TECHNICAL MANUAL

OPERATOR AND UNIT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

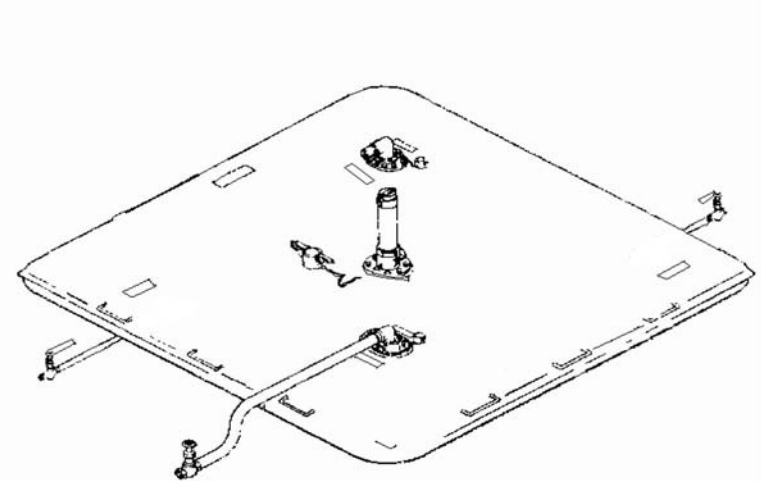
TANK, FABRIC, COLLAPSIBLE, FUEL STORAGE

3,000 GALLON, MODEL GTA-3KF/RCF-3-K-F-OB/
MPC-F-03K-13114
(NSN 5430-01-485-8340/NSN 5430-01-486-8209/
NSN 5430-01-487-0635)

10,000 GALLON, MODEL GTA-10KF/RCF-10-K-F-OB/
MPC-F-10K-22175
(NSN 5430-01-486-0221/NSN 5430-01-485-8336/
NSN 5430-01-487-0632)

20,000 GALLON, MODEL GTA-20KF/RCF-20-K-F-OB/
MPC-F-20K-22276
(NSN 5430-01-485-8338/NSN 5430-01-486-1034/
NSN 5430-01-487-0634)

50,000 GALLON, MODEL GTA-50KF/RCF-50-K-F-OB/
MPC-F-50K-22636
(NSN 5430-01-485-8337/NSN 5430-01-485-8342/
NSN 5430-01-487-0638)



HEADQUARTERS, DEPARTMENT OF THE ARMY

JANUARY 2002

WARNING SUMMARY

This warning summary contains general safety warnings and hazardous material warnings that must be understood and applied during operation and maintenance of this equipment. Failure to observe these precautions could result in serious injury or death to personnel.

WARNINGS

Do not allow smoking within 100 feet (30.50 meters) of the storage area. Death or serious injury may result if personnel fail to strictly observe safety precautions.

Avoid spillage of fuel. When spillage occurs, cover the affected area with dry soil to reduce its rate of vaporization. Position fire extinguishers at readily accessible positions around the tank(s). Failure to observe this warning may result in death or serious injury.

Avoid getting fuel on the body or clothing. If clothing becomes saturated, remove it immediately and wash the body thoroughly with hot, soapy water. Failure to observe this warning may result in death or serious injury.

Safety berms must have capacities of less than one and one-half times that of tank capacities. Failure to construct a secure safety berm may result in death or serious injury.

Dry cleaning solvent, A-A-59601, used to clean parts, is potentially dangerous to personnel and property. It produces toxic and flammable fumes. Use only in well-ventilated areas. Avoid repeated and prolonged skin contact. Do not use near an open flame or excessive heat. The flash point of solvent is 100°F to 138°F (38°C to 59°C). Failure to observe these precautions may result in death or serious injury to personnel.

Sludge that accumulates in the bottom of the fuel tank gives off toxic and explosive vapors. Inhaling these vapors can cause lead poisoning. When cleaning tanks, provide ample ventilation to carry off harmful fumes. Failure to observe these precautions may result in death or serious injury to personnel.

Always wear protective goggles, breathing apparatus, and other protective gear when cleaning the tank interior. Fuel vapors are toxic and can damage eyes, skin, and lungs.

Fuel vapors are extremely flammable. Exercise care to prevent sparks when working near or in the tank. Death or severe personal injury can result if safety precautions are not strictly observed.

Make certain that the berm ball valve is closed and locked after installation and after draining the berm. In the event of tank rupture, an open berm valve would permit fuel to drain from the berm. Undetected fuel leakage could result in an explosion and cause death, severe personal injury, and damage to equipment.

Make sure the ball valve handle has been rotated fully to the closed position before filling the tank. Undetected draining of the tank could result in an explosion that can cause death or severe personal injury.

Be careful when installing a sealing clamp in the tank. Fuel will pour out when a larger slit is made. Leaking fuel can cause personal injury and loss of Government property.

HEALTH HAZARD

The solvent and adhesive furnished in the repair kit are highly flammable and toxic to the skin, eyes, and respiratory tract. Skin/eye protection is required. Avoid prolonged breathing of vapors, and minimize skin contact. Good general ventilation is normally adequate. Keep away from excessive heat, open flame, or other sources of ignition.

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure to cleaning solvent. Wash exposed skin thoroughly. Solvent used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat.

FOR ARTIFICIAL RESPIRATION, REFER TO FM 21-11.

CHANGE NO. 1

HEADQUARTERS, DEPARTMENT OF THE ARMY
WASHINGTON, DC, 28 APRIL 2002

TECHNICAL MANUAL

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) FOR TANK, FABRIC, COLLAPSIBLE, FUEL STORAGE, 3,000, 10,000, 20,000 AND 50,000 GALLONS

MODEL GTA-3KF	**NSN 5430-01-485-8340**
MODEL RCF-3-K-F-OB	**NSN 5430-01-486-8209**
MODEL MPC-F-03K-13114	**NSN 5430-01-487-0635**
MODEL GTA-10KF	**NSN 5430-01-486-0221**
MODEL RCF-10-K-F-OB	**NSN 5430-01-485-8336**
MODEL MPC-F-10K-22175	**NSN 5430-01-487-0632**
MODEL GTA-20KF	**NSN 5430-01-485-8338**
MODEL RCF-20-K-F-OB	**NSN 5430-01-486-1034**
MODEL MPC-F-20K-22276	**NSN 5430-01-487-0634**
MODEL GTA-50KF	**NSN 5430-01-485-8337**
MODEL RCF-50-K-F-OB	**NSN 5430-01-485-8342**
MODEL MPC-F-50K-22636	**NSN 5430-01-487-0638**

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

TM 10-5430-242-12&P, 15 January 2002, is updated as follows:

1. File this sheet in front of the manual for reference.
2. This change is a result of new fuel manual models added to field.
3. New or updated text is indicated by a vertical bar in the outer margin of the page.
4. Added illustrations are indicated by a vertical bar adjacent to the figure number. Changed illustrations are indicated by a miniature pointing hand adjacent to the updated area and a vertical bar adjacent to the figure number.
5. Cover is changed to reflect additions of tank models MPC-F-03K-13114, MPC-F-10K-22175, MPC-F-20K-22276, and MPC-F-50K-22636.
6. Remove old pages and insert new pages as indicated below.

Remove Pages	Insert Pages
A/B blank	A/B blank
Title page	Title page
i through iii/iv blank	i through iii/iv blank
INDEX-1 through INDEX-5/6 blank	INDEX-1 through INDEX-5/6 blank
Cover	Cover

7. Replace the following work packages with the revised version.

Work Package Number	Work Package Number
WP 0001 00	WP 0026 00
WP 0002 00	WP 0028 00
WP 0005 00	WP 0029 00
WP 0007 00	WP 0036 00
WP 0008 00	WP 0037 00
WP 0009 00	WP 0038 00
WP 0010 00	WP 0039 00
WP 0012 00	WP 0040 00
WP 0018 00	WP 0041 00
WP 0019 00	WP 0044 00
WP 0021 00	

8. Insert the following new work package.

Work Package Number
WP 0033 01

By Order of the Secretary of the Army:

ERIC K. SHINSEKI
General, United States Army
Chief of Staff

Official:

JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army

0203001

DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 256704 requirements for TM 10-5430-242-12&P.

INSERT LATEST CHANGED PAGES / WORK PACKAGES. DESTROY SUPERSEDED DATA.

LIST OF EFFECTIVE PAGES/WORK PACKAGES

NOTE: The portion of text affected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by miniature pointing hands.

Dates of issue for original and changed pages/work packages are:

Original	0	15 January 2002
Change	1	28 April 2002

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 28 AND TOTAL NUMBER OF WORK PACKAGES IS 45 CONSISTING OF THE FOLLOWING:

Page/WP No.	*Change No.	Page/WP No.	*Change No.
Warnings	0	WP 0024 00 (2 pgs)	0
A/B blank	1	WP 0025 00 (4 pgs)	0
Title	1	WP 0026 00 (4 pgs)	1
i-iii/iv blank	1	WP 0027 00 (4 pgs)	0
WP 0001 00 (2 pgs)	1	WP 0028 00 (4 pgs)	1
Chap 1 title page	0	WP 0029 00 (2 pgs)	1
WP 0002 00 (12 pgs)	1	WP 0030 00 (2 pgs)	0
WP 0003 00 (2 pgs)	0	WP 0031 00 (2 pgs)	0
Chap 2 title page	0	WP 0032 00 (2 pgs)	0
WP 0004 00 (2 pgs)	0	WP 0033 00 (2 pgs)	0
WP 0005 00 (26 pgs)	1	WP 0033 01 (2 pgs)	1
WP 0006 00 (4 pgs)	0	WP 0034 00 (2 pgs)	0
Chap 3 title page	0	Chap 6 title page	0
WP 0007 00 (6 pgs)	1	WP 0035 00 (2 pgs)	0
WP 0008 00 (8 pgs)	1	WP 0036 00 (8 pgs)	1
Chap 4 title page	0	WP 0037 00 (6 pgs)	1
WP 0009 00 (8 pgs)	1	WP 0038 00 (62 pgs)	1
WP 0010 00 (2 pgs)	1	WP 0039 00 (2 pgs)	1
WP 0011 00 (2 pgs)	0	WP 0040 00 (6 pgs)	1
WP 0012 00 (2 pgs)	1	WP 0041 00 (14 pgs)	1
WP 0013 00 (2 pgs)	0	WP 0042 00 (2 pgs)	0
WP 0014 00 (2 pgs)	0	WP 0043 00 (2 pgs)	0
Chap 5 title page	0	WP 0044 00 (2 pgs)	1
WP 0015 00 (2 pgs)	0	Glossary-1 thru Glossary-2	0
WP 0016 00 (2 pgs)	0	Index-1 thru Index-5/6 blank	1
WP 0017 00 (2 pgs)	0		
WP 0018 00 (6 pgs)	1		
WP 0019 00 (2 pgs)	1		
WP 0020 00 (6 pgs)	0		
WP 0021 00 (2 pgs)	1		
WP 0022 00 (2 pgs)	0		
WP 0023 00 (2 pgs)	0		

*Zero in this column indicates an original page.

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 15 January 2002

TECHNICAL MANUAL

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

TANK, FABRIC, COLLAPSIBLE, FUEL STORAGE

3,000 GALLON, MODEL GTA-3KF/RCF-3-K-F-OB/MPC-F-03K-13114
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50,000 GALLON, MODEL GTA-50KF/RCF-50-K-F-OB/MPC-F-50K-22636
(NSN 5430-01-485-8337/NSN 5430-01-485-8342/NSN 5430-01-487-0638)

Current as of 31 March 2002

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Submit your DA Form 2028 (Recommended Changes to Publications and Blank Forms), through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is http://aeps.ria.army.mil. If you need a password, scroll down and click on "ACCESS REQUEST FORM". The DA Form 2028 is located in the ONLINE FORMS PROCESSING section of the AEPS. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax or email your letter, or DA Form 2028 direct to: Technical Publication Information Office, TACOM-RI, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The email address is TACOM-TECH-PUBS@ria.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.

TABLE OF CONTENTS

HOW TO USE THIS MANUAL

Section I. OVERVIEW -This manual is divided into six chapters consisting of 44 work packages that provide all the information necessary to operate and maintain the collapsible fabric fuel tank assemblies.

Section II. INDEXING -This manual contains several types of indexes to help the user locate information quickly and efficiently. The different indexes are as follows:

a. Table of Contents. Lists all chapters and work packages contained in the manual, along with the work package numbers where they begin.

b. Alphabetical Index. Located at the back of the manual, this index lists entries that personnel are most likely to look for. Most listings are provided several times in the index (e.g., “Maintenance Forms, Records and Reports” can also be found as “Forms, Records and Reports, Maintenance,” and “Records and Reports, Maintenance Forms and”). This increases the likelihood of finding the information on first entry. Each entry also lists the work package where the information can be found.

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON GENERAL INFORMATION

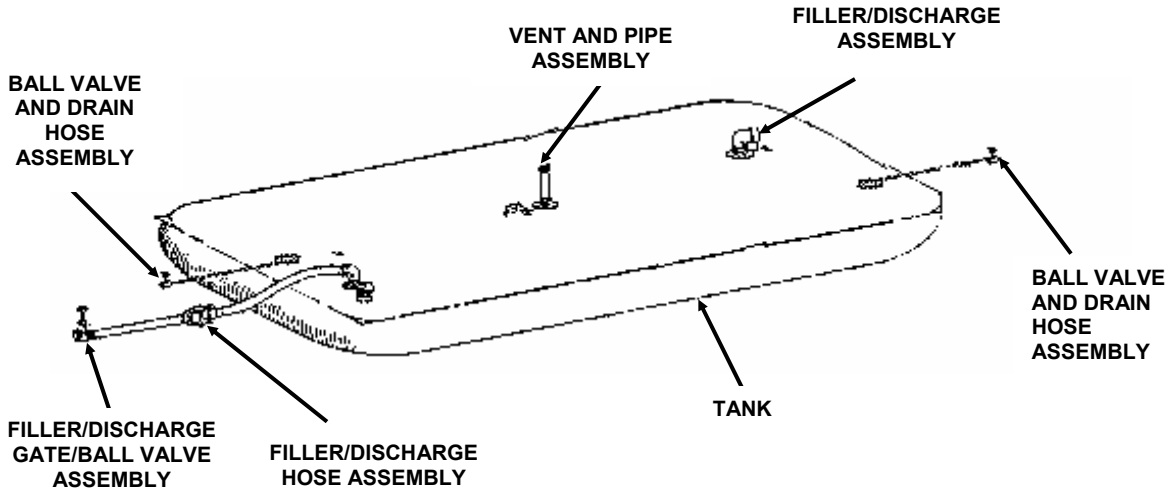
SCOPE

This technical manual contains instructions for operations, checks, and corrective maintenance for 3,000 Gallon (11,360 liter), 10,000 Gallon (37,850 liter), 20,000 Gallon (75,710 liter), and 50,000 Gallon (189,300 liter) Fuel Storage Collapsible Fabric Tanks.

Type of Manual: Operator and Unit Maintenance.

Model Number and Equipment Names: GTA-3KF/RCF-3-K-F-OB/MPC-F-03K-13114, 3000 Gallon Fuel Storage Collapsible Fabric Tank, GTA-10KF/RCF-10-K-F-OB/MPC-F-10K-22175, 10,000 Gallon Fuel Storage Collapsible Fabric Tank, GTA-20KF/RCF-20-K-F-OB/MPC-F-20K-22276, 20,000 Gallon Fuel Storage Collapsible Fabric Tank, and GTA-50KF/RCF-50-K-F-OB/MPC-F-50K-22636, 50,000 Gallon Fuel Storage Collapsible Fabric Tank.

Purpose of Equipment: The tanks are containers designed to store a variety of petroleum liquids. The tanks will be used to store fuel as part of a bulk fuel terminal. Fuel will be available for use in a quick response deployment operation. The tanks are made of tough polymer-coated nylon fabric, and care must be taken not to puncture or tear the material.



MAINTENANCE FORMS, RECORDS AND REPORTS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by (as applicable) DA Form 2404, Equipment Inspection and Maintenance Worksheet, DA Form 2407, Maintenance Request, DA Form 2407-1 Maintenance Request Continuation Sheet, DA PAM 738-750, Functional Users Manual for the Army Maintenance Management System (TAMMS), DA PAM 738-751, Functional Users Manual for The Army Maintenance Management Systems Aviation (TAMMS-A) or AR 700-138, Army Logistics Readiness and Sustainability.

CORROSION PREVENTION AND CONTROL (CPC)

Corrosion prevention and control of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items.

While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Any unusual cracking, softening, swelling, or breaking of the materials may be a corrosion problem.

If a corrosion problem is identified, it can be reported using Standard Form 368, Product Quality Deficiency Report. Use of key words such as “rust,” “deterioration,” “corrosion,” or “cracking” will ensure that the information is identified as a CPC problem. The form should be submitted to the address specified in DA Pam 738-750.

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Command decisions, according to tactical situations, will determine when destruction of the collapsible fabric fuel tank assembly will be accomplished. A destruction plan will be prepared by the using organization, unless higher authority has prepared one. For general destruction procedures for this equipment, refer to TM 750-244-3, Procedures for Destruction of Equipment to Prevent Enemy Use.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs)

If the collapsible fabric fuel tank assemblies need improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don’t like about your equipment. Let us know why you don’t like the design or performance. Put it on an SF 368 (Product Quality Deficiency Report). Mail it to the address specified in DA PAM 738-750, Functional Users Manual for the Army Maintenance Management System (TAMMS), or as specified by the acquiring activity. We will send you a reply.

PREPARATION PROCEDURES FOR STORAGE OR SHIPMENT

Army users refer to work package 0034 00.

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

Workmanship shall be of the highest quality and shall permit no defects not repaired in accordance with the instructions in this manual. All metal parts shall be clean and free of sand, dirt, etc. The inside and outside of the tank shall be clean and free of foreign material.

END OF WORK PACKAGE

CHAPTER 1

DESCRIPTION AND THEORY OF OPERATION
TANK, FUEL STORAGE, 3,000 GALLON, 10,000 GALLON
20,000 GALLON, AND 50,000 GALLON

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON EQUIPMENT DESCRIPTION

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

Characteristics, capabilities, and features of the collapsible fabric fuel tank assemblies include:

a. Constructed of tough elastomeric-coated nylon fabric. Chafing patches beneath all fitting and hardware locations provide triple-wall thickness protection.

b. Vulcanized handles for easy tank deployment and positioning.

c. Various assemblies attach to hoses and related hardware with quick-disconnects.

d. The filled tank expands vertically and is supplied with rated capacity stencils on each tank.

e. Internal air pressure is vented.

f. Residual fuel may be drained from the bottom of the tank by use of a low profile drain assembly on each end of the tank.

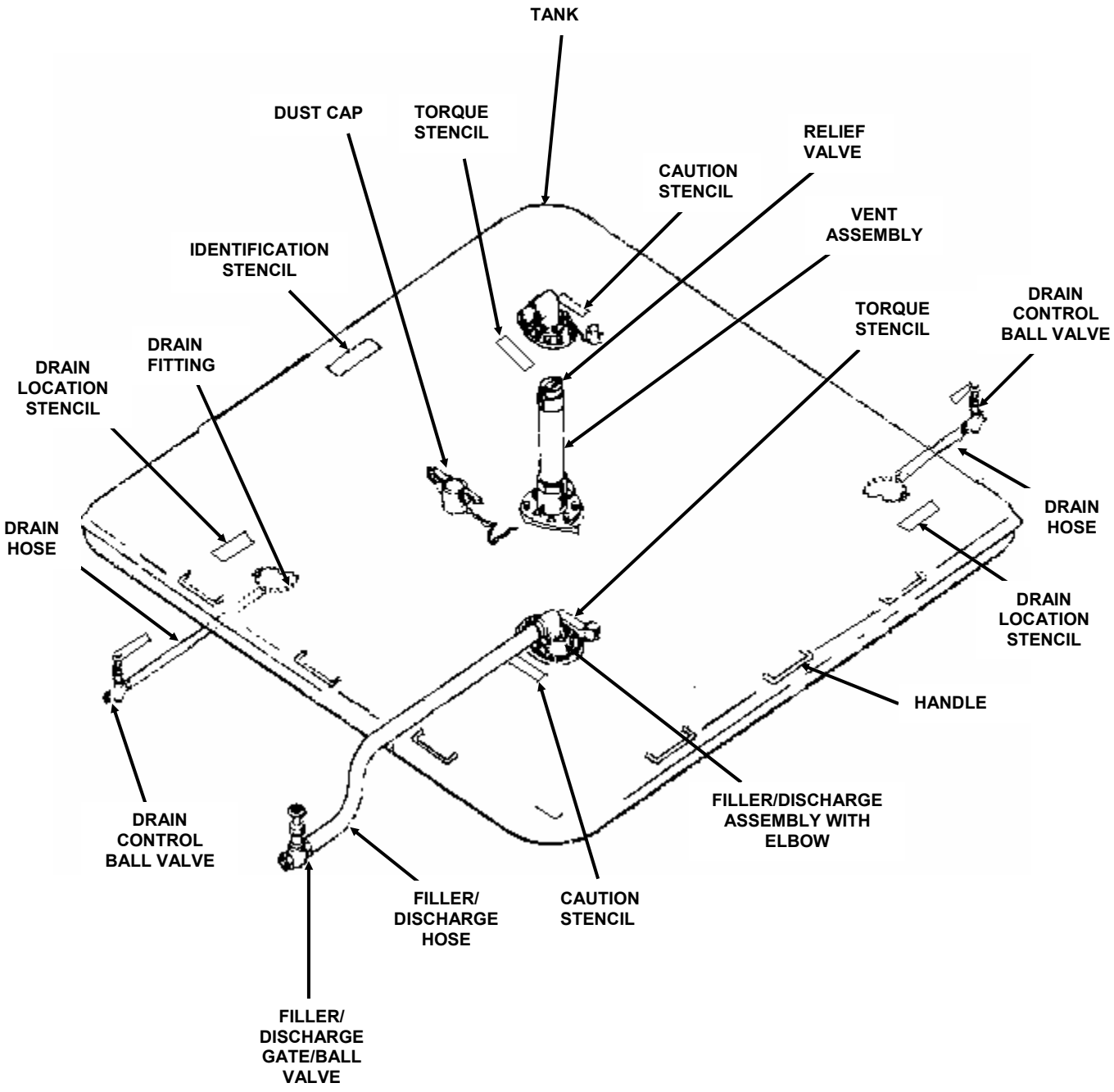
g. The berm liner assembly prevents spillage of fuel on the ground due to leaks in the tank. The berm liner is supplied with drain assemblies, drain hose assemblies, and ball valves.

NOTE

When an issued fuel tank becomes unserviceable, requisitions should be submitted for a replacement fuel tank. The accessory items issued with the initial fuel tank should be retained and should not be turned in when only the collapsible fabric tank itself is unserviceable. The accessories are not issued with the replacement tank. Replacement tanks will be issued in wooden crates only. The aluminum chest may be requisitioned at unit level for storage, as desired.

Collapsible Fabric Fuel Storage Tank

The tanks are used for the storage of petroleum-based fuels. Each tank unit consists of a collapsible fabric fuel tank with two filler/discharge assemblies with elbow fittings, a vent fitting assembly with relief valve and a flame arrestor relief cap, a 4-inch x 10-foot filler/discharge hose assembly with control valve, two drain fitting assemblies with 2-inch x 8-foot hose assemblies, a berm liner equipped with four 2-inch x 10-foot hose assemblies, two drain fitting assemblies and ball valves. Spare gaskets and o-rings, a Type II or Type III emergency repair kit and lifting sling are also provided. The tank assemblies and berm liners have separate wooden crates provided for storage.



TYPICAL FUEL TANK

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

See WP 0004 00.

DECAL MARKINGS

Identification Stencil. The tanks are marked with an identification stencil, which lists the following:

COLLAPSIBLE FABRIC TANK: (3,000, 10,000, 20,000, or 50,000 GALLONS), FUEL
NSN:
MFG: (Manufacturer's name and plant location)
CONTRACT NO:
LOT & Serial number:
WEIGHT EMPTY:
CRATED WEIGHT:

Torque Requirement Stencil. The following information regarding torque requirements shall be located adjacent to each fitting assembly:

Maximum Torque: 15.0 foot-pounds (Reliance Models), 16.0 foot-pounds (GTA and MPC Models).

Caution Stencil. The following information shall be located adjacent to each fitting assembly:

CAUTION

DO NOT OVERFILL

OVERFILLING WILL RESULT IN PERMANENT DAMAGE AND FAILURE OF THE TANK.

MAXIMUM CAPACITY:

3,000 GALLONS (11,360 LITERS)

10,000 GALLONS (37,850 LITERS)

20,000 GALLONS (75,710 LITERS)

50,000 GALLONS (189,300 LITERS)

MAXIMUM TANK HEIGHT WHEN FULL (REFER TO STENCIL ON TANK)

NOT RECOMMENDED FOR LONG TERM GASOLINE STORAGE

Drain Fitting Stencil. The following information shall be stenciled on the top of the tank to show the location of each drain fitting along with hose connection instructions.

DRAIN FITTING LOCATED UNDER THIS LABEL

CONNECT HOSE BEFORE FILLING TANK

EQUIPMENT DATA

3,000 - GALLON TANK (GTA)

Temperature Range (Desired – 5 Years Maximum)
- Low ..... -25°F (-31.67°C)
- High ..... +130°F (+54.44°C)

Dimensions, Outside (Packaged)
- Height ..... 31.5 inches (80.0 cm)
- Width ..... 48.0 inches (121.9 cm)
- Length ..... 6.542 feet (1.994 m)

Dry Weight ..... 346 pounds (156.9 kg)
Crated Weight ..... 506 pounds (229.5 kg)
Dimensions (Filled)
- Height (Depth) ..... 34.0 inches (86.36 cm)
- Width ..... 13.0 feet (3.962 m)
- Length ..... 13.0 feet (3.962 m)

Dimensions (Dry-Folded)
- Height (Depth) ..... 12.0 inches (30.48 cm)
- Width ..... 39.0 inches (99.06 cm)
- Length ..... 55.0 inches (139.7 cm)

Fuel Storage Capacity ..... 3,000 gallons (11,360 liters)

Berm Liner

- Part Number GTA-3BERM

Dimensions (Open)
- Width ..... 37.0 feet (11.28 m)
- Length ..... 37.0 feet (11.28 m)
- Weight (Uncrated) ..... 234 pounds (106.1 kg)
- Weight (Crated) ..... 561 pounds (254.5 kg)

Dimensions, Outside (Packaged)
- Height (Depth) ..... 38.0 inches (96.52 cm)
- Width ..... 48.0 inches (121.9 cm)
- Length ..... 32.0 inches (81.28 cm)

10,000 - GALLON TANK (GTA)

Temperature Range (Desired – 5 Years Maximum)
- Low ..... -25°F (-31.67°C)
- High ..... +130°F (+54.44°C)

Dimensions, Outside (Packaged)
- Height ..... 31.5 inches (80.0 cm)
- Width ..... 48.0 inches (121.9 cm)
- Length ..... 6.542 feet (1.994 m)

Dry Weight ..... 533 pounds (241.8 kg)
Crated Weight ..... 693 pounds (314.3 kg)
Dimensions (Filled)
- Height (Depth) ..... 43.0 inches (109.2 cm)
- Width ..... 21.5 feet (6.553 m)
- Length ..... 21.5 feet (6.553 m)

Dimensions (Dry-Folded)
- Height (Depth) ..... 20.0 inches (50.8 cm)
- Width ..... 41.0 inches (104.1 cm)
- Length ..... 58.0 inches (147.3 cm)

Crate Dimensions
- Height (Depth) ..... 40.8 inches (103.6 cm)
- Width ..... 48.0 inches (121.9 cm)
- Length ..... 8.0 feet (2.438 m)

Fuel Storage Capacity ..... 10,000 gallons (37,850 liters)

Berm Liner

Part Number GTA-10BERM
Dimensions (Open)
Width ..... 52.5 feet (16 m)
Length ..... 52.5 feet (16 m)
Weight (Uncrated) ..... 234 pounds (106.1 kg)
Weight (Crated) ..... 792 pounds (359.2 kg)
Dimensions, Outside (Packaged)
Height (Depth) ..... 40.0 inches (101.6 cm)
Width ..... 48.0 inches (121.9 cm)
Length ..... 48.0 inches (121.9 cm)

20,000 - GALLON TANK (GTA)

Temperature Range (Desired – 5 Years Maximum)
Low ..... -25°F (-31.67°C)
High ..... +130°F (+54.44°C)
Dimensions, Outside (Packaged)
Height ..... 31.5 inches (80.0 cm)
Width ..... 48.0 inches (121.9 cm)
Length ..... 6.542 feet (1.994 m)
Dry Weight ..... 656 pounds (297.6 kg)
Crated Weight ..... 816 pounds (370.1 kg)
Dimensions (Filled)
Height (Depth) ..... 4.583 feet (1.397 m)
Width ..... 24.83 feet (7.568 m)
Length ..... 27.92 feet (8.51 m)
Dimensions (Dry-Folded)
Height (Depth) ..... 20.0 inches (50.8 cm)
Width ..... 43.0 inches (109.2 cm)
Length ..... 57.0 inches (144.8 cm)
Crate Dimensions
Height (Depth) ..... 40.0 inches (101.6 cm)
Width ..... 48.0 inches (121.9 cm)
Length ..... 8.0 feet (2.438 m)
Fuel Storage Capacity ..... 20,000 gallons (75,710 liters)

Berm Liner

Part Number GTA-20BERM
Dimensions (Open)
Width ..... 59.0 feet (17.98 m)
Length ..... 59.0 feet (17.98 m)
Weight (Uncrated) ..... 600 pounds (272.2 kg)
Weight (Crated) ..... 917 pounds (415.9 kg)
Dimensions, Outside (Packaged)
Height (Depth) ..... 40.0 inches (101.6 cm)
Width ..... 48.0 inches (121.9 cm)
Length ..... 48.0 inches (121.9 cm)

50,000 - GALLON TANK (GTA)

Temperature Range (Desired – 5 Years Maximum)
- Low ..... -25°F (-31.67°C)
- High ..... +130°F (+54.44°C)

Dimensions, Outside (Packaged)
- Height ..... 31.75 inches (80.64 cm)
- Width ..... 5.0 feet (1.542 m)
- Length ..... 8.0 feet (2.438 m)

Dry Weight ..... 1255 pounds (569.3 kg)
Crated Weight ..... 1544 pounds (700.3 kg)
Dimensions (Filled)
- Height (Depth) ..... 4.833 feet (1.473 m)
- Width ..... 24.83 feet (7.568 m)
- Length ..... 64.5 feet (19.66 m)

Dimensions (Dry-Folded)
- Height (Depth) ..... 25.0 inches (63.5 cm)
- Width ..... 56.0 inches (142.2 cm)
- Length ..... 79.0 inches (200.7 cm)

Fuel Storage Capacity ..... 50,000 gallons (189,300 liters)

Berm Liner

- Part Number GTA-50BERM

Dimensions (Open)
- Width ..... 60.0 feet (18.29 m)
- Length ..... 100.0 feet (30.48 m)
- Weight (Uncrated) ..... 975 pounds (442.3 kg)
- Weight (Crated) ..... 1330 pounds (603.3 kg)

Dimensions, Outside (Packaged)
- Height (Depth) ..... 40.0 inches (101.6 cm)
- Width ..... 48.0 inches (121.9 cm)
- Length ..... 48.0 inches (121.9 cm)

3,000 - GALLON TANK (RELIANCE)

Temperature Range (Desired – 5 Years Maximum)
- Low ..... -25°F (-31.67°C)
- High ..... +130°F (+54.44°C)

Dimensions, Outside (Packaged)
- Height ..... 40.0 inches (101.6 cm)
- Width ..... 48.0 inches (121.9 cm)
- Length ..... 48.0 inches (121.9 cm)

Crated Weight ..... 300 pounds (136.1 kg)
Dry Weight ..... 425 pounds (192.8 kg)
Dimensions (Filled)
- Height (Depth) ..... 5.0 feet 8 inches (1.72 m)
- Width ..... 12.5 feet (3.81 m)
- Length ..... 12.5 feet (3.81 m)

Dimensions (Dry-Folded)
- Height (Depth) ..... 33.0 inches (83.82 cm)
- Width ..... 32.0 inches (81.28 cm)
- Length ..... 66.0 inches (167.6 cm)

Fuel Storage Capacity ..... 3,000 gallons (11,360 liters)

Berm Liner

Part Number RCF-3-K-BL-OB
Dimensions (Open)
Width ..... 37.0 feet (11.28 m)
Length ..... 37.0 feet (11.28 m)
Weight (Uncrated) ..... 225 pounds (102.1 kg)
Dimensions, Outside (Packaged)
Height (Depth) ..... 38.0 inches (96.52 cm)
Width ..... 48.0 inches (121.9 cm)
Length ..... 32.0 inches (81.28 cm)

10,000 - GALLON TANK (RELIANCE)

Temperature Range (Desired – 5 Years Maximum)
Low ..... -25°F (-31.67°C)
High ..... +130°F (+54.44°C)
Dimensions, Outside (Empty)
Width ..... 22.0 feet (6.706 m)
Length ..... 22.0 feet (6.706 m)
Dry Weight ..... 560 pounds (254 kg)
Crated Weight ..... 550 pounds (249.5 kg)
Dimensions (Filled)
Height (Depth) ..... 24.0 inches (60.96 cm)
Width ..... 20.5 feet (6.248 m)
Length ..... 20.5 feet (6.248 m)
Dimensions (Dry-Folded)
Height (Depth) ..... 28.0 inches (71.12 cm)
Width ..... 36.0 inches (91.44 cm)
Length ..... 54.0 inches (137.2 cm)
Crate Dimensions
Height (Depth) ..... 40.8 inches (103.6 cm)
Width ..... 48.0 inches (121.9 cm)
Length ..... 8.0 feet (2.438 m)
Fuel Storage Capacity ..... 10,000 gallons (37,850 liters)

Berm Liner

Part Number RCF-10-K-BL-OB
Dimensions (Open)
Width ..... 52.5 feet (16 m)
Length ..... 52.5 feet (16 m)
Weight (Uncrated) ..... 425 pounds (192.8 kg)
Dimensions, Outside (Packaged)
Height (Depth) ..... 40.0 inches (101.6 cm)
Width ..... 48.0 inches (121.9 cm)
Length ..... 48.0 inches (121.9 cm)

20,000 - GALLON TANK (RELIANCE)

Temperature Range (Desired – 5 Years Maximum)
Low ..... -25°F (-31.67°C)
High ..... +130°F (+54.44°C)
Dimensions, Outside (Empty)
Width ..... 24.0 feet (7.315 m)
Length ..... 28.0 feet (8.534 m)
Dry Weight ..... 690 pounds (313 kg)
Crated Weight ..... 900 pounds (408.2 kg)

Dimensions (Filled)
- Height (Depth) ..... 48.0 inches (121.9 cm)
- Width ..... 23.5 feet (7.163 m)
- Length ..... 27.5 feet (8.382 m)

Dimensions (Dry-Folded)
- Height (Depth) ..... 22.0 inches (55.88 cm)
- Width ..... 36.0 inches (91.44 cm)
- Length ..... 84.0 inches (213.4 cm)

Crate Dimensions
- Height (Depth) ..... 40.0 inches (101.6 cm)
- Width ..... 48.0 inches (121.9 cm)
- Length ..... 8.0 feet (2.438 m)

Fuel Storage Capacity ..... 20,000 gallons (75,710 liters)

Berm Liner

- Part Number RCF-20-K-BL-OB

Dimensions (Open)
- Width ..... 59.0 feet (17.98 m)
- Length ..... 59.0 feet (17.98 m)
- Weight (Uncrated) ..... 600 pounds (272.2 kg)

Dimensions, Outside (Packaged)
- Height (Depth) ..... 40.0 inches (101.6 cm)
- Width ..... 48.0 inches (121.9 cm)
- Length ..... 48.0 inches (121.9 cm)

50,000 - GALLON TANK (RELIANCE)

Temperature Range (Desired – 5 Years Maximum)
- Low ..... -25°F (-31.67°C)
- High ..... +130°F (+54.44°C)

Dimensions, Outside (Empty)
- Width ..... 25.0 feet (7.62 m)
- Length ..... 65.0 feet (19.81 m)

Dry Weight ..... 1400 pounds (635 kg)
Crated Weight ..... 1805 pounds (818.7 kg)

Dimensions (Filled)
- Height (Depth) ..... 48.0 inches (121.9 cm)
- Width ..... 23.0 feet (7.01 m)
- Length ..... 63.0 feet (19.2 m)

Dimensions (Dry-Folded)
- Height (Depth) ..... 32.0 inches (81.28 cm)
- Width ..... 36.0 inches (91.44 cm)
- Length ..... 90.0 inches (228.6 cm)

Fuel Storage Capacity ..... 50,000 gallons (189,300 liters)

Berm Liner

- Part Number RCF-50-K-BL-OB

Dimensions (Open)
- Width ..... 60.0 feet (18.29 m)
- Length ..... 100.0 feet (30.48 m)
- Weight (Uncrated) ..... 975 pounds (442.3 kg)

Dimensions, Outside (Packaged)
- Height (Depth) ..... 40.0 inches (101.6 cm)
- Width ..... 48.0 inches (121.9 cm)
- Length ..... 48.0 inches (121.9 cm)

3,000 - GALLON TANK (MPC)

Temperature Range (Desired – 5 Years Maximum)
- Low ..... -25°F (-31.67°C)
- High ..... +130°F (+54.44°C)

Dimensions, Outside (Packaged)
- Height (Depth) ..... 37 inches (93.98 cm)
- Width ..... 51.0 inches (129.5 cm)
- Length ..... 52.0 inches (132.1 cm)

Dry Weight ..... 177 pounds (80.29 kg)
Crated Weight ..... 603 pounds (273.52 kg)
Dimensions (Filled)
- Height (Depth) ..... 2.0 feet 10 inches (86.36 cm)
- Width ..... 13.0 feet (3.962 m)
- Length ..... 13.0 feet (3.962 m)

Dimensions (Dry-Folded)
- Height (Depth) ..... 12.0 inches (30.48 cm)
- Width ..... 39.0 inches (99.06 cm)
- Length ..... 55.0 inches (139.7 cm)

Fuel Storage Capacity ..... 3,000 gallons (11,360 liters)

Berm Liner

- Part Number MPC-F-03K-BL-3737

Dimensions (Open)
- Width ..... 37.0 feet (11.28 m)
- Length ..... 37.0 feet (11.28 m)
- Weight (Uncrated) ..... 208 pounds (94.35 kg)

Dimensions, Outside (Packaged)
- Height (Depth) ..... 37.0 inches (93.98 cm)
- Width ..... 51.0 inches (129.5 cm)
- Length ..... 52.0 inches (132.1 cm)
- Weight (Crated) ..... 561 pounds (254.5 kg)

10,000 - GALLON TANK (MPC)

Temperature Range (Desired – 5 Years Maximum)
- Low ..... -25°F (-31.67°C)
- High ..... +130°F (+54.44°C)

Dimensions, Outside (Packaged)
- Height (Depth) ..... 32 inches (81.28 cm)
- Width ..... 60.0 inches (152.40 cm)
- Length ..... 90.0 inches (228.60 cm)

Dry Weight ..... 324 pounds (146.96 kg)
Crated Weight ..... 966 pounds (438.2 kg)
Dimensions (Filled)
- Height (Depth) ..... 43.0 inches (109.2 cm)
- Width ..... 23.0 feet (7.01 m)
- Length ..... 21.0 feet (6.40 m)

Dimensions (Dry-Folded)
- Height (Depth) ..... 20.0 inches (50.80 cm)
- Width ..... 43.0 inches (109.2 cm)
- Length ..... 58.0 inches (147.3 cm)

Fuel Storage Capacity ..... 10,000 gallons (37,850 liters)

Berm Liner

Part Number MPC-F-10K-BL-5252
Dimensions (Open)
Width ..... 53.0 feet (16.15 m)
Length ..... 53.0 feet (16.15 m)
Weight (Uncrated) ..... 415 pounds (188.2 kg)
Dimensions, Outside (Packaged)
Height (Depth) ..... 32.0 inches (81.28 cm)
Width ..... 60.0 inches (152.40 cm)
Length ..... 90.0 inches (228.60 cm)
Weight (Crated) ..... 974 pounds (441.8 kg)

20,000 - GALLON TANK (MPC)

Temperature Range (Desired – 5 Years Maximum)
Low ..... -25°F (-31.67°C)
High ..... +130°F (+54.44°C)
Dimensions, Outside (Packaged)
Height (Depth) ..... 32.0 inches (81.28 cm)
Width ..... 60.0 inches (152.40 cm)
Length ..... 90.0 inches (228.60 m)
Dry Weight ..... 473 pounds (214.55 kg)
Crated Weight ..... 1115 pounds (505.76 kg)
Dimensions (Filled)
Height (Depth) ..... 5.0 feet 6 inches (167.6 cm)
Width ..... 23.0 feet (7.01 m)
Length ..... 27.0 feet (8.23 m)
Dimensions (Dry-Folded)
Height (Depth) ..... 20.0 inches (50.8 cm)
Width ..... 43.0 inches (109.2 cm)
Length ..... 57.0 inches (144.8 cm)
Crate Dimensions
Fuel Storage Capacity ..... 20,000 gallons (75,710 liters)

Berm Liner

Part Number MPC-F-20K-BL-5959
Dimensions (Open)
Width ..... 59.0 feet (17.98 m)
Length ..... 59.0 feet (17.98 m)
Weight (Uncrated) ..... 523 pounds (237.23 kg)
Dimensions, Outside (Packaged)
Height (Depth) ..... 32.0 inches (81.28 cm)
Width ..... 60.0 inches (152.40 cm)
Length ..... 90.0 inches (228.60 cm)
Weight (Crated) ..... 1082 pounds (490.79 kg)

50,000 - GALLON TANK (MPC)

Temperature Range (Desired – 5 Years Maximum)
Low ..... -25°F (-31.67°C)
High ..... +130°F (+54.44°C)
Dimensions, Outside (Packaged)
Height (Depth) ..... 43.875 inches (111.4 cm)
Width ..... 60.0 inches (152.40 cm)
Length ..... 96.0 inches (243.8 cm)
Dry Weight ..... 1026 pounds (465.39 kg)
Crated Weight ..... 1720 pounds (780.19 kg)

Dimensions (Filled)
- Height (Depth) ..... 5.0 feet 6 inches (1.67 m)
- Width ..... 23.0 feet (7.01 m)
- Length ..... 64.5 feet (19.66 m)

Dimensions (Dry-Folded)
- Height (Depth) ..... 25.0 inches (63.5 cm)
- Width ..... 56.0 inches (142.2 cm)
- Length ..... 79.0 inches (200.7 cm)

Fuel Storage Capacity ..... 50,000 gallons (189,300 liters)

Berm Liner

- Part Number MPC-F-50K-BL-60100

Dimensions (Open)
- Width ..... 60.0 feet (18.29 m)
- Length ..... 100.0 feet (30.48 m)
- Weight (Uncrated) ..... 847 pounds (384.19 kg)

Dimensions, Outside (Packaged)
- Height (Depth) ..... 43.875 inches (111.4 cm)
- Width ..... 60.0 inches (152.40 cm)
- Length ..... 96.0 inches (243.8 cm)
- Weight (Crated) ..... 1458.0 pounds (661.34 kg)

END OF WORK PACKAGE

**OPERATOR AND UNIT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000,
10,000, 20,000, AND 50,000 GALLON
THEORY OF OPERATION**

THEORY OF OPERATION

Connecting a hose from a fuel truck or other fuel source to the filler/discharge hose assembly fills the collapsible fuel tank. This assembly is connected, in turn, to the gate or ball valve that has been connected to the filler/discharge assembly. Gate or ball valves are used to control the flow of the fuel.

Connecting the filler/discharge hose assembly, and gate/ball valve to the filler/discharge assembly discharges the collapsible fuel tank. Water, sludge, and residual fuel are drained through the drain hose assembly at the bottom of the tank. The fuels are extremely hazardous, and all safety procedures must be strictly followed.

The vent and pipe assembly contains a flame arrestor relief cap that opens automatically when the tank vapor reaches an internal pressure of 0.10 psi (0.0068 atmospheres).

END OF WORK PACKAGE

CHAPTER 2

OPERATOR INSTRUCTIONS
TANK, FUEL STORAGE, 3,000 GALLON, 10,000 GALLON
20,000 GALLON, AND 50,000 GALLON

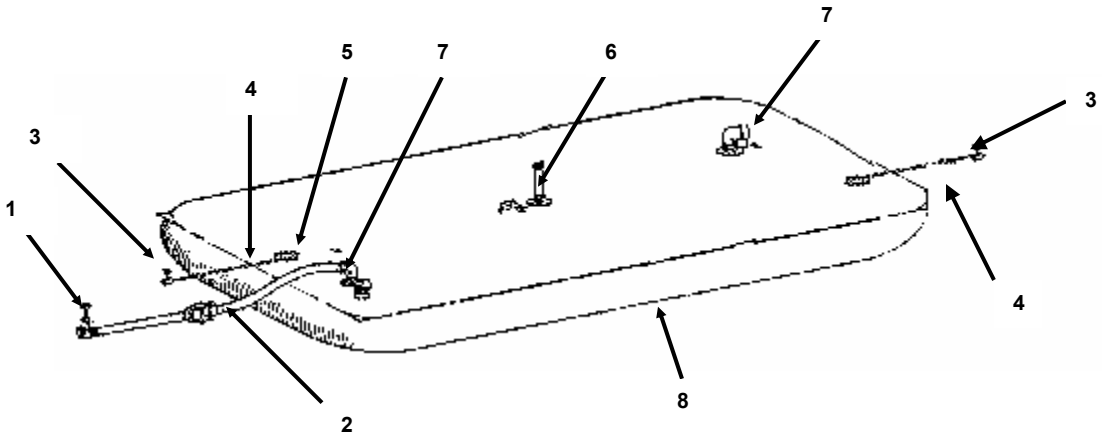
OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS

GENERAL

This section lists major components, controls, and indicators, and describes the functions within the collapsible fabric, fuel storage tank assemblies.

DESCRIPTION AND USE OF MAJOR COMPONENTS

Description and use of major components, including controls and indicators, are contained in Table 1.



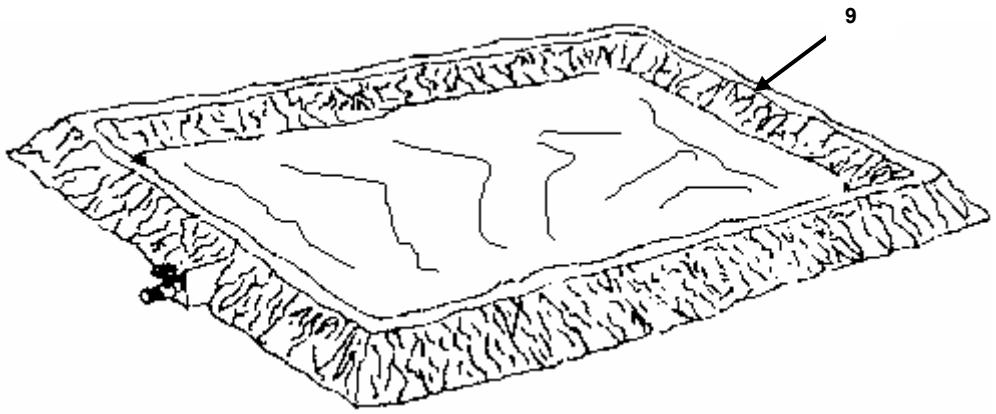


Table 1. Major Components, Controls and Indicators.

Key	Component, Control, or Indicator	Function
1	Filler/Discharge Gate or Ball Valve	Allows fuel to flow to and from the tank assembly. Valve is normally closed when the tank is not being filled or fuel is not being discharged from the tank.
2	Filler/Discharge Hose Assembly	Feeds fuel from the source and valve to appropriate fitting on tank during fill. Allows fuel to flow from tank during discharge.
3	Drain Ball Valve	Allows fuel and sludge to drain from the tank. The valve is normally closed when the tank is not being drained or replaced.
4	Drain Hose Assembly	Allows fuel and sludge to drain from the storage tank.
5	Drain Fitting Assemblies	Allows the drain hose to be connected to the fuel tank.
6	Vent Pipe and Assembly	Vent pipe opens automatically when the tank vapor reaches 0.10 psi (pounds per square inch) (0.0068 atmospheres), to relieve pressure from inside the tank.
7	Filler/Discharge Assemblies	Allows hose assembly to be connected to the tank. Directs fuel flow from the hose assembly into the tank when filling the tank. Directs fuel flow from the tank during discharge. Two fittings are supplied.
8	Fuel Tank(s)	Collapsible elastomeric-coated nylon fabric tank in 3,000, 10,000, 20,000, and 50,000 gallon capacities. Used for fuel storage. Emergency repair kit included (not shown).
9	Berm Liner	Used for secondary containment if fuel tank fails.

END OF WORK PACKAGE

**OPERATOR AND UNIT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000,
10,000, 20,000, AND 50,000 GALLON
OPERATION UNDER USUAL CONDITIONS**

ASSEMBLY AND PREPARATION FOR USE

Construction of Berm

WARNING

Make certain that the berm ball valve is closed and locked after installing and draining the berm. In the event of tank rupture, an open berm ball valve would permit fuel to drain from the berm. Undetected fuel leakage can result in an explosion and cause death, severe personal injury, and damage to equipment.

CAUTION

Damage to tank may occur if chosen site is not free of sharp objects (rocks, sticks, glass, etc.), and center of leveled area should not exceed 9.0-inches (22.86-centimeters) below ground level. Retain a slight incline for draining surface water. Safety berms must have capacities of not less than one and one half times that of the tank capacities. Failure to construct a secure safety berm may result in catastrophic damage.

NOTE

A minimum of 10.0-foot (3.048-meter) working clearance is necessary between the side of the tank and the berm on all four sides. When a single berm is used to contain more than one tank, maintain a 10.0-foot (3.048-meter) space between tanks. The installation site should have less than a 3.0% grade (3-inch (7.62-cm) rise in a 100-foot (30.48-m) run) in order to prevent creeping of the tank. The site must not be subject to flooding or high water.

NOTE

If possible, provide a 4.0-inch (10.16-centimeter) thick sand bottom for all collapsible fuel storage tanks. To provide a berm drain for all collapsible fuel storage tanks, place a 2.0-inch (5.08-centimeter) pipe with a ball valve through the bottom of the discharge end of the berm in order to provide a means of draining accumulated water. Position the drain assembly at the lowest point of the slope to aid in draining water or sludge. The ball valve should be normally closed, and opened only to drain water from the bermed area.

3,000-Gallon (11,360-Liter) Tank

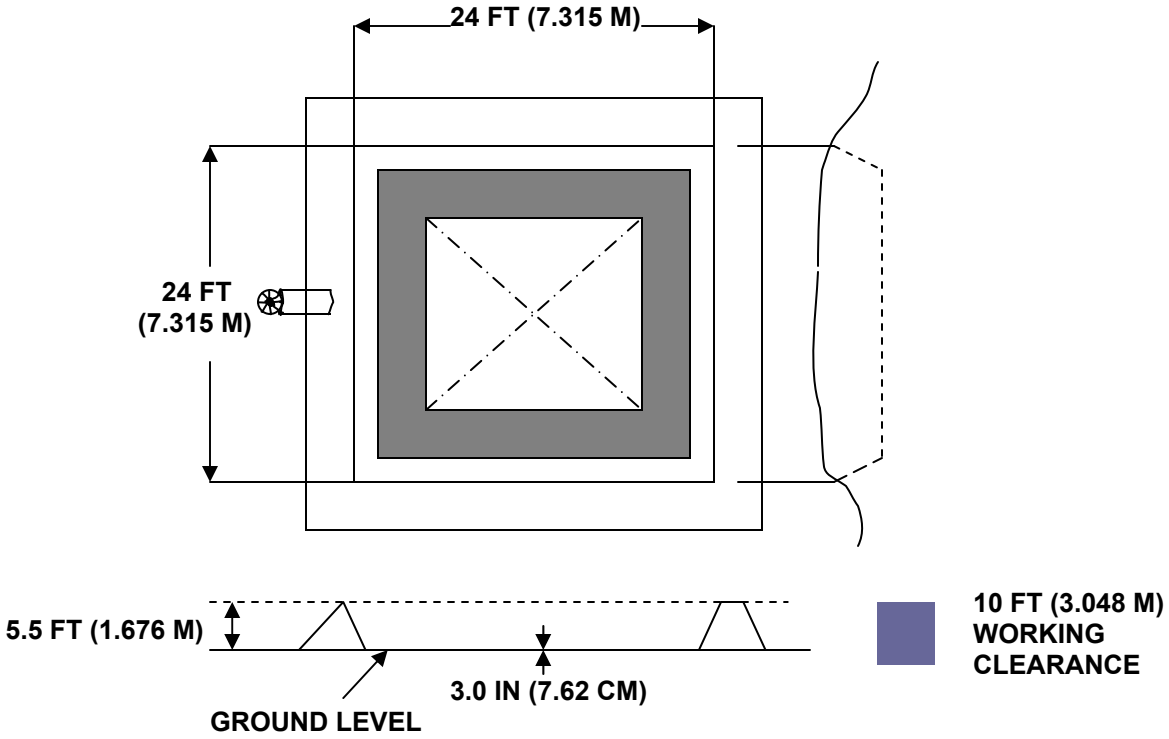
NOTE

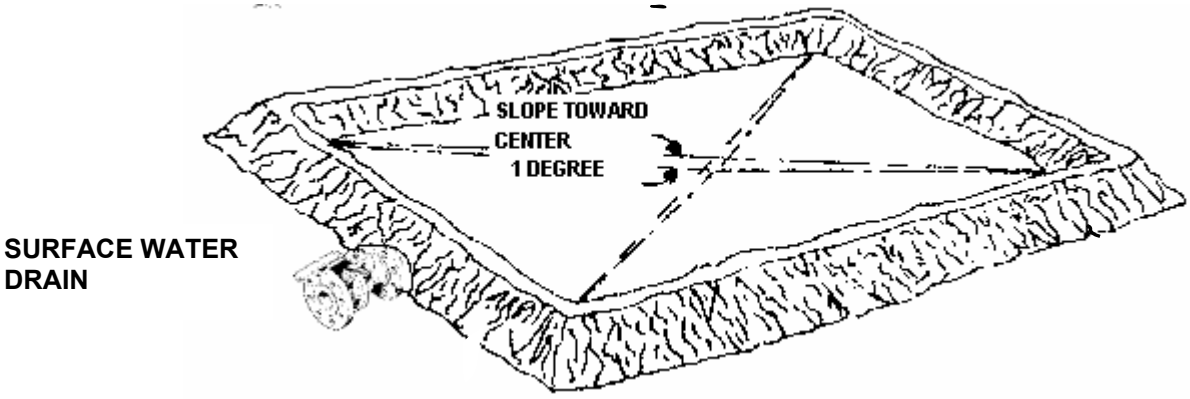
The following instructions are for a 14.0-foot by 14.0-foot (4.267-meter by 4.267-meter) tank in flat (empty) dimensions.

1. Clear and level an area so there is at least a 13-foot (3.962-meter) perimeter around the empty flat tank.

2. Slope all four sides of leveled area in toward the center. The center should be no more than 3.0 inches (7.62 centimeters) below ground level, equal to an approximate slope of 1.0 degree.

3. Erect a 5.5-foot (1.676-meter) high berm around the outside of the sloped area. Protect berm walls against erosion with sod or stone.





Berm Construction, 3,000-Gallon (11,360-Liter) Tank

10,000-Gallon (37,850-Liter) Tank

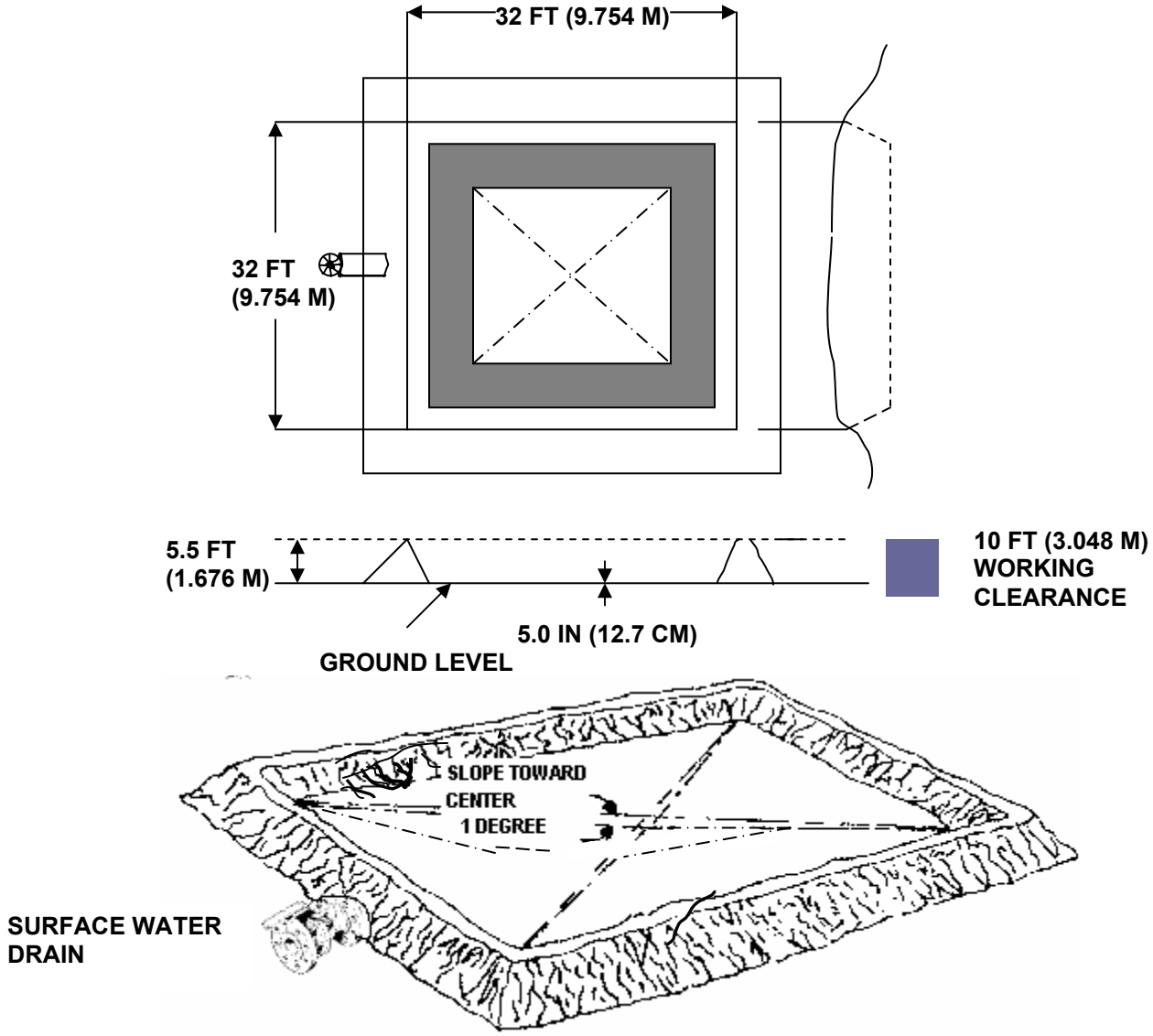
NOTE

The following instructions are for a 22.0-foot by 22.0-foot (6.706-meter by 6.706-meter) tank in flat (empty) dimensions.

1. Clear and level an area so there is at least 13-foot (3.962-meter) perimeter around the empty flat tank.

2. Slope all four sides of leveled area in toward the center. The center should be no more than 5.0 inches (12.7 centimeters) below ground level, equal to an approximate slope of 1.0 degree.

3. Erect a 5.5-foot (1.676-meter) high berm around the outside of the sloped area. Protect berm walls against erosion with sod or stone.



Berm Construction, 10,000-Gallon (37,850-Liter) Tank

20,000-Gallon (75,710-Liter) Tank

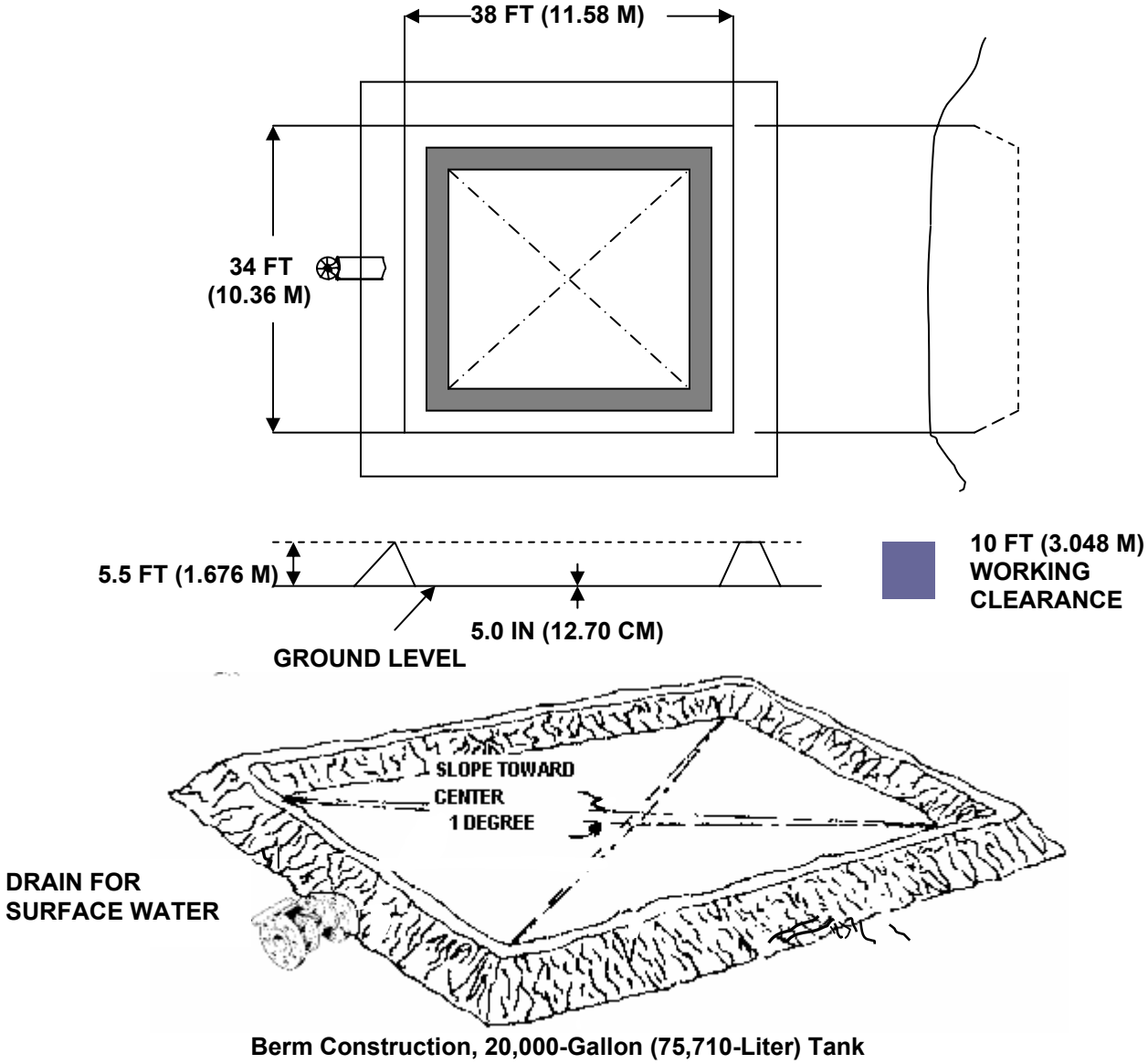
NOTE

The following instructions are for a 24.0-foot by 28.0-foot (7.315-meter by 8.534-meter) ± 6 inches (15.24 cm) tank in flat (empty) dimensions.

1. Clear and level an area so there is at least a 13.0-feet (3.962-meter) perimeter around the empty flat tank.

2. Slope all four sides of leveled area in toward the center. The center should be no more than 5.0 inches (12.7 centimeters) below ground level, equal to an approximate slope of 1.0 degree.

3. Erect a 5.5-foot (1.676-meter) high berm around the outside of the sloped area. Protect berm walls against erosion with sod or stone.



Berm Construction, 20,000-Gallon (75,710-Liter) Tank

50,000-Gallon (189,300-Liter) Tank

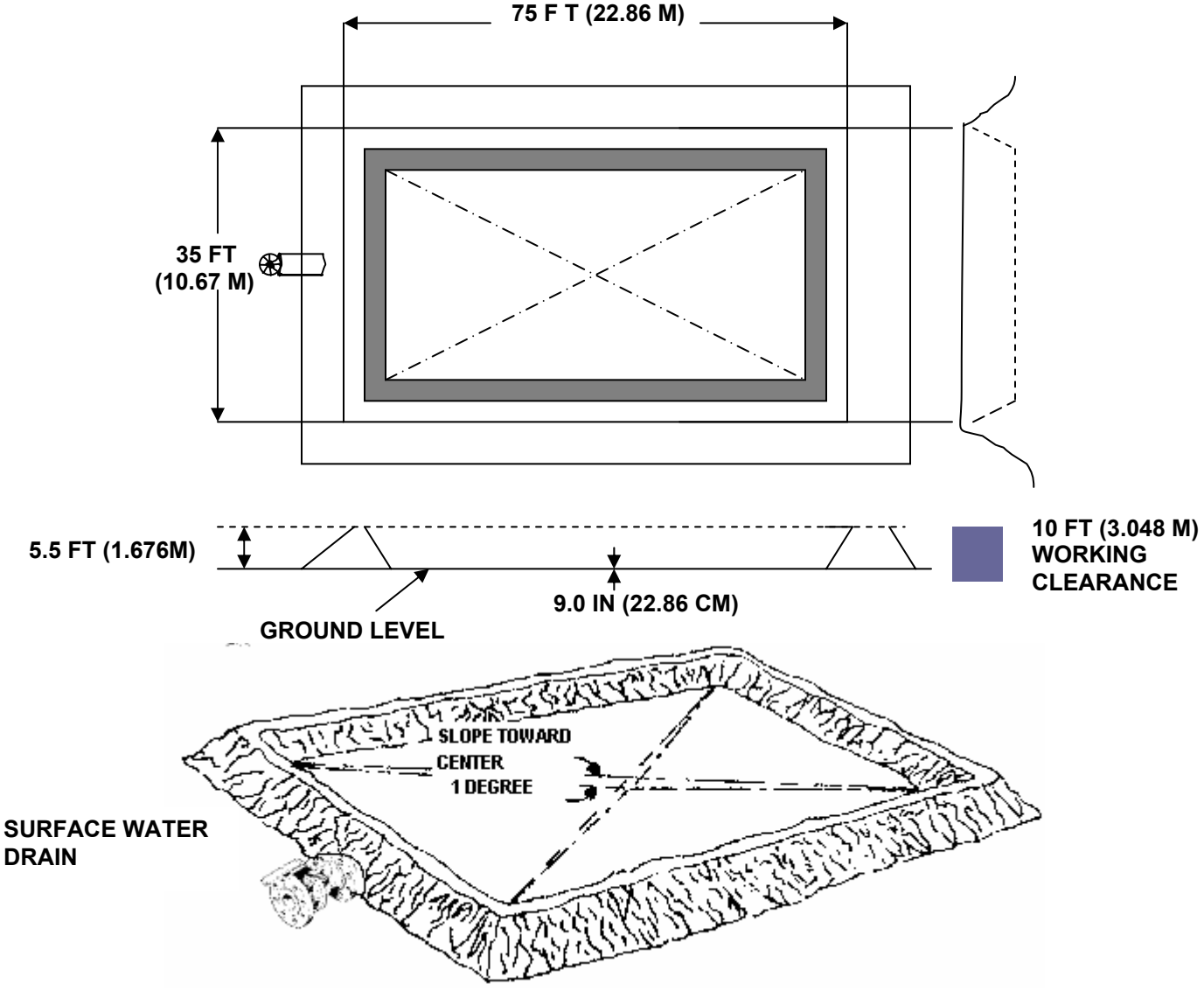
NOTE

The following instructions are for a 25.0-foot by 65.0-foot (7.7.62-meter by 19.81-meter) ± 6 inches (15.24 cm) tank in flat (empty) dimensions.

1. Clear and level an area so there is at least a 13-foot (3.962-meter) perimeter around the empty flat tank.

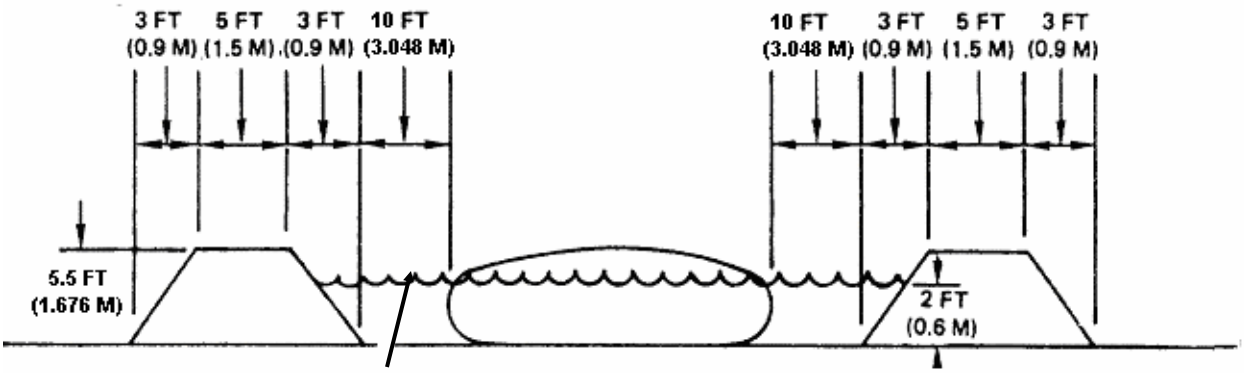
2. Slope all four sides of leveled area in toward the center. The center should be no more than 9.0 inches (22.86 centimeters) below ground level, equal to an approximate slope of 1.0 degree.

3. Erect a 5.5-foot (1.676-meter) high berm around the outside of the sloped area. Protect berm walls against erosion with sod or stone.



Berm Construction, 50,000-Gallon (189,300-Liter) Tank

BERM CROSS-SECTION



NOTE: When a single berm is used to contain more than one tank, maintain a 10-foot (3.048-meter) space between tanks.

Typical Berm Cross-Section of Liquid Level in Relation to the Position of the Collapsible Fabric Fuel Tank.

Unpacking the Equipment

1. Position the packaged tank (1) on an approved site near the point of installation.

CAUTION

Unfold the collapsible fabric tanks with care. Coated surfaces may stick together, and use of excessive force may pull the coating from the tank fabric. A light application of petroleum jelly will prevent recurrence.

Remove all protruding nails and other objects before attempting to remove the tank from the container. This is necessary to avoid puncturing the tank.

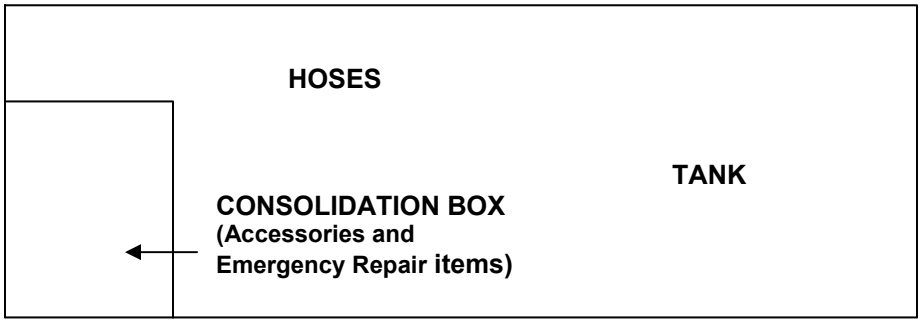
2. Know the contents of the shipping container by reviewing the Hand Receipt.

NOTE

Items inside the wooden crate are listed sequentially from the top of the crate to the bottom of the crate.

ITEM	QUANTITY
Hoses	Three (3) each
Tank, with lifting straps	One (1) each
Consolidation box containing accessories and Emergency Repair items.	One (1) each

3. Carefully open the shipping container (2) by removing bolts from the container lid (3). Remove lid (3), drain fitting hoses (4), and filler/discharge hose (5) from around tank (1).



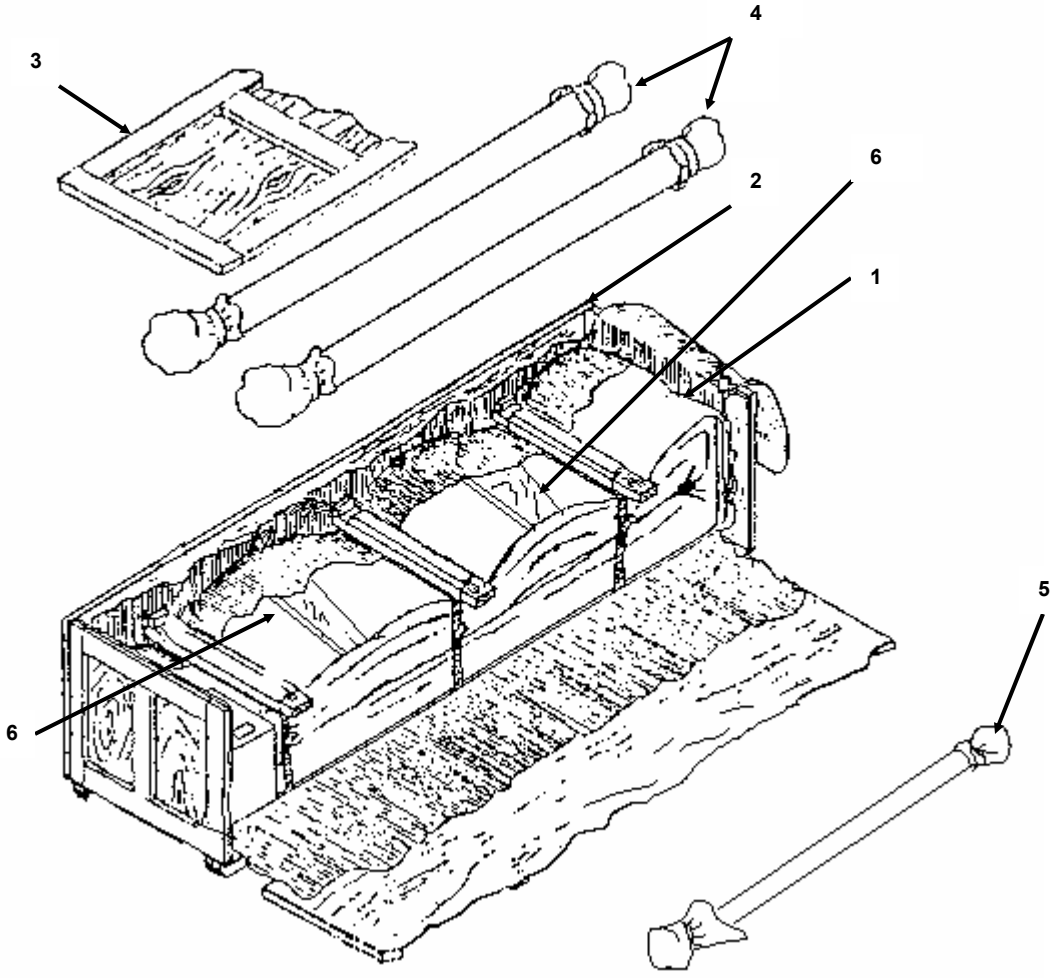
Typical Shipping Container

NOTE

If a tank is being replaced, package the unserviceable tank in the empty container in the same manner that the new tank was packaged.

The tank-lifting device must have a minimum lifting capacity of 2000 lb. (908 kg).

4. Locate the lifting straps (6) around tank (1). Carefully insert a lifting bar (2000-lb./908-kg. capacity) through the loops of lifting straps (6).



Unpacking Instructions for the 3,000 Gallon, 10,000 Gallon, 20,000 Gallon, and 50,000 Gallon Collapsible Fabric Fuel Tanks. Typical view.

5. Transport tank (1) to the center of the desired installation site. Position long side of tank (1) parallel with long side of the installation site.

6. Unfold one-half of tank (1) along the length of the installation site, and unfold the other half of tank (1) in the opposite direction along the length of the installation site.

NOTE

Repair items (sealing clamps, plugs, gaskets, and preformed packing) are packaged in another box and should be placed in a secure storage area until needed.

7. Grasp the handles located along the length of tank (1), and pull the folded sides of tank (1) toward the sides of the installation site.

8. Smooth out all creases and wrinkles in tank (1) fabric.

9. Remove 4-inch filler/discharge valve, 2-inch drain ball valves, and vent assembly from the cushioning bags. Remove cushioning bags from the ends of all hoses. Save all cushioning bags and packing material for reuse when tank is put back into storage.

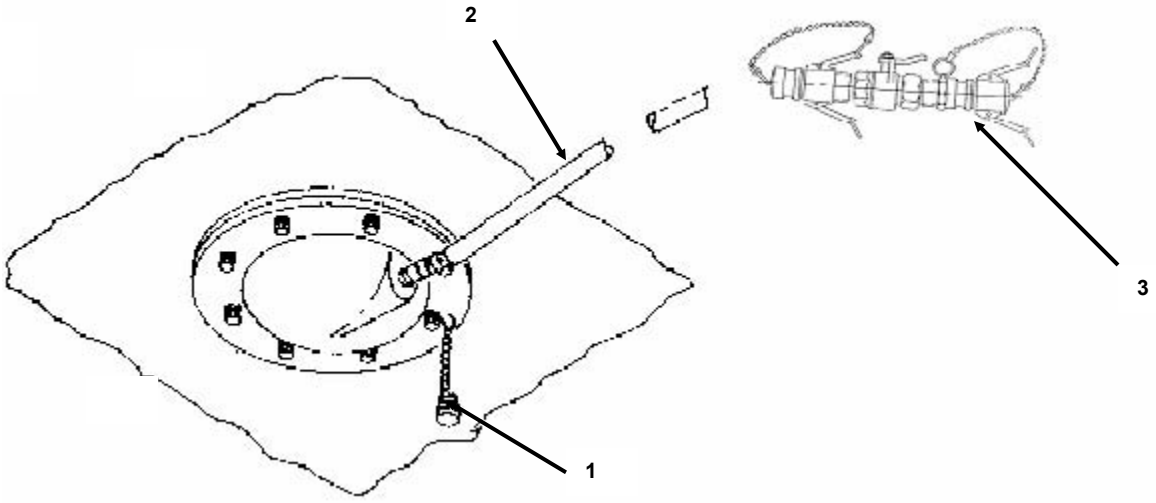
Removal of Drain Assembly Plug and Installation of Drain Hose Assembly

WARNING

When filling the tank with fuel, verify that the drain ball valve handle is rotated fully to the right (closed position), before fuel is introduced into the tank. Unobserved drainage of fuel can result in an explosion or fire. Failure to comply with this warning can cause death or severe personal injury.

1. Fold the tank to expose drain plug (1).

2. Remove drain plug (1).



3. Apply anti-seize tape (Item 1, WP 0042 00) to the threaded end of drain hose (2).

4. Install drain hose (2).

WARNING

Check that the drain ball valve has been rotated clockwise to the closed position before proceeding. Failure to close the valve handle can cause loss of fuel and possible fire or explosion.

5 Move cam-lever arm on the ball valve (3) to the outward position. Install ball valve (3) onto end of drain hose (2). Push cam-lever arms down to lock ball valve (3) in place on hose (2).

6. Return the tank end to the flat position, laying drain hose (2) and ball valve (3) to the outside of tank.

7. Repeat steps 1 through 6 to install other drain hose and ball valve.

Installation of Vent Pipe Assembly

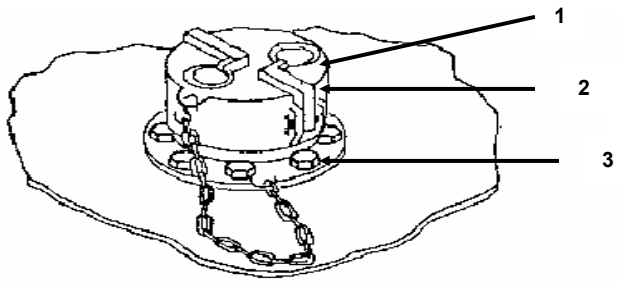
CAUTION

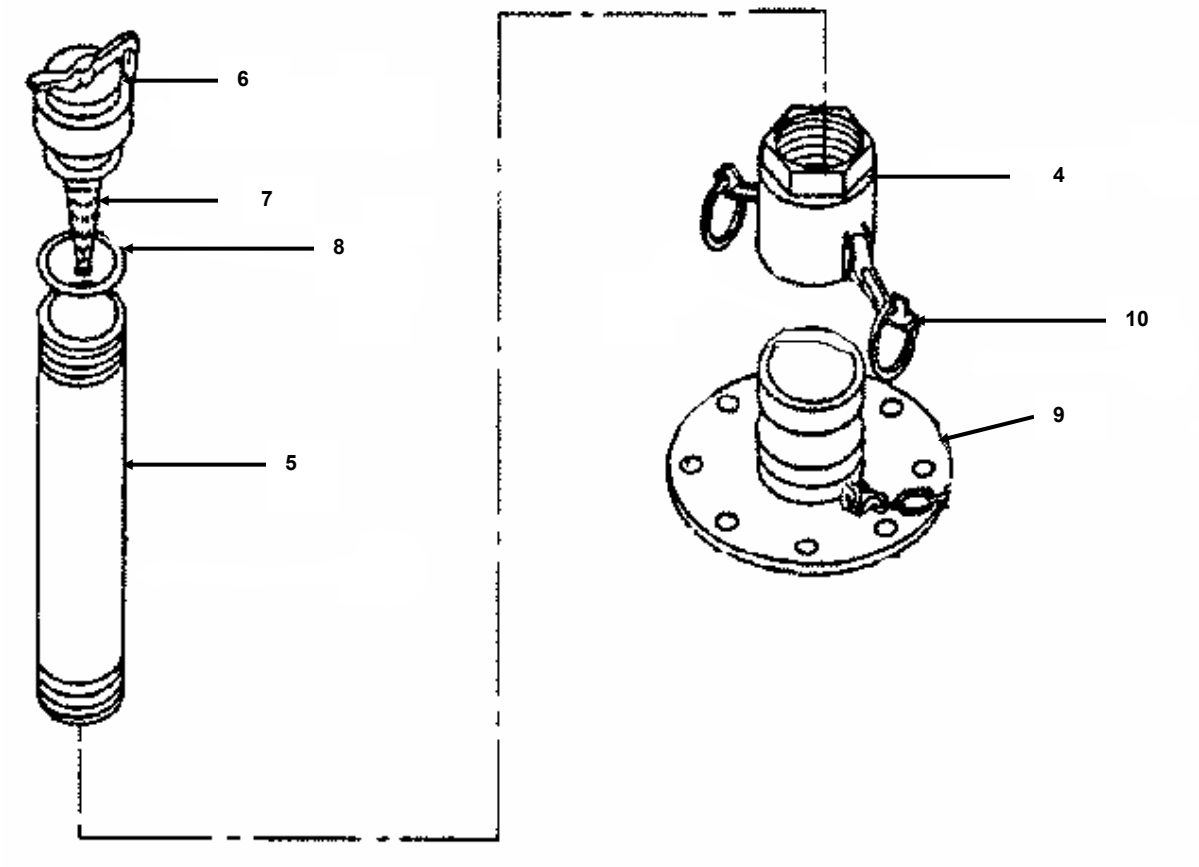
Prior to installing the fuel tanks, check all coupling gaskets and sealing surfaces to ensure they are in place and serviceable.

NOTE

Dust cap is chain-attached to prevent loss.

1. Remove dust cap (1) by pulling cam-lever arms (2) outward, and lifting up on dust cap (1).



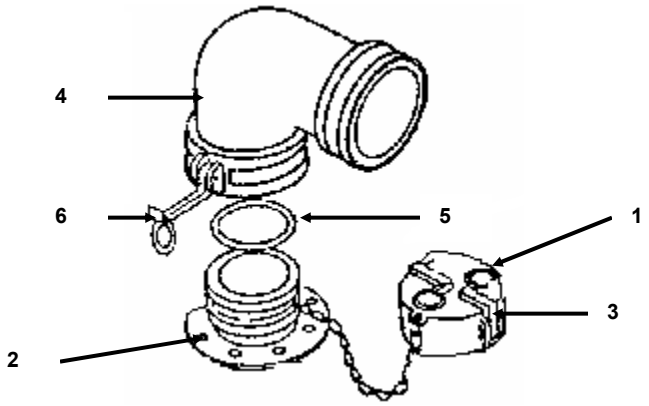


NOTE

Normally the vent pipe and female coupling half will be received pre-assembled.

2. Inspect female coupling half (4) and vent pipe (5) for cleanliness.
3. Check to see that relief cap (6) operates freely.
4. Check that flame arrestor (7) is installed.
5. Check that relief cap (6) is installed tightly on vent pipe (5).
6. Check that gasket (8) is in place and correctly seated.
7. Insert female coupling half (4) over flanged adapter (9), with cam-lever arms (10) in the outward position.
8. Press cam-lever arms (10) upward, and inward, to lock vent pipe (5) into operating position.

Installation of Filler/Discharge Elbow Assembly



NOTE

The dust cap is attached to the flanged adapter to prevent it from being lost. The filler/discharge elbow on the discharge end requires a female/male elbow; whereas, the filler/discharge elbow used on the intake end requires a female/female elbow.

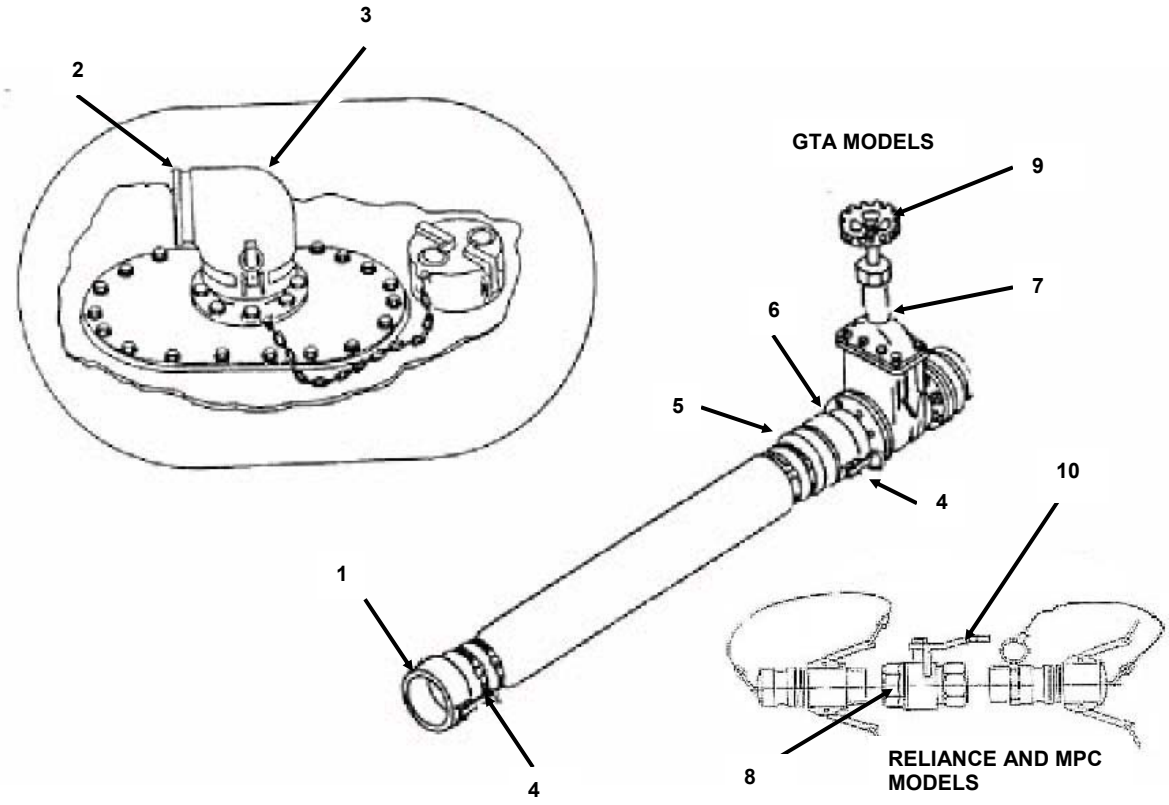
1. Remove dust cap (1) from flanged adapter (2) by pulling cam-lever arms (3) outward and lifting up on dust cap (1).
2. Inspect elbow (4) for cleanliness.
3. Check that gasket (5) is in place and is properly seated.
4. Position the female end of elbow (4) over flanged adapter (2) with cam-lever arms (6) in the outward position.
5. Rotate elbow (4) so that the open end points to nearest end of the tank.

NOTE

Cam-lever arms must be pushed inward to lock and pulled outward to unlock the elbow.

6. Lift cam-lever arms (6) and lock elbow (4) in place.
7. Install dust cap (1) on the open end of elbow (4) and lock in place.

Installation of Filler/Discharge Hose Assembly and Filler/Discharge Valve Assembly



NOTE

The filler and discharge hose assembly is fitted with a quick-disconnect female coupling on one end and a quick-disconnect male adapter on the other end.

1. Place female coupling (1) on male adapter (2) end of filler/discharge elbow (3).
2. Push coupling cam-lever arms (4) into position to lock the hose assembly in place.
3. Place male adapter (5) end of the hose into female coupling (6) of the gate valve (7).
4. Push coupling cam-lever arms (4) into position to lock the hose assembly in place.
5. Gate valve (7) is fully opened by rotating hand-wheel (9) to the left, and backing off one-quarter turn.
6. Gate valve (7) is fully closed by rotating hand-wheel (9) to the right and backing off one-quarter turn. Note the difference in exposure of the handle stem between the closed and open positions.
7. Ball valve (8) is fully opened by rotating handle (10) until handle (10) is parallel to the valve body.
8. Ball valve (8) is fully closed by rotating handle (10) until handle (10) is perpendicular to the valve body.

INITIAL ADJUSTMENTS AND ROUTINE CHECKS

NOTE

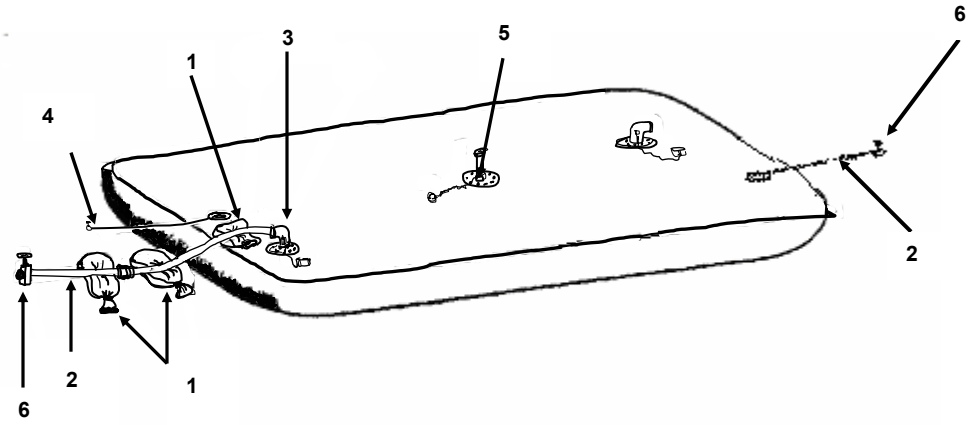
If the tank is cut or punctured during any phase of operation, refer to WP 0006 00 for emergency repair procedures.

1. Position filled sandbag (1) under hose (2) near filler/discharge elbow (3). This support will reduce stress on the tank fitting, the gasket in the hose coupling, and the coupling of filler/discharge elbow (3).

WARNING

Check the placement of sandbags to see potential leak points in order to avoid fire hazard. Not checking the positions of sandbags can cause serious injury or death by fire or explosion.

2. Position other sandbags (1) or wood blocks on the ground near the hose connections so that a faulty or leaking connection is easier to see, and a fire hazard can be avoided.
3. Inspect the tank to verify the elevated connection setup for easy leak detection.
4. Check drain ball valve (4) to verify that it is in the closed position.
5. Check the vent pipe assembly relief cap (5) to verify freedom of operation.
6. Check the filler/discharge gate or ball valve (6) to verify closed position.



Elevated Connections for Easy Leak Detection

OPERATING PROCEDURES (Filling the Tank)

WARNING

Over-aged tanks can become weakened and rupture, thereby spilling flammable fuel on the ground. Care must be taken to ensure that over-aged tanks are not left in operation. Failure to heed this warning can cause injury or death to personnel.

CAUTION

Persons operating the fuel tank must periodically check the dates on the data plates to verify that the tank is safe for use. Each tank has a one-year service life beginning on the date when it is first filled. Shelf storage life is five years from the date of manufacture. Users must initiate action to replace over-aged tanks. Failure to heed this caution can cause tank rupture.

1. After performing adjustments and routine checks, attach the fuel source to the filler/discharge gate or ball valve.
2. Activate the fuel source.
3. Open the gate or ball valve.

CAUTION

Do not exceed maximum fill capacity. The fuel tank will burst if it is overfilled, causing damage to the equipment.

4. Close the gate or ball valve when the tank is full.
5. Deactivate the fuel source.
6. Disconnect the fuel source from the gate or ball valve.

Draining the Tank

NOTE

Use the female/male discharge elbow for this operation.

1. Inspect the tank to verify that the tank is set up correctly.
2. Attach an emptying source to the gate or ball valve.
3. Open the gate or ball valve.
4. Activate the emptying source.
5. Close the gate or ball valve when the tank is empty by rotating the handle clockwise.
6. Deactivate the emptying source.
7. Disconnect the emptying source from the ball valve.
8. Disconnect the filler/discharge hose from the elbow.
9. Squeeze excess fuel from the tank by rolling the ends of the tank towards the drain fitting.

10. Open the drain fitting ball valve to allow the remaining fuel to drain from the tank.

WARNING

Sludge that accumulates in the bottom of the fuel tank gives off toxic and explosive vapors. Inhaling these vapors can cause lead poisoning. When cleaning tanks, provide ample ventilation to carry off harmful fumes.

11. Clean the tank of residual sludge that accumulates at the bottom of the storage tank and dispose of the sludge in compliance with EPA and local regulations.

PREPARATION FOR MOVEMENT

CAUTION

Always handle the tank carefully. Components stored with the tank should be padded to avoid chafing during movement. Rough handling of the tank or components will result in damage.

1. Drain all fuel from the tank.
2. Dry out the tank by purging it with air pressure. Use a maximum line pressure of 50 pounds per square inch (3.40 atmospheres).
    a. Insert the air hose through the filler/discharge adapter, placing rags (Item 2, WP 0042 00) around the air hose at the fitting to prevent air from escaping.
    b. Apply compressed air into the tank until the tank expands to 3 feet (0.914 meters) in height.
    c. Remove the dust cap from the vent fitting to allow air to vent from the tank for 30 minutes.
    d. Deactivate the compressed air source and remove the air hose and rags.
3. Remove the drain hose assembly from the drain fitting and install the drain plug.
4. Remove the filler/discharge elbows from the filler/discharge adapters.
5. Install the dust caps, pushing in on the cam-lever arms to lock the dust caps in place.
6. Remove the vent pipe assembly from the flanged adapter and install the dust cap, pushing in on the cam-lever arms to lock the dust caps in place.
7. Brush off any stones or debris clinging to the tank.

PACKING AND FOLDING INSTRUCTIONS FOR GTA AND RELIANCE MODEL TANKS

1. Empty the tank completely:

    a. Lay the tank flat.

    b. Lift up one of the corners of the tank with a drain decal and flip over to expose drain fitting. There are two drain decals.

    c. Disconnect drain hose and install drain plug.

    d. Lay corner back so that tank is flat. Pick up the other corner of tank with a drain decal to uncover second drain fitting. Repeat step 1c.

2. Remove vent fitting assembly:

    a. Locate vent fitting assembly in center top of tank.

    b. Remove upper portion of vent assembly by releasing quick-disconnect.

    c. Wrap upper portion with cushioning material and secure with tape.

    d. Secure dust cap on vent fitting assembly.

    e. Apply cushioning material to vent fitting, and secure with pressure sensitive tape (Item 3, WP 0042 00).

3. Remove air from inside tank and remove filler/discharge assembly elbows:

    a. Locate filler/discharge assemblies located on top of tank.

    b. Remove upper portion (4-inch 90° elbow) of each filler/discharge assembly by releasing quick-disconnect.

    c. Wrap upper portion with cushioning material, secure with pressure sensitive tape (Item 3, WP 0042 00). Set aside.

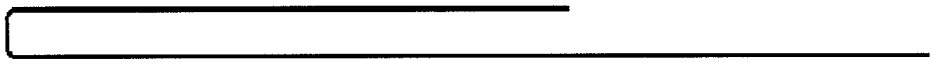
    d. Secure dust cap on one of the filler/discharge assemblies.

    e. Wrap permanently attached cushioning material around filler/discharge fitting and secure in place with pressure sensitive tape (Item 3, WP 0042 00).

    f. Repeat steps 3b through 3e for other filler/discharge assembly.

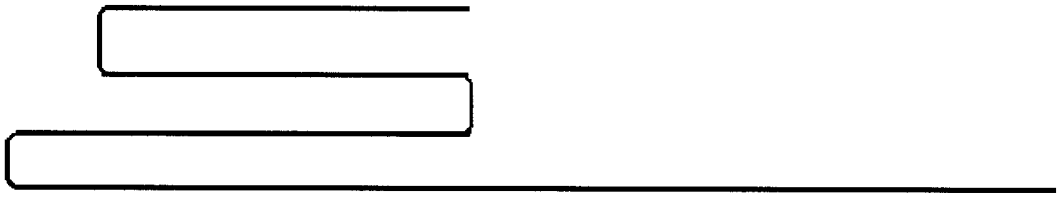
4. Tank is now ready for folding. Stand facing the long side of the tank, with a filler discharge fitting to your left. Tank is folded wig-wag, as follows:

5. 1st Fold: Start with the left edge of the tank. Lift up the long side of the tank closest to you, and fold towards center of tank until filler discharge fitting turns over and 3rd seam on bottom of tank is exposed.



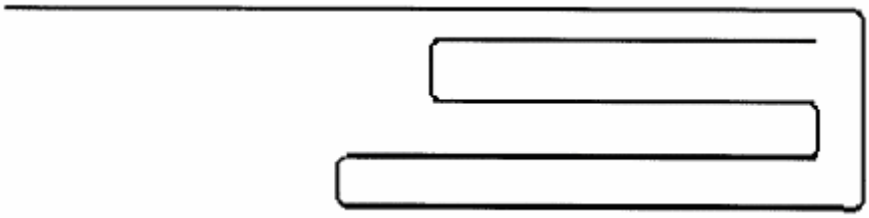
   a. 2nd Fold: Lifting the same long side edge as in the 1st Fold, fold back over the outside edge until the 2nd seam on bottom of tank is exposed.

   b. 3rd Fold: Lifting the same long side edge as in Folds #1 and #2, fold back towards center of the tank.

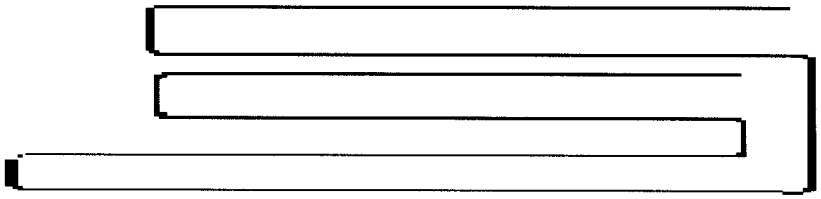


   c. Go to the right side of the tank.

   d. 1st Fold: Lift right side long edge of tank and fold over the folds made in folds #1 through #3 fold.



e. 2nd Fold: Lift up same edge as in Fold #4, and fold back over previous folds. Handles should be facing upward along top edge of fold. (Pulling on these handles will open up the tank, due to the wig-wag method of folding.)

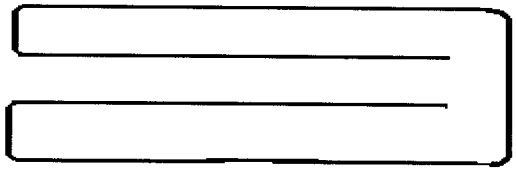


f. (For 3K and 10K Tanks only) Go to the upper edge of the tank. The tank is now folded into a long narrow rectangle approximately 45 inches (114.3 cm) wide. Standing at the upper edge of the tank, there will be a drain fitting on your left and handles on your right.

g. (For 20K and 50K Tank only) Go to the upper edge of the tank. The tank is now folded into a long narrow rectangle approximately 5 feet, 6 inches (1.676 m) wide by 65 feet, 6 inches (19.96 m) long. Standing at the upper edge of the tank, there will be a drain fitting on your left and handles on your right.

h. (All tanks) 1st Fold: Pick up the end edge of the tank and fold it over to just before the fitting chafing patches, such that the fold measures approximately 4 feet, 3 inches (1.295 m).

i. (3K Tank only) 2nd Fold: Fold the entire lower edge of the package up and on top of the upper edge of the package. Go to Step 6.



j. (For 10K, 20K and 50K Tanks) 2nd Fold: Fold the tank over again, such that the second fold reaches the edge of the 3rd handle and measures 4 feet, 7 inches (1.397 m), approximately.

k. (For 20K and 50K Tanks) 3rd Fold: Fold tank over again, approximately 5 feet (1.524 m).

l. (Steps m – o for 50K Tank only) 4th Fold: Fold tank over again, approximately 5 feet, 1 inch (1.549 m).

m. 5th Fold: Fold tank over again, approximately 5 feet, 2 inches (1.575 m).

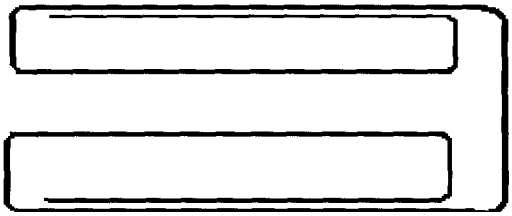
n. 6th Fold: Fold the tank over again, such that the vent fitting is located in the center of the fold. Fold will measure approximately 5 feet, 6 inches (1.676 m). Adjust the folded package so that folds line up and package is stacked straight and upright, not twisting.

o. (Steps p – r for 10K, 20K and 50K Tanks only) Go to the lower edge of tank.

p. 1st Fold: Starting at the lower edge of the tank, fold up to the fitting chafing patch, approximately 3 feet, 10 inches (1.168 m).

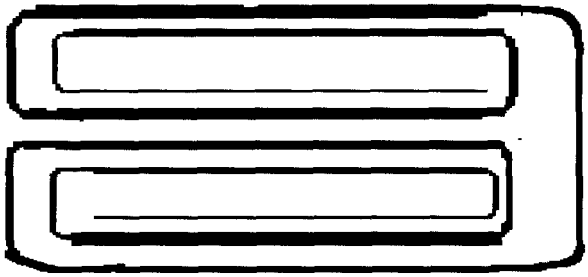
q. 2nd Fold: Fold to edge of 3rd handle, approximately 4 feet, 6 inches (1.372 m).

r. (For 10K Tank only) 3rd Fold: Fold the entire lower edge of the package up and on top of the upper edge of the package. Go to Step 6.



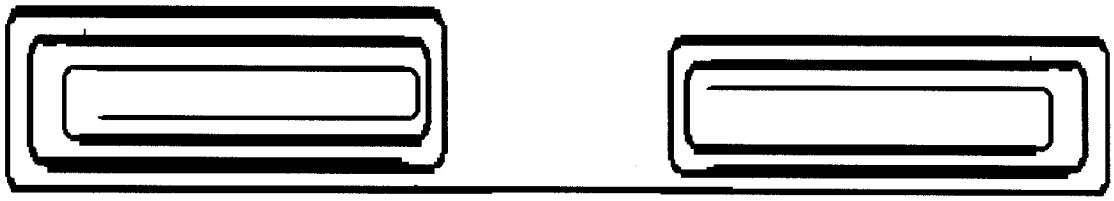
s. (For 20K and 50K Tanks) 3rd Fold: Fold over again, approximately 4 feet, 7 inches (1.397 m).

t. (For 20K Tank only) 4th Fold: Fold the entire lower edge of the package up and on top of the upper edge of the package. Go to Step 6.

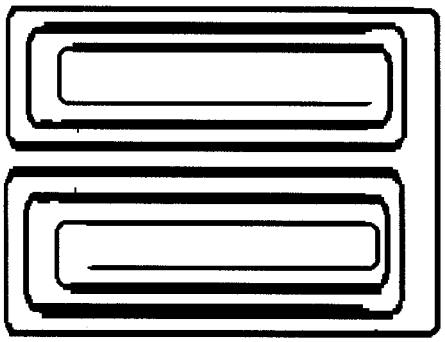


u. (Steps u – w for 50K Tank only) 4th Fold: Fold again, approximately 4 feet, 8 inches (1.422 m).

v. 5th Fold: Fold over again. There should now be an 18-inch (45.72-cm) gap between the folded packages from the upper and lower edges of the tank.



w. 6th Fold: Fold entire lower edge of package up and on top of upper edge of package. Package measures approximately 4 feet, 7 inches (1.397 m) in width, and 5 feet, 4 inches (1.626 m) in length.



6. Slide webbing strips under tank from either side, adjusting until strips are 18 inches (45.72 cm) from the edges of the tank package.

7. Lift tank from the right edge by looping the webbing over lifting device.

8. Lower folded tank package into box from backside of box (markings and address label are on front side). Tank should be situated in box such that it is flush with front edge, leaving a 4-inch (10.16-m) gap in the back (into which hoses will be placed).

Refer to Equipment Data (WP 0002 00) for folded dimensions desired.

PACKING AND FOLDING INSTRUCTIONS: 3K, 10K, 20K and 50K GALLON BERM LINER

1. Lay the berm liner flat. Apply cushioning material to drain fittings:

   a. Lift up one of the corners of the berm liner with a drain decal and flip over to expose drain fitting. There are two drain decals.

   b. Disconnect drain hose and connect dust cap.

   c. Wrap drain fitting with the permanently attached cushioning material and secure with pressure sensitive tape (Item 3, WP 0042 00).

   d. Lay the corner back so that berm liner is flat. Pick up the corner of berm liner with a drain decal to uncover second drain fitting. Repeat steps 2b and 2c.

2. Berm liner is now ready for folding. Orient yourself to the berm liner: Stand facing the long side of the berm liner. Berm liner is folded wig-wag, as follows:

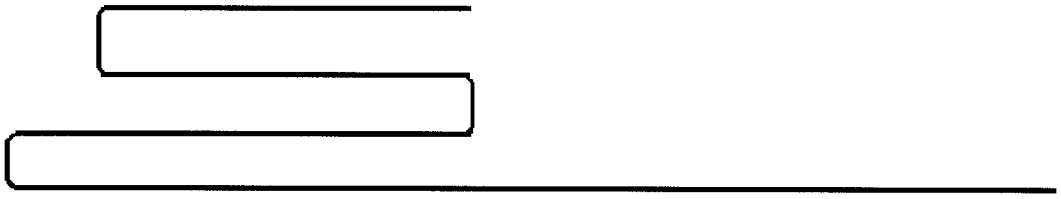
L **R**

3.

   a. 1st Fold: Start with the left edge of the berm liner. Lift up the long side of the berm liner closest to you, and fold 40" from center.

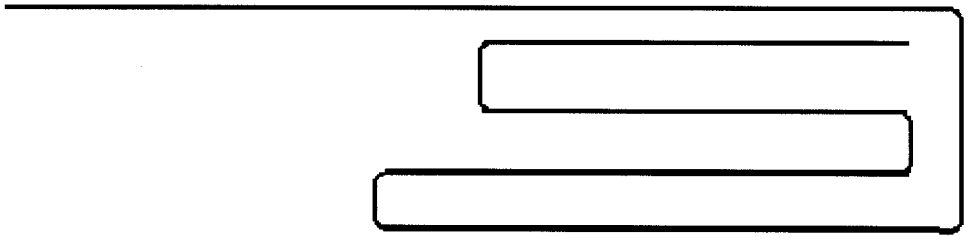
b. 2nd Fold: Lifting the same long side edge as in the 1st Fold, fold back towards outside edge, 40 inches (101.6 cm).

c. 3rd Fold: Lifting the same long side edge as in Folds #1 and #2, fold back towards center of the berm liner, such that top fold 40 inches (101.6 cm).

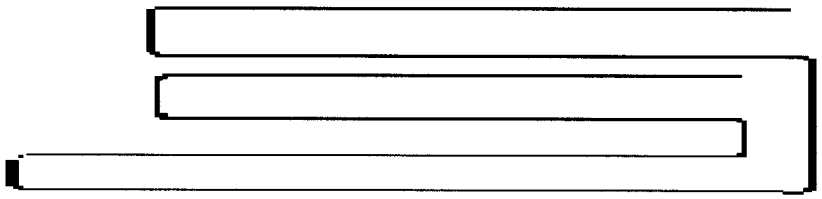


d. Continue folding this way until last fold is 40 inches (101.6 cm) or less.

e. Go to opposite side of berm liner. Lift long edge and fold over existing 40 inches (101.6 cm) folds.



f. Lift up same edge and fold back over previous folds, and continue folding wig-wag, until top of fold measures 40 inches (101.6 cm) to 42 inches (106.7 cm).



g. Berm liner is now folded into a long narrow rectangle. Stand at one end of the long rectangle.

- Rectangle is approximately 42 inches (106.7 cm) wide by 100 ft (30.48 m) long for 50K berm liner
- Rectangle is approximately 42 inches (106.7 cm) wide by 59 ft (17.98 m) long for 20K berm liner.

- Rectangle is approximately 42 inches (106.7 cm) wide by 52.5 ft (15.98 m) long for 10K berm liner.
- Rectangle is approximately 42 inches (106.7 cm) wide by 37 ft (11.28 m) long for 3K berm liner.

h. Pick up the end edge of the berm liner and fold it over such that the fold measures approximately 58 inches (147.3 cm).

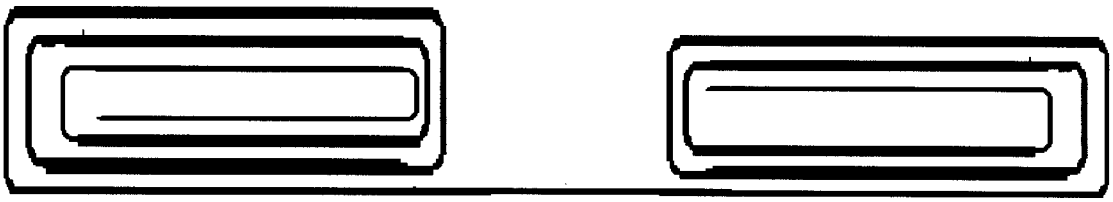
i. Fold the berm liner over again, such that the second fold is slightly bigger.

j. Continue folding until you arrive at the halfway point.

k. Go to the opposite end.

l. Starting at the opposite end of the berm liner, fold approximately 58 inches (147.3 cm).

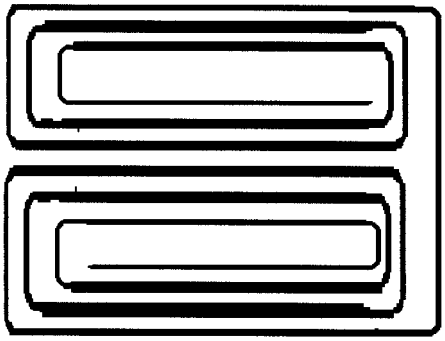
m. Continue folding over and over until this bundle of folds is approximately 18 inches (45.72 cm) from the opposite bundle of folds.



n. Fold the entire smaller bundle up and on top of the opposite end folds.

- Package measures approximately 61 inches (154.9 cm) x 44 inches (111.8 cm) x 19 inches (48.26 cm) for 50K berm liner.

- Package measures approximately 59 inches (149.9 cm) x 44 inches (111.8 cm) x 17 inches (43.18 cm) for 20K berm liner.
- Package measures approximately 59 inches (149.9 cm) x 44 inches (111.8 cm) x 15 inches (38.1 cm) for 10K berm liner.
- Package measures approximately 59 inches (149.9 cm) x 44 inches (111.8 cm) x 11.5 inches (29.21 cm) for 3K berm liner.



4. Webbing: Slide webbing strips under berm liner from either side, adjusting until strips are 18 inches (45.72 cm) from the edges of the berm liner package.
5. Lifting berm liner: Lift berm liner from side edge by looping the webbing over forks of forklift truck.
6. Lower folded berm liner package into box from backside of box (markings and address label are on front side). Berm liner should be situated in box such that it is flush with the front edge.

PACKING AND FOLDING INSTRUCTIONS FOR MPC MODEL TANKS

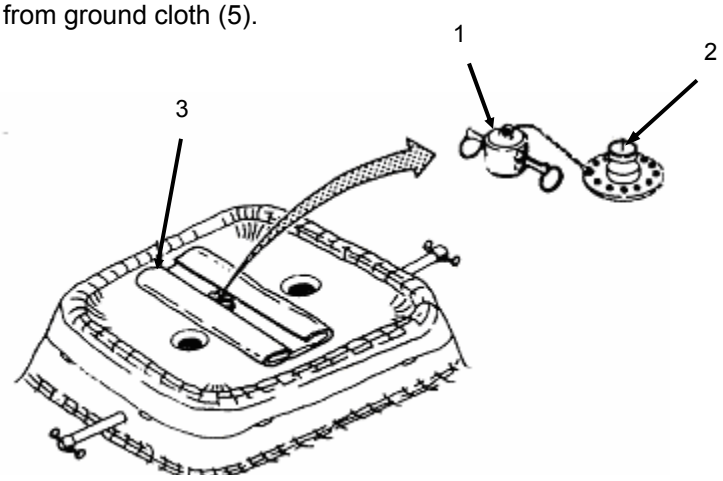
CAUTION

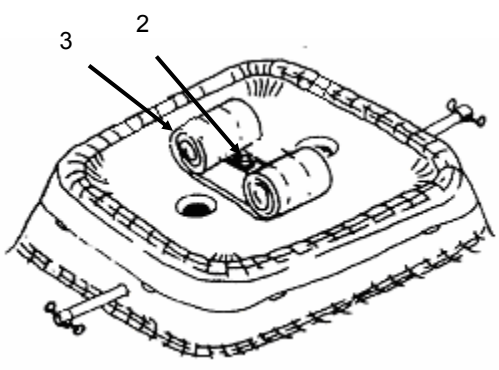
Make sure the tank is completely dry before folding. Water will create mildew, decreasing the life of the tank if it is not completely dry.

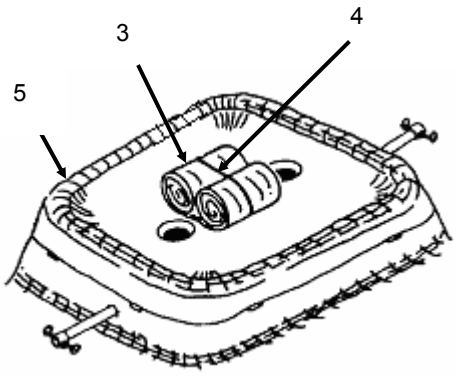
NOTE

Throughout the folding process, be sure to brush off any stones, grass, or other debris that may accumulate on the tank.

1. Remove dust cap (1) from vent fitting (2) on tank (3).
2. Working from sides of tank (3), tightly fold both sides towards center of tank (3) and stop at vent fitting (2). Brush off any stones, dirt, twigs or debris on tank fabric. Tightly fold both sides towards center of tank (3) again.
3. Roll tank (3) ends toward vent fitting (2).
4. Place two web straps (4) around tank (3).
5. Remove rolled tank (3) from ground cloth (5).







END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON OPERATION UNDER UNUSUAL CONDITIONS

OPERATION IN EXTREME HEAT

1. Avoid unnecessary handling of the tank that might cause coating material separation. The coating material becomes increasingly delicate as the temperature rises.

2. If possible, set up protective shade over the tank being careful not to block air circulation.

OPERATION IN EXTREME COLD

1. Avoid any unnecessary handling of the tank.

2. If possible, deploy the tank only when the temperature is above -25°F (-32°C).

CAUTION

In extreme cold, a new fabric tank must be prepared for initial operations. The fabric tank will crack if the seams formed in the material from depot vacuum packing are not stretched out prior to the fabric tank being filled with fuel.

3. Remove the tank from the packing crate and unfold the tank to allow the seams created by the depot vacuum packing to stretch out.

4. If possible, inflate the fabric tank with compressed air to ensure all seams are stretched out.

5. Keep snow and ice from accumulating on the top of the tank, vent, and pipe assembly.

6. Keep snow and ice from accumulating on the couplings to ensure proper assembly and disassembly.

7. Avoid unnecessary folding, unfolding, or rolling of the tank that might cause flaking, cracking, or delaminating of the coating material.

8. Sweep snow from the exterior of tank with a soft-bristled broom or brush.

9. Cover fittings to keep ice from forming on the filler/discharge assemblies.

10. Refold and repack the fabric tank after the seams have been stretched out.

OPERATION IN SANDY OR DUSTY AREAS

1. Cover all hoses and fittings not in use with dust caps to prevent sand or dust from contaminating the fuel.

2. Ensure that filler/discharge fittings are free of sand or dirt prior to filling or drawing fuel from the tank.

3. Keep the tank, vent and pipe assembly, and filler/discharge valve assemblies clear of sand, dust and grime.

4. Wipe all couplings clean before assembly.

OPERATION AT HIGH ALTITUDES

No special procedures are required for operation at high altitudes.

OPERATION IN MUD

Ensure that filler/discharge valves and fittings are clean before filling or drawing fuel from the tank.

OPERATION IN HIGH WINDS

1. Ensure that the tank is secure and protected from flying debris.
2. Keep the tank as full of fuel as possible.

OPERATION IN RAIN

If possible, provide adequate drainage ditches to prevent water from accumulating around the tank.

EMERGENCY REPAIR PROCEDURES

General

Emergency repair is performed when cuts or punctures occur in the tank when in use.

The Emergency Repair Kit is stored in the partition on the inside wall of the tank shipping container.

Emergency Repairs with Wood Plugs

In emergencies, as an immediate temporary measure, wood plugs may be used for sealing small holes or punctures. The size of hole or tear will determine the size of the wood plug to be used.

1. For holes (tears) up to approximately 0.5-inch (1.27 centimeters) in size, use the 3.0-inch (7.62 centimeters) long plug.
2. For holes (tears) up to approximately 1.0-inch (2.54 centimeters) in size, use the 4.50-inch (11.43 centimeters) long plug.
3. For holes (tears) up to approximately 1.5-inch (3.81 centimeters) in size, use the 5.25-inch (13.34 centimeters) long plug.

Select the size of the plug needed to fit (seal) the tank puncture. Wet the plug and insert in the tank puncture. Twist the plug clockwise until the leak is either stopped or slowed. Follow-up regular inspection should be made of the wood plugs, as possible tightening may be necessary if the leaks resume. Later, if a leak is not totally stopped, the use of a small sealing clamp may become necessary.

Installation of Wood Plug

Emergency Repairs with Mechanical Patches

Small slits, tears, or cuts [not to exceed 6-inches (15.24 centimeters) in length] may be repaired with mechanical patches.

The size of the damaged area (opening) needing repair will govern the size of the mechanical patch needed. Select clamp size as follows:

1. For holes (tears) less than 1-inch (2.54 centimeters) in length, use the 2.25-inch (5.7 centimeters) mechanical patch.

2. For holes (tears) 2 to 3 inches (5.08 to 7.62 centimeters) in length, use the 4-inch (10.16 centimeters) mechanical patch.

3. For holes (tears) 4 to 5-inches (10.16 to 12.7 centimeters) in length, use the 6-inch (15.24 centimeters) mechanical patch.

WARNING

It may be necessary to increase the size of the tear in order to insert the bottom plate of the clamp. Be careful when installing a mechanical patch in the tank. Fuel will pour out when a larger slit is made in the tank. Leaking fuel can cause personal injury, fire, explosion, or loss of Government property.

4. Loop cord around wrist (1) to prevent loss of the mechanical patch into tank.

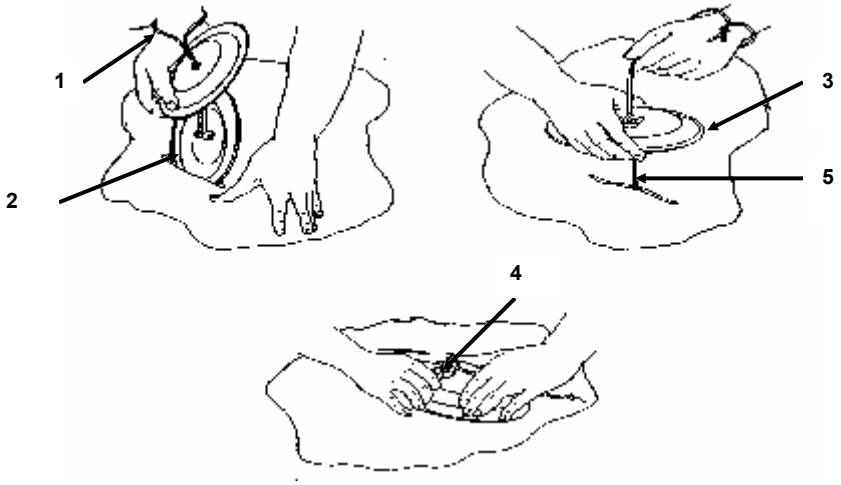
5. Insert the bottom plate (2) of the mechanical patch through the hole or tear and rotate it until it is centered, and its length runs with the tear.

6. Pull the bottom plate up against the fabric, and slide the top plate (3) and wing nut (4) down the cord and onto the threaded stud (5) of the bottom plate.

CAUTION

Do not over tighten the wing nut, as stud threads may be stripped, or damage to the tank fabric may occur.

7. With the plates aligned, tighten the wing nut (4), clamping the tank wall between the two plates. Tighten the wing nut enough to stop the leak.



Installation of Mechanical Patches

INTERIM NUCLEAR, BIOLOGICAL, AND CHEMICAL (NBC) DECONTAMINATION PROCEDURES

NOTE

Detailed decontamination procedures can be found in: FM 3-3, FM 3-4, and FM 3-5.

General

The following emergency procedures can be performed until field NBC decontamination facilities are available.

Emergency Procedures

If an NBC attack is known or suspected, mask at once and continue the mission. Do not unmask until told to do so.

1. Nuclear decontamination: Brush fallout from skin, clothing, and equipment with available brushes, rags, and tree branches. Wash the skin and have radiation check made as soon as the tactical situation permits.

2. Biological decontamination: Remain masked and continue mission until told to unmask.

3. Chemical detection and decontamination.

WARNING

Do not use decontamination spray on personnel. It could cause personal injury.

   a. Use M8 paper from the M256 chemical agent detector kit or M9 paper to determine if liquid agent is present on the surface of the equipment.

   b. If exposure to liquid agent is known or suspected, clean the exposed skin, clothing, and personal gear, in that order, using M258A1 kit. Use the buddy system. Wash exposed skin and thoroughly decontaminate as soon as the tactical situation permits.

   c. If the M8 or M9 paper indicates that a liquid chemical agent is present, rinse the exposed portion of the collapsible tank with a liberal amount of water. When the tactical situation permits, wash the collapsible tank with soapy water and rinse.

   d. Decontamination procedures take time. Do as much as you can based on the tactical situation.

END OF WORK PACKAGE

CHAPTER 3

TROUBLESHOOTING PROCEDURES
TANK, FUEL STORAGE, 3,000 GALLON, 10,000 GALLON
20,000 GALLON, AND 50,000 GALLON

OPERATOR AND UNIT MAINTENANCE
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON
OPERATOR TROUBLESHOOTING PROCEDURES

INTRODUCTION TO OPERATOR TROUBLESHOOTING

This Troubleshooting Procedures chapter lists common malfunctions that may be found during the operation or maintenance of the collapsible fabric fuel tank assembly or its components. Perform the tests/inspections and corrective actions in the order listed in the table.

This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify supervision.

WARNING

To prevent injury, read all warnings in the front of this manual before performing troubleshooting.

TROUBLESHOOTING PROCEDURE

FUEL TANK

SYMPTOM

The tank leaks.

MALFUNCTION

Inspect the tank for punctures or tears.

CORRECTIVE ACTION

Perform emergency repairs. See WP 0006 00.

The tank cannot be repaired.

CORRECTIVE ACTION

Notify Unit Maintenance.

TROUBLESHOOTING PROCEDURE

FILLER/DISCHARGE GATE VALVE ASSEMBLY (GTA MODELS)

SYMPTOM

Female coupling or male flange adapter leak.

MALFUNCTION

Check the female coupling for missing or loose hex-head cap screws, hex nuts, washers, and lockwashers. Check for damaged or missing coupling gasket.

CORRECTIVE ACTION

If hardware is loose or missing, notify Unit Maintenance.

If female coupling gasket is damaged or missing, replace gasket. See WP 0011 00.

Check the flange gasket for damage or leaks.

CORRECTIVE ACTION

If damaged, notify Unit Maintenance.

Check the male flange adapter for missing or loose hex-head cap screws, hex nuts, washers, and lockwashers.

CORRECTIVE ACTION

If damaged or loose hardware, notify Unit Maintenance.

Male flange gasket leaks between gasket and valve.

CORRECTIVE ACTION

If leaking, notify Unit Maintenance.

TROUBLESHOOTING PROCEDURE

FILLER/DISCHARGE BALL VALVE ASSEMBLY (RELIANCE AND MPC MODELS)

SYMPTOM

Ball valve assembly leaks.

MALFUNCTION

Check that the ball valve is closed completely.

CORRECTIVE ACTION

Tightly close the ball valve.

If coupling gasket is damaged or missing, replace gasket. See WP 0012 00.

Check the ball valve for damage or wear.

CORRECTIVE ACTION

If damaged or worn, notify Unit Maintenance.

Check the ball valve for proper alignment.

CORRECTIVE ACTION

Align valve. If still leaking, notify Unit Maintenance.

TROUBLESHOOTING PROCEDURE

TANK DRAIN BALL VALVE

SYMPTOM

Drain ball valve leaks.

MALFUNCTION

Check that the drain ball valve is closed completely.

CORRECTIVE ACTION

Tightly close the drain ball valve.

Check the drain ball valve for damage or wear.

CORRECTIVE ACTION

If damaged or worn, notify Unit Maintenance.

Check the drain ball valve for proper alignment.

CORRECTIVE ACTION

Align valve. If still leaking, notify Unit Maintenance.

TROUBLESHOOTING PROCEDURE

HOSE ASSEMBLY, FILLER/DISCHARGE

SYMPTOM

Hose or couplings leak.

MALFUNCTION

Check for tears and breaks in the hose.

CORRECTIVE ACTION

If hose is damaged or leaking, notify Unit Maintenance.

Check the quick-disconnect coupling gasket for damage or wear.

CORRECTIVE ACTION

Replace the quick-disconnect gasket. See WP 0011 00.

Check the quick-disconnect coupling for dirt, damage, or wear.

CORRECTIVE ACTION

Remove the dirt or debris from inside the quick-disconnect coupling. Replace the hose assembly if the corrective action fails to stop the leakage. Notify Unit Maintenance.

TROUBLESHOOTING PROCEDURE

TANK DRAIN HOSE ASSEMBLY

SYMPTOM

Drain hose assembly leaks.

MALFUNCTION

Check for leaks or breaks in the drain hose.

CORRECTIVE ACTION

If hose is damaged, notify Unit Maintenance.

TROUBLESHOOTING PROCEDURE

VENT FITTING ASSEMBLY

SYMPTOM

Vent and pipe assembly leak.

MALFUNCTION

Check gasket between quick-disconnect coupling and flange adapter.

CORRECTIVE ACTION

Replace coupling gasket. See WP 0013 00.

Vent and pipe assembly continue to leak.

CORRECTIVE ACTION

If still leaking, notify Unit Maintenance.

TROUBLESHOOTING PROCEDURE

RELIEF CAP AND FLAME ARRESTOR

SYMPTOM

Relief cap does not operate freely.

MALFUNCTION

Check the relief cap for leakage, cleanliness, and freedom of action.

CORRECTIVE ACTION

Notify Unit Maintenance if dirty, leaking or cap is binding.

TROUBLESHOOTING PROCEDURE

FILLER DISCHARGE ASSEMBLY

SYMPTOM

Filler/discharge assembly leaks.

MALFUNCTION

Inspect the gasket between the quick-disconnect coupling and flanged adapter.

CORRECTIVE ACTION

Replace the gasket between the quick-disconnect coupling and the flanged adapter. See WP 0014 00.

Filler/discharge assembly continues to leak.

CORRECTIVE ACTION

If still leaking, notify Unit Maintenance.

TROUBLESHOOTING PROCEDURE

TANK DRAIN FITTING ASSEMBLY

SYMPTOM

Drain fitting assembly leaks between the drain fitting and the tank fitting.

MALFUNCTION

Check for missing or loose washers and hex-head cap screws.

CORRECTIVE ACTION

If hardware is missing or loose, notify Unit Maintenance.

Check the preformed packing between the drain cover plate and the tank fitting for nicks, breaks, and compression.

CORRECTIVE ACTION

If damaged, notify Unit Maintenance.

Check the drain cover plate for damage or cracks.

CORRECTIVE ACTION

If damaged, notify Unit Maintenance.

TROUBLESHOOTING PROCEDURE

BERM LINER DRAIN FITTING ASSEMBLY

SYMPTOM

Drain fitting assembly leaks between drain fitting and berm liner.

MALFUNCTION

For GTA Models, check the gaskets between the male disconnect coupling and the berm liner for nicks, breaks, and tears.

For Reliance Models, check the preformed packing between the drain cover plate and the tank fitting for nicks, breaks, and compression.

For MPC Models, check 90º elbow and gaskets for leaks.

CORRECTIVE ACTION

Notify Unit Maintenance if leaking.

TROUBLESHOOTING PROCEDURE

BERM LINER DRAIN VALVE ASSEMBLY

SYMPTOM

Drain ball valve leaks.

MALFUNCTION

Check that the drain ball valve is closed completely.

CORRECTIVE ACTION

Tightly close the drain ball valve.

Check the drain ball valve for damage or wear.

CORRECTIVE ACTION

If damaged or worn, notify Unit Maintenance.

Check the drain ball valve for proper alignment.

CORRECTIVE ACTION

Align valve. If still leaking, notify Unit Maintenance.

TROUBLESHOOTING PROCEDURE

EMERGENCY REPAIR ITEMS AND SPARE PARTS

SYMPTOM

Inspect contents of emergency repair items and spare parts.

MALFUNCTION

Emergency repair items or spare parts are missing from the fuel tank crate.

CORRECTIVE ACTION

Replace missing emergency repair item(s) or spare parts.

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON UNIT TROUBLESHOOTING PROCEDURES

INTRODUCTION TO UNIT TROUBLESHOOTING

This Troubleshooting Procedures chapter lists common malfunctions that may be found during the operation or maintenance of the collapsible fabric fuel tank assembly or its components. Perform the tests/inspections and corrective actions in the order listed in the table.

This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify supervision.

WARNING

To prevent possible injury, read all warnings in the front of this manual before performing troubleshooting.

TROUBLESHOOTING PROCEDURE

FILLER/DISCHARGE GATE VALVE ASSEMBLY (GTA MODELS)

SYMPTOM

Female coupling leaks.

MALFUNCTION

Check the female coupling for missing or loose cap screws, hex nuts, washers, and lockwashers.

CORRECTIVE ACTION

Replace missing screws, nuts, washers, and lockwashers. Torque the fastening hardware to 30 in-lb (3.41 N•m). See WP 0020 00.

Check coupling and flange gaskets for damage or breaks.

CORRECTIVE ACTION

Remove the female coupling and replace the damaged gaskets. Reinstall the female coupling. See WP 0020 00.

SYMPTOM

Male flanged adapter leaks.

MALFUNCTION

Check the male-flanged adapter for missing or loose hex-head cap screws, hex nuts, washers, and lockwashers.

CORRECTIVE ACTION

Replace missing screws, nuts, washers, and lockwashers. Torque the fastening hardware to 30 in-lb (3.41 N•m). See WP 0020 00.

Check the flanged gasket for damage or breaks.

CORRECTIVE ACTION

Remove the flanged adapter and replace the flanged gasket. Reinstall the flanged adapter. See WP 0020 00.

SYMPTOM

Gate valve leaks.

MALFUNCTION

Check for loose or missing hex head cap screws and lockwashers on the bonnet.

CORRECTIVE ACTION

Replace missing hex head screws and lockwashers. Torque the fastening hardware to 30 in-lb (3.41 N•m). See WP 0020 00.

Check for damaged or distorted bonnet gasket.

CORRECTIVE ACTION

Replace the bonnet gasket. See WP 0020 00.

Check for bent or distorted valve stem.

CORRECTIVE ACTION

Replace the valve stem. Torque hex head cap screws, new lockwashers, and hex nuts assembled to the valve body to 30 in-lb (3.41 N•m). See WP 0020 00.

TROUBLESHOOTING PROCEDURE

FILLER/DISCHARGE BALL VALVE ASSEMBLY (RELIANCE AND MPC MODELS)

SYMPTOM

Female quick-disconnect coupling leaks.

MALFUNCTION

Check the coupling for cracks or bent or missing cam-locking arms.

CORRECTIVE ACTION

Replace female coupling if cam-locking arms are damaged or missing. See WP 0021 00.

Check coupling for damaged or missing gasket.

CORRECTIVE ACTION

Replace the damaged or missing gasket. See WP 0021 00.

SYMPTOM

Male quick-disconnect coupling leaks.

MALFUNCTION

Check the coupling for cracks, wear, or dents.

CORRECTIVE ACTION

Replace coupling if damaged. See WP 0021 00.

SYMPTOM

Ball valve leaks.

MALFUNCTION

Check ball valve for cracks in housing and signs of leakage around handle area.

CORRECTIVE ACTION

Replace ball valve if damaged or handle area is leaking. See WP 0021 00.

TROUBLESHOOTING PROCEDURE

HOSE ASSEMBLY, FILLER/DISCHARGE

SYMPTOM

Hose couplings leak.

MALFUNCTION

Check for tears and leaks in the hose.

CORRECTIVE ACTION

If hose is damaged, see WP 0022 00.

TROUBLESHOOTING PROCEDURE

TANK OR BERM LINER DRAIN BALL VALVE

SYMPTOM

Drain ball valve leaks.

MALFUNCTION

Check the drain ball valve for damage or wear.

CORRECTIVE ACTION

Service, replace, or repair the drain ball valve. See WP 0023 00.

TROUBLESHOOTING PROCEDURE

TANK DRAIN HOSE ASSEMBLY

SYMPTOM

Drain hose assembly does not drain properly.

MALFUNCTION

Check for dirt, grime, cracks or wear.

CORRECTIVE ACTION

Service the drain hose. See WP 0024 00.

TROUBLESHOOTING PROCEDURE

VENT FITTING ASSEMBLY

SYMPTOM

Pipe assembly leaks.

MALFUNCTION

Check the pipe gasket for cracks, distortion or wear.

CORRECTIVE ACTION

Service, repair, or replace the pipe assembly gasket. See WP 0025 00 (GTA Model) or WP 0026 00 (Reliance and MPC Models).

Pipe is cracked, bent, or damaged.

CORRECTIVE ACTION

Replace the pipe. See WP 0025 00 (GTA Model) or WP 0026 00 (Reliance and MPC Models).

Check the gasket between the quick disconnect coupling the flanged adapter.

CORRECTIVE ACTION

Replace the gasket.

Check the vent pipe for cracks or damage.

CORRECTIVE ACTION

Replace the cracked or broken vent pipe. See WP 0025 00 (GTA Model) or WP 0026 00 (Reliance and MPC Models).

Check for cracked or broken flange adapter.

CORRECTIVE ACTION

Replace the cracked or damaged flange adapter. See WP 0025 00 (GTA Model) or WP 0026 00 (Reliance and MPC Models).

Check for loose or missing cap screws and washers.

CORRECTIVE ACTION

Replace the missing screws and washers. Torque the fastening hardware to 15 or 16.0 ft-lb (20.34 or 21.70 N•m). See WP 0025 00 (GTA Model) or WP 0026 00 (Reliance and MPC Models).

TROUBLESHOOTING PROCEDURE

RELIEF CAP AND FLAME ARRESTOR

SYMPTOM

Relief cap remains open.

MALFUNCTION

Check the relief cap for a broken or bent pivot pin.

CORRECTIVE ACTION

Replace the relief cap. WP 0025 00 (GTA Model) or WP 0026 00 (Reliance and MPC Models).

Relief cap leaks.

CORRECTIVE ACTION

Replace the relief cap gasket. See WP 0025 00 (GTA Model) or WP 0026 00 (Reliance and MPC Models).

SYMPTOM

Flame arrestor does not work properly.

MALFUNCTION

Check the flame arrestor for cracks, breaks, or wear.

CORRECTIVE ACTION

Service, repair, or replace the flame arrestor. See WP 0025 00 (GTA Model) or WP 0026 00 (Reliance and MPC Models).

TROUBLESHOOTING PROCEDURE

FILLER/DISCHARGE ASSEMBLY

SYMPTOM

Filler/discharge assembly leaks between the closure plate and the tank fitting.

MALFUNCTION

Check for missing or loose washers and hex-head cap screws.

CORRECTIVE ACTION

Replace missing washer and screws. Torque the screws to 15 or 16.0 ft-lb (20.34 or 21.70 N•m). See WP 0027 00 (GTA Model) or WP 0028 00 (Reliance and MPC Models).

Check the preformed packing between the closure plate and the tank fitting for nicks, breaks, and compression.

CORRECTIVE ACTION

Replace the preformed packing. See WP 0027 00 (GTA Model) or WP 0028 00 (Reliance and MPC Models).

SYMPTOM

Filler/discharge assembly leaks between the closure plate and flanged adapter.

MALFUNCTION

Check for missing or loose nuts, lockwashers, thread seal washers, and hex head cap screws.

CORRECTIVE ACTION

Replace missing nuts, lockwashers, thread seal washers, and hex-head cap screws. Torque the fastening hardware to 15 or 16.0 ft-lb (20.34 or 21.70 N•m). See WP 0027 00 (GTA Model) or WP 0028 00 (Reliance and MPC Models).

Check the flange gasket for damage or wear.

CORRECTIVE ACTION

Remove the flange adapter from the closure plate and replace the damaged flange gasket. See WP 0027 00 (GTA Model) or WP 0028 00 (Reliance and MPC Models).

SYMPTOM

Filler/discharge assembly leaks through hardware or will not assemble.

MALFUNCTION

Check all filler/discharge fastening hardware for cracks, damage, and wear.

CORRECTIVE ACTION

Replace the fastening hardware as required. Torque fastening hardware to 15 or 16 ft-lb (20.34 or 21.70 N•m). See WP 0027 00 (GTA Model) or WP 0028 00 (Reliance and MPC Models).

SYMPTOM

Filler/discharge assembly elbows leak.

MALFUNCTION

Check elbows for cracks, dents, or wear. Check for damaged or missing elbow gaskets.

CORRECTIVE ACTION

Replace damaged elbows and gaskets. See WP 0027 00 (GTA Model) or WP 0028 00 (Reliance and MPC Models).

TROUBLESHOOTING PROCEDURE

TANK DRAIN FITTING ASSEMBLY

SYMPTOM

Drain fitting assembly leaks between drain fitting and tank.

MALFUNCTION

Check for missing or loose washers and hex head cap screws.

CORRECTIVE ACTION

Replace missing screws or washers. Torque the fastening hardware to 15 or 16 ft-lb (20.34 or 21.70 N•m). See WP 0029 00.

Check the preformed packing between the drain cover plate and the tank fitting for nicks, breaks, and compression.

CORRECTIVE ACTION

Replace the preformed packing. See WP 0029 00.

SYMPTOM

Drain fitting leaks through metal.

MALFUNCTION

Check the drain cover plate for damage or cracks.

CORRECTIVE ACTION

Replace the drain cover plate. See WP 0029 00.

TROUBLESHOOTING PROCEDURE

BERM LINER DRAIN FITTING ASSEMBLY

SYMPTOM

Drain fitting assembly leaks between drain fitting and berm liner.

MALFUNCTION

Check for missing or loose washers and hex head cap screws.

CORRECTIVE ACTION

Replace missing screws or washers. Torque the fastening hardware to 15 or 16 ft-lb (20.34 or 21.70 N•m). See WP 0033 00 for GTA Models, check the gaskets between the male disconnect coupling and the berm liner for nicks, breaks, and tears. See WP 0032 00 for Reliance Models, check the preformed packing between the drain cover plate and the tank fitting for nicks, breaks, and compression. For MPC Models, check the 90º elbow fitting for nicks, breaks, and compression.

CORRECTIVE ACTION

Replace the gaskets or o-ring. See WP 0032 00 (Reliance Model) or WP 0033 00 (GTA Model).

Replace the 90º elbow, gaskets, or o-ring. See WP 0033 01 (MPC Model).

TROUBLESHOOTING PROCEDURE

BERM LINER DRAIN HOSE ASSEMBLY

SYMPTOM

Drain hose assembly does not drain properly.

MALFUNCTION

Check for dirt, grime, cracks or wear.

CORRECTIVE ACTION

Service the drain hose. See WP 0031 00.

END OF WORK PACKAGE

CHAPTER 4

OPERATOR MAINTENANCE INSTRUCTIONS FOR TANK, FUEL STORAGE, 3,000 GALLON, 10,000 GALLON 20,000 GALLON, AND 50,000 GALLON

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON OPERATOR PMCS PROCEDURES

INTRODUCTION

General

Preventive Maintenance Checks and Services (PMCS) are performed to keep the collapsible fabric fuel tank assembly in operating condition. The checks are used to find, correct, or report problems. Be sure to perform PMCS each time the tank assembly is serviced. Using the PMCS table, always do PMCS in the same order, so it gets to be a habit. With practice, problems can be easily detected. Pay attention to WARNING and CAUTION statements. A WARNING means someone could be hurt. A CAUTION means equipment could be damaged.

Before using the tank assembly, do “Before” PMCS.

During use, do “During” PMCS.

After the tank assembly is used, do “After” PMCS.

Do “Semi-annual” PMCS once every six months.

If something is found to be wrong when performing PMCS, fix it if possible, using troubleshooting procedures and/or maintenance procedures.

Use DA Form 2404 (Equipment Inspection and Maintenance Worksheet) to record any faults discovered before, during, or after operation, unless the faults can be fixed. It is not required to record faults that you can fix. For further information about how to use this form, see DA PAM 738-750.

If tools required to perform PMCS are not listed in Table 2, WP 0036 00, the Maintenance Allocation Chart, notify Unit Maintenance.

PMCS Procedures

Your Preventive Maintenance Checks and Services, Table 1, lists the inspections and care required to keep the fuel tank assembly in good operating condition.

The “Interval” column of Table 1 tells you when to do a certain check or service.

The “Procedure” column of Table 1 tells you how to do the required checks and services. Carefully follow these instructions. When the procedure tells you to, notify your supervisor.

The “Equipment Not Ready/Available If” column of Table 1 explains when and why your equipment cannot be used.

PMCS Leakage Definitions

It is necessary to know how fluid leakage affects the status of the collapsible fabric fuel tank. The following are types/classes of leakage needed to be able to determine the status of the collapsible fabric petroleum tank. Learn these leakage definitions and remember – when in doubt, notify supervision.

CAUTION

Report Class III and IV leaks to the supervisor or to unit maintenance. Failure to heed this caution can damage the equipment.

NOTE

Equipment operation is allowed with minor leakages (Class I or Class II). Consideration must be given to fluid capacity in the item/system being checked/inspected. When in doubt, notify the supervisor.

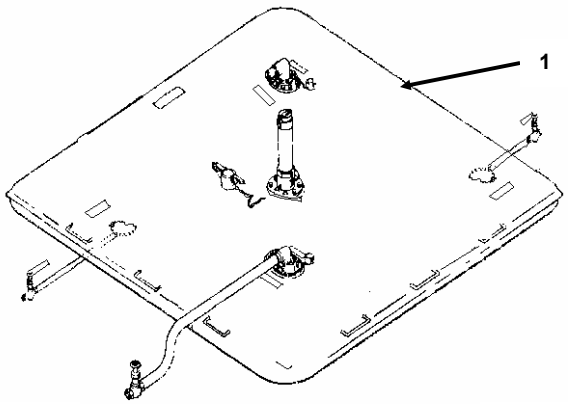
When operating with Class I or Class II leaks, continue to check fluid levels as required in the PMCS.

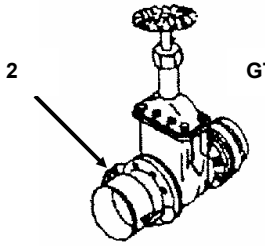
Class I Seepage of fluid (as indicated by wetness or discoloration) not great enough to form drops.

Class II Leakage of fluid great enough to form drops but not enough to cause drops to drip from item being checked/inspected.

Class III Leakage of fluid great enough to form drops that fall from the item being checked/inspected.

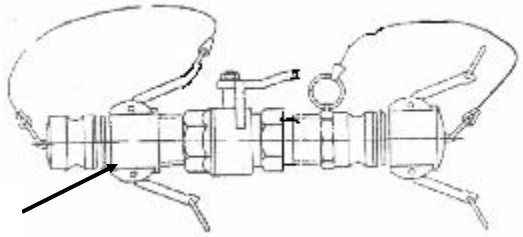
Class IV Leakage found under the tank. There is evidence of dampness on the ground around the tank. Volume of fuel in tank is less than it should be.

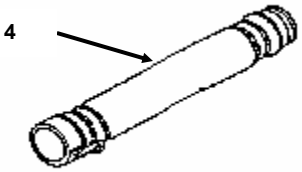




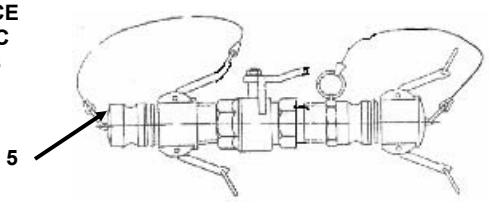
GTA MODEL

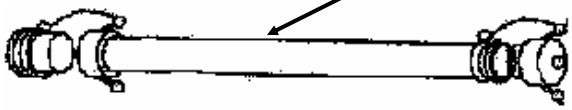
RELIANCE AND MPC MODELS

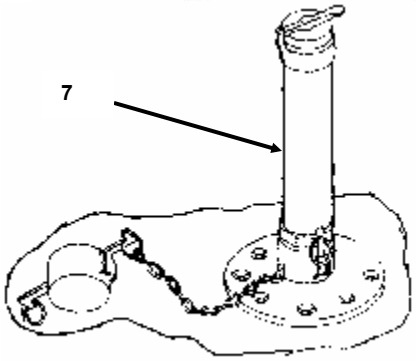


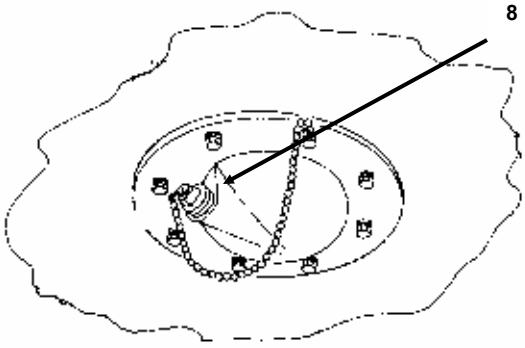


RELIANCE AND MPC MODELS









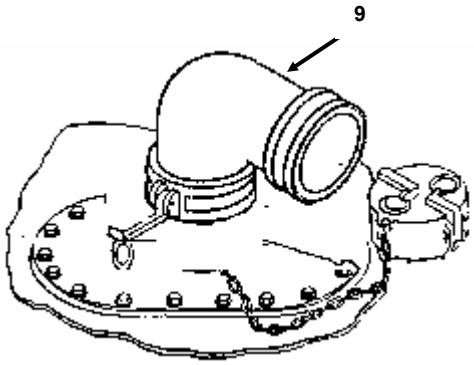


Table 1. Operator Preventive Maintenance Checks and Services for Fuel Storage Tank.

NOTE

Within designated intervals, these checks are to be performed in the order listed.

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1	Before		Installation Area	Inspect the installation area for sticks and other sharp objects that might cause punctures and leaks.	Sharp objects are present.
2	Before		Tank (1)	Inspect for tears or punctures. If torn or punctured, perform emergency repairs (WP 0006 00).	Tank has tears or punctures that cannot be repaired.
3	Before		Filler/Discharge Gate Valve (2) or Ball Valve (3)	Check for bent or binding stem and broken hardware. Check gasket and cam-lever arms for damage. Check for missing or damaged dust caps and plugs.	Stem, hand-wheel or handle, gasket, or cam-lever arms are damaged or missing.
4	Before		Filler/Discharge Hose Assembly (4)	Check for cuts and tears. Check fittings for distortion and damage, or missing gaskets, dust caps and plugs.	Hose assembly is damaged. Gaskets, dust caps or plugs are damaged or missing.
5	Before		Tank Drain Ball Valve (5)	Check for bent or binding stem and broken handle. Check for missing or damaged dust caps and plugs.	Stem or handle is damaged or missing. Dust caps or plugs damaged or missing.
6	Before		Tank Drain Hose Assembly (6)	Check hose for cuts and tears. Check fittings for distortion or damage.	Hose assembly is damaged.
7	Before		Vent Fitting Assembly (7)	Check relief cap, flame arrestor, cap gasket, rubber gasket, and cam-lever arms for evidence of leakage, damage, or missing parts. Check relief cap for cleanliness and freedom of operation. Check for damaged or missing gaskets.	Relief cap or flame arrestor is damaged or missing. Relief cap, gasket, flat rubber gasket, or cam-lever arms are damaged or missing.

Table 1. Operator Preventive Maintenance Checks and Services for Fuel Storage Tank (continued).

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
8	Before		Tank Drain Fitting Assemblies (8)	Check drain plug, drain hose, or ball valve for damaged or missing parts.	Drain plug, drain hose, and drain ball valve are missing, not properly connected, or damaged.
9	Before		Filler/Discharge Assembly (9)	Check cam-lever arms and elbow for damage.	Cam-lever arms damaged or missing. Elbow body is cracked or worn.
10	During		Installation Area	Inspect the installation area for sticks and other sharp objects.	Sharp objects are present.
11	During		Tank (1)	Inspect for tears, punctures, or leaks. If torn or punctured, perform emergency repairs (WP 0006 00).	Tank has tears, punctures, or leaks that cannot be repaired.
12	During		Filler/Discharge Gate Valve (2) or Ball Valve (3)	Check for bent or binding stem, broken hardware, and leakage. Check gasket and cam-lever arms for damage.	Stem, hand-wheel or handle, gasket, or cam-lever arms are damaged, missing, or leaking.
13	During		Filler/Discharge Hose Assembly (4)	Check hose for leaks, cuts, and tears. Check fittings for distortion or damage.	Hose assembly leaks or is damaged.
14	During		Tank Drain Ball Valve (5)	Check for bent or binding stem, broken handle, and leakage.	Stem or handle is damaged, missing, or leaking.
15	During		Tank Drain Hose Assembly (6)	Check hose for leaks, cuts, and tears. Check fittings for distortion and damage.	Hose assembly leaks or is damaged.

Table 1. Operator Preventive Maintenance Checks and Services for Fuel Storage Tank (continued).

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
16	During		Vent Fitting Assembly (7)	Check relief cap, flame arrestor, cap gasket, gasket, and cam-lever arms for evidence of leakage, damage, or missing parts. Check relief cap for cleanliness and freedom of operation. Check for damaged or missing gaskets.	Relief cap or flame arrestor is damaged or missing. Relief cap, gasket, flat rubber gasket, or cam-lever arms are damaged or missing.
17	During		Tank Drain Fitting Assemblies (8)	Check immediate area for evidence of leakage. Check drain plug, drain hose, and drain ball valve for damaged or missing parts.	Drain plug, drain hose, or drain ball valve missing, not properly connected, or damaged.
18	During		Filler/Discharge Assembly (9)	Check cam-lever arm and elbow body for damage or leakage.	Cam-lever arms damaged or missing. Elbow body is cracked. Elbow sealing surface is badly dented.
19	After		Tank (1)	Inspect for tears and punctures. If torn or punctured, perform emergency repairs (WP 0006 00).	Tank has tears or punctures that cannot be repaired.
20	After		Filler/Discharge Gate Valve (2) or Ball Valve (3)	Check for bent or binding stem or broken hardware. Check gaskets and cam-lever arms for damage. Check for missing or damaged dust caps and plugs.	Stem, hand-wheel or handle, gasket, or cam-lever arms are damaged or missing. Dust caps or plugs missing or damaged.
21	After		Filler/Discharge Hose Assembly (4)	Check for cuts and tears. Check fittings for distortion and damage, or missing gaskets, dust caps and plugs.	Hose assembly is damaged. Gaskets, dust caps and plugs are damaged or missing.
22	After		Tank Drain Ball Valve (5)	Check for bent or binding stem, or broken handle. Check for missing or damaged dust caps and plugs.	Stem or handle is damaged or missing. Dust caps or plugs missing or damaged.

Table 1. Operator Preventive Maintenance Checks and Services for Fuel Storage Tank (continued).

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
23	After		Tank Drain Hose Assembly (6)	Check hose for cuts and tears. Check fittings for distortion and damage.	Hose assembly is damaged.
24	After		Vent Fitting Assembly (7)	Check relief cap, flame arrestor, cap gasket, gasket, and cam-lever arms for damage or missing parts. Check relief cap for cleanliness and freedom of operation. Check for damaged or missing gaskets.	Relief cap or flame arrestor is damaged or missing. Relief cap, gasket, flat rubber gasket, or cam-lever arms are damaged or missing.
25	After		Tank Drain Fitting Assemblies (8)	Check drain plug, drain hose, or drain ball valve for damaged or missing parts.	Drain plug, drain hose, or drain ball valve are missing, not properly connected, or damaged.
26	After		Filler/Discharge Assembly (9)	Check cam-lever arm and elbow body for damage.	Cam-lever arms damaged or missing. Elbow body cracked or worn.
27	Semi-annually		Tank (1) Interior	Check coating for cracking.	Coating is cracked, allowing leakage.

END OF WORK PACKAGE

**OPERATOR AND UNIT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000,
10,000, 20,000, AND 50,000 GALLON
OPERATOR MAINTENANCE PROCEDURES**

GENERAL INSTRUCTIONS

Maintenance instructions in this section will list resources required, personnel required, and equipment condition for start of procedure, except as noted below:

NOTE

Personnel required are listed only if the task requires more than one.

EQUIPMENT	MAINTENANCE PROCEDURE
Filler/Discharge Gate Valve (GTA Model), Hose Assembly Coupling and Dust Cap Gasket	WP 0011 00
Filler/Discharge Ball Valve Gasket (Reliance and MPC Models)	WP 0012 00
Vent Fitting Assembly Coupling and Dust Cap Gasket	WP 0013 00
Filler/Discharge Assembly Elbow and Dust Cap Gasket	WP 0014 00

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON FILLER/DISCHARGE GATE VALVE (GTA MODEL), HOSE ASSEMBLY COUPLING AND DUST CAP GASKET REPLACEMENT

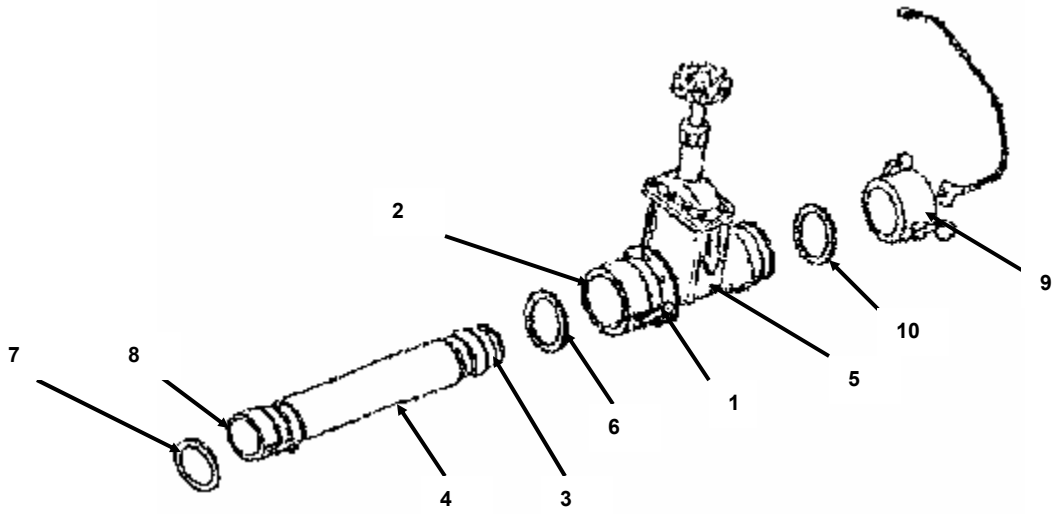
INITIAL SETUP

Mandatory Replacement Parts
Gasket
(Item 1, WP 0044 00)

REMOVAL

The filler/discharge hose is fitted with a female quick-disconnect coupling on one end and a male quick-disconnect adapter on the other end.

1. Pull two cam-lever arms (1) outward on female quick-disconnect coupling (2), and hose assembly coupling (3). Disconnect hose assembly (4) from filler/discharge valve assembly (5)
2. Remove coupling gasket (6) from inside female quick-disconnect coupling (2). Discard gasket (6).
3. Remove hose assembly gasket (7) from inside hose coupling (8). Discard gasket (7).
4. Remove dust cap (9). Remove gasket (10) from dust cap (9). Discard gasket (10).



INSTALLATION

1. Install new gasket (10) in dust cap (9). Install dust cap (9).
2. Install new hose assembly gasket (7) inside hose coupling (8).
3. Install new coupling gasket (6) inside female quick-disconnect coupling (2).
4. Connect hose assembly (4) to filler/discharge valve assembly (5).
5. Push in on cam-lever arms (1) to lock hose assembly (4) in place.

END OF WORK PACKAGE

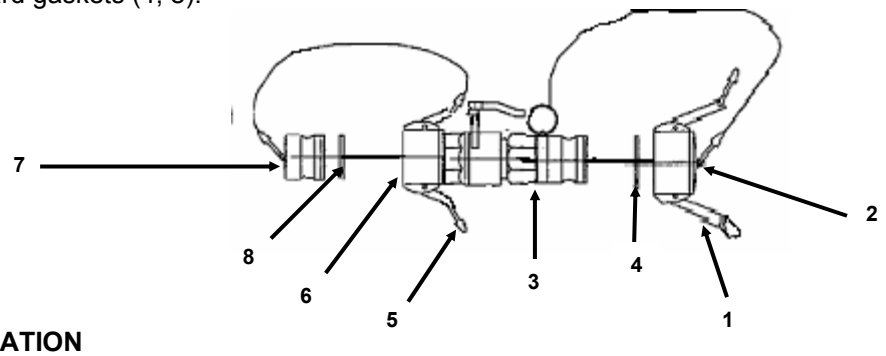
OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON FILLER/DISCHARGE BALL VALVE GASKET (RELIANCE AND MPC MODELS) REPLACEMENT

INITIAL SETUP

Mandatory Replacement Parts
Gasket
(Item 2, WP 0044 00)

REMOVAL

1. Pull cam-lever arms (1) on dust cap (2) out, away from body of dust cap (2).
2. Remove dust cap (2) from male coupling (3). Remove gasket (4) from dust cap (2).
3. Pull cam-lever arms (5) on female coupling (6) out, away from body of female coupling (6).
4. Remove dust plug (7) from female coupling (6). Remove gasket (8) from dust plug (7).
5. Discard gaskets (4, 8).



INSTALLATION

1. Install new gasket (8) on dust plug (7).
2. Push cam-lever arms (5) on female coupling (6) outward, away from body of female coupling (6).
3. Install dust plug (7) in female coupling (6).
4. Push cam-lever arms (5) on female coupling (6) inward toward body of female coupling (6) until locked.
5. Install new gasket (4) on dust cap (2).
6. Push cam-lever arms (1) on dust cap (2) outward, away from body of dust cap (2).
7. Install dust cap (2) on male coupling (3).
8. Push cam-lever arms (1) on dust cap (2) inward toward body of dust cap (2) until locked.

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON VENT FITTING ASSEMBLY COUPLING AND DUST CAP GASKET REPLACEMENT

INITIAL SETUP

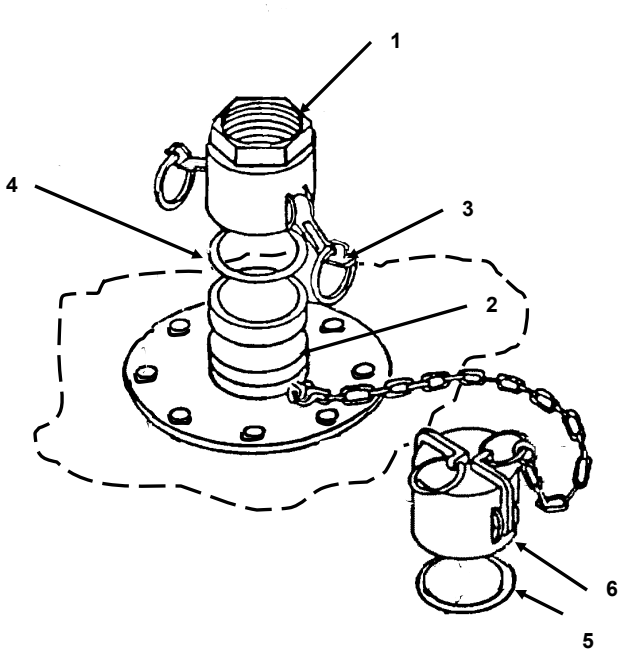
Mandatory Replacement Parts
Gasket
(Item 3, WP 0044 00)

REMOVAL

1. Disconnect female quick-disconnect coupling (1) from male-flanged adapter (2) by pulling outward on cam-lever arms (3). Lift female quick-disconnect coupling (1) from male-flanged adapter (2).
2. Remove female quick-disconnect coupling gasket (4). Discard gasket (4).
3. Remove gasket (5) from inside dust cap (6). Discard gasket (5).

NOTE

Vent pipe, relief cap, and flame arrestor removed for clarity.



INSTALLATION

1. Seat new coupling gasket (4) into female quick-disconnect coupling (1).
2. With cam-lever arms (3) in the outward position, install female quick-disconnect coupling (1) to male-flanged adapter (2).
3. Push cam-lever arms (3) inward until they lock in place.
4. Seat new gasket (5) into dust cap (6).

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON FILLER/DISCHARGE ASSEMBLY ELBOW AND DUST CAP GASKET REPLACEMENT

INITIAL SETUP

Mandatory Replacement Parts
Gasket
(Item 1, WP 0044 00)

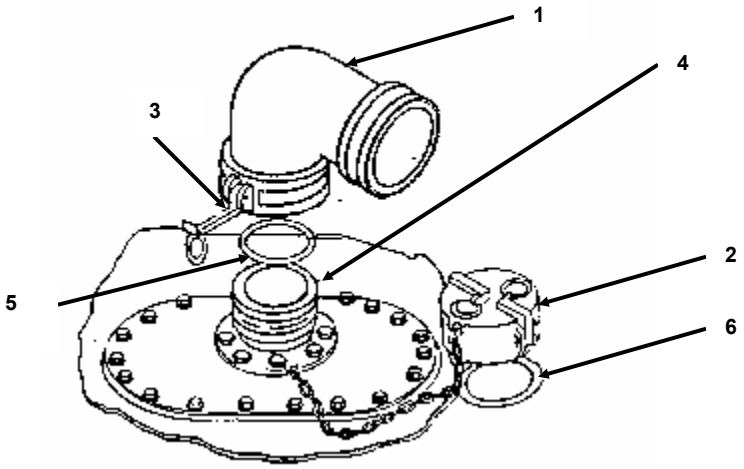
REMOVAL

1. Remove elbow (1) or dust cap (2) by pulling outward on cam-lever arms (3), and lifting elbow (1) or dust cap (2) from flanged adapter (4).

NOTE

Fill end female/female elbow has two gaskets.

2. Remove gasket (5) from elbow (1) and gasket (6) from dust cap (2). Discard gaskets (5) and (6).



INSTALLATION

NOTE

Fill end female/female elbow will require two new gaskets.

1. Place new gasket (5) into elbow (1) and new gasket (6) in dust cap (2).

2. Install elbow (1) onto flanged adapter (4), by pushing inward on cam-lever arms (3) to lock elbow (1) into position.

3. Install the dust cap (2) onto the elbow (1) by pushing inward on the cam-lever arms (3) on dust cap (2) to lock into position.

END OF WORK PACKAGE

CHAPTER 5

UNIT MAINTENANCE INSTRUCTIONS
FOR
TANK, FUEL STORAGE, 3,000 GALLON, 10,000 GALLON
20,000 GALLON, AND 50,000 GALLON

**OPERATOR AND UNIT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
COLLAPSIBLE FABRIC TANK, FUEL STORAGE,
3,000, 10,000, 20,000, AND 50,000 GALLONS
LUBRICATION INSTRUCTIONS**

LUBRICATION INSTRUCTIONS

Lubricate all cam-lever arms and lobes systematically with two drops of lubricating oil (Item 4, WP 0042 00). These instructions are mandatory.

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON UNIT REPAIR; TOOLS, SPECIAL TOOLS; TEST MEASUREMENT AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

COMMON TOOLS AND EQUIPMENT

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE), applicable to the unit.

SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

For special tools required for use with the Collapsible Fabric Fuel Tanks, refer to WP 0036 00, Maintenance Allocation Chart. No TMDE or support equipment is required for the Collapsible Fabric Fuel Tanks.

REPAIR PARTS

Repair parts are listed and illustrated in WP 0038 00 of this manual.

END OF WORK PACKAGE

**OPERATOR AND UNIT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000,
10,000, 20,000, AND 50,000 GALLON
UNIT SERVICE UPON RECEIPT**

SITE AND SHELTER REQUIREMENTS

Choose a site that is free from sharp objects (rocks, sticks, glass, etc.), which could cut or puncture the tank. The site must not be subject to flooding or high water.

WARNING

If the tank is placed over drop-offs greater than 3.0 inches (7.62 cm), serious injury to personnel or damage to the tank may occur.

The collapsible fabric fuel tank may be installed on a slope of up to 3 percent [3.0 inch (7.62 cm) rise in 100.0 foot (30.48 meters) run], but the tank base should not rest over abrupt drop-offs greater than 3.0 inches (7.62 cm).

SERVICE UPON RECEIPT OF MATERIEL

Inspect the equipment for damage incurred (punctures or tears) during shipment. If the equipment has been damaged, report the damage in accordance with the instructions of DA PAM 738-750.

Check the equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions of DA PAM 738-750.

Inspect Emergency repair items (sealing clamps, plugs, gaskets, and preformed packing) that are packaged separately. Place the items in a secure storage area until required.

Check to see whether the equipment has been modified.

INSTALLATION INSTRUCTIONS

Refer to WP 0005 00.

PRELIMINARY SERVICING AND ADJUSTMENT OF EQUIPMENT

No preliminary servicing or adjustment is required.

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON UNIT PMCS PROCEDURES

INTRODUCTION

General

Preventive Maintenance Checks and Services (PMCS) are performed to keep the collapsible fabric fuel tank assembly in operating condition. The checks are used to find, correct, or report problems. Be sure to perform PMCS each time the tank assembly is serviced. Using the PMCS table, always do PMCS in the same order, so that it gets to be a habit. With practice, you will quickly spot anything wrong. Pay careful attention to WARNING and CAUTION statements. A WARNING means someone could be hurt. A CAUTION means equipment could be damaged.

Before using the tank assembly, do “Before” PMCS.

During use, do “During” PMCS.

After the tank assembly is used, do “After” PMCS.

Do “Semi-annually” PMCS once every six months.

If something is found to be wrong when performing PMCS, fix it if possible, using troubleshooting procedures and/or maintenance procedures.

Use DA Form 2404 (Equipment Inspection and Maintenance Worksheet) to record any faults discovered before, during, or after operation, unless they can be fixed. You do not need to record faults that you can fix. For further information about how to use this form, see DA PAM 738-750.

PMCS Procedures

The Preventive Maintenance Checks and Services, Table 1, lists the inspections and care required to keep the fuel tank assembly in good operating condition.

The “Interval” column of Table 1 indicates when a certain check or service should be performed.

The “Procedure” column of Table 1 tells how to do the required checks and services. Carefully follow these instructions. When the procedure tells you to, notify your supervisor.

The “Equipment Not Ready/Available If” column of Table 1 tells you when and why your equipment cannot be used.

PMCS Leakage Definitions

It is necessary for you to know how fluid leakage affects the status of the collapsible fabric petroleum tank. The following are types/classes of leakage you need to know to be able to determine the status of the collapsible fabric fuel tank. Learn these leakage definitions and remember – when in doubt, notify supervision.

CAUTION

Report Class III and IV leaks to supervision. Failure to heed this caution can damage the equipment.

NOTE

Equipment operation is allowed with minor leakages (Class I or Class II). Consideration must be given to fluid capacity in the item/system being checked/inspected. When in doubt, notify supervision.

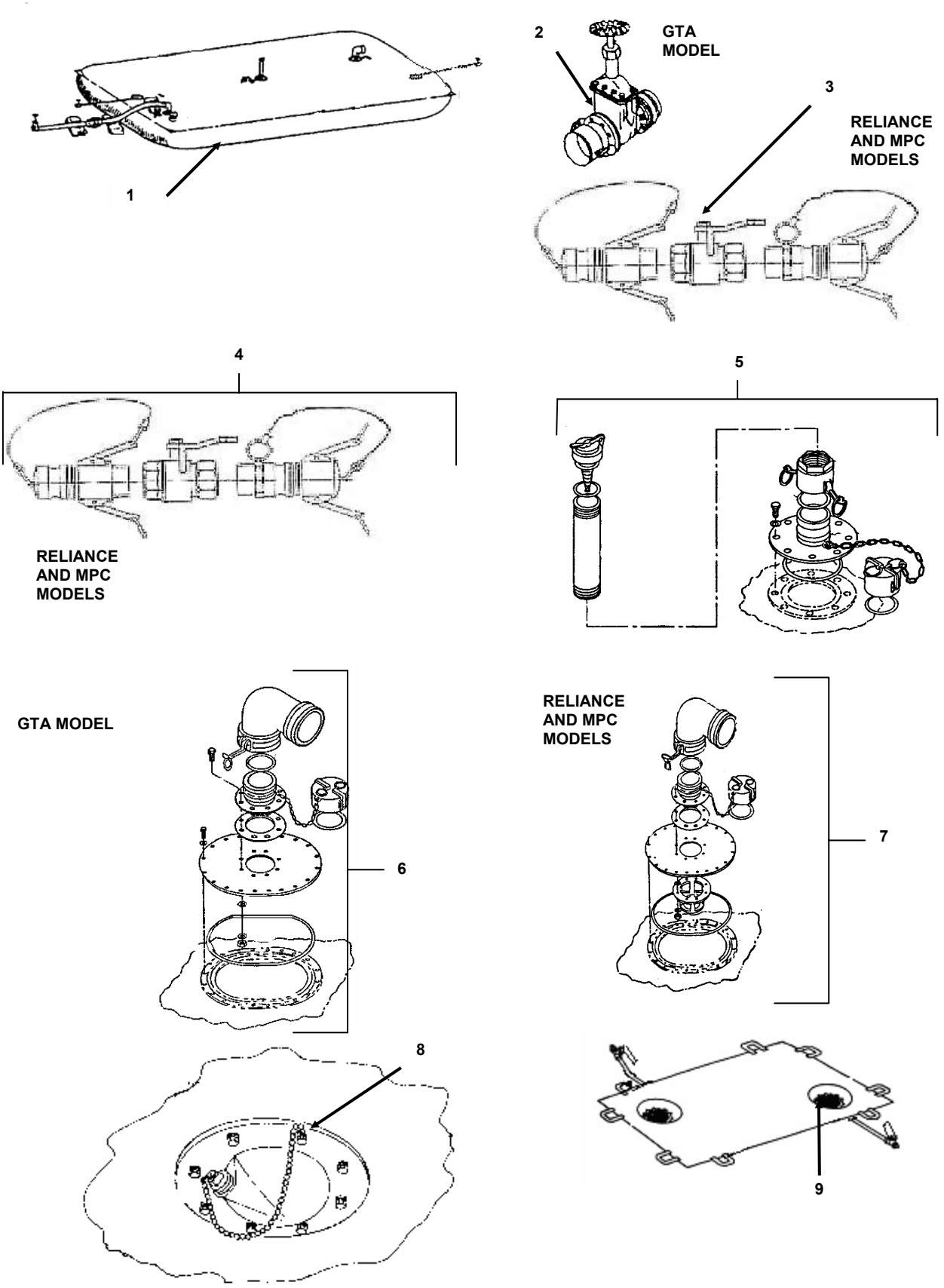
When operating with Class I or Class II leaks, continue to check fluid levels as required in PMCS.

Class I Seepage of fluid (as indicated by wetness or discoloration) not great enough to form drops.

Class II Leakage of fluid great enough to form drops but not enough to cause drops to drip from item being checked/inspected.

Class III Leakage of fluid great enough to form drops that fall from the item being checked/inspected.

Class IV Leakage found under the tank. There is evidence of dampness on the ground around the tank. Volume of fuel is less than it should be.



Unit Preventive Maintenance Checks and Services Components

Table 1. Unit Preventive Maintenance Checks and Services for Fuel Storage Tank.

NOTE

Within designated intervals, these checks are to be performed in the order listed.

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1	Before		Tank (1)	Inspect for tears or punctures.	Torn or punctured.
2	Before		Filler/Discharge Gate Valve (2) or Ball Valve (3)	Check for bent or binding stem, broken hand-wheel or handle.	Stem, hand-wheel or handle are damaged or missing.
3	Before		Drain Ball Valve (4)	Check for bent or binding stem or broken handle.	Stem or handle is damaged or missing.
4	Before		Vent and Pipe Assembly (5)	Check for evidence of damage or missing parts. Check the relief cap for cleanliness and freedom of operation. Check if the flame arrestor, relief cap gasket, flat rubber gasket or cam-lever arms are damaged or missing.	Relief cap or flame arrestor is damaged or missing. Relief cap gasket, flat rubber gasket or cam-lever arms are damaged or missing.
5	Before		Filler/Discharge Assembly (6) (GTA Model) or Filler/Discharge Assembly (7) (Reliance and MPC Model)	Check for evidence of damage. Check if cam-lever arms are damaged or missing. Check if the elbow body is cracked or sealing surface is badly dented. Check for loose, damaged or missing screws and gaskets.	Cam-lever arms are damaged or missing. Elbow body is cracked. Elbow sealing surface is badly dented. Hardware is damaged or missing.
6	Before		Drain Fitting Assembly (8)	Check drain plug, drain hose, and drain ball valve, for damaged or missing parts.	Drain plug, drain hose, drain ball valve is missing, improperly connected, or damaged.
7	Before		Berm Liner Drain Fitting Assembly (9)	Check drain plug, drain hose, or drain ball valve, for damaged or missing parts.	Drain plug, drain hose or drain ball valve is missing, improperly connected, or damaged.

Table 1. Unit Preventive Maintenance Checks and Services For Fuel Storage Tank (continued).

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
8	During		Tank (1)	Inspect for tears, leaks, or punctures (exclude weeping/wicking where tank seams are not involved and droplets do not form or run down side of the tank).	Tank has tears or punctures that cannot be repaired.
9	During		Filler/Discharge Gate Valve (2) or Ball Valve (3)	Check for bent or binding stem, broken hand-wheel or handle, and leakage.	Stem, hand-wheel or handle, gasket, or cam-lever arms are damaged, missing, or leaks.
10	During		Drain Ball Valve (4)	Check for bent or binding stem, broken handle, and leakage.	Stem or handle damaged, missing, or leaks.
11	During		Vent and Pipe Assembly (5)	Check for evidence of leakage, damage, or missing parts. Check relief cap for cleanliness and freedom of operation. Check if flame arrestor, relief cap gasket, flat rubber gasket, or cam-lever arms are damaged or missing.	Relief cap or flame arrestor is damaged or missing. Relief cap gasket, flat rubber gasket, or cam-lever arms are damaged or missing.
12	During		Filler/Discharge Assembly (6) (GTA Model) or Filler/Discharge Assembly (7) (Reliance and MPC Model)	Check for evidence of damage or leakage. Check if cam-lever arms are damaged or missing. Check if the elbow body is cracked or sealing surface is badly dented. Check for loose, damaged or missing screws and gaskets.	Cam-lever arms are damaged or missing. Elbow body is cracked. Elbow sealing surface is badly dented.
13	During		Drain Fitting Assembly (8)	Check immediate area for evidence of leaks. Check the drain plug, drain hose, or drain ball valve, for damaged or missing parts.	Drain plug, hose, or drain ball valve missing, improperly connected, or damaged.
14	During		Berm Liner Drain Fitting Assembly (9)	Check immediate area for evidence of leakage. Check drain plug, hose, or drain ball valve, for damaged or missing parts.	Drain plug, hose, or drain ball valve missing, improperly connected, damaged or leaks.

Table 1. Unit Preventive Maintenance Checks and Services For Fuel Storage Tank (continued).

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
15	After		Tank (1)	Inspect for tears, punctures, or leaks.	Tank has tears or punctures that cannot be repaired.
16	After		Filler/Discharge Gate Valve (2) or Ball Valve (3)	Check for bent or binding stem, broken hand-wheel or handle.	Stem, hand-wheel or handle are damaged or missing.
17	After		Drain Ball Valve (4)	Check for bent or binding stem, or broken handle.	Stem or handle is damaged or missing.
18	After		Vent and Pipe Assembly (5)	Check for evidence of leakage, damage, or missing parts. Check the relief cap for cleanliness and freedom of operation. Check if the flame arrestor, relief cap gasket, flat rubber gasket, or cam-lever arms are damaged or missing.	Evidence of leakage. Relief cap or flame arrestor damaged or missing. Relief cap gasket, flat rubber gasket, or cam-lever arms are damaged or missing.
19	After		Filler/Discharge Assembly (6) (GTA Model) or Filler/Discharge Assembly (7) (Reliance and MPC Model)	Check for evidence of damage or leakage. Check if cam-lever arms are damaged or missing. Check if elbow body is cracked or sealing surface is badly dented. Check for loose, damaged or missing screws and gaskets.	Any evidence of leakage. Cam-lever arms damaged or missing. Elbow body cracked or worn.
20	Semi-annually		Drain Fitting Assembly (8)	Check immediate area for evidence of leakage. Check the drain plug, drain hose, or drain ball valve for damaged or missing parts.	Any evidence of leakage. Drain plug, drain hose, or drain ball valve are missing, improperly connected, or damaged.
21	Semi-annually		Berm Liner Drain Fitting Assembly (9)	Check immediate area for evidence of leakage. Check drain plug, drain hose, or drain valve for damaged or missing parts.	Any evidence of leakage. Drain plug, drain hose, or drain ball valve is missing, improperly connected, damaged or leaks.

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON UNIT MAINTENANCE PROCEDURES

GENERAL INSTRUCTIONS

Maintenance instructions in this section will list resources required and equipment condition for start of procedure, except as noted below:

- Personnel required are listed only if the task requires more than one.
- The normal standard equipment condition to start a maintenance task is collapsible tank and drained berm liner. Equipment condition is not listed unless some other condition is required.

CAUTION

The collapsible tank and berm liner must be empty before performing maintenance on these units. Be careful when walking on fabric. Gravel and sand on the bottom of boots will damage fabric.

PERSONNEL SAFETY

- To ensure safety of personnel, proper care should be used when handling assemblies and parts. Many assemblies are heavy. The assistance of additional personnel, lifting devices or other support equipment may be required to move or position heavy items.
- Personnel must remove all items of jewelry (rings, bracelets, watches, necklaces, etc.) and loose clothing before working on the equipment. Jewelry and loose clothing can get caught in equipment and result in damage to equipment or injury to personnel.
- When performing maintenance on the collapsible fuel tank, keep in mind that the purpose of the equipment is to store liquid fuel. Cleaning fluids, lubricants, preservatives, paint or other chemicals must not be allowed to contaminate the fuel.

Operate the equipment after performing maintenance to ensure repairs have been performed correctly and equipment can be returned to service.

PROPER EQUIPMENT

Obtain proper equipment before beginning maintenance. This includes hand tools and/or special tools, receptacles for storing small parts and expendable materials required by the maintenance task. Maintenance of the collapsible fuel tank system is limited to replacement and repair. Replacement consists of turning the equipment in at the proper supply point and then requisitioning a replacement unit. Repair is accomplished by replacing or repairing components that make up the system.

EQUIPMENT	MAINTENANCE PROCEDURE
Filler/Discharge Gate Valve Assembly (GTA Model)	WP 0020 00
Filler/Discharge Ball Valve Assembly (Reliance and MPC Models)	WP 0021 00
Filler/Discharge Hose Assembly	WP 0022 00
Tank or Berm Liner Drain Ball Valve	WP 0023 00

EQUIPMENT	MAINTENANCE PROCEDURE
Tank Drain Hose Assembly	WP 0024 00
Vent Fitting Assembly (GTA Model)	WP 0025 00
Vent Fitting Assembly (Reliance and MPC Models)	WP 0026 00
Filler/Discharge Assembly (GTA Model)	WP 0027 00
Filler/Discharge Assembly (Reliance and MPC Models)	WP 0028 00
Tank Drain Fitting Assembly	WP 0029 00
Tank Assembly	WP 0030 00
Berm Liner Drain Hose Assembly	WP 0031 00
Berm Liner Drain Fitting Assembly (Reliance Models)	WP 0032 00
Berm Liner Drain Fitting Assembly (GTA Model)	WP 0033 00
Berm Liner Drain Fitting Assembly (MPC Models)	WP 0033 01
Preparation For Storage Or Shipment	WP 0034 00

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON FILLER/DISCHARGE GATE VALVE ASSEMBLY (GTA MODEL) SERVICE, REPLACEMENT, REPAIR

INITIAL SETUP

Tools
Tool Kit General Mechanics
(Item 1, WP 0036 00)
Torque Wrench (in-lb)
(Item 2, WP 0036 00)
Torque Wrench (ft-lb)
(Item 3, WP 0036 00)

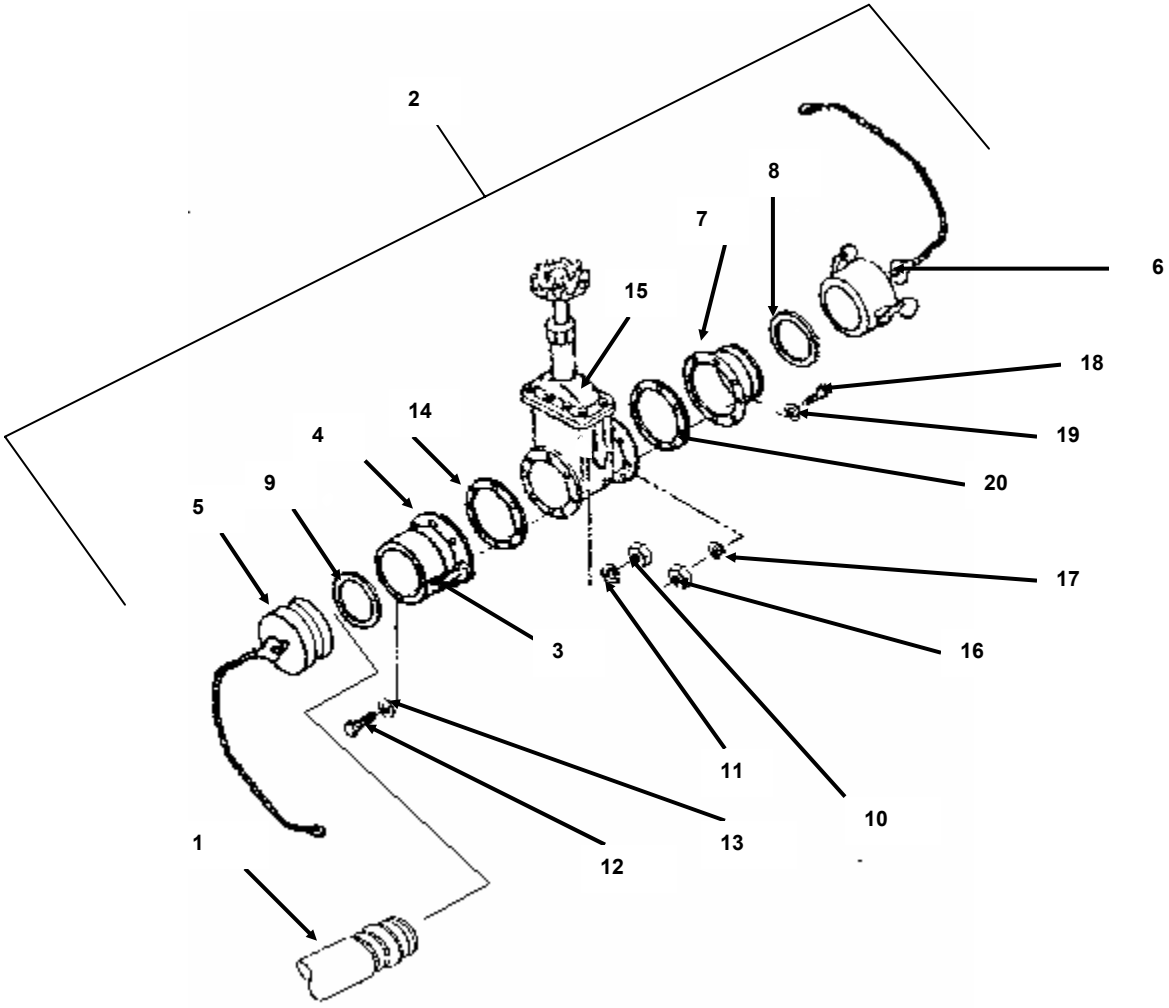
Materials/Parts
Crocus Cloth
(Item 5, WP 0042 00)
Detergent
(Item 6, WP 0042 00)
Dry Cleaning Solvent
(Item 7, WP 0042 00)
Grease
(Item 8, WP 0042 00)
Rags, Wiping
(Item 2, WP 0042 00)

Mandatory Replacement Parts
Gasket
(Item 1, WP 0044 00)
Gasket
(Item 4, WP 0044 00)
Gasket, Valve Bonnet
(Item 5, WP 0044 00)
Lockwashers
(Item 6, WP 0044 00)
Lockwashers
(Item 7, WP 0044 00)

REMOVAL

Hose Assembly, Coupling, and Adapter

1. Remove hose assembly (1) from gate valve assembly (2) by pulling two cam-lever arms (3) outward on female quick-disconnect coupling (4).
2. Remove hose assembly (1).
3. Remove the chain and dust cap (5) from female quick-disconnect coupling (4), and the chain and dust plug (6) from male-flanged adapter (7). Remove gasket (8) from male-flanged adapter (7).
4. Remove coupling gasket (9) from inside female quick-disconnect coupling (4).
5. Remove eight hex nuts (10), lockwashers (11), hex-head cap screws (12), and washers (13).
6. Remove female quick-disconnect coupling (4) and flange gasket (14) from face of gate valve (15).
7. Remove eight hex nuts (16), lockwashers (17), hex-head cap screws (18), and washers (19) from the opposite end of gate valve (15).
8. Remove male-flanged adapter (7) and flange gasket (20).



DISASSEMBLY

Gate Valve

1. Remove jam nut (1) from the top of hand-wheel (2).
2. Remove hand-wheel (2) from the top of valve stem (3).
3. Remove packing nut (4) from bonnet (5).
4. Remove packing gland (6) and gland spring (7) from valve stem (3).

NOTE

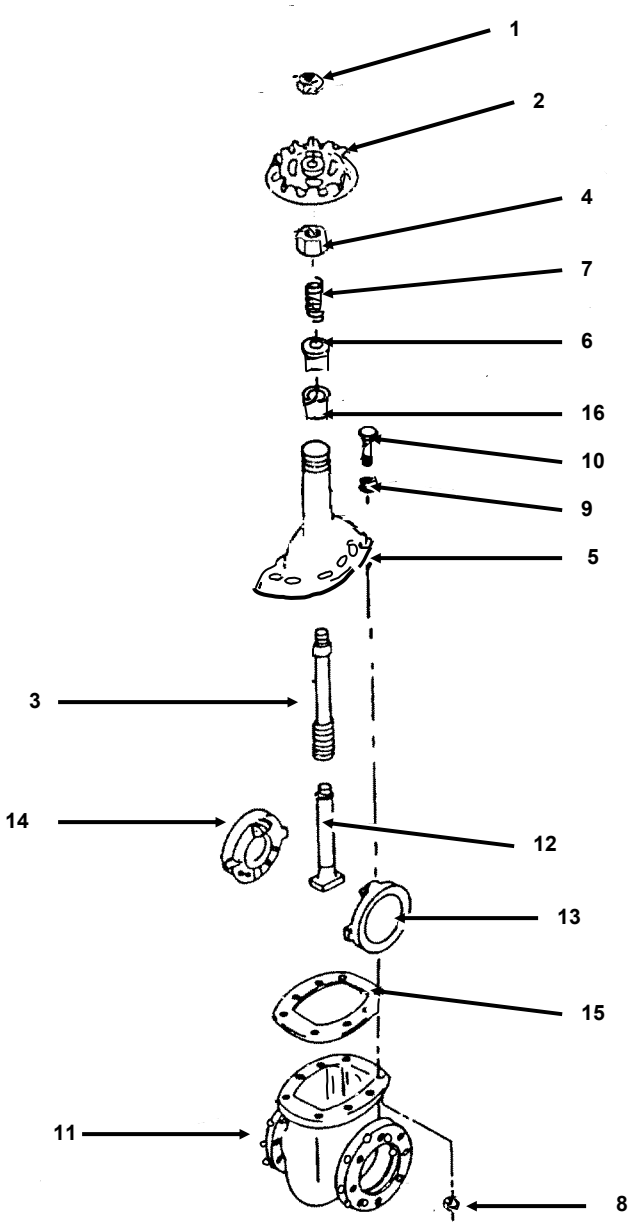
The packing ring will remain in the bonnet until the valve stem, the disk riser, and the disk halves have been removed from the bonnet.

5. Remove eight hex nuts (8), lockwashers (9), and hex-head cap screws (10) holding bonnet (5) to valve body (11).

CAUTION

Keep the disk halves together when removing from the valve body. Disk halves must be grasped firmly when disassembled from the valve body. Dropping the disk halves off the disk riser can damage the sealing surfaces. As the discs clear the slots in the valve body, hold them together with the right hand in order to avoid dropping off the disk stem and damaging the sealing surface.

6. Lift bonnet (5) with valve stem (3), disk riser (12), and disk halves (13) and (14) from valve body (11).



7. Remove bonnet gasket (15) from valve body (11).

8. Rotate disk riser (12) counterclockwise, and disassemble disk riser (12) from valve stem (3).

9. Rotate valve stem (3) clockwise, and disassemble valve stem (3) from the bottom side of bonnet (5).

NOTE

The packing ring should be removed only when it is to be replaced.

10. Drive packing ring (16) through the bottom of bonnet (5).

SERVICE

WARNING

Dry cleaning solvent, A-A-59601, used to clean parts, is potentially dangerous to personnel and property. It produces toxic and flammable fumes. Use only in well ventilated areas. Avoid repeated and prolonged skin contact. Do not use solvent near an open flame or near excessive heat. The flash point of the solvent is 100°F to 130°F (38° C to 59° C).

CAUTION

Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

1. Clean all parts with dry cleaning solvent and dry thoroughly with rags.
2. Clean all gasket-sealing surfaces thoroughly with detergent and hot water.
3. Inspect all mechanical parts for cracks, dents, breaks, and wear. Replace components if unserviceable.
4. Polish valve stem (3) with crocus cloth. Coat valve stem (3) with grease.

ASSEMBLY

Gate Valve

1. Thread disk riser (12) into valve stem (3).
2. Check that disk riser (12) is completely secured to bonnet (5).
3. Lay valve body (11) on its side on a clean surface. Position new bonnet gasket (15) over disk riser (12).
4. Install disk halves (13) and (14) onto disk riser (12).
5. Insert disk halves (13) and (14) into valve body (11) slot.
6. Place valve body (11) and bonnet (5) in an upright position.
7. Align valve body (11) to bonnet gasket (15). Install bonnet (5) assembly to valve body (11) with eight hex-head cap screws (10), new lockwashers (9), and hex nuts (8).
8. Insert packing ring (16) onto valve stem (3).
9. Insert packing nut (4) onto valve stem (3) by pushing packing nut (4) down on the neck of bonnet (5) until packing ring (16) is seated in bonnet (5).

10. Remove packing nut (4) from valve stem (3), and assemble gland spring (7) and packing gland (6) to valve stem (3).

11. Insert packing nut (4), hand-wheel (2), and jam nut (1) onto the valve stem (3).

12. Torque hex-head cap screws (10), lockwashers (9), and hex nuts (8) assembled to the valve body (11) to 16 ft-lb (21.70 N•m).

INSTALLATION

Hose Assembly, Coupling, and Adapter

1. Position new flange gasket (20) on the face of gate valve (15), and align the holes.

2. Position male-flanged adapter (7) against flange gasket (20), and align the holes.

3. Install washers (19) and hex-head cap screws (18) onto male-flanged adapter (7), flange gasket (20), and gate valve (15).

4. Install new lockwashers (17), and hex nuts (16) onto gate valve (15). Torque nuts (16) to 30 in-lb (3.41N•m).

5. At the opposite end of gate valve (15), position new flange gasket (14) against gate valve (15).

6. Position female quick-disconnect coupling (4) against flange gasket (14) and align the holes.

7. Install washers (13) and hex-head cap screws (12) onto female quick-disconnect coupling (4), flange gasket (14), and the face of gate valve (15).

8. Install new lockwashers (11) and hex nuts (10) onto hex-head cap screws (12). Torque nuts (10) to 30 in-lb (3.41N•m).

9. Lubricate new coupling gasket (9), and install coupling gasket (9) on the inside of female quick-disconnect coupling (4).

10. Install new gasket (8) on male-flanged adapter (7). Install chains and dust cap (5) and dust plug (6) on female quick-disconnect coupling (4) and male-flanged adapter (7).

11. Install hose assembly (1) to gate valve assembly (2) and position hose assembly (1) in place by pushing in on cam-lever arms (3).

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON
FILLER/DISCHARGE BALL VALVE ASSEMBLY (RELIANCE AND MPC MODELS)
SERVICE, REPLACEMENT, REPAIR

INITIAL SETUP

Tools
Tool Kit, General Mechanics
(Item 1, WP 0036 00)

Materials/Parts
Anti-seize Tape
(Item 1, WP 0042 00)
Dry Cleaning Solvent
(Item 7, WP 0042 00)
Rags, Wiping
(Item 2, WP 0042 00)
Thread Sealing Compound
(Item 9, WP 0042 00)

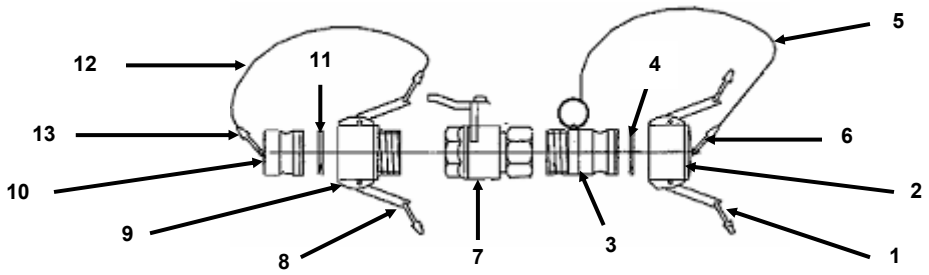
Mandatory Replacement Parts
Gasket
(Item 2, WP 0044 00)

REMOVAL

Remove the ball valve from the filler/discharge hose assembly.

DISASSEMBLY

1. Pull cam-lever arms (1) on dust cap (2) out, away from body of dust cap (2).
2. Remove dust cap (2) from male coupling (3). Remove gasket (4) from dust cap (2).
3. Disconnect chain (5) and two key rings (6) from dust cap (2) and male coupling (3).
4. Unthread male coupling (3) from ball valve (7).
5. Pull cam-lever arms (8) on female coupling (9) out, away from body of female coupling (9).
6. Remove dust plug (10) from female coupling (9). Remove gasket (11) from dust plug (10).
7. Disconnect chain (12) and two key rings (13) from dust plug (10) and female coupling (9).
8. Unthread female coupling (9) from ball valve (7).



SERVICE

WARNING

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CAUTION

Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

1. Clean all parts with dry cleaning solvent and dry thoroughly with rags.
2. Inspect all mechanical parts for cracks, dents, breaks, and wear. Replace the component if unserviceable.

ASSEMBLY

1. Coat threads of female coupling (9) with thread sealing compound or anti-seize tape, and install female coupling (9) in ball valve (7).
2. Connect chain (12) and two key rings (13) to dust plug (10) and female coupling (9).
3. Install new gasket (11) on dust plug (10).
4. Push cam-lever arms (8) on female coupling (9) outward, away from body of female coupling (9).
5. Install dust plug (10) in female coupling (9).
6. Push cam-lever arms (8) on female coupling (9) inward toward body of female coupling (9) until locked.
7. Coat threads of male coupling (3) with thread sealing compound or anti-seize tape, and install male coupling (3) in ball valve (7).
8. Connect chain (5) and two key rings (6) to male coupling (3) and dust cap (2).
9. Push cam-lever arms (1) on dust cap (2) outward, away from body of dust cap (2).
10. Install dust cap (2) on male coupling (3).
11. Push cam-lever arms (1) on dust cap (2) inward toward body of dust cap (2) until locked.

INSTALLATION

Install the drain ball valve on the drain hose assembly.

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON FILLER/DISCHARGE HOSE ASSEMBLY SERVICE AND REPLACEMENT

INITIAL SETUP

Materials/Parts
Detergent
(Item 6, WP 0042 00)

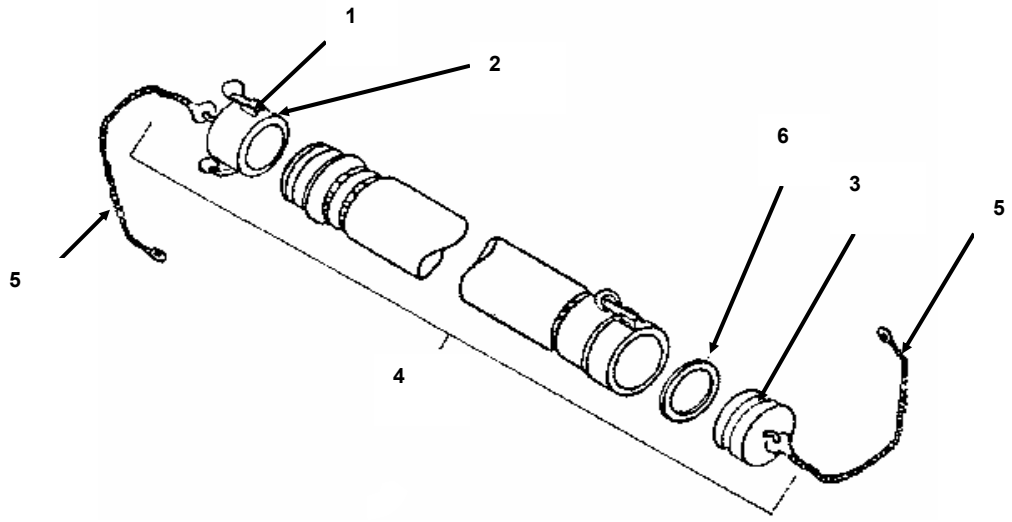
Mandatory Replacement Parts
Gasket
(Item 1, WP 0044 00)

REMOVAL

1. Pull outward on two cam-lever arms (1). Remove dust cap (2) and dust plug (3) from hose assembly (4).
2. Remove two chain assemblies (5) and remove dust cap (2) and dust plug (3) from hose assembly (4).
3. Remove gasket (6) from dust plug (3).

SERVICE

1. Flush out the hose assembly with hot, soapy water.
2. Rinse out the filler/discharge hose assembly thoroughly and air-dry.
3. Inspect the hose for cracks, tears, or wear, and ensure that the hose bands are secure to the couplings.
4. Inspect all mechanical parts for cracks, dents, breaks and wear. Replace any unserviceable components.



INSTALLATION

1. Install two chain assemblies (5), dust cap (2), and dust plug (3) to hose assembly (4). Install new gasket (6) on dust plug (3).

2. Connect dust cap (2) and dust plug (3) to hose assembly (4) by pushing in on cam-lever arms (1).

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON TANK OR BERM LINER DRAIN BALL VALVE SERVICE, REPLACEMENT, REPAIR

INITIAL SETUP

Tools
Tool Kit General Mechanics
(Item 1, WP 0036 00)

Materials/Parts
Anti-seize Tape
(Item 1, WP 0042 00)
Dry Cleaning Solvent
(Item 7, WP 0042 00)
Rags, Wiping
(Item 2, WP 0042 00)
Thread Sealing Compound
(Item 9, WP 0042 00)

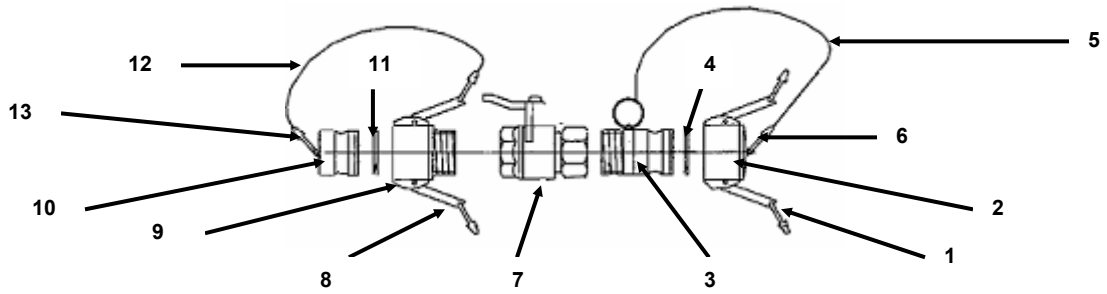
Mandatory Replacement Parts
Gasket
(Item 3, WP 0044 00)

REMOVAL

Remove the drain ball valve from the drain hose assembly.

DISASSEMBLY

1. Pull cam-lever arms (1) on dust cap (2) out, away from body of dust cap (2).
2. Remove dust cap (2) from male coupling (3). Remove gasket (4) from dust cap (2).
3. Disconnect chain (5) and two key rings (6) from dust cap (2) and male coupling (3).
4. Unthread male coupling (3) from ball valve (7).
5. Pull cam-lever arms (8) on female coupling (9) out, away from body of female coupling (9).
6. Remove dust plug (10) from female coupling (9). Remove gasket (11) from dust plug (10).
7. Disconnect chain (12) and two key rings (13) from dust plug (10) and female coupling (9).
8. Unthread female coupling (9) from ball valve (7).



SERVICE

WARNING

Dry cleaning solvent, A-A-59601, used to clean parts, is potentially dangerous to personnel and property. It produces toxic and flammable fumes. Use only in well ventilated areas. Avoid repeated and prolonged skin contact. Do not use solvent near an open flame or near excessive heat. The flash point of the solvent is 100°F to 130°F (38° C to 59° C).

CAUTION

Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

1. Clean all parts with dry cleaning solvent and dry thoroughly with rags.
2. Inspect all mechanical parts for cracks, dents, breaks, and wear. Replace the component if unserviceable.

ASSEMBLY

1. Coat threads of female coupling (9) with thread sealing compound or anti-seize tape, and install female coupling (9) in ball valve (7).
2. Connect chain (12) and two key rings (13) to dust plug (10) and female coupling (9).
3. Install new gasket (11) on dust plug (10).
4. Push cam-lever arms (8) on female coupling (9) outward, away from body of female coupling (9).
5. Install dust plug (10) in female coupling (9).
6. Push cam-lever arms (8) on female coupling (9) inward toward body of female coupling (9) until locked.
7. Coat threads of male coupling (3) with thread sealing compound or anti-seize tape, and install male coupling (3) in ball valve (7).
8. Connect chain (5) and two key rings (6) to male coupling (3) and dust cap (2).
9. Push cam-lever arms (1) on dust cap (2) outward, away from body of dust cap (2).
10. Install dust cap (2) on male coupling (3).
11. Push cam-lever arms (1) on dust cap (2) inward toward body of dust cap (2) until locked.

INSTALLATION

Install the drain ball valve on the drain hose assembly.

END OF WORK PACKAGE

**OPERATOR AND UNIT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000,
10,000, 20,000, AND 50,000 GALLON
TANK DRAIN HOSE ASSEMBLY
SERVICE**

INITIAL SETUP

Tools
Tool Kit General Mechanics
(Item 1, WP 0036 00)

Equipment Condition
Tank drain ball valve removed
(WP 0023 00)

Materials/Parts
Anti-seize Tape
(Item 1, WP 0044 00)
Detergent
(Item 6, WP 0044 00)
Dry Cleaning Solvent
(Item 7, WP 0044 00)
Rags, Wiping
(Item 2, WP 0044 00)
Sealing Compound
(Item 9, WP 0044 00)

SERVICE

1. Rotate hose assembly (1) counterclockwise and remove from drain fitting (2).
2. Flush hose assembly (1) with hot, soapy water.
3. Rinse out hose assembly (1) thoroughly and air dry.

WARNING

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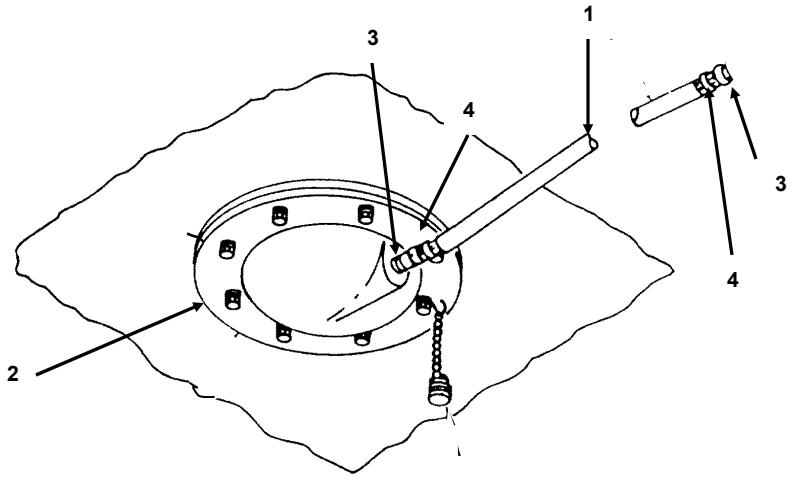
CAUTION

Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

4. Clean the threads on couplings (3) with dry cleaning solvent and dry thoroughly with rags.
5. Inspect hose assembly (1) for cracks, tears, or wear.
6. Check and ensure hose bands (4) are secured to threaded couplings (3).
7. Apply sealing compound or anti-seize tape on threads of coupling (3). Engage threads of couplings (3) with threads on drain fitting (2) and turn hose assembly (1) clockwise until tight.
8. Install the tank drain ball valve. See WP 0023 00.



END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON VENT FITTING ASSEMBLY (GTA MODEL) SERVICE, REPLACEMENT, REPAIR

INITIAL SETUP

Tools
Tool Kit General Mechanics
(Item 1, WP 0036 00)
Torque Wrench (ft-lb)
(Item 3, WP 0036 00)

Materials/Parts
Dry Cleaning Solvent
(Item 7, WP 0042 00)
Rags, Wiping
(Item 2, WP 0042 00)
Silicone Compound
(Item 10, WP 0042 00)

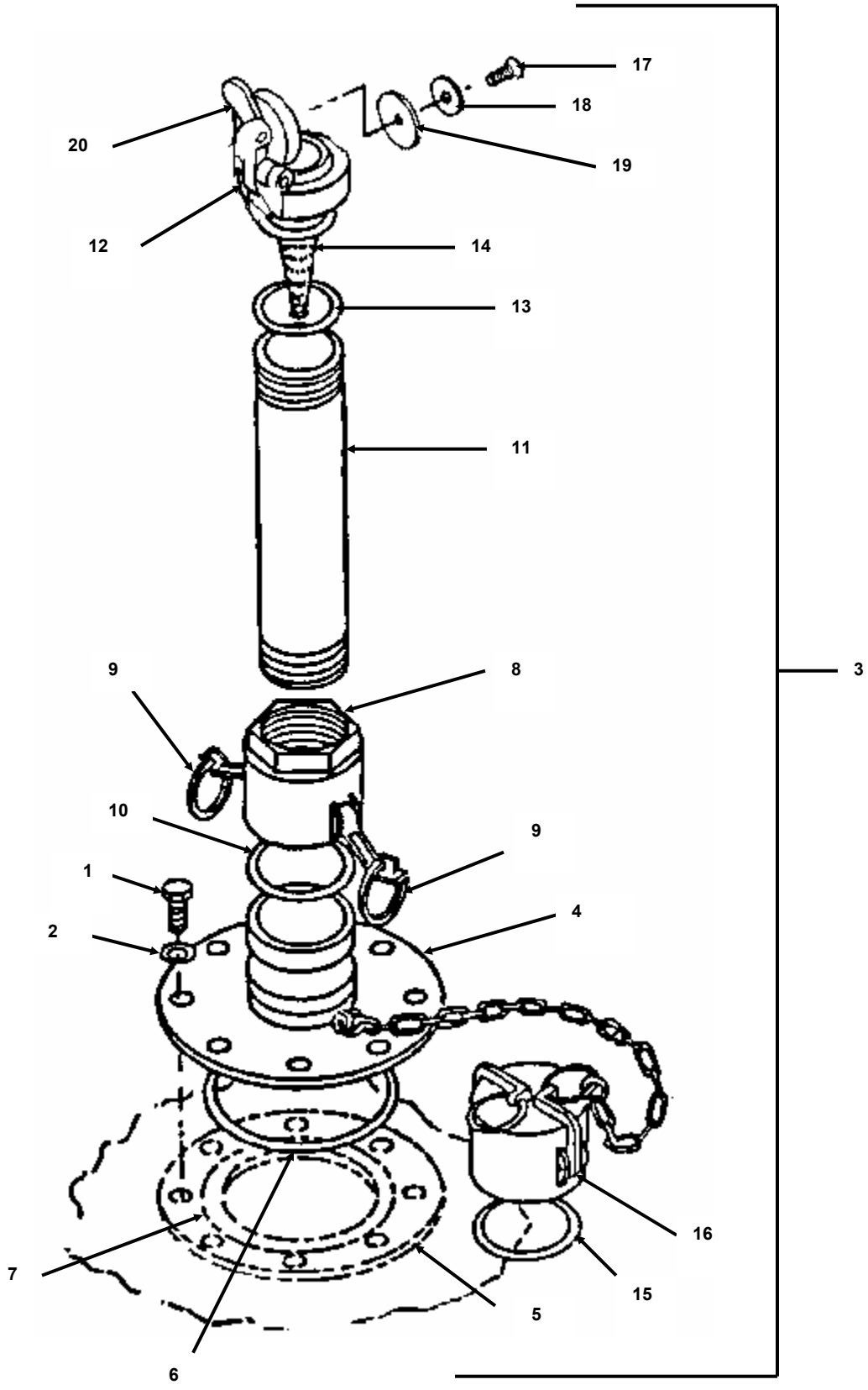
Mandatory Replacement Parts
Gasket
(Item 3, WP 0044 00)
Gasket Cap
(Item 8, WP 0044 00)
O-Ring
(Item 9, WP 0044 00)
Relief Cap Gasket
(Item 10, WP 0044 00)

REMOVAL

1. Remove eight screws (1) and washers (2) from vent and pipe assembly (3).
2. Lift male-flanged adapter (4) from tank fitting (5).
3. Remove and discard O-ring (6) from packing groove (7) located in tank fitting (5).

DISASSEMBLY

1. Remove female quick-disconnect coupling (8) from male-flanged adapter (4) by pulling outward on cam-lever arms (9), and lifting female quick-disconnect coupling (8) from male-flanged adapter (4).
2. Remove and discard gasket (10) from female quick-disconnect coupling (8).
3. Rotate vent pipe (11) counterclockwise until the vent pipe threads disengage from female quick-disconnect coupling (8), and remove female quick-disconnect coupling (8) from vent pipe (11).
4. Rotate relief cap (12) counterclockwise until the relief cap threads disengage from vent pipe (11). Remove the relief cap (12) from the vent pipe (11).
5. Remove and discard relief cap gasket (13) from inside relief cap (12).
6. Rotate flame arrestor (14) counterclockwise until the flame arrestor threads disengage from relief cap (12). Remove flame arrestor (14) from relief cap (12).
7. Remove and discard gasket (15) from inside dust cap (16).
8. Remove vent relief cap screw (17), washer (18), and gasket (19) from lever head assembly (20). Discard gasket (19).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SERVICE

WARNING

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CAUTION

Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

1. Clean all parts with dry cleaning solvent, and dry thoroughly with rags.
2. Clean the preformed packing grooves with cleaning solvent, and dry thoroughly with rags.
3. Inspect all mechanical parts for cracks, dents, breaks, and wear. Replace the component if unserviceable.
4. Check that the vent hole in the flame arrestor is clear of all debris.

ASSEMBLY

1. Install vent relief cap screw (17), washer (18), and new gasket (19) in lever head assembly (20).
2. Position new relief cap gasket (13) over flame arrestor (14). Seat relief cap gasket (13) into relief cap (12).
3. Install flame arrestor (14) into relief cap (12). Rotate flame arrestor (14) clockwise until threads are firmly seated in relief cap (12).
4. Install flame arrestor (14) into vent pipe (11) until vent pipe (11) contacts relief cap (12).
5. Rotate relief cap (12) clockwise until vent pipe (11) and relief cap (12) are firmly seated together.
6. Install vent pipe (11) into female quick-disconnect coupling (8). Rotate vent pipe (11) clockwise until it firmly seats in female quick-disconnect coupling (8).
7. Install new gasket (10) into female quick-disconnect coupling (8).
8. Install female quick-disconnect coupling (8) on male-flanged adapter (4) pushing in cam-lever arms (9) until locked in place.
9. Install new gasket (15) inside dust cap (16).

INSTALLATION

1. Lubricate new O-ring (6) with silicone compound.
2. Install O-ring (6) into packing groove (7) located in tank fitting (5).
3. Position male-flanged adapter (4) over tank fitting (5).
4. Install eight washers (2) and screws (1) through vent and pipe assembly (3) and tank fitting (5) holes.
5. Torque screws (1) to 16 ft-lb (21.70 N•m).

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON VENT FITTING ASSEMBLY (RELIANCE AND MPC MODELS) SERVICE, REPLACEMENT, REPAIR

INITIAL SETUP

Tools
Tool Kit, General Mechanics
(Item 1, WP 0036 00)
Torque Wrench (ft-lb)
(Item 3, WP 0036 00)

Materials/Parts
Dry Cleaning Solvent
(Item 7, WP 0042 00)
Rags, Wiping
(Item 2, WP 0042 00)
Silicone Compound
(Item 10, WP 0042 00)

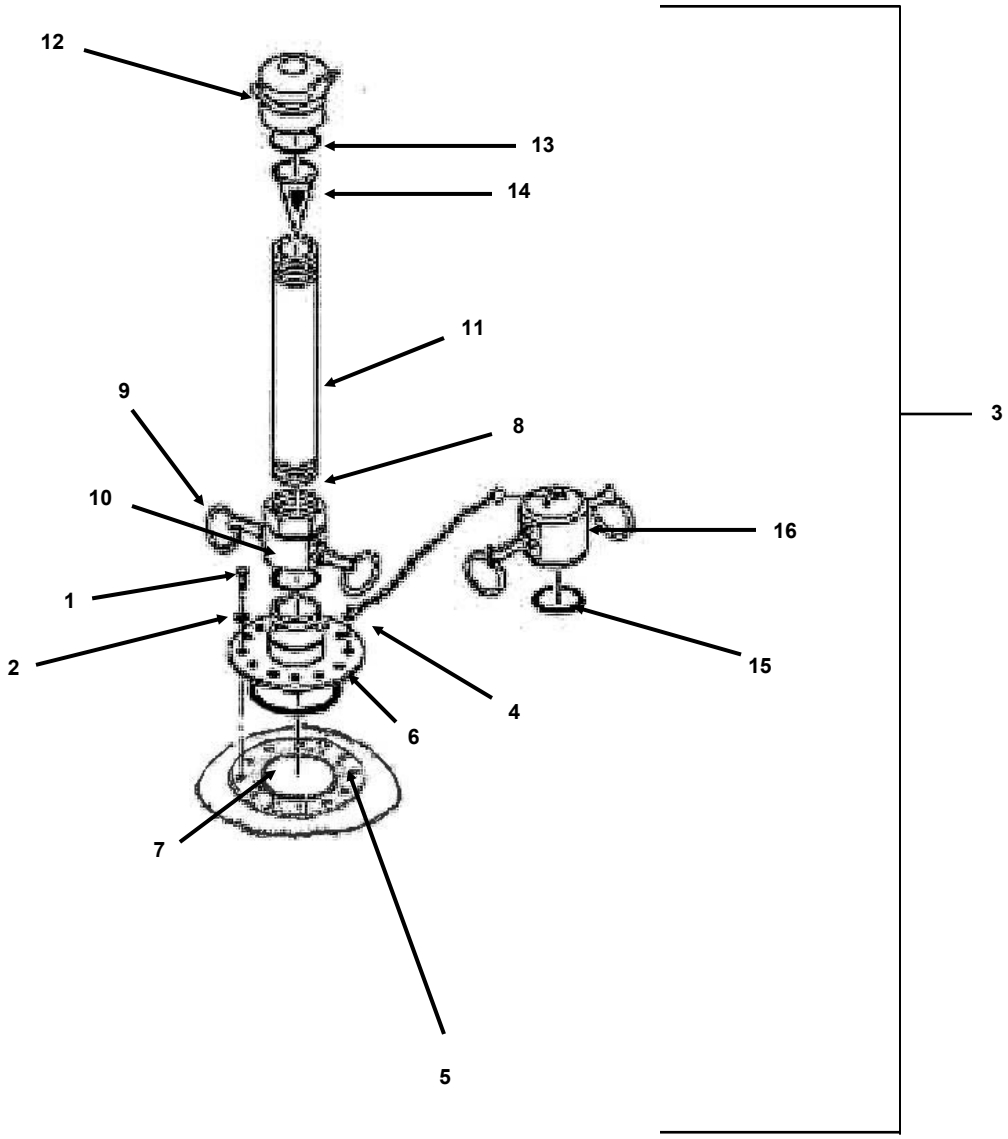
Mandatory Replacement Parts
Gasket
(Item 3, WP 0044 00)
Gasket Cap
(Item 8, WP 0044 00)
O-Ring
(Item 9, WP 0044 00)

REMOVAL

1. Remove eight screws (1) and washers (2) from vent fitting assembly (3).
2. Lift male-flanged adapter (4) from tank fitting (5).
3. Remove and discard O-ring (6) from packing groove (7) located in tank fitting (5).

DISASSEMBLY

1. Remove female quick-disconnect coupling (8) from male-flanged adapter (4) by pulling outward on cam-lever arms (9), and lifting female quick-disconnect coupling (8) from male-flanged adapter (4).
2. Remove and discard gasket (10) from female quick-disconnect coupling (8).
3. Rotate vent pipe (11) counterclockwise until the vent pipe threads disengage from female quick-disconnect coupling (8), and remove female quick-disconnect coupling (8) from vent pipe (11).
4. Rotate relief cap (12) counterclockwise until the relief cap threads disengage from vent pipe (11). Remove the relief cap (12) from the vent pipe (11).
5. Remove and discard relief cap gasket (13) from inside relief cap (12).
6. Rotate flame arrestor (14) counterclockwise until the flame arrestor threads disengage from relief cap (12). Remove flame arrestor (14) from relief cap (12).
7. Remove and discard gasket (15) from inside dust cap (16).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SERVICE

WARNING

Dry cleaning solvent, A-A-59601, used to clean parts, is potentially dangerous to personnel and property. It produces toxic and flammable fumes. Use only in well ventilated areas. Avoid repeated and prolonged skin contact. Do not use solvent near an open flame or near excessive heat. The flash point of the solvent is 100°F to 130°F (38°C to 59°C).

CAUTION

Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

1. Clean all parts with dry cleaning solvent, and dry thoroughly with rags.
2. Clean the preformed packing grooves with cleaning solvent, and dry thoroughly with rags.
3. Inspect all mechanical parts for cracks, dents, breaks, and wear. Replace the component if unserviceable.
4. Check that the vent hole in the flame arrestor is clear of all debris.

ASSEMBLY

1. Position new relief cap gasket (13) over flame arrestor (14). Seat relief cap gasket (13) into relief cap (12).
2. Install flame arrestor (14) into relief cap (12). Rotate flame arrestor (14) clockwise until threads are firmly seated in relief cap (12).
3. Install flame arrestor (14) into vent pipe (11) until vent pipe (11) contacts relief cap (12).
4. Rotate relief cap (12) clockwise until vent pipe (11) and relief cap (12) are firmly seated together.
5. Install vent pipe (11) into female quick-disconnect coupling (8). Rotate vent pipe (11) clockwise until it firmly seats in female quick-disconnect coupling (8).
6. Install new gasket (10) into female quick-disconnect coupling (8).
7. Install female quick-disconnect coupling (8) on male-flanged adapter (4) pushing in cam-lever arms (9) until locked in place.
8. Install new gasket (15) inside dust cap (16).

INSTALLATION

1. Lubricate new O-ring (6) with silicone compound.
2. Install O-ring (6) into packing groove (7) located in tank fitting (5).
3. Position male-flanged adapter (4) over tank fitting (5).
4. Install eight washers (2) and screws (1) through vent fitting assembly (3) and tank fitting (5) holes.
5. Torque screws (1) to 15 ft-lb (20.34 N•m) for Reliance Models and to 16 ft-lb (21.70 N•m) for MPC Models.

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON FILLER/DISCHARGE ASSEMBLY (GTA MODEL) SERVICE AND REPAIR

INITIAL SETUP

Tools
Tool Kit General Mechanics
(Item 1, WP 0036 00)
Torque Wrench (ft-lb)
(Item 3, WP 0036 00)

Materials/Parts
Detergent
(Item 6, WP 0042 00)
Dry Cleaning Solvent
(Item 7, WP 0042 00)
Rags, Wiping
(Item 2, WP 0042 00)
Silicone Compound
(Item 10, WP 0042 00)

Equipment Condition
Filler/Discharge hose assembly removed
(WP 0022 00)

Mandatory Replacement Parts
Gasket
(Item 1, WP 0044 00)
Gasket
(Item 12, WP 0044 00)
Gasket
(Item 13, WP 0044 00)
Lockwasher
(Item 6, WP 0044 00)
O-Ring
(Item 11, WP 0044 00)

DISASSEMBLY

CAUTION

Be sure to take off the closure plate before removing the flanged adapter. The flanged adapter is bolted to the closure plate. If the flanged adapter is removed first, the hex head nuts will fall into the tank.

NOTE

The filler/discharge fitting on the discharge end requires a female/male elbow. The filler/discharge fitting on the fill end requires a female/female elbow.

1. Remove 4-inch elbow (1) by pulling outward on cam-lever arms (2), and lifting elbow (1) from flanged adapter (3).
2. Remove and discard elbow gasket (4) from inside elbow (1).
3. Remove twenty screws (5) and washers (6) from closure plate (7). Lift closure plate (7) from tank fitting (8).
4. Remove and discard o-ring (9) from the packing groove located in tank fitting (8).
5. Remove eight nuts (10), lockwashers (11), screws (12), and gaskets (13) from flanged adapter (3), and flanged adapter gasket (14). Discard lockwashers (11), gaskets (13), and gasket (14).
6. Remove and discard gasket (15) from inside dust cap (16).

SERVICE

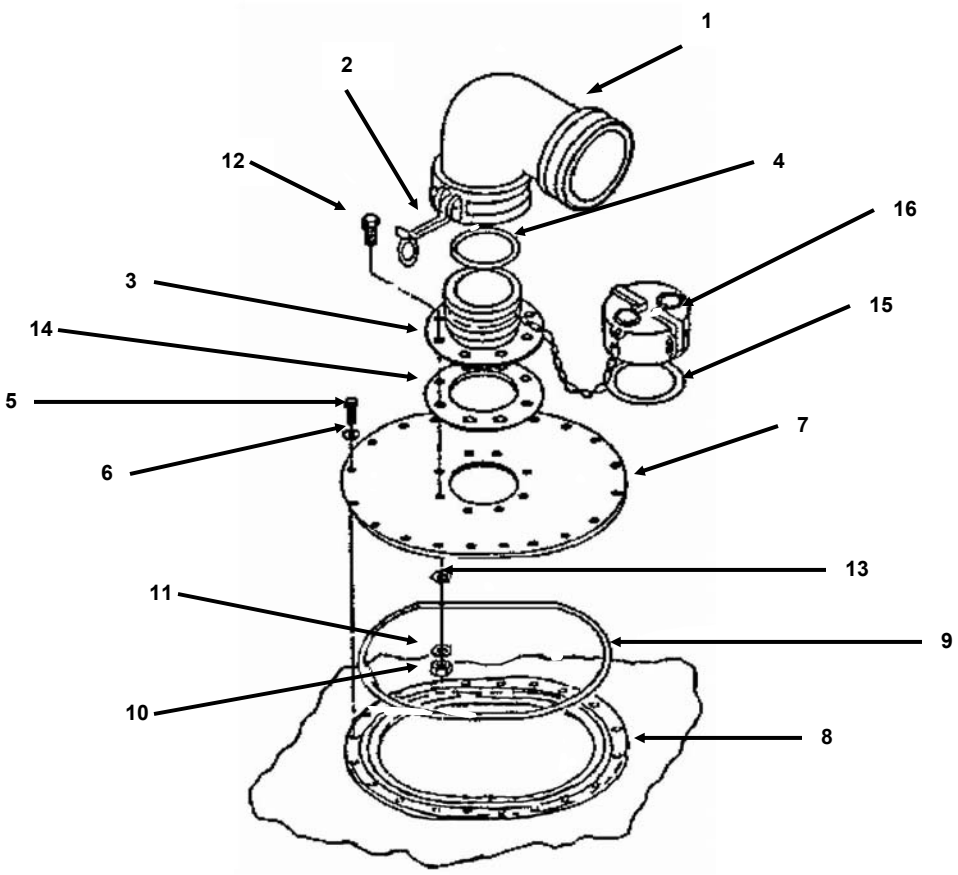
WARNING

Dry cleaning solvent, A-A-59601, used to clean parts, is potentially dangerous to personnel and property. It produces toxic and flammable fumes. Use only in well ventilated areas. Avoid repeated and prolonged skin contact. Do not use solvent near an open flame or near excessive heat. The flash point of the solvent is 100°F to 130°F (38° C to 59° C).

CAUTION

Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

1. Clean all parts with dry cleaning solvent and dry thoroughly with rags.
2. Clean packing grooves thoroughly with detergent and hot water.
3. Clean all gasket-sealing surfaces thoroughly with detergent and hot water.
4. Inspect all mechanical parts for cracks, dents, breaks, and wear. Replace the component if unserviceable.



ASSEMBLY

1. Install new gasket (15) into dust cap (16).
2. Install new elbow gasket (4) into 4-inch elbow (1).
3. Position new flanged adapter gasket (14) on closure plate (7), and align the holes.
4. Position flanged adapter (3) on flanged adapter gasket (14), and align the holes.
5. Install screws (12) through the holes in flanged adapter (3), and thread screws (12) through.
6. Assemble new gaskets (13), new lockwashers (11), and nuts (10) to screws (12). Torque the fastening hardware to 16 ft-lbs (21.70 N•m).
7. Lubricate new o-ring (9) with silicone compound. Position o-ring (9) into the packing groove.
8. Position closure plate (7) and attached components on the tank. Install closure plate (7) and attached components through the opening in the tank, until closure plate (7) contacts tank fitting (8).

NOTE

If the tank is lying completely flat, lift the tank to the closure plate to begin threading the screws through the tank fitting.

9. Assemble twenty washers (6) onto screws (5). Install screws (5) through closure plate (7) and tank fitting (8).
10. Torque fastening screws (5) to 16 ft-lbs (21.70 N•m).
11. Position elbow (1) on flanged adapter (3), and push cam-lever arms (2) inward, locking elbow (1) to flanged adapter (3).

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON FILLER/DISCHARGE ASSEMBLY (RELIANCE AND MPC MODELS) SERVICE AND REPAIR

INITIAL SETUP

Tools
Tool Kit, General Mechanics
(Item 1, WP 0036 00)
Torque Wrench (ft-lb)
(Item 3, WP 0036 00)

Materials/Parts
Detergent
(Item 6, WP 0042 00)
Dry Cleaning Solvent
(Item 7, WP 0042 00)
Rags, Wiping
(Item 2, WP 0042 00)
Silicone Compound
(Item 10, WP 0042 00)

Equipment Condition
Filler/Discharge hose assembly removed
(WP 0022 00)

Mandatory Replacement Parts
Gasket
(Item 1, WP 0044 00)
Gasket
(Item 12, WP 0044 00)
Gasket
(Item 13, WP 0044 00)
Lockwasher
(Item 6, WP 0044 00)
O-Ring
(Item 11, WP 0044 00)

DISASSEMBLY

CAUTION

Be sure to take off closure plate before removing the flanged adapter. The flanged adapter is bolted to the closure plate and suction stub. If the flanged adapter is removed first, the hex head nuts bolted to the suction stub will fall into the tank.

NOTE

The filler/discharge fitting on the discharge end requires a female/male elbow. The filler/discharge fitting of the fill end requires a female/female elbow.

1. Remove 4-inch elbow (1) by pulling outward on cam-lever arms (2), and lifting elbow (1) from flanged adapter (3).
2. Remove and discard elbow gasket (4) from inside elbow (1).
3. Remove twenty screws (5) and washers (6) from closure plate (7). Lift closure plate (7) from tank fitting (8).
4. Remove and discard o-ring (9) from the packing groove located in tank fitting (8).

NOTE

MPC Model Tanks use an additional eight gaskets on the screws for mounting the suction stub.

5. Remove eight nuts (10), lockwashers (11), screws (12), and gaskets (13) from suction stub (14) flanged adapter (3), and gasket (15). Discard lockwashers (11), gaskets (13), and gasket (15).
6. Remove and discard gasket (16) from inside dust cap (17).

SERVICE

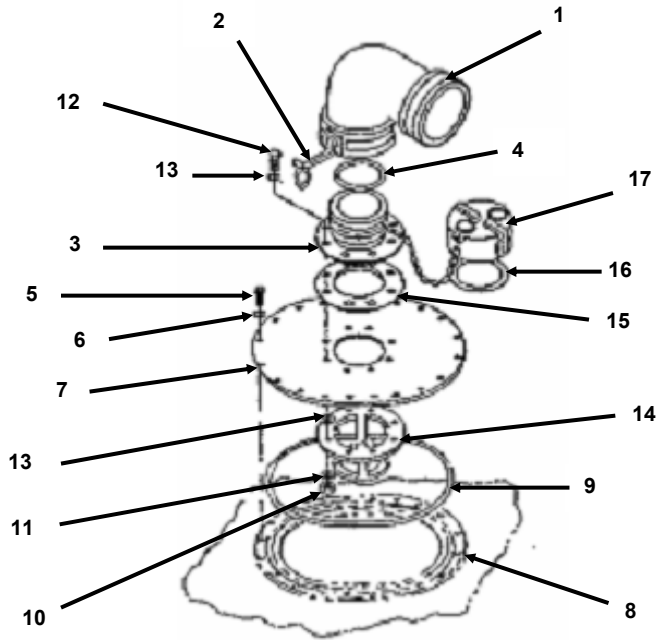
WARNING

Dry cleaning solvent, A-A-59601, used to clean parts, is potentially dangerous to personnel and property. It produces toxic and flammable fumes. Use only in well ventilated areas. Avoid repeated and prolonged skin contact. Do not use solvent near an open flame or near excessive heat. The flash point of the solvent is 100°F to 130°F (38°C to 59°C).

CAUTION

Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

1. Clean all parts with dry cleaning solvent and dry thoroughly with rags.
2. Clean packing grooves thoroughly with detergent and hot water.
3. Clean all gasket-sealing surfaces thoroughly with detergent and hot water.
4. Inspect all mechanical parts for cracks, dents, breaks, and wear. Replace the component if unserviceable.



ASSEMBLY

1. Install new gasket (16) into dust cap (17).
2. Install new elbow gasket (4) into 4-inch elbow (1).
3. Place suction stub (14) on a hard, flat surface with the eight bolt holes positioned up.
4. Position new gaskets (13) over each bolt hole in suction stub (14).
5. Position closure plate (7), on top of new gaskets (13), and align holes.
6. Position new flanged adapter gasket (15) on closure plate (7), and align the holes.
7. Position flanged adapter (3) on gasket (15), and align the holes.

NOTE

MPC Model Tanks use an additional eight gaskets on the screws for mounting the suction stub.

8. Install screws (12) and new gaskets (13) (if required) through the holes in flanged adapter (3), and thread screws (12) through until the ends protrude through suction stub (14).
9. Assemble new gaskets (13), new lockwashers (11), and nuts (10) to screws (12). Torque fastening hardware to 15 ft-lbs (20.34 N•m) for Reliance Models and to 16 ft-lb (21.70 N•m) for MPC Models.
10. Lubricate new o-ring (9) with silicone compound. Position o-ring (9) into the packing groove.
11. Position closure plate (7) and attached components on the tank. Install closure plate (7) and attached components through the opening in the tank, until closure plate (7) contacts tank fitting (8).

NOTE

If the tank is lying completely flat, lift the tank to the closure plate to begin threading the screws through the tank fitting.

12. Assemble washers (6) onto screws (5). Install screws (5) through closure plate (7) and tank fitting (8).
13. Torque fastening screws (5) to 15 ft-lbs (20.34 N•m) for Reliance Models and to 16 ft-lb (21.70 N•m) for MPC Models.
14. Position elbow (1) on flanged adapter (3), and push cam-lever arms (2) inward, locking elbow (1) to flanged adapter (3).

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON TANK DRAIN FITTING ASSEMBLY SERVICE AND REPAIR

INITIAL SETUP

Tools
Tool Kit, General Mechanics
(Item 1, WP 0036 00
Torque Wrench (ft-lb)
(Item 3, WP 0036 00)

Materials/Parts
Anti-seize Tape
(Item 1, WP 0042 00)
Detergent
(Item 6, WP 0042 00)
Dry Cleaning Solvent
(Item 7, WP 0042 00)
Rags, Wiping
(Item 2, WP 0042 00)
Sealing Compound
(Item 9, WP 0042 00)
Silicone Compound
(Item 10, WP 0042 00)

Equipment Condition
Tank drain hose assembly removed
(WP 0024 00)

Mandatory Replacement Parts
O-ring
(Item 9, WP 0044 00)

DISASSEMBLY

1. Disconnect the S-hook of chain assembly (1) from bracket (2). Remove drain plug screw (3), bracket (2), and drain plug (4) from drain cover plate (5).

2. Disconnect the S-hook on other end of chain assembly (1) from bracket (6). Remove eight screws (7), bracket (6), and washers (8) from drain cover plate (5) and tank fitting.

3. Remove drain cover plate (5).

4. Remove o-ring (9) from the packing groove located in the tank fitting. Discard o-ring (9).

SERVICE

WARNING

Dry cleaning solvent, A-A-59601, used to clean parts, is potentially dangerous to personnel and property. It produces toxic and flammable fumes. Use only in well ventilated areas. Avoid repeated and prolonged skin contact. Do not use solvent near an open flame or near excessive heat. The flash point of the solvent is 100°F to 130°F (38°C to 59°C).

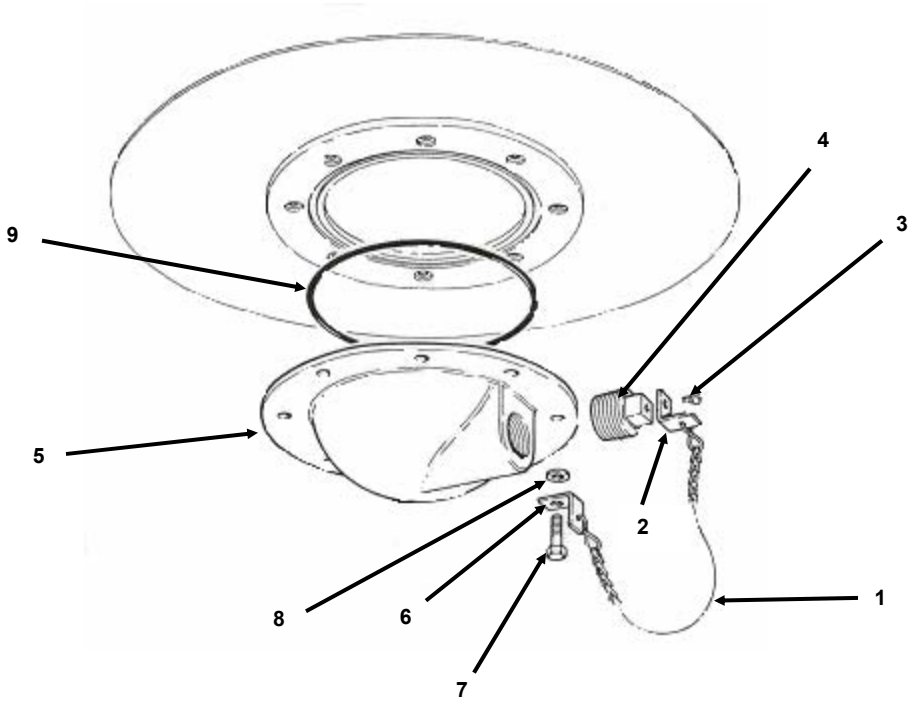
CAUTION

Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

1. Clean all parts with dry cleaning solvent and dry thoroughly with rags.

2. Clean packing grooves thoroughly with detergent and hot water.

3. Inspect all mechanical parts for cracks, dents, breaks, and wear. Replace the component if unserviceable.



ASSEMBLY

1. Lubricate new o-ring (9) with silicone compound. Position o-ring (9) into the packing groove located on the tank fitting.

2. Position drain cover plate (5) on the tank fitting, and align the fastening holes.

3. Install drain cover plate (5) and bracket (6) to the tank fitting with eight screws (7) and washers (8), by hand tightening screws (7).

4. Attach the S-hook of chain assembly (1) to bracket (6). Torque all screws (7) to 15 ft-lb (20.34 N•m) for Reliance Models or 16 ft-lbs (21.70 N•m) for GTA and MPC Models.

5. Apply sealing compound or anti-seize tape to drain plug screw (3) threads.

6. Install drain plug screw (3), bracket (2), and drain plug (4) to drain cover plate (5). Attach the S-hook of chain assembly (1) to bracket (2).

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON TANK ASSEMBLY SERVICE

INITIAL SETUP

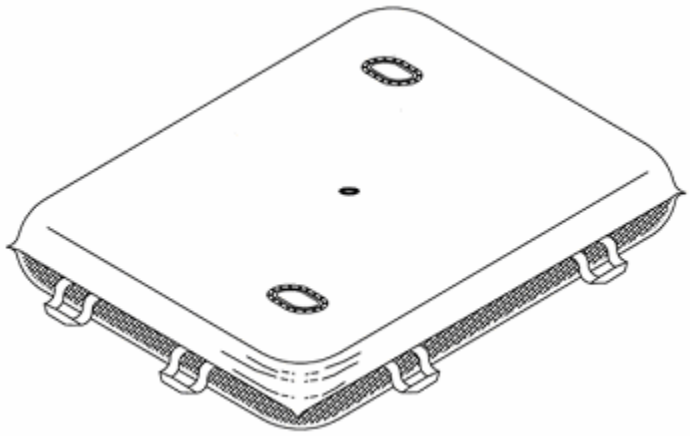
Tools
Tool Kit General Mechanics
(Item 1, WP 0036 00)

Equipment Condition
Filler/Discharge hose assembly removed
(WP 0022 00)

Materials/Parts
Detergent
(Item 6, WP 0042 00)
Dry Cleaning Solvent
(Item 7, WP 0042 00)
Rags, Wiping
(Item 2, WP 0042 00)

REMOVAL

1. Remove the vent fitting assembly from the vent fitting (WP 0025 00 or WP 0026 00).
2. Remove the filler/discharge assemblies (WP 0027 00 or WP 0028 00).
3. Remove the tank drain fitting assembly (WP 0029 00).



SERVICE

WARNING

Dry cleaning solvent, A-A-59601, used to clean parts, is potentially dangerous to personnel and property. It produces toxic and flammable fumes. Use only in well ventilated areas. Avoid repeated and prolonged skin contact. Do not use solvent near an open flame or near excessive heat. The flash point of the solvent is 100°F to 130°F (38° C to 59° C).

CAUTION

Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

1. Clean all mechanical parts with dry cleaning solvent and dry thoroughly with rags.
2. Clean the tank exterior with detergent and hot water.
3. Inspect all mechanical parts for cracks, dents, breaks, and wear. Replace the component if unserviceable.

INSTALLATION

NOTE

Prior to the installation of fuel tank assemblies, the drain end of the tank will unroll first.

1. Unroll the tank and unfold the sides using tank handles to position the tank.
2. Install the tank drain fitting assembly (WP 0029 00).
3. Install the filler/discharge assemblies (WP 0027 00 or WP 0028 00).
4. Install the vent fitting assembly (WP 0025 00 or WP 0026 00).

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 10,000 AND 20,000 GALLON BERM LINER DRAIN HOSE ASSEMBLY SERVICE AND REPAIR

INITIAL SETUP

Materials/Parts
Detergent
(Item 6, WP 0042 00
Dry Cleaning Solvent
(Item 7, WP 0042 00)
Rags, Wiping
(Item 2, WP 0042 00)

Equipment Condition
Berm liner drain ball valve removed
(WP 0023 00)

SERVICE

1. Pull outward on cam-lever arms (1) and remove berm liner drain hose assembly (2) from male disconnect coupling (3).

2. Flush berm liner drain hose assembly (2) with hot, soapy water.

3. Rinse out berm liner drain hose assembly (2) thoroughly and air dry.

WARNING

Dry cleaning solvent, A-A-59601, used to clean parts, is potentially dangerous to personnel and property. It produces toxic and flammable fumes. Use only in well ventilated areas. Avoid repeated and prolonged skin contact. Do not use solvent near an open flame or near excessive heat. The flash point of the solvent is 100°F to 130°F (38° C to 59° C).

CAUTION

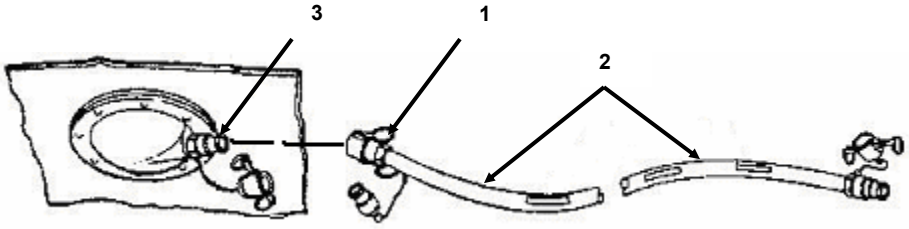
Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

4. Clean the end of male disconnect coupling (3) with dry cleaning solvent and dry thoroughly with rags.

5. Inspect berm liner drain hose assembly (2) for cracks, tears or wear.

6. Push berm liner drain hose assembly (2) on male disconnect coupling (3). Push inward on cam-lever arms (1) and lock berm liner drain hose assembly (2) in place.

7. Install the berm liner drain ball valve. See WP 0023 00.



END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 10,000 AND 20,000 GALLON BERM LINER DRAIN FITTING ASSEMBLY (RELIANCE MODEL) SERVICE AND REPAIR

INITIAL SETUP

Tools
Tool Kit General Mechanics
(Item 1, WP 0036 00
Torque Wrench (ft-lb)
(Item 3, WP 0036 00)

Materials/Parts
Anti-seize Tape
(Item 1, WP 0042 00)
Detergent
(Item 6, WP 0042 00)
Dry Cleaning Solvent
(Item 7, WP 0042 00)
Rags, Wiping
(Item 2, WP 0042 00)
Sealing Compound
(Item 9, WP 0042 00)
Silicone Compound
(Item 10, WP 0042 00)

Equipment Condition
Berm liner drain hose assembly removed
(WP 0031 00)

Mandatory Replacement Parts
Gasket
(Item 3, WP 0044 00)
O-ring
(Item 9, WP 0044 00)

DISASSEMBLY

1. Disconnect chain assembly (1) from male disconnect coupling (2) and dust cap (3).
2. Remove dust cap (3) from male disconnect coupling (2) by pulling outward on cam-lever arms (4) and lifting dust cap (3) from male disconnect coupling (2). Remove and discard gasket (5) from dust cap (3).
3. Unthread male disconnect coupling (2) from drain cover plate (6).
4. Remove eight screws (7) and washers (8) from drain cover plate (6) and berm liner (9).
5. Remove drain cover plate (6), o-ring (10), and screen (11).
6. Discard o-ring (10).

SERVICE

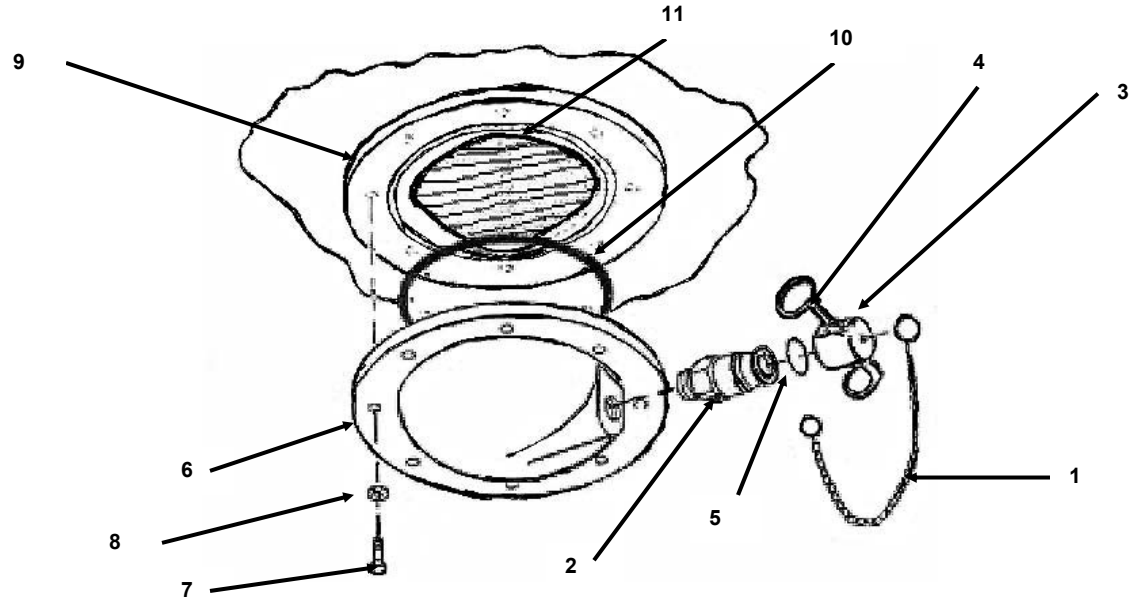
WARNING

Dry cleaning solvent, A-A-59601, used to clean parts, is potentially dangerous to personnel and property. It produces toxic and flammable fumes. Use only in well ventilated areas. Avoid repeated and prolonged skin contact. Do not use solvent near an open flame or near excessive heat. The flash point of the solvent is 100°F to 130°F (38° C to 59° C).

CAUTION

Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

1. Clean all parts with dry cleaning solvent and dry thoroughly with rags.
2. Clean packing groove thoroughly with detergent and hot water.
3. Inspect all mechanical parts for cracks, dents, breaks, and wear. Replace the component if unserviceable.



ASSEMBLY

1. Lubricate new o-ring (10) with silicone compound. Position o-ring (10) into the packing groove located on berm liner (9).
2. Position screen (11) and drain cover plate (6) on berm liner (9) and align the fastening holes.
3. Install drain cover plate (6) to berm liner (9) with eight screws (7) and washers (8), by hand tightening screws (7).
4. Torque all screws (7) to 15 ft-lb (20.34 N•m).
5. Apply sealing compound or anti-seize tape to male disconnect coupling (2) threads.
6. Install dust cap (3) and new gasket (5) on male disconnect coupling (2). Push inward on cam-lever arms (4) to lock dust cap (3) onto male disconnect coupling (2).
7. Attach chain assembly (1) to male disconnect coupling (2) and dust cap (3).

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 10,000 AND 20,000 GALLON BERM LINER DRAIN FITTING ASSEMBLY (GTA MODEL) SERVICE AND REPAIR

INITIAL SETUP

Tools
Tool Kit General Mechanics
(Item 1, WP 0036 00
Torque Wrench (ft-lb)
(Item 3, WP 0036 00)

Materials/Parts
Detergent
(Item 3, WP 0044 00)
Dry Cleaning Solvent
(Item 7, WP 0042 00)
Rags, Wiping
(Item 2, WP 0042 00)
Silicone Compound
(Item 10, WP 0042 00)

Equipment Condition
Berm liner drain hose assembly removed
(WP 0031 00)

Mandatory Replacement Parts
Gasket
(Item 6, WP 0044 00)
Gasket
(Item 13, WP 0044 00)

DISASSEMBLY

1. Disconnect chain assembly (1) from male disconnect coupling (2) and dust cap (3).
2. Remove dust cap (3) from male disconnect coupling (2) by pulling outward on cam-lever arms (4) and lifting dust cap (3) from male disconnect coupling (2). Remove and discard gasket (5) from dust cap (3).
3. Remove eight screws (6) and washers (7) from male disconnect coupling (2) and berm liner (8).
4. Remove male disconnect coupling (2), two gaskets (9), and strainer (10).
5. Discard gaskets (9).

SERVICE

WARNING

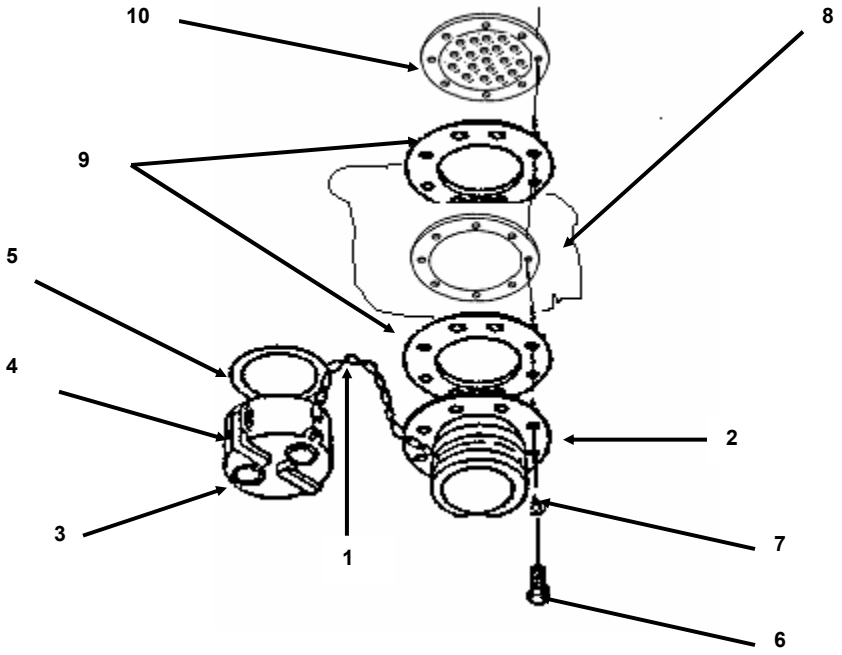
Dry cleaning solvent, A-A-59601, used to clean parts, is potentially dangerous to personnel and property. It produces toxic and flammable fumes. Use only in well ventilated areas. Avoid repeated and prolonged skin contact. Do not use solvent near an open flame or near excessive heat. The flash point of the solvent is 100°F to 130°F (38° C to 59° C).

CAUTION

Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

1. Clean all parts with dry cleaning solvent and dry thoroughly with rags.
2. Clean mating surfaces thoroughly with detergent and hot water.

3. Inspect all mechanical partsInspect all mechanical parts for cracks, dents, breaks, and wear. Replace the component if unserviceable.



ASSEMBLY

1. Lubricate new gaskets (9) with silicone compound.
2. Place one gasket (9) on male disconnect coupling (2). Position other gasket (9) on strainer (10) of berm liner (8).
3. Position male disconnect coupling (2) on berm liner (8) and align the fastening holes.
4. Install male disconnect coupling (2) to berm liner (8) with eight screws (6) and washers (7), by hand tightening screws (6).
5. Torque all screws (6) to 16 ft-lb (21.70 N•m).
6. Install dust cap (3) and new gasket (5) to male disconnect coupling (2). Push inward on cam-lever arms (4) to lock dust cap (3) onto male disconnect coupling (2).
7. Attach chain assembly (1) to male disconnect coupling (2) and dust cap (3).

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON BERM LINER DRAIN FITTING ASSEMBLY (MPC MODEL) SERVICE AND REPAIR

INITIAL SETUP

Tools
Tool Kit, General Mechanics
(Item 1, WP 0036 00)

Equipment Condition
Berm liner drain hose assembly removed
(WP 0031 00)

Materials/Parts
Detergent
(Item 6, WP 0042 00)
Dry Cleaning Solvent
(Item 7, WP 0042 00)
Rags, Wiping
(Item 2, WP 0042 00)

Mandatory Replacement Parts
Gasket
(Item 3, WP 0044 00)
Gasket
(Item 14, WP 0044 00)
O-ring
(Item 15, WP 0044 00)

DISASSEMBLY

1. Disconnect chain assembly (1) from male disconnect coupling (2) and dust cap (3).
2. Remove from male disconnect coupling (2) by pulling outward on cam-lever arms (4) and lifting dust cap (3) from coupling (2). Remove and discard gasket (5) from dust cap (3).
3. Remove coupling (2), shim washer (6), gasket (7), and o-ring gasket (8) from berm liner drain (9).

SERVICE

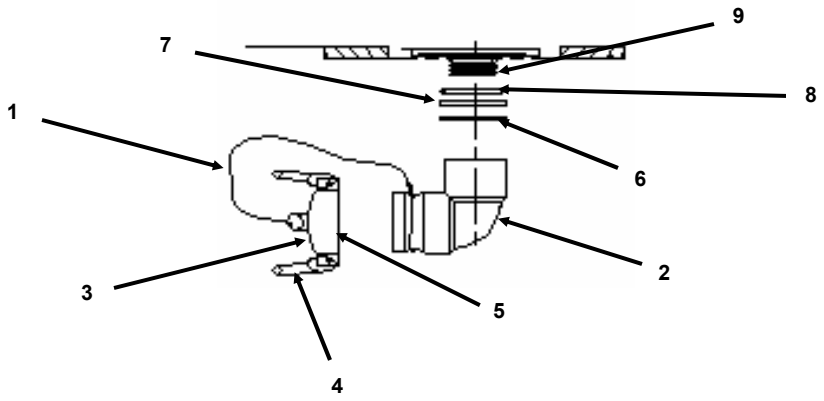
WARNING

Dry cleaning solvent, A-A-59601, used to clean parts, is potentially dangerous to personnel and property. It produces toxic and flammable fumes. Use only in well ventilated areas. Avoid repeated and prolonged skin contact. Do not use solvent near an open flame or near excessive heat. The flash point of the solvent is 100°F to 130°F (38°C to 59°C).

CAUTION

Dry cleaning solvent, A-A-59601, used to clean parts, must not come into contact with any part of the fuel tank fabric. Damage to the fabric will occur.

1. Clean all parts with dry cleaning solvent and dry thoroughly with rags.
2. Inspect all parts for cracks, dents, breaks, and wear. Replace the component if unserviceable.



ASSEMBLY

1. Install new o-ring gasket (8), new gasket (7), shim washer (6), and male disconnect coupling (2) to berm liner drain (9).

2. Install new gasket (5) in dust cap (3). Install dust cap (3) on male disconnect coupling (2) and push inward on cam-lever arms (4) to lock dust cap (3) onto coupling (2).

3. Attach chain assembly (1) to male disconnect coupling (2) and dust cap (3).

END OF WORK PACKAGE

**OPERATOR AND UNIT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
COLLAPSIBLE FABRIC TANKS, FUEL STORAGE, 3,000,
10,000, 20,000, AND 50,000 GALLON
PREPARATION FOR STORAGE OR SHIPMENT**

PREPARATION FOR STORAGE OR SHIPMENT

WARNINGS

Sludge that accumulates at the bottom of the tank gives off toxic and explosive vapors. Inhaling these vapors can cause lead poisoning. When cleaning the fuel tanks, provide ample ventilation to dissipate harmful fumes.

Always wear protective goggles, a breathing apparatus, and other protective gear when cleaning the tank interior. Fuel vapors are toxic and can damage eyes, skin, and lungs.

Fuel vapors are extremely flammable. Exercise care to prevent sparks when working near or in the tank. Death or severe personal injury can result if safety precautions are not strictly observed.

CAUTION

Always handle the tank carefully. Pad the components stored with the tank to avoid chafing during storage or transportation. Rough handling or careless storage can damage the tank.

NOTE

Prior to storage the tank should be disassembled, purged of all residual fuel and fumes, cleaned, and preserved with all its components for future use.

1. Drain fuel from the tank (WP 0005 00).
2. Remove the tank drain hose assembly from the tank drain fitting and install the drain plug (WP 0024 00).
3. Remove the filler/discharge elbows from the filler/discharge adapters (WP 0027 00 or WP 0028 00).
4. Remove the vent fitting assembly from the flanged adapter, and install the dust cap (WP 0025 00 or WP 0026 00).
5. Inflate the tank with air and air-dry the tank for 24 hours.
6. Remove the filler/discharge assembly from the tank (WP 0027 00 or WP 0028 00).
7. Flush the tank with detergent solution.

NOTE

Contact unit/local safety office for disposal of fuel tank cleaning residue.

8. Drain the detergent solution from the tank.
9. Flush the tank with clear water.
10. Air-dry the tank.

11. For Reliance Model tanks, apply technical talc (Item 11, WP 0042 00) to the tank interior.

12. Install the filler/discharge assembly on the tank (WP 0027 00 or WP 0028 00).

13. Install the dust caps on the flanged adapters of the filler/discharge assemblies.

14. Brush off all debris clinging to the fabric material of the tank.

15. For Reliance Model tanks, apply technical talc (Item 11, WP 0042 00) to the tank exterior.

16. Fold the tank from the sides towards the middle.

17. Roll the tank from the end opposite the drain fitting.

18. Plug the exposed hose assembly openings with suitable, clean materials.

CRATING INSTRUCTIONS

1. Make sure the tank has been properly folded (WP 0005 00).

CAUTION

Use care when packing the tank. The tank will be easily damaged by tools, packing box nails, or other sharp objects.

2. Pack the tank in a close-fitting box or container. When the tank is disassembled and refolded, it is to be replaced in the original box or container.

3. Each tank is provided with suitable packing around the tank to prevent the tank fabric from being damaged by contact with the inside of the box or container. When the tank is replaced in the original box or container, the packing material is replaced around the tank in the same manner as received.

ADMINISTRATIVE STORAGE

1. Placement of equipment in administrative storage should be for short periods of time when a shortage of maintenance effort exists. Items should be in mission readiness within 24 hours or within the time factors determined by the directing authority. During the storage period, appropriate maintenance records will be kept.

2. Before placing the equipment in administrative storage, current preventive maintenance checks and services should be completed, shortcomings and deficiencies should be corrected, and all Modification Work Orders (MWO) should be applied.

3. Inside storage is preferred for items selected for administrative storage. If inside storage is not available, trucks, vans, conex containers, and other containers may be used. Refer to WP 0002 00 for ambient storage temperature range.

END OF WORK PACKAGE

CHAPTER 6

SUPPORTING INFORMATION FOR TANK, FUEL STORAGE, 3,000 GALLON, 10,000 GALLON, 20,000 GALLON, AND 50,000 GALLON

**OPERATOR AND UNIT MAINTENANCE
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
COLLAPSIBLE FABRIC TANK, FUEL STORAGE, 3,000
10,000, 20,000, AND 50,000 GALLON
REFERENCES**

REFERENCES

This work package lists all forms, field manuals, technical manuals and miscellaneous publications referenced in this manual.

TECHNICAL MANUALS

AR 700-138	Army Logistics Readiness and Sustainability
AR 750-1	Army Materiel Maintenance Policy and Retail Maintenance Operations
DA PAM 738-750	Functional Users Manual for The Army Maintenance Management System (TAMMS)
DA PAM 738-751	Functional Users Manual for The Army Maintenance Management System Aviation (TAMMS-A)
TM 750-244-3	Procedures for Destruction of Equipment to Prevent Enemy Use

FORMS

DA Form 2404	Equipment Inspection and Maintenance Worksheet
DA Form 2407	Maintenance Request
DA Form 2407-1	Maintenance Request Continuation Sheet
DA Form 2028	Recommended Changes to Publications and Blank Forms
SF Form 368	Product Quality Deficiency Report

FIELD MANUALS

FM 3-3, FM 3-4, FM 3-5	Detailed Decontamination Procedures
FM 21-11	First Aid

MISCELLANEOUS

CTA 8-100	Army Medical Dept. Expendable/Durable Items
CTA 50-970	Expendable/Durable Items (except medical, Class V repair parts, and heraldic items)

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
COLLAPSIBLE FABRIC TANK, FUEL STORAGE, 3,000, 10,000
20,000 AND 50,000 GALLON TANKS
MAINTENANCE ALLOCATION CHART

MAINTENANCE ALLOCATION CHART (MAC)

INTRODUCTION

The Army Maintenance System MAC

This introduction provides a general explanation of all maintenance and repair functions authorized at various maintenance levels under the standard Army Maintenance System concept.

The MAC (immediately following the introduction) designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component shall be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Unit – includes two subcolumns, C (operator/crew) and O (unit) maintenance.

Direct Support – includes an F subcolumn.

General Support – includes an H subcolumn.

Depot – includes a D subcolumn.

The tools and test equipment requirements (immediately following the MAC) list the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from the MAC.

The remarks (immediately following the tools and test equipment requirements) contain supplemental instructions and explanatory notes for a particular maintenance function.

Maintenance Functions

Maintenance functions are limited to and defined as follows:

1. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination; e.g., by sight, sound, or feel.

2. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis.

3. Service. Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or gases.

4. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.

5. Align. To adjust specified variable elements of an item to bring out optimum or desired performance.

6. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

7. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

8. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.

9. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

NOTE

The following definitions are applicable to the "Repair" maintenance function:

Services – Inspect, test, service, adjust, align, calibrate, and/or replace.

Fault location/troubleshooting – The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).

Disassembly/assembly – The step-by-step breakdown (taking apart) of a spare/functional group coded item to the level of its least component that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).

Actions – Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

10. Overhaul. That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications. Overhaul is normally the highest degree of maintenance preformed by the Army. Overhaul does not normally return an item to like-new condition.

11. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

Explanation of Columns in the MAC

Column (1) – Group Number. Column (1) lists functional group code (FGC) numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the Next Higher Assembly (NHA). End item group number shall be "00."

Column (2) – Component/Assembly. Column (2) contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

Column (3) – Maintenance Function. Column (3) lists the functions to be performed on the item listed in column (2). (For a detailed explanation of these functions refer to "Maintenance Functions" outlined above.)

Column (4) – Maintenance Level. Column (4) specifies each level of maintenance authorized to perform each function listed in column (3), by indicating work time required (expressed as man-hours in whole hours or decimals) in the appropriate subcolumn. This work time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work time figures are to be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. The symbol designations for the various maintenance levels are as follows:

C – Operator or crew maintenance

O – Unit maintenance

F – Direct support maintenance

L – Specialized repair activity (SRA)

H – General support maintenance

D – Depot maintenance

NOTE

The “L” maintenance level is not included in column (4) of the MAC. Functions to this level of maintenance are identified by a work time figure in the “H” column of column (4), and an associated reference code is used in the REMARKS column (6). This code is keyed to the remarks and the SRA complete repair application is explained there.

Column (5) – Tools and Test Equipment Reference Code. Column (5) specifies, by code, those common tool sets (not individual tools), common Test, Measurement and Diagnostic Equipment (TMDE), and special tools, special TMDE and special support equipment required to perform the designated function. Codes are keyed to the entries in the tools and test equipment table.

Column (6) – Remarks Code. When applicable this column contains a letter code, in alphabetical order, which is keyed to the remarks table entries.

Explanation of Columns in the Tool and Test Equipment Requirements

Column (1) – Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in column (5) of the MAC.

Column (2) – Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

Column (3) – Nomenclature. Name or identification of the tool or test equipment.

Column (4) – National Stock Number (NSN). The NSN of the tool or test equipment.

Column (5) – Tool Number. The manufacturer’s part number, model number, or type number.

Explanation of Columns in the Remarks

Column (1) – Remarks Code. The code recorded in column (6) of the MAC.

Column (2) – Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC.

Table 1. MAC for 3,000 Gallon, 10,000 Gallon, 20,000 Gallon, 50,000 Gallon Collapsible Fabric Tank, Fuel.

(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5)	(6)
			UNIT		DS	GS	DEPOT	TOOLS AND TEST	
GROUP NUMBER	COMPONENT/ ASSEMBLY	MAINTENANCE FUNCTION	C	O	F	H	D	EQUIPMENT REF CODE	REMARKS CODE
00	TANK, FABRIC, COLLAPSIBLE, FUEL								
01	VALVE ASSY, GATE/BALL, 4 IN., FILLER/DISCHARGE	Inspect	0.1	0.1					A
		Service		0.8					
		Replace		0.2				1, 2, 3	
		Repair	0.4	0.8				1, 2, 3	B
02	HOSE ASSY, FILLER/DISCHARGE	Inspect	0.1	0.1					
		Service		0.2					
		Replace	0.2	0.2					
		Repair	0.1						
03	VALVE ASSY, BALL, 2 IN., TANK DRAIN	Inspect	0.1	0.1					
		Service		0.2					
		Replace		0.1					
		Repair	0.1	0.2				1	B
04	HOSE ASSY, TANK DRAIN	Inspect	0.1	0.1					
		Service		0.2					
		Replace		0.2				1	
		Repair	0.1						
05	VENT FITTING ASSY	Inspect	0.1	0.1					A
		Service		0.8					
		Replace		0.2					
		Repair	0.4	0.8				1	B
0501	CAP AND FLAME ARRESTOR ASSY, RELIEF	Inspect	0.1	0.1					A
		Service		0.2					
		Replace		0.2					
		Repair		0.2				1	
0502	PIPE ASSY, VENT	Inspect	0.1	0.1					A
		Service		0.2					
		Replace		0.2					
		Repair	0.2	0.2				1	B
06	ASSY, FILLER/DISCHARGE	Inspect	0.1	0.1					A
		Service		0.8					
		Repair	0.4	0.8				1, 3	B
07	FITTING ASSY, TANK DRAIN	Inspect	0.1	1.0					A
		Service		0.5					
		Repair		0.5				1, 3	

Table 1. MAC for 3,000 Gallon, 10,000 Gallon, 20,000 Gallon, 50,000 Gallon Collapsible Fabric Tank, Fuel (cont.).

(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5)	(6)
			UNIT		DS	GS	DEPOT	TOOLS AND TEST	
GROUP NUMBER	COMPONENT/ ASSEMBLY	MAINTENANCE FUNCTION	C	O	F	H	D	EQUIPMENT REF CODE	REMARKS CODE
08	TANK	Inspect	0.5						
		Service		1.0					
		Repair	0.5					1	C
09	ASSY, BERM LINER	Inspect	0.5						A
		Service		1.0					
		Replace		0.5					
		Repair		3.0				1, 3	
0901	FITTING ASSY, DRAIN	Inspect	0.1	1.0					A
		Service		0.5					
		Repair		0.5				1, 3	
0902	VALVE ASSY, BALL, 2 IN.	Inspect	0.1	0.1					A
		Service		0.2					
		Replace		0.1					
		Repair	0.1	0.2				1	B
0903	HOSE ASSY, DRAIN	Inspect	0.1	0.1					
		Service		0.2					
		Replace		0.2					
		Repair	0.1					1	C
0904	BERM LINER	Replace		0.5					
10	REPAIR ITEMS, EMERGENCY	Inspect	0.1						
		Replace	0.1						

Table 2. Tools and Test Equipment Requirements for 3,000 Gallon, 10,000 Gallon, 20,000 Gallon, 50,000 Gallon Collapsible Fabric Tank, Fuel.

TOOL OR TEST EQUIPMENT REF. CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
1	O	Tool Kit, General Mechanics: Automotive	5180-00-177-7033	(50980) SC5180-90-CL-N26
2	O	Torque Wrench (inch-pounds)	5120-01-075-2597	(80204) B107.14M TY1CLBST3
3	O	Torque Wrench (foot-pounds)	5120-00-242-3264	(80204) B107.14M

Table 3. Remarks for 3,000 Gallon, 10,000 Gallon, 20,000 Gallon, 50,000 Gallon Collapsible Fabric Tank, Fuel.

REMARKS CODE	REMARKS
A	Operator inspection occurs with assembly in tact. Unit level inspection occurs after the assembly has been disassembled and cleaned.
B	Operator repair is limited to replacement of gaskets on quick-disconnect couplings.
C	Operator repair is limited to use of the clamps and plugs included with the emergency repair items.

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
COLLAPSIBLE FABRIC TANK, FUEL STORAGE, 3,000, 10,000 20,000, AND 50,000 GALLON
REPAIR PARTS AND SPECIAL TOOLS LIST

INTRODUCTION

SCOPE

This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of unit maintenance of the Collapsible Fabric Tank, Fuel Storage. It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the source, maintenance, and recoverability (SMR) codes.

GENERAL

In addition to the Introduction work package, this RPSTL is divided into the following work packages.

1. Repair Parts List Work Packages. Work packages containing lists of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. These work packages also include parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Sending units, brackets, filters, and bolts are listed with the component they mount on. Bulk materials are listed by item name in FIG. BULK at the end of the work packages. Repair parts kits are listed separately in their own functional group and work package. Repair parts for reparable special tools are also listed in a separate work package. Items listed are shown on the associated illustrations.

2. Special Tools List Work Packages. Work packages containing lists of special tools, special TMDE, and special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE (UOC) column). Tools that are components of common tool sets and/or Class VII are not listed.

3. Cross-Reference Index Work Packages. There are two cross-reference index work packages in this RPSTL: the National Stock Number (NSN) Index work package and the Part Number (P/N) Index work package. The National Stock Number Index work package refers you to the figure and item number. The Part Number Index work package refers you to the figure and item number.

EXPLANATION OF COLUMNS IN THE REPAIR PARTS LIST AND SPECIAL TOOLS LIST WORK PACKAGES

ITEM NO. (Column (1)). Indicates the number used to identify items called out in the illustration.

SMR CODE (Column (2)). The SMR code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction, as shown in the following breakout:

Source Code	Maintenance Code		Recoverability Code
XX	XX		XX
1st two positions: How to get an item.	3rd position: Who can install, replace, or use the item.	4th position: Who can do complete repair* on the item.	5th position: Who determines disposition action on unserviceable items.

*Complete Repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

Source Code. The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

Source Code	Application/Explanation
PA PB PC PD PE PF PG	Stock items; use the applicable NSN to requisition/request items with these source codes. They are authorized to the level indicated by the code entered in the 3rd position of the SMR code. **NOTE** Items coded PC are subject to deterioration.
KD KF KB	Item with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance level indicated in the 3rd position of the SMR code. The complete kit must be requisitioned and applied.
MO – Made at unit/AVUM level MF – Made at DS/AVIM level MH – Made at GS level ML – Made at SRA MD – Made at depot	Items with these codes are not to be requisitioned/requested individually. They must be made from bulk material which is identified by the P/N in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk material group work package of the RPSTL. If the item is authorized to you by the 3rd position code of the SMR code, but the source code indicates it is made at higher level, order the item from the higher level of maintenance.
AO – Assembled by unit/AVUM level AF – Assembled by DS/AVIM level AH – Assembled by GS level AL – Assembled by SRA AD – Assembled by depot	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3rd position of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.
XA	Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to the NOTE below.)
XB	If an item is not available from salvage, order it using the CAGEC and P/N.
XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's P/N.
XD	Item is not stocked. Order an XD-coded item through normal supply channels using the CAGEC and P/N given, if no NSN is available.

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes except for those items source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.

Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

Third position. The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to the following levels of maintenance:

Maintenance Code	Application/Explanation
C –	Crew or operator maintenance done within unit/AVUM maintenance.
O –	Unit level/AVUM maintenance can remove, replace, and use the item.
F –	Direct support/AVIM maintenance can remove, replace, and use the item.
H –	General support maintenance can remove, replace, and use the item.
L –	Specialized repair activity can remove, replace, and use the item.
D –	Depot can remove, replace, and use the item.

Fourth position. The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (perform all authorized repair functions).

NOTE

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

Maintenance Code	Application/Explanation
O –	Unit/AVUM is the lowest level that can do complete repair of the item.
F –	Direct support/AVIM is the lowest level that can do complete repair of the item.
H –	General support is the lowest level that can do complete repair of the item.
L –	Specialized repair activity is the lowest level that can do complete repair of the item.
D –	Depot is the lowest level that can do complete repair of the item.
Z –	Nonreparable. No repair is authorized.
B –	No repair is authorized. No parts or special tools are authorized for maintenance of “B” coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is shown in the fifth position of the SMR code as follows:

Recoverability Code	Application/Explanation
Z –	Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of the SMR Code.
O –	Reparable item. When uneconomically reparable, condemn and dispose of the item at the unit level.
F –	Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support level.
H –	Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support level.
D –	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item are not authorized below depot level.
L –	Reparable item. Condemnation and disposal not authorized below Specialized Repair Activity (SRA).
A –	Item requires special handling or condemnation procedures because of specific reasons (such as precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

NSN (Column (3)). The NSN for the item is listed in this column.

CAGEC (Column (4)). The Commercial and Government Entity Code (CAGEC) is a five-digit code which is used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

PART NUMBER (Column (5)). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

NOTE

When you use an NSN to requisition an item, the item you receive may have a different P/N from the number listed.

DESCRIPTION AND USABLE ON CODE (UOC) (Column (6)). This column includes the following information:

1. The federal item name, and when required, a minimum description to identify the item.

2. P/Ns of bulk materials are referenced in this column in the line entry to be manufactured or fabricated.

3. Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.

4. The statement END OF FIGURE appears just below the last item description in column (6) for a given figure in both the repair parts list and special tools list work packages.

QTY (Column (7)). The QTY (quantity per figure) column indicates the quantity of the item used in the breakdown shown on the illustration/figure, which is prepared for a functional group, subfunctional group, or an assembly. A “V” appearing in this column instead of a quantity indicates that the quantity is variable and quantity may change from application to application.

EXPLANATION OF CROSS-REFERENCE INDEX WORK PACKAGES FORMAT AND COLUMNS

1. National Stock Number (NSN) Index Work Package.

STOCK NUMBER Column. This column lists the NSN in National item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN.

NSN (e.g., 5385-01-574-1476) NIIN	When using this column to locate an item, ignore the first four digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

FIG. Column. This column lists the number of the figure where the item is identified/located. The figures are in numerical order in the repair parts list and special tools list work packages.

ITEM Column. The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

2. Part Number (P/N) Index Work Package. P/Ns in this index are listed in ascending alphanumeric sequence (vertical arrangement of letter and number combinations which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

PART NUMBER Column. Indicates the P/N assigned to the item.

FIG. Column. This column lists the number of the figure where the item is identified/located in the repair parts list and special tools list work packages.

ITEM Column. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

SPECIAL INFORMATION

UOC. The UOC appears in the lower left corner of the Description column heading. Usable on codes are shown as “UOC: …” in the Description column (justified left) on the first line under the applicable item/nomenclature. Uncoded items are applicable to all models. Identification of the UOCs used in the RPSTL are:

Code	Used On	Code	Used On
FTA	3,000 Gallon, Model GTA-3KF	FTR	3,000 Gallon, Model RCF-3-K-F-OB
FTB	10,000 Gallon, Model GTA-10KF	FTJ	10,000 Gallon, Model RCF-10-K-F-OB
FTC	20,000 Gallon, Model GTA-20KF	FTH	20,000 Gallon, Model RCF-20-K-F-OB
FTD	50,000 Gallon, Model GTA-50KF	FTG	50,000 Gallon, Model RCF-50-K-F-OB

Code	Used On
FTI	3,000 Gallon, Model MPC-F-03K-13114
FTK	10,000 Gallon, Model MPC-F-10K-22175
FTL	20,000 Gallon, Model MPC-F-20K-22276
FTM	50,000 Gallon, Model MPC-F-50K-22636

Fabrication Instructions. Bulk materials required to manufacture items are listed in the bulk material functional group of this RPSTL. Part numbers for bulk material are also referenced in the Description column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in this manual.

Index Numbers. Items which have the word BULK in the figure column will have an index number shown in the item number column. This index number is a cross-reference between the NSN / P/N index work packages and the bulk material list in the repair parts list work package.

HOW TO LOCATE REPAIR PARTS

1. When NSNs or P/Ns Are Not Known.

First. Using the table of contents, determine the assembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and lists are divided into the same groups.

Second. Find the figure covering the functional group or the subfunctional group to which the item belongs.

Third. Identify the item on the figure and note the number(s).

Fourth. Look in the repair parts list work packages for the figure and item numbers. The NSNs and part numbers are on the same line as the associated item numbers.

2. When NSN Is Known.

First. If you have the NSN, look in the STOCK NUMBER column of the NSN index work package. The NSN is arranged in NIIN sequence. Note the figure and item number next to the NSN.

Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

3. When P/N Is Known.

First. If you have the P/N and not the NSN, look in the PART NUMBER column of the P/N index work package. Identify the figure and item number.

Second. Look up the item on the figure in the applicable repair parts list work package.

END OF WORK PACKAGE

UNIT MAINTENANCE

COLLAPSIBLE FABRIC TANK, 3,000, 10,000, 20,000, 50,000 GALLON

FILLER/DISCHARGE GATE VALVE ASSEMBLY (GTA MODELS)

REPAIR PARTS LIST

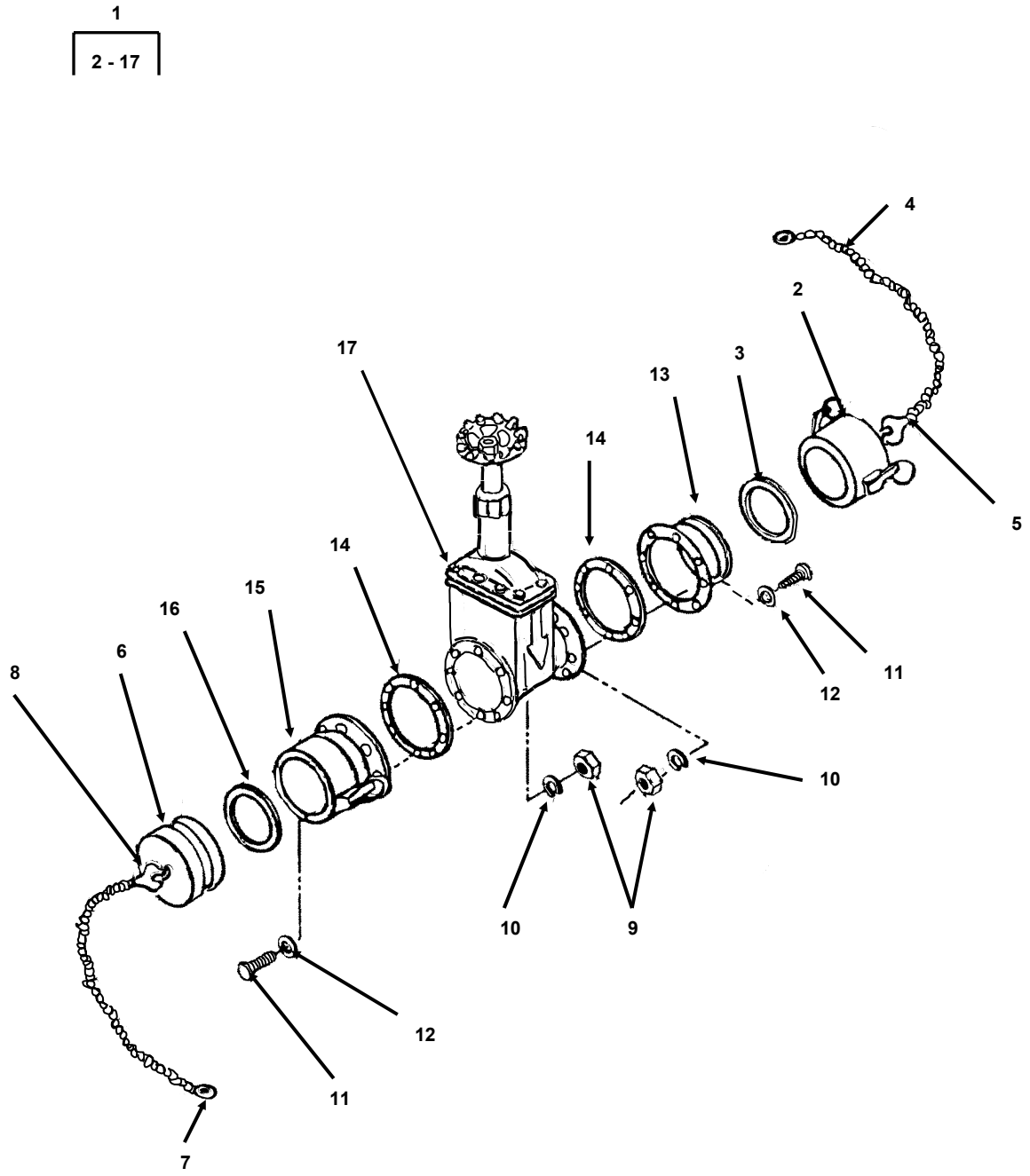


Figure 1. Filler/Discharge Gate Valve Assembly (GTA Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 01 FILLER/DISCHARGE VALVE ASSEMBLY	
					FIG. 1 FILLER/DISCHARGE GATE VALVE ASSEMBLY (GTA MODELS)	
1	XDOOO		0CBB4	GTA-4-FD VAL-ASY	GATE VALVE ASSEMBLY, FILLER AND DISCHARGE UOC: FTA, FTB, FTC, FTD	1
2	PAOOZ	4730-00-640-6156	58536	AA59326IX19	.CAP, QUICK-DISCONNEC 4 IN.	1
3	PCOZZ	5330-00-899-4509	96906	MS27030-9	..GASKET HALF, 4 IN, VALVE ASSEMBLY	1
4	XDOZZ		63711	CAR-12	..CHAIN ASSEMBLY, SING 12 IN, DUST CAP	1
5	XDOZZ		63711	RK-DC-1	..RING, KEY DUST CAP	2
6	PAOOZ	4730-00-640-6188	58536	AA59326X19	.PLUG, QUICK DISCONNEC VALVE ASSY	1
7	XDOZZ		63711	CAR-12	..CHAIN ASSEMBLY, SING 12 IN. DUST PLUG	1
8	XDOZZ		63711	RK-DC-1	..RING, KEY DUST PLUG	2
9	PAOZZ	5310-00-732-0558	96906	MS51967-8	.NUT, PLAIN, HEXAGON 3/8-16, VALVE ASSEMBLY	16
10	PAOZZ	5310-00-637-9541	96906	MS35338-46	.WASHER, LOCK SPLIT, 3/8 IN, ID, VALVE ASSEMBLY	16
11	PAOZZ	5305-00-725-2317	80204	B1821BH038 C150N	.SCREW, CAP, HEXAGON H 3/8-16 VALVE ASSY	16
12	PAOZZ	5310-00-087-7493	96906	MS27183-13	.WASHER, FLAT 3/8 IN, VALVE ASSY	16
13	PAOZZ	4730-00-840-5347	96906	MS27023-17	.COUPLING HALF, QUICK ADAPTER, FLANGED, MALE	1
14	PCOZZ		63711	G-QD-4	.GASKET, VALVE ASSEMBLY	2
15	PAOZZ	4730-00-840-5348	58536	AA59326VIII14	.COUPLING HALF, QUICK DISCONNECT, FEMALE	1
16	PCOZZ	5330-00-899-4509	96906	MS27030-9	..GASKET HALF, 4 IN VALVE ASSEMBLY	1
17	PAOOO	4820-01-189-2809	76364	235RF-0200AV	.VALVE, GATE VALVE ASSY	1

END OF FIGURE

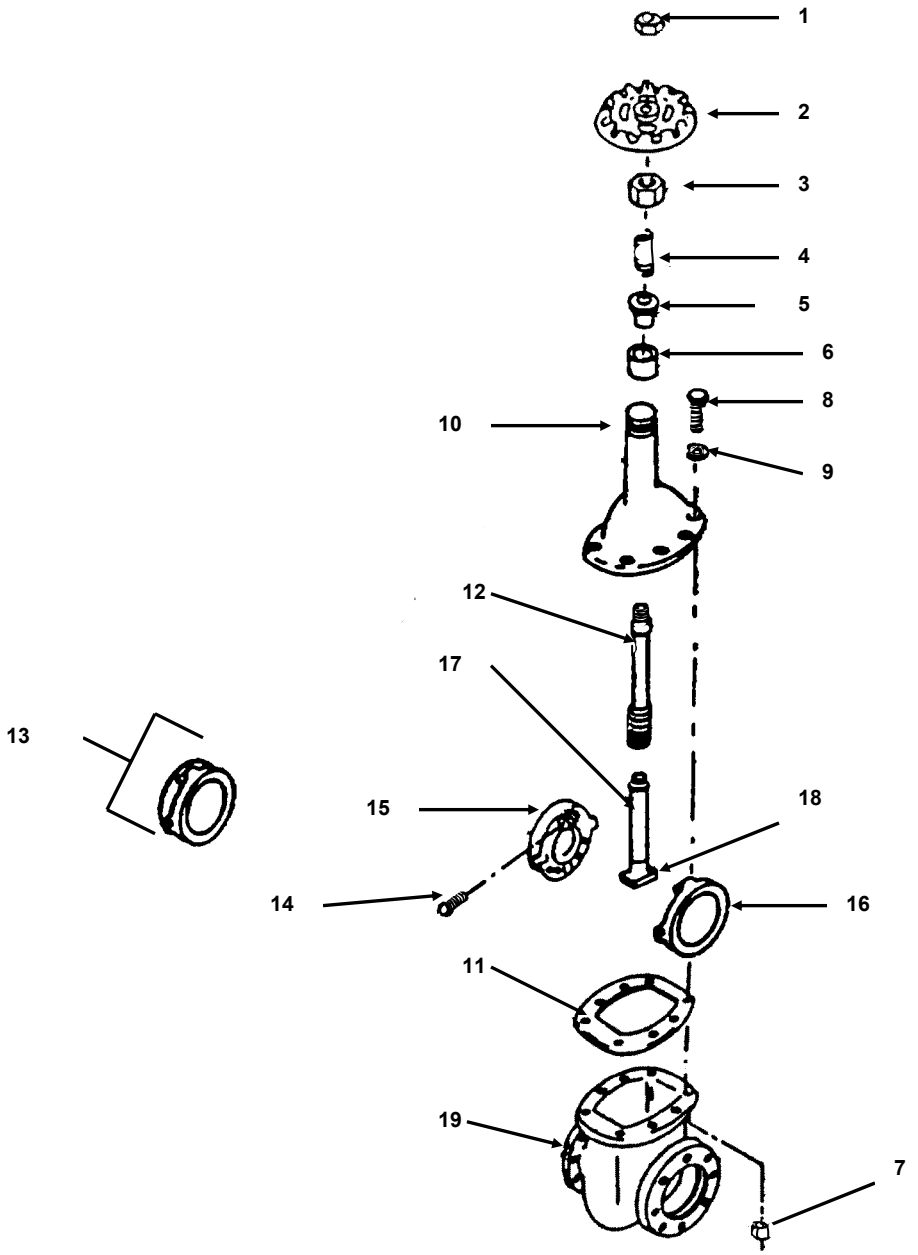


Figure 2. Gate Valve (GTA Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 01 VALVE ASSEMBLY, FILLER/DISCHARGE	
					FIG. 2 GATE VALVE (GTA MODELS)	
	PAOOO	4820-01-189-2809	41592	235RF-0200AV	VALVE, GATE VALVE ASSEMBLY UOC: FTA, FTB, FTC, FTD	1
1	PAOZZ	5310-01-262-1359	41592	235RF-02052N	..NUT, PLAIN, HEXAGON GATE VALVE, 4 IN	1
2	PAOZZ	5340-01-381-1690	41592	235RF-02043A	..HANDWHEEL, GATE VALVE, 4 IN	1
3	PAOZZ	5310-01-262-1337	41592	235RF-020721	..NUT, PACKING GATE VALVE, 4 IN	1
4	PAOZZ	5360-01-262-1338	41592	235RF-02162S	..SPRING, GLAND GATE VALVE, 4 IN	1
5	PAOZZ	5330-01-262-1363	41592	235RF-020621	..RETAINER, PACKING GATE VALVE, 4 IN.	1
6	PAOZZ	5365-01-262-1339	41592	235RF-02082P	..RING, PACKING GATE VALVE, 4 IN	1
7	PAOZZ	5310-01-262-1360	41592	235RF-02202N	..NUT, PLAIN, HEXAGON GATE VALVE, 4 IN.	1
8	PAOZZ	5305-01-262-1365	41592	235RF-02192S	..SCREW, CAP, HEXAGON H GATE VALVE, 4 IN	8
9	PAOZZ	5310-01-265-5044	41592	235RF-02212W	..WASHER, LOCK GATE VALVE, 4 IN	8
10	XDOZZ		41592	235RF-0202MB	..BONNET, VALVE	1
11	PAOZZ	5330-01-262-1340	41592	235RF-02092G	..GASKET, VALVE BONNET	1
12	PAOZZ	4820-01-262-1341	41592	235RF-0203MS	..STEM, VALVE	1
13	PAOOZ	4820-01-262-1342	41592	235RF-0215MR	..RING, SEAT GATE VALVE, 4 IN	1
14	PAOZZ	5305-01-262-1343	41592	235RF-02182S	...SCREW, DISK GATE VALVE, 4 IN	1
15	PAOZZ	4820-01-262-1366	41592	235RF-0210MD	...DISK, VALVE GATE VALVE, 4 IN	1
16	PAOZZ	4820-01-262-5121	41592	235RF-0212MD	...VALVE, GATE VALVE, 4 IN	1
17	PAOZZ	4820-01-262-1344	41592	235RF-0217MR	..DISK, VALVE GATE VALVE, 4 IN	1
18	XDOZZ		76364	3042-L	..PULL, NUT	1
19	XDOZZ		41592	235RF-0201MB	..BODY, VALVE 4 IN	1
					END OF FIGURE	

1

2 - 9

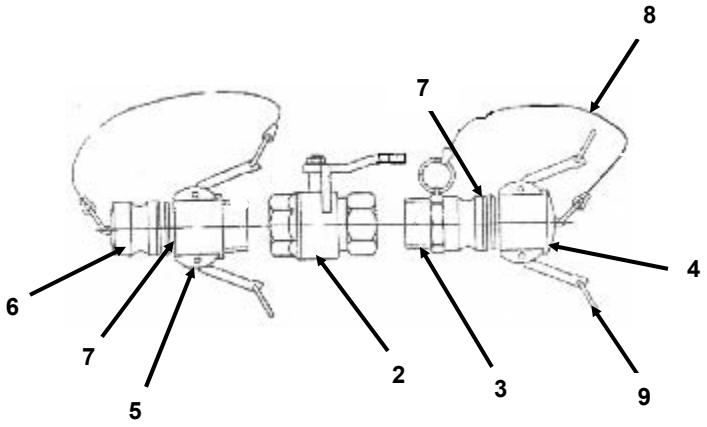


Figure 3. Filler/Discharge Ball Valve Assembly (Reliance and MPC Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 01 VALVE ASSEMBLY FILLER/DISCHARGE	
					FIG. 3 FILLER/DISCHARGE BALL VALVE ASSEMBLY (RELIANCE AND MPC MODELS)	
1	XDOOO		1DFDO	5060	BALL VALVE ASSEMBLY, 4 INCH UOC: FTR, FTJ, FTH, FTG	1
* 1	XDOOO		1EMJ6	MPC-FFDV-4-B	BALL VALVE ASSEMBLY, 4 INCH UOC: FTI, FTK, FTL, FTM	1
* 2	XDOZZ		1DFDO	5060-4	.BALL VALVE, 4 INCH UOC: FTR, FTJ, FTH, FTG	1
* 2	XDOZZ		1EMJ6	BV-FT-BZ-4	.BALL VALVE, 4 INCH UOC: FTI, FTK, FTL, FTM	1
3	PAOZZ	4730-00-840-0797	96906	MS27022-17	.COUPLING HALF, QD, MALE X MALE NPT	1
4	PAOZZ	4730-00-640-6156	58536	AA59326IX19	.CAP, QUICK DISCONNECT	1
5	PAOZZ	4730-00-649-9118	58536	AA59326VII19	.COUPLING HALF, QD, FEMALE X MALE NPT.	1
6	PAOZZ	4730-00-640-6188	58536	AA59326X19	.PLUG, QUICK DISCONNECT	1
7	PCOZZ	5330-00-075-3268	58536	A-A-59326-7	.GASKET	2
* 7	PCOZZ	5330-00-899-4509	96906	MS27030-9	.GASKET UOC: FTI, FTK, FTL, FTM	2
* 8	XDOZZ		63711	5060F7	.CHAIN, 6 INCH UOC: FTR, FTJ, FTH, FTG	2
* 8	XDOZZ		63711	BRC-10-1	.CHAIN, 10 INCH UOC: FTI, FTK, FTL, FTM	2
* 9	XDOZZ		63711	5060F8	.RING, KEY UOC: FTR, FTJ, FTH, FTG	7
* 9	XDOZZ		63711	BRC-10-2	.RING, KEY UOC: FTI, FTK, FTL, FTM	7

END OF FIGURE

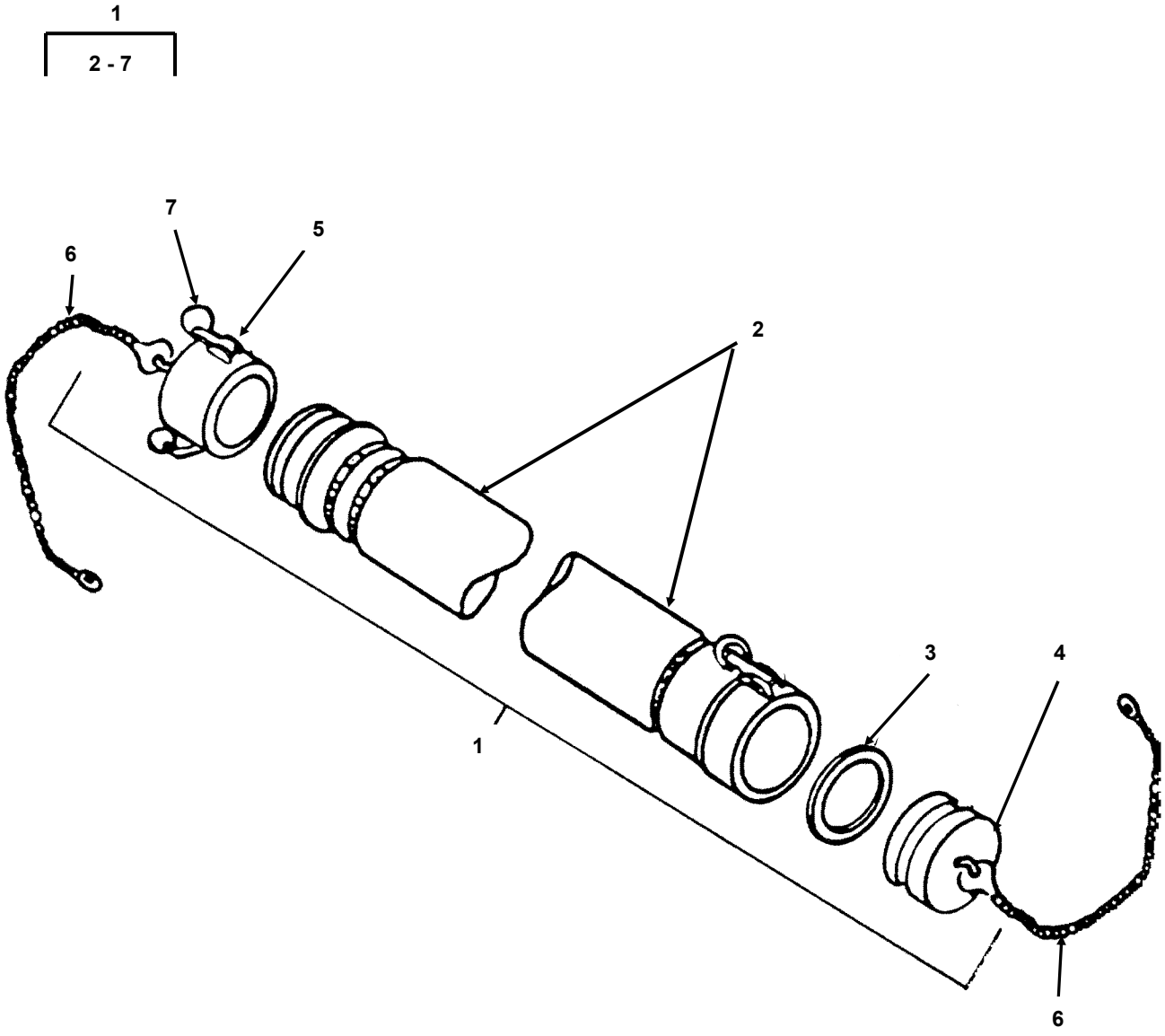


Figure 4. Filler/Discharge Hose Assembly

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 02 HOSE ASSEMBLY, FILLER/DISCHARGE	
					FIG. 4 FILLER/DISCHARGE HOSE ASSEMBLY	
* 1	XDOOO		0CBB4	GTA-4X10-FD-H-ASY	HOSE ASSEMBLY, 4 IN X 10 FT, WITH MALE AND FEMALE QD FITTINGS UOC: FTA, FTB, FTC, FTD	1
* 1	XDOOO		1DFDO	5061-F	HOSE ASSEMBLY, 4 IN X 10 FT, TAN, MALE QC X FEMALE QC UOC: FTR, FTJ, FTH, FTG	1
* 1	XDOOO		1EMJ6	MPC-FFDH-4-B	HOSE ASSEMBLY, 4 IN X 10 FT, TAN, MALE QC X FEMALE QC UOC: FTI, FTK, FTL, FTM	1
2	XDOZZ		63711	ATPD2266-HA26FD	.HOSE ASSEMBLY, NONME 4 IN X 10 FT, WITH QUICK DISCONNECT FITTINGS UOC: FTA, FTB, FTC, FTD	1
2	XDOZZ		63711	5061F1	.HOSE, 4 INCH X 10 FOOT UOC: FTR, FTJ, FTH, FTG	1
* 2	XDOZZ		1EMJ6	H4-10-F	.HOSE, TAN, 4 INCH X 10 FOOT UOC: FTI, FTK, FTL, FTM	1
* 3	PCOZZ	5330-00-899-4509	96906	MS27030-9	.GASKET 4 IN	2
4	PAOZZ	4730-00-640-6188	58536	AA59326X19	.PLUG, DUST, QUICK DISCONNE 4 INCH	1
5	PAOZZ	4730-00-640-6156	58536	AA59326IX19	.CAP, DUST, QUICK DISCONNE 4 INCH	1
6	XDOZZ		63711	5060F7	.CHAIN, 6 INCH UOC: FTR, FTJ, FTH, FTG	2
* 6	XDOZZ		63711	BRC-10-1	.CHAIN, 10 INCH UOC FTI, FTK, FTL, FTM	2
7	XDOZZ		63711	5060F8	.RING, KEY UOC: FTR, FTJ, FTH, FTG	7
* 7	XDOZZ		63711	BRC-10-2	.RING, KEY UOC: FTI, FTK, FTL, FTM	7
					END OF FIGURE	

UNIT MAINTENANCE

COLLAPSIBLE FABRIC TANK, 3,000, 10,000, 20,000, 50,000 GALLON

TANK DRAIN BALL VALVE ASSEMBLY

REPAIR PARTS LIST

Reliance and MPC	GTA
1	1
2 – 9	2 – 7

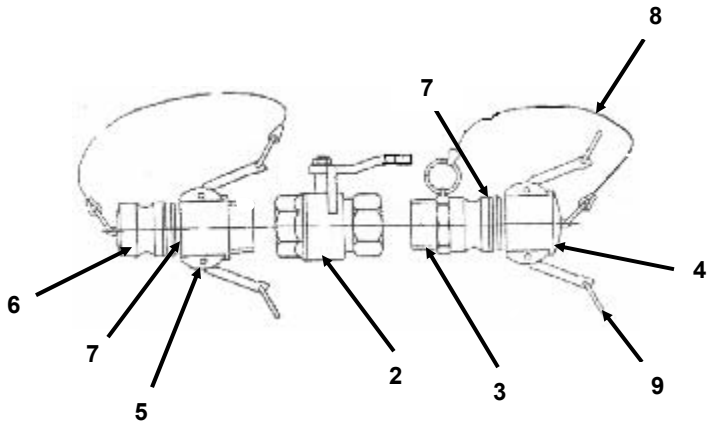


Figure 5. Tank Drain Ball Valve Assembly

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 03 VALVE ASSEMBLY BALL, TANK DRAIN	
					FIG. 5 TANK DRAIN BALL VALVE ASSEMBLY	
1	XDOOO		0CBB4	GTA-2-D-VAL-ASY	BALL VALVE ASSEMBLY, 2 INCH UOC: FTA, FTB, FTC, FTD	1
1	XDOOO		1DFDO	5060-2	BALL VALVE ASSEMBLY, 2 INCH UOC: FTR, FTJ, FTH, FTG	1
* 1	XDOOO		1EMJ6	MPC-FDV-2-B	BALL VALVE ASSEMBLY, 2 INCH UOC: FTI, FTK, FTL, FTM	1
* 2	XDOZZ		63711	ATPD2266-BVA-26D	.BALL VALVE, 2 INCH UOC: FTA, FTB, FTC, FTD	1
* 2	XDOZZ		1DFDO	5060F1	.BALL VALVE, 2 INCH UOC: FTR, FTJ, FTH, FTG	1
* 2	XDOZZ		1EMJ6	WW-V-35TY2BZ1	BALL VALVE ASSEMBLY, 2 INCH UOC: FTI, FTK, FTL, FTM	1
3	XDOZZ		63711	CH-F	.COUPLING HALF, QD, MALE X MALE NPT UOC: FTA, FTB, FTC, FTD	1
* 3	PAOZZ	4730-00-938-7997	58536	AA59326III16	.COUPLING HALF, QD, MALE X MALE NPT UOC: FTR, FTJ, FTH, FTG, FTI, FTK, FTL, FTM	1
4	XDOZZ		63711	DC-2	.DUST CAP, QD, 2 INCH UOC: FTA, FTB, FTC, FTD	1
* 4	PAOZZ	4730-00-649-9100	58536	AA59326IX16	.CAP, DUST, QUICK DISCONNECT UOC: FTR, FTJ, FTH, FTG FTI, FTK, FTL, FTM	1
5	XDOZZ		63711	CH-2B	.COUPLING HALF, QD, FEMALE X MALE NPT UOC: FTA, FTB, FTC, FTD	1
* 5	PAOZZ	4730-00-088-9285	96906	MS27026-11	.COUPLING HALF, QD, FEMALE X MALE NPT UOC: FTR, FTJ, FTH, FTG FTI, FTK, FTL, FTM	1
6	XDOZZ		63711	DP-2-QD	.DUST PLUG, QD, 2 INCH UOC: FTA, FTB, FTC, FTD	1
* 6	PAOZZ	4730-00-915-5127	58536	AA59326X16	.PLUG, DUST, QUICK DISCONNECT UOC: FTR, FTJ, FTH, FTG FTI, FTK, FTL, FTM	1
* 7	PCOZZ		63711	G-QD-2	.GASKET, QD, 2 INCH UOC: FTA, FTB, FTC, FTD	2

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
* 7	PCOZZ	5330-00-612-2414	96906	MS27030-6	.GASKET UOC: FTR, FTJ, FTH, FTG FTI, FTK, FTL, FTM	2
8	XDOZZ		63711	5060F7	.CHAIN, 6 INCH UOC: FTR, FTJ, FTH, FTG	2
9	XDOZZ		63711	5060F8	.RING, KEY UOC: FTR, FTJ, FTH, FTG	7

END OF FIGURE

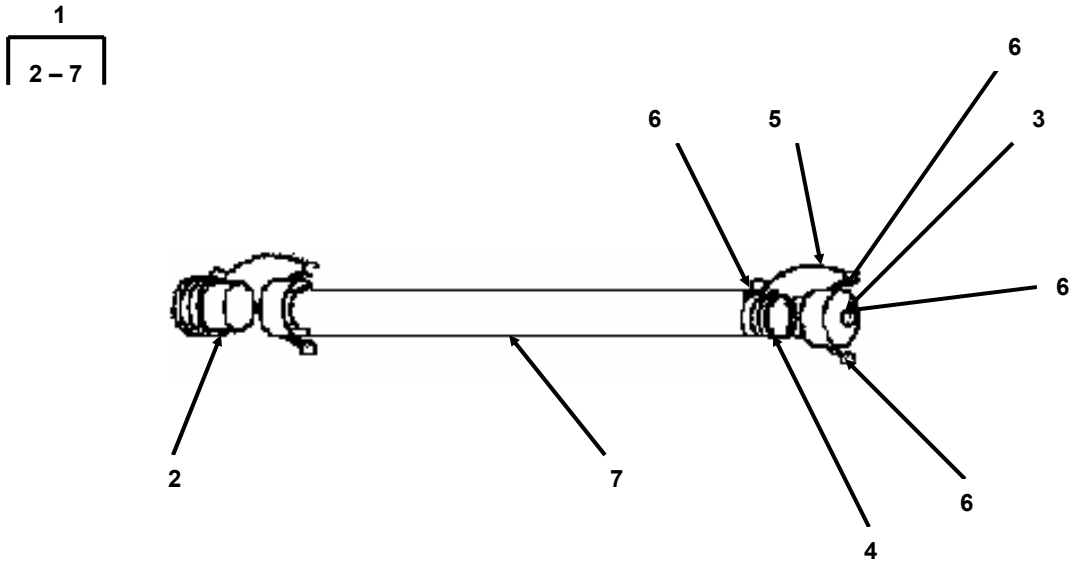


Figure 6. Tank Drain Hose Assembly

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 04 HOSE ASSEMBLY,TANK DRAIN	
					FIG. 6 TANK DRAIN HOSE ASSEMBLY	
1	XDOOO		63711	5059C-F	HOSE ASSEMBLY, 2 IN X 8 FT, TAN, DRAIN, MNPT X MQC UOC: FTR, FTJ, FTH, FTG	1
1	XDOOO		0CBB4	GTA-2X8-H-ASY	HOSE ASSEMBLY, 2 IN X 8 FT WITH MALE NPT AND MALE QD UOC: FTA, FTB, FTC, FTD	1
* 1	XDOOO		1EMJ6	MPC-FDH-2-B	HOSE ASSEMBLY, 2 IN X 8 FT WITH MALE NPT AND MALE QD UOC: FTI, FTK, FTL, FTM	1
* 2	XDOZZ		63711	5059F3	.CAP, DUST, THREADED UOC: FTR, FTJ, FTH, FTG	1
* 2	XDOZZ		63711	TC-2	.CAP, DUST, THREADED UOC: FTA, FTB, FTC, FTD	1
* 2	XDOZZ		63711	TPC-2	.CAP, DUST, THREADED UOC: FTI, FTK, FTL, FTM	1
* 3	PAOZZ	4730-00-649-9100	58536	AA59326IX16	.CAP, QUICK DISCONNECT UOC: FTR, FTJ, FTH, FTG FTI, FTK, FTL, FTM	1
* 3	XDOZZ		63711	DC-2	.CAP, DUST, QUICK DISCONNECT UOC: FTA, FTB, FTC, FTD	1
4	PCOZZ	5330-00-612-2414	96906	MS27030-6	.GASKET	1
5	XDOZZ		63711	5060F7	.CHAIN, 6 INCH UOC: FTR, FTJ, FTH, FTG	1
5	XDOZZ		63711	CAR-12	.CHAIN UOC: FTA, FTB, FTC, FTD	1
* 5	XDOZZ		63711	BRC-10-1	.CHAIN, 10 INCH UOC: FTI, FTK, FTL, FTM	1
6	XDOZZ		63711	5060F8	.RING, KEY UOC: FTR, FTJ, FTH, FTG	4
6	XDOZZ		63711	RK-1	.RING, KEY UOC: FTA, FTB, FTC, FTD	4
* 6	XDOZZ		63711	BRC-10-2	.RING, KEY UOC: FTI, FTK, FTL, FTM	4
7	XDOZZ		63711	5059C1-8-F	.HOSE, 2 IN X 8 FT UOC: FTR, FTJ, FTH, FTG	1
* 7	XDOZZ		63711	HA2-8-F	.HOSE, DRAIN, 2 IN X 8 FT UOC: FTA, FTB, FTC, FTD	1
* 7	XDOZZ		63711	NA2-8-F	.HOSE, DRAIN, 2 IN X 8 FT UOC: FTI, FTK, FTL, FTM	1
					END OF FIGURE	

UNIT MAINTENANCE

COLLAPSIBLE FABRIC TANK, 3,000, 10,000, 20,000, 50,000 GALLON

VENT FITTING ASSEMBLY (GTA MODELS)

REPAIR PARTS LIST

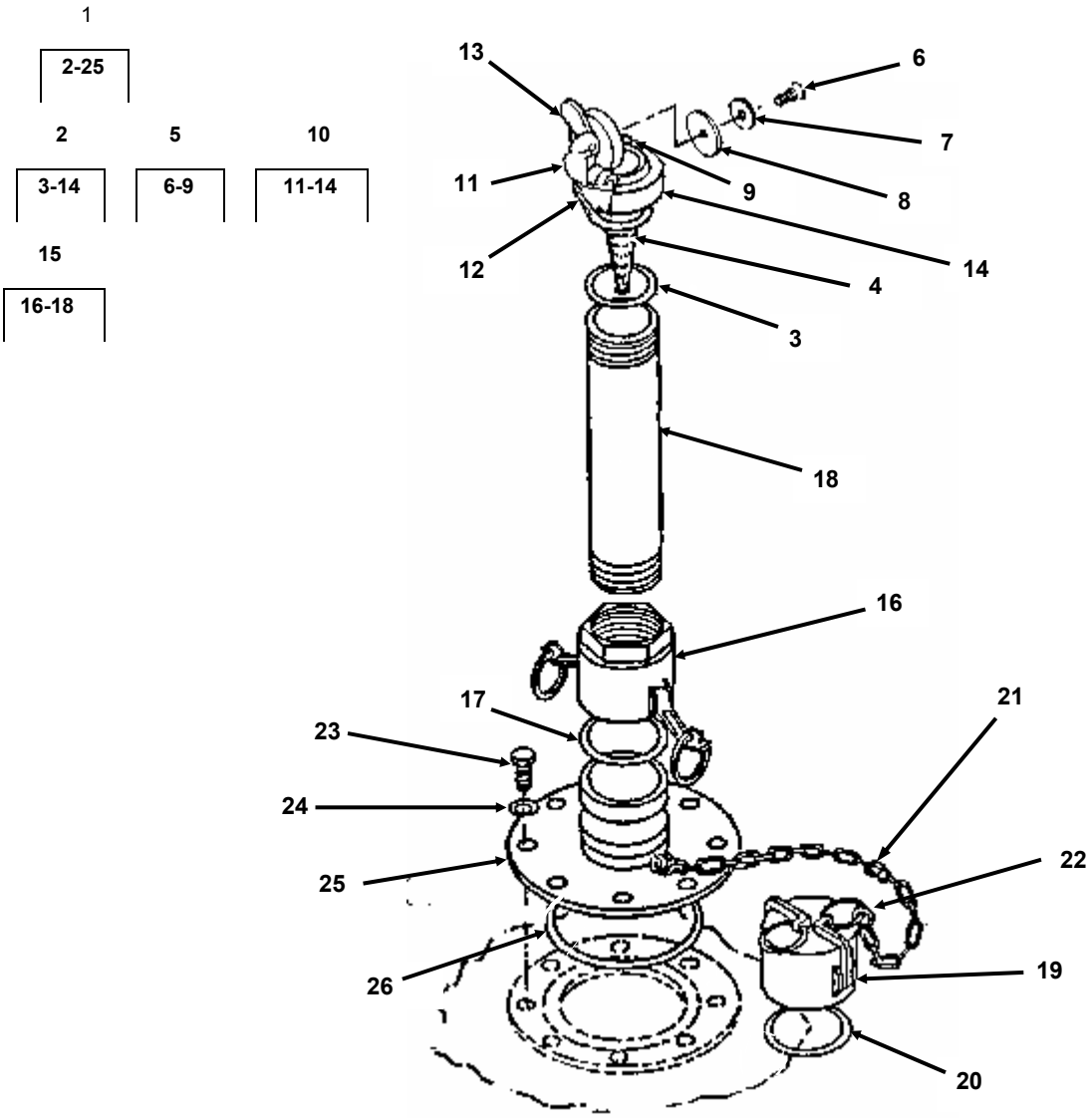


Figure 7. Vent Fitting Assembly (GTA Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 05 VENT FITTING ASSEMBLY	
					FIG. 7 VENT FITTING ASSEMBLY (GTA MODELS)	
1	XDOOO		0CBB4	GTA-V-ASY-F	VENT FITTING ASSEMBLY UOC: FTA, FTB, FTC, FTD	1
2	PAOOO	4930-00-734-0180	49234	EX1333B	.STRAINER ELEMENT, SE ARRESTOR, VENT	1
3	PAOZZ	5330-01-262-1361	49234	EX1333B-18-95	..GASKET CAP	1
4	XDOZZ		49234	EX1333B-36-13	..SCREEN, FLAME ARRESTOR	1
5	XDOOO		41592	780-0100AC-7	..CAP ASSEMBLY, RELIEF	1
6	PAOZZ	5305-01-262-5080	49234	4447101620	...SCREW, VENT RELIEF CAP	1
7	PAOZZ	5310-01-262-1351	49234	EX1333B-17	...WASHER RELIEF CAP	1
8	PCOZZ	5330-01-262-1349	49234	205-18-98	...GASKET, RELIEF CAP ASSY	1
9	XDOZZ		49234	EX1333B-40-68	...CAP, RELIEF	1
10	PAOOO	4930-00-786-9566	49234	EX1333B39	..HEAD ASSEMBLY CAP ASSY	1
11	PAOZZ	5320-01-262-1352	49234	4201232400	...RIVET HEAD ASSY (96906) MS20450C10AD24	1
12	PAOZZ	5320-01-262-1353	49234	4201035000	...RIVET (96906) MS20450C12AD50	1
13	XDOZZ		49234	EX1333B-3-607	...LEVER HEAD ASSY	1
14	XDOZZ		49234	EX1333B-1-607	...BODY, HEAD ASSEMBLY	1
15	XDOOO		63711	ATPD2266-VFA	.VENT ASSEMBLY, PIPE ASSEMBLY	1
16	PAOZZ	4730-00-649-9103	58536	AA59326V16	..COUPLING HALF,QUICK 2 IN	1
17	PCOZZ	5330-00-612-2414	96906	MS27030-6	...GASKET 2 IN	1
18	XDOZZ		63711	P-2-10	...PIPE, 2 IN	1
19	PAOOO	4730-00-649-9100	58536	AA59326IX16	.CAP, QUICK DISCONNECT	1
20	PCOZZ	5330-00-612-2414	96906	MS27030-6	..GASKET 2 IN	1
21	XDOZZ		63711	CARC-12	..CHAIN ASSEMBLY, SING 12 IN, CAP ASSY	1
22	XDOZZ		63711	RKC-1	..RING, KEY CAP ASSY	1
23	PAOZZ	5305-00-068-0509	80204	B1821BH025 C125N	.SCREW, CAP, HEXAGON H ¼-20 X 1 1/4 IN	8
24	PAOZZ	5310-00-809-4058	96906	MS27183-10	.WASHER, FLAT 1/4 IN	8
25	PAOZZ	4730-01-416-1533	96906	MS27023-21	.COUPLING HALF, QUICK 2IN FLANGED	1
26	PCOZZ	5331-00-291-3085	81343	AS29513-250	.O-RING	1
					END OF FIGURE	

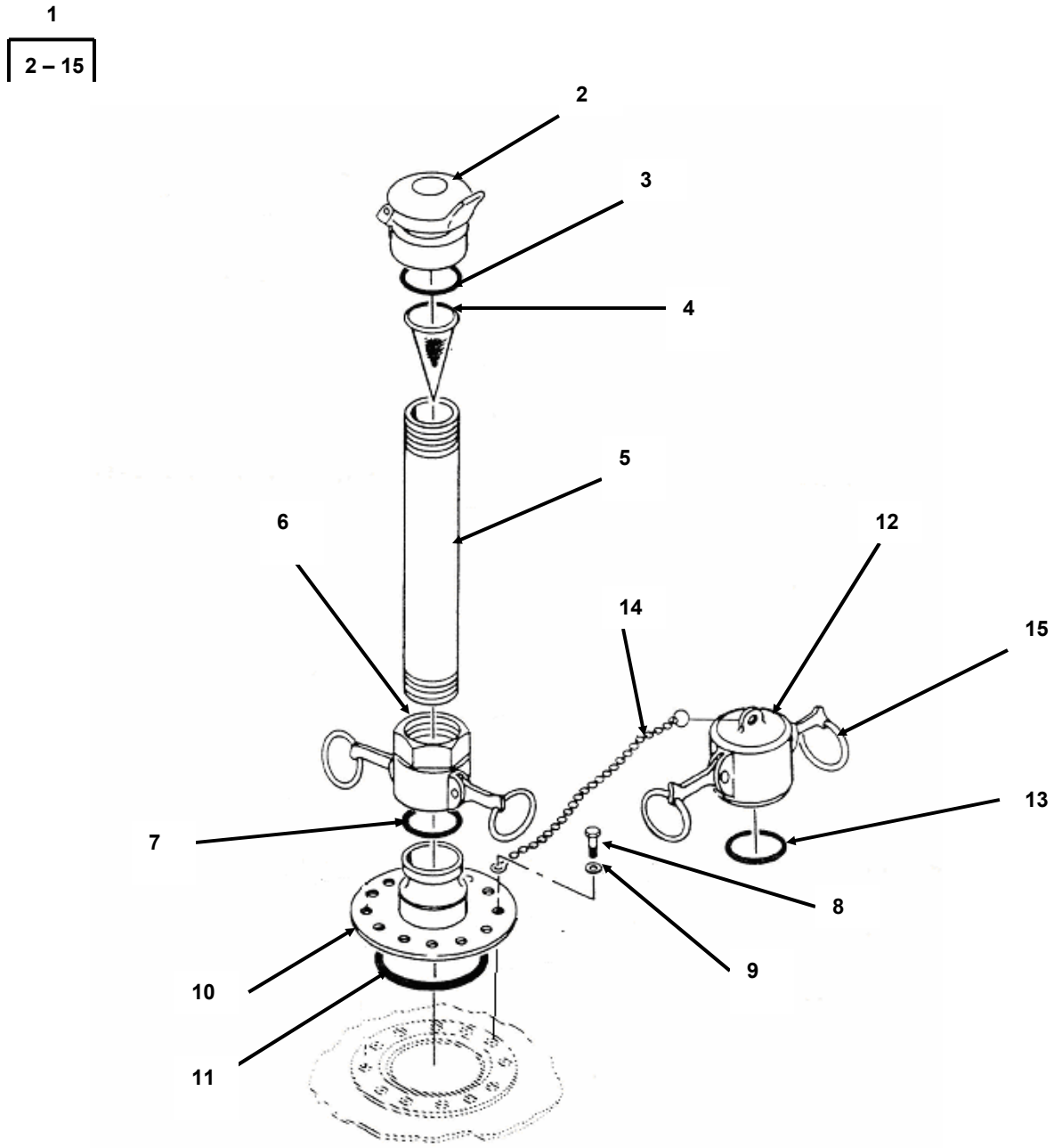


Figure 8. Vent Fitting Assembly (Reliance and MPC Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 05 VENT FITTING ASSEMBLY	
					FIG. 8 VENT FITTING ASSEMBLY (RELIANCE AND MPC MODELS)	
1	XDOOO		1DFDO	4965F	VENT FITTING ASSEMBLY UOC: FTR, FTJ, FTH, FTG	1
* 1	XDOOO		1EMJ6	MPC-FV-2-B	VENT FITTING ASSEMBLY UOC: FTI, FTK, FTL, FTM	1
* 2	XDOZZ		63711	4965CF10	.RELIEF CAP UOC: FTR, FTJ, FTH, FTG	1
* 2	XDOZZ		63711	RC-2	.RELIEF CAP UOC: FTI, FTK, FTL, FTM	1
3	PCOZZ	5330-01-262-1361	49234	EX1333B-18-95	..GASKET, CAP	1
* 4	XDOZZ		63711	4965CF9	..FLAME ARRESTOR UOC: FTR, FTJ, FTH, FTG	1
* 4	XDOZZ		63711	FA-2	..FLAME ARRESTOR UOC: FTI, FTK, FTL, FTM	1
* 5	XDOZZ		63711	4965CF8	.PIPE, 2 IN X 10 IN, MALE NPT UOC: FTR, FTJ, FTH, FTG	1
* 5	XDOZZ		63711	P-2-10	.PIPE, 2 IN X 10 IN, MALE NPT UOC: FTI, FTK, FTL, FTM	1
6	PAOZZ	4730-00-649-9103	58536	AA59326V16	.COUPLING HALF, QUICK DISCONNECT, FEMALE THREADED, 2 IN	1
7	PCOZZ	5330-00-612-2414	96906	MS27030-6	..GASKET, COUPLING HALF, 2 IN	1
8	PAOZZ	5305-00-068-0509	80204	B1821BH025C125N	.SCREW, CAP, HEXAGON HEAD	8
9	PAOZZ	5310-00-809-4058	96906	MS27183-10	.WASHER, FLAT, 1/4 IN	8
10	PAOZZ	4730-01-416-1533	96906	MS27023-21	.COUPLING HALF, QUICK DISCONNECT, MALE, 2 IN FLANGED	1
11	PCOZZ	5331-01-324-5262	81343	AS29513-250	.O-RING	1
12	PAOZZ	4730-00-649-9100	58536	AA59326IX16	.CAP, DUST, QUICK DISCONNECT 2 IN	1
13	PCOZZ	5330-00-612-2414	96906	MS27030-6	..GASKET, DUST CAP, 2 IN	1
* 14	XDOZZ		63711	5060F7	..CHAIN, 6 INCH UOC: FTR, FTJ, FTH, FTG	1

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
* 14	XDOZZ		63711	BRC-10-1	..CHAIN, 10 INCH UOC: FTI, FTK, FTL, FTM	1
* 15	XDOZZ		63711	5060F8	..RING, KEY UOC: FTR, FTJ, FTH, FTG	2
* 15	XDOZZ		63711	BRC-10-2	..RING, KEY UOC: FTI, FTK, FTL, FTM	1

END OF FIGURE

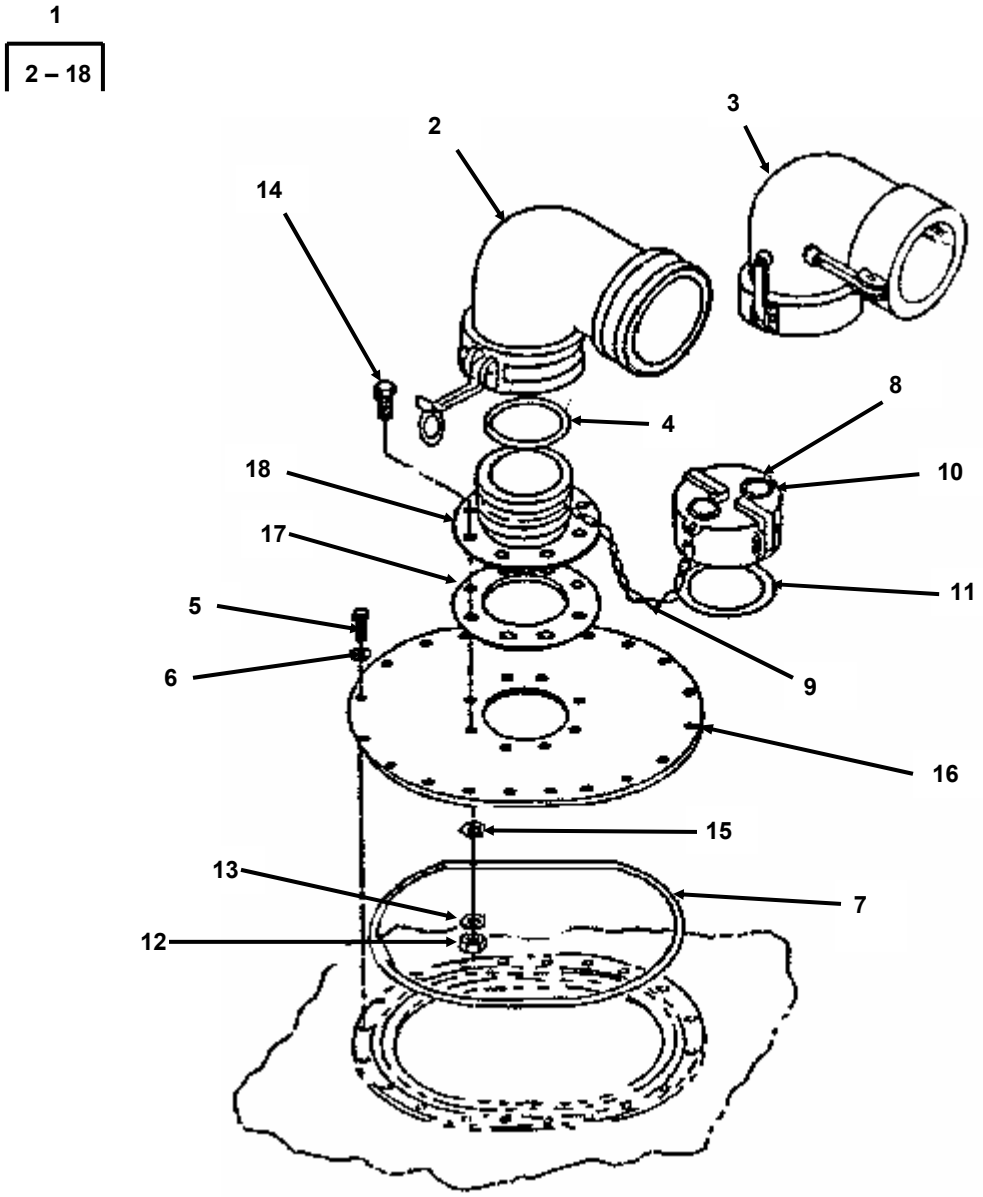


Figure 9. Filler/Discharge Assembly (GTA Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 06 ASSEMBLY, FILLER/DISCHARGE	
					FIG. 9 FILLER/DISCHARGE ASSEMBLY (GTA MODELS)	
1	XDOOO		0CBB4	GTA-FD-ASY	FILLER/DISCHARGE ASSEMBLY UOC: FTA, FTB, FTC, FTD	1
2	XDOZZ		63711	EFM-90-4	.ELBOW, FEMALE TO MALE, 4 IN, 90 DEG	1
3	XDOZZ		63711	EFF-90-4	.ELBOW, QD, FEMALE TO FEMALE, 4 IN, 90 DEG	1
4	PCOZZ	5330-00-899-4509	96906	MS27030-9	.GASKET 4 IN	1
5	PAOZZ	5305-00-068-0509	80204	B1821BH 025C125N	.SCREW, CAP, HEXAGON H ¼-20 X 1 1/4 IN	20
6	PAOZZ	5310-00-809-4058	96906	MS27183-10	.WASHER, FLAT 1/4 IN	20
7	PCOZZ	5331-00-364-9862	81343	AS3578-383	.O-RING, 4 IN	1
* 8	XDOOZ		63711	DC-4	.CAP, QUICK DISCONNEC 4 IN	1
9	XDOZZ		63711	CAR-12	..CHAIN ASSEMBLY, SING 12 IN	1
10	XDOZZ		63711	RK-1	..RING, KEY	2
11	PAOZZ	5330-00-899-4509	96906	MS27030-9	..GASKET 4 IN	1
12	PAOZZ	5310-00-732-0558	96906	MS51967-8	.NUT, PLAIN, HEXAGON 3/8-16	8
13	PAOZZ	5310-00-637-9541	96906	MS35338-46	.WASHER, LOCK 3/8 IN	8
14	PAOZZ	5305-00-725-2317	80204	B1821BH038 C150N	.SCREW, CAP, HEXAGON H 3/8-16 X 1 1/2 IN	8
15	PCOZZ	5330-00-874-3744	83259	7500-3-8	.GASKET, 3/8 IN	8
16	XDOZZ		63711	GTA-063	.PLATE, CLOSURE	1
17	PCOZZ	5330-01-262-5120	05476	FCC-62398/ 50609735	.GASKET	1
18	PAOZZ	4730-00-840-5347	96906	MS27023-17	.COUPLING HALF, QUICK	1
					END OF FIGURE	

UNIT MAINTENANCE

COLLAPSIBLE FABRIC TANK, 3,000, 10,000, 20,000, 50,000 GALLON

FILLER/DISCHARGE ASSEMBLY (RELIANCE AND MPC MODELS)

REPAIR PARTS LIST

Reliance Models 1 — 2 - 18

MPC Models 1 — 2 – 19

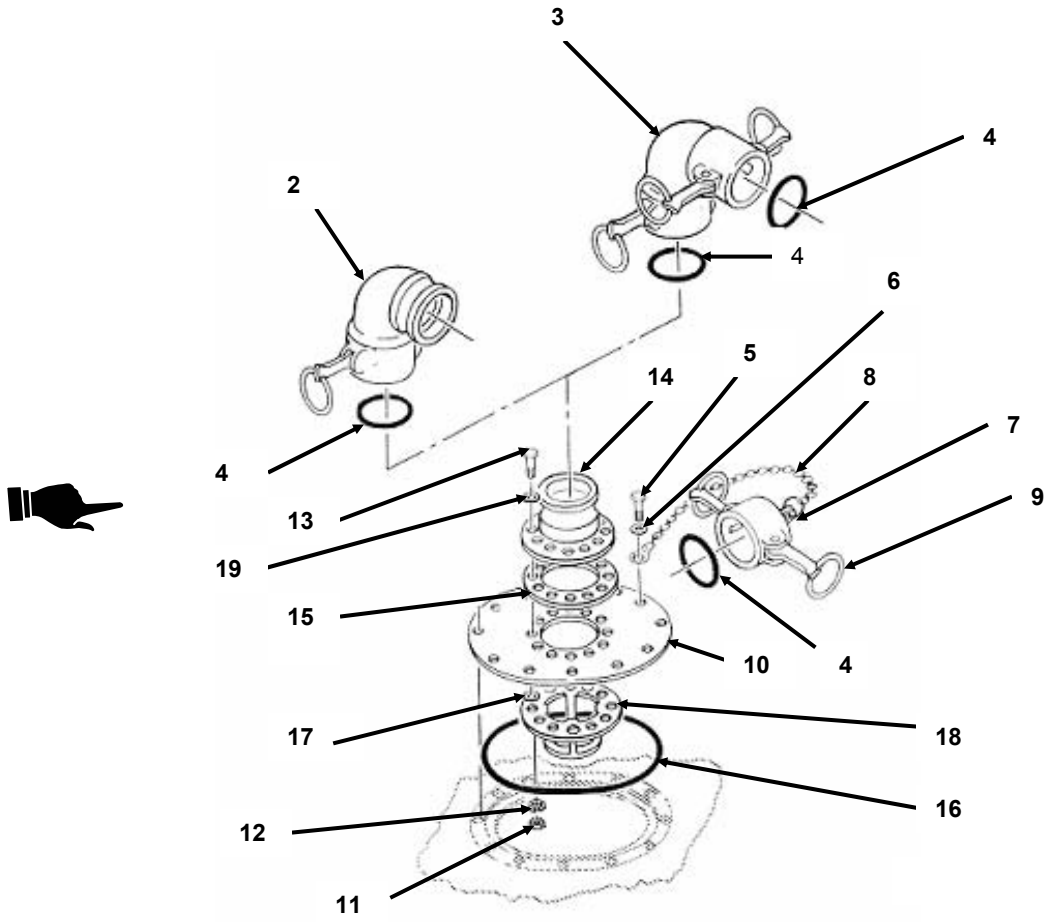


Figure 10. Filler/Discharge Assembly (Reliance and MPC Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 06 FILLER/DISCHARGE ASSEMBLY	
					FIG. 10 FILLER/DISCHARGE ASSEMBLY (RELIANCE AND MPC MODELS)	
1	XDOOO		1DFDO	4963	FILLER/DISCHARGE ASSEMBLY UOC: FTR, FTJ, FTH, FTG	1
* 1	XDOOO		1EMJ6	MPC-M-F-1218-B	FILLER/DISCHARGE ASSEMBLY UOC: FTI, FTK, FTL, FTM	1
* 2	XDOZZ		10068	4963CF7	.ELBOW, FEMALE TO FEMALE UOC: FTR, FTJ, FTH, FTG	1
* 2	XDOZZ		63711	EFF-90-4	.ELBOW, FEMALE TO FEMALE UOC: FTI, FTK, FTL, FTM	1
* 3	XDOZZ		10068	4963CF14	.ELBOW, FEMALE TO MALE UOC: FTR, FTJ, FTH, FTG	1
* 3	XDOZZ		63711	EFM-90-4	.ELBOW, FEMALE TO MALE UOC: FTI, FTK, FTL, FTM	1
* 4	PCOZZ	5330-00-899-4509	96906	MS27030-9	..GASKET, COUPLING HALF, 4 IN	3
* 5	PAOZZ	5305-00-068-0509	80204	B1821BH 025C125N	.SCREW, CAP, HEXAGON UOC: FTR, FTJ, FTH, FTG	16
* 5	PAOZZ	5305-00-068-0509	80204	B1821BH 025C125N	.SCREW, CAP, HEXAGON UOC: FTI, FTK, FTL, FTM	20
* 6	PAOZZ	5310-00-809-4058	96906	MS27183-10	.WASHER, FLAT UOC: FTR, FTJ, FTH, FTG	16
* 6	PAOZZ	5310-00-809-4058	96906	MS27183-10	.WASHER, FLAT UOC: FTI, FTK, FTL, FTM	20
7	PAOZZ	4730-00-640-6156	58536	AA59326IX19	.CAP, QUICK DISCONNECT USED TO COVER ITEM 14 WHEN ELBOW NOT IN PLACE	1
* 8	XDOZZ		63711	5060F7	..CHAIN ASSEMBLY, SING UOC: FTR, FTJ, FTH, FTG	1
* 8	XDOZZ		63711	BRC-10-1	..CHAIN ASSEMBLY, SING UOC: FTI, FTK, FTL, FTM	1
* 9	XDOZZ		63711	5060F8	..RING, KEY UOC: FTR, FTJ, FTH, FTG	2
* 9	XDOZZ		63711	BRC-10-2	..RING, KEY UOC: FTI, FTK, FTL, FTM	8
* 10	XDOZZ		63711	4963CF4	.PLATE, CLOSURE, COMPRESSION UOC: FTR, FTJ, FTH, FTG	1
* 10	XDOZZ		63711	CP-7	.PLATE, CLOSURE, COMPRESSION UOC: FTI, FTK, FTL, FTM	1

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
11	PAOZZ	5310-00-732-0558	96906	MS51967-8	.NUT, PLAIN, HEXAGON	8
12	PAOZZ	5310-00-637-9541	96906	MS35338-46	.WASHER, LOCK	8
13	PAOZZ	5305-00-725-2317	80204	B1821BH038 C150N	.SCREW, CAP, HEXAGON	8
14	PAOZZ	4730-00-840-5347	96906	MS27023-17	.COUPLING HALF, QUICK	1
15	PCOZZ	5330-01-262-5120	05476	FCC-62398/ 50609735	..GASKET, COUPLING HALF	1
16	PCOZZ	5331-00-364-9862	81343	AS3578-383	.O-RING	1
17	PCOZZ	5330-00-874-3744	83259	7500-3-8	.GASKET, 3/8 IN	8
* 18	XDOZZ		1BQD3	4963CF2	.SUCTION STUB, 4 IN UOC: FTR, FTJ, FTH, FTG	1
* 18	XDOZZ		63711	SS-4-0-383	.SUCTION STUB, 4 IN UOC: FTI, FTK, FTL, FTM	1
* 19	PCOZZ	5330-00-874-3744	83259	7500-3-8	.GASKET, 3/8 IN UOC: FTI, FTK, FTL, FTM	8

END OF FIGURE

UNIT MAINTENANCE

COLLAPSIBLE FABRIC TANK, 3,000, 10,000, 20,000, 50,000 GALLON

TANK DRAIN FITTING ASSEMBLY

REPAIR PARTS LIST

1

2 – 10

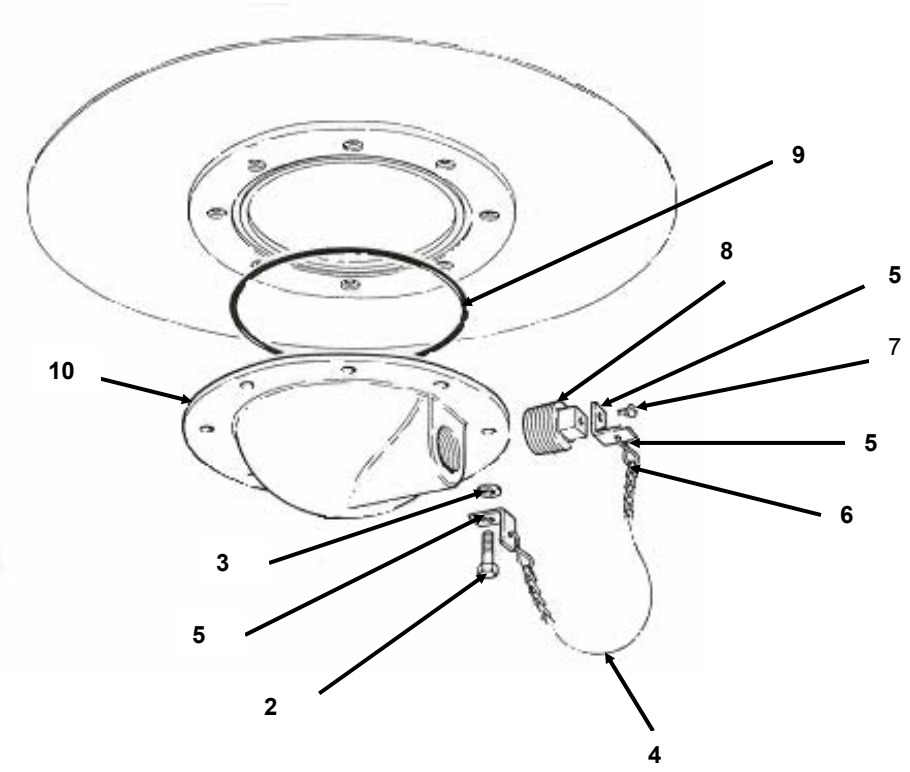


Figure 11. Tank Drain Fitting Assembly

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 07 FITTING ASSEMBLY, TANK DRAIN	
					FIG. 11 TANK DRAIN FITTING ASSEMBLY	
* 1	XDOOO		1DFDO	5057	DRAIN FITTING ASSEMBLY UOC: FTR, FTJ, FTH, FTG	1
* 1	XDOOO		0CBB4	GTA-D-ASY	DRAIN FITTING ASSEMBLY UOC: FTA, FTB, FTC, FTD	1
* 1	XDOOO		1EMJ6	MPC-FD-2-B	DRAIN FITTING ASSEMBLY UOC: FTI, FTK, FTL, FTM	1
2	PAOZZ	5305-00-225-3843	80204	B1821BH025 C100N	.SCREW, CAP, HEXAGON H 1/4-20 X 1 IN. UOC: FTR, FTJ, FTH, FTG	8
* 2	PAOZZ	5305-00-068-0509	80204	B1821BH025 C125N	.SCREW, CAP, HEXAGON, H 1/4-20 X 1 1/4 INCH UOC: FTA, FTB, FTC, FTD FTI, FTK, FTL, FTM	8
3	PAOZZ	5310-00-809-4058	96906	MS27183-10	.WASHER, FLAT 1/4 IN	8
4	XDOZZ		63711	5060F7	.CHAIN UOC: FTR, FTJ, FTH, FTG	1
4	XDOZZ		63711	PC-PP-713	.CHAIN UOC: FTA, FTB, FTC, FTD	1
* 4	XDOZZ		63711	BRC-10-1	.CHAIN, 10 INCH UOC: FTI, FTK, FTL, FTM	1
5	XDOZZ		63711	5057F8	.BRACKET UOC: FTR, FTJ, FTH, FTG	2
5	XDOZZ		0CBB4	GTA-LB	.BRACKET UOC: FTA, FTB, FTC, FTD	1
* 5	XDOZZ		63711	CBSC-12-1	.L BRACKET UOC: FTI, FTK, FTL, FTM	2
6	XDOZZ		63711	5057F7	.S-HOOK UOC: FTR, FTJ, FTH, FTG	2
6	XDOZZ		0CBB4	GTA-SH	.S-HOOK UOC: FTA, FTB, FTC, FTD	1
* 6	XDOZZ		63711	CBSC-12-2	.S-HOOK UOC: FTI, FTK, FTL, FTM	2
7	XDOZZ		63711	5057F9	.SCREW, 1/4-20 X 3/4 IN LONG UOC: FTR, FTJ, FTH, FTG	1
7	XDOZZ		0CBB4	GTA1032RD	.CAP SCREW, 10/32 X 0.5 IN UOC: FTA, FTB, FTC, FTD	1

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
* 7	PAOZZ	5305-00-068-0509	80204	B1821BH025 C125N	.SCREW, CAP, HEXAGON, H 1/4-20 X 1 1/4 INCH UOC: FTI, FTK, FTL, FTM	1
8	XDOZZ		1BQD3	5057F3	.PLUG, PIPE 2 INCH UOC: FTR, FTJ, FTH, FTG	1
* 8	XDOZZ		63711	PP-713	.PLUG, DRAIN COVER PLATE UOC: FTA, FTB, FTC, FTD FTI, FTK, FTL, FTM	1
9	PCOZZ	5331-00-291-3085	81343	AS29513-250	.O-RING	1
10	XDOZZ		1BQD3	5057F2	.DRAIN, FITTING, BONNET, 2 IN UOC: FTR, FTJ, FTH, FTG	1
10	XDOZZ		63711	ATPD2266-DFA	.DRAIN FITTING, 2 IN UOC: FTA, FTB, FTC, FTD	1
* 10	XDOZZ		63711	DF-714	.DRAIN FITTING, 90° UOC: FTI, FTK, FTL, FTM	1

END OF FIGURE

UNIT MAINTENANCE

COLLAPSIBLE FABRIC TANK, 3,000, 10,000, 20,000, 50,000 GALLON

TANK

REPAIR PARTS LIST

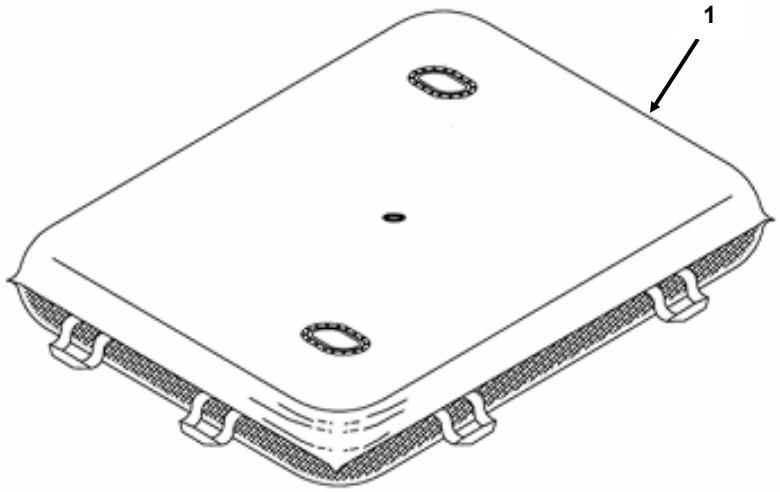


Figure 12. Tank

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 08 TANK	
					FIG. 12 TANK	
1	XDOOO		0CBB4	GTA-50-KF-RPL	TANK, FABRIC, COLLAPS 50K GALLON, PETROLEUM UOC: FTD	1
1	XDOOO		0CBB4	GTA-20-KF-RPL	TANK, FABRIC, COLLAPS 20K GALLON, PETROLEUM UOC: FTC	1
1	XDOOO		0CBB4	GTA-10-KF-RPL	TANK, FABRIC, COLLAPS 10K GALLON, PETROLEUM UOC: FTB	1
1	XDOOO		0CBB4	GTA-3-KF-RPL	TANK, FABRIC, COLLAPS 3K GALLON, PETROLEUM UOC: FTA	1
1	XDOOO		1DFDO	RCF-50-K-F	TANK, FABRIC, COLLAPS 50K GALLON, PETROLEUM UOC: FTG	1
1	XDOOO		1DFDO	RCF-20-K-F	TANK, FABRIC, COLLAPS 20K GALLON, PETROLEUM UOC: FTH	1
1	XDOOO		1DFDO	RCF-10-K-F	TANK, FABRIC, COLLAPS 10K GALLON, PETROLEUM UOC: FTJ	1
1	XDOOO		1DFDO	RCF-3-K-F	TANK, FABRIC, COLLAPS 3K GALLON, PETROLEUM UOC: FTR	1
* 1	XDOOO		1EMJ6	MPC-50K-22636-RPL	TANK, FABRIC, COLLAPS 50K GALLON, PETROLEUM UOC: FTM	1
* 1	XDOOO		1EMJ6	MPC-20K-22276-RPL	TANK, FABRIC, COLLAPS 20K GALLON, PETROLEUM UOC: FTL	1
* 1	XDOOO		1EMJ6	MPC-10K-22175-RPL	TANK, FABRIC, COLLAPS 10K GALLON, PETROLEUM UOC: FTK	1
* 1	XDOOO		1EMJ6	MPC-03K-13114-RPL	TANK, FABRIC, COLLAPS 3K GALLON, PETROLEUM UOC: FTI	1
					END OF FIGURE	

UNIT MAINTENANCE

COLLAPSIBLE FABRIC TANK, 3,000, 10,000, 20,000, 50,000 GALLON

BERM LINER ASSEMBLY

REPAIR PARTS LIST

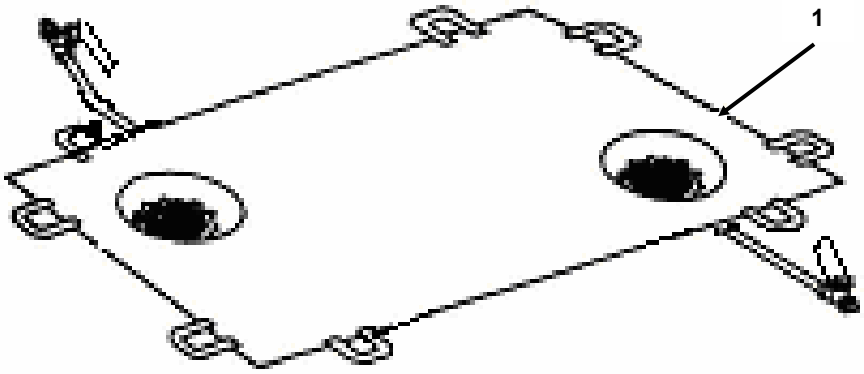


Figure 13. Berm Liner Assembly

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 09 ASSEMBLY, BERM LINER	
					FIG. 13 BERM LINER ASSEMBLY	
1	XDOOO		0CBB4	GTA-3BERM	BERM LINER ASSEMBLY UOC: FTA	1
1	XDOOO		0CBB4	GTA-10BERM	BERM LINER ASSEMBLY UOC: FTB	1
1	XDOOO		0CBB4	GTA-20BERM	BERM LINER ASSEMBLY UOC: FTC	1
1	XDOOO		0CBB4	GTA-50BERM	BERM LINER ASSEMBLY UOC: FTD	1
1	XDOOO		1DFDO	RCF-3-K-BL-OB	BERM LINER ASSEMBLY UOC: FTR	1
1	XDOOO		1DFDO	RCF-10-K-BL-OB	BERM LINER ASSEMBLY UOC: FTJ	1
1	XDOOO		1DFDO	RCF-20-K-BL-OB	BERM LINER ASSEMBLY UOC: FTH	1
1	XDOOO		1DFDO	RCF-50-K-BL-OB	BERM LINER ASSEMBLY UOC: FTG	1
*1	XDOOO		1EMJ6	MPC-3K-BL-3737	BERM LINER ASSEMBLY UOC: FTI	1
*1	XDOOO		1EMJ6	MPC-10K-BL-5353	BERM LINER ASSEMBLY UOC: FTK	1
*1	XDOOO		1EMJ6	MPC-20K-BL-5959	BERM LINER ASSEMBLY UOC: FTL	1
*1	XDOOO		1EMJ6	MPC-50K-BL-60100	BERM LINER ASSEMBLY UOC: FTM	1
					END OF FIGURE	

1

2 – 10

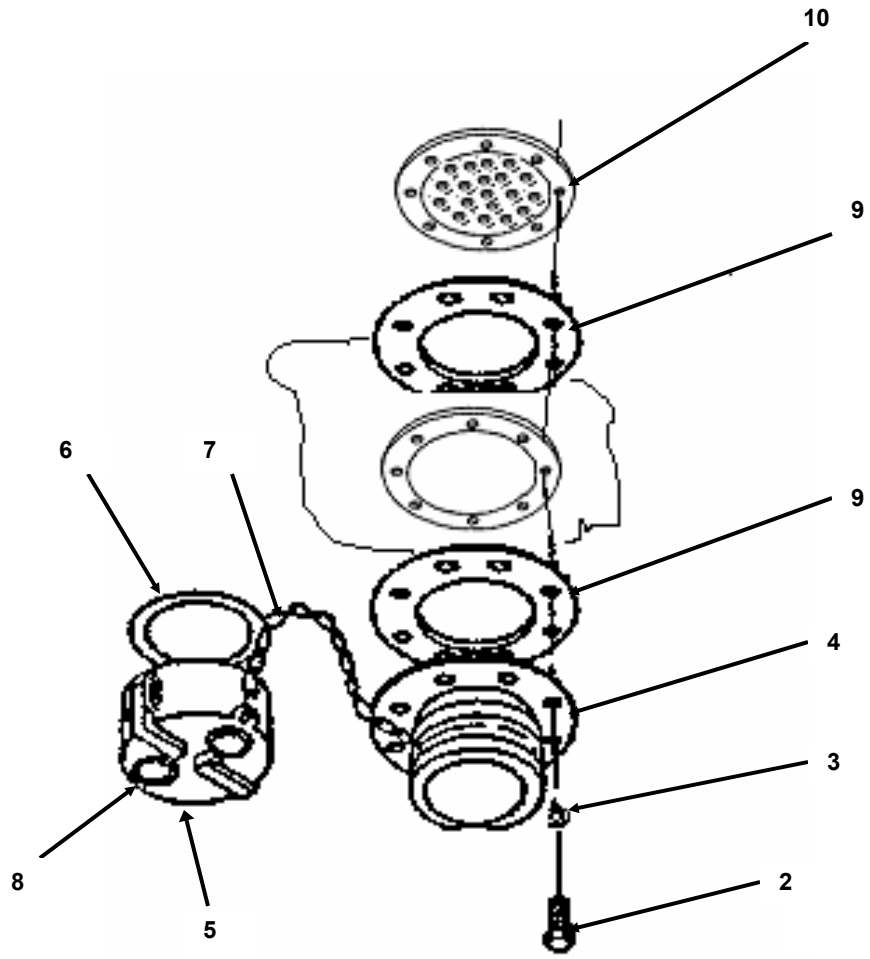


Figure 14. Berm Liner Drain Fitting Assembly (GTA Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 09 ASSEMBLY, BERM LINER	
					FIG. 14 BERM LINER DRAIN FITTING ASSEMBLY (GTA MODELS)	
* 1	XDOOO		0CBB4	GTA-DF	DRAIN ASSY UOC: FTA, FTB, FTC, FTD	1
2	PAOZZ	5305-00-068-0509	80204	B1821BH025 C125N	.SCREW, CAP, HEXAGON H 1/4-20 X 1 1/4 IN	8
3	PAOZZ	5310-00-809-4058	96906	MS27183-10	.WASHER, FLAT 1/4 IN	8
4	PAOZZ	4730-01-416-1533	96906	MS27023-21	COUPLING HALF, QUICK, 2 IN FLANGED	1
5	PAOZZ	4730-00-649-9100	58536	AA59326IX16	.CAP, QUICK DISONNECT DUST CAP	1
6	PCOZZ	5330-00-612-2414	96906	MS27030-6	..GASKET, 2 INCH	1
7	XDOZZ		63711	CARC-12	..CHAIN ASSEMBLY CAP SECURITY CHAIN	1
8	XDOZZ		63711	RKC-1	..RING, KEY CAP ASSEMBLY	2
9	PCOZZ	5330-01-262-5120	05476	FCC-62398/ 50609735	.GASKET	2
10	XDOZZ		0CBB4	GTA-CF-S	.STRAINER	1

END OF FIGURE

1

2 – 11

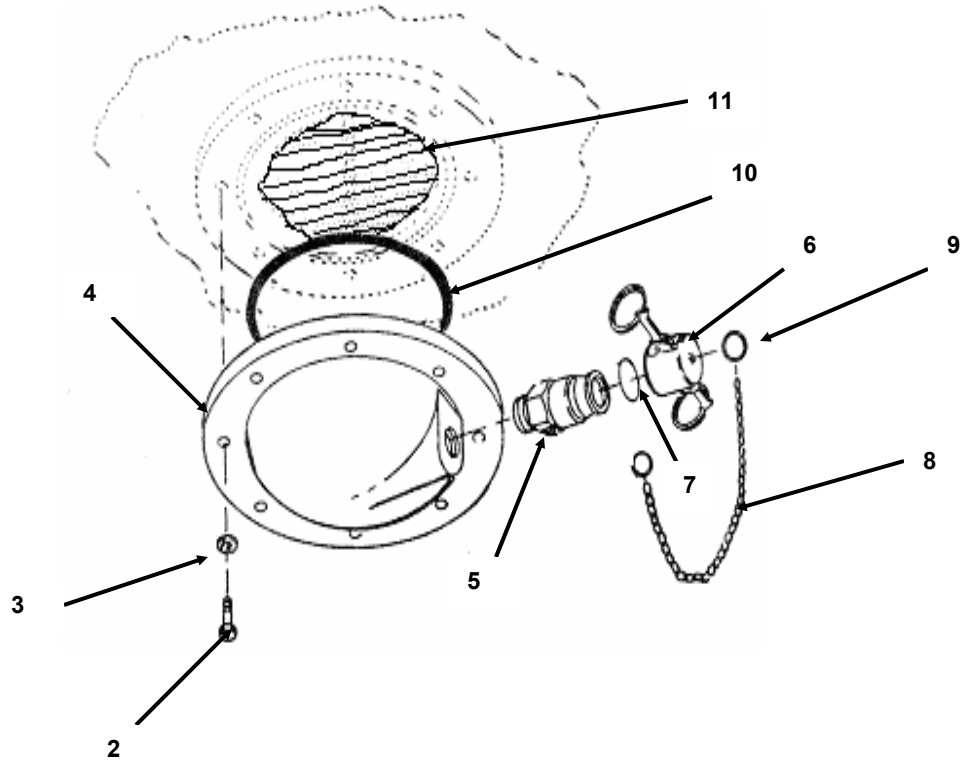


Figure 15. Berm Liner Drain Fitting Assembly (Reliance Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 09 ASSEMBLY, BERM LINER	
					FIG. 15 BERM LINER DRAIN FITTING ASSEMBLY (RELIANCE MODELS)	
* 1	XDOOO		1DFDO	5057-BL	DRAIN ASSEMBLY, 2 INCH UOC: FTR, FTJ, FTH, FTG	1
2	PAOZZ	5305-00-225-3843	80204	B1821BH025 C100N	.SCREW, CAP, HEXAGON H ¼-20 X 1 INCH	8
3	PAOZZ	5310-00-809-4058	96906	MS27183-10	.WASHER, FLAT, 1/4 IN	8
4	XDOZZ		IBQD3	5057F2	.DRAIN FITTING, BONNET, 2 IN	1
* 5	PAOZZ	4730-00-938-7997	58536	AA59326III16	.COUPLING HALF, QUICK DISCONNECT	1
6	PAOZZ	4730-00-649-9100	58536	AA59326IX16	.CAP, DUST, QUICK DISCONNECT, 2 IN	1
7	PCOZZ	5330-00-612-2414	96906	MS27030-6	.GASKET, 2 IN	1
8	XDOZZ		63711	5060F7	.CHAIN, 6 INCH	1
9	XDOZZ		63711	5060F8	.RING, KEY	2
10	PCOZZ	5331-00-291-3085	81343	AS29513-250	.O-RING	1
11	XDOZZ		1DFDO	5057F4	.SCREEN, 16 X 16 BRONZE MESH	1
					END OF FIGURE	

UNIT MAINTENANCE

COLLAPSIBLE FABRIC TANK, 3,000, 10,000, 20,000, 50,000 GALLON

BERM LINER DRAIN FITTING ASSEMBLY (MPC MODELS)

REPAIR PARTS LIST

1

2 – 9

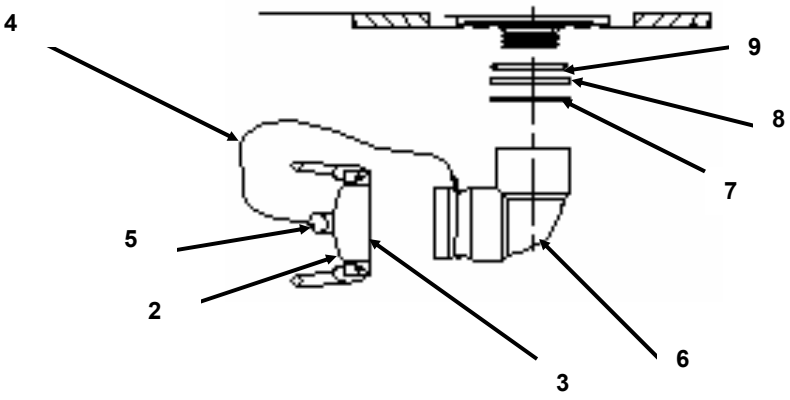


Figure 16. Berm Liner Drain Fitting Assembly (MPC Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 09 ASSEMBLY, BERM LINER	
					FIG. 16 BERM LINER DRAIN FITTING ASSEMBLY (MPC MODELS)	
1	XDOOO		1EMJ6	MPC-BLD-2A	DRAIN ASSEMBLY, 2 INCH UOC: FTI, FTK, FTL, FTM	1
2	PAOZZ	4730-00-649-9100	58536	AA59326IX16	.CAP, DUST, QUICK DISCONNECT, 2 IN	1
3	PCOZZ	5330-00-612-2414	96906	MS27030-6	.GASKET, 2 IN	1
4	XDOZZ		63711	BRC-10-1	.CHAIN, 10 INCH	1
5	XDOZZ		63711	BRC-10-2	.RING, KEY	2
6	XDOZZ		IEMJ6	MPC-BLD-2-B-1	.ELBOW COUPLING	1
7	XDOZZ		IEMJ6	MPC-BLD-3	.ALUM. SHIM WASHER	1
8	XDOZZ		IEMJ6	MPC-BLD-5	.GASKET	1
9	XDOZZ		IEMJ6	MPC-BLD-4	.O-RING GASKET	1
					END OF FIGURE	

Reliance and MPC	GTA
1	1
2 – 9	2 – 7

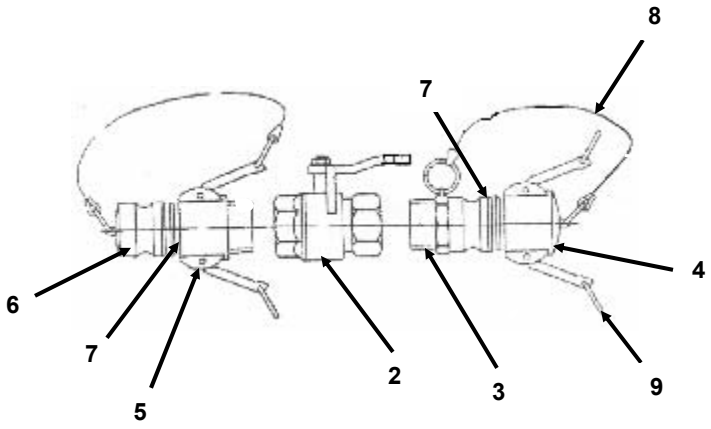


Figure 17. Berm Liner Drain Ball Valve Assembly

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 09 ASSEMBLY, BERM LINER	
					FIG. 17 BERM LINER DRAIN BALL VALVE ASSEMBLY	
1	XDOOO		0CBB4	GTA-2-D-VAL-ASY	BALL VALVE ASSEMBLY, 2 INCH UOC: FTA, FTB, FTC, FTD	1
1	XDOOO		1DFDO	5060-2	BALL VALVE ASSEMBLY, 2 INCH UOC: FTR, FTJ, FTH, FTG	1
* 1	XDOOO		1EMJ6	MPC-FDV-2-B	BALL VALVE ASSEMBLY, 2 INCH UOC: FTI, FTK, FTL, FTM	1
* 2	XDOZZ		63711	ATPD2266-BVA-26D	.BALL VALVE, 2 INCH UOC: FTA, FTB, FTC, FTD	1
* 2	XDOZZ		1DFDO	5060F1	.BALL VALVE, 2 INCH UOC: FTR, FTJ, FTH, FTG	1
* 2	XDOZZ		1EMJ6	WW-V-35TY2BZ1	.BALL VALVE, 2 INCH UOC: FTI, FTK, FTL, FTM	1
3	XDOZZ		63711	CH-F	.COUPLING HALF, QD, MALE X MALE NPT UOC: FTA, FTB, FTC, FTD	1
* 3	PAOZZ	4730-00-938-7997	58536	AA59326III16	.COUPLING HALF, QD, MALE X MALE NPT UOC: FTR, FTJ, FTH, FTG FTI, FTK, FTL, FTM	1
4	XDOZZ		63711	DC-2	.DUST CAP, QD, 2 INCH UOC: FTA, FTB, FTC, FTD	1
* 4	PAOZZ	4730-00-649-9100	58536	AA59326IX16	.CAP, DUST, QUICK DISCONNECT UOC: FTR, FTJ, FTH, FTG FTI, FTK, FTL, FTM	1
5	XDOZZ		63711	CH-2B	.COUPLING HALF, QD, FEMALE X MALE NPT UOC: FTA, FTB, FTC, FTD	1
* 5	PAOZZ	4730-00-088-9285	96906	MS27026-11	.COUPLING HALF, QD, FEMALE X MALE NPT UOC: FTR, FTJ, FTH, FTG FTI, FTK, FTL, FTM	1
6	XDOZZ		63711	DP-2-QD	. DUST PLUG, QD, 2INCH UOC: FTA, FTB, FTC, FTD	1
* 6	PAOZZ	4730-00-915-5127	58536	AA59326X16	.PLUG, DUST, QUICK DISCONNECT UOC: FTR, FTJ, FTH, FTG FTI, FTK, FTL, FTM	1
* 7	PCOZZ		63711	G-QD-2	.GASKET, QD, 2 INCH UOC: FTA, FTB, FTC, FTD	2
* 7	PCOZZ	5330-00-612-2414	96906	MS27030-6	.GASKET UOC: FTR, FTJ, FTH, FTG FTI, FTK, FTL, FTM	2

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
8	XDOZZ		63711	5060F7	.CHAIN, 6 INCH UOC: FTR, FTJ, FTH, FTG	2
9	XDOZZ		63711	5060F8	.RING, KEY UOC: FTR, FTJ, FTH, FTG	7

END OF FIGURE

UNIT MAINTENANCE

COLLAPSIBLE FABRIC TANK, 3,000, 10,000, 20,000, 50,000 GALLON

BERM LINER DRAIN HOSE ASSEMBLY

REPAIR PARTS LIST

GTA and Reliance

1

2 – 7

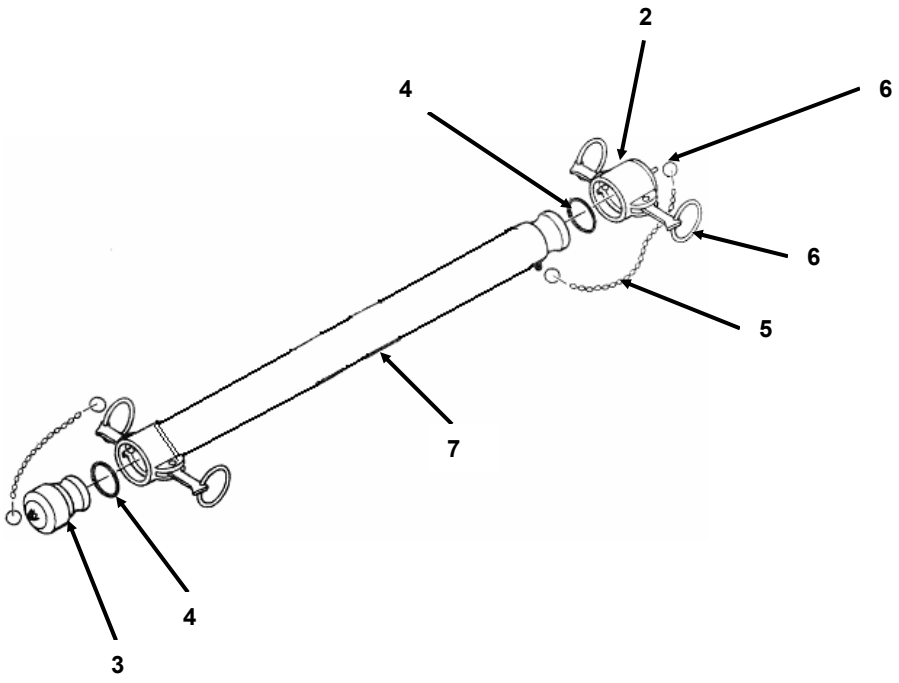


Figure 18. Berm Liner Drain Hose Assembly

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 09 ASSEMBLY, BERM LINER	
					FIG. 18 BERM LINER DRAIN HOSE ASSEMBLY	
1	XDOOO		0CBB4	GTA-2X10-H-ASY	HOSE ASSEMBLY, 2 IN X 10 FT, WITH MALE AND FEMALE QD FITTINGS UOC: FTA, FTB, FTC, FTD	1
1	XDOOO		1DFDO	5059	HOSE ASSEMBLY,2 IN X 10 FT, TAN, MQC X FQC UOC: FTR, FTJ, FTH, FTG	1
* 1	XDOOO		1EMJ6	MPC-BDH-2-B	HOSE ASSEMBLY,2 IN X 10 FT, TAN, UOC: FTI, FTK, FTL, FTM	1
2	PAOZZ	4730-00-649-9100	58536	AA59326IX16	.CAP, DUST, QUICK DISCONNECT, 2 IN	1
3	PAOZZ	4730-00-915-5127	58536	AA59326X16	.PLUG, DUST, QUICK DISCONNECT, 2 IN	1
4	PCOZZ	5330-00-612-2414	96906	MS27030-6	.GASKET, 2 IN	2
5	XDOZZ		63711	CAR-12	.CHAIN UOC: FTA, FTB, FTC, FTD	2
5	XDOZZ		63711	5060F7	.CHAIN, 6 INCH UOC: FTR, FTJ, FTH, FTG	2
* 5	XDOZZ		63711	BRC-10-1	.CHAIN, 10 INCH UOC: FTI, FTK, FTL, FTM	2
6	XDOZZ		63711	RKC-1	.RING, KEY UOC: FTA, FTB, FTC, FTD	7
6	XDOZZ		63711	5060F8	.RING, KEY UOC: FTR, FTJ, FTH, FTG	7
* 6	XDOZZ		63711	BRC-10-2	.RING, KEY UOC: FTI, FTK, FTL, FTM	7
7	XDOZZ		63711	HA2-10-F	.HOSE WITH MALE AND FEMALE QD UOC: FTA, FTB, FTC, FTD	1
7	XDOZZ		63711	5059C1-10	.HOSE WITH MALE AND FEMALE QD UOC: FTR, FTJ, FTH, FTG	1
* 7	XDOZZ		63711	NA2-10-F	.HOSE WITH MALE AND FEMALE QD UOC: FTI, FTK, FTL, FTM	1
					END OF FIGURE	

UNIT MAINTENANCE

COLLAPSIBLE FABRIC TANK, 3,000, 10,000, 20,000, 50,000 GALLON

BERM LINER (RELIANCE AND MPC MODELS)

REPAIR PARTS LIST

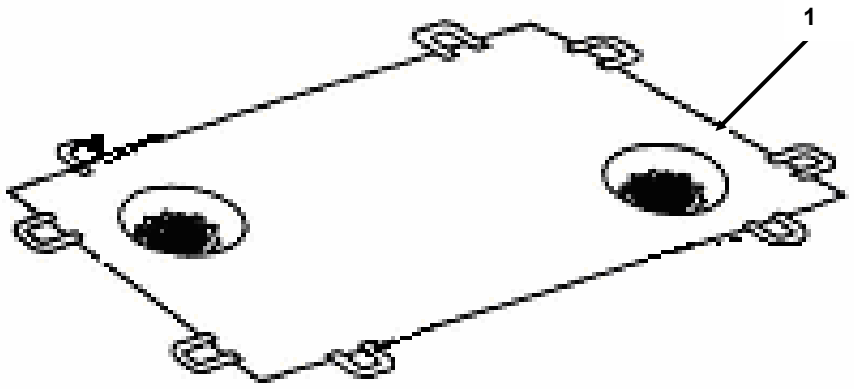


Figure 19. Berm Liner

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 09 ASSEMBLY, BERM LINER	
					FIG. 19 BERM LINER (RELIANCE AND MPC MODELS)	
1	XDOOO		1DFDO	RCF-3-K-BL	BERM LINER ASSEMBLY UOC: FTR	1
1	XDOOO		1DFDO	RCF-10-K-BL	BERM LINER ASSEMBLY UOC: FTJ	1
1	XDOOO		1DFDO	RCF-20-K-BL	BERM LINER ASSEMBLY UOC: FTH	1
1	XDOOO		1DFDO	RCF-50-K-BL	BERM LINER ASSEMBLY UOC: FTG	1
1	XDOOO		1EMJ6	MPC-3K-BL-3737-RPL	BERM LINER ASSEMBLY UOC: FTI	1
1	XDOOO		1EMJ6	MPC-10K-BL-5353-RPL	BERM LINER ASSEMBLY UOC: FTK	1
1	XDOOO		1EMJ6	MPC-20K-BL-5959-RPL	BERM LINER ASSEMBLY UOC: FTL	1
1	XDOOO		1EMJ6	MPC-50K-BL-60100-RPL	BERM LINER ASSEMBLY UOC: FTM	1
					END OF FIGURE	

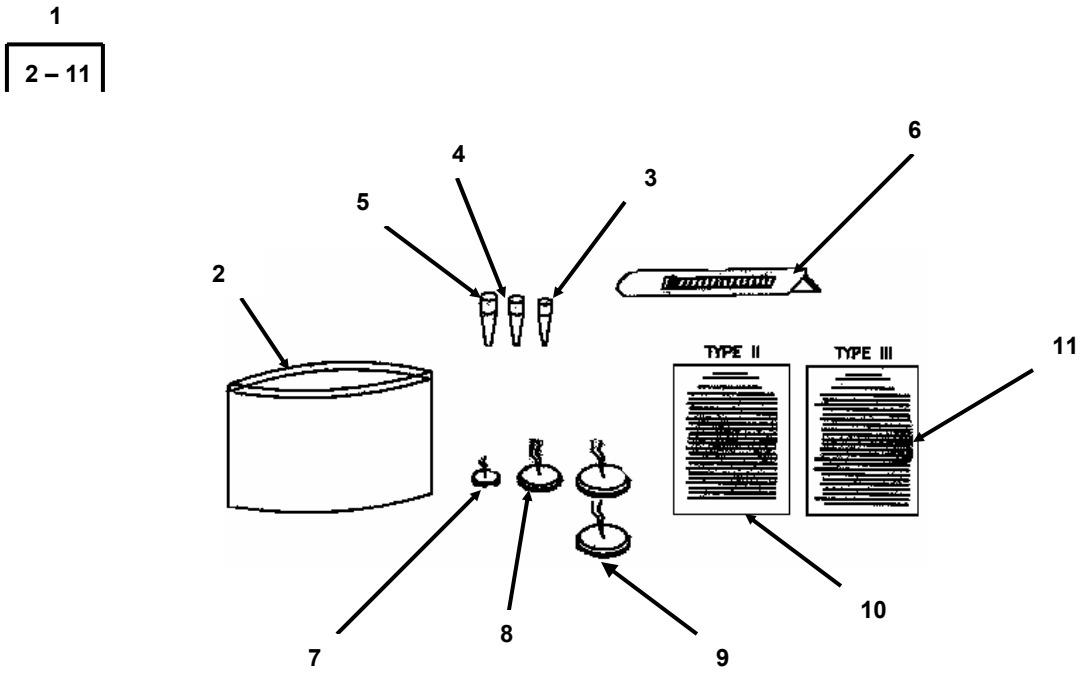


Figure 20. Emergency Repair Items, Type II Repair Kit (Reliance 3K and 10K Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 10 REPAIR ITEMS, EMERGENCY	
					FIG. 20 EMERGENCY REPAIR ITEMS, TYPE II REPAIR KIT (RELIANCE 3K AND 10K MODELS)	
1	XDOOO		1DFDO	2263-T2-OB	REPAIR KIT, COLLAPSIBLE EMERGENCY UOC: FTR, FTJ	1
2	XDOZZ		84583	2263-1-OB	.CONTAINER	1
3	PAOZZ		84583	2263-2-OB	.PLUG, WOOD, 3 IN	1
4	PAOZZ		84583	2263-4-OB	.PLUG, WOOD, 4 1/2 IN	1
5	PAOZZ		84583	2263-6-OB	.PLUG, WOOD, 5 1/4 IN	1
6	XDOZZ		84583	2263-8-OB	.RAZOR/KNIFE	1
7	PAOZZ	5342-00-720-8864	81336	13202E2870-1	.PATCH, MECHANICAL, FL	1
8	PAOZZ	5342-00-720-8863	81336	13202E2870-2	.PATCH, MECHANICAL, FL	1
9	PAOZZ	5342-00-720-8858	81336	13202E2870-3	.PATCH, MECHANICAL, FL	2
10	XDOZZ		84583	2263-9-OB-II	.INSTRUCTION SHEET, TYPE II	1
11	XDOZZ		84583	2263-9-OB-III	.INSTRUCTION SHEET, TYPE III	1

END OF FIGURE

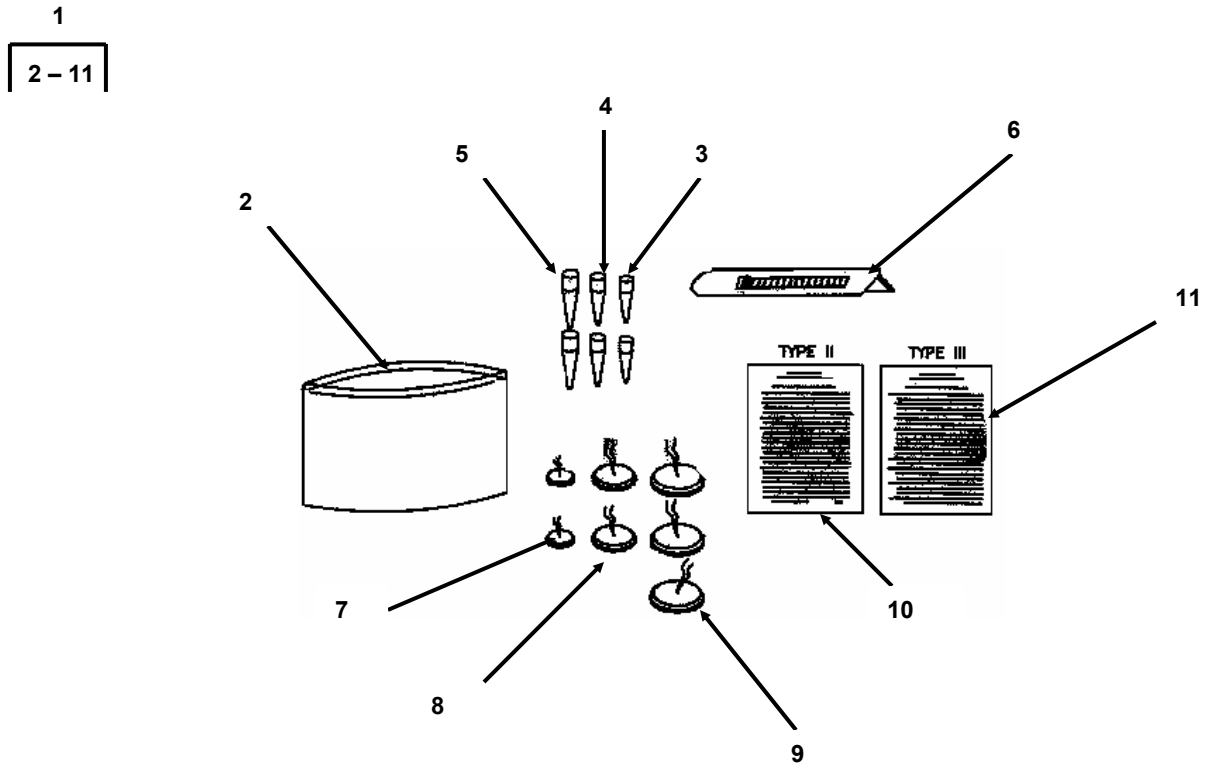


Figure 21. Emergency Repair Items, Type III Repair Kit (Reliance 20K and 50K Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 10 REPAIR ITEMS, EMERGENCY	
					FIG. 21 EMERGENCY REPAIR ITEMS, TYPE III REPAIR KIT (RELIANCE 20K AND 50K MODELS)	
1	XDOOO		1DFDO	2263-T3-OB	REPAIR KIT, COLLAPSIBLE EMERGENCY, TYPE III UOC: FTH, FTG	1
2	XDOZZ		84583	2263-1-OB	.CONTAINER	1
3	PAOZZ		84583	2263-2-OB	.PLUG, WOOD, 3 IN	2
4	PAOZZ		84583	2263-4-OB	.PLUG, WOOD, 4 1/2 IN	2
5	PAOZZ		84583	2263-6-OB	.PLUG, WOOD, 5 1/4 IN	2
6	XDOZZ		84583	2263-8-OB	.RAZOR/KNIFE	1
7	PAOZZ	5342-00-720-8864	81336	13202E2870-1	.PATCH, MECHANICAL, FL	2
8	PAOZZ	5342-00-720-8863	81336	13202E2870-2	.PATCH, MECHANICAL, FL	2
9	PAOZZ	5342-00-720-8858	81336	13202E2870-3	.PATCH, MECHANICAL, FL	3
10	XDOZZ		84583	2263-9-OB-II	.INSTRUCTION SHEET, TYPE II	1
11	XDOZZ		84583	2263-9-OB-III	.INSTRUCTION SHEET, TYPE III	1

END OF FIGURE

1

2 – 10

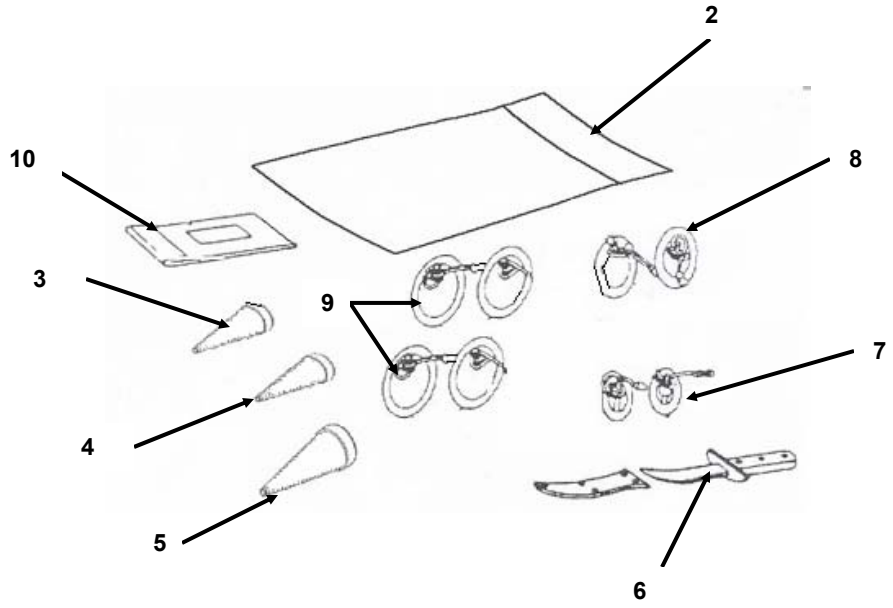


Figure 22. Emergency Repair Items, Type II Repair Kit (GTA 3K and 10K Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 10 REPAIR ITEMS, EMERGENCY	
					FIG. 22 EMERGENCY REPAIR ITEMS, TYPE II REPAIR KIT (GTA 3K AND 10K MODELS)	
1	XDOOO		84583	52255-II	REPAIR KIT, COLLAPSIBLE EMERGENCY UOC: FTA, FTB	1
2	XDOZZ		84583	52255-001	.CONTAINER	1
3	PAOZZ		84583	52255-002	.PLUG, WOOD, 3 IN	1
4	PAOZZ		84583	52255-003	.PLUG, WOOD, 4 1/2 IN	1
5	PAOZZ		84583	52255-004	.PLUG, WOOD, 5 1/4 IN	1
6	XDOZZ		84583	52255	.RAZOR/KNIFE	1
7	PAOZZ		84583	8864	.PATCH, MECHANICAL, FL	1
8	PAOZZ		84583	8863	.PATCH, MECHANICAL, FL	1
9	PAOZZ		84583	8858	.PATCH, MECHANICAL, FL	2
10	XDOZZ		84583	52255-005	.INSTRUCTION SHEET	1
					END OF FIGURE	

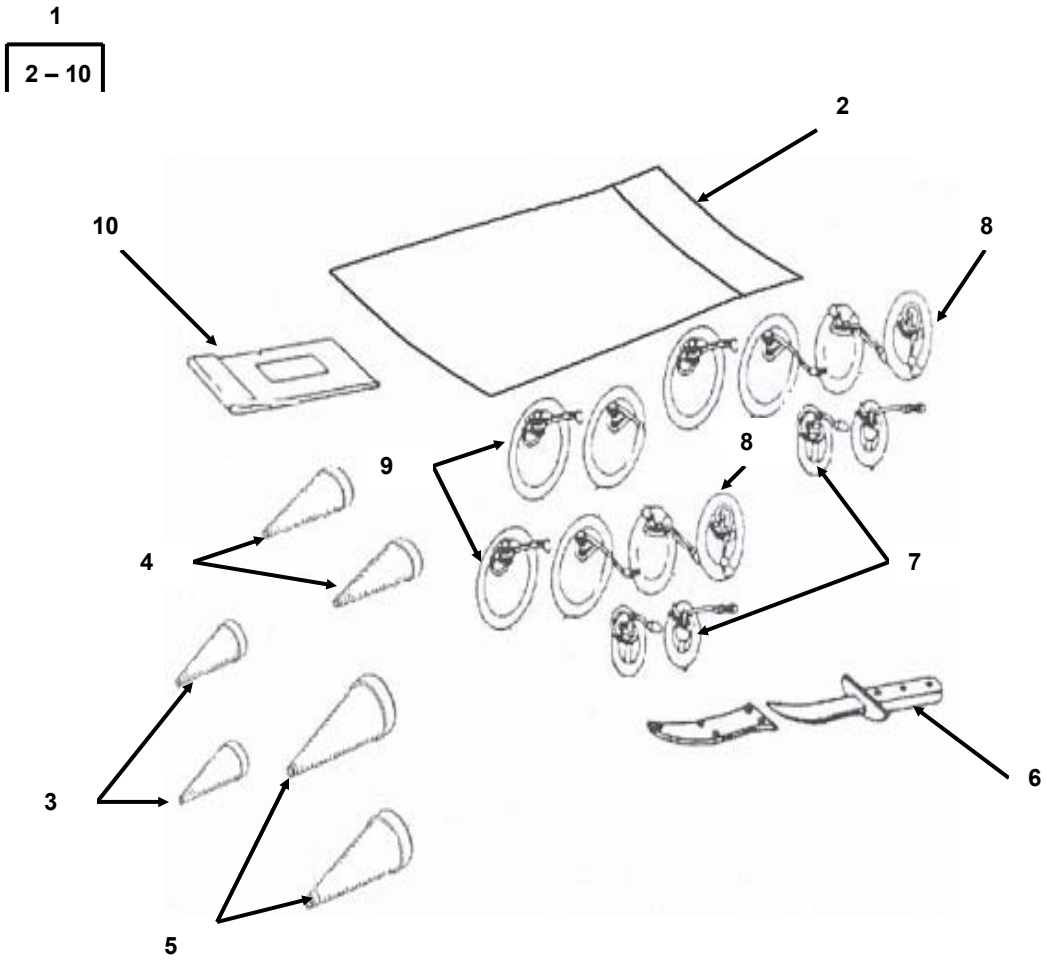


Figure 23. Emergency Repair Items, Type III Repair Kit (GTA 20K and 50K Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 10 REPAIR ITEMS, EMERGENCY	
					FIG. 23 EMERGENCY REPAIR ITEMS, TYPE III REPAIR KIT (GTA 20K AND 50K MODELS)	
1	XDOOO		84583	52255-III	REPAIR KIT, COLLAPSIBLE EMERGENCY UOC: FTC, FTD	1
2	XDOZZ		84583	52255-001	.CONTAINER	1
3	PAOZZ		84583	52255-002	.PLUG, WOOD, 3 IN	2
4	PAOZZ		84583	52255-003	.PLUG, WOOD, 4 1/2 IN	2
5	PAOZZ		84583	52255-004	.PLUG, WOOD, 5 1/4 IN	2
6	XDOZZ		84583	52255	.RAZOR/KNIFE	1
7	PAOZZ		84583	8864	.PATCH, MECHANICAL, FL	2
8	PAOZZ		84583	8863	.PATCH, MECHANICAL, FL	2
9	PAOZZ		84583	8858	.PATCH, MECHANICAL, FL	3
10	XDOZZ		84583	52255-005	.INSTRUCTION SHEET	1
					END OF FIGURE	

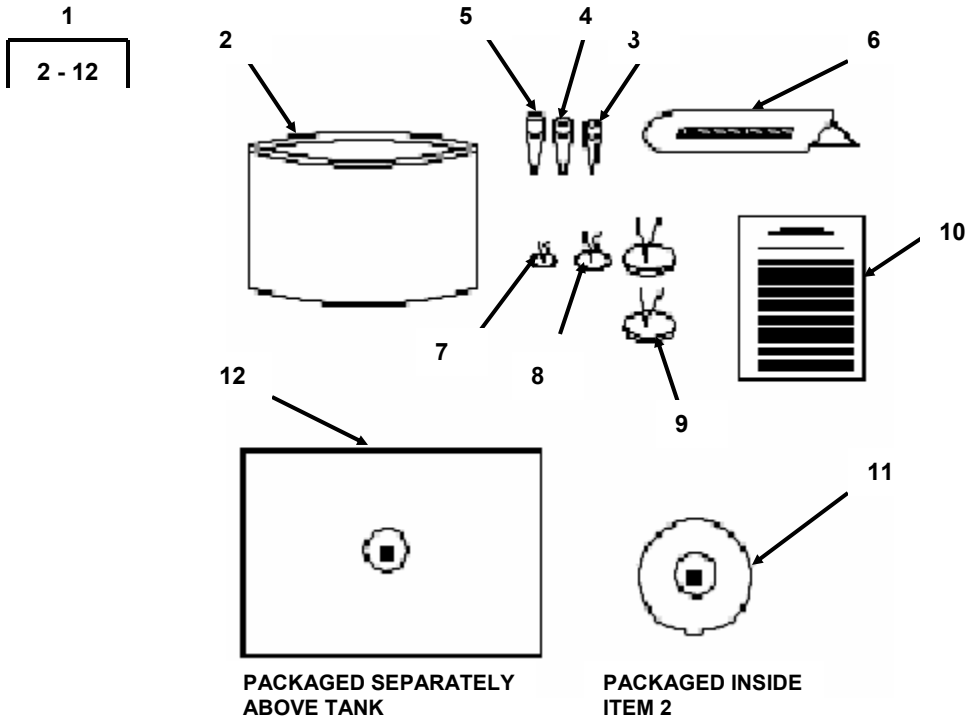


Figure 24. Emergency Repair Items, Type II Repair Kit (MPC 3K and 10K Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 10 REPAIR ITEMS, EMERGENCY	
					FIG. 24 EMERGENCY REPAIR ITEMS, TYPE II REPAIR KIT (MPC 3K AND 10K MODELS)	
1	XDOOO		1EMJ6	MPC-RK-101F	REPAIR KIT, COLLAPSIBLE EMERGENCY UOC: FTI, FTK	1
2	XDOZZ		84583	2263-3-1	.CONTAINER	1
3	PAOZZ		84583	2263-3-2	.PLUG, WOOD, 2 IN	1
4	PAOZZ		84583	2263-3-3	.PLUG, WOOD, 1 1/2 IN	1
5	PAOZZ		84583	2263-3-4	.PLUG, WOOD, 5/8 IN	1
6	XDOZZ		84583	2263-3-5	.RAZOR/KNIFE	1
7	PAOZZ	5342-00-720-8864	81336	13202E2870-1	.PATCH, MECHANICAL, FL	1
8	PAOZZ	5342-00-720-8863	81336	13202E2870-2	.PATCH, MECHANICAL, FL	1
9	PAOZZ	5342-00-720-8858	81336	13202E2870-3	.PATCH, MECHANICAL, FL	2
10	XDOZZ		84583	2263-3-9	.INSTRUCTION SHEET, TYPE II	1
11	XDOZZ		1EMJ6	1940PTFF-1Y	.TANK FABRIC REPAIR MATERIAL, 56 INCHES X 48 INCHES	1
12	XDOZZ		1EMJ6	TEF-.75	.TEFLON SIZING TAPE, 3/4” X 10 FT	1
					END OF FIGURE	

UNIT MAINTENANCE

COLLAPSIBLE FABRIC TANK, 3,000, 10,000, 20,000, 50,000 GALLON

EMERGENCY REPAIR ITEMS, TYPE III REPAIR KIT (MPC 20K AND 50K MODELS)

REPAIR PARTS LIST

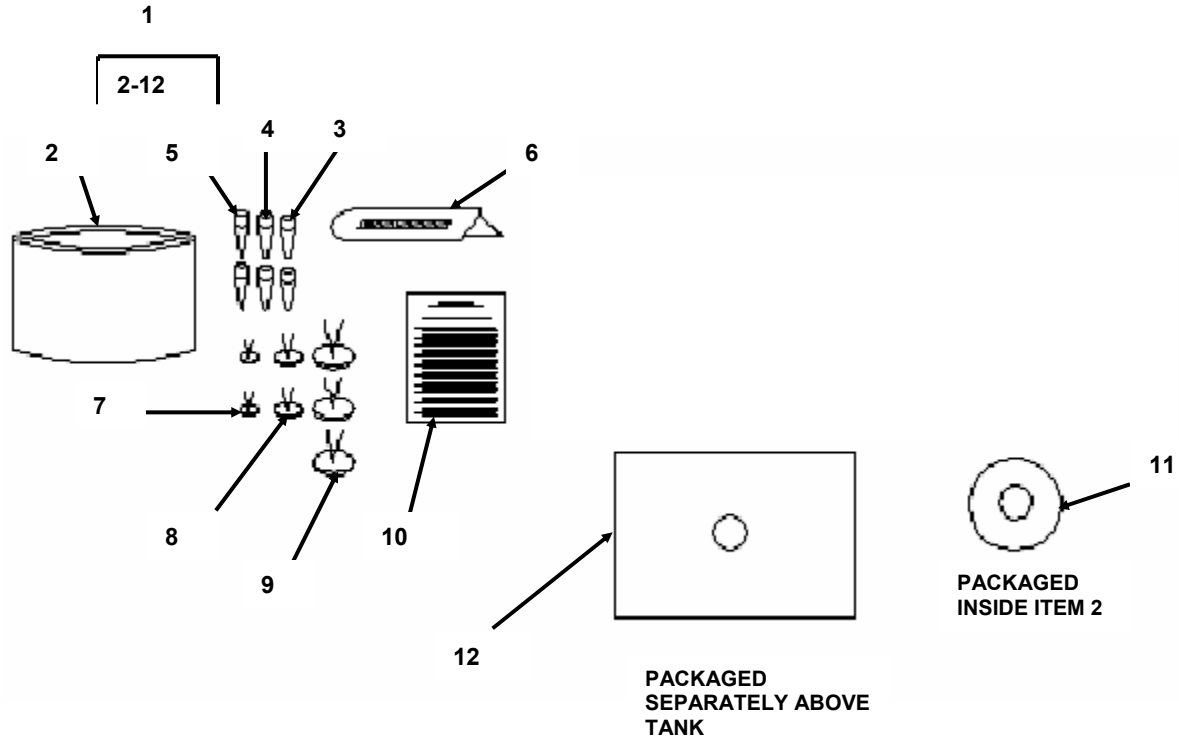


Figure 25. Emergency Repair Items, Type III Repair Kit (MPC 20K and 50K Models)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION/USABLE ON CODE (UOC)	(7) QTY
					GROUP 10 REPAIR ITEMS, EMERGENCY	
					FIG. 25 EMERGENCY REPAIR ITEMS, TYPE III REPAIR KIT (MPC 20K AND 50K MODELS)	
1	XDOOO		1EMJ6	MPC-RK-102F	REPAIR KIT, COLLAPSIBLE EMERGENCY, TYPE III UOC: FTL, FTM	1
2	XDOZZ		84583	2263-3-1	.CONTAINER	1
3	PAOZZ		84583	2263-3-2	.PLUG, WOOD, 2 IN	2
4	PAOZZ		84583	2263-3-3	.PLUG, WOOD, 1 1/2 IN	2
5	PAOZZ		84583	2263-3-4	.PLUG, WOOD, 5/8 IN	2
6	XDOZZ		84583	2263-3-5	.RAZOR/KNIFE	1
7	PAOZZ	5342-00-720-8864	81336	13202E2870-1	.PATCH, MECHANICAL, FL	2
8	PAOZZ	5342-00-720-8863	81336	13202E2870-2	.PATCH, MECHANICAL, FL	2
9	PAOZZ	5342-00-720-8858	81336	13202E2870-3	.PATCH, MECHANICAL, FL	3
10	XDOZZ		84583	2263-3-9	.INSTRUCTION SHEET, TYPE III	1
11	XDOZZ		1EMJ6	1940PTFF-1Y	.TANK FABRIC REPAIR MATERIAL, 56” X 56”	1
12	XDOZZ		1EMJ6	TEF-.75	.TEFLON SIZING TAPE, 3/4 IN X 10 FT	1
					END OF FIGURE	

END OF WORK PACKAGE

UNIT MAINTENANCE
COLLAPSIBLE FABRIC TANK, FUEL STORAGE 3,000, 10,000, 20,000, 50,000 GALLON
NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5305-00-068-0509	7	23	4730-00-649-9100	5	4
	8	8		6	3
	9	5		7	19
	10	5		8	12
	11	2		14	5
	*11	7		15	6
	14	2		*16	2
5330-00-075-3268	3	7		*17	4
5310-00-087-7493	1	12		*18	2
4730-00-088-9285	5	5	4730-00-649-9103	7	16
	*17	5		8	6
5305-00-225-3843	11	2	4730-00-649-9118	3	5
	15	2	5342-00-720-8858	*20	9
5331-00-291-3085	7	26		*21	9
	11	9		*24	9
	15	10		*25	9
5331-00-364-9862	9	7	5342-00-720-8863	*20	8
	10	16		*21	8
5330-00-612-2414	5	7		*24	8
	6	4		*25	8
	7	17	5342-00-720-8864	*20	7
	7	20		*21	7
	8	7		*24	7
	8	13		*25	7
	14	6	5305-00-725-2317	1	11
	15	7		9	14
	*16	3		10	13
	*17	7	5310-00-732-0558	1	9
	*18	4		9	12
5310-00-637-9541	1	10		10	11
	9	13	4930-00-734-0180	7	2
	10	12	4930-00-786-9566	7	10
4730-00-640-6156	1	2	5310-00-809-4058	7	24
	3	4		8	9
	4	5		9	6
	10	7		10	6
4730-00-640-6188	1	6		11	3
	3	6		14	3
	4	4		15	3

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
4730-00-840-0797	3	3	5305-01-262-5080	7	6
4730-00-840-5347	1	13	5330-01-262-5120	9	17
	9	18		10	15
	10	14		14	9
4730-00-840-5348	1	15	4820-01-262-5121	2	16
5330-00-874-3744	9	15	5310-01-265-5044	2	9
	10	17	5331-01-324-5262	8	11
	*10	19	5340-01-381-1690	2	2
5330-00-899-4509	1	3	4730-01-416-1533	7	25
	1	16		8	10
	*3	7		14	4
	4	3			
	9	4			
	9	11			
	10	4			
4730-00-915-5127	5	6			
	*17	6			
	*18	3			
4730-00-938-7997	5	3			
	15	5			
	*17	3			
4820-01-189-2809	1	17			
	2	-			
5310-01-262-1337	2	3			
5360-01-262-1338	2	4			
5365-01-262-1339	2	6			
5330-01-262-1340	2	11			
4820-01-262-1341	2	12			
4820-01-262-1342	2	13			
5305-01-262-1343	2	14			
4820-01-262-1344	2	17			
5330-01-262-1349	7	8			
5310-01-262-1351	7	7			
5320-01-262-1352	7	11			
5320-01-262-1353	7	12			
5310-01-262-1359	2	1			
5310-01-262-1360	2	7			
5330-01-262-1361	7	3			
	8	3			
5330-01-262-1363	2	5			
5305-01-262-1365	2	8			
4820-01-262-1366	2	15			

END OF WORK PACKAGE

UNIT MAINTENANCE
COLLAPSIBLE FABRIC TANK, FUEL STORAGE
3,000, 10,000, 20,000, 50,000 GALLON
PART NUMBER INDEX

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
CH-2B	5	5	GTA-10BERM	13	1
	*17	5	GTA-20BERM	13	1
CH-F	5	3	GTA-50BERM	13	1
	*17	3	GTA-10-KF-RPL	12	1
* CP-7	10	10	GTA-2-D-VAL-ASY	5	1
DC-2	5	4		*17	1
	6	3	GTA-20-KF-RPL	12	1
	*17	4	GTA-2X8-H-ASY	6	1
DC-4	9	8	* GTA-2X10-H-ASY	18	1
* DF-714	11	10	GTA-3-KF-RPL	12	1
DP-2-QD	5	6	GTA-4-FD-VAL-ASY	1	1
	*17	6	GTA-4X10-FD-H-ASY	4	1
EFF-90-4	9	3	GTA-50-KF-RPL	12	1
	*10	2	* HA2-10-F	18	7
EFM-90-4	9	2	HA2-8-F	6	7
	*10	3	* H4-10-F	4	2
EX1333B	7	2	* MPC-BDH-2-B	18	1
EX1333B39	7	10	* MPC-BLD-3	16	7
EX1333B-17	7	7	* MPC-BLD-4	16	9
EX1333B-1-607	7	14	* MPC-BLD-5	16	8
EX1333B-18-95	7	3	* MPC-BLD-2A	16	1
	8	3	* MPC-BLD-2-B-1	16	6
EX1333B-3-607	7	13	* MPC-FD-2-B	11	1
EX1333B-36-13	7	4	* MPC-FDH-2-B	6	1
EX1333B-40-68	7	9	* MPC-FV-2-B	8	1
* FA-2	8	4	* MPC-FDV-2-B	5	1
FCC-62398/50609735	9	17	* MPC-FFDH-4-B	4	1
	10	15	* MPC-FFDV-4-B	3	1
	14	9	* MPC-M-F-1218-B	10	1
G-QD-2	5	7	* MPC-RK-101F	24	1
	*17	7	* MPC-RK-102F	25	1
G-QD-4	1	14	* MPC-03K-13114-RPL	12	1
GTA-CF-S	14	10	* MPC-10K-BL-5353	13	1
GTA-DF	14	1	* MPC-10K-BL-5353-RPL	19	1
GTA-D-ASY	11	1	* MPC-10K-22175-RPL	12	1
GTA-FD-ASY	9	1	* MPC-20K-BL-5959	13	1
GTA-LB	11	5	* MPC-20K-BL-5599-RPL	19	1
GTA-SH	11	6	* MPC-20K-22276-RPL	12	1
GTA-V-ASY-F	7	1	* MPC-3K-BL-3737	13	1
* GTA1032RD	11	7	* MPC-3K-BL-3737-RPL	19	1
GTA-063	9	16	* MPC-50K-BL-60100	13	1
GTA-3BERM	13	1	* MPC-50K-BL-60100-RPL	19	1

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
* MPC-50K-22636-RPL	12	1	* NA2-10-F	18	7
MS27022-17	3	3	P-2-10	7	18
MS27023-17	1	13		*8	5
	9	18	PC-PP-713	11	4
	10	14	PP-713	11	8
MS27023-21	7	25	* RCF-10-K-BL	19	1
	8	10	RCF-10-K-BL-OB	13	1
	14	4	RCF-10-K-F	12	1
MS27026-11	5	5	* RCF-20-K-BL	19	1
	*17	5	RCF-20-K-BL-OB	13	1
MS27030-6	5	7	RCF-20-K-F	12	1
	6	4	* RCF-3-K-BL	19	1
	7	17	RCF-3-K-BL-OB	13	1
	7	20	RCF-3-K-F	12	1
	8	7	* RCF-50-K-BL	19	1
	8	13	RCF-50-K-BL-OB	13	1
	14	6	RCF-50-K-F	12	1
	15	7	* RC-2	8	2
	*16	3	RKC-1	7	22
	*17	7		14	8
	*18	4		*18	6
MS27030-9	1	3	RK-DC-1	1	5
	1	16		1	8
	*3	7	RK-1	6	6
	4	3		9	10
	9	4	* SS-4-0-383	10	18
	9	11	* TPC-2	6	2
	10	4	TEF-.75	*24	12
MS27183-10	7	24		*25	12
	8	9	TC-2	6	2
	9	6	* WW-V-35TY2BZ1	5	2
	10	6	13202E2870-1	*20	7
	11	3		*21	7
	14	3		*24	7
	15	3		*25	7
MS27183-13	1	12	13202E2870-2	*20	8
MS35338-46	1	10		*21	8
	9	13		*24	8
	10	12		*25	8
MS51967-8	1	9	13202E2870-3	*20	9
	9	12		*21	9
	10	11		*24	9
* NA2-8-F	6	7		*25	9

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
1940PTFF-1Y	*24	11	235RF-02082P	2	6
	*25	11	235RF-02092G	2	11
205-18-98	7	8	235RF-0210MD	2	15
2263-1-OB	*20	2	235RF-0212MD	2	16
	*21	2	235RF-0215MR	2	13
2263-2-OB	*20	3	235RF-02162S	2	4
	*21	3	235RF-0217MR	2	17
2263-3-1	*24	2	235RF-02182S	2	14
	*25	2	235RF-02192S	2	8
2263-3-2	*24	3	235RF-02202N	2	7
	*25	3	235RF-02212W	2	9
2263-3-3	*24	4	3042-L	2	18
	*25	4	4201232400	7	11
2263-3-4	*24	5	4201035000	7	12
	*25	5	4447101620	7	6
2263-3-5	*24	6	4963	10	1
	*25	6	4963CF14	10	3
2263-3-9	*24	10	4963CF2	10	18
	*25	10	4963CF4	10	10
2263-4-OB	*20	4	4963CF7	10	2
	*21	4	4965CF10	8	2
2263-6-OB	*20	5	4965CF8	8	5
	*21	5	4965CF9	8	4
2263-8-OB	*20	6	4965F	8	1
	*21	6	5057	11	1
2263-9-OB-II	*20	10	5057F2	11	10
	*21	10		15	4
2263-9-OB-III	*20	11	5057F3	11	8
	*21	11	5057F4	15	11
* 2263-T2-OB	20	1	5057F7	11	6
* 2263-T3-OB	21	1	5057F8	11	5
235RF-0200AV	1	17	5057F9	11	7
	2	-	5057-BL	15	1
235RF-0201MB	2	19	* 5059	18	1
235RF-0202MB	2	10	* 5059C1-10	18	7
235RF-0203MS	2	12	5059C1-8-F	6	7
235RF-02043A	2	2	5059C-F	6	1
235RF-02052N	2	1	5059F3	6	2
235RF-020621	2	5	5060	3	1
235RF-020721	2	3			

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
5060F1	5	2	52255-002	*22	3
	*17	2		*23	3
5060F7	3	8	52255-003	*22	4
	4	6		*23	4
	5	8	52255-004	*22	5
	6	5		*23	5
	8	14	52255-005	*22	10
	10	8		*23	10
	11	4	*52255-II	22	1
	15	8	*52255-III	23	1
	*17	8	7500-3-8	9	15
	*18	5		*10	17
5060F8	3	9		*10	19
	4	7	*780-0100AC-7	7	5
	5	9	8858	*22	9
	6	6		*23	9
	8	15	8863	*22	8
	10	9		*23	8
	15	9	8864	*22	7
	*17	9		*23	7
	*18	6			
5060-2	5	1			
	*17	1			
5060-4	3	2			
5061F1	4	2			
5061-F	4	1			
52255	*22	6			
	*23	6			
52255-001	*22	2			
	*23	2			

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE
COLLAPSIBLE FABRIC TANK, FUEL STORAGE, 3,000, 10,000, 20,000, AND 50,000 GALLON
COMPONENTS OF END ITEMS (COEI) AND BASIC ISSUE ITEMS (BII) LISTS

COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS

INTRODUCTION

Scope

This work package lists COEI and BII for the 3,000 Gallon, 10,000 Gallon, 20,000 Gallon or 50,000 Gallon collapsible fabric tank to help inventory items for safe and efficient operation of the equipment.

General

The COEI and BII information is divided into the following lists:

Components of End Item (COEI). This list is for informational purposes only, and is not authority to requisition replacements. These items are part of the collapsible fabric fuel tank. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Items of COEI are removed and separately packaged for transportation or shipment only when necessary. Illustrations are furnished to help you find and identify the items.

Basic Issue Items (BII). These essential items are required to place a 3,000 Gallon, 10,000 Gallon, 20,000 Gallon or 50,000 Gallon collapsible fabric fuel tank in operation, to operate it, and to do emergency repairs. Although shipped separately packaged, BII must be with the collapsible fabric fuel tank during operation and when it is transferred between property accounts. Listing these items is your authority to request/requisition them for replacement based on authorization of the end item by TOE/MTOE. Illustrations are furnished to help find and identify the items.

Explanation of Columns in the COEI List and BII List

Column (1) – Illus Number. Gives you the number of the item illustrated.

Column (2) – National Stock Number (NSN). Identifies the stock number of the item to be used for requisitioning purposes.

Column (3) – Description, CAGEC, and Part Number. Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The stowage location of COEI and BII is also included in this column. The last line below the description is the CAGEC (commercial and Government entity code) (in parentheses) and the part number.

Column (4) – Usable on Code. When applicable, gives you a code if the item you need is not the same for different models of equipment. These codes are identified below:

Code	Used On	Code	Used On
FTA	3,000 Gallon, Model GTA-3KF	FTR	3,000 Gallon, Model RCF-3-K-F-OB
FTB	10,000 Gallon, Model GTA-10KF	FTJ	10,000 Gallon, Model RCF-10-K-F-OB
FTC	20,000 Gallon, Model GTA-20KF	FTH	20,000 Gallon, Model RCF-20-K-F-OB
FTD	50,000 Gallon, Model GTA-50KF	FTG	50,000 Gallon, Model RCF-50-K-F-OB

Code	Used On
FTI	3,000 Gallon, Model MPC-F-03K-13114
FTK	10,000 Gallon, Model MPC-F-10K-22175
FTL	20,000 Gallon, Model MPC-F-20K-22276
FTM	50,000 Gallon, Model MPC-F-50K-22636

Column (5) – Unit of Measure (U/M). Indicates the physical measurement or count of the item as issued per the NSN shown in column (2).

Column (6) – Qty Rqr. Indicates the quantity required.

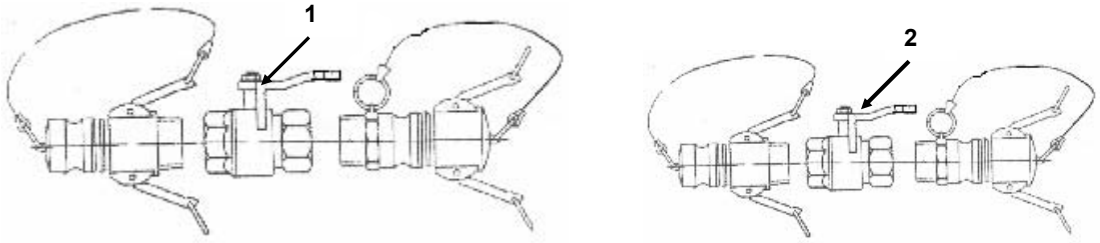


Table 1. Components of End Item List.

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER (NSN)	(3) DESCRIPTION, CAGEC AND PART NO.	(4) USABLE ON CODE	(5) UNIT OF MEASURE (U/M)	(6) QTY RQR.
1		Ball Valve Assembly, Filler/Discharge, 4 Inch (1DFDO) 5060	FTR, FTJ FTH, FTG	EA	1
		Ball Valve Assembly, Filler/Discharge, 4 Inch (1EMJ6) MPC-FFDV-4-B	FTI, FTK FTL, FTM	EA	1
2		Ball Valve Assembly, Tank and Berm Liner, 2 Inch (1DFDO) 5060-2	FTR, FTJ FTH, FTG	EA	4
		Ball Valve Assembly, Tank and Berm Liner, 2 Inch (0CBB4) GTA-2-D-VAL-ASY	FTA, FTB FTC, FTD	EA	4
		Ball Valve Assembly, Tank and Berm Liner, 2 Inch (1EMJ6) MPC-FDV-2-B	FTI, FTK FTL, FTM	EA	4

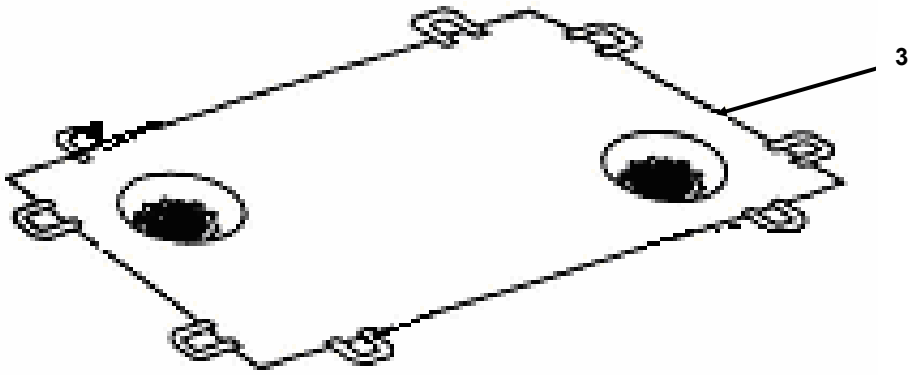


Table 1. Components of End Item List - continued

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER (NSN)	(3) DESCRIPTION, CAGEC AND PART NUMBER.	(4) USABLE ON CODE	(5) UNIT OF MEASURE (U/M)	(6) QTY RQR
3		Berm Liner, 3K Tank, (1DFDO) RCF-3-K-BL-OB	FTR	EA	1
		Berm Liner, 3K Tank, (0CBB4) GTA-3BERM	FTA	EA	1
		Berm Liner, 3K Tank, (1EMJ6) MPC-3K-BL-3737	FTI	EA	1
		Berm Liner, 10K Tank, (1DFDO) RCF-10-K-BL-OB	FTJ	EA	1
		Berm Liner, 10K Tank, (0CBB4) GTA-10BERM	FTB	EA	1
		Berm Liner, 10K Tank, (1EMJ6) MPC-10K-BL-5353	FTK	EA	1
		Berm Liner, 20K Tank, (1DFDO) RCF-20-K-BL-OB	FTH	EA	1
		Berm Liner, 20K Tank, (0CBB4) GTA-20BERM	FTC	EA	1
		Berm Liner, 20K Tank, (1EMJ6) MPC-20K-BL-5959	FTL	EA	1
		Berm Liner, 50K Tank, (1DFDO) RCF-50-K-BL-OB	FTG	EA	1
		Berm Liner, 50K Tank, (0CBB4) GTA-50BERM	FTD	EA	1
		Berm Liner, 50K Tank, (1EMJ6) MPC-50K-BL-60100	FTM	EA	1

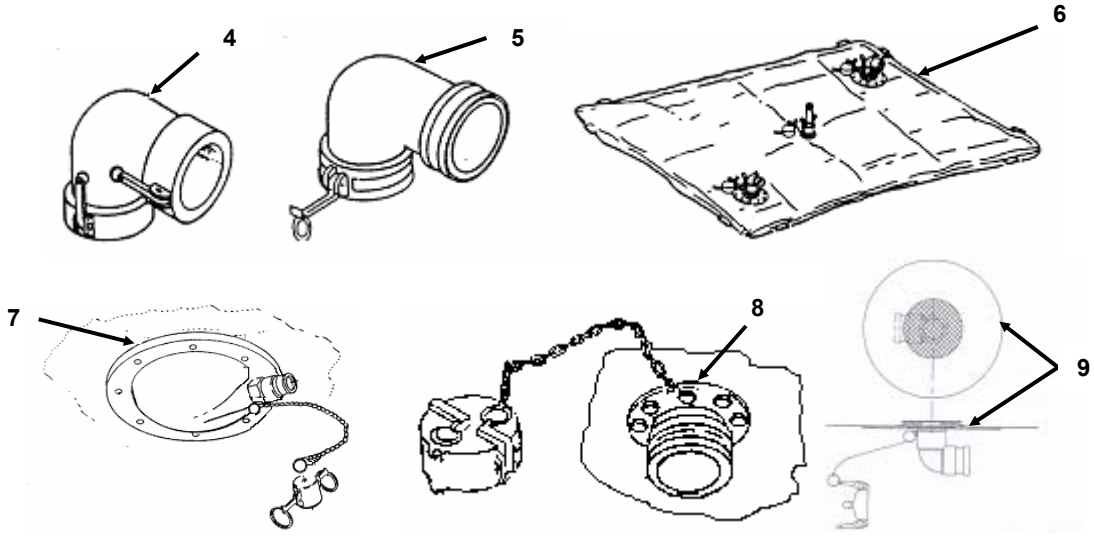


Table 1. Components of End Item List - continued

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER (NSN)	(3) DESCRIPTION, CAGEC AND PART NUMBER	(4) USABLE ON CODE	(5) UNIT OF MEASURE (U/M)	(6) QTY RQR
4		Elbow, Quick Disconnect, Female/Female, 4 Inch (1DFDO) 4963CF14	FTR, FTJ, FTH, FTG	EA	1
		Elbow, Quick Disconnect, Female/Female, 4 Inch (63711) EFF-90-4	FTA, FTB, FTC, FTD FTI, FTK, FTL, FTM	EA	1
5		Elbow, Quick Disconnect, Female/Male, 4 Inch (1DFDO) 4963CF7	FTR, FTJ, FTH, FTG	EA	1
		Elbow, Quick Disconnect, Female/Male, 4 Inch (63711) EFM-90-4	FTA, FTB, FTC, FTD FTI, FTK, FTL, FTM	EA	1
6		Filler/Discharge Assembly, (1DFDO) 4963	FTR, FTJ, FTH, FTG	EA	2
		Filler/Discharge Assembly, (0CBB4) GTA-FD-ASY	FTA, FTB, FTC, FTD	EA	2
		Filler/Discharge Assembly, (1EMJ6) MPC-M-F-1218-B	FTI, FTK, FTL, FTM	EA	2
7		Fitting Assembly, Berm Liner Drain (1DFDO) 5057-BL	FTR, FTJ, FTH, FTG	EA	2
8		Fitting Assembly, Berm Liner Drain (0CBB4) GTA-DF	FTA, FTB, FTC, FTD	EA	2
9		Fitting Assembly, Berm Liner Drain (1EMJ6) MPC-BLD-2-A	FTI, FTK, FTL, FTM	EA	2

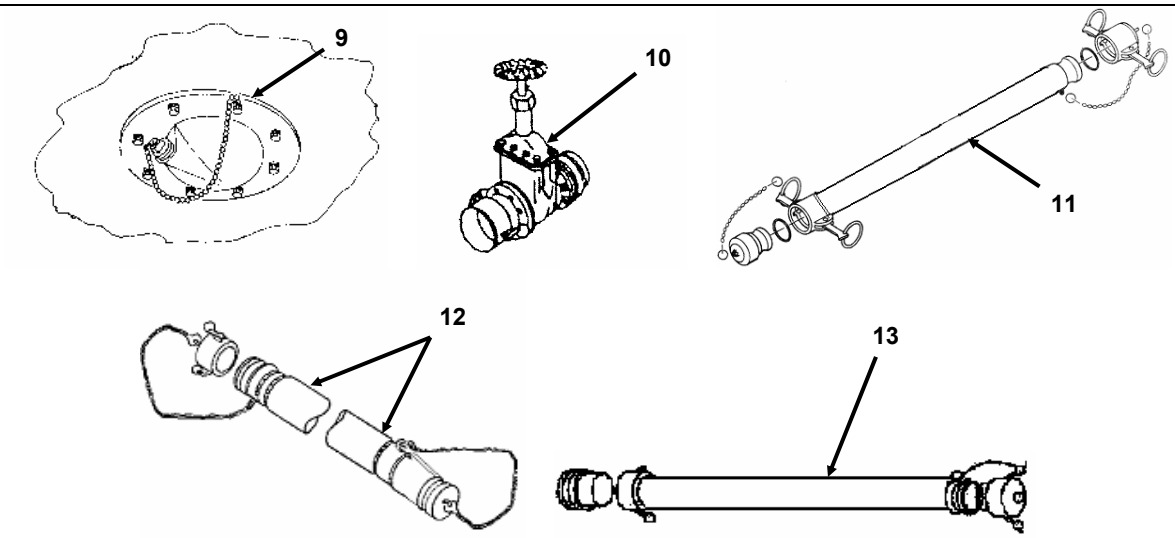


Table 1. Components of End Item List - continued

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER (NSN)	(3) DESCRIPTION, CAGEC AND PART NUMBER.	(4) USABLE ON CODE	(5) UNIT OF MEASURE (U/M)	(6) QTY RQR
9		Fitting Assembly, Tank Drain (1DFDO) 5057	FTR, FTJ, FTH, FTG	EA	2
		Fitting Assembly, Tank Drain (0CBB4) GTA-D-ASY	FTA, FTB, FTC, FTD	EA	2
		Fitting Assembly, Tank Drain (1EMJ6) MPC-FD-2-B	FTI, FTK, FTL, FTM	EA	2
10		Gate Valve Assembly, Filler/Discharge, 4 Inch (0CBB4) GTA-4-FD-VAL-ASY	FTA, FTB, FTC, FTD	EA	1
11		Hose Assembly, Berm Liner Drain 2-In X 10-Ft (1DFDO) 5059	FTR, FTJ, FTH, FTG	EA	4
		Hose Assembly, Berm Liner Drain 2-In X 10-Ft (0CBB4) GTA-2X10-H-ASY	FTA, FTB, FTC, FTD	EA	4
		Hose Assembly, Berm Liner Drain 2-In X 10-Ft (1EMJ6) MPC-BDH-2-B	FTI, FTK, FTL, FTM	EA	4
12		Hose Assembly, Filler/Discharge (1DFDO) 5061-F	FTR, FTJ, FTH, FTG	EA	1
		Hose Assembly, Filler/Discharge (0CBB4) GTA-4X10-FD-H-ASY	FTA, FTB, FTC, FTD	EA	1
		Hose Assembly, Filler/Discharge (1EMJ6) MPC-FFDH-4-B	FTI, FTK, FTL, FTM	EA	1

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER (NSN)	(3) DESCRIPTION, CAGEC AND PART NUMBER.	(4) USABLE ON CODE	(5) UNIT OF MEASURE (U/M)	(6) QTY RQR
13		Hose Assembly, Tank Drain 2-In X 8-Ft (1DFDO) 5059C-F	FTR, FTJ, FTH, FTG	EA	2
		Hose Assembly, Tank Drain 2-In X 8-Ft (0CBB4) GTA-2X8-H-ASY	FTA, FTB, FTC, FTD	EA	2
		Hose Assembly, Tank Drain 2-In X 8-Ft (1EMJ6) MPC-FDH-2-B	FTI, FTK, FTL, FTM	EA	2

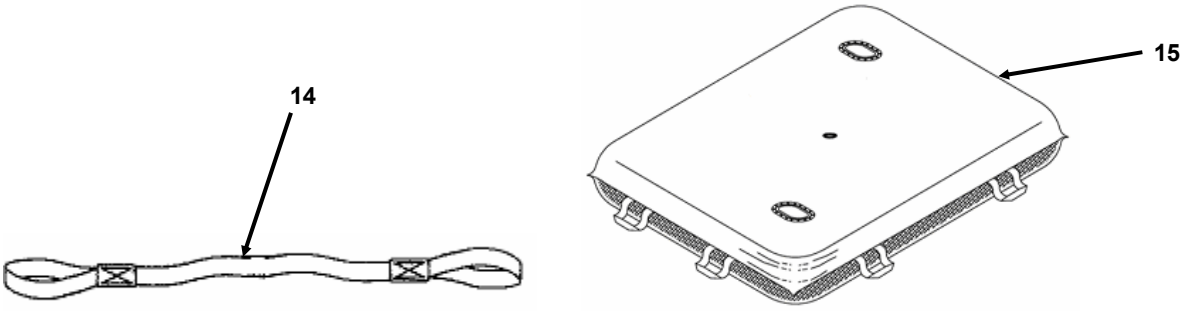
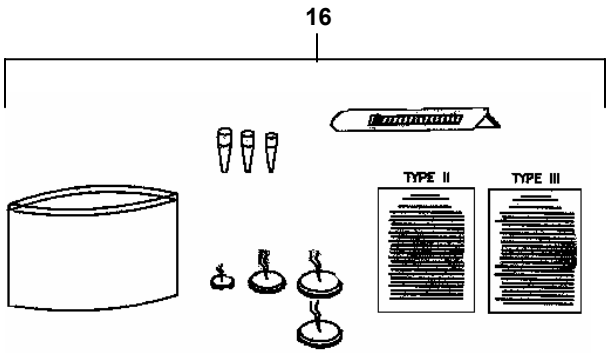
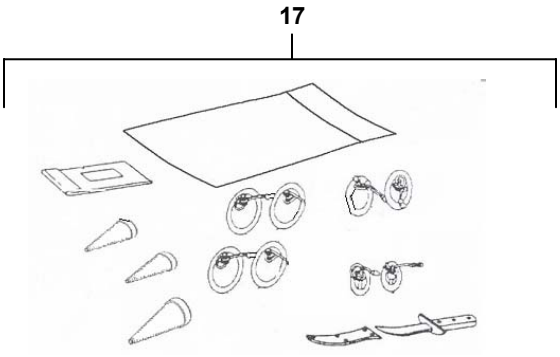
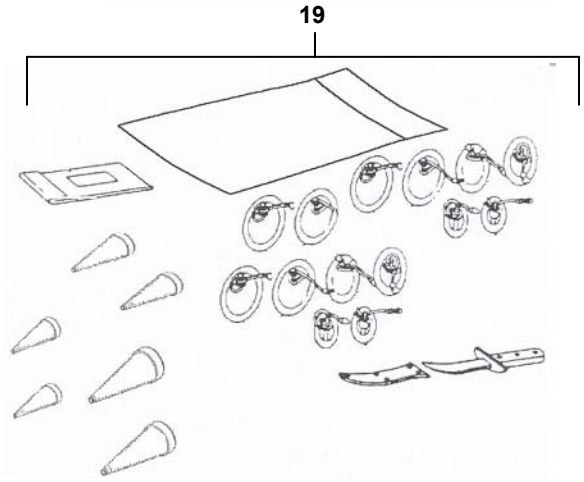


Table 1. Components of End Item List - continued

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER (NSN)	(3) DESCRIPTION, CAGEC AND PART NUMBER	(4) USABLE ON CODE	(5) UNIT OF MEASURE (U/M)	(6) QTY RQR
14		Lifting Sling, 2-In x 10-Ft (1DFDO) EE-1-2PT-OB	FTR, FTJ, FTH, FTG	EA	2
14		Lifting Sling, 2-In x 12-Ft (1EMJ6) LMI-P-708-2	FTI, FTK	EA	2
14		Lifting Sling, 2-In x 15-Ft (1EMJ6) LMI-P-708-1	FTL, FTM	EA	2
15		Tank, Fabric, Collapsi, 3K Gallon (1DFDO) RCF-3-K-F	FTR, FTJ, FTH, FTG	EA	1
		Tank, Fabric, Collapsi, 3K Gallon (0CBB4) GTA-3-KF-RPL	FTA, FTB, FTC, FTD	EA	1
		Tank, Fabric, Collapsi, 10K Gallon (1DFDO) RCF-10-K-F	FTR, FTJ, FTH, FTG	EA	1
		Tank, Fabric, Collapsi, 10K Gallon (0CBB4) GTA-10-KF-RPL	FTA, FTB, FTC, FTD	EA	1
		Tank, Fabric, Collapsi, 20K Gallon (1DFDO) RCF-20-K-F	FTR, FTJ, FTH, FTG	EA	1
		Tank, Fabric, Collapsi, 20K Gallon (0CBB4) GTA-20-KF-RPL	FTA, FTB, FTC, FTD	EA	1
		Tank, Fabric, Collapsi, 50K Gallon (1DFDO) RCF-50-K-F	FTR, FTJ, FTH, FTG	EA	1
		Tank, Fabric, Collapsi, 50K Gallon (0CBB4) GTA-50-KF-RPL	FTA, FTB, FTC, FTD	EA	1







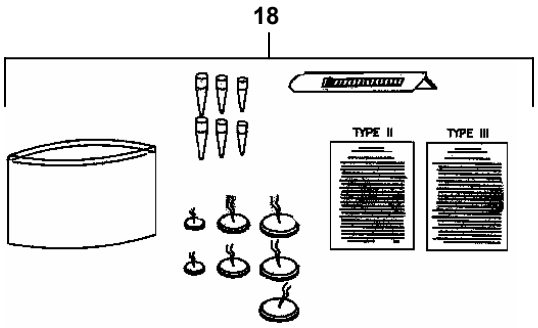


Table 1. Components of End Item List - continued

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER (NSN)	(3) DESCRIPTION, CAGEC AND PART NUMBER	(4) USABLE ON CODE	(5) UNIT OF MEASURE (U/M)	(6) QTY RQR
16		Repair Kit, Emergency, Type II (See WP 0038 00 For Component Parts) (1DFDO) 2263-T2-OB	FTR, FTJ	EA	1
		Repair Kit, Emergency, Type II (See WP 0038 00 For Component Parts) (1EMJ6) MPC-RK-101F	FTI, FTK	EA	1
17		Repair Kit, Emergency, Type II (See WP 0038 00 For Component Parts) (0CBB4) 52255-II	FTA, FTB	EA	1
18		Repair Kit, Emergency, Type III (See WP 0038 00 For Component Parts) (1DFDO) 2263-T3-OB	FTH, FTG	EA	1
		Repair Kit, Emergency, Type III (See WP 0038 00 For Component Parts) (1EMJ6) MPC-RK-102F	FTL, FTM	EA	1
19		Repair Kit, Emergency, Type III (See WP 0038 00 For Component Parts) (0CBB4) 52255-III	FTC, FTD	EA	1

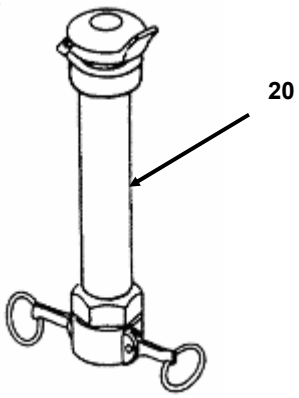


Table 1. Components of End Item List - continued

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER (NSN)	(3) DESCRIPTION, CAGEC AND PART NUMBER	(4) USABLE ON CODE	(5) UNIT OF MEASURE (U/M)	(6) QTY RQR
20		Vent Fitting Assembly (1DFDO) 4965F	FTR, FTJ, FTH, FTG	EA	1
		Vent Fitting Assembly (0CBB4) GTA-V-ASY-F	FTA, FTB, FTC, FTD	EA	1
		Vent Fitting Assembly (1EMJ6) MPC-FV-2-B	FTI, FTK, FTL, FTM	EA	1

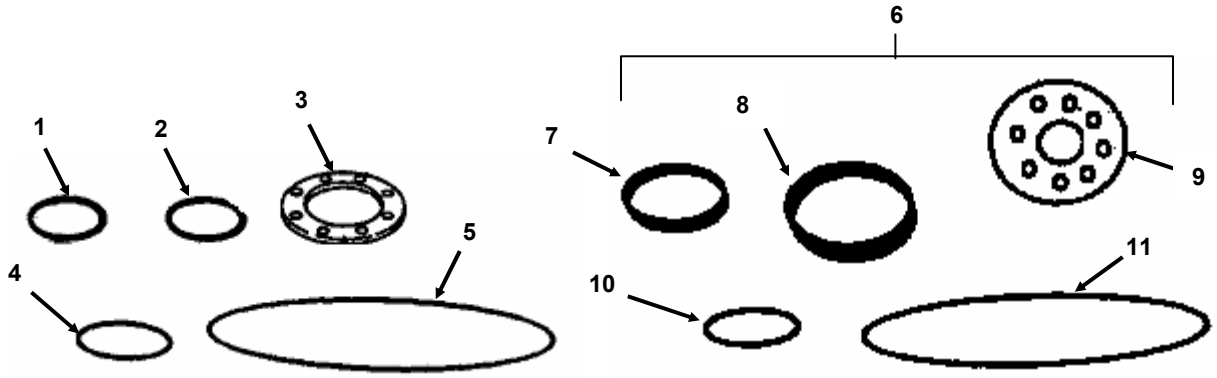


Table 1. Continued - On Board Spares

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER (NSN)	(3) DESCRIPTION, CAGEC AND PART NUMBER	(4) USABLE ON CODE	(5) UNIT OF MEASURE (U/M)	(6) QTY RQR
1	5330-00-612-2414	Gasket, 2-inch (96906) MS27030-6	FTR, FTJ, FTH, FTG FTI, FTK, FTL, FTM	EA	1
2	5330-00-899-4509	Gasket, 4-inch (96906) MS27030-9	FTR, FTJ, FTH, FTG	EA	2
2	5330-00-899-4509	Gasket, 4-inch (96906) MS27030-9	FTI, FTK, FTL, FTM	EA	1
3	5330-01-262-5120	Gasket (05476) FCC-62398/50609735	FTR, FTJ, FTH, FTG FTI, FTK, FTL, FTM	EA	2
4	5331-00-291-3085	O-ring (81343) AS29513-250	FTR, FTJ, FTH, FTG	EA	1
4	5331-00-291-3085	O-ring (81343) AS29513-250	FTI, FTK, FTL, FTM	EA	3
5	5330-00-364-9862	O-ring (81343) AS3578-383	FTR, FTJ, FTH, FTG FTI, FTK, FTL, FTM	EA	2

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER (NSN)	(3) DESCRIPTION, CAGEC AND PART NUMBER	(4) USABLE ON CODE	(5) UNIT OF MEASURE (U/M)	(6) QTY RQR
6		Replacement O-rings and Gaskets Kit (0CBB4) GTA-Orings Consisting of:	FTA, FTB, FTC, FTD	EA	1
7	5330-00-612-2414	.Gasket, 2-inch (96906) MS27030-6	FTA, FTB, FTC, FTD	EA	3
8	5330-00-899-4509	.Gasket, 4-inch (96906) MS27030-9	FTA, FTB, FTC, FTD	EA	4
9		.Gasket, 4-inch Flange (63711) G-QD-4	FTA, FTB, FTC, FTD	EA	2
10	5331-00-291-3085	.O-ring (81343) AS29513-250	FTA, FTB, FTC, FTD	EA	2
11	5331-00-364-9862	.O-ring (81343) AS3578-383	FTA, FTB, FTC, FTD	EA	2

TM 10-5430-242-12&P

TECHNICAL MANUAL

OPERATOR AND UNIT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

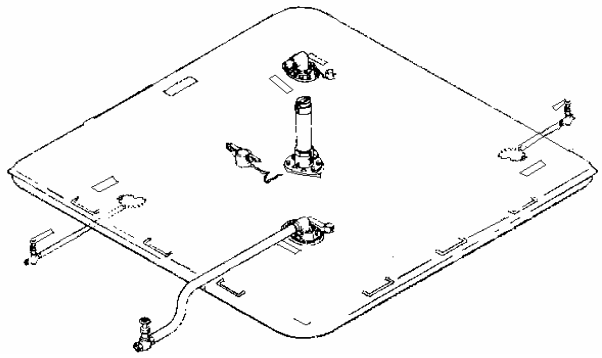
TANK, FABRIC, COLLAPSIBLE, FUEL STORAGE

3,000 GALLON, MODEL GTA-3KF/RCF-3-K-F-OB
(NSN 5430-01-485-8340/NSN 5430-01-486-8209)

10,000 GALLON, MODEL GTA-10KF/RCF-10-K-F-OB
(NSN 5430-01-486-0221/NSN 5430-01-485-8336)

20,000 GALLON, MODEL GTA-20KF/RCF-20-K-F-OB
(NSN 5430-01-485-8338/NSN 5430-01-486-1034)

50,000 GALLON, MODEL GTA-50KF/RCF-50-K-F-OB
(NSN 5430-01-485-8337/NSN 5430-01-485-8342)



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HEADQUARTERS, DEPARTMENT OF THE ARMY

01 MARCH 2002

Table 2. Basic Issue Items List.

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER (NSN)	(3) DESCRIPTION, CAGEC AND PART NUMBER	(4) USABLE ON CODE	(5) UNIT OF MEASURE (U/M)	(6) QTY RQR
1		TECHNICAL MANUAL, OPERATOR AND UNIT MAINTENANCE (INCL. RPSTL) TM 10-5430-242-12&P		EA	1

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE
COLLAPSIBLE FABRIC TANK, FUEL STORAGE, 3,000
10,000, 20,000, AND 50,000 GALLON
EXPENDABLE AND DURABLE ITEMS LIST

EXPENDABLE AND DURABLE ITEMS LIST

INTRODUCTION

Scope

This work package lists expendable and durable items that you will need to operate and maintain the collapsible fabric fuel tank. This list is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V Repair Parts, and Heraldic Items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

Explanation of Columns in the Expendable/Durable Items List

Column (1) – Item Number. This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item [e.g., “Use brake fluid (Item 5, WP 0098 00)”].

Column (2) – Level. This column identifies the lowest level of maintenance that requires the listed item (C=Operator/Crew).

Column (3) – National Stock Number (NSN). This is the NSN assigned to the item that you can use to requisition it.

Column (4) – Item Name, Description, Commercial and Government Entity Code (CAGEC), and Part Number (P/N). This column provides the other information you need to identify the item.

Column (5) – Unit of Measure (U/M). This code shows the physical measurement or count of an item, such as gallon, dozen, gross, etc.

EXPENDABLE AND DURABLE ITEMS LIST

Table 1. Expendable and Durable Items List.

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) ITEM NAME, DESCRIPTION, CAGE, PART NUMBER	(5) U/M
1	O	8030-00-889-3534	ANTI-SEIZE TAPE, POLYTERAFLUOR-SETHYLENE (81349) MIL-T-27730	EA
2	C	7920-00-205-1711	RAG, WIPING (80244)	LB
3	C	7510-00-007-4551	TAPE, PRESSURE SENSITIVE ADHESIVE	ROLL
4	C	9150-00-231-6689	LUBRICATING OIL, GENERAL PURPOSE (81349) MIL-PRF-32033	QT
5	O	5350-00-221-0872	CROCUS CLOTH (80204) ANSI B74.18	SH
6	O	7930-00-531-9716	DETERGENT (81349) MIL-D-16791	GL
7	O	6850-00-281-1985	DRY CLEANING SOLVENT (58536) A-A-59601	GL
8	O	9150-00-261-8291	GREASE, PLUG VALVE (81343) SAE AMS-G-6032	EA
9	O	8030-00-543-4384	SEALING COMPOUND, THREAD AND GASKET, FUEL, OIL AND WATER (81343) AMS-S-7916	LB
10	O	6850-00-880-7613	SILICONE COMPOUND (81343) SAE-A58660	OZ
11	O	6810-01-080-9589	TECHNICAL TALC, T1 AND T3 (81349) MIL-T-50036	LB

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE
COLLAPSIBLE FABRIC TANK, FUEL STORAGE, 3,000
10,000, 20,000, AND 50,000 GALLON
TORQUE LIMITS

INTRODUCTION

This work package provides general torque limits for fasteners. Special torque values are indicated in the maintenance procedures for applicable components. The general torque values given in this work package shall be used when specific torque values are not indicated in the maintenance procedures.

Torque Limits

Torque limits are listed in Table 1 for fasteners. Dry fasteners are defined as fasteners on which no lubricants are applied to the threads. Wet fasteners are defined as fasteners on which graphite or moly-disulphide greases or other extreme pressure lubricants are applied to the threads. Table 2 lists the minimum breakaway torque values for locknuts.

Table 1. General Torque Requirements for Dry Fasteners*.

	Torque Requirement in lb ft (N·m)			
Bolt/Screw Size	**SAE Grade 1 or 2**	**SAE Grade 5**	**SAE Grade 6 or 7**	**SAE Grade 8**
1/4-20 UNC	5 (7)	8 (11)	10 (14)	12 (16)
1/4-28 UNF	7 (8)	10 (14)	12 (16)	14 (19)
5/16-18 UNC	11 (15)	17 (23)	19 (26)	24 (33)
5/16-24 UNF	13 (18)	19 (26)	23 (31)	27 (37)
3/8-16 UNC	18 (24)	31 (42)	34 (46)	44 (60)
3/8-24 UNF	20 (27)	35 (47)	42 (57)	49 (66)
7/16-14 UNC	28 (38)	49 (66)	55 (75)	70 (95)
7/16-20 UNF	30 (41)	55 (75)	67 (91)	78 (106)
1/2-13 UNC	39 (53)	75 (102)	85 (115)	105 (142)
1/2-20 UNF	41 (56)	85 (115)	102 (138)	120 (163)
9/16-12 UNC	51 (69)	110 (149)	120 (163)	155 (210)
9/16-18 UNF	55 (75)	120 (163)	145 (197)	170 (231)
5/8-11 UNC	63 (85)	150 (203)	167 (226)	210 (285)
5/8-18 UNF	95 (129)	170 (231)	205 (278)	240 (325)
3/4-10 UNC	105 (142)	270 (366)	280 (380)	375 (509)
3/4-16 UNF	115 (156)	295 (400)	357 (484)	420 (570)
7/8-9 UNC	160 (217)	395 (536)	440 (597)	605 (820)
7/8-14 UNF	175 (237)	435 (590)	555 (753)	675 (915)
1-8 UNC	235 (319)	590 (800)	660 (895)	910 (1234)
1-14 UNF	250 (339)	660 (865)	825 (1119)	999 (1342)
1-1/8-7 UNC	350 (475)	800 (1085)	1000 (1356)	1280 (1736)
1-1/8-12 UNF	400 (542)	880 (1193)	1050 (1424)	1440 (1953)
1-1/4-7 UNC	500 (678)	1080 (1464)	1325 (1797)	1820 (2468)
1-1/4-12 UNF	550 (746)	1125 (1526)	1325 (1797)	1820 (2712)
1-3/8-6 UNC	660 (895)	1460 (1980)	1800 (2441)	2380 (3227)
1-3/8-12 UNF	740 (1003)	1680 (2278)	1960 (2658)	2720 (3688)
1-1/2-6 UNC	870 (1180)	1940 (2631)	2913 (3950)	3160 (4285)
1-1/2-12 UNF	980 (1329)	2200 (2983)	3000 (4068)	3560 (4827)

*Torque given is for clean, dry threads. Reduce by 10% when engine oil is used as lubricant.

Table 2. Locknut Breakaway Torque Values.

NOTE

To determine breakaway torque, thread locknut onto screw or bolt until at least two threads stick out. Locknut shall not make contact with a mating part. Stop the locknut. Torque necessary to begin turning locknut again is the breakaway torque. Do not reuse locknuts that do not meet minimum breakaway torque.

Thread Size	Minimum Breakaway Torque	
	lb-in.	(N·m)
10-32	2.0	(0.23)
1/4-28	3.5	(0.40)
5/16-24	6.5	(0.73)
3/8-24	9.5	(1.07)
7/16-20	14.0	(1.58)
1/2-20	18.0	(2.03)
9/16-18	24.0	(2.71)
5/8-18	32.0	(3.62)
3/4-16	50.0	(5.65)
7/8-14	70.0	(7.91)
1-12	90.0	(10.17)
1-1/8-12	117.0	(13.22)

END OF WORK PACKAGE

OPERATOR AND UNIT MAINTENANCE
COLLAPSIBLE FABRIC TANK, FUEL STORAGE, 3,000
10,000, 20,000, AND 50,000 GALLON
MANDATORY REPLACEMENT PARTS LIST

INTRODUCTION

This work package includes a list of all mandatory replacement parts referenced in the task initial setups and procedures. These are items that must be replaced during maintenance whether they have failed or not. This includes items based on usage intervals such as miles, time, rounds fired, etc.

MANDATORY REPLACEMENT PARTS LIST

Table 1. Mandatory Replacement Parts List.

ITEM NO.	PART NUMBER/ CAGEC	NSN	NOMENCLATURE	QTY
1	MS27030-9	5330-00-899-4509	GASKET 4 IN.	6
2	A-A-59326-7	5330-00-075-3268	GASKET	2
3	MS27030-6	5330-00-612-2414	GASKET 2 IN.	3
4	G-QD-4		GASKET	7
5	235RF-02092G	5330-01-262-1340	GASKET, VALVE BONNET	1
6	MS35338-46	5310-00-637-9541	LOCKWASHER	32
7	235RF-02212W	5310-01-265-5044	LOCKWASHER	8
8	EX1333B-18-95	5330-01-262-1361	GASKET CAP	1
9	AS29513-250	5331-00-291-3085	O-RING	1
10	205-18-98	5330-01-262-1349	RELIEF CAP GASKET	1
11	AS3578-383	5331-00-364-9862	O-RING	1
12	7500-3-8	5330-00-874-3744	GASKET	8
13	FCC-62398/50609735	5330-01-262-5120	GASKET	1
14	MPC-BLD-5		GASKET	1
15	MPC-BLD-4		O-RING	1

END OF WORK PACKAGE

GLOSSARY

ABBREVIATIONS

Assy.....assembly
BII.....Basic Issue Items
bu. ..... bundle
°C .....degree Celsius
CAGEC..... Commercial and Government Entity Code
COEI..... Components Of End Item
EIR ..... Equipment Improvement Recommendations
ESC ..... Equipment Serviceable Criteria
°F .....degree Fahrenheit
Fed.. .....Federal
gl..... gallon
illus .....illustration
MTOE ..... Modified Table of Organization and Equipment
MWO .....Modification Work Order
NSN.....National Stock Number
PMCS ..... Preventive Maintenance Checks and Services
QA/QC.....quality assurance/quality control
Qty. ..... quantity
Rqr.....required
spec. ..... specification
TAMMS ..... The Army Maintenance Management System
TMDE .....Test, Measurement, and Diagnostic Equipment
U/M.....Unit of Measure

DEFINITION OF TERMS

A

APPROVED – Permitted to be used for a specific purpose by the person or group who is authorized to grant approval.
ASSEMBLY – A combination of parts that may be taken apart without destruction, which has no application or use of its own but is needed for the completeness of a more complex item with which it is combined, or to which it is attached.

C

COMPONENT – A part or a combination of parts, which together accomplish a function.

E

EXPENDABLE – An item that is not repairable and is discarded if damaged.
EXPOSURE – Being in the presence of something, or in contact with something. Skin is exposed to cleaning solvent when the solvent contacts the skin during cleaning operations.

L

LEGIBLE – Capable of being read. A legible nameplate can be read; an illegible plate cannot.

M

MALFUNCTION – Occurs when a unit fails to operate normally.
MANUFACTURER – The company which makes an item or piece of equipment for sale.
MATERIEL – Equipment, apparatus, and supplies of an organization such as an army.

R

RECOMMENDATIONS – Suggestions for change; advice given usually to make an improvement.
REQUIRE – To demand or need.

S

SCOPE – The extent of an activity or concept; the amount of information covered as in a book.
SOLVENT – A liquid that can dissolve another substance.

T

TORQUE – Force around an axis. It produces a rotary or twisting motion, and is measured in inch-pounds (in-lb), foot-pounds (ft-lb), or newton-meters (N•m).

V

VENTILATE – To provide with a source of fresh or uncontaminated air.
VISUAL – Visible; detected by the unaided eye.

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By Order of the Secretary of the Army:

ERIC K. SHINSEKI
General, United States Army
Chief of Staff

Official:

JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
0131905

DISTRIBUTION:
To be distributed in accordance with the initial distribution number (IDN) 256704 requirements for TM 10-5430-242-12&P.

These are the instructions for sending an electronic 2028

The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however only the following fields are mandatory:
1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17, and 27.

From: "Whomever" <whomever@avma27.army.mil>
To: TACOM-TECH-PUBS@ria.army.mil
Subject: DA Form 2028

1. From: Joe Smith
2. Unit: home
3. Address: 4300 Park
4. City: Hometown
5. St: MO
6. Zip: 77777
7. Date Sent: 19-OCT-93
8. Pub no: 55-2840-249-23
9. Pub Title: TM
10. Publication Date: 04-JUL-85
11. Change Number: 7
12. Submitter Rank: MSG
13. Submitter FName: Joe
14. Submitter MName: T
15. Submitter LName: Smith
16. Submitter Phone: 123-123-1234
17. Problem: 1
18. Page: 1
19. Paragraph: 3
20. Line: 4
21. NSN: 5
22. Reference: 6
23. Figure: 7
24. Table: 8
25. Item: 9
26. Total: 123
27. Text:

This is the text for the problem below line 27.

RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is OAASA	Use Part II *(reverse)* for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE
TO: *(Forward to proponent of publication or form) (Include ZIP Code)*	**FROM:** *(Activity and location) (Include ZIP Code)*	

PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS

PUBLICATION/FORM NUMBER	DATE	TITLE
TM 10-5430-242-12&P	01 March 2002	OPERATOR AND UNIT MAINTENANCE MANUAL FOR COLLAPSIBLE FABRIC FUEL TANK

ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON

** Reference to line numbers within the paragraph or subparagraph.*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

TO: *(Forward direct to addressee listed in publication)*	**FROM:** *(Activity and location) (Include ZIP Code)*	DATE

PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION NUMBER	DATE	TITLE

PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

PART III - REMARKS *(Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter =10 decimeters = 39.37 inches
1 dekameter =10 meters = 32.8 feet
1 hectometer =10 decameters = 328.08 feet
l kilometer =10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigrams = .035 ounce
feet
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
acres
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton =10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter =10 deciliters = 33.81 fl. ounces
1 dekaliter =10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter =10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters =15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq.

1 sq. dekameter (are) =100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47

1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decameter =1000 cu. centimeters = 61.02 cu.
inches
1 cu. meter =1000 cu. decimeters = 35.31 feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

PIN: 079422-000