TM 5-5430-210-12

TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

TANK, FABRIC, COLLAPSIBLE, POL,

3,000 Gallon (11 355 Liter) NSN 5430-00-268-8187

10,000 Gallon (37,850 Liter) NSN 5430-00-052-3412

10,000 Gallon (37,850 Liter) NSN 5430-00-641-8552

50,000 Gallon (189 250 Liter) NSN 5430-00-182-8181

This copy is a reprint which includes current pages from Changes 1 through 11.

HEADQUARTERS, DEPARTMENT OF THE ARMY
30 NOVEMBER 1978

WARNING

FLAMMABLE FUEL

Death

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

Avoid getting fuel on the body or clothing. If clothing becomes saturated, remove the clothing immediately and wash the body thoroughly with hot, soapy water.

Safety berms must have capacities of not less than one and one half (1 1/2) times that of their tank capacities. Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100 degrees F -138 degrees F (38 degrees C - 59 degrees C).

CHANGE

NO. 11

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 31 October 1994

Operator and Organizational Maintenance Manual

TANK FABRIC, COLLAPSIBLE, POL,
3,000 GALLON (11,355 Liter)
NSN 5430-00-268-8187
10,000 Gallon (37,850 Liter)
NSN 5430-00-052-3412
10,000 Gallon (37,850 Liter)
NSN 5430-00-641-8552
20,000 GALLON (75,700 Liter)
NSN 5430-01-215-7525
50,000 Gallon (189,250 Liter)
NSN 5430-00-182-8181

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Remove pages	Insert pages
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C-1/(C-2 blank)	C-1 and C-2

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CHANGE

NO. 10

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 2 SEPTEMBER 1992

Operator and Organizational Maintenance Manual
for

TANK, FABRIC, COLLAPSIBLE, POL,
3,000 GALLON (11,355 LITER)
NSN 5430-00-268-8187
10,000 GALLON (37,850 LITER)
NSN 5430-00-052-3412
10,000 GALLON (37,850 LITER)
NSN 5430-00-641-8552
20,000 GALLON (75,700 LITER)
NSN 5430-01-215-7525
50,000 GALLON (189,250 LITER)
NSN 5430-00-182-8181

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B-11 and B-12	B-11 and B-12

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CHANGE
NO. 9

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DEPARTMENT OF THE ARMY
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Operator and Organizational Maintenance Manual
for
TANK, FABRIC, COLLAPSIBLE, POL,
3,000 Gallon (11,355 Liter)
NSN 5430-00-268-8187
10,000 Gallon (37,850 Liter)
NSN 5430-00-052-3412
10,000 Gallon (37,850 Liter)
NSN 5430-00-641-8552
20,000 Gallon (75,700 Liter)
NSN 5430-01-215-7525
50,000 Gallon (189,250 Liter)
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Operator and Organizational Maintenance Manual

TANK, FABRIC, COLLAPSIBLE, POL,
3,000 Gallon (11,335 Liter)
NSN 5430-00-268-8187
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10,000 Gallon (37,850 Liter)
NSN 5430-00-641-8552
20,000 Gallon (75,700 Liter)
NSN 5430-01-215-7525
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Operator and Organizational Maintenance Manual

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NSN 5430-00-268-8187
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10,000 Gallon (37,850 Liter)
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NSN 5430-00-182-8181

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Operator and Organizational Maintenance Manual

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50,000 Gallon (189,250 Liter)
NSN 5430-00-182-8181

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2-17 and 2-18	2-17 and 2-18

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Operator and Organizational Maintenance Manual

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50,000 Gallon (189,250 Liter)
NSN 5430-00-182-8181

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-----	2-14. 1/2-14. 2
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B-9/B-lo	B-9 through B-10.2
B-15 and B-16	B-15 and B-16
Index 1 through Index 3/Index 4	Index 1 through Index 3/Index 4

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CHANGE
No. 4

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WASHINGTON, D.C., 15 October 1986

Operator and Organizational Maintenance Manual

TANK, FABRIC, COLLAPSIBLE, POL,
3,000 Gallon (11,355 Liter)
NSN 5430-00-268-8187
10,000 Gallon (37,850 Liter)
NSN 5430-00-052-3412
10,000 Gallon (37,850 Liter)
NSN 5430-00-641-8552
50,000 Gallon (189,250 Liter)
NSN 5430-00-182-8181

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CHANGE NO. 3

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WASHINGTON, D. C., 24 June 1983

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL
TANK, FABRIC, COLLAPSIBLE, POL,
3,000 Gallon (11,355 Liter)
NSN 5430-00-268-8187
10,000 Gallon (37,850 Liter)
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50,000 Gallon (189,250 Liter)
NSN 5430-00-182-8181

TM 5-5430-210-12, 30 November 1978, is changed as follows:

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Appendix B	B-1 thru B-14	B-1 thru B-14

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3,000 Gallon (11,355 Liter)
NSN 5430-00-268-8187
10,000 Gallon (37,850 Liter)
NSN 54300-052-3412
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NSN 5430040-641-8552
50,000 Gallon (189,250 Liter)
NSN 5430-00-182-8181

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Warning		a/b
Table of Contents	i and ii	i and ii
Chapter 1	1-3 and 1-4	1-3 and 14
Chapter 2	2-3 and 2-4	2-3 and 2-4
	2-9 and 2-10	2-9 and 2-10
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Chapter 3	3-1 and 3-2	3-1 and 3-2
Appendix B	B-5 thru B-10	B-5 thru B-10

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CHANGE
No. 1

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OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL
TANK, FABRIC, COLLAPSIBLE, POL,
3,000 Gallon (11,355 Liter)
NSN 5430-00-268-8187
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50,000 Gallon (189,250 Liter)
NSN 5430-00-182-8181

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	Remove pages	Insert pages
Table of Contents	i and ii	i and ii
Chapter 1	1-1 thru 1-5/1-6	1-1 thru 1-5/1-6
Chapter 2	2-9 thru 2-12	2-9 thur 2-12
Chapter 3	3-1 and 3-2	3-1 and 3-2
Appendix B	B-5 thru B-10	B-5 thru B-10
Appendix D	D-3 and D-4	D-3 thru D-5/D-6
Appendix F	F-1/F-2	F-1/F-2

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WARNING

FLAMMABLE FUEL

Death

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

Avoid getting fuel on the body or clothing. If clothing becomes saturated, remove the clothing immediately and wash the body thoroughly with hot, soapy water.

Safety berms must have capacities of not less than one and one half (1 1/2) times that of their tank capacities. Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100 degrees F -138 degrees F (38 degrees C -59 degrees C).

TECHNICAL MANUAL
NO. 5-5430-21012

HEADQURTERS
DEPARTMENT OF THE ARMY
Washington, D.C., 30 *November* 1978

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL
TANK, FABRIC, COLLAPSIBLE, POL,
3,000 Gallon (11,355 Liter)
NSN 5430-00-268-8187
10,000 Gallon (37,850 Liter)
NSN 5430-00-052-3412
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NSN 5430-00-641-8552
20,000 Gallon (75,700 Liter)
NSN 5430-01-215-7525
50,000 Galllon (189,250 Liter)
NSN 5430-00-182-8181

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual If you find any mistake or if you know of way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Aviation and Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Boulevard, St. Louis, MO 631201798. A reply will be furnished directly to you.

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

TABLE OF CONTENTS

* This manual Supersedes TM 5-5430-210-12, 30 April 1976.

LIST OF ILLUSTRATIONS

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope. This manual covers the information and instructions necessary for the operation and maintenance of the 3,000-gallon (11,355-liter), 10,000)-gallon (37,850-liter), 20,000 gallon (75,700-liter), and 50,000 gallon (189,250-liter) collapsible POL tanks.

1-2. Maintenance Forms and Records. DA forms and records used for equipment manitenance are as follows:

a DA Form 2404 (Equipment Inspection andnance Worksheet).

b. DA Form 2407 (Maintenance Request used for Requesting Support Maintenance).

c. DA Form 2407-1 (Continuation Sheet used for Requesting Support Maintenance.

d. For further information, refer to DA PAM 738-750, The Army Maintenance Management system (TAMMS).

1-3. Administrative Storage. 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 as determined by the directing authority. During the storage period, appropriate maintenance records will be kept

a. Storage Site.

(1) Before placing equipment in administrative storage, current maintenance services and equipmemt serviceable criteria (ESC) evaluations should be completed, shortcomings and deficiences should be corrected, and all modification work orders (MWO's) should be applied.

(2) Select the best available site for administrative storage. Separate stored equipment from equipment in use. Conspicuously mark the area Administrative Storage

(3) Inside storage is preferred. When sufficient covered space is not available, priority should be given to items which are most susceptible to deterioration. If inside storage is not available, trucks, vans, conex containers, and other containers may be used.

(4) Open sites should be improved hardstand, if available. Unimproved sites should be firm, well-drained, and kept free of excessive vegetation.

b. Storage Plan.

(1) Store equipment so as to provide maximum potection from the elements anto provide access for inspect, maintenance, and exercising. Anticipate removal or deployment problems and take suitable precautions.

(2) Take into account environmental conditions, such as extreme heat or cold, high humidity, blowing sand, dust, or loose debris, soft ground, mud, heavy snows, earthquakes, or combinations thereof and take adequate precautions.

(3) Establish a fire plan and provide for adequate firefighting equipment and personnel.

1-4. Destruction of Army Material to Prevent Enemy Use.

a Demolition of Collapsible POL Tanks. Methods of destruction should achieve such damage to equipmemt and repair parts that it will not be possible to restore the equipment to a usable condition in the combat zome either by repair or cannibalization.

(1) Mechanical Destruction. Using an axe, pick, sledge hammer, or any heavy implement, damage the tank and all other vital parts.

(2) Fire. The tank may be destroyed by using the fuel which the tank contains to set it on fire.

b. Additional Information. For additional information on procedures for destruction of equipment to prevent enemy use, refer to TM 750-224-3.

1-5. Reporting Equipment Improvement Recommendations (EIR). EIR's will be prepared on SF Form 368. Quality Deficiency Report. Instructions for preparing EIR's should be mailed directly to Command, U. S. Army Aviation and Troop Command, ATTN: AMST-I-MDO, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished directly to you.

Section II. DESCRIPTION AND DATA

1-6. Description.

a Fuel Tank (NSN 5430-00-268-8187). The 3000-gallon (11,355-liter) tank (fig. 1-1) is used for the stroage of petroleum based fuels. The unit consists of the collapsible tank, complete with one filler/discharge assembly with elbow, a vent fitting assembly with relief valve, a fair-foot (1.219-meter) filler/discharge hose assembly with control valve, a 4-inch (10.16 cm) female to 3-inch (7.62 cm) male reducer and emergency repair items.

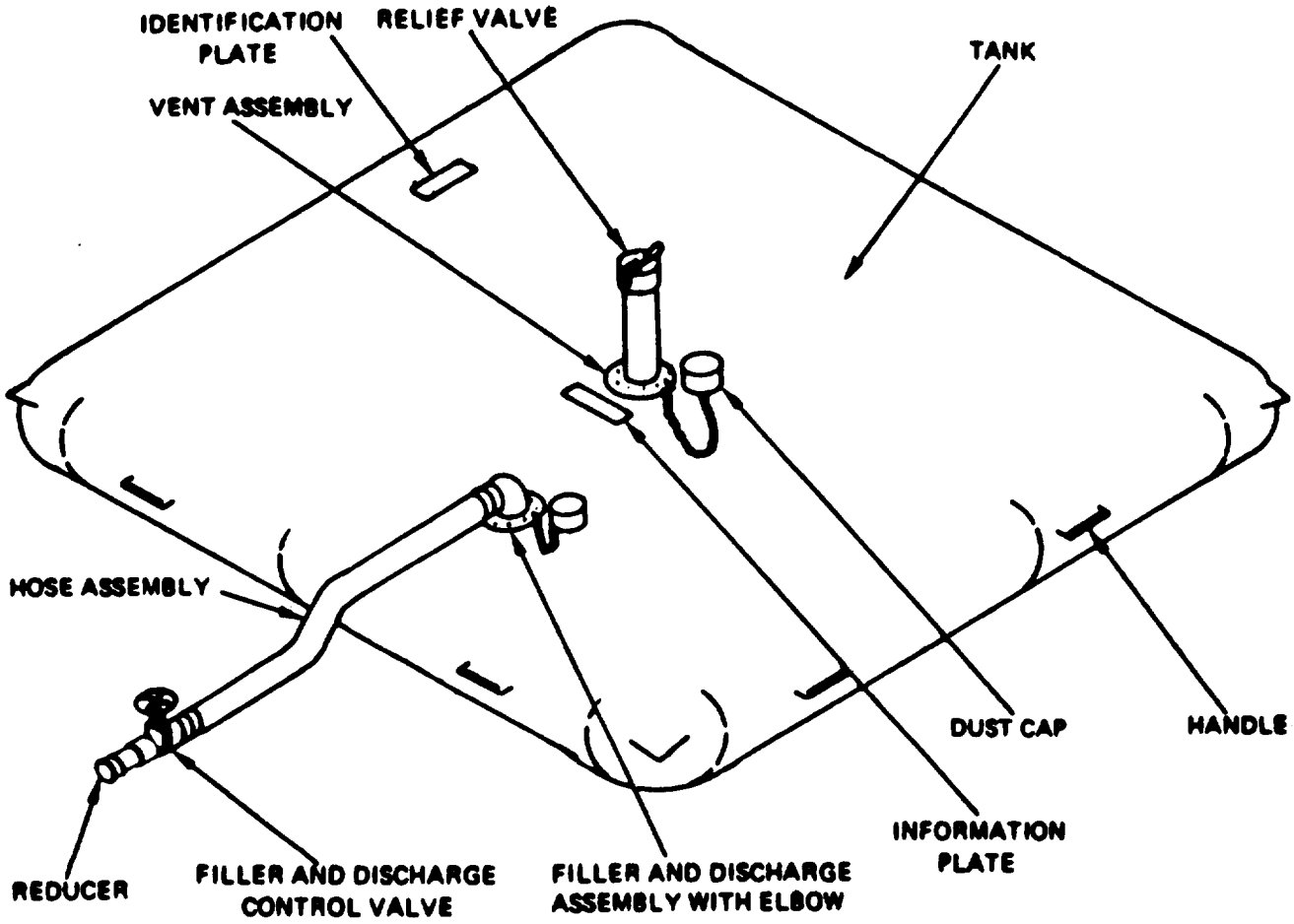


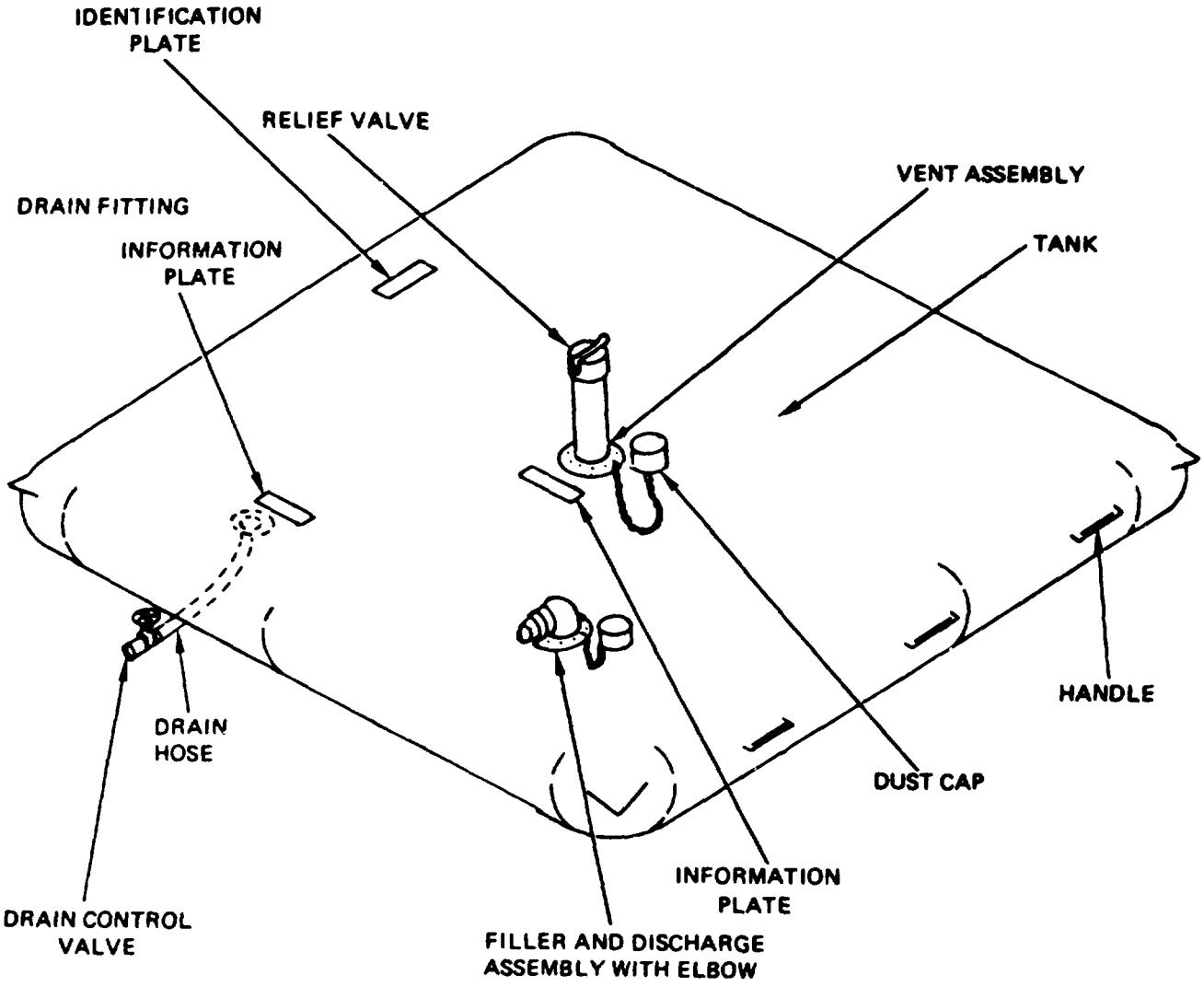
Figure 1-1. Tank, Collapsible, 3,000 Gallon (11,355Liter).

b. Fuel Tank (NSN 5430-00-052-3412). The 10,000-gallon (37,850-liter) tank (fig. 1-2) is used for storage of petroleum based fuels. The unit consists of the collapsible tank, complete with one filler/discharge assembly with elbow, a vent fitting assembly with relief valve, a drain fitting assembly with a six-foot (1.82 meter) drain hose with control valve, an aluminum storage chest or wooden box and emergency repair items.

c. Fuel Tank (NSN 5430-00-641-8552). The 10,000-gallon (37,850-liter) tank assembly (fig. 1-2) is used for the storage of petroleum baaed fuels. The unit consists of the collapsible tank, complete with one filler/discharge assembly with elbow, a vent fitting assembly with relief valve, eight l0-foot (3.048-meter) filler/discharge hose assemblies, numerous adapters, coupling halves, nipples, reducers and manifolds, an aluminum storage chest or wooden box and emergency repair items.

NOTE

When the Basic Fuel Tank, issued under LIN V12552, NSN 5430-00-641-8552, becomes unserviceable, replacement requisitions should be submitted for fuel tank, NSN 5430-00-052-3412. The accessory items issued with NSN 5430-00-641-8552 should be retained and should not be turned in when only the Collapsible Tank itself is unserviceable. These accessories should be retained for use with the replacement tank (NSN 5430-00-052-3412) as this tank is not issued with all of the accessories that come with the tank assembly issued under LIN V12552. Replacement tanks will be issued in wooden boxes only. The aluminum chest may be requisitioned at unit level for storage, if desired.



TS 5430-210-12/1-2

Figure 1-2. Tank, Collapsible, 10,000 Gallon (37,850 Liter). (NSN 5430-00-052-3412)

d. Fuel Tank. (NSN 5430-01-215-7525). The 20,000-gallon (75,700-liter) tank (fig. 1-2.1) is used for storage of petroleum based fuels. The unit consists of the collapsible tank, complete with two each filler/discharge assemblies with elbows, a vent fitting assembly with relief valve, a drain fitting assembly with an eight-foot (2.44-meter) drain hose with gate valve, two each ten-foot (3.05 - meter) filler/discharge hose assemblies with a gate valve and emergency repair items.

e. Fuel Tank, (NSN 5430-00-182-8181). The 50,000-gallon (189,250-liter) tank (fig. 1-3) is used for storage of petroleum based fuels. The unit consists of the collapsible tank, complete with two each filler/discharge assemblies with elbows, a vent fitting assembly with relief valve, a drain fitting assembly with an eight-foot (2.44-meter) drain hose with control valve, an eight-foot (2.44-meter) filler/discharge hose assembly with control valve and emergency repair items.

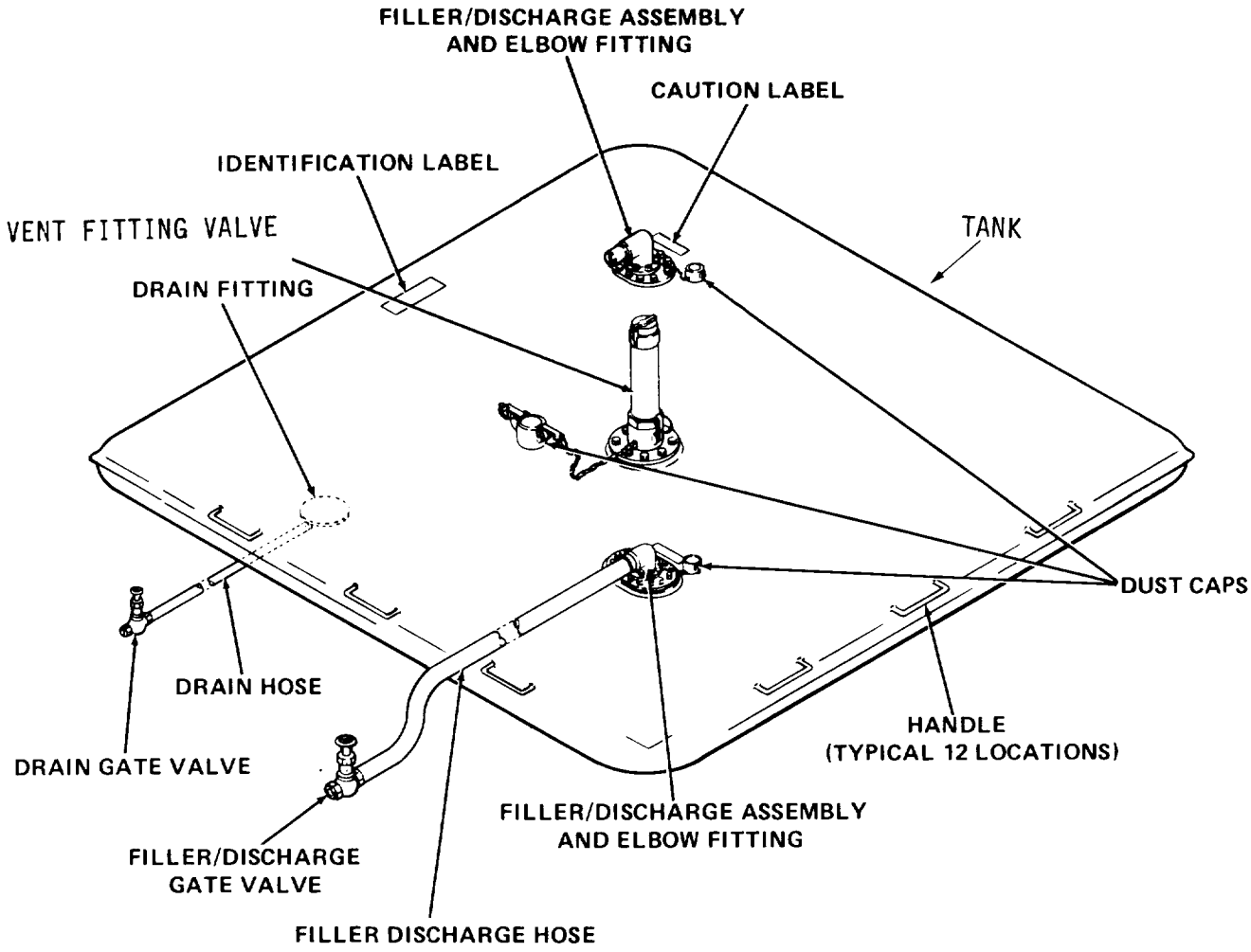


Figure 1-2.1. Tank, Collapsible, 20,000 Gallon (75,700 Liter).

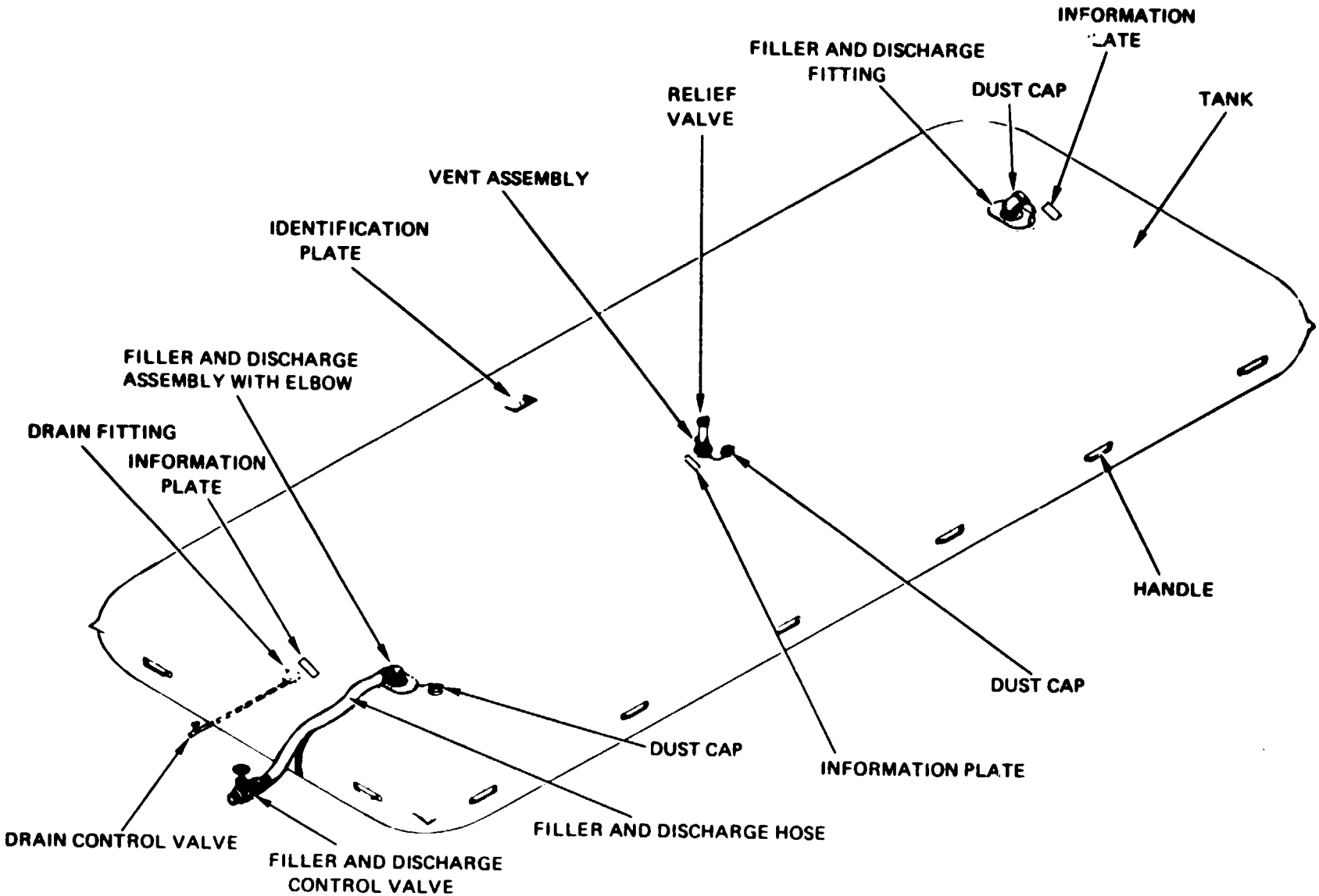


Figure 1-3. Tank, Collapsible, 50,000 Gallon (189,250 Liter).

1-7. Tabulated Data.

a. Identification Plate. The tanks are fitted with a bonded identification label which lists the following:

Description . . . . . .
Federal or National Stock Number . . . . . .
Serial Number . . . . . .
Manufacturer's Name and Plant Location . . . . . .
Date of Manufacture . . . . . .
Weight Empty . . . . . .
Contract Number . . . . . .

b. Information Plate. The following information shall be located adjacent to each fitting assembly:

Maximum Torque . . . . . 30 inch-pounds

c. Caution Label, NSN 5430-01-215-7525. The following information shall be located adjacent to each fitting assembly:

CAUTION

Overfilling will result in permanent damage and failure of the tank.

DO NOT OVERFILL

Maximum Capacity
When Full . . . . . 20,000 Gallon (75,700 Liter)
Maximum Tank Height
When Full . . . . . 5 ft 8 in. (1.727 m)

d. Dimensions and Weights.

(1) NSN 5430-00-268-8187.

Dry Dimensions . . . . . 13 ft x 13 ft (3.962 m x 3.962 m)
Filled Dimensions . . . . . 4 ft x 12 ft 6 in. x 12 ft 6 in. (1.219 m x 3.810 m x 3.810 m)
Dry Weight (Tank Only) . . . . . 135 lbs (61.24 kg)
Crated Weight . . . . . 295 lbs (133.81 kg)
Crated Dimensions . . . . . 5 ft 5 in. x 28 in. x 20 in. (1.651 m x 71.12 cm x 50.80 cm)

(2) NSN 5430-00-052-3412.

Dry Dimensions . . . . . 22 ft x 22 ft (6.706 m x 6.706 m)
Filled Dimensions . . . . . 4 ft x 20 ft 6 in. x 20 ft 6 in. (1.219 m x 6.248 m x 6.248 m)
Dry Weight (Tank Only) . . . . . 180 lbs (81.65 kg)
Crated Weight . . . . . 525 lbs (238.08 kg)
Crated Dimension . . . . . 13 ft 7 in. x 30 in. x 27 in. (4.140 m x 76.20 cm x 68.58 cm)

(3) NSN 5430-00-641-8552.

Dry Dimensions . . . . . 22 ft x 22 ft (6.706 m x 6.706 m)
Filled Dimensions . . . . . 4 ft x 20 ft 6 in. x 20 ft 6 in. (1.219 m x 6.248 m x 6.248 m)
Dry Weight (Tank Only) . . . . . 180 lbs (81.65 kg)
Crated Weight . . . . . 995 lbs (451.32 kg)
Crated Dimensions . . . . . 13 ft 7 in. x 30 in. x 27 in. (4.140 m x 76.20 cm x 68.58 cm)

(4) NSN 5430-01-215-7525.

Dry Dimensions . . . . . 24 ft 6 in. x 28 ft 6 in. (7.468 m x 8.687 m)
Filled Dimensions . . . . . 5 ft 8 in. x 22 ft 6 in. x 26 ft 6 in. (1.727 m x 6.858 m x 8.077 m)
Dry Weight (Tank Only) . . . . . 550 lbs (249.48 kg)
Crated Weight . . . . . 1200 lbs (544.32 kg)
Crated Dimensions . . . . . 14 ft x 32 in. x 32 in. (4.27 m x 81.28 cm x 81.28 cm)

(5) NSN 5430-00-182-8181.

Dry Dimensions . . . . . 26 ft x 66 ft (7.924 m x 20.117 m)
Filled Dimensions . . . . . 5 ft 8 in. x 24 ft x 64 ft (1.727 m x 7.315 m x 19.507 m)
Dry Weight (Tank Only) . . . . . 744 lbs (337.47 kg)
Crated Weight . . . . . 1350 lbs (612.35 kg)
Crated Dimensions . . . . . 2 ft x 3 ft x 12 ft (0.610 m x 0.914 m x 3.658 m)

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF MATERIAL

2-1. General. When a new or used tank is received by an organization, it must be unpacked, inspected and serviced.

2-2. Unpacking the Equipment. When the tank is received in a chest or crate, unload it as near to its point of installation as is possible.

CAUTION

Use extreme caution when unfolding collapsible POL tanks due to the possibility that the coated surfaces may have a tendency to stick together. Consequently, if excessive force is exerted, delamination can occur. A light application of vaseline jelly will prevent reoccurrence.

a. Tank (NSN 5430-00-182-8181).

(1) Remove the nails from the crate top and remove crate top from the crate (fig. 2- 1).

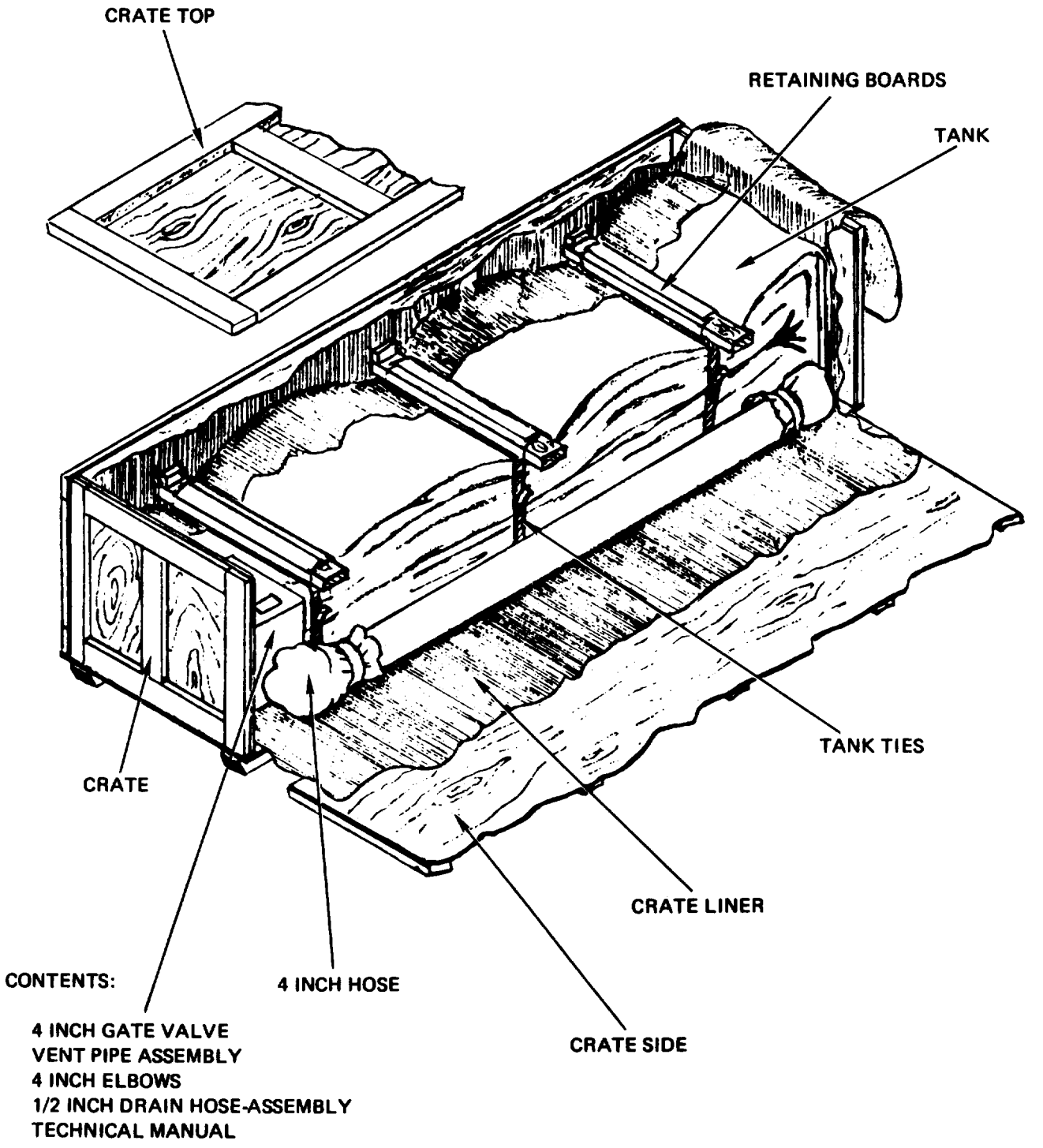


Figure 2-1. Crated Assembly, 50,000 Gallon (189, 250 Liter) Tank.

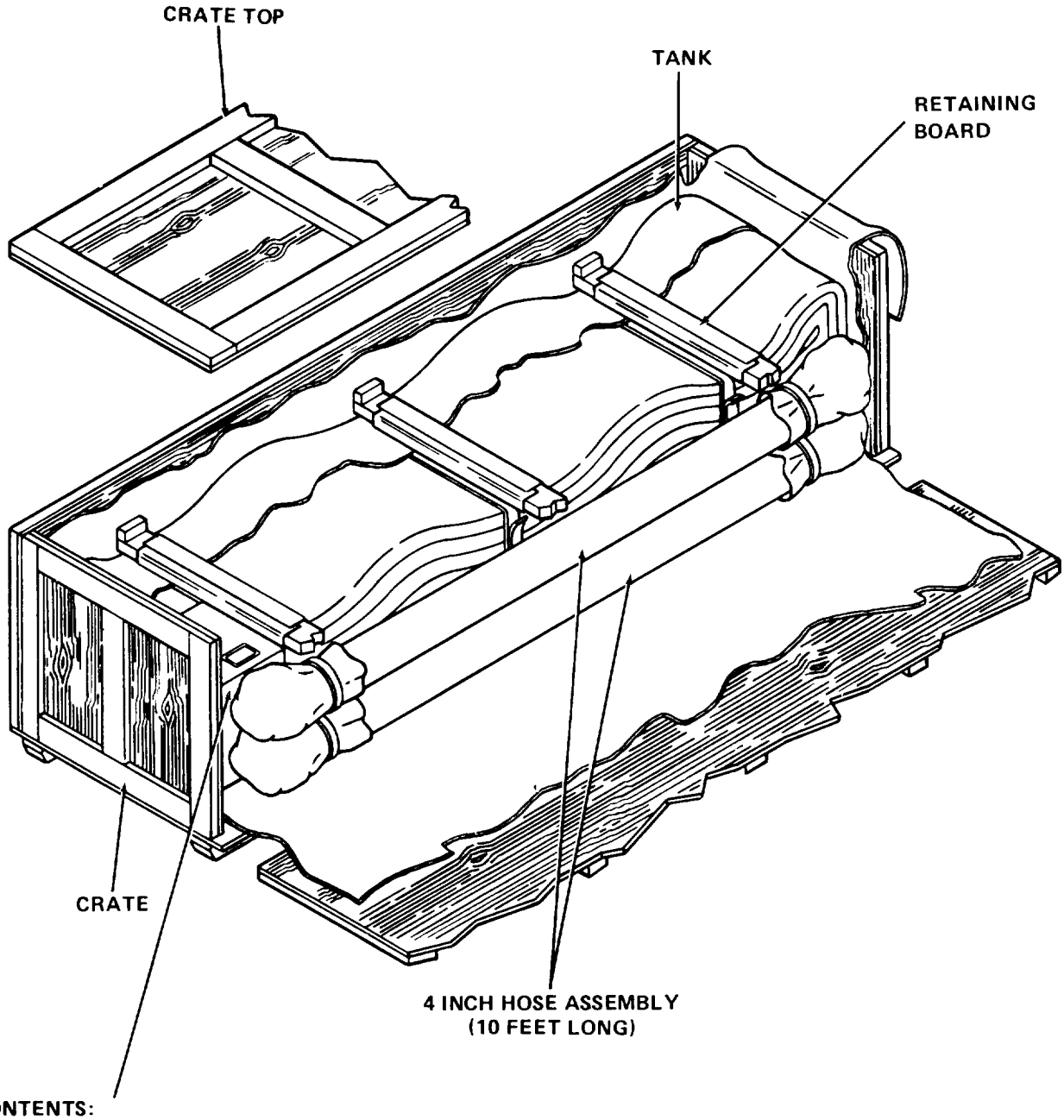


Figure 2-1.1. Crated Assembly, 20,000 Gallon (75,700 Liter) Tank.

(2) Remove the nails from the sides which hold the retaining boards in place and remove the retaining boards.

(3) Remove the nails from the sides and ends of the crate and remove the crate sides and ends.

CAUTION

Remove all protruding nails and other objects prior to attempting to remove the tank from the container, This is essential in order to avoid puncturing the tank

(4) Remove all accessories from around the folded tank.

(5) Carefully roll the folded tank onto a lifting device with a minimum capacity of 2000 pounds (907.0 kilograms) and transport the tank to its designated point of installation.

b. Repair Items. The 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.

c. *Tanks.* (NSN 5430-00-268-8187, NSN 5430-00-052-3412, NSN 5430-00-641-8552, and NSN 5430-01-215-7525).

(1) Remove the applicable tank from the crate or chest with procedures similar to that described in paragraph 2-2a.

CAUTION

Avoid any sharp corners on objects that might damage or puncture the tank.

(2) Remove the accessory items from the container. (Items not required immediately for installation and/or operation (emergency repair items, extra gaskets and packings) should be stored in a secure place).

2-3. Unfolding the Tank.

a. The tank is rolled along the length dimension and folded toward the center. Therefore, place the folded tank at one end of the lengthwise prepared surface. Center the folded tank in the widthwise direction.

b. Remove the ties which hold the folded tank together and unfold the tank.

c. Next, unroll the tank along the lengthwise dimension.

2-4. Inspecting and Servicing the Equipment (All Tanks).

a. Inspect tank walls for any punctures or tears.

b. Inspect the fittings and components for evidence of damage or missing bolts or gaskets,

2-5. Correction of Deficiencies (All Tanks). Treat deficiencies found during initial inspection as follows:

a. Correct deficiencies within the scope of organizational maintenance before the tank is placed in service. Tears or punctures in the tank walls may be temporarily repaired by following the instructions in Chapter 3, paragraph 3-11.

NOTE

Do not attempt unauthorized repairs.

b. Refer deficiencies beyond the scope of organizational maintenance to direct support maintenance.

c. Bring deficiencies of more serious nature to the attention of the supplying organization.

2-6. Installation (All Tanks). The area selected for installation, should be level and smooth with all sharp objects removed and of sufficient size to accommodate the tank and any associated equipment on the same plane. If the the site is not level, position the drain assembly (excluding tank, NSN 5430-00-268-8187) at the lowest point in order to facilitate the draining of the water/sludge blanket.

NOTE

The installation site should have less than a three degree grade in order to prevent creeping of the tank.

The sequence of assembly of components to the tank is as outlined herein:

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

a. Installation of Vent Pipe Assembly.

(1) Refer to figure 2-2 and remove the 2-inch (5.08 centimeter) dust cap from the vent fitting in the center of the tank by pulling the cam-lever arms outward and lifting upward on the dust cap. (Dust cap is chain attached to prevent loss.)

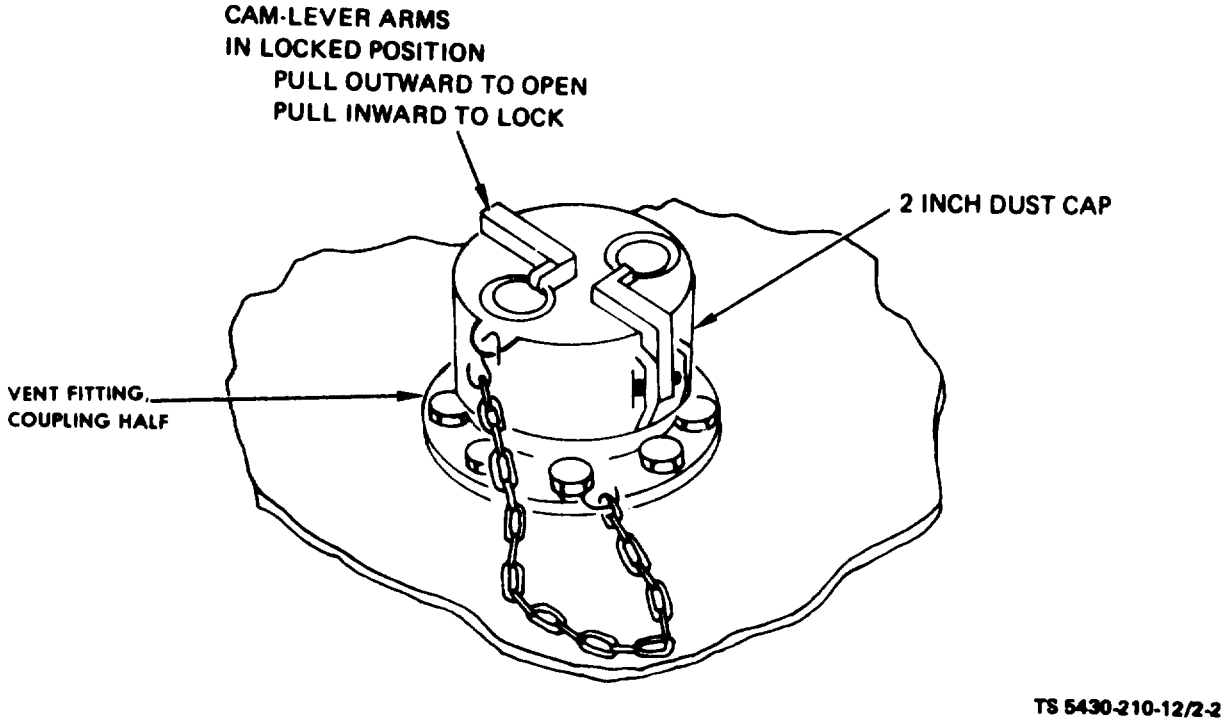


Figure 2-2. Vent Fitting Dust Cap, All Tanks,

(2) Refer to figure 2-3 and inspect vent pipe coupling end for cleanliness and check to see that the gasket is in place and properly seated.

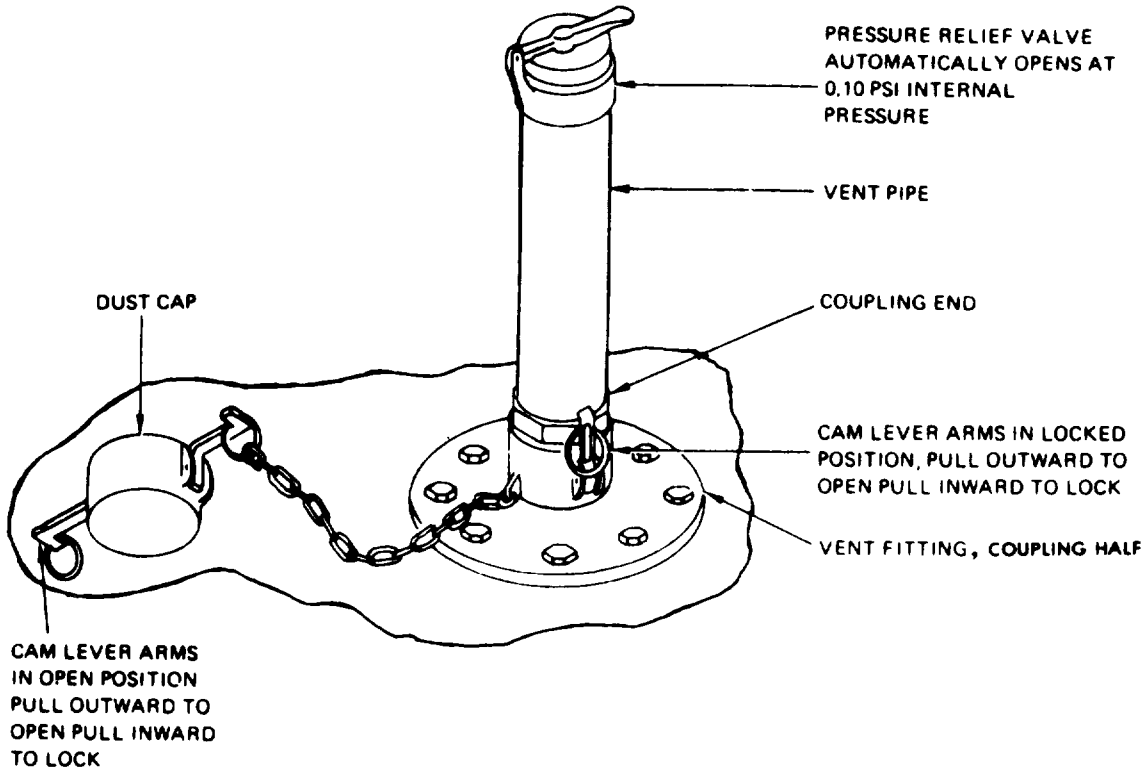


Figure 2-3 Vent Pipe Assembly, All Tanks.

(3) Check to see that the pressure relief valve is screwed tightly on the vent pipe.

(4) Attach the vent pipe assembly to the 2-inch (5.08-centimeter) flanged adapter by inserting its female end (with cam-lever arms in the outward position) over the male cam-lock end of the flanged adapter and pressing upward and inward on the cam-lever arms which lock the vent pipe assembly into operating position.

b. Installation of Filler and Discharge Elbow Assemblies.

(1) Remove dust cap (fig. 2-4) from filler and discharge adapter by pulling the cam-lever arms outward and lifting upward on the dust cap. (Dust cap is chain attached to prevent loss.)

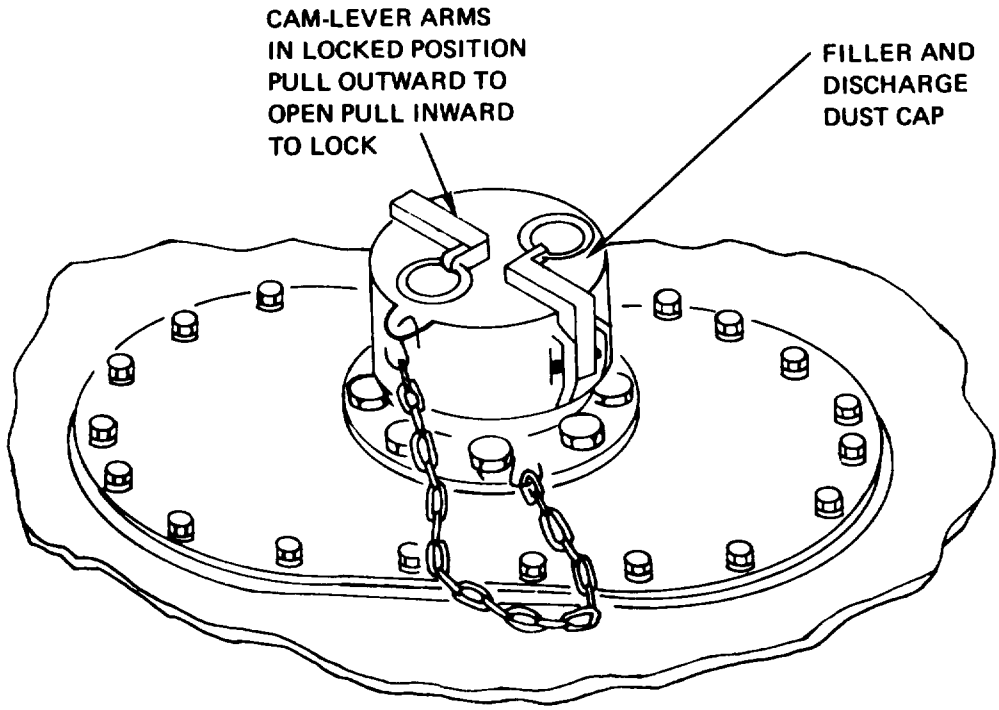


Figure 2-4. Filler and Discharge Dust Cap, All Tanks.

(2) Inspect the filler and discharge elbows for cleanliness and to see that the gaskets are in place and are properly seated.

(3) Position the female end of the filler and discharge elbow over the filler and discharge adapter with the cam-levers in the outward position. Turn the elbow so that the open end points to the nearest end of the tank. Lift the cam-levers and lock the elbow in place. Install the dust cap on the open end of the elbow and lock in place (fig. 2-5).

c. Installation of Drain Assembly Plug and Drain Hose Assembly (Excluding Tank, NSN 5430-00-268-8187).

(1) Fold the tank back to expose the drain assembly and remove the drain plug (fig. 2-6).

(2) Apply pipe joint compound or teflon tape to the threads of the drain hose fittings and install in the drain assembly (fig. 2-7).

(3) Install the 1/2-inch (1.27-centimeter) control valve on the end of the drain hose. (fig. 2-7)

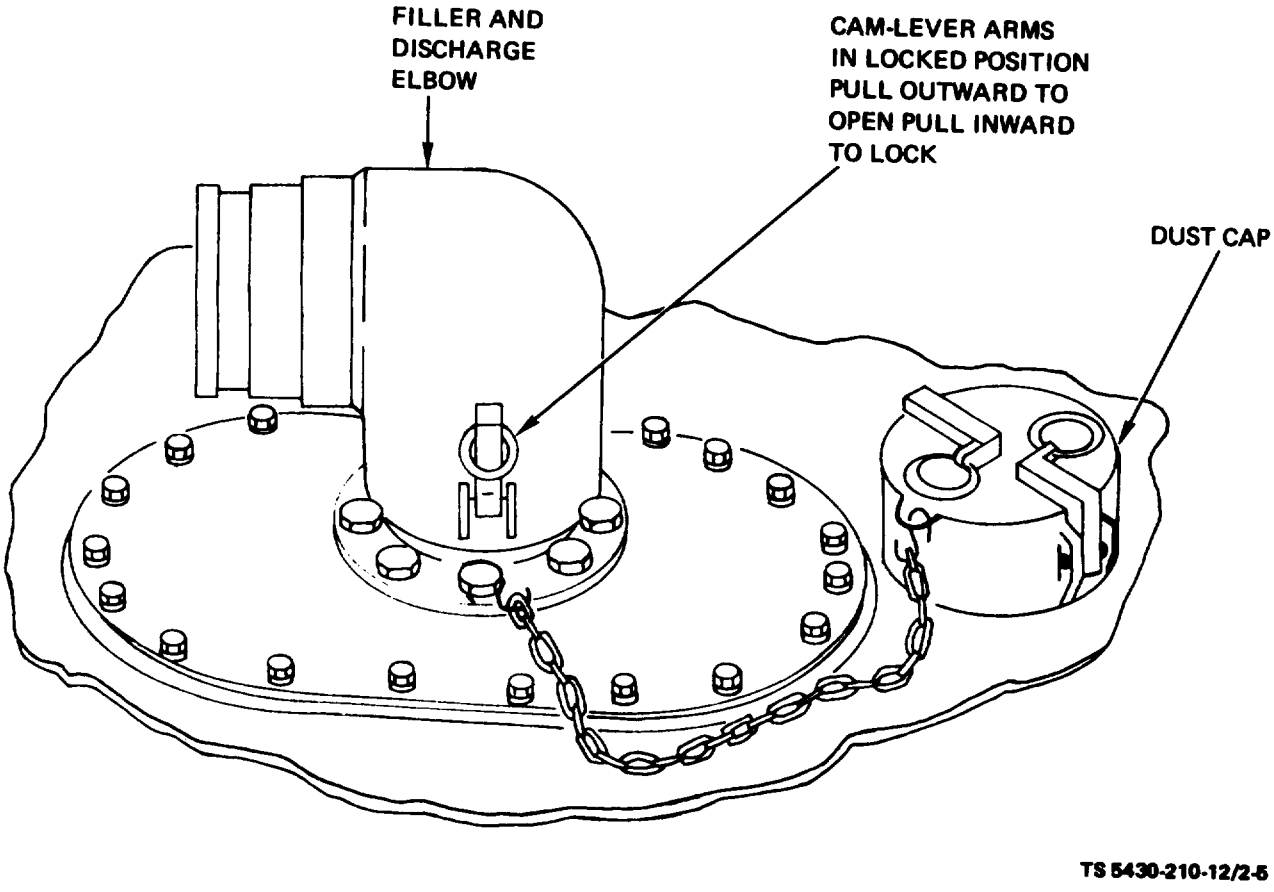


Figure 2-5. Filler and Discharge Elbow, All Tanks.

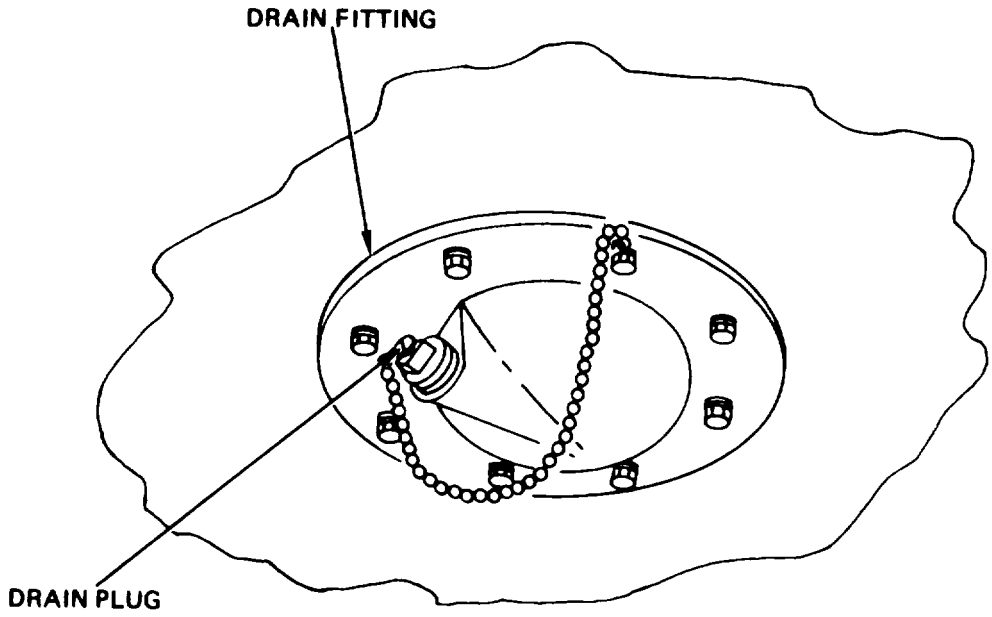


Figure 2-6. Installed Drain Plug, All Tanks Except 3,000 Gallon (11,355 Liter).

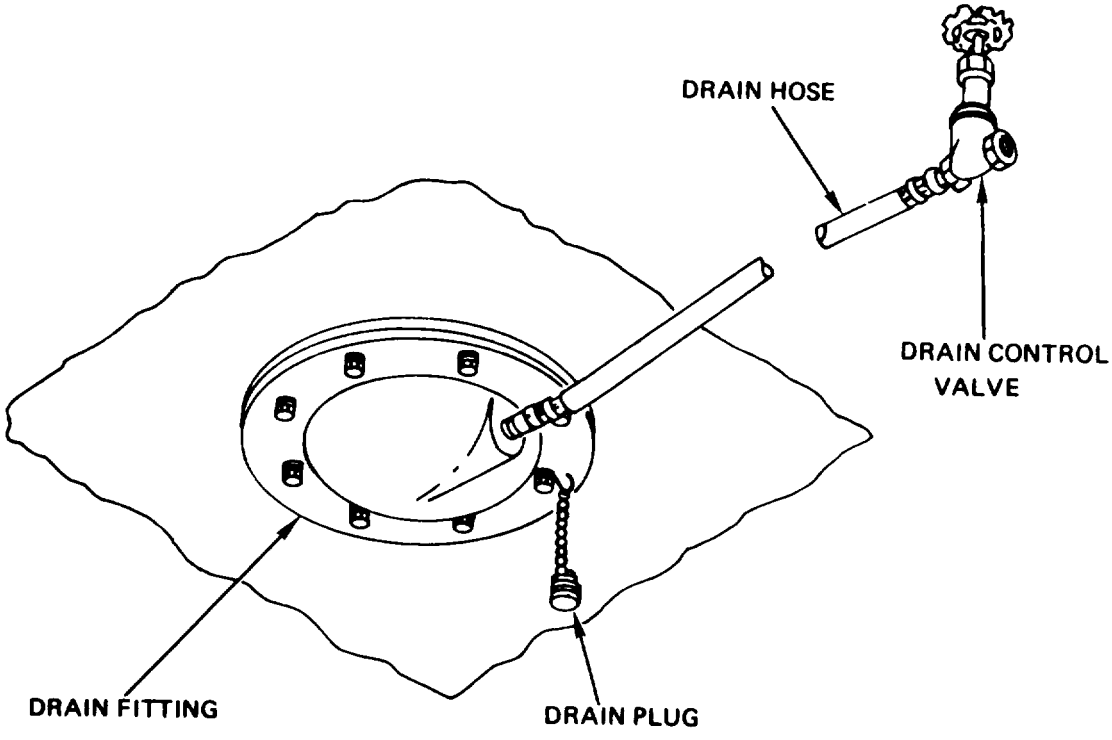


Figure 2-7. Drain Assembly, All Tanks Except 3,000 Gallon (11,355 Liter).

WARNING

Refer to figure 2-8 and make certain that valve handle has been rotated fully clockwise to the closed position before proceeding. Failure to close the valve handle can cause loss of fuel and possible fire or explosion.

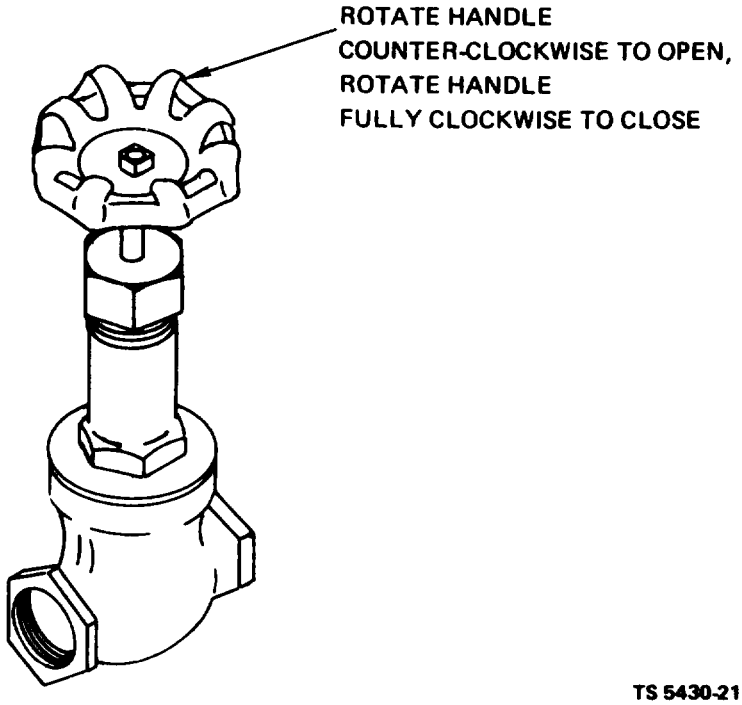


Figure 2-8. Drain Control Valve, All Tanks Except 3,000 Gallon (11,355 Liter).

(4) Dig a shallow and narrow trench to the outer edge and away from the tank to provide for the extension of the drain hose and control valve,

(5) Return the tank end to a flat position and lay the drain hose and control valve in the trench.

WARNING

Refer to figure 2-8 and make certain that valve handle has been rotated fully clockwise to the closed position before proceeding. Failure to close the valve handle can cause loss of fuel and possible fire or explosion.

2-7. **Installation of Filler and Discharge Hose and Control Valve Assembly.** (Tanks, NSN 5430-00-268-8187, NSN 5430-01-215-7525, and NSN 5430-00-182-8181).

a. Remove the 4-inch (10.16-centimeter) dust cap from the elbow (fig. 2-5) which will be used for filling.

b. The filler and discharge hose assembly is fitted with quick disconnect female coupling on one end and a quick disconnect male adapter on the other end, (fig. 2-9) Place the female coupler on the male adapter end of the filler and discharge elbow (fig. 2-5) and depress the coupler cam-lever arms locking the hose assembly in place.

c. Attach the control valve to the hose using the same procedure mentioned in step b. above.

d. Be sure the control valve is closed by turning the valve handle in a clockwise rotation until it stops (fig. 2-10).

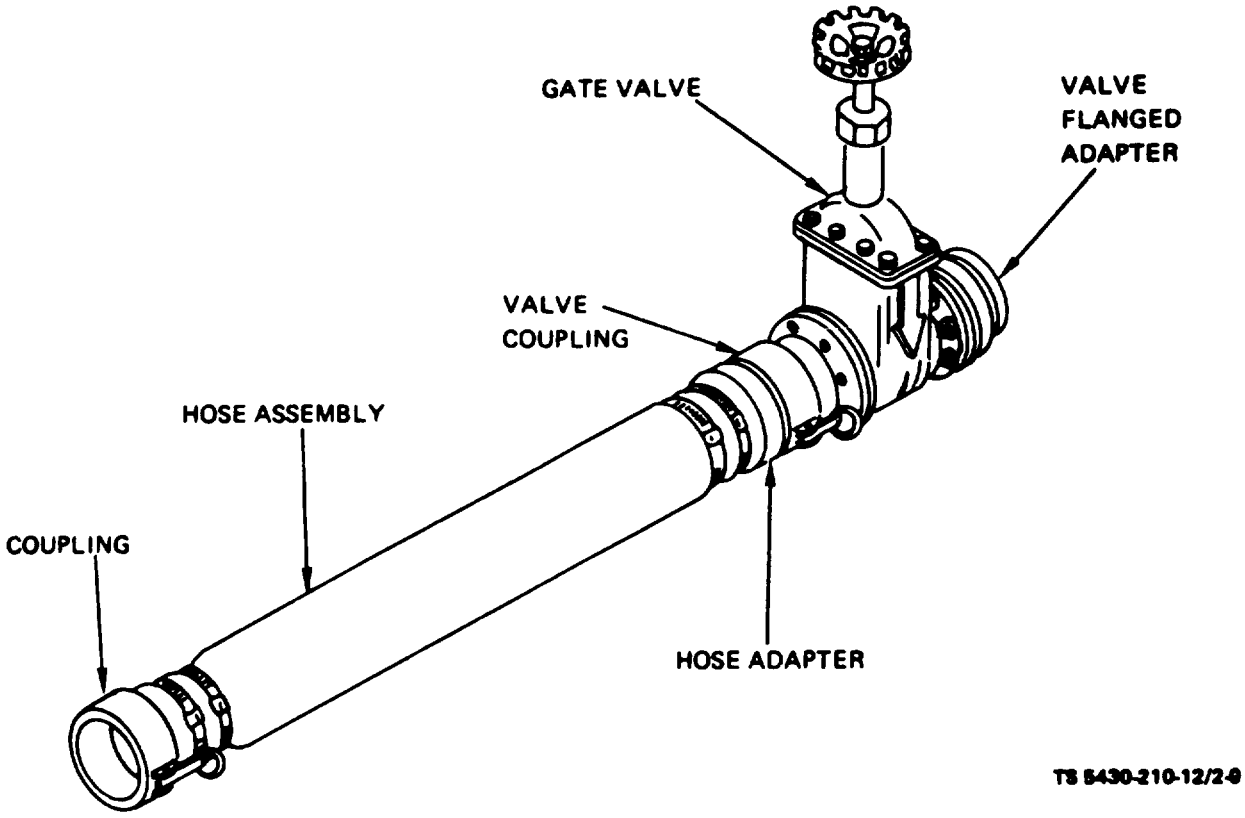


Figure 2-9. Filler and Discharge Hose and Control Valve Assembly (3,000, 20,000, and 50,000 Gallon Tank).

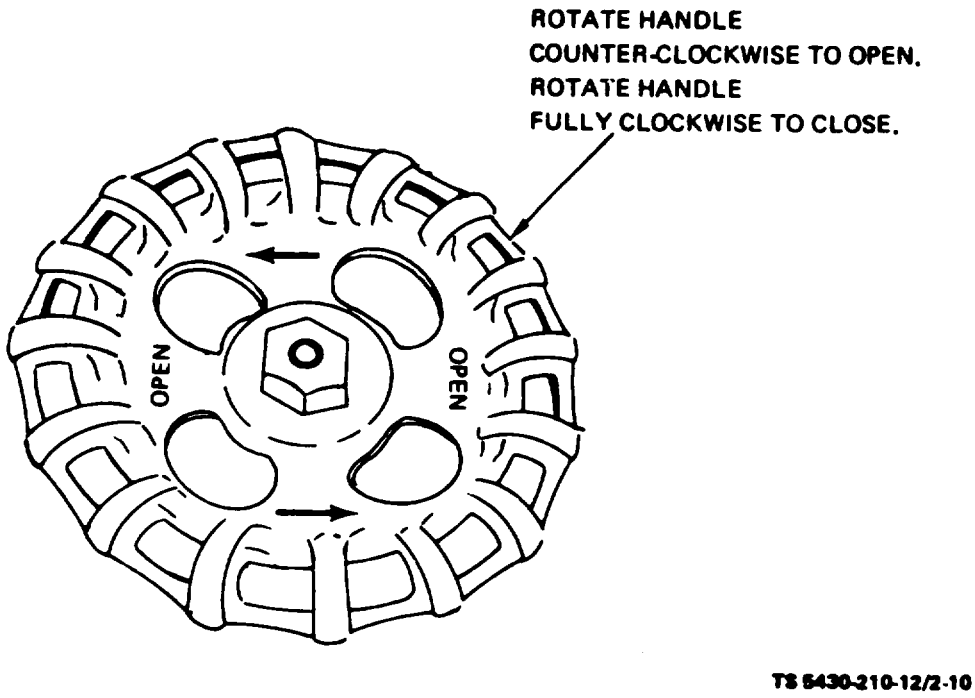


Figure 2-10. Filler and Discharge Control Valve Handle, All Tanks.

2-8. Installation of Filler and Discharge Hoses. (Tanks, NSN 5430-00-052-3412 and NSN 5430-00-641-8552).

a. Remove the 4-inch (10.16-centimeter) dust cap from the elbow (fig. 2-5) which will be used for filling.

b. The filler and discharge hose assemblies (fig. 1-9) are fitted with quick disconnect female couplings on one end and quick disconnect male adapters on the other end. Place the female coupler on the male adapter end of the filler discharge elbow (fig. 2-5) and depress the coupler cam-lever arms locking the hose assembly in place, A typical hose manifold is shown in figure 2-11.

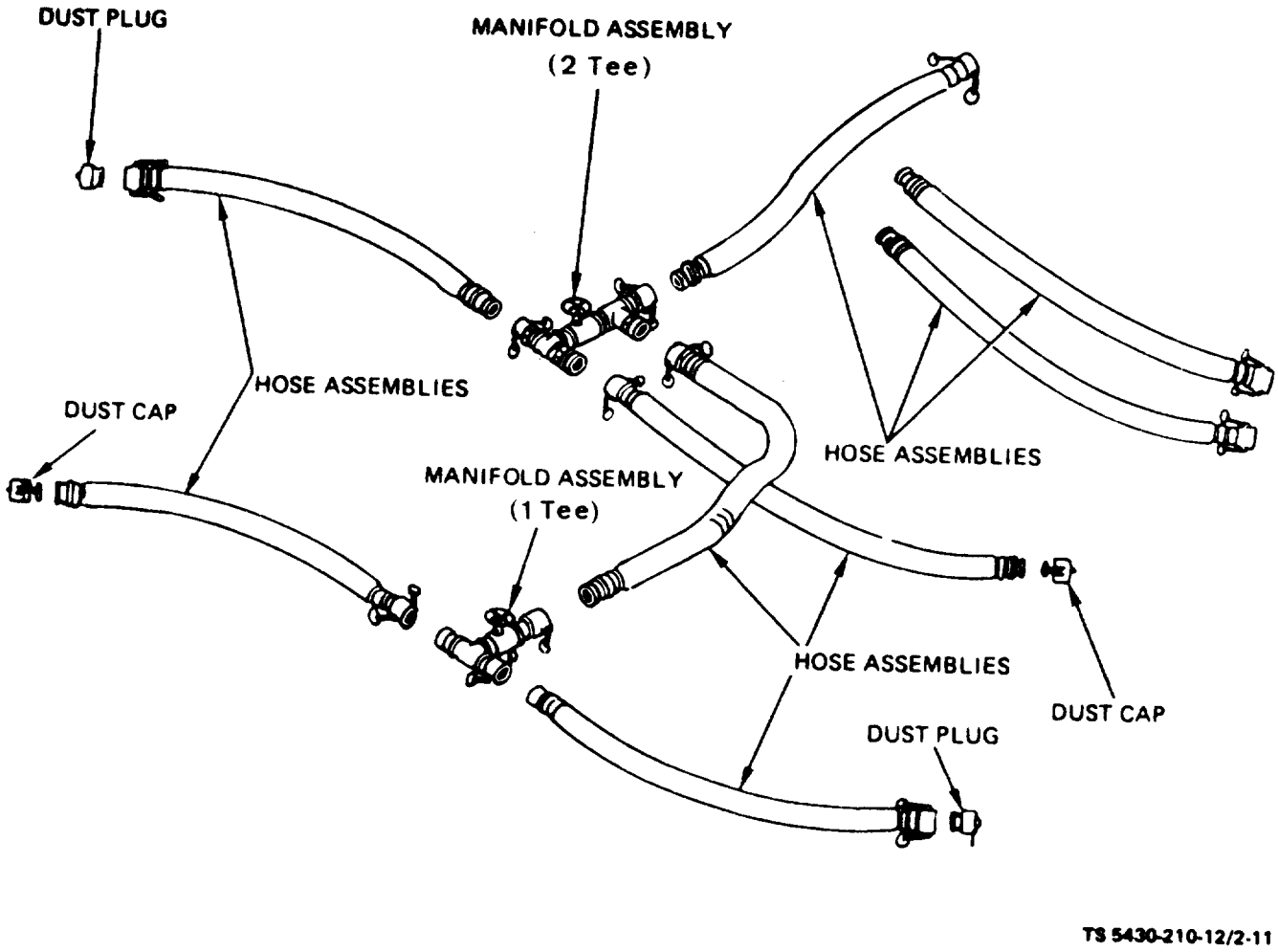


Figure 2-11 Typical Hose Manifolding (10,000 Gallon Tank)

NOTE

The control valve handle is marked, showing a counterclockwise rotation for opening the value. Also notice the difference in the exposure of the valve handle stem between the open and closed positions (fig. 2-12).

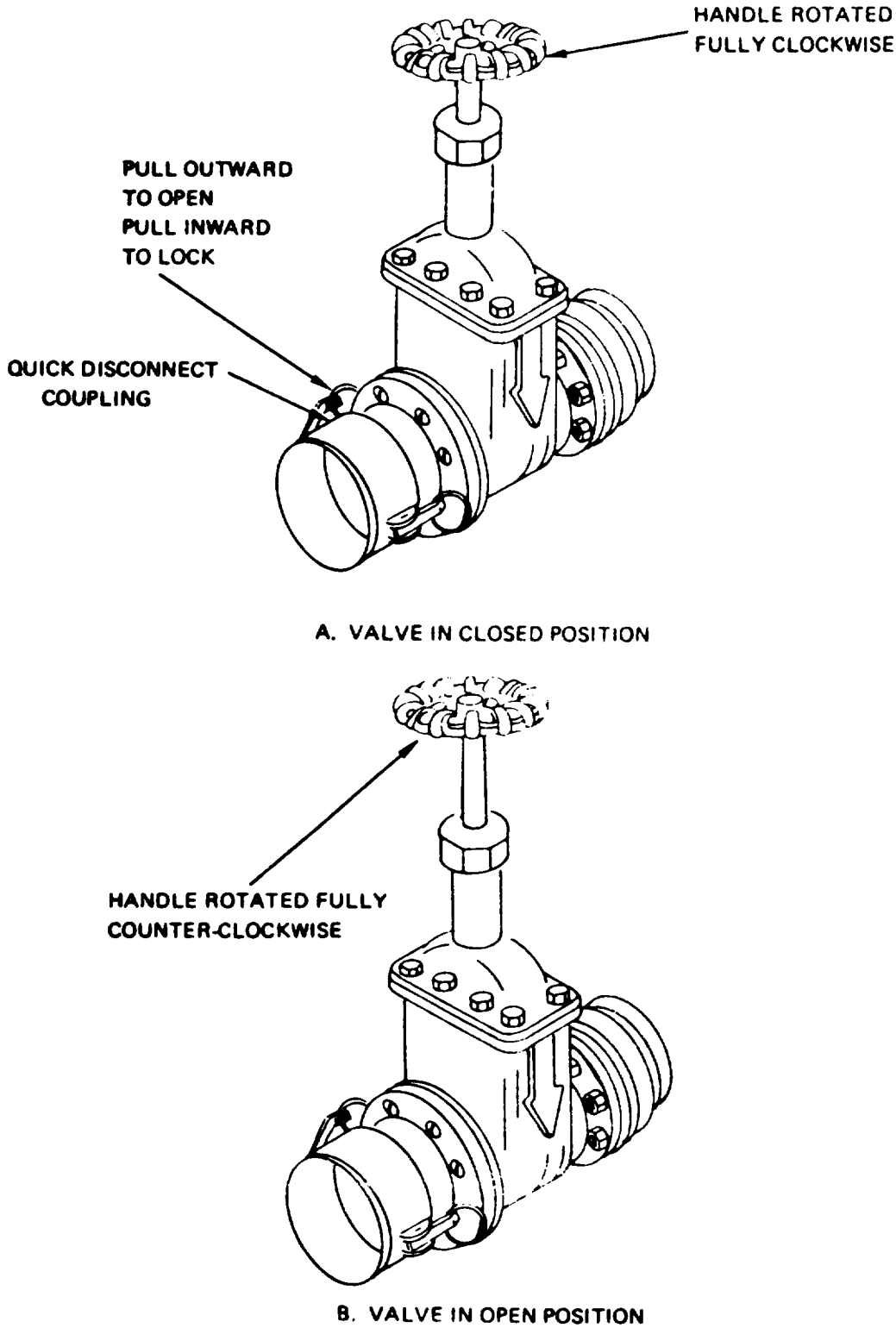


Figure 2-12. Filler and Discharge Valve in Open and Closed Positions (3,000, 20,000 and 50,000 Gallon Tanks).

2-9. Berm Construction, 3,000-Gallon (11,355-Liter) Tank. The following instructions are for a 13-foot by 13-foot (3.962-meter by 3.962-meter) (flat dimensions) tank.

NOTE

A minim urn two-foot (O. 7-meter) working clearance is necessary between the side of the tank and the berm on all four sides.

a. Clear and level an area 29 feet by 29 feet (8.84 meters x 8.84 meters)

b. Inspect area closely. Remove all sharp objects from the leveled area.

c. Slope all four sides of the leveled area in toward the center (fig. 2- 13). The center should be no more than three inches (7.62 centimeters) below ground level, which will give an approximate slope of one degree, If possible, provide a sand bottom approximately four inches (10.16 centimeters) thick.

d. Erect a three and one half-foot (1.07-meter) high berm around the outside of the sloped area.

e. To provide a berm drain, place a 2-inch (5.08 centimeter) pipe with a gate valve through the bottom of the discharge end of the berm in order to provide a means of draining accumulated water. The valve should normally be closed; open valve only to drain water from the bermed area.

WARNING

Make certain that the valve is closed tightly after installation. In the event of tank rupture, an open valve would permit fuel to drain from the berm and can cause fire or explosion.

2-10. Berm Construction, 10,000-Gallon (37,850-Liter) Tank. The following instructions are for a 22-foot by 22-foot (6.706-meter by 6.706-meter) (flat dimensions) tank.

NOTE

A minimum two-foot (0.7.-meter) working clearance is necessary between the side of the tank and the berm on all four sides.

a. Clear and level an area 35 feet by 35 feet (10.668 meters by 10.668 meters).

b. Inspect area closely. Remove all sharp objects from the leveled area.

c. Slope all four sides of the leveled area in toward the center (fig. 2-14). The center should be no more than five inches (12.7 centimeters) below ground level, which will give an approximate slope of one degree. If possible, provide a sand bottom approximately four inches (10.16 centimeters) thick.

d. Erect a three and one-half foot (1.07-meter) high berm around the outside of the sloped area.

e. To provide a berm drain, place a 2-inch (5.08-centimeter) pipe with a gate valve through the bottom of the discharge end of the berm in order to provide a means of draining accumulated water. Valve should be normally closed; open valve only to drain water from bermed area.

WARNING

Make certain that the valve is closed and locked after installation. In event of tank rupture, an open valve would permit fuel to drain from berm and can cause fire or explosion.

2-10.1. Berm Construction, 20,000-Gallon (75,700 Liter) Tank. The following instructions are for a 24-foot 6-inch by 28-foot 6-inch (7.468-meter by 8.687-meter) (flat dimensions) tank.

NOTE

A minimum three-foot (1-meter) working clearance is necessary between the side of the tank and the berm on all four sides.

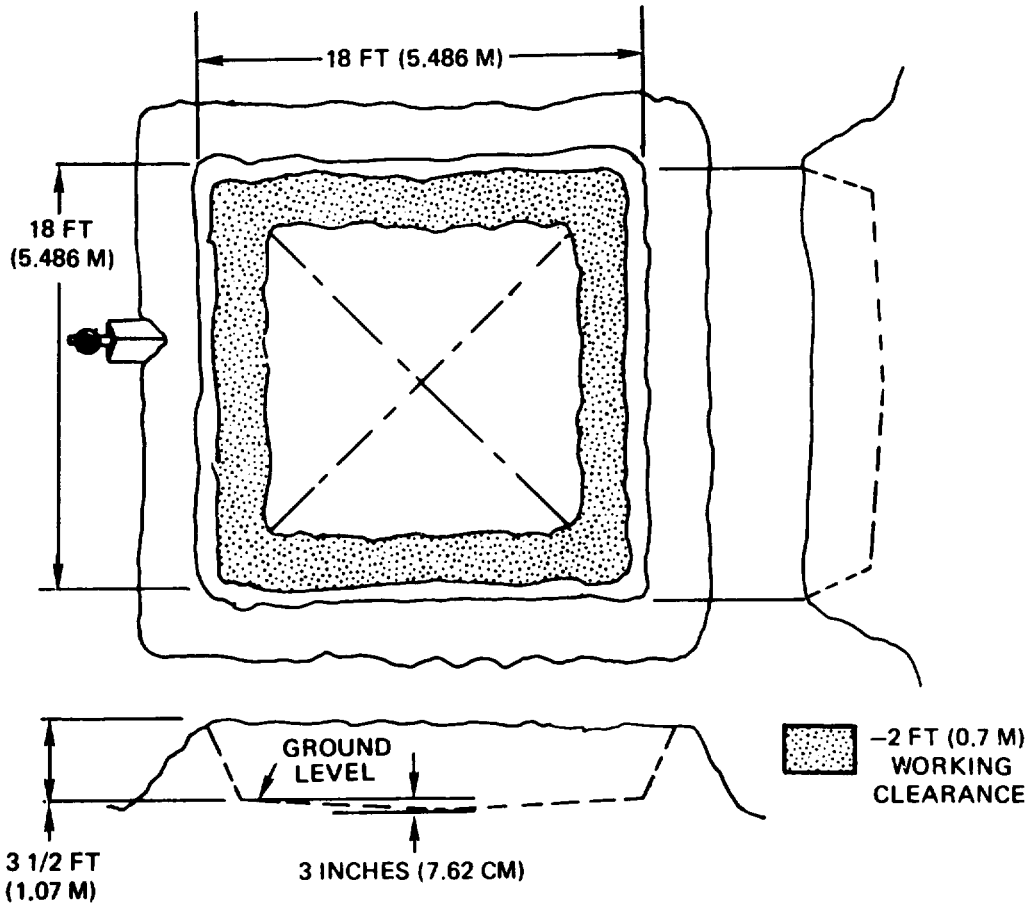
a. Clear and level an area 29 feet by 33 feet (8.84 meters by 10.06 meters).

b. Inspect area closely. Remove all sharp objects from the leveled area.

c. Slope all four sides of the leveled area in toward the center (fig. 2-14,1). The center should be no more than five inches (12.7 centimeters) below ground level. If possible, provide a sand bottom approximately four inches (10.16 centimeters) thick.

d. Erect a four-foot (1.22-meter) high earth berm around the outside of the sloped area,

e. To provide a berm drain, place a 2-inch (5.08-centimeter) pipe with a gate valve through the bottom of the discharge end of the berm in order to provide a means of draining accumulated water. Valve should be normally closed; open valve only to drain water from bermed area.



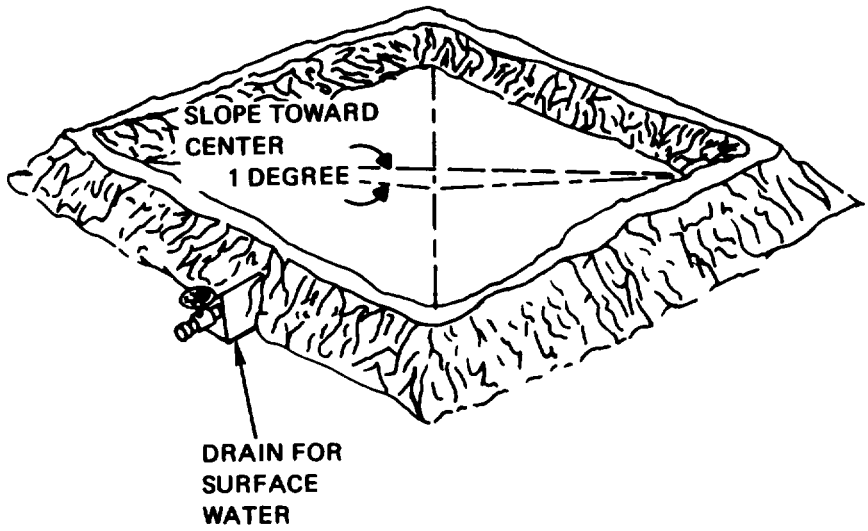


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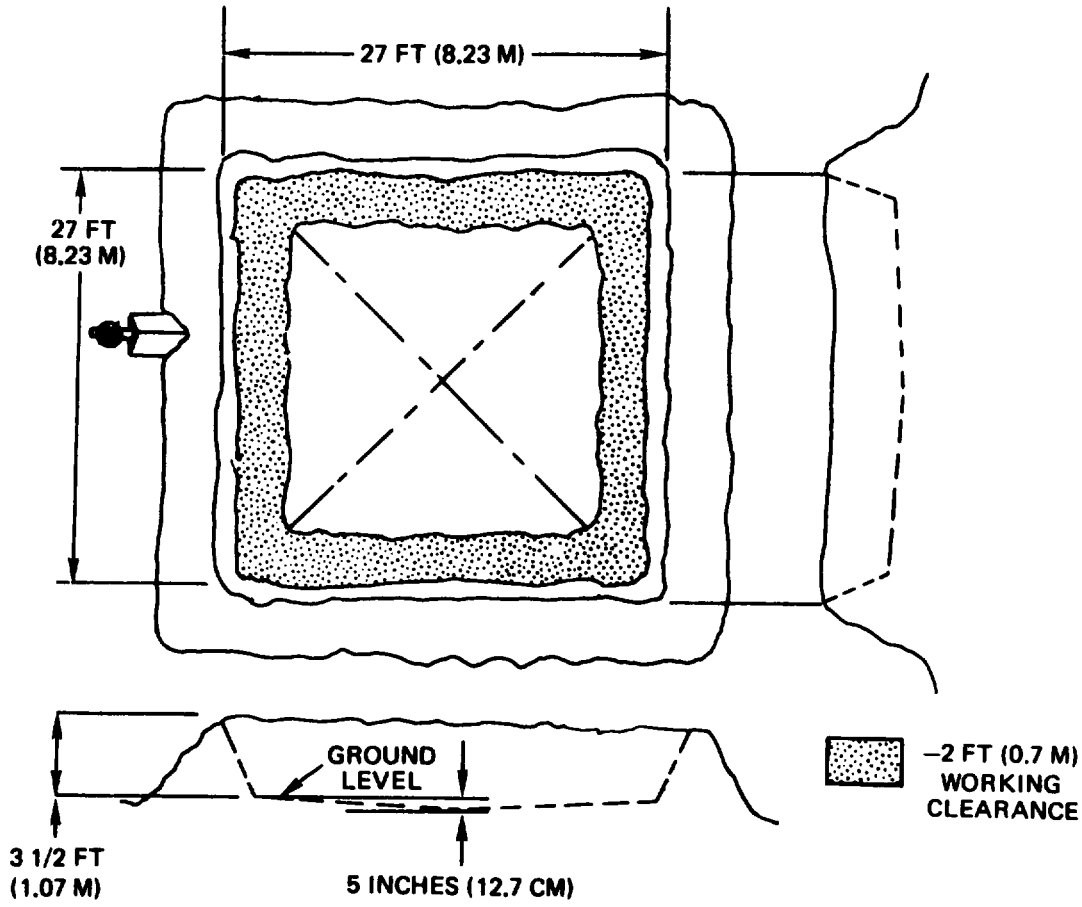
Figure 2-13. *Berm Construction,* 3,000 Gallon (11, 355 *Liter) Tank.*



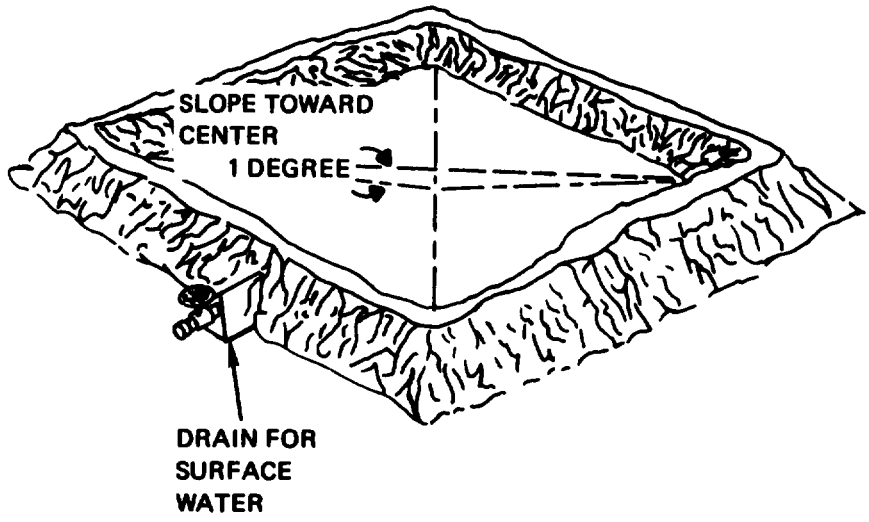


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Figure 2-14. Berm Construction, 10,000 Gallon (37,850 Liter) Tank.

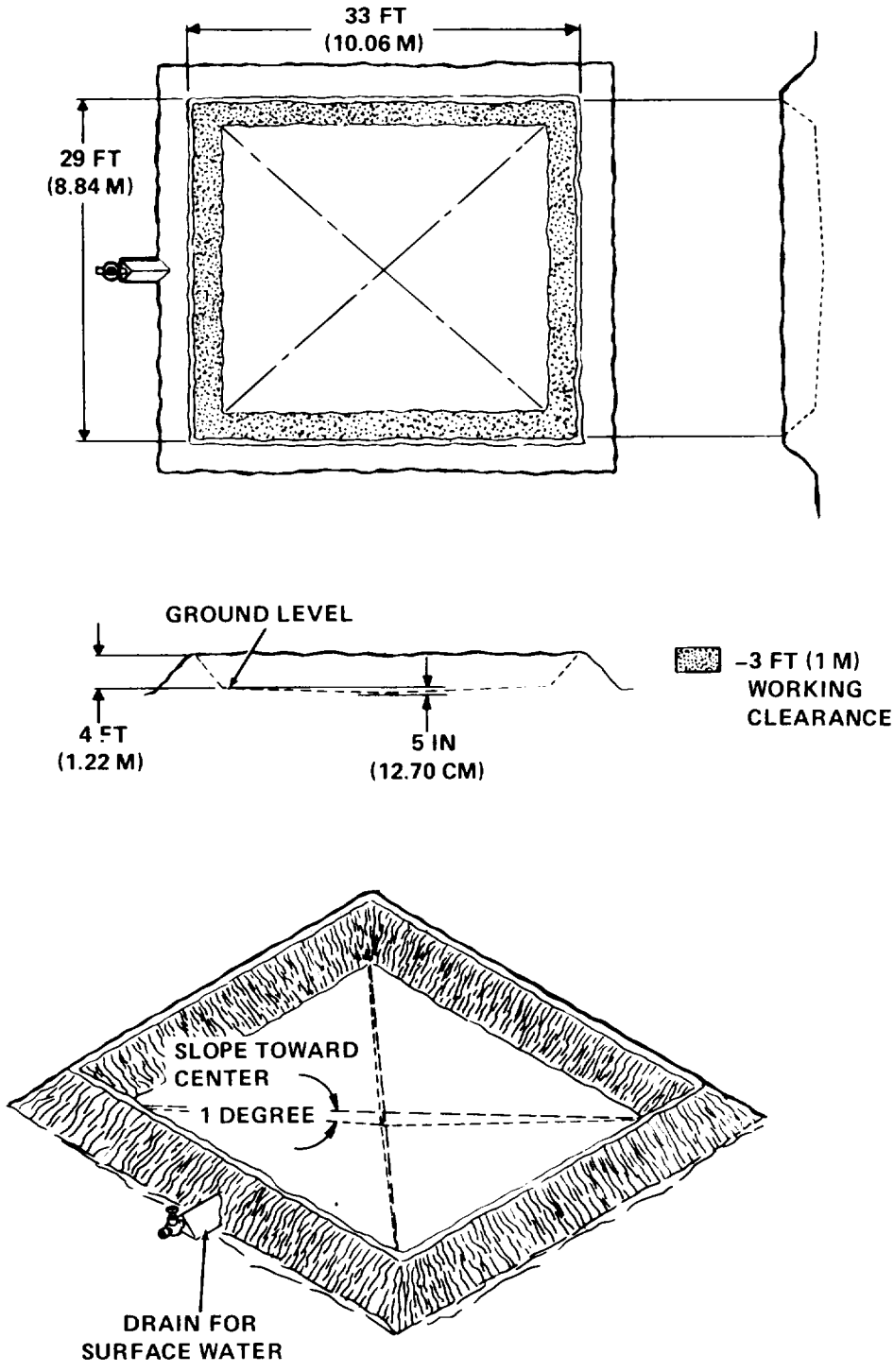

Figure 2-14.1. Berm Construction, 20,000 Gallon (75,700 Liter) Tank.

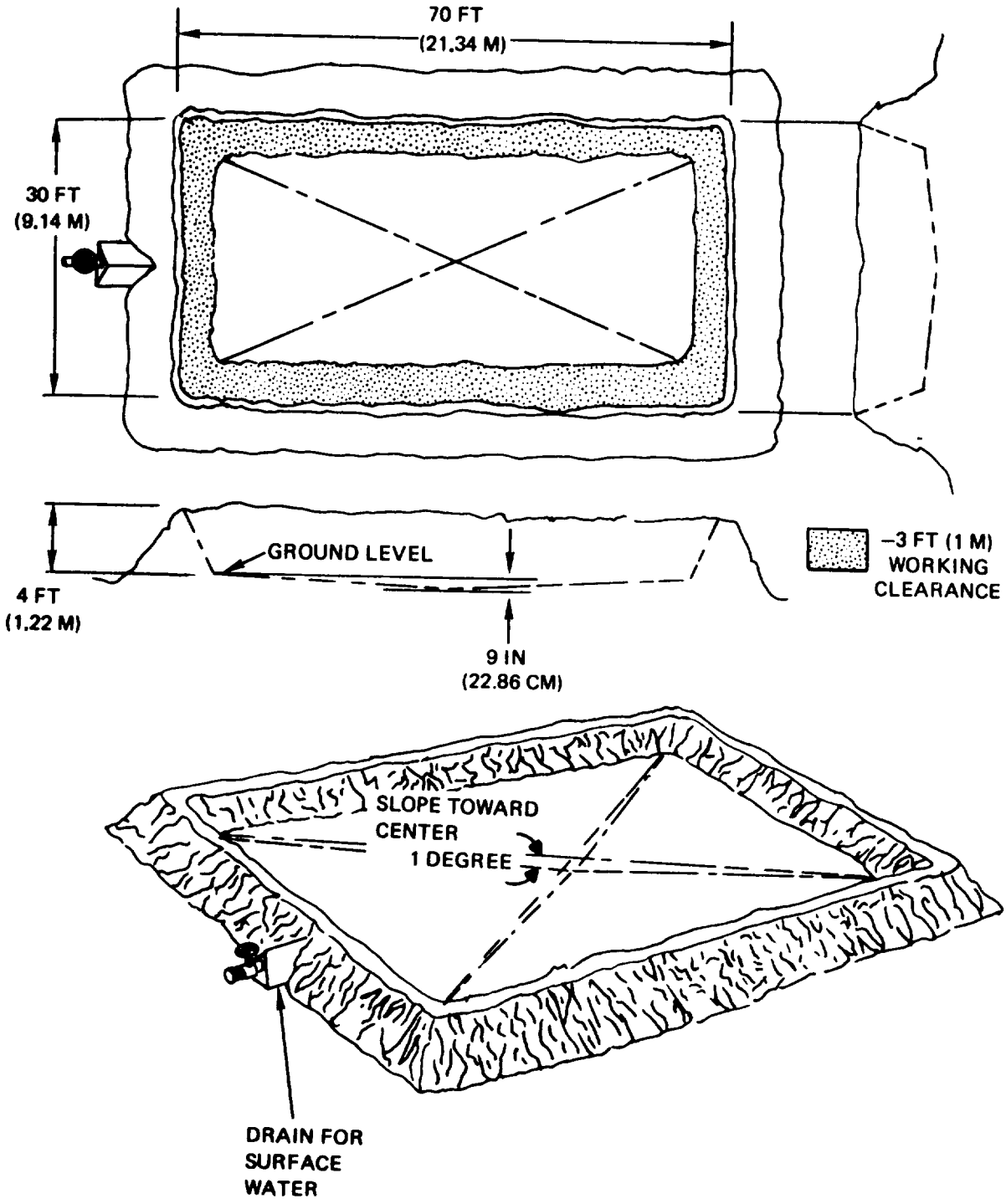

Figure 2-15. Berm Construction, 50,000 Gallon (189, 250 Liter) Tank.

2-11. Berm Construction, 50,000-Gallon (189,250-Liter) Tank. The following instructions are for a 26-foot by 66-foot (7.924-meter x 20.117-meter) (flat dimensions).

NOTE

A minimum of three-foot (one-meter) working clearance is necessary between the side of the tank and the berm on all four sides.

a. Clear and level an area 30 feet by 70 feet (9.14 meters x 21.34 meters).

b. Inspect area closely. Remove all sharp objects from the leveled area.

c. Slope all four sides of the leveled area in toward the center (fig. 2-15). The center should be no more than nine inches (22.86 centimeters) below ground level. If possible, provide a sand bottom approximately four inches (10.16 centimeters) thick.

d. Erect a four-foot (1.22-meter) high earth berm around the outside of the sloped area.

e. To provide a berm drain, place a 2-inch (5.08-centimeter) pipe with a gate valve through the bottom of the discharge end of the berm in order to provide a means of draining accumulated water. Valve should be normally closed; open valve only to drain water from the bermed area.

WARNING

Make certain that the valve is closed and locked after installation. In vent of tank rupture, an open valve would permit fuel to drain from berm and could cause fire or explosion.

2-12. Typical Berm Cross Section. Figure 2-16 shows a cross section view with dimensions of a typical berm.

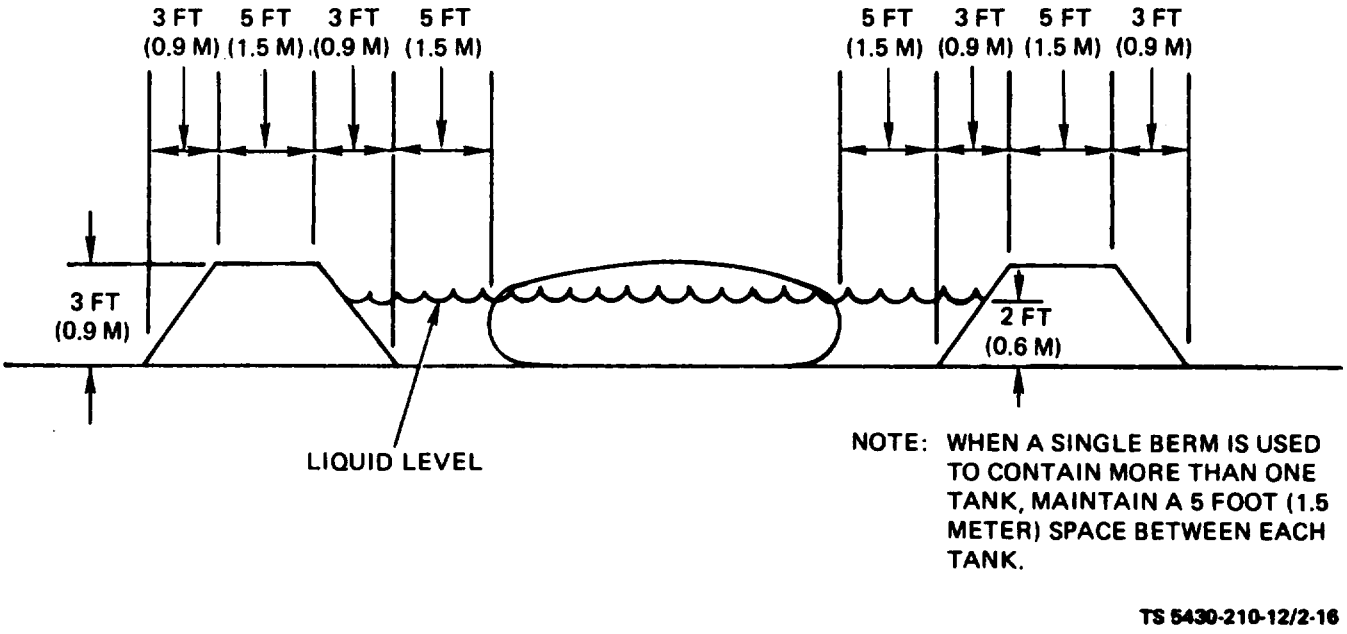

Figure 2-16. Typical Berm Cross Section.

Section II. MOVEMENT TO A NEW WORKSITE

2-13. General. Whenever possible, prior to movement, unit assemblies should be disassembled, purged of all residual fuel and fumes and cleaned and preserved for future use.

Section III. OPERATING PROCEDURES

CAUTION

If equipment fails to operate, refer to troubleshooting, procedures in Chapter 3, Section III.

2-14. General. The operator should be thoroughly familiar with the location and function of every ;ontrol before operating the system. Other personnel comprising the crew should be thoroughly briefed in the operation of the system and be familiar with any shutdown or stopping procedures under emergency conditions.

2-15. Controls and Instruments.

a. Filler and Discharge Valve (Tanks, NSN 5430-00-268-8187, NSN 5430-01-215-7525, and NSN 5430-00-182-8181). The filler and discharge control valve (fig. 2-12) is the shut-off mechanism between the collapsible tank and any other portion of the system. The filler and discharge control valves for tanks, NSN 5430-00-052-3412 and NSN 5430-00-641-8552 and also typically illustrated in figure 2-12.

b. Vent Assembly (All Tanks). The vent assembly (fig. 2-3) contains a pressure relief cap which opens when the tank is subjected to an internal pressure of 0.10 psi (0.00680 atmospheres).

c. Drain Control Valve (Excluding Tank NSN 5430-00-268-8187). The drain control valve allows the residual fuel or water and sludge blanket to be drained from the tank when it becomes necessary (fig. 2-8).

2-16. Operation.

a. Filling Tank (All Tanks).

WARNING

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

CAUTION

Persons operating the tank must periodically check dates on data plates to verify that the tank is safe for use. Each tank has a one (1) year service life beginning on the date when it is first filled. Shelf storage life is five (5) years from the date of manufacture. Users must initiate action to replace over age tanks. Failure to heed this caution can cause tank rupture.

(1) Inspect tank to verify that it is set up as shown in figures 1-1, 1-2, 1-2.1, or 1-3.

(2) Check drain control valve (fig 2-8) to verify that it is in closed position. (Excluding Tank, NSN 5430-00-268-8187.)

(3) Check the vent assembly pressure relief valve (fig. 2-3) to verify freedom of operation.

(4) Check the filler and discharge elbow at the opposite end of tank to verify the installation of dust cap (fig. 2-5). (Tanks, NSN 5430-00-182-8181 and NSN 5430-01-215-7525 only.)

(5) Check the control valve (figs. 2-10 and 2-11) to verify it is in the closed position.

(6) Attach source of fuel to the control valve.

(7) Activate source of fuel.

(8) Open the control valve by turning handle counterclockwise (fig. 2-12).

(9) Close the control valve when tank is filled.

NOTE

Place a filled sandbag under the filler discharge elbow as shown in figure 2-17. This support will reduce the stress on the tank fitting, gasket in the hose coupling, and the filler-discharge elbow coupling. It is also recommended that hose connections on the ground be elevated slightly by placing sandbags or blocks of wood under the connection. This will make a bad connection or a leaking connection much easier to see and avoid creating a fire hazard.

(10) Deactivate source of fuel.

(11) Disconnect source of fuel from the control valve.

b. Emptying Tank (All Tanks)

(1) Inspect tank to verify that it is set up properly.

(2) Attach emptying source to the control valve.

(3) Open the control *valve.*

(4) Activate emptying source.

(5) Close the control valve when tank is empty.

(6) Deactivate emptying source.

(7) Disconnect emptying source from the control valve.

c. Draining (Excluding Tank, NSN 5430-00-268-8187).

(1) Empty fuel from tank (para. 2-15b.).

(2) Disconnect the filler and discharge hose from the elbow.

Section III. OPERATING PROCEDURES

CAUTION

If equipment fails to operate, refer to troubleshooting, procedures in Chapter 3, Section III.

2-14. General. The operator should be thoroughly familiar with the location and function of every control before operating the system. Other personnel comprising the crew should be thoroughly briefed in the operation of the system and be familiar with any shutdown or stopping procedures under emergency conditions.

2-15. Controls and Instruments.

a. Filler and Discharge Valve (Tanks, NSN 5430-00-268-8187, NSN 5430-01-215-7525, and NSN 5430-00-182-8181). The filler and discharge control valve (fig. 2-12) is the shut-off mechanism between the collapsible tank and any other portion of the system. The filler and discharge control valves for tanks, NSN 5430-00-052-3412 and NSN 5430-00-641-8552 and also typically illustrated in figure 2-12.

b. Vent Assembly (All Tanks). The vent assembly (fig. 2-3) contains a pressure relief cap which opens when the tank is subjected to an internal pressure of 0.10 psi (0.00680 atmospheres).

c. Drain Control Valve (Excluding Tank NSN 5430-00-268-8187). The drain control valve allows the residual fuel or water and sludge blanket to be drained from the tank when it becomes necessary (fig. 2-8).

2-16. Operation.

a. Filling Tank (All Tanks).

WARNING

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

CAUTION

Persons operating the tank must periodically check dates on data plates to verify that the tank is safe for use. Each tank has a one (1) year service life beginning on the date when it is first filled. Shelf storage life is five (5) years from the date of manufacture. Users must initiate action to replace over age tanks. Failure to heed this caution can cause tank rupture.

(1) Inspect tank to verify that it is set up as shown in figures 1-1, 1-2, 1-2.1, or 1-3.

(2) Check drain control valve (fig 2-8) to verify that it is in closed position. (Excluding Tank, MSN 5430-00-268-8187.)

(3) Check the vent assembly pressure relief valve (fig. 2-3) to verify freedom of operation.

(4) Check the filler and discharge elbow at the opposite end of tank to verify the installation of dust cap (fig. 2-5). I. Tanks, NSN 5430-00-182-8181 and NSN 5430-01-215-7525 only.)

(5) Check the control valve (figs. 2-10 and 2-11) to verify it is in the closed position.

(6) Attach source of fuel to the control valve.

(7) Activate source of fuel.

(8) Open the control valve by turning handle counterclockwise (fig. 2-12).

(9) Close the control valve when tank is filled.

NOTE

Place a filled sandbag under the filler discharge elbow as shown in figure 2-17. This support will reduce the stress on the tank fitting, gasket in the hose coupling, and the filler-discharge elbow coupling. It is also recommended that hose connections on the ground be elevated slightly by placing sandbags or blocks of wood under the connection. This will make a bad connection or a leaking connection much easier to see and avoid creating a fire hazard.

(10) Deactivate source of fuel.

(11) Disconnect. source of fuel from the control valve.

b. Emptying Tank (All Tanks)

(1) Inspect tank to verify that it is set up properly.

(2) Attach emptying source to the control valve.

(3) Open the control valve.

(4) Activate emptying source.

(5) Close the control valve when tank is empty.

(6) Deactivate emptying source.

(7) Disconnect emptying source from the control valve.

c. Draining (Excluding Tank, NSN 5430-00-268-8187).

(1) Empty fuel from tank (para. 2-15b.).

(2) Disconnect the filler and discharge hose from the elbow.

(3) Squeeze excess fuel from the tank by rolling the ends of the tank toward the drain fitting.

(4) Open the drain fitting control valve to allow the remaining fuel to dram from the tank,

d. *Draining (Tank, NSN 5430-00-268-8187).*

(1) remove the filler and discharge elbow.

(2) Beginning at the opposite end of the tank, lift the tank slightly, forcing any residual fuel toward the open fitting.

WARNING

The sludge which accumulates in the bottom of storage tanks gives off explosive vapors and can cause lead poisoning through inhalation. When cleaning tanks, ample ventilation must be provided to carry off harmful fumes. Residual sludge must be buried in a location where it is not likely to be uncovered.

e. *Repacking.* When repacking for storage, the following procedure is used:

NOTE

Care should always be taken not to damage tank by rough handling or careless storage.

(1) Drain fuel from tank (para. 2-15 b).

(2) Dry out tank by purging with air pressure. Use a line pressure of 50 psi (3.40 Atmospheres) maximum.

(a) Insert air hose through the filler and discharge adapter opening at one end of the tank.

(b) Place rags around air hose at the fitting to prevent air escaping between hose and fitting.

(c) Blow air into tank until tank is 3 feet (0.914 meters) high.

(d) Remove dust cap from the vent fitting and allow the air to vent for a period of 30 minutes.

(e) Turn off air supply and remove hose and rags.

(3) Remove the filler and discharge elbows from the filler and discharge adapters and install the dust caps on the adapters.

(4) Remove the dust cap (fig. 2-2), from the vent fitting adapter to allow trapped air to vent. Fold the tank from the sides toward the middle. Brush off any stones or debris which cling to the folded tank. Roll the tank from the end opposite the drain fitting.

(5) Hose assembly openings should be plugged with any suitable material to keep them dirt free.

(6) Return components to their boxes and the tank to its shipping container. Component boxes should be placed in the shipping container with the tank.

(7) If the original component containers are no longer available, all loose items must be padded or wrapped before storing with the tank in order to avoid chafing the tank during prolonged storage or during transportation.

(8) Care should always be taken to avoid damaging the tank through rough handling or careless storage.

Section IV. OPERATING UNDER UNUSUAL CONDITIONS (ALL TANKS)

2–17. General. The fuel tank is designed to operate in extrcme temperature conditions ranging from 25 degrees F to 125 degrees F (–32 degrees C to 52 degrees C). The instructions in this section supplement those in Section I.

2-18. Operating in Extreme Cold (Below 32 degrees F (0 degrees C)).

a. Keep snow and ice accumulation from the top of the tank and clear of the vent pipe assembly.

b. All ice and snow must be removed from the quick disconnect connections to ensure correct assembly and disassembly.

c. Avoid any unnecessary folding, unfolding, or rolling of the tank which might cause flaking, cracking, or delamination of the coating material.

d. A new bag must be prepared for initial operations in extreme cold as follows:

(1) Remove bag from packing crate or coffin.

(2) Unfold bag and allow the searns created by the depot vacuum packing to stretch out.

(3) If time allows, inflate bag with air to ensure all seams are stretched.

(4) Refold and repack.

e. The bag will crack if the seams are formed in the material from depot vacuum packing are not stretched out prior to the bag's being filled with fuel.

2-19. Operating in Extreme Heat.

a. Setup protective shades over the tank and its components being careful not to block air circulation.

b. Avoid any unnecessary handling which might cause material separation. The coating material becomes increasingly delicate as the temperature rises.

2-20. Operating in Dusty or Sandy Areas.

a. Keep all components clean, particularly at sealing and connecting points.

b. Keep all hoses and fittings covered with plugs and/or dust caps when they are not in use.

c. Cover system components when not in use.

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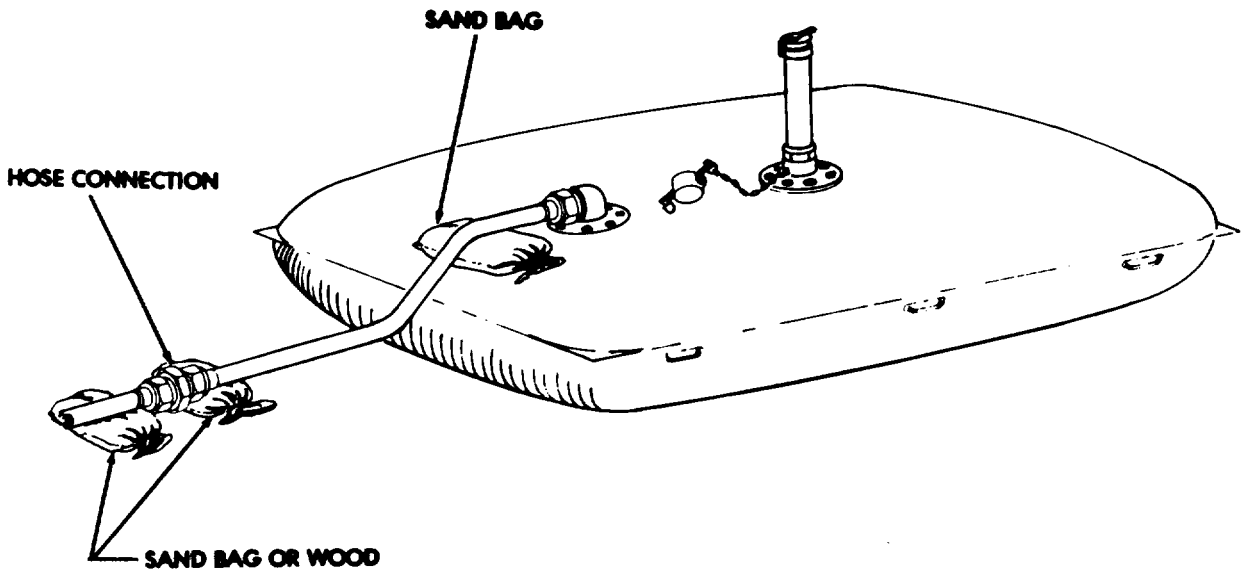


Figure 2-17. Elevated Connections For Easy Leak Detection

CHAPTER 3

MAINTENANCE INSTRUCTIONS (ALL TANKS)

Section I. LUBRICATION INSTRUCTIONS

NOTE
All Cam Lever Pins and Lobes should be lubricated semi-annually with two (2) drops of OE 30 engine oil.

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

3-1. General. To ensure that the equipment is ready for operation at all times, it must be inspected systematically so that defect may be discovered and corrected before they result in serious damage or failure. The necessary preventive maintenance checks and cervices are listed in table 3.1. Defects discovered during operation of the system shall be noted for future correction to be made as soon as operation has ceased. All deficiencies and shortcomings will be recorded together with the corrective action taken on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) at the earliest possible opportunity.

CAUTION
Stop operation immediately if a deficiency is noticed which would damage the equipment if operations were continued, or jeopardize the safety of operating personnel.

Table 3-1. Operator/Crew Preventive Maintenance Checks and Services

NOTE: Within designated interval, these checks are to be performed in the order listed.

B - Before D - During A- After

Item No.	Interval B	Interval D	Interval A	Item to be Inspected	Procedures Check for and have repaired or adjusted as necessary	For Readiness Reporting, Equipment is Not Ready/ Available If:
1	●	●		Installation Area	Inspect the installation area to prevent accumulation of stones, sticks and other sharp objects that might cause punctures and leaks.	
2	●	●	●	Tank Body	Inspect tank body for tears, punctures and leaks.	Tank body shows evidence of tears punctures or leaks. (Exclude damp spots, weeping/wicking where tank seams are not involved and droplets are not forming and running down the side of the tank.)
3	●	●	●	Filler and Discharge Assembly	Inspect the filler and discharge assembly for evidence of damage or leakage (fig. 2-5).	Cam levers are damaged or missing. The gasket is missing. Elbow body is cracked. Elbow sealing surface is badly dented
4	●	●	●	Vent Pipe Assembly	Inspect the vent pipe assembly for evidence of damage or leakage. Inspect pressure relief valve for freedom of operation (fig. 2-3)	Relief Cap (Flame Arrestor) is damaged or missing. Gasket is missing. Cam Levers and damaged or missing.
5	●	●		Drain Fitting Assembly	Inspect the area near the drain fitting assembly for evidence of leakage. The assembly is located on the bottom surface of the tank at its lowest end (fig. 2-7).	Pipe plug, drain hose, drain valve missing or damaged.
6	●	●	●	Filler and Discharge Valve and Hose Assembly	Inspect the hose assembly for leaks, cuts and tears. Check fittings for distortion or damaged gaskets (fig. 2-9).	Hose assemblies, valve, missing or damaged.
7	●	●	●	Control Valves	Inspect the control valves for bent or binding stem and leakage (fig. 2-12).	Control valves missing or damaged.
8			●	Tank Inside	WARNING The sludge deposited by fuel in the storage tank gives off toxic as well as explosive vapors and may cause lead poisoning through inhalation. When cleaning tanks, ample ventilation should be provided to carry off the fumes. The sludge should be buried where it is not likely to be uncovered.	

Table 3-1. Operator/Crew Preventive Maintenance Checks and Services (Cont)

NOTE: Within designated interval, these checks are to be performed in the order listed.

B – Before **D – During** **A – After**

Item No.	Interval			Item to be Inspected	Procedures Check for and have repaired or adjusted as necessary	For Readiness Reporting, Equipment is Not Ready/ Available If:
	B	D	A			
8 Cont				Tank Inside - Cont	If fuel, particularly leaded gasoline, is stored for an extended period of time, a heavy sludge can accumulate in the bottom of the tank. The sludge can be removed by opening the access plate (refer to item 5, fig. B-2) after which the tank should be thoroughly flushed with water. The access plate may be removed by removing the hexagon head capscrews and washers. Excess water should be drained from the tank. The interior tank coating can be protected against crackling by sloshing a gallon or two of gasoline inside the tank after cleaning. Excess gasoline should be removed prior to returning the tank to service.	

a. Before You Operate. Always keep in mind the CAUTIONS and WARNINGS. Perform your (Before (B) PMCS).

b. While You Operate. Always keep in mind the CAUTIONS and WARNINGS. Perform your (During (D) PMCS).

c. After You Operate. Be sure to perform your (After (A) PMCS).

d. If Your Equipment Fails To Operate. Troubleshoot with proper equipment. Report any deficiencies using the proper forms, see paragraph 1-2.

3-2. Operator/Crew Preventive Maintenance Checks and Services. Refer to table 3-1 for a listing of preventive maintenance checks and services which must be performed by the operator.

Section III. TROUBLESHOOTING (ALL TANKS)

3-3. General.

a. This section contains troubleshooting information for locating and correcting most of the operating troubles which may develop in the Collapsible Tank System. Each malfunction for an individual component, unit, or system is followed by a list of tests or inspections which will help you determine probable causes and corrective actions to take. You should perform the tests/inspections and corrective actions in the order listed.

b. 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 your Supervisor.

3-4. Operator/Organizational Troubleshooting. For troubleshooting refer to table 3-2.

NOTE

Before you use this table, be sure you have performed all applicable operating checks.

Table 3-2. Troubleshooting

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
1. COLLAPSIBLE TANK LEAKS
Inspect the tank for punctures or cuts. **Refer to paragraph 3-11 and repair the puncture or tear with the sealing clamps or wood plugs which are supplied as Emergency Repair Items.**
2. COLLAPSIBLE TANK VENT PIPE ASSEMBLY LEAKS
Step 1. Check the relief cap gasket for distortion or wear (7, fig. B-l). **Remove the relief cap and replace the gasket (para. 3-6).**
Step 2. Check the preformed packing (5, fig, B-1) between the quick disconnect coupling (4) and the tank fitting for breaks nicks or distortion. **Remove the flanged quick disconnect coupling (4) and replace the packing (para. 3-6).**
Step 3. Check the vent pipe (9, fig. B-1) for cracks or damage **Remove the vent pipe and replace it with a new one (para. 3-6).**
Step 4. Cracked or broken flanged quick disconnect coupling. 4, fig. B-1.) **Refer to paragraph 3-6 and remove the flanged quick disconnect fitting from the tank. Remove the other components from the fitting and replace the flanged quick disconnect fitting.**
Step 5. Loose or missing hexagon head cap screws (2, fig. B-1), **Replace all missing cap screws and tighten all screws to 30 inch-pounds.**
3. PRESSURE RELIEF VALVE REMAINS OPEN
Check the relief cap (6, fig. B-1) for a broken or bent pivot pin. **Refer to paragraph 3-6 and remove relief valve and replace it with a new one.** **After installation, check that the relief cap operates freely.**

Table 3-2. Troubleshooting (con't)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

4. FILLER AND DISCHARGE ASSEMBLY LEAKS BETWEEN OVAL CLOSURE PLATE (5, fig. B-2) AND TANK FITTING

Step 1. Check for missing or loose hexagon head cap screws (3, fig. B-2.
Replace all missing screws and washers. Tighten all screws to 30 inch-pounds.

Step 2. Check the preformed packing (6, fig. B-2) between the oval closure plate and the tank fitting for nicks, breaks, and compression. Replace the packing (para. 3-7).

5. FILLER AND DISCHARGE ASSEMBLY LEAKS BETWEEN OVAL CLOSURE PLATE 5 fig. B-2) AND FLANGED ADAPTER (11).

Step 1. Check for missing or loose hexagon head cap screws (7).
Replace all missing screws and washers. Tighten all screws to 30 inch-pounds.

Step 2. Check the round flange gasket (12) for damage or breaks.
Remove the flanged adapter and replace the gasket. (para. 3-7).

6. FILLER AND DISCHARGE ASSEMBLY LEAKS BETWEEN FLANGED ADAPTER (11, fig. B-2) AND QUICK DISCONNECT FITTINGS (15).

Remove the quick disconnect fittings and check the gaskets (2 & 14) for damage or breaks.
Replace the gaskets as required (para. 3-7).

7. FILLER AND DISCHARGE ASSEMBLY LEAKS THROUGH HARDWARE (1, 11 & 15, fig. B-2) OR WILL NOT ASSEMBLE.

Check the hardware for cracks, damage and wear.
Replace the required hardware (para. 3-7).

8. DRAIN ASSEMBLY LEAKS BETWEEN DRAIN FITTING (3, fig. B-3) AND TANK FITTING (Excluding Tank NSN 5430-00-268-8187).

Step 1. Check for missing or loose hexagon head capscrews (l).
Replace all missing screws and washers. Tighten all screws to 30 inch-pounds.

Step 2. Check the preformed packing (4) between the drain fitting (3) and the tank metal face for nicks, breaks, and compression.
Replace the packing. (para. 3-8)

9. DRAIN FITTING (3, fig. B-3) LEAKS THROUGH METAL (Excluding Tank NSN 5430-00-268-8187)

Check the drain fitting for damage or cracks.
Replace the drain fitting (para. 3-8.

10. DRAIN CONTROL VALVE LEAKS (5, fig. B-3).

Step 1. Check to ensure that the control valve is closed completely.
Close control valve.

Step 2. If completely closing the control valve does not stop the leakage, check for damage or wear.
Replace the control valve (para. 3-8).

11. HOSE ASSEMBLY COUPLING LEAKS (2, fig. B-4)

Step 1. Check the coupling gaskets (1 & 3) for damage or wear.
Replace the gaskets

Step 2. Check the quick disconnect coupling and adapter attached to the hose for dir& damage, or wear.
Remove dirt or any foreign objects found inside of the couplings. If this fails to correct the leakage, replace the hose assembly (para. 3-9).

Table 3-2. Troubleshooting (con't)

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
12. CONTROL VALVE ASSEMBLY COUPLING (FEMALE) LEAKS (7, fig. B-4).
Step 1. Check the coupling for miming or loose hexagon head cap screws (4 and 5). **Replace all missing screws and nuts. Tighten all screws and nuts to 30 inch-pounds.**
***Step* 2.** Check the round flange gasket (8) for damage or breaks, **Replace the flanged coupling and replace the gasket (para. 3-9).**
13. CONTROL VALVE ASSEMBLY ADAPTER (MALE) LEAKS (12, fig. B-4).
Step 1. Check the adapter for miming or lame hexagon head cap nut and screws (9 & 10). **Replace all missing screws and nuts. Tighten all screws and nuts to 30 inch-pounds.**
***Step* 2.** Check the round flanged gasket (13) for damage or breaks. **Remove the flanged adapter and replace the gasket (para. 3-9).**
14. CONTROL VALVE LEAKS
Step 1. Check for loose or missing screws (6, fig. B-5) on the valve bonnet (8). **Tighten or replace missing washers and bolts (para. 3-10).**
***Step* 2.** Check for damaged or distorted bonnet gasket (9). **Replace bonnet gasket (para. 3-10)**
***Step* 3.** Check for bent or distorted bonnet stem (12). **Replace bonnet stem (para. 3-10).**

Section IV. MAINTENANCE PROCEDURES (ALL TANKS)

3-5. General. This section contains maintenance and repair instructions for the four collapsible POL tanks.

3-6. Vent Assembly (All Tanks).

a. Disassembly.

(1) Disconnect the female quick disconnect coupling, (1, fig. B-1) from the flanged male quick disconnect coupling (4) by pulling outward on cam-lever arms, then lift quick disconnect coupling from the male coupling.

(2) Remove the eight screws and washers (2 and 3). Lift flanged coupling (4) from tank fitting.

(3) Remove the preformed packing (5) from the packing groove in the tank fitting,

(4) Separate relief cap (6) from the vent pipe (9) by turning the cap in a counter clock-wise direction until threads disengage.

(5) Remove relief cap gasket (7) from the inside of the relief cap.

(6) Turn flame arrestor (8) in a counter clockwise direction until the threads disengage from the relief cap (6).

(7) To remove vent pipe (9) from the quick disconnect coupling (1), turn the vent pipe in a counterclockwise direction until threads disengage.

(8) Remove dust cap gasket (11) from inside of the dust cap (12).

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property, Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100 degrees F -138 degrees F (38 degrees C -59 degrees C).

(1) Clean all parts with cleaning solvent (Item 1, App. F) and dry thoroughly.

(2) Clean out preformed packing grooves thoroughly.

(3) Inspect all mechanical parts for cracks, dents, breaks, or wear. Replace or repair, if unserviceable.

(4) Carefully inspect gaskets and packings for deterioration, -distortion, cracks, or breaks. Replace

when service is doubtful.

(5) Ensure that vent hole in the relief valve is clear.

c. Reassembly.

(1) Place preformed packing (5, fig. B-1) into the packing groove in the tank fitting.

(2) Place flanged adapter (4) on the tank fitting Rotate flange so the holes in the flange are in line with the tapped holes in the fitting. Assemble screws (2) through the washers (3) and through the holes in the flange and into tapped holes in the tank fitting. Tighten to 30 inch-pounds.

(3) Insert vent pipe (9) into quick disconnect coupling (1) and turn pipe in clockwise direction until the two pieces are jointed together tightly.

(4) Insert flame arrestor (8) into relief cap (6) and turn flame arrestor in a clockwise direction until the two pieces are jointed together tightly.

(5) Place relief cap gasket (7) over flame arrestor and seat it inside the relief cap.

(6) Place flame arrestor (8) into vent pipe (9) until vent pipe contacts the relief cap (6). Rotate relief cap in a clockwise direction until vent pipe and relief cap are joined together tightly.

(7) Insert quick disconnect coupling gasket (10) into the female quick disconnect coupling (1).

(8) Ensure that the cam-lever arms of the quick disconnect coupling are in an outward position. Place coupling (with 6, 7, 8, 9 and 10 attached) onto flanged coupling (4), Pull the cam-lever arms inward until they are locked in place.

(9) Insert dust cap gasket (11) into dust cap (12).

3-7. Filler and Discharge Assembly (All Tanks).

a. Disassembly.

(1) Remove 4-inch elbow, (1, fig. B-2.), by pulling outward on the cam-lever arms. Lift elbow off the flanged adapter (11).

(2) Remove elbow gasket (2) from inside of elbow (1).

(3) Remove screws (3) and washers (4) and lift oval closure plate (5) from the collapsible tank fitting.

(4) Lift preformed packing(6) from inside the packing groove in the tank fitting.

(5) Remove screws (7), nuts (8), and 1ockwashers (9) from remaining assembly, thereby releasing the suction stub (13) from the bottom of the closure plate (5).

(6) Remove dust cap gasket (14) from inside of dust cap (15).

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-68, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100 degrees F -138 degrees F (38 degrees C -59 degrees C)

(2) Clean all parts with cleaning solvent (Item 1, App. F) and dry thoroughly.

(2) Clean out packing grooves thoroughly

(3) Inspect all mechanical parts for cracks, dents, breaks, or wear. Replace or repair, if unserviceable.

(4) Carefully inspect gaskets and packings for deterioration, distortion, cracks, or breaks. Replace when serviceability is doubtful.

c. Reassembly.

(1) Place dust cap gasket (14, fig. B-2) into dust cap (15).

(2) Place elbow gasket (2) into elbow (1).

(3) Place suction stub (13) on a flat hard surface with the bolt holes on top.

(4) Place thread seals (10) over each bolt hole in suction stub (13).

(5) Place oval closure plate (5) on top of thread seals (10) being careful to keep all holes aligned.

(6) Place flanged adapter gasket (12) on oval closure plate (5) and align the holes.

(7) Place flanged adapter (11) on flange gasket (12) and align the holes.

(8) Insert the 3/8-16 x 1 1/2 long screws (7) through the holes in (13, 10, 5, 12 and 11.)

(9) Assemble lockwashers (9) and nuts (8) to screws (7) and tighten to 30 inch-pounds.

(10) Place preformed packing (6) into the packing groove in collapsible tank fitting.

(11) Place the oval closure plate and its attached components onto tank by putting the suction stub through the oval opening in the tank until oval closure plate (5) comes in contact with tank fitting. If the tank is laying completely flat, it will be necessary to lift the tank up to the closure plate in order

to start the screws into the tank fitting.

(12) Assemble 1/4 - 20 x 3/4 screws (3) and washers (4). Insert screws through oval closure plate (5) and into tapped holes in the tank fitting, Tighten to 30 inch-pounds.

(13) Place elbow (1) onto flanged adapter (11). Pull inward on the cam-lever arms to lock the two items together.

3-8. Drain Hose Assembly (Excluding Tank, NSN 5430-00-268-8187).

a. Disassembly.

(1) Remove screws (1, fig. B-3) and washers (2) which hold the fitting assembly to the collapsible tank fitting.

(2) Remove drain fitting (3) with remaining hardware attached.

(3) Remove preformed packing (4) from packing groove in the tank fitting.

(4) Disconnect valve (5) from drain hose (6) by turning valve in a counterclockwise direction until threads disengage.

(5) Disconnect drain hose (6) from drain fitting (3) by rotating the hose in a counterclockwise direction until threads disengage.

(6) To remove security chain (9) from drain plug (7), remove the roundhead screw (8).

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100 degrees F -138 degrees F (38 degrees C -59 degrees C)

(2) Clean all parts with drycleaning solvent (Item 1, App. F) and dry thoroughly.

(2) Clean out the packing groove thoroughly,

(3) Inspect all mechanical parts for cracks, dents, breaks or wear. Replace, or repair, if unserviceable.

(4) Carefully inspect the packing for deterioration, distortion, cracks or breaks. Replace when serviceability is doubtful.

c. Reassembly.

(1) Attach security chain (9, fig. B-3) to drain plug (7) with roundhead screw (8).

(2) Assemble drain hose (6) to the drain fitting by engaging the threads and rotating the hose in a clockwise direction until they are tightly joined.

(3) Attach valve (5) to drain hose (6) by engaging the thread and rotating the valve in a clockwise direction until they are tightly joined.

(4) Place preformed packing (4) into the packing groove on tank fitting.

(5) Place drain fitting (3) on tank fitting, Align the bolt holes.

(6) Insert screws (1) with washers (2) through bolt holes and tighten to 30 inch-pounds.

(7) Insert S-hook of the security chain (9) under the head of one of the bolts (1) and tighten to 30 inch-pounds.

3-9. Filler and Discharge Valve Assembly (All Tanks)

a. Disassembly.

(1) Remove hose coupling gasket (1, fig. B-4) from inside of quick disconnect coupling on hose assembly (2).

(2) Disconnect hose assembly (2) from flanged gate valve (14) by pulling the cam-lever arms outward on the female quick disconnect coupling (7) and withdraw the hose assembly (2).

(3) Remove quick disconnect coupling gasket (3) from inside the coupling (7).

(4) Remove hexagon nuts (4) from hexagon head cap screws (5). Withdraw the screws and remove the washers (6).

(5) Remove female quick disconnect coupling (7) and gasket (8) from the face of the valve.

(6) Remove hexagon nuts (9) from the hexagon head screws in the opposite end of gate valve (14). Withdraw hexagon head cap screws (10) and remove washers (11).

(7) Remove male flanged adapter (12) and flange gasket (13).

(8) Refer to paragraph 3-10 for control valve maintenance.

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100

degrees F -138 degrees F (38 degrees C -59 degrees C).

(1) Clean all parts with drycleaning solvent (Item 1, App. F) and dry thoroughly.

(2) Clean all gasket sealing surfaces thoroughly.

(3) Inspect all mechanical parts for cracks, dents, breaks, or wear. Replace or repair if unserviceable.

(4) Carefully inspect the gaskets for deterioration, distortion, cracks, or breaks. Replace when serviceability is doubtful.

c. Reassembly.

(1) Place gasket (13, fig. B-4) against the flange face of gate valve (14) and align the holes.

(2) Place male flanged adapter (12) against flange gasket (13) and align the holes.

(3) Insert hexagon head cap screws (10) through washers (11) and through adaptor (12), flange gasket (13) and gate valve (14), flange.

(4) Place hexagon nuts (9) on hexagon head screws (10) and tighten to 30 inch-pounds.

(5) On the opposite end of flanged gate valve (14) place gasket (8) against the control valve flange face and align the holes.

(6) Place female quick disconnect coupling (7) against gasket (8) and align the holes.

(7) Insert hexagon head cap screws (5) through washers (6) and through coupling (7), gasket (8) and gate valve (14) flange.

(8) Place hexagon nuts (4) on the hexagon head cap screws (5) and tighten to 30 inch-pounds.

(9) Insert quick disconnect coupling gasket (3) into female quick disconnect coupling (7).

(10) Insert hose assembly (2), male adapter end, into female quick disconnect coupling (7) of the flanged gate valve assembly and pull the cam-lever arms inward until locked.

(11) Insert quick disconnect gasket (1) into quick disconnect coupling of the hose assembly (2).

3-10. Control Valve (All Tanks).

a. Disassembly.

(1) Remove the wheel nut (1, fig. B-5) from the top of the hand wheel (2).

(2) Remove hand wheel (2) from the top of the bonnet stem (12).

(3) Remove the packing nut (3) from the bonnet (8).

(4) Remove the gland spring (4), and packing gland (5) from the bonnet stem (12).

NOTE

The two (2) pieces of packing (14) will remain in the bonnet until after the bonnet stem (12), the disc stem (13) and the discs (10 and 11) have been removed from the bonnet.

(5) Remove eight hexagon head cap screws (6) and lockwashers (7) which hold the bonnet (8) to the valve body (15).

(6) Lift the bonnet (8) complete with the bonnet stem (12) disc stem (13) and disc halves (10 and 11) from the valve body (15).

CAUTION

Care should be taken to grasp the bonnet stem with the left hand and, as the discs clear the slots in the valve body, grasp them and hold them together with the right hand in order to avoid their dropping off the disc stem and damaging the sealing surfaces.

(7) Remove bonnet gasket (9).

(8) Remove the disc stem (13), from the bonnet stem (12) by turning the disc stem counterclockwise.

(9) Remove the bonnet stem (12) from the bottom side of the bonnet (8) by turning the stem clockwise.

NOTE

The only time it should be necessary to remove the packing* (14) *is when it is to be replaced.

(10) Remove the two pieces of packing (14) by driving them out of the bonnet from the bottom side, with a piece of hard wood.

b. Cleaning and Inspection.

WARNING

Drycleaning solvent, P-D-680, used to clean parts is potentially dangerous to personnel and property. Avoid repeated and prolonged skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 100 degrees F -138 degrees F (38 degrees C -59 degrees C).

(1) Clean all parts with drycleaning solvent (Item 1, App. F) and dry thoroughly.

(2) Clean all gasket surfaces thoroughly.

(3) Inspect all mechanical parts for cracks, dents, breaks or wear. Replace, or repair, if un-

serviceable.

(4) Carefully inspect the gasket for deterioration, distortion, cracks or breaks. Replace when service is doubtful.

(5) Polish bonnet stem with a crocus cloth, (Item 2, App, F) then coat with grease (Item 3, App. F)

c. Reassembly.

(1) Screw disc stem (13, fig. B-5) into the bonnet stem (12) approximately four complete turns.

(2) Screw the disc stem (13) completely into the bonnet (8),

(3) Lay the valve body (15) on its side on a clean surface.

(4) Insert the gasket (9) over the disc item (13).

(5) Install the two disc halves (10 and 11) onto the disc stem (13) and insert the disc halves into the slot in the valve body.

(6) Bring the valve body (15) and the bonnet (8) to an erect position, align the bolt holes and the gasket bolt holes, and install the eight (8) each hexagon head cap screws (6) and lockwashers (7) finger tight,

(7) Insert the two halves of the packing (14) onto the bonnet stem (12).

(8) Install the packing nut (3) onto the bonnet stem (12) and using the hands push the nut down onto the neck of the bonnet until the packing is well seated into the bonnet.

(9) Remove the packing nut (3) from the bonnet stem (12) and install the packing gland (5) and the gland spring (4) onto the stem. Install the packing nut (3), hand wheel (2) and wheel nut (1) onto the bonnet stem (12), Tighten the packing nut.

(10) Torque the eight hexagon head cap screws which hold the bonnet to the valve body to 16 foot-pounds.

3-11. Emergency Repair Items.

a. General Emergency repair items consist of sealing clamps and wood plugs (fig. 3-1 and 3-2).

b. Emergency Repairs with Sealing Clamps.

(1) Small slits, tears, or cuts (not to exceed 6 1/2 inches (16.51 centimeters) in length) will be repaired with sealing clamps. (fig 3-l.)

(2) The size of the damaged tank area (opening) needing repair will govern the size and applicability of the clamp to affect a tank repair. The following criteria is furnished as guidance in selection of appropriate size clamp.

(a) For holes (tears) up to 2 inches (5.08 centimeters) in length, install the 3-inch (7.62-centimeter) sealing clamp.

(b) For holes (tears) 2 to 4 inches (5,08 to 10.16 centimeters) in length install the 5-inch (12.7-centimeter) sealing clamp.

(c) For holes (tears) 4 to 6 1/2 inches (10.16 to 16.51 centimeters) in length, install the 7 l/2-inch (19.05-centimeter) sealing clamp.

(d) It may be necessary to increase the size of the tears slightly with a pocket knife in order to be able to insert the bottom plate of the sealing clamp.

(3) Slip the bottom plate of the sealing clamp through the hole or tear and rotate it until it is centered and parallel to the tear (View A).

(4) Center the top plate of the sealing clamp on the threaded shank and directly over the bottom plate (View B).

(5) Tighten the wingnut to securely clamp the tank wall between the two plates, Tighten enough to stop leak. If pliers are used, DO NOT exert extreme tightening that might strip the threads of clamp stud or that might damage the tank fabric (View C).

(6) Remove the nylon cord if desired.

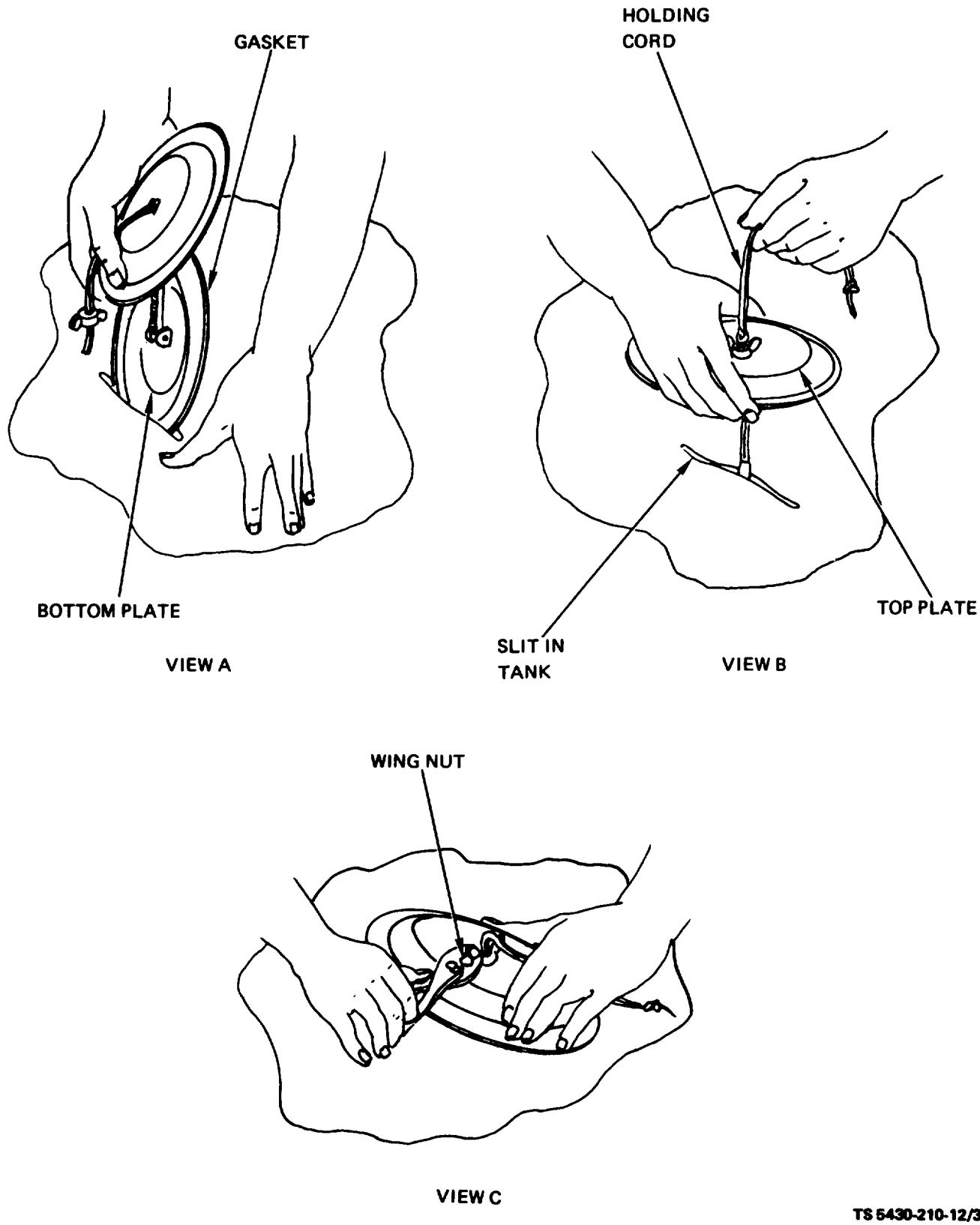


Figure 3-1. Installation of Sealing Clamps.

c. Emergency Repairs with Wooden Plugs.

(1) In emergencies, as an immediate temporary measure, the furnished wooden plugs may be used for expedient sealing of small holes or punctures, (fig. 3-2)

(2) Select the size plug needed to fit (seal) the tank puncture, insert in the hole and twist clockwise until the fit becomes quite snug and the tank leak is either stopped or slowed to the greatest possible degree. Follow-up regular inspection should be made of the insert plugs, as possilbe tightening of the plugs may be necessary if the leaks resume. Later, if a leak is not totally stopped, the use of a small repair clamp may become necessary.

(3) The size of hole or tear will determine the size of wood plug to be used.

(a) For holes (tears) up to approximately 1/2 inch (1.27 centimeters) in size, use the 3-inch (7.62 centimeters) long plug.

(b) For holes (tears) up to approximately 1 1/2 inch (3.81 centimeters) in size, use the 5-inch (12.7 centimeters) long plug.

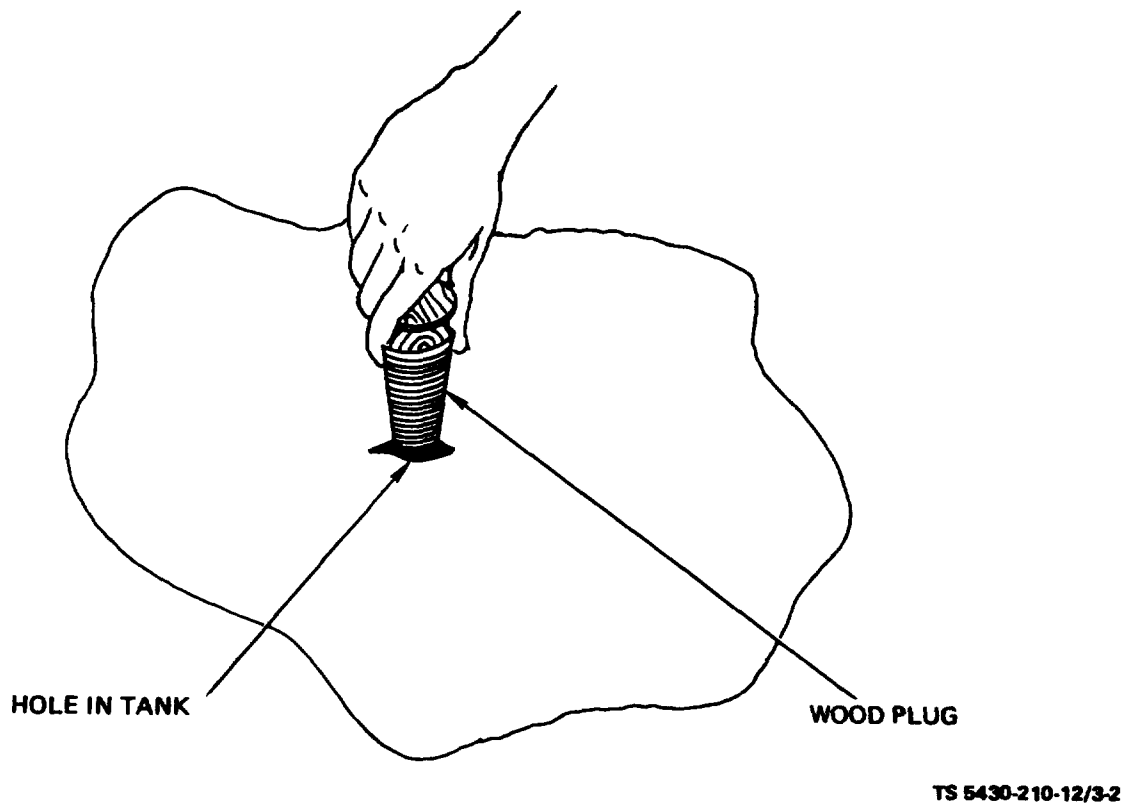


Figure 3-2. Installation of wood Plug.

APPENDIX A
REFERENCES

A-1. Destruction of Army Material.

TM 750-244-3	Procedures for Destruction of Equipment to Prevent Enemy Use.

A-2. Fire Protection.

TB 5-4200-200-10	Hand Portable Fire Extinguishers
TM 5-315	Firefighting and Rescue Procedures in Theaters of Operation

A-3. Maintenance.

TM 5-343	Military Petroleum Pipeline Systems
TM 5-349	Arctic Construction
TM 5-678	Repair and Utilities - Petroleum, Oils and Lubricants
TM 10-1101	Petroleum Handling Equipment and Operations
TM 38-750	The Army Maintenance and Management System (TAMMS)
FM 10-20	Organizational Maintenance: Military Petroleum Pipelines, Tanks and Related Equipment
FM 10-18	Petroleum Terminal and Pipeline Operations

A-4. Shipment and Storage.

TM 38-230	Preservation: Packaging and Packing of Military Supplies and Equipment
TM 38-460	Storage, Inspection and Preservation of POL Pipeline Equipment
TM 740-90-1	Administrative Storage of Equipment

APPENDIX B

COMPONENTS OF END ITEM LIST

Section I. INTRODUCTION

B-1. Scope. This appendix lists integral components of and basic issue items for the four collapsible tanks to help you inventory items required for safe and efficient operation.

B-2. General. This Components of End Item List is divided into the following sections:

a. Section II. Integral Components of the End Item. These items, when assembled, comprise the collapsible tank and must accompany it whenever it is transferred or turned in. The illustrations will help you identify these items.

b. Section III. Basic Issue Items. These are the minimum essential items required to place the collapsible tank in operation, to operate it, and to perform emergency repairs. Although shipped separately packed they must accompany the collapsible tank during operation and whenever it is transferred between accountable officers. The illustrations will assist you with hard-to- identify items. This manual is your authority to requisition replacement BII, based on TOE/MTOE authorization of the end item.

B-3. Explanation of Columns.

a. Illustration. This column is divided as follows:

(1) Figure Number Indicates the figure number of the illustration on which the item is shown.

(2) Item
tify item called out in the illustration.

b. National Stock Number. Indicates the National stock number assigned to the item and which will be used for requisitioning.

c. ***Part Number.*** Indicates the primary number used by the manufacturer, 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.

d. Description. Indicates the Federal item name and, if required, a minimum description to identify the item.

e. Location. The physical location of each item listed is given in this column. The lists are designed to inventory all items in one area of the major item before moving on to an adjacent area.

f. Usable on Code. "USABLE ON" codes are included to help you identify which component items are used on the different models.

g. Quantity Required (QTY Reqd). This column lists the quantity of each item required for a complete major item.

h. Quantity. This column is left blank for use during an inventory. Under the Rcv'd column, list the quantity you actually receive on your major item. The Date columns are for your use when you inventory the major item at a later date; such as for shipment to another site.

Section II. INTEGRAL COMPONENTS OF END ITEM

3,000 GALLON (11,355 LITER) TANK (NSN 5430-00-268-8187)

(1) Illustration (a) Figure No.	(1) Illustration (b) Item No.	(2) National Stock Number	(3) Part No. & FSCM	(4) Description	(5) Location	(6) Usable on Code	(7) Qty Reqd	(8) Quantity Rcv'd	(8) Quantity Date	(8) Quantity Date	(8) Quantity Date
B-1	1		NPN (96906) MS27024-11	Vent Assembly Coupling Half, Quick Disconnect, Cam Locking Type, Female Threaded, 2 inch			1 1				
B-1	2	5305-00-068-0502	(96906) MS90725-6	Screw, Cap, Hex Hd, 1/4-20 UNC 3/4 inch lg.			8				
B-1	3		(96906) MS27183-10	Washer, Flat, 1/4 inch std.			8				
B-1	4		(96906) MS27023-11	Coupling Half, Quick Disconnect, Cam Locking Type, Male, Flanged, 2 inch			1				
B-1	5	5330-00-291-3085	(96906) MS29513-250	Packing, Preformed			1				
B-1	6		(49234) EX1333B-2	Cap, Relief			1				
B-1	7		(49234) EX1333B-18	Gasket, Relief Cap			1				
B-1	8		(49234) EX1333B-36	Arrestor, Flame			1				
B-1	9		(81718) 710A2X10	Pipe, 2 inch			1				
B-1	10		(96906) MS27030-6	Gasket, Coupling Half, 2 inch			1				
B-1	11		(96906) MS27030-6	Gasket, Dust Cap, 2 inch			1				
B-1	12		(96906) MS27028-11	Cap, Dust, 2 inch			1				
B-1	13		(81718) H6683M	Chain, Security 12 inches long			1				
B-1	14		(01976) ISK	Ring, Key, 1 inch ID			4				
B-2	1		NPN (80691) 4X90BA	Filler and Discharge Assembly Elbow, 4 inch, 90 Degree, Female to Male			2 1				
B-2	1a		(80691) 4X90BB	Elbow, 4 inch, 90 Degree, Female to Female			1				
B-2	2		(96906) MS27030-9	Gasket, Elbow 4 inch, 90 Degree			2				
B-2	3	5305-00-068-0502	(96906) MS90725-6	Screw, Cap, Hex Hd, 1/4-20 UNC 3/4 inch			40				
B-2	4	5310-00-809-4058	(96906) MS27183-10	Washer, Flat, 1/4 inch Std.			40				
B-2	5		(00333) FCC-53027-5	Closure Plate, Oval			2				
B-2	6	5330-00-364-9862	(96906) MS9021-383	Packing, Preformed			2				
B-2	7	5305-00-269-3214	(96906) MS90725-64	Screw, Cap, Hex Hd, 3/8-16 UNC 1-1/2 inches long			16				
B-2	8	5310-00-732-0558	(96906) MS51967-8	Nut, Plain, Hex, 3/8-16 UNC			16				
B-2	9	5310-00637-9541	(96906) MS35338-46	Washer, Lock, Split, Helical, Medium			16				
B-2	10		(83259) 7500-3-8	Thread Seal, 3/8 inch			16				
B-2	11		(96906) MS27023-17	Adapter, 4 inch, Flanged			2				

Section II INTEGRAL COMPONENTS OF END ITEM

3,000 GALLON (11,355 LITER) TANK NSN (5430-00-268-8187) - Cont

(1) Illustration		(2)	(3)	(4)	(5)	(6)	(7)	(8) Quantity			
(a) Figure No.	(b) Item No.	National Stock Number	Part No. & FSCM	Description	Location	Usable on Code	Qty Reqd	Rcv'd	Date	Date	Date
B-2	12	5330-00-647-2072	(81718) C2479M-4	Gasket, Flange, 4 inch			1				
B-2	13		(00333) FCC-58666	Stub, Suction			1				
B-2	14		(96906) MS27030-9	Gasket, Dust Cap, 4 inch			1				
B-2	15		(96906) MS27028-17	Cap, Dust, 4 inch			1				
B-2	16		(81718) H6683M	Chain, Security, 12 inches long			1				
B-2	17		(01976) 1SK	Ring, Key, 1 inch ID			4				
				Emergency Repair Items							
B-6	1	5340-00-720-8864	(97403) 13202E2870-1	Clamp Sealing, 3 inch			4				
B-6	2	5340-00-720-8863	(97403) 13202E2870-2	Clamp Sealing, 5 inch			2				
B-6	3	5340-00-720-8858	(97403) 13202E2870-3	Clamp Sealing, 7-1/2 inch			2				
B-6	4	5510-00-255-9493	(97403) 13211E3085	Plug, Tapered, Wood, 3 inch			2				
B-6	5	5510-00-255-9492	(97403) 13211E3084	Plug, Tapered, Wood, 5 inch			2				
B-2	6	5330-00-364-9862	(96906) MS9021-383	Packing, Preformed			2				
B-1	5	5330-00-291-3085	(96906) MS29513-250	Packing, Preformed			2				
B-1	10		(96906) MS27030-6	Gasket, Coupling Half			2				
B-2	14		(96906) MS27030-9	Gasket, Dust Cap, 4 inch			2				
			(96906) MS90726-57	Screw, Cap, Hex Hd, 3/8-24 x 5/8 inches long			3				
			(96906) MS35338-46	Washer, Lock, 3/8 inch			3				
			(00333) FCA-58017	Gasket, Adapter			1				
			(00333) FCB-58016	Adapter, Flange			1				
			(00333) FIG-1-11	Elbow, 3/8 inch Pipe to 1/2 inch OD tube, MIL-F-18866, Type III, Style II			1				
			(00333) FIG-1-12	Cap, 1/2 inch Tube, MIL-F-18866, Type IV			1				
		4730-00-951-3293	(96906) MS49000-1	Reducer, 4 inch Female to 3 inch Male			1				
			(00333) 634-1	Hose Assembly, 3 inch x 4 feet long			1				
		5330-00-088-9166	(96906) MS27030-8	Gasket, Coupling Half, 3 inch			1				
		4730-00-889-2378	(96906) MS27027-15	Coupling Half, Quick Disconnect, Cam Locking, Female, Flanged, 3 inch			1				

Section IL INTEGRAL COMPONENTS OF END ITEM

3,000 GALLON (11,355 LITER) TANK NSN (5430-00-268-8187) - Cont

(1) Illustration		(2)	(3)	(4)	(5)	(6)	(7)	(8) Quantity			
(a) Figure No.	(b) Item No.	National Stock Number	Part No. & FSCM	Description	Location	Usable on Code	Qty Reqd	Rcv'd	Date	Date	Date
		4730-00-889-2380	(96906) MS27023-15	Coupling Half, Quick Disconnect, Cam Locking, Male, Flanged, 3 inch			1				
		4730-00-929-0787	(96906) MS27028-15	Cap, Dust, Coupling Half, 3 inch			1				
		4820-00-075-2417	(81718) 676FR3	Gate Valve, 3 inch Flanged			1				
		5330-00-075-2419	(81718) H3289M	Gasket, Flange, 3 inch			2				
			(96906) MS90725-64	Screw, Cap, Hex Hd, 3/8-16 UNC2A x 1-1/2			8				
			(96906) MS35338-46	Washer, Lock, 3/8 inch			16				
			(96906) MS51967-8	Nut, Hex, 3/8-16			8				

Section II. INTEGRAL COMPONENTS OF END ITEM

10,000 GALLON (37,850 LITER) TANK (NSN 5430-00-052-3412)

(1) Illustration		(2)	(3)	(4)	(5)	(6)	(7)	(8) Quantity			
(a) Figure No.	(b) Item No.	National Stock Number	Part No. & FSCM	Description	Location	Usable on Code	Qty Reqd	Rev'd	Date	Date	Date
			(81349) MILT52983FIG11	Vent Assembly			1				
B-1	1	4730-00-649-9103	(96906) MS27024-11	Coupling Half, Quick Disconnect, Cam Locking Type, Female Threaded, 2 inch			1				
B-1	2	5305-00-068-0502	(96906) MS90725-6	Screw, Cap, Hex Hd, 1/4-20 UNC 3-4 inch long			8				
B-1	3	5310-00-809-4058	(96906) MS27183-10	Washer, Flat, 1/4 inch Std.			8				
B-1	4		(96906) MS27023-11	Coupling Half, Quick Disconnect, Cam Locking Type, Male, Flanged, 2 inch			1				
B-1	5	5330-00-291-3085	(96906) MS29513-250	Packing, Preformed			1				
B-1	6		(49234) EX1333B-2	Cap, Relief			1				
B-1	7		(49234) EX1333B-18	Gasket, Relief Cap			1				
B-1	8		(49234) EX1333B-36	Arrestor, Flame			1				
B-1	9		(81718) 710A2X10	Pipe, 2 inch			1				
B-1	10	5310-00-612-2414	(96906) MS27030-6	Gasket, Coupling Half, 2 inch			1				
B-1	11	5310-00-612-2414	(96906) MS27030-6	Gasket, Dust Cap, 2 inch			1				
B-1	12		(96906) MS27028-11	Cap, Dust, 2 inch			1				
B-1	13	4010-00-360-0546	(81718) H6683M	Chain, Security 12 inches Long			1				
B-1	14		(01976) 1SK	Ring, Key, 1 inch ID			4				
			(81349) MILT52983FIG6	Filler and Discharge Assembly			1				
B-2	1	4730-00-855-1485	(81718) 633K4X4	Elbow, 4 inch, 90 degree			1				
B-2	2	5330-00-899-4509	(96906) MS27030-9	Gasket, Elbow 4 inch, 90 Degree			1				
B-2	3	5305-00-068-0502	(96906) MS90725-6	Screw, Cap, Hex Hd, 1/4-20 UNC 3/4 inch			28				
B-2	4	5310-00-809-4058	(96906) MS27183-10	Washer, Flat, 1/4 inch Std.			36				
B-2	5		(00333) FCC-53027-5	Closure Plate, Oval			1				
B-2	6	5330-00-869-2322	(96906) MS9021-383	Packing, Preformed			1				
B-2	7	5305-00-269-3214	(96906) MS90725-64	Screw, Cap, Hex Hd, 3/8-16 UNC 1-1/2 inches Long			8				
B-2	8	5310-00-732-0558	(96906) MS51967-8	Nut, Plain, Hex, 3/8-16 UNC			8				
B-2	9	5310-00-637-9541	(96906) MS35338-46	Washer, Lock, Split, Helical, Medium			8				
B-2	10		(83259) 7500-3-8	Thread Seal, 3/8 inch			8				
B-2	11	4730-00-840-5347	(96906) MS27023-17	Adapter, 4 inch, Flanged			1				
B-2	12	5330-00-647-2072	(81718) C2479M-4	Gasket, Flange, 4 inch			1				
B-2	13		(00333) FCC-58666	Stub, Suction			1				
B-2	14	5330-00-899-4509	(96906) MS27030-9	Gasket, Dust Cap, 4 inch			1				
B-2	15	4730-00-640-6156	(96906) MS27028-17	Cap, Dust, 4 inch			1				
B-2	16	4010-00-360-0596	(81718) H6683M	Chain, Security, 12 inches Long			1				
B-2	17		(01976) 1SK	Ring, Key, 1 inch ID			4				
B-3	1	5305-00-068-0500	(96906) MS90725-3	Screw, Cap, Hex Hd, 1/4-20 UNC x 1/2 inch			8				
B-3	2	5310-00-809-4058	(96906) MS27183-10	Washer, Flat, 1/4 inch Std			8				

Section II. INTEGRAL COMPONENTS OF END ITEM

10,000 GALLON (37,850 LITER) TANK NSN (5430-00-052-3412)

(1) ILLUSTRATION (a) FIGURE NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) NATIONAL STOCK NUMBER	(3) PART NO. & FSCM	(4) DESCRIPTION NO.	(5) LOCATION	(6) USABLE	(7) QTY REQD	(8) QUANTITY RCV'D	DATE	DATE	DATE
B-3	3		(00333) FCC-52608-5	Fitting Drain			1				
B-3	4	5330-00-291-3085	(96906) MS29513-250	Packing, Preformed			1				
B-3	5		(76364) 1148	Valve Rising Stem. 1/2 inch Std.			1				
B-3	6		(00333) 2556-8	Hose Assembly. 1/2 inch, 8 ft Long			1				
B-3	7		(00333) FCC-52608-4	Plug, Square Hd. Steel, 1/2-14 NPT			1				
B-3	8		(00333) FCC-52608-3	Screw			1				
B-3	9		(00333) FCC-52608-2	Chain, Security 12 inches Long			1				
B-6	1			Emergency Repair Items			1				
B-6	1	5340-00-720-8864	(97403) 13202E2870-1	Clamp Sealing, 3 inch			4				
B-6	2	5340-00-720-8863	(97403) 13202E2870-2	Clamp Sealing, 5 inch			2				
B-6	3	5340-00-720-8858	(97403) 13202E2870-3	Clamp Sealing, 7-1/2 inch			2				
B-6	4	5510-00-255-9493	(97403) 13211E3085	Plug, Tapered, Wood, 3 inch			2				
B-6	5	5510-00-255-9492	(97403) 13211E3084	Plug, Tapered, Wood, 5 inch			2				
B-2	6	5330-01-067-3447	(96906) MS29513-383	Packing, Preformed			2				
B-1	5	5330-00-291-3085	(96906) MS29513-250	Packing, Preformed			2				
B-1	10	5310-00-612-2414	(96906) MS27030-6	Gasket, Coupling Half			2				
B-2	14	5330-00-899-4509	(96906) MS27030-9	Gasket, Dust Cap, 4 inch			2				
		4930-00-106-8682	(80091) MCD-5136-5-1	Chest, Collapsible Tank, Aluminum Skid Mtd			1				

Section II. INTEGRAL COMPONENTS OF END ITEM

10,000 GALLON (37,850 LITER) TANK NSN (5430-00-641-8552)

(1) Illustration		(2)	(3)	(4)	(5)	(6)	(7)	(8) Quantity			
(a) Figure No.	(b) Item No.	National Stock Number	Part No. & FSCM	Description	Location	Usable on Code	Qty Reqd	Rcv'd	Date	Date	Date
			(81349) MILT52983FIG11	Vent Assembly			1				
B-1	1	4730-00-649-9103	(96906) MS27024-11	Coupling Half, Quick Disconnect, Cam Locking Type, Female Threaded, 2 inch			1				
B-1	2	5305-00-068-0502	(96906) MS90725-6	Screw, Cap, Hex Hd, 1/4-20 UNC 3-4 inch long			8				
B-1	3	5340-00-809-4058	(96906) MS27183-10	Washer, Flat, 1/4 inch Std.			8				
B-1	4		(96906) MS27023-11	Coupling Half, Quick Disconnect, Cam locking Type, Male, Flanged, 2 inch			1				
B-1	5	5330-00-291-3085	(96906) MS29513-250	Packing, Preformed			1				
B-1	6		(49234) EX1333B-2	Cap, Relief			1				
B-1	7		(49234) EX1333B-18	Gasket, Relief Cap			1				
B-1	8		(49234) EX1333B-36	Arrestor, Flame			1				
B-1	9		(81718) 710A2X10	Pipe, 2 inch			1				
B-1	10	5310-00-612-2414	(96906) MS27030-6	Gasket, Coupling Half, 2 inch			1				
B-1	11	5310-00-612-2414	(96906) MS27030-6	Gasket, Dust Cap, 2 inch			1				
B-1	12		(96906) MS27028-11	Cap, Dust, 2 inch			1				
B-1	13	4010-00-360-0596	(81718) H6683M	Chain, Security 12 inches Long			1				
B-1	14		(01976) (81349) MILT52983FIG6	Ring, Key, 1 inch ID Filler and Discharge Assembly			4 1				
B-2	1	4730-00-855-1488	(81718) 633K4X4	Elbow, 4 inch, 90 degree			1				
B-2	2	5330-00-899-4509	(96906) MS27030-9	Gasket, Elbow, 4 inch, 90 Degree			1				
B-2	3	5305-00-068-0502	(96906) MS90725-6	Screw, Cap, Hex Hd, 1/4-20 UNC 3/4 inch			28				
B-2	4	5310-00-809-4058	(96906) MS27183-10	Washer, Flat, 1/4 inch Std.			36				
B-2	5		(00333) FCC-53027-5	Closure Plate Oval			1				
B-2	6	5330-00-869-2322	(96906) MS9021-383	Packing, Preformed			1				
B-2	7	5330-00-269-3214	(96906) MS90725-64	Screw, Cap, Hex Hd, 3/8-16 UNC 1-1/2 inches Long			8				
B-2	8	5310-00-732-0558	(96906) MS51967-8	Nut, Plain, Hex, 3/8-16 UNC			8				
B-2	9	5310-00-637-9541	(96906) MS35338-46	Washer, Lock, Split, Helical, Medium			8				
B-2	10		(83259) 7500-3-8	Thread Seal, 3/8 inch			8				
B-2	11	4730-00-840-5347	(96906) MS27023-17	Adapter, 4 inch, Flanged			1				
B-2	12	5330-00-647-2072	(81718) C2479M-4	Gasket, Flange, 4 inch			1				
B-2	13		(00333) FCC-58666	Stub Suction			1				
B-2	14	5330-00-899-4509	(96906) MS27030-9	Gasket, Dust Cap, 4 inch			1				
B-2	15	4730-00-640-6156	(96906) MS27028-17	Cap, Dust, 4 inch			1				
B-2	16	4010-00-360-0596	(81718) H6683M	Chain, Security, 12 inches long			1				
B-2	17		(01976) 1SK	Ring, Key, 1 inch ID			4				
B-3	1	5305-00-068-0500	(96906) MS90725-3	Screw, Cap, Hex Hd, 1/4-20 UNC x 1/2 inch			8				

Section II. INTEGRAL COMPONENTS OF END ITEM

10,000 GALLON (37,850 LITER) TANK NSN (5430-00-641-8552)

(1) Illustration		(2)	(3)	(4)	(5)	(6)	(7)	(8) Quantity			
(a) Figure No.	(b) Item No.	National Stock Number	Part No. & FSCM	Description	Location	Usable on Code	Qty Reqd	Rev'd	Date	Date	Date
B-3	2	5310-00-809-4058	(96906) MS27183-10	Washer, Flat, 1/4 inch Std			8				
B-3	3		(00333) FCC-52608-5	Fitting, Drain			1				
B-3	4	5330-00-291-3085	(96906) MS29513-250	Packing, Preformed			1				
B-3	5		(76364) 1148	Valve, Rising Stem 1/2 inch Std.			1				
B-3	6		(00333) 2556-8	Hose Assembly, 1/2 inch, 8 ft. long			1				
B-3	7		(00333) FCC-52608-4	Plug, Square Hd. Steel, 1/2-14 NPT			1				
B-3	8		(00333) FCC-52608-3	Screw			1				
B-3	9		(00333) FCC-52608-2	Chain Security 12 inches long			1				
		4930-00-106-8682	(80091) MCD-5136-5-1	Chest, Collapsible Tank, Aluminum Skid Mtd.			1				
B-4	2		(00333) 50609892	Filler and Discharge Hose Assembly			8				
B-4	1	5330-00-899-4509	(96906) MS27030-9	Gasket, Coupling 4 inch			8				
B-6	1	5340-00-591-6863	(97403) 13202E2870-1	Clamp Sealing, 3 inch			4				
B-6	2	5340-00-591-6864	(97403) 13202E2870-2	Clamp Sealing, 5 inch			2				
B-6	3	5340-00-591-6865	(97403) 13202E2870-3	Clamp Sealing, 7-1/2 inch			2				
B-6	4	5510-00-255-7493	(97403) 13211E3085	Plug, Tapered, Wood 3 inch			2				
B-6	5	5510-00-255-7493	(97403) 13211E3084	Plug, Tapered, Wood 5 inch			2				
B-2	6	5330-00-869-2322	(96906) MS9021-383	Packing, Preformed			2				
B-1	5	5330-00-291-3085	(96906) MS29513-250	Packing, Preformed			2				
B-1	10	5310-00-612-2414	(96906) MS27030-6	Gasket, Coupling Half			1				
B-2	14	5330-00-899-4509	(96906) MS27030-9	Gasket, Dust Cap, 4 inch			2				
		4730-00-935-0613	(96906) MS39352-19	Adapter, Male to Male, Quick Disconnect			1				
		4730-00-840-5345	(96906) MS70100-7	Adapter, Nipple, Male, Quick Disconnect to Grooved Pipe, 4 inch			1				
		4730-00-951-3293	(96906) MS49000-1	Reducer, Quick Disconnect, 4 inch Female to 3 inch Male			1				
		4730-00-842-0851	(97403) 13200E0068	Manifold Assembly Hose line, Quick Disconnect, 4 inch, 2 Tee			1				
		4730-00-840-5347	(96906) MS27023-17	Coupling Half, Quick Disconnect, Flanged, Male 4 inch			2				
		4730-00-840-5348	(96906) MS27027-17	Coupling Half, Quick Disconnect Flanged Female, 4 inch			2				
		5330-00-647-2072	(81718) C2479M-4	Gasket, Flange, 4 inch			6				
		5310-00-732-0558	(96906) MS51967-8	Nut, Hex, 3/8-16 UNC2B			48				
		5305-00-269-4511	(96906) MS90725-63	Screw, Cap, Hex Hd, 3/8-16 UNC2A x 1-3/8 inch long			48				
		5310-00-089-6004	(96906) MS27183-14	Washer, Flat, Steel, 0.406 ID			48				
		5310-00-637-9541	(96906) MS35338-46	Washer, Lock, Split, Helical, 3/8 inch			48				
		4730-00-840-5346	(81718) 320ER	Tee Pipe, Flanged, 4 inch			2				
		4820-01-189-2809	(41592) 235-R1	Valve, Gate, 4 inch Flanged			1				
B-5	1	5340-00-007-6896	(81718) H-959-M	Nut, Wheel			1				

Section II. INTEGRAL COMPONENTS OF END ITEM

10,000 GALLON (37,850 LITER) TANK NSN (5430-00-641-8552) — Cont.

(1) Illustration		(2)	(3)	(4)	(5)	(6)	(7)	(8) Quantity			
(a) Figure No.	(b) Item No.	National Stock Number	Part No. & FSCM	Description	Location	Usable on Code	Qty Reqd	Rev'd	Date	Date	Date
B-5	2		(81718) C-74-M	Handwheel			1				
B-5	3	4370-00-986-1982	(81718) H-665-B	Nut, Packing			1				
B-5	4	5360-00-986-1987	(81718) H-669-M	Spring, Gland			1				
B-5	5	5330-00-986-1986	(81718) H-666-RA	Gland, Packing			1				
B-5	6		(81718) H-633M	Screws			8				
B-5	7	5310-00-637-9541	(81718) H-2525-M	Washers, Lock, Split, Helical			8				
B-5	8	4820-00-986-7762	(81718) D-17-A	Bonnet			1				
B-5	9	5330-00-785-0693	(81718) C-75-M	Gasket, Bonnet			1				
B-5	10	4820-00-986-7763	(81718) D-18-M	Disc, Male			1				
B-5	11	4820-00-383-4158	(81718) B-19-M	Disc, Female			1				
B-5	12	4930-00-718-9956	(81718) C-72-RB	Stem, Bonnet			1				
B-5	13	4930-00-896-7073	(81718) C-73-B	Stem, Disc.			1				
B-5	14	5330-00-779-2357	(81718) H-667-M	Packing			1				
B-5	15	4820-00-986-7761	(81718) E-2-A	Body			1				
		4730-00-842-0850	(97403) 13200E0803	Manifold Assembly, Hose line, Quick Disconnect, 4 inch, 1 Tee			1				
		4730-00-840-5347	(96906) MS27023-17	Coupling Half, Quick Disconnect, Flanged, Male 4 inch			2				
		4730-00-840-5348	(96906) MS27027-17	Coupling Half, Quick Disconnect, Flanged, Female, 4 inch			4				
		5330-00-647-2072	(81718) C2479M-4	Gasket, Flange, 4 inch			32				
		5310-00-732-0558	(96906) MS51967-8	Nut, Hex, 3/8-16 UNC2B			32				
		5310-00-269-4511	(96906) MS90725-63	Screw, Cap, Hex Hd, 3/8-16 UNC2A x 1-3/8 inch long			32				
		5310-00-080-6004	(96906) MS27183-14	Washer, Flat, Steel, 0.406 ID			32				
		5310-00-537-9541	(96906) MS35338-46	Washer, Lock, Split Helical, 3/8 inch			1				
		4730-00-840-5346	(81718) 320FR	Tee Pipe, Flanged, 4 inch			1				
B-5		4820-00-879-7748	(81718) 676FR4	Valve, Gate, 4 inch, Flanged			1				
B-5	1	5310-00-007-6896	(81718) H-959-M	Nut, Wheel			1				
B-5	2		(81718) C-74-M	Handwheel			1				
B-5	3	4370-00-986-1982	(81718) H-665-B	Nut, Packing			1				
B-5	4	5360-00-986-1987	(81718) H-669-M	Spring, Gland			1				
B-5	5	5330-00-986-1986	(81718) H-666-RA	Gland, Packing			1				
B-5	6		(81718) H-633-M	Screws			8				
B-5	7	5310-00-637-9541	(81718) H-2525-M	Washers, Lock, Split, Helical			8				
B-5	8	4820-00-986-7762	(81718) D-17-A	Bonnet			1				
B-5	9	5330-00-785-0691	(81718) C-75-M	Gasket, Bonnet			1				
B-5	10	4820-00-986-7763	(81718) D-18-M	Disc., Male			1				
B-5	11	4820-00-383-4158	(81718) B-19-M	Disc., Female			1				
B-5	12	4930-00-718-9956	(81718) C-72-RB	Stem, Bonnet			1				
B-5	13	4930-00-896-7073	(81718) C-73-B	Stem, Disc.			1				
B-5	14	5330-00-779-2357	(81718) H-667-M	Packing			1				
B-5	15	4820-00-986-7761	(81718) E-2-A	Body			1				

Section II. INTEGRAL COMPONENTS OF END ITEM

20,000 GALLON (75,700 LITER) TANK (NSN 5430-01-215-7525)

(1) Illustration (a) Figure No.	(1) Illustration (b) Item No.	(2) National Stock Number	(3) Part No. & FSCM	(4) Description	(5) Location	(6) Usable on Code	(7) Qty Reqd	(8) Quantity Rcv'd	(8) Quantity Date	(8) Quantity Date	(8) Quantity Date
B-1	1		NPN (96906) MS27024-11	Vent Assembly Coupling Half,Quick Disconnect, Cam Locking Type, Female Threaded 2 inch			1 1				
B-1	2	5305 0-068-0502	(96906) MS90725-6	Screw, Cap, Hex Hd, 1/4-20 UNC 3/4 inch Lg.			8				
B-1	3		(96906) MS27183-10	Washer, Flat, 1/4 inch Std.			8				
B-1	4		(96906) MS27023-11	Coupling Half, Quick Disconnect, Cam Locking Type, Male, Flanged, 2 inch			1				
B-1	5	5330-00-291-3085	(96906) MS29513-250	Packing, Preformed			1				
B-1	6		(49234) EX 1333B-2	Cap, Relief			1				
B-1	7		(49234) EX 1333B-18	Gasket, Relief Cap			1				
B-1	8		(49234) EX 1333B-36	Arrestor, Flame			1				
B-1	9		(81718) 710A2X10	Pipe, 2 inch			1				
B-1	10		(96906) MS27030-6	Gasket, Coupling Half, 2 inch			1				
B-1	11		(96906) MS27030-6	Gasket, Dust Cap, 2 inch			1				
B-1	12		(96906) MS27028-11	Cap, Dust, 2 inch			1				
B-1	13		(81718) H6683M	Chain, Security 12 inches long			1				
B-1	14		(01976) 1SK	Ring, Key, 1 inch ID			4				
B-2	1		NPN (80691) 633K4	Filler and Discharge Assembly Elbow, 4 inch, 90 Degree, Female to Male			1 1				
B-2	1a		(80691) 4X90BB	Elbow, 4 inch, 90 Degree, Female to Female			1				
B-2	2		(96906) MS27030-9	Gasket, Elbow 4 inch, 90 Degree			1				
B-2	3	5305-00-068-0502	(96906) MS90725-6	Screw, Cap, Hex Hd, 1/4-20 UNC 3/4 inch			20				
B-2	4	5310-00-809-4058	(96906) MS27183-10	Washer, Flat, 1/4 inch Std.			20				
B-2	5		(00333) FCC-53027-5	Closure Plate, Oval			1				
B-2	6	5330-00-364-9862	(96906) MS9021-383	Packing, Preformed			1				
B-2	7	5305-00-269-3214	(96906) MS90725-64	Screw, Cap, Hex hd, 3/8-16 UNC 1-1/2 inches long			16				
B-2	8	5310-00-732-0558	(96906) MS51967-8	Nut, Plain, Hex, 3/8-16 UNC			16				
B-2	9	5310-00-637-9541	(96906) MS35338-46	Washer, Lock, Split, Helical, Medium			16				
B-2	10		(83259) 7500-3-8	Thread Seal, 3/8 inch			16				
B-2	11		(96906) MS27023-17	Adapter, 4 inch, Flanged			2				
B-2	12	5330-00-647-2072	(81718) C2479M-4	Gasket, Flange, 4 inch			2				
B-2	13		(00333) FCC-58666	Stub, Suction			2				

Section II. INTEGRAL COMPONENTS OF END ITEM

20,000 GALLON (75,700 LITER) TANK (NSN 5430-01-215-7525)

(1) Illustration		(2)	(3)	(4)	(5)	(6)	(7)	(8) Quantity			
(a) Figure No.	(b) Item No.	National Stock Number	Part No. & FSCM	Description	Location	Usable on Code	Qty Reqd	Rcv'd	Date	Date	Date
B-2	14		(96906) MS27030-9	Gasket, Dust Cap, 4 inch			2				
B-2	15		(96906) MS27028-17	Cap, Dust, 4 inch			2				
B-2	16		(81718) H6683M	Chain, Security, 12 inches Long			2				
B-2	17		(01976) 1SK	Ring, Key, 1 inch ID			4				
B-3	1	5305-00-068-0500	(96906) MS90725-3	Screw, Cap, Hex Hd, 1/4-20 UNC x 1/2 inch			8				
B-3	2		(96906) MS27183-10	Washer, Flat, 1/4 inch Std.			8				
B-3	3		(00333) FCC-52608-5	Fitting, Drain			1				
B-3	4	2330-00-291-3085	(96906) MS29513-250	Packing, Preformed			1				
B-3	5		(76364) SP-80	Valve, Rising Stem 1/2 inch Std.			1				
B-3	6		(00333) 2556-8	Hose Assembly, 1/2 inch, 8 feet long			1				
B-3	7		(00333) FCC-52608-4	Plug, Square Hd, Steel, 1/2-14 NPT			1				
B-3	8		(00333) FCC-52608-3	Screw			1				
B-3	9		(00333) FCC-52608-2	Chain, Security, 12 inches long			1				
			NPN	Filler and Discharge Hose Assembly			2				
B-4	1		(96906) MS27030-9	Gasket, Coupling, 4 inch			1				
B-4	2		(73002) FCC-51102-5	Hose Assembly, 4 inch, 10 feet long			1				
B-4	3		(96906) MS27030-9	Gasket, Coupling, Half 4 inch			1				
			NPN	Filler and Discharge Control Valve Assembly			1				
B-4	4		(96906) MS51967-8	Nut, Plain, Hex, 3/8-16 UNC			8				
B-4	5		(96906) MS90725-64	Screw, Cap, Hex Hd, 3/8-16 UNC			8				
B-4	6		(96906) MS27183-13	Washer, Flat, 3/8 inch, Std.			8				
B-4	7		(81718) 633LRT-4	Coupling Half, Quick Disconnect, Cam Locking Type, Female, Flanged, 4 inch			1				
B-4	8		(81718) C2479M-4	Gasket, Flange, 4 inch			1				
B-4	9		(96906) MS51967-8	Nut, Plain, Hex, 3/8-16 UNC			8				
B-4	10		(96906) MS90725-64	Screw, Cap, Hex Hd, 3/8-16 UNC x 1-1/2 inches long			8				
B-4	11		(96906) MS27183-13	Washer, Flat, 3/8 inch Std.			8				
B-4	12		(96906) MS27023-17	Adapter, Flanged, Male, 4 inch			1				
B-4	13		(81718) C2479M-4	Gasket, Flange, 4 inch			1				
B-4	14	4820-00-879-7748	(81718) 676FR4	Valve, Gate, 4 inch, Flanged			1				

Section II. INTEGRAL COMPONENTS OF END ITEM

20,000 GALLON (75,700 LITER) TANK (NSN 5430-01-215-7525)

(1) Illustration		(2)	(3)	(4)	(5)	(6)	(7)	(8) Quantity			
(a) Figure No.	(b) Item No.	National Stock Number	Part No. & FSCM	Description	Location	Usable on Code	Qty Reqd	Rcv'd	Date	Date	Date
B-5	1		NPN (81718)	Control Valve			1				
			H-959-M	Nut, Wheel			1				
B-5	2		(81718)	Handwheel			1				
			C-74-A								
B-5	3		(81718)	Nut, Packing			1				
			H-665-B								
B-5	4		(81718)	Spring, Gland			1				
			H-669-M								
B-5	5		(81718)	Gland, Packing			1				
			H-666-RA								
B-5	6		(81718)	Screws			8				
			H-633-M								
B-5	7		(81718)	Washer, Lock, Split, Helical			8				
			H-2525-M								
B-5	8		(81718)	Bonnet			1				
			O-17-A								
B-5	9		(81718)	Gasket, Bonnet			1				
			C-75-M								
B-5	10		(81718)	Disc, Male			1				
			D-18-M								
B-5	11		(81718)	Disc, Female			1				
			B-19-M								
B-5	12		(81718)	Stem, Bonnet			1				
			C-72-RB								
B-5	13		(81718)	Stem, Disc			1				
			C-73-B								
B-5	14		(81718)	Packing			1				
			H-667-M								
B-5	15		(81718) E-2-A	Body			1				
				Emergency Repair Items							
B-6	1	5340-00-720-8864	(97403) 13202E2870-1	Clamp Sealing, 3 inch			4				
B-6	2	5340-00-720-8863	(97403) 13202E2870-2	Clamp Sealing, 5 inch			2				
B-6	3	5340-00-720-8858	(97403) 13202E2870-3	Clamp Sealing, 7-1/2 inch			2				
B-6	4	5510-00-255-9493	(97403) 13211E3085	Plug, Tapered, Wood, 3 inch			2				
B-6	5	5510-00-255-9492	(97403) 13211E3084	Plug, Tapered, Wood, 5 inch			2				
B-2	6	5330-00-364-9862	(96906) MS9021-383	Packing, Preformed			2				
B-1	5	5330-00-291-3085	(96906) MS29513-250	Packing, Preformed			2				
B-1	10	5310-00-612-2414	(96906) MS27030-6	Gasket, Coupling Half			2				
B-4	1	5330-00-899-4509	(96906) MS27030-9	Gasket, Dust Cap, 4 inch			2				
B-4	8		(81718) C2479M-4	Gasket, Flange, 4 inch			2				

Section II. INTEGRAL COMPONENTS OF END ITEM

50,000 GALLON (189,250 LITER) TANK (NSN 5430-00-182-8181)

(1) Illustration		(2)	(3)	(4)	(5)	(6)	(7)	(8) Quantity			
(a) Figure No.	(b) Item No.	National Stock Number	Part No. & FSCM	Description	Location	Usable on Code	Qty Reqd	Rcv'd	Date	Date	Date
			NPN	Vent Assembly			1				
B-1	1		(96906) MS27024-11	Coupling Half, Quick Disconnect, Cam Locking Type, Female Threaded 2 inch			1				
B-1	2	5305-00-068-0502	(96906) MS90725-6	Screw, Cap, Hex Hd, 1/4-20 UNC 3/4 inch Lg.			8				
B-1	3		(96906) MS27183-10	Washer, Flat, 1/4 inch Std.			8				
B-1	4		(96906) MS27023-11	Coupling Half, Quick Disconnect, Cam Locking Type, Male, Flanged, 2 inch			1				
B-1	5	5330-00-291-3085	(96906) MS29513-250	Packing, Preformed			1				
B-1	6		(49234) EX 1333B-2	Cap, Relief			1				
B-1	7		(49234) EX 1333B-18	Gasket, Relief Cap			1				
B-1	8		(49234) EX 1333B-36	Arrestor, Flame			1				
B-1	9		(81718) 710A2X10	Pipe, 2 inch			1				
B-1	10		(96906) MS27030-6	Gasket, Coupling Half, 2 inch			1				
B-1	11		(96906) MS27030-6	Gasket, Dust Cap, 2 inch			1				
B-1	12		(96906) MS27028-11	Cap, Dust, 2 inch			1				
B-1	13		(81718) H6683M	Chain, Security 12 inches long			1				
B-1	14		(01976) 1SK	Ring, Key, 1 inch ID			4				
			NPN	Filler and Discharge Assembly			2				
B-2	1		(80691) 633K4	Elbow, 4 inch, 90 Degree			2				
B-2	2		(96906) MS27030-9	Gasket, Elbow 4 inch, 90 Degree			2				
B-2	3	5305-00-068-0502	(96906) MS90725-6	Screw, Cap, Hex Hd, 1/4-20 UNC 3/4 inch			40				
B-2	4	5310-00-809-4058	(96906) MS27183-10	Washer, Flat, 1/4 inch Std.			40				
B-2	5		(00333) FCC-53027-5	Closure Plate, Oval			2				
B-2	6	5330-00-364-9862	(96906) MS9021-383	Packing, Preformed			2				
B-2	7	5305-00-269-3214	(96906) MS90725-64	Screw, Cap, Hex hd, 3/8-16 UNC 1-1/2 inches long			16				
B-2	8	5310-00-732-0558	(96906) MS51967-8	Nut, Plain, Hex, 3/8-16 UNC			16				
B-2	9	5310-00-637-9541	(96906) MS35338-46	Washer, Lock, Split, Helical, Medium			16				
B-2	10		(83259) 7500-3-8	Thread Seal, 3/8 inch			16				
B-2	11		(96906) MS27023-17	Adapter, 4 inch, Flanged			2				
B-2	12	5330-00-647-2072	(81718) C2479M-4	Gasket, Flange, 4 inch			2				
B-2	13		(00333) FCC-58666	Stub, Suction			2				

Section II. INTEGRAL COMPONENTS OF END ITEM

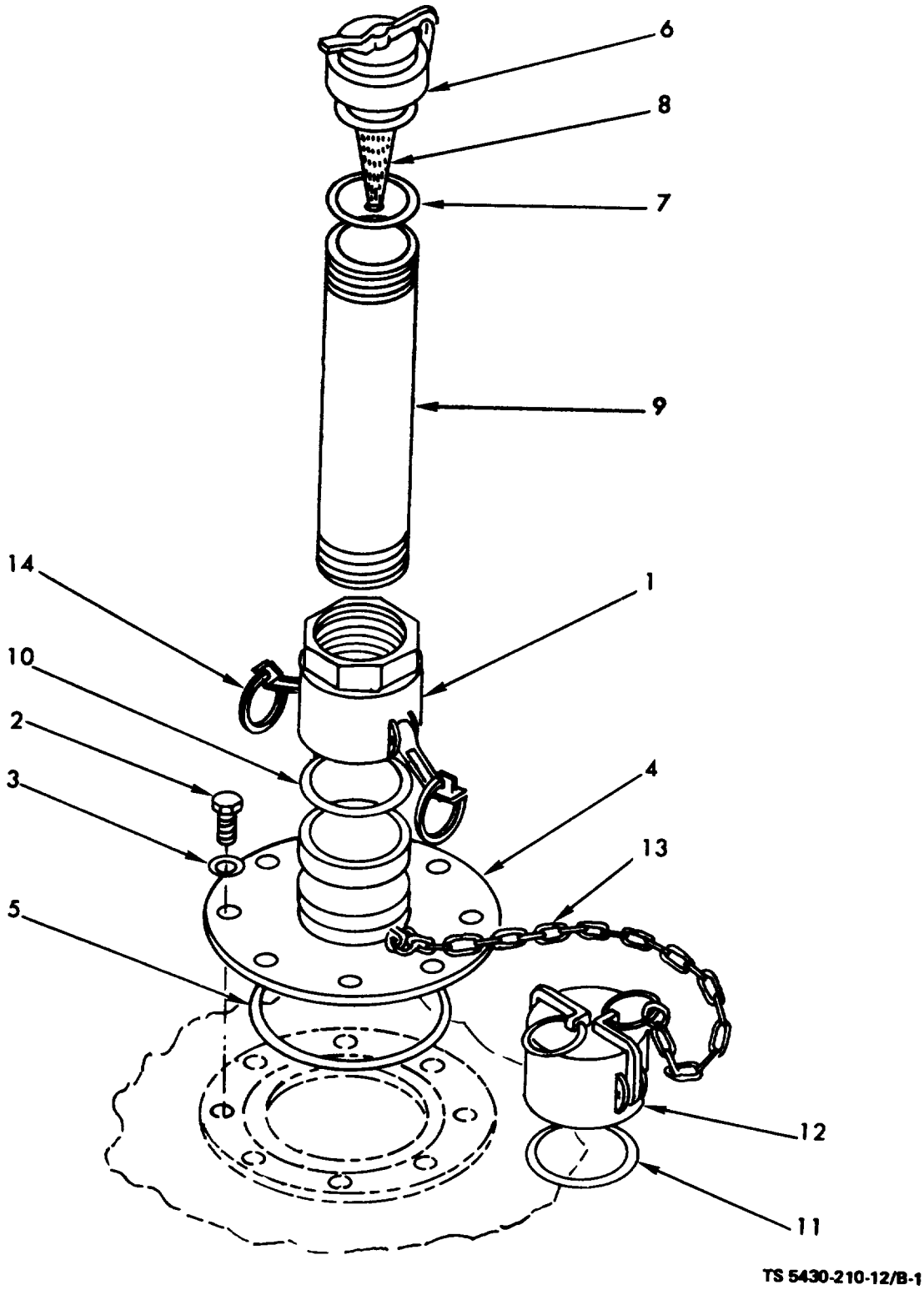
50,000 GALLON (189,250 LITER) TANK (NSN 5430-00-182-8181) - Cont.

(1) Illustration (a) Figure No.	(1) Illustration (b) Item No.	(2) National Stock Number	(3) Part No. & FSCM	(4) Description	(5) Location	(6) Usable on Code	(7) Qty Reqd	(8) Quantity Rcv'd	(8) Quantity Date	(8) Quantity Date	(8) Quantity Date
B-2	14		(96906) MS27030-9	Gasket, Dust Cap, 4 inch			2				
B-2	15		(96906) MS27028-17	Cap, Dust, 4 inch			2				
B-2	16		(81718) H6683M	Chain, Security, 12 inches Long			2				
B-2	17		(01976) 1SK	Ring, Key, 1 inch ID			4				
B-3	1	5305-00-068-0500	(96906) MS90725-3	Screw, Cap, Hex Hd, 1/4-20 UNC x 1/2 inch			8				
B-3	2	5310-00-809-4058	(96906) MS27183-10	Washer, Flat, 1/4 inch Std			8				
B-3	3		(00333) FCC-52608-5	Fitting, Drain			1				
B-3	4	5330-00-291-3085	(96906) MS29513-250	Packing, Preformed			1				
B-3	5		(76364) 1148	Valve, Rising Stem 1/2 inch Std.			1				
B-3	6		(00333) 2556-8	Hose Assembly, 1/ inch, 8 feet long			1				
B-3	7		(00333) FCC-52608-4	Plug, Square Hd, Steel, 1/2-14 NPT			1				
B-3	8		(00333) FCC-52608-3	Screw			1				
B-3	9		(00333) FCC-52608-2	Chain Security 12 inches long			1				
			NPN	Filler and Discharge Control Valve Assembly			1				
B-4	1		(96906) MS27030-9	Gasket, Coupling 4 inch			1				
B-4	2	4720-00-529-5538	(00333) FCC-51102	Hose Assembly, 4 inch			1				
B-4	3		(96906) MS27030-9	Gasket, Coupling, Half 4 inch			1				
			NPN	Filler and Discharge Control Valve Assembly			1				
B-4	4		(96906) MS51967-8	Nut Plain, Hex, 3/8-16 UNC			8				
B-4	5		(96906) MS90725-64	Screw, Cap, Hex Hd, 3/8-16 UNC			8				
B-4	6		(96906) MS27183-13	Washer, Flat, 3/8 inch, Std.			8				
B-4	7		(81718) 633LR1-4	Coupling Half, Quick Disconnect, Cam Locking Type, Female, Flanged, 4 inch			1				
B-4	8		(81718) C2479M-4	Gasket, Flange, 4 inch			1				
B-4	9		(96906) MS51967-8	Nut, Plain, Hex, 3/8-16 UNC			8				
B-4	10		(96906) MS90725-64	Screw, Cap, Hex Hd, 3/8-16 UNC x 1-1/2 inches long			8				
B-4	11		(96906) MS27183-13	Washer, Flat, 3/8 inch Std.			8				
B-4	12		(96906) MS27023-17	Adapter, Flanged, Male, 4 inch			1				
B-4	13		(81718) C2479M-4	Gasket, Flange, 4 inch			1				
B-4	14	4820-00-879-7748	(81718) 676LR4	Valve, Gate, 4 inch, Flanged			1				

Section II. INTEGRAL COMPONENTS OF END ITEM

50,000 GALLON (189, 250 LITER) TANK (NSN 5430-00-182-8181) - Cont

(1) Illustration		(2)	(3)	(4)	(5)	(6)	(7)	(8) Quantity			
(a) Figure No.	(b) Item No.	National Stock Number	Part No. & FSCM	Description	Location	Usable on Code	Qty Reqd	Rcv'd	Date	Date	Date
			NPN	Control Valve			1				
B-5	1		(81718) H-959-M	Nut, Wheel			1				
B-5	2		(81718) C-74-A	Handwheel			1				
B-5	3		(81718) H-665-B	Nut, Packing			1				
B-5	4		(81718) H-669-M	Spring, Gland			1				
B-5	5		(81718) H-666-RA	Gland, Packing			1				
B-5	6		(81718) H-633-M	Screws			8				
B-5	7		(81718) H-2525-M	Washers, Lock, Split, Helical			8				
B-5	8		(81718) O-17-A	Bonnet			1				
B-5	9		(81718) C-75-M	Gasket, Bonnet			1				
B-5	10		(81718) D-18-M	Disc, Male			1				
B-5	11		(81718) B-19-M	Disc, Female			1				
B-5	12		(81718) C-72-RB	Stem, Bonnet			1				
B-5	13		(81718) C-73-B	Stem, Disc			1				
B-5	14		(81718) H-667-M	Packing			1				
B-5	15		(81718) E-2-A	Body			1				
				Emergency Repair Items							
B-6	1	5340-00-720-8864	(97403) 13202E2870-1	Clamp Sealing, 3 inch			4				
B-6	2	5340-00-720-8863	(97403) 13202E2870-2	Clamp Sealing, 5 inch			2				
B-6	3	5340-00-720-8858	(97403) 13202E2870-3	Clamp Sealing, 7-1/2 inch			2				
B-6	4	5510-00-255-9493	(97403) 13211E3085	Plug, Tapered, Wood, 3 inch			2				
B-6	5	5510-00-255-9492	(97403) 13211E3084	Plug, Tapered, Wood, 5 inch			2				
B-2	6	5330-00-364-9862	(96906) MS9021-383	Packing, Preformed			2				
B-1	5	5330-00-291-3085	(96906) MS29513-250	Packing, Preformed			2				
B-1	10	5310-00-612-2414	(96906) MS27030-6	Gasket, Coupling Half			2				
B-4	1	5330-00-899-4509	(96906) MS27030-9	Gasket, Dust Cap, 4 inch			2				
B-4	8		(81718) C2479M-4	Gasket, Flange, 4 inch			2				



B-1. Vent Assembly

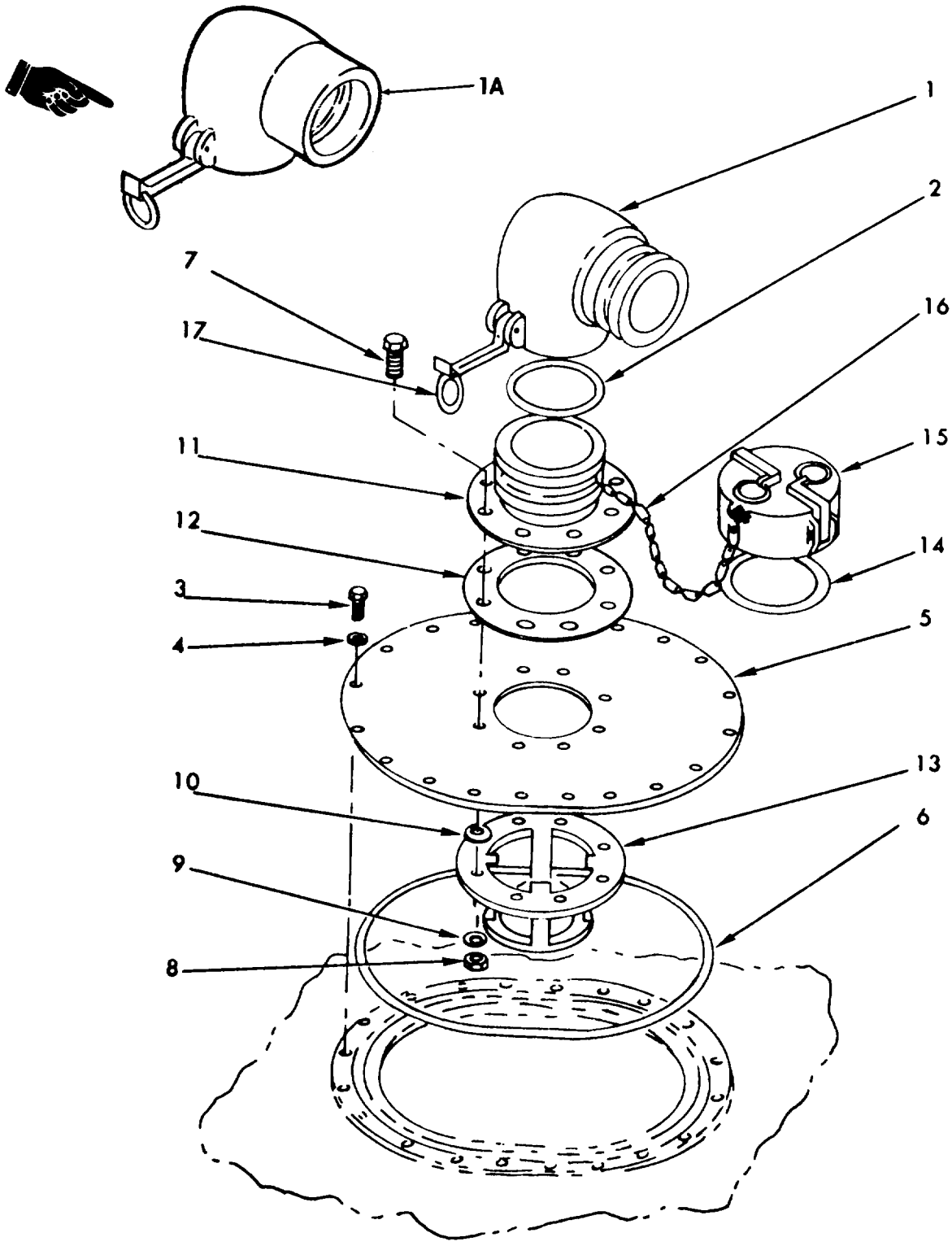


Figure B-2. Filler Discharge Assembly.

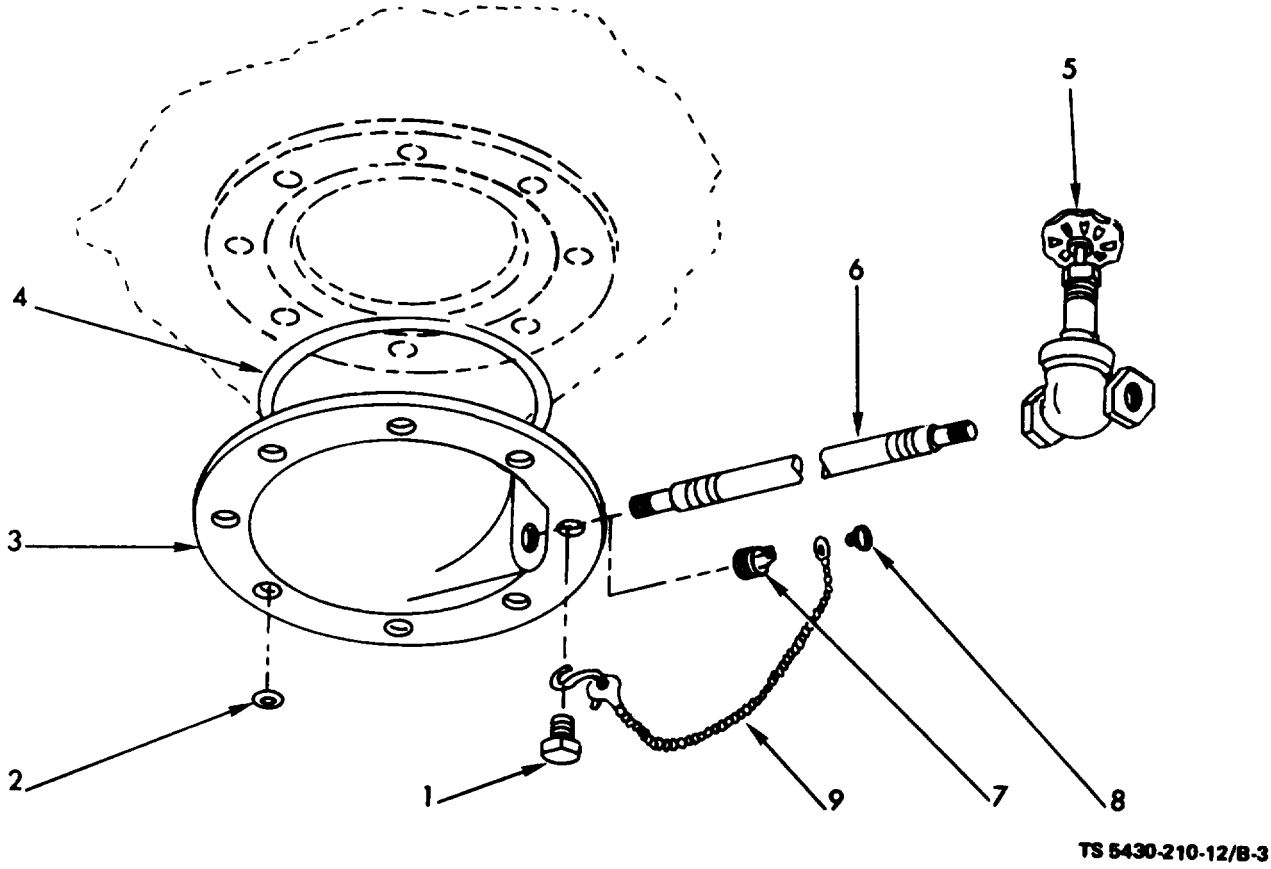


Figure B-3. Drain Hose Assembly.

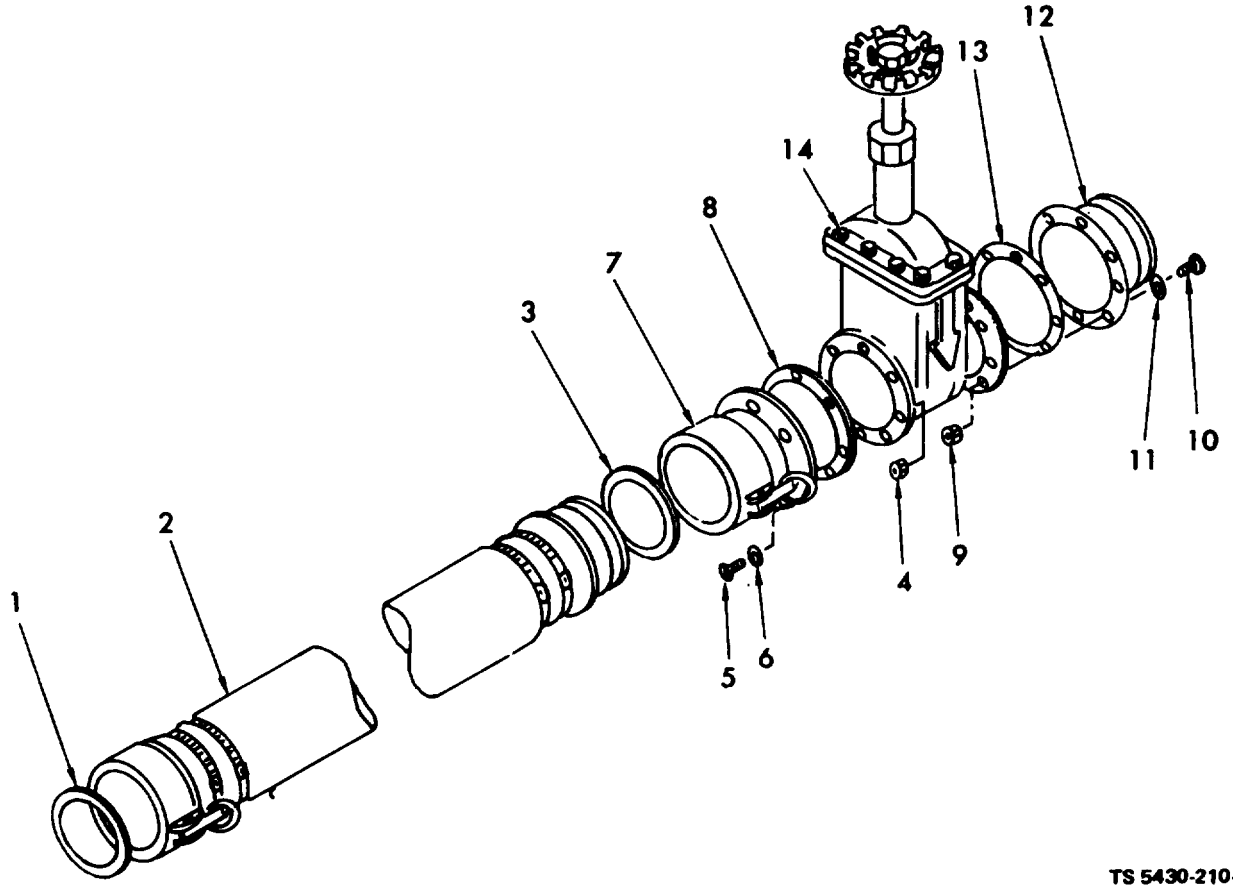


Figure B-4. Filler and discharge Control Valve and Hose Assembly.

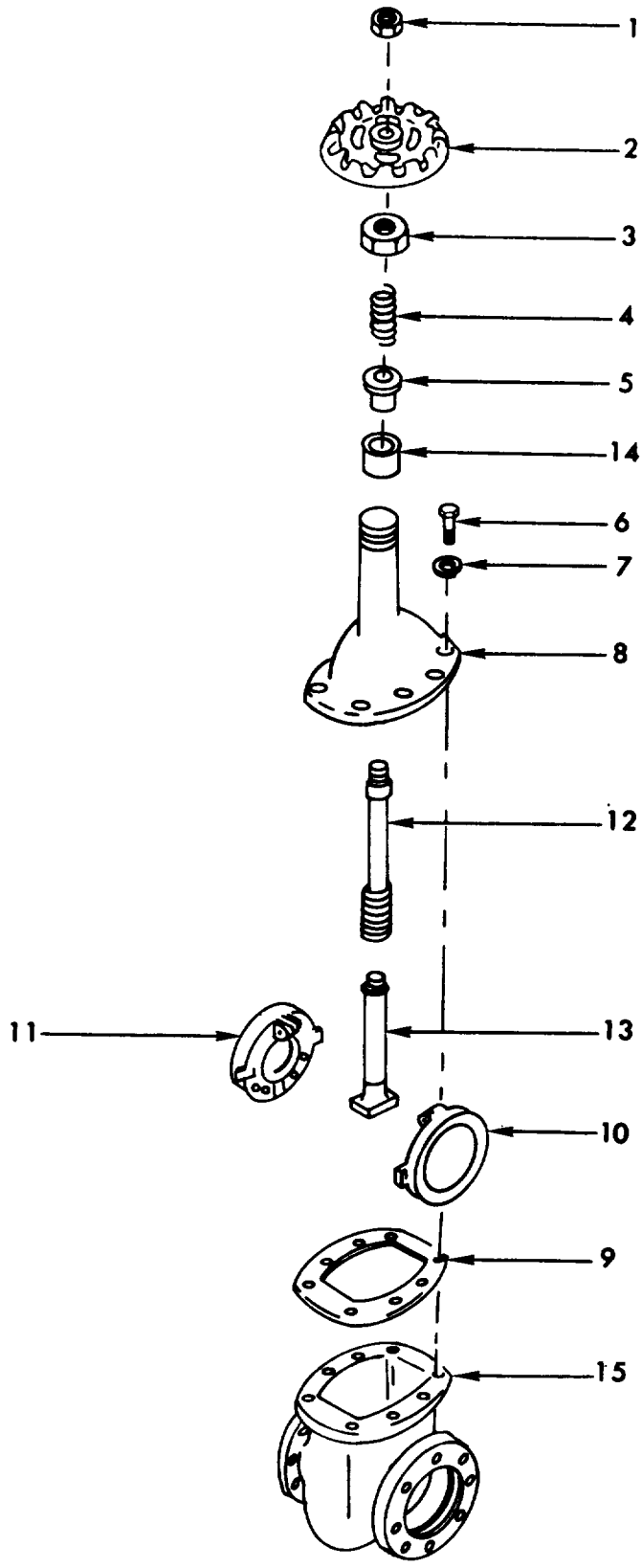


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Figure B-5. Control Valve.

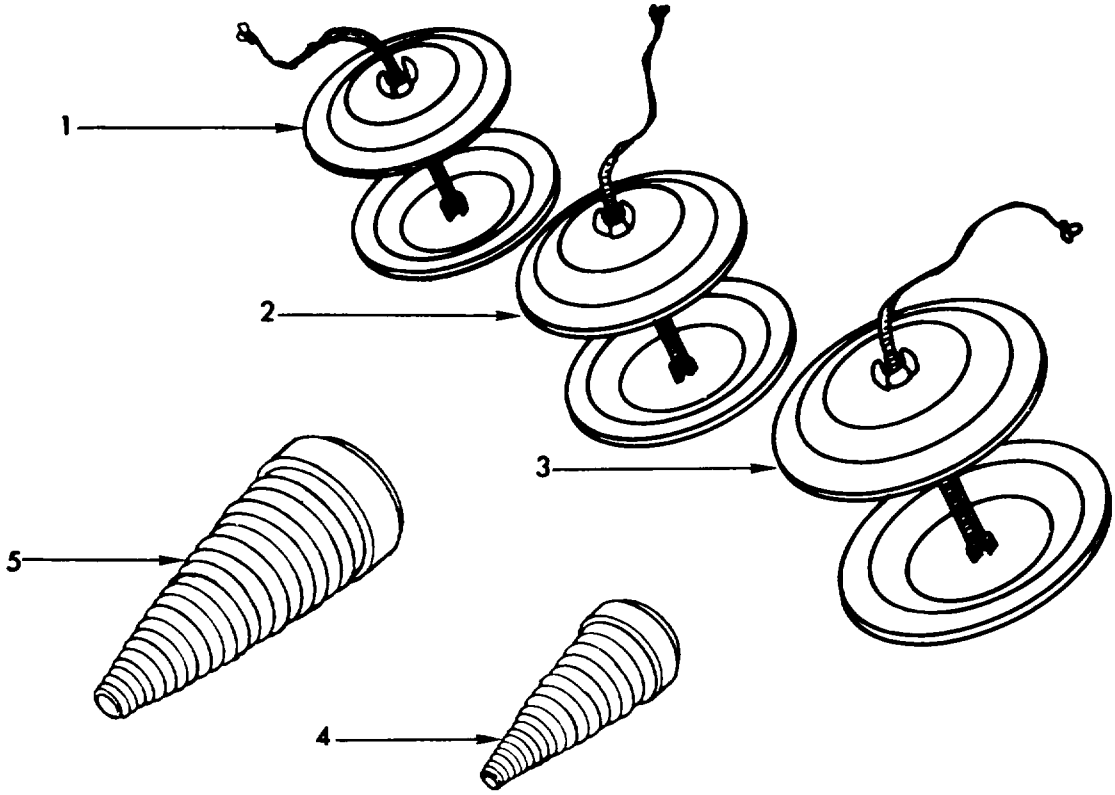

Figure B-6. Sealing Clamps and Wood Plugs.

Section III

BASIC ISSUE ITEMS

(Not Applicable)

APPENDIX C
ADDITIONAL AUTHORIZATION LIST

Section I. INTRODUCTION

C-1. Scope. This appendix lists additional items you are authorized for the support of the Tank, Fabric, Collapsible, POL, 3000 Gallon through 50,000 Gallon.

C-2. General. This list identifies items that do not have to accompany the tank. fabric, collapsible, POL, 3,000 gallon through 50,000 gallon and that do not have to be turned in with it. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

C-3. Explanation of Listing. National stock numbers, descriptions, and quantities are provided to help you identify and request the additional items you require to support this equipment. The items are listed m alphabetical sequence by item name. If the item you require differs between the serial numbers of the same model, effective serial numbers are shown in the last line of the description. If the item required differs for different models of this equipment, the model number is shown under the "Usable On" heading in the description column. These codes are identified as:

NSN	UOC
5430-00-268-8187	ECY
5430-00-052-3412	EQB
5430-00-641-8552	EQC
5430-00-182-8181	EDC
5430-01-215-7525	ELS

Section II. ADDITIONAL AUTHORIZATION LIST

(1) NATIONAL STOCK NUMBER	(2) DESCRIPTION CAGEC & PART NUMBER	USABLE ON CODE	(3) U/M	(4) QTY AUTH
5430-01-237-3658	Liner, Berm, Tank Fabric (81349) M53081-1	ECY	EA	1
5430-01-237-3659	Liner, Berm, Tank, Fabric (81349) M53081-2	FQB,EQC	EA	1
543001-237-3660	her, Beam, Tank, Fabric (81349) M53081-3	ELS	EA	1
5430-01-237-3661	Liner. Beam, Tank Fabric (81349) M530814	EDC	EA	1
5430-01-352-6073	Repair Kit Collapsible Fabric Tank (ROCTAD) (63775) 201225		EA	1
5430-01-359-1078	Repair Kit, Collapsible Fabric Tank (ROCTAD) (0F6E1) BOV-USA-1		EA	1

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APPENDIX D
MAINTENANCE ALLOCATION CHART
Section I. INTRODUCTION

D-1. General.

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance levels.

b. The Maintenance Allocation Chart (MAC) in Section 11 designates overall responsibility for the performance of maintenance functions on the identified end item or component. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance functions.

c. Section III lists the special tools and test equipment required for each maintenance function as referenced from Section II.

d. Section IV contains supplemental instruct ions or explanatory notes for a particular maintenance function. (Not Applicable).

D-2. Maintenance Functions.

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. *Service.* Operations required periodically to keep an item in proper operating condition, i. e., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

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

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

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipments 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.

g. Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace. The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services or other maintenance actions to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), and item, or system.

j. Overhaul. That maintenance effort (services/ actions) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i.e., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. 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 (hours/miles, etc.) considered in classifying Army equipments/components.

D-3. Column Entries Used in the MAC.

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the higher assembly.

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

c. Column 3, Maintenance Functions. Column 3 lists the functions to be performed on the item

listed in column 2. (For detailed explanation of these functions, see para. D-2.)

d. *Column 4, Maintenance Level.* *Column 4* specifies, by the listing of a work time figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform the maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work time figures will be shown for each level. The number of manhours specified by 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, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as follows:

C - Operator or crew
O - Organizational maintenance
F - Direct support maintenance
H - General support maintenance
D - Depot maintenance

e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, test, and support equipment required to perform the designated function.

f. Column 6, Remarks. This column shall contain a letter code in alphabetic order which shall be keyed to the remarks contained in Section IV.

D-4. Column Entries Used in Tool and Test Equipment Requirements.

a. Column 1, Tool or Test Equipment Reference Code. The tool and test equipment reference code correlates with a maintenance function on the identified end item or component.

b. Column 2, Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

c. *Column 3, Nomenclature.* Name or identification of the tool or test equipment,

d. Column 4, National/NATO Stock Number. The National or NATO stock number of the tool or test equipment.

e. Column 5, Tool Number. The manufacturers part number.

D-5. Explanation of Columns in Section IV.

a. Reference Code. The code scheme recorded in column 6, Section 11

***b.* Remarks.** This column lists information pertinent to the maintenance function being performed as indicated on the MAC Section II.

APPENDIX D

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
01	Tank	Inspect	0.5						
		Test		4.0					B
		Replace	2.0						
		Repair	0.5					1,2	A
0101	Vent Assembly	Inspect	0.2						
		Replace	0.2						
		Repair	0.5					1,2	A
0102	Filler and Discharge Assembly	Inspect	0.2						
		Replace	0.2						
		Repair	0.5					1, 2	A
0103	Drain Hose Assembly	Inspect	0.2						
		Replace	0.2						
		Repair	0.5					1, 2	
0104	Filler and Discharge Valve Assembly	Inspect	0.2						
		Replace	0.2						
		Repair	0.5					2	
0105	Control Valve	Inspect	0.2						
		Replace	0.2						
		Repair	0.5					2	
0106	Emergency Repair Items	Inspect	0.2						
		Replace	0.2						
0107	Filler and Discharge Hose Assemblies	Inspect	0.2						
		Test		4.0					C
		Replace	0.2						
0108	Manifold Assembly	Inspect	0.2						
		Replace	0.2						
		Repair	0.5					2	
0109	Chest, Aluminum	Inspect	0.5						
		Replace	0.5						

APPENDIX D

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS

(1) Reference Number	(2) Maintenance Level	(3) Nomenclature	(4) National/NATO Stock Number	(5) Tool Number
1	C	TORQUE WRENCH (INCH POUNDS)	5120-00-221-7893	
2	C	TOOL KIT, GENERAL MECHANICS, AUTOMOTIVE	5180-00-177-7033	

APPENDIX D

Section IV. MAINTENANCE ALLOCATION CHART

REFERENCE CODE	REMARKS
A	Repair is restricted to the application of the overpacked gaskets, o-rings and emergency repair items.
B	**All tanks** will be tested **semi-annually** as follows: 1. Inflate tank air pressure and allow it to stand for **30 minutes.** 2. Apply a water and detergent solution generously to all seams and fittings. 3. Any evidence of air leakage will cause the tank to be considered to be defective.
C	**All suction and discharge hoses** will be tested **quarterly** as follows: 1. Place the hose on a large, clean and dry surface. Seal the far end of the hose with a dust cap or dust plug fitted with a pet cock or valve for use in relieving internal pressure. Check the cam levers to insure that they are in the fully locked (down) position. 2. Fill the hose with water and install a dust cap fitted with an airline adaptor. Check the cam levers to insure that they are in the fully locked (down) position. 3. Inflate the hose until the internal pressure reaches 150 pounds. **WARNING:** Be sure that all personnel stand clear of the hose ends while the hose is being inflated, Allow the inflated hose to stand for a period of **15 minutes.** 4. Examine the hose and fittings for any signs of damage or deterioration. (Cracked fittings, delamination, blistered coating material, exposed braid). 5. Evidence of the deterioration described above shall cause the hose to be considered unserviceable. **WARNING:** Relieve the internal pressure by opening the pet cock prior to attempting to remove the dust caps or dust plugs.

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APPENDIX E
REPAIR PARTS AND SPECIAL TOOLS LIST

(Not Applicable)

APPENDIX F
EXPENDABLE SUPPLIES AND MATERIALS LIST
Section I. INTRODUCTION

F-1. Scope. This appendix lists expendable supplies and materials you will need to operate and maintain the collapsible tank. These items are authorized to you by CTA 50-970, Expendable Items (Except *Me*dical, Class V, Repair Parts, and Heraldic Items].

F-2. Explanation of Columns.

a. Column 1 - Item number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., Use cleaning compound, Item 1, App. *F*.

b. Column 2 - Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew
O - Organizational Maintenance

c. Column 3 - National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

d. Column 4 - Description. Indicates the Federal item name and if required, a description to identify the item. The last line for each item indicates the part number followed by the Federal Supply Code for Manufacturer (FSCM) in parentheses, if applicable.

e. *Column 5 - Unit of Measure (U/M).* Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea. in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	C	6950-00-281-1985	Cleaning Solvent, P-D-680	gal.
2	C	5350-00-221-0872	Crocus Cloth	bx.
3	C	9150-00-109-0926	Grease, MI-G-6032	can

INDEX

By Order of the Secretary of the Army:

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General, United *States Army*
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To be distributed in accordance with DA Form 12-25A, **Operator maintenance** requirements for Petroleum Distribution.

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THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT. FOLD IT AND DROP IT IN THE MAIL.'

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)
PFC John DOE
CO A 3rd Engineer Bn
Ft. Leonardwood, MO 63108

DATE SENT: 22 August 1992

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 1-1520-250-10	15 June 1992	Operator's Manual MH60K Helicopter

BE EXACT...PIN-POINT WHERE IT IS

PAGE NO	PARAGRAPH	FIGURE NO	TABLE NO
6	2-1 a		
B1		4-3	

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

In line 6 of paragraph 2-1a the manual states the engine has 6 cylinders. The engine on my set only has 4 cylinders. Change the manual to show 4 cylinders.

Callout 16 on figure 4-3 is pointed at a bolt. In key to figure 4-3, item 16 is called a shim. Please correct one or the other

EXAMPLE

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER: JOHN DOE, PFC (268) 317-7111

SIGN HERE: JOHN DOE John Doe

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DRSTS-M Overprint 1, 1 Nov 80

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U.S. ARMY AVIATION AND TROOP COMMAND
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TM 5-5430-210-12	30 Nov 78	TANK, FABRIC, COLLAPSIBLE, POL

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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 dekameters = 328.08 feet
1 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
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
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 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 38.82 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 = 10 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. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu meter = 1000 cu. decimeters = 35.31 cu. 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	1.365	metric tons	short tons	1.102
pound-inches	newton-meters	.11375			

Temperature (Exact)

°F Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C