



# **High Side Dump (HSD)**

## **Operation, Service, and Parts Manual**



This Book is Printed  
on Recycled Paper

Part No. 105382

# TO ORDER PARTS

---

Contact your local LEACH Signature Original Factory parts distributor

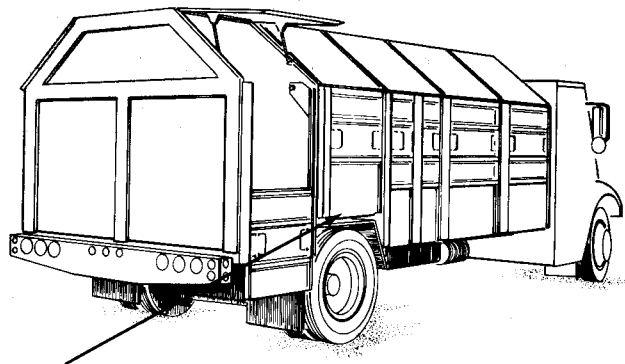
Your Authorized Leach Distributor

provide the following information:

- A Company name
- B Date
- C Your order number
- D Routing instructions
- E Quantity, part number and description
- \*F Model and serial number of unit

Accept only LEACH Signature Original Factory Parts.

**HSD**



\*Serial number, for the unit, is located on the compartment over the rear axle.

# WARRANTY



Refuse bodies manufactured by Leach Company, ("Company") are supplied and sold under a Limited Warranty that they are and will remain free of defects in workmanship or material for a period of six (6) months from date of original sale under reasonable conditions of use and operation, providing required preventative maintenance services are performed. An additional six (6) month warranty is also available for purchase. If a failure occurs during said period because of such defect in the opinion of the Company, the component or part shall be repaired or replaced by an authorized Leach Distributor at no cost to the customer provided the unit is brought to the distributor's service facility. After 3 months, performance of adjustments or the replacement of wear/expendable components is not covered under warranty. This limited warranty is the sole and exclusive warranty of the Leach Company.

THE COMPANY MAKES NO WARRANTY AS TO MERCHANTABILITY, FITNESS FOR USE, LEGALITY OF OPERATION IN ANY JURISDICTION OR ANY IMPLIED WARRANTY OF ANY KIND OR NATURE. THE COMPANY SHALL NOT BE LIABLE FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND OR NATURE, OTHER THAN ITS LIMITED WARRANTY OF REPLACEMENT HEREIN. NO OTHER PERSON, FIRM OR CORPORATION CAN BIND THE COMPANY TO ANY WARRANTY OTHER THAN HEREIN ABOVE STATED.

To validate the new unit warranty, an authorized Leach distributor must have completed a pre-delivery inspection before the unit is placed into service, and the delivery report form signed by both the customer and distributor must be submitted to the Leach Service Department.

Because Company products are engineered to work only with genuine Company parts, this limited warranty will be void and of no effect if: (a) Company products are modified other than as done at its factory or as authorized to be done by the factory in writing; or (b) Parts or assemblies of any other manufacturer are used as substitutes for genuine Company parts.

Genuine Leach replacement parts, components and assemblies are also sold under a Limited Warranty to be free from defects in workmanship or material for a period of six (6) months. This is a replacement only warranty and the item must be returned to the Leach distributor for exchange. The labor to replace or repair the part shall be the responsibility of the customer. There is no warranty on expendable items, wear components or used parts.

Leach Company reserves the right to redesign and/or discontinue the manufacture of parts, components and assemblies at any time.

# FOREWORD

---

For over 100 years the Leach Company has been a leader. The tradition of Leach quality and excellence continues with the High Side Dump recycling collection units.

Leach service parts, like our equipment, are quality built of the most current design. We at Leach are proud of the quality materials, engineering, and workmanship that go into each part, backed by the best service and distributor support in the industry.

Leach parts are readily available through authorized Leach distributors. The use of counterfeit, will-fit, or substitute parts may affect the operation or performance of your unit and void the warranty. To insure maximum reliability and to protect your investment — insist on original factory parts.

The Leach Company has an aggressive parts manual update program. This manual was produced with the latest information available at the time of publication; we, however, reserve the right to redesign and/or discontinue the manufacture of parts, components, and assemblies at any time.

All Leach manuals are printed on recycled paper. "Soy ink," a natural based material, is used to replace conventional petroleum based products for printing. This is all done as part of the Leach commitment to the preservation of our environment through recycling.

Danny J. Schloss, C.S.E.  
Director of Service



**LEACH®**

**Original Factory Parts**



SEC.	TOPIC	PAGE	SEC.	TOPIC	PAGE
	ORDERING PARTS .....	I		SAFETY PRECAUTIONS	
	WARRANTY .....	II		• Prior to Performing Any	
	FOREWORD .....	III		Service or Repair .....	4-2
	TABLE OF CONTENTS .....	IV		• Safety During	
1	INTRODUCTION			Service and Repair .....	4-2
	• Terms you will need to know .....	1-1		• Welding Precautions .....	4-2
	• Introduction .....	1-2		• Hydraulic Component Removal,	
	• Loading .....	1-2		Disassembly and Repair .....	4-3
	• Compaction .....	1-2		• Hydraulic Component	
	• Unloading .....	1-3		Reassembly and Installation .....	4-3
2	SAFETY PRECAUTIONS			• Electrical Testing .....	4-3
	• General .....	2-1		• Capscrew Markings and	
	• Danger, Warning and			Torque Values .....	4-4
	Caution Decals .....	2-1	5	SPECIFICATIONS	
	• Decal Locations (Illus.) .....	2-2		• General Dimensions .....	5-1
	• Decals (Illus.) .....	2-3		• Lubricants .....	5-2
	• Prior To Start Up .....	2-4		• Hydraulic System Capacity .....	5-2
	• Operation .....	2-4		• Hydraulic Fluid .....	5-2
	• When the Vehicle is Moving .....	2-5		• Leach Hydraulic Fluid	
	• Operating Functions .....	2-5		Recommendation .....	5-2
	• Hydraulics .....	2-5	6	PREVENTIVE MAINTENANCE	
	• Fire Protection .....	2-5		• General .....	6-1
	• Housekeeping .....	2-5		• Operating and Maintenance	
	• Shutdown .....	2-5		Records .....	6-1
	• Safety During Service			• Daily Preventive Maintenance .....	6-1
	and Repair .....	2-5		• Check Fluid Level (Daily) .....	6-2
	• Capacity of Lifting Device			• Clean Tank Breather (Weekly) .....	6-2
	Required for Removal .....	2-5		• Flushing Hydraulic System	
3	OPERATION			(Yearly) .....	6-2
	• General .....	3-1		• Hydraulic System Service .....	6-3
	• Description of Operating			• Contamination .....	6-3
	Controls .....	3-1		• Commercial Hydraulic	
	• PTO Control .....	3-1		Fluid Testing .....	6-3
	• Door Locking Handles .....	3-1		• In House Hydraulic	
	• Compartment Lift/Dump			Fluid Testing .....	6-3
	Controls .....	3-2	7	CHECK-OUT	
	• Compartment Raised Warning			• General .....	7-1
	Light with Audible Alarm .....	3-2		• Check Pressures .....	7-1
	• Start Up (Operating			• Check Main Relief Pressure .....	7-1
	Instructions) .....	3-3	8	TROUBLESHOOTING	
	• Positioning Compartment .....	3-3		• General .....	8-1
	• Position Compartment			• Diagnostic Charts .....	8-1
	Side Doors .....	3-3		• Hydraulic System .....	8-2
	• Loading Recyclables .....	3-3		• Hydraulic Flow Charts .....	8-3
	• Operating Procedures .....	3-4	9	SERVICE AND REPAIR	
	• Pre-operation Walk-around			• Main Component Location .....	9-1
	Inspection .....	3-4		• General .....	9-2
	• Manual Lock with Optional			• Removal of Lift Cylinder .....	9-2
	Split Gate Compartments .....	3-5		• Removal of Dump Cylinder .....	9-3
	• Storage .....	3-5		• Test for Leaking Lift or	
	• Lid .....	3-6		Dump Cylinder .....	9-3
	• Unloading .....	3-6		• Disassembly of Lift Cylinder .....	9-4
	• Stabilizer Leg .....	3-7		• Inspection and Replacement of	
4	GENERAL REPAIR PRACTICES			Lift Cylinder .....	9-4
	• Preparation for Service .....	4-1		• Reassembly and Installation of	
	• Replacement Parts .....	4-1		Lift Cylinder .....	9-4
	• Service Bulletins .....	4-1		• Disassembly of Dump Cylinder ...	9-5



# TABLE OF CONTENTS

SEC.	TOPIC	PAGE
•	Inspection and Replacement of Dump Cylinder .....	9-5
•	Reassembly and Installation of Dump Cylinder .....	9-5
•	Description of Hydraulic Pump ...	9-6
•	Removal of Hydraulic Pump .....	9-6
•	Reassembly and Installation of Pump .....	9-6
•	Disassembly of Hydraulic Pump ..	9-7
•	Reassembly of Hydraulic Pump ...	9-7
•	Description of 2-spool Control Valve for Compartment Lift and Dump Cylinders .....	9-8
•	Removal of 2-spool Directional Valve .....	9-8
•	Disassembly of 2-spool Directional Valve .....	9-8
•	Inspection of 2-spool Directional Valve .....	9-9
•	Installation of 2-spool Directional Valve .....	9-9
•	Electrical Schematic .....	9-10

SEC.	TOPIC	PAGE
10	PARTS	
•	Decals .....	10-2
•	Hydraulics .....	10-4
•	Hydraulic Fluid Reservoir .....	10-6
•	Pump .....	10-7
•	Directional Valve .....	10-8
•	Compartment Hydraulics .....	10-9
•	Stabilizer Leg .....	10-10
•	Hoist .....	10-12
•	Mounting Hardware .....	10-14
•	Compartment (Dome Top) .....	10-16
•	Compartment (Flat Top) .....	10-18
•	Compartment (Dome Top Split) ...	10-20
•	Compartment (Flat Top Split) .....	10-22
•	Cylinder, Lift .....	10-24
•	Cylinder, Dump .....	10-25
•	Cylinder, Stabilizer Leg .....	10-26
•	Body Wiring .....	10-27
•	Fender .....	10-28
•	Solenoid Valve .....	10-29
•	Electrical Components .....	10-30
•	Latch Assembly .....	10-31
•	Options .....	10-32

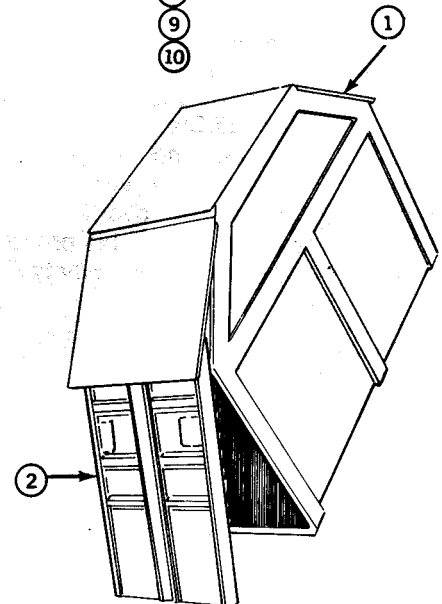
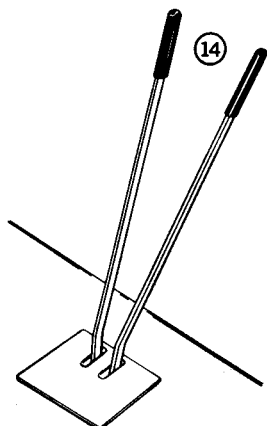
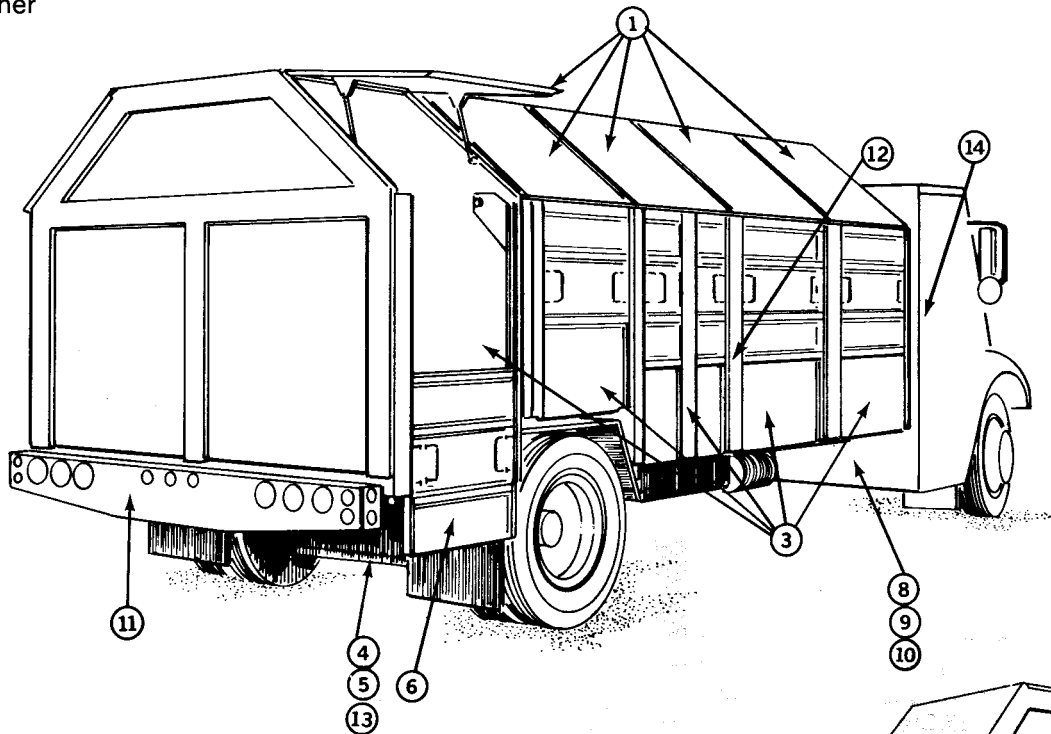
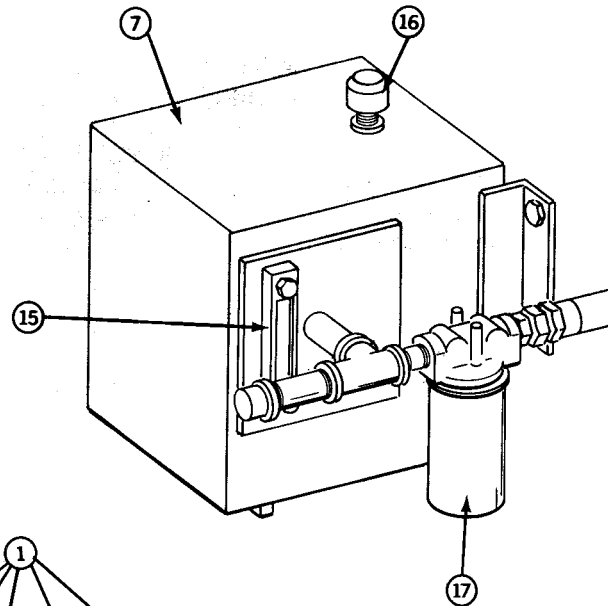
## MANUALS AND LITERATURE

### ORDER FORM

### REWARD

**Terms you need to know:**

1. Compartment lids
2. Discharge gate
3. Compartment
4. Compartment hoist
5. Hoist cylinder
6. Compartment sliding doors
7. Hydraulic tank
8. Hydraulic pump
9. Dual spool hydraulic valve
10. PTO
11. Rear bumper
12. Collection container bracket
13. Body props
14. Control levers
15. Sight gauge
16. Breather
17. Filter



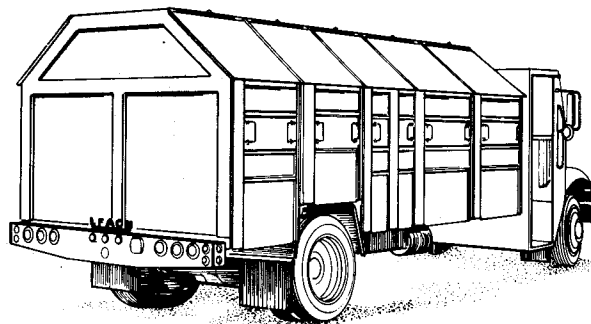


# INTRODUCTION

---

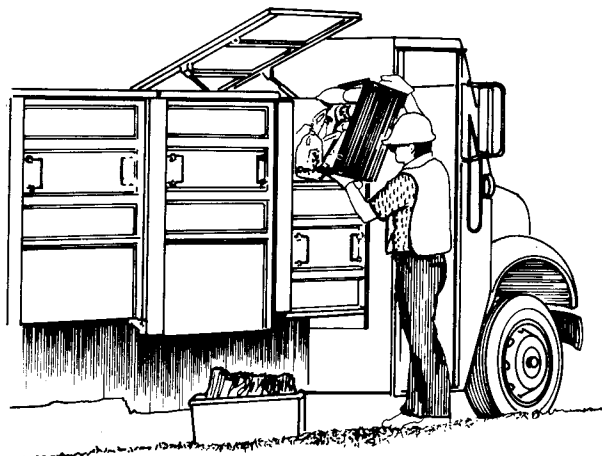
## INTRODUCTION

The main purpose of the Leach High Side Dump (HSD) is to safely and efficiently; load, transport, and unload recyclable materials. The following describes how the unit performs these tasks in the most basic terms. Before going further, look at the accompanying full page illustration of the HSD and become familiar with the terms you will need to know.



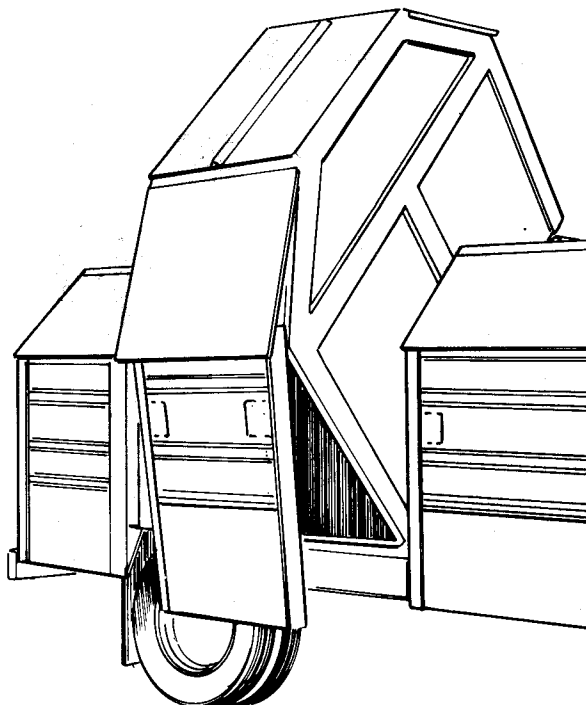
## LOADING

Recyclables are first loaded into the appropriate compartment. As the compartment fills, the compartment doors can be raised to increase capacity.



## UNLOADING

At the recycling site the unit is unloaded in two (2) easy steps. First the vehicle is positioned at the unloading site that matches the container with the same type of recyclable. Secondly the selected compartment is raised and dumped. After lowering the empty compartment the vehicle is moved to the next unloading site and the two (2) steps are repeated for the other compartments. This process is repeated until all the compartments are empty.



## SAFETY PRECAUTIONS

**GENERAL**

The HSD has been designed with the operator in mind. However as with any industrial machinery the ultimate responsibility for safety rests with you — the user. An alert, conscientious attitude and observance of all known safe operating practices are the best ways to prevent accidents.

Before operating the unit it is the operator's responsibility to be thoroughly familiar with the operator's instructions contained in this manual.

Publication of these precautions does not imply or in any way represent an all inclusive list. It is the operator's responsibility to be familiar with and ensure that operation is in accordance with safety requirements and codes including all applicable Occupational Safety & Health Act (OSHA) and American National Standards Institute (ANSI) regulations.

**⚠ DANGER****⚠ WARNING****⚠ CAUTION**

**DANGER, WARNING, CAUTION** and **NOTE** notations appear throughout this manual.

\* The word **DANGER** precedes information pertaining to specific immediate hazards which if disregarded, WILL result in **SEVERE PERSONAL** injury or death of the user or others.

\* The word **WARNING** precedes information pertaining to hazards or unsafe practices which **COULD** result in personal injury or death.

\* The word **CAUTION** precedes information pertaining to potential hazards or unsafe practices which if disregarded, may result in minor personal injury or damage to the equipment.

\* The word **NOTE** precedes information which is vital to the proper operation or maintenance of the equipment.

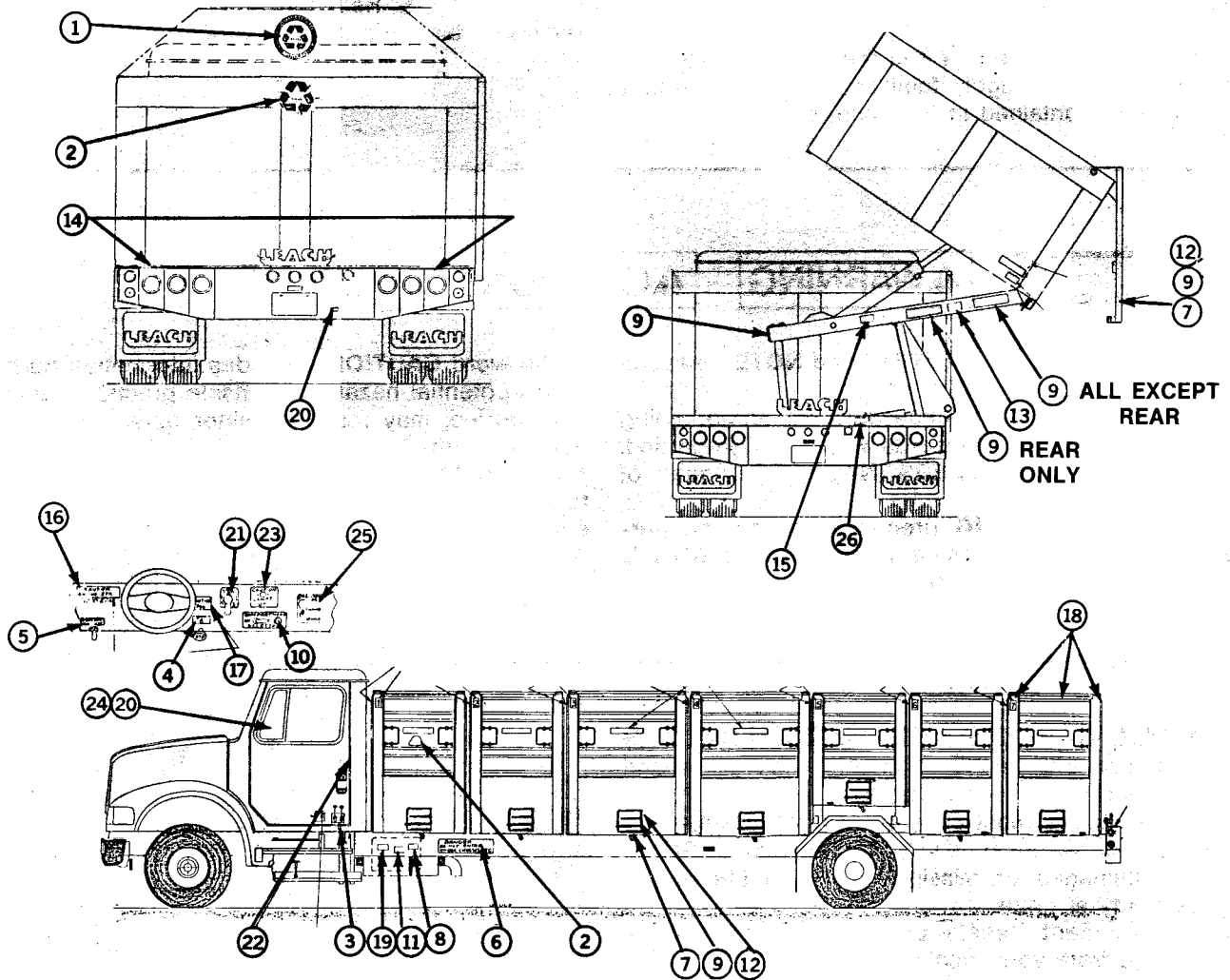
**DANGER, WARNING AND CAUTION DECALS**

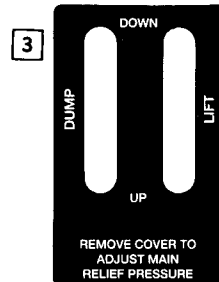
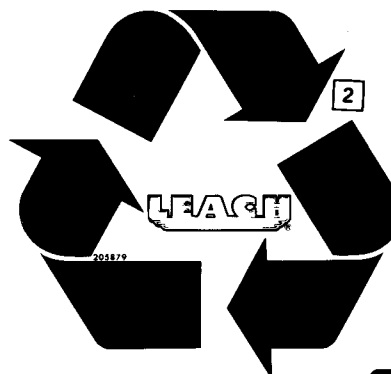
See the accompanying illustration for the location and label content of all safety decals.

1. These decals must be obeyed at all times.
2. These decals must be in place at all times. Report any damaged or missing decals to the proper authority at once.
3. Replacement decals can be ordered free of charge from your local distributor.

## SECTION 2

### SAFETY PRECAUTIONS



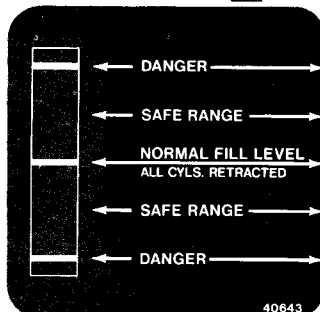
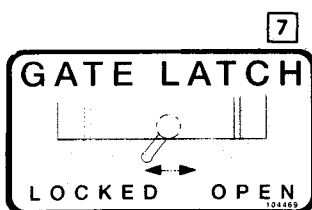


6

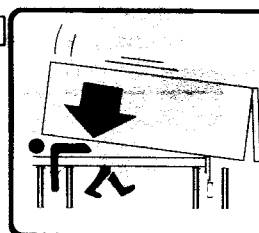
**DANGER**  
DO NOT ENTER UNDER CHASSIS UNLESS  
ENGINE OR POWER UNITS ARE STOPPED  
AND IGNITION KEYS REMOVED

41894

8



9



**⚠ DANGER**

STAND CLEAR WHEN BODY IS IN MOTION  
AND DURING UNLOADING CYCLE. DO  
NOT STAND UNDER OR CROSS UNDER  
AN UNPROPPED BODY.

12



AUTOMATIC GATE LATCH  
STAND CLEAR WHEN DUMPING  
DO NOT OPEN MANUALLY  
UNLESS COMPARTMENT IS EMPTY

104490

COMPARTMENT

ON OFF

10

SELECTOR CIRCUIT

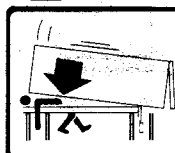
11

**FILTER ELEMENT CHANGE**

TO ENSURE OIL CLEANLINESS AND LONGER  
MACHINE LIFE, CHANGE THE ELEMENT AT  
INTERVALS OF 20HRS, 50HRS, AND AT  
250HR INTERVALS THERE AFTER.

100890

15



**⚠ DANGER**

BODY PROP IS TO BE USED  
ONLY WITH EMPTY BODY.  
BODY MUST BE SECURELY  
BLOCKED WHEN REPAIR  
WORK IS DONE. VEHICLE IS  
NOT TO BE MOVED WHILE  
BODY PROP IS UP.

104488

14

**NO STEP**

41637

16

**CAUTION**

LEACH CO. STRONGLY RECOMMENDS  
ENGINE BE KEPT BELOW RPM  
WHEN PTO IS ENGAGED

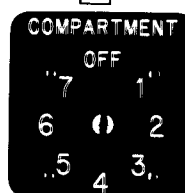
17

**CAUTION**

DO NOT OPERATE  
VEHICLE AT HIGHWAY  
SPEEDS WITH POWER  
TAKE-OFF ENGAGED

101767

21



INSPECTED AT  
LEACH CO.  
BY  
DATE

22

STABILIZER  
LEG

TRAVEL

DOWN

25

24

**IMPORTANT**

DISENGAGE POWER TAKE  
OFF IN TRANSIT

23

**CAUTION**



20

THIS VEHICLE IS NOT  
TO BE USED FOR TOWING

19

**HYDRAULIC  
FLUID ONLY**

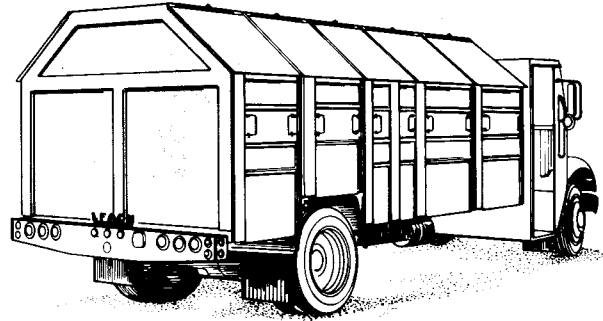
40642



# SAFETY PRECAUTIONS

### PRIOR TO START UP

1. Never, during the collection process, wear jewelry or loose clothing which may catch on moving parts. Wear proper safety equipment as specified by your employer.
2. Never perform collection while under the influence of intoxicants or narcotics. Workers under the influence of intoxicants or narcotics present a hazard to themselves and others.
3. Perform checks listed under Pre-operation "Walk-around" inspection in Section 3, OPERATION. Never start or operate any malfunctioning equipment.
  - a. Be sure to immediately report any malfunctions to the proper authority.
  - b. Power must be shut off, ignition key removed, and a sign attached to the steering wheel stating "inoperative" or "malfunctioning equipment".
4. Drivers should not attempt to perform any service procedure on the equipment. Proper servicing requires specialized tools and procedures. Service must be performed by authorized personnel only, following procedures in the Service Manual.
5. Walk completely around the vehicle to make sure all persons are clear of the unit before starting.



### OPERATION

1. It is the operator's responsibility to ensure that the unit is used in accordance with the guidelines contained in this manual and in accordance with all applicable codes including the Occupational Safety and Health Act (OSHA) and the American National Standards Institute (ANSI) regulations.
2. Do not attempt to use this equipment without proper training.
3. Do not attempt to dislodge any material above waist level unless wearing eye protection such as "approved" side shielded safety glasses or full face shield.
4. Never enter under the unit unless the truck is turned off, the parking brake set, and the tires blocked.
5. Never allow material to extend outside of the unit.
6. Never place fingers or hands between the compartments.
7. Never enter under a raised compartment hoist.





**SAFETY PRECAUTIONS****WHEN THE VEHICLE IS MOVING**

1. Drivers should never move their truck unless visual contact is made with all personnel in the work area.
2. Ride only in the cab.
3. Move the vehicle as slowly as possible without stalling when traveling in reverse.
4. Always make sure the roadway is clear before traveling in reverse. Make sure back-up alarm is working properly.
5. Do not travel in reverse for distances greater than those dictated by local ordinances. If reverse travel exceeds ten (10) feet, use a "spotter" or move the vehicle in ten (10) foot increments only, and then check to make sure the roadway is clear between increments.
6. Never use side door locking handles for hand holds. These items are movable and do not provide proper support.

**OPERATING FUNCTIONS**

7. Ensure that all persons are clear of the unit before raising or lowering a compartment. It is the operator's responsibility to warn all persons not to stand or cross under or near a raised compartment.
8. Ensure that the compartment ajar alarm is sounding anytime a compartment is raised.
9. Do not move the vehicle with a compartment raised.
10. If it is necessary to manually clean material from a compartment use a long probe.
11. Never place your head, body, fingers, or any limbs into a scissors or pinch point on the equipment.
12. To avoid possible bodily injury or unit damage lower the compartment slowly.
13. Before operating the vehicle the driver must be thoroughly familiar with the employer's safety program concerning traffic rules, warning devices, and hand signals.
14. Be sure to know where to get assistance in the event of an emergency.
15. Know your machine. Know the location and function of all controls, gauges, instruments, and protective devices.
16. Wear your seat belts.
17. Start the engine following the manufacturer's recommended procedure.
18. Always set the parking brake when stopped.
19. Turn on appropriate warning lights, put on safety vests, protective glasses, and protective shoes.
20. Never enter under a raised compartment unless it is empty and securely propped up.
21. Do not stand under the compartment when it is in the raised position unless it is empty and the compartment prop(s) are in position.
22. Raise compartment only on a level surface.
23. Do not raise a compartment until the stabilizer leg(s) are down and fully extended.

**HYDRAULICS**

1. Hydraulic fluid operates at high temperatures. Avoid contact with piping, hoses, or cylinders to prevent burns.
2. Never use hands to check for hydraulic leaks. Hydraulic fluid escaping under pressure may cause injury.
3. In case of injury seek proper medical treatment immediately.

**FIRE PROTECTION**

1. Keep a fire extinguisher accessible at all times, as recommended by the Bureau of Motor Carrier Safety.
2. Never use lighted smoking materials, open flame, or sparks when working with flammable materials such as fuel tanks or storage batteries.
3. Never use an open flame as a light source.
4. Never load ashes or other materials which might be smoldering. These items could ignite material in the unit.

**HOUSEKEEPING**

Good housekeeping habits are a major factor in accident prevention.

1. Keep the unit clean and free of grease or debris.

**SHUT DOWN**

1. Set parking brake.
2. Put all controls in neutral.
3. Shut off engine.
4. Remove key.
5. Lock vehicle

**SAFETY DURING SERVICE AND REPAIR**

1. Always wear safety glasses.
2. Disengage the PTO, turn off the ignition, and remove the keys before:
  - a. Leaving the truck cab.
  - b. Examination or lubrication of the PTO, pump, or drive shafts.
3. Always check to make sure the compartment side doors are fully up before raising the compartment.
4. Pump removal; due to the weight and location of the pump it is advisable when possible to place a floor jack beneath it and apply a slight pressure when the supporting capscrews are removed.

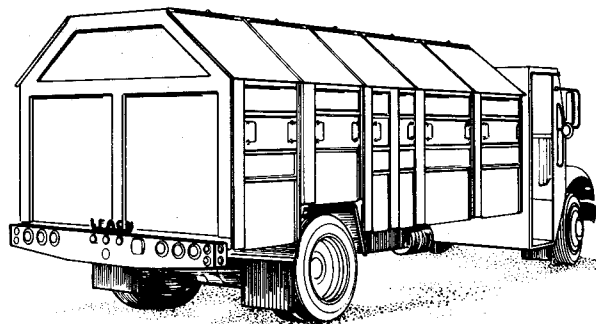
**CAPACITY OF LIFTING DEVICE REQUIRED FOR REMOVAL**

Cylinders .....	200 lbs.
Compartment .....	2,000 lbs.
Hoist assembly .....	3,200 lbs.



## GENERAL

This section will provide all of the instructions necessary to operate the HSD. However, prior to attempting to operate the unit make sure you are familiar with all of the safety information contained in Section 2, Safety Precautions.



## DESCRIPTION OF OPERATING CONTROLS

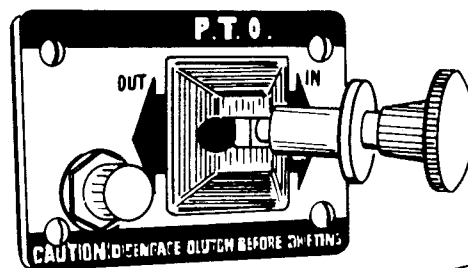
### ⚠ WARNING

The following information is for descriptive purposes only. It is not to be misconstrued as operating instructions. For operating instructions, refer to **OPERATING PROCEDURES** later in this section.

There are only few controls required for the complete and efficient operation of the HSD. It is important that you know the location and function of each control before attempting to operate the unit. Refer to the accompanying illustration for their location.

## PTO CONTROL

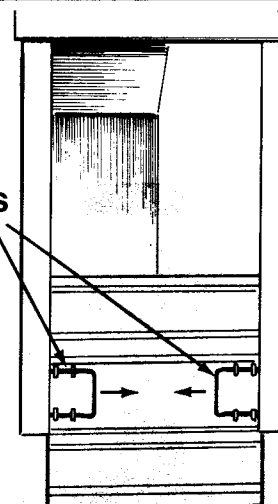
The PTO (Power Take Off) is engaged to put the hydraulic pump into operation. The exact location of the PTO control will vary depending upon the type of PTO, truck cab style, and control panel location. The PTO may be engaged by use of a lever, rocker switch, push/pull cable, toggle lever, or positive control button, depending on the style of the PTO. Be sure to read all safety decals associated with the PTO before attempting operation.



## DOOR LOCKING HANDLES

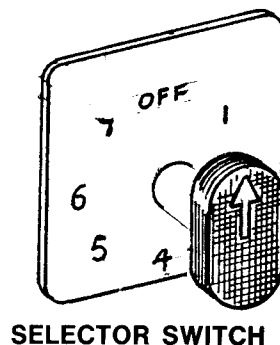
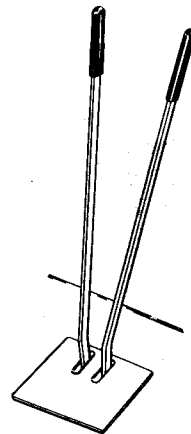
Each compartment door has two (2) spring loaded, dual pin locking handles. The handles are used to hold the door in any of six (6) height positions.

HANDLES



**OPERATION****COMPARTMENT LIFT/DUMP CONTROLS**

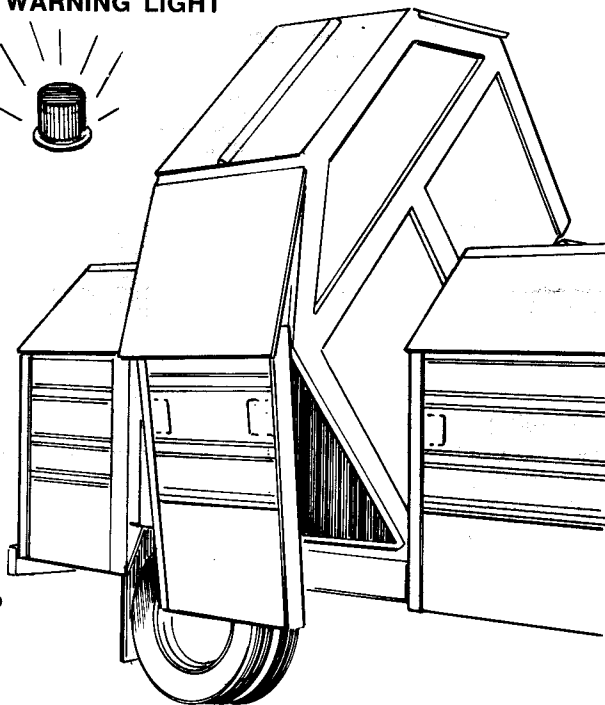
The controls mounted inside the chassis cab on the HSD are used to control the compartment lift/dump system. First, turn on the selector circuit switch, second, rotate the compartment selector switch to the required compartment number and move the lift lever to the "up" position, this will raise the selected compartment. Move the dump lever to the "up" position, this will dump the recyclables out of this compartment. Moving the dump lever to the "down" position will move the compartment toward the unit, moving the lift lever to the "down" position will lower the compartment onto the chassis.

**SELECTOR SWITCH****LIFT/DUMP  
CONTROLS****COMPARTMENT RAISED WARNING LIGHT  
WITH AUDIBLE ALARM**

This warning light, located in the cab, will illuminate if any compartment is raised off the frame. Additionally, the audible warning system will sound the compartment ajar alarm whenever any compartment is raised.

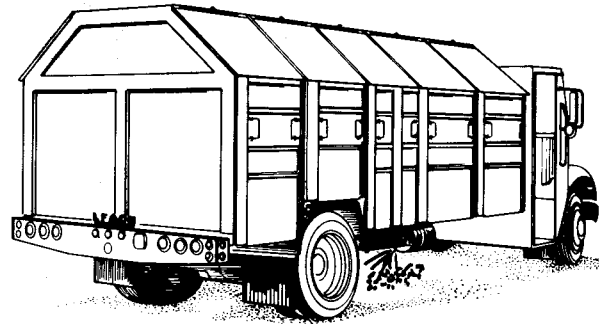
**⚠ CAUTION**

Operation of the unit with an illuminated or defective warning system can result in equipment damage.

**IN CAB WARNING LIGHT****BEEP  
BEEP****BEEP****AUDIBLE ALARM**

**START UP (OPERATING INSTRUCTIONS)**

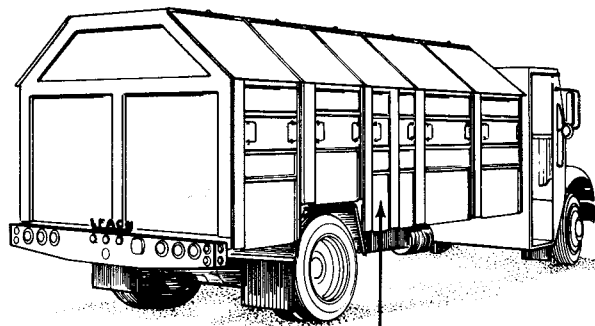
Inspect and start the truck as described under pre-operational walk-around inspection above.

**POSITIONING COMPARTMENT**

The standard configuration for the HSD has the body divided into five (5) compartments.

**NOTE**

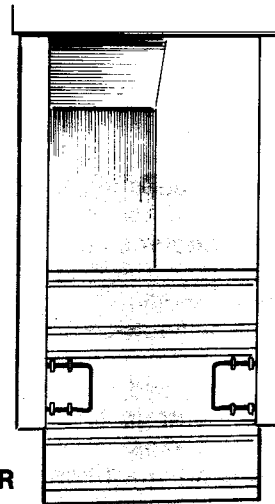
*Other compartment configurations are an available option. Compartments may dump either left or right. Before operating observe the unit configuration.*

**OPTIONAL SPLIT COMPARTMENT****POSITION COMPARTMENT SIDE DOORS**

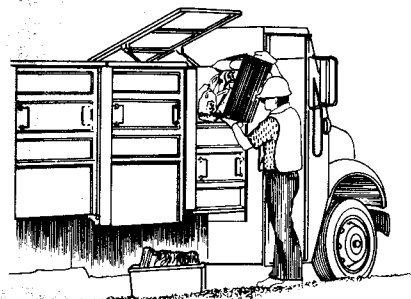
Sliding side doors on each compartment should be placed in the fully raised position while traveling. When loading is to begin, move them to the lowest position to make loading easier.

**NOTE**

*If the unit is partially loaded, position the doors to prevent spillage.*

**SLIDING DOOR****LOADING RECYCLABLES**

The standard configuration of the HSD allows for collection of five (5) types of material. The recommended location of these materials is aluminum in the forward compartment, tin next, then plastics, glass, and finally paper in the rear compartment.





### OPERATING PROCEDURES

This section of the manual provides all the instructions necessary to operate the HSD, including specific instructions for loading, transporting, and unloading the unit.



### PRE-OPERATION WALK-AROUND INSPECTION

Each day, before using the HSD, perform the following "walk-around" inspection.

1. Refer to the decal location illustration in Section 2 (SAFETY PRECAUTION) of this manual and make sure all decals are in place and readable. Replace any decals that are not.

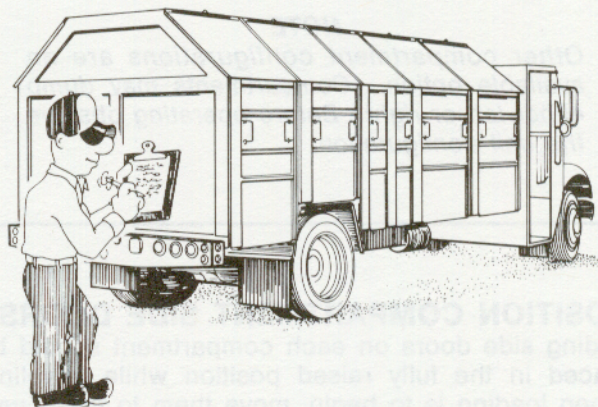
#### NOTE

*A decal kit, free of charge, is available from your local Leach distributor.*

2. Make certain all lights, back-up alarm, and the compartment ajar alarm are working properly. Perform a walk-around inspection and conduct a safety check before starting:
  - a. Check for coolant, fuel, or hydraulic fluid leaks.
  - b. Check tire condition.
  - c. Check cab windows, mirrors, and headlights for visibility.
  - d. Check lighting and the backup alarm.
  - e. Check all controls for proper function, including the brakes.
  - d. Check the compartment hoists and other mounting hardware.
3. Make sure that the compartment discharge gates are locked in place by their latch pins.
4. Check the hydraulic fluid level to make sure it is in the "safe" range. Add fluid if necessary. (See Section 5, Specifications, for the correct type of fluid to be used.)

#### NOTE

*To check the fluid level, the compartments must be lowered and resting on the chassis frame rails. See Section 7, Checkout.*



5. Start the truck according to the manufacturer's instructions and while it is warming up continue the walk-around inspection.
6. Back the unit up a few feet to insure that the backup alarm is working properly.

### **▲WARNING**

**Do not operate a unit that is in need of service or repair. Death, serious injury, or damage to the equipment could result. Report any problems found during the pre-operational walk-around inspection to the maintenance supervisor for service or repair, then place a tag on the steering wheel (in-operative) and remove the keys.**



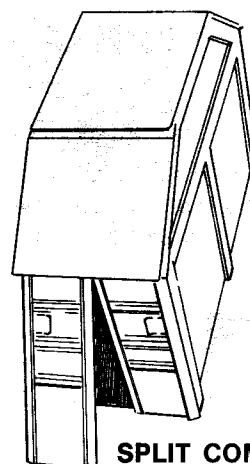
## MANUAL LOCK WITH OPTIONAL SPLIT GATE COMPARTMENTS

A split compartment consists of a single divided compartment with two (2) separate gates. One (1) gate is equipped with the standard auto unlock feature, the other gate utilizes a manual lock.

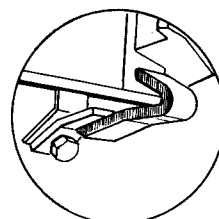
### OPERATION:

The portion of the compartment which has the auto unlock feature should be positioned and dumped as previously described. The compartment should then be lowered as previously described and the operator manually unlocks the split gate and again repeats the dumping procedure.

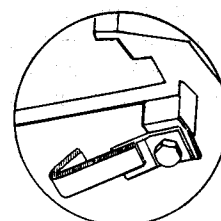
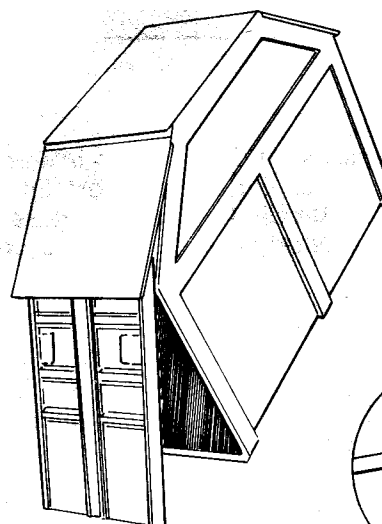
After dumping, the operator must manually position the lock to the closed position.



**SPLIT COMPARTMENT**



**MANUAL LOCK**



**UNLOCKED**

## STORAGE

### NOTE

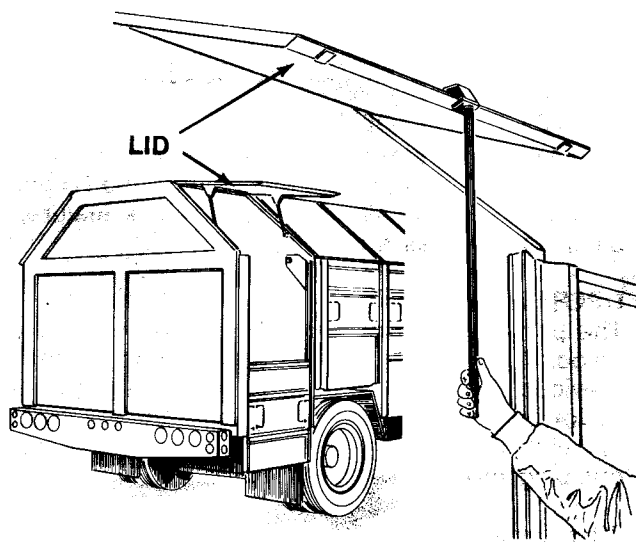
*Before storing the vehicle overnight, weather permitting, the inside of the body should be washed to remove any accumulation of material.*

## SHUT DOWN

1. Disengage the PTO and put all controls in neutral.
2. Set the parking brake.
3. Shut off the engine.
4. Remove the keys.
5. Report any maintenance problems.
6. Lock the vehicle.

**OPERATION****LID**

The HSD is equipped with a lid that may be opened for access. The lid should be kept closed in normal operation.

**UNLOADING**

The HSD uses a transmission PTO and an integrated hydraulic pump to power the compartment lift and dump cylinders. One (1) cylinder is used to raise the compartment and the other is used to tilt the compartment.

1. Position the unit at the unloading site.
2. Engage the vehicle parking brake.
3. Engage the PTO as shown on the PTO manufacturer's instruction decal. Select the compartment to be raised. Raise the compartment by moving the lift control handle in the appropriate direction.

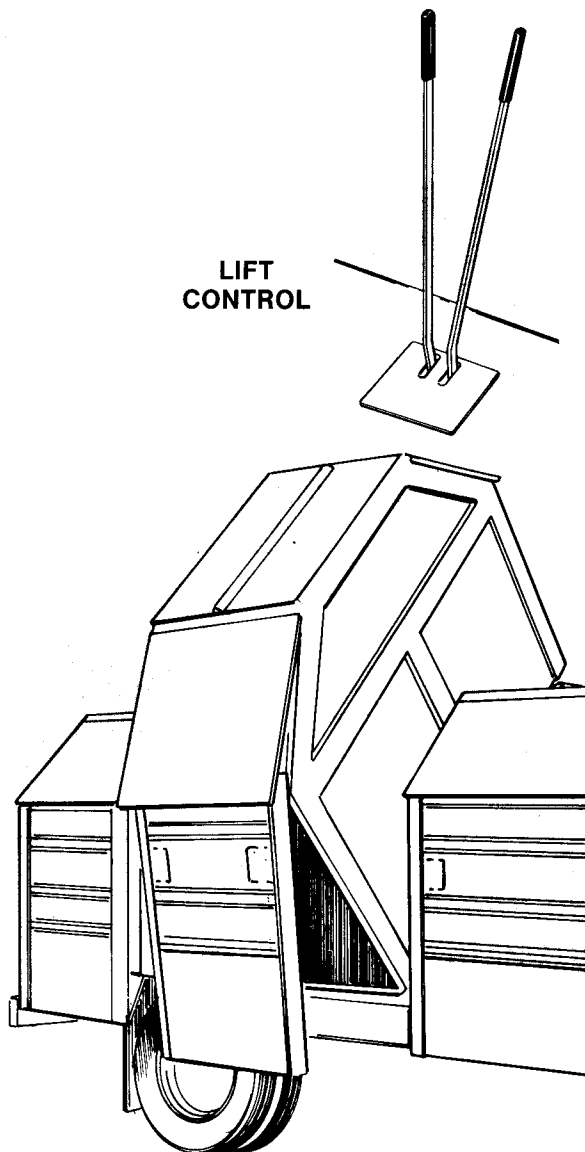
After the material is unloaded:

1. Lower the compartment.
  2. Disengage the PTO.
  3. Release the parking brake.
  4. Move the unit to the next unloading site.
- Repeat this process for each type of collected material.

**CAUTION**

Do not attempt to raise the compartment until the unit is on a level surface and the stabilizer leg has been lowered.

LIFT  
CONTROL





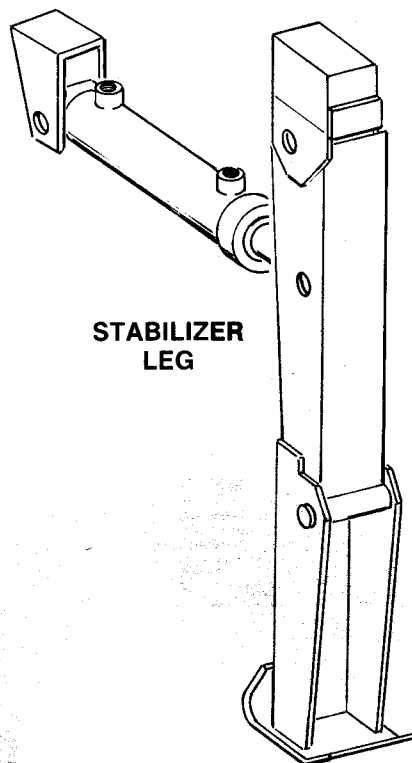
## **STABILIZER LEG**

### **GENERAL**

A stabilizer leg is used when lifting and dumping a compartment to stabilize the chassis frame.

### **OPERATION**

1. Locate the unit.
2. Move the stabilizer leg toggle switch to the "down" position. With the compartment selector switch in the "off" position, move the lift cylinder directional control valve handle to the "up" position. The stabilizer leg will lower and lock into position.
3. Rotate the compartment selector switch to the desired compartment and dump the recyclables.
4. After dumping, lower the compartment.
5. Move the stabilizer leg toggle switch to the "travel" position. Move the lift cylinder directional control valve handle to the "down" position until the stabilizer leg returns to the travel position.





**⚠ WARNING**

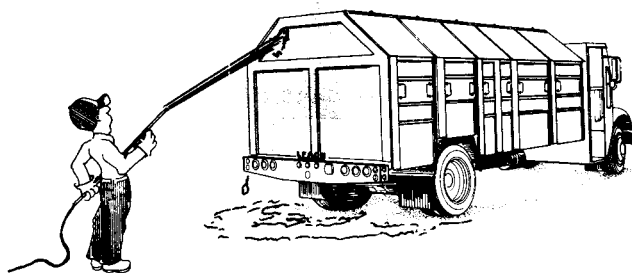
Proper service and repair is important for the safe, reliable operation of all mechanical products. The service procedures recommended and described in this service manual are effective methods for performing service operations. Some of these service operations require the use of tools specially designed for the purpose. These special tools should be used when and as recommended.

It is important to note that deviating from these procedures could cause damage to the unit or render it unsafe. However, please

remember that these procedures are not all inclusive. Since Leach Company could not possibly know, evaluate and advise the service trade of all possible ways in which service might be done or of the possible hazardous consequences of each way, we have not undertaken any such broad evaluation. Accordingly, anyone who uses a service procedure or tool which is not recommended by Leach must first thoroughly satisfy himself that neither his nor the operator's safety will be jeopardized by the service methods selected.

**PREPARATION FOR SERVICE**

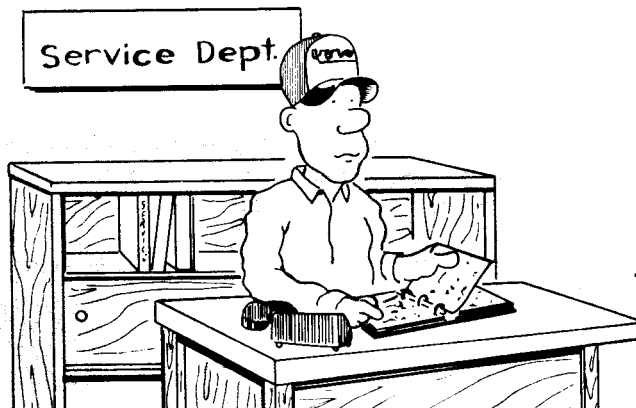
Proper preparation is very important for efficient and safe service work. A clean work area at the start of each job will allow you to perform the repair as easily and quickly as possible, and reduce the incidence of misplaced tools and parts. If the portion of the unit to be repaired is excessively dirty, it should be cleaned before work starts. Cleaning will occasionally uncover trouble sources. Tools, instruments and parts needed for the job should be gathered before work is started. Interrupting a job to locate tools or parts is a needless delay.

**REPLACEMENT PARTS**

Of growing concern to the Leach Company is the use of counterfeit, will-fit or substitute parts. The use of non-standard parts may affect the operation and performance, and void the warranty. Insure maximum reliability and protect your investment — insist on LEACH Signature Original Factory Parts.

**SERVICE BULLETINS**

In addition to the information given in this Service Manual, Service Bulletins are issued from time to time, which cover interim engineering changes and supplementary information. Service Bulletins should be consulted for complete information on the HSD covered by this manual.



**GENERAL REPAIR PRACTICES**

---

**SAFETY PRECAUTIONS****PRIOR TO PERFORMING ANY SERVICE OR REPAIR:**

1. Set the parking brake.
2. Put the vehicle in park, or if manual transmission put in gear and remove the ignition key.
3. Place an OSHA standard wheel chock in front of and behind the front tire.
4. When working on the unit always follow the instructions in Section 9, SERVICE AND REPAIR.
5. Whenever dismantling any hydraulic line, valve, or cylinder be sure to turn off the hydraulic fluid flow, relieve the pressure, and slowly crack or loosen the fittings.

**SAFETY DURING SERVICE AND REPAIR**

1. Always wear safety glasses.
2. Disengage the PTO, turn off the ignition, and remove the keys before:
  - a. Leaving the truck cab.
  - b. Examination or lubrication of the PTO, pump, or drive shafts.
3. Always check to make sure the compartment side doors are fully up before raising any compartment.
4. Pump unit removal; due to the weight and location of the pump unit, it is advisable whenever possible to place a floor jack beneath it and apply a slight pressure when the supporting bolts are removed.

**WELDING**

1. When rewelding an old weld, be sure the old weld is completely cleaned out.
2. When repairing a cracked weld, the old weld should be completely removed before rewelding.
3. When adding a part or attachment be sure; the metal is clean before welding, the part is properly located and the weld will not cause damage to adjacent parts.

**WELDING PRECAUTIONS****ELECTRIC WELDERS**

1. Electric arc welders should have a separate, fused disconnect circuit.
2. Welders must be used according to the manufacturers specifications.
3. All electric welding should be done in a well-ventilated stall.
4. The radiation given off by the arc will destroy the retina of the eye; so wear an approved welder's helmet or goggles.
5. Welding radiation will produce severe burns on unprotected skin, similar to sunburn, so wear heavy clothing. Use natural fiber or leather — avoid synthetic fiber clothing.
4. Hoses cannot be safely repaired: when they show signs of deterioration, they should be replaced.
5. Return regulators periodically to the distributor for inspection. Store gas bottles upright and out of the sun. Do not attempt to repair or make internal adjustments on the regulators yourself.
6. If you suspect a leak in the system, make a bubble test with Ivory soap. DO NOT USE ANY OTHER BRAND OF SOAP BECAUSE OF THE DANGER OF OXYGEN COMBINING WITH IT AND EXPLODING.
7. When preparing to use the torch, make certain that the regulator valves are all the way out to the "off" position before the main tank valves are opened to protect the regulators from the sudden impact of tank pressure.
8. When opening the tank valves, stand alongside of the regulators, out of the way, in case they blow out.
9. Backfiring or "machine gunning" at the torch is very dangerous and can lead to a major explosion.
10. Welding should be done in a location well away from flammable materials.

**OXY-ACETYLENE TORCHES**

1. Acetylene is a highly explosive gas which should be treated with the greatest care. At pressures above 15 psi, acetylene will explode by decomposition without the presence of air. No other industrial gas has such a wide explosive range.
2. Oxygen will spontaneously ignite in the presence of oil and grease. The hoses, torch handles, and the regulators must be kept free of petroleum products.
3. Before using the equipment, inspect it for cleanliness and for leaks.

## HYDRAULIC COMPONENT REMOVAL, DISASSEMBLY AND REPAIR

1. Cleanliness is very important; dirt is the number one cause of wear in bearings, bushings and especially in hydraulic components.
2. Inspect hydraulic components for leaks before cleaning. The dirt build up on the component can aid in tracing fluid leaks.
3. Clean hydraulic connections before removal to prevent dirt from entering the component.
4. Loosen hydraulic fittings slowly to release pressure.
5. Cap hydraulic fittings immediately after removal to prevent dirt from entering the component or line and to prevent fluid from leaking.
6. Clean the component in non-flammable solvent before disassembly.
7. Inspect component after cleaning for signs of wear or external damage.
8. When disassembling a component, note the position of each part as it is removed to aid in reassembly.
9. During disassembly note the condition of each part as it is removed to aid in diagnosing problems and to help prevent them in the future.
10. Clean and inspect disassembled parts for wear, cracks, dirt, etc.
11. After cleaning and inspection, re-usable hydraulic parts should be immediately coated with clean fresh hydraulic fluid to prevent rust formation. If these parts are not going to be reinstalled immediately, they should be wrapped in a clean lint-free cloth or paper to prevent nicks or scratches.
12. When repacking a cylinder, or resealing a valve, replace all seals and o-rings that are disturbed during the repair. The price of a few seals is very little, compared to a return repair job.

## HYDRAULIC COMPONENT REASSEMBLY AND INSTALLATION

1. Assemble the parts in same position as removed.
2. Align parts accurately before mating.
3. Inspect o-ring and seal grooves for sharp edges, nicks or burrs before installing new sealing parts.
4. Lubricate all new sealing parts with clean, fresh hydraulic fluid before installation.
5. Use care not to damage new sealing parts on reassembly.
6. Use correct torque values when reassembling and installing components. See CAPSCREW MARKING AND TORQUE VALUES in this section.
7. Always check hydraulic fluid level in the hydraulic fluid tank after performing any service or repair of the hydraulic system.
8. Always lubricate components with grease fittings after they have been repaired and reinstalled.
9. Use only Leach Signature original factory replacement parts.

### NOTE

See Section 9, *SERVICE AND REPAIR* for specific repair instructions.

## ELECTRICAL TESTING

The electrical system used on the HSD consists of various lights, switches, and wiring. Testing the components and wiring can be accomplished by two (2) simple checks; CHECKING FOR VOLTAGE and CHECKING CONTINUITY.






### CHECKING FOR VOLTAGE

A 12 volt test light is used to check for the presence of electricity in a live circuit. Connect the test light clip to a good ground and the probe at the point where the presence of voltage is to be checked. If voltage is present, the light will be on . . . if no voltage is present the light will be off.

### CHECKING CONTINUITY

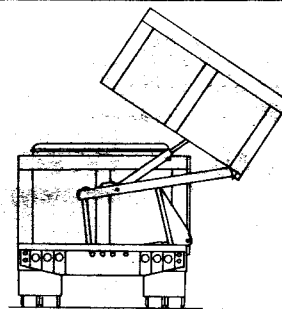
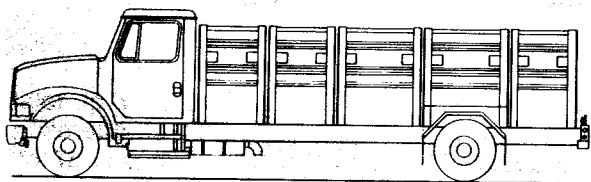
A continuity tester is used to check the ability of a conductor to allow current to pass through it. A continuity tester uses a self contained power source, and should never be used on a live circuit. Connect the clip to one side of the component to be tested and touch the probe to the other side. If the component has the potential to pass current, has continuity, the light will be on...if the component is not able to pass current, there is no continuity and the light will be off.

## CAPSCREW MARKING AND TORQUE VALUES

Usage	Much Used	Much Used	Used at Times	Used at Times
	To 1/2-69,000 To 3/4-64,000	To 3/4-120,000 To 1-115,000	To 5/8-140,000 To 3/4-133,000	150,000
Capscrew Diameter & Minimum Tensile Strength PSI	To 1-55,000			
Quality of Mat'l	Indeterminate	Min. Commercial	Med. Commercial	Best Commercial
SAE Grade Number	1 or 2	5	6 or 7	8
<b>CAPSCREW HEAD MARKINGS</b> Manufacturer's marks may vary. These are all SAE Grade 5 (3-line).				
    				
Capscrew Body Size (Inches) - (Thread)	Torque Ft-Lb (kg m)	Torque Ft-Lb (kg m)	Torque Ft-Lb (kg m)	Torque Ft-Lb (kg m)
1/4 - 20	5 (0.69)	8 (1.11)	10 (1.38)	12 (1.66)
- 28	(0.83)	10 (1.38)		14 (1.94)
5/16 - 18	11 (1.52)	17 (2.35)	19 (2.63)	24 (3.32)
- 24	13 (1.80)	19 (2.63)		27 (3.73)
3/8 - 16	18 (2.49)	31 (4.29)	34 (4.70)	44 (6.09)
- 24	20 (2.77)	35 (4.84)		49 (6.78)
7/16 - 14	28 (3.81)	49 (6.78)	55 (7.61)	70 (9.68)
- 20	30 (4.15)	55 (7.61)		78 (10.79)
1/2 - 13	39 (5.39)	75 (10.37)	85 (11.76)	105 (14.52)
- 20	41 (5.67)	85 (11.76)		120 (16.60)
9/16 - 12	51 (7.05)	110 (15.21)	120 (16.60)	155 (21.44)
- 18	55 (7.60)	120 (16.60)		170 (23.51)
5/8 - 11	83 (11.48)	150 (20.75)	167 (23.10)	210 (29.04)
- 18	95 (13.14)	170 (23.51)		240 (33.19)
3/4 - 10	105 (14.52)	270 (37.34)	280 (38.72)	375 (51.86)
- 16	115 (15.90)	295 (40.80)		420 (58.09)
7/8 - 9	160 (22.13)	395 (54.63)	440 (60.85)	605 (83.67)
- 14	175 (24.20)	435 (60.16)		675 (93.35)
1 - 8	235 (32.50)	590 (81.60)	660 (91.28)	910 (125.85)
- 14	250 (34.58)	660 (91.28)		990 (136.92)

**NOTES:**

1. Always use the torque values listed above when specific torque values are not available.
2. The above is based on use of clean, dry threads.
3. Reduce torque by 10% when engine oil is used as a lubricant.
4. Reduce torque by 20% if new plated capscrews are used.
5. General Formula for calculating Torques is as follows: Torque in Inch Lbs. = .2 x Nominal Diameter of Screw x Loads in Ls., where Load = 80% of Yield Strength, expressed in Lbs., not pounds per square inch.



### I. Body Compartment Inside Dimensions

- A. 2 Cubic Yard—32" x 96" x 34"
- B. 3 Cubic Yard—32" x 96" x 46"
- C. 4 Cubic Yard—42" x 96" x 46"
- D. 5 Cubic Yard—52" x 96" x 46"
- E. 6 Cubic Yard—62" x 96" x 46"
- F. 8 Cubic Yard—82" x 96" x 46"

### II. Body Compartment Construction

- A. Side sheets are 16 gauge steel with smooth interior.
- B. Floor sheet is 11 gauge one piece formed steel.
- C. Hard top doors are 18 gauge steel with 1" tubular steel internal reinforcement.
- D. External compartment reinforcements are 1 1/4" x 5" formed of 16 gauge steel.
- E. Compartment welding is MIG spot welded.

### III. Compartment Discharge Gate

- A. Discharge gate frame constructed of formed 11 gauge sheet steel.
- B. Discharge gate sidewall constructed of 11 gauge sheet steel.
- C. Discharge gate is top off-set hinged with a 1 1/4" diameter pivot.
- D. Discharge gate is automatically latched and unlatched by means of a spring actuated tapered lock bolt assembly.

### IV. Sliding Side Doors

- A. Each body compartment has two sliding side doors to allow loading from both the street and curb side of the body.
- B. Sliding side doors are constructed of .080 formed and welded aluminum.
- C. Sliding side doors have six (6) load height adjustments.
- D. Low compartment loading height is 20" above chassis frame.
- E. High compartment loading height is 52" above chassis frame.

### V. Body Compartment Hoist & Frame Assembly

- A. Compartment hoist frame base plate constructed of 3/16" steel, 80,000 PSI yield.
- B. Compartment hoist frame constructed of 3" x 5" x 3/16" tubular steel, 46,000 PSI yield.
- C. Compartment hoist lift link assembly is constructed of 11 gauge formed steel, 80,000 PSI yield.
- D. Compartment hoist bearing blocks are 2" x 3" x 4 3/4" steel with a 1 15/16" replaceable bronze bushing and lubrication fitting.
- E. Compartment hoist lift cylinder is 3" diameter x 28" stroke, double acting.
- F. Compartment hoist dump cylinder is 3" diameter x 13" stroke, double acting.
- G. Compartment hoist will elevate compartments 43" above truck chassis frame.
- H. Compartment hoist will side-shift compartment 36" to dump side.
- I. Compartment hoist has a 50° dump angle.
- J. Compartment hoist has a lift capacity of 4000 lbs.

### VI. Body Compartment Hydraulic System

- A. Compartment hydraulic system is driven off the chassis engine transmission through a cable shift PTO.
- B. Compartment hydraulic system utilizes a 10 GPM direct mount gear type pump.
- C. Compartment hydraulic system has a 5.3 gallon hydraulic oil tank with a suction and return line filter.
- D. Compartment hydraulic system has a two spool manual control valve with mechanical linkage, cab mounted, to actuate the hoist lift, side-shift and dump functions.
- E. Compartment hydraulic system utilizes a cab mounted rotary switch to electrically actuate the normally closed valve port to the selected compartment hoist.
- F. Compartment hydraulic system features a compartment ajar switch with visual and audio indicator.
- G. Compartment hydraulic system features an electrical lockout device to prevent more than one compartment hoist being raised at a time.

### VII. Body Compartment Lighting & Wiring System

- A. All body lights comply with FMVSS 108 regulations.
- B. All body wiring is enclosed in a braided plastic loom.
- C. The standard body lighting package includes:
 

(2) Clearance Lights	(2) Back-Up Lights
(2) Marker Lights	(1) 3 Light Cluster
(2) Tail & Turn Lights	(2) License Plate Lights
(2) Tail & Brake Lights	(4) Red Reflectors
- D. Body is supplied with a 107 DBA electronic back-up alarm.

### VIII. Rear Bumper Assembly

- A. The rear mounted bumper is constructed of 11 gauge welded steel, 50,000 PSI yield and bolted to the truck chassis frame with (8) 1/2" bolts.

### IX. Body Compartment Paint

- A. Entire body compartment is phosphatized before primer coat is applied.
- B. A non-heavy metal rust inhibiting primer is applied.
- C. A finish coat of high gloss white enamel is applied.
- D. All paint is baked on at a minimum of 200° Fahrenheit.

Note: Due to continuing engineering research in new technology, specifications are subject to change without notice.

## SECTION 5

### SPECIFICATIONS

#### LUBRICANTS

Oil ..... SAE #10 or equivalent  
Grease ..... Multiservice (quantity grade)

#### HYDRAULIC SYSTEM

##### CAPACITY (approximately)

Fluid tank ..... 17 qt. total  
14 qt. operating  
Total system ..... 37 qt.  
System pressure setting ..... 2500 psi  
Filtration ..... Suction strainer  
Pump type ..... Gear  
Capacity ..... 10 GPM @ 1100 RPM

#### HYDRAULIC FLUID:

To serve its purpose and give long and satisfactory service, hydraulic fluid must possess desirable physical and chemical characteristics. Stability over a wide range of temperatures and under agitation is very important.

Premium hydraulic fluids should be used in Leach hydraulic systems. In addition to the above characteristics selected additives should be added to provide additional resistance to wear, corrosion, oxidation, decomposition, and foaming. All additive blending should be done by the lubricant supplier so that they are compatible with each other.

A reputable lubricant supplier backed up by a reputable oil company is great assurance of obtaining high quality products, and generally speaking, higher quality is worth the higher initial cost.

#### LEACH HYDRAULIC FLUID RECOMMENDATION

All Leach hydraulic systems are factory filled with a high quality anti-wear hydraulic fluid meeting an ISO 32 specification. On units put into service where there are high ambient temperatures or sustained high duty cycles, it may be desirable to change the fluid to an ISO 46 specification (higher viscosity). In colder climates or light duty, an ISO 22 might be more appropriate. The International Standards Organization assigns specification numbers so that a consumer receives the same product from various suppliers.

GRADE ISO/VISCOSITY	22	32	46
AGMA NO .....			1
Gravity, API .....	33	31	31
Flash, °F .....	375	380	390
Pour Point, °F .....	-20	-20	-20
Viscosity:			
SSU @ 100° F.....	112	158	228
SSU @ 210° F.....	40	44	48
cSt @ 40° C.....	21	30.5	44
cSt @ 100° C .....	4.1	5.2	6.5
Viscosity Index .....	98	99	99
ASTM Oxidation Test (Hours to 2.0 Neut. No.).....	2500	2500	2500
ASTM Rust Test, A & B .....	Pass	Pass	Pass
Foam Test .....	Pass	Pass	Pass
Vickers Vane Pump Test.....	Pass	Pass	Pass
Dielectric Strength (ASTM 877) EC # @ 180° F.....	25Kv	25Kv	25Kv
	40-37-3(10)	40-37-3(15)	40-37-3(15)

#### CAUTION

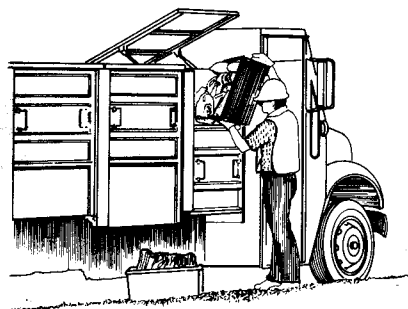
Do not use engine oil, automatic transmission fluid (ATF) or, add diesel fuel or kerosene to the hydraulic fluid. Service life of all hydraulic system components may be adversely affected.



## PREVENTIVE MAINTENANCE

**GENERAL**

The Leach HSD has been designed for long periods of efficient, uninterrupted operation. Careful attention to proper preventative maintenance, as described in this section, will insure and extend trouble-free operation of the unit. Particular attention to correct lubrication of the unit is probably the most vital area of preventative maintenance. The objective of preventative maintenance is to anticipate and prevent operational difficulties before they require extended shut down for costly repairs.

**OPERATING AND MAINTENANCE RECORDS**

Prepare and adhere to a maintenance schedule. Keep detailed records of all maintenance performed. Regularly inspect operating and maintenance records for deviations from normal operating conditions. Analyze the records for indications of potential trouble.

**NOTE**

*Occasionally distributors will receive service bulletins from LEACH concerning updated maintenance information. Keep those bulletins with this manual and make notes at the appropriate places in the manual referencing the updated information.*

**DAILY PREVENTATIVE MAINTENANCE**

Each day perform the following maintenance:

**1. INSPECTION**

Perform the PRE-OPERATIONAL INSPECTION described in Section 3, OPERATION.

**⚠ WARNING**

**Never go under the vehicle with the engine running. Death or serious injury could result.**

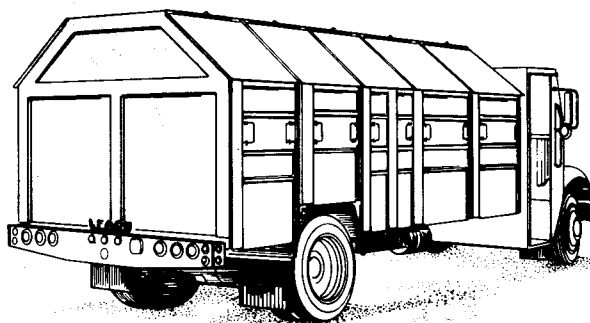
- a. Check all major moving parts for smoothness and ease of operation.
- b. When checking for hydraulic leaks pay particular attention to hose fittings and connections. A build up of hydraulic fluid and dirt indicates a small leak that can probably be corrected by tightening the fitting or connection.

**2. CLEANING**

Hose the entire unit inside and out with clean water. Make sure no collectibles are lodged in the compartments.

**3. LUBRICATION**

Frequent inspection of grease points will indicate when lubrication is needed.

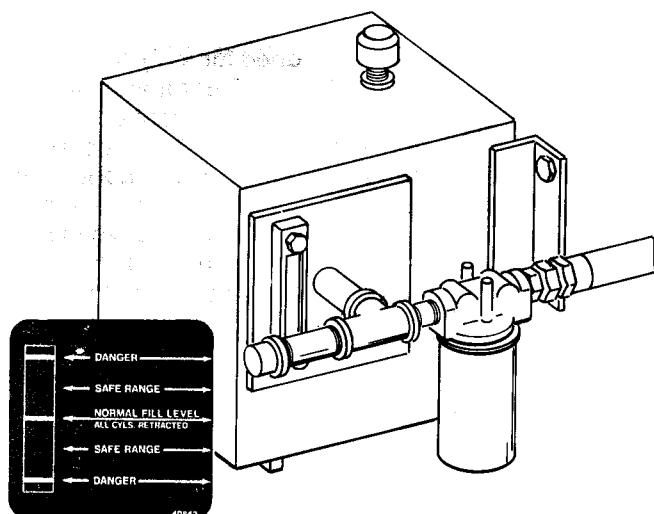


## PREVENTIVE MAINTENANCE

### CHECKING FLUID LEVEL (DAILY)

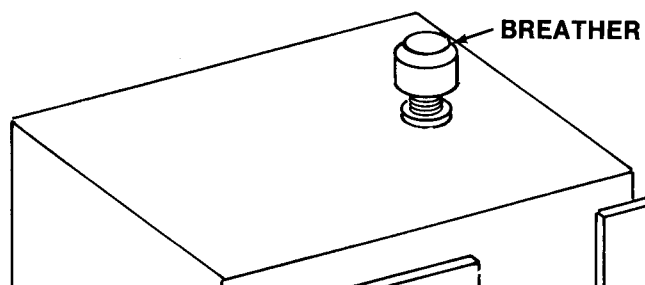
Place the compartment hoists in the "down" position and check the fluid level. When checking the fluid level in the hydraulic tank, also note any frequent or sudden loss of fluid. This would indicate leakage, which must be traced and corrected to avert equipment failure and possible damage to components.

If low, fill the hydraulic tank to the "NORMAL FILL LEVEL" with hydraulic fluid as specified in Sec. 5, SPECIFICATIONS, according to operating and weather conditions.



### CLEAN TANK BREATHER (WEEKLY)

Clean the air breather every week. Replace a breather that can not be cleaned adequately.

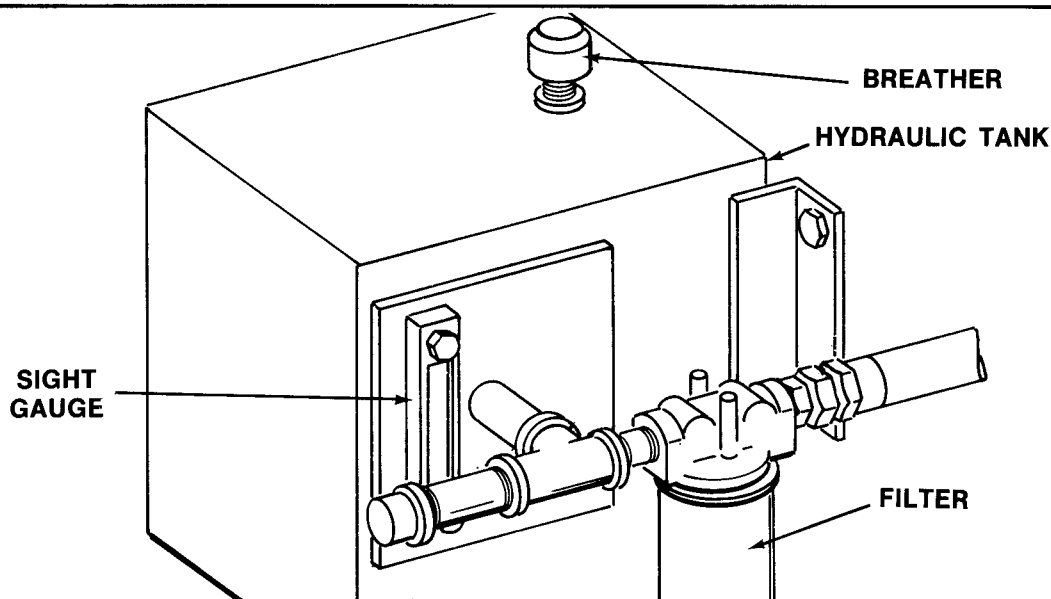


### FLUSHING HYDRAULIC SYSTEM (YEARLY)

1. Drain all fluid from hydraulic tank into a suitable container.
2. Clean and wipe out the bottom of the tank.
3. Fill the hydraulic tank with fresh fluid as specified in Sec. 5, SPECIFICATIONS, according to operating and weather conditions.
4. Start the truck and operate all the control levers as described in Sec. 3, OPERATION.
5. Recheck fluid level and add fluid as necessary.

#### NOTE

Refer to Sec. 9, SERVICE & REPAIR for detailed instructions pertaining to those items requiring repair or replacement.



## PREVENTIVE MAINTENANCE

## HYDRAULIC SYSTEM SERVICE

(See accompanying hydraulic system illustration)

### CONTAMINATION

It is estimated that as much as 90% of all hydraulic problems may be traced directly to the fluid. It is of utmost importance that all foreign matter be kept from the hydraulic fluid. Invisible quantities of abrasive type contamination may cause serious pump wear, malfunctioning of pumps and valves, and sludge accumulations within the system in relatively short periods of time. It is also essential that moisture and water be kept from the hydraulic fluids and system.

### COMMERCIAL HYDRAULIC FLUID TESTING

Hydraulic fluid samples should be taken periodically for laboratory analysis. The actual sampling method is critical. It should be done based on ANSI Standard B93.19M(R1980). This standard is available from the National Fluid Power Association, 3333 N. Mayfair Rd., Milwaukee, WI 53222.

Samples should be taken from the center of the reservoir when the fluid is at operating temperature and placed in a clean, dry, glass bottle with a non-shedding, screw-on cap. The bottle should be labeled with the date, type of fluid, and model and serial number of the machine.

Two identical samples should be taken. One for laboratory analysis and one for your own preliminary analysis while you are waiting for the lab report.

We recommend the use of commercial laboratory services for analysis of routine fluid samples taken on a regularly scheduled basis. The cost is about \$20 to \$30 per sample. The most important analyses are particle count, Spectro-chemical analysis, water content, and viscosity.

### IN HOUSE HYDRAULIC FLUID TESTING

After your sample has been allowed to stand for 20 to 30 minutes to eliminate all air bubbles, hold the bottle up to the light to check for debris in the fluid and also check whether the fluid is clear or cloudy.

Any visible debris is an indication of a severe solid contamination problem, the source of which must be located and corrected immediately. Common sources of this kind of contamination may be component wear, unsealed reservoir covers, or dirty air breather filters.

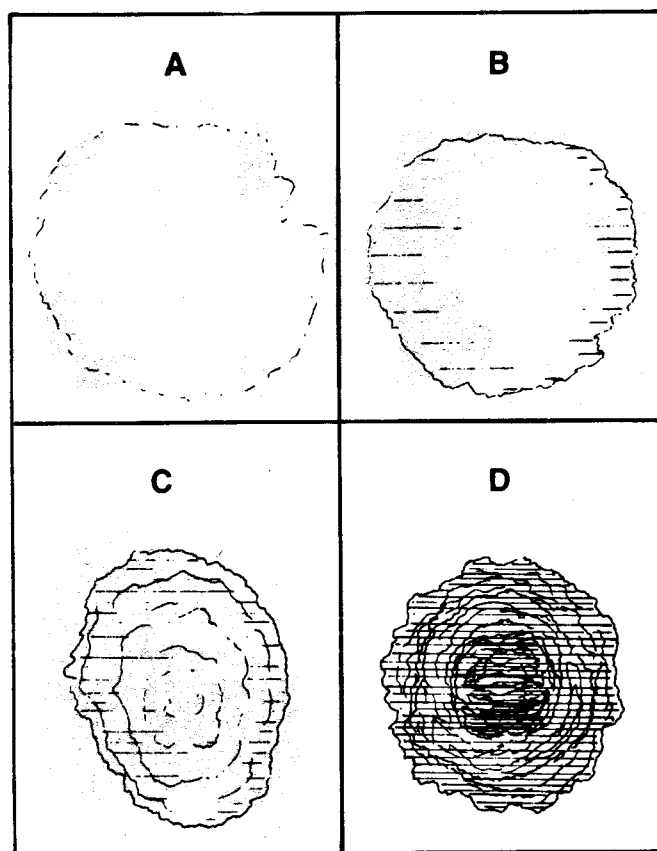
If the sample is the least bit "cloudy" it is an indication of water contamination, the source of which must be found and eliminated immediately. Common sources are inadequate outdoor storage, unsealed reservoir covers, or condensation.

A "BLOTTER SPOT TEST" may also be performed to test for OXIDATION. Place a DROP of fluid on a piece of white blotter paper. Order Leach part number 102480 for 20 sheets.

#### NOTE:

*The Blotter Test will provide an indication that a more complete test may be necessary.*

- If the blotter remains colorless or develops only a light yellow ring, oxidation is under control.
- If color develops but is uniform throughout, the fluid is still serviceable but should be checked for correct additive content.
- If the sample shows distinct rings the fluid should be changed.
- If a distinct dark spot remains in the middle, but a lighter colored fluid migrates outward in the blotter paper the fluid is about to dump (or already has) sludge or other by-products into the system. The time for replacement of this fluid has already passed.



Kits are available from your fluid supplier to test for acid content in much the same way you would test the condition of swimming pool water. A shift in acid content may indicate a breakdown in the fluid.

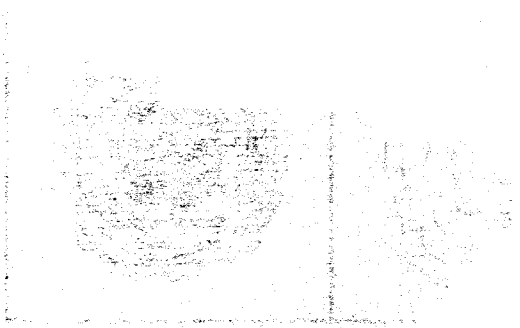
KEEP ACCURATE, DATED RECORDS OF ALL PERTINENT INFORMATION GAINED FROM THESE TESTS.

1. The purpose of this section is to provide the user with the necessary information to perform preventive maintenance on the equipment. This section contains the following information:

- A list of the maintenance tasks that must be performed on the equipment.
- The frequency with which each task must be performed.
- The tools and materials required for each task.
- The steps to be followed for each task.

2. The user should perform the maintenance tasks on a regular basis to ensure the proper operation of the equipment. Failure to perform the maintenance tasks may result in equipment failure and safety hazards.

3. The user should consult the maintenance manual for more detailed information on the maintenance tasks.



1. The purpose of this section is to provide the user with the necessary information to perform preventive maintenance on the equipment. This section contains the following information:

- A list of the maintenance tasks that must be performed on the equipment.
- The frequency with which each task must be performed.
- The tools and materials required for each task.
- The steps to be followed for each task.

GENERAL

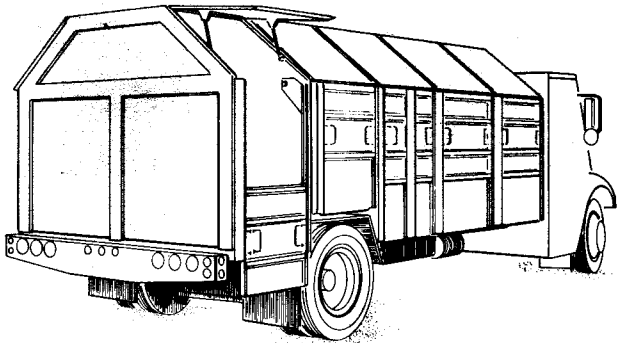
The Leach HSD has been designed to provide long periods of trouble-free operation. Performing the check-out procedures below, at regular weekly intervals, will help to prevent unscheduled downtime.

NOTE

Because of the location of various controls some checks will require two people.

WARNING

Make sure you know and observe all safety precautions listed in Section 2 before performing any of the following check-out procedures. Use extreme caution to avoid coming near any moving parts. Make sure the unit is in the correct operational mode as indicated by the OPERATIONAL STATUS block presented at the beginning of each check.



CHECK PRESSURES

The pressure check provided below will indicate the operating condition of the hydraulic system. Detailed adjustment procedures are provided later in this section and are referenced at the appropriate check-out procedures. Prior to performing pressure checks:

Operational Status			
Truck	Off	Keys	Removed

- 1. Install a 0-3000 psi gauge as shown.
- 2. Start the truck, engage the PTO.
- 3. Perform the following checks in order.

CHECK MAIN RELIEF PRESSURE

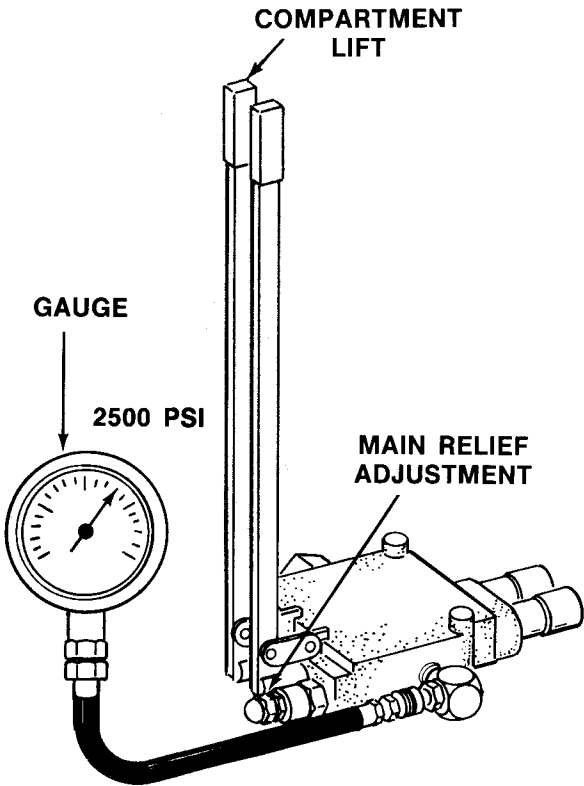
Operational Status			
Truck	Running	PTO	Engaged

- 1. Depress the foot throttle.
- 2. Move the control lever to fully extend the compartment lift cylinder.
- 3. Hold lever and read gauge. The pressure should be 2500 psi.

CAUTION

Do not operate faster than 800 - 1000 RPM.

Operational Status					
Truck	Running	PTO	Engaged	Sol. Sw.	ON



IF NOT:

- 4. Increase pressure by adjusting the main relief valve as described in Sec. 9, SERVICE AND REPAIR.
- 5. Repeat steps 2 and 3 and check gauge for 2500 psi.

IF NOT:

- 6. Replace defective HYDRAULIC PUMP as described in Sec. 9, SERVICE AND REPAIR.



**SECTION 7**  
**CHECK-OUT**

---



33  
1012 24

1012 24

1012 24

**GENERAL**

Troubleshooting is a matter of quickly and logically isolating the cause of a problem and taking corrective action. Factory trained mechanics, experienced operators, a thorough understanding of the information in this manual, and accurate maintenance records are the best troubleshooting tools available. Occasionally it may be best for a service person who is trying to isolate a problem to go "on the route" or consult with operators to determine how the unit is acting under actual working conditions.

For the most part, problems will be limited to hydraulic and electrical system components.

Hydraulic flow diagrams are provided in this section. These diagrams can be helpful in determining which parts are associated with a particular function.

An electrical wiring diagram is included in Section 9, SERVICE AND REPAIR under ELECTRICAL SYSTEM.

Problems in the hydraulic system may be found by performing the PRESSURE CHECKS found in Section 7, CHECK-OUT PROCEDURES.

POSSIBLE CAUSE	REMEDY
<p align="center"><b>PUMP NOISE IS EXCESSIVE</b></p> <p align="center"><b>NOTE ALL PUMPS MAKE A CERTAIN AMOUNT OF NOISE.</b></p> <ol style="list-style-type: none"> <li>1. Pump starving for fluid.</li> <li>2. Hydraulic fluid too cold.</li> <li>3. PTO drive shaft and/or U-joints badly worn or out of balance.</li> <li>4. Pump gears, end plates, bearings, etc., badly worn.</li> <li>5. Improper grade of hydraulic fluid (fluid foaming).</li> </ol>	
<p align="center"><b>COMPARTMENT WILL NOT RAISE</b></p> <ol style="list-style-type: none"> <li>1. Insufficient hydraulic pressure.</li> <li>2. Hydraulic pump is defective.</li> <li>3. Main relief valve is out of adjustment.</li> <li>4. Restriction in cylinder hose.</li> <li>5. Cylinder by-passing.</li> <li>6. Low hydraulic fluid.</li> <li>7. Solenoid valve not operating.</li> <li>8. Limit switch not functioning.</li> </ol>	
<p align="center"><b>LIFT/DUMP CYLINDER WILL NOT HOLD</b></p> <ol style="list-style-type: none"> <li>1. Cylinder by-passing.</li> <li>2. Directional valve by-passing.</li> </ol>	
<p align="center"><b>HOIST WILL NOT LOWER</b></p> <ol style="list-style-type: none"> <li>1. Filter plugged.</li> </ol>	
<ol style="list-style-type: none"> <li>1. Check fluid level. See Section 7, Checkout.               <ol style="list-style-type: none"> <li>1a. Check for obstruction in suction lines, kinked or collapsed hoses.</li> </ol> </li> <li>2. Bring fluid to normal operating temperature.               <ol style="list-style-type: none"> <li>2a. Change hydraulic fluid to proper grade for operating conditions, see Sec. 5, Specifications.</li> </ol> </li> <li>3. Repair, replace, and/or balance all parts.</li> <li>4. Replace pump.</li> <li>5. Replace with proper grade of hydraulic fluid. See Sec. 5, Specifications.</li> </ol>	
<ol style="list-style-type: none"> <li>1. Check main relief pressure, see Sec. 7, Checkout Procedures.</li> <li>2. Repair or replace pump. See Sec. 9, Service and Repair.</li> <li>3. Adjust as necessary. See Sec. 9, Service and Repair.</li> <li>4. Remove and clean hose.</li> <li>5. Repair cylinder. See Sec. 9, Service and Repair.</li> <li>6. Fill with fluid, see Sec. 6. Preventive Maintenance.</li> <li>7. Repair or replace solenoid.               <ol style="list-style-type: none"> <li>8a. Check for continuity.</li> <li>8b. Check wiring.</li> </ol> </li> </ol>	
<ol style="list-style-type: none"> <li>1. Repair cylinder.</li> <li>2. Replace valve.</li> </ol>	
<ol style="list-style-type: none"> <li>1. Replace filter.</li> </ol>	

**TROUBLESHOOTING****DESCRIPTION OF HYDRAULIC SYSTEM**

The following is a description, with flow diagrams, of what happens in the hydraulic system during the raising, lowering and dumping of the HSD.

Operator action is presented and then a description of hydraulic flow and the interaction of system components (i.e. valves and cylinders) follows. Before proceeding to the flow diagram refer to the illustration and become familiar with the system component nomenclature.

**SYSTEM COMPONENT NOMENCLATURE**

Hydraulic fluid tank

Pump

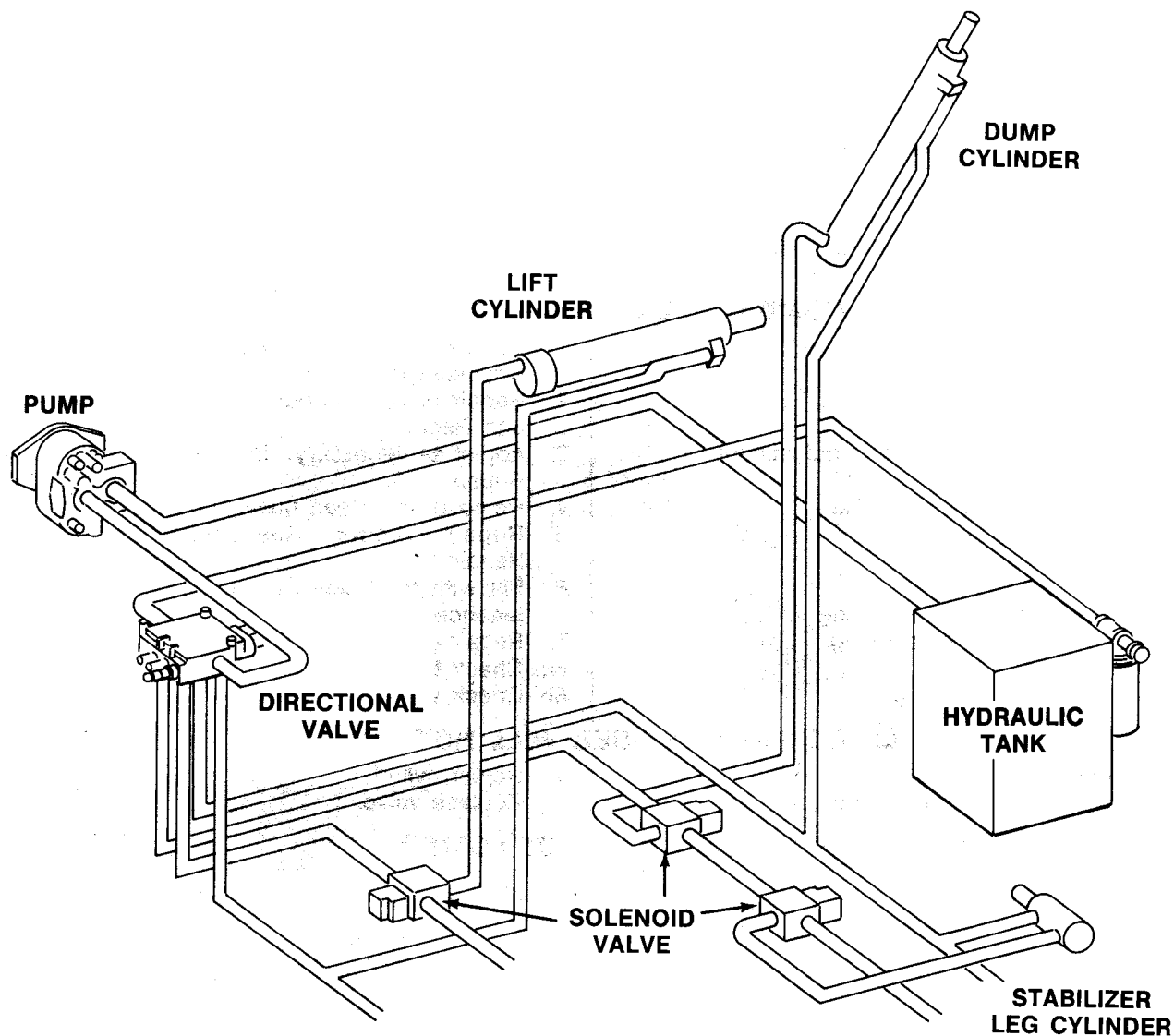
Directional valve

Lift cylinder

Dump cylinder

Solenoid valve

Stabilizer leg cylinder



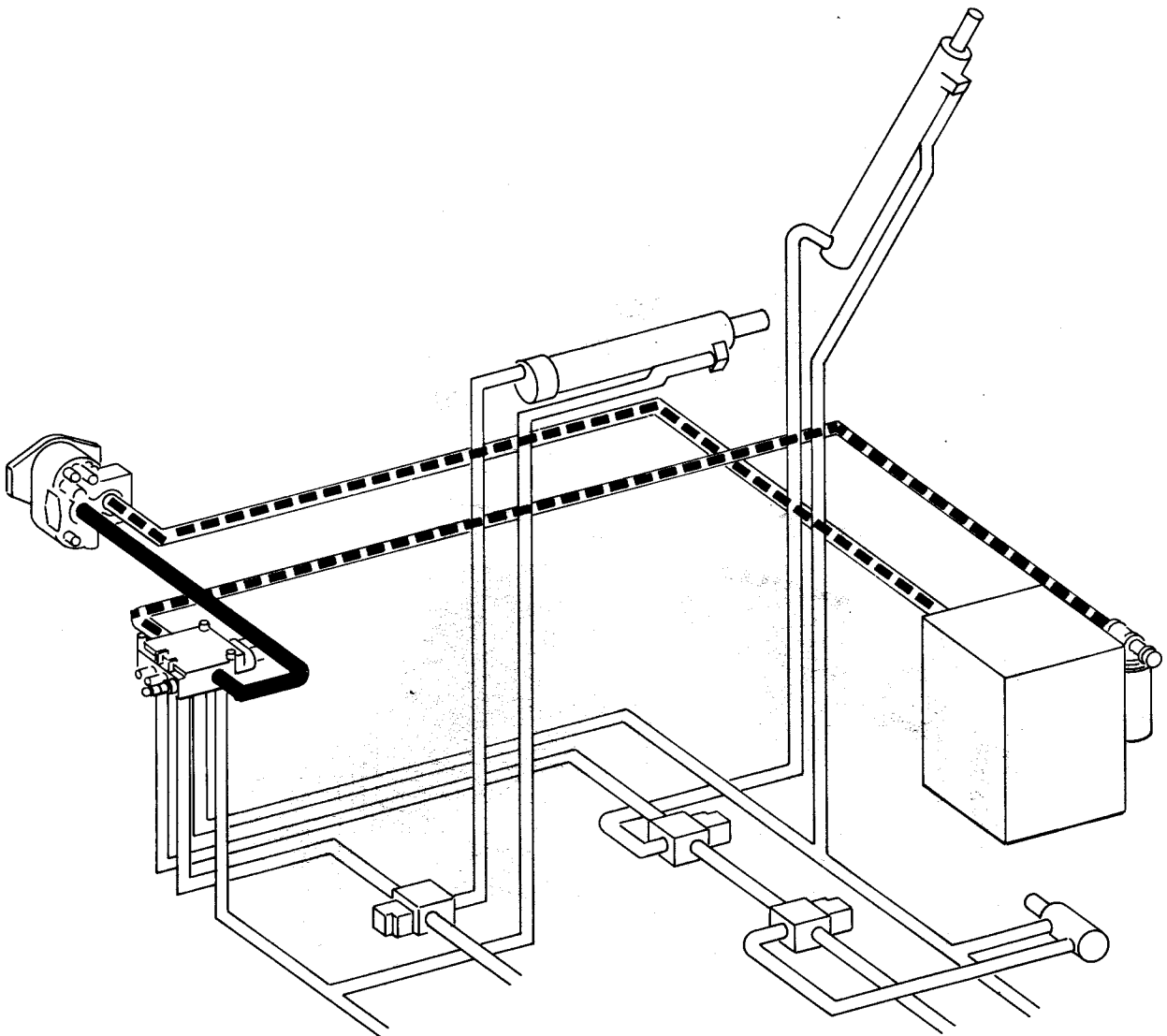


**NEUTRAL (WITH HOIST DOWN)****OPERATOR ACTION**

The operator starts the truck and engages the PTO.

**HYDRAULIC SYSTEM**

Hydraulic fluid flows from the tank, by gravity, to the pump, from there it is pumped to the directional valve. Flow continues through the valve and then back to the tank. During operation, if pressure increases to the main relief setting, excess flow will be diverted from the valve back to the tank.



EXHAUST - - - -

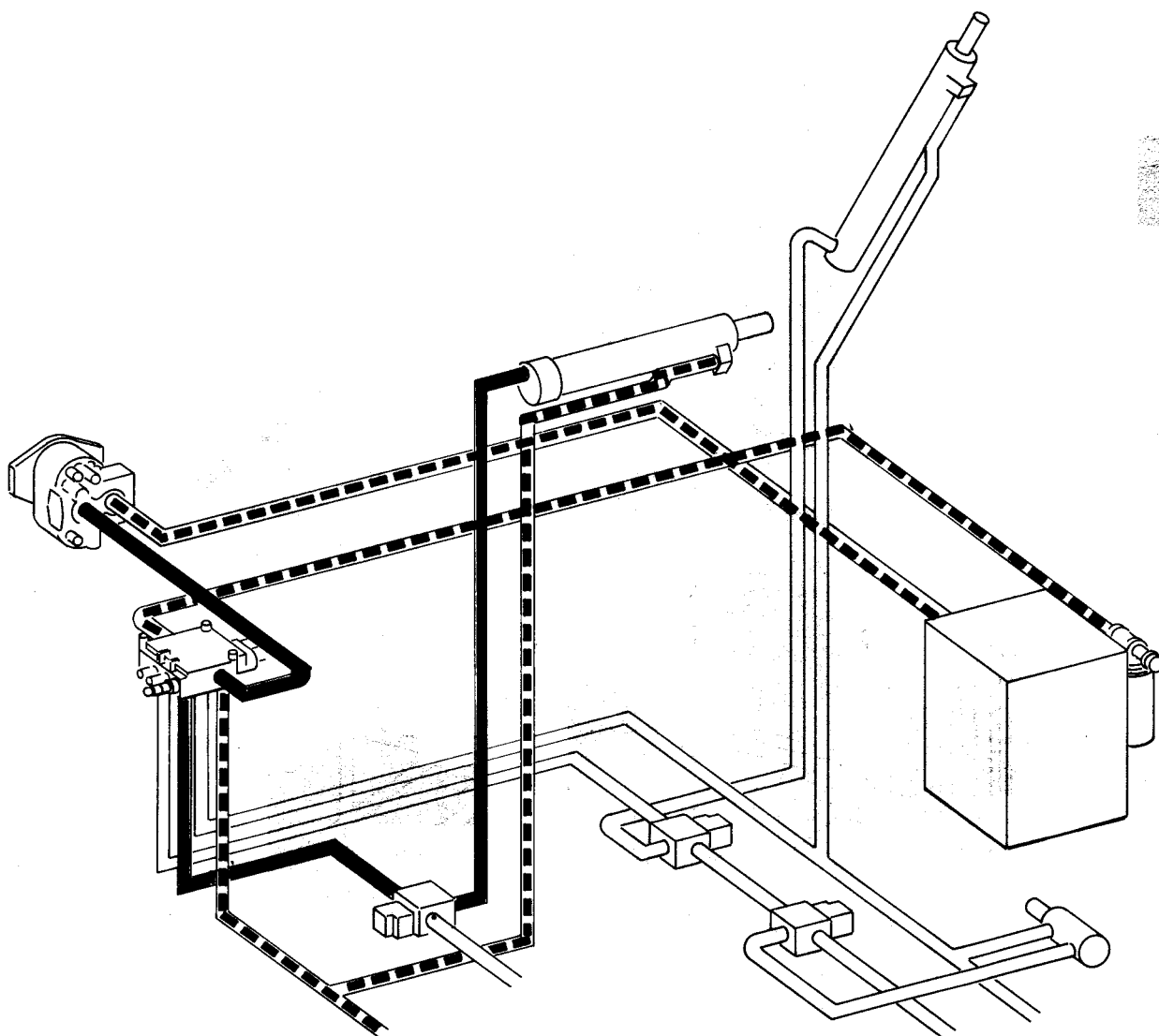
PRESSURE ———

**TROUBLESHOOTING****RAISING THE HOIST****OPERATOR ACTION**

The operator turns on the selector circuit switch and selects the desired number compartment on the rotary switch. The operator then moves the hydraulic valve lift control handle to the "up" position.

**HYDRAULIC SYSTEM**

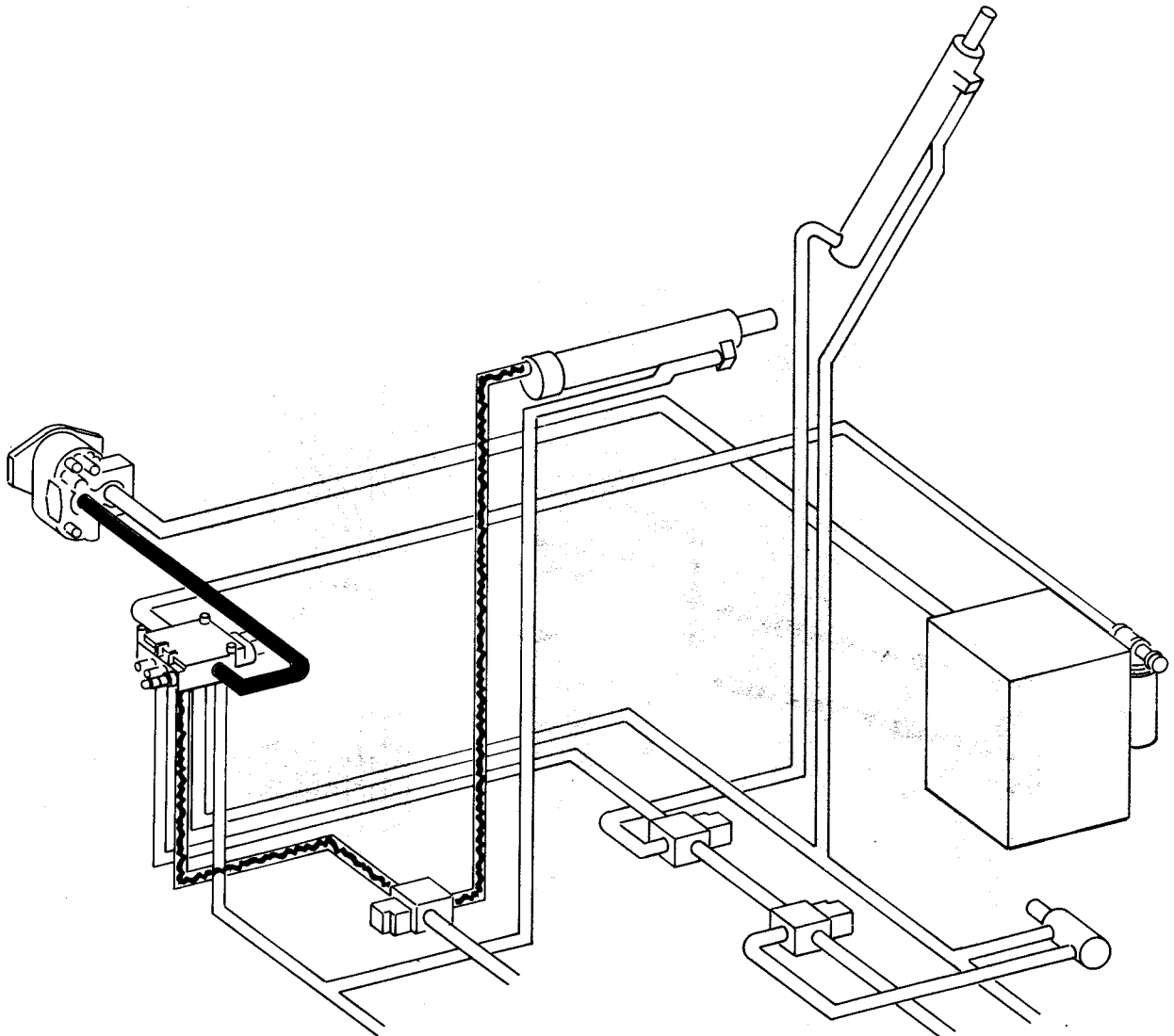
The operator action causes the solenoid valve to open. Moving the control handle causes the directional valve to shift, diverting flow to the case end of the lift cylinder causing the cylinder to extend which, in turn, raises the hoist. Return fluid flow from the cylinder is back to the tank.



EXHAUST - - -  
PRESSURE ———

**HOIST COMPLETELY EXTENDED****OPERATOR ACTION**

The operator lets go of the lift control handle and the directional valve returns to the neutral position to hold the hoist in the fully up and extended position.



TRAPPED FLUID  
UNDER PRESSURE ~~~~~

PRESSURE ———

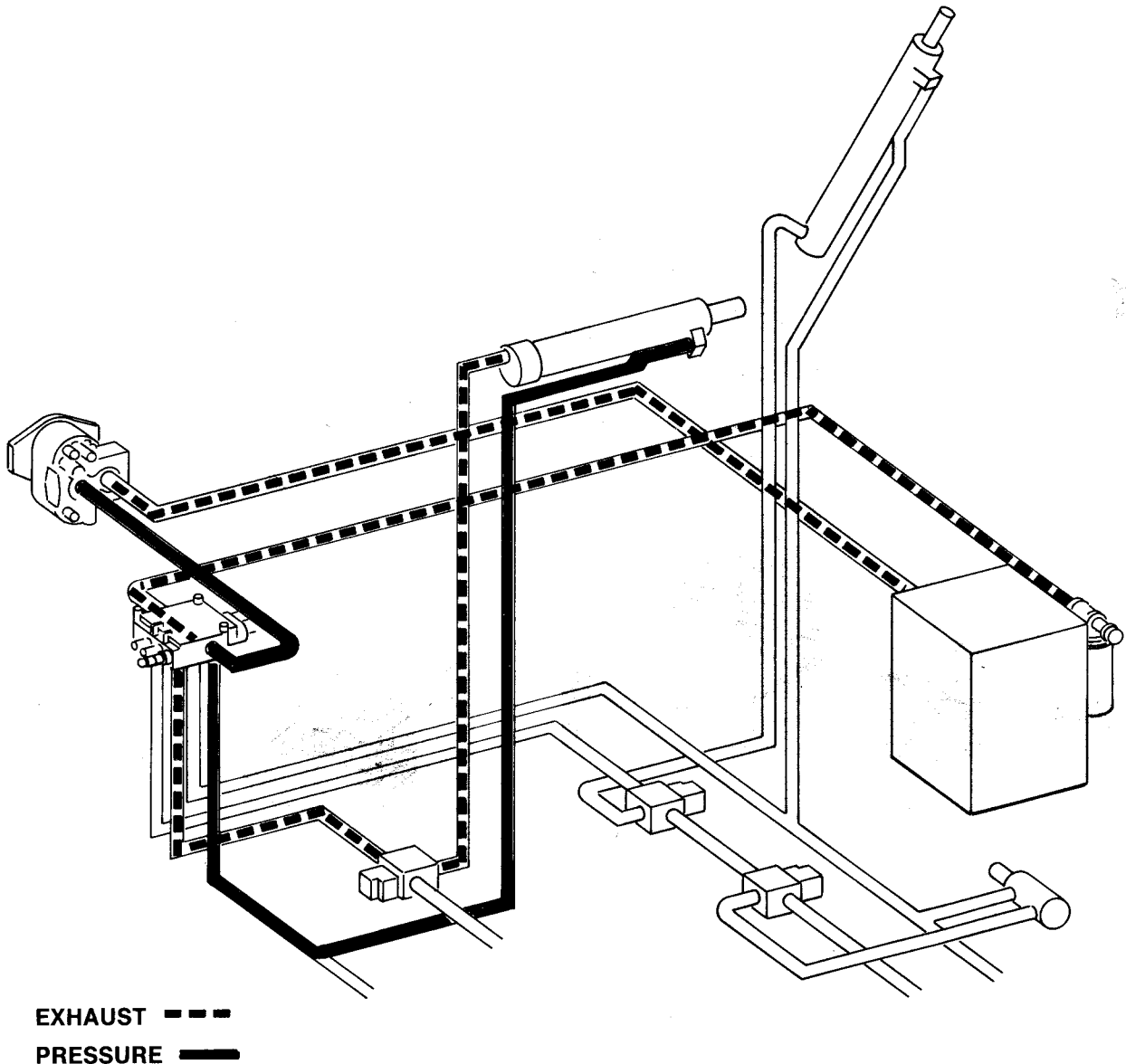
EXHAUST - - -

**TROUBLESHOOTING****LOWERING THE HOIST****OPERATOR ACTION**

The operator moves the hydraulic valve lift control handle to the "down" position.

**HYDRAULIC SYSTEM**

The operator action causes the directional valve to shift, diverting flow to the rod end of the cylinder causing the cylinder to retract which, in turn, lowers the hoist.



**DUMPING A COMPARTMENT****OPERATOR ACTION**

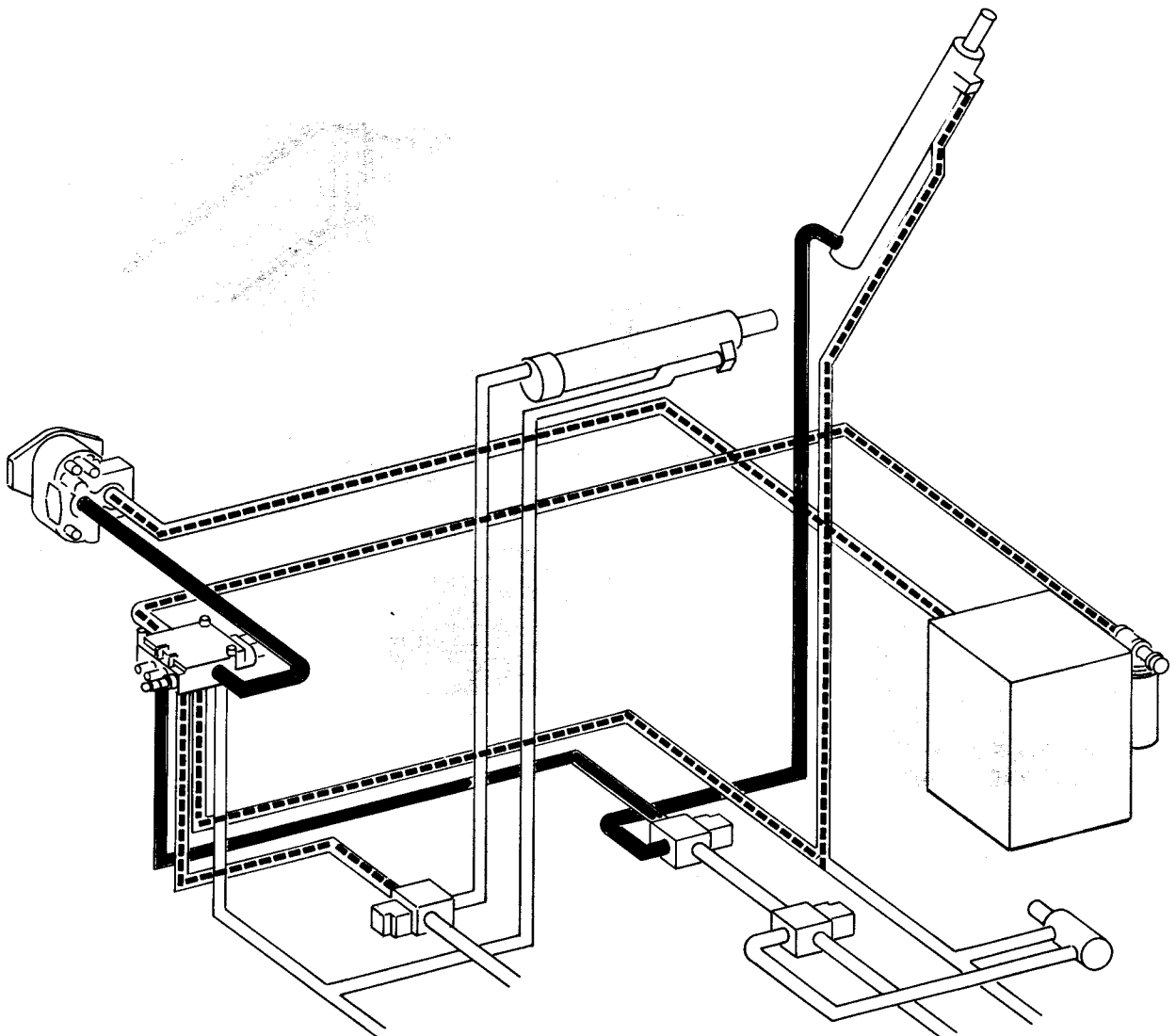
The operator turns on the selector circuit switch and selects the desired number compartment on the rotary switch. The operator then moves the hydraulic valve dump control handle to the "dump" position.

**HYDRAULIC SYSTEM**

The operator action causes the solenoid valve to open. Moving the control handle causes the directional valve to shift diverting flow to the case end of the dump cylinder causing the cylinder to extend which, in turn, tips the compartment.

**NOTE**

*The compartment gate automatically unlocks and opens.*



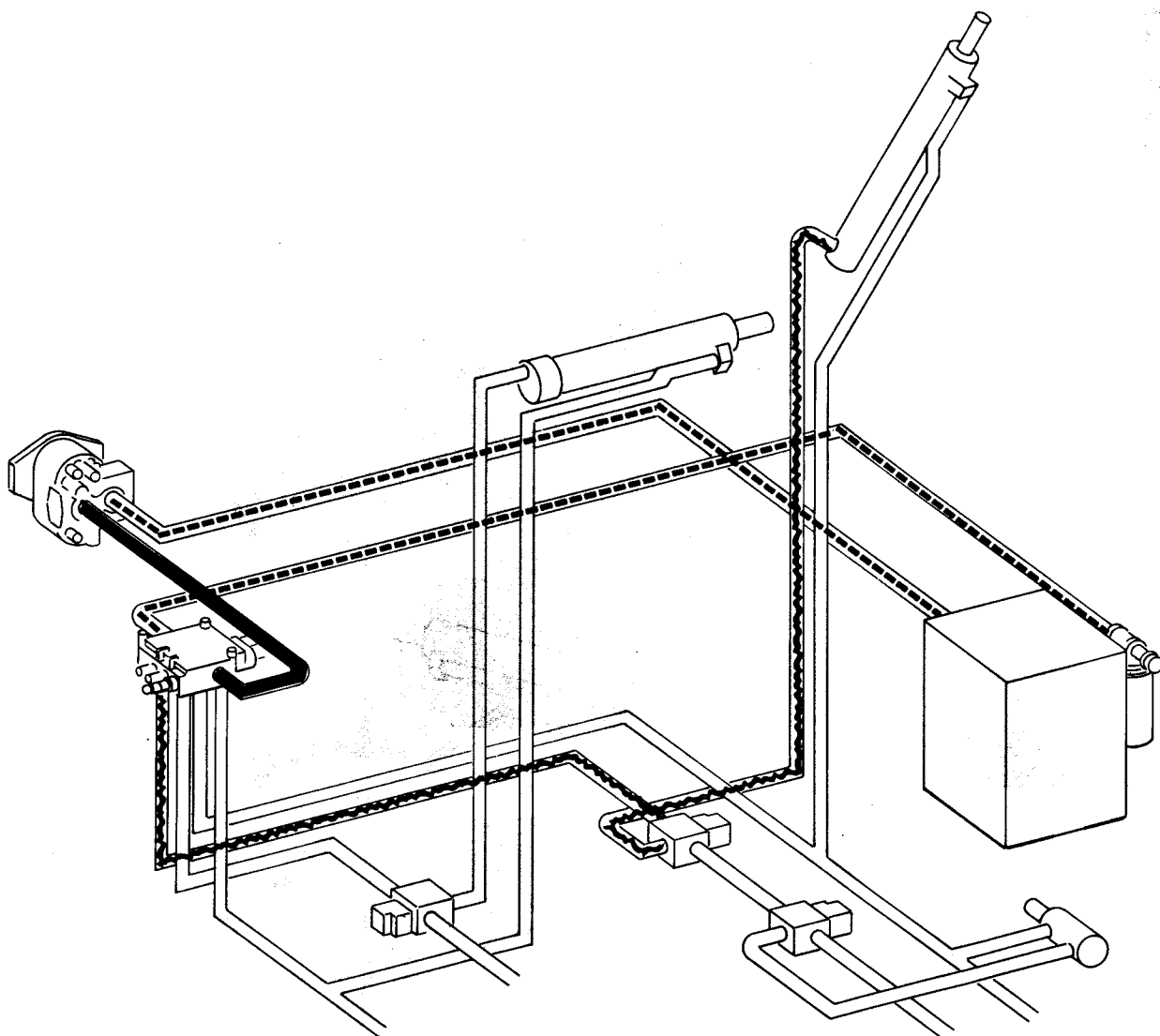
EXHAUST - - - - -  
PRESSURE ———

## TROUBLESHOOTING

## COMPARTMENT DUMPED

## OPERATOR ACTION

The operator lets go of the dump control handle and the directional valve returns to the neutral position to hold the compartment in the fully dumped position.



TRAPPED FLUID  
UNDER PRESSURE ~~~~

PRESSURE ———

EXHAUST - - - - -

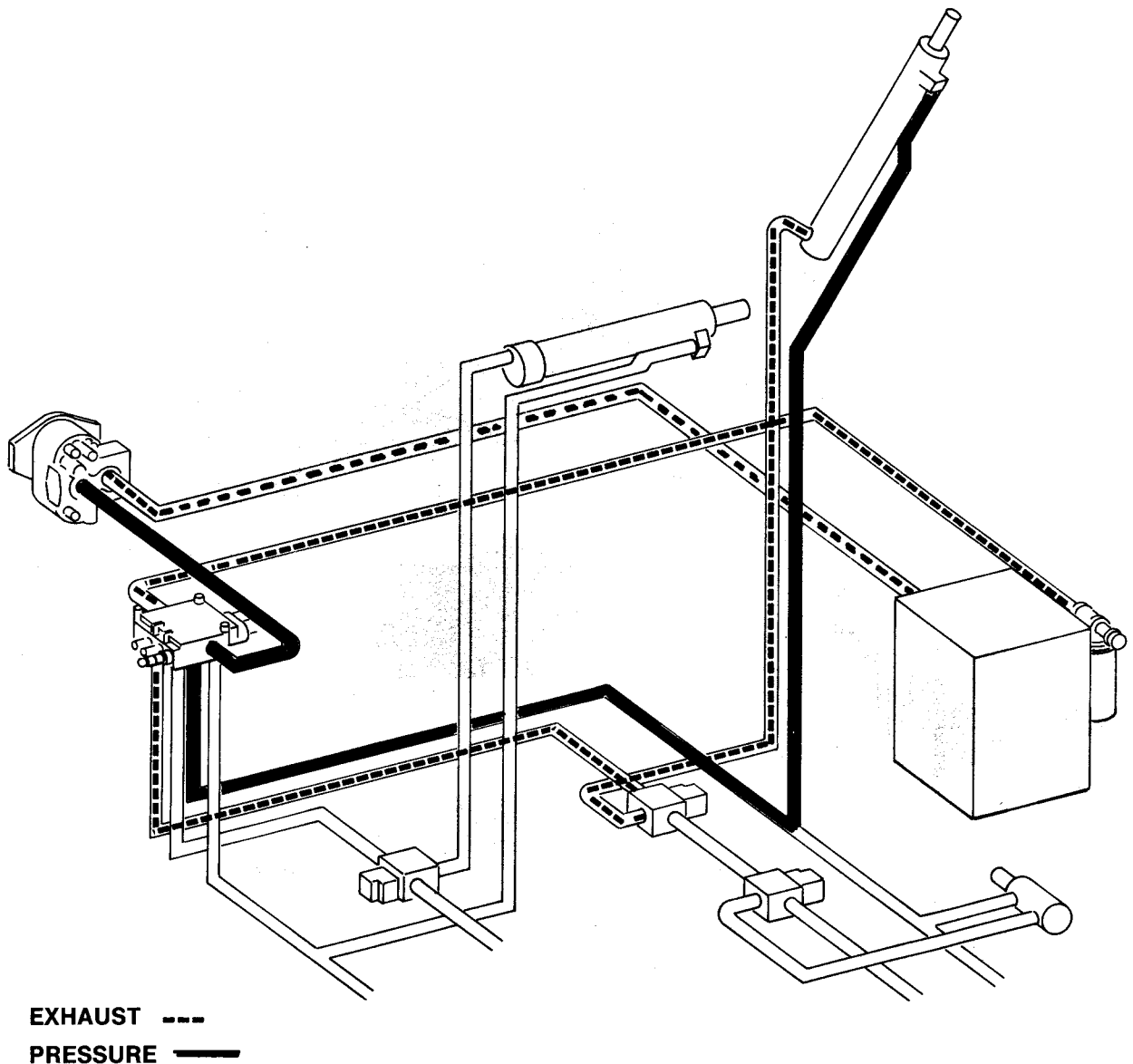
## **LOWERING THE COMPARTMENT**

### **OPERATOR ACTION**

The operator moves the hydraulic valve dump control handle to the "down" position.

### **HYDRAULIC SYSTEM**

The operator action causes the directional valve to shift, diverting flow to the rod end of the cylinder causing the cylinder to retract which, in turn, lowers the compartment.

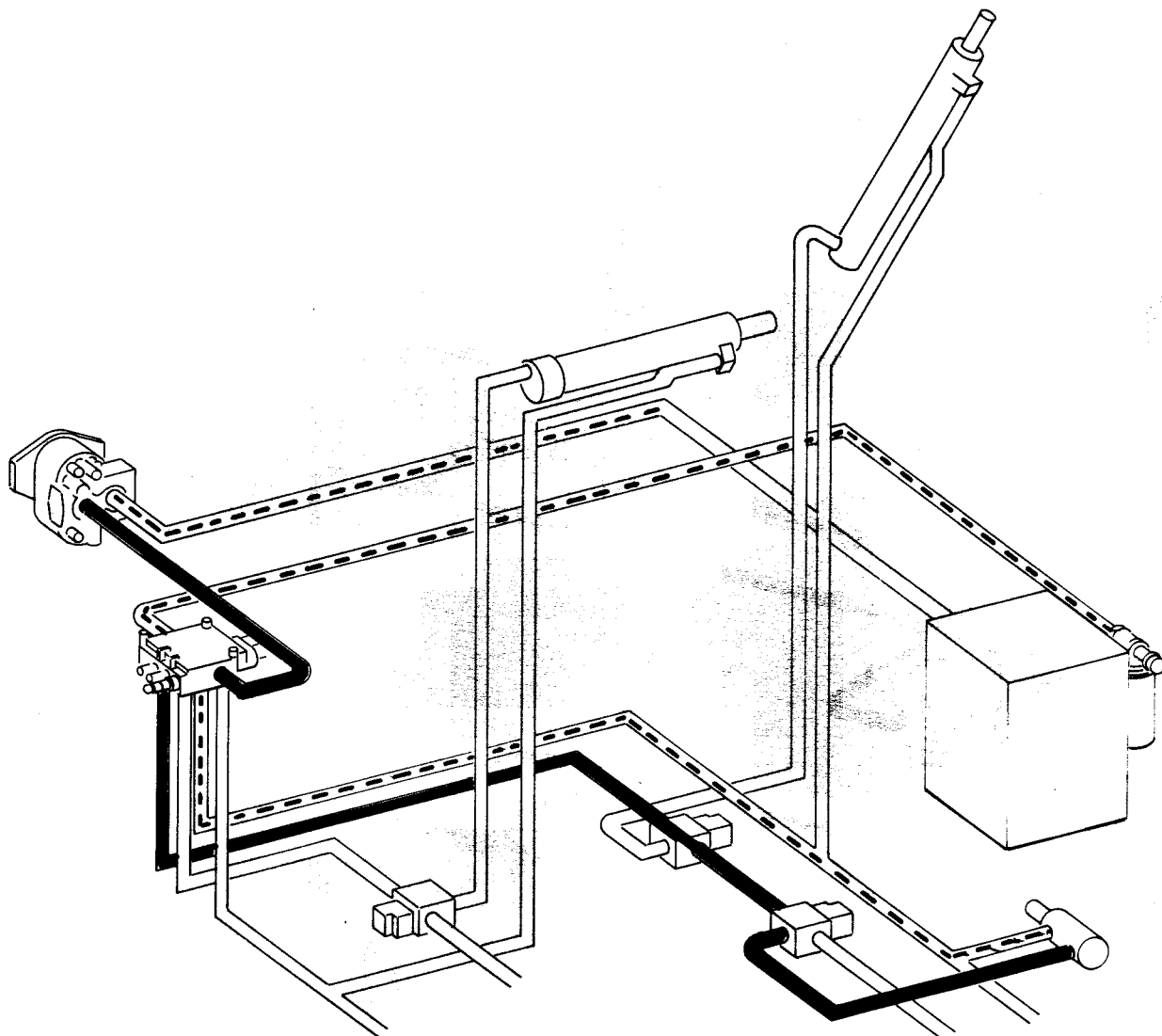


**TROUBLESHOOTING****OPERATOR ACTION**

The operator moves the stabilizer leg toggle switch to the "down" position.

**HYDRAULIC SEQUENCE**

Moving the electrical toggle switch activates the solenoid valve. Shifting the lift cylinder directional control valve spool to the "up" position allows fluid flow to the stabilizer leg cylinder case end.



EXHAUST - - - -

PRESSURE ———

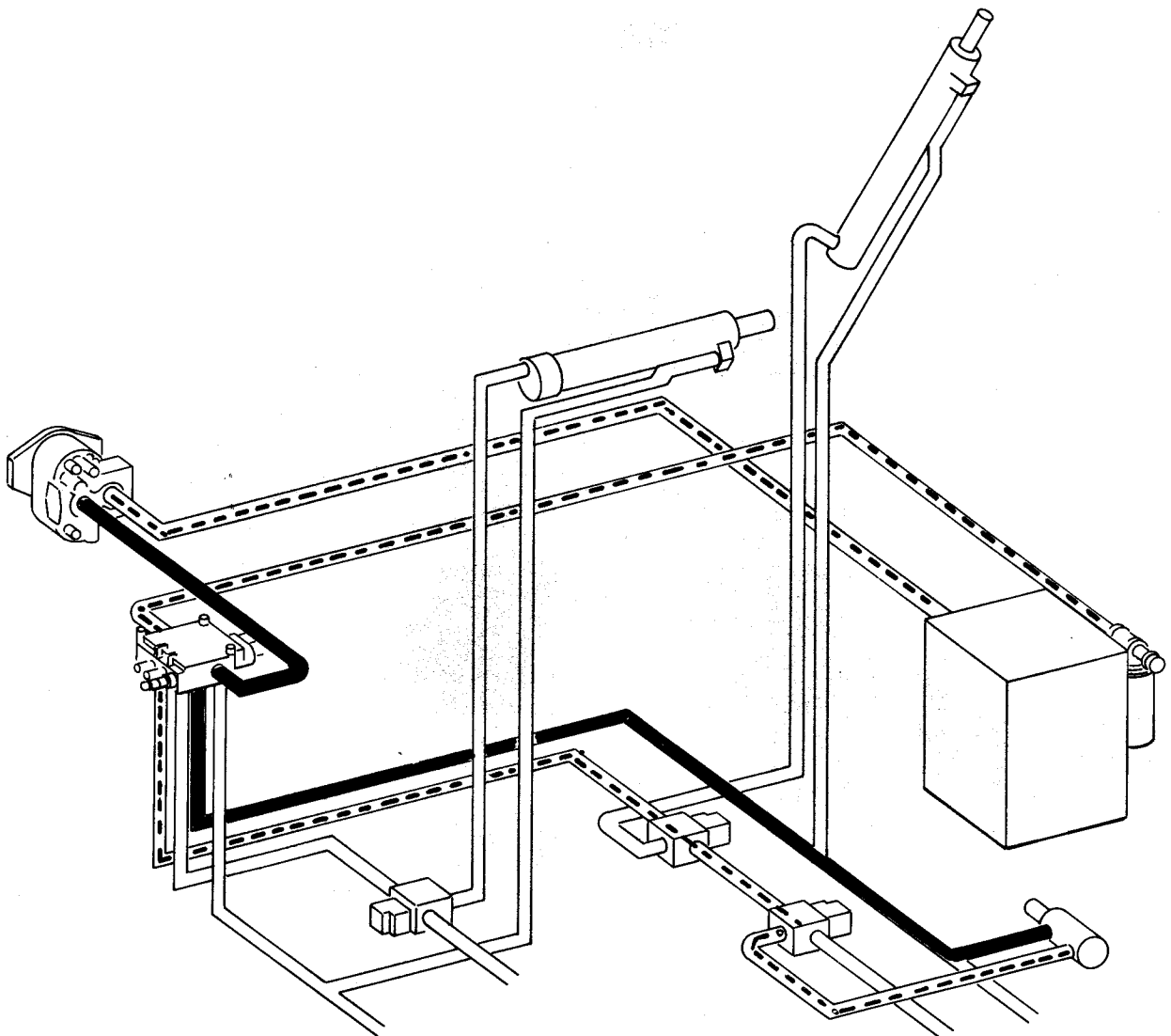


**OPERATOR ACTION**

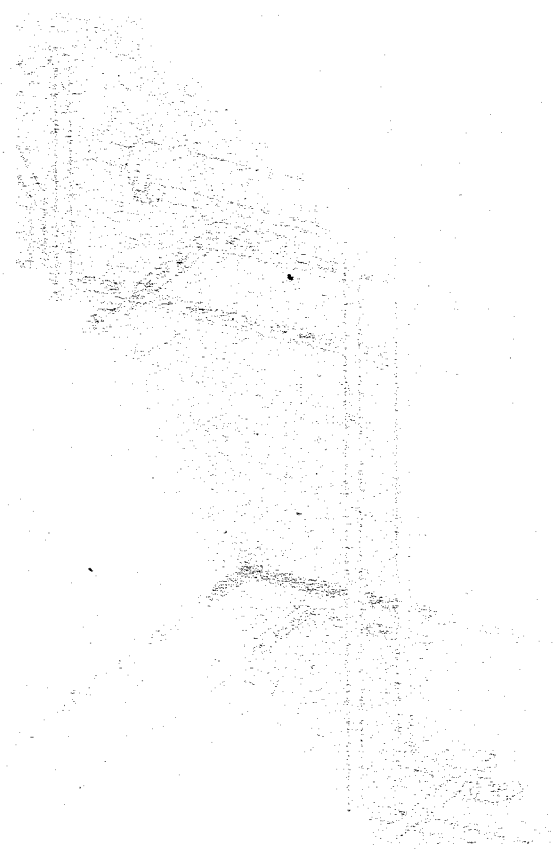
The operator moves the stabilizer leg toggle switch to the "travel" position.

**HYDRAULIC SEQUENCE**

Moving the electrical toggle switch deactivates the solenoid valve. Shifting the lift cylinder directional control valve spool to the "down" position allows fluid flow to retract the cylinder, raising the leg.

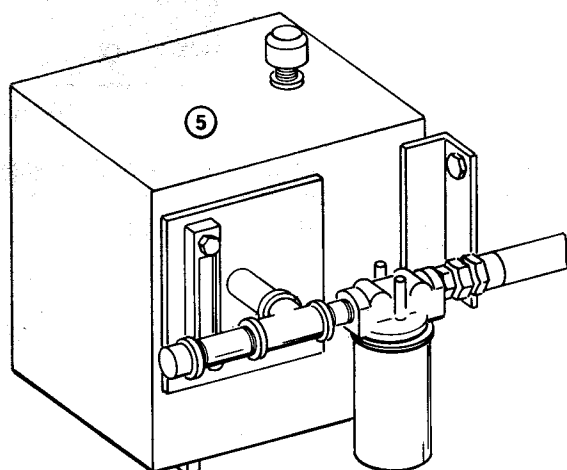
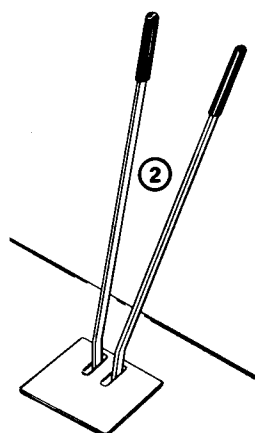
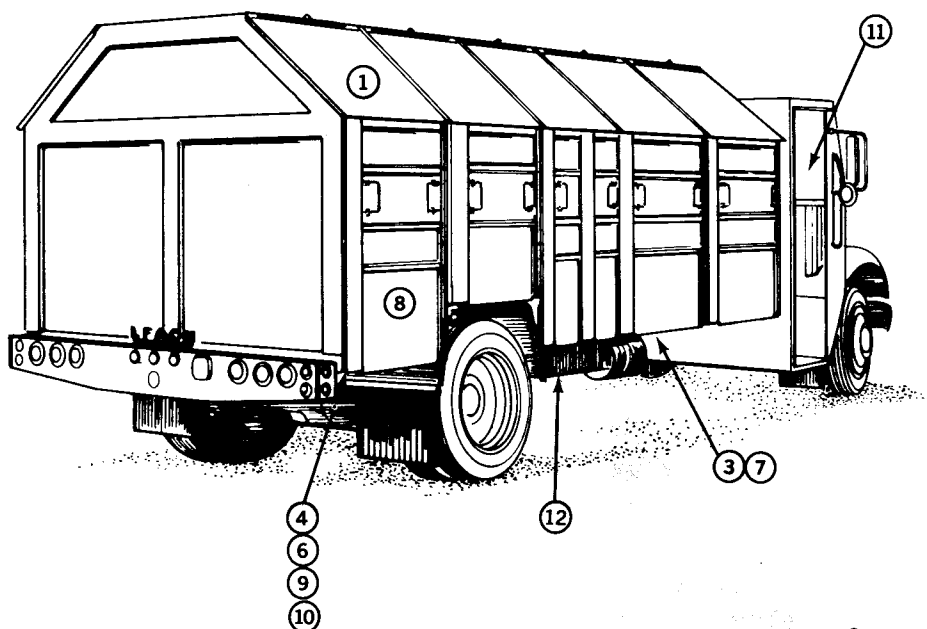


EXHAUST - - - -  
PRESSURE ———



## MAIN COMPONENT LOCATION

1. Compartment
2. Directional valve
3. Pump
4. Lift cylinder(s)
5. Hydraulic fluid reservoir
6. Hoist
7. PTO
8. Gate
9. Compartment prop(s)
10. Dump cylinder
11. Rotary switch
12. Solenoid valves



## SERVICE AND REPAIR

### GENERAL

This section contains all of the instructions necessary for the repair and replacement of the main components of the HSD.

Before attempting any repair of the unit become thoroughly familiar with the OPERATION instructions (Sec. 3) and GENERAL REPAIR PRACTICES (Sec. 4). Also, before performing any work on the unit know and observe all SAFETY PRECAUTIONS listed in Section 2 and Section 4.

#### ▲WARNING

Some procedures in this section will require that the truck is running. In these instances the operational status will be indicated. Otherwise, make sure that the truck is shut off and the keys are removed. If the body is raised, the safety props must be engaged and supporting the compartment.

#### ▲WARNING

Make sure the vehicle is securely blocked before operating the hoist. Use OSHA approved chock blocks.

#### ▲WARNING

Never leave the vehicle while operating. Remain at the controls.

### REMOVAL OF THE LIFT CYLINDER

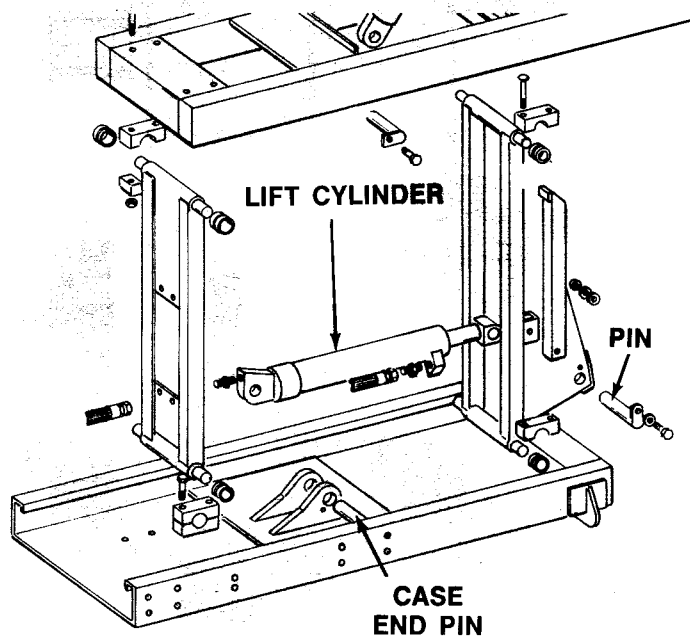
1. Move the hydraulic valve lift control handle to the "up" position which will raise the hoist.
2. Position the hoist prop.
3. Gently lower the hoist onto the props.
4. Block the hoist securely or support with an overhead lifting device capable of supporting a minimum of 1000 pounds.

#### ▲WARNING

Never attempt to service or repair a loaded unit. Always empty the unit before starting repairs or maintenance.

Operational Status			
Truck	Off	PTO	Disengaged

5. Remove the retaining capscrews from the cylinder pins.
6. Carefully disconnect and cap the hydraulic hoses
7. Remove the cylinder rod pin.
8. Remove the case end cylinder pin.
9. Remove the lift cylinder.

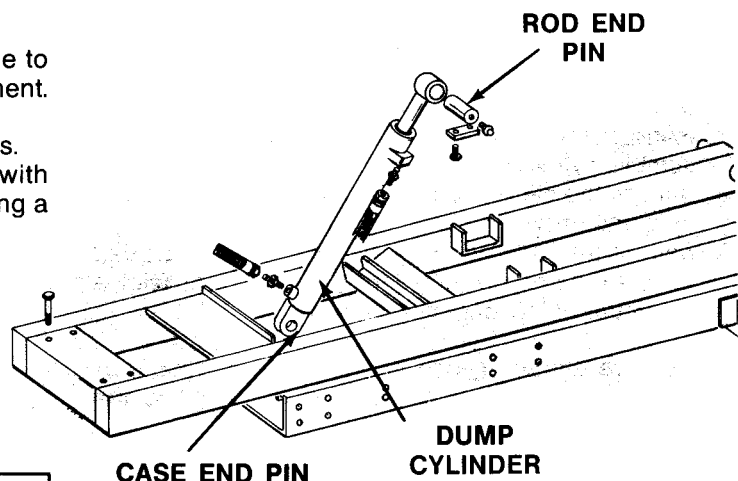


**REMOVAL OF THE DUMP CYLINDER**

1. Move the hydraulic valve dump control handle to the "up" position which will tip the compartment.
2. Position the compartment prop.
3. Gently lower the compartment onto the props.
4. Block the compartment securely or support it with an overhead lifting device capable of supporting a minimum of 1000 pounds.

**⚠ WARNING**

Never attempt to service or repair a loaded unit. Always empty the unit before starting repairs or maintenance.



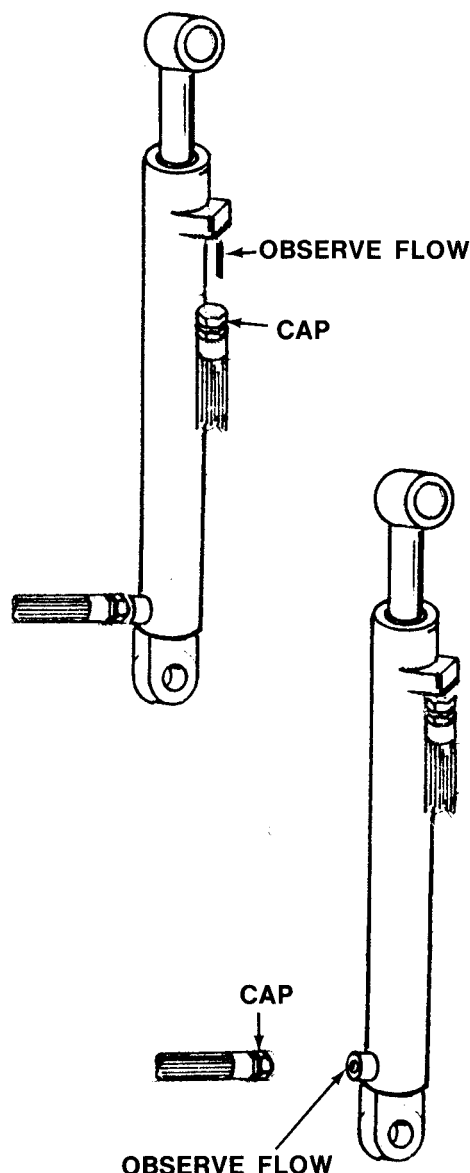
Operational Status			
Truck	Off	PTO	Disengaged

5. Remove the retaining capscrews from the cylinder pins.
6. Carefully disconnect and cap the hydraulic hoses.
7. Remove the cylinder rod pin.
8. Remove the case end cylinder pin.
9. Remove the dump cylinder.

**TEST FOR LEAKING LIFT OR DUMP CYLINDER**

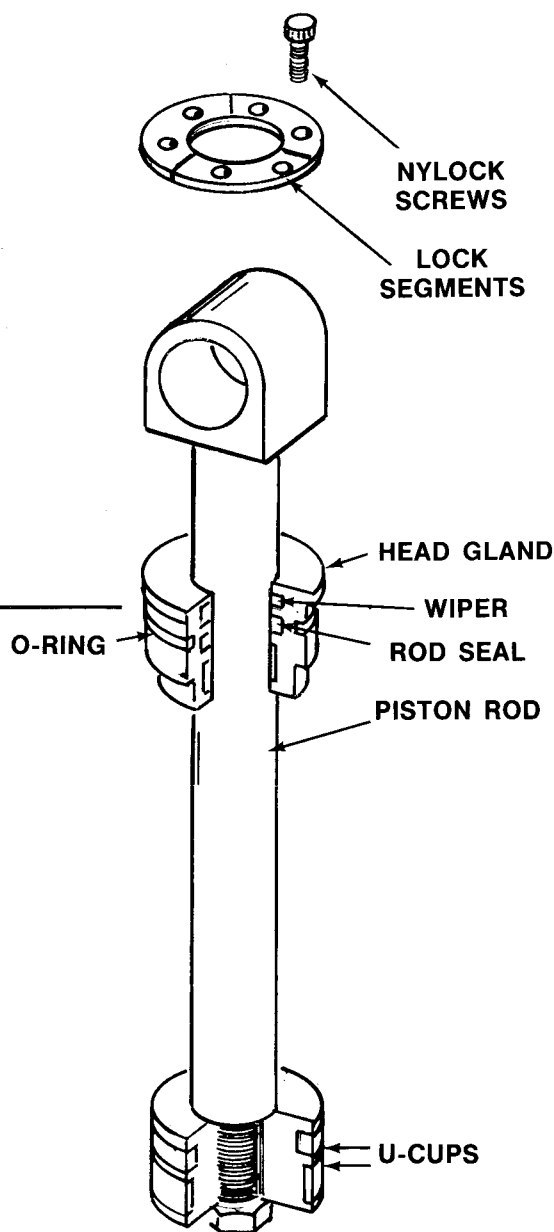
Remove the cylinder from the unit. See earlier in Section 9, Service and Repair — for removal of the lift or dump cylinder.

1. Properly secure the cylinder to the cylinder test stand.
2. Connect both hoses of the test stand to the cylinder. Extend the cylinder completely.
3. Remove the rod end hose and plug.
4. Slowly pressurize the case end of the cylinder. The flow of hydraulic fluid should be no more than 12 fluid ounces per minute. A flow greater than 12 ounces indicates an excessive piston seal leak. If the cylinder does not leak excessively, continue the test.
5. Reconnect the hydraulic lines to the rod end of the cylinder.
6. Slowly pressurize the rod end of the cylinder, retract the cylinder rod completely.
7. Disconnect the case end hydraulic hose. Pressurize the rod end of the cylinder. The flow of hydraulic fluid should be no more than 12 fluid ounces per minute. A flow greater than 12 ounces indicates an excessive piston seal leak. Disassemble the cylinder and replace the piston seal as described later in this section.



### DISASSEMBLY OF LIFT CYLINDER

1. Remove grease fittings, clean parts, drain fluid and follow all other applicable guidelines for disassembly provided in Sec. 4, GENERAL REPAIR PRACTICES before proceeding to disassemble cylinder.
2. Secure the case end of the lift cylinder to the floor or workbench.
3. Secure the rod end of the cylinder to an overhead hoist or other suitable lifting mechanism with a minimum lifting capacity of 500 lbs.
4. Remove the six nylock screws (1) and three lock segments (2) securing the head gland (3) to the cylinder.
5. Slowly operate the hoist to carefully pull the piston rod assembly out of the cylinder.

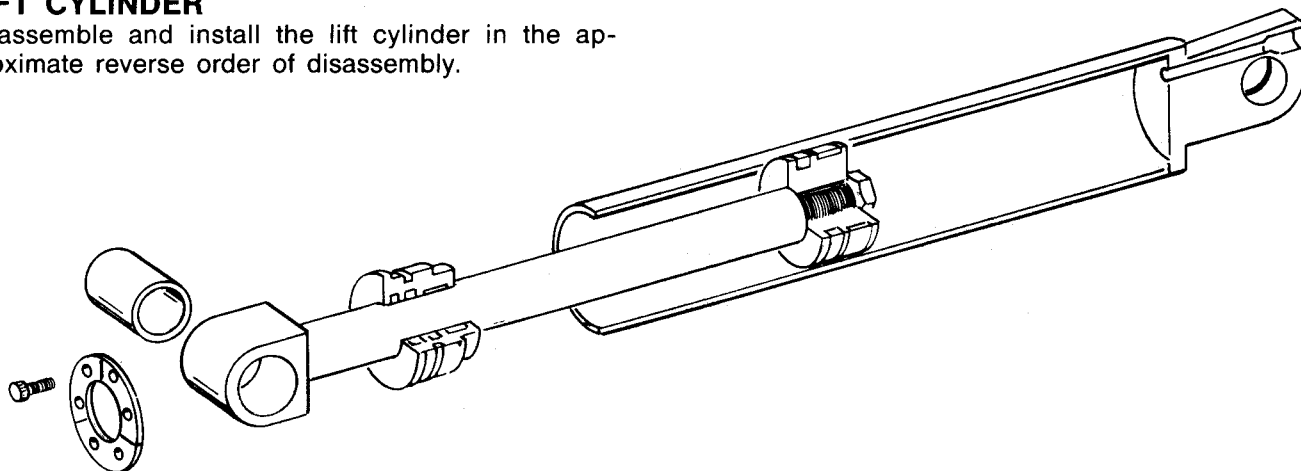


### INSPECTION AND REPLACEMENT OF LIFT CYLINDER

1. Carefully and thoroughly inspect the inside of the cylinder for cracks, scoring or uneven wear. Check all parts for damage.
2. Use an electric drill with an internal grinding wheel to remove burrs from the internal groove on the cylinder case (5).
3. A new rod wiper (1), rod seal (2), o-ring (3) and u-cups (4) must be installed anytime the cylinder is disassembled. Pay particular attention to the way parts are positioned for correct assembly. Parts that must be replaced together are available as a Repair Kit from your local distributor.

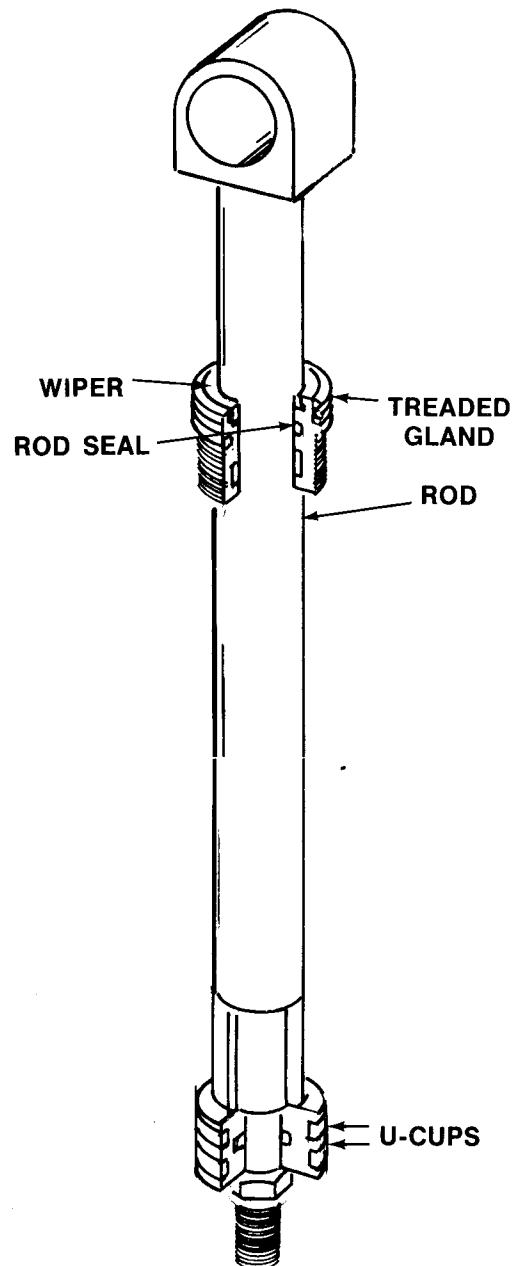
### REASSEMBLY AND INSTALLATION OF LIFT CYLINDER

Reassemble and install the lift cylinder in the approximate reverse order of disassembly.



## DISASSEMBLY OF DUMP CYLINDER

1. Remove grease fittings, clean parts, drain fluid and follow all other applicable guidelines for disassembly provided in Sec. 4, GENERAL REPAIR PRACTICES before proceeding to disassemble cylinder.
2. Secure the case end of the dump cylinder to the floor or workbench.
3. Secure the rod end of the cylinder to an overhead hoist or other suitable lifting mechanism with a minimum lifting capacity of 500 lbs.
4. Pull the rod approximately 6" out of the case weldment.
5. Remove the threaded gland.
6. Slowly operate the hoist to carefully pull the piston rod assembly out of the cylinder.

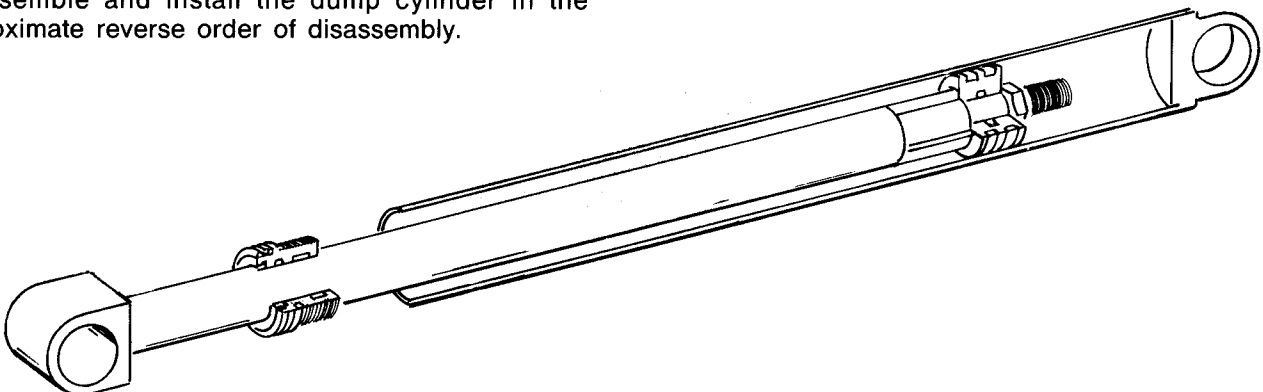


## INSPECTION AND REPLACEMENT OF DUMP CYLINDER

1. Carefully and thoroughly inspect the inside of the cylinder for cracks, scoring or uneven wear. Check all parts for damage.
2. Use an electric drill with an internal grinding wheel to remove burrs from the internal groove on the cylinder case (5).
3. A new rod wiper (1), rod seal (2), o-ring (3) and u-cups (4) must be installed anytime the cylinder is disassembled. Pay particular attention to the way parts are positioned for correct assembly. Parts that must be replaced together are available as a Repair Kit from your local authorized LEACH distributor.

## REASSEMBLY AND INSTALLATION OF DUMP CYLINDER

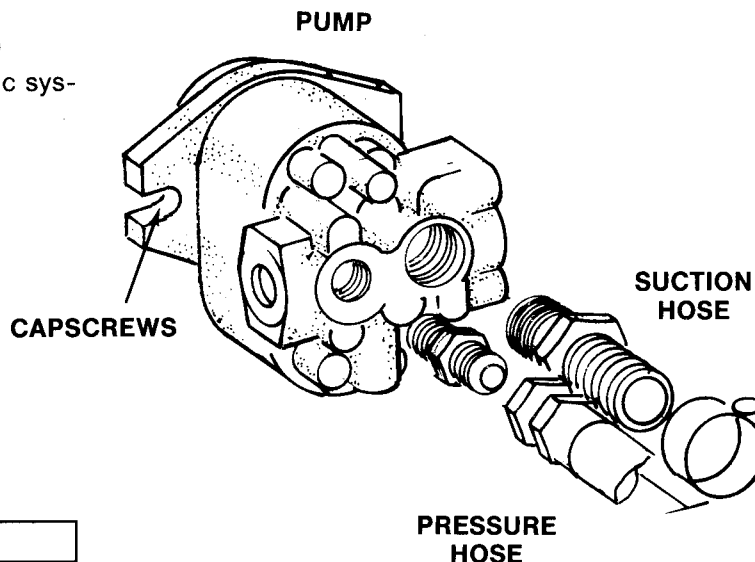
Reassemble and install the dump cylinder in the approximate reverse order of disassembly.



## SERVICE AND REPAIR

### DESCRIPTION OF HYDRAULIC PUMP

The pump, which serves the complete hydraulic system is connected to the PTO.



### REMOVAL OF HYDRAULIC PUMP

Operational Status			
Truck	Off	Keys	Removed

1. Disconnect the hydraulic hoses from the pump.
2. Remove the capscrews.
3. Separate the pump from the PTO.

### REASSEMBLY AND INSTALLATION OF PUMP

1. Clean reservoir, see Sec. 6, Preventive Maintenance.
2. Re-install the capscrew and tighten evenly.
3. Reconnect the pressure and suction hoses.



## DISASSEMBLY OF HYDRAULIC PUMP

1. After removal, thoroughly clean the outside with solvent and a brush. Blow dry the pump with compressed air. Scribe the flange cover (2) and body (6) so they can be matched for reassembly.
2. Carefully place the pump body in a vise and remove the capscrews (1) and washers.
3. Lift the flange cover (2) off the pump body and remove the o-ring (7) from the flange.
4. Remove the top thrust plates (3).
5. Remove the drive gear (8) and idler gear (5).
6. Remove the bottom pressure plate (4).
7. Remove the bottom o-rings (9).
8. Clean all the internal parts with solvent and blow dry.
9. Inspect all parts carefully.

## REASSEMBLY OF HYDRAULIC PUMP

1. Place the body so the scribed mark faces you.
2. For easier assembly, use clean hydraulic fluid as a lubricant.
3. Install the o-rings on the bottom of the body.
4. Examine the thrust plates. Note that one is slightly different from the other. Install them in their proper location at the bottom of the body bore with the rounded edge facing down.
5. With the bronze side facing up, lower the bottom pressure plate (4) into place in the bottom of the body bore. Do not force.
6. Install drive gear (8) by lowering carefully.
7. Install idler gear (5).
8. Install the top pressure plate (3) with the bronze side facing down.

9. Examine the cover shaft seal (10). If replacement is necessary see "seal replacement instructions."
10. Install o-rings (7) on the flange (2) plate.
11. Use heavy grease to hold the o-ring in place.

### NOTE

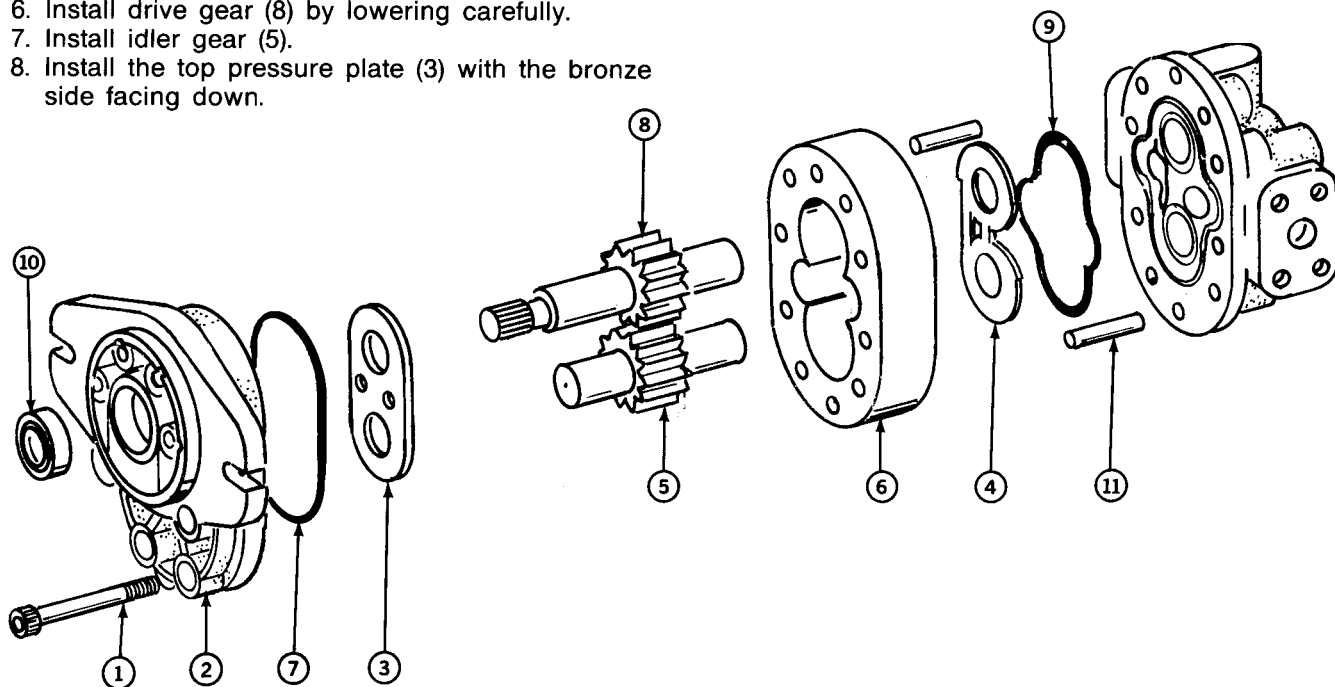
*Coat the drive gear shaft extension with heavy grease to protect the seal lip as the seal slides over the shaft.*

12. Slide the flange cover (2) down on the drive gear (8) until it touches the dowels (11) in the body.

### NOTE

*Use extreme care when seating the flange cover against the body. If not pressed down carefully, the extended portion of the flange cover bearings can pinch the o-rings.*

13. Insert washers (4) and capscrews (1) into the holes in the flange cover (2). Tighten opposite and even to 80 foot pounds of torque.
14. Test the pump by using an adjustable wrench with a key installed in the drive gear. When attempting to turn the shaft it should feel tight with a maximum of 5 to 10 foot pounds of torque. If the shaft does not turn properly disassemble, find the problem, and carefully reassemble.



## SERVICE AND REPAIR

### DESCRIPTION OF 2-SPOOL CONTROL VALVE FOR COMPARTMENT LIFT AND DUMP CYLINDERS

This manually operated valve provides directional control to the cylinder for raising and lowering the compartment, and the cylinder which dumps the compartment. The valve is a 2-spool control type, mounted under the floor of the cab.

This valve also contains the main pressure relief for the hydraulic system.

### REMOVAL OF 2-SPOOL DIRECTIONAL VALVE

1. Disconnect the two valve control handles (1) by removing the cotter pins (2) and clevis pins (3) attaching the handles to the valve spool linkage ends (4).
2. Disconnect the hydraulic lines to the valve. Cap the lines and plug the valve ports to prevent dirt from entering the valve.
3. Remove the capscrews, lockwashers, nuts, and remove the valve.

### DISASSEMBLY OF 2-SPOOL DIRECTIONAL VALVE

1. Clean paint, dirt, and burrs from the end of the spool.
2. Remove the end cap from one spool.
3. Disassemble the spring pack by removing the capscrew and remove the spring pack.
4. Gently pull the spool out of the valve body.

#### NOTE

*For cleaning or inspection, this is probably as far as you will need to go with disassembly.*

5. Remove o-ring seals.

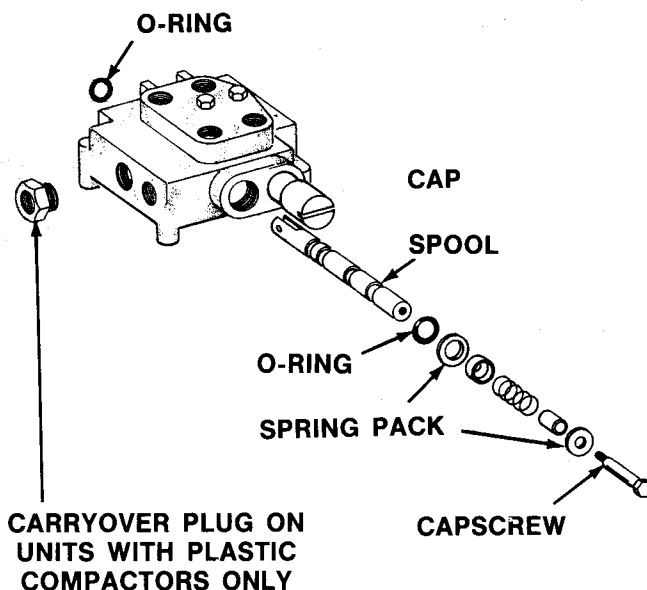
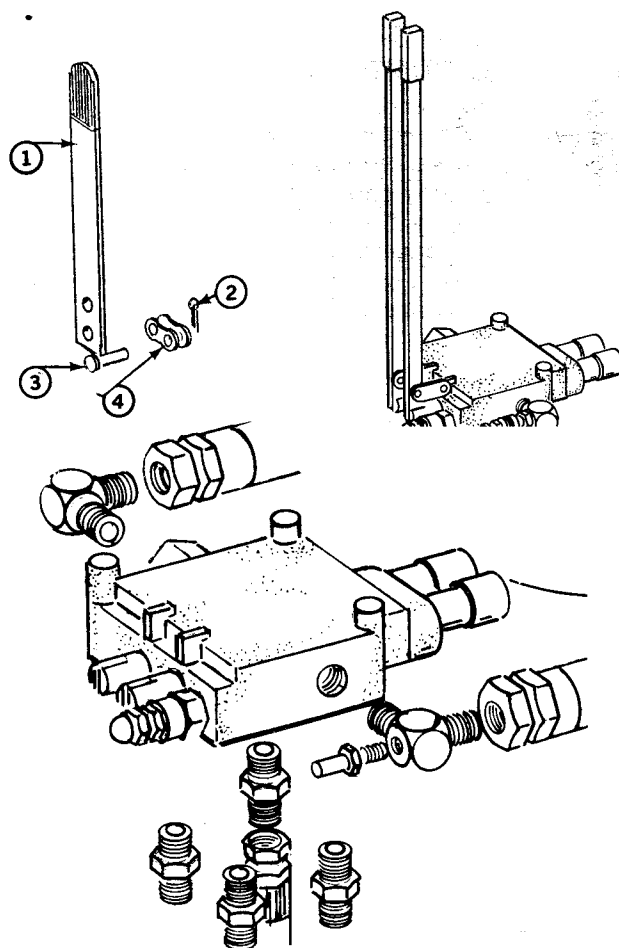
#### NOTE

*Be careful not to scratch the spool or seal bore. Any scratches will scrap the valve.*

6. Apply grease to o-ring seals and install seals.
7. Reinstall the spool by gently feeling the spool into the bore. Do not force, it should slide easily.
8. Reinstall spring pack.
9. Locktite the capscrew and tighten to 8 foot pounds.
10. Reinstall end cap.

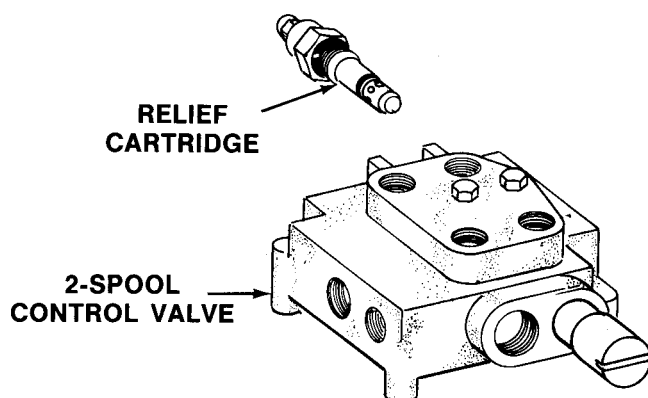
#### NOTE

*Be careful not to scratch the spool or seal bore. Any scratches will scrape the valve.*



## INSPECTION OF 2-SPOOL DIRECTIONAL CONTROL VALVE

1. Use solvent to thoroughly clean all parts removed; air dry.
2. Inspect the valve body spool bores for any slight burrs. The bore must be smooth. Remove burrs with crocus cloth.
3. Inspect all other parts for wear and damage. Replace as necessary.
4. Before installing a new spool be sure it is absolutely clean. Also, again inspect spool bores to be sure no dust or dirt has entered.

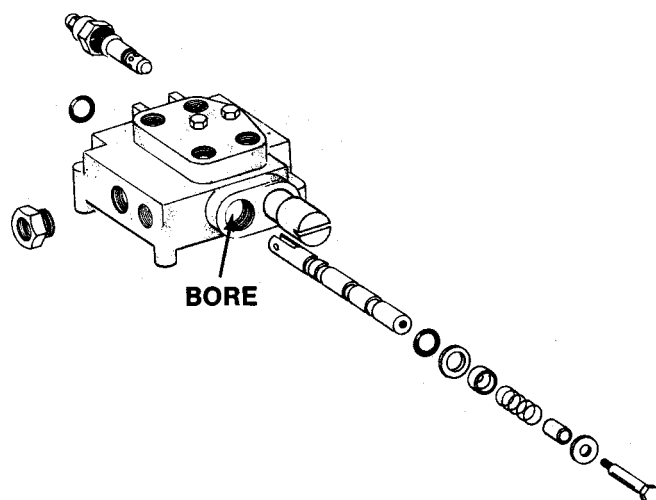


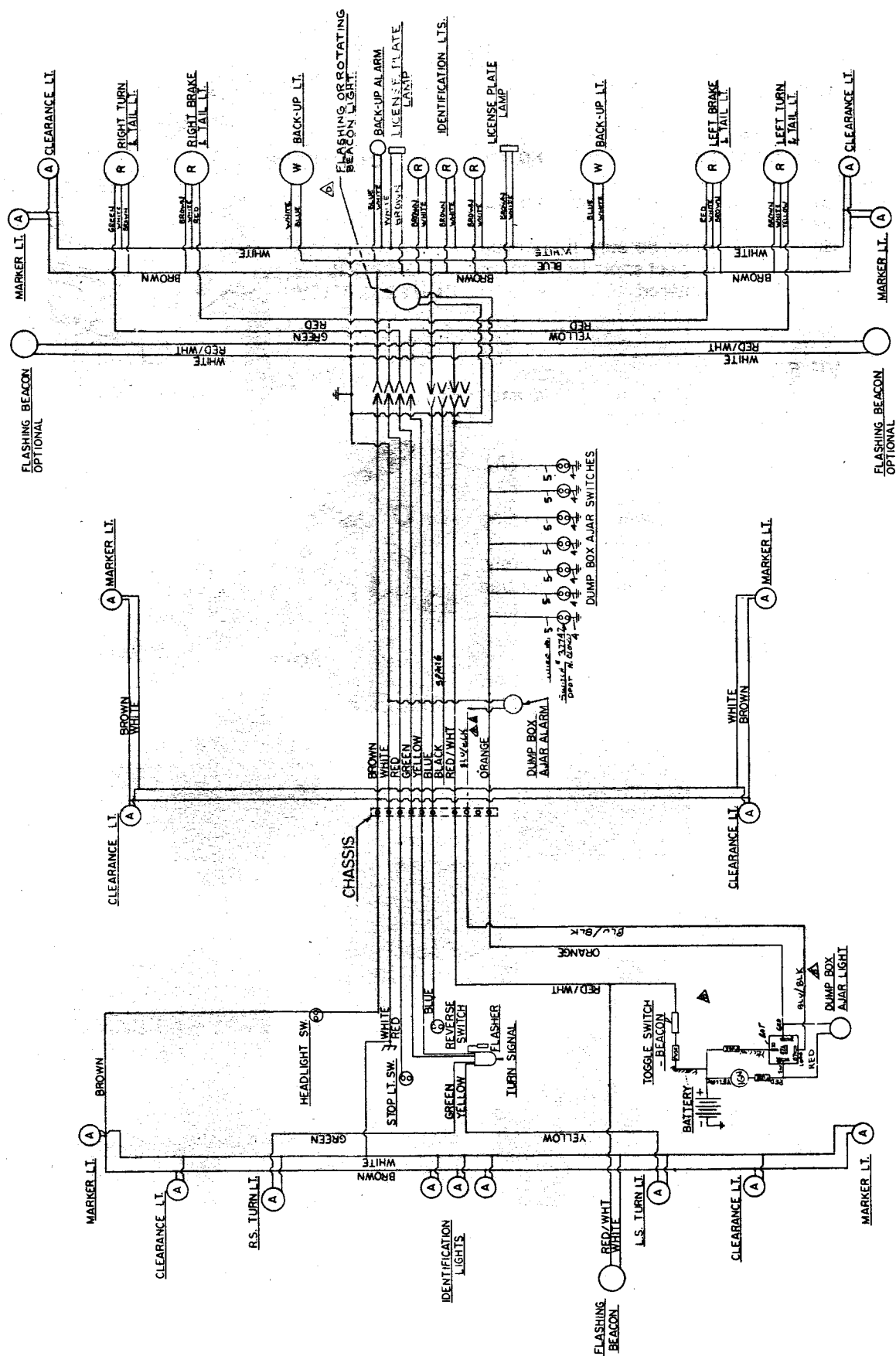
## RELIEF VALVE SECTION

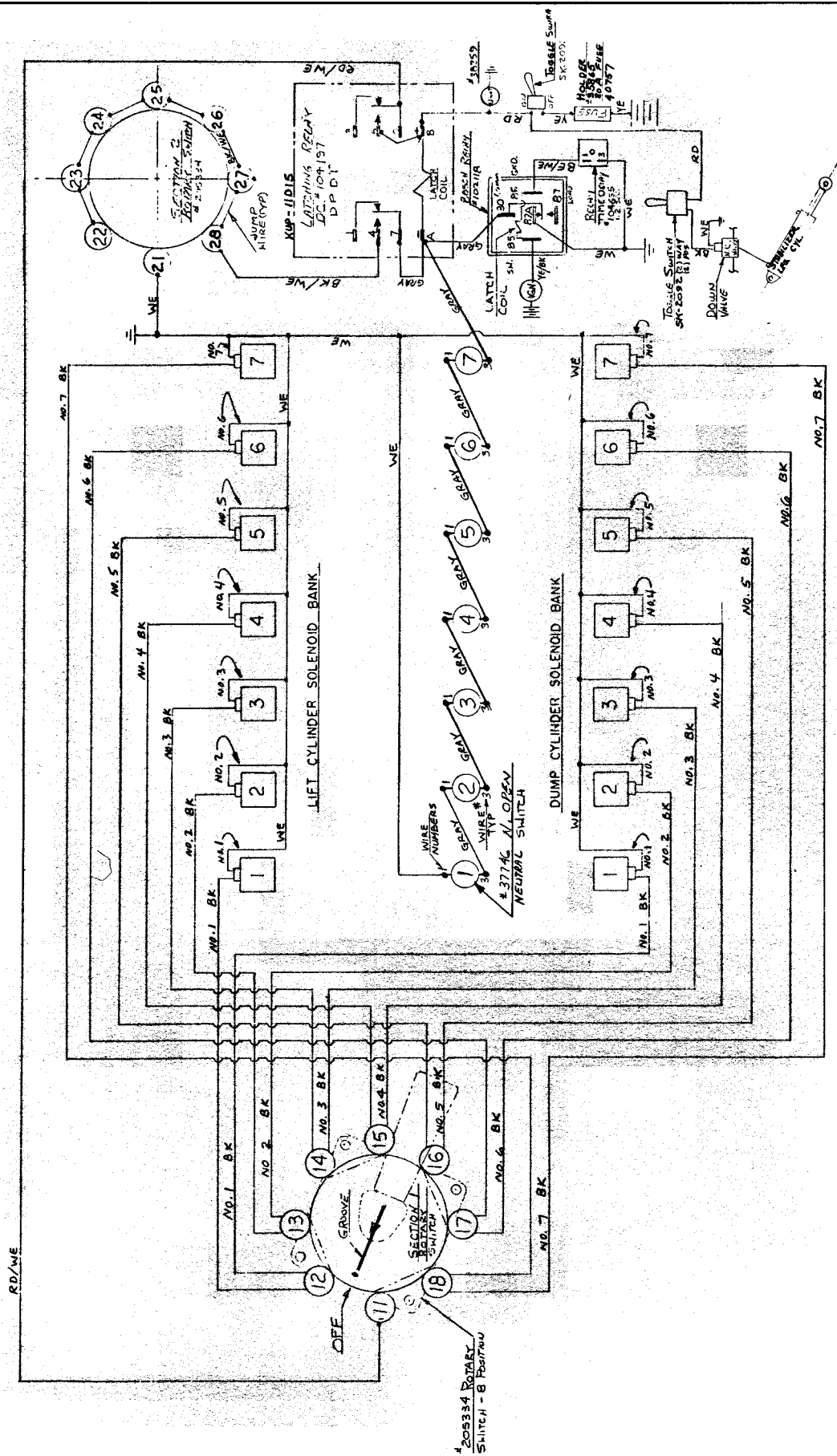
If necessary for cleaning or repair, the relief valve section can be removed and disassembled.

## INSTALLATION OF 2-SPOOL DIRECTIONAL CONTROL VALVE

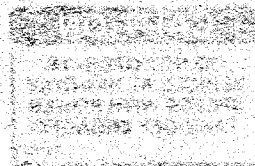
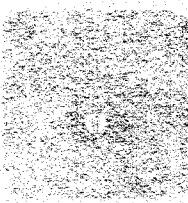
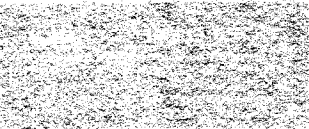
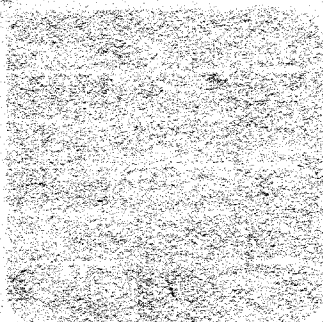
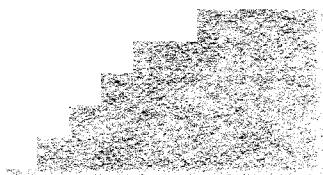
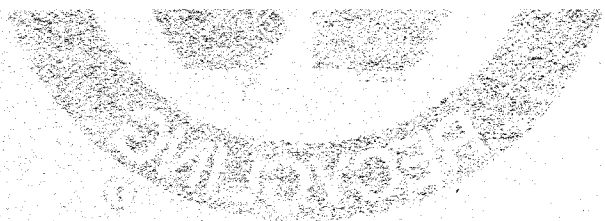
1. Secure the valve (1) to the mounting bracket using capscrews, (2) lockwashers, (3) and nuts (4).
2. Connect all hydraulic lines and tighten securely.
3. Recheck main relief valve pressure as described under Pressure Checks, Section 7, Checkout.



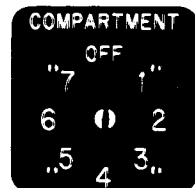
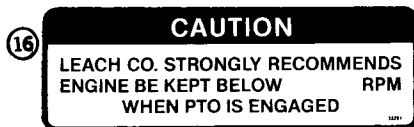
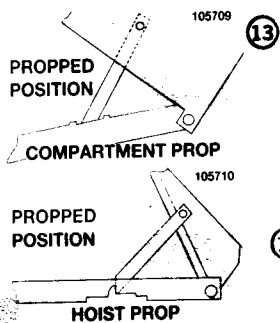
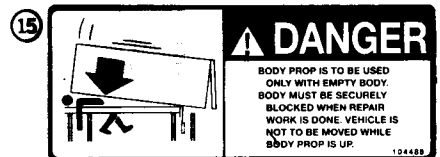
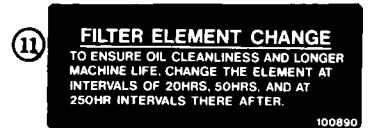
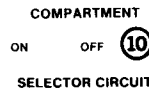
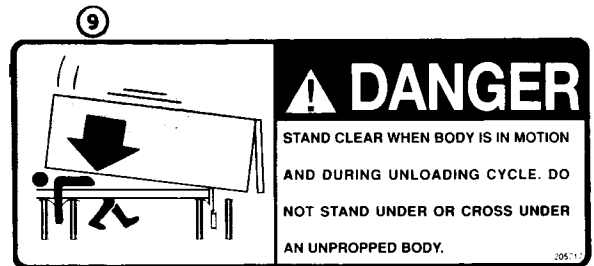
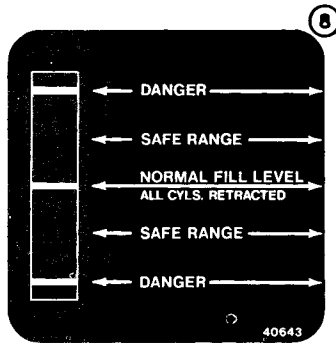
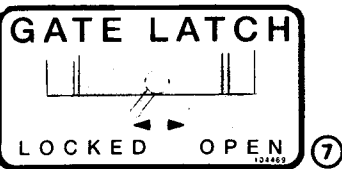
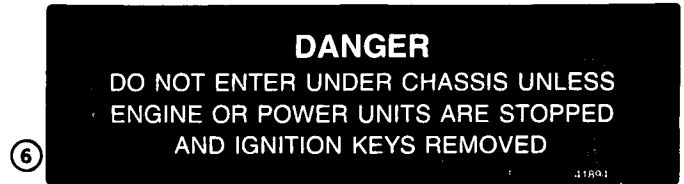
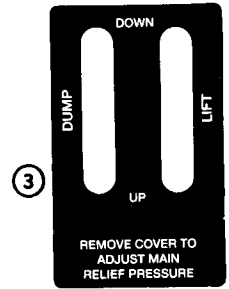
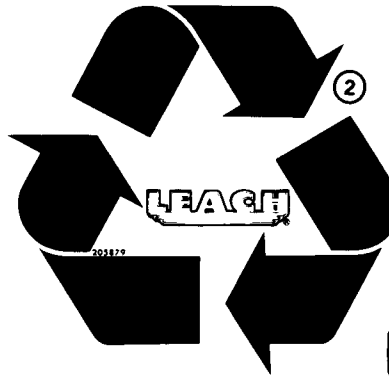








# DECALS

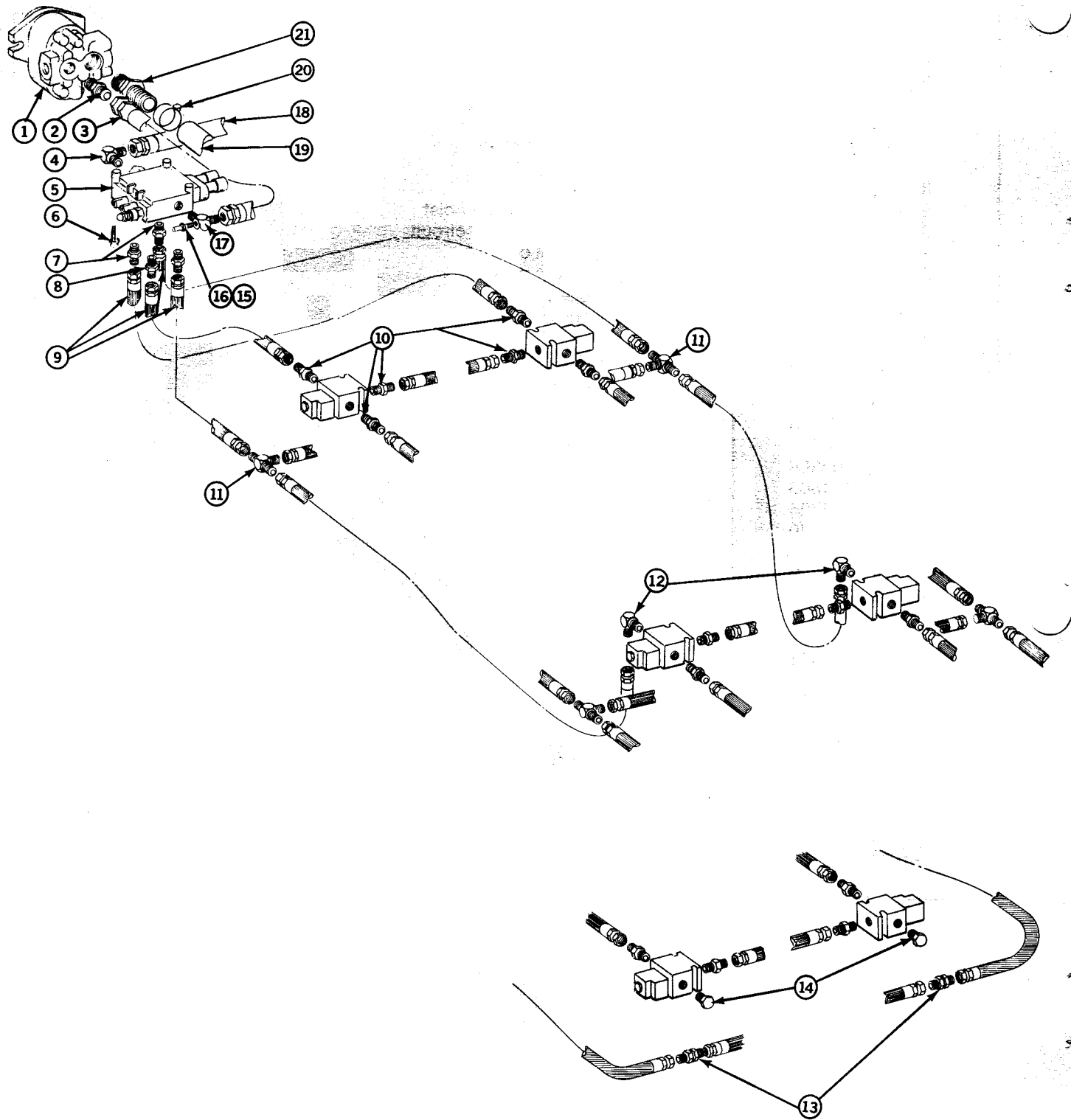




# DECALS

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	303737	RECYCLING, Black	1
2	205879	RECYCLING, Black	3
3	206798	DECAL, Control/cover adjust.	1
4	102960	PTO On/Off	1
5	100351	BEACON Light	1
6	41894	DANGER, Do not enter	2
7	104469	GATE Latch	7
8	40643	FILL Level	1
9	205717	DANGER, Stand clear - hoist	28
10	104893	DECAL, Comp. selector circuit	1
11	100890	FILTER Element change	1
12	104490	WARNING, Auto gate latch	7
13	105710	DECAL, Hoist prop pos.	7
13b	105709	DECAL, Body prop	7
14	41637	NO Step	2
15	104488	BODY Prop	7
16	33291	CAUTION, Engine rpm	1
17	101767	CAUTION, PTO operation	1
18	206633	CAUTION, Lid closing, 3 per side, 6 per compartment	42
19	40642	HYDRAULIC Fluid only	1
20	103364	WARNING, Towing	2
21	104603	NAME Plate, rotary switch	1
22	102625	FINAL Inspection	1
23	105520	CAUTION, Compartment up	1
24	20588	POWER Take Off	1
25	105779	DECAL, Stabilizer leg	1
26	105260	NO. 1, Black	3
	105480	NO. 1, White	3
	105261	NO. 2, Black	3
	105481	NO. 2, White	3
	105262	NO. 3, Black	3
	105482	NO. 3, White	3
	105263	NO. 4, Black	3
	105483	NO. 4, White	3
	105264	NO. 5, Black	3
	105484	NO. 5, White	3
	105265	NO. 6, Black	3
	105485	NO. 6, White	3
	105266	NO. 7, Black	3
	105486	NO. 7, White	3

# HYDRAULICS

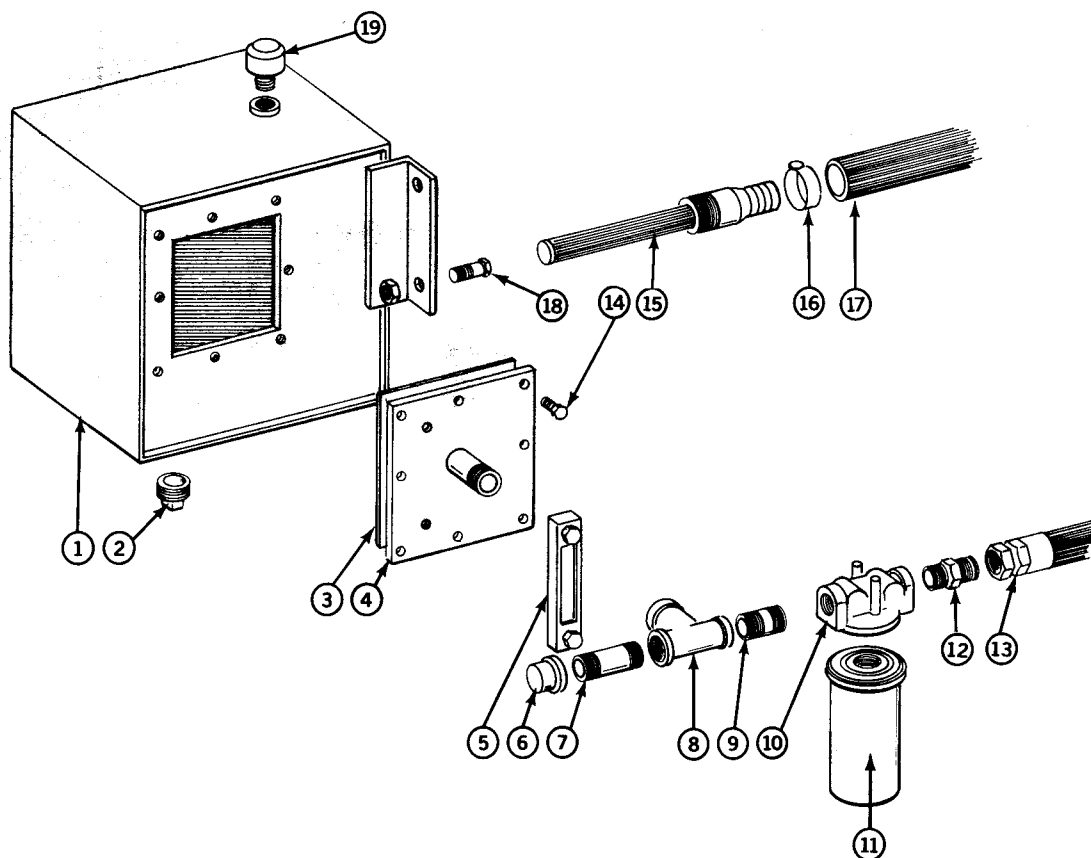


# HYDRAULICS

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	206249	PUMP	1
2	104849	CONNECTOR	1
3	104837	HOSE	1
4	104843	ELBOW	1
5	206250	VALVE, Control	1
6		SCREW, Cap, 1/4" - 20 x 2-1/4"	2
		NUT, Stop, 1/4" - 20	2
7	104832	CONNECTOR	3
8	105559	ASSEMBLY, Orificed fitting	1
		NOTE: The following hoses (item 9) are for connecting the front compartment to the directional valve. The numbers following the description describe which size compartment is the front compartment. Example: 3-valve means 3 yard compartment is at the front.	
9	104722	HOSE, 3-valve	4
	104833	HOSE, 4-valve	4
	104834	HOSE, 5-valve	4
	104835	HOSE, 6-valve	4
	104836	HOSE, 8-valve	4
10	104844	CONNECTOR	3 per valve
11	104831	TEE	1
12	100553	ELBOW	2
13	103561	UNION	2
14	100106	PLUG	2
15	100369	NIPPLE, Test	1
16	21793	NIPPLE	1
17	105524	ELBOW	1
18	104838	HOSE	1
19	104397	HOSE	1
20	18185	CLAMP	2
21	104396	COUPLING	1

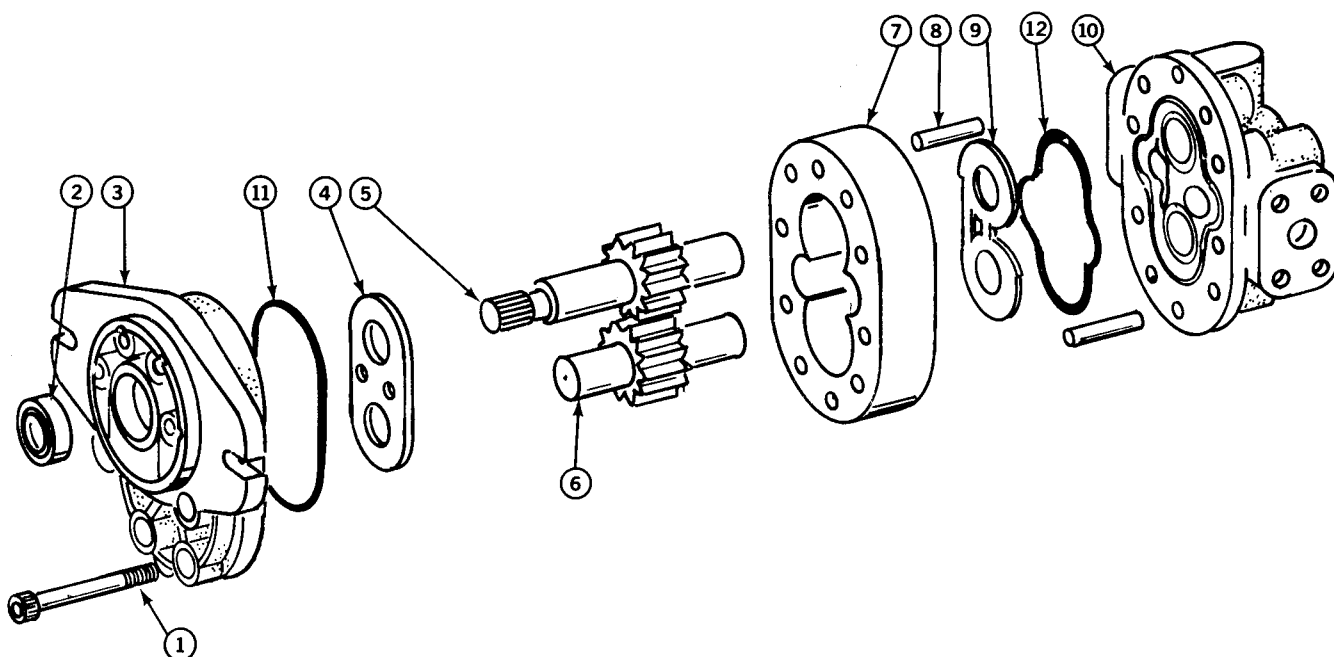
NOTE: For ease in hose identification the Leach part number is permanently stamped on one end of the hose fitting.

# HYDRAULIC FLUID RESERVOIR



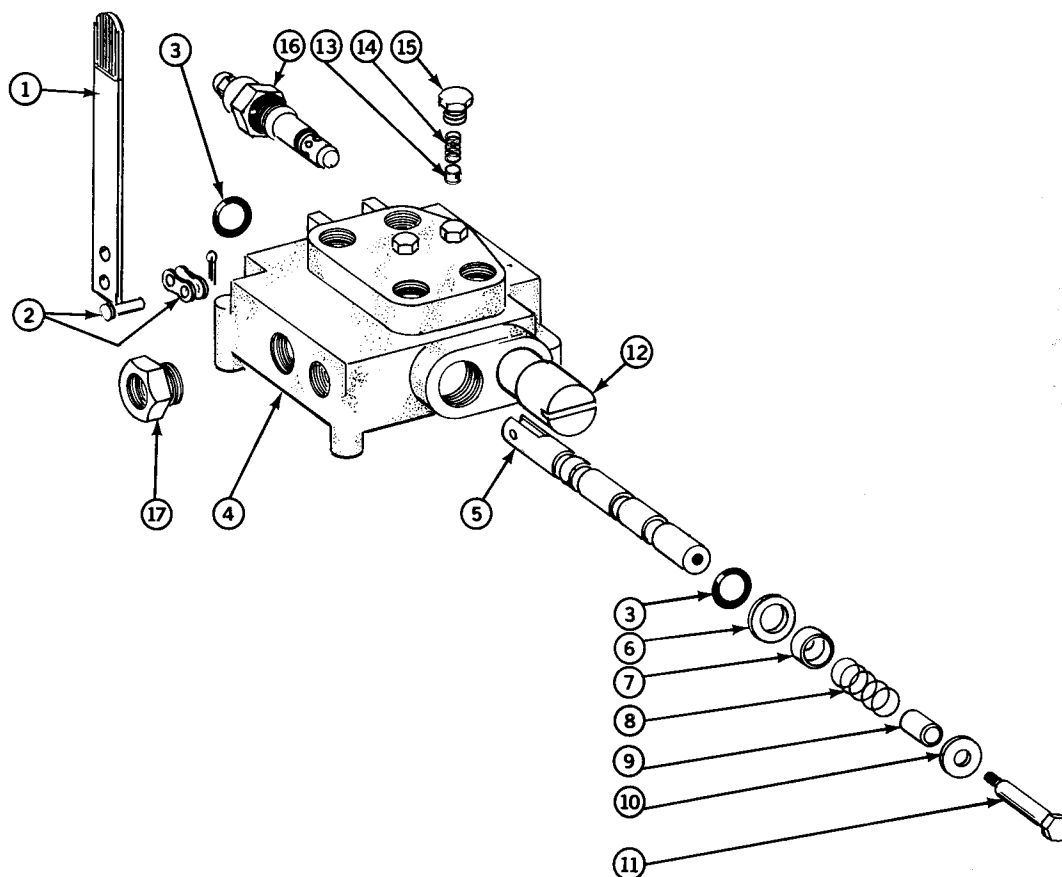
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	304022	WELDMENT, Hydraulic tank	1
2	2738-0028A	PLUG, Pipe, magnetic	1
3	104826	GASKET	1
4	206294	WELDMENT, Cover plate	1
5	39904	GAUGE, Sight	1
6	105437	CAP, Pipe	1
7	105439	NIPPLE	1
8	105438	TEE, Reducing	1
9	105440	NIPPLE	1
10	104811	FILTER	1
11	105250	ELEMENT	1
12	1377	CONNECTOR	1
13	104838	HOSE	1
14		SCREW, Cap, 1/4" x 3/4" UNC	8
15		WASHER, Lock, 1/4"	8
16	206257	STRAINER	1
17	18185	CLAMP	2
18	104397	HOSE, Suction	1
19		SCREW, Cap, 1/2" x 1-1/2" UNC	4
		NUT, Stop, 1/2" UNC	4
	104813	BREATHER	1

# PUMP 206249



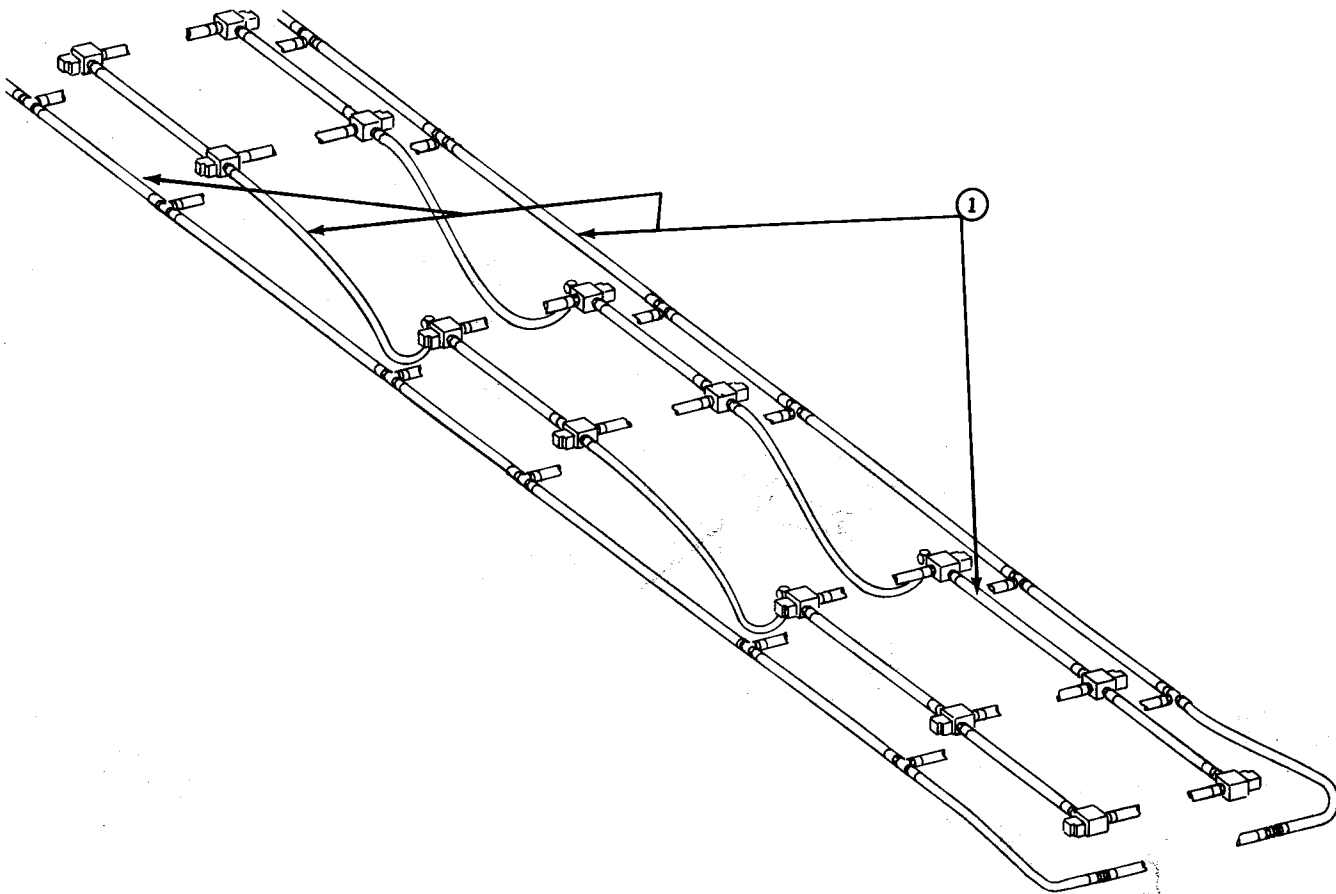
REF. NO.	PART NO.	DESCRIPTION	QTY.
1		SCREW, Cap	8
2	N.S.S.	SEAL, Included in seal kit	1
3	N.A.	COVER, Front	1
4	105887	PLATE, Wear	1
5	N.A.	GEAR, Drive	1
6	N.A.	GEAR, Driven	1
7	N.A.	SECTION, Center	1
8		PIN, Dowel	2
9	105890	PLATE, Thrust	1
10	105891	COVER, Back	1
11	N.S.S.	SEAL, "V" included in seal kit	1
12	N.S.S.	O-RING, Included in seal kit	1
	105892	KIT, Seal (includes items 2, 11, 12)	1
	206249	PUMP, Complete	

# DIRECTIONAL VALVE, 206250



REF. NO.	PART NO.	DESCRIPTION	QTY.
1	206253	HANDLE	2
2	105783	KIT, Pin	2
3	105784	O-RING	4
4	105785	BODY, Valve	2
5	105786	SPOOL	2
6	105787	SEAL, Retainer	2
7	105788	COLLAR, Spool	2
8	105789	SPRING	2
9	105790	COLLAR, Spool stop	2
10	105791	WASHER	2
11	105792	SCREW	2
12	105793	CAP, End	2
13	105794	POPPET	2
14	105795	SPRING	2
15	105796	ASSEMBLY, Plug	2
16	105797	CARTRIDGE, Relief	1
17	105402	PLUG, Power beyond (used with plastic compactor)	1
	105798	KIT, Repair	1
	206250	VALVE, Control	1

# COMPARTMENT HYDRAULICS

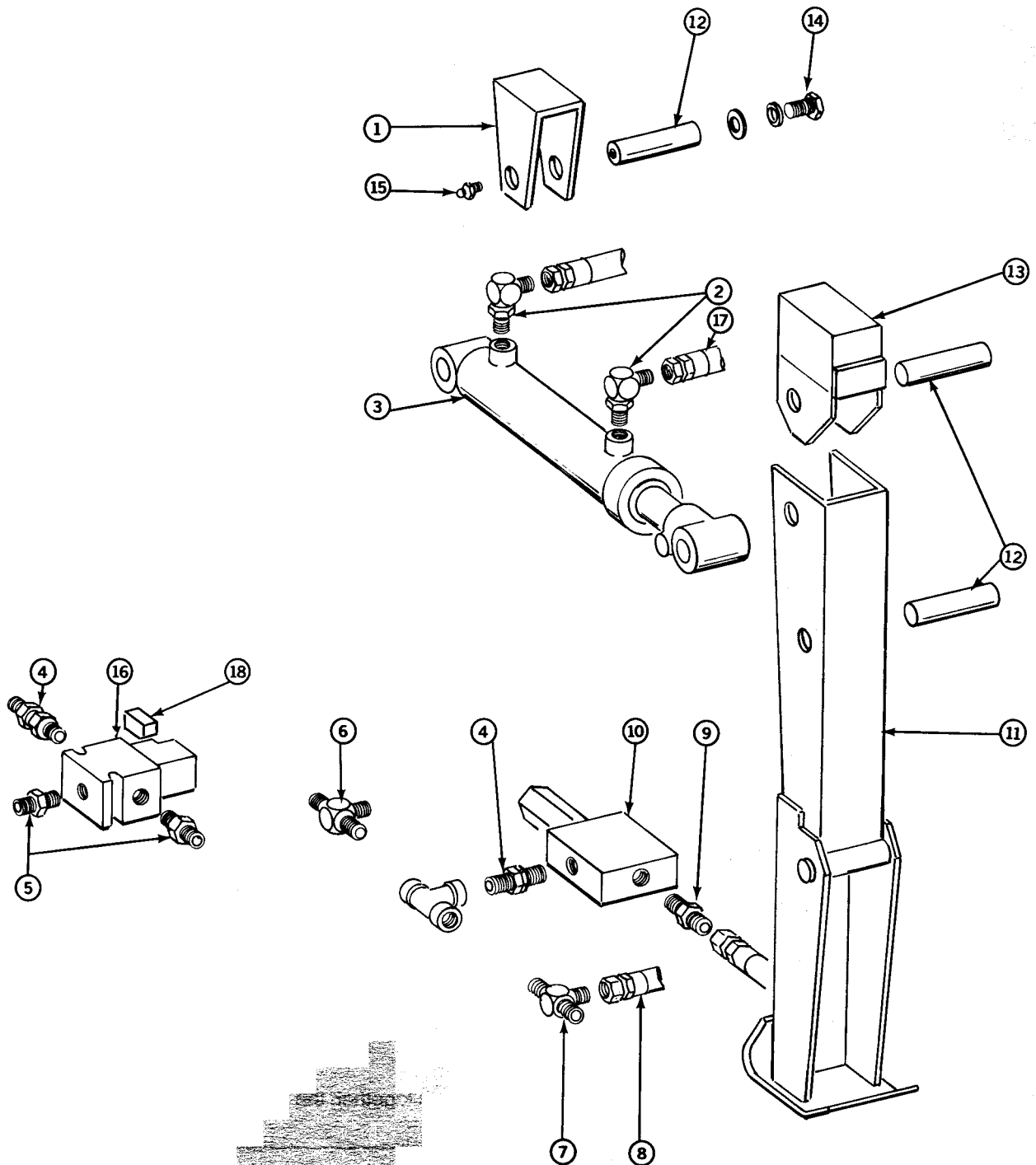


NOTE: For ease in replacement hose identification the Leach part number is permanently stamped on one end of the hose fitting.

NOTE: The following hoses are for connecting two (2) compartments together, the numbers following the description describe which hose connects various compartment configurations.

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	104723	HOSE, 2-3, 2-4, 3-3, 2.8-3, 3-4	4
	104724	HOSE, 2-5, 2-6, 3-5, 3-6, 2.8-4, 2.8-5, 4-4, 4-5	4
	104828	HOSE, 2-8, 3-8, 2.8-6, 4-6, 5-5	4
	104829	HOSE, 2.8-8, 4-8, 5-8, 5-6, 6-6	4
	104830	HOSE, 6-8	4

# STABILIZER LEG

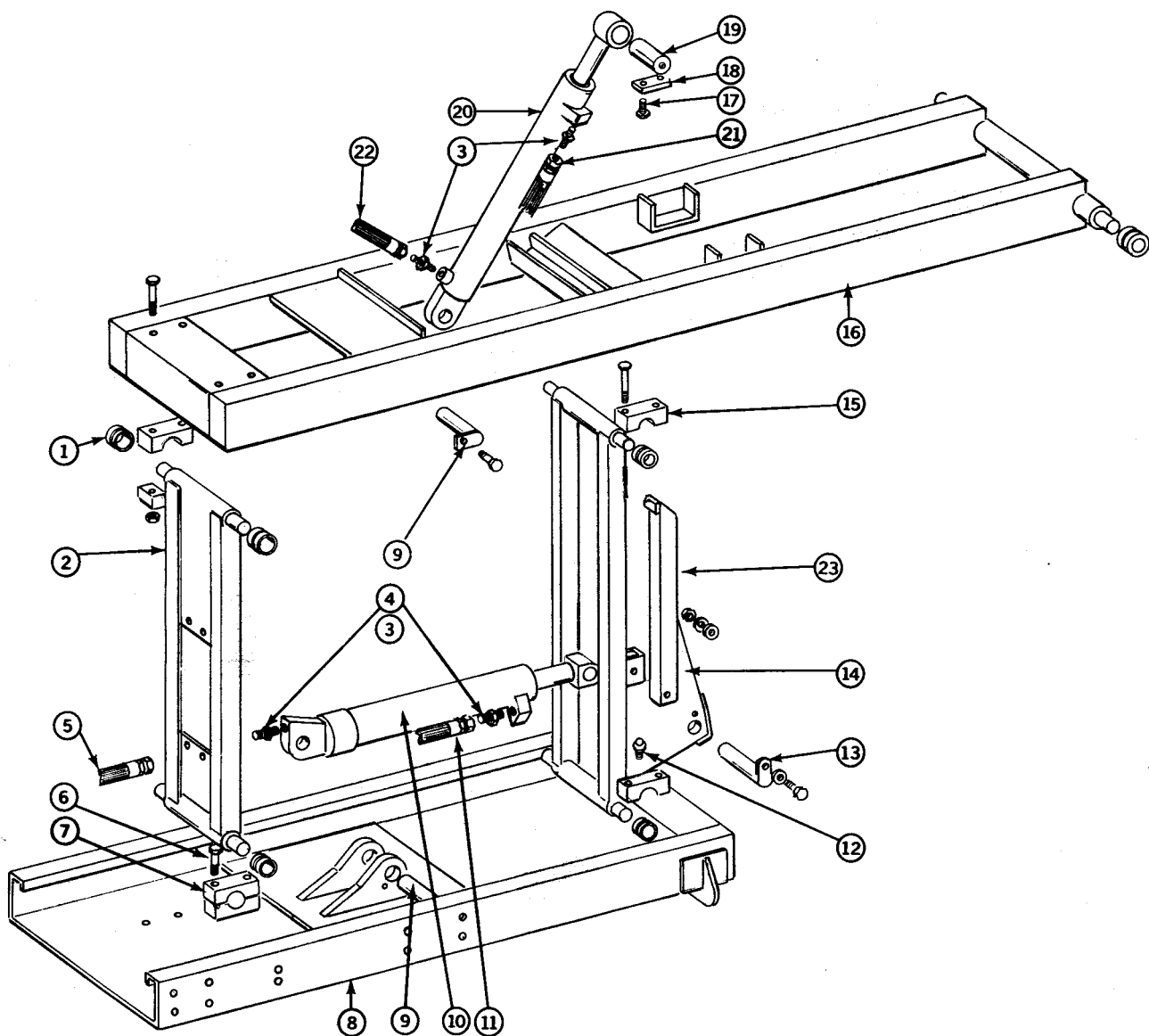




# STABILIZER LEG

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	206345	WELDMENT, Pivot cylinder	1
2	100553	ELBOW	2
3	206344	CYLINDER	1
4	105422	CONNECTOR	2
5	104844	CONNECTOR	2
6	5628-0006	TEE, Swivel	1
7	5628-0008	TEE, Swivel	1
8	104838	HOSE	1
9	102385	ADAPTOR	1
10	100881	VALVE, Relief	1
11	206349	WELDMENT, Leg	1
12	104934	PIN	3
13	206346	WELDMENT, Pivot leg	1
14		WASHER, Plain, 3/8"	3
		WASHER, Plain, 3/8"	3
		SCREW, Cap, Hex head, 3/8" - 16 x 3/4"	3
15	16170	FITTING, Grease	3
16	206256	VALVE, Solenoid	2
17	104828	HOSE	2
18	105459	CORD, Wiring	2
19	37255	SWITCH, Toggle (in cab)	1
20	105424	DECAL (in cab)	1
21	38259	LIGHT, Red dash (in cab)	1

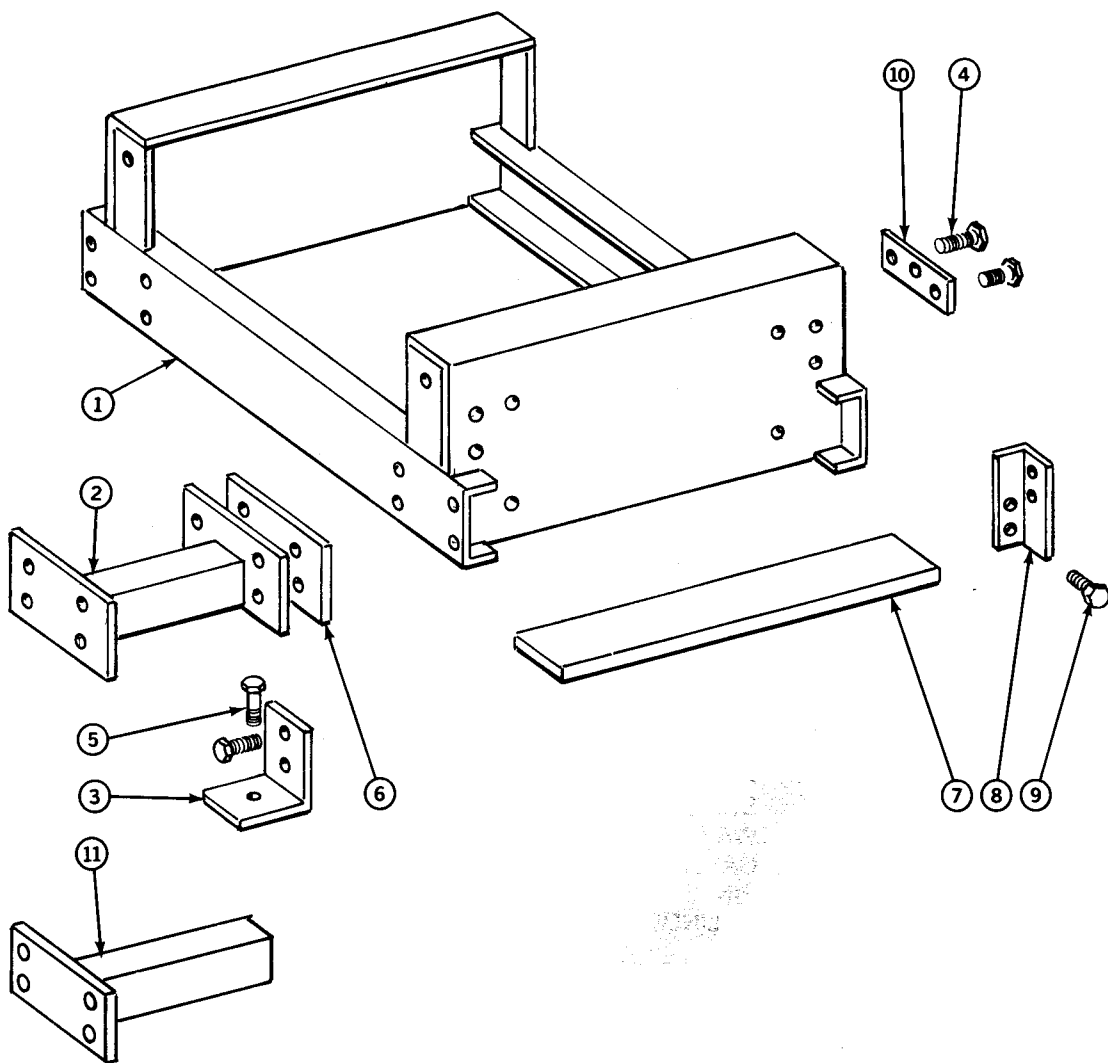
## 10-12



# HOIST, 4,000 & 6,000 LB.

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	104647	BEARING, Hoist	10
2	303503	ASSEMBLY, Link arm (includes item 1)	1
3	104832	CONNECTOR	4
4	5620-1008	REDUCER	2
5	104725	HOSE	1
6		SCREW, Cap, 3/4" x 4-1/2" UNC	12
		NUT, Stop, 3/4" UNC	12
		WASHER, Flat, 3/4" (hardened)	12
7	205213	BLOCK, Bearing	6
	105828	SHIM, Bearing block, thin	As Req.
	105829	SHIM, Bearing block, thick	As Req.
8	403843	WELDMENT, Hoist base, 4,000 lb.	1
	403793	WELDMENT, Hoist base, 6,000 lb.	1
9	205385	PIN, Cylinder, case end	2
		SCREW, Cap, 1/2" x 3/4" UNC	6
	105595	WASHER, Square	6
10	303521	CYLINDER, Lift	1
11	104726	HOSE	1
12	16170	FITTING, Grease	14
13	205384	PIN, Cylinder, rod end	1
14	303756	ASSEMBLY, Lift link 4,000 lb. (includes item 1)	1
	303507	ASSEMBLY, Lift link 6,000 lb. (includes item 1)	1
15	206565	BLOCK, Bearing	2
		SCREW, Cap, 3/4" x 1-1/2" UNC	4
		WASHER, Lock, 3/4"	4
16	303745	ASSEMBLY, Dump hoist frame, 4,000 lb. (includes item 1)	1
	303504	ASSEMBLY, Dump hoist frame, 6,000 lb. (includes item 1)	1
17		SCREW, Cap, 7/16" x 1-1/2" UNC	4
		WASHER, Lock, 7/16"	4
18	104657	CAP, Bearing	2
19	206003	PIN, Cylinder, rod end	1
20	303910	CYLINDER, Dump	1
21	104728	HOSE	1
22	104727	HOSE	1
23	206738	PROP, Lift hoist	1
	105896	WASHER, Bellville	1
	105897	WASHER, 1/2" x 1-3/4"	1
		WASHER, Lock 1/2"	1
		CAPSCREW, 1/2" x 3/4" lg.	1

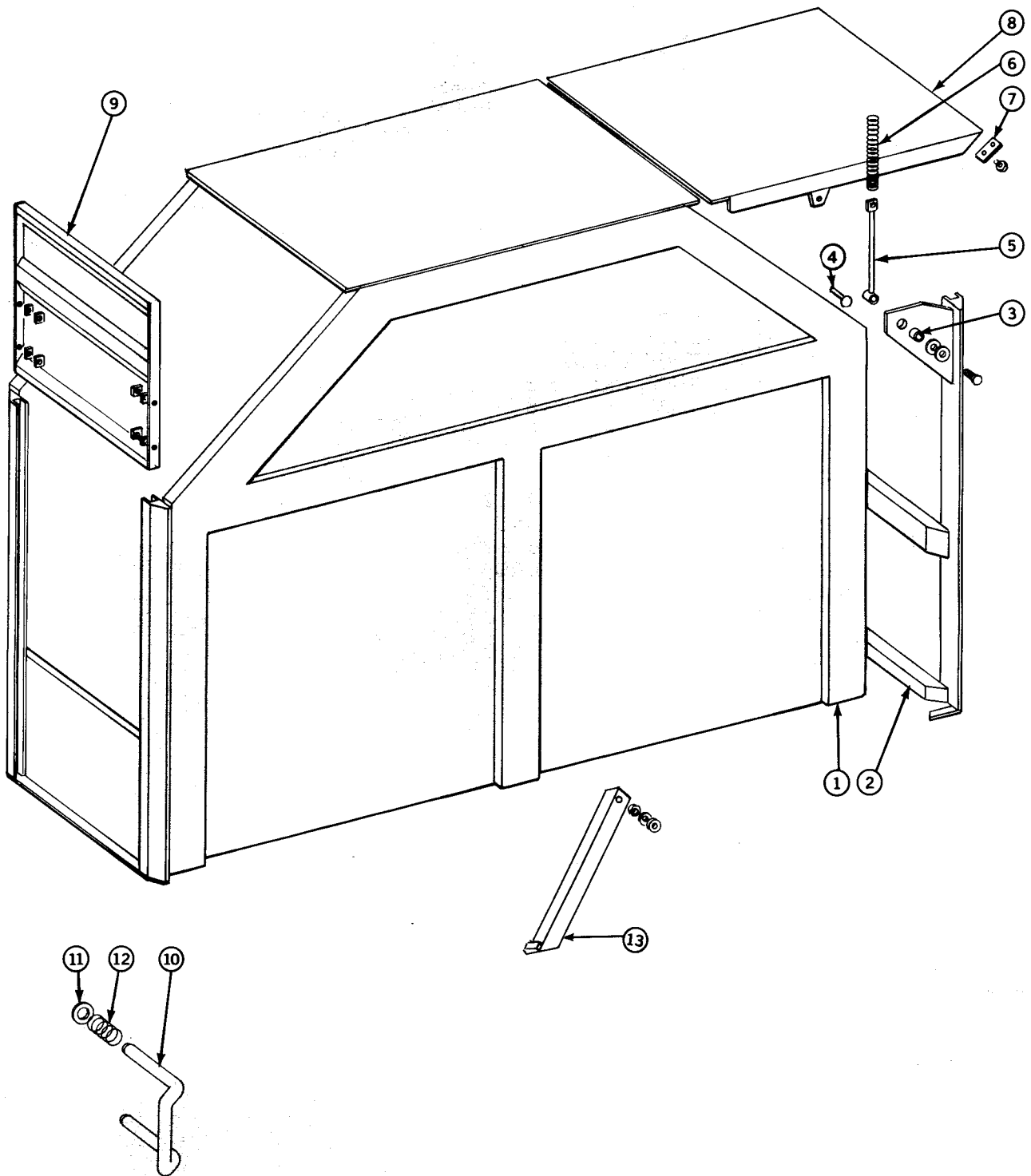
# MOUNTING HARDWARE



# MOUNTING HARDWARE

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	303478	WELDMENT, 12" Riser NOTE: The following torque tubes, item 2, are for connecting two (2) compartments together, the numbers following the description describes which torque tube connects each compartment configuration. Example: 3-8 means 3 yard next to 8 yard.	1
2	205226	TUBE, Torque 2-3 & 3-3	2
	205489	TUBE, Torque 3-4, 2-4, & 3-2.8	2
	205490	TUBE, Torque 3-5 & 2-5	2
	205491	TUBE, Torque 3-6, 4-5, 2.8-5, & 2-6	2
	205492	TUBE, Torque 3-8, 5-6, & 2-8	2
	205493	TUBE, Torque 4-4 & 2.8-4	2
	205494	TUBE, Torque 4-6 & 2.8-6	2
	205495	TUBE, Torque 4-5 & 2.8-8	2
	205496	TUBE, Torque 5-5	2
	205497	TUBE, Torque 5-8	2
	205498	TUBE, Torque 6-6	2
	205499	TUBE, Torque 6-8	2
3	205561	MOUNT, Hoist	2
	206562	MOUNT, Hoist	2
4		SCREW, Cap, 3/4" x 2" UNC	8
		NUT, Stop, 3/4" UNC	8
5		SCREW, Cap, 5/8" x 2" UNC	16
		NUT, Stop, 5/8" UNC	16
6	104180	SHIM, 3/8"	As Req.
	104332	SHIM, 1/2"	As Req.
7	204421	SILL	2
	206571	SILL	2
	206572	SILL	2
	204705	SILL	2
8	206558	MOUNT, Hoist	2
	206559	MOUNT, Hoist	2
9		SCREW, Cap, 5/16" x 1-1/4" UNC	4
10	105778	BRACKET, Mounting hoist	4
11	206839	TUBE, Torque End, 2-3	As Req.
	206840	TUBE, Torque End, 2.8-4	As Req.
	206841	TUBE, Torque End, 5	As Req.
	206842	TUBE, Torque End, 6	As Req.
	206843	TUBE, Torque End, 8	As Req.
	105866	SHIM, Torque End, thin	As Req.
	105867	SHIM, Torque End, thick	As Req.

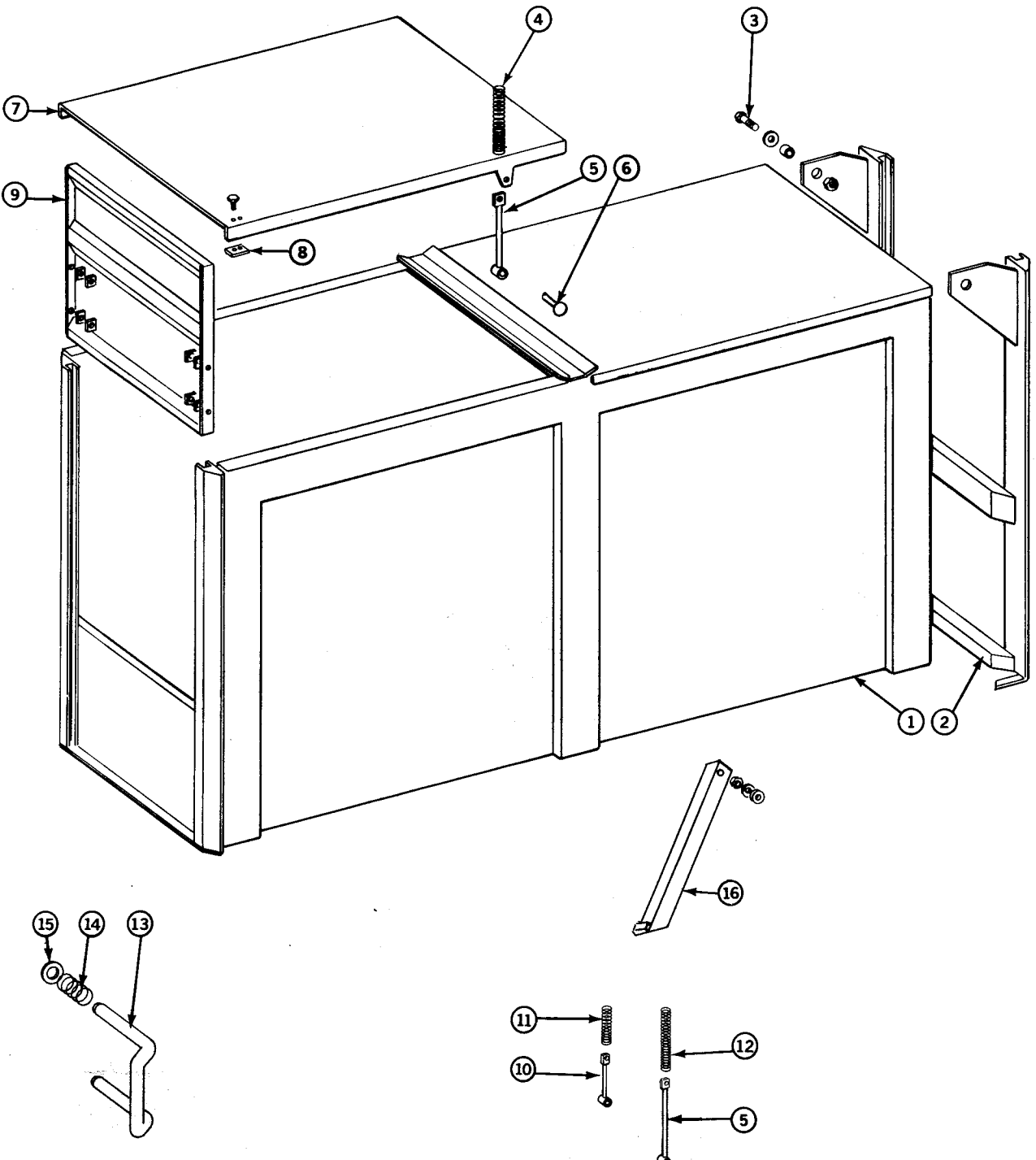
# COMPARTMENT (DOME TOP)



# COMPARTMENT (DOME TOP)

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	500387	WELDMENT, Compartment, 2 yard	1
	500386	WELDMENT, Compartment, 2.8 yard	1
	500381	WELDMENT, Compartment, 3 yard	1
	500382	WELDMENT, Compartment, 4 yard	1
	500383	WELDMENT, Compartment, 5 yard	1
	500384	WELDMENT, Compartment, 6 yard	1
	500385	WELDMENT, Compartment, 8 yard	1
2	403602	GATE, Front, 2 yard	1
	404017	GATE, Front, 2.8 yard	1
	403598	GATE, Front, 3 yard	1
	403599	GATE, Front, 4 yard	1
	403600	GATE, Front, 5 yard	1
	403970	GATE, Front, 6 yard	1
	403971	GATE, Front, 8 yard	1
3	104666	BUSHING	2
		NUT, Stop, 5/8" UNC	2
		SCREW, Cap, 5/8" x 1-3/4" UNC	2
		WASHER, 5/8"	2
4	105213	PIN, Spring rod pivot	4
5	206433	WELDMENT, Spring rod (2 - 8 yard)	4
6	104972	SPRING (2, 2.8, 3, & 4 yard only)	4
	104981	SPRING (5, 6, & 8 yard only)	4
7		NUT, Stop, 3/8" UNC	4
	105239	LIDSLIDE	2
	F0010	SCREW, self tapping, #10-32 x 1/2"	4
8	404059	WELDMENT, Lid, 2 & 3 yard	2
	404060	WELDMENT, Lid, 2.8 & 4 yard	2
	404061	WELDMENT, Lid, 5 yard	2
	404062	WELDMENT, Lid, 6 yard	2
	404063	WELDMENT, Lid, 8 yard	2
9	403921	WELDMENT, Slide door, 2 yard	2
	404019	WELDMENT, Slide door, 2.8 yard	2
	403898	WELDMENT, Slide door, 3 yard	2
	403899	WELDMENT, Slide door, 4 yard	2
	403972	WELDMENT, Slide door, 5, 6, & 8 yard	2
10	303880	HANDLE	4
11	206397	RING, Retaining	8
12	103337	SPRING	8
13	206735	PROP, Compartment	1
	105896	WASHER, Bellville	1
	105897	WASHER, 1/2" x 1-3/4"	1
		WASHER, Lock 1/2"	1
		CAPSCREW, 1/2" x 3/4" lg.	1

# COMPARTMENT (FLAT TOP)

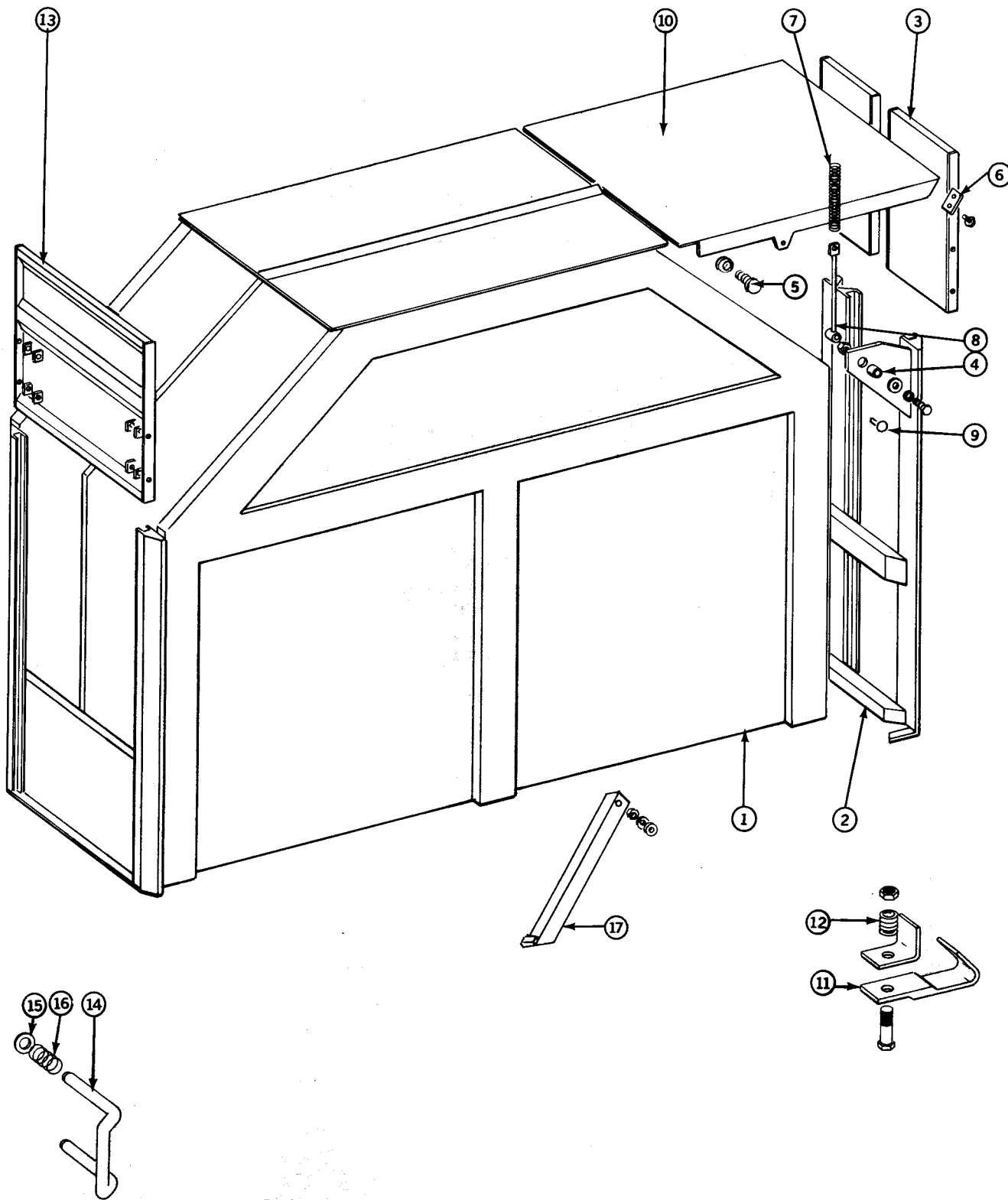




# COMPARTMENT (FLAT TOP)

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	500338	WELDMENT, Compartment, 2 yard	1
	500380	WELDMENT, Compartment, 2.8 yard	1
	500337	WELDMENT, Compartment, 3 yard	1
	500339	WELDMENT, Compartment, 4 yard	1
	500340	WELDMENT, Compartment, 5 yard	1
	500341	WELDMENT, Compartment, 6 yard	1
	500342	WELDMENT, Compartment, 8 yard	1
2	403602	GATE, Front, 2 yard	1
	404017	GATE, Front, 2.8 yard	1
	403598	GATE, Front, 3 yard	1
	403599	GATE, Front, 4 yard	1
	403600	GATE, Front, 5 yard	1
	403970	GATE, Front, 6 yard	1
	403971	GATE, Front, 8 yard	1
3	104666	BUSHING	2
		NUT, Stop, 5/8" UNC	2
		SCREW, Cap, 5/8" x 1-3/4" UNC	2
		WASHER, 5/8"	2
4	104972	SPRING	4
		NUT, Stop, 3/8" UNC	4
5	206433	WELDMENT, Spring rod (2 - 8 yard)	4
6	105213	PIN, Spring rod pivot	4
7	404005	WELDMENT, Lid, 2 & 3 yard	2
	404006	WELDMENT, Lid, 2.8 & 4 yard	2
	404010	WELDMENT, Lid, 5 yard	2
	404011	WELDMENT, Lid, 6 yard	2
	404012	WELDMENT, Lid, 8 yard	2
8	105212	LIDSLIDE	2
	F0010	SCREW, Cap, #10-32 x 1/2" (self tapping)	4
9	403921	WELDMENT, Slide door, 2 yard	2
	404019	WELDMENT, Slide door, 2.8 yard	2
	403898	WELDMENT, Slide door, 3 yard	2
	403899	WELDMENT, Slide door, 4 yard	2
	403972	WELDMENT, Slide door, 5, 6, & 8 yard	2
10	206450	WELDMENT, Spring rod (6 & 8 yard only)	4
11	104941	SPRING (6 & 8 yard only)	4
12	104981	SPRING (6 & 8 yard only)	4
13	303880	HANDLE	4
14	103337	SPRING	8
15	206397	RING, Retaining	8
16	206735	PROP, Compartment	1
	105896	WASHER, Bellville	1
	105897	WASHER, 1/2" x 1-3/4"	1
		WASHER, Lock 1/2"	1
		CAPSCREW, 1/2" x 3/4" lg.	1

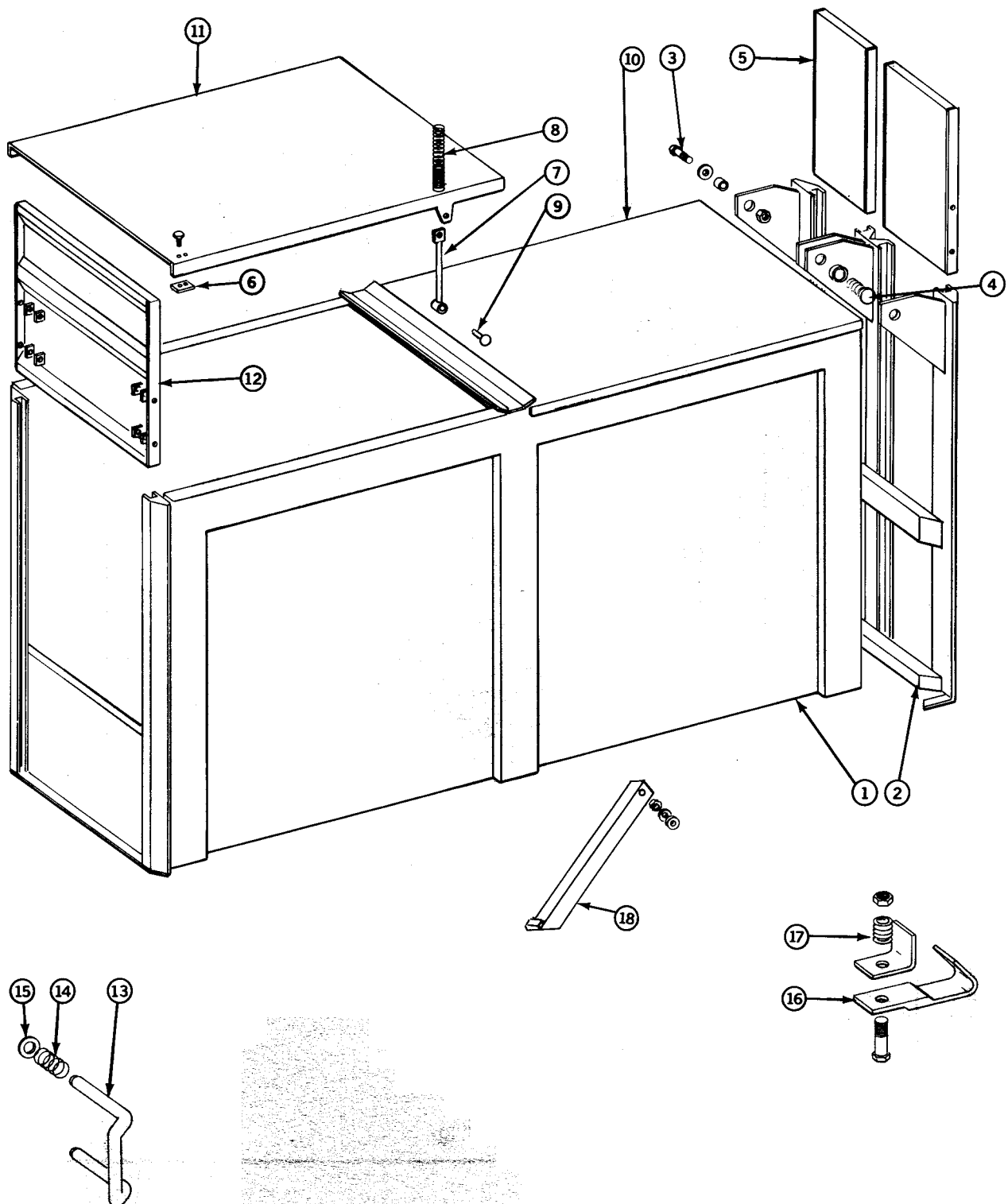
# COMPARTMENT (DOME TOP SPLIT)



# COMPARTMENT (DOME TOP SPLIT)

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	500389	WELDMENT, Compartment, 2 yard	1
	500391	WELDMENT, Compartment, 2.8 yard	1
	500390	WELDMENT, Compartment, 3 yard	1
	500392	WELDMENT, Compartment, 4 yard	1
2	403928	GATE, Front, left hand, 2 yard	1
	403929	GATE, Front, right hand, 2 yard	1
	404118	GATE, Front, left hand, 2.8 yard	1
	404119	GATE, Front, right hand, 2.8 yard	1
	403931	GATE, Front, left hand, 3 yard	1
	403930	GATE, Front, right hand, 3 yard	1
	403934	GATE, Front, left hand, 4 yard	1
	403933	GATE, Front, right hand, 4 yard	1
3	303922	WELDMENT, Slide door, left hand, 2 yard	1
	303919	WELDMENT, Slide door, right hand, 2 yard	1
	304105	WELDMENT, Slide door, left hand, 2.8 yard	1
	304106	WELDMENT, Slide door, right hand, 2.8 yard	1
	303923	WELDMENT, Slide door, left hand, 3 yard	1
	303920	WELDMENT, Slide door, right hand, 3 yard	1
	303924	WELDMENT, Slide door, left hand, 4 yard	1
	303921	WELDMENT, Slide door, right hand, 4 yard	1
4	104666	BUSHING	4
		NUT, Stop, 5/8" UNC	2
		SCREW, Cap, 5/8" x 1-3/4" UNC	2
5		WASHER, 5/8"	4
		WASHER, Lock, 5/8"	2
		SCREW, Cap, 5/8" x 1-1/4" UNC	2
6	105212	LIDSLIDE	4
	F0010	SCREW, Cap, #10-32 x 1/2" (self tapping)	12
7	104972	SPRING	4
8	206433	WELDMENT, Spring rod	4
9	105213	PIN, Spring rod pivot	4
		NUT, Jam, 3/8" UNC	4
10	404173	WELDMENT, Lid, split gate, 2 & 3 yard	1
	404174	WELDMENT, Lid, split gate, 2.8 & 4 yard	1
	404059	WELDMENT, Lid, 2 & 3 yard	1
	404060	WELDMENT, Lid, 2.8 & 4 yard	1
11	105420	WELDMENT, Manual lock	1
12	105423	SPRING	1
		NUT, Stop, 1/2" UNC	1
		SCREW, Cap, 1/2" x 1-3/4" UNC	1
13	403921	WELDMENT, Slide door, 2 yard	1
	404019	WELDMENT, Slide door, 2.8 yard	1
	403898	WELDMENT, Slide door, 3 yard	1
	403899	WELDMENT, Slide door, 4 yard	1
14	303880	HANDLE	4
15	206397	RING, Retaining	8
16	103337	SPRING	8
17	206735	PROP, Compartment	1
	105896	WASHER, Bellville	1
	105897	WASHER, 1/2" x 1-3/4" lg.	1
		WASHER, Lock 1/2"	1
		CAPSCREW, 1/2" x 3/4" lg.	1

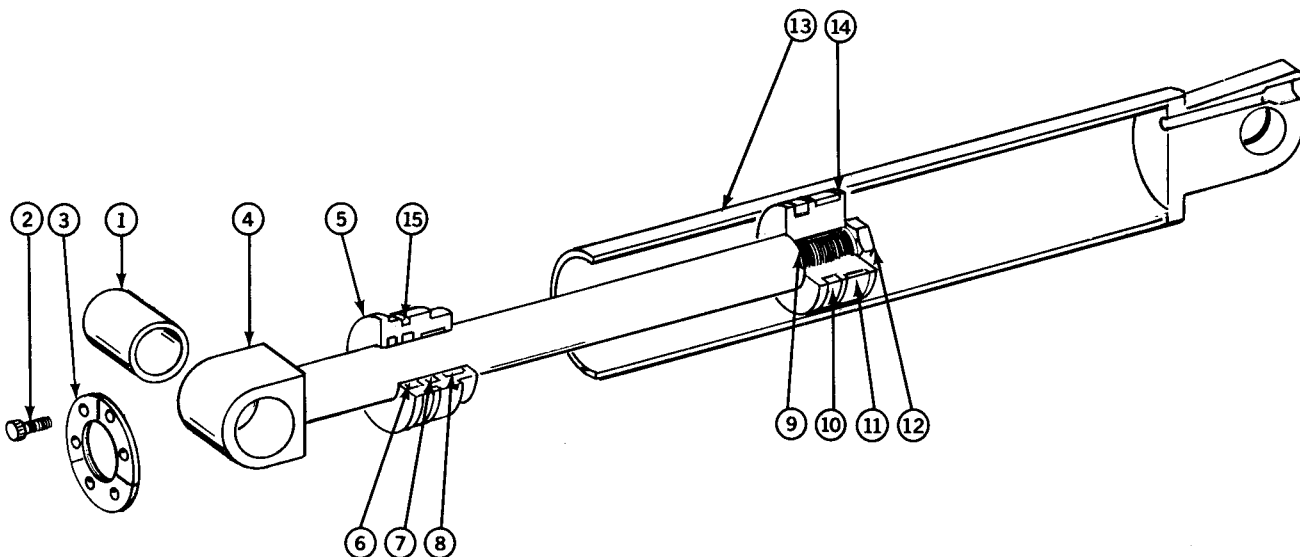
# COMPARTMENT (FLAT TOP SPLIT)



# COMPARTMENT (FLAT TOP SPLIT)

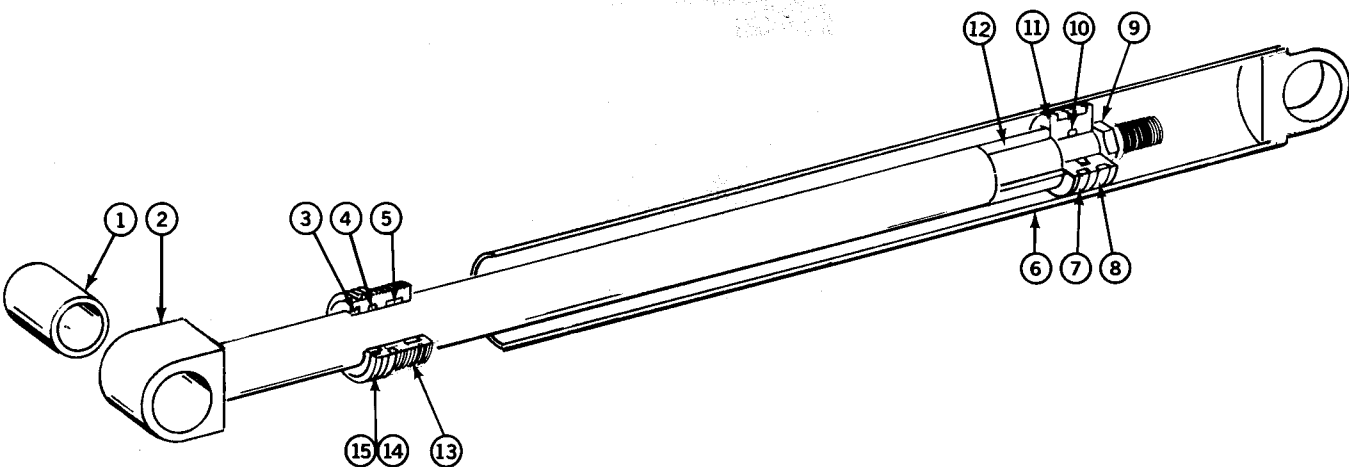
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	500376	WELDMENT, Compartment, 2 yard	1
	500388	WELDMENT, Compartment, 2.8 yard	1
	500377	WELDMENT, Compartment, 3 yard	1
	500378	WELDMENT, Compartment, 4 yard	1
2	403928	GATE, Front, left hand, 2 yard	1
	403929	GATE, Front, right hand, 2 yard	1
	404118	GATE, Front, left hand, 2.8 yard	1
	404119	GATE, Front, right hand, 2.8 yard	1
	403931	GATE, Front, left hand, 3 yard	1
	403930	GATE, Front, right hand, 3 yard	1
	403934	GATE, Front, left hand, 4 yard	1
	403933	GATE, Front, right hand, 4 yard	1
3	104666	BUSHING	4
		NUT, Stop, 5/8" UNC	2
		SCREW, Cap, 5/8" x 1-3/4" UNC	2
		WASHER, 5/8"	4
4		WASHER, Lock, 5/8"	2
		SCREW, Cap, 5/8" x 1-1/4" UNC	2
5	303922	WELDMENT, Slide door, left hand, 2 yard	1
	303919	WELDMENT, Slide door, right hand, 2 yard	1
	304105	WELDMENT, Slide door, left hand, 2.8 yard	1
	304106	WELDMENT, Slide door, right hand, 2.8 yard	1
	303923	WELDMENT, Slide door, left hand, 3 yard	1
	303920	WELDMENT, Slide door, right hand, 3 yard	1
	303924	WELDMENT, Slide door, left hand, 4 yard	1
	303921	WELDMENT, Slide door, right hand, 4 yard	1
6	105212	LIDSLIDE	4
	F0010	SCREW, self tapping, #10-32 x 1/2"	12
7	206433	WELDMENT, Spring rod	4
8	104972	SPRING	4
		NUT, Jam, 3/8" UNC	4
9	105213	PIN, Spring rod pivot	4
10	404172	WELDMENT, Lid, split gate, 2 & 3 yard	1
	404171	WELDMENT, Lid, split gate, 2.8 & 4 yard	1
11	404005	WELDMENT, Lid, 2 & 3 yard	1
	404006	WELDMENT, Lid, 2.8 & 4 yard	1
12	403921	WELDMENT, Slide door, 2 yard	1
	404019	WELDMENT, Slide door, 2.8 yard	1
	403898	WELDMENT, Slide door, 3 yard	1
	403899	WELDMENT, Slide door, 4 yard	1
13	303880	HANDLE	4
14	103337	SPRING	8
15	206397	RING, Retaining	8
16	105420	WELDMENT, Manual lock	1
17	105423	SPRING	1
		NUT, Stop, 1/2" UNC	1
		SCREW, Cap, 1/2" x 1-3/4" UNC	1
18	206735	PROP, Compartment	1
	105896	WASHER, Bellville	1
	105897	WASHER, 1/2" x 1-3/4" lg.	1
		WASHER, Lock 1/2"	1
		CAPSCREW, 1/2" x 3/4" lg.	1

# CYLINDER, LIFT, 303521



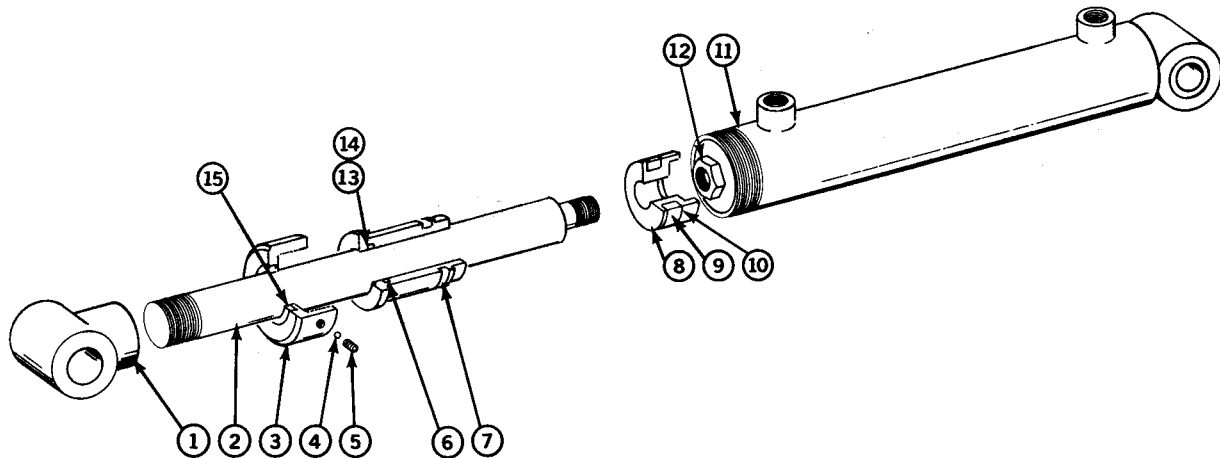
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	104400	BEARING	1
2		SCREW, Cap, Socket head 3/8" x 3/4" UNC	6
3	17602	SEGMENT	3
4	205586	ROD	1
5	202756	GLAND	1
6	102235	SCRAPER, Rod	1
7	102234	SEAL, Rod	1
8	101364	RING, Wear	1
9	35015	O-RING	1
10	101812	SEAL, Piston	1
11	101366	RING, Wear	1
12	203657	NUT	1
13	303517	WELDMENT, Case	1
14	202130	PISTON	1
15	16152	O-RING	1
	105703	KIT, Repair (includes items 3, 6, 7, 12 & 13)	1
	303521	ASSEMBLY, Cylinder, Lift	1

# CYLINDER, DUMP, 303910



REF. NO.	PART NO.	DESCRIPTION	QTY.
1	104400	BEARING	1
2	206191	ROD	1
3	102235	WIPER, Rod	1
4	102234	SEAL, Rod	1
5	101364	RING, Wear	1
6	303915	WELDMENT, Case	1
7	105198	SEAL, Piston	1
8	103521	RING, Wear	1
9		NUT, 1" UNC	1
10	104042	O-RING	1
11	206426	PISTON	1
12	104752	SPACER	1
13	206186	GLAND	1
14	104740	O-RING	1
15	104739	RING, Back up	1
	105278	KIT, Repair (includes items 4, 5, 6, 7, 10 & 14)	1
	303910	ASSEMBLY, Cylinder, Dump	1

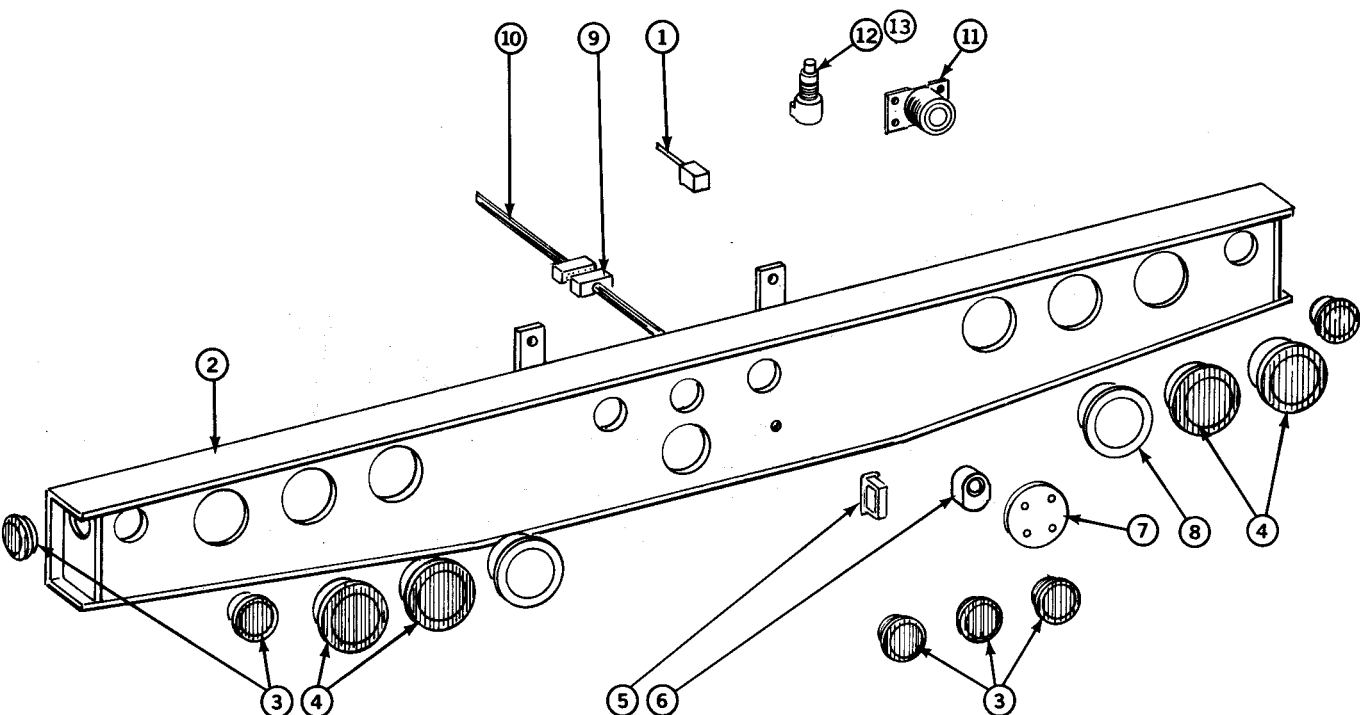
# CYLINDER, STABILIZER LEG, 206344



REF. NO.	PART NO.	DESCRIPTION	QTY.
1	105801	PINEYE	1
2	105812	ROD	1
3	105809	CAP	1
4	105810	BALL, Nylon	1
5	105811	SCREW, Set	1
6	105805	GLAND	1
7	105804	O-RING	1
8	105803	PISTON	1
9	105814	RING, Backup	2
10	105815	O-RING	1
11	105813	WELDMENT, Case	1
12	105802	NUT, Lock	1
13	105806	O-RING	1
14	105807	RING, Backup	1
15	105808	WIPER, Rod	1
	105816	KIT, Repair (Includes items 7, 9, 10, 13, 15)	1
	206344	ASSEMBLY, Cylinder, Stabilizer leg	1

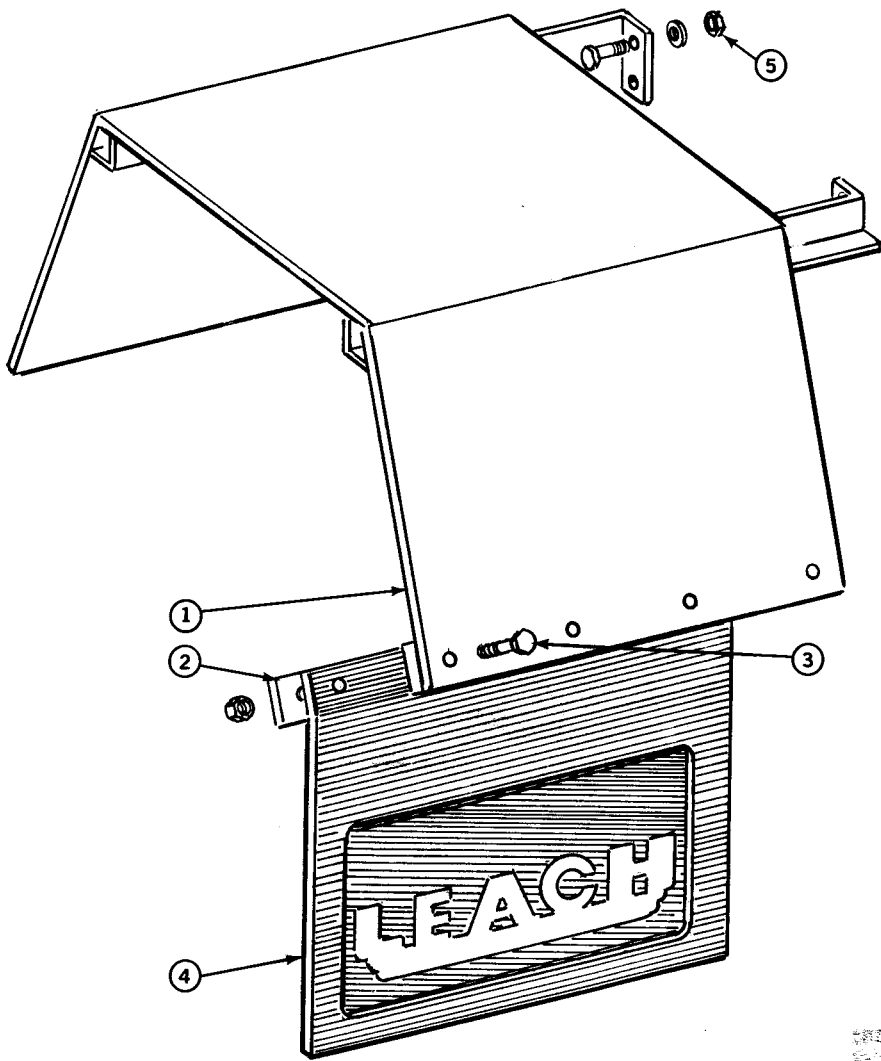


# BODY WIRING



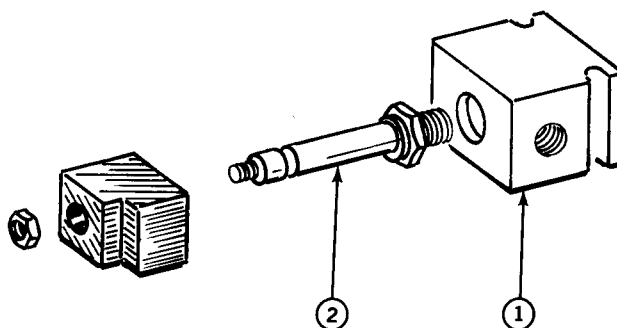
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	105454	WIRING, 1st compartment, 115" long	2
	105455	WIRING, 2nd compartment, 160" long	2
	105456	WIRING, 3rd compartment, 205" long	2
	105457	WIRING, 4th compartment, 250" long	2
	105458	WIRING, 5th compartment, 295" long	2
	105459	WIRING, 6th compartment, 340" long	2
	105460	WIRING, 7th compartment, 385" long	2
2	403610	WELDMENT, Rear bumper	1
		SCREW, Cap, 1/2" x 1-1/2" UNC	8
		NUT, Hex stop, 1/2" UNC	8
3	103192	LIGHT, Marker, red	7
4	37721	LIGHT, Stop	4
5	104367	LAMP, License	2
	104368	BASE, Mount (license lamp)	2
		SCREW, Hex, self-tapping, #10 - 32 x 3/4"	12
6	38176	ALARM, Backup	1
7	105005	GRILL, Speaker	1
8	100749	LIGHT, Backup	2
9	403259	HARNESS	1
10	205353	HARNESS, Body	1
	403620	ASSEMBLY, Rear bumper w/ lights (includes items 2, 3, 4, 5, 6, 7, 8, 9, 11 & 12)	1
11	104061	ALARM, Backup (compartment ajar)	1
12	37746	SWITCH, N.O.	1 each comp.
	37747	SWITCH, N.C.	1 each comp.
13	206883	BRACKET, Switch	1 each comp.
		SCREW, Cap, 3/8" x 1" UNC	2
		NUT, 3/8" UNC	2
		WASHER, 3/8"	2

FENDER



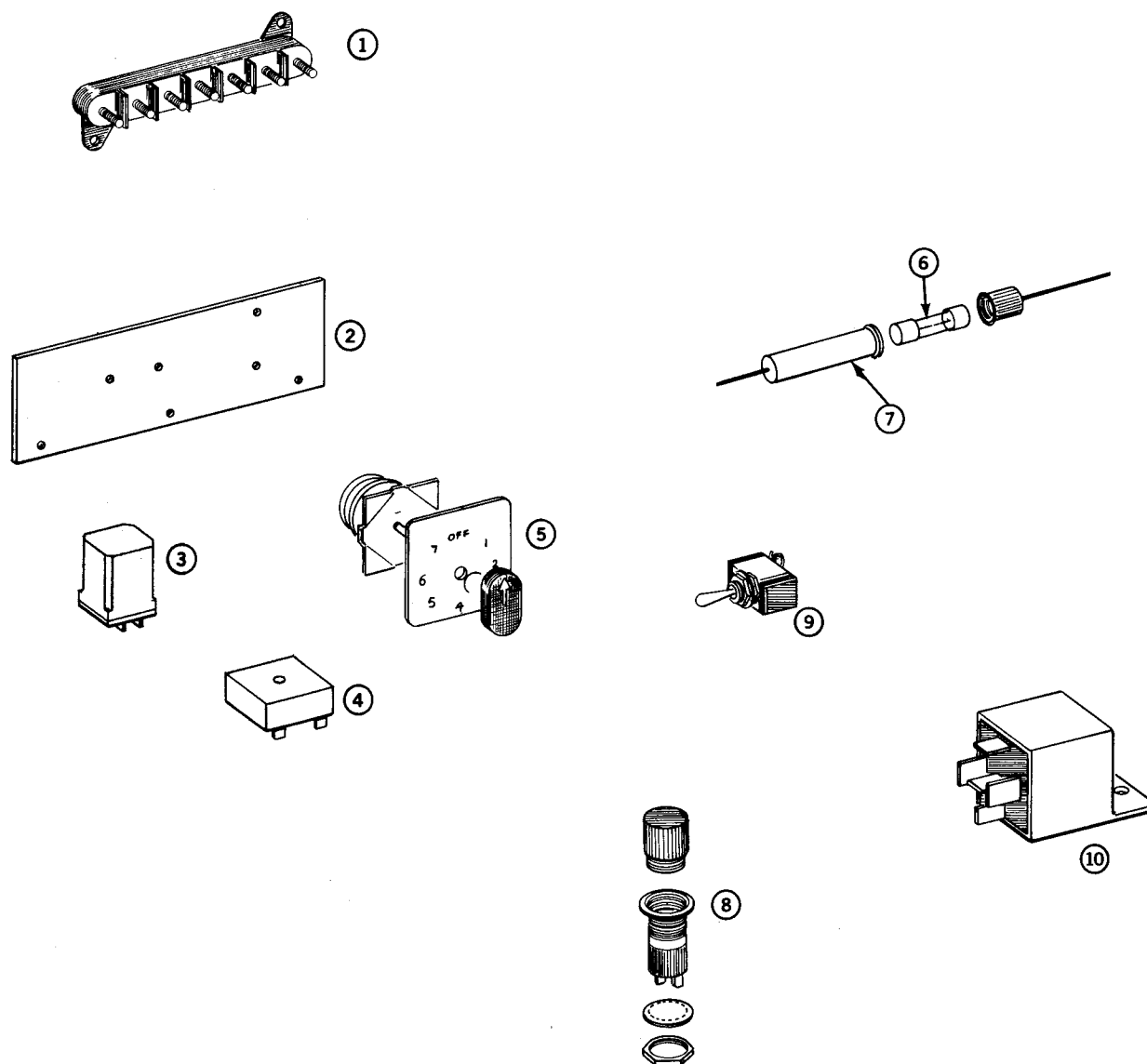
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	303886	WELDMENT, Fender	2
2	202936	STRAP	2
3		SCREW, Cap, 3/8" x 1-1/4" UNC	8
		NUT, Stop, 3/8" UNC	8
4	205618	GUARD, Splash	2
5		SCREW, Cap, 1/2" x 1" UNC	8
		NUT, 1/2" UNC	8

# SOLENOID VALVE, 206256



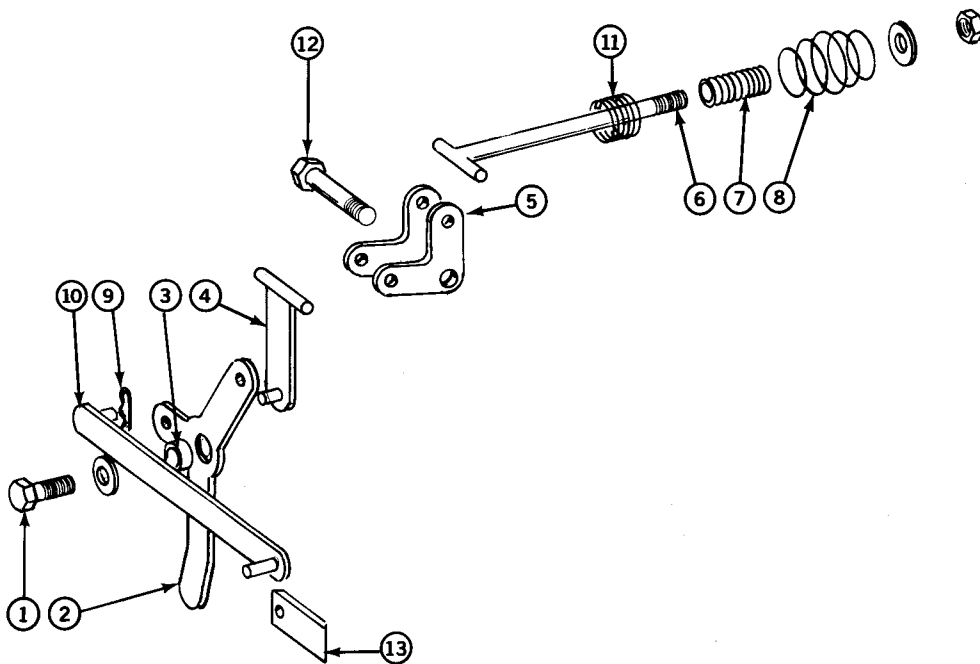
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	105702 206256	BODY	1
2		CARTRIDGE, with solenoid ASSEMBLY, Valve	1

# ELECTRICAL COMPONENTS



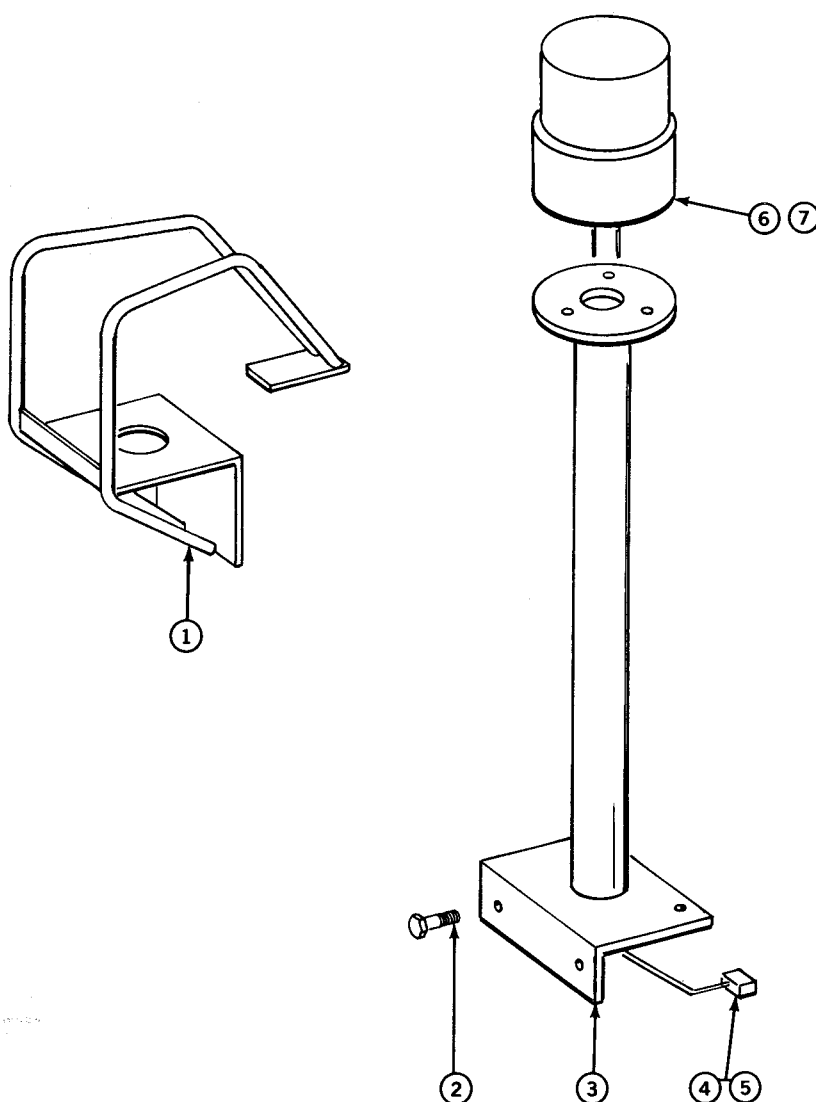
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	100762	BLOCK, Terminal	2
2	206615	BRACKET, Relay mounting	1
3	104197	RELAY, Latching	1
4	104635	RELAY, Time delay	1
5	205334	SWITCH, Rotary	1
6	40757	FUSE	4
7	35865	HOLDER, Fuse	4
8	38259	LIGHT	2
9	SK-2092	SWITCH, Toggle	2
10	102118	RELAY	2

# LATCH ASSEMBLY



REF. NO.	PART NO.	DESCRIPTION	QTY.
1		SCREW, Cap, 5/8" x 1-1/4" UNC	1
2	205536	WASHER, Lock	1
3	104356	WELDMENT, Crank	1
4	104356	PIVOT, Crank	1
5	206466	WELDMENT, Bell crank link	1
6	104355	CRANK, Bell	2
7	206498	WELDMENT, Latch "T" rod	1
8	16211	SPRING	1
9	104408	SPRING, Unlatching	1
10		WASHER, 1/2"	1
11		NUT, Stop, 1/2" UNC	1
12	104421	CLIP, Hitch pin	1
13	205534	WELDMENT, Link	2
	104407	SPRING, Latching	1
		SCREW, Cap, 1/2" x 2-3/4" UNC	1
		WASHER, Flat, 1/2"	2
		NUT, Stop, 1/2" UNC	1
	205537	WELDMENT, 2 & 3 yard	2
	205538	WELDMENT, 2.8 & 4 yard	2
	205539	WELDMENT, 5 yard	2
	205540	WELDMENT, 6 yard	2
	205541	WELDMENT, 8 yard	2

# OPTIONS



REF. NO.	PART NO.	DESCRIPTION	QTY.
1	304260	GUARD, Brush	1
2		SCREW, Cap, 3/8" x 7/8" UNC	3
		NUT, 3/8" UNC	3
		WASHER, Lock, 3/8"	3
3	206541	WELDMENT, Beacon	2
4	206729	HARNESS, Flat top	1
5	206728	HARNESS, Dome top	1
6	38759	LIGHT, Beacon, rotating	As Req.
7	105464	LIGHT, Beacon, flashing	As Req.

# ORDER FORM MANUALS AND LITERATURE

Catalog No.	Title	List Price (Each)	Quantity	Amount Enclosed
	<b>Current Production Units</b>	(each)		
105547	2Rll Parts Manual (over ser. no. 8993)	\$7.00	_____	_____
105548	2Rll Operators Manual (over ser. no. 8993)	\$7.00	_____	_____
105549	2Rll Service Manual (over ser. no. 8993)	\$7.00	_____	_____
102517	2Rll Lubrication Wall Chart	\$7.00	_____	_____
105518	2Rll Check Out Wall Chart	\$7.00	_____	_____
105521	Beta Parts Manual	\$7.00	_____	_____
105519	Beta Operators Manual	\$7.00	_____	_____
105520	Beta Service Manual	\$7.00	_____	_____
102488	Beta Lubrication Wall Chart	\$7.00	_____	_____
102489	Beta Check Out Wall Chart	\$7.00	_____	_____
105522	Alpha Parts Manual	\$7.00	_____	_____
105543	Alpha Operators Manual	\$7.00	_____	_____
105416	Alpha Service Manual	\$7.00	_____	_____
105539	Alpha Lubrication Wall Chart	\$7.00	_____	_____
100655	Alpha Check Out Wall Chart	\$7.00	_____	_____
105530	SCll Parts Manual	\$7.00	_____	_____
105536	SCll Operators Manual	\$7.00	_____	_____
105535	SCll Service Manual	\$7.00	_____	_____
105538	SCll Lubrication Wall Chart	\$7.00	_____	_____
102524	SCll Check Out Wall Chart	\$7.00	_____	_____
105531	Slll Parts Manual	\$7.00	_____	_____
105545	Slll Operators Manual	\$7.00	_____	_____
105381	Slll Service Manual	\$7.00	_____	_____
105395	FL-104 Parts Manual	\$7.00	_____	_____
105408	FL-104 Operators Manual	\$7.00	_____	_____
105550	FL-104 Service Manual	\$7.00	_____	_____
105552	FL-104 Lubrication Wall Chart	\$7.00	_____	_____
105551	FL-104 Check Out Wall Chart	\$7.00	_____	_____
102541	RC 17/23 Recycling Collector Manual	\$7.00	_____	_____
105382	HSD (High Side Dump) Recycling Collector Manual	\$7.00	_____	_____
	<b>Spanish Language</b>			
102534	2Rll Spanish Operators Manual	\$7.00	_____	_____
102511	2Rll Spanish Service Manual	\$7.00	_____	_____
102472	Alpha Spanish Operators Manual	\$7.00	_____	_____
105541	SCll/Slll Spanish Operators Manual	\$7.00	_____	_____
105542	SCll Spanish Service Manual	\$7.00	_____	_____
	<b>Previous Production Units</b>			
105527	2Rll Parts Manual (ser. no. 0001-6972)	\$7.00	_____	_____
105400	2Rll Service Manual (ser. no. 0001-6972)	\$7.00	_____	_____
105546	2Rll Parts Manual (ser. no. 6972-8993)	\$7.00	_____	_____
105544	2Rll Service Manual (ser. no. 6972-8993)	\$7.00	_____	_____
105529	2Rll Operators Manual (ser. no. 0001-8993)	\$7.00	_____	_____
105533	2R Packmaster Parts Manual	\$7.00	_____	_____
105385	2R Service Manual	\$7.00	_____	_____
102526	SaniCruiser Parts Manual	\$7.00	_____	_____
102531	2F Front Loader Parts Manual	\$7.00	_____	_____
100648	2F Front Loader Operators Manual	\$7.00	_____	_____
102450	2F Front Loader Service Manual	\$7.00	_____	_____
100656	2F Front Loader Lubrication Wall Chart	\$7.00	_____	_____
100657	2F Front Loader Check Out Wall Chart	\$7.00	_____	_____
	<b>Other Publications</b>			
105528	Rear Loader Mounting Manual	\$7.00	_____	_____
100619	Main Operating Valve Service Manual	\$7.00	_____	_____
105406	Rear Loaders Container Handling Systems Manual	\$7.00	_____	_____
	<b>Safety Items</b>			
101372	Safety Vests	\$7.00	_____	_____
105402	Safety Booklets	N/C	_____	_____
105387	Safety Wall Posters (6 per set)	N/C	_____	_____
	<b>Videos</b>			
102497	2Rll Operators Video	\$17.95	_____	_____
102496	2Rll Preventative Maintenance Check Out Video	\$17.95	_____	_____
102498	Alpha Operators Video	\$17.95	_____	_____
102499	Alpha Preventative Maintenance Check Out Video	\$17.95	_____	_____
102513	Beta Operators Video	\$17.95	_____	_____
102514	Beta Preventative Maintenance Check Out Video	\$17.95	_____	_____

TOTAL ENCLOSED \_\_\_\_\_

# R E W A R D



One genuine Leach hat to the **first** person to notify us of an error in any of our publications.

If you find what you believe to be an error in any of our publications please complete the requested information and mail. If you're the **first**, you will receive a hat by return mail.

I believe I found an error

In the \_\_\_\_\_ manual

Part No. \_\_\_\_\_

Page(s) \_\_\_\_\_

It should say \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Return this form to:  
Service Department  
Leach Company  
2737 Harrison Street  
P.O. Box 2608  
Oshkosh, Wisconsin 54903-2608



# TABLE OF CONTENTS

SEC.	TOPIC	PAGE
•	Inspection and Replacement of Dump Cylinder .....	9-5
•	Reassembly and Installation of Dump Cylinder .....	9-5
•	Description of Hydraulic Pump ...	9-6
•	Removal of Hydraulic Pump .....	9-6
•	Reassembly and Installation of Pump .....	9-6
•	Disassembly of Hydraulic Pump ..	9-7
•	Reassembly of Hydraulic Pump ...	9-7
•	Description of 2-spool Control Valve for Compartment Lift and Dump Cylinders .....	9-8
•	Removal of 2-spool Directional Valve .....	9-8
•	Disassembly of 2-spool Directional Valve .....	9-8
•	Inspection of 2-spool Directional Valve .....	9-9
•	Installation of 2-spool Directional Valve .....	9-9
•	Electrical Schematic .....	9-10

SEC.	TOPIC	PAGE
10	PARTS	
•	Decals .....	10-2
•	Hydraulics .....	10-4
•	Hydraulic Fluid Reservoir .....	10-6
•	Pump .....	10-7
•	Directional Valve .....	10-8
•	Compartment Hydraulics .....	10-9
•	Stabilizer Leg .....	10-10
•	Hoist .....	10-12
•	Mounting Hardware .....	10-14
•	Compartment (Dome Top) .....	10-16
•	Compartment (Flat Top) .....	10-18
•	Compartment (Dome Top Split) ...	10-20
•	Compartment (Flat Top Split) .....	10-22
•	Cylinder, Lift .....	10-24
•	Cylinder, Dump .....	10-25
•	Cylinder, Stabilizer Leg .....	10-26
•	Body Wiring .....	10-27
•	Fender .....	10-28
•	Solenoid Valve .....	10-29
•	Electrical Components .....	10-30
•	Latch Assembly .....	10-31
•	Options .....	10-32

## MANUALS AND LITERATURE

### ORDER FORM

### REWARD