thru S-SAR	OADR	2; 4

Information Revealing	Classification	Declassification or Review	Notes
b. Performance against postulated small arms threats.	C	OADR	2; 4
c. Protection afforded against all small arms and overhead artillery.	C	OADR	2; 4
d. Protection afforded and vulnerability to all direct fire large caliber projectiles.	S S-SAR	 OADR	2 2
e. Non-ballistic threat known or postulated with known or suspect vulnerabilities to such threats.	C	OADR	2; 4
f. Nuclear and/or electromagnetic effects data.	U		1; 4
g. Protection afforded under NBC conditions.	C	OADR	Relates to Capability to continue combat environment; 2; 4
h. Signature: Noise, Infrared, and/or radar.	U		Unless it relates directly to the determination of vulnerability; 1; 4
i. Laser Counter-measures/ Counter-Counter-measures (CM/CCM).	U		1: 4

Information Revealing	Classification	Declassification or Review	Notes
SECTION 7 - ADMINISTRATIVE DATA			
22. Research and development program:			
a. Budget year and prior year dollars and quantities.	U		
b. Future years and total dollars and quantities	U		
23. Production, procurement and programming:			
a. Quantities:			
(1) Assets (worldwide); Acquisition Objective (AO); total program.	U		1
(2) Assets or programmed quantities by location or command for Marine Corps CONUS and assets overseas units.	U		Total USMC are un-unclassified.

Information Revealing	Classification	Declassification or Review	Notes
(3) Foreign Military Sales (FMS) and Military Assistance program highest level of information that could be disclosed by:			
(a) Sale.	S or S-SAR	2 2	
(b) Production.	S or S-SAR	2 2	
(c) Operation.	U	1	
(d) Maintenance.	U	1	
(e) Training.	U		
(f) Reverse Engineering.	S or S-SAR	2 2	
(g) Destructive Testing.	S or S-SAR	2 2	
(4) Total distribution plan.	U	1	
(5) Total USMC program requirements.	U	1	
(6) Total assets and/or equipment status of a USMC Division, comparable size force or larger (consolidated or rolled up).	U		

Information Revealing	Classification	Declassification or Review	Notes
b. Production and delivery:			
(1) Numbers contracted.	U	1	
(2) Production and delivery schedules.	U	1	
(3) Rates of delivery.	U	1	
(4) Production capacity or capability.	U	1	
(5) Shipping dates and times.	U		Although unclassified shipping dates, times and routes are sensitive and not releasable to the public; 1; 4
24. Key scheduling dates:			
a. Initial Operating Capability (IOC).	U		
b. Development milestones other than IOC.	U		

Information Revealing	Classification	Declassification or Review	Notes
SECTION 8 - HARDWARE			
25. Composition of hardware items:			
a. Fire Control System:			
(1) Sighting devices (day and night)	U		Range and resolution of thermal imaging night devices are classified (see 17a): 1: 4
(2) Stabilization System.	U		1; 4
c. M256, 120 mm cannon.	U		1; 4
d. Complementary Weapons:			
(1) .50 caliber machine gun.	U		1
(2) 7.62 mm machine gun.	U		1
26. Publications:			
a. Technical Manuals.	U		Technical manuals, Operating manuals and training materials although unclassified will be provided only to those who have a "need-to-know". Manuals must contain appropriate distribution guidance.
b. Operating Manuals.	U		
c. Training Manuals	U		

Information Revealing	Classification	Declassification or Review	Notes
27. Software:			
a. System Software when loaded into end item or transported on non-alterable media.	U		
b. System Support Software.	U		
28. Documentation, electromagnetic storage devices. Not revealing ballistic performance of ammunition or software security provisions.	U		
a. Showing ballistic performance of ammunition in higher than object code.	S	4	
b. Provisions to protect integrity of software other than specific software security provisions, e.g. checksums.	U		
c. Existence of Software Security Program.	U		

Information Revealing	Classification	Declassification or Review	Notes
29. Software Specifications:			
a. Not revealing software security provisions.	U		
30. Software Support Hardware and Software:			
a. Software development and support tools.	U		
b. Software downloader for field support.	U		
c. Electromagnetic or optical media for transport or storage of embedded software.	U		
31. Programs.	U		
32. Data Files:			
a. Standard (furnished) files object code or binary.	U		
b. Standard (furnished) files source code or ASCII data. Not dealing with ballistic performance or security provisions.	U		
c. Locally generated files.	C		4
d. Passwords	U		to be treated as "For Official Use Only"
e. Technical Manuals	U		1; 4

Information Revealing	Classification	Declassification or Review	Notes
f. Operating Manuals	U		1; 4
g. Training Manuals	U		1;4
h. Software Design and Support Documents	U-S		6
33. Goal, mission, purpose, military application.	U		Generic, not referring to or directly relating to any level of requirement per M1A2 S/W Security Requirements (U).
	S	OADR	Dealing with requirements of level 3 and below per M1A2 S/W Security Requirements (U).
	TS	OADR	Dealing with requirements of level 4 and above per M1A2 S/W Security Requirements (U).
34. Documentation Software Security.	S	OADR	Dealing with requirements of Level 3 and below per M1A2 Security Requirements (U).

Information Revealing	Classification	Declassification or Review	Notes
35. Software Specifications:			
a. Dealing with an element of software security provisions.	S	OADR	Level 3 and below per M1A2 S/W Security Requirements (U).
b. Dealing with elements of software security provisions.	TS	OADR	Level 4 and above per M1A2 S/W Security Requirements (U).
36. Software Security Provisions:			Not applicable to end item user.
a. Individual elements dealing with software security.	S	OADR	Level 3 and below per M1A2 S/W Security Requirements (U).
b. Individual elements dealing with software security.	TS	OADR	Level 4 and above per M1A2 S/W Security Requirements (U).
c. Compilation of information providing knowledge of software security provisions or requirements.	U		Industrial security practices with no connection to M1A2 S/W Security Reg (U).

Information Revealing	Classification	Declassification or Review	Notes
	C	OADR	Embedded security provision Level 3 and below with no connection to requirement per M1A2 S/W Security Requirements (U).
	S	OADR	Level 3 and below per M1A2 S/W Security Requirements (U).
	TS	OADR	Level 4 and above per M1A2 S/W Security Requirements (U).
37. Information which would facilitate the unauthorized modification of embedded tank software.	TS	OADR	Not applicable to end item user.
38. Publications:			
a. Software Design and Support Documents.	S	OADR	Identifying elements of the security program Level 3 and below per M1A2 S/W Security Requirements (U).

Information Revealing	Classification	Declassification or Review	Notes
	TS	OADR	Identifying elements of the security program Level 4 and above per M1A2 S/W Security Requirements (U).
39. Data Files:			
	S	OADR	Dealing with requirements of Level 3 and below per M1A2 S/W Security Requirements (U).
	TS	OADR	Dealing with requirements of Level 4 and above per M1A2 S/W Security Requirements (U).

NOTES

Note 1. Although UNCLASSIFIED, this type of information is not approved for automatic public dissemination.

a. This type of information will be considered OPSEC sensitive, meaning, any unclassified information, the disclosure of which would be of value to hostile intelligence collectors in that analysis of the information would provide useful targeting data, or that would provide insight into information that has been determined to be classified.

b. Do not discuss classified or unclassified national security related information on unsecured telephones. Unprotected telephone conversations of government employees and government contractors are targeted by our adversaries. Extreme caution must be used when discussing any information on unsecured telephones. If secure voice is available, it should be used for all conversations, both classified and unclassified sensitive.

Note 2. Declassify On: Originating Agency's Determination Required (OADR) Declassification/downgrading instructions will be provided by originating authority at the appropriate time(s).

Note 3. To include, but not limited to, blueprints, viewgraphs (VGTs), photographs, videotapes, motion pictures, documents, hardware, computer software and documentation, magnetic tapes, letters, reports, working papers, notes, technical specifications, etc.

Note 4. Classify according to content and this guide. Additional Classification Guides that are relevant are identified on page IW-23 of this classification guide.

Note 5. Prior to disposal of any SAP material as UNCLASSIFIED, PEO, Armored Systems Modernization approval must be obtained. Methods and procedures will be established on a case by case basis. Upon Original Classification Authority approval and technical evaluation declassification will occur only when the material can be completely disassociated from: (a) The SAP program; (b) any indications of how the material was configured in the armor design; and (c) any indication of how the material was ballistically impacted.

Note 6.

a. Documentation identifying system threats without revealing thresholds, system specific details or implementation is classified Confidential.

b. Documentation identifying system threats revealing thresholds, system specific details or implementation is classified Secret.

c. If neither of the above are identified, the documents are unclassified.

GUIDE	PROPONENT
Optical Improvement Program (OIP) 27 January 1989 POC: Major Dedmond DSN 290-3160 Comm (202) 266-4752	LABCOM ATTN: SMO/LABCOM 2800 Powder Mill Road Adelphi, MD 20783-1145
Cannon, 120mm, XM25 March 1984 POC: Mr. John Kehn DSN 974-4752 Comm (518) 266-4752	ARDECD ATTN: SMCAR-CCB-DS Benet Laboratory Watervliet Arsenal, NY 12189
Nuclear Weapons Effects (NWE) 30 September 1984 POC: Mr. John Corrigan DSN 290-2856 Comm (20) 394-2856	U.S. Army Electronics R&D Cmd Harry Diamond Laboratories 2800 Powder Mill Road Adelphi, MD 20783
Armament Enhancement Initiatives (AEI) December 1986 POC: Mr. Richard P. Davitt DSN 880-2526 Comm (201) 724-2526	ARDEC ATTN: SMCAR-CCH-W Picatinny Arsenal Dover, NJ 07801
Carbon Dioxide Laser Range Finder (CO_2 LRF) 17 May 1990 POC: Mr. Alan R. Havrillan DSN 786-6751 Comm (313) 574-6751	TACOM ATTN: SFAE-ASM-AB-SW Warren, MI 48397-5000
Tank Thermal Sight, AV/VSG-2 (TTS) 27 November 1989 POC: Mr. Al Van Landuyt DSN 354-1811 Comm (703) 664-5605	U.S. Electronics R&D Cmd ATTN: AMSEL-RD-NV-GS-CVM Adelphi, MD 20783

DEFINITIONS

1. Armor - A covering designed to protect against ballistic penetration, especially as used on tanks.

2. Armored Combat Fighting Vehicles - Wheeled or tracked vehicles with an armor hull or body.

3. Armor test section/target "package" - An armor made from any combination of armor materials and designs which will be ballistically impacted or tested in some manner.

4. Assembly - a group of two or more physically connected parts.

5. Compartmentalization - The enhancement of combat survivability by separating the crew from combustibles by armored doors and/or bulkheads.

6. Conventional Armor - A rolled, wrought or forged homogenous monolithic ballistic structure, which may consist of either ferrous or non-ferrous material.

7. Exposure - That which can be seen.

8. Flash Radiograph - A shadowgraph on film, or print that is produced by x-radiation.

9. Heavy Armor (DU) - Turret armor made from Depleted Uranium, identified by a "U" at the end of the turret serial number.

10. Homogenous Armor - Steel armor which has been manufactured and heat treated so that it possesses, as nearly as possible, the same chemical constituents, and physical and mechanical properties, throughout.

11. Improved Special Armor - Turret armor installed in IPM1s and M1A1s only.

12. M1 Abrams Tank System - As utilized within this classification guide, refers to the M1 Basic, M1 Improved, IPM1, M1A1, and M1A2.

13. Nonconventional armor - an armor, or armor design, other than rolled, cast, wrought or forged homogeneous monolithic armor (conventional armor).

14. OADR - Originating Agency’s Determination Required.

15. Outline - A line bounding the limits (envelope) of a special armor.

16. Plate - A single sheet of armor material.

17. Program - Planned procurement of a specific quantity of vehicles or major components for any single fiscal year or number of fiscal years.

18. Special Armor - Turret armor on M1s and all other armors on the Abrams family of tanks except turret armors on IPM1s and M1A1s.

19. Special Access Program (SAP) - Any program imposing a must "need-to-know" or access controls beyond those normally provided for access to CONFIDENTIAL, SECRET, or TOP SECRET information under the provisions of OPNAVINST 5510.1H, "Department of the Navy Information and Personnel Security Program Regulation." Such a program may include, but is not limited to, access clearance, adjudication or investigative requirements, and special designation of officials authorized to determine a must "need-to-know."

20. Tank system - The Basic M1, Improved M1, (IPM1) and M1A1 and subsequent series Abrams Tank with all of the complete assemblies of functional components, parts and kits.

SPECIAL INSTRUCTIONS

1. Special Access Program (SAP). The basic Special Access Program for Special Armor (SAPSA) has been disestablished. Therefore, the special armor skirts and gunshields installed on the M1A1 Tank are no longer under the Special Access Program (SAP) but are now classified as SECRET - No Special Access Required. However, improvements in the tank beyond special armor remain under SAP controls. The specific SAP information contained within the tank will not be revealed except for the fact that the tank now contains Heavy Metal Armor (depleted uranium). The fact that the tank contains depleted uranium was the subject of a public release by Headquarters, Department of the Army (HQDA) on 14 March 1988. All design, manufacturing and performance data on Heavy Armor remains classified under a SAP.

2. Markings. All documents and information containing SECRET or CONFIDENTIAL material shall be marked as SECRET or CONFIDENTIAL Declassify on: OADR.

3. Access to the Tank. Even though the interior and exterior of the tank are UNCLASSIFIED, only authorized persons with an official need-to-know will be permitted access to the interior. The definition of "Authorized Personnel" is U.S. military or DoD civilian personnel and foreign nationals that have a need for physical access to the tank; e.g., crew, maintenance and security personnel, training technicians, etc. Access to the tank on military installations will be granted to news media personnel, visiting foreign nationals, and others only when they are under escort by DoD civilian or military personnel knowledgeable of the tank system. Access can be granted by the tank battalion commander in coordination with the Security Manager, S2 or G2.

4. Display. The tank will not be made accessible to the general public. Special off-post displays of the M1A1 tank to enhance the relationship of the community must be done with the approval of the first general officer in the chain of command. However, the interior of the tank will remain closed at all times while it is on display. Hatches will be secured to preclude access to the interior by unauthorized persons.

5. Security of the Tank System. The tank must be physically safeguarded at all times. This means that it is never to be left unattended for any reason. Tanks parked outside on tank ramps, storage areas, etc., must be under constant observation by a responsible individual at all times. Structures or buildings utilized for storage of tanks must meet the physical security standards contained within OPNAVINST 5530.14B "DoN Physical Security and Loss Prevention." Standard Operating Procedures (SOP’s) will be established by each commander or responsible individual to ensure that the tank and its components are safeguarded and accounted for at all times.

6. Security of Special Armor Skirts Removed from the Tank. Special armor components (skirts and gunshields) removed from the tank will be stored and safeguarded as follows:

a. Stored within an arms room, meeting the security standards contained in OPNAVINST 5530.13 "Physical Security for Sensitive Conventional Arms, Ammunition and Explosives (AA&E)."

b. Stored in a cage constructed of at least 11 gauge wire mesh, equipped with a medium security padlock and hasp or in a locked room affording equal protection. Protective security lighting is encouraged. The storage areas will be designated as "restricted areas" during those periods that special armor components are stored within. Key and lock control procedures will be utilized for the storage area.

c. Except for those areas equipped with Intrusion Detection Systems (IDS), physical checks will be conducted at least every two hours.

d. Special armor components removed from the tank will be treated, secured, and accounted for as SECRET material.

e. Access to the storage area(s) will be controlled at all times. Access procedures will be addressed in the unit or activity SOP.

f. Storage of tanks and components in Maritime Pre-positioning Ships (MPS) and remote sites will be in accordance with the above procedures. However, physical security checks as outlined above are not required while tanks are at sea and in locked storage areas. Hatches may be left open when in storage for purpose of humidity control.

7. Missing Special Armor Components. In the event that a special armor component should be discovered to be missing, a report will be made through command channels to the appropriate level. An immediate search will be conducted to attempt to locate the missing item, utilizing the methods that would be employed to locate any classified or sensitive item. If the item is not located after all reasonable efforts have been exhausted, the Naval Investigation Service (NIS) is to be notified in accordance with OPNAVINST 5510.1H. The Commanding General, MCRDAC (CBGT), Quantico, VA 22134 and the Commander, U.S. Army Tank-Automotive Command (AMLPED-HFM-X), Warren, MI 48397-5000 will be notified.

8. Shipments

a. Initial (first destination) rail shipments from both the Lima Army and Detroit Arsenal Tank Plants are provided for in the Revised Security Plan for Rail Transport of M1A1 Tanks.

b. For shipment of unit tanks (movement to training areas, maintenance shops, etc.), guard(s) (escorts) must accompany all shipments unless the transport vehicle contains at least two individuals or two or more transport vehicles are utilized. Chapter 34 of MCO P4600.14, "Defense Traffic Management Regulations", provides policies and procedures for movement of confidential, secret, and sensitive material, and includes specific instructions for surveillance service for M1A1 tanks.

c. Truck shipments over public highways, roads or streets, must be accompanied by at least two persons, unless two or more trucks are involved. This is in the event of a vehicle breakdown, one person can remain with the shipment while the other calls for assistance. Tanks will not be left unattended on roadways, etc., for any reason.

d. In the event that a tank must be separated for shipment (hull and turret), care must be exercised to ensure that classified components are not revealed when the hull and turret are separated. Security measures must be employed at all times. Separation of the hull and turret for shipment is discouraged.

e. Physical access to the tank interior will be controlled at all times to preclude unauthorized entry. All hatches will be closed and properly secured at all times.

f. During unit moves, the skirt retaining clip will be removed to avoid being removed by unauthorized persons or working loose and causing a skirt to become lost or damaged. A 3/8-inch by 2-inches machine bolt with self-locking nut will be substituted for the skirt retaining clip during shipment.

9. Maintenance. At all echelons, maintenance may be performed by personnel defined in paragraph 3 of this annex, except for repairs to special armor and other classified components. Such repairs can only be made by U.S. military or civilian personnel possessing the appropriate security clearance.

10. Damaged Special Armor. If any special armor component is damaged whereby the interior contents are exposed, it shall be protected as SECRET. The damaged portion shall be covered with a blanket, field jacket, mud, etc., secured and guarded from further exposure by uncleared personnel. Exposure to the damaged area must be restricted to those persons possessing a SECRET clearance. The exposed section will be repaired at the lowest possible level utilizing the Special Armor Skirt Repair/

Replacement Procedure, (Annex 4). In the event that the component is damaged beyond repair, that portion will be placed in a securely sealed container (wood or metal) and shipped to Commander, Aberdeen Proving Ground, ATTN: STEAP-MT-A, Aberdeen Proving Ground, MD 21005. The container will be shipped as classified to the above address under a continuous receipt system. The M1A1 Project Officer, Code (CBGT) MCRDAC, Quantico, VA 22134, will be notified that the shipment has been made at AUTOVON 278-2137 or Commercial (703) 640-2137 or by electronic message. The M1A1 Project Officer shall notify the Special Programs Manager, U.S. Army Tank-Automotive Command, Warren, MI 48397-5000.

11. In the event that it has been determined that the interior contents of any Special Armor has been exposed to uncleared persons, those individuals will be debriefed if the armor is under a collateral SECRET program. An Inadvertent Disclosure Oath must be executed if the armor is under Special Access Program (SAP) controls.

12. A record of repairs to Special Armor or replacement of components must be completed and remain with the tank throughout its life cycle. (Annex XVI)

13. Special Armor Scrap. Any scrap materials associated with special armor shall be stored, safeguarded and disposed of as SECRET in accordance with established procedures.

14. Release of Information to Foreign Nationals/Governments. Release of information pertaining to the M1A1 tank system is subject to the provisions of OPNAVINST 5510.48J "Manual for the Disclosure of Classified Military Information to Foreign Governments and International Organizations."

15. Main Gun Ammunition. Performance data of the main gun ammunition is classified in accordance with the respective ammunition security classification guide.

PHYSICAL SECURITY MEASURES FOR M1A1 TANK SYSTEM

1. The tank shall be afforded the minimum physical security standards as outlined in OPNAVINST 5530.14B "Department of the Navy Physical Security and Loss Prevention."

2. Classified components such as Special Armor skirts and gunshields when removed from the tank will be afforded the protection outlined in OPNAVINST 5530.13, "Physical Security for Sensitive Conventional Arms, Ammunition and Explosives (AA&E)."

3. Tanks will be guarded or under constant surveillance at all times by responsible individual(s) (i.e., crewmen and maintenance personnel during working hours and battalion, camp or base guard during nonworking hours). Foreign and third country nationals should be utilized only when the U.S. Government is bound by the Status of Forces Agreement. Perimeter/security lighting, fencing, and intrusion detection devices provide a complementary means of augmenting the security watch/patrols.

4. Adequate physical security protection must be afforded the tank in the unit area, in the field, tank parks, storage and staging areas, maintenance shops, commercial and controlled parks and port facilities, rail guards, etc.

5. Security requirements for the protection of the tank are applicable both in CONUS and overseas locations.

6. Tanks in transit (first destination shipments) are under contract to commercial carriers. Commercial carriers (rail and trucks) will comply with the instructions contained within DoD 5220.22C, "Carrier Supplement to the Industrial Security Manual for Safeguarding Classified Information." Chapter 34 of MCO P4600.14, "Defense Traffic Management Regulations", provides policies and procedures for movement of confidential, secret, and sensitive material, and includes specific instructions for surveillance service for M1A1 tanks.

7. When the tank is being moved under its own power and a breakdown occurs, the tank will not be left unattended. A responsible individual will remain with the tank at all times. In unit moves, at least one crew member will remain with the tank while the others seek assistance.

8. During transport on a transport vehicle or by a recovery vehicle and a breakdown occurs, the vehicles will not be left unattended. Either the vehicle operator or another responsible individual will remain at the scene of the breakdown while assistance is sought.

9. The security requirements contained within the referenced regulations should not be waived. To do so seriously degrades the security program associated with a classified weapons system.

10. Sound judgment and a common sense approach should be taken in the measures employed to protect the tank and its components from any person or persons that might compromise its decisive edge in a combat environment.

SPECIAL ARMOR SKIRT REPAIR/REPLACEMENT PROCEDURE

1. SKIRT REPLACEMENT/REPAIR CRITERIA

a. Prior to initiating repairs, a determination should be made by a qualified maintenance officer/technician as to whether the affected skirt(s) should be repaired or replaced. This is necessary since the extent of the damage could significantly reduce the protection provided the tank crew, even if repaired. In the event that a skirt is damaged to the extent that it requires replacement and there is no replacement skirt available, the damaged skirt should be repaired, utilizing the described applicable procedures, and then replaced at such time as a replacement skirt becomes available.

b. In determining whether a skirt should be repaired or replaced the following criteria should be used:

(1) Broken Welds

If welds break, allowing the joined surface to separate to the extent that they cannot be squeezed to their original configuration with clamps or whatever tools and equipment are available, the affected skirt should be replaced.

(2) Damaged Sides

Measure the approximate width and length (in inches) of the damaged area as shown in figure W-1. Multiply both measurements length by width to get a rough approximation of the damaged area. If the area exceeds 110 iny (cumulative in two or more locations) the skirt will be replaced. If damage has occurred to both sides, make the measurement on both sides and add the two areas (length by width of one side + length by width of the other side). If the combined areas exceed 110 iny in two locations, the skirt will be replaced. If the areas are less than 110 iny, the skirt will be repaired.

NOTE: Personnel making the above type of repair to the damaged skirt or special armor where the exterior surface has been breached exposing the interior, such personnel must be cleared to the level of SECRET.

(3) Bent skirts

If a skirt is bent to the extent that it cannot be closed or sticks out more than 2 inches, it should be replaced.

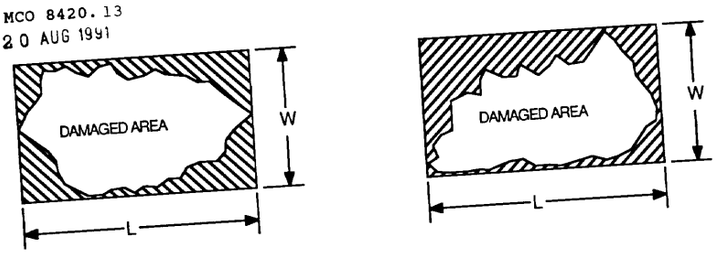


Figure W-1--Damaged Sides.

2. SKIRT REPAIR PROCEDURES

a. General

All repairs requiring welding should utilize electric arc welding equipment. Gas welding may be substituted on an emergency basis, however, this is discouraged. Although any suitable electrode may be used, stainless steel 308 rod is recommended for all repairs.

b. Cracked or Broken Welds

(1) If skirt welds are cracked or broken with no separation, grind out failed weld and reweld.

(2) If skirt welds are broken with separation, squeeze the skirt to its original configuration with clamps or whatever tools and equipment are available, grind and reweld.

c. Broken Mounting Eye or Hinge

Remove broken eye or hinge by air-arcing or grinding and weld on replacement eye or hinge.

d. Gouges or Holes in Outer Side of Skirts

(1) Grind smooth all protrusions extending beyond surface of skirt.

(2) For gouges 1/2 inch or less in depth, fill with weld material and grind smooth with surface. To minimize heat input, allow area to cool to hand touch between grinding and welding operations.

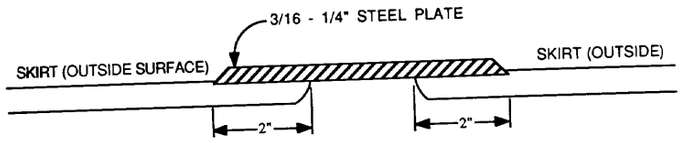


Figure W-2--Damaged Skirt (Outside).

(3) For holes and gouges deeper than 1/2 inch, cover area with a 3/16 - 1/4 inch steel plate (Rolled Homogenous Armor (RHA), if available) and weld in place using fillet weld equivalent to plate thickness. The plate should overlap the damaged area by at least 2 inches on all sides. (figure W-2).

e. Gouges or Holes in Inner Side of Skirt

(1) Do not repair minor gouges (i.e., those less than 1/8-inch deep with no cracking).

(2) For other damages, remove a rectangular section around the defective area (as shown in figure W-1) by machining or grinding (section removed should not exceed 3/16-inch deep). Under no circumstances are air-arcing or flame cutting permitted.

(3) Prepare a rectangular patch from 3/16-inch steel (Rolled Homogenous Armor (RHA), if available) of the same size as the cavity. Patch should be sized as close as possible to the dimensions of the cavity and must be 3/16-inch thick.

(4) Machine or grind a 45o chamber around the patch.

(5) Insert patch into cavity (figure W-3).

(6) Tack weld into place.

(7) Using a 1/8-inch electrode, weld all around the patch. To minimize heat input, allow to cool to hand touch between passes.

(8) Grind weld flush.

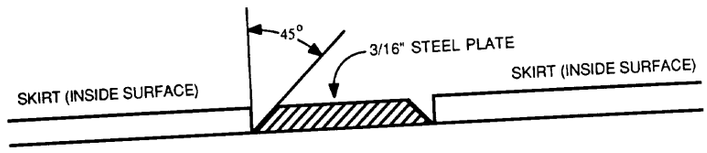


Figure W-3--Damaged Skirt (Inside).

NOTE: Due to the excessive amount of smoke that may be generated in the welding process, wearing of the NBC mask is recommended.

3. REPAIR CRITERIA FOR NON SKIRT ARMOR.

a. The structural integrity of the nonskirt armors will preclude most minor accidents from causing damage. However, the turret armors on all M1A1's with a "U" at the end of the turret serial number contain Depleted Uranium (DU). Procedures outlined in TM 3-261 should be used if radioactive material has escaped from the turret cavity.

b. If the outer skin has been punctured, ripped or cracked a patch should be fabricated out of available materials and welded over the opening. The purpose of the patch is secure the classified armor arrays and not improve the ballistic capabilities of the damaged armor. The damaged should be evaluated at the appropriate maintenance level and repairs done as required.

NOTE: Personnel making the above type of repair to armor where the exterior surface has been breached exposing the interior, such personnel should be cleared to the level of SECRET. If it is necessary to use uncleared personnel to expedite repairs then the procedures identified in Annex III paragraph 11 should be used.

c. Use caution when welding in the area of damaged DU turret armor. DU is extremely pyrophoric (burns very well). The patch should exceed the size of the damaged area by 4 to 5-inches when possible.

4. Any scrap materials associated with classified armor shall be stored, safeguarded and disposed of as SECRET or SECRET-Special Access Required in accordance with established procedures. The only organization authorized to dispose of classified armor scrap is identified in paragraph 10 Annex III of this guide. Armor scrap will not be disposed of outside of CONUS.

SECURITY PLAN FOR RAIL AND OCEANIC SHIPMENT OF M1A1 TANKS

1. References:

a. DoD 5220.22M, "Industrial Security Manual for Safeguarding Classified Information."

b. MCO P4600.14, "Defense Traffic Management Regulations."

c. TM 55-2350-255-10-15, "Transportability Guide for M1 Tank."

2. Purpose. The purpose of this plan is to prescribe basic security preparations to provide for adequate safeguards of M1A1 Tanks in transit by rail. The plan eliminates the requirements of utilizing cleared carriers or cleared government/contractor personnel as escorts in accordance with reference (a). The plan does not address shipments of Special Armor skirts, gunshields or other components separate from the tank or Special Armor structures for test or production purposes. The text of this Annex is amplified by Annexes VII through XIV.

3. Applicability. This plan is applicable to first destination shipments from the Detroit Arsenal or Lima Army Tank Plants. The plan may be modified to provide for retrograde shipments from overseas locations to CONUS, in addition to unit moves, such as those to and from training areas.

4. Safeguards. Considering the size, weight, and structural integrity of the tank, use of reasonable and cost-effective security measures will be employed to safeguard the tank from compromise while in transit will be provided by carriers. Tank Surveillance Service (TSS) will be provided for all rail shipments of the M1A1.

5. General

a. All information pertaining to shipments of the M1A1 tank, to include plans, dates, routes, final destination, etc., is "sensitive unclassified" information and will be protected. Under no circumstances will such information be released to the public. All organizations involved in shipments will disseminate such information only in a "need-to-know" basis.

b. All initial shipments are made by rail from either of the two production facilities to a limited number of ports. Rail carriers are limited in availability and cannot always provide for alternate routes. Transportation officers and the Military Traffic Management Command (MTMC) should take a coordinated approach to alternate shipment dates in order to avoid an established pattern whenever feasible.

c. Reference (a) provides policies and procedures for movement of confidential, secret, and sensitive material, and includes specific instructions for surveillance service for M1A1 tanks. Rail carriers will be provided specific instructions by MTMC concerning shipments and shipment information to include the following:

(1) Shipments will not be left unattended on remote, unilluminated, unobservable rail sidings.

(2) Shipment information will be disseminated only to those personnel requiring it in an official capacity necessary to support the program.

(3) Tank Surveillance Service (TSS), which provides for inspections within one half-hour after each stop, and reinspection at least once more each half-hour thereafter if the railcar(s) containing the tank remain at a halt, is required. Carriers will be provided the methods for conducting such inspections by MTMC.

(4) Notification procedures and actions required in the event of a shipment delay, accident or incident will be provided by MTMC.

(5) Unit moves, (such as shipments to and from training areas, etc.) shall be accompanied by unit guards or escorts or TSS may be requested by the responsible Transportation Officer.

6. Vehicle Preparation for Shipment

a. All hatches will be secured from the interior except for the loader’s hatch. The loader’s hatch will be secured from the outside, utilizing a Trans-Lok serially numbered bolt seal bearing the logo DATP or LATP for all first destination shipments (See Annex XI). In addition, a strip of bending steel will be placed over the loader’s hatch and secured to the side rails. A strip of red fluorescent tape will be placed over the banding strap, extending the width of the side rails to provide for night visibility. The hatch will be sealed with waterproof tape to prevent moisture from entering the tank.

b. For unit movements, the hatch will be secured with a medium security padlock or a hardened bolt and nut. The bolt will be peened or spot welded to prevent ease of removal.

c. All skirts will be mounted on the tank. The standard skirt closure pin will be used to secure the skirts with a Trans-Lok bolt replacing the securing clips. (Do not discard the securing clips, store them inside the tank for use when the Trans-Lok is removed).

d. Upon completion of loading the tank onto the railcar, the tank will be immobilized by disconnecting the batteries to prevent starting of the engine.

e. The tank will be secured to the railcar in accordance with reference (c).

7. Pre-movement Inspection

a. In addition to the normal rail pre-movement inspection, each tank will receive a security inspection to ensure that all of the required measures to safeguard the shipment have been taken.

b. A "Pre-shipment Inspection Checklist" will be completed for each tank in the shipment. The original copy of the completed checklist will be mailed to the receiving location, with a duplication copy in suspense. The original copy will be returned by the receiving location to the originator, with appropriate remarks. (See Annex VII).

c. For unit moves, the checklist at Annex VIII will be utilized. The same procedure contained in 7a., above will be used.

8. Shipment Routing

a. Transportation Officers will compile a listing of all possible shipping routes for tank shipments.

b. Transportation Officers will advise the responsible Security Officer of any report pertaining to shipment delays, accidents or incidents associated with tank shipments.

c. Actions to be taken in the event of an accident/incident are covered in Annex IX.

9. Inspection at Destination

a. Responsible individual(s) receiving tank shipments will inspect each tank upon receipt to determine if any tampering occurred during shipment. Each tank requires a close examination of all exterior surfaces for damage or penetration. If there is evidence of the tank having been entered during shipment, a close examination of the interior must also be made. Any evidence discovered must be recorded on the Pre-shipment Inspection Checklist.

b. Any signs or evidence of tampering that would indicate a compromise of classified information will be reported immediately by the receiving activity to the originating Security Officer by the most expeditious means available. If there appears to have been a penetration of the Special Armor components, measures must

be taken to protect the component from further exposure to unauthorized individuals.

c. In the event that a shipment arrives after normal duty hours, the receiving activity will take necessary action to protect the tank(s) from damage or unauthorized entry.

10. Security Aboard Ship. The ship’s captain is responsible for M1A1 security during the entire time they are aboard his vessel.

M1A1 Pre-Shipment Inspection

Initial/Second Destination Shipment

Vehicle Serial No. _____ Railcar No. _____
Date: _____ Padlock/Seal No. _____

1.	Special Armor skirts secured by Trans-Lok/not welded pins.	YES	NO
2.	Removed doghouse bolt cover.	YES	NO
3.	Using Trans-Lok pins/do not weld.	YES	NO
4.	Security banding over loader's hatch in place.	YES	NO
5.	Logbook placed inside hatch.	YES	NO
6.	Loader's hatch secured (Trans-Lok serial # bolt seal utilized)	YES	NO
7.	Other hatches secured from the inside.	YES	NO
8.	Batteries disconnected.	YES	NO
9.	Vehicle tied down according to plan.	YES	NO
10.	Remarks, if any. Continue on reverse side.	YES	NO

Individual Performing Inspection _____.

INSPECTION AT DESTINATION Vehicle Serial No. _____
Railcar No. _____

1.	Special Armor skirts secured by Trans-Lok/not welded pins.	YES	NO
2.	Removed doghouse bolt cover.	YES	NO
3.	Using Trans-Lok pins/do not weld.	YES	NO
4.	Security banding over loader's hatch in place.	YES	NO
5.	Logbook placed inside hatch.	YES	NO
6.	Loader's hatch secured (Trans-Lok serial # bolt seal utilized.	YES	NO
7.	Other hatches secured from the inside.	YES	NO
8.	Batteries disconnected.	YES	NO
9.	Vehicle tied down according to plan.	YES	NO
10.	Any signs of tampering, pilferage, or penetration	YES	NO
11.	Remarks, if any. Continue on reverse side.	YES	NO

Individual Performing Inspection _____.

Annex VII to
Appendix W to
ENCLOSURE (1)

RETURN TO: (Return inspection checksheet to place of origin.)

First Destination:

Commander
Detroit Arsenal Tank Plant
ATTN: AMSTA-CWQT
28251 Van Dyke Avenue
Warren, MI 48397-5000

Commander
Lima Army Tank Plant
ATTN: AMSTA-CLA (Transportation Officer)
Lima, OH 45804

Second Destination:

Commanding General
Marine Corps Logistics Base
Albany, GA 31704-5000

Commanding General
Marine Corps Logistics Base
Barstow, CA 92311

M1A1 Pre-Shipment Inspection

Unit Movement Shipment

Vehicle Serial No. _____ Railcar No. _____
Date: _____ Padlock/Seal No. _____

1.	Special Armor skirts secured with Trans-Lok - GFE furnished.	YES	NO
2.	Security banding over loader's hatch in place.	YES	NO
3.	Logbook placed inside hatch.	YES	NO
4.	Loader's hatch secured (Trans-Lok bolt seal, padlock or bolt and nut utilized).	YES	NO
5.	Other hatches secured from the inside.	YES	NO
6.	Batteries disconnected.	YES	NO
7.	Vehicle tied down according to plan.	YES	NO
8.	Remarks, if any. Continue on reverse side.	YES	NO

Individual Performing Inspection _____.

INSPECTION AT DESTINATION Vehicle Serial No. _____
Railcar No. _____ Date: _____
Padlock/Seal No. _____

1.	Special Armor skirts secured with Trans-Lok - GFE furnished.	YES	NO
2.	Security banding over loader's hatch in place.	YES	NO
3.	Logbook placed inside hatch.	YES	NO
4.	Loader's hatch secured (Trans-Lok bolt seal, padlock or bolt and nut utilized).	YES	NO
5.	Other hatches secured from the inside.	YES	NO
6.	Batteries disconnected.	YES	NO
7.	Vehicle tied down according to plan.	YES	NO
8.	Any signs of tampering, pilferage or penetration.	YES	NO
9.	Remarks, if any. Continue on reverse side.	YES	NO

Individual Performing Inspection _____.

RETURN TO:

ACCIDENT/INCIDENT PROCEDURES AND SHIPMENT DELAYS

Immediately upon discovery of an accident/incident involving a tank shipment, carriers will take immediate action to secure the shipment with their resources or seek assistance from a local or state law enforcement agency. The shipper will be advised of the accident/incident, the location, type and the extent of damages. Further actions are required as follows:

1. The carrier will cause the shipment to be secured by whatever means are available. If there is damage to the extent that a compromise to classified information is possible or has occurred, the carrier must immediately contact the shipping transportation officer immediately, who in-turn will notify the security officer.

2. If the damage has caused a breech to the exterior layer of the Special Armor, the affected areas will be covered immediately to prevent further observation by uncleared persons. Materials such as blankets, tarps or mud should be used to protect the exposed area from observation.

3. In all such situations as outlined above, the transportation officer and security officer will travel to the scene and take the appropriate actions.

4. If the incident/accident results in a security violation, a Serious Incident Report (SIR) will be submitted through appropriate command channels in accordance with MCO 5740.2E, "Event/Incident Reports." NIS, the Commanding General, MCRDAC (CBGT), Quantico, VA 22134 and the Commander, U.S. Army Tank-Automotive Command (AMLPED-HFM-X), Warren, MI 48397-5000 will be notified.

5. The receiving location and MTMC will be notified of the accident/incident.

6. Shipment delays, such as a train parked on an isolated siding, may impact on tank security; therefore, carriers are required to report all such delays to the shipper representative to ensure that all required security measures are employed.

7. In the event of an accident, derailment or significant delay or other incident that impacts on security, the transportation officer or security will notify the Commanding General, MCRDAC (CBGT), Quantico, VA 22134.

8. The appropriate officials at the receiving location will be notified of the incident/accident and the delay in shipment.

SECURITY OF M1A1 MAIN BATTLE TANK ABOARD MPS SHIPPING

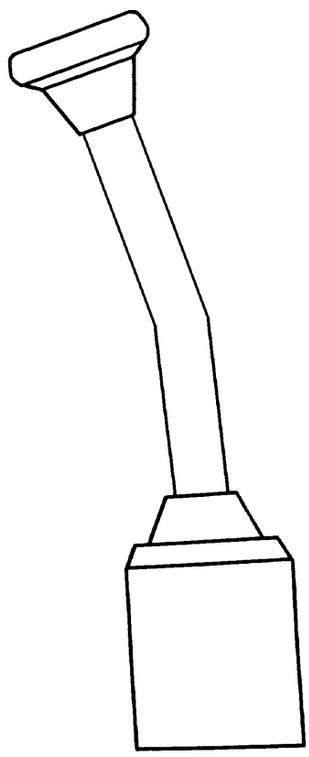
1. The tank shall be afforded the minimum physical security standards outlined by this guide.

2. Classified components, such as Special Armor skirts and gunshields when removed from the tank, will be afforded the protection outlined by this guide.

3. Even though the interior and exterior of the tank are UNCLASSIFIED, only authorized persons with an official "need to know" will be permitted access to the interior. The definition of "AUTHORIZED PERSONNEL" is U.S. military or DoD civilian personnel and foreign nationals that have a need for physical access to the tank; e.g., crew, maintenance and security personnel, training technicians, etc.

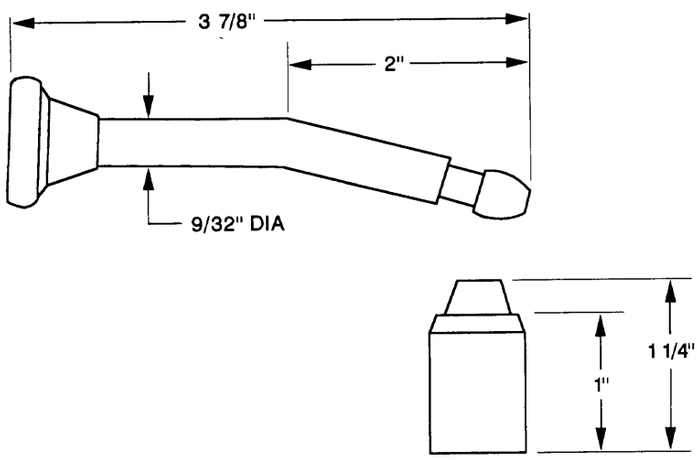
M1A1 TANK SKIRT SECURITY SYSTEM

TRANS-LOK BOLT (ASSEMBLED)



M1A1 TANK SYSTEM - SKIRT SECURITY SYSTEM

TRANS-LOK BOLT (UNASSEMBLED)



STANDARD SECURITY AND INADVERTENT DISCLOSURE PROCEDURES

1. (U) Standard Security Procedures: In addition to the special security procedures outlined in this document, standard security procedures for the handling of classified information as outlined in appropriate Department of the Navy or Industrial Security Regulations apply.

2. (U) The compromise or possible compromise of classified information shall be handled by DoD activities in accordance with DoD 5200.1R, "Department of Defense Information Security Program Regulation." Contractors shall handle in accordance with paragraph 7, DoD 5220.22M.

3. (U) Despite vigilance and attention to security requirements, minor security violations may occur. Lack of preparation regarding proper action to be taken in the event of a compromise can create even more serious problems. The first person who learns of a potential compromise will do all she/he can do to prevent the situation from worsening and will immediately notify their Security Manager. The Security Manager will make an initial assessment of the seriousness of the compromise based upon the facts immediately available. This information shall be reported to the Commanding General, MCRDAC, by the most expeditious secure means available. Timeless of reporting is more important than a complete report. The Security Manager must quickly arrive at the conclusion that the violation is (a) critical, (b) serious, or (c) procedural. These terms are defined as:

a. (U) Critical - Program information has been compromised and there appears to be no certain way to limit the dissemination of that data (e.g., a research and development periodical is about to be published or has published an article which correctly defines the program data).

b. (U) Serious - Program information has been compromised and containment of dissemination of this data, although difficult, appears to be possible (e.g., an electrical message containing the program data has been sent through clear channels, and an unknown number of people have had potential access to the message).

c. (U) Procedural - Program information has been incorrectly protected, but it appears that no compromise of the data has taken place (e.g., a program document has been incorrectly handled when being sent through U.S. postal channels, but has arrived at the correct address, and is in the custody of a properly cleared person).

4. (U) Upon receipt of a report concerning a serious or critical compromise, the local commander will immediately begin

an investigation. The report of investigation will be submitted to the Commanding General, MCRDAC (CBGT), Quantico, VA 22134 within 15 days after the conclusion of the investigation and will report the effect of the compromise and recommend remedial actions. A copy of the report of investigation will be forwarded to the Commander, U.S. Army Tank-Automotive Command (AMLPED-HFM-X), Warren, MI 48397-5000.

5. (U) Inadvertent Disclosure:

When a person/persons, regardless of rank, title or position, who is inadvertently exposed to classified material and such exposure does not constitute a critical or serious security violation and the exposed material can be contained without fear of dissemination, the following procedure will be followed. The person/persons will be debriefed and required to complete the Inadvertent Disclosure Oath Form found in this tab on page XVW-1.

6. (U) Should the Inadvertent Disclosure be found to be: a. critical, b. serious, c. procedural, as found in Section 3 and 4 above, the instructions found in those sections will be followed and the Inadvertent Disclosure Oath Form completed with a debriefing. A copy of a completed debriefing and the Inadvertent Disclosure Oath Form found in this annex will be attached to the investigation report submitted to Commanding General, MCRDAC (CBGT), Quantico, VA 22134.

NOTE: The Inadvertent Disclosure Oath Form may be reproduced from this guide.

INADVERTENT DISCLOSURE OATH

I certify that I will never divulge the classified information inadvertently exposed to me, and will not reveal to any person my knowledge of the existence of such information. I understand transmission or revelation of this information in any manner to an unauthorized person is punishable under U.S. Code Title 18, Sections 793 and 794 and/or appropriate articles of the Uniform Code of Military Justice. I further certify I will never attempt to gain unauthorized access to such information. My signature below does not constitute an indoctrination or clearance, but acknowledges my understanding of the above.

_____ _____
TYPED OR PRINTED NAME SIGNATURE

_____ _____
RANK OR GRADE SOCIAL SECURITY NUMBER

_____ _____
WITNESS DATE

_____
PROGRAM

REMARKS:_____

_____

_____

_____

_____

_____

_____

_____

NOTICE: The Privacy Act, 5 U.S.C. 552A, requires that federal agencies inform individuals, at the time information is solicited from them, whether the disclosure is mandatory or voluntary, by what authority such information is solicited, and what uses will be made of the information. You are hereby advised that authority for soliciting your Social Security Account Number (SSAN) is executive Order 9397. Your SSAN will be used to identify you precisely in determining when your access to the information indicated occurred. Although disclosure of your SSAN is not mandatory, your failure to do so may impede such determination.

ARMOR REPAIR RECORD

ARMOR REPAIR RECORD

TANK NO._____ SERIAL NO. _____

TYPE OF REPAIR	DATE OF REPAIR	LOCATION	REPAIRER	SUPERVISOR	REMARKS

EMERGENCY PROCEDURES FOR PEACETIME ACCIDENTS INVOLVING DEPLETED URANIUM (DU)

1. Purpose. To provide guidance for reporting accidents and incidents involving DU components and to provide instructions for minimizing radiological hazards to personnel and the environment during subsequent decontamination operations.

2. General

a. Information. The M1A1 uses DU in the construction of the Heavy Armor Package to enhance battlefield survivability and ammunition which uses a DU kinetic energy penetrator. Since the DU in the Heavy Armor Package is fully encased in welded steel, the M1A1 poses no significant radiological hazard under normal conditions. Likewise the ammunition packaging is constructed to withstand normal handling and transportation as well as the rigors of field operations during training and combat. However, in the case of accidents exposing the DU, special procedures must be followed to ensure appropriate agencies are notified and to minimize the spread of radioactive contamination.

b. Radioactive Material. The DU is categorized as source material and controlled by federal regulations under the Nuclear Regulatory Commission (NRC). An NRC license has been issued to the TACOM which authorizes DoD possession of the DU installed in the M1A1 tank. The TACOM radiation protection officer is the primary point of contact with the NRC regarding compliance with this NRC license. Headquarters Marine Corps (LPO), which manages the Marine Corps Radiological Affairs Support Program (RASP), is the primary point of contact regarding Marine Corps use of radioactive material.

c. Radiological Safety Officer (RSO). Installations and bases usually have designated and trained radiation safety officers for control of various radiation sources and radioactive items, including oversight of the use of radioactive devices possessed by units on the base. Appointment of individual RSO’s at the user level solely for DU armor is not required. Responsibility for observing precautions and initial emergency actions for radioactive components associated with the M1A1 can be entrusted to an accountable individual such as the unit’s safety officer or NBC officer. The guidance in this appendix provides specific instructions and requirements for radiological surveys, decontamination, shipment, and disposal operations following damage to DU armor or scattering of DU material.

d. Radiological Considerations. Depleted Uranium is uranium from which the specific uranium isotopes U-234 and U-235 have been extracted. What remains contains about 99.7 percent of U-238 and is referred to as DU. The radioactive half-life of U-238 is approximately 700 million years. This long half-life means that the radioactive decay rate of DU is very low. As an

example, it takes about 3 metric tons of DU to produce radioactivity equivalent to that produced by 1 gram of radium. Alpha, beta, and gamma radiations are emitted by U-238 and its daughter products>

(1) Only gamma radiation is detectable from the DU encased in welded steel plates. The DU armor was designed so that the gamma radiation reading at any surface point would not exceed 0.45 millirem per hour. External radiation exposure to personnel is not significant because of the low surface contact dose rate and the limited amount of time that one could be in direct contact with the armor plates covering the DU.

(2) Internal body contamination is the concern if uranium is inhaled or ingested. This can only occur if an accident exposes the DU and produces very small DU particles. In the presence of very high temperatures, uranium can be oxidized to form uranium oxides which may then be dispersed. Again, because of its low radioactivity, the toxicity of uranium as a heavy metal poison actually represents more of an acute biological hazard than does the radioactivity.

(3) The initial objectives of any accident response involving radioactive material is to regain control over the event and prevent further spread of any contamination produced. Some of the radiological measurements described in this appendix will be beyond the capabilities of the command. Technical assistance in radiological monitoring may be required from radiological personnel at nearby Army, Navy, or Air Force bases, or from Navy Radiation Health Officers assigned to some Naval Bases and Hospitals. Marine Corps capabilities for analyzing wipe tests for radioactive contamination are available from MCLB, Albany and MCLB, Barstow and the 3d FSSG Radiac Calibration Facility. Radiation safety personnel located at MCLB, Albany and MCLB, Barstow are also a valuable Marine Corps resource. Major contamination incidents may require fielding a team of experts to properly conduct and document the recovery operation.

(4) The on-scene commander must recognize the implications of failure to control the spread of radioactive contamination, especially on non-Marine Corps property. Proper actions taken, which limit the contamination to small areas, greatly reduce the subsequent clean-up efforts. The radiological measurements conducted to authorize release of the tank and the surrounding area must be carefully performed and documented to withstand challenges to the credibility of the measurements.

3. Notification Procedures

a. Accidents and incidents will be reported immediately through the chain of command ensuring that the following agencies are notified: CMC (LPO-1), Washington, DC 20380 (DIN 226-1089, commercial (202) 696-1084); CG, MCRDAC (CBGT) Quantico, VA 22136 (DIN 278-2137, commercial (703) 640-2137); and license RPO, TACOM Safety, US Army Tank-Automotive Command, ATTN: AMSTA-CZ, Warren, MI 48397-5000 (DIN 786-8529/6121, commercial (313) 574-8529/6121).

b. Examples of the types of accidents and incidents which will be reported include:

(1) Theft or loss of control of DU armored M1A1 tanks or DU ammunition.

(2) Fires, explosions, or accidents where the DU armor in the M1A1 or DU ammunition could be damaged.

(3) Accidents or incidents that damage or expose the DU Armor or DU ammunition to the environment or release DU to the environment.

(4) Accidents or incidents that result in an acutal or potential radiation exposure from material associated with the M1A1 tank.

b. Initial notification for the above types of accidents and incidents will be made telephonically or by immediate message with a written follow-up report within 15 days.

c. In addition to the organizations listed above, the following personnel shall be notified immediately of any accidents or incidents involving DU:

(1) Local commander.

(2) Local base RSO or base safety officer.

(3) Local public affairs officer (PAO).

(4) Personnel to assist in decontamination and clean up (chemical company, maintenance personnel, EOD).

d. MCO 5740.2, "Event/Incident Reports," should be reviewed to determine if the accident or incident meets the criteria for the submission of an OP REP-3, Serious Incident Report (SIR).

e. Accident/incident reports shall include the following information:

(1) Name of person reporting.

(2) Phone number of person reporting.

(3) Person in charge of scene.

(4) Location of accident site.

(5) Date and time of accident.

(6) Organizations involved in accident.

(7) Equipment involved.

(8) Property damaged/contaminated.

(9) Extent of injuries/overexposure.

(10) Narrative description of accident.

(11) Cause of accident (if known).

(12) Type of collision (rollover, jackknife, head-on, vehicle speed, etc).

(13) Fire involved? (yes or no)

(14) Did weather conditions contribute to accident?

(15) Did defective equipment contribute to accident? What component and how is it defective?

(16) Individuals and agencies known to have been notified and the response being made.

f. Other accidents/incidents not involving the DU armor on the M1A1 tanks will be handled according to current accident reporting policies, regulations, and procedures.

4. Accident Management Procedures. The first priority shall be to provide immediate assistance to injured personnel. This takes priority over contamination checks and decontamination procedures.

a. Accidents or Incidents With No Fire. Accidents or incidents in which there is no fire or explosion shall involve:

(1) Roping off the area to prevent unnecessary personnel from entering the area. This is to prevent scattering of DU and

to prevent personnel from being unnecessarily exposed to radiological contamination.

(2) Performing a radiological survey of the area using radiation detection instruments. This is to determine if any DU is scattered and the extent of contamination.

b. Accidents or Incidents Involving Fire. Accidents or incidents involving fire or explosions shall be handled in the following manner:

(1) DU, when exposed to fire, will be either in solid form, fragmented form, or in a DU oxide dust form. The toxicological/radiological characteristics of DU are a secondary hazard to the fire and explosion hazard. Should crew members have to evacuate the tank, they should:

(a) Attempt to shut down the engine in accordance with tank operator's manual.

(b) Attempt to activate the fire suppression system.

(c) Move a safe distance away, upwind, from any smoke coming out of the tank. Establish a safety perimeter of at least 610 meters (2000 feet) from the tank.

(d) Keep unnecessary persons away from the accident scene with the assistance of the local authorities (police, fire department, or military police).

1 Notify nearest fire department, whether military or municipal, if not already on the scene.

2 Notify police (military or municipal) if not already on the scene.

(2) Fire departments responding to tank fires should be directed by a tank fire control officer or a crew member familiar with fire fighting procedures. The senior on-scene fire department officer will decide whether to fight the fire or withdraw based on an assessment of the accident and surrounding circumstances.

(3) All personnel not actually engaged in fire fighting, life saving, or traffic control will be cleared from the accident area. Expose the minimum necessary number of emergency personnel to the fire.

(4) There is a danger of detonation of the explosives if fire is present; in this case, all personnel will remain upwind, and if possible, uphill from the fire.

(5) In saving lives, use any available method to prevent smoke from entering the eyes, nose, and throat; self-contained breathing apparatus or respirator (for use in lifesaving operations) should be used.

(6) All personnel evacuated from the area should report to a control point established upwind from the accident site. Detain all persons and equipment exposed to smoke until released by radiological authority. If any person cannot be detained, obtain names and where he or she can be contacted later.

(7) The standard firemen’s bunking clothing, boots, gloves, and helmet provide adequate shielding against contamination which may be present when approaching a burning tank. Self-contained breathing apparatus and tight-fitting goggles should be worn if at all possible. The self-contained breathing apparatus worn by fire fighters will protect against the inhalation of any DU oxide dust in the smoke plume of the fire. The fact that some or all of these items are not available should not hold up the rescue of personnel.

(8) When ammunition is directly involved in fire, or rounds have been expelled from the tank, no attempt to fight the fire will be made. Fire trucks will be positioned not closer than 370 meters (1,200 feet) to the burning tank. Emergency personnel shall notify the local EOD unit of the above situation. EOD will work with the fire department and RSO to resolve the potential explosion hazard.

(9) When the decision is made by the fire department for fire fighters to approach the tank, it should be upwind from any smoke coming from the tank and at a maximum angle to the line of the gun barrel. The approach should afford maximum effective application of extinguishing agents on the critical area and permit rapid withdrawal of personnel and equipment. Fires should be fought as far upwind as possible, keeping out of smoke, fumes, and dust.

(10) When ammunition and DU Armor are not involved in the fire and the hatches are open, the fire should be fought with water, stream or spray, using as much protective cover as possible.

(11) If the engine is on fire, only dry chemical or foam should be used to extinguish the fire.

(12) Ideally, as little water as possible should be used to put out fires inside tanks and on exposed DU armor, since the water may become contaminated with DU. Attempts should be made to contain and collect the potentially DU-contaminated water to minimize the spread of contamination. The area around the tank should be diked to collect water used to put the tank fires out. If water collection and retention procedures create additional risk, then the water should just be emptied from the tank onto the ground.

(13) Fire fighters, EOD, and any other personnel or equipment, including vehicles, exiting the fire area are to be monitored for the presence of any DU contamination before moving over the contamination control line. The monitoring instrument to be used is an AN/PDR-27S with the beta shield open, an AN/VDR-2, or an equivalent instrument. These meters, when used for personnel monitoring, should be equipped with earphones to permit aural indications to supplement the slower needle response. The sensory portion of the meter probe will be placed as close to the portion of the item or body being checked as possible, without bringing the probe into direct physical contact.

d. v. Personnel injured in the accident will be evacuated through medical channels. Injured personnel evacuated from the accident scene should be tagged to indicate possible exposure to DU contamination. Medical treatment for serious injuries takes priority over contamination surveys and decontamination operations.

e. Radiological Survey and Decontamination Procedures

(1) After the tank is declared safe from an explosive standpoint, radiation protection personnel will conduct a radiological survey of the ground, anything lying on the ground, and the exterior of the tank. Personnel assisting in the radiation survey and decontamination operations should wear fullface respirators with high-efficiency dust filters. Tape is to be used to seal the clothing where there are any openings to the body.

(2) Radiation protection personnel will set up a radiation contamination control line upon their arrival. The radiation contamination control line should be adjusted depending on the extent of ground contamination. If no ground contamination is detected during the radiation survey of the area, rope off a 10-foot radius around the area to control access to it. However, should ground contamination be detected, the areas should be marked for later decontamination efforts.

(3) The number of EOD and emergency personnel who are to cross the radiation contamination control line established by the RSO should be kept to an absolute minimum. They are to be dressed in protective coveralls, gloves, and rubberized boots; they are to also wear the M17A2 protective mask with M13A2 filter element and the accompanying head covers. The overall pant legs are to be worn over the rubber boots and sealed with tape at the ankles. Likewise, the sleeves are to be slipped over the gloves and taped. The edges of the hood are to be draped over and taped to the coveralls. Also, any remaining openings are to be sealed with tape. The RSO will supervise during dress-up procedure.

(4) The radiological survey of the ground should be conducted with an appropriate low-energy photon detection

instrument. The probe must be held as close to the ground surface as possible without coming in direct contact.

(5) Radiological surveys of the outside of the tank for DU contamination will be done with an AN/PDR-27S or an equivalent instrument if the surface of the tank is dry. The probe must be held as close to the surface as possible without coming in contact. However, if the surface being surveyed is wet or covered with grease or dirt, there exists a condition of alpha self-absorption and an AN/VDR-2 or an equivalent instrument is to be used. Swipe/wipe the surface of any location where contamination is detected. The swipe samples should be taken with appropriate swipe paper, such as Whitman filter paper. The same instrument being used to survey the tank should be used to analyze the swipe paper. If, for whatever reason, the appropriate swipe paper is not available, then take samples with a paper towel, cloth, etc. Under these circumstances, analyze the swipes only with an AN/PDR-27S with the beta shield open, an AN/VDR-2, or an equivalent instrument. If contamination levels are detected, the surface area that is representative of that sample is to be cleaned until the removable surface contamination levels are at least reduced to 2200 dpm/100cmy beta-gamma and alpha for restricted areas and 220 dpm/100cmy beta-gamma and alpha for unrestricted areas.

(6) If the exterior of the tank is contaminated, the following method shall be used to decontaminate tank surfaces:

(a) Place masking, adhesive, friction, or duct tape over the contaminated area, remove and discard as radioactive waste.

(b) Use vacuum-cleaning techniques with a conventional wet or dry vacuum cleaner modified to include a High-Efficiency Particulate Air (HEPA) filter on the exhaust. Dispose of bag or collection container as radioactive waste.

(c) Wipe or wet-mop, using a decontaminating agent or detergent and hot water. Organic solvents, acids and acid mixtures, or caustics may also be useful.

(d) Upon decontamination of the exterior of the tank (to include cracks, holes, and air passages), seal openings to preclude the escape of any interior contamination into the environment. The tank openings must be closed with substances such as caulking compound, foam sealant, etc., or otherwise sealed with tape or covered with a tarp or heavy plastic. The intent is to create a strong, air-tight package to preclude the radioactive contents from exiting during transport in compliance with shipping regulations.

(7) If the above methods do not completely decontaminate exterior surfaces, then contamination should be considered fixed and the tank should be transported to an appropriate military

facility before harsher methods are used. The location of the facility and transportation requirements will be determined by the CG, MCRDAC (CBGT).

(8) Before transporting the tank to the designated facility, any contaminated ground surface over which the tank must pass to exit the radiation contamination control line must first be decontaminated. This may entail the removal of the top layer of soil and disposal of the soil as radioactive waste or the cleaning of a hard-surfaced road.

(9) All dirt must be removed from the tank treads and other surfaces on the tank before transport to comply with Department of Agriculture regulations. This dirt, if contaminated, must be treated as radioactive waste.

(10) Following the tank's removal, the area that had been under the tank must be surveyed and, if necessary, decontaminated. Concurrently, all other surfaces that were contaminated are to be decontaminated to background levels. Radioactive waste must be transported to a nearby military installation for holding until it can be disposed of as radioactive waste in accordance with MCO 4570.24, "Hazardous Material/Hazardous Waste Disposal."

(11) Other equipment or personnel that have been contaminated with DU should be decontaminated in accordance with standard radiological decontamination procedures.

(12) Contaminated clothing should be removed, if feasible, at the accident site.

(13) Equipment and material release should be adequately documented by radiation protection personnel and proper security procedures put in force to prevent pilferage and to assure items are decontaminated before release.

(14) The local military facility will assure that waste receptacles are available and located at the radiation contamination control line for disposal of contaminated clothing and equipment. Metal containers with lids should be available with 4-mil plastic bag inner linings for solid waste. Liquids must be segregated from solids to process the waste through the normal disposal channels. Liquids should be collected in plastic, earthenware, or thick-walled, glass-bottle inner containers. Leak-proof metal cans may also be used, provided the container is chemically inert to the liquid. Radioactive waste should be held at a nearby military installation until disposition can be made in accordance with MCO 4570.24.

(15) Once the exterior surface of the tank is decontaminated down to removable 2200 dpm/100cmy beta-gamma and alpha for restricted areas, 220 dpm/100cmy alpha, beta and gamma

for unrestricted areas, and all openings in the tank closed off, the tank will be transported in accordance with 49 CFR 173 to Anniston Army Depot. The tank will be shipped as retrograde equipment. The shipments should be made to the nearest available base or port, then by truck or rail to Anniston. The shipment should be made within the normal defense transportation system. The tanks will be evaluated at Anniston for extent of damage and possible reuse of parts. Decontamination and/or disposal of parts will be accomplished for parts not acceptable for reuse.

5. Transportation

a. The tank turret/hull and complete tank with the DU armor will be shipped under 49 CFR 173.424 (excepted articles containing natural uranium or thorium). Tanks decontaminated down to removable 2200 dpm/100cmybeta-gamma/alpha for restricted areas and 220 dpm/100 cmy alpha/beta gamma for unrestricted areas will be shipped under 49 CFR 173.424. Requirements for transport under this section are:

(1) Radiation level at any point on the external surface of the turret or complete tank does not exceed 0.5 mrem/hr.

(2) The outside of the inner packaging (DU package before insert in tank) bears the marking "RADIOACTIVE".

(3) Having a notice enclosed in or on the turret or tank, included with the packing list, or otherwise forwarded with the turret or tank. The notice must include the name of the consignor or consignee and the statement "This package conforms to the conditions and limitations specified in 49 CFR 173.424 for excepted radioactive material, articles manufactured from natural or depleted uranium or natural thorium, UN 2909."

(4) Placards are not required.

b. If the tank is destroyed to the point that the inner packaging marking in the armor is destroyed, then the outside of the tank must be marked with the word "RADIOACTIVE" in letters at least 1/2 inch high and in a color which contrasts with the tank. This marking may be covered with a tarp if necessary, since 49 CFR allows the marking to be on the outside of the inner package. It is recommended that the marking be painted in white letters on the turret and covered with a tarp.

M1A1 WARRANTED PARTS
(TACOM MANAGED)

NOMENCLATURE	P/N	NSN
Housing Assy	1025725-2	(NR)
Circuit Card Assy	1025944-3	5999-01-184-6653
Circuit Card Assy	1026248-1	5999-01-184-6654
Circuit Card Assy	1026250-1	5999-01-184-6655
Heater, Personnel	11669489-1	2540-01-169-5159
Cooler, Lubricating	12273116	2930-01-067-3839
Fan Tubeaxial	12273141	4140-00-067-3865
Fan & Drive Unit	12273142-1	2520-01-067-3842
Fan, Transmission, Oil	12273142-2	2520-01-067-3843
Drive Unit	12273796-1	3010-01-069-0483
Drive Unit	12273796-2	3010-01-069-0484
Clutch, Friction	12273920	2520-01-067-3899
Cant Unit	12282111	1015-01-082-8954
Circuit Card	12282118	1220-01-081-4195
Eyepiece	12282180	1240-01-078-7733
Wedge	12282415	(NR)
Lens	12282431	(NR)
Circuit Card	12282624	1230-01-085-7261
Pump	12282832	4320-01-073-4289
Servomechanism, Elev	12283102	1015-01-122-9401
Motor	12283111	1015-01-075-9295
Grip, Gunners	12283113	1015-01-076-6865
Control Assy, Comm	12283114	1015-01-076-6740
Elev. Mech	12283115	1015-01-076-6741
Gyro Assy	12283116	1015-01-076-6742
Yoke & Cover	12283257	1015-01-076-6743
Harness	12283270	1015-01-076-6743
Cartridge	12283276	1015-01-083-9013
Power Supply	12283362-1	1015-01-077-3607
Servomechanism, Trav	12283412	1015-01-076-6739
Disk	12283433	1015-01-119-4005
Tranversing Mech	12283646	(NR)
Gear Box	12283651	1015-01-178-7479
Cover & Housing	12283652	1015-01-178-7480
Brake	12283683	1015-01-180-3512
Manual Drive Assy	12253696	1015-01-M23-4810
Housing & Cover	12283697	1015-01-179-9426
Circuit Card	12284211	5999-01-083-5741
Pump	12287040	2520-01-089-4891
Sight, Extension	12285300	1230-01-077-7548
Pump	12285597-1	2910-01-083-3153
Generator, Engine	12287177-1	2920-01-083-5589
Regulator, DC	12287178-1	(NR)
Circuit Card	12287552	2590-01-073-0162
Piston, Liner	12304670	1015-01-177-4140
Gun Cradle	12304681	1015-01-176-0870

NOMENCLATURE	P/N	NSN
Cooler, Fluid, Trans	12311195	2520-01-067-3873
Cooler, FLuid, Trans	12311196	2520-01-067-3874
Rotor	12311293	(NR)
Circuit Card	12312089	5999-01-151-2759
Tank, Fuel, Engine	12312235	2910-01-140-4306
Tank, Fuel, Engine	12312262	2910-01-140-4305
Link Adjusting Track	12315893	2530-01-164-5805
Link Adjusting Track	12315894	2530-01-166-2343
Circuit Card	12316297	1015-01-M21-4254
Circuit Card	12316386	5999-01-201-1157
Circuit Card	12316546	1015-01-200-0128
Circuit Card	12316568	1015-01-190-8558
Slide & Roller Assy	12321064	(NR)
Lock, Bearing	12321069	1015-01-181-5924
Lock, Bearing	12321070	1015-01-181-5925
Slide & Lever	12321245	1015-01-180-3509
Crank Assy	12321248	1015-01-180-3510
Board, Subassy	12321271	1015-01-189-4663
Ring, Inner Bearing	12322017	(NR)
Wiring Harness, Bran	12322516	2920-01-164-5899
Skirt, Fender, No 1 L	12323641	2510-01-166-2044
Skirt, Fender, No 1 R	12323644	2510-01-166-2046
Skirt, Fender, No 2 L	12323645	2510-01-166-2045
Skirt, Fender No 2 R	12323650	2510-01-166-2047
Skirt, Fender No 3 R	12323653	2510-01-166-2048
Skirt, Fender No 4 R	12323656	2510-01-166-2049
Shock Absorber, Dir	12324351	2540-01-179-9181
Plate, End Assy	12324354	2540-01-179-1087
Plate, End Assy	12324355	2540-01-179-1089
Slip Ring Assy	12324516	1015-01-187-1045
Wheel, Solid Rubber	12324555	(NR)
Race Assy	12325505	1015-01-198-2039
Precooler, Air to Air	12336768	2540-01-185-0720
Fan, Centrifugal	12336769	4140-01-198-7597
Valve, Regulating	12336770	4810-01-205-2986
Heat Exchanger	12336771	2540-01-217-8295
Condenser	12336772	2540-01-217-3217
Valve Assy, Anti-Ice	12336774	2540-01-189-9906
Valve Assy, Temp	12336775	2540-01-185-0719
Servo Assy	12336776	2540-01-189-9737
Controller, Air Temp	12336778	2540-01-185-8217
Extractor	12336779	2540-01-215-0498
Valve, Prior	12336875	4820-01-187-9611
Circuit Card	12337068	5999-01-208-7065
Gunners Body Assy	12337709	1240-01-190-3318
Wiring Harness	12337827	1240-01-192-1718
Circuit Card	12343947	5999-01-198-8956
Race, Outer	12343976	(NR)
Race Assy, Inner	12343978	(NR)
Circuit Card	12345455	2590-01-073-0160
Cap, Port Assy	20367	2910-01-136-4344

NOMENCLATURE	P/N	NSN
Impeller & Plate	20368	(NR)
Valve, Solenoid	20640	4810-01-130-3604
Housing, Bearing	2204818-1	3130-01-188-2581
Scroll Housing, Air	2204834-1	1660-01-185-8241
Holder Assy, Elect	2298-1	5977-01-115-0573
Housing, Valve Up	235693	4810-01-208-4546
Valve	283281-0002	4810-01-208-4595
Plate Assy, Valve	3163262-5	2590-01-186-3607
Housing, Actuator	3164699-12	(NR)
Housing, Actuator	3164699-18	2540-01-187-9738
Housing Assy, Servo	3172219-4	(NR)
Housing Assy	3173253-2	(NR)
Housing Assy, Diaphr	3173254-2	(NR)
Housing Assy	3172737-1	(NR)
Board Assy	33403	1015-01-144-8368
Circuit Card	36064-1	1015-01-185-5196
Circuit Card	36065-1	1015-01-M21-5300
Rotating Group	420640	(NR)
Housing	428030	(NR)
Shaft & Bearing Assy	61069	(NR)
Seal & Retainer	61094	2910-01-130-6283
Hanger & Piston	61501	(NR)
Ring Assy, Elect	62380	1015-01-098-8333
Housing, Assy Front	62733	2910-01-136-1437
Mounting, Flange Assy	62740	4320-01-136-8770
Rotor	63650	(NR)
Holder	63746	5977-01-102-8179
Hydraulic Assy	65497	(NR)
Motor, Direct Current	70A241	6105-01-116-3439
Gearbox, Accessory	723026	2835-01-136-4356
Gear Case	723030	(NR)
Housing Assy	723032	(NR)
Gearbox Assy	723047	2835-01-136-4357
Housing, Assy	723051	(NR)
Housing, Front Vane	723061	2835-01-140-8447
Housing, Rear Vane	723063	2835-01-140-8446
Impeller, Fan, Centri	723067	4140-01-129-2238
Impeller, Fan, Centri	723069	4140-01-129-2239
Housing Fan Tubeaxia	723074	2930-01-136-4341
Pump, Centrifugal	9015010-1	4320-01-171-0045
Cover	9338161	(NR)
Drive Assy	9338281	1240-01-190-8551
Objective & Relay	9338299	1240-01-192-4058
Housing, GPS	9338358	(NR)
Baffle Plate Assy	9338386	1240-01-194-7980
Circuit Card	9338442	1015-01-191-1630
Collimator	9338485	1240-01-187-1057
Circuit Card	9338618	1015-01-206-0084
Circuit Card	9376318	1015-01-188-3279
Valve, Turret	9376467	1015-01-209-8415
Turret Networks Box	9377142	1015-01-203-2774

NOMENCLATURE	P/N	NSN
Board, Subassy	9377663	1015-01-191-8891
Armature, Motor, Gen	947F848-1	6125-01-167-1829
Body Assy, Power	MC15358	1015-01-122-0677
Connector, Recpt	MS27474E24835SD	5935-01-038-7931
Structure, Hull	12322324	(NR)
Structure, Turret	12312700	(NR)

M1A1 WARRANTED PARTS
(AMCCOM MANAGED)

NOMENCLATURE	P/N	NSN
Circuit Card	12316297	1015-01-189-4768
Circuit Card	2336386	5999-01-201-1157
Circuit Card	12316546	1015-01-200-0128
Circuit Card	12316568	1015-01-190-8558
Lock, Bearing	2321069	1015-01-181-5924
Lock, Bearing	2311-70	1015-01-181-5925
Slide & Lever	2321245	1015-01-180-3509
Crank Assy	12321248	1015-01-180-3510
Board Subassy	2321271	1015-01-189-4663
Slip Ring Assy	2324516	1015-01-187-1045
Race Assy	12325505	1015-01-198-2039
Gunners Body Assy	337709	1240-01-190-3318
Wiring Harness	2337827	1240-01-192-1718
Circuit Card	36064-1	1015-01-185-5196
Circuit Card	36065-1	1015-01-192-4093
Ring, Assy, Elec	2380	1015-01-098-8333
Holder	63746	5977-01-102-8179
Drive Assy	9338281	1240-01-190-8551
Objective & Relay	9338299	1240-01-192-4058
Baffle Plate Assy	9338386	1240-01-194-7980
Circuit Card	9338442	1015-01-191-1630
Collimator	9338485	1240-01-187-1057
Circuit Card	9338618	1015-01-206-0084
Circuit Card	9376318	1015-01-188-3279
Valve, Turret	9376467	1015-01-209-8415
Turret Networks Box	9377142	1015-01-203-2774
Board Subassy	9377663	1015-01-191-8891
Cant Unit	12282111	1015-01-082-8954
Circuit Card	12282118	1220-01-081-4195
Eyepiece	12282180	1240-01-078-7733
Servomechanism, Elev	12293102	1015-01-122-9401
Motor	12283111	1015-01-075-9295
Grip, Gunners	12283113	1015-01-076-6865
Control Assy, Comm	12283114	1015-01-076-6740
Gyro Assy	12283116	1015-01-076-6742
Elev Mechanism	12283115	1015-01-076-6741
Yoke & Cover	12283257	1015-01-119-5656
Harness	12283270	1015-01-076-6743
Cartridge	12283276	1015-01-083-9013
Power Supply	12283362-1	1015-01-077-3607

NOMENCLATURE	P/N	NSN
Servomechanism, Trav	12283412	1015-01-076-6739
Disk	12283433	1015-01-119-4005
Gearbox	12283651	1015-01-178-7479
Cover & Housing	12283652	1015-01-178-7480
Brake	12283683	1015-01-180-3512
Manual Drive Assy	12283697	1015-01-238-8186
Housing	12283697	1015-01-179-9426
Piston, Linear	12304670	1015-01-177-4140
Gun Cradle	12304681	1015-01-176-0870
Body Assy, Power	MC15358	1015-01-122-0677
Connector, Recpt	NS27474E24B35SD	5935-01-038-7931

REFERENCES

Department of Defense Publications

DOD 5200.1	Department of Defense Information Security Program Regulation
DOD 5220.22-M	Industrial Security Manual for Safeguarding Classified Military Information

Department of the Army Publications

FM 17-12-1	Tank Combat Tables

Department of the Navy Publications

NAVFAC P-80	Facility Planning Factor Criteria for Navy and Marine Corps Shore Installations
NAVFAC P-272	Definitive Designs for Naval Shore Facilities
OPNAVINST 5510.1	Department of the Navy Information and Personnel Security Program Regulation
OPNAVINST 5510.48	Manual for Disclosing Classified Military Information to Foreign Governments and International Organizations
OPNAVINST 5530.13	Physical Security for Sensitive Conventional Arms, Ammunition and Explosives
OPNAVINST 5530.14	DON Physical Security and Loss Prevention
SPAWARINST 5100.12	Navy Laser Radiation Hazards Prevention Program

Marine Corps Publications

MCO P1610.7	Performance Evaluation System
MCO 3000.11	Marine Corps Automated Readiness Evaluation System (MARES) Introduction/Policy
MCO 3000.12	Marine Corps Automated Readiness Evaluation System User Manual
MCO P3000.13	Marine Corps Unit Status And Identify Report (UNITREP) Standing Operating Procedures (SOP)
MCO P3570.1	Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat
MCO P4105.3	Marine Corps Integrated Logistics Support Manual
MCO 4105.1	Weapon System/Equipment Support Management Within the Marine Corps
MCO 4105.2	Marine Corps Warranty Program
MCO 4400.16	Uniform Material Movement and Issue Priority System (UMMIPS)

MCO P4400.150	Consumer Level Supply Policy Manual
MCO P4600.14	Defense Traffic Management Regulations
MCO P4790.1	Marine Corps Integrated Maintenance Management System (MIMMS) Introduction Manual
MCO P4790.2	MIMMS Field Procedures Manual
MCO 4855.10	Quality Deficiency Report
MCO 4856.1	Marine Corps Maintenance Policy
MCO 5740.2	Event/Incident Reports
MCO 8010.1	Class V(W) Supply Rates for FMF Combat Operations
MCO P8011.4	Marine Corps Table of Allowances for Class V(W) Materiel (Peacetime)
MCO 8300.1	USMC Serialized Control of Small Arms System
UM 4400-124	SASSY Using Unit Procedures
UM 4790-5	Marine Corps User’s Manual for MIMMS

Department of Transportation Publications

49 CFR	Department of Transportation Regulations for Commercial Rail, Highway, Air, and Water

ACRONYMS

AA&E	arms, ammunition, and explosives
AAC	Activity Address Code
AAL	additional authorization lists
AASHO	American Association of Highway Officials
ACU	Air-Conditioning Units
ACVO	Armored Combat Vehicles Office
AEI	Armament Enhancement Initiative
AMCCOM	U.S. Army Armament, Munitions, and Chemical Command
ANAD	Anniston Army Depot
AO	Acquisition Objective
APFSDS-T	Armor Piercing, Fin Stabilized, Discarding Sabot-Tracer
ARDEC	U.S. Army Armament Research, Development, and Engineering Center
ASTM	American Society for Testing and Materials
ATE	automatic test equipment
AVLB	Armored Vehicle Launched Bridge
BITE	Built-In Test Equipment
BEQ	Bachelor Enlisted Quarters
BOQ	Bachelor Officer’s Quarters
CALS	Committee for Ammunition Logistic Support
CBRO	chemical, biological, radilogical officer
CCP	computer control panel
CEU	computer electronic unit
CFR	Code of Federal Regulations
CIB	controllable interface box
CLD	critical low density
CLP	cleaner lubrication and preservative
CMS/CMCC	Classified Material Storage/Classified Material Control Center
COEI	components of end item
CONUS	Continental United States
CPO	Civilian Personnel Office
CPR	combat planning rates
CSSD	combat Service Support Detachment
CVC	combat Vehicle crewman
CVE	combat Vehicle Evaluation
CWS	commander’s weapon station
CWSS	commander’s weapon station sight
DA	Department of the Army
DATP	Detroit Army Tank Plant
DECU	digital electronic control unit
DF-2	diesel fuel, Number 2
DIC	Document Identifier Code
DIP	Driver’s Instrument Panel
DMA	depot maintenance activities
DMISA	Depot Maintenance Interservice Support Agreements
DMWR	depot maintenance work requirements

DNVT	digital non-secure voice terminal
DODAAC	Department of Defense Activity Address Code
DODAC	Department of Defense ammunition code
DODIC	Department of Defense identification code
DOT	Department of Transportation
DPR	daily process report
DSEST-TIS	direct support electrical system-thermal imaging sight
DU	Depleted Uranium
DWFK	Deep Water Fording Kit
DX	Direct Exchange
EAF	Equipment Allowance File
EAP	equipment allowance pool
EAS	Expiration of Active Service
EDC	Electrical Distribution Center
EMI	electromagnetic interference
EMP	Electromagnetic Pulse
EOP	explosive ordnance disposal
ERO	equipment repair order
EROSL	ERO shopping list
FLIR	Forward Looking Infrared
FMF	Fleet Marine Force
FMS	Foreign Military Sales
FSR	field service representative
FSSG	Force Service Support Group
GAA	grease, automotive and artillery
GASA	gunner’s auxiliary sight assembly
GDLS	General Dynamics Land Systems
GFE	Government Furnished Equipment
GIA	grease, aircraft, and instrument
GPIA	General Purpose Interface Assembly
GPS	Gunner’s Primary Sight
GSA	General Service Administration
GTR	gun trunnion resolver
H&S	Headquarters and Service
HB	heavy barrel
HEAT-MP-T	high explosive, antitank, multipurpose, tracer
HEAT-TP-T	high explosive, target practice, Trader
HEAP	High-Efficiency Particulate Air
HQ	Headquarters
I-I	Inspector-Instructor
ICU	image control unit
IDS	Intrusion Detection Systems
IOC	Initial Operational Capability
IOS	instructor operator station
IR	infrared
IROAN	Inspect and Repair Only As Necessary

JON	Job Order Number
LARC	Lighter, Amphibious, Resupply, Cargo
LASH	Lighter, Aboard Ship
LATP	Lima Army Tank Plant
LCAC	Landing Craft Air Cushion
LCM	Landing Craft, Medium
LCU	Landing Craft, Utility
LHA	Landing Ship, Helicopter Assault
LOI	Letter of Instruction
LO	Lubrication order
LPD	Landing Platform, Dock
LPH	Landing Platform, Helicopter
LRF	Laser Range Finder
LRU	line replaceable units
LSD	Landing Ship, Dock
LSEU	line of site electronic unit
LST	Landing Ship, Tank
M/F	Maintenance Float
M-COFT	mobile conduct-of-fire trainer
MAGTEC	Marine Air-Ground Training and Education Center
MAL	mechanized allowance list
MARES	Marine Corps Automated Readiness Evaluation System
MBT	Main Battle Tank
MCAGCC	Marine Corps air-ground combat center
MCCDC	Marine Corps Combat Development Center
MCLB	Marine Corps logistics base
MCRDAC	Marine Corps Research, Development, and Acquisition Command
MCRTC	Marine Corps Reserve Training Center
MFP	Material Fielding Plan
MFT	Material Fielding Team
MI	modification instructions
MILSTRIP	Military Standard Transaction and Issue Procedures
MIMMS	Marine Corps Integrated Maintenance Management System
MIPR	Military Interdepartmental Purchase Request
MMS	Manpower Management System
MN (ED)	materiel need (engineering development)
MOA	Memorandum of Agreement
MOJT	managed On-The-Job Training
MOS	military occupation specialty
MPRC	multipurpose range complex
MPS	Maritime Prepositioning Ships
MRS	Muzzle Reference Sensor
MSC	Military Sealift Command
MSL	Minimum Stockage Level
MTMC	Military Traffic Management Command
NAVCOMPT	Comptroller of the Navy
NAVFAC	Naval Facilities Engineering Command
NAVSEA	Naval Sea Systems Command
NBC	nuclear, biological, and chemical

NCOIC	noncommissioned officer-in-charge
Nd:YAG	neodymium: yttrium aluminum garnet
NET	New Equipment Training
NETT	New Equipment Training Team
NIS	Naval Investigative Service
NRC	Nuclear Regulatory Commission
NSN	national stock number
O&M	operations and maintenance
OADR	Originating Agency Decision Required
OIC	officer in charge
OIP	Optical Improvement Program
OIP	operational improvement plan
OIP	ordnance improvement plan
OIU	Operator Interface Unit
OJT	on-the-job training
ORF	Operational Readiness Float
PAO	public affairs officer
PC	printed circuit
PCB	printed circuit board
PCU	power control unit
PICA	Primary Inventory Control Activity
PLRS	Position Location Reporting System
PM	program manager
PMCS	Preventive Maintenance Checks and Services
POL	petroleum, oil, lubricants
P/N	part number
QDR	Quality Deficiency Report
R/P	RISE/passive
RHA	rolled homogenous armor
RISE	reliability improved selected equipment
RMS	roots mean square
RO	Requisitioning Objective
RO/RO	Roll-On/Roll-Off
ROC	required operational capability
ROD	Report of Discrepancy
ROP	Record Point
RPO	radiological protection officer
RUAF	Reporting Unit Allowance File
S-SAR	SECRET-special access required
SAP	special access program
SAPSA	special access program for special armor
SASSY	Support Activity Supply System
SEABEE	sea barge carrier
SECTOM	set communication
SICA	Secondary Inventory Control Activity
SIR	Serious Incident Report
SMU	SASSY Management Unit
SOP	standing operating procedure

SSAN	social security account number (SSAN)
STDA	Servo torque drive assembly
STE	Simplified Test Equipment
STE/ICE	Simplified Test Equipment/Internal Combustion Engine
T/E	Table of Equipment
T/O	tables of organization
TACOM	Tank and Automotive Command
TAD	Temporary Additional Duty
TAMCN	table of authorized material control number
TB	technical bulletin
TBS	The Basic School
TEU	thermal electronic unit
TI	technical instruction
TM	Technical Manual
TMDE	Test, Measurement, and Diagnostic Equipment
TP-T	target practice-tracer
TPCSDS-T	target practice, cone stabilized, discarding Sabottracer
TPF	Total Package Fielding
TRU	thermal receiver unit
TSS	tank surveillance service
U-COFT	unit conduct-of-fire trainer
UIC	Unit Identification Code
UM	user manual
UNITREP	unit status and identity report
USAARMC	U.S. Army Armor Center
USAARMS	U.S. Army Armor School
USAOC&S	U.S. Army Ordnance Center and School
VIN	Vehicle Identification Number
VTM	Vehicle test meter
WP	warranty part
WR	war Reserve
WS/EM	weapon system/equipment manager