2R-III™

MAINTENANCE MANUAL

Labrie Enviroquip Group

2R-III™

MAINTENANCE MANUAL

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December 2015

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1

Introduction

This manual contains information for the correct maintenance of your 2R-III™ rear-loader garbage truck. Maintenance personnel should read and understand this information before doing repairs and maintenance on the vehicle. For information on how to safely and efficiently operate the 2R-III™, please refer to the *Operator's Manual* that is provided with your unit.

Introducing the 2R-III™

The main purpose of the 2R-III™ is to safely and efficiently load, compact, transport and unload refuse. The following describes how the unit performs those tasks in the most basic terms. For a more detailed description of the unit and its components, read the complete 2R-III™ *Maintenance Manual*. Before going further, you will need to become familiar with specific terms that are used when referring to the 2R-III™ garbage truck.

Terms You Will Need to Know

Body's main components are the ***hopper***, the ***packer panel***, the ***tailgate***, the ***pushout panel***, and the ***carrier panel***. During collection, refuse is contained inside the ***body***.

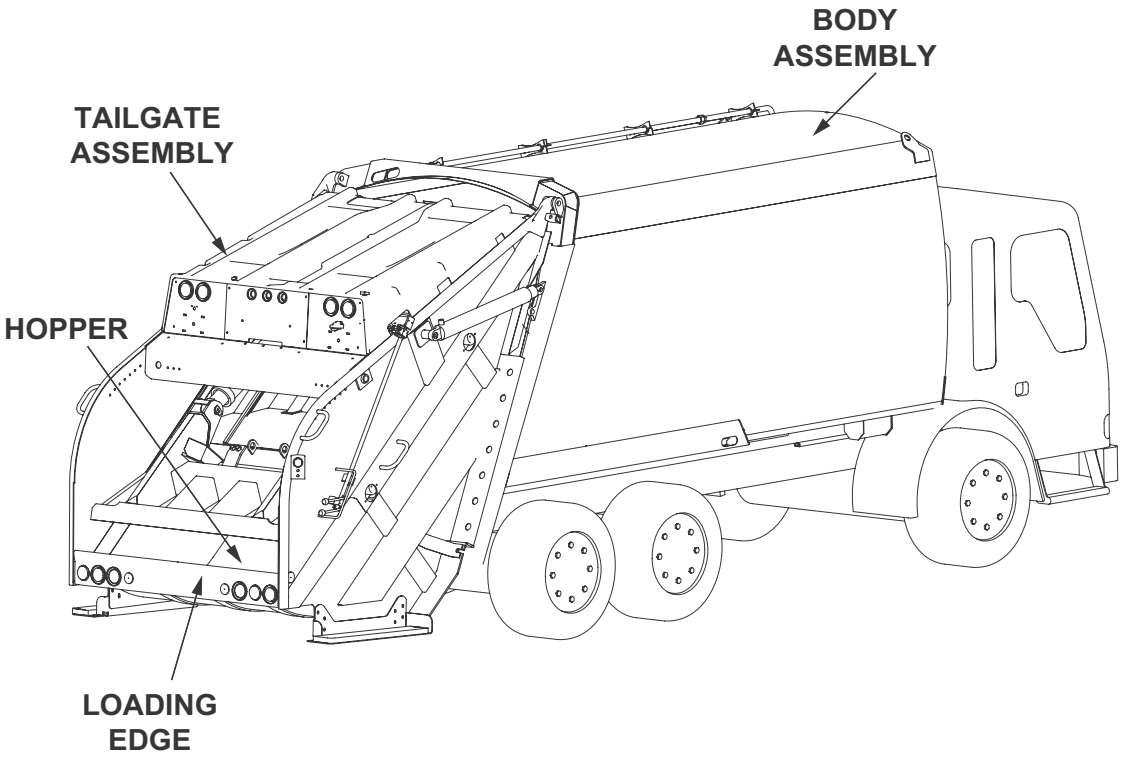
Some trucks may be equipped with a ***cart tipper*** or a ***push bar***. If the latter is installed, a ***reeving cylinder*** or a ***winch*** is provided.

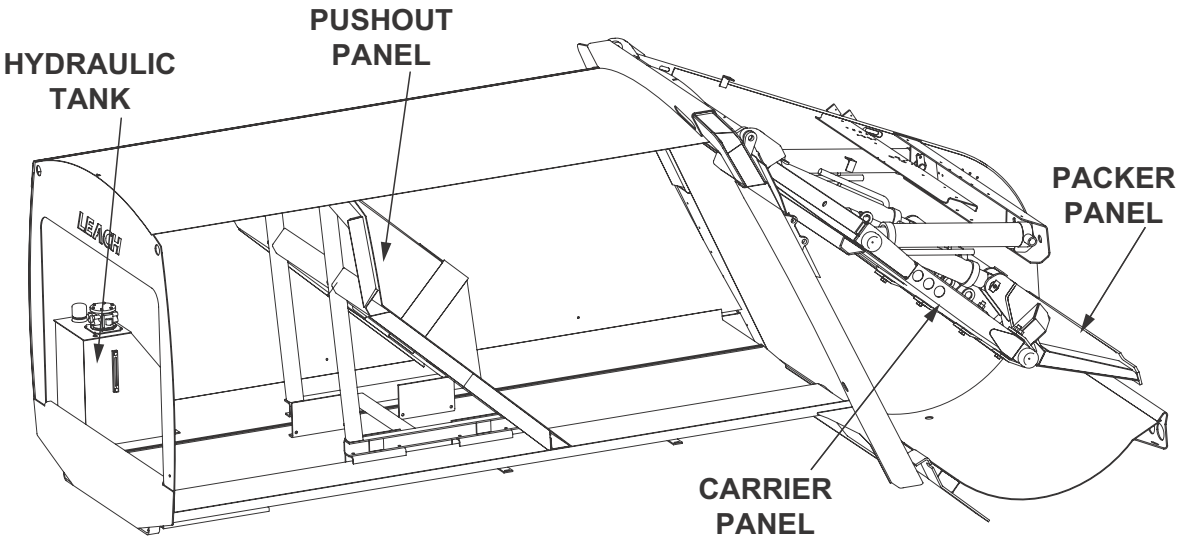
The ***hopper*** is the area of the body where refuse is dumped. The ***packer panel*** is the piece of equipment that pushes refuse into the body. The ***pushout*** (or ***ejection***) ***panel*** is the piece of equipment that is used to eject garbage at landfill sites. The ***tailgate*** is the rear pivotal door that prevents refuse from exiting the body during collection. At landfill, the ***tailgate*** is raised to allow discharge of refuse.

Operating controls for the packer, carrier panel, container handling system, and tipper (optional) are located on the right-hand side of the tailgate.

Operating controls for the pushout panel and tailgate are located on the left-hand side of the body, not far from the cab.

TERMS YOU WILL NEED TO KNOW



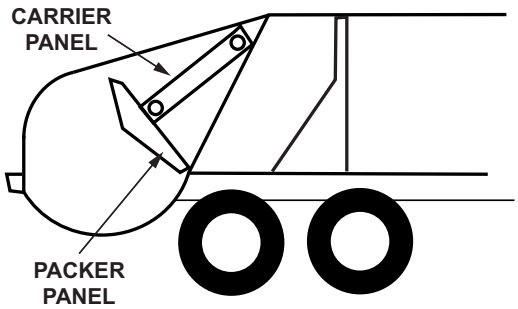


Waste Handling Process

The waste handling process in a 2R-III™ rear-loader garbage truck is a three-step process: 1. loading; 2. packing; 3. unloading. Take a look at the following illustrations. They will help you understand how these steps relate to one another.

Loading

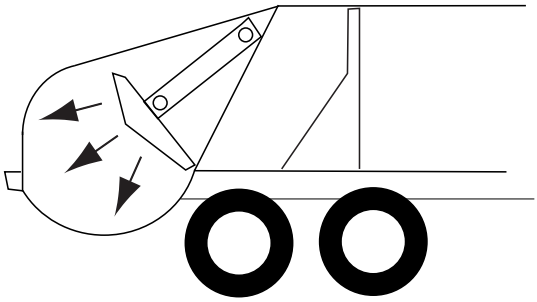
Refuse is first loaded into the hopper of the tailgate assembly. The carrier and packer panels, which sweep up and pack the refuse from the hopper, will be in the "home" position.



"Home" position

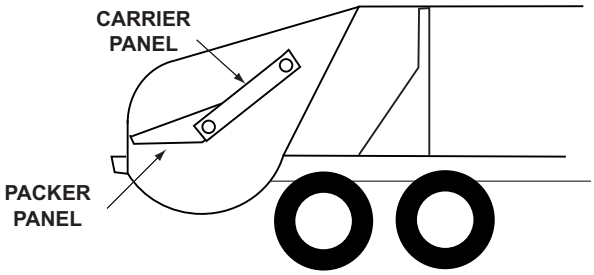
Packing

When the operator starts the packing cycle, the carrier and packer panels move rearward over the load.



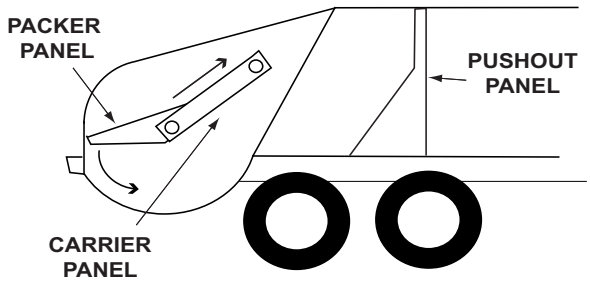
Carrier and packer panels move over load

Next, the carrier and packer panels automatically stop at the "interrupted cycle" position.



"Interrupted cycle"

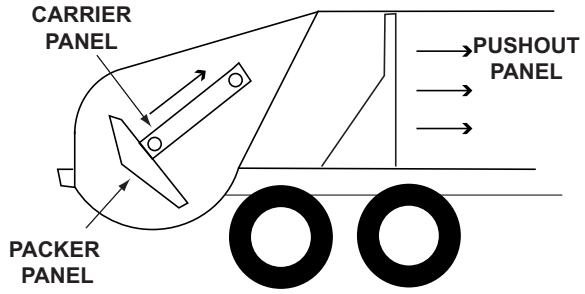
The operator again activates the packing cycle. The carrier and packer panels move forward and sweep the refuse from the hopper up into the body and pack it against the pushout panel. Having completed a cycle, the carrier and packer panels are back into the "home" position and the hopper is cleared for more refuse.



Packing position

Also, during the packing cycle, considerable hydraulic pressure is applied to the cylinders which control movement of the carrier and packer panels. This causes the refuse to be compacted tightly allowing for a large carrying capacity.

Once the body is full, the 2R-III™ can be moved to the dumpsite for unloading.



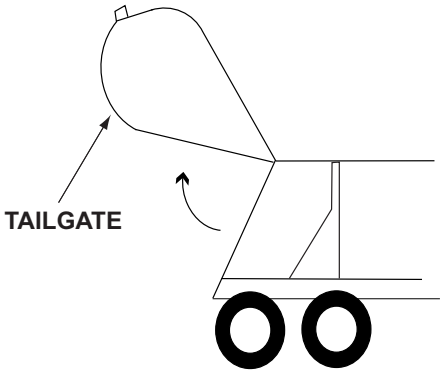
Pushout panel moves forward

Unloading

At the dumpsite, the unit is unloaded in two easy steps:

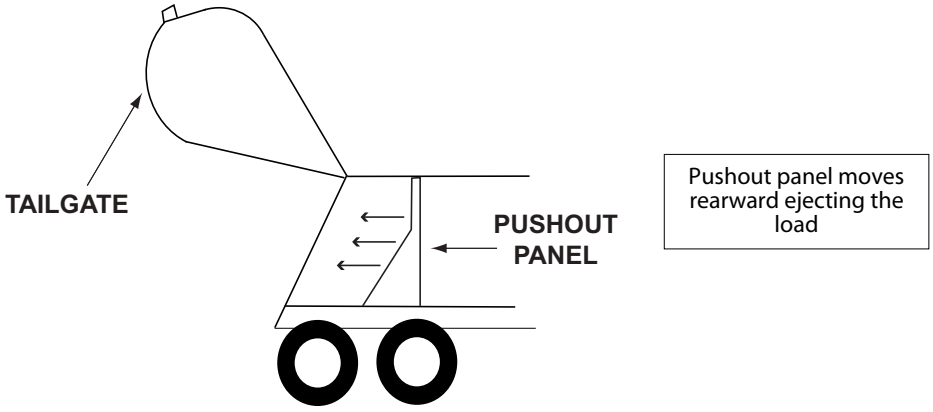
1. The tailgate is raised by the operator.

2. The pushout panel is moved to the rear of the body, pushing out the load.



Tailgate raised

After unloading, the tailgate is lowered and "latched" to the body.



Container Handling Systems

The main purpose of a refuse body is to load, compact, transport and unload refuse. To assist in loading refuse from containers, various container handling systems are available to be mounted on Leach™ rear loaders.

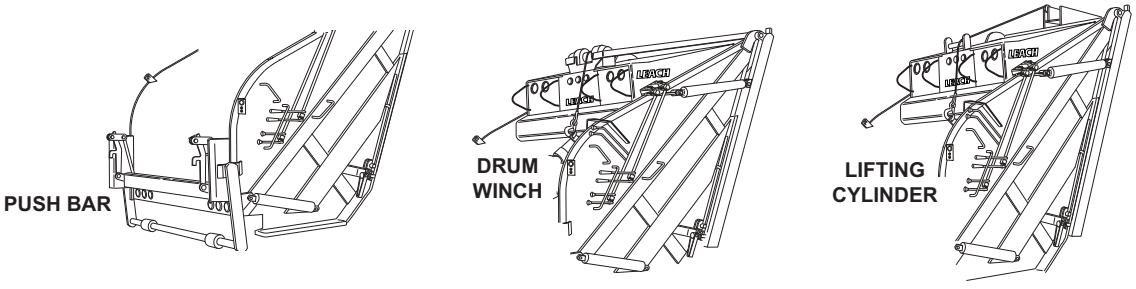
A refuse container may be a mobile residential one (1) cubic yard container with casters or a ten (10) cubic yard stationary commercial container. The equipment required to lift and empty these containers will vary according to the container's type and size.

The following are some handling systems that could be used:

- A hydraulically operated container push bar for containers of 1 to 3 cubic yard capacity.
- A drum winch or roof-mounted lifting cylinder for containers with capacities of four (4) or more cubic yards.

Drum winches are rated at various pounds of pull. The 2R-III™ drum winch and lifting cylinder are rated at 12,000 lbs.

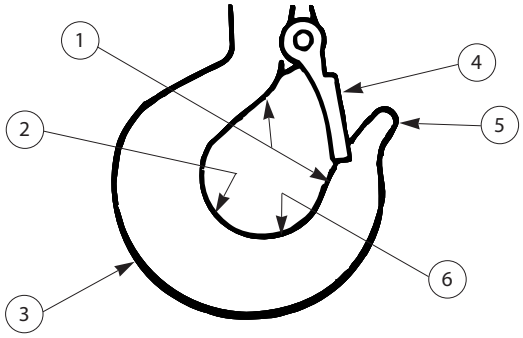
NOTE: Leach™ bodies can be equipped with more than one container handling system.



Terms You Need to Know

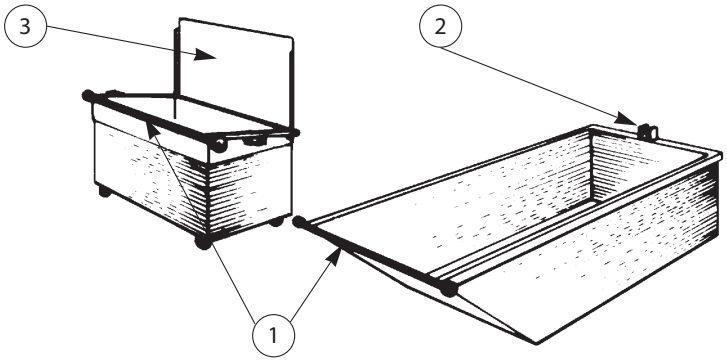
Hook

1. Throat Opening
2. Back
3. Heel
4. Hook Safety Latch
5. Tip
6. Base



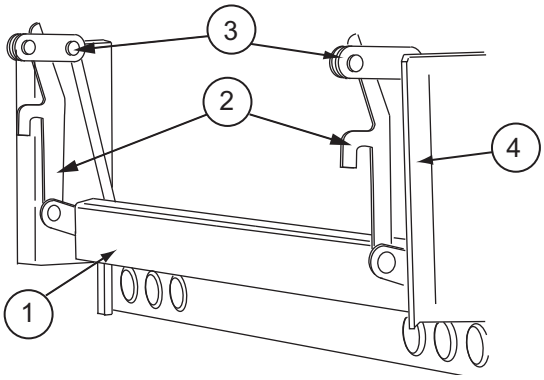
Container

1. Trunnion Bar
2. Hook Attachment
3. Lid



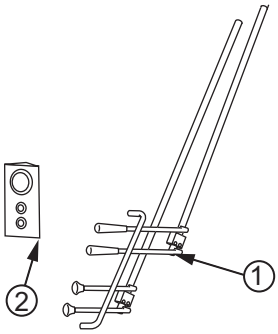
Container Attachment

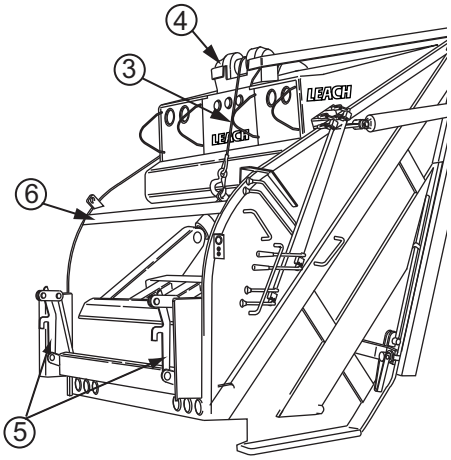
1. Loading Sill
2. Arm
3. Latch
4. Guide Ear



Winch

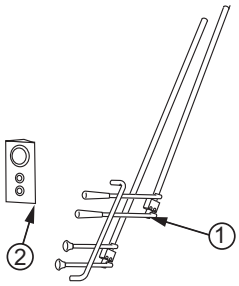
1. Control Levers
2. Engine Speed-Up Button
3. Winch Lifting Cable
4. Winch Assembly
5. Container Attachment
6. Stop Bar/Lid Guard

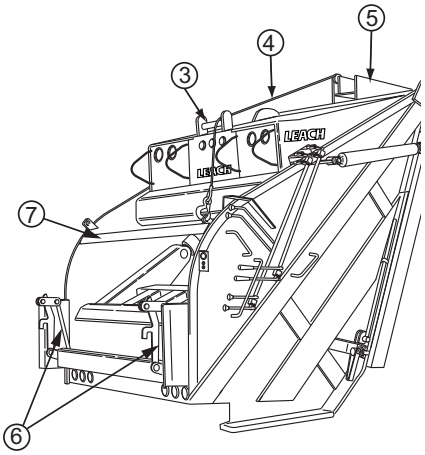




Container Lifting Cylinder (CLC)

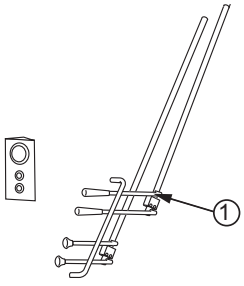
1. Control Levers
2. Engine Speed-Up Button
3. Cylinder Cable Roller Guide
4. Cylinder Cable
5. Lifting Cylinder Assembly
6. Container Attachment
7. Stop Bar/Lid Guard

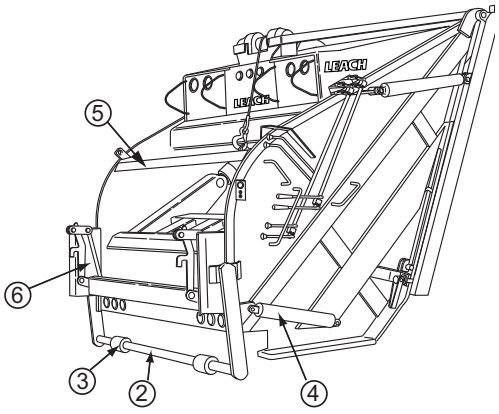




Container Push Bar (CPB)

1. Control Levers
2. Push Bar
3. Lift Roller
4. Push Bar Cylinders
5. Stop Bar/Lid Guard
6. Container Attachment





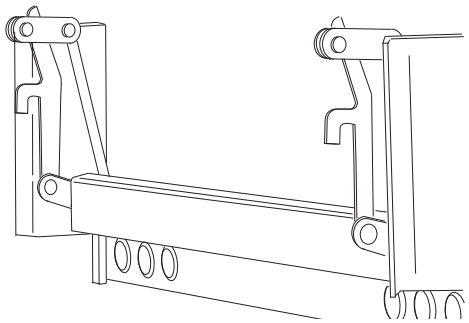
Container Handling Process

All Leach™ container handling systems have three (3) basic operation steps:

Attaching

The first step in container handling is to attach the container to the rear loader by securing it with the latch arms of the container attachment.

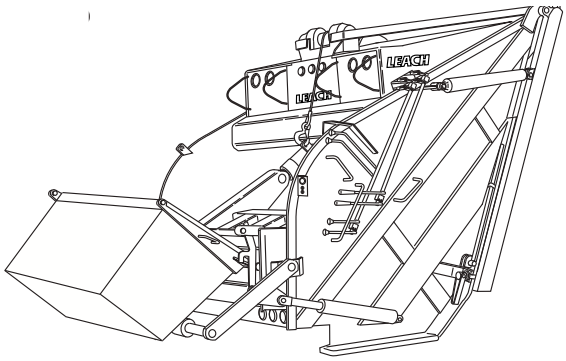
Attaching container



Dumping

A container handling system is used to raise the container and empty its content into the hopper of the rear loader.

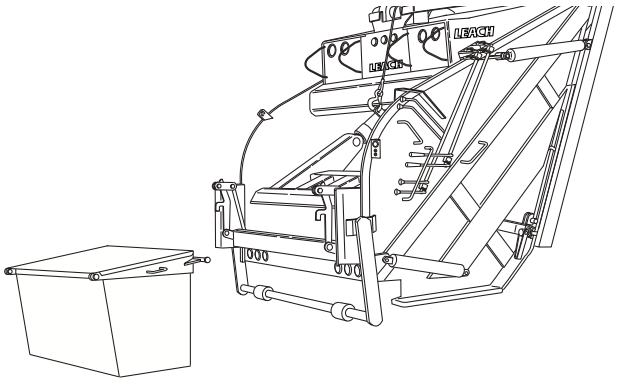
Dumping container



Releasing

When the container is empty, it is lowered to the ground, the latch arms released and the truck is moved forward.

Releasing container



To Contact Labrie Plus

In the U.S.

Address:	1981 W. Snell Road Oshkosh, WI 54904
Toll Free:	1-800-231-2771
Telephone:	1-920-233-2770
General Fax:	1-920-232-2496
Sales Fax:	1-920-232-2498
Parts and warranty:	During business hours, 7:00 AM to 7:00 PM Central Standard Time
Technical Support Service:	Available 24 hours

In Canada

Address:	175A Route Marie-Victorin Levis, QC G7A 2T3
Toll Free:	1-877-831-8250
Telephone:	1-418-831-8250
Service Fax:	1-418-831-1673
Parts Fax:	1-418-831-7561
Parts and warranty:	During business hours, 8:00 AM to 5:00 PM Eastern Standard Time
Technical Support Service:	Available 24 hours
Website:	www.labriegroup.com
E-mail:	sales@labriegroup.com

IMPORTANT: For technical support and parts ordering, the serial number of your vehicle is required. Therefore, Labrie Enviroquip Group recommends to keep record of the information found on the VIN plate, which is located in the cab.

2

Safety

IMPORTANT: This manual contains safety information that could prevent accidents. Read and thoroughly understand it before using the vehicle.

The 2R-III™ has been designed with the operator in mind. However, as with any industrial machinery, especially those that are large and apply forces through hydraulic pressures, the ultimate responsibility for safety rests with you - the operator. 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 instructions contained in the *Operator's Manual*.

Publication of these precautions does not imply or in any way represent an all inclusive list. It is the operators 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.

Additional safety precautions, along with all the necessary instructions and conventions, are presented in the following pages.

Safety Decals

Recognizing and understanding safety decals can prevent damage and could prevent injury or even death.

See the following recommendations regarding safety decals:

- These decals must be obeyed at all times.
- These decals must be in place at all times. Report any damaged or missing decals to the proper authority at once.
- Replacement decals can be ordered free of charge from Labrie*Plus* during warranty period.

Safety decals fall into three main categories (see following illustration).

Figure 2-1 Safety decal categories

Keep your decals clean and in good condition at all times. For a list of safety and informative decals for your 2R-III™ unit, refer to the section on *Safety and Informative Decals* in the related *Operator's Manual*.

NOTE: Decals may vary from one unit to another depending on the options and features installed on the unit.

Conventions

Throughout this manual "**DANGER**" "**WARNING**" and "**CAUTION**" notations accompanied by an exclamation mark inside a triangle (an International Hazard Symbol) are used to alert the operator and mechanics to special instructions concerning a particular operation or service that may be hazardous if performed incorrectly or carelessly.

Danger!

Indicates a hazardous situation which, if not avoided, ***will*** result in serious injury or death.

Warning!

Indicates a hazardous situation which, if not avoided, ***could*** result in serious injury or death.

Caution!

Indicates a hazardous situation which, if not avoided, may result in ***minor or moderate injury or property/product damage.***

Strict compliance to these “safety alerts” combined with “common sense” operations are important accident-prevention measures.

The word “NOTE” is also used throughout the manual. It precedes information that provides special emphasis or clarification on a specific operation or procedure.

Basic Safety Notions

The following safety notions are related to the use of the 2R-III™. It is important to point out that the safe use of the vehicle remains the user’s responsibility. He must heed all safety notions explained in this manual and on the decals affixed to the vehicle.

Danger!

Always be aware of the vehicle’s surroundings to make sure that no pedestrians, passersby, bystanders, or other people or vehicles are in any way exposed to any danger caused by the use of the 2R-III™.

Danger!

Never get in the hopper area when the engine is running.
Only authorized personnel may do so following a lockout/tagout procedure (see *Locking Out and Tagging Out the Vehicle* on page 28).

Responsibilities

Safety is everybody’s responsibility. Employer and employees must play their part to ensure the safety of the operator, the vehicle, and its immediate surroundings.

Employer Responsibilities

It is the responsibility of the employer:

- To properly maintain all mobile equipment to meet all provincial/state and federal safety standards.
- To keep the vehicle maintained and properly adjusted to meet the manufacturer’s standards and recommendations. For help or for more information, please contact the manufacturer or any of its authorized representatives.
- To keep records of all vehicle breakdowns and malfunctions, as well as any inspection and maintenance.
- To ensure that all failures or malfunctions that may be affecting the safe use of the vehicle are repaired before the vehicle is put back into operation.
- To make sure that the backup alarm works properly when the vehicle is in reverse.
- To take necessary measures to correct any damage or malfunction reported by an employee.

- To establish a "lockout/tagout" procedure and ensure its application any time inspection, repair or maintenance is performed on the vehicle, regardless of whether it takes place on the road or in the garage.

Employee Responsibilities

It is the responsibility of the employee:

- To enforce all safety measures to meet the requirements established by the employer.
- To operate the 2R-III™ only after having received proper instructions and training.
- To make sure that nobody is near the vehicle before activating any of the controls, and to be prepared to stop at any indication of possible danger.
- To immediately report any damage or malfunction of the vehicle to the employer or supervisor.
- To know where to get assistance in the event of an emergency.

IMPORTANT: Do not use damaged equipment.

Things to Do

- Make sure that the area is clear of any people or possible obstructions.

IMPORTANT: Be extremely cautious in areas where small children may be present.

- Inspect for overhead hazards (e.g. power lines) prior to raising tailgate.
- Always use the tailgate safety prop before entering the area between the main body and the tailgate.
- Obey all warning and operation stickers.

Things to Avoid

- Do not operate any vehicle while under the influence of alcohol, narcotics or other intoxicants.
- Do not leave the vehicle before it is brought to a complete stop and work brake or parking brake is applied.
- Do not enter the hopper or main body unless the engine is shut off, the key is removed and there is an out-of-service tag on the steering wheel (see *Locking Out and Tagging Out the Vehicle* on page 28).

Safety Precautions

Danger!

Workers must adhere to the following safety precautions *at all times*. Failure to do so may result in vehicle and/or property damage, personal injury, or even death.

Prior to Start-Up

- Never operate machinery while wearing jewelry or loose clothing. These items may become caught by or entangled in the machinery causing serious injury. Wear proper safety equipment as required by your employer.
- Never operate machinery while under the influence of alcohol, narcotics or other mood altering substances. Workers who operate machinery while under the influence are a hazard to themselves and others.
- Perform a pre-operation "walk around" inspection of the truck chassis in accordance with the chassis manufacturer's guidelines. Perform a "walk around" inspection of the refuse packer. Never start or operate any equipment found to have malfunctions.
  - Report any malfunctions immediately to the proper authorities.
  - Prior to leaving any malfunctioning unit, the parking brakes must be set, the PTO system disengaged, the engine turned off, the ignition key removed, and using a non-reusable fastening device, place a sign on the steering wheel indicating the unit is inoperative. For more information, see *Locking Out and Tagging Out the Vehicle* on page 28.
- Proper servicing requires specialized tools and procedures. Service must be performed by authorized personnel only following procedures in the 2R-III™ *Maintenance Manual.*
- Walk completely around the vehicle to make sure all persons and obstructions are clear before starting the unit.
- The container handling system is a critical component of the unit. Use only the proper replacement parts.
- Inspect all hooks, chains and cables daily to ensure serviceable condition. Replace damaged or worn parts (see Chapter 5 *Preventive Maintenance*).
- Before operating the vehicle the driver must be thoroughly familiar with the employer's safety program concerning traffic rules, warning devices and hand signals.
- Be sure to know where to get assistance in the event of an emergency.
- Know your machine. Know the location and function of all controls, gauges, instruments and protective devices.
- Should the height of a refuse collection vehicle be altered by installing a container handling system, be sure the overall height is rechecked and overall height plus 3 inches is noted on the decals.

General Operation

- It is the employer's responsibility to ensure that *only* qualified employees are assigned to operate this vehicle.
- It is the operator's responsibility to ensure that operation of the unit is in accordance with the guidelines contained in the *Operator's Manual* and in accordance with all applicable codes including Occupational Safety and Health Act (OSHA) and American National Standards Institute (ANSI) regulations.
- Do not attempt to operate this equipment without proper training.
- Maintenance personnel must read and understand this manual before doing any repair work. In case of doubt, ask a supervisor for clarifications.
- Move the vehicle as slowly as possible without stalling when traveling in reverse.
- Always make sure the area behind the unit is clear before traveling in reverse.
- Do not travel in reverse for distances greater than those dictated by local ordinances. If reverse travel exceeds 10 feet, use a "spotter" or move the vehicle in 10 foot increments only, and then check to make sure the area behind the unit is clear between increments.
- Do not attempt to dislodge any material above waist level unless wearing eye protection such as "approved" side shielded safety glasses or a full face shield.
- Never use the unit to push or tow another vehicle.
- Never unload uphill or against a pile of refuse or into the bank of a hill.
- Never place head, body, fingers or any limbs into a scissors point or pinch point on the equipment.
- Before operating the vehicle the driver must be thoroughly familiar with the employer's safety program concerning traffic rules, warning devices and hand signals.
- Know where to get assistance in the event of an emergency.
- Know your machine. Know the location and function of all controls, gauges, instruments and protective devices.
- Wear your seat belt.
- When removing nylon locknuts, *always* replace them by new ones.
- Start the engine following the manufacturer's recommended procedure.
- *Never* drive this vehicle with the tailgate unlocked.
- Always set the parking brake before leaving the cab.
- When the vehicle is parked, the parking brake *must* be applied.
- Turn on appropriate warning lights, put on a safety vest, protective glasses and protective shoes.
- All service opening covers and access doors must be maintained and latched in place while operating equipment.
- Ensure all co-workers are in view before operating or moving any controls or the unit.
- Ensure that there is sufficient overhead clearance before operating the unit.
- Ride only in the cab or on riding platforms designed for that purpose. Riding steps shall not be used when speeds are expected to exceed 10 mph (16 km) or when distance traveled without stopping will exceed 2/10 of one mile. Do not get on/off riding step when vehicle is in motion.
- Never allow anyone to ride on the steps when the vehicle is backing up.
- Stop the vehicle immediately if warning lights for the TAILGATE AJAR system come on.

- Never use controls or hoses for hand holds when mounting or dismounting. Controls and hoses are movable. They do not provide proper support and may cause accidental equipment movement.
- Make sure the backup alarm is working properly.
- Always ensure that all persons are clear before raising or lowering the tailgate. It is the operator's responsibility to warn all persons not to stand or cross under a raised tailgate.
- Do not move the vehicle with the tailgate raised except during unloading and then only as necessary to clear the load before lowering.
- Stand clear when the tailgate is being raised or lowered and during the unloading cycle. If it is necessary to manually clear the debris from the hopper, use a long metal probe and DO NOT stand under the tailgate.
- Never load the hopper above the loading sill.
- Never allow material to extend outside of the hopper when packing.
- Allow the packer panel control lever and carrier panel control lever to shift back automatically.
- To avoid possible bodily injury or equipment damage, lower the tailgate slowly.
- Never enter the body unless the telescopic ejection cylinder pressure is released, PTO disengaged and ignition key removed and placed in your pocket. For more information, see *Locking Out and Tagging Out the Vehicle* on page 28.
- The dashboard speed-up switch must be "OFF" between pickups or when parked. This prevents inadvertent engine speed-up if the tailgate carrier panel control lever is shifted.
- The tailgate clamps must be tightened securely before starting to load.
- Do not step on the throttle pedal while the speed-up system is engaged.
- Never use a rear loader to transport a container.
- Follow all safety directions listed in both Operator and Maintenance Manuals under SAFETY.
- Never use container handling chains or cable for towing or pulling.
- When not handling containers, keep the container attachment closed or latched.
- Do not operate the rear loader's packing mechanism with a container off the ground.
- If it is necessary to manually free debris from the container, use a long metal probe while the container is on the ground, and DO NOT place yourself between the container and the packer body.
- Secure the drum winch or reeving cylinder hook to the tailgate and take up the excess slack when not in use.
- Take up excess cable slack before moving the vehicle.
- Never hold the hook on an attachment point while taking up slack.
- Check overhead clearance before dumping a container.
- Do not move the vehicle with a container attached.
- Always set the vehicle parking brake before attaching or lifting a container.
- Never lift a container which is non-compatible with the Leach container attachment.
- Never lift a container without first latching both container latch arms.
- Raise the container with a smooth even movement. Do not bounce the container.
- Do not slam the container against the packer tailgate or bump bar.

- Do not attach the hook to any lift point which will not be completely encircled by the hook with the safety latch closed. Do not remove the hook safety latch.
- Read and obey all container decals issued by the container manufacturer.
- Read and follow container manufacturer's information on accepted use practices.
- Do not attempt to lift overloaded containers.
- Center the container on the attachment.
- All containers should be inspected for serviceability and repaired if not in safe, usable condition.
- Do not use non-standard or damaged trunnion bar.
- Never cross under a raised container.
- Stand clear when dumping containers.
- Before attempting to lift a container below 32 °F (0 °C), make sure it is not frozen to the ground.
- When using an eye type container attachment point, the base of the hook must be positioned to lift on the inside of the eye.
- Place the container on a flat, level surface.
- Do not get into the hopper compartment or try to repair anything on the packer when it is moving or when the hydraulic pump is still running. Personnel authorized to get into the hopper *must* first lock out and tag out the vehicle, as required by the employer. For more information, see *Locking Out and Tagging Out the Vehicle* on page 28.

Hydraulics

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

Fire Protection

- Anytime a loaded vehicle is *brought inside a garage,* fire extinguishers shall be close at hand.
- The employer must inform employees of an appropriate place to unload the body near the maintenance facility (preferably away from traffic, surface drains, and ditches).
- Keep a fire extinguisher accessible at all times.
- Never use lighted smoking materials, open flame or sparks around when working with flammable materials such as fuel tanks or storage batteries.
- Never have an open flame as a light source.

- Never load ashes or other materials which might be smoldering. These materials could ignite refuse in the packer body.

NOTE: 2R-III™ vehicles are equipped with a 5-lb fire extinguisher, which is located inside the cab. A 20-lb fire extinguisher may also be installed as an option (see Figure 2-2). Each fire extinguisher must be checked regularly by qualified personnel.

NOTE: A first-aid kit, a flare kit and a triangle kit are provided with the truck.

Figure 2-2 5-lb fire extinguisher (left); optional 20-lb fire extinguisher (right)

Housekeeping

Good housekeeping habits are a major factor in accident prevention.

- Keep handrails and steps clean and free of grease or debris.
- Do not store brooms or other equipment where they could inadvertently activate the packer controls.
- Rubbish, scrap paper and litter are highly combustible. Such material should be stored in metal containers entirely clear of sparks and flames.
- If installed, use the drain under the curbside of the tailgate to let water and other liquids out of the tailgate.

Safety Features

Back Up Alarm

The back up alarm sounds when the transmission is put into reverse or when the tailgate opens.

Tailgate Safety Props

The tailgate safety props are used to support and keep the tailgate open during inspection or maintenance procedures. It is mandatory to set the safety props every time the tailgate is open for such purposes.

The tailgate safety props are located under the tailgate, one on each side.

IMPORTANT: Make sure that the body is empty before installing the safety props.

Danger!

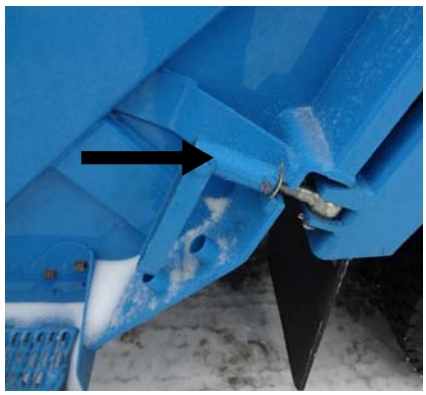
The tailgate safety props shall be set each time the tailgate is open for inspection or maintenance purposes.

Setting the Tailgate Safety Props (for units equipped with standard tailgate clamps)

To set the tailgate safety props:

1. Make sure that the body is empty.
2. Remove the tailgate clamps. To do so:
   - **2 a.** Loosen the clamp.
   - **2 b.** Swing the clamp away from the body.

Figure 2-3 Tailgate clamp



3. Start the engine.

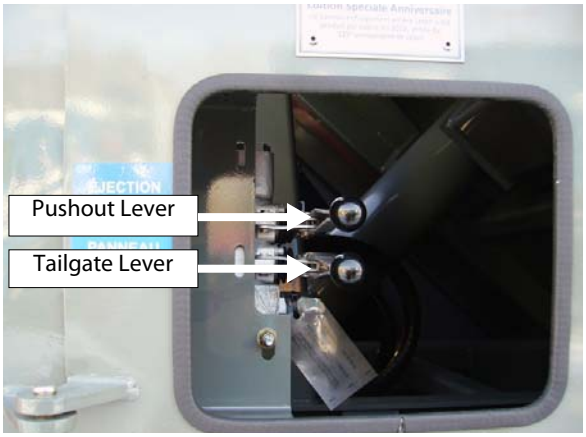
4. Turn the pump ON.

Danger!

Prior to raising the tailgate, make sure that no one is standing behind the vehicle and that the body is empty.

5. Using the TAILGATE lever raise the tailgate about 3 feet (enough to swivel both safety props towards the body).

Figure 2-4 TAILGATE/PUSHOUT levers



6. Unlatch each prop from its stored position and swivel it towards the body (see Figure 2-5).

Danger!

Stand clear of tailgate path while setting the safety props.

Figure 2-5 Props in stored position (left) and in service position (right)

7. Lower the tailgate until both safety props lean against the body base using the TAILGATE lever.

Figure 2-6 Props leaned against body base

Putting the Tailgate Safety Props Back in Place (for units with tailgate clamps)

To put the tailgate safety props back into their stored position:

1. Start the engine.
2. Turn the pump ON.
3. Raise the tailgate by about 3 feet using the TAILGATE lever (see Figure 2-4).
4. Swivel back each safety prop and latch it into place under the tailgate (see Figure 2-7 and Figure 2-8).

Danger! Stand clear of tailgate path while putting the safety props back into their stored position.

Figure 2-7 Putting back props into stored position

Figure 2-8 Props in stored position

IMPORTANT: Secure each prop using the provided latch.

5. Using the TAILGATE lever (see Figure 2-4), completely close the tailgate.
   The TAILGATE OPEN light indicator should turn off.

Figure 2-9 TAILGATE OPEN light indicator

6. Put the tailgate clamps back in place (see Figure 2-3). To do so:
   - **6 a.** Swivel back the clamp against the body.
   - **6 b.** Tighten the clamp properly.

Setting the Tailgate Safety Props (for units equipped with the optional hydraulic tailgate locking mechanism)

To set the tailgate safety props:

1. Make sure that the body is empty.

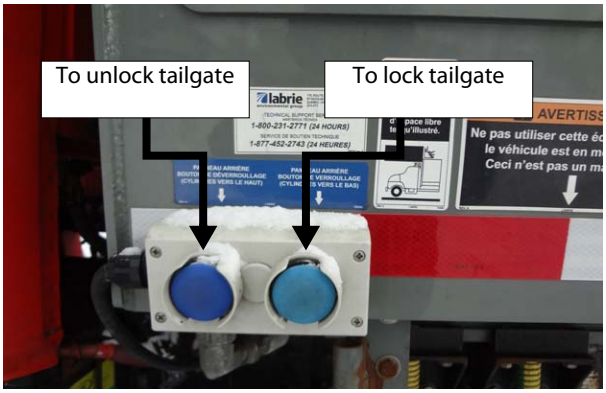
2. Start the engine.
3. Turn the pump ON.

Danger!

Prior to raising the tailgate, make sure that no one is standing behind the vehicle and that the body is empty.

4. Using the tailgate unlatch button on the body left-side corner near the access door, unlock the tailgate.

Figure 2-10 Tailgate locking/unlocking controls



NOTE: When the tailgate is unlocked, both locking mechanism cylinders are retracted. They are extended when the tailgate is locked.

Figure 2-11 Locking mechanism cylinder

5. Using the TAILGATE lever raise the tailgate about 3 feet (enough to swivel both safety props towards the body) [see Figure 2-4].

6. Unlatch each prop from its stored position and swivel it towards the body (see Figure 2-5).

Danger! Stand clear of tailgate path while setting the safety props.

7. Lower the tailgate until both safety props lean against the body base using the TAILGATE lever (see Figure 2-6).

Putting the Tailgate Safety Props Back in Place (for units equipped with the optional hydraulic tailgate locking mechanism)

To put the tailgate safety props back into their stored position:

1. Start the engine.
2. Turn the pump ON.
3. Raise the tailgate by about 3 feet using the TAILGATE lever (see Figure 2-4).
4. Swivel back each safety prop and latch it into place under the tailgate (see Figure 2-7 and Figure 2-8).

Danger! Stand clear of tailgate path while putting the safety props back into their stored position.

IMPORTANT: Secure each prop using the provided latch.

5. Using the TAILGATE lever (see Figure 2-4), completely close the tailgate.

   The TAILGATE OPEN light indicator should turn off (see Figure 2-9).
6. Using the tailgate latch button on the body left-side corner near the access door (see Figure 2-10), lock the tailgate.

NOTE: When the tailgate is unlocked, both locking mechanism cylinders are retracted. They are extended when the tailgate is locked.

Camera System

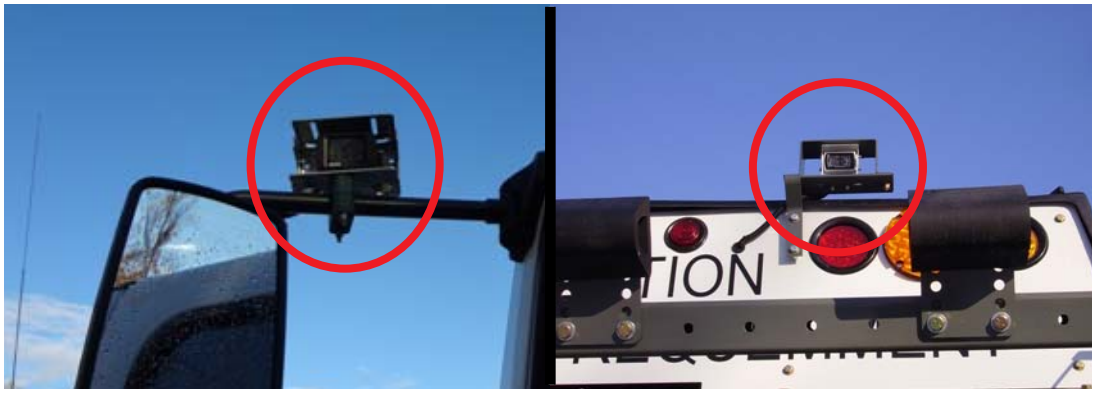
2R-III™ units can be equipped with up to two (2) cameras. These cameras can be installed:

- on the upper part of the tailgate (standard feature) [see Figure 2-12, right], and
- on the left-hand side mirror (optional feature) [see Figure 2-12, left].

The operator can switch from one camera to the other using a selector switch located on the in-cab 7" LCD color monitor.

Refer to the camera manufacturer's manual for more information.

Figure 2-12 Camera on the left-hand side mirror (left), and on the tailgate (right)



Tailgate Open Proximity Switch Test

The Tailgate Open Proximity Switch Test should be done daily. Successful completion of this test ensures that your unit is safe to operate. If this test fails, do not operate your unit until the appropriate adjustment or service has been completed (see *Adjusting the Tailgate Open Proximity Switch* on page 27).

IMPORTANT: Your rear loader unit may require other safety tests not mentioned herein. Consult your supervisor and/or maintenance department if you have questions or you are in doubt.

A. For this test, proceed as follows (**on units equipped with standard tailgate clamps**):

1. Make sure that the body is empty.
2. Remove both tailgate clamps (see Figure 2-3). To do so:
   - **2 a.** Loosen the clamp.
   - **2 b.** Swing the clamp away from the body.
3. Start the truck.
4. Engage the pump.
5. Using the TAILGATE lever (see Figure 2-4), raise the tailgate by a few feet.

Danger!

Prior to raising the tailgate, make sure that no one is standing behind the vehicle and that the body is empty.

When the tailgate is raised, the in-cab buzzer and the backup alarm should sound and the TAILGATE OPEN indicator light on the dashboard (or on the console) should turn on. Check they are all working. If for some reason any of these elements are not activated, report this to your supervisor or maintenance personnel.

6. Using the TAILGATE lever, lower and close the tailgate.

   The in-cab buzzer and the backup alarm should stop sounding, and the TAILGATE OPEN indicator light should go off.

7. Put both tailgate clamps back to their lock position.

B. For this test, proceed as follows (**on units equipped with the optional hydraulic tailgate-locking mechanism**):

1. Make sure that the body is empty.
2. Start the truck.
3. Engage the pump.
4. Using the tailgate unlatch button on the body left-side corner near the access door (see Figure 2-10), unlock the tailgate.
5. Using the TAILGATE lever (see Figure 2-4), raise the tailgate by a few feet.

Danger!

Prior to raising the tailgate, make sure that no one is standing behind the vehicle and that the body is empty.

When the tailgate is raised, the in-cab buzzer and the backup alarm should sound and the TAILGATE OPEN indicator light on the dashboard (or on the console) should turn on. Check they are all working. If for some reason any of these elements are not activated, report this to your supervisor or maintenance personnel.

6. Using the TAILGATE lever, lower and close the tailgate.

   The in-cab buzzer and the backup alarm should stop sounding, and the TAILGATE OPEN indicator light should go off.

7. Using the tailgate latch button on the body left-side corner near the access door (see Figure 2-10), lock the tailgate.

Adjusting the Tailgate Open Proximity Switch

If the Tailgate Open Proximity Switch Test fails, it may be that the proximity switch (see Figure 2-13) is misaligned.

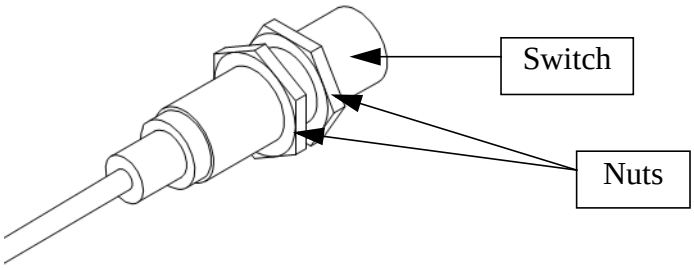
Figure 2-13 Tailgate open proximity switch

To confirm misalignment, you will have to check the status of the proximity switch light: ON when the tailgate is completely closed (switch is triggered), OFF when it is open. If the switch light stays the same whether the taigate is open or not, you will have to adjust the switch. Apply the following procedure to have this corrected.

To adjust the proximity switch:

1. Loosen the proximity switch nuts.
2. Adjust the proximity switch so that there is a gap of approximately 3/16 inch (4.8 mm) between the plate (target) and the switch.
3. Tighten up the nuts.
4. Test the operation.

The proximity switch light should turn ON when the target is detected; if not, repeat the adjustment procedure.



If, after several attempts, the switch does not work properly, replace the faulty switch with a new one.

Locking Out and Tagging Out the Vehicle

For any inspection, repair or general maintenance being done on the vehicle, whether on the road or at the shop, it is the employer's responsibility to establish and see to the application of a proper lockout and tagout procedure.

To lock out and tag out a 2R-III™ unit:

1. Park the vehicle on safe, level ground and apply the parking brake (see Figure 2-14).

Figure 2-14 Parking brake button

2. Make sure that the body is completely unloaded.
3. Switch off the hydraulic pump.
4. Turn off the engine, remove the key from the ignition, store it in a safe and controlled area (preferably on yourself), and tape over the ignition switch.
5. Turn off and lock the master switch.

IMPORTANT: The battery set of the 2R-III™ is equipped with a master switch (see Figure 2-15) that must be turned off.

Figure 2-15 Master switch

6. Chock all wheels.
7. Put an "OFF SERVICE" tag on the driver's wheel and on the front windshield.
8. Use safety props to block an open tailgate to prevent movement due to gravity.
9. Drain all air tanks.
10. Verify and inspect any security device and/or mechanism to make sure that there is no bypass and that they are all functional.

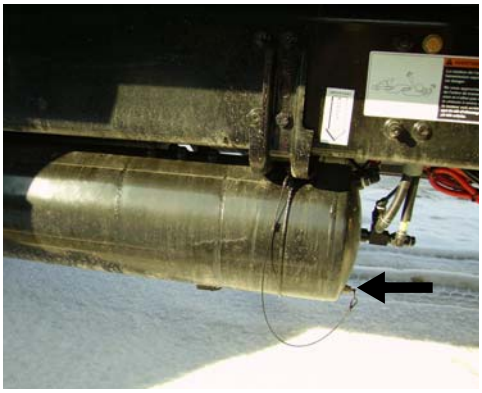
Shutting Down the Vehicle

If the vehicle has to be stored for an extended period of time, follow the chassis manufacturer's shutdown and maintenance requirements.

Also:

1. Park the vehicle on a hard, level surface and apply the parking brake (see Figure 2-14).
2. Make sure that all moving parts are in their home position (tailgate, packer, etc.).
3. Turn off, in sequence, the hydraulic pump (see Figure 2-18), the electrical system, the engine and the master switch (see Figure 2-15).
4. Drain all air tanks.

Figure 2-16 Drain valve on air tank

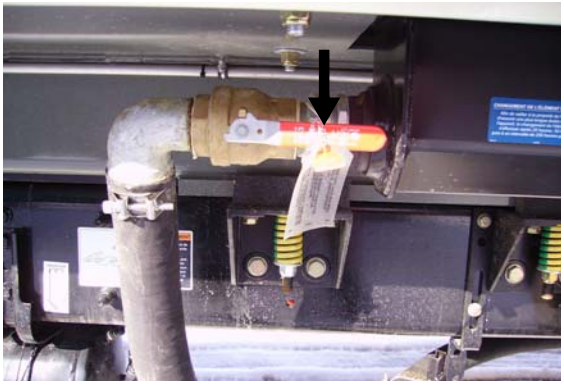


Prior to Start-Up

Before starting the vehicle:

1. Make sure no system will engage and/or start to operate as you start the engine.
2. Make sure the shut-off valve on the hydraulic tank is fully open before starting the vehicle (see Figure 2-17).

Figure 2-17 Suction line shut-off valve



NOTE: The hydraulic tank model may vary according to the options installed on the vehicle.

Warning!

Failure to fully open the main valve will cause immediate damage to the pump, even if the pump is turned off.

3. Engage the hydraulic system by switching on the Pump ON/OFF switch on the cab dashboard or on the console (see Figure 2-18).

Figure 2-18 Hydraulic pump ON/OFF switch on the dashboard (left), on the console (right)

Once the engine is started, wait for air pressure to build up to *at least* 70 psi.

Figure 2-19 Air pressure indicator

IMPORTANT: Do not operate or move the vehicle until air pressure has reached 70 psi.

3

General Repair Practices

IMPORTANT: **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. Since Labrie Enviroquip Group 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 accordingly, anyone who uses a service procedure or tool which is not recommended by Labrie Enviroquip Group must first thoroughly satisfy himself that neither his nor the operator's safety will be jeopardized by the service methods selected. Any person who modifies their equipment must do so in accordance with American National Standards Institute Z245.1-1999. 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.**

Preparation for Service

Proper preparation is very important for efficient 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. The cleaning process may include the use of high pressure equipment and strong chemicals. Follow the manufacturer's instructions and precautions during this process. 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. Special tools required for a specific job are listed on page 156.

Replacement Parts

Of growing concern to the Labrie Enviroquip Group is the use of counterfeit, will-fit or substitute parts. Leach replacement parts are designed and manufactured to exacting standards. The use of counterfeit, will-fit or substitute parts may effect the operation and performance of the unit and will void the warranty. Insure maximum reliability and protect your investment; insist on Leach original factory replacement parts... available at Labrie*Plus*.

labrie*plus*

Technical Service Bulletins

In addition to the information provided in this Service Manual, Technical Service Bulletins are issued when needed to cover interim changes or to provide supplementary information necessary for maintaining the refuse unit in a proper safe operating condition. Check with your authorized Leach distributor.

Safety Precautions

Prior to Performing any Service or Repair

Before performing any service or repair, the following tasks should be carried out:

- Set the parking brake.
- Put the vehicle in park, or if equipped with a manual transmission, put the unit in gear and remove the ignition key (see *Locking Out and Tagging Out the Vehicle* on page 28).
- Place an OSHA approved chock block in front and behind the front tire.
- If safety props are to be used to support the tailgate, place them as shown in *Tailgate Safety Props* on page 20.
- When working on the unit, always use the service tools listed on page 156 if so directed by the instructions in Chapter 8 *Service and Repair*.
- Whenever dismantling any hydraulic line, valve, or cylinder, be sure to turn off the hydraulic fluid flow (see Figure 2-17), relieve the pressure and slowly crack or loosen the fittings.

During Service or Repair

While performing any service or repair, the following tasks should be carried out:

- Always wear safety glasses.
- Apply the lock out/tag out procedure before:

a. Examination or lubrication of the PTO, pump or drive shafts

b. Entering the front of the body

c. Entering the tailgate

See *Locking Out and Tagging Out the Vehicle* on page 28

- Always check to make sure the body access door is locked shut before entering the cab.
- Pump removal: due to the weight and location of the pump, it is advisable to place a floor jack beneath the pump and apply a slight pressure, so that when the bolts are removed the pump is supported.
- When it becomes necessary to raise the tailgate for maintenance or repair, do not enter the area beneath the tailgate unless the proper bracing has first been applied. All bracing and supports must be able to support 8,000 lbs (3,629 kg).
- Never enter the body when the load is under compaction pressure. Bring the packer panel to the "interrupted cycle" stop position and retract the pushout panel slightly.

Welding Precautions

Electric Welders

Observe the following precautions when using electric welders:

- Electric arc welders should have a separate, fused disconnect circuit.
- Welders must be used according to the manufacturer's specifications.
- All electric welding should be done in a well-ventilated area.
- The radiation given off by the arc will destroy the retina of the eye. Wear an approved welder's helmet.
- 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.

Oxy-Acetylene Torches

Observe the following precautions when using oxy-acetylene torches:

- 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.
- Oxygen will spontaneously ignite in the presence of oil and grease. The hoses, torch handles and regulators must be kept free of petroleum products.
- Before using the equipment, inspect it for cleanliness and for leaks.
- Hoses cannot be safely repaired; when they show signs of deterioration, they should be replaced.
- 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.
- If you suspect a leak in the system, perform a leak test using an approved leak detection system. DO NOT USE HOUSEHOLD OR LAUNDRY SOAP BECAUSE OF THE DANGER OF OXYGEN COMBINING WITH IT AND EXPLODING.

- 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 sudden impact of tank pressure.
- When opening the tank valves, stand alongside of the regulators, out of the way, in case they blow out.
- Backfiring or "machine gunning" at the torch is very dangerous and can lead to a major explosion.
- Welding should be done in a location well away from flammable materials.

Removal, Disassembly and Repair

Observe the following:

- Cleanliness is very important; dirt is the number one cause of wear in bearings, bushings and especially in hydraulic components.
- Inspect hydraulic components for leaks before cleaning. The dirt buildup on the component can aid in tracing fluid leaks.
- Clean hydraulic connections before removal to prevent dirt from entering the component.
- Loosen hydraulic fittings slowly to release pressure.
- Cap hydraulic fittings immediately after removal to prevent fluid from leaking.
- Clean the component in non-flammable solvent before disassembly.
- Inspect the component after cleaning for signs of wear or external damage.
- When disassembling a component, note the position of each part as it is removed to aid in reassembly.
- 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.
- Clean and inspect disassembled parts for wear, cracks, dirt, etc.
- After cleaning and inspection, reusable 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.
- When resealing a cylinder or valve, replace all seals and o-rings that are disturbed during repair. The price of a few seals is very little compared to a return repair job.

Reassembly and Installation

Observe the following:

- Assemble parts in the same position as removed.
- Align parts accurately before mating.
- Inspect o-ring and seal grooves for sharp edges, nicks or burrs before installing new sealing parts.
- Lubricate all new sealing parts with clean, fresh hydraulic fluid before installation.
- Use care not to damage new sealing parts on reassembly.

- Use correct torque values when reassembling and installing components (see TORQUE SPECIFICATION CHARTS).
- Always check the hydraulic fluid in the hydraulic tank after performing any service or repair of the hydraulic system.
- Always lubricate components with grease fittings after they have been repaired and reinstalled.
- Use only Leach/Labrie replacement parts.

NOTE: See Chapter 8 *Service and Repair* for specific repair instructions.

Electrical Testing

The electrical system used on the unit consists of various lights, switches and wiring. Testing the components and wiring can be accomplished by two simple checks: ***checking for voltage*** and ***checking continuity***. ***Diode testing*** can also be carried out to check serviceability of diodes.

Checking for Voltage

A 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.

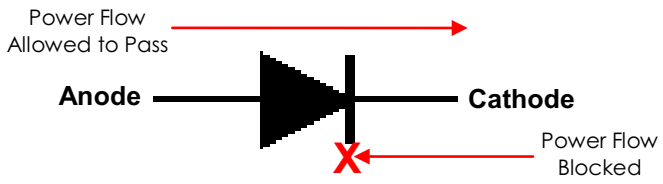
Checking Continuity

A continuity tester is used to check the ability of a conductor to allow current to pass. 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.

Diode Testing

A diode is a one way electrical "check valve", that will only allow electrical power to pass in one direction. This is used when multiple circuits are connected together with a single point of contact, either power or ground, to allow each circuit to act independently without supplying power to other circuits.

To test a diode or diode pack, a digital multimeter with a resistance and/or a diode test setting is required. To test a diode we must first understand the power's path of flow within the diode. The diode symbol on wiring schematics is:



The "|" is "blocking" the power from going against the direction of the arrow as a visual reference for path of flow within the circuit.

To test, set the multimeter to resistance or diode test, and put the positive (red) lead on the anode side, and the negative (black) lead on the cathode side. The multimeter should read very low ohms of resistance, roughly 0.1. This verifies the diode is allowing power to flow from anode to cathode (following the direction of the arrow). If the resistance is high, the diode is damaged and must be replaced.

Next, reverse the location of the test leads by putting the negative (black) test lead on the anode side and the positive (red) lead on the cathode side. The multimeter should read very high ohms of resistance (k-ohm or open range). If the resistance is low, the diode is damaged and must be replaced.

Welding

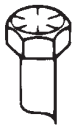
Observe the following:

- Completely clean out an old weld before rewelding.
- When repairing a cracked weld, the old weld should be completely removed before rewelding.
- 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.
- Use E7018 rod for all locations.
- Use ER-70S-6 wire for all locations.

Capacity of Lifting Device Required for Removal

Cylinders	500 lbs (227 kg)
Telescopic Pushout Cylinders	1000 lbs (454 kg)
Carrier Panel	1600 lbs (726 kg)
Packer Panel	1600 lbs (726 kg)
Pushout Panel	2800 lbs (1270 kg)
Tailgate	8000 lbs (3629 kg)

Capscrew Marking and Torque Values

Usage	Much Used	Used at Times	Used at Times
Capscrew Diameter & Minimum Tensile Strength PSI	To 3/4 - 120,000 To 1 - 115,000	To 5/8 - 140,000 To 3/4 - 133,000	150,000
Quality of Material	Min. Commercial	Med. Commercial	Best Commercial
SAE Grade Number	5	6 or 7	8
CAPSCREW HEAD MARKINGS Manufacturers 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)
1/4 - 20	8 (1.11)	10 (1.38)	12 (1.66)
- 28	10 (1.38)		14 (1.94)
5/16 - 18	17 (2.35)	19 (2.63)	24 (3.32)
- 24	19 (2.63)		27 (3.73)
3/8 - 16	31 (4.29)	34 (4.70)	44 (6.09)
- 24	35 (4.84)		49 (6.78)
7/16 - 14	49 (6.78)	55 (7.61)	70 (9.68)
- 20	55 (7.61)		78 (10.79)
1/2 - 13	75 (10.37)	85 (11.76)	105 (14.52)
- 20	85 (11.76)		120 (16.60)
9/16 - 12	110 (15.21)	120 (16.60)	155 (21.44)
- 18	120 (16.60)		170 (23.51)
5/8 - 11	150 (20.75)	167 (23.10)	210 (29.04)
- 18	170 (23.51)		240 (33.19)
3/4 - 10	270 (37.34)	280 (38.72)	375 (51.86)
- 16	295 (40.80)		420 (58.09)
7/8 - 9	395 (54.63)	440 (60.85)	605 (83.67)
- 14	435 (60.16)		675 (93.35)
1 - 8	590 (81.60)	660 (91.28)	910 (125.85)
- 14	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 Lbs., where Load = 80% of Yield Strength, expressed in Lbs., not pounds per square inch.*

Hydraulic Fitting Torque Values

JIC 37 DEGREE FLARED TUBE FITTINGS			
SAE DASH SIZE	TUBE SIDE THREAD SIZE	TORQUE INCH LBS.	TORQUE FOOT LBS.
2	5/16-24	35	2
3	3/8-24	65	5
4	7/16-20	130	11
5	1/2-20	165	14
6	9/16-18	235	20
8	3/4-16	525	43
10	7/8-14	650	55
12	1 1/16-12	950	80
14	1 3/16-12	1200	100
16	1 5/16-12	1400	115
20	1 5/8-12	1900	160
24	1 7/8-12	2250	185
32	2 1/2-12	3000	250

FLAT FACE O-RING (ORFS) FITTINGS			
SAE DASH SIZE	TUBE SIDE THREAD SIZE	TORQUE INCH LBS.	TORQUE FOOT LBS.
4	9/16-18	220	18
6	11/16-16	360	30
8	13/16-16	480	40
10	1-14		60
12	1 3/16-12		85
14	1 5/16-12		95
16	1 7/16-12		110
20	1 11/16-12		140
24	2-12		180
32	2 1/2-12		360

4

Specifications

Lubricants

Oil	SAE #10 or equivalent
Grease	Multiservice (quality grade)

Hydraulic System

Capacity (approximately)

Fluid Tank	50 gallons

Total System

System Pressure Settings	2350 PSI (162 BAR)
Type of Fittings	Steel Tubing w/ Brazed Fittings: Reinforced Rubber Hose w/ Crimped Full-Flow ORFS Fittings, O-Ring Fittings
Filtration	Suction: Reusable Wire Mesh Type Return Line: Disposable Filter Element Located on Return Line to the Tank

Pump

Type	Positive Displacement; Gear-Type Driven by the PTO from the Truck Transmission or by the Engine
Capacity	42 GPM @ 1200 RPM

Leach Hydraulic Fluid Recommendation

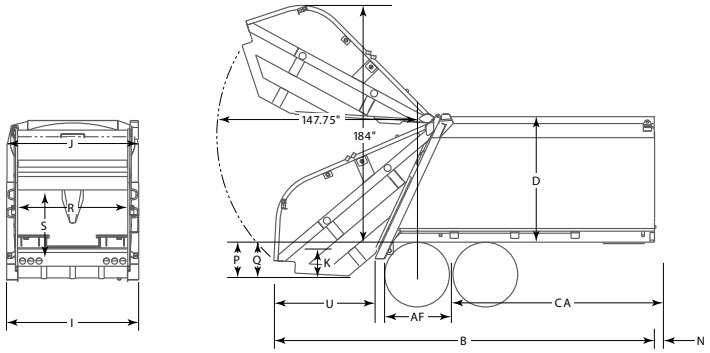
All Leach hydraulic systems are factory filled with a high quality anti-wear hydraulic fluid meeting an ISO 32 specification. On units put into service where there are high ambient temperatures or sustained high duty cycles, it may be desirable to change the fluid to an ISO 46 specification (higher viscosity). 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	-20	-20	-20
Viscosity:			
SSU @ 100°F	112	158	228
SSU @ 210°F	40	44	48
cSt @ 40°F	21	30,5	44
cSt @ 100°	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	25 Kv 40-37-3 (10)	25 Kv 40-37-3 (15)	25 Kv 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.

Body Dimensions



BODY DIMENSIONS	20 Cu. yd.	25 Cu. yd.	32 Cu. yd.	15m³	19m³	24m³
AF After Frame (52" Beam)	52"	52"	52"	1270mm	1270mm	1270mm
B Overall Length	249"	270"	316"	6325mm	6858mm	8026mm
CA To Centerline of Trunion (Note2)	130"	151"	200"	3124mm	3658mm	4826mm
D Height Above Chassis Frame	94"	94"	94"	2464mm	2464mm	2464mm
I Body-Outside Width	96"	96"	96"	2439mm	2439mm	2439mm
J Body-Inside Width	90"	90"	90"	2286mm	2286mm	2286mm
K Hopper Depth	17"	17"	17"	432mm	432mm	432mm
N Interference Point Above Chassis Frame	4"	4"	4"	102mm	102mm	102mm
P Top of Step Below Chassis Frame	14"-17"	19"	19"	483mm	483mm	483mm
Q Hopper Bottom Below Chassis Frame	22"	22"	22"	559mm	559mm	559mm
R Hopper Opening Width	80"	80"	80"	2032mm	2032mm	2032mm
S Hopper Opening Height	56"	56"	56"	1423mm	1423mm	1423mm
T Hopper Inside Width	80"	80"	80"	2032mm	2032mm	2032mm
U Rear of Body to Rear of Tailgate Closed	74"	74"	74"	1880mm	1880mm	1880mm
■ Height Above Chassis Frame (Tailgate Raised)	194"	194"	194"	4928mm	4928mm	4928mm
■ Loading Sill Below Chassis Frame (Non Tag Axle Body)	5"	5"	5"	127mm	127mm	127mm
■ Center of Gravity Measured From Front of Body (Body Only)	117"	131"	151"	2972mm	3328mm	3836mm
(Payload)	94"	103"	120"	2388mm	2617mm	3048mm
■ Hopper, cubic yards	3.5 cu. yd.	3.5 cu. yd.	3.5 cu. yd.	2.7m³	2.7m³	2.7m³
■ Approx. Body Weight	14,495 lbs.	15,020 lbs.	16,125 lbs.	6575kg	6575kg	6575kg
■ Min. Truck GVWR Requirement (Note 1)	46,000 lbs.	52,000 lbs.	60,000 lbs.	20,862kg	23,583kg	27,211kg

Notes: 1. Truck selected must be capable of carrying net weight of body plus weight of refuse to be collected.
2. CA must be usable with no obstructions protruding above frame.

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.

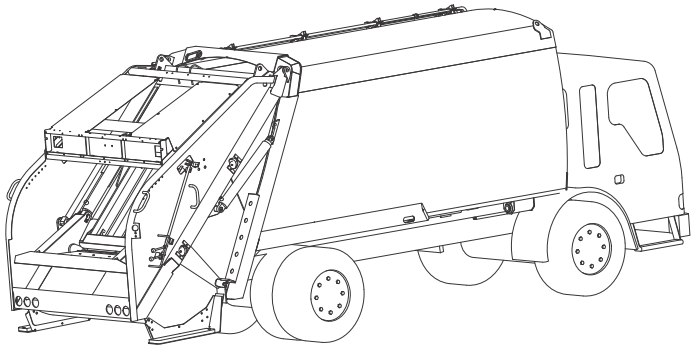
Premium hydraulic fluids should be used in Leach hydraulic systems. In addition to the above characteristics, selected additives should be incorporated to provide additional resistance to wear, corrosion, oxidation, decomposition and foaming. All additive blending should be done by the lubricant supplier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

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

5

Preventive Maintenance

The 2R-III has been designed for long periods of efficient uninterrupted operation. Careful attention to proper preventive maintenance, as described in this chapter, will ensure and extend trouble-free operation of the unit. Particular attention to correct lubrication of the unit and maintenance of the return filter, are probably the two most vital areas of preventive maintenance required. The objective of preventive maintenance is to anticipate and prevent operational difficulties before they require extended shut down for costly repairs.

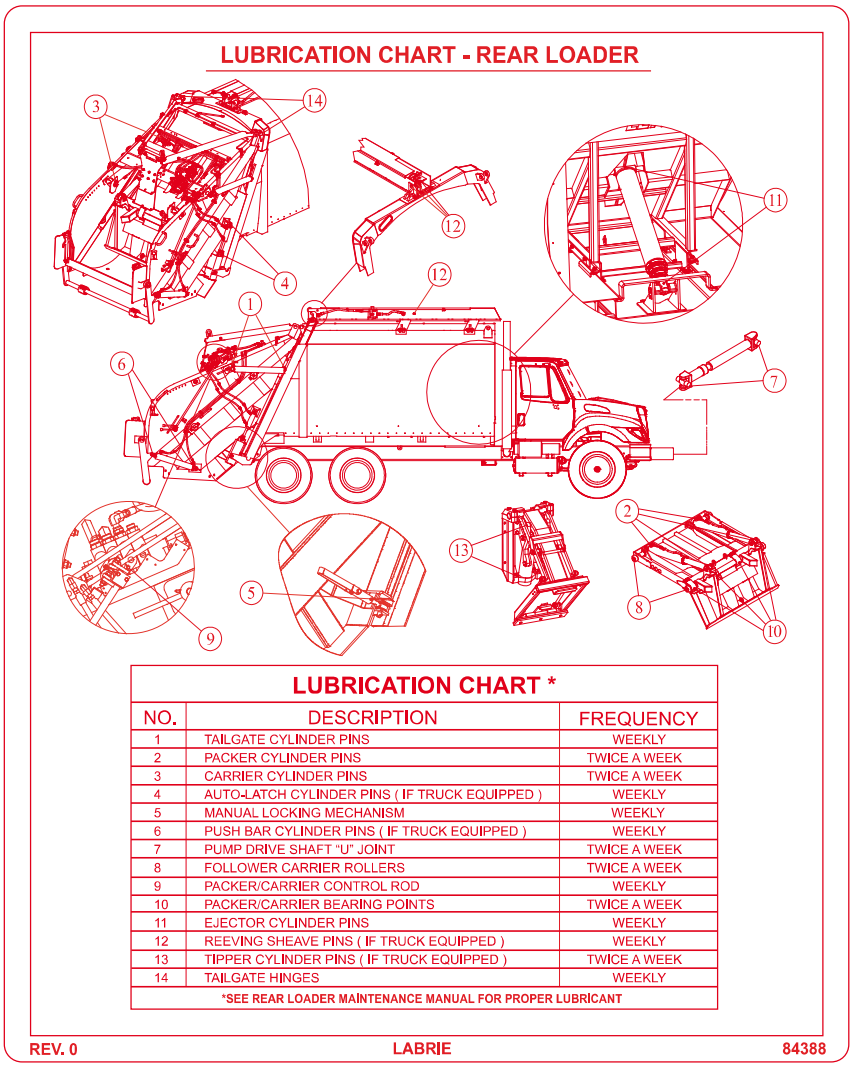


Operating and Maintenance Records

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 Labrie Enviroquip Group concerning updated maintenance information. Keep those bulletins with this manual and make notes at the appropriate places in the manual referencing the updated information.

Lubrication Chart



LUBRICATION CHART *		
NO.	DESCRIPTION	FREQUENCY
1	TAILGATE CYLINDER PINS	WEEKLY
2	PACKER CYLINDER PINS	TWICE A WEEK
3	CARRIER CYLINDER PINS	TWICE A WEEK
4	AUTO-LATCH CYLINDER PINS (IF TRUCK EQUIPPED)	WEEKLY
5	MANUAL LOCKING MECHANISM	WEEKLY
6	PUSH BAR CYLINDER PINS (IF TRUCK EQUIPPED)	WEEKLY
7	PUMP DRIVE SHAFT "U" JOINT	TWICE A WEEK
8	FOLLOWER CARRIER ROLLERS	TWICE A WEEK
9	PACKER/CARRIER CONTROL ROD	WEEKLY
10	PACKER/CARRIER BEARING POINTS	TWICE A WEEK
11	EJECTOR CYLINDER PINS	WEEKLY
12	REEVING SHEAVE PINS (IF TRUCK EQUIPPED)	WEEKLY
13	TIPPER CYLINDER PINS (IF TRUCK EQUIPPED)	TWICE A WEEK
14	TAILGATE HINGES	WEEKLY
*SEE REAR LOADER MAINTENANCE MANUAL FOR PROPER LUBRICANT		

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Recommended Lubricants

Any lithium-based commercial multi-purpose grease may be used for all lube points, except control levers.

Lubrication of the control levers on the tailgate must be done weekly (every 40 hours of operation) using lubricating oil SAE 10 or equivalent.

Caution! In below freezing climates all grease and fluids should have a cold test rating of at least -20°F (-29°C).

NOTE: When lubricating the following parts: the operating valve control lever, the inside and outside bearing housing, the carrier panel cylinder end, packer panel cylinder rod ends, rollers, and the optional control levers, the packer panel must be in the home position.

NOTE: Control levers and the operating valve control lever require frequent inspection and lubrication as necessary to be in prime working condition. Remove the top cover for access to lube points.

NOTE: Move roller track access covers to grease roller.

NOTE: Rollers need lubrication, roller tracks do not. Grease on the tracks will cause the rollers to slide. Keep the tracks clean and dry.

Hydraulic System Service

Proper maintenance of the hydraulic components is of vital importance to the service life of the system and the operation of the unit as a whole.

Checking Fluid Level (Daily)

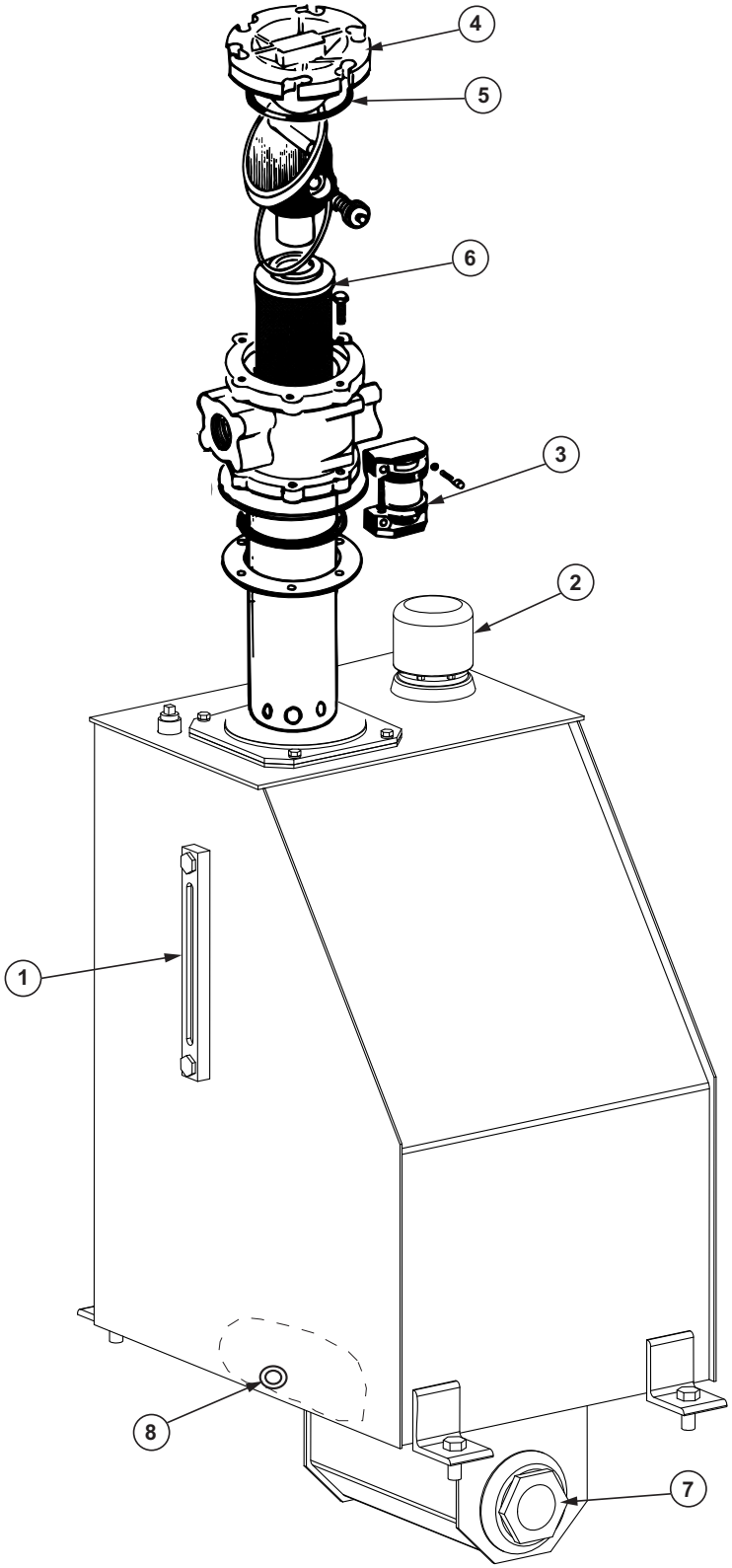
Place the carrier and packer panels in the "interrupted cycle" position and fully retract the pushout cylinder to check the fluid level (see Figure 5-1, #1). When checking the fluid level in the hydraulic tank, also note any frequent or sudden loss of fluid. This may indicate leakage, which must be traced and corrected to avert equipment failure and possible damage to other components.

If low, fill the hydraulic tank to the "NORMAL FILL LEVEL" with hydraulic fluid as specified in the *Leach Hydraulic Fluid Recommendation* section on page 42 according to operating and weather conditions.

Checking Tank Breather Cap (Weekly)

Check the tank breather cap (see Figure 5-1, #2) every week to make sure that it is not clogged. If clogged, replace it with a new one.

Figure 5-1 **Hydraulic tank w/ return filter**



Check/Replace Return Line Filter Element

The return line filter is a vital component of the hydraulic system. Without proper filtration, problems are bound to occur among the hydraulic system components. Stick to the strict maintenance schedule for this item.

Time lapse recommendations for element replacement:

- After the first five days of unit operation.
- After the first calender month of unit operation.
- Thereafter, every twelve calender months or sooner, if so indicated by the filter replacement indicator (see Figure 5-1, #3).

The condition of the filter element must be checked weekly by looking at the visual indicator on the filter (see Figure 5-1, #3).

NOTE: Under severe operating conditions the filter life may be reduced. Replace the filter element regardless of elapsed time if the suction indicator is in the red zone.

Replacement of Filter Element

To replace the filter element:

1. Remove filter cover (see Figure 5-1, #4).
2. Remove o-ring (see Figure 5-1, #5).
3. Remove element (see Figure 5-1, #6) and discard.
4. Install a new element (see Figure 5-1, #6).
5. Coat a new o-ring (see Figure 5-1, #5) with fresh hydraulic fluid and install in filter cover (see Figure 5-1, #4).
6. Install the cover and secure to the bowl with the attaching hardware.
7. Check the fluid level and replenish with fresh fluid as described earlier (See *Checking Fluid Level (Daily)* on page 47).

Caution!

Extended operation of the unit without proper filtration will result in reduced service life of hydraulic system components.

Flushing Hydraulic System / Cleaning Hydraulic Strainer (Yearly)

To flush the hydraulic system and clean the hydraulic strainer, do the following:

1. Drain all fluid from the hydraulic tank into a suitable container. Dispose of it properly.
2. Unscrew and remove strainer (see Figure 5-1, #7).
3. Clean strainer thoroughly in a suitable cleaning solvent.
4. Wipe off the magnetic ring (see Figure 5-1, #8) and wipe out the bottom of the tank.

5. Reinstall the strainer (see Figure 5-1, #7).
6. Fill the hydraulic tank to the "NORMAL FILL LEVEL" with fresh hydraulic fluid as specified in the *Leach Hydraulic Fluid Recommendation* section on page 42 according to operating and weather conditions.
7. Start the unit and operate all hydraulic levers. Leave all hydraulic cylinders in the retracted position and shut down unit.
8. Recheck the fluid level and add fluid as necessary to bring level to the "NORMAL FILL LEVEL" on the sight gauge.

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.

Daily Preventive Maintenance

Each day perform the following maintenance:

Inspection

Perform the pre-operational inspection as described in Chapter 4 *Operating the 2R-III™* in the *Operator's Manual*.

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

- When checking for hydraulic leaks pay particular attention to hose fittings and connections at the cylinders and valves. A build up of hydraulic fluid and dirt indicates a small leak that can probably be corrected by tightening the fitting or connection.
- Check the visual indicator to determine the condition of the return line element.
- Inspect the mounting hardware. The springs should be compressed to 3 1/2 in. +/- 1/8 in. The mounting bolts should be torqued to 700 ft-lbs and inspected daily.

Cleaning

Hose the entire unit inside and out with clean water. Make sure no refuse is lodged in the body trough or behind the pushout panel especially near the telescopic pushout cylinder area or rear of the tank.

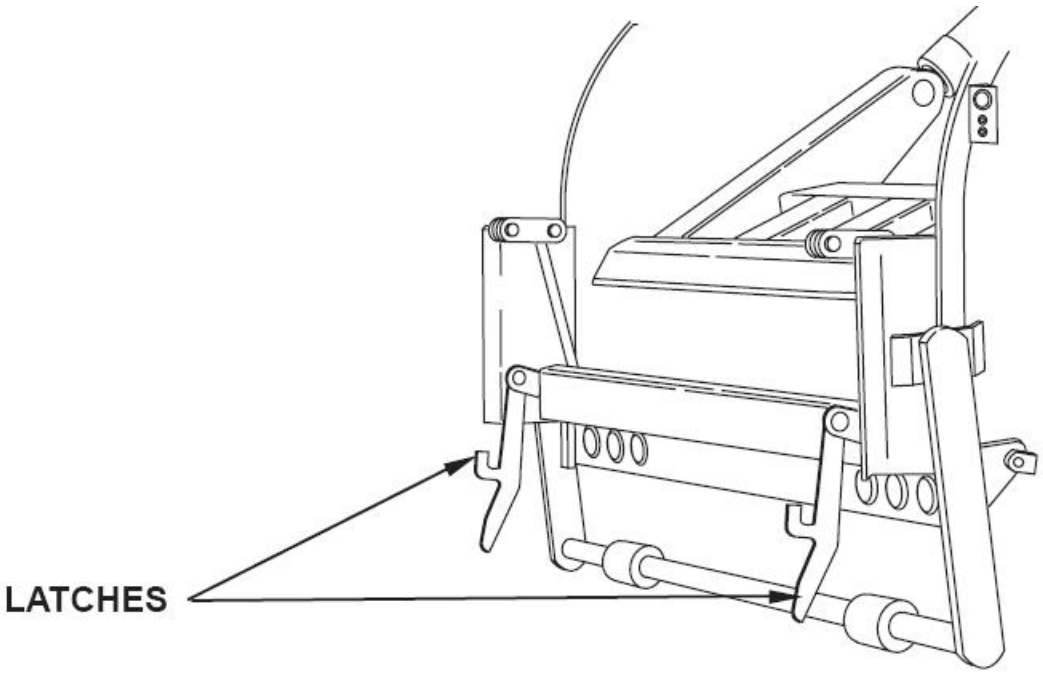
Lubrication

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

Container Handling Equipment

In addition to performing the daily vehicle and packer body pre-operation inspection, also check the container handling system. Each day perform the following inspection:

- Check the condition and operation of the container latch assemblies. If the latch arms will not latch securely in the assembly do not use the unit.
- A visual inspection of the wire rope (cable) should identify any broken wires or obvious damage. A visual inspection of the chains should identify any damage or elongated links.
- Make a visual inspection of the hook for obvious damage. Make sure that the hook latch is working properly.
- Check the operation of the container handling system. The lifting mechanism should move smoothly with no jerkiness or binding.



Weekly Preventive Maintenance

Cleaning

Clean and paint exposed metal surfaces to remove and prevent the formation of rust.

Inspection

In addition to the body mounting hardware which is checked daily, inspect all other accessible mounting hardware and fittings for tightness. Refer to "Capscrew Marking and Torque Values" on page 39.

Check electrical wiring and insulation for frays, breaks and loose connections.

Lubrication

Refer to "Lubrication Chart" on page 46 and service those items which require weekly lubrication.

Hydraulic System

The return line filter element is vital to the service life of the hydraulic system. Check the replacement indicator on the filter assembly weekly. Refer to "Check/Replace Return Line Filter Element" on page 49 for more detailed information about this important item.

Also, check the breather cap on the hydraulic tank on a weekly basis. If it is clogged, replace it with a new one.

Each week perform the check-out procedures listed in Chapter 6 of this manual.

Container Handling System Hardware

Check the container handling system hardware to make sure that no damage exists and that all fasteners are secure.

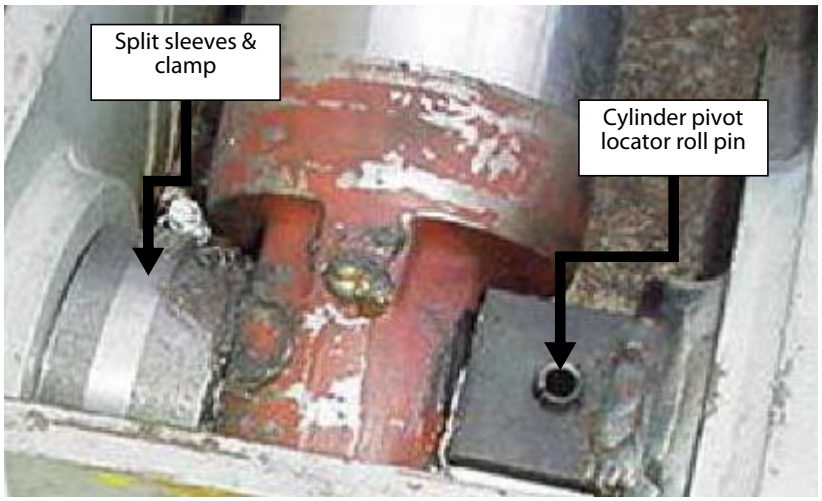
Pivot Points

Check all pivot points for wear and smooth operation.

Carrier Cylinder Pivot Maintenance

Correct location of the carrier cylinder pivot is critical on the Leach 2R-III to ensure proper carrier roller positioning and thorough engagement of the carrier cylinder pivot into the carrier hub. The items locating the carrier cylinder pivot must be inspected during every weekly planned maintenance cycle.

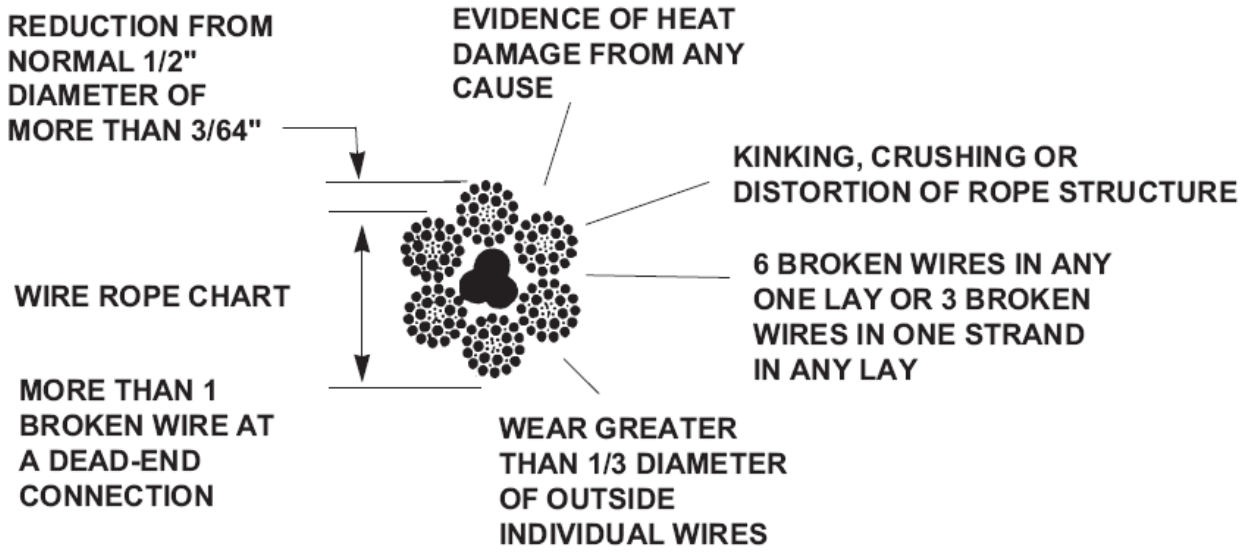
Ensure that the carrier cylinder pivots are positioned correctly (inserted fully) and the roll pins are properly inserted through the locating tab, fully into the locating hole in the carrier cylinder pivot. Check to ensure that the split sleeves are in place and the clamp is tight. The Labrie*Plus* part numbers for the carrier cylinder pivot locator roll pin, split sleeves and clamp are 102577, 100162, QUC00890, respectively.



Wire Rope (Cable)

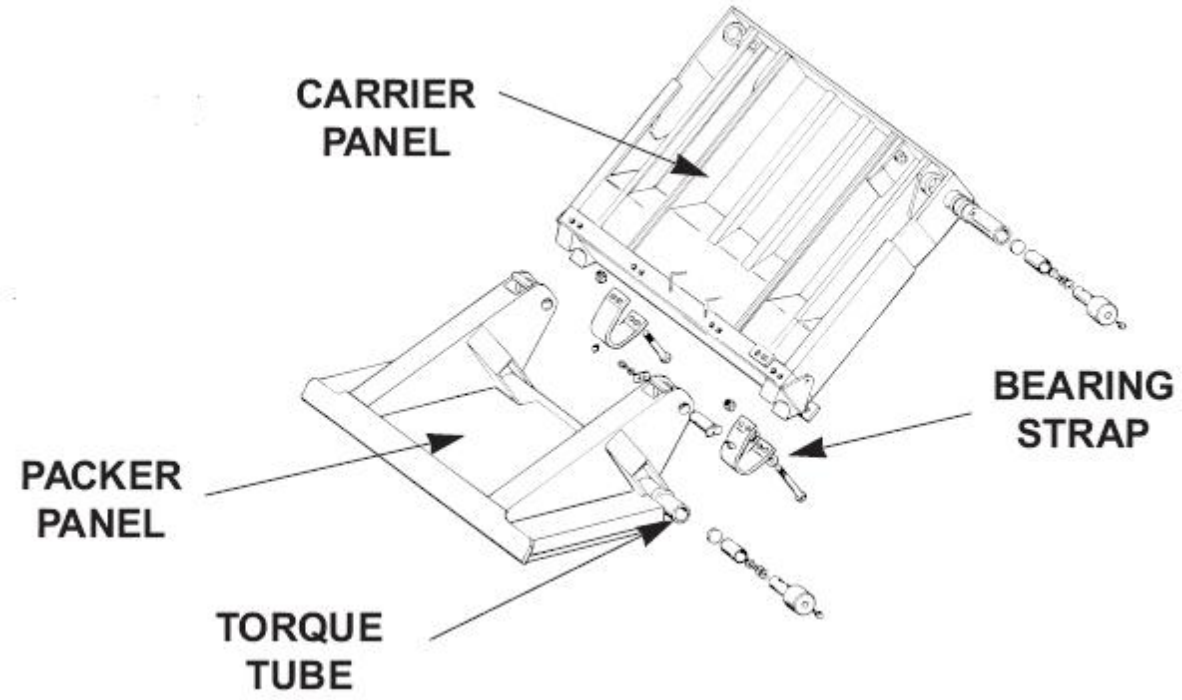
A detailed inspection of all wire rope (cable) should be made weekly or every 40 hours of use - which includes checking the wire rope for damage, deterioration and secure end connections. Damage or deterioration requiring replacement of wire rope is indicated by broken wires, excessive wear, heat damage, corrosion, stretching or distortion as shown in the wire rope illustration below.

NOTE: A lay of rope is that length of rope in which one strand of wire makes a complete revolution about the core.



Maintenance Recommendations

The packer/carrier assembly should be visually inspected every forty (40) hours of operation for cracked or fatigued welds, loose or broken fasteners, worn bearings, pin hubs or pins. The four (4) torque tube bearing straps should be lubricated a minimum of every forty (40) hours of operation.

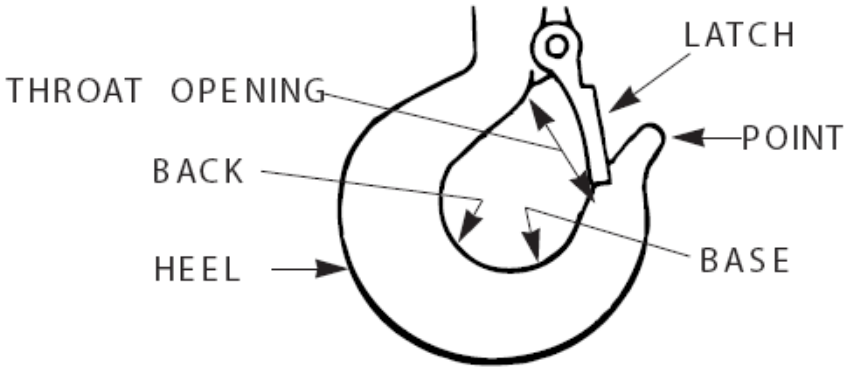


Monthly Preventive Maintenance

Lifting Hook

A thorough inspection of any container lifting hook should be completed once a month consisting of checking for distortion, cracks, nicks, wear, latch engagement and secure end connections. Maximum distortion allowable is an 8 percent increase in the throat dimension or a 10-degree twist in the hook. Cracks, nicks and wear must not exceed 10 percent of any dimension.

Visually inspect before each use for obvious damage.



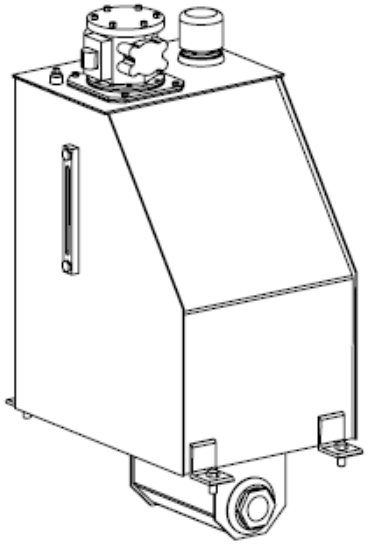
Yearly Preventive Maintenance

Hydraulic System

Once a year drain, flush and refill the hydraulic tank as described in *Flushing Hydraulic System / Cleaning Hydraulic Strainer (Yearly)* on page 49.

Once a year remove, clean and inspect the suction strainer as described in *Flushing Hydraulic System / Cleaning Hydraulic Strainer (Yearly)* on page 49.

Once a year replace the hydraulic tank air breather.



6

Check-Out

The 2R-III™ 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.

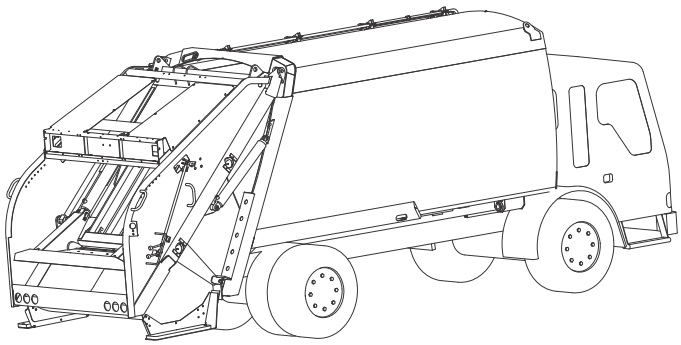
Warning!

Make sure you know and observe all safety precautions listed in Chapter 2 before performing any of the following check-out procedures. Use extreme caution to avoid coming near any moving parts. Never enter the body of the unit when the truck is running. Make sure the unit is in the correct operational mode as indicated by the OPERATIONAL STATUS block presented at the beginning of each check.

Figure 6-1 **Example of Operational Status block**

OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up On

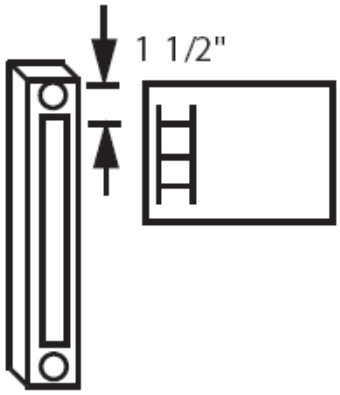
NOTE: Because of the location of various controls, some checks will require two people.



Checking Hydraulic Tank Fluid Level

To check the hydraulic tank fluid level, do the following:

1. Make sure the tailgate is down and clamped securely.
2. Position the packer and carrier panels to the “INTERRUPTED CYCLE” position.
3. Pull the pushout lever to position the pushout cylinder in the retract position.
   The fluid level should be between the safe range marks on the sight gauge.



If not:

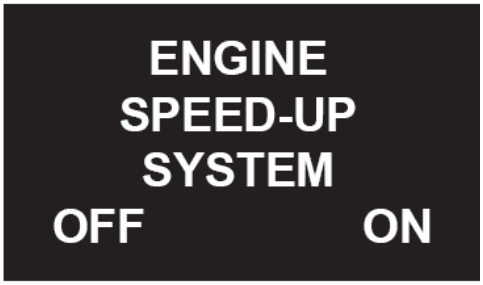
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

4. Add hydraulic fluid for normal operating and weather conditions.
   See *Hydraulic System Service* on page 47 for additional information about servicing the hydraulic tank.

Checking Engine Speed Up Switch

Check engine speed up switch.

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral



If engine speeds up:

OPERATIONAL STATUS	
Truck Running	PTO Disengaged

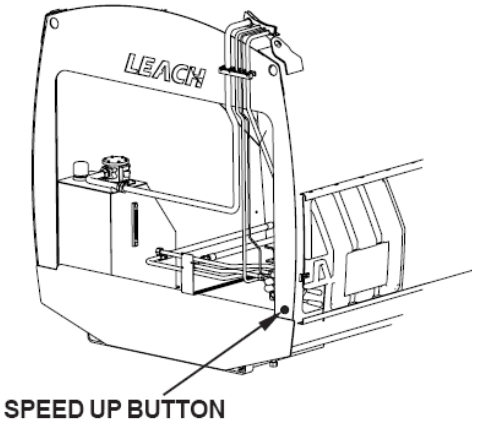
The system is grounded. Locate the short and repair as described in the *Electrical System* section on page 156.

Checking Engine Speed Up Switches (Body)

To check engine speed up switches located on the body:

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

1. Depress the engine speed-up push-button.



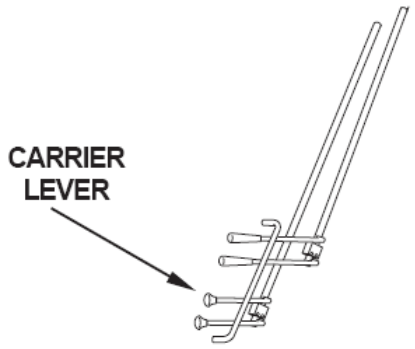
The engine should speed up.

If not:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

Locate the fault in the wiring or switch and repair. See *Electrical System* on page 156.

2. Activate carrier panel lever.



Engine should speed up.

If not:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

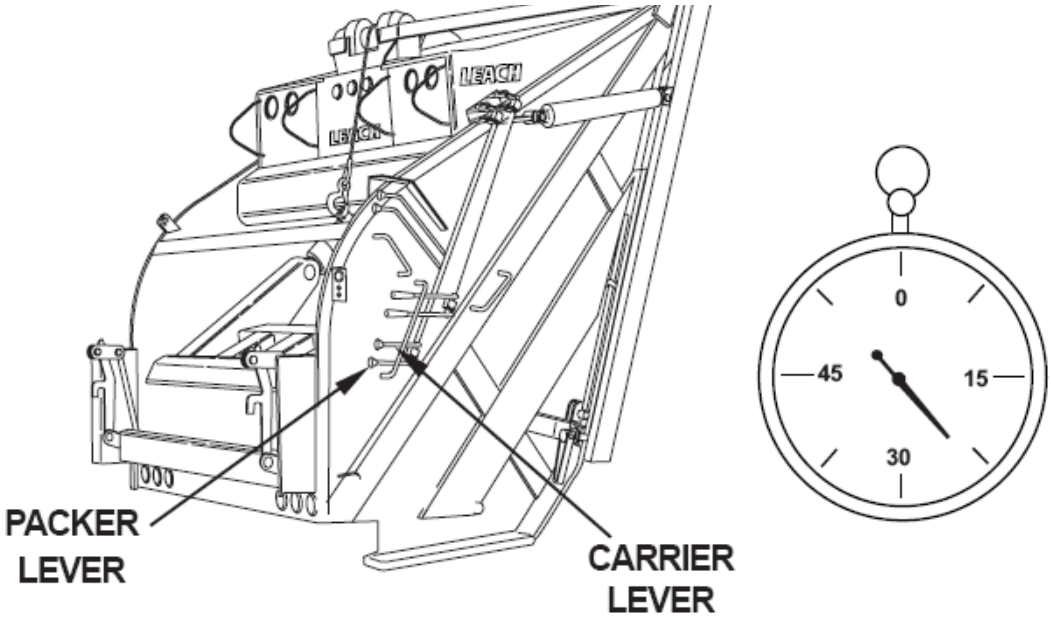
Locate the fault in the wiring or switch and repair. See *Electrical System* on page 156.

Checking Pack Cycle Time

To check pack cycle time:

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

1. Activate both the packer panel lever and carrier panel lever. Using a stopwatch, time a complete cycle.



A complete cycle should take 23 to 26 seconds.

If not:

2. The engine ECU (Electronic Control Unit) may have to be programmed by an authorized chassis dealer.

NOTE: It is important the cycle time is correct before performing the following pressure checks.

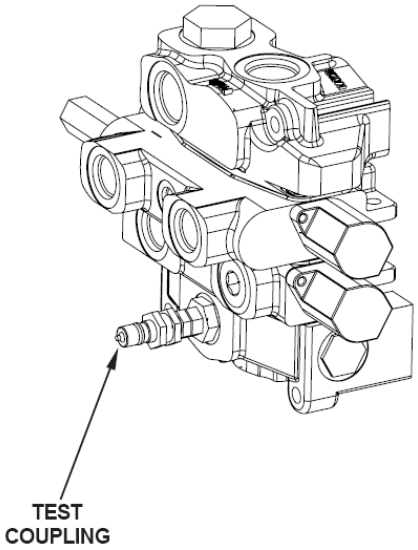
Checking Pressures

The pressure checks 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 procedure.

Prior to performing pressure checks:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Install a gauge capable of reading at least 3000 PSI (207 BAR) on the test coupling.
2. Start the unit, engage PTO/PUMP and turn speed up switch on.



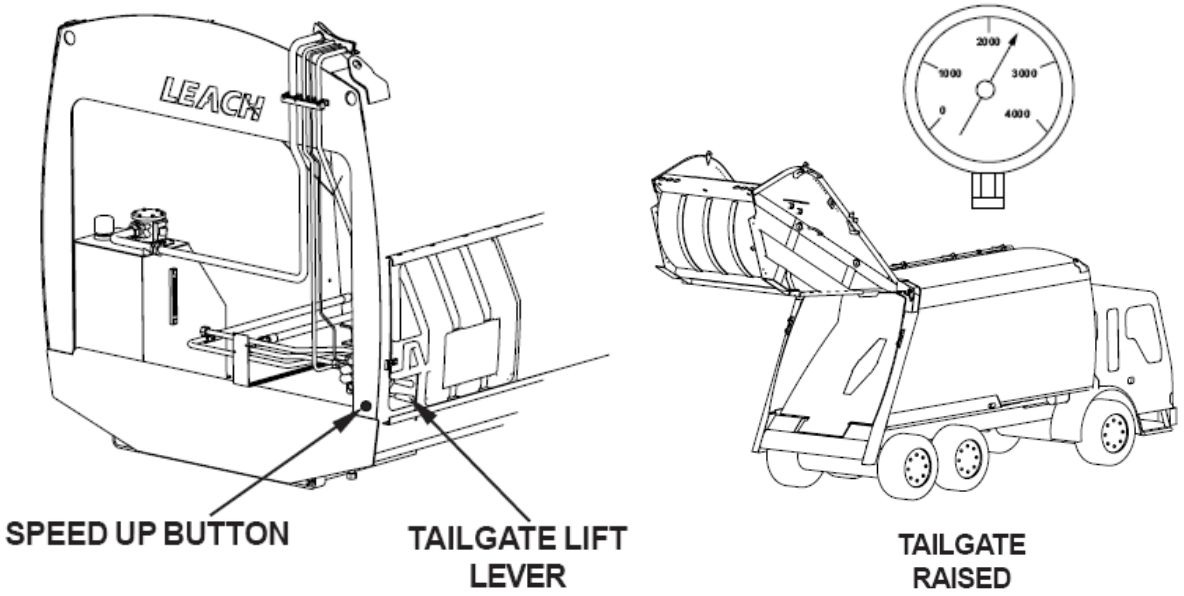
Checking Main Line Pressure

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

Warning! Make sure the area above the tailgate is clear before raising the tailgate.

To check the main line pressure:

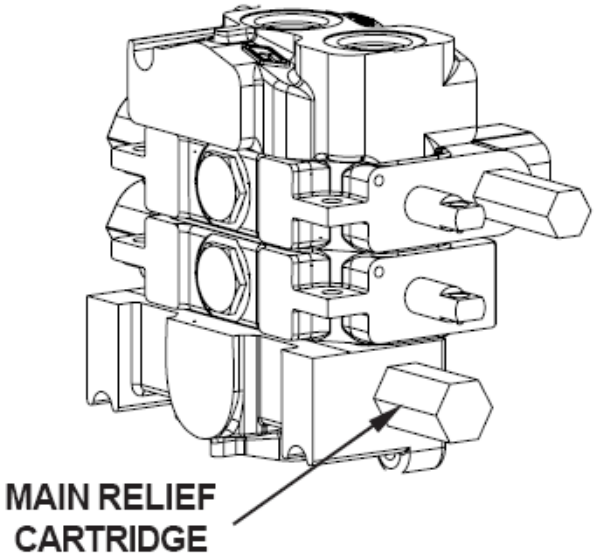
1. Release the tailgate clamps.
2. Depress speed-up button.
3. Move tailgate control lever to fully raise the tailgate.
4. Hold lever and read gauge.



Pressure should be 2350 +/- 50 PSI.

If not:

5. If the pressure is below the appropriate setting, loosen the lock nut on the relief cartridge and turn the adjusting screw in (rotate clockwise) to reach the correct pressure. If the pressure is above the appropriate setting, loosen the lock nut on the relief cartridge and turn the adjusting screw out (rotate counter-clockwise) to reach the correct pressure. After readjusting, retighten the lock nut. Repeat steps 1 through 4.



Checking Packer and Carrier Panel Shift (Knockout) Pressures

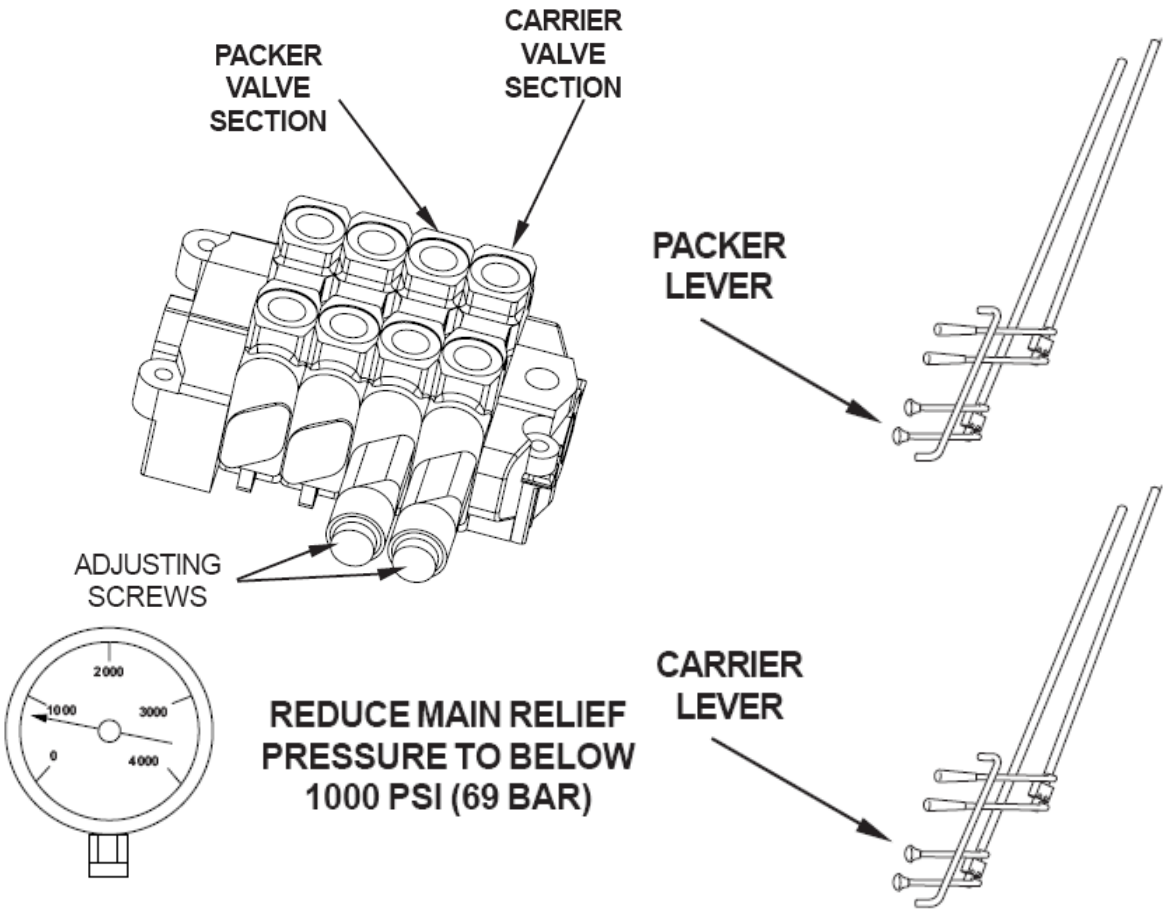
OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

To check packer and carrier panel shift (knockout) pressures:

1. Install a 0-3000 PSI (0-207 BAR) pressure gauge at the quick disconnect coupler on the front control valve. Check the main relief pressure as described in *Checking Main Line Pressure* on page 62.
2. Reduce main relief setting to below 1000 PSI (69 BAR):

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

3. Using a screwdriver remove the button plugs from the end of the Main Control Valve packer and carrier sections. Shift the packer and carrier linkage to the detented position and release, leaving the valve spools in the detented position.



OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

4. While observing the pressure gauge, slowly increase the main relief valve setting. The pressure indicator will increase until the knockout pressure setting is reached and the Main Control Valve spool returns to neutral.
5. The knockout pressures should be set at 1950 PSI (135 BAR) for the packer panel section and 2150 PSI (148 BAR) for the carrier panel section. If the knockout pressure setting requires adjustment, it may be changed by turning the knockout pressure adjusting screw, located inside the bonnet, clockwise to increase the knockout pressure setting or counter-clockwise to decrease the pressure setting. Once the proper knockout setting has been attained, reinstall the button plug to seal the Main Control Valve bonnets.
6. Return the main relief valve pressure setting to its specified value as described previously.

Checking Resistance Cartridge Pressure

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

To check the resistance cartridge pressure, apply the following procedure:

1. Disconnect the hydraulic hose on the piston rod side of the ejection cylinder (marked "EXT").

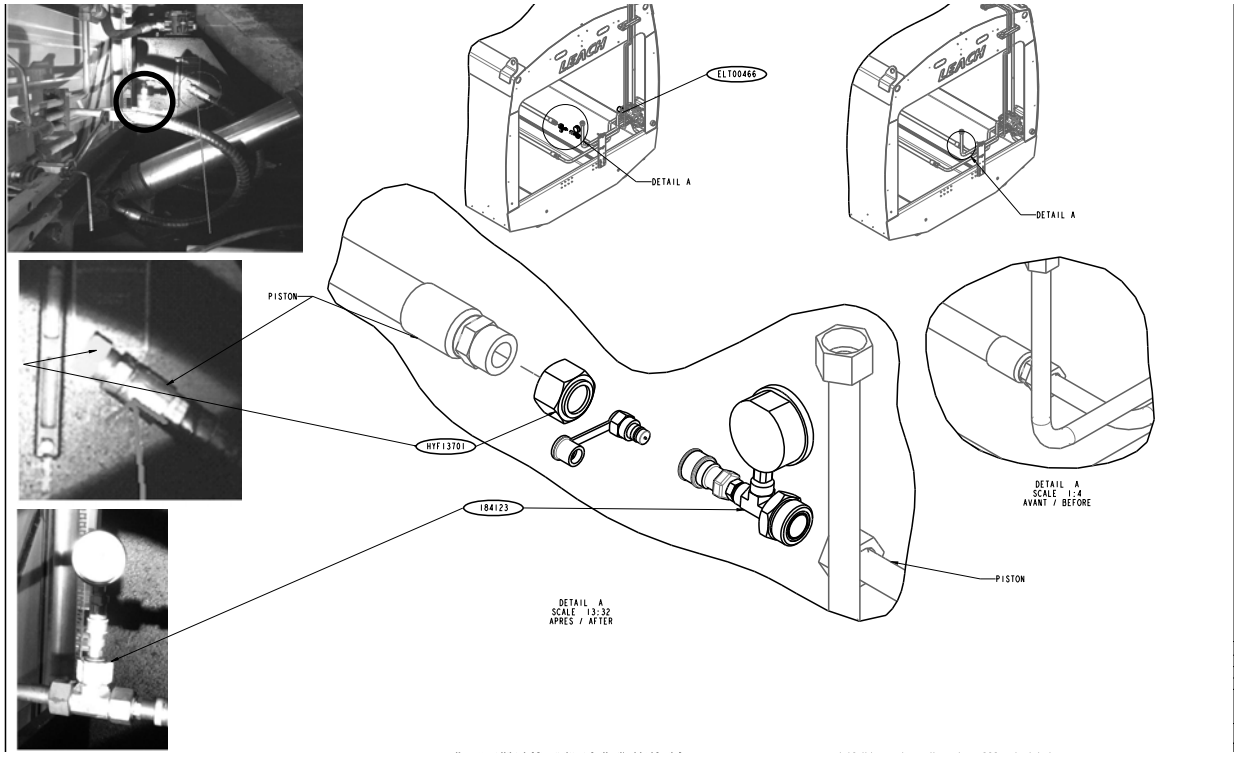
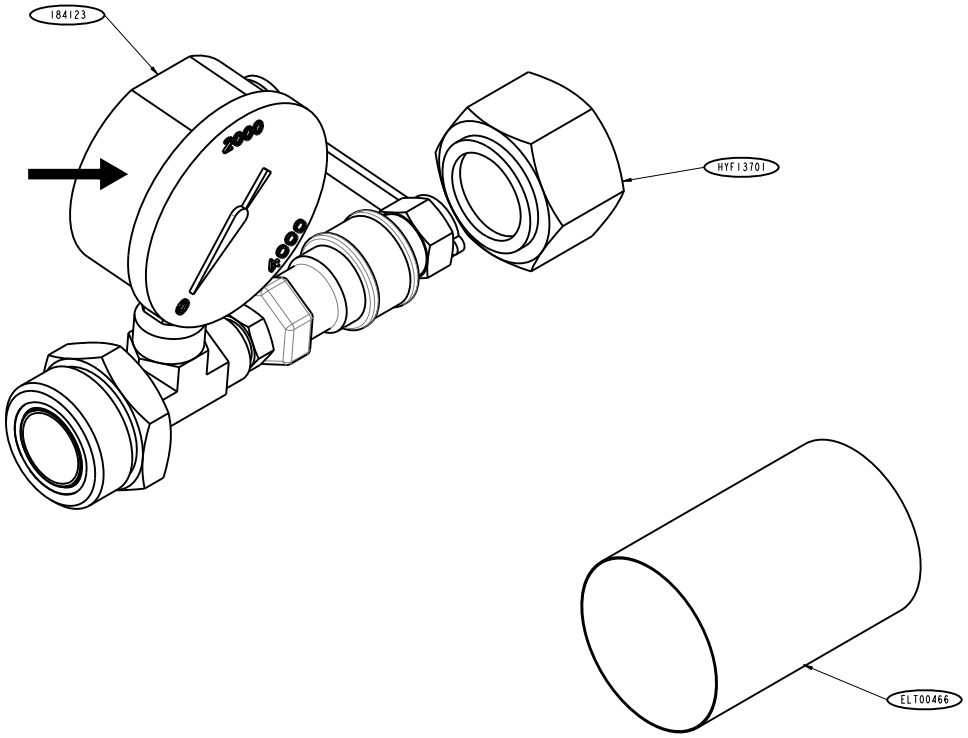
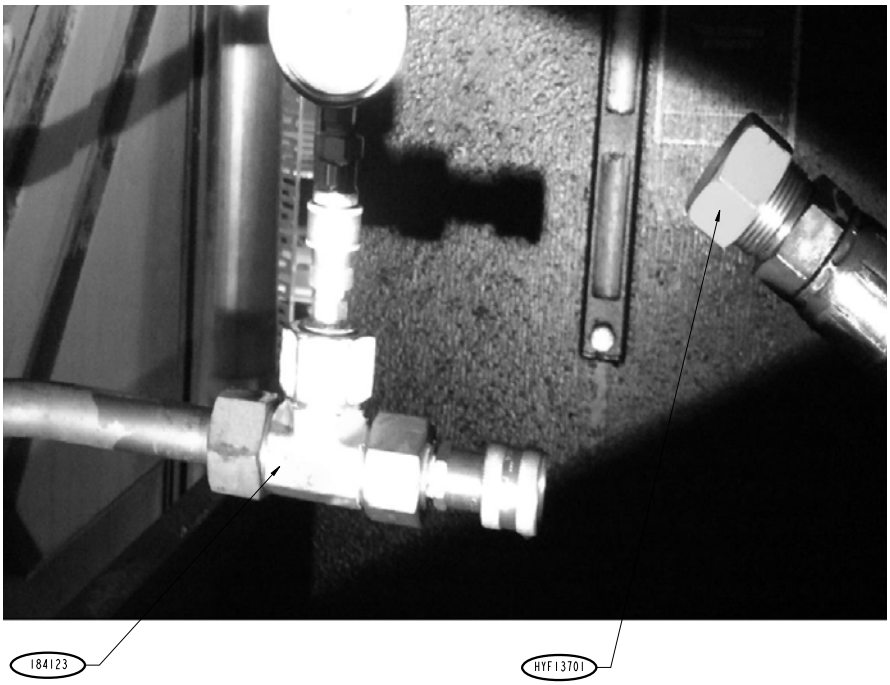


Figure 6-2 **Hydraulic gauge**



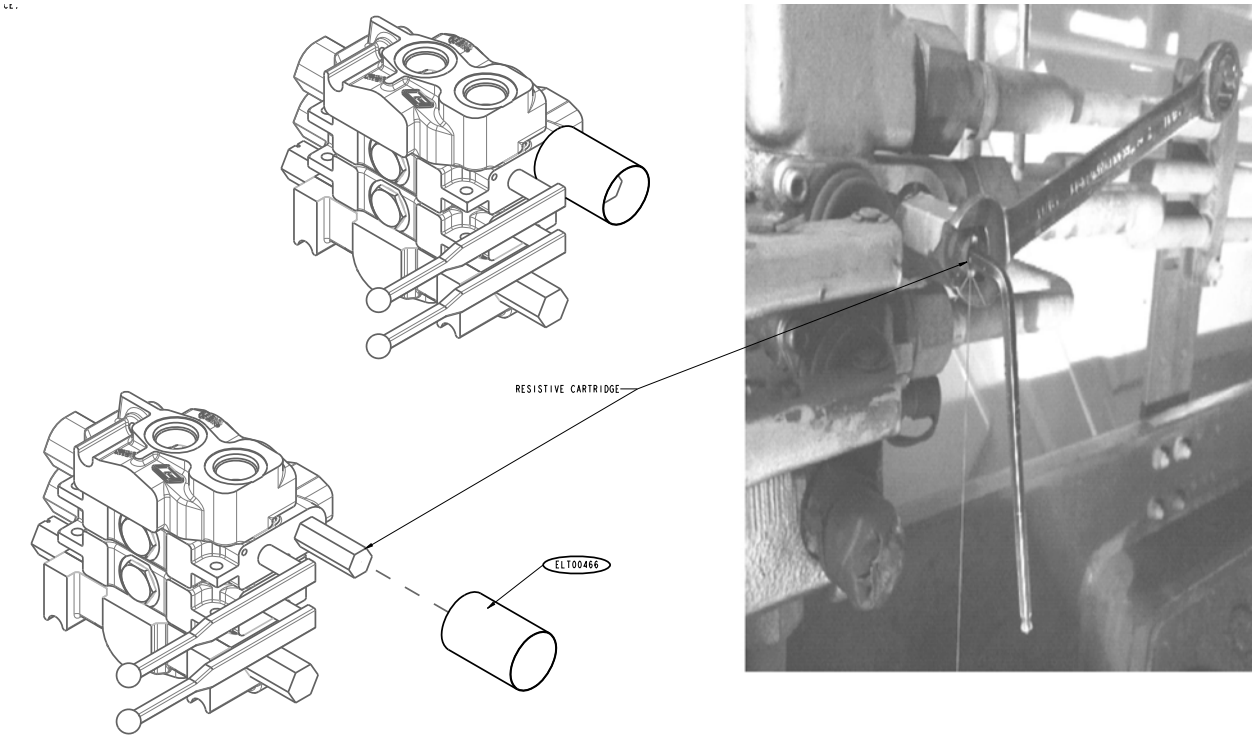
2. Install Labrie*Plus* part # HYF13701 plug (see above illustration) on the hydraulic hose connected to the extension side of the cylinder.
3. Install hydraulic connectors as shown below.



4. Connect manual pump (see Figure 6-3) to the empty quick-connect (FD56).

Figure 6-3 **Hydraulic manual pump (example)**

5. Unlock the adjustment nut, then loosen the resistance cartridge pressure set-screw by some turns to reduce resistance.



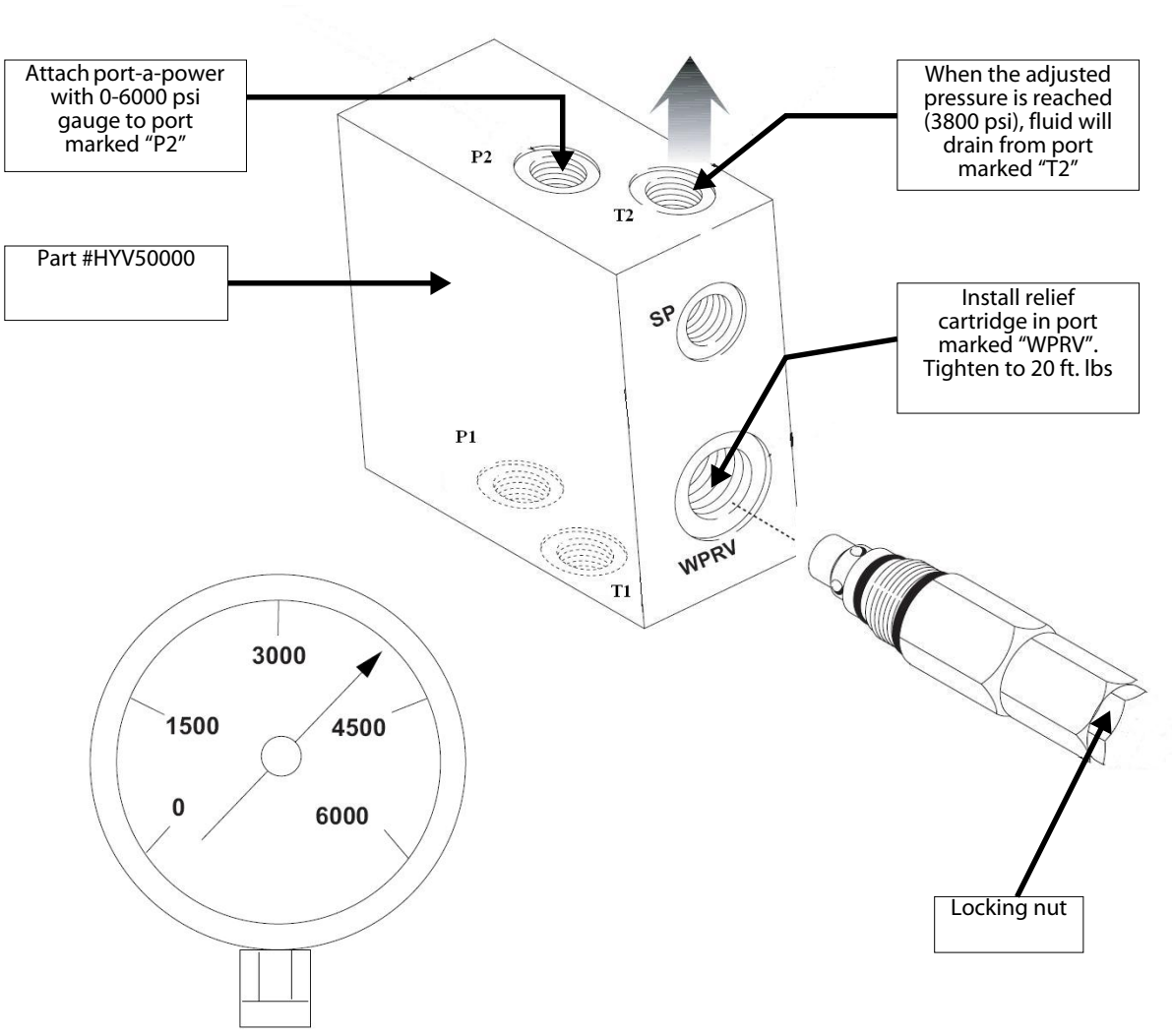
6. Use the manual pump to reach a reading of 1800 PSI on the gauge. If pressure stops going up before reaching that value, tighten the pressure set-screw by a quarter of a turn and repeat pumping operation.

   Repeat this step until pressure has reached 1800 PSI on the gauge.
7. Lock the adjustment nut when the correct pressure is reached.
8. Cover resistance cartridge with heat-shrinkable tube.
9. Disconnect the manual pump and pressure gauge.
10. Disconnect the hydraulic connectors.
11. Reconnect the pipe and hose as they were previously connected.

Checking Packer High Pressure (Circuit) Relief Cartridge

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

Use the test fixture and test as shown on illustration.

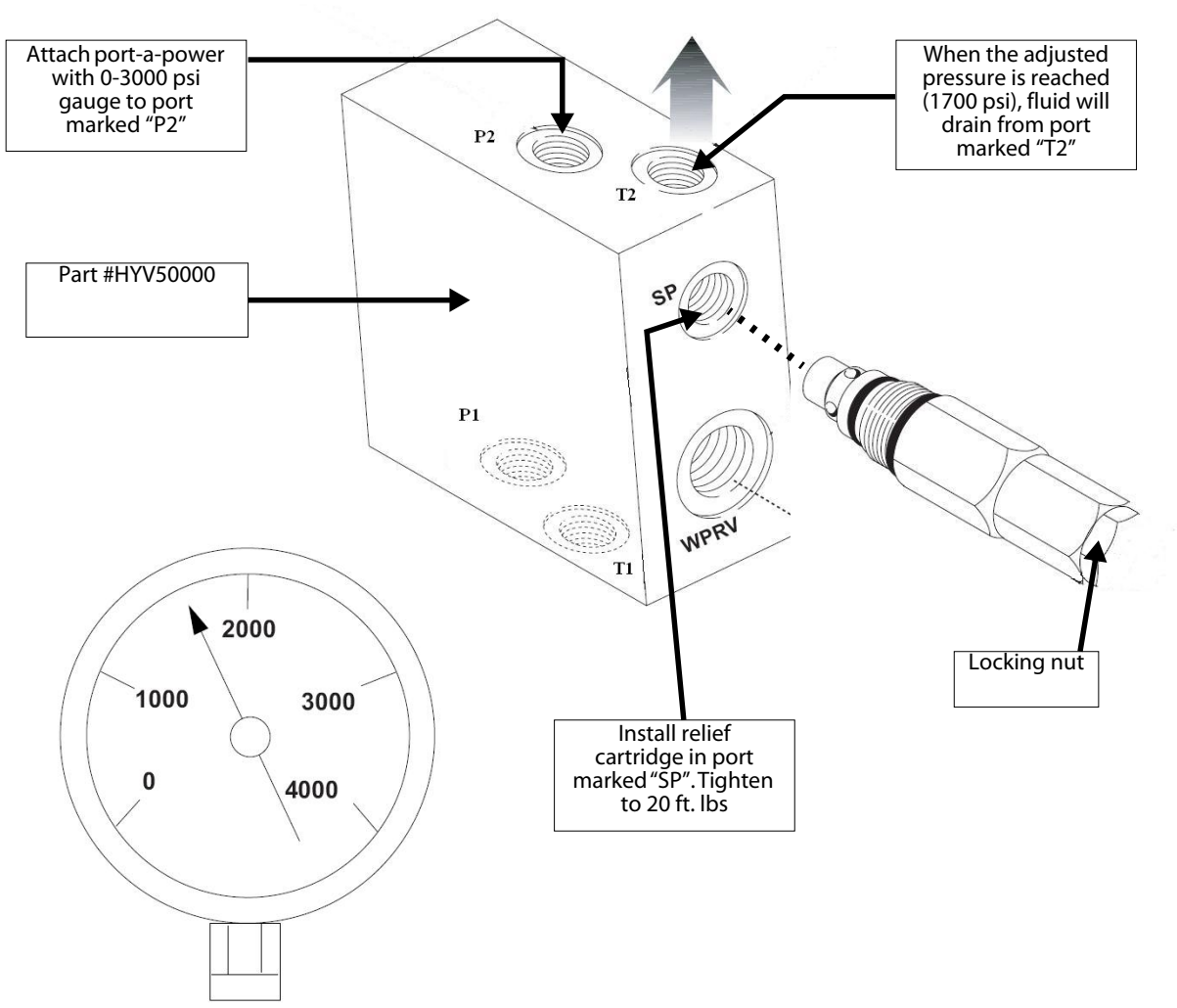


3800 PSI

Checking Accessory (Circuit) Relief Cartridge

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

Use the test fixture and test as shown on illustration.

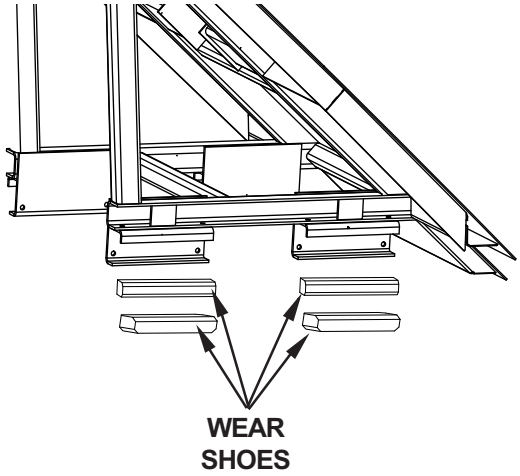


1700 PSI

Checking Pushout Panel Shoes

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

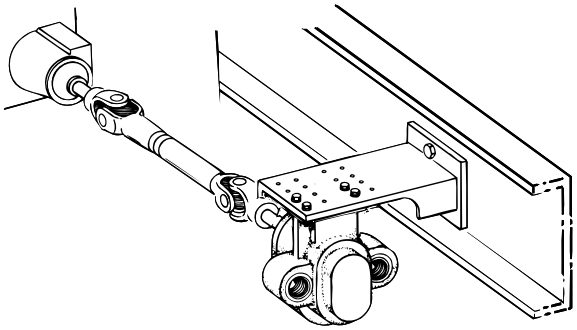
- Visually inspect all pushout shoes for excessive wear. These items must be replaced before there is metal to metal contact.
- Shim or replace worn parts as described in *Pushout Panel* on page 140.



Power Take Off (P.T.O.)

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

Periodically re-torque the mounting bolts or studs as outlined in the P.T.O. manufacturer's Service Manual.



7

Troubleshooting

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 with the unit will be limited to hydraulic and electrical system component malfunction or control linkage adjustment.

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

Problems in the hydraulic system may be found by performing the PRESSURE CHECKS found in Chapter 6.

Compaction

Before troubleshooting a unit, it is important to remember that the compaction may vary with the following conditions:

- **Type of refuse**. Tree branches, dry leaves, furniture and any other items loaded into the body that take up relatively large amounts of space will reduce the compaction ratio.
- **Moisture content of refuse**. Wet refuse will pack tighter than dry and consequently a wet load will weigh more than a dry load. Wet refuse loaded into the body will increase the compaction ratio.
- **Operation of equipment**. As with the operation of any type of heavy equipment, one machine can yield different results with different operators. Operating a rear loader is a skill. Placement of items in the hopper, not over loading the hopper are learned skills that will affect the compaction ratio of a unit.

- **Preventive maintenance**. A properly maintained unit will achieve higher compaction rates than one that is poorly maintained. The condition of the hydraulic system, pump, main relief setting and the condition of the operating cylinder seals will all have an effect on unit performance and compaction. Some chassis components will also affect compaction. The engine speed during packing and the condition of the clutch assembly in a standard transmission may also affect compaction.

Compaction rates of a unit will depend on the season, the type of trash, the weather and the operation and maintenance of a unit. If the unit packs relatively consistent loads and has been properly maintained according to the Service Manual, then it is safe to assume that it is getting maximum compaction for your particular conditions.

Dieseling in Hydraulic Systems

Any hydraulic system should be a sealed environment free of foreign material including air. Unlike solid contamination, air is compressible and contains oxygen. It is these two (2) properties of air contamination that provide the elements needed to support the phenomenon known as dieseling. Dieseling can only occur when the elements of fuel, oxygen and heat are all present at the same time. In the hydraulic system the hydraulic fluid is the fuel. The presence of air provides not only the oxygen to support combustion, but also the means for generating sufficient heat to ignite the fuel/air mixture. When air is rapidly compressed, heat is generated. A rapid pressure change of only 600 PSI may be enough to generate the heat required to ignite the fluid and mixture. The oxygen in the heated compressed air and the hydraulic fluid ignite resulting in dieseling. The ignitions that result from dieseling in the hydraulic system are small in size and many may be needed to eventually damage a piston seal to the extent that bypass will occur.

"Where does the air come from?" The answer is that the air comes out of the fluid itself. Hydraulic fluid can contain 10% air by volume. As the pressure on the fluid increases, the amount of air that can be absorbed also increases.

Now we know that the air is most likely present in the fluid, but the next question is, "How does the air get out of the fluid?" The air, while it is in suspension, will pose no problem to the operation of the hydraulic system. But once it is separated into bubbles then all the factors are present to support combustion. The air in suspension can be separated when the fluid is subjected to a negative pressure (vacuum) of as little as 3.5 PSI. This can occur when the fluid is squeezed through a restriction or an orifice. The resulting pressure decreases can be sufficient to allow trapped air to separate from the fluid.

A good example may be a front-mounted pump dry valve system. In the dry mode of operation, system hydraulic fluid is drawn through a small orifice. This provides lubrication and cooling for the pump, but also provides a perfect situation for air separation. In addition, the flow regulator bypass at the pump output is returned back to the pump input. This recirculates the fluid/air and allows for the separation of even more air.

In cases where the seals in cylinders appear to be burnt or melted, consider the possibility of air ingestion. The following suggestions may help in eliminating this problem:

- Ensure that the pump suction connections are tight. It is possible for a suction hose connection to allow air in without leaking any fluid out.
- The pump shaft seal can allow air into the system. Replace if the seal is suspect.
- Check for air ingestion around the packings on the ball valve stem. Replace the ball valve if suspect.

- Excessive system flow rate (cycle time too fast) can agitate the hydraulic fluid. Set the cycle time according to specifications.
- Do not thin hydraulic fluid with diesel fuel (lowers the flash point). Weather permitting, use a higher flash point fluid.

After making any repairs on the hydraulic system, bleed the system at reduced engine speed and pressure to remove any trapped air. Depending on the size of the component, e. g. cylinder, hose, it may be necessary to cycle the unit several times. Of course the larger the air pocket, the more cycles are needed. To avoid potential problems, thoroughly bleed all hydraulic systems and ensure that all inlet connections are tight and not ingesting air.

Troubleshooting Tables

Use the following troubleshooting tables to find remedies to problems that have identifiable signs.

OPERATING IS ERRACTIC	
Possible cause	Remedy
Speed up system operating erratically	Check electrical system. See Chapter 8 *Service and Repair*.
Hydraulic fluid too hot	Check for proper grade of fluid (see *Leach Hydraulic Fluid Recommendation* on page 42).
Hydraulic fluid level too low	Check fluid level. Add fluid if necessary.
Bypass in cylinders	Test for leaking cylinders. See Chapter 8 *Service and Repair*.
Hydraulic fluid too cold	Bring fluid to operating temperature. Check for proper grade of hydraulic fluid (see *Leach Hydraulic Fluid Recommendation* on page 42).
Operating linkage bent or binding	Repair, replace or realign damage linkage.

PUMP NOISE IS EXCESSIVE (Note: All pumps make a certain amount of noise)	
Possible cause	Remedy
Pump starving for fluid	◆ Open ball valve. ◆ Check fluid level. ◆ Check hydraulic fluid filter and tank. ◆ Check for obstruction in suction lines, hoses kinked or collapsed.
Hydraulic fluid too cold	◆ Bring fluid to normal operating temperature. ◆ Change hydraulic fluid to proper grade for operating conditions (see *Leach Hydraulic Fluid Recommendation* on page 42).
PTO driveshaft and/or u-joints badly worn or out of balance	Repair, replace and/or balance all parts.
Pump gears, end plates, bearings, etc. badly worn	Replace pump.
Improper grade of hydraulic fluid (fluid foaming)	Replace with proper grade of hydraulic fluid (see *Leach Hydraulic Fluid Recommendation* on page 42).
Air entering the system	◆ Tighten the suction hose. ◆ Replace the pump shaft seal. ◆ Replace the suction hose. ◆ Replace the o-rings on the pump. ◆ Tighten or repair any leaks in the hydraulic system.

ENGINE WILL NOT SPEED UP WHEN CARRIER PANEL LEVER OR SPEED-UP BUTTON IS ENGAGED	
Possible cause	Remedy
Short in electrical wiring	Repair broken wire. See *Electrical System* on page 156.
Blown fuse on speed-up relay	Replace fuse and check electrical system for shorts. See *Electrical System* on page 156.

ENGINE WILL NOT SPEED UP WHEN CARRIER PANEL LEVER OR SPEED-UP BUTTON IS ENGAGED	
Possible cause	Remedy
Relay or switch is defective	Check for and replace defective parts. See *Electrical System* on page 156.
Electrical system not grounded properly	Check all ground connections for corrosion or breaks. Clean or repair. See *Electrical System* on page 156.
Carrier panel lever speed-up switch or linkage defective	Repair, replace or adjust as required.

ENGINE SPEED WILL NOT RETURN TO NORMAL WHEN PACKING CYCLE IS COMPLETE OR SPEED-UP BUTTON IS RELEASED	
Possible cause	Remedy
Short circuit in electrical system	Check for and repair short in system. See *Electrical System* on page 156.
Carrier panel lever speed-up switch is defective	Repair, replace or adjust as required.

PACKER PANEL VALVE SECTION SHIFTS TOO SLOW	
Possible cause	Remedy
Object in hopper that the packer panel cannot move	Recycle unit. Rearrange or remove refuse if necessary.
Cycle time too fast	Have chassis ECU reprogrammed by an authorized chassis dealer.
Packer panel valve section shift pressure too low	Perform pressure checks as described in *Checking Pressures* on page 61.

CARRIER PANEL VALVE SECTION SHIFTS TO NEUTRAL TOO SOON	
Possible cause	Remedy
Carrier panel valve section shift pressure too low	Perform pressure check as described in *Checking Packer and Carrier Panel Shift (Knockout) Pressures* on page 64.

PACKER PANEL VALVE SECTION WILL NOT SHIFT	
Possible cause	Remedy
Packer panel cylinder leaking	Perform test for leaking cylinder. See Chapter 8 *Service and Repair*.
Packer panel valve section shift pressure too high	Perform pressure check as described in *Checking Pressures* on page 61.
Linkage binding or restrictive	Inspect and free linkage as necessary.

CARRIER PANEL VALVE SECTION WILL NOT SHIFT TO NEUTRAL	
Possible cause	Remedy
Carrier panel cylinder leaking	Perform test for leaking cylinder. See Chapter 8 *Service and Repair*.
Carrier panel valve section shift pressure too high	Perform pressure check as described in *Checking Packer and Carrier Panel Shift (Knockout) Pressures* on page 64.
Linkage binding or restrictive	Inspect and free linkage as necessary.

PACKER/CARRIER PANELS DO NOT DELIVER FULL FORCE TO PACK LOAD INTO BODY	
Possible cause	Remedy
Hydraulic pressure incorrect	Perform pressure check as described in *Checking Pressures* on page 61.
Hydraulic fluid in tank is low	Add fluid to correct level (see *Checking Fluid Level (Daily)* on page 47).
Tank strainer screen is dirty (this condition will starve pump and cause noise in the system)	Service system as described in *Hydraulic System Service* on page 47.
Wrong type of hydraulic fluid in system	Drain and refill with correct type of hydraulic fluid (see *Flushing Hydraulic System / Cleaning Hydraulic Strainer (Yearly)* on page 49).
Main relief section of Front Control Valve opens too soon	Adjust main relief setting on Front Control Valve (see *Checking Main Line Pressure* on page 62).

PACKER/CARRIER PANELS DO NOT DELIVER FULL FORCE TO PACK LOAD INTO BODY	
Possible cause	Remedy
Hydraulic pump is defective and will not deliver full pressure	Replace pump. See *Hydraulic Pump* on page 152.
Operating cylinder piston seal is leaking	Perform test for leaking cylinder. See Chapter 8 *Service and Repair*.
Operating valve pressures are too low	Perform pressure check as described in *Checking Pressures* on page 61.
Air in hydraulic lines	Cycle packer 6 or 7 times to bleed air out of system.

LOUD SQUEALING NOISE WHEN MANUALLY RETRACTING TELESCOPIC CYLINDER	
Possible cause	Remedy
Excessive fluid flow being forced through the main relief in the Front Control Valve	◆ Release speed-up button. ◆ Only partially pull (feather) the Front Control Valve control handle.

LOAD WILL NOT PUSH OUT	
Possible cause	Remedy
Less than full pressure in telescopic cylinder	◆ Perform test for leaking cylinder and repair. ◆ Adjust main relief pressure (see *Checking Pressures* on page 61).
The operator is trying to push the load out against a pile of refuse, dirt or bank of a hill	Move the unit forward to finish unloading.

PUSHOUT PANEL SLIDES FORWARD TOO FAST WHILE PACKING REFUSE	
Possible cause	Remedy
Cylinder bypassing	Perform test for leaking cylinder and repair.
Resistance setting too low	Adjust resistance cartridge (see *Checking Resistance Cartridge Pressure* on page 65).

PUSHOUT PANEL WILL NOT SLIDE FORWARD AUTOMATICALLY	
Possible cause	Remedy
Resistance setting too high	Reduce resistance setting
Packer/carrier panels not applying full force to move pushout panel forward	◆ Check pressures. ◆ Check pump.

CARRIER AND PACKER PANELS STOP SHORT OF HOME POSITION AFTER EACH CYCLE	
Possible cause	Remedy
Unit full	Empty unit.
Resistance setting too high	Reduce resistance setting
Packer/carrier panels do not deliver full force	See Chapter 7 *Troubleshooting*.

PACKER PANEL DRIFTS OPEN WHILE PACKING LOAD INTO BODY	
Possible cause	Remedy
Packer panel cylinder seal leaking	Perform test for leaking cylinder. See Chapter 8 *Service and Repair*.
Packer panel valve section shift pressure too low	Perform pressure test as described in *Checking Pressures* on page 61.

CYCLE TIME TOO SLOW	
Possible cause	Remedy
Engine RPM too low	Set engine RPM to achieve 23 to 26-second cycle time (**must be done by an authorized dealer**).
Hydraulic fluid level too low	Fill to proper level (see *Checking Fluid Level (Daily)* on page 47).
Hydraulic fluid filter needs servicing	Service filter (see *Hydraulic System Service* on page 47).
Hydraulic tank breather dirty	Service breather (see *Checking Tank Breather Cap (Weekly)* on page 47).

CYCLE TIME TOO SLOW	
Possible cause	Remedy
Hydraulic pump worn or defective	Replace pump. See *Hydraulic Pump* on page 152.
Operating cylinder piston seals leaking	Perform test for leaking operating cylinder seals and repair as required.
Incorrect grade of hydraulic fluid for current operating conditions	Refill with proper grade of hydraulic fluid (see *Leach Hydraulic Fluid Recommendation* on page 42).
Wiring defective	Repair and replace as required. See Chapter 8 *Service and Repair*.

TAILGATE WILL NOT RAISE	
Possible cause	Remedy
Tailgate clamps still engaged	Disconnect clamps and swing free of tailgate.
Insufficient hydraulic pressure	Check main relief pressure (see *Checking Main Line Pressure* on page 62).
Hydraulic pump is defective	Replace pump. See *Hydraulic Pump* on page 152.
Main relief cartridge out of adjustment or broken	Adjust or replace main relief cartridge as necessary. See Chapter 8 *Service and Repair*.
Tailgate lift cylinders leaking or defective	Repair or replace as required.
Restriction in tailgate cylinder hose	Remove and clean hose.

CONTAINER WON'T LIFT	
Possible cause	Remedy
Insufficient hydraulic pressure	Check pressures as described in *Checking Pressures* on page 61.
Cable broken	Replace cable.
Cable loose from the lifting device (drum/cylinder)	Secure cable to lifting device.
Container overload	Reduce weight of material in container.
Container frozen to the ground	Do not use lifting device to break container loose from the ground.

CONTAINER WON'T LIFT	
Possible cause	Remedy
Linkage binding or restrictive	Repair or replace linkage as required.
Lifting motor or cylinder(s) by-passsing hydraulic fluid	Repair or replace the defective component.
Shear pin or key broken between winch shaft and drum	Replace the key or pin.

WINCH MOTOR LEAKING	
Possible cause	Remedy
Shaft seal damaged	Replace shaft seal.
Motor worn internally	Replace motor.

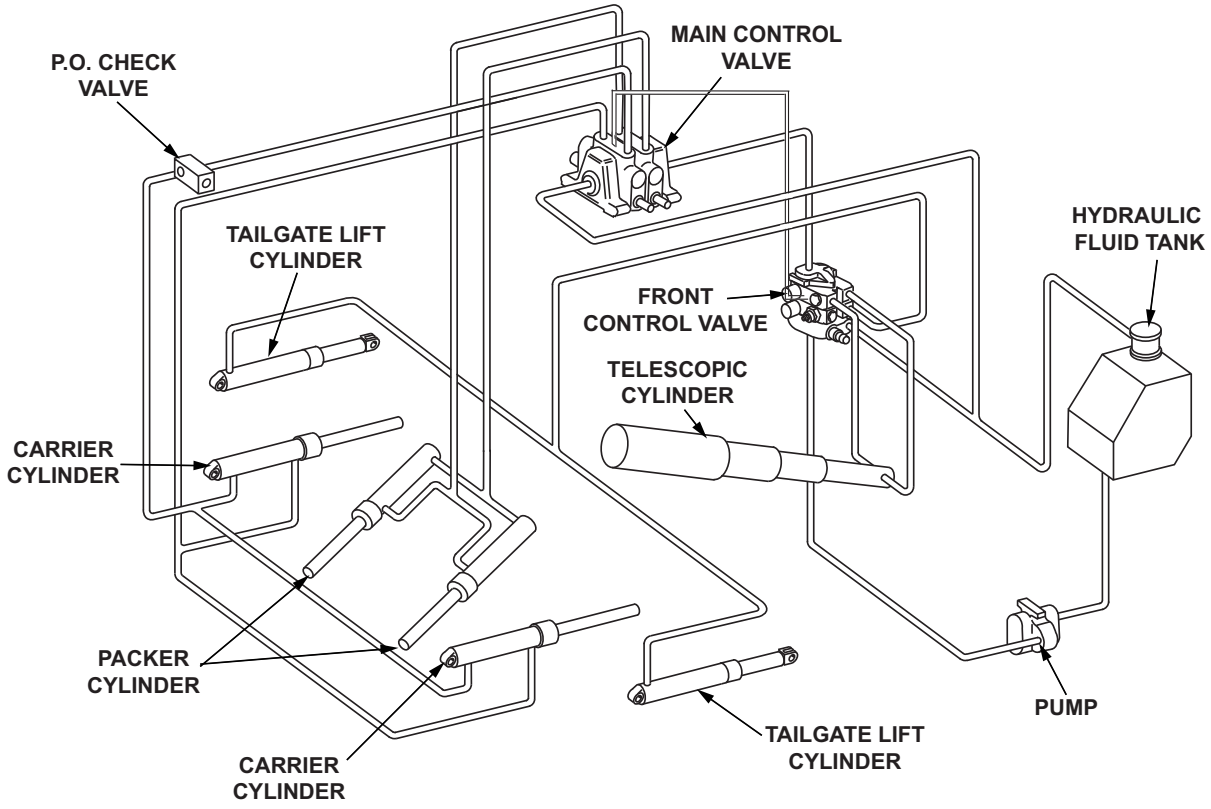
CONTAINER RAISES VERY SLOWLY	
Possible cause	Remedy
Winch motor by-passing	Repair or replace motor.
Rear loader hydraulic system not providing sufficient flow rate or pressure for container handling systems	Check and repair rear loader hydraulic system following procedures in Service Manual.

Hydraulic System

The following is a description with flow diagrams of what happens in the hydraulic system of the telescopic system during the loading, packing and unloading operations of the unit.

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

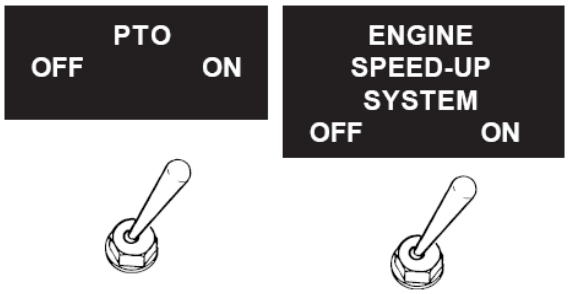
System Component Nomenclature



Transmission in Neutral (with Packer and Carrier Panels in the "Home" Position)

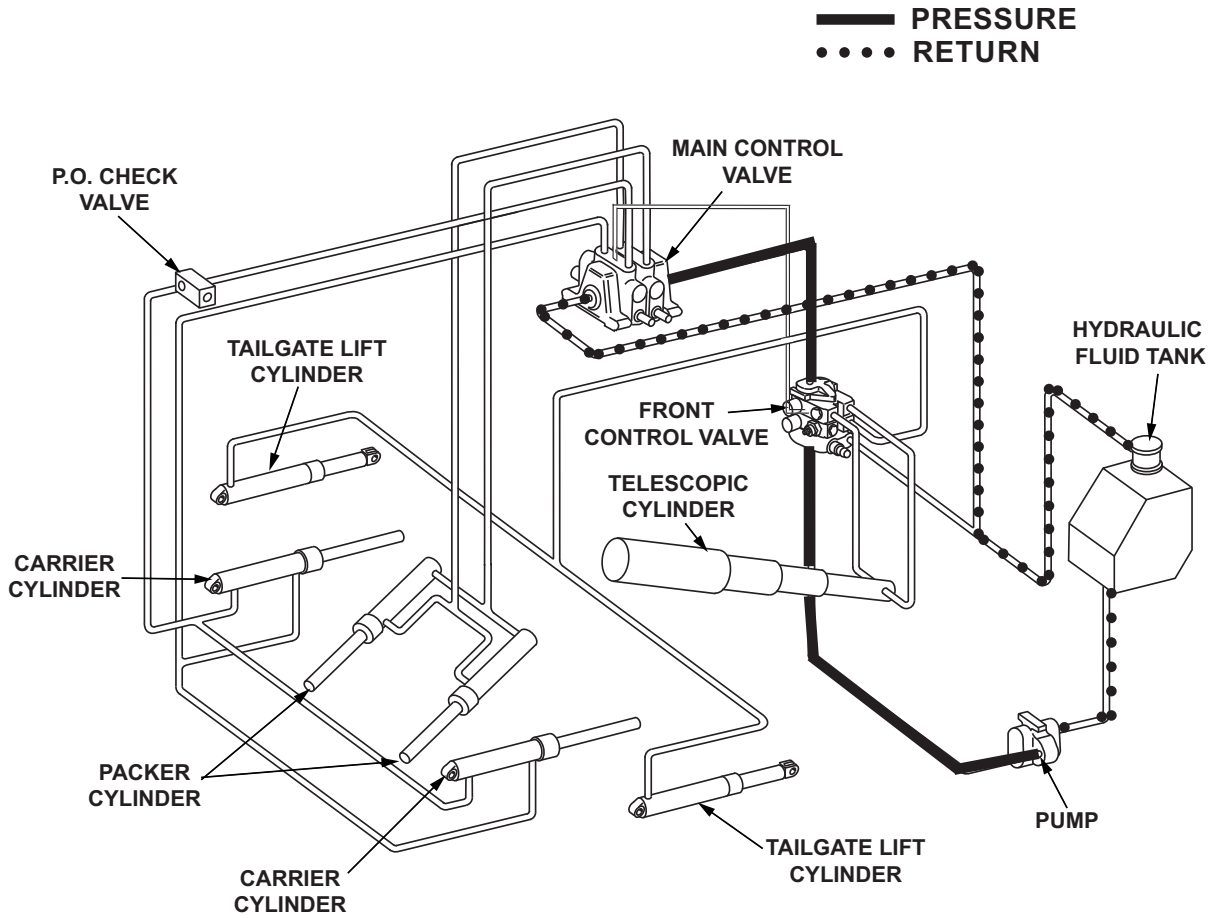
Operator Action

Operator starts the truck and engages the PTO/pump and speed-up system.



Hydraulic Sequence

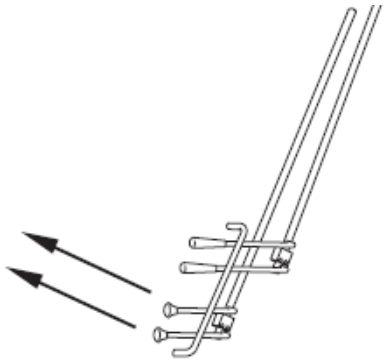
Hydraulic fluid flows from the tank, by gravity, to the pump; from there, it is pumped to the FCV (Front Control Valve). Flow continues through the valve to and through the MCV (Main Control Valve) and then back to the tank. During packer operation, if pressure increases to the main relief setting, excess flow will be diverted from the front control valve back to tank.



Packer Panel Sweeps Back Over Load

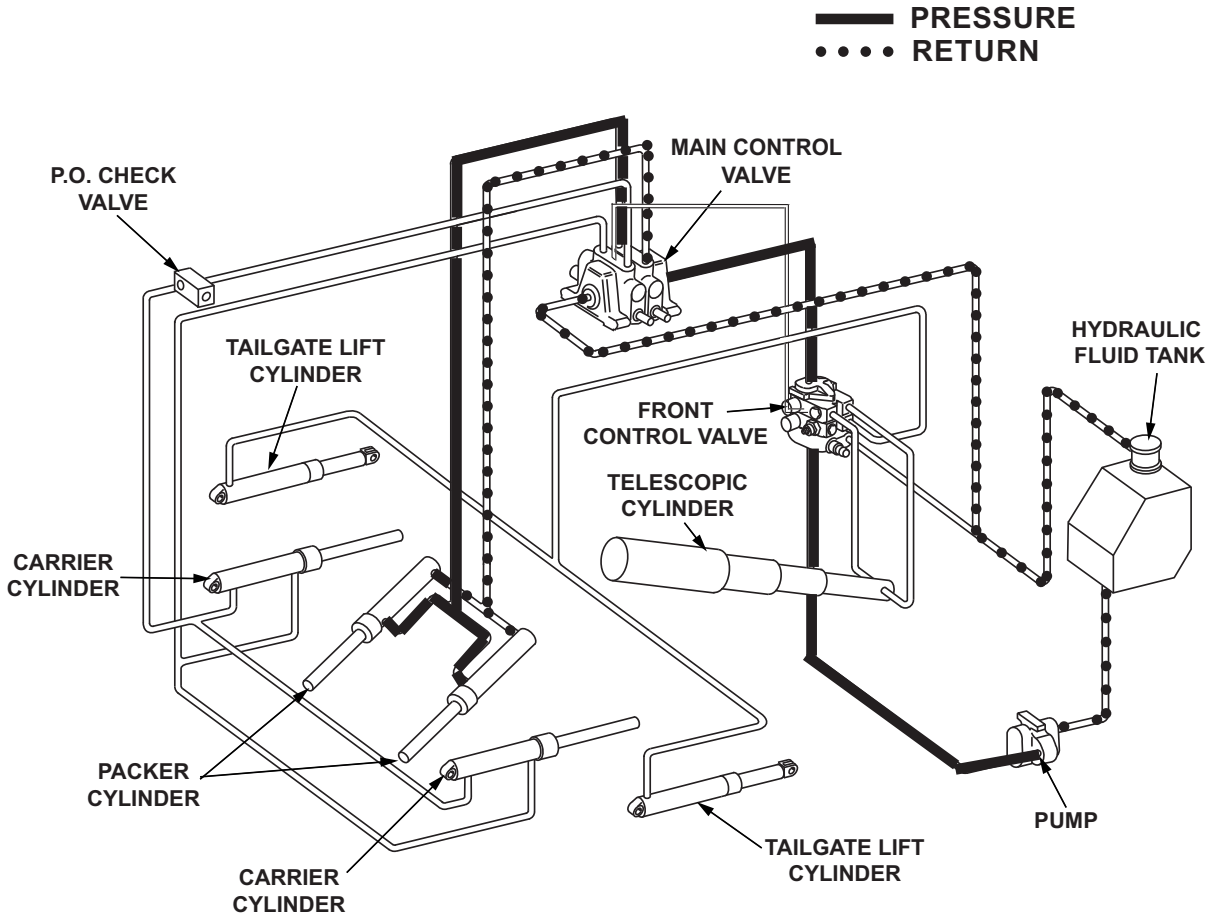
Operator Action

The operator moves the control levers inward to start the compaction cycle.



Hydraulic Sequence

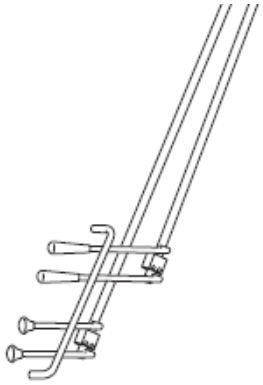
Operator action causes the MCV (Main Control Valve) to shift, diverting flow to the rod end of the packer panel cylinders. The packer panel cylinders retract causing the packer panel to sweep rearward over the load. Return fluid flow from the cylinder is back to tank.



Carrier & Packer Panels Move Down to "Interrupted Cycle" Position

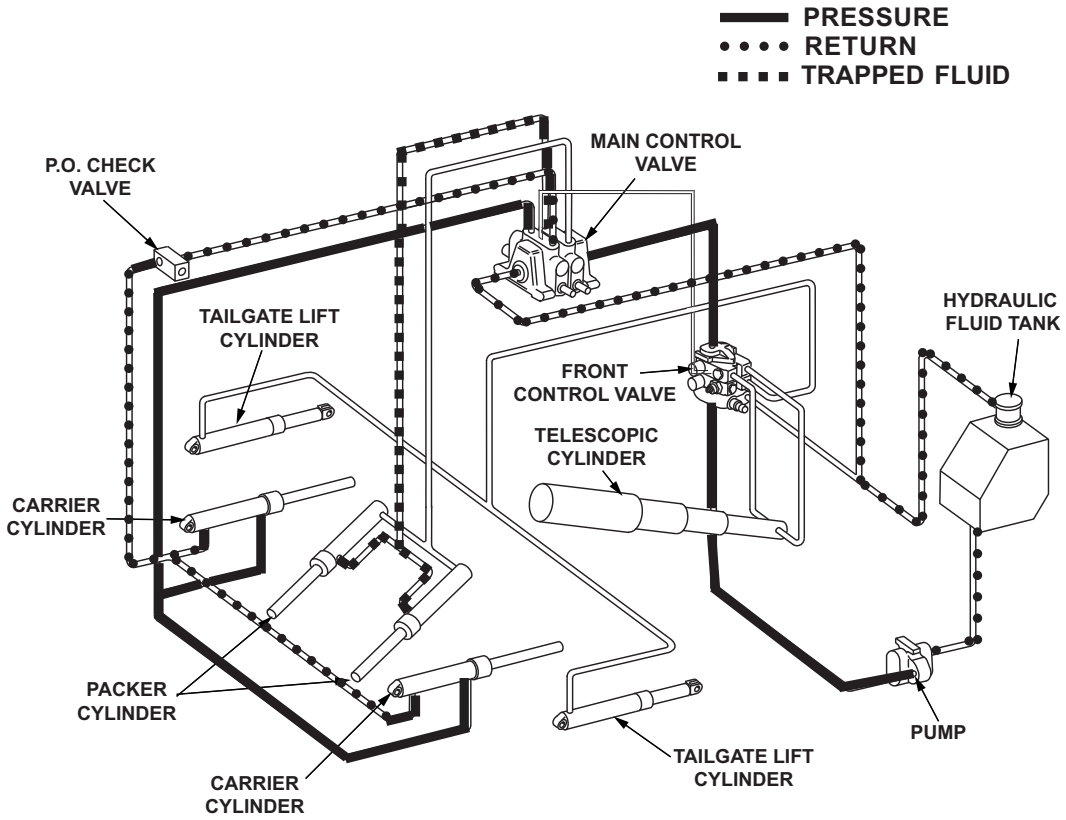
Operator Action

None. MCV (Main Control Valve) shifts automatically.



Hydraulic Sequence

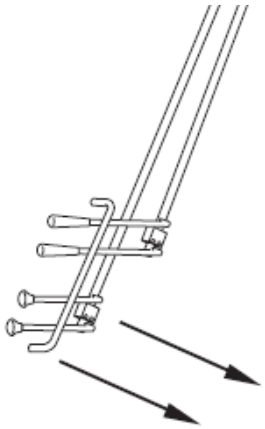
At the end of the packer cylinder stroke, pressure builds to 1950 PSI (134 BAR) causing the MCV (Main Control Valve) to shift, diverting flow to the rod end of the carrier cylinders. The cylinders retract, moving the carrier and packer panels down to the "interrupted cycle" position (trapped fluid keeps the packer panel cylinders retracted). At the end of the carrier cylinder retraction stroke, pressure builds to 2150 PSI (148 BAR) causing the MCV (Main Control Valve) to shift to neutral.



Packer Panel Sweeps Hopper

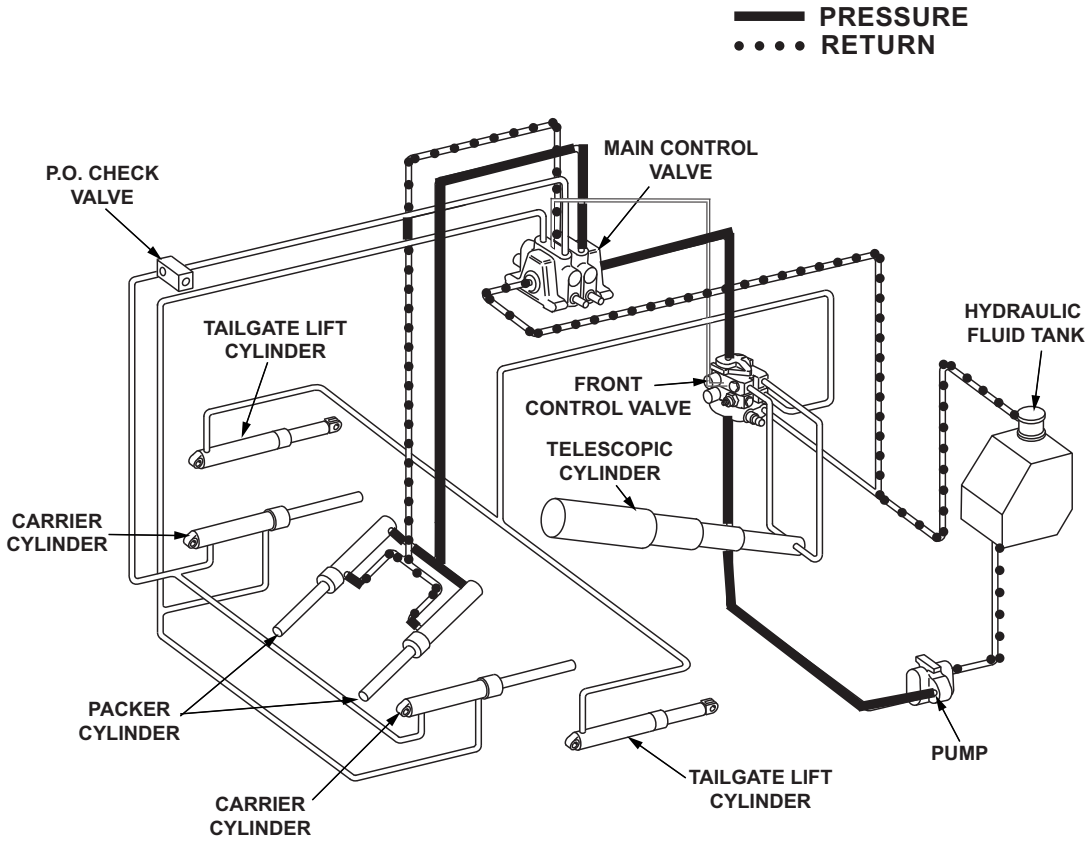
Operator Action

Operator shifts the control levers outward to start compaction.



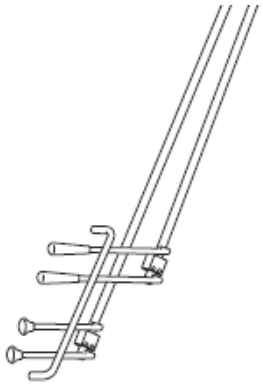
Hydraulic Sequence

Fluid flows through the MCV (Main Control Valve) packer section to the case end of the packer panel cylinders. As the cylinders extend, the packer panel sweeps the load forward in the hopper. As the packer cylinders extension stroke continues, pressure builds to 1950 PSI (134 BAR) causing the MCV (Main Control Valve) to shift.

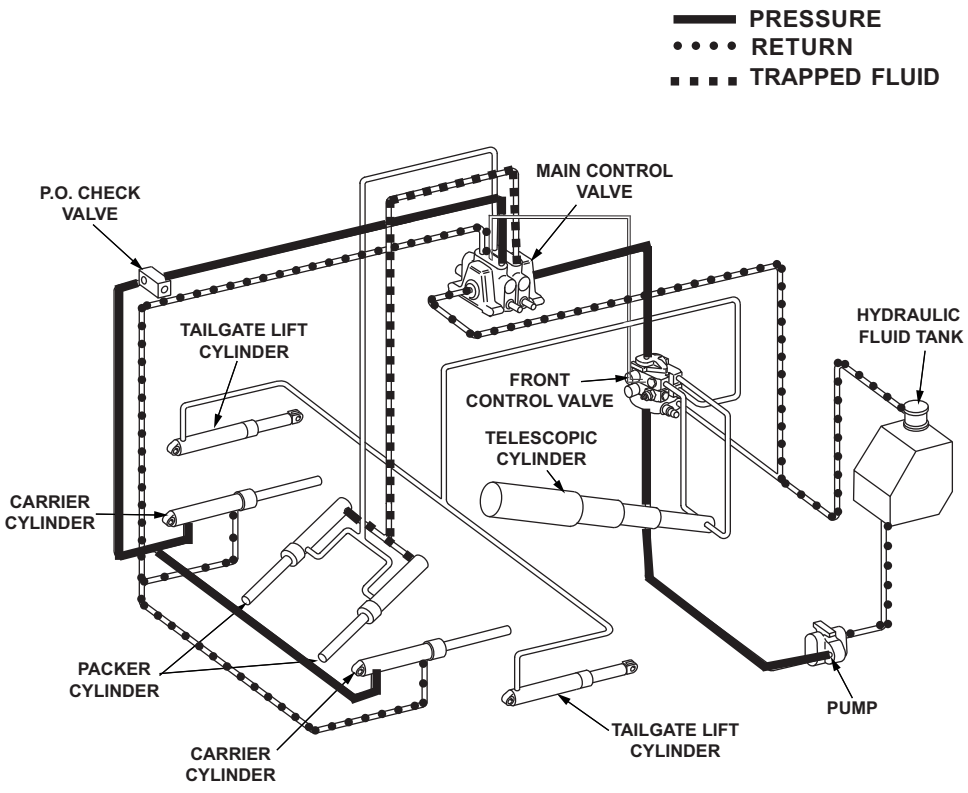


Packing Refuse (1)

Operator Action
None. MCV (Main Control Valve) shifts automatically.



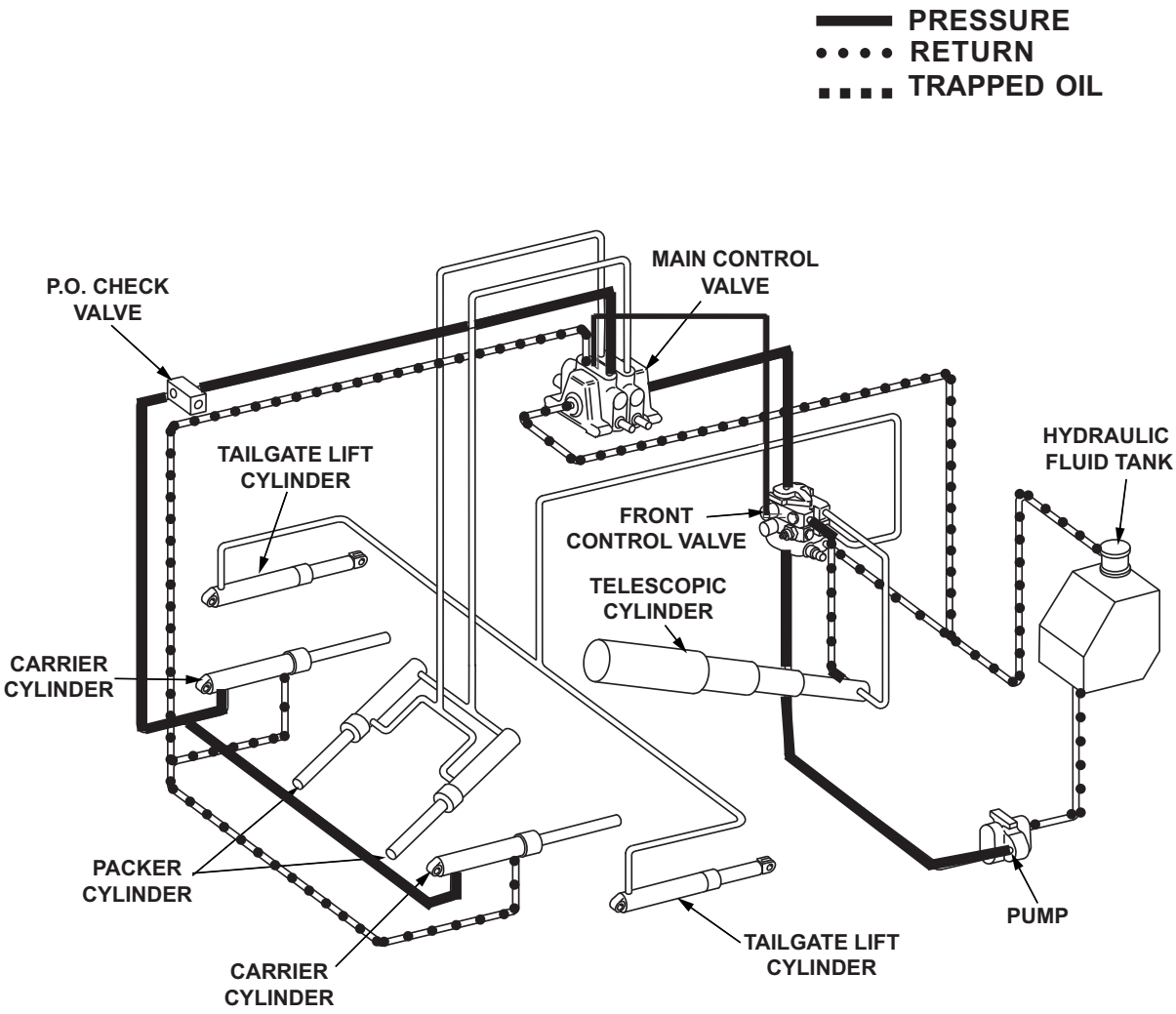
Hydraulic Sequence
Fluid flows from the MCV (Main Control Valve) to the case end of the carrier panel cylinders. The cylinders extend, moving the carrier and packer panels up, packing refuse against the pushout panel. When the pressure reaches 2150 PSI (148 BAR), the MCV (Main Control Valve) shifts into neutral and the packing cycle is completed. As the carrier cylinders apply force to compact refuse, the pressure of the trapped fluid in the packer cylinders will increase. Should this pressure reach 3800 PSI (262 BAR), a relief valve will open reducing the pressure by allowing some trapped fluid to escape and return to the hydraulic tank.



Packing Refuse (2)

Hydraulic Sequence

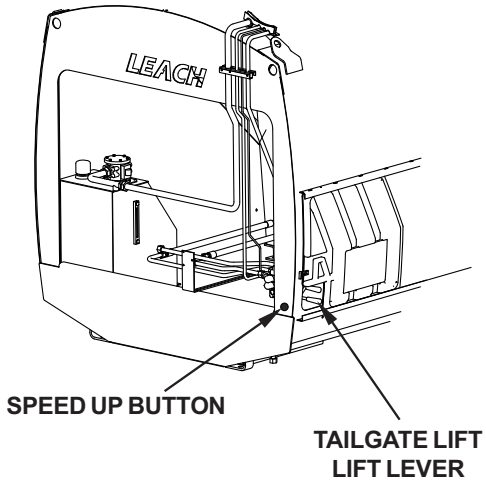
While the carrier and packer panels are moving up, compacting refuse against the pushout panel, pressure is building in the case end of the carrier cylinders. This pressure is also building in a pilot line from the carrier valve section to the FCV (Front Control Valve) pushout section. When this pressure reaches 1800 PSI (124 BAR), a relief (resistance) cartridge opens in the FCV (Front Control Valve) pushout section, allowing some case end pressure from the telescopic pushout cylinder to return to tank. This allows the pushout panel to come forward slightly.



Raising Tailgate

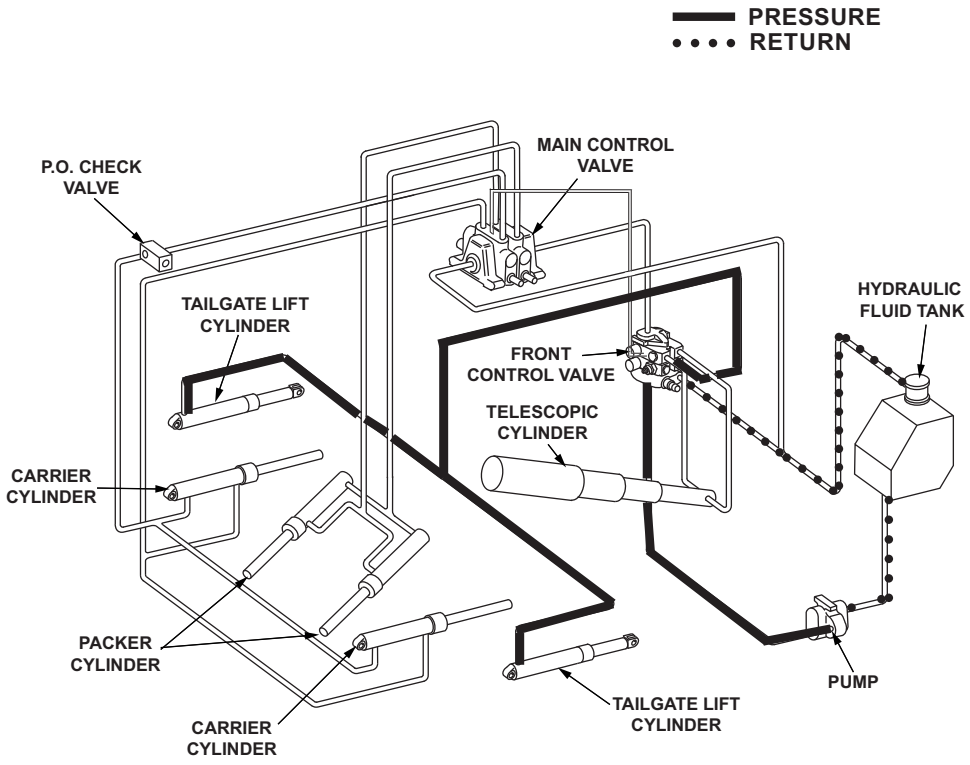
Operator Action

Operator opens the packer panel to release pressure. Operator loosens and swings away from the body the tailgate clamps. Operator depresses the speed-up button, then moves the tailgate lift lever rearward.



Hydraulic Sequence

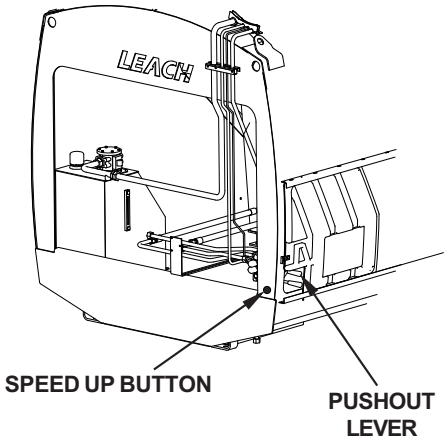
Moving the tailgate lift lever rearward shifts a spool in the FCV (Front Control Valve) causing flow to the tailgate lift cylinders. The cylinders extend, causing the tailgate to raise. Excess fluid flow from the FCV (Front Control Valve) returns back to tank.



Ejecting Load

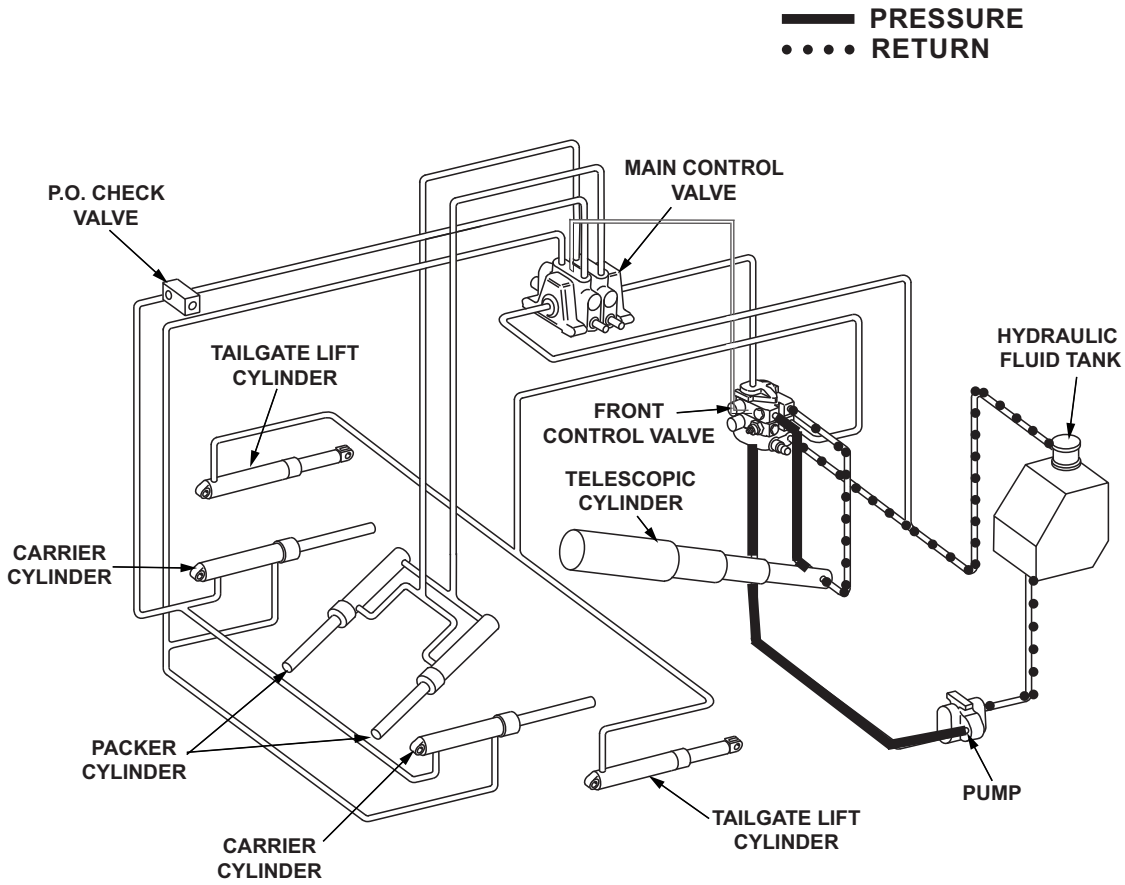
Operator Action

Operator depresses speed-up button and moves pushout lever rearward.



Hydraulic Sequence

Moving the pushout lever rearward shifts a spool in the FCV (Front Control Valve) causing flow to the telescopic cylinder. As the cylinder extends, the load is ejected from the body.

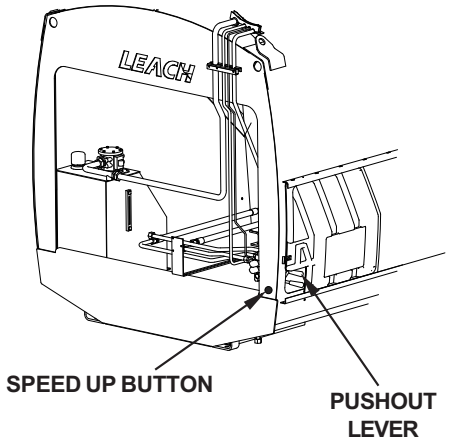


Retracting Pushout Panel

Operator action

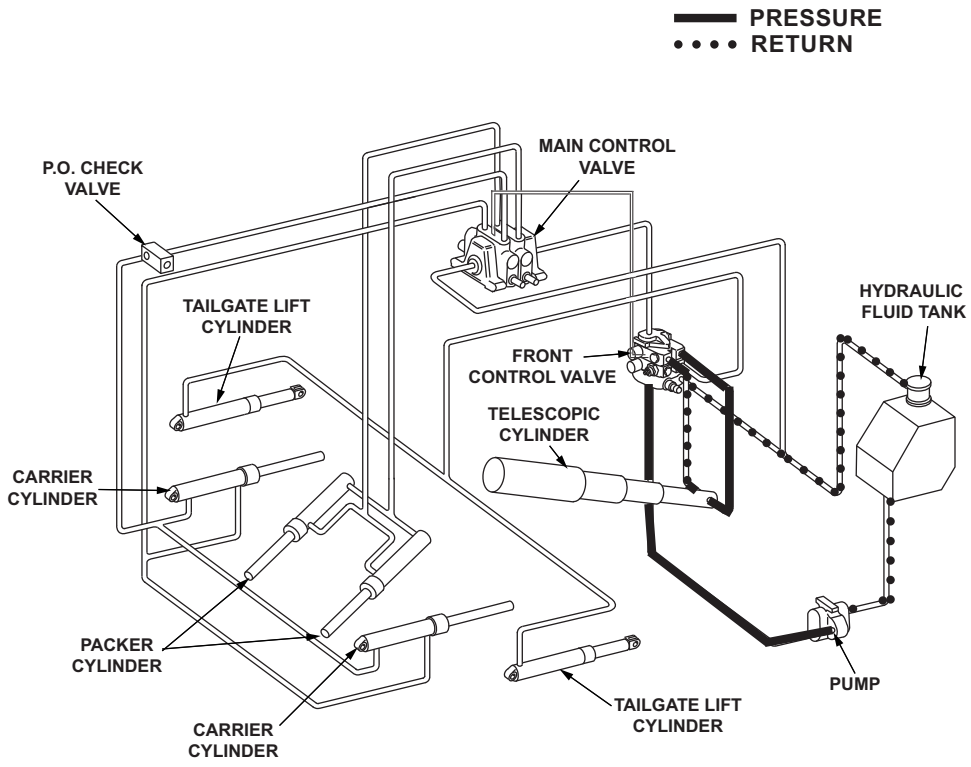
Operator releases speed-up button and moves the pushout lever forward.

NOTE: Speed-up may have to be used to retract pushout panel if engine RPM drops too far.



Hydraulic Sequence

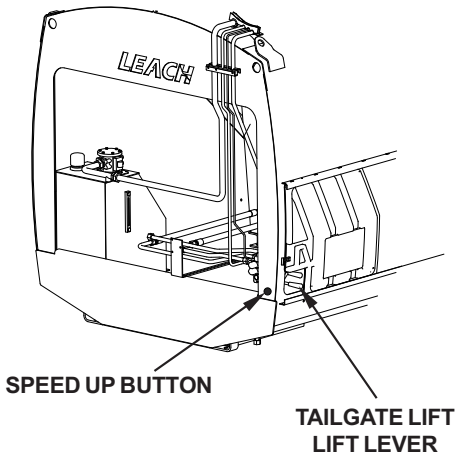
Moving the pushout lever forward shifts a spoon in the FCV (Front Control Valve) causing flow to the telescopic cylinder. As the cylinder retracts, the pushout panel is positioned near the front of the body.



Lowering Tailgate

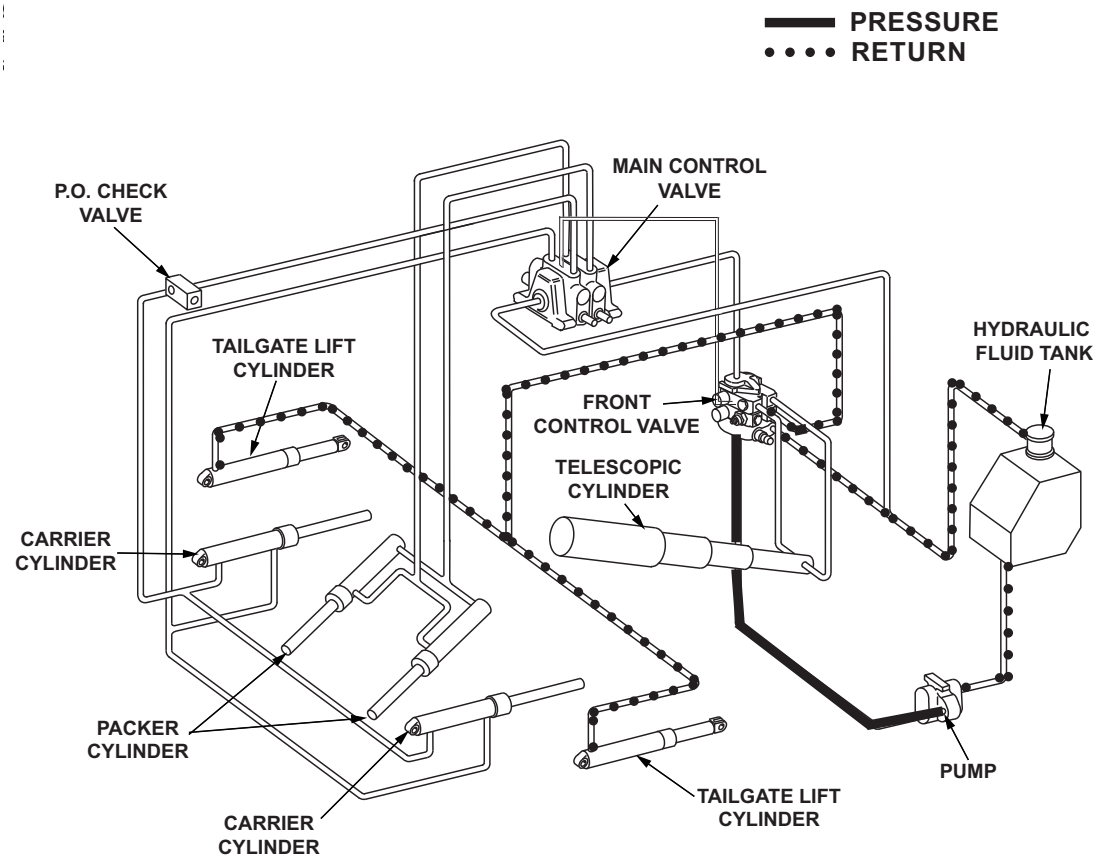
Operator Action

Operator moves the tailgate lift lever forward.



Hydraulic Sequence

Moving the tailgate lift lever forward shifts a spool in the FCV (Front Control Valve) allowing fluid in the tailgate lift cylinders to drain back to tank. The weight of the tailgate forces fluid out of the cylinders; the cylinders retract and the tailgate lowers.



8

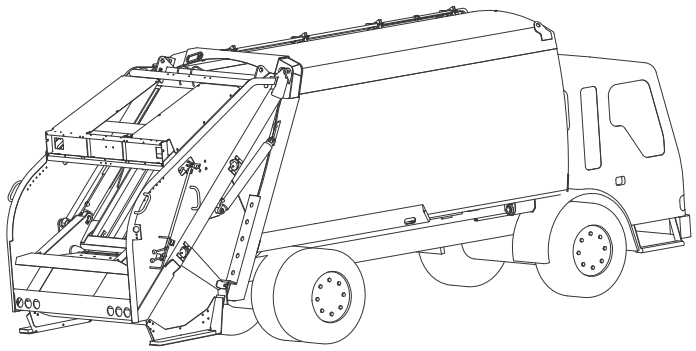
Service & Repair

This chapter contains the instructions necessary for the repair and replacement of the main components of the unit.

Before attempting any repair of the unit, become thoroughly familiar with the operation instructions (see Chapter 4 of the *Operator's Manual*) and general repair practices (see Chapter 3 of this manual). Also, before performing any work on the unit, know and observe all safety precautions listed in Chapter 2 of this manual.

Warning!

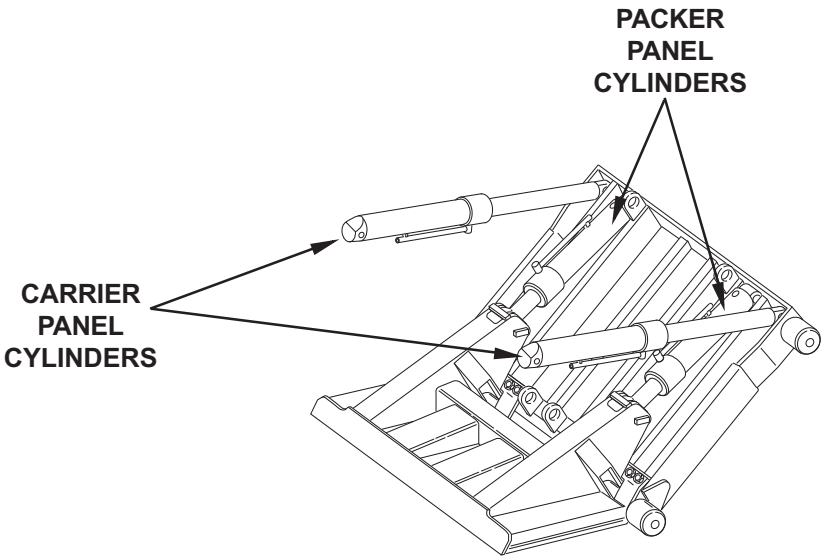
There are some procedures in this chapter that will require that the truck is running. In these instances the operational status will be indicated. Otherwise, make sure that the truck is shut off and the keys are removed. The pressure of the hydraulic system and resulting movement of the unit's parts can cause serious injury or death.



Description of Operating Cylinders (Carrier and Packer Panels)

The four double-acting hydraulic cylinders that control movement of the carrier and packer panels during the compaction cycle are called the "operating cylinders".

All four cylinders are the same (except for tag axle units). The two packer panel cylinders mount in the opposite direction of the carrier panel cylinders and the pivot mountings are different.



Test for Leaking Packer Panel Cylinders

NOTE: Before testing any cylinder, make sure the main system pressure is correct as described in *Checking Main Line Pressure* on page 62.

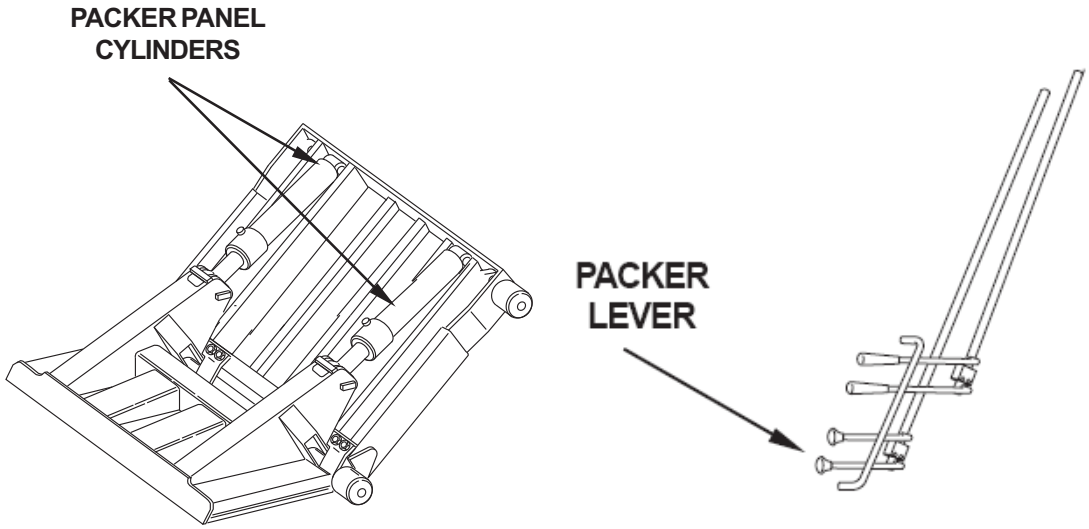
Procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Remove the top covers over the operating cylinders for better accessibility during testing.

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

2. Shift the packer panel lever outward to fully extend the packer panel cylinders.



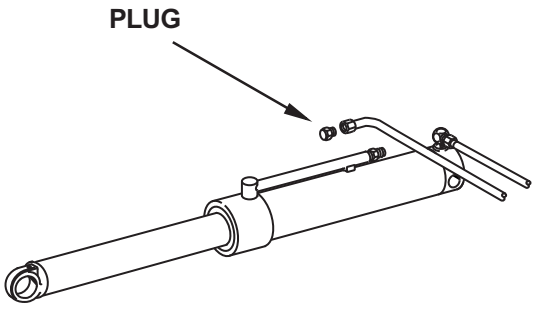
NOTE: Engine speed-up only activates when carrier panel lever is activated.

Caution!

Loosen the hydraulic fittings slowly to release any trapped pressure. Watch for inadvertent movement of components.

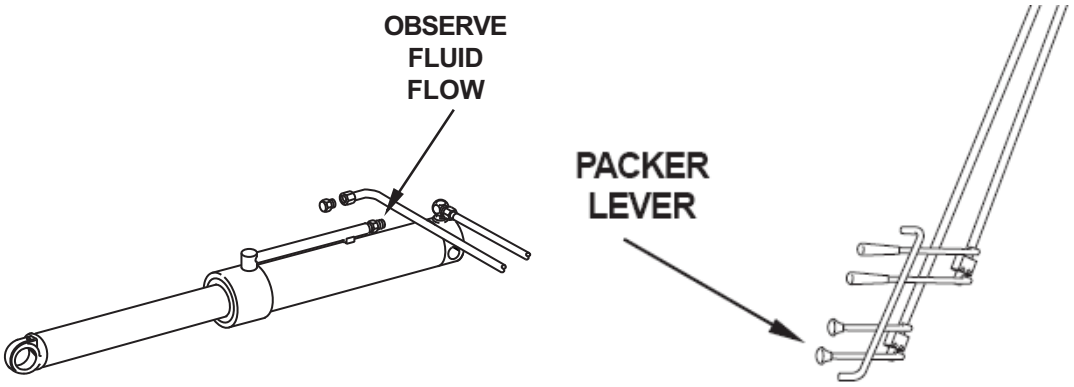
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

3. Disconnect and plug the lines to the rod end of one cylinder at a time.



OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up On

4. Shift the packer panel lever outward to apply hydraulic pressure to the case end of the packer panel cylinders. Hold the lever and observe the fluid flow from the open port on the rod end of the cylinder. The flow of hydraulic fluid should be no more than 2 fluid ounces per minute. A flow greater than 2 ounces indicates an excessive piston seal leak. If the cylinder does not leak excessively, continue test.



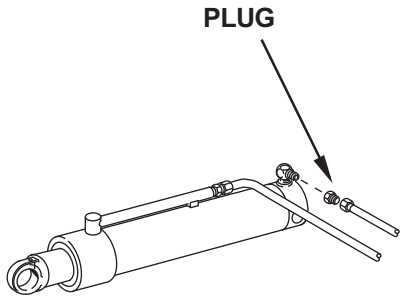
5. Reconnect the hydraulic lines to the end of cylinder and tighten to 110 ft- lbs. Repeat steps 3-5 for the other cylinder.

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

6. Shift the packer panel lever inward to retract the packer panel cylinder (to the "interrupted-cycle" position).

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

7. Disconnect and plug the hydraulic lines which connect to the case end of a packer panel cylinder.

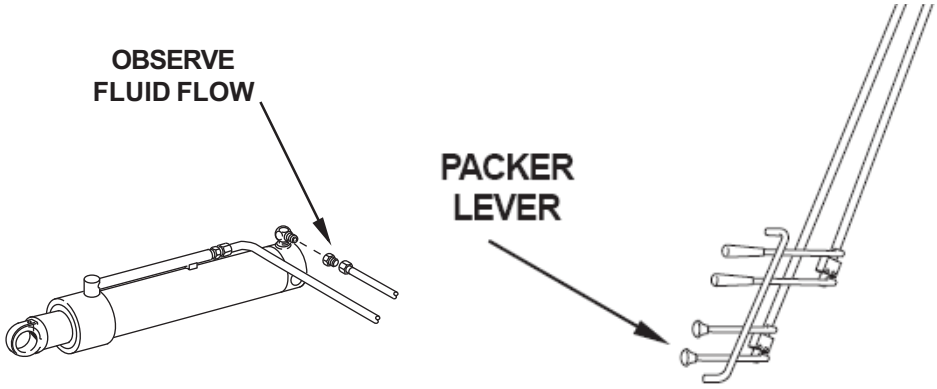


Caution!

Loosen the hydraulic fittings slowly to release any trapped pressure. Watch for inadvertent movement of components.

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

8. Shift the packer panel lever inward to apply hydraulic pressure to the rod end of the packer panel cylinder. Hold the lever and observe the fluid flow from the port on the case end of the cylinder. The flow of hydraulic fluid should be no more than 2 fluid ounces per minute. A flow greater than 2 ounces indicates an excessive piston seal leak. Disassemble the cylinder and replace the piston seal as described later in this chapter.



OPERATIONAL STATUS	
Truck Off	PTO Disengaged

9. If the cylinder does not leak, reconnect the hydraulic lines to the cylinder and tighten to 110 ft-lbs. Repeat steps 7-9 for the other cylinder.

Test for Leaking Carrier Panel Cylinders

NOTE: Before testing any cylinder, make sure the main line pressure is correct as described in *Checking Main Line Pressure* on page 62.

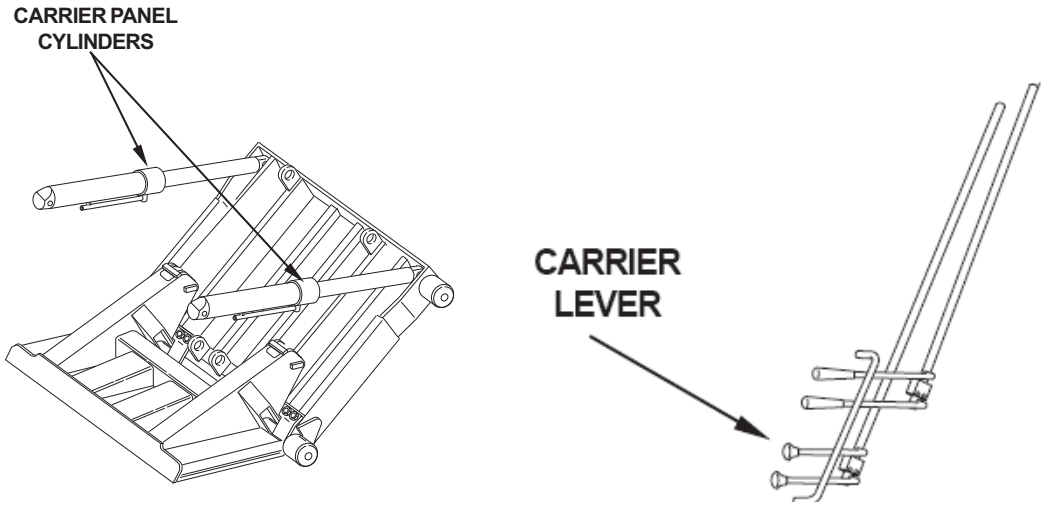
Procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Remove the top covers over the operating cylinders for better accessibility during testing.

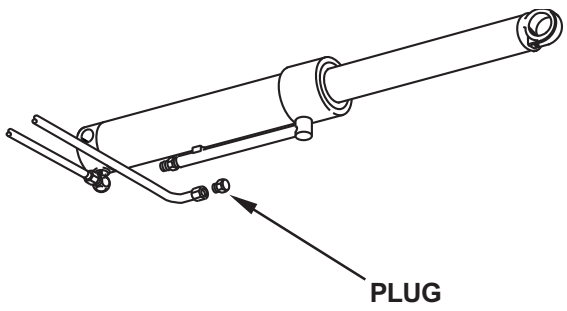
OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

2. Shift the carrier panel lever outward to fully extend the carrier panel cylinders ("home position").



OPERATIONAL STATUS	
Truck Off	PTO Disengaged

3. Disconnect and plug the lines that connect to the rod end of one cylinder.



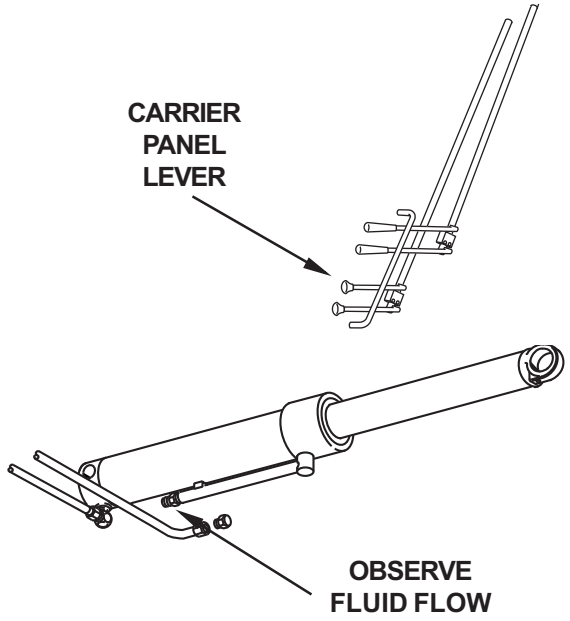
Caution!

Loosen the hydraulic fittings slowly to release any trapped pressure. Watch for inadvertent movement of components.

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

4. Shift the carrier panel lever outward to apply hydraulic pressure to the case end of the carrier cylinders. Hold the lever and observe the fluid flow from the open port on the rod end.

   The flow of hydraulic fluid should be no more than 2 fluid ounces per minute. A flow greater than 2 ounces indicates an excessive piston seal leak. If the cylinder does not leak excessively, continue test.

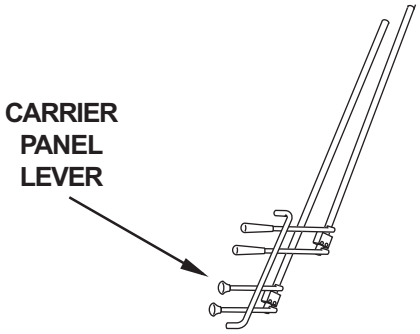


OPERATIONAL STATUS	
Truck Off	PTO Disengaged

5. If the cylinder does not leak, reconnect hydraulic lines to the rod end of cylinder and tighten to 110 ft-lbs. Repeat steps 3-5 for other cylinder.

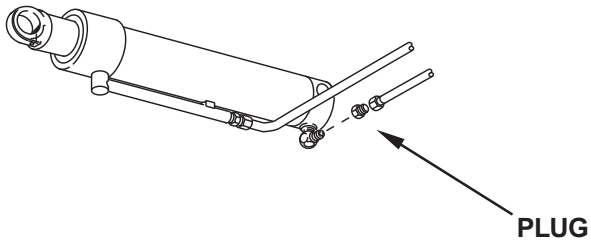
OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

6. Shift the carrier panel lever inward to retract the carrier panel cylinder.



OPERATIONAL STATUS	
Truck Off	PTO Disengaged

7. Disconnect and plug the hydraulic lines which connect to the case end of the carrier panel cylinder.



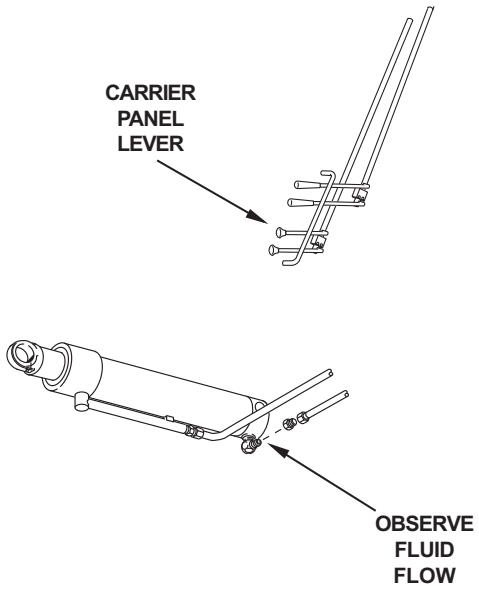
Caution!

Loosen the hydraulic fittings slowly to release any trapped pressure. Watch for inadvertent movement of components.

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

8. Shift the carrier panel lever inward to apply hydraulic pressure to the rod end of the carrier panel cylinders. Hold the lever and observe the fluid flow from the open port on the case end of the cylinder.

   The flow of hydraulic fluid should be no more than 2 fluid ounces per minute. A flow greater than 2 ounces indicates an excessive piston seal leak. Disassemble the cylinder and replace the piston seal.



OPERATIONAL STATUS	
Truck Off	PTO Disengaged

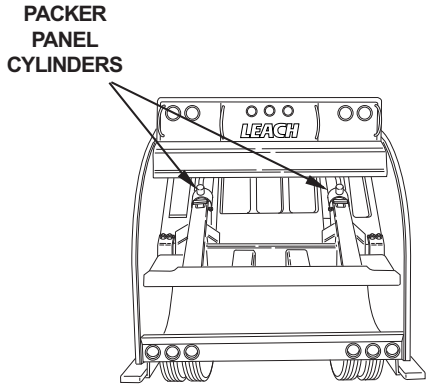
9. If the cylinder does not leak, reconnect the hydraulic lines to the case end of the carrier panel and tighten to 110 ft-lbs.

Removal of Packer Panel Cylinders

Procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Remove the top sheet to provide better accessibility to the packer panel.

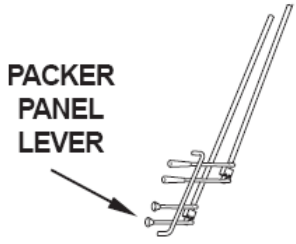


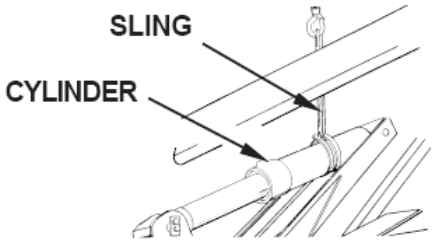
2. Secure a nylon sling around the cylinder as shown and attach to a suitable lifting device with a capacity of 500 lbs (227 kg). Operate the hoist to make the lifting cable snug without applying strain on the cylinder.

NOTE: See Chapter 3 *General Repair Practices* for more detailed information about the correct use of slings and lifting chains.

OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up Off

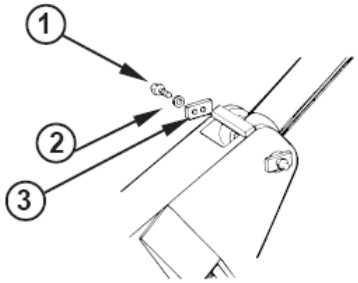
3. Shift the packer panel lever inward to partially retract the packer panel cylinders. Disengage the lever when the panel is vertical. This relieves the weight of the panel from the cylinder rod end.





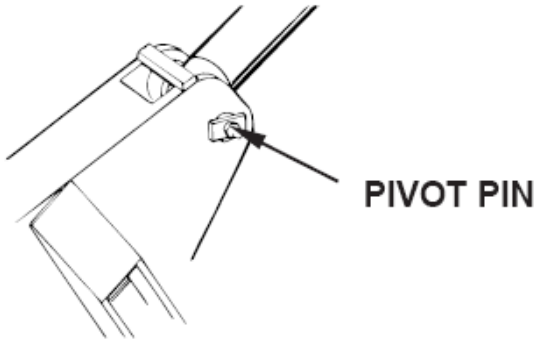
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

4. Remove the capscrews (1), lockwashers (2) and pivot pin cover (3) from the rod end.



OPERATIONAL STATUS	
Truck Off	PTO Disengaged

5. Make sure the cylinder weight is securely supported by the hoist and carefully remove the pivot pin.



OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up Off

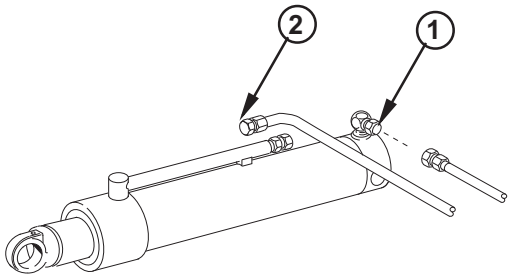
6. Shift the packer panel lever inward to completely retract the cylinder.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

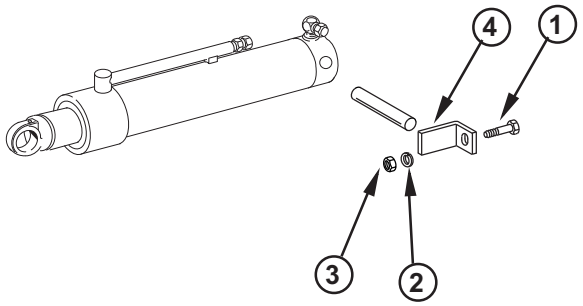
7. Disconnect both the case end (1) and rod end (2) pressure tubes. Immediately cap or plug the pressure tubes and cylinder ports to keep fluid in and dirt out.

Caution!

Loosen the hydraulic fittings slowly to release any trapped pressure. Watch for inadvertent movement of components.



8. Remove capscrew (1), lockwashers (2), and nut (3) securing the pivot pin retainer (4) and remove the retainer.



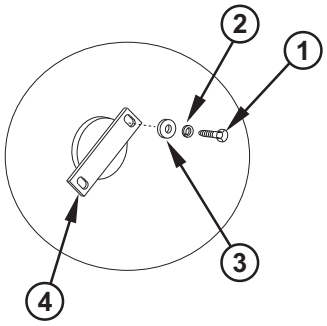
9. Remove the pivot pin.
10. Check for bent pivot pins and inspect pin hubs for broken welds and elongated holes.

Removal of Carrier Panel Cylinders

Procedure:

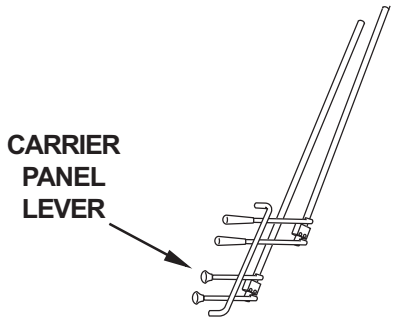
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Remove the top sheet to provide better accessibility. Remove two capscrews (1), lockwashers (2) and spacer (3) securing the upper track hole cover (4) and remove the upper covers from each side of the tailgate.



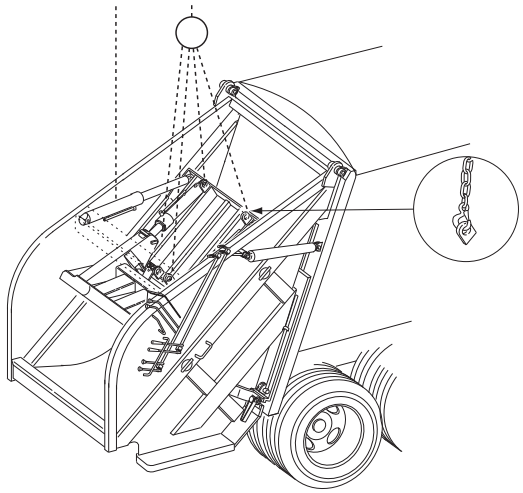
OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up Off

2. Shift the carrier panel lever and cycle the unit until the roller assembly on the upper end of the carrier panel is in line with the open upper track hole.



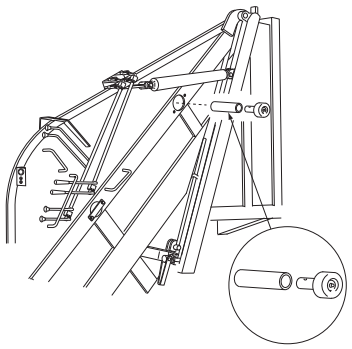
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

3. Secure chains or a sling to the upper and lower end of the carrier panel. Attach the other end to a suitable lifting device with a minimum lifting capacity of 1600 lbs (726 kg). Adjust the hoist so that it will support the panel once the roller assembly and pivot pin are removed, but not so tight that it changes the position of the carrier panel.

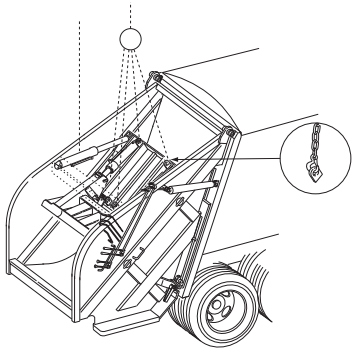


NOTE: **See Chapter 3 *General Repair Practices* for more detailed information about the correct use of slings and lifting chains.**

4. Once the carrier panel has been securely supported, remove the roller assemblies from each side of the tailgate through the open upper track holes. Remove the split image pin that retains the roller pivot and remove the roller shaft bushings.

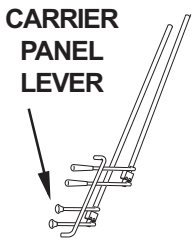


5. Secure a nylon sling around the cylinder and attach to a lifting device with a lifting capacity of 500 lbs (227 kg). Operate the hoist to snug the lifting cable without applying strain to the cylinder.



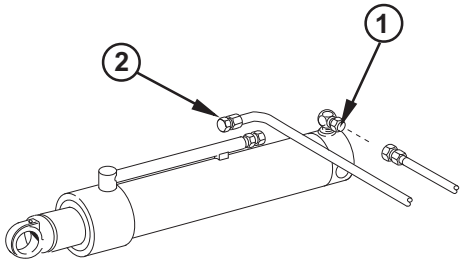
OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up Off

6. Slowly operate the carrier panel lever inward to completely retract the carrier cylinder piston rod. This will provide enough clearance to remove the cylinder.

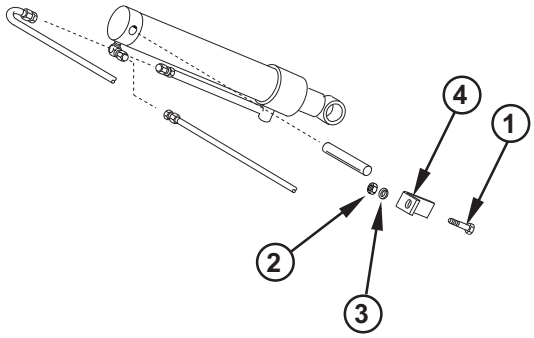


OPERATIONAL STATUS	
Truck Off	PTO Disengaged

7. Disconnect both the case end (1) and rod end (2) pressure tubes from the carrier cylinder. Immediately plug the pressure tubes and cap the cylinder ports to keep fluid in and dirt out.



8. Remove capscrew (1), nut (2) and lockwashers (3) securing the cylinder pivot pin retainer (4) and remove retainer.



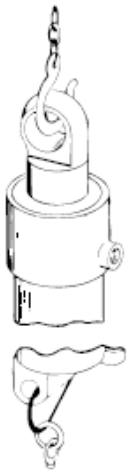
9. Carefully remove the pivot pin and lift out the cylinder assembly.
10. Check for bent pivot pins and inspect pin hubs for broken welds and elongated holes.

NOTE: If the cylinder is not to be installed immediately, keep ports sealed to prevent dirt from entering.

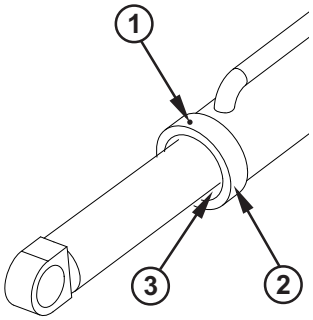
Disassembly of Operating Cylinders

Procedure for disassembling operating cylinders:

1. Remove all grease fittings, clean parts, drain fluid and follow all other applicable guidelines for disassembly provided in Chapter 3 *General Repair Practices* before proceeding to disassemble the cylinder.
2. Secure the case end of the 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 (227 kg).



4. Remove the set screw (1) securing the gland nut (2) to the gland (3).



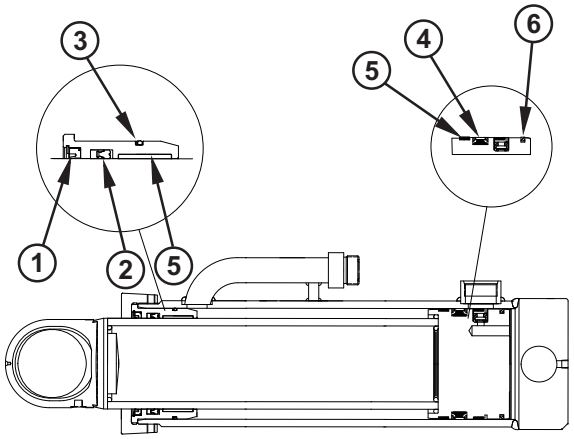
5. Slowly operate the hoist to carefully pull the piston rod assembly out of the cylinder.
6. Disassemble the cylinder and install replacement part(s).

NOTE: **During disassembly note the condition of each part as it is removed to aid in diagnosing. Note the position of each part as it is removed to aid in reassembly.**

Inspection and Replacement of Operating Cylinders

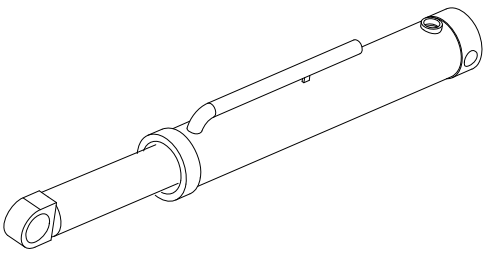
For these tasks, apply the following procedure:

1. Carefully and thoroughly inspect the inside of the cylinder for cracks, scoring or uneven wear. Check all parts for damage.
2. A new rod wiper (1), rod seal (2), o-ring and back up ring (3), seal (4), wear rings (5) and piston seal (6) must be installed any time 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 authorized Leach distributor.



Reassembly and Installation of Operating Cylinders

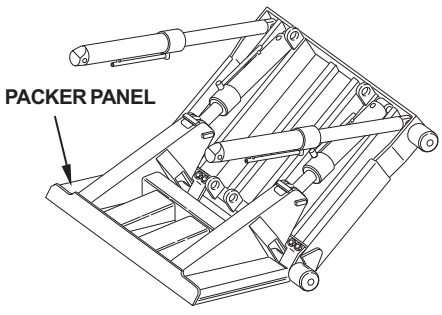
Reassemble and install the operating cylinders in the approximate reverse order of disassembly.



Description of the Packer Panel

The packer panel works in conjunction with the carrier panel and four operating cylinders to make up the compaction mechanism. The packer panel is hinged to the carrier panel and is controlled by the operating cylinders. Rollers supporting the two panels move along a track inside the tailgate.

The packer panel sweeps forward through the hopper picking up the refuse and, together with the carrier panel, moves the refuse forward into the body where it is compacted against the pushout panel.

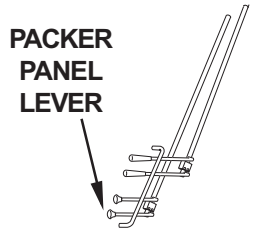


Bearing Placement

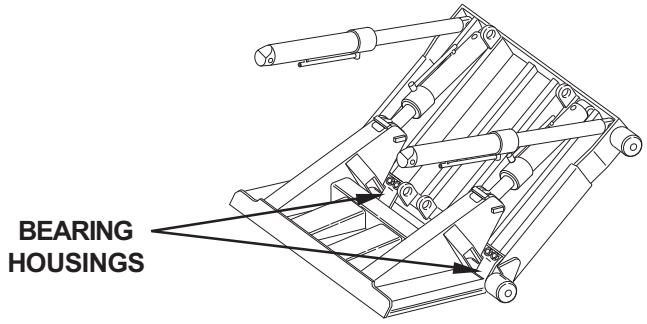
For this task, apply the following procedure:

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

1. Move the packer panel lever outward to fully extend the packer panel cylinders and put the panel in the "home position".

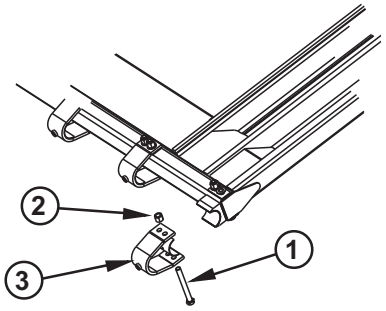


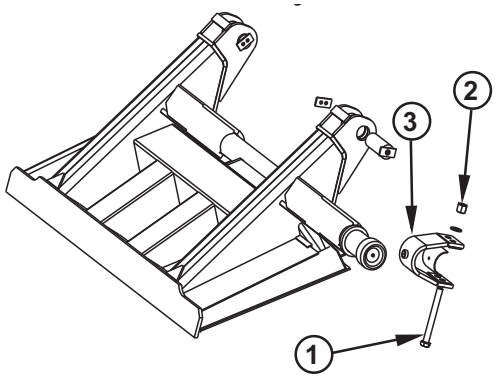
2. Raise the tailgate for access to the bearing through-bolts. Support the tailgate with stands prior to loosening through-bolts.



OPERATIONAL STATUS	
Truck Off	PTO Disengaged

3. Remove the nuts (2) and through-bolts (1).
4. Remove the bearing assembly (3).





5. Inspect the bearing surface for excessive or uneven wear, scoring or other damage.
6. Replace a worn bearing assembly.
7. Install the bearing housing over the packer panel tube and secure to the carrier panel channel with new through-bolts, shims and nuts. Torque to 900 ft-lbs then tack weld the nuts to the bolts.
8. Install the grease fitting and lubricate as described in *Lubrication Chart* on page 46.

Caution!

Check that the packer panel torque tube is straight. Even a slightly bent torque tube may cause damage to other components. Replace the tube if bent or worn.

Roller Replacement

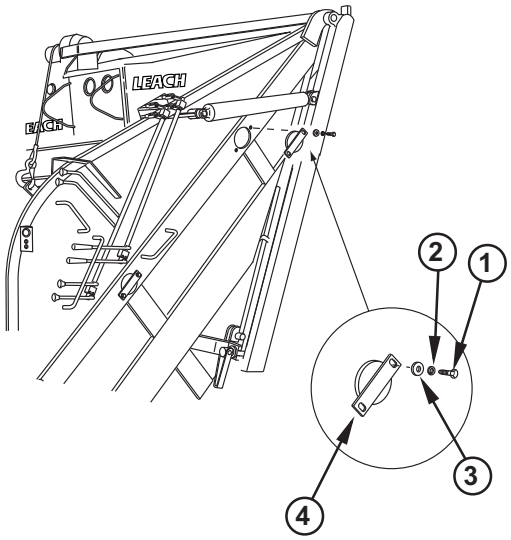
For this task, apply the following procedure:

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

1. Shift the control levers and cycle the unit several times while observing the rollers and action of the packer and carrier panels. Watch for sideways movement or twisting to determine where new rollers may be needed.

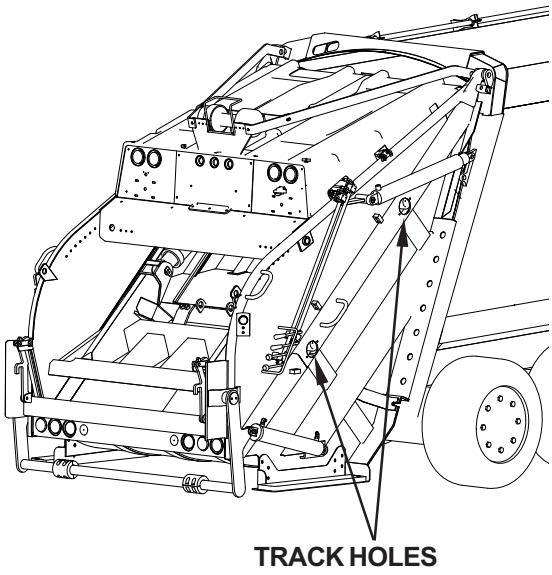
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

2. Remove capscrews (1), lockwashers (2), spacers (3) and cover weldments (4) for both upper and lower track holes on each side of the tailgate.



OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up Off

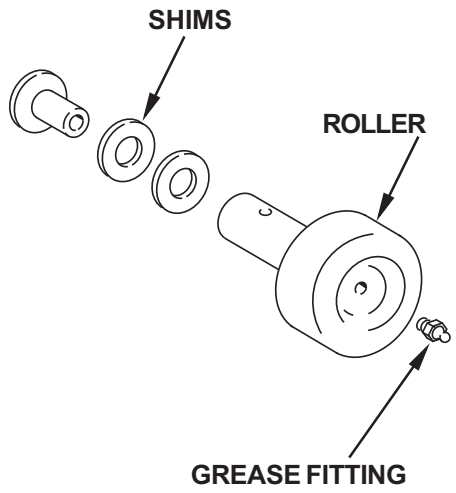
3. Shift the control levers and cycle the panels as necessary to align the upper and lower rollers with the track holes.



NOTE: If the top roller is removed, first place a wedge between the carrier panel and the partition sheet to take the weight off the roller assemblies. If the bottom roller is removed, support the carrier and packer panel assembly before removing the roller.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

4. Remove one roller at a time.
5. Replace any roller that is excessively worn, cracked or out of round. Inspect the condition of the track bar.
6. Replacement rollers should be installed with the original shims or the same amount of new shims (see *Carrier Roller Adjustment & Maintenance* on page 114). A grease fitting should be installed in the replacement roller.



OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

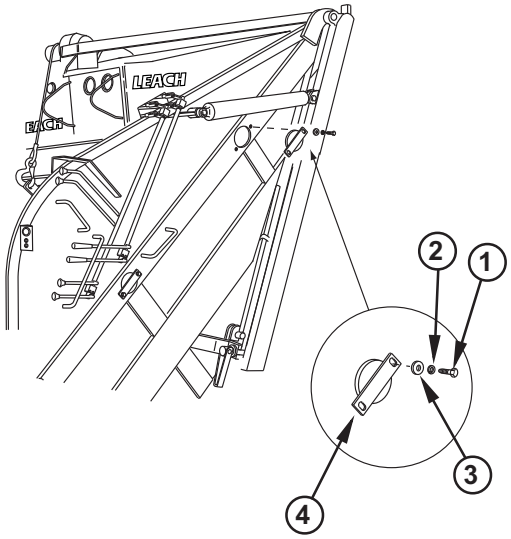
7. Repeat Step 1 to determine if additional shims are required (see *Carrier Roller Adjustment & Maintenance* on page 114).

Caution!

Do not over shim rollers. Excessive shimming may damage the tailgate walls or wear the track channels.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

8. Once alignment is correct, lubricate each roller as described in the "Lubrication Chart" on page 46.
9. Using the capscrews (1), lockwashers (2) and spacers (3) secure the cover weldment (4) over the four track holes.



Carrier Roller Adjustment & Maintenance

The purpose of adjusting the carrier rollers is to provide for smooth upward and downward travel of the carrier and packer panels with a minimum of side travel. In essence, the rollers are adjusted to align the carrier panel to the carrier operating cylinder stroke positions, and by shimming the rollers in a diagonal fashion, the carrier may be adjusted to allow for fabrication variances of the many components of the tailgate assembly.

When replacing a roller, always use the same amount of shims as originally produced; however, re-shimming is usually required upon packer or carrier panel replacement. The rollers are to be adjusted by the use of shims (Labrie*Plus* part # 100179) placed behind the roller, on the spacer cap (Labrie*Plus* part # L100163). This will allow the roller to either be moved outward by the addition of shims, or moved inward by the subtraction of shims. It should be noted that the shims and spacer cap are used only as required; there is no set amount of shims per roller.

The rollers align the carrier by means of slight contact with the inside vertical face of the track channels (also known as the "web" of the track), and should never be allowed to apply excess force to the point of distorting the web. Over shimming of the rollers will result in track distortion. The preferred condition of rollers is to allow them to have a minor amount of side travel in the tracks rather than being too tight. Proper shimming of the rollers will avoid costly damage to the structure of the tailgate.

Items that show wear or damage must be replaced prior to performing adjustments. The condition of the following items must be checked to ensure they are in good working condition:

- Rollers (Labrie*Plus* part # 100171) – Check the rolling face for damage, flat spots or excessive wear.
- Roller bushings (Labrie*Plus* part # L100189) – Check to ensure that the bushings are not worn to the point of allowing the roller to wobble.
- Carrier cylinder pivot (Labrie*Plus* part # L100157) – Check to ensure that the bushings are not worn to the point of allowing the roller to wobble. Check to ensure the pivot is correctly located. Check for excessive wear at the carrier cylinder rod eye.
- Carrier cylinder pivot locator roll pin & split sleeves/clamp (Labrie*Plus* part # 102577, 100162, and QUC00890) – Ensure that the roll pin is properly located through the locating tab into the carrier cylinder pivot. Check to ensure that the split sleeves are properly located and the clamp is tight.

Diagnostic Procedure

Careful and patient evaluation of the carrier panel in motion is the key to proper adjustment of the rollers. All rollers should be lubricated, and the carrier should be completely cycled at least four (4) times to gain an initial understanding of the side to side play of the carrier on the roller shafts. If this play is causing movement of more than ¼" at the point of the roller(s) when the carrier operating cylinders are in the fully retracted or extended position, then adjustment is necessary. Some side to side play of the carrier panel during movement may be considered common.

The carrier panel may be operated in a manner to aid in the determination of adjustment. By turning the engine speed up system off, then operating the carrier, it is easier to determine movement due to the slowed speed of carrier. Also, if movement is detected, operate the carrier to a point approximately 2-4" from full retraction or extension of the carrier operating cylinders. Then, by "feathering" the control lever, operate the carrier panel until one cylinder is either fully retracted or extended. At this point, note how far the other cylinder is from this condition. In essence, the carrier must be square with the carrier cylinders; it does not need to be perfectly parallel with the tailgate sides.

The rollers should always be shimmed to allow the carrier to travel in the direction of the side to side movement, thus aligning the carrier with the cylinders. If the carrier shifts to the right at the bottom rollers, then the following adjustments would be made, depending upon the looseness of the rollers inside the tracks:

- Add shim(s) to the left bottom roller
- Remove shim(s) from the right bottom roller
- Add shim(s) to the right upper roller
- Remove shim(s) from the left upper roller

Example

The upper right roller is removing paint to the point of scuffing the track web. Also, the carrier shifts to the left about 5/8" while being retracted. To adjust, the upper right roller should have 2-3 shims removed. This will allow the carrier to move to the right at the top, aligning the carrier panel with carrier cylinders.

The rollers should be shimmed to accommodate for the narrowest dimension between the track channels. For instance, the top rollers should be checked for movement at the top of the carrier travel, while the bottom rollers should be checked for movement at the bottom of the track channel. Normally, the rollers are not shimmed to account for movement at the center of the tracks.

Some movement of the carrier in a side to side motion is common, especially while the carrier is in motion. However, any wear to the web portion of the track should be considered unacceptable.

NOTE: When adding or removing shims, allow for each shim to accommodate for 1/8" of carrier movement. Do not attempt to shim more than one (1) roller at a time. After shimming rollers to acceptable limits, lubricate the rollers and operate the carrier and packer through at least five (5) complete cycles, with the engine speed up system activated, to insure proper adjustment of the carrier rollers has been achieved.

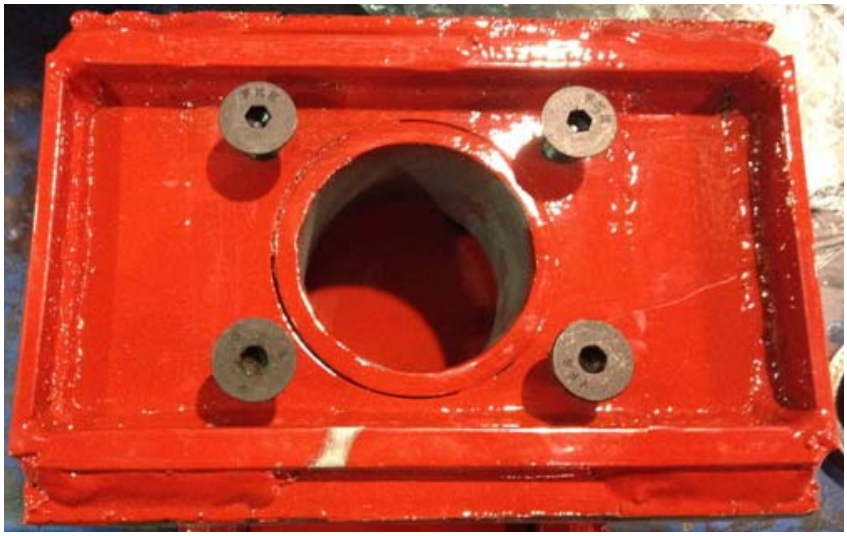
NOTE: This procedure may have to be repeated multiple times to achieve proper adjustment of the rollers. Again, remember that the rollers are better left a little loose than too tight.

Patience and experience are the best tools to allow for proper adjustment of the rollers.

Wear Shoe Replacement

If your truck is equipped with the optional wear shoes (see Figure 8-1) instead of rollers to guide the downward and upward movements of the carrier panel inside the hopper, the following procedure must be applied when replacing those wear shoes.

Figure 8-1 **Wear shoe**



NOTE: Wear shoe replacement is not required if the wear is confined only to the top or bottom chromium plate of the wear shoe assembly (see Figure 8-2). In such a case, only replace the plate that shows signs of wear.

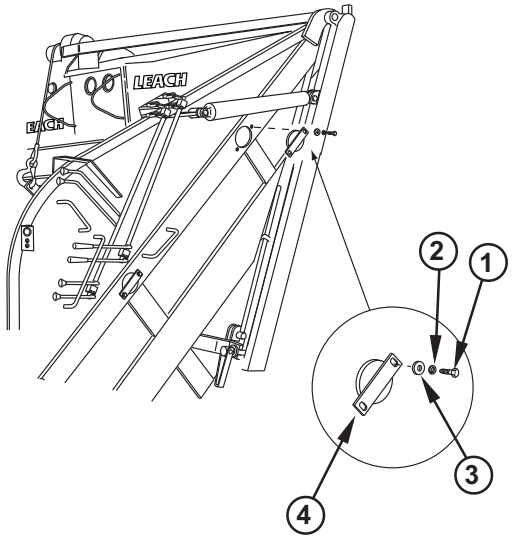
To replace wear shoes, proceed this way:

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

1. Shift the control levers and cycle the unit several times while observing the wear shoes and action of the packer and carrier panels. Watch for sideways movement or twisting to determine where new wear shoes may be needed.

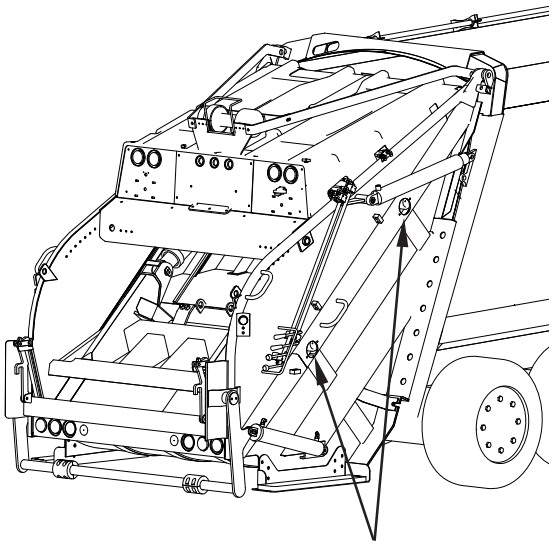
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

2. Remove capscrews (1), lockwashers (2), spacers (3) and cover weldments (4) for both upper and lower track holes on each side of the tailgate.



OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up Off

3. Shift the control levers and cycle the panels as necessary to align the upper and lower wear shoes with the track holes.



NOTE: **Before proceeding with the replacement of a wear shoe, you will need to slightly lift the carrier and packer panel assembly with a lifting crane to take the weight off the wear shoes and gain access to the shoes. Ensure that the carrier and packer panel assembly is properly fixed to the crane before proceeding with the shoe replacement. For replacement purposes, proceed from the bottom to the top in horizontal fashion. If need be, replace all bottom wear shoes, then all top wear shoes.**

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

4. Replace any wear shoe that is excessively worn or cracked. To do so:
   - 4 a. Remove all 4 screws that secure the plastic plates to the wear shoe assembly (see Figure 8-2).
   - 4 b. Take the plates off from the wear shoe assembly (see Figure 8-2).
   - 4 c. Remove the wear shoe pin (see Figure 8-2).

     At the center of the pin, you will find a cylindrical hole with a thread in it. Partially insert a screw in the hole then pull it out using a puller tool or some other tool of the same type.
   - 4 d. Slightly lift the packer and carrier panel assembly using a lifting crane. See note above.
   - 4 e. Remove the wear shoe that needs to be replaced.

NOTE: **In cases where only the top and bottom chromium plates (see Figure 8-2) are worn out but the rest of the wear shoe assembly shows no signs of wear, there is no need to replace the complete wear shoe; only the plates that are damaged by wear and tear should be replaced.**

NOTE: If you only need to replace worn-out chromium plates, you will have some unwelding and rewelding to do. But before doing so, take all the necessary measures to ensure your safety.

4 f. Check the track bar for cracks and wear.

4 g. Install a new wear shoe where the old one was mounted.
In cases where a complete wear shoe had to be removed.

4 h. Lower the packer and carrier panel assembly completely.

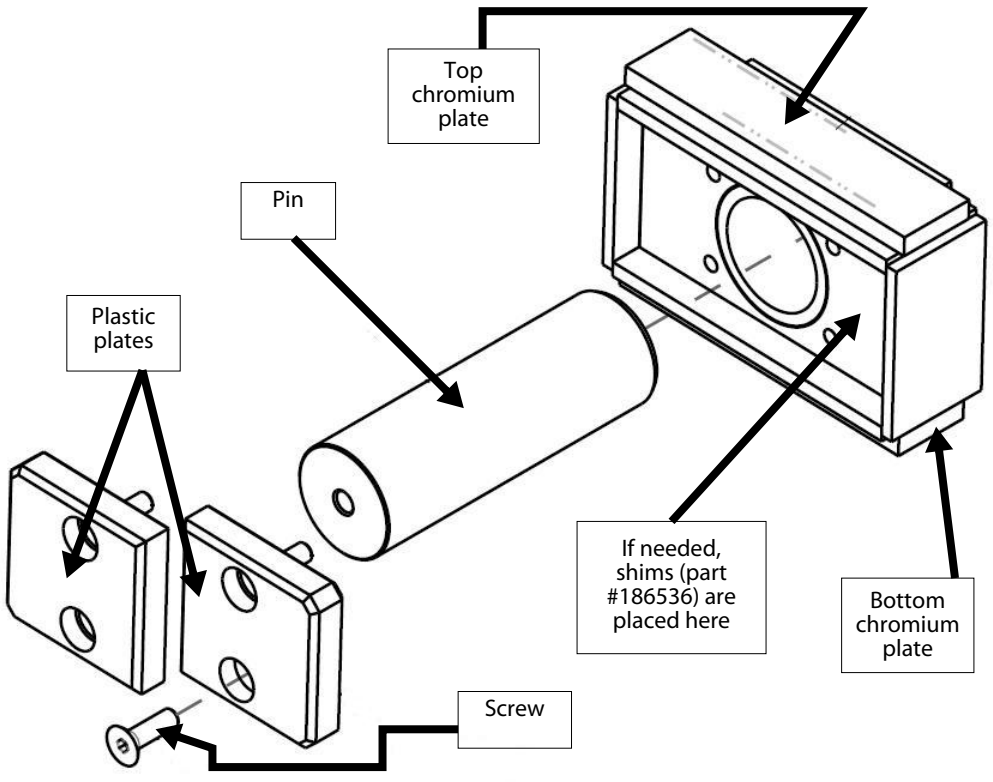
4 i. Reinstall the pin.
Take the screw off the pin if you have not already done so.

4 j. Place the plastic plates back into the wear shoe assembly.

4 k. Put the screws back into the plate holes.

5. If need be, repeat step 4 if other wear shoes need to be replaced.
Remove one wear shoe at a time.

Figure 8-2 **Wear shoe assembly**



6. If shims were used, put them back inside the new wear shoe assembly.

Replacement wear shoes should be installed with the original shims or the same amount of new shims (see *Wear Shoe Adjustment* on page 120). A grease fitting should be installed in the replacement wear shoe.

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

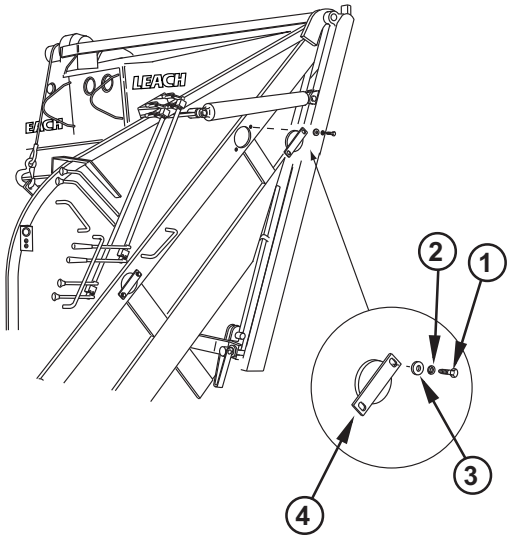
7. Repeat Step 1 to determine if additional shims are required (see *Wear Shoe Adjustment* on page 120).

Caution!

Do not overshim wear shoes. Excessive shimming may damage the tailgate walls or prematurely wear the track channels.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

8. Once alignment is correct, lubricate each wear shoe.
9. Using the capscrews (1), lockwashers (2) and spacers (3) secure the cover weldments (4) over the four track holes.

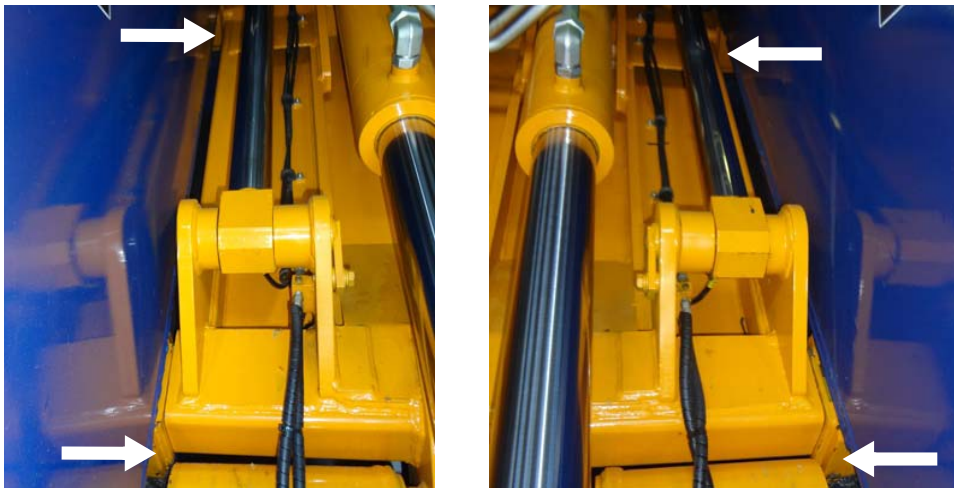


Wear Shoe Adjustment

NOTE: This section only applies to trucks equipped with the optional carrier panel wear shoes instead of rollers.

The purpose of adjusting the carrier panel wear shoes (see Figure 8-3) is to provide for smooth upward and downward travel of the carrier and packer panels with a minimum of side travel. In essence, the wear shoes are adjusted to align the carrier panel to the carrier operating cylinder stroke positions, and by shimming the wear shoes in a diagonal fashion, the carrier may be adjusted to allow for fabrication variances of the many components of the tailgate assembly.

Figure 8-3 **Wear shoes**



Wear shoes are to be adjusted by the use of shims (part #186536) placed behind the Teflon plastic plates (see Figure 8-2). This will allow the wear shoes to either be moved outward by the addition of shims, or moved inward by the subtraction of shims. It should be noted that the shims are used only as required; there is no set amount of shims per wear shoe.

However, over-shimming of the wear shoes will result in track distortion. The preferred condition of the wear shoes is to allow them to have a minor amount of side travel in the tracks rather than being too tight. Proper shimming of the wear shoes will avoid costly damage to the structure of the tailgate.

Diagnostic Procedure

Careful and patient evaluation of the carrier panel in motion is the key to proper adjustment of the wear shoes. All wear shoes should be lubricated, and the carrier should be completely cycled at least four (4) times to gain an initial understanding of the side to side play of the carrier on the wear shoe pins. If this play is causing movement of more than ¼" at the point of the wear shoe(s) when the carrier operating cylinders are in the fully retracted or extended position, then adjustment is necessary. Some side to side play of the carrier panel during movement may be considered common.

The carrier panel may be operated in a manner to aid in the determination of adjustment. By turning the engine speed up system off, then operating the carrier, it is easier to determine movement due to the slowed speed of carrier. Also, if movement is detected, operate the carrier to a point approximately 2-4" from full retraction or extension of the carrier operating cylinders. Then, by "feathering" the control lever, operate the carrier panel until one cylinder is either fully retracted or extended. At this point, note how far the other cylinder is from this condition. In essence, the carrier must be square with the carrier cylinders; it does not need to be perfectly parallel with the tailgate sides.

The wear shoes should always be shimmed to allow the carrier to travel in the direction of the side to side movement, thus aligning the carrier with the cylinders. If the carrier shifts to the right at the bottom wear shoes, then the following adjustments would be made, depending upon the looseness of the wear shoes inside the tracks:

- Add shim(s) to the left bottom wear shoe
- Remove shim(s) from the right bottom wear shoe
- Add shim(s) to the right upper wear shoe
- Remove shim(s) from the left upper wear shoe

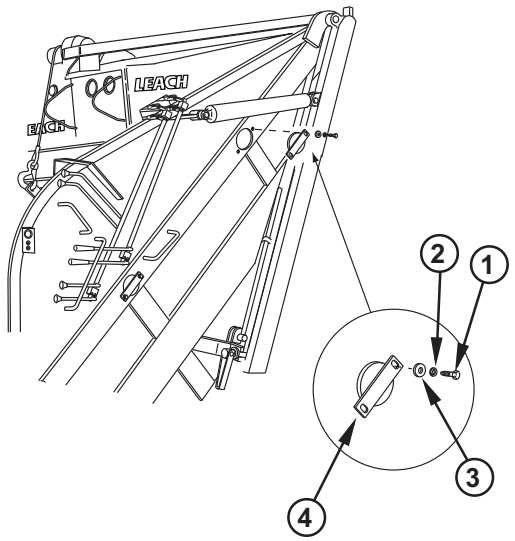
To adjust the wear shoes, apply the following procedure:

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

1. Shift the control levers and cycle the unit several times while observing the wear shoes and action of the packer and carrier panels. Watch for sideways movement or twisting to determine which wear shoes must be adjusted.

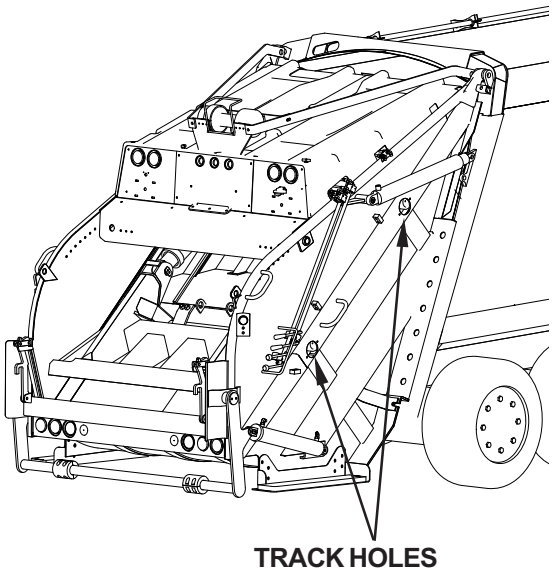
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

2. Remove capscrews (1), lockwashers (2), spacers (3) and cover weldments (4) for both upper and lower track holes on each side of the tailgate.



OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up Off

3. Shift the control levers and cycle the panels as necessary to align the upper and lower wear shoes with the track holes.



OPERATIONAL STATUS	
Truck Off	PTO Disengaged

4. Adjust any wear shoe that needs to be adjusted.
   - 4 a. Remove all 4 screws that secure the plastic plates to the wear shoe assembly (see Figure 8-2).
   - 4 b. Take the plates off from the wear shoe assembly (see Figure 8-2).
   - 4 c. Add or remove the correct amount of shims in order to properly adjust the wear shoe.

     Shims are placed against the interior main plate of the wear shoe assembly, just behind the plastic plates (see Figure 8-2).
   - 4 d. After adding or removing shims, put both plastic plates back inside the wear shoe assembly (see Figure 8-2).
   - 4 e. Put the screws back into the plastic plate holes.
5. If need be, repeat step 4 if other wear shoes need to be adjusted.

NOTE: When adding or removing shims, allow for each shim to accommodate for 1/8" of carrier movement. Do not attempt to shim more than one (1) wear shoe at a time. After shimming wear shoes to acceptable limits, lubricate the wear shoes and operate the carrier and packer through at least five (5) complete cycles, with the engine speed up system activated, to ensure that proper adjustment of the carrier wear shoes has been achieved.

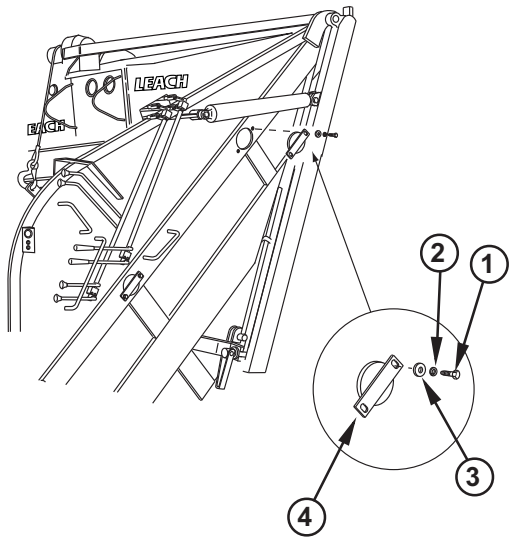
NOTE: This procedure may have to be repeated multiple times to achieve proper adjustment of the wear shoes. Again, remember that the wear shoes are better left a little loose than too tight.

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

6. Shift the control levers and cycle the unit several times while observing the wear shoes and action of the packer and carrier panels. Watch for sideways movement or twisting to determine if more adjustment is needed.

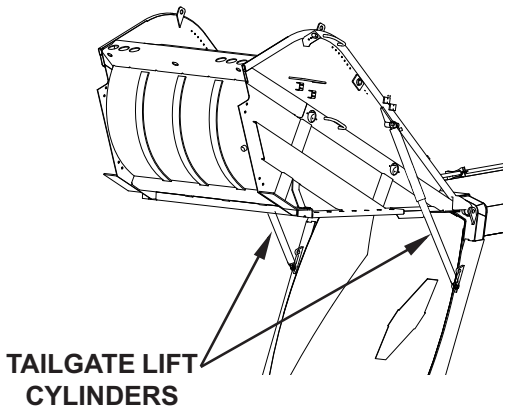
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

7. Once alignment is correct, lubricate each wear shoe.
8. Using the capscrews (1), lockwashers (2) and spacers (3) secure the cover weldments (4) over the four track holes.



Tailgate Lift Cylinders

These two hydraulically operated cylinders, mounted on each side of the tailgate, lift and lower the tailgate assembly. The rod end is pinned to a pivot ear on the body frame near the discharge opening, while the cylinder weldment pivot ear is bolted to a mounting hub on the tailgate.



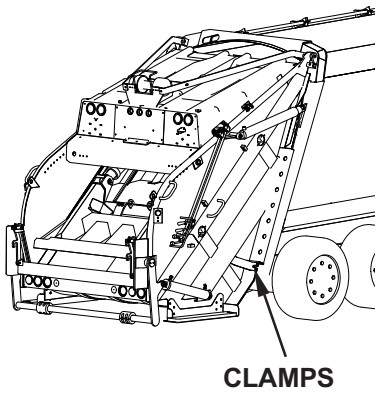
Test for Leaking Tailgate Cylinders

NOTE: This check will require two people.

For this task, apply the following procedure:

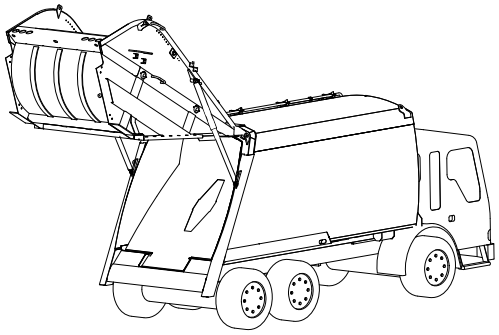
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Loosen and release (swing away) the tailgate clamps.



OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

2. Depress the speed-up button and move the tailgate lift lever to raise the tailgate and hold.
3. Visual inspection of the tailgate cylinders is the only leakage test necessary.



Removal of Tailgate Lift Cylinders

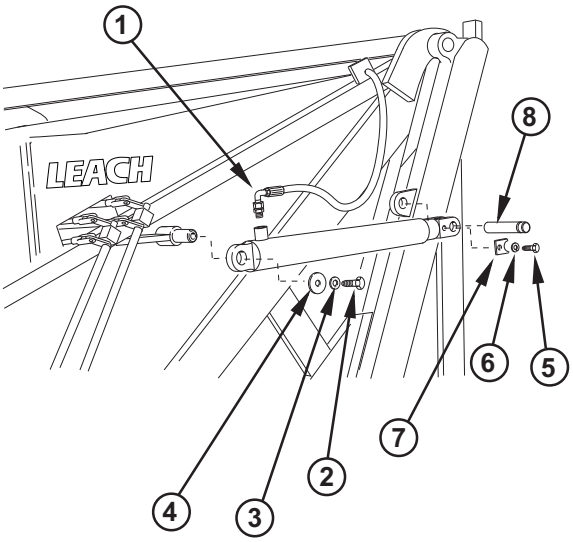
For this task, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. With the tailgate closed, attach a sling connected to a suitable lifting device with a capacity of 500 lbs (227 kg) to the tailgate lift cylinder.

NOTE: **See Chapter 4 *General Repair Practices* for more detailed information about the correct use of slings and lifting chains.**

2. Disconnect the hydraulic line (1) at the cylinder port in the case end and cap the line.
3. Remove the capscrew (2), washer (3), and cover (4) from the cylinder case end.
4. Remove capscrew (5), lockwasher (6), retainer (7) and pin (8) from the rod end.



Draining Fluid from Tailgate Lift Cylinder

For this task, apply the following procedure:

1. Wash the outside of the cylinder assembly completely to prevent contamination and/or damage to the cylinder components.
2. Secure the case end of the cylinder to a workbench or floor mount and the rod end to an overhead lifting device with a minimum lifting capacity of 500 lbs (227 kg).
3. Remove the plug from the port and drain all fluid.

Inspection, Reassembly and Installation of Tailgate Lift Cylinder

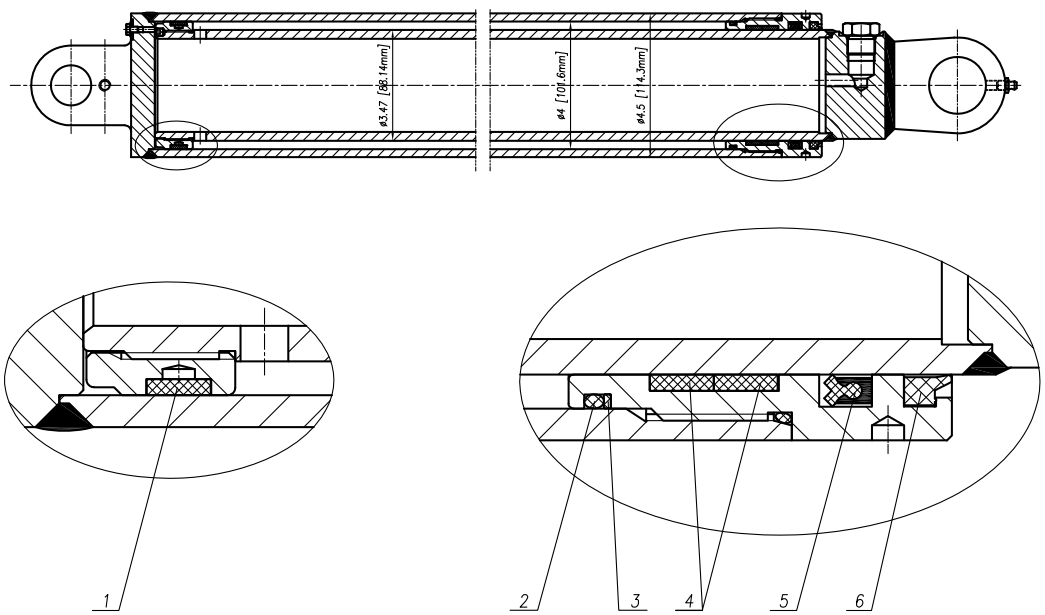
For these tasks, apply the following procedure:

1. Thoroughly check all components of the cylinder for cracks, scoring or uneven wear.

   Parts that must be replaced together, such as seals and wear rings, are available as a repair kit from your authorized Leach dealer.
2. Liberally coat all seals and wear rings with clean, fresh hydraulic fluid before installation.

NOTE: Assembly of the tailgate lift cylinder is in approximate reverse order of disassembly.

3. Check all cylinder mounting components for cracks or excessive wear before installation. If the cylinder is not to be installed immediately, keep the port sealed to prevent contamination.
4. After installation of the cylinder is complete, clamp the tailgate in the down position and remove the bleeder screw from the cylinder rod. Operate the control lever until oil flows from the bleeder port. Install the bleeder screw.
5. Fully extend and retract the cylinder twice, clamp the tailgate in the down position, and once again remove the bleeder screw. Operate the control lever. After all air has exited the cylinder, install the bleeder screw.
6. Check for any external leaks on the cylinder and connecting fittings.

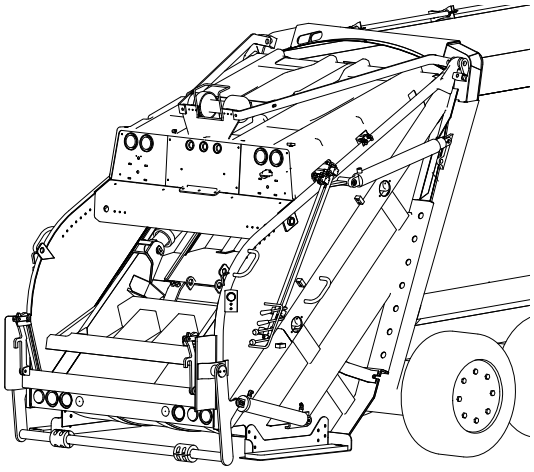


7	ST-350-XL	WIPER Ø3.5×Ø4.0×0.25	URETHANE	1
6	U25-3.50-37DZF	ROD SEAL Ø3.5×Ø4.0×0.375	URETHANE+NBR	1
5	AS-568-155	O-RING Ø4.0×Ø4.188	NBR 90D	1
4	612-375-050	GLAND WEAR RING Ø3.75×0.5	GLASS/NYLON	2
3	575-240	BACK UP RING Ø3.75×Ø4.0	URETHANE	1
2	AS-568-240	O-RING Ø3.75×Ø4.0	NBR 90D	1
1	612-400-050	PISTON WEAR RING Ø4.0×0.5	GLASS/NYLON	1

Tailgate Assembly

The tailgate assembly consists of the operating cylinders, carrier and packer panels and the "hopper" where refuse is first loaded into the unit. The tailgate is lifted (for unloading) and lowered by the tailgate lift cylinders which are actuated by the tailgate lift lever, located at the front of the body.

The need to remove the tailgate is rare and limited to repair of the hopper area, removal of the carrier panel and removal of the pushout panel. Procedures for carrier panel and pushout panel removal are different and are covered under REMOVAL OF CARRIER PANEL or REMOVAL OF PUSHOUT PANEL.



Removal of the Tailgate Assembly

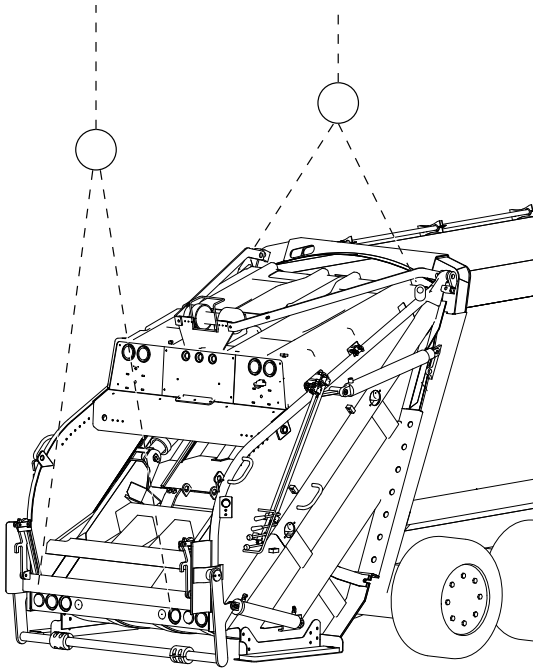
For this task, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

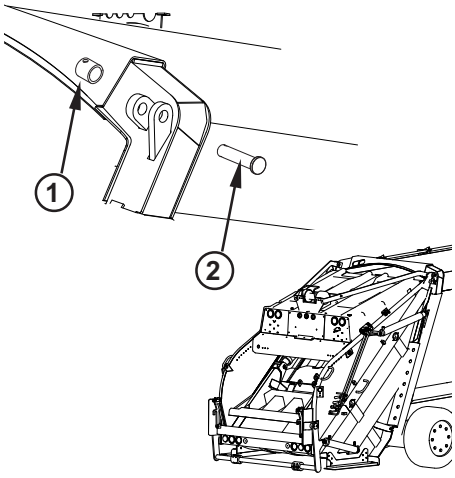
1. Release the tailgate clamps and swing away.
2. Disconnect and remove the tailgate lift cylinders (see *Removal of Tailgate Lift Cylinders* on page 126).
3. Disconnect and cap the hydraulic lines.

NOTE: **See Chapter 4 *General Repair Practices* for more detailed information about the correct use of slings and lifting chains.**

4. Attach chains, connected to a suitable lifting device with a minimum lifting capacity of 7500 lbs (3402 kg) to the tailgate as shown in the next illustration. Operate the lifting device no more than necessary to support the weight of the tailgate.



5. Remove capscrew and locknut (not shown) to remove retainer (1) and hinge pin (2).



6. Operate the lifting device and/or move the truck forward to free the tailgate from the body.
7. Position the tailgate on supports as needed to facilitate repairs.
   The supports must be capable of supporting 7500 lbs (3402 kg).

Inspection of Tailgate

For this task, apply the following procedure:

1. Inspect all the sheet metal for bends, dents or tears.
2. Check the hardware holes for enlargement or breaks in the metal.
3. Check threaded holes for stripped or otherwise damaged threads.

4. Check the tailgate seal for any sign of deterioration.
5. Check handles for looseness.
6. Replace any defective or worn part.

   Follow all safety precautions pertaining to welding described in Chapter 2 *Safety*.

   See Chapter 3 *General Repair Practices* for information pertaining to welding repairs.

Reassembly and Installation of Tailgate

Reassemble and install the tailgate in the approximate reverse order of disassembly and removal.

Front Control Valve (FCV)

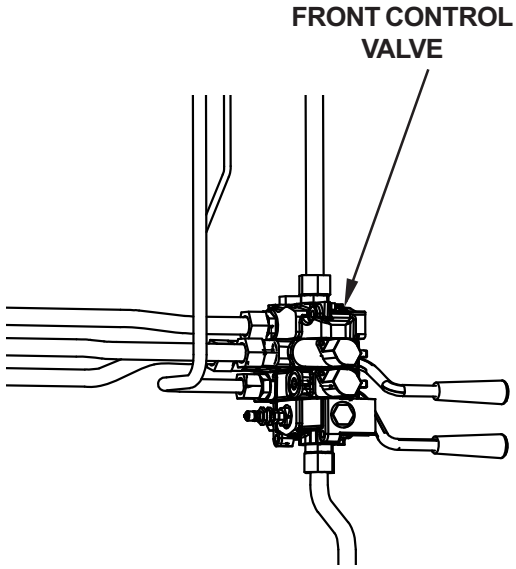
The Front Control Valve is located behind the access door in the front left hand side of the body. It is manually activated and controls the raising and lowering of the tailgate and the operation of the pushout panel. This valve also contains the main pressure relief for the hydraulic system.

Removal of the Front Control Valve

For this task, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Disconnect the hydraulic lines to the valve. Cap the lines and plug the valve ports to prevent dirt from entering the valve and the hydraulic system.
2. Remove the capscrews, lockwashers, nuts and remove the valve.

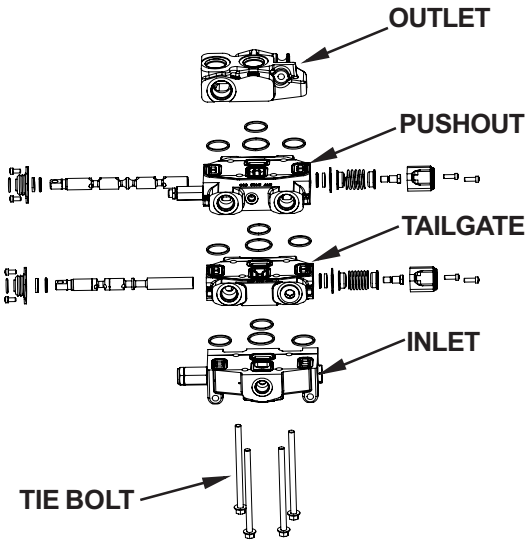


Disassembly and Reassembly of the Front Control Valve

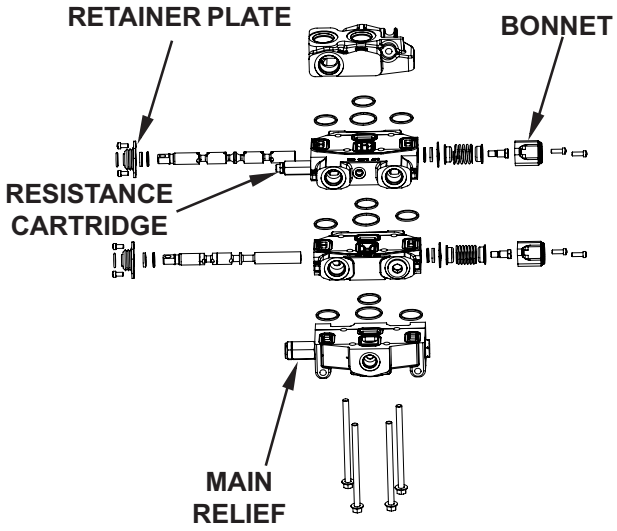
For these tasks, refer to the valve manufacturer's manual for detailed instructions.

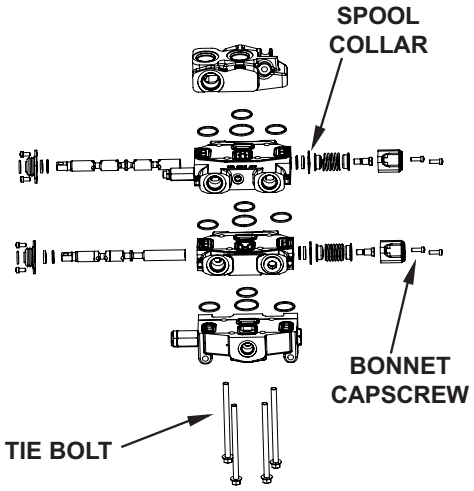
The following illustrations show the various components that make up the front control valve.

NOTE: Service should be limited to seal replacement, cartridges and individual valve sections. Field repairs of the spool assemblies are not recommended.



NOTE: Do not remove the spool from the valve body as the seals can be replaced externally.

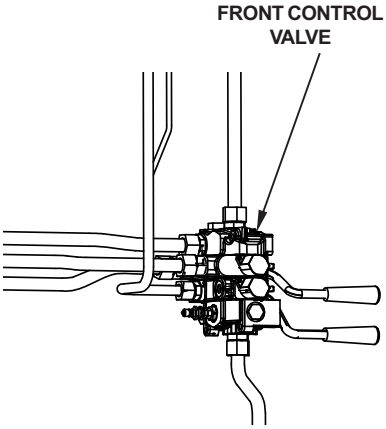




Reinstallation of the Front Control Valve

For this task, apply the following procedure:

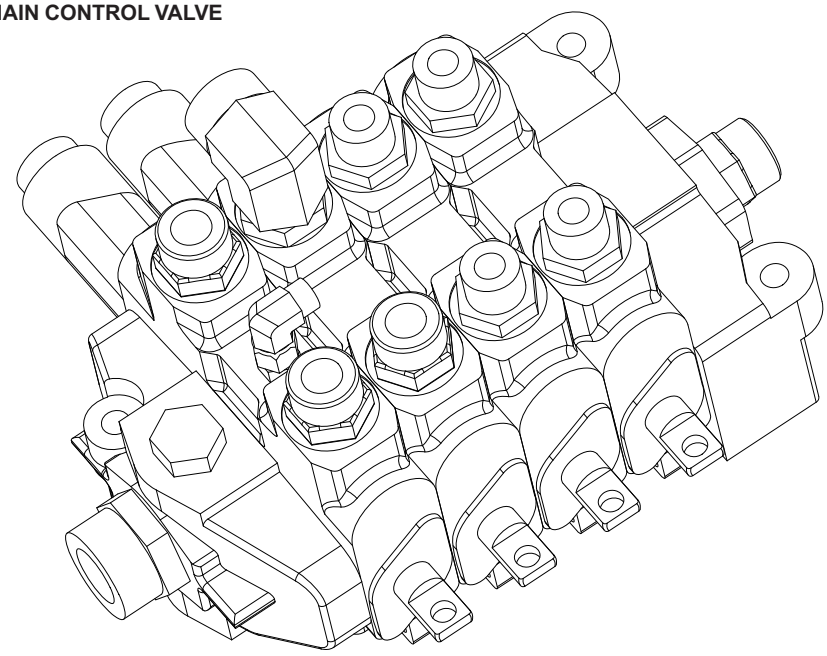
1. Secure the valve to the mounting bracket with the appropriate hardware.
2. Remove plugs and caps, then attach hydraulic lines with new ORFS o-rings. Torque all hydraulic lines per torque chart as described in Chapter 3 *General Repair Practices*.



Main Control Valve (MCV)

The Main Control Valve is located on the tailgate above the packer and carrier panels. It controls the operation of the packer and carrier panels through the entire packing cycle. It may have either 2, 3 or 4 individual valve sections, depending on the installation of options. The standard valve will have 2 sections.

MAIN CONTROL VALVE

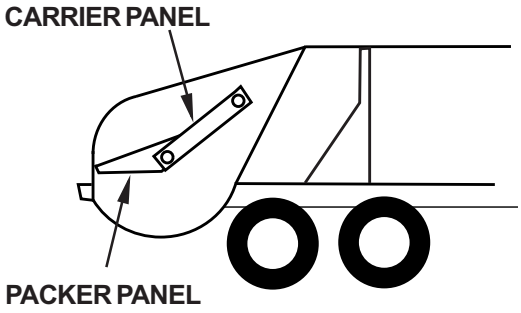


Removal of the Main Control Valve

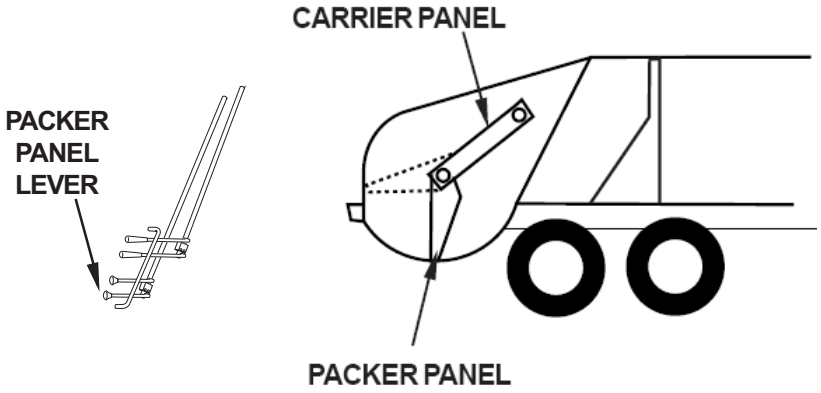
For this task, apply the following procedure:

1. Place the packer and carrier panels in the "interrupted cycle" position.

INTERRUPTED CYCLE POSITION



2. Move the packer panel control lever outward to sweep the packer panel through the hopper toward the home position. Stop the movement of the panel (move the control lever to the neutral position) when the panel becomes vertical (straight up and down).



3. Turn off the engine, remove the keys.
4. Disconnect the shift linkage.
5. Disconnect and cap all hydraulic lines and hoses.
6. Plug all open ports on the valve to prevent contamination.

NOTE: The Main Control Valve assembly weighs approximately 100 lbs (45.3 Kg). Use appropriate lifting procedures and techniques when handling this assembly.

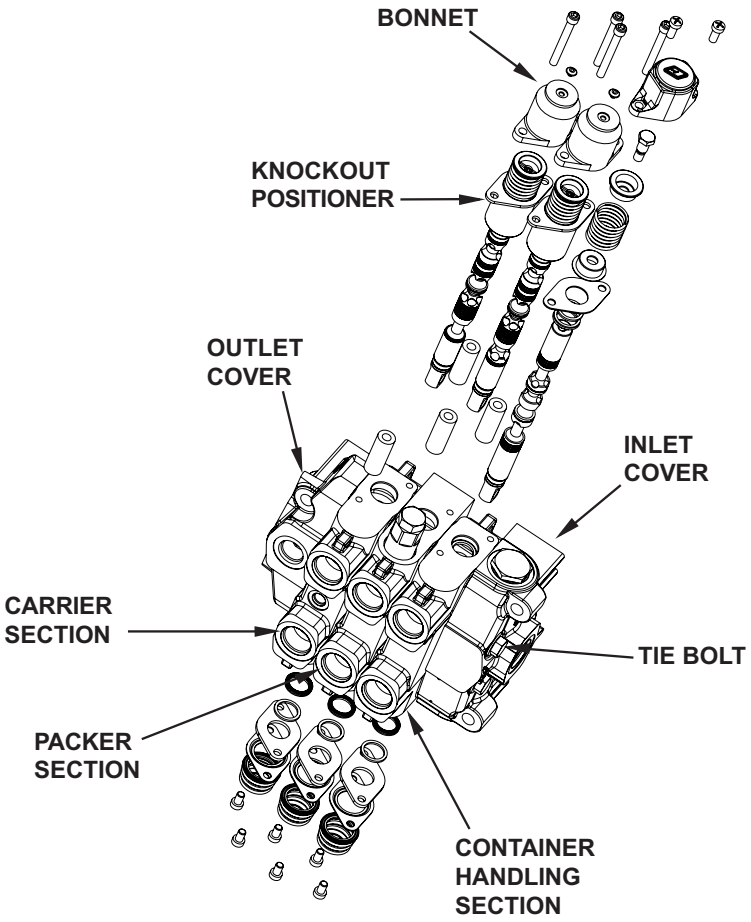
7. Remove the capscrews, washers and nuts securing the valve to the mounting plate.

Disassembly and Reassembly of the Main Control Valve

For these tasks, refer to the valve manufacturer's manual for detailed instructions.

The following illustration shows the various components that make up the main control valve.

NOTE: During reassembly, use care in replacing the work sections to avoid dislodging o-rings from the counterbores.



Main Control Valve Resealing

The following work instructions outline the procedure to reseal the main control valve on a 2R-III™ unit.

NOTE: These repairs should be performed only by trained, experienced technicians.

Tools Required :

- Ratchet
- ¾" socket
- ½" socket
- 6" extension
- Torque Wrench
- ¾" combination wrench
- O-ring pick
- Large Phillips Driver
- Lifting device, minimum 500 lb. capacity (overhead winch, shop crane, etc.)

- Nylon sling, minimum 500 lb. rating
- Lint free rags
- Petroleum jelly

Parts Required:

- Labrie*Plus* part # HYJ4104 - Section Seal Kit, one kit required for each section (does not include plug or port relief seals)
- Labrie*Plus* part # HYJ04107 - Inlet Section Seal Kit, one kit required per valve assembly

Thoroughly clean the valve, connecting hoses and the area directly surrounding the valve.

Valve Removal Procedure:

1. Remove the hydraulic tank fill cap to relieve any air pressure from the reservoir.
2. Remove the hoses (label them prior to removal to aid in re-assembly).
3. Attach the lifting device to the valve using the nylon sling, then using the ¾" socket, 6" extension and ratchet, remove the four ¾" bolts attaching the valve to the body.
4. Drain the oil from the valve and set it on a clean, flat surface.

Valve Resealing Procedure:

1. Using the ¾" socket and ratchet and a ¾" combination wrench, remove the four tie rods holding the valve assembly together, and remove the tie rods. Thoroughly clean the tie rods, nuts and washers, and lightly lubricate the threads of the tie rods.
2. On the inlet section of the valve assembly, use an o-ring pick to remove and discard the old o-rings, clean the inside face of the plate, and inspect for cracks, abnormal wear, rust or uneven sealing surfaces. Slide the tie rods through the inlet cover and stand it upward (on end). Lubricate the o-rings with petroleum jelly and install them into their corresponding seat in the inlet section. Ensure the o-rings are pushed fully and evenly into their seats.
3. Starting with the first valve work section, clean the sealing surface of the valve work section, and inspect for cracks, abnormal wear, rust or uneven sealing surfaces. Carefully lower the valve work section over the tie rods and mate it to the end plate. Using an o-ring pick remove and discard the old o-rings. Clean the seats in the o-ring seal face and inspect for cracks, abnormal wear, rust, or uneven sealing surfaces. Using petroleum jelly, lubricate and install the new o-rings, ensuring they are seated fully into their corresponding seats.
4. Repeat step 3 with the remaining valve work sections.
5. Ensure that the flat sealing surface of the valve end cap is clean and inspect it for cracks, abnormal wear, rust, or uneven surfaces. Carefully lower it over the tie rods and mate it to the valve work section. Install the washers and nuts on the tie rods. Using a 3-step torque method, torque the tie rods to 75 ft-lbs (102 Nm).
6. Starting with the first valve section, use the ½" socket and ratchet and remove the bolts attaching the spool actuator to the valve work section. Using the large Phillips driver, remove the 2 screws attaching the spool eye end dust boot and seal plate; then remove the dust boot and seal plate. Pull the spool out of the valve work section by grasping the valve spool actuator and gently pulling it out.

7. Using an o-ring pick, remove and discard the o-rings and back-up rings from the spool and/or valve body. Clean and inspect the valve spool, the bore and seal seats in the valve body, as weel as the seal and dust boot retaining plates for cracks, abnormal wear, rust, or uneven surfaces. Clean and inspect the dust boot for damage, cracking or swelling.

   The dust boots are not included with the seal kits; replace if necessary with Labrie part # HYV02887 dust boot.

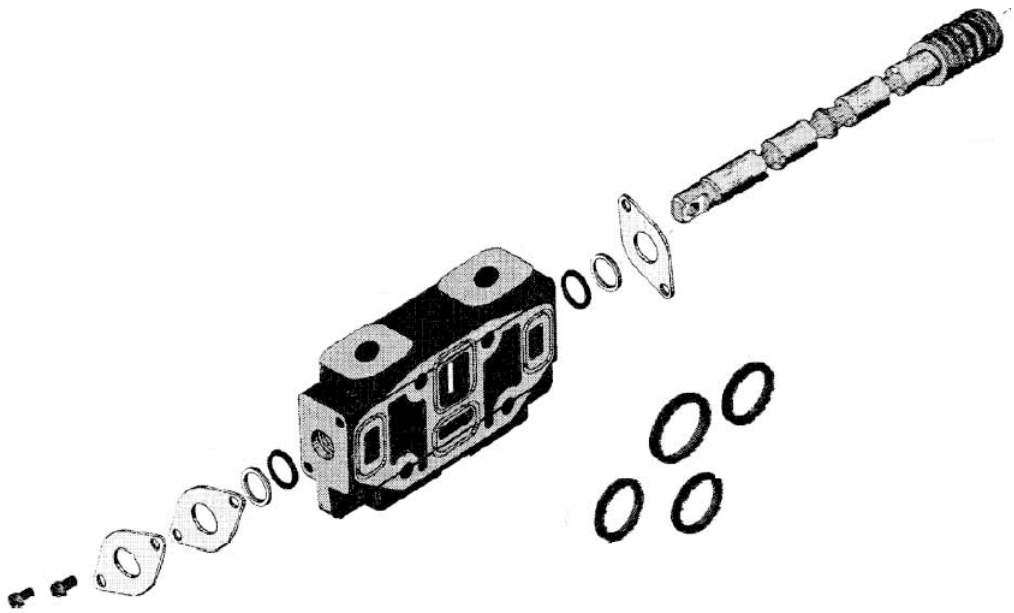
NOTE: Labrie*Plus* part # HYJ04104 seal kit contains an o-ring marked with a red or orange dot; this is not used, and should be discarded.

8. Lubricate a spool backup ring and seal with petroleum jelly and install them onto the valve spool, backup ring first, using care not to cut them on the spool lands. Slide the backup ring and seal against the seal retainer plate on the actuator. Lubricate the spool with clean hydraulic oil and slide it into the valve body gently, seating the o-ring into the valve body seal recess.
9. Using petroleum jelly, lubricate and install the o-ring then back-up ring onto the spool eye end of the valve spool. Using the seal retaining plate, press the spool seal and backup ring into the valve body recess.
10. Ensure the actuator is properly attached to the valve spool, and position the actuator with the breather hole in the actuator sleeve pointing toward the bottom of the valve, and pneumatic ports correctly positioned (air actuated models). Tighten the actuator retaining hardware to 32-36 in.-lbs (3.6-4.1 Nm).
11. Install the spool eye end seal retaining plate and dust boot, and tighten the retaining hardware to 32-36 in.-lbs (3.6-4.1 Nm).
12. Repeat steps 6 through 11 with the remaining valve work sections.

Valve installation, Testing and Adjustment

Clean the valve mounting plate and install it to the valve assembly; tighten the hardware securing the valve to the mounting plate to 85 ft-lbs (118 Nm). Using a suitable lifting device, reinstall the valve assembly to the body. Tighten the hardware securing the valve or valve mounting plate to the body to 85 ft-lbs (118 Nm). Install the hoses that were previously labeled to their respective fittings. Install and tighten the hydraulic tank fill cap.

Operate all functions until the hydraulic fluid is at operating temperature, and check for leaks. Attach a 0-4,000 PSI hydraulic gauge on the test port of the inlet cover. Start the truck and engage the pump. Check and adjust pressures (see *Checking Pressures* on page 61). Add hydraulic fluid as required to the hydraulic tank.



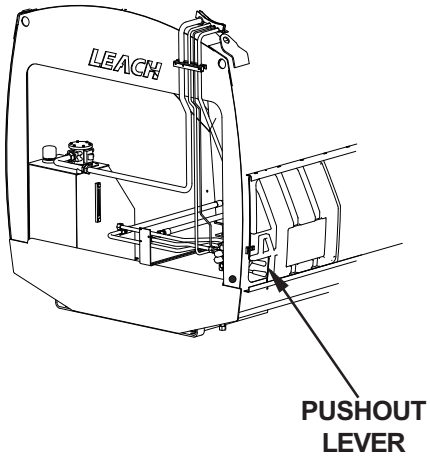
Telescopic Cylinder

Removal of Telescopic Cylinder

For this task, apply the following procedure:

OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up On

1. Move the pushout lever to position the pushout panel approximately midway in the body.
2. Weld a lifting eye to the roof of the body.



OPERATIONAL STATUS	
Truck Off	PTO Disengaged

3. Attach a sling connected to a lifting device capable of lifting 750 lbs (341 kg) to the telescopic cylinder.
4. Remove the nuts and bearing block halves connecting the pushout panel to the cylinder.

OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up Off

5. Move the pushout lever to slowly retract the telescopic cylinder until it is completely retracted.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

6. Using a lifting device, lower the telescopic cylinder until it is resting on the floor of the body.
7. Disconnect the hydraulic lines to the cylinder ports. Cap the hydraulic lines and the cylinder ports to prevent contamination of the hydraulic system.
8. Remove the cylinder case end pin.

NOTE: For more information about lifting devices and slings, refer to Chapter 3 *General Repair Practices*.

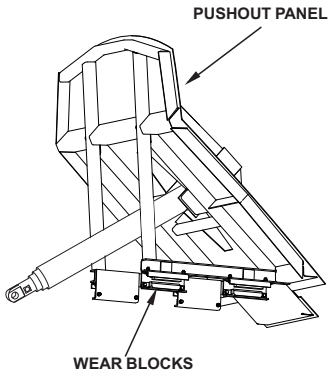
9. Attach a sling connected to a suitable lifting device with a minimum lifting capacity of 750 lbs (341 kg).
10. Operate the lifting device slowly and guide the cylinder out of the body through the side access door.

    Take care during removal to avoid damaging the surrounding components or hydraulic lines.

Pushout Panel

Refuse is compacted against and ejected from the body by the Pushout Panel. The telescopic system uses one multi-stage cylinder that is attached to the pushout panel approximately half-way up the pushout panel.

During its movement through the body, the pushout panel rides in a trough. The panel rides on replaceable plastic wear blocks that control its movement in the trough and reduce friction.



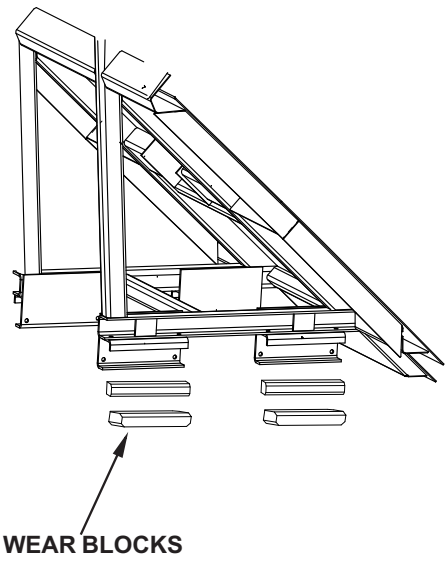
Wear Block Replacement

The wear blocks should be replaced before there is metal to metal contact between the pushout panel and the trough floor.

To replace wear blocks under the pushout panel, proceed this way:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Raise the side of the pushout panel (one side at a time) enough to take the weight off the wear blocks. Use a hydraulic jack or pry bar. Support the pushout panel and remove the capscrews, nuts and lockwashers securing the wear block retainers.
2. Slide the upper and lower wear blocks out and replace.
3. Reinstall the wear block retainers and tighten the capscrews.
4. Lower the pushout panel.
5. Repeat this procedure for the other side.

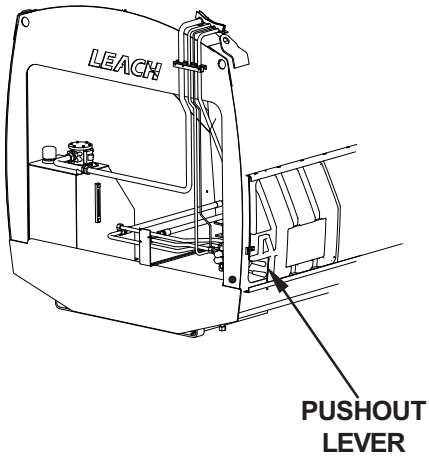


Removal of Pushout Panel

For this task, apply the following procedure:

OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up On

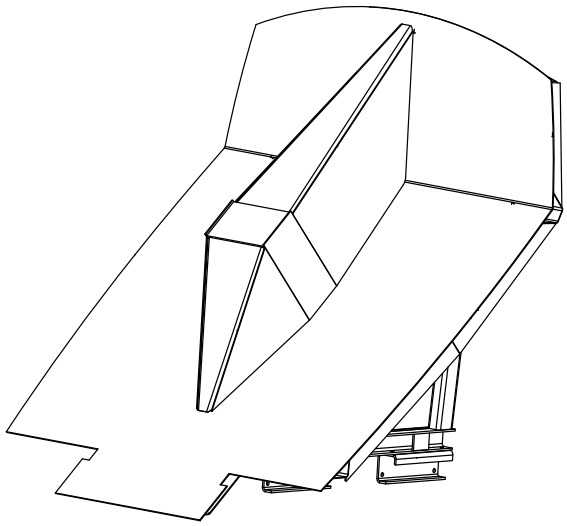
1. Move the pushout lever rearward and position the pushout panel at the extreme rear of the body.



2. Remove the tailgate lift cylinders as described on Page 126.
3. Remove the tailgate as described on Page 129.
4. Disconnect the telescopic pushout cylinder from the pushout panel.
5. Weld an eye to the center of the panel and attach a chain to prevent the panel from tipping over upon removal.

6. The pushout panel can now be removed from the body. The method of removal will depend on the equipment available. Whatever method is used, the equipment must be capable of lifting a minimum of 2800 lbs (1270 kg) and the panel should be secured safely to the removal device.

Figure 8-4 **Pushout panel**



Installation of Pushout Panel

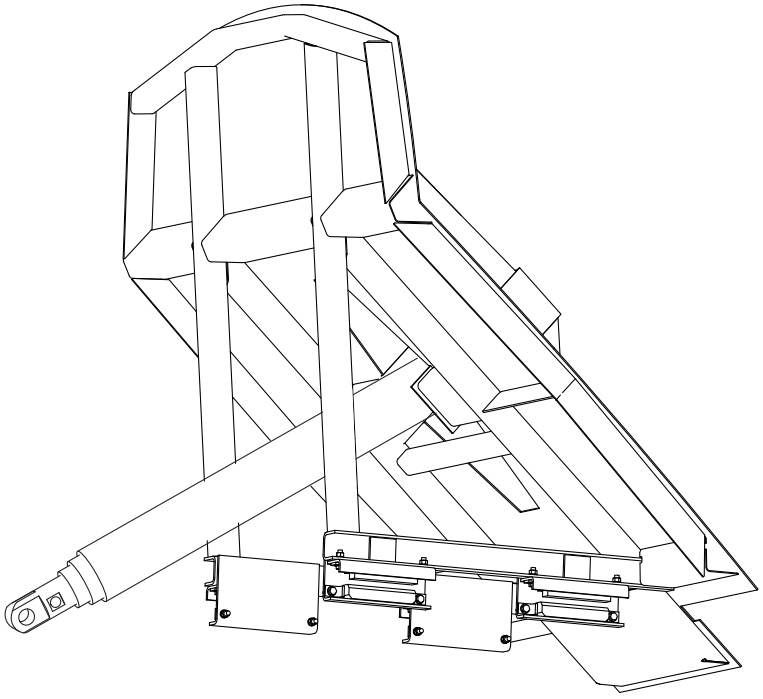
For this task, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Install the pushout panel into the body of the unit.
2. Install the tailgate and tailgate lift cylinders.
3. Slowly extend the telescopic cylinder until the case end is beneath the crossmember of the pushout panel where the lifting eye is welded.

NOTE: Do not allow the cylinder to become stuck or wedged while it is being extended.

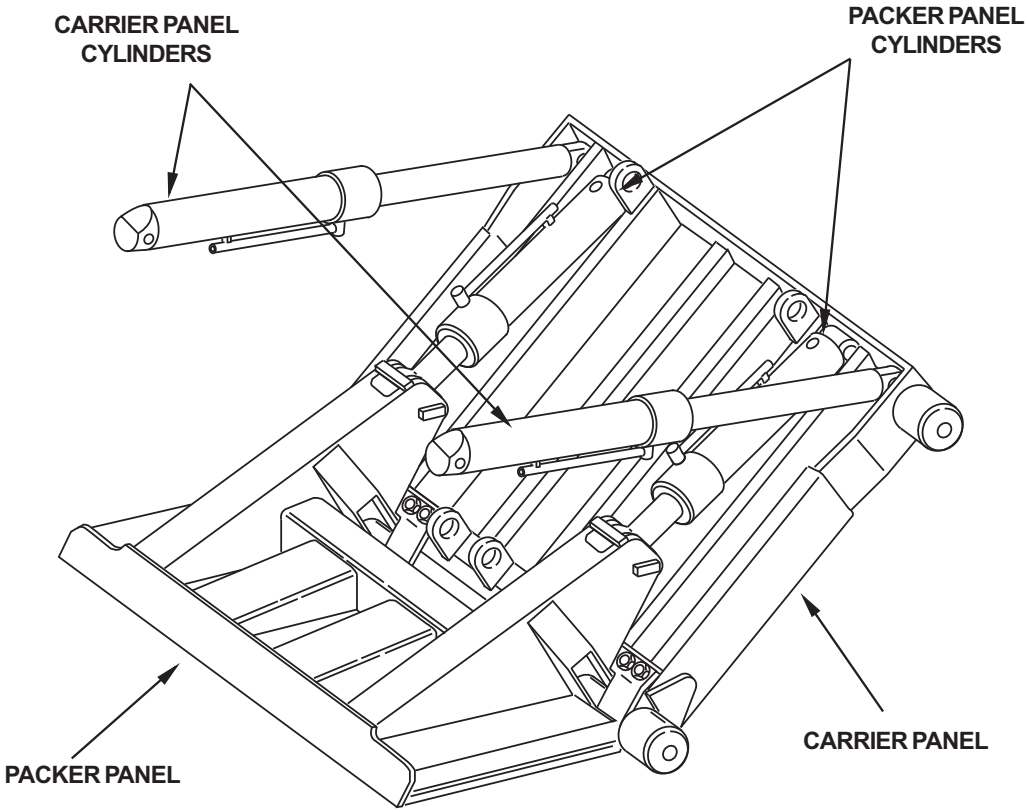
4. Attach a lifting device capable of supporting 750 lbs (341 kg) to the cylinder and the lifting eye welded to the crossmember.
5. Raise the cylinder and slowly extend it until it can be attached to the pushout panel with the bearing clamp halves and nuts.



Carrier and Packer Panels

The carrier and packer panels operate as a single unit to sweep the refuse from the hopper and to pack it against the pushout panel. Their movement through the different cycles is controlled by the operating cylinders. The two panels are connected together and pivot on the inside and outside bearing assemblies. Movement of the panels within the body is kept in alignment by the roller assemblies, located at the upper corners of each panel. The rollers ride inside a roller track on each side of the hopper.

This section focuses on some factors that need to be taken into consideration when performing packer/carrier repairs. The packer/carrier assemblies and interrelated components are designed for relatively trouble-free use. However, they are subject to reduced service life due to the lack of, or ineffective maintenance. Methods of operation other than for which the unit was designed can also affect the longevity of these components.



Packer Panel

Removal of Packer Panel

To remove the packer panel, apply the following procedure:

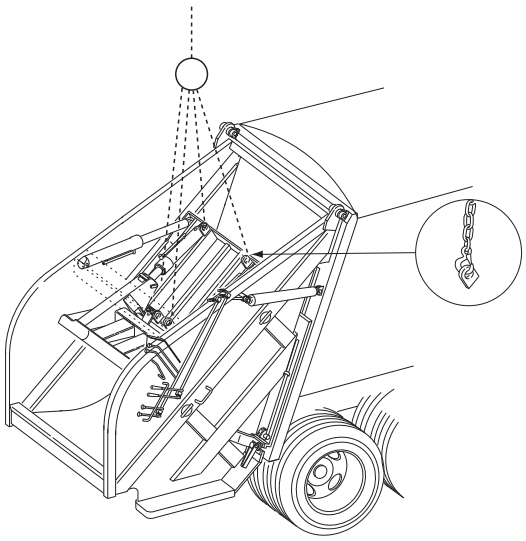
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. (***If the carrier panel is also to be removed***) - Remove all four operating cylinders (see *Removal of Packer Panel Cylinders* on page 101 and *Removal of Carrier Panel Cylinders* on page 104) and proceed to step 6.

OR

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

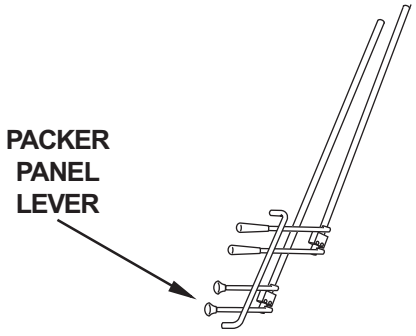
2. (***If the carrier panel is NOT to be removed***) - Attach a chain connected to a suitable lifting device, capable of supporting 1600 lbs (726 kg) to the lower end of the carrier panel as shown. This will support the carrier panel once the packer panel is removed.



NOTE: For more information about lifting devices and slings, refer to Chapter 3 *General Repair Practices*.

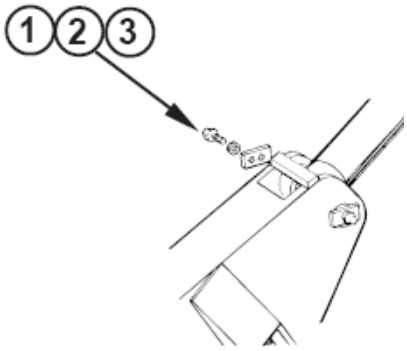
OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up On

3. Move the packer panel operating lever inward to bring the packer panel up. When the panel reaches a vertical position, bring the packer panel control lever back to neutral. This will take the pressure off the rod eye when the pin is removed.



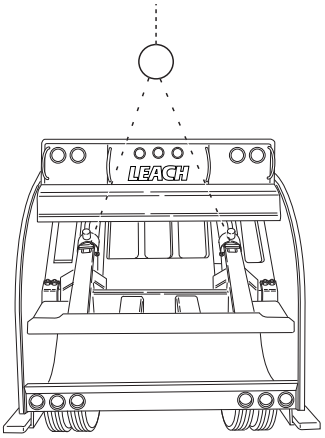
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

4. Remove the capscrews (1), lockwashers (2) and pivot pin covers (3) from the rod end.

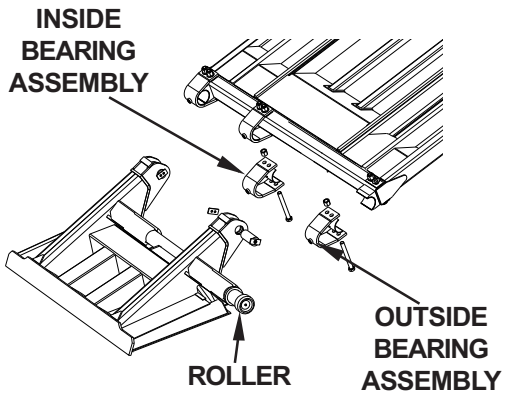


5. Make sure the cylinder weight is securely supported by the hoist and carefully remove the pivot pin.
6. Attach a chain connected to a suitable lifting device, capable of lifting 1600 lbs (726 kg) to the packer panel as shown. Operate the lifting device to support the weight of the packer panel without causing strain on the bearing and roller assemblies.

   For the carrier panel removing procedure, go to page 150.



7. Remove the inside bearing assemblies (see *Bearing Placement* on page 110).



8. Remove the roller assemblies (see *Roller Replacement* on page 111).

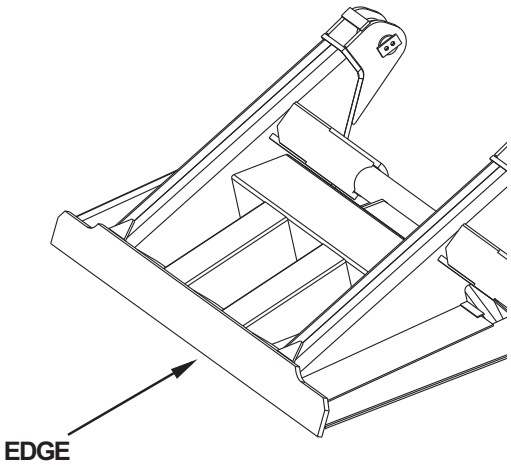
9. Remove the outside bearing assemblies (see *Bearing Placement* on page 110).
10. With the bearing assemblies removed, carefully operate the hoist and lift the packer panel out of the hopper. Use care to avoid damaging the hopper.

Inspection and Replacement of Packer Panel

For these tasks, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Carefully inspect all pivot, bearing and roller surfaces for excessive or uneven wear, scoring or other damage.
2. Check the panel for broken welds, bent edges or warpage.
3. Inspect the packer panel edge for damage. Replace a badly worn edge (see *Replacement of Packer Edge* on page 148).

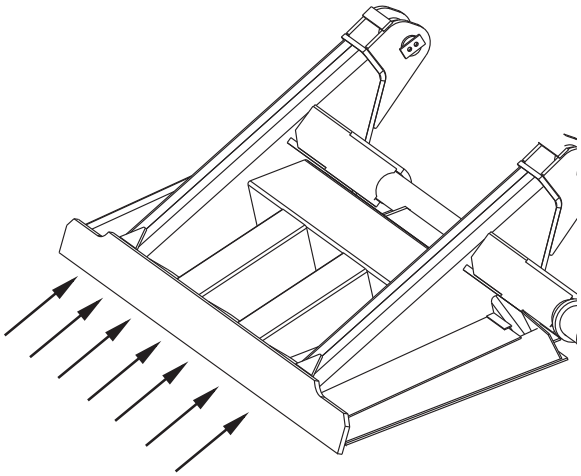


4. Replace parts as necessary (see Chapter 3 *General Repair Practices*).

Replacement of Packer Edge

For this task, apply the following procedure:

1. Remove the old edge with an air arc to obtain a clean cut.
2. Grind smooth the packer panel where the new edge will be attached.
3. Weld a new edge in place.



NOTE: Pay particular attention to the torque tube. Ensure that it is perfectly straight.

Installation of Packer Panel

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

Install the packer panel in the approximate reverse order of disassembly. Pay particular attention to the installation of roller and bearing assemblies (see *Bearing Placement* on page 110 and *Roller Replacement* on page 111).

Carrier Panel

The correct method of operation is thoroughly described in the 2R-III™ *Operator's Manual*. Our policy is not to describe the many different ways in which a unit might be incorrectly operated; however, in an attempt to provide maintenance personnel with clues that may assist in the diagnosing of a reoccurring carrier/packer panel concern that might be operator-induced, we offer the following:

Skimming is a result of the operator interrupting the movement of the packer panel and stopping the packer panel before it rotates perpendicular (90 degrees) to the carrier panel. When the packer panel is not allowed to fully rotate and the carrier is then moved toward the "home" position, a shear load is induced to the lower channel of the carrier panel. The carrier panel lower channel is designed for compression or tension, not shear loads. If the lower channel on the carrier panel cracks or the center bearing straps consistently break, suspect that the unit is being skimmed.

Short cycling is when the carrier panel is stopped before it completely lowers. The operator then attempts to penetrate down through the refuse that is in the hopper with the packer panel. This incorrect method of operation results in much the same kind of failures as skimming because the torque tube and lower carrier channel are put into a shear situation. This incorrect method of operation will also adversely affect the hopper bottom because the force of the packer panel cylinders is being dissipated down through the refuse and into the hopper structure.

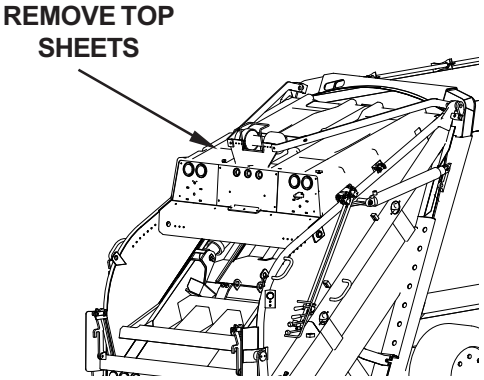
Anytime a repaired area has a repeat failure, suspect that the core problem, whether it is mechanical or operator, has not been adequately addressed.

Removal of Carrier Panel

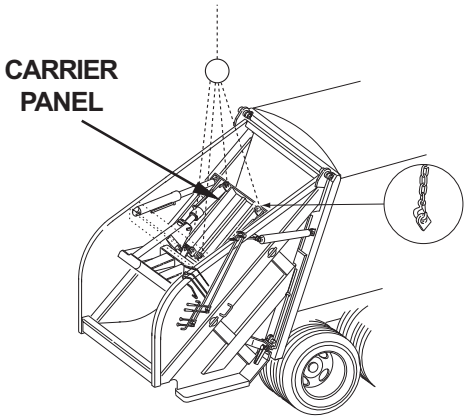
For this task, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Remove top sheet supports for better accessibility.



2. Remove the packer panel (see *Removal of Packer Panel* on page 145).
3. Remove the operating cylinders (see *Removal of Packer Panel Cylinders* on page 101and *Removal of Carrier Panel Cylinders* on page 104).
4. Remove the tubing to the main control valve. Cap the lines and plug the ports in the valve to prevent contamination.
5. Remove the carrier panel.

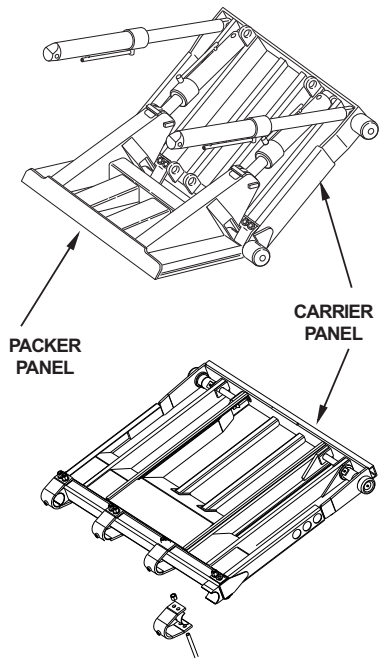


Inspection and Replacement of Carrier Panel

For these tasks, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Carefully inspect all pivot, bearing and roller surfaces for excessive or uneven wear, scoring or damage.
2. Check the panel for broken welds, bent edges or warpage.
3. Inspect the track bar for excessive wear or damage.
4. Replace parts as necessary.



Installation of Carrier Panel

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

Install the carrier panel in the approximate reverse order of disassembly. Pay particular attention to the installation of roller and bearing assemblies (see *Bearing Placement* on page 110 and *Roller Replacement* on page 111).

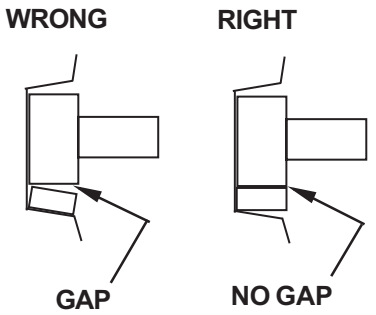
Track Bar Replacement

For this task, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

NOTE: Refer to Chapter 3 *General Repair Practices* for welding instructions.

1. Remove the old track bar and make sure the track channel is smooth and clean.
2. Weld a new track bar in place. The surface of the track bar must be at 90 degrees from the side of the tailgate so the roller will run true.

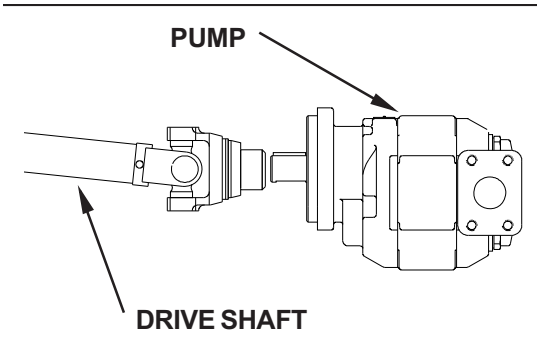


Caution!

The Leach track bar is made out of special alloy bar steel. Do not substitute a different steel. It may cause damage to the tailgate.

Hydraulic Pump

The pump which serves the complete hydraulic system is a gear type, coupled either to the PTO or chassis engine through a yoke arrangement. PTO-driven hydraulic pumps will be mounted near the chassis transmission. Front mount pumps will be mounted forward of the chassis cab, behind the bumper.

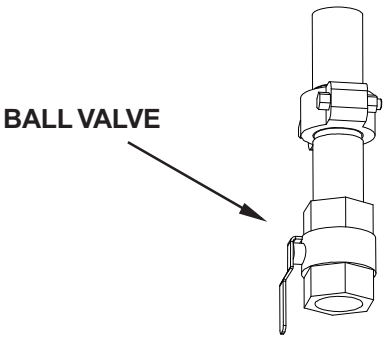


Removal of Hydraulic Pump

For this task, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

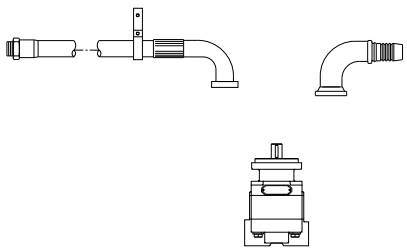
1. Shut the ball valve at the underside of the hydraulic fluid tank.



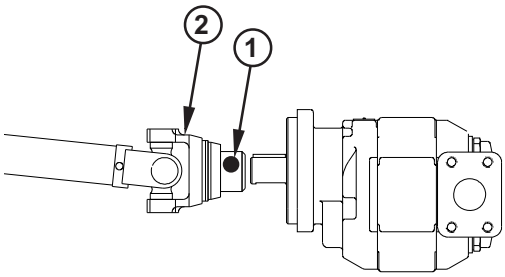
2. Remove the hose clamp.
3. Remove the pump suction line and allow the fluid to drain.

NOTE: **The pump suction line (tube and hose) will also be filled with hydraulic fluid. The pump and line may be drained into an absolutely clean container and the fluid poured back into the tank.**

4. Disconnect the pressure hose at the pump and cap the end.



5. Loosen the setscrew (1) and free the yoke (2) from the pump shaft by telescoping the drive shaft toward the PTO or engine.



6. Remove the key from the pump shaft keyway.
7. Remove the attaching hardware. The pump assembly may now be removed from the mounting bracket.

Installation of Hydraulic Pump

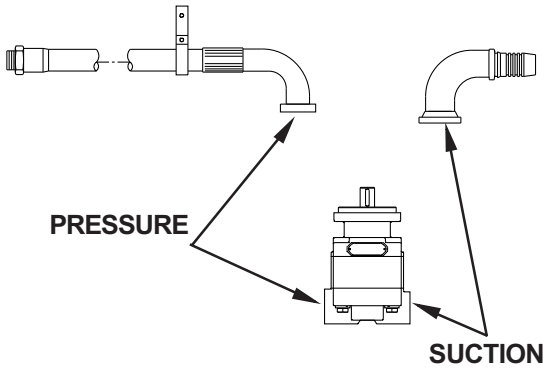
For this task, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Install pump in the reverse order of removal.

NOTE: **The pump suction line (tube and hose) will also be filled with hydraulic fluid. The pump and line may be drained into an absolutely clean container and the fluid poured back into the tank.**

2. Be sure to install any shaft guards that may have been removed.

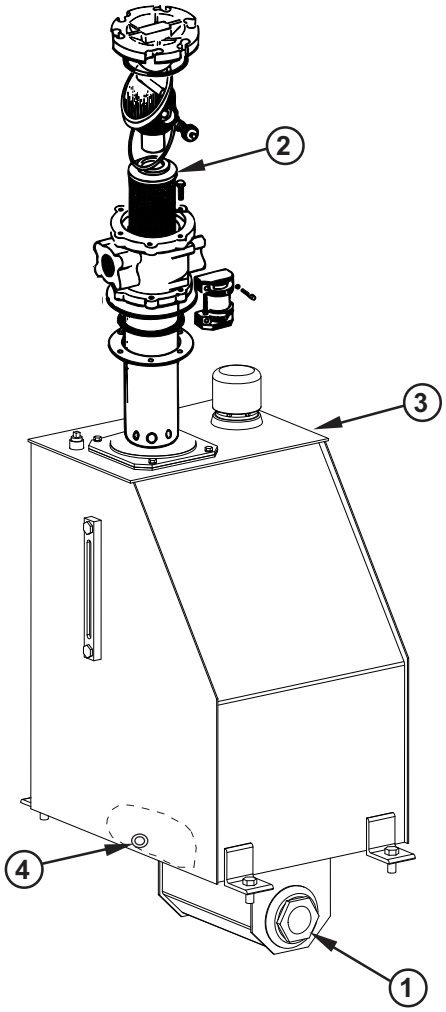


New Pump Preparation

Before installing a new pump, refer to Chapter 5 *Preventive Maintenance* and the following. This will prevent contamination of the new pump.

Procedure to be applied in the preparation of a new pump:

1. Remove and clean the hydraulic strainer (1).
2. Change the filter element (2).
3. Drain and flush the hydraulic tank as described on page 49.
4. Clean the magnetic ring (4).



Testing a New Pump

OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up On

After installing a new pump, check for correct cycle time and main line pressure (see *Checking Pack Cycle Time* on page 60 and *Checking Main Line Pressure* on page 62).

Electrical System

The packer electrical system includes all of the body running and marker lights, operational speed up switches, the operator ready and back-up warning alarms, and all interconnected wiring.

Testing

To locate a defective component or break in the wiring, perform a continuity check across the between suspected components (see *Electrical Testing* on page 37).

Repair

Repair of the electrical system is limited to the replacement of burned-out bulbs and other defective parts or wiring.

Inspection

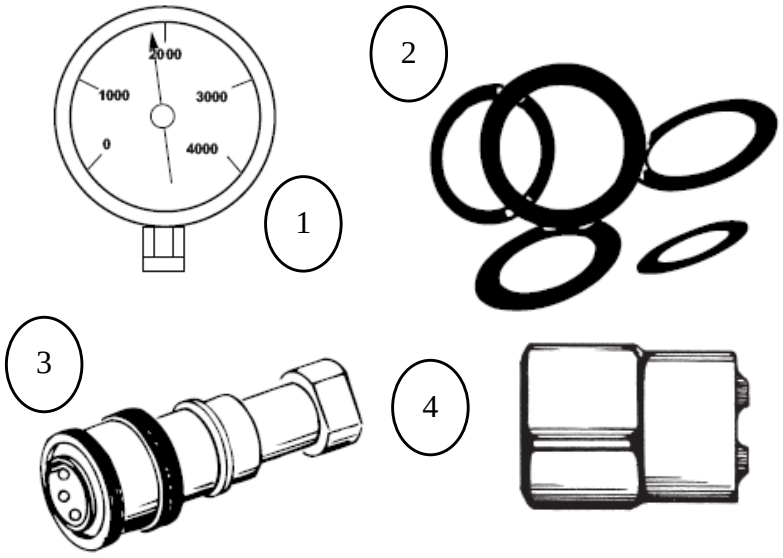
- Operate all light switches and push-button controls to insure that they are operating normally.
- Check all wiring for breaks, frayed or worn insulation and loose terminal connections.

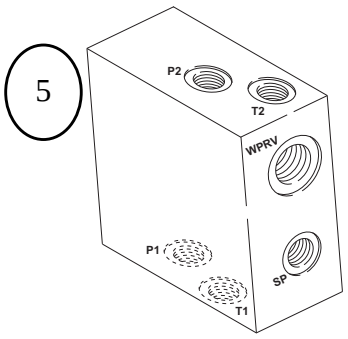
Schematics

Electrical and hydraulic schematics may be viewed or downloaded from Labrie Parts and Service website.

Service Tools

The Service Tools shown in this section will be required for some service and repair procedures. These tools are available from your local authorized Labrie Enviroquip Group Distributor.





NO.	PART NO.	DESCRIPTION	PURPOSE	UNIT
1	HYJ00910	Pressure Gauge	To measure system pressure	All except FL104/Beta
2	HYJ05190	ORFS O-Ring Kit	#4 to #24 ORFS o-rings	All
3	HYF10195	Snap Connector	Quick coupling for pressure gauges	All
4	HY010000	Plunger Tool	Remove/install spring loaded plungers on rear loader container attachments	All
5	HYV50000	Test Block	Test circuit relief cartridges	All Series III

labrieplus

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Telephone: 1-418-831-8250
Service Fax: 1-418-831-1673
Parts Fax: 1-418-831-7561

Mailing Address
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Levis, QC G7A 2T3

Parts and Warranty
During business hours:
8:00 AM to 5:00 PM Eastern Standard Time

Technical Support Service
Toll Free: 1-877-831-8250
(24 hours)

Part# 177538