LEACH

MINI REAR

Maintenance Manual

labrie | DRIVE EXCELLENCE

www.labriegroup.com

Liability

Labrie Environmental Group assumes no liability for any incidental, consequential, or other liability that might result from the use of the information contained in this document.

All risks and damages, incidental or otherwise, arising from the use or misuse of the information contained herein are entirely the responsibility of the user.

Although careful precaution has been taken in the preparation of this document, Labrie Environmental Group assumes no responsibility for errors or omissions.

NOTE TO CANADIAN CUSTOMERS:

Canadian customers shall contact the Department of Transport at tc.canada.ca in order to report a safety concern relating to a vehicle.

September 2024

Table of Contents

Reward!

To the first person to notify us of an error in any of our publications!

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

I believe I found an error:

In the _____ manual | Part No. _____ | Page(s) _____

It should say: _____

Name: _____ Address: _____

labrie

THANKS FOR YOUR HELP!

MANUALS@LABRIEGROUP.COM

Part # 200274 (rev.00.09.2024)

1

Introduction

This manual contains information for the correct maintenance of your MINI REAR 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 MINI REAR, please refer to the *Operator's Manual* that is provided with your unit.

Introducing the LEACH™ MINI REAR

The main purpose of the MINI REAR is to safely and efficiently load, compact, transport and unload refuse. In the following pages you will get an overview of how the unit performs those tasks in the most basic terms. For a more detailed description of the unit and its components, refer to the appropriate chapters in this manual.

NOTE: The LEACH™ MINI REAR is available in four body sizes: 8, 10, 13 and 17 yd^3. The first two are considered mini sizes and the last two, mid-range sizes. The MINI REAR may also come with an optional electric vehicle chassis providing zero-emission solutions for clean, efficient operation and for a sustainable future.

Terms You Will Need to Know

Before going further, you will need to become familiar with specific terms that are used when referring to the MINI REAR garbage truck.

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.

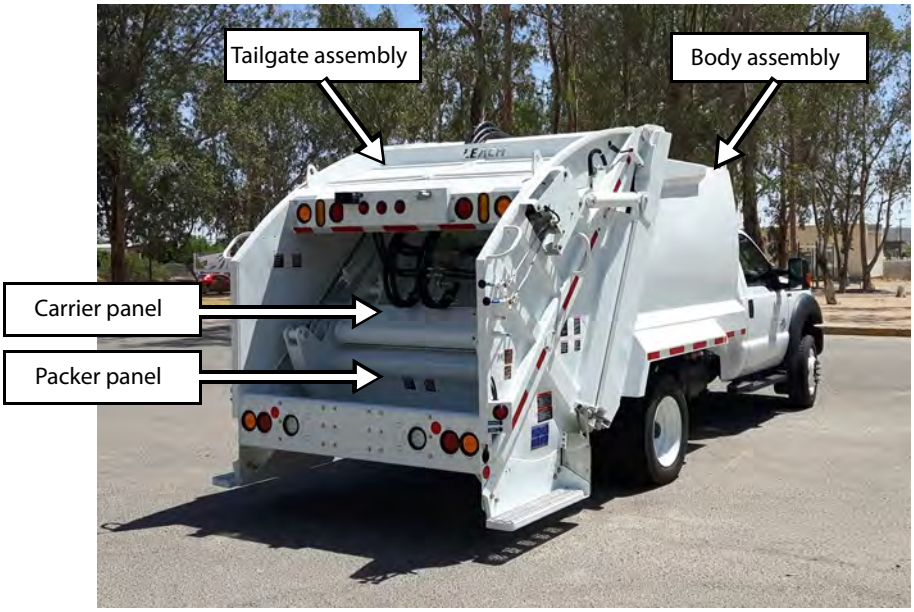
The ***hopper*** is the area of the body where refuse is dumped. The ***packer panel*** is the piece of equipment that pushes refuse into the body. The ***carrier panel*** is

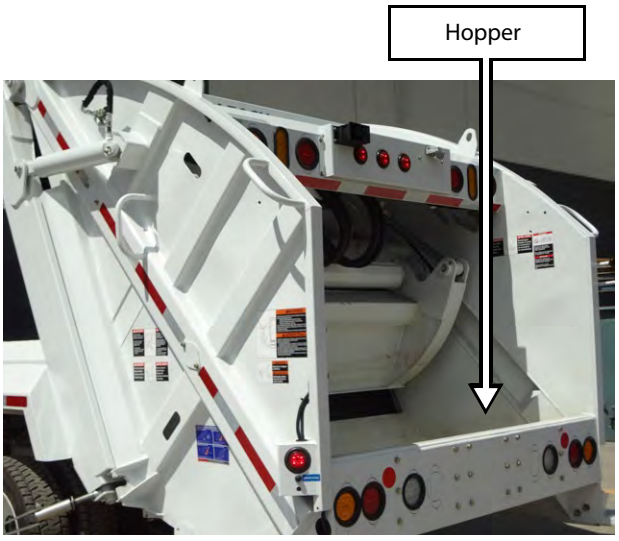
the piece of equipment to which is attached the packer panel. The carrier panel "carries" the packer inside the hopper. The ***pushout*** (or ***ejection***) ***panel*** is the piece of equipment that is used to eject garbage at landfill sites. The ***tailgate*** is the rear pivotal door that prevents refuse from exiting the body during collection. At landfill, the ***tailgate*** is raised to allow the discharge of refuse.

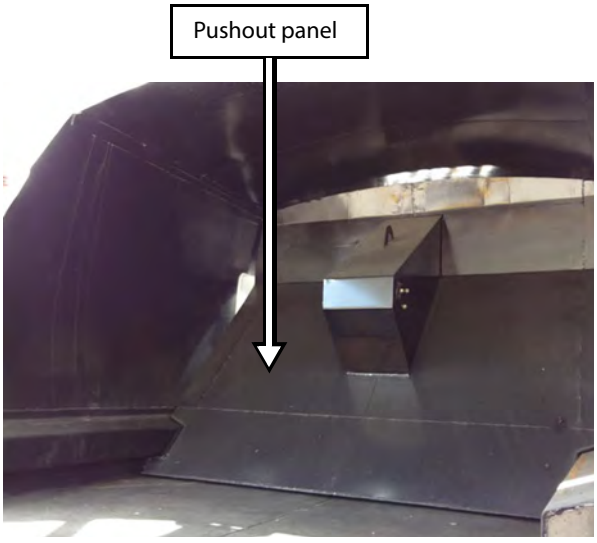
Operating controls for the packer, carrier panel, container handling system (optional)***, and tipper*** (optional) are located on the right-hand side of the tailgate.

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

Figure 1-1 Terms you will need to know





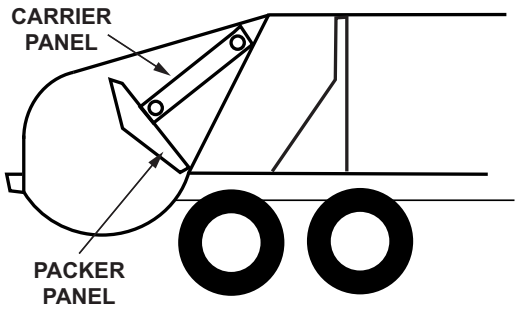


Waste Handling Process

The waste handling process in a MINI REAR 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

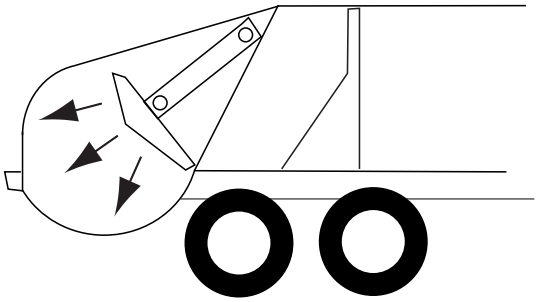
Refuse is first loaded into the hopper of the tailgate assembly. The carrier and packer panels, which sweep up and pack the refuse from the hopper, will be in the "home" position.



"Home" position

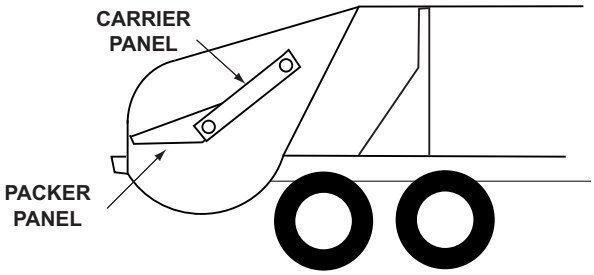
Packing

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



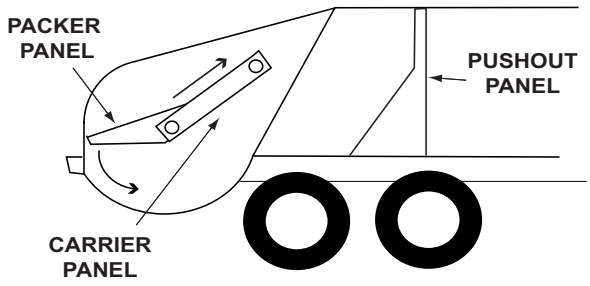
Carrier and packer panels move over load

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



"Interrupted cycle"

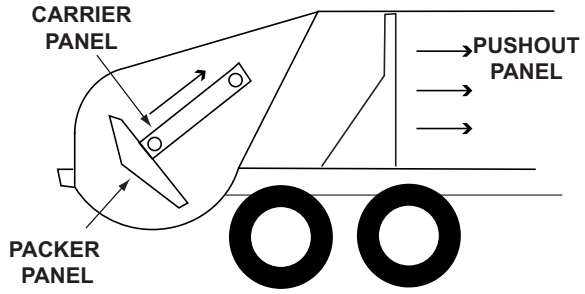
The operator again activates the packing cycle. The carrier and packer panels move forward and sweep the refuse from the hopper up into the body and pack it against the pushout panel. Having completed a cycle, the carrier and packer panels are back into the "home" position and the hopper is cleared for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



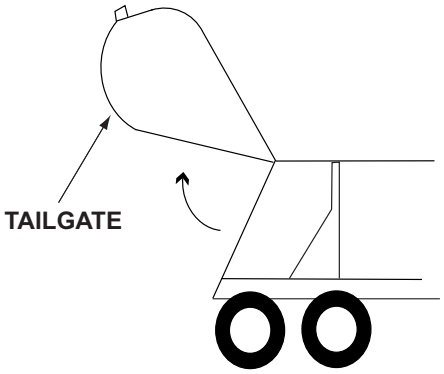
Pushout panel moves forward

Unloading

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

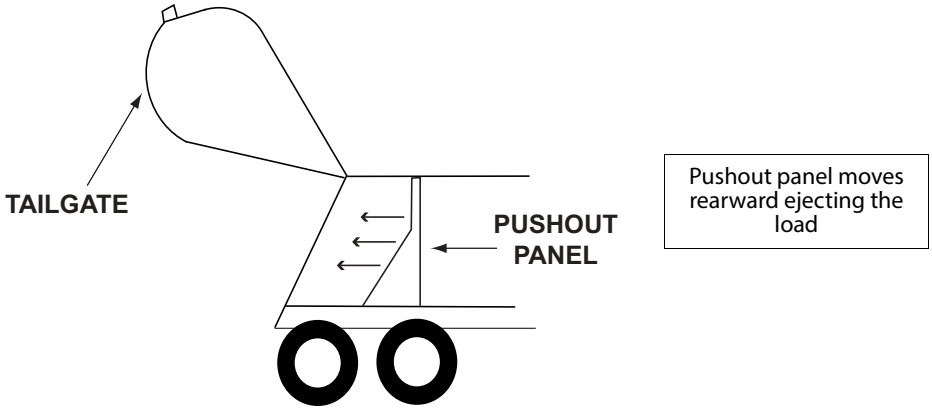
1. The tailgate is raised by the operator.

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

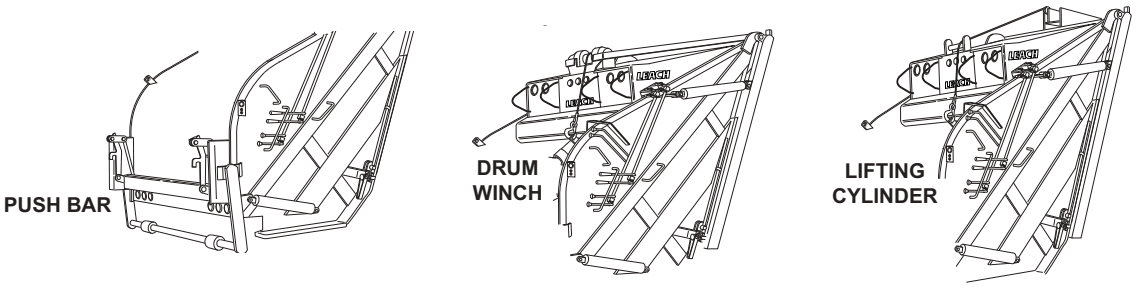
The main purpose of a refuse body is to load, compact, transport and unload refuse. To assist in loading refuse from containers, various container handling systems are available to be mounted on LEACH™ rear loaders.

A refuse container may be a mobile residential container or a 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 push bar.
- A drum winch.
- A roof-mounted lifting cylinder.

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



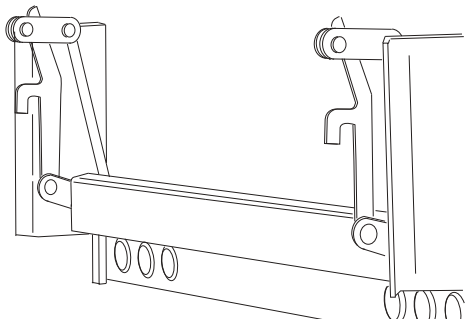
Container Handling Process

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.

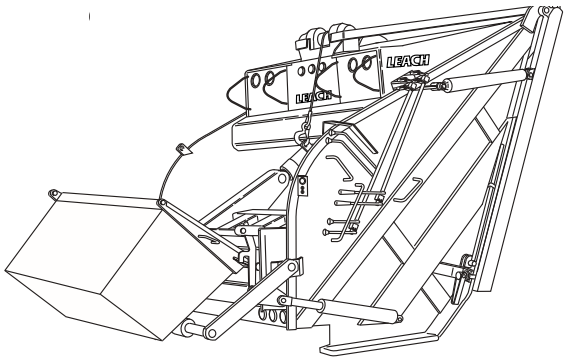
Attaching container



Dumping

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

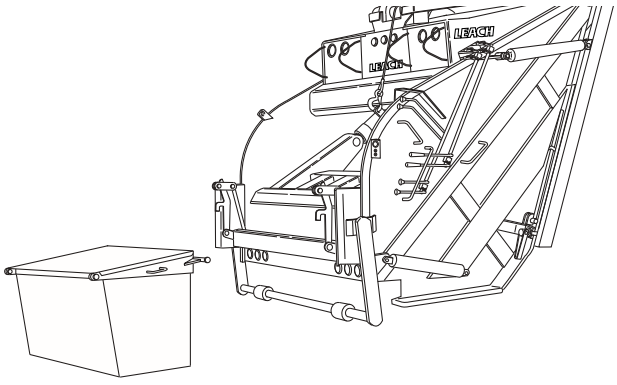
Dumping container



Releasing

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

Releasing container



2

Safety

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

The MINI REAR 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 operator's responsibility to be familiar with and ensure that operation is in accordance with safety requirements and codes including all applicable Occupational Safety & Health Act (OSHA) and American National Standards Institute (ANSI) regulations.

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 the warranty period.

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

Figure 2-1 Safety decal categories

For a list of safety and informative decals and their placement locations on your truck, see the *MINI REAR Parts 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 MINI REAR. 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 MINI REAR.

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 29).

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 MINI REAR 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 29).

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 (if vehicle is so equipped) , 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 29.
- Proper servicing requires specialized tools and procedures. Service must be performed by authorized personnel following procedures outlined in this manual.
- Walk around the vehicle to make sure all persons and obstructions are clear before starting the unit.
- The container handling system (optional) is a critical component of the unit. Use only the proper replacement parts.
- Inspect all hooks, chains and cables daily (if equipped) 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 or a set of CNG tanks, be sure the overall height is rechecked and the 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.
- 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 and put on a safety vest, protective glasses and 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 the TAILGATE OPEN warning light comes on.
- Never use controls or hoses for hand holds when getting on/off the unit. 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 and carrier control levers 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 (if unit is so equipped) and ignition key removed and placed in your pocket. For more information, see *Locking Out and Tagging Out the Vehicle* on page 29.
- The in-cab speed-up switch (units with a fuel/CNG-powered chassis only) must be "OFF" between pickups or when parked. This prevents inadvertent engine speed-up if the carrier control lever is shifted.
- The tailgate clamps (see Figure 2-4) must be tightened securely before starting to load.
- Do not step on the throttle pedal while the speed-up system is engaged (units with a fuel/CNG-powered chassis only).
- Follow all safety directions listed in the *Operator* and *Maintenance Manuals* under SAFETY PRECAUTIONS.
- 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 29.
- If unit is equipped with a ladder, apply the following safety measures:
  - Do not use the ladder if it is defective or in poor condition.
  - Do not use the ladder if you have a medical condition that prevents you from climbing.
  - Always inspect the ladder before climbing.
  - Make sure the ladder is clear and free of any substance that could make it slippery.
  - Always use the 3-points of contact rule when climbing or descending the ladder.
- If the unit is equipped with optional container handling chains or cable, take note of the following:
  - Never use a rear loader to transport a container.
  - 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 open loop lift attachment feature with the safety latch closed. The hook must be secured to a closed loop lifting feature. 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.

Danger!

Is the chassis of your truck electric-powered? If so, please read the following: Repair work on an electrically powered chassis must be done by experienced mechanics following recommendations and procedures contained in the service manual of the electric chassis manufacturer. If you don't have the correct training, you shouldn't try to repair anything on an electric-powered chassis. Bear in mind there is a fire risk and a high risk of electric shocks if repairs are not done properly or you touch something you shouldn't.

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

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

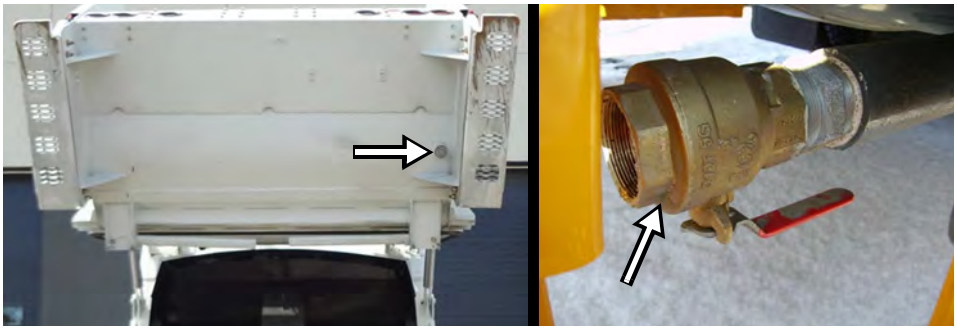
Figure 2-2 5-lb fire extinguisher

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 you need to drain water and other liquids out of the tailgate, use the NPT plug which is at the bottom of the tailgate, on the curbside (see Figure 2-3) or the optional drain located under the curbside of the tailgate (see Figure 2-3).

Figure 2-3 NPT plug (left), optional drain (right)



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.

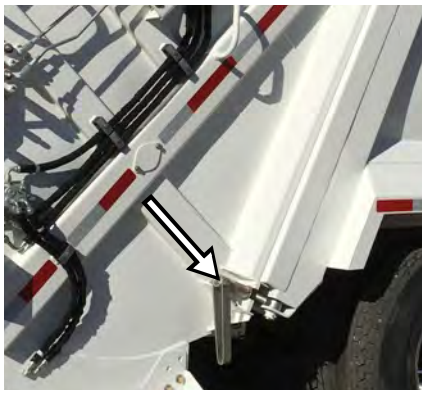
Setting the Tailgate Safety Props (for units w/ a fuel/CNG-powered chassis)

NOTE: For units with an electrically powered chassis, go to page 21.

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 2-4 Tailgate clamp



3. Start the engine.

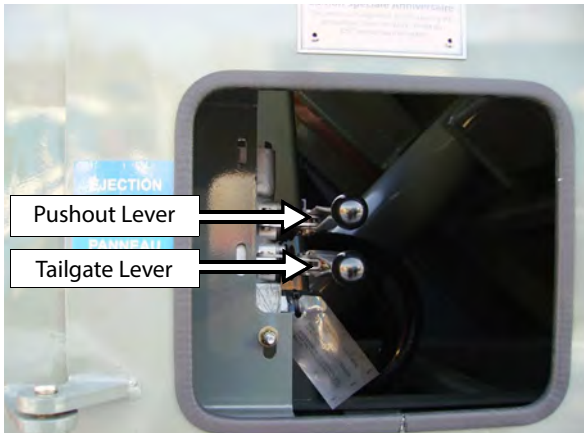
4. Turn the pump ON.

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 (see Figure 2-5) raise the tailgate a few feet (enough to swivel both safety props towards the body).

Figure 2-5 TAILGATE/PUSHOUT levers

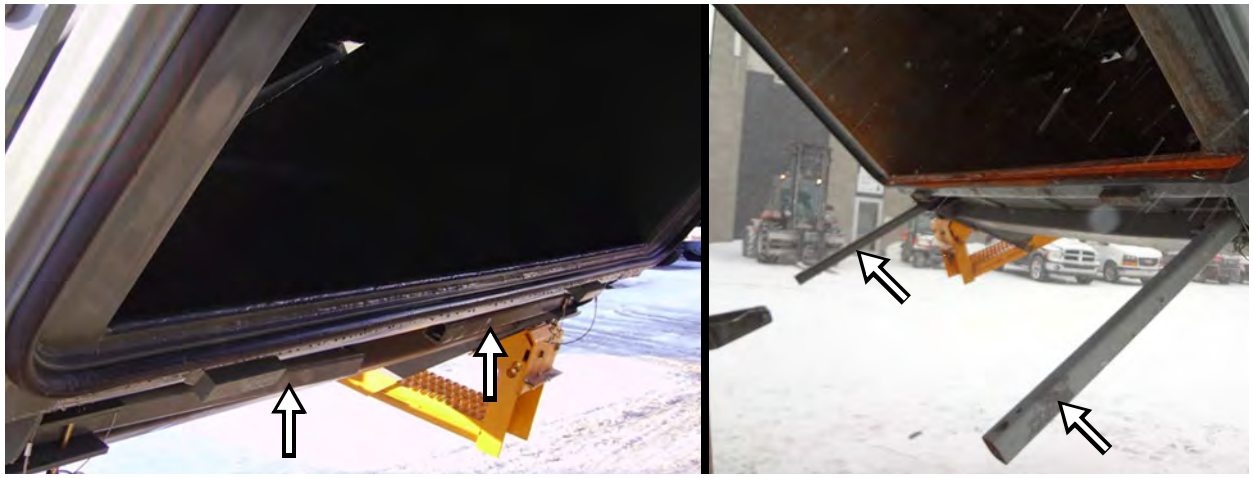


6. Unlatch each prop from its stored position and swivel it towards the body (see Figure 2-6).

Danger!

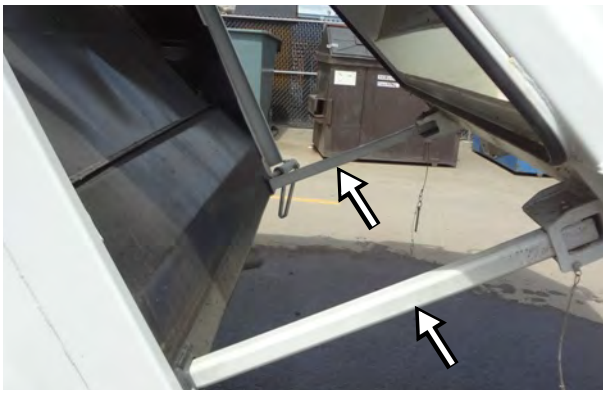
Stand clear of tailgate path while setting the safety props.

Figure 2-6 Props in stored position (left), in service position (right)



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

Figure 2-7 Props resting against body base



Putting the Tailgate Safety Props Back in Place (for units w/ a fuel/CNG-powered chassis)

NOTE: For units with an electrically powered chassis, go to page 23.

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 2-5).
4. Swivel back each safety prop and latch it into place under the tailgate (see Figure 2-8 and Figure 2-9).

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

Figure 2-8 Putting back props into stored position

Figure 2-9 Prop securely latched

IMPORTANT: Secure each prop using the provided latch.

5. Using the TAILGATE lever (see Figure 2-5), fully close the tailgate.
   The TAILGATE OPEN light indicator (see Figure 2-10) should turn off.

Figure 2-10 TAILGATE OPEN light indicator

6. Put the tailgate clamps back in place (see Figure 2-4). 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 w/ an electrically powered chassis)

NOTE: For units with a fuel/CNG-powered chassis, go to page 17.

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 2-11 Tailgate clamp

3. Start the engine.
4. Turn ON the HYDRAULIC PUMP switch (see Figure 2-12).

Danger!

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

Figure 2-12 HYDRAULIC PUMP switch

5. Press the HYDRAULIC ENABLE push-button on the front left-hand side corner of the body.

   Once he presses this push-button, the operator will have 60 seconds to activate either the tailgate up/down function or the pushout in/out function. The operator must activate either function within that time period. If he does not, the hydraulic pump will stop functioning and the operator will then have to press the push-button again to reactivate the hydraulic system with either function becoming available.

Figure 2-13 HYDRAULIC ENABLE push-button

6. Using the TAILGATE lever (see Figure 2-14) raise the tailgate by about 3 feet (enough to swivel both safety props towards the body).

Figure 2-14 TAILGATE/EJECTION levers

7. Unlatch each prop from its stored position (see Figure 2-15) and swivel it towards the body.

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

Figure 2-15 Props in stored position

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

   Be sure to press the HYDRAULIC ENABLE push-button (see Figure 2-13) first and then use the TAILGATE lever.

Figure 2-16 Props set against body base

Putting the Tailgate Safety Props Back in Place (for units w/ an electrically powered chassis)

NOTE: For units with a fuel/CNG-powered chassis, go to page 19.

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

1. Start the engine.
2. Turn ON the HYDRAULIC PUMP switch (see Figure 2-12).
3. Press the HYDRAULIC ENABLE push-button on the front left-hand side corner of the body (see Figure 2-13).
4. Raise the tailgate by about 3 feet using the TAILGATE lever (see Figure 2-14).

5. Swivel back each safety prop and latch it into place under the tailgate (see Figure 2-17 and Figure 2-18).

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

Figure 2-17 Putting back props into stored position

Figure 2-18 Prop securely latched

IMPORTANT: Secure each prop using the provided latch.

6. Press the HYDRAULIC ENABLE push-button on the front left-hand side corner of the body (see Figure 2-13).
7. Using the TAILGATE lever (see Figure 2-5), fully close the tailgate.

The TAILGATE OPEN light indicator (see Figure 2-19) should turn off.

Figure 2-19 TAILGATE OPEN light indicator

8. Put the tailgate clamps back in place (see Figure 2-11). To do so:
   - **8 a.** Swivel back the clamp against the body.
   - **8 b.** Tighten the clamp properly.

Camera System (optional)

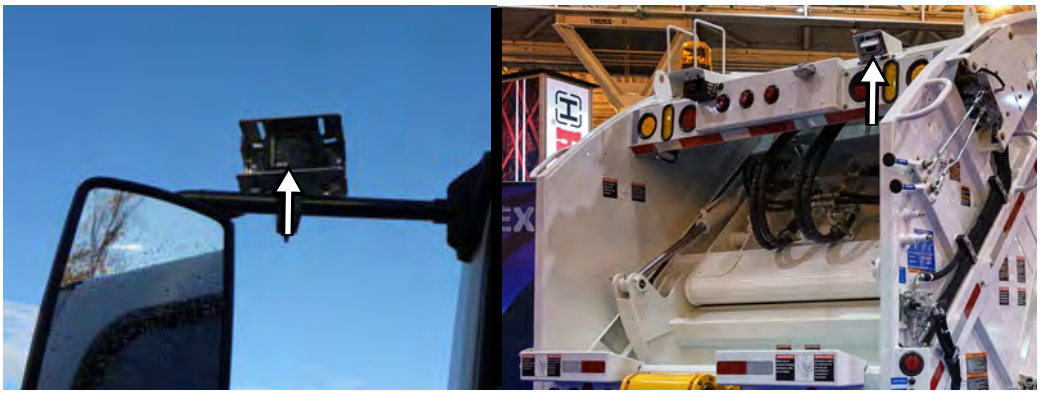
MINI REAR units with a 13-yard^3 body may be equipped with up to four (4) cameras. Examples of locations where cameras can be installed on the truck:

- on the upper part of the tailgate (see Figure 2-20, right)
- on the left-hand side mirror (see Figure 2-20, 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 2-20 Camera on left-hand side mirror (left), on tailgate (right)



MOL Safety Operation System (optional)

Labrie option "Packer Protection – 2nd-hand enable buttons and guard (MOL 2004)" is mandatory in certain locations. However, it can also be installed as an additional safety system if requested.

This option is composed of four buttons:

- A rotary switch for selecting the number of operators, located in the cab (Figure 2-22).
- A DRIVER enable button, located in the cab (Figure 2-21).
- A TAILGATE enable button (Figure 2-21).
- A Mid-Body enable button (Figure 2-22).

Logic of operation is as follows:

If the rotary switch is set to one operator, the TAILGATE enable button is the only interlock that must be pressed to activate the packer in the protected zone[1].

If the rotary switch is set to two operators, the TAILGATE enable and DRIVER enable buttons must be pressed for activating the packer in the protected zone.

If the rotary switch is set to three operators, the TAILGATE enable, DRIVER enable and Mid-Body enable buttons must be pressed for activating the packer in the protected zone.

NOTE: For additional safety, the rotary switch can be locked (Figure 2-22) to prevent operator from lowering the number of operators to bypass the system.

If the packer is stopped by the interlocks, correct number of enable switches must be pressed according to the number of operators, then the packer return lever needs to be pushed.

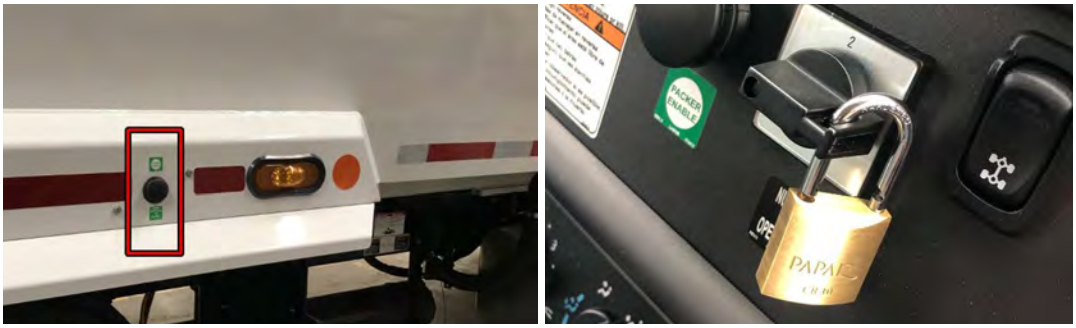
Each worker riding on a MINI REAR unit must depress and hold an enable button for the packer to operate effectively. If one of the enable buttons is not depressed, the packer will not complete a full cycle and no packing will occur. The purpose of this system is to protect all workers from injury.

The MOL Safety Operation System allows the packer to pack only when all enable buttons are depressed and held simultaneously. If one of the buttons is released while the packer is within the protected zone, the packer will stop immediately. This minimizes the risk of the workers getting injured by the equipment.

Figure 2-21 DRIVER enable button (left), TAILGATE enable button (right)

1. The protected zone is defined as the last travel portion of the packer detected by two proximity sensors.

Figure 2-22 Mid-Body enable button (left), rotary switch (right)



TAILGATE OPEN Proximity Switch Test

For this test, proceed as follows:

1. Make sure that the body is empty.
2. Remove both tailgate clamps (see Figure 2-4). To do so:
   - **2 a.** Loosen the clamp.
   - **2 b.** Swing the clamp away from the body.
3. Start the truck.
4. Turn ON the HYDRAULIC PUMP switch (see Figure 2-12).
5. Using the TAILGATE lever (see Figure 2-5), raise the tailgate by a few feet.

   If your vehicle is built on an electrically powered chassis, be sure to press the HYDRAULIC ENABLE push-button (see Figure 2-13) first and then use the TAILGATE lever.

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 light indicator (see Figure 2-19) should turn on. Check they are all working. If for some reason any of these elements are not activated, proceed with the adjustment or the replacement of the TAILGATE OPEN proximity switch.

The HYDRAULIC ENABLE push-button, only on units w/ an electrically powered chassis, allows the operator to activate a specific hydraulic function when needed. Once the operator presses this push-button, he will have 60 seconds to activate either the tailgate up/down function or the pushout in/out function. The operator must activate either function within that time period. If he does not, the hydraulic pump will stop functioning and the operator will then have to press the push-button again to reactivate the hydraulic system with either function becoming available.

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

   If your vehicle is built on an electrically powered chassis, be sure to press the HYDRAULIC ENABLE push-button (see Figure 2-13) first and then use the TAILGATE lever.

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

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

Adjusting TAILGATE OPEN Proximity Switch

If the Tailgate Open Proximity Switch Test fails, it may be that the proximity switch (see Figure 2-23) is misaligned.

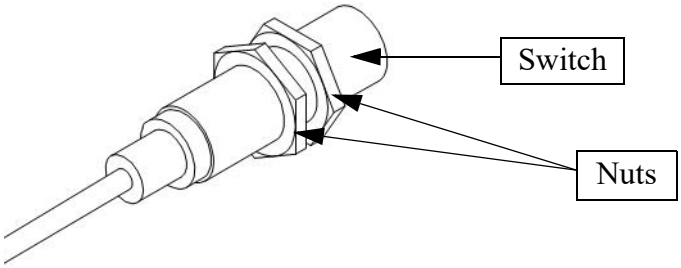
Figure 2-23 TAILGATE OPEN proximity switch

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 tailgate 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 MINI REAR unit:

1. Park the vehicle on safe level ground and apply the parking brake (see Figure 2-24).

Figure 2-24 Parking brake button/pedal

2. Make sure that the body is completely unloaded.
3. Turn OFF the HYDRAULIC PUMP switch.
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 (if installed).

IMPORTANT: The battery set of the MINI REAR may be equipped with a master switch (see Figure 2-25) that must be turned off.

NOTE: On units with an electrically operated chassis, the master switch is located next to the charging unit (see Figure 2-26). Other master switches may be installed on the chassis. Refer to the chassis manufacturer's manual for the number of master switches installed and their location on the chassis (if any).

Figure 2-25 Master switch (optional)

Figure 2-26 Master switch (on units w/ an electrically powered chassis)

6. Chock all wheels.
7. Put an "OFF SERVICE" tag on the driver's wheel and on the front windshield.
8. Secure an open tailgate with the provided safety props 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.

NOTE: Other steps may be required to complete the lock out/tag out procedure for a unit equipped with an electrically powered chassis. Refer to the chassis manufacturer's manual and complete the lock out/tag out procedure provided in that manual.

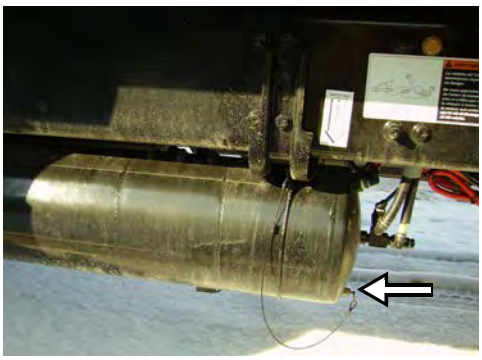
Shutting Down the Vehicle

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 2-24).
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 2-29), the electric system, the engine and the master switch (if equipped) [see Figure 2-25 and Figure 2-26].
4. Drain all air tanks (if so equipped).

Figure 2-27 Drain valve on air tank

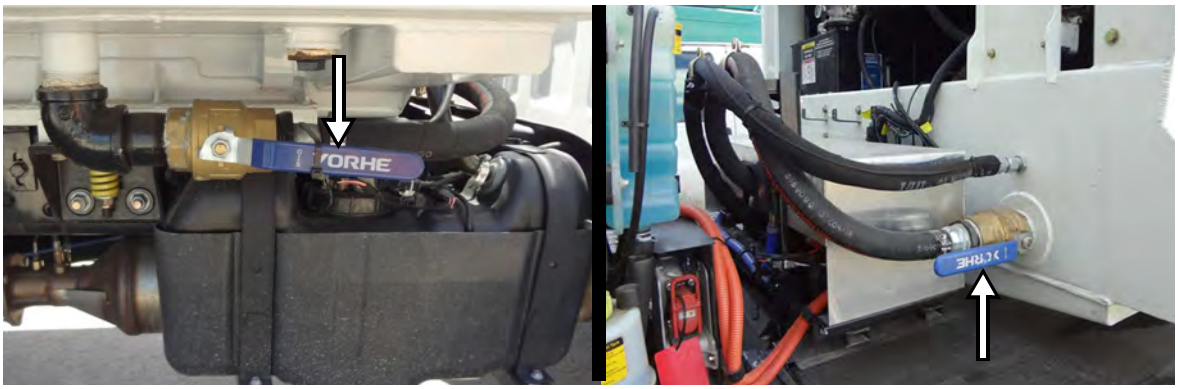


Starting Up the Vehicle

Follow this procedure to ensure a trouble-free start-up:

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 2-28).

Figure 2-28 Shut-off valves



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

Warning!

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

3. Start the engine.
4. Engage the hydraulic system by switching ON the HYDRAULIC PUMP switch (see Figure 2-29).

Figure 2-29 HYDRAULIC PUMP switch

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 Environmental 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 Environmental 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.**

Danger!

Is the chassis of your truck electric powered? If so, please read the following: Repair work on an electric-powered chassis must be done by experienced mechanics following recommendations and procedures contained in the service manual of the electric chassis manufacturer. If you don't have the correct training, you shouldn't try to repair anything on an electric-powered chassis. Bear in mind there is a fire risk and a high risk of electric shocks if repairs are not done properly or you touch something you shouldn't.

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 174.

Replacement Parts

Of growing concern to the Labrie Environmental 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* SERVICE + PARTS

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 29).
- 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 17.
- When working on the unit, always use the service tools listed on page 174 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 2-28), 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 29
- 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.
- 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.

PTO Preventive Maintenance

The Power Take-Off (PTO) device on your truck needs regular maintenance to ensure it's operating at its highest efficiency. Please refer to the PTO manufacturer's manual for specific maintenance procedures. Periodic normal maintenance of the PTO device always includes bolt tightness and torque inspection.

Welding Precautions

Danger! Welding should not be performed on an electric chassis unless the truck is completely off.

Observe the following:

- Completely clean out an old weld before re-welding.
- When repairing a cracked weld, the old weld should be completely removed before re-welding.
- 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.

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 *Capscrew Marking and Torque Values* on page 40 and *Hydraulic Fitting Torque Values* on page 41).
- 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.

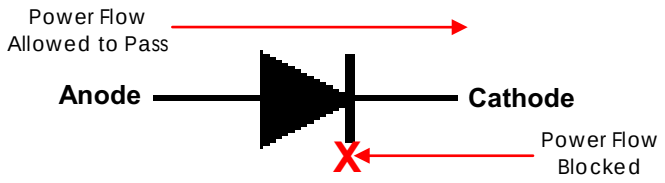
Checking Continuity

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.

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	30 gallons

Total System

System Pressure Settings	2500 psi (172 bar)
Type of Fittings	Steel Tubing: Reinforced Rubber Hose w/ Crimped Full-Flow JIC 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	13 GPM @ 1200 RPM (8 yd^3-10yd^3) 22 GPM @ 1200 RPM (13 yd^3-17yd^3)

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.

Specs Tables - Mini Rear Loader

Body Specifications	Mini 8yd³ - 10yd³	Mid-Range 8yd³ - 13yd³
Body Floor	11ga 55,000psi	3/16" 55,000psi
Body Sides	12ga 45,000psi	3/16" 72,000psi
Body Roof	11ga 36,000psi	11ga 36,000psi

Ejector Specifications	Mini 8yd³ - 10yd³	Mid-Range 8yd³ - 13yd³
Ejector Panel Face Plate	1/8"	1/8"

Packer-Carrier Specs	Mini 8yd³ - 10yd³	Mid-Range 8yd³ - 13yd³
Compaction ratio (lbs/yd³)	800	800
Packer Panel Face Plate	3/16" 72,000psi	3/16" 72,000psi
Carrier Panel Face Plate	3/16" 72,000psi	3/16" 72,000psi

Hydraulic Specs	Mini 8yd³ - 10yd³	Mid-Range 8yd³ - 13yd³
Pump	Gear	Gear
Pump Capacity	13 gpm @ 1200 rpm	22 gpm @ 1200 rpm
Max. Operating Pressure	2,500 psi	2,500 psi
Oil Reservoir	30 gal	30 gal

Hopper Specifications	Mini 8yd³ - 10yd³	Mid-Range 8yd³ - 13yd³
Hopper Size (yd³)	1.5	2.2
Hopper Opening Width	75"	80"
Hopper Opening Height	44"	58"
Hopper Depth	14"	17-1/2"
Loading Sill vs Chassis Frame	+1"	-2-1/2"
Hopper Floor	0.197" AR450 175,000psi	0.197" AR450 175,000psi
Hopper Sides	0.197" AR450 175,000psi	0.197" AR450 175,000psi

Cylinder Specifications	Mini 8yd³ - 10yd³	Mid-Range 8yd³ - 13yd³
Ejector Cylinder (8 yd³ bodies)	2 stages 5-1/2" bore x 46-7/16" stroke	-
Ejector Cylinder (10 yd³ bodies)	3 stages 6" bore x 71-7/16" stroke	-
Ejector Cylinder (13 yd³ bodies)	-	3 stages 6" bore x 71-7/16" stroke
Ejector Cylinder (17 yd³ bodies)	-	3 stages 6" bore x 86-1/4" stroke
Packer Cylinders	3" bore x 1-3/4" rod x 20" stroke	4" bore x 2-1/2" rod x 23-5/8" stroke
Carrier Cylinders	3-1/4" bore x 1-1/2" rod x 22-7/16" stroke	4" bore x 1-3/4" rod x 28-15/16" stroke
Tailgate Cylinders	3-1/2" bore x 3" rod x 19-5/8" stroke	4" bore x 3-1/2" rod x 24-1/2" stroke

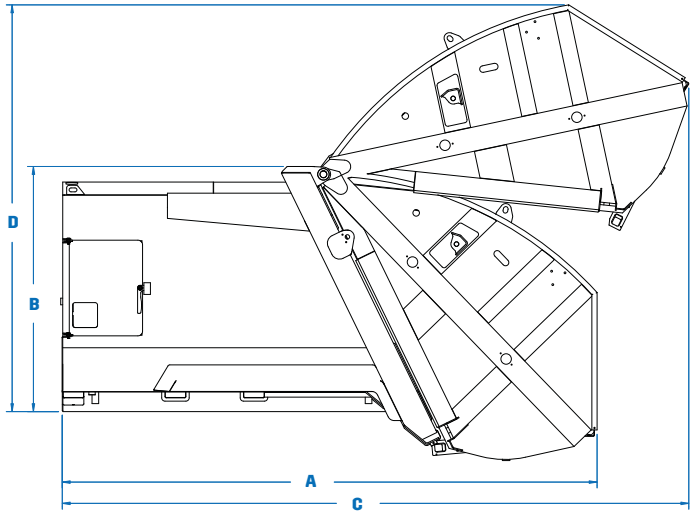
Note: Specifications subject to change without notice

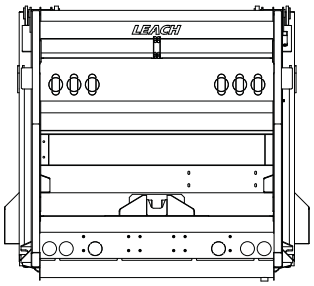
EnviroLink™ SMARTER COLLECTION

EV CNG

Mini Rear

Performance Specifications	Mini 8yd³ - 10yd³	Mid-Range 8yd³ - 13yd³
Packer/Carrier Cycle Time	20-23 sec	20-23 sec
Tailgate Open	10 sec @ 700 rpm	10 sec @ 700 rpm
Tailgate Close (with Safety Flow limiter)	30 sec @ 700 rpm	30 sec @ 700 rpm





Body Dimensions	Mini 8yd³	Mini 10yd³	Mid-Range 13yd³
A. Overall Length, Tailgate Closed (in.)	161	187	198
Overall Width (in.)	102	102	102
B. Overall Height Above Frame, Tailgate Closed (in.)	74	74	85
C. Overall Length, Tailgate Open (in.)	189	216	222
D. Overall Height Above Frame, Tailgate Open (in.)	121	121	156

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 MINI REAR 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 Environmental 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

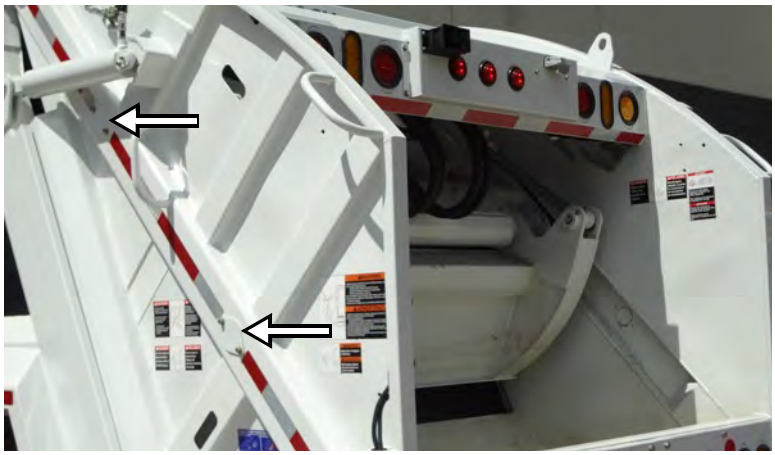
Table 1 Lubrication chart

Description	Frequency
Carrier cylinder pins (2)	Twice a week
Lower slide shoe pins (2)	Twice a week
Packer cylinder pins (2)	Twice a week
Packer/carrier bearing points (4)	Twice a week
Packer/carrier control rods	Weekly
Pump drive shaft “U” joint	Twice a week
Push bar cylinder pins (2) (if truck equipped)	Weekly
Pushout (ejector) cylinder pins (2)	Weekly
Pushout (ejector) panel guides (both sides)	Weekly
Reeving sheave pins (if truck equipped)	Weekly
Tailgate cylinder pins (2)	Weekly
Tailgate hinges (2)	Weekly
Tailgate latches (2)	Weekly
Tipper cylinder pins (2) (if truck equipped)	Twice a week
Upper slide shoe pins (2) (grease fitting in the packer cylinder)	Twice a week

Greasing Carrier Slide Shoes

There are 2 upper slide shoes and 2 lower slide shoes attached to the panel. Each slide shoe has a grease zerk fitting in its center. To access the grease zerk fittings of all 4 slide shoes: 1) rotate the grease hole cover (see Figure 5-1) upward on each trap assembly, 2) then align the grease zerks with the grease holes by moving the carrier panel accordingly. You can now proceed with greasing each carrier slide shoe.

Figure 5-1 **Grease hole covers**



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: operating valve control lever, inside and outside bearing housing, carrier panel cylinder ends, packer panel cylinder rod ends, slide shoes, and 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: Slide shoes need lubrication, tracks do not. 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)

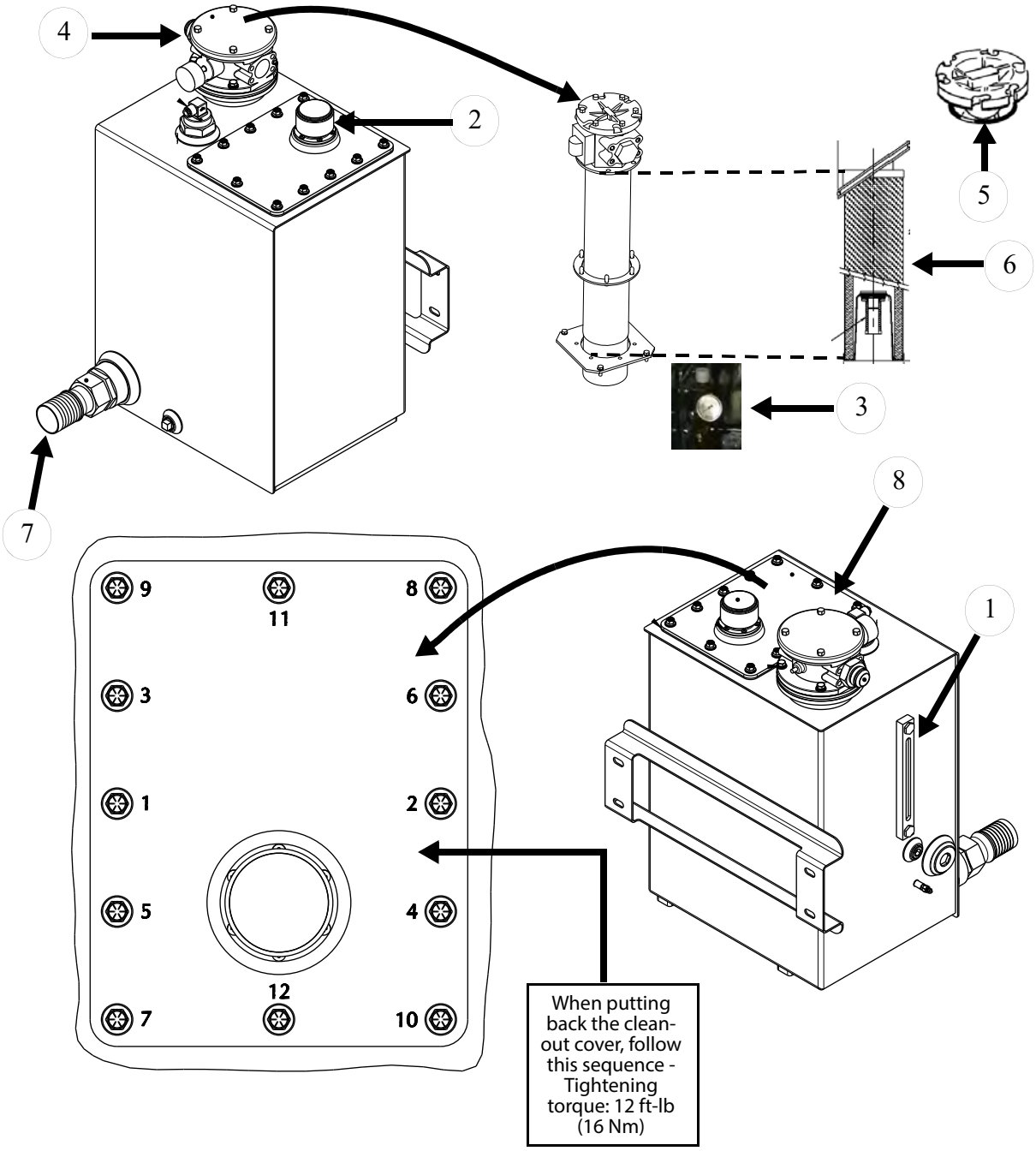
Place the carrier and packer panels in the "interrupted cycle" position and fully retract the pushout cylinder to check the fluid level (see Figure 5-2, #1). When checking the fluid level in the hydraulic tank, also note any frequent or sudden loss of fluid. This may indicate leakage, which must be traced 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 44 according to operating and weather conditions.

Checking Tank Breather Cap (Weekly)

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

Figure 5-2 **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 5-2, #3).

The condition of the filter element must be checked weekly by looking at the visual indicator on the filter (see Figure 5-2, #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 yellow zone.

Replacement of Filter Element

To replace the filter element:

1. Remove the filter cover (see Figure 5-2, #4).
2. Remove the o-ring (see Figure 5-2, #5).
3. Remove the element (see Figure 5-2, #6) and discard.
4. Install a new element (see Figure 5-2, #6).
5. Coat a new o-ring (see Figure 5-2, #5) with fresh hydraulic fluid and install in the filter cover (see Figure 5-2, #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 50).

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)

NOTE: Flushing of the system must be done when a major component fails such as a hydraulic pump, cylinder or main control valve. Flushing of the system and hydraulic oil are not covered by warranty.

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 the strainer (see Figure 5-2, #7).
3. Clean the strainer thoroughly in a suitable cleaning solvent.
4. Remove the clean-out cover (see Figure 5-2, #8) and wipe out the bottom of the tank.
5. Once the cleaning is done, put back the clean-out cover and secure it to the tank by following the tightening sequence shown in Figure 5-2. Tighten the bolts to a torque of 12 ft-lb.
6. Reinstall the strainer (see Figure 5-2, #7).
7. Fill the hydraulic tank to the "NORMAL FILL LEVEL" with fresh hydraulic fluid as specified in the *LEACH™ Hydraulic Fluid Recommendation* section on page 44 according to operating and weather conditions.
8. Start the unit and operate all hydraulic levers. Leave all hydraulic cylinders in the retracted position and shut down the unit.
9. 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 MINI REAR* 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 two front body mounting bolts should be torqued to 21 ft-lb 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.

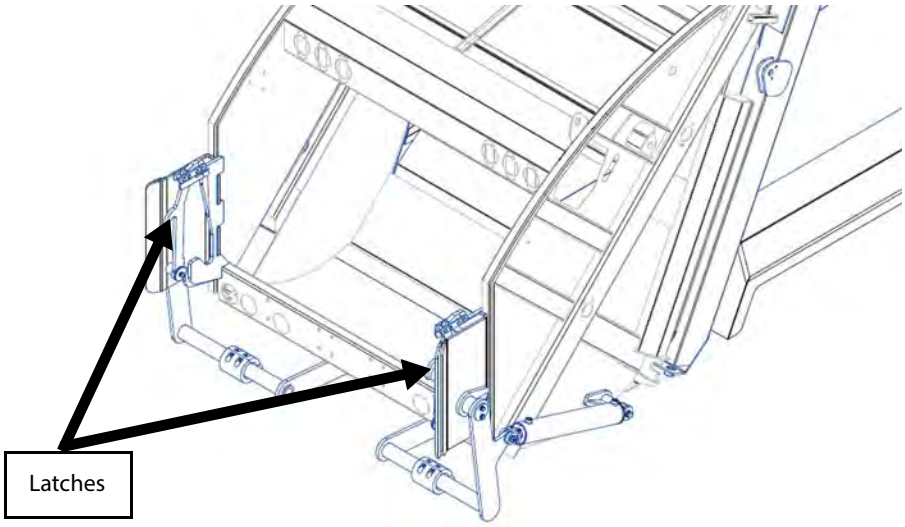
Lubrication

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

Container Handling Equipment (if equipped)

In addition to performing the daily vehicle and packer body pre-operation inspection, check the container handling system (if unit is so equipped). 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.
- Parts that are not in good condition must be replaced immediately.



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 40.

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

Lubrication

Refer to "Lubrication" on page 48 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 52 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 (if unit is so equipped) to make sure that no damage exists and that all fasteners are secure.

All pins and latches should be inspected weekly or every 75 hours.

Check the cylinder mounting bolts for tightness every week or every 75 hours.

Parts that are not in good condition must be replaced immediately.

IMPORTANT: Push bar pins, cylinder rod end pins, cylinder mounts, arm pins, pulley support pin assembly and large pulley pin must be lubricated at least once a week or every 75 hours.

Pivot Points

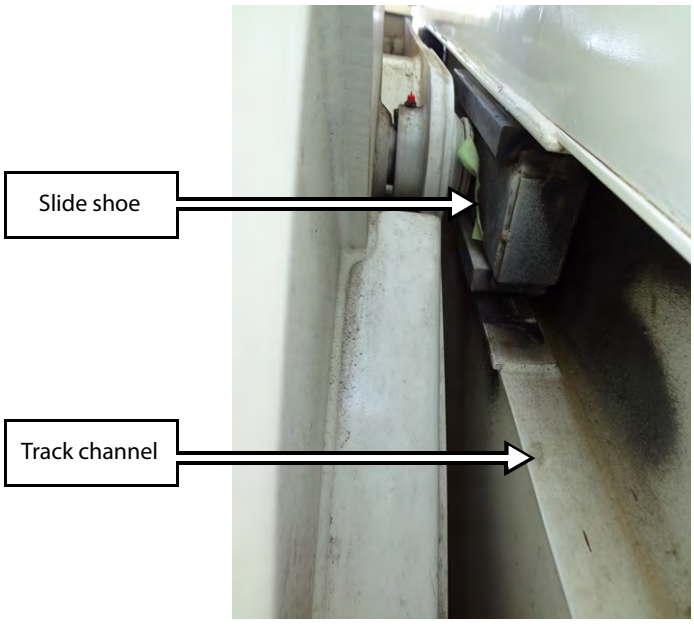
Check all pivot points for wear and smooth operation.

Slide shoes

Check all 4 sliding shoes for wear. Very worn shoes may cause the packer/carrier assembly to move sideways or vertically. In such a situation, replace all worn out sliding shoes.

NOTE: Slide shoes should be inverted or replaced every 5400 hours.

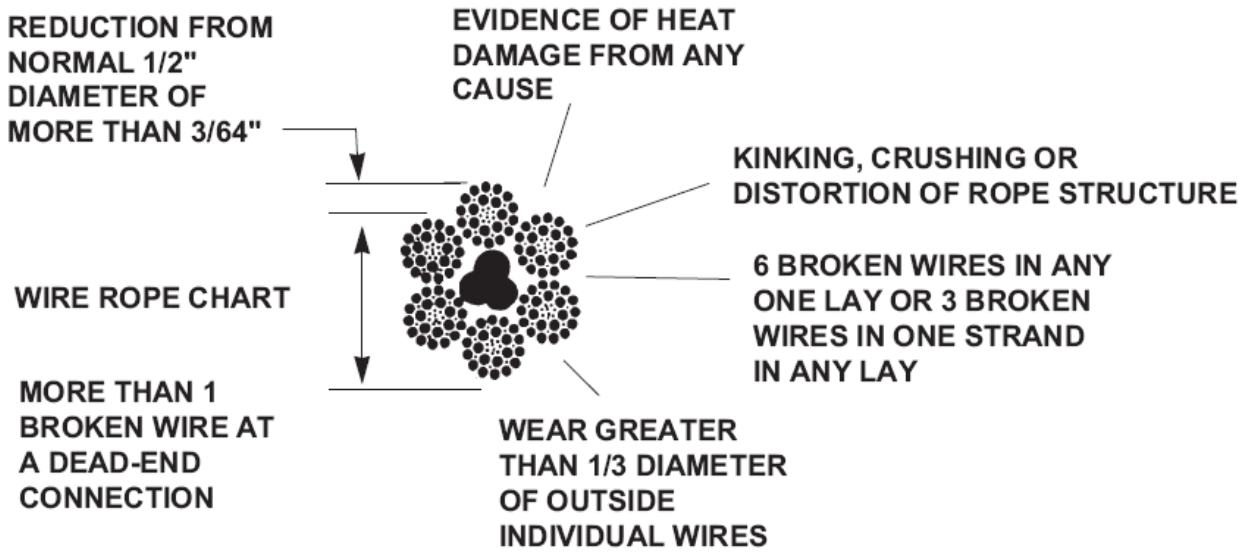
Also, make sure both track channels in which the slide shoes travel are smooth and clean. Clean if necessary.



Wire Rope (Cable) [if equipped]

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 the length of rope in which one strand of wire makes a complete revolution about the core.



Packer/Carrier Assembly

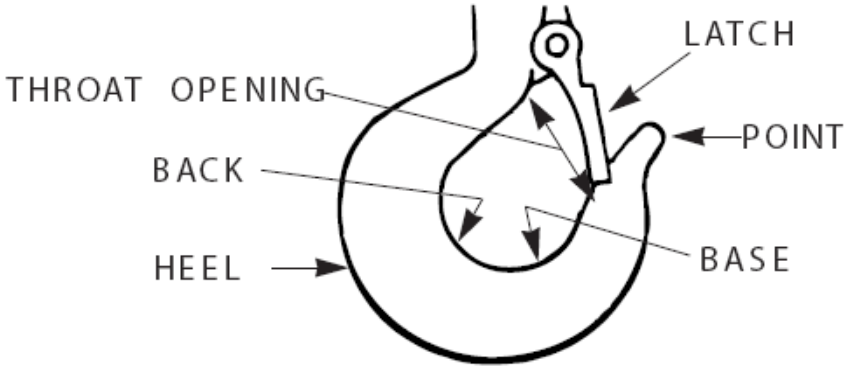
The packer/carrier assembly should be visually inspected every forty (40) hours of operation for cracked or fatigued welds, loose or broken fasteners, worn bearings, pin hubs or pins.

Monthly Preventive Maintenance

Lifting Hook (if equipped)

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.



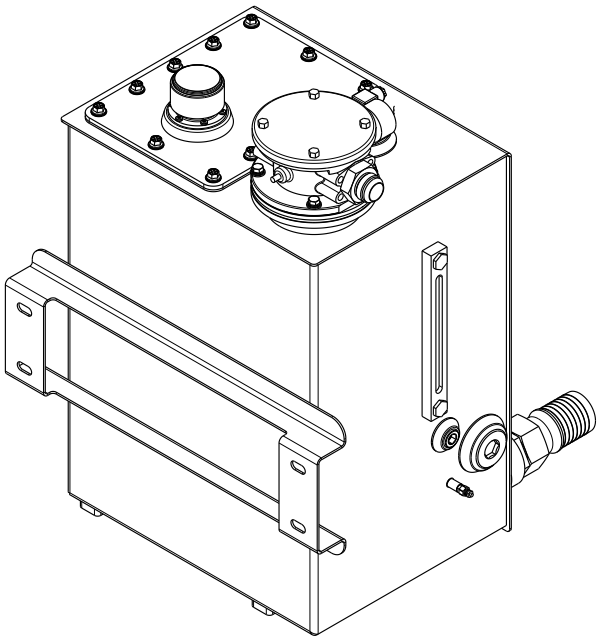
Yearly Preventive Maintenance

Hydraulic System

Once a year drain, flush and refill the hydraulic tank as described in *Flushing Hydraulic System / Cleaning Hydraulic Strainer (Yearly)* on page 53.

Once a year remove, clean and inspect the suction strainer as described in *Flushing Hydraulic System / Cleaning Hydraulic Strainer (Yearly)* on page 53.

Once a year replace the hydraulic tank air breather.



Hydraulic tank

6

Check-Out

The MINI REAR 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.

Example of Operational Status block:

OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/ CNG powered chassis only)

NOTE: On units with an electrically powered chassis, there is no in-cab SPEED-UP switch.

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

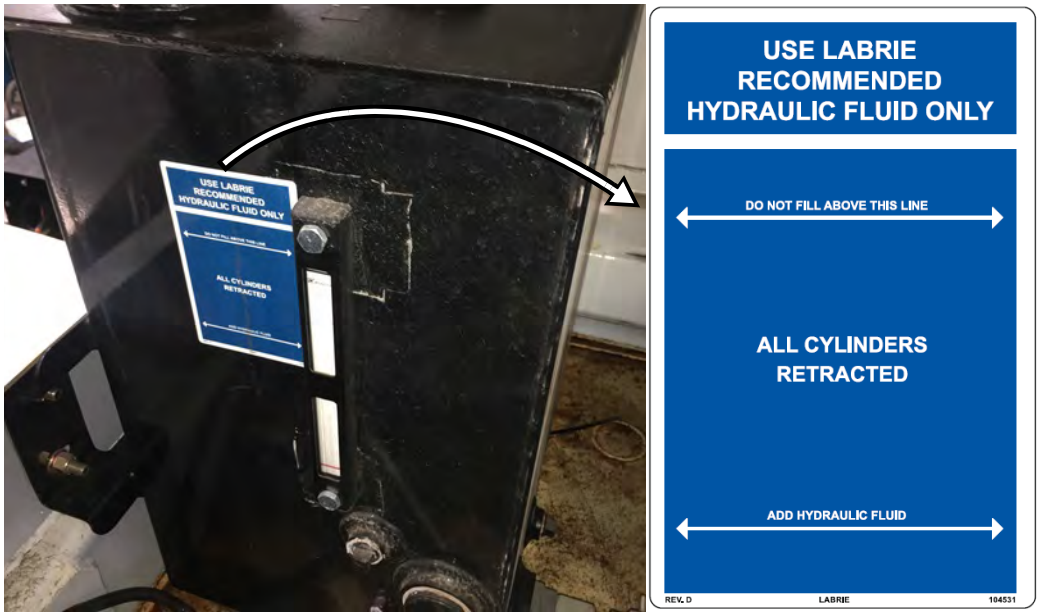
Checking Hydraulic Tank Fluid Level

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 (cylinders retracted).
3. Pull the pushout lever to position the pushout cylinder in the retracted position.

   The fluid level should be between the safe range marks on the sight gauge.

   Refer to the sticker next to the sight gauge (see below).



If not:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

4. Add hydraulic fluid for normal operating and weather conditions.

   See *Hydraulic System Service* on page 50 for additional information about servicing the hydraulic tank.

Checking Engine Speed-Up Switch

Note: This only applies to units equipped with a fuel/CNG powered chassis.

Check the 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 173.

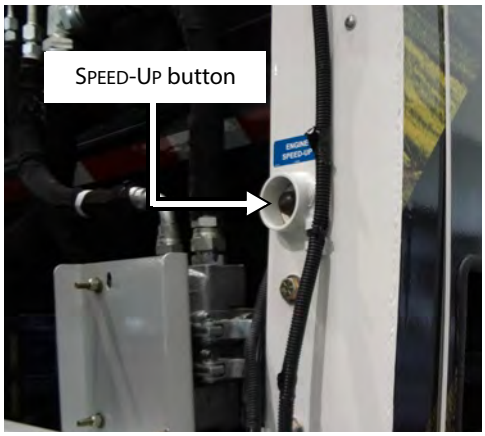
Checking Engine Speed-Up Push-Buttons (Body)

Note: This only applies to units equipped with a fuel/CNG powered chassis.

To check the Engine Speed-Up push-buttons on the body:

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On	Transmission Neutral

1. Depress the Engine Speed-Up push-button.



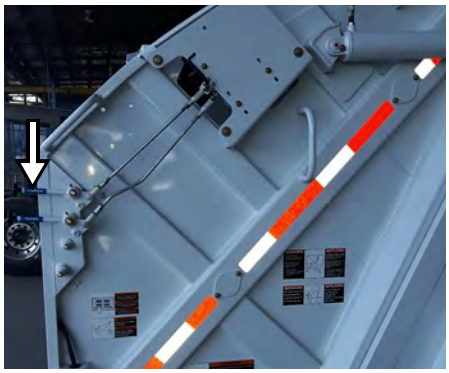
The engine should speed up.

If not:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

Locate the fault in the wiring or switch and repair. See *Electrical System* on page 173.

2. Activate the CARRIER PANEL lever.



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 173.

Checking HYDRAULIC ENABLE Push-Buttons (Body)

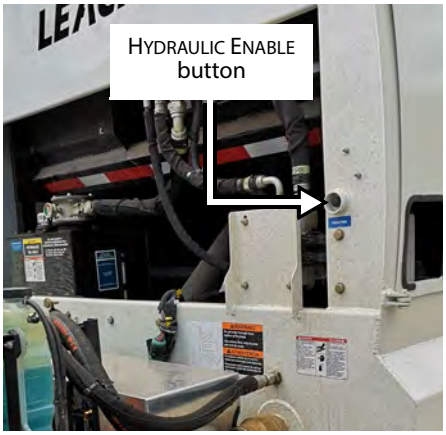
NOTE: This only applies to units equipped with an electrically powered chassis.

NOTE: On units with an electrically powered chassis, ENGINE SPEED-UP push-buttons are replaced by HYDRAULIC ENABLE push-buttons.

To check the HYDRAULIC ENABLE push-buttons on the body:

OPERATIONAL STATUS		
Truck Running	PTO Engaged	Transmission Neutral

1. Depress the HYDRAULIC ENABLE push-button.



2. Activate the TAILGATE lever.

The tailgate should move.

If not:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

Locate the fault in the wiring or switch and repair. See *Electrical System* on page 173.

NOTE: To know more about the HYDRAULIC ENABLE push-buttons, refer to the HYDRAULIC ENABLE Push-Buttons Section in the *Mini Rear Operator's Manual*.

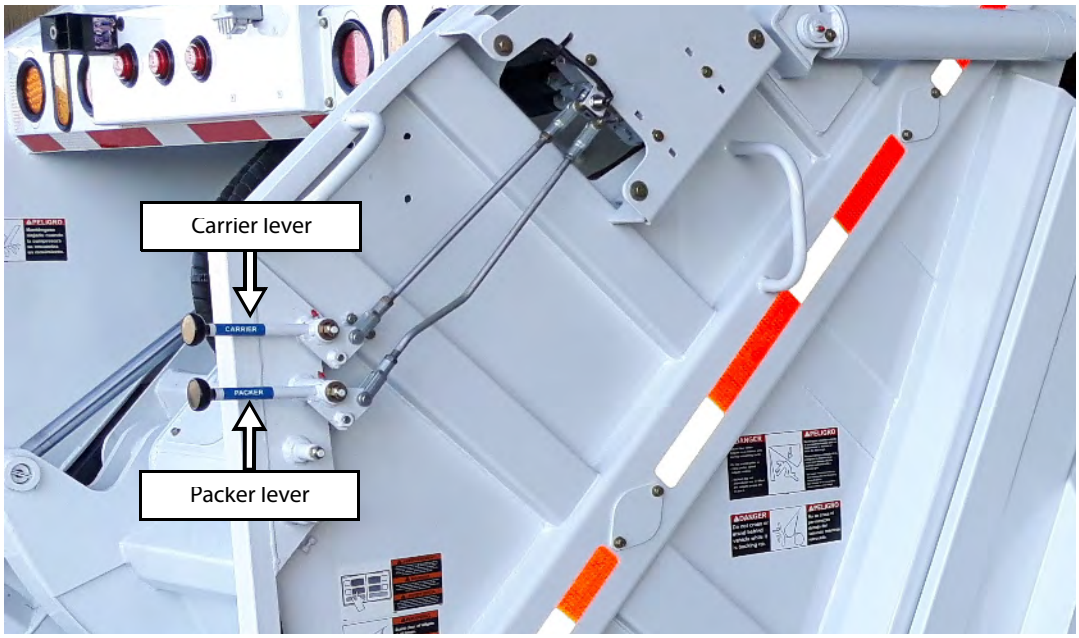
Checking Pack Cycle Time

To check pack cycle time:

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)	Transmission Neutral

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

NOTE: For units with an electrically powered chassis, push the HYDRAULIC ENABLE button first before using both levers.



A complete cycle should take 20 to 23 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.

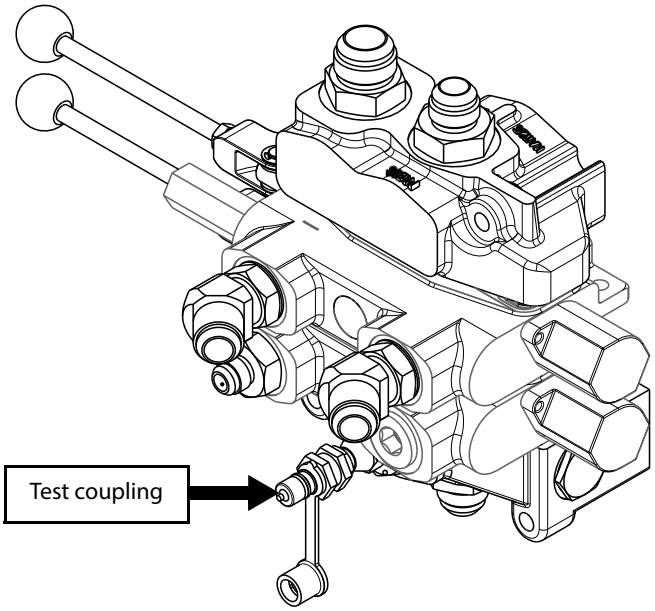
Checking Pressures

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 the PTO/PUMP and turn the in-cab SPEED-UP switch ON (units with a fuel/CNG powered chassis only).



Checking Main Line Pressure

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)	Transmission Neutral

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

To check the main line pressure:

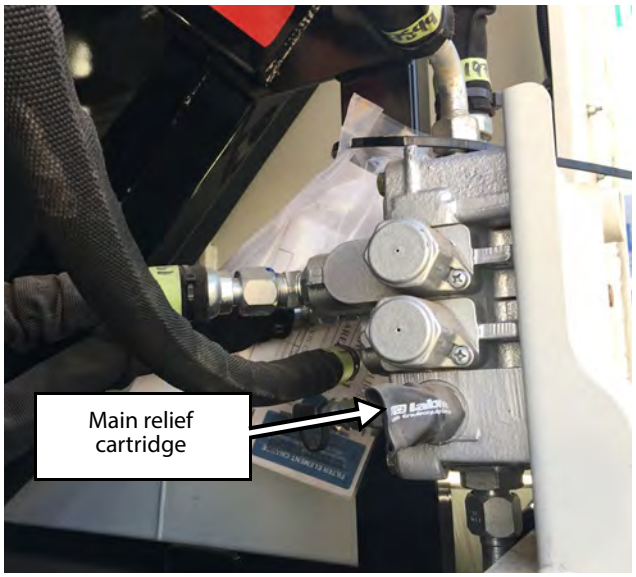
1. Release the tailgate clamps.
2. Depress the SPEED-UP button.

   On a unit with an electrically powered chassis, push the HYDRAULIC ENABLE button instead.
3. Move tailgate control lever to fully raise the tailgate.
4. Hold lever and read gauge.

Pressure should be 2500 +/- 100 psi.

If not:

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



Checking Packer and Carrier Panel Shift (Knockout) Pressures

NOTE: 2 people are required for this procedure.

To adjust the packer and carrier panel shift (knockout) pressures:

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)	Transmission Neutral

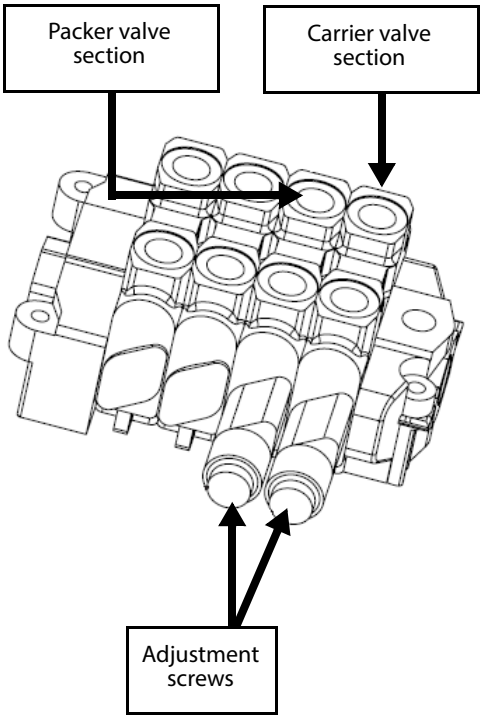
1. Activate all hydraulic functions, including packing functions, to warm up the system. Operating temperature should reach around 120°F.

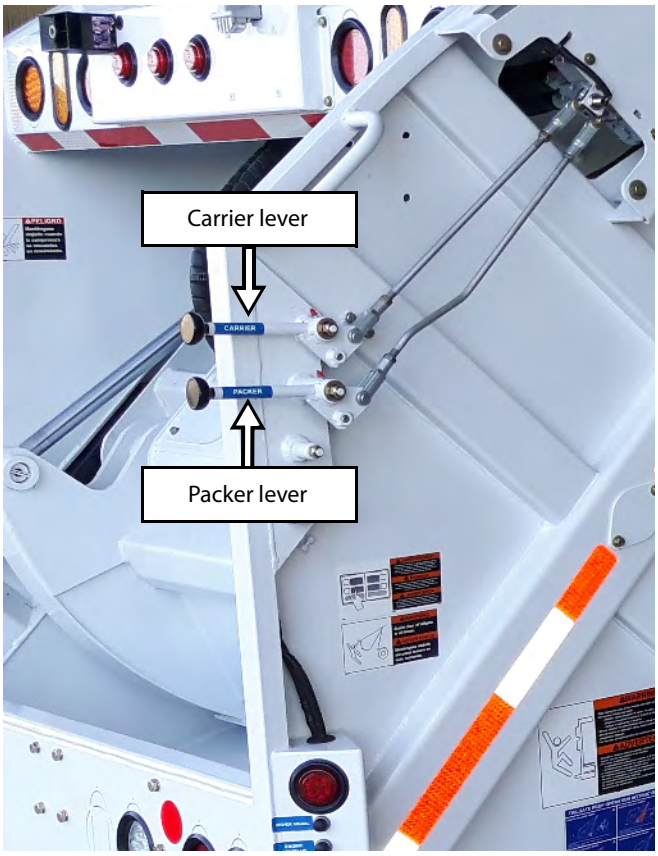
NOTE: On a unit with an electrically powered chassis, you have to press the HYDRAULIC ENABLE button to power any hydraulic function.

2. Adjust the main pressure on the front control valve to 2250 psi (this is the packer pressure).

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

3. On the main control valve packer section, remove the rubber cover from the adjustment screw of the pressure relief valve (see illustration below).





4. With a ball-tip hex key, completely turn the screw clockwise.

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)	Transmission Neutral

5. Push the packer control lever (see illustration above).

   On a unit with an electrically powered chassis, press the HYDRAULIC ENABLE button first.

Danger!

Use a ladder or be extremely cautious when positioning yourself near the top of the tailgate where the main control valve is.

6. Turn the adjustment screw on the packer section counter-clockwise until the packer lever knocks off.

7. Adjust the front control valve main pressure to 2400 psi (this is the carrier pressure).

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

8. On the main control valve carrier section, remove the rubber cover from the adjustment screw of the pressure relief valve (see illustration above).
9. With a ball-tip hex key, completely turn the screw clockwise.

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)	Transmission Neutral

10. Push the carrier control lever (see illustration above).

    On a unit with an electrically powered chassis, press the HYDRAULIC ENABLE button first.

Danger!

Use a ladder or be extremely cautious when positioning yourself near the top of the tailgate where the main control valve is.

11. Turn the adjustment screw on the carrier section counter-clockwise until the carrier lever knocks off.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

12. Replace rubber covers on both valve section adjustment screws.

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)	Transmission Neutral

13. Readjust the front control valve main pressure to 2500 psi.
14. Run complete packing cycles to test both pressure adjustments. Readjust kickouts as needed.

    On a unit with an electrically powered chassis, press the HYDRAULIC ENABLE button first.

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”).

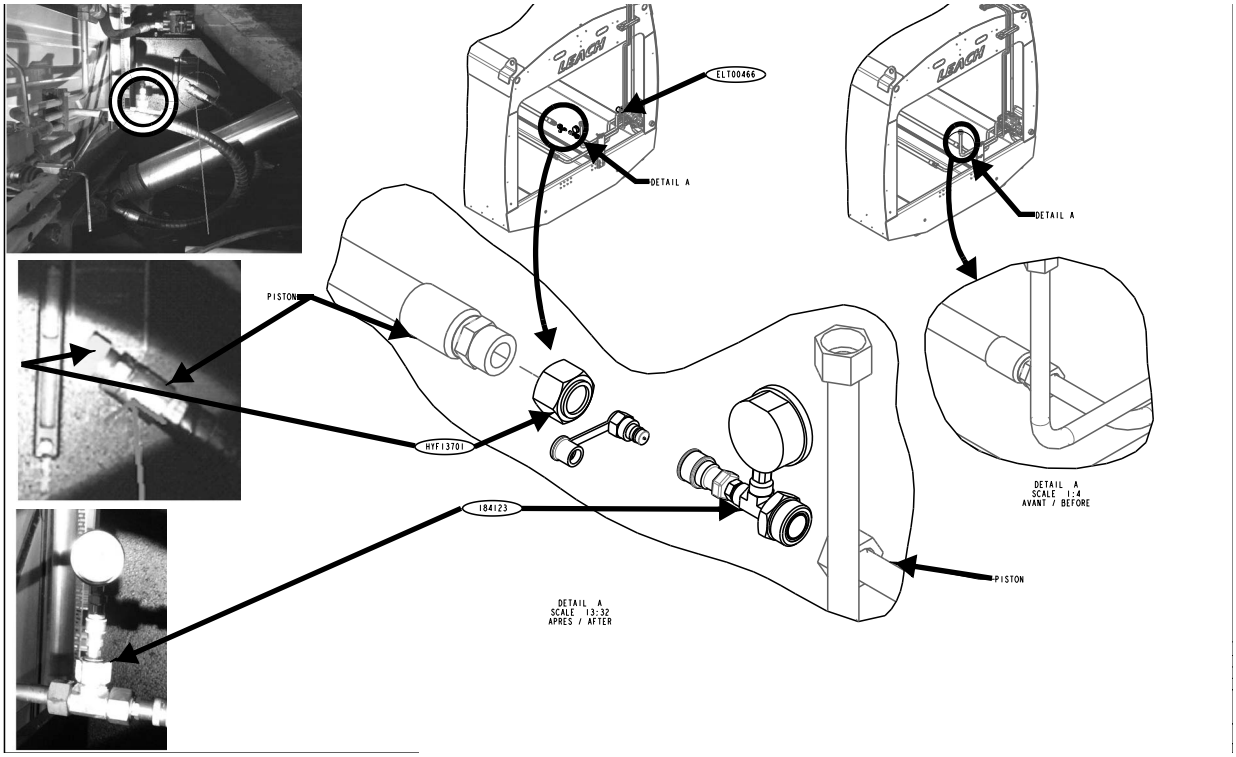
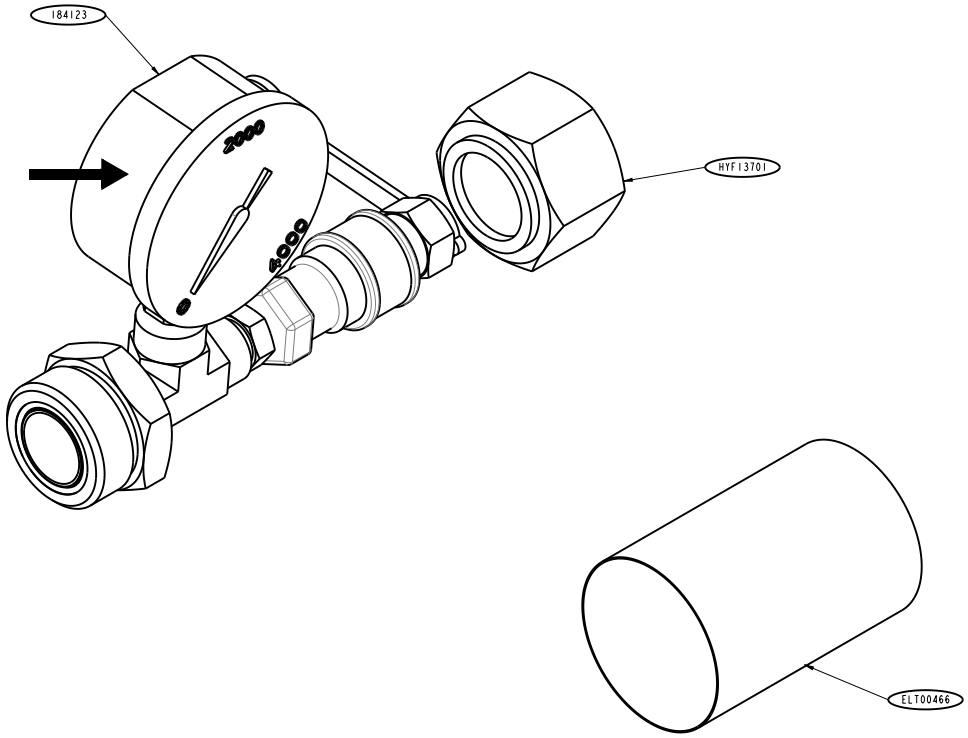
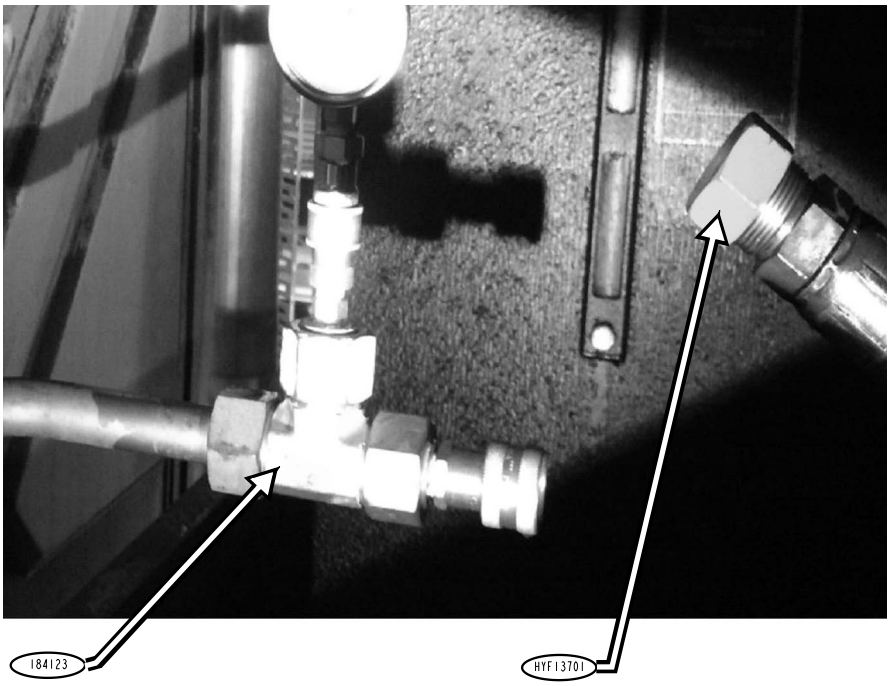


Figure 6-1 **Hydraulic gauge**



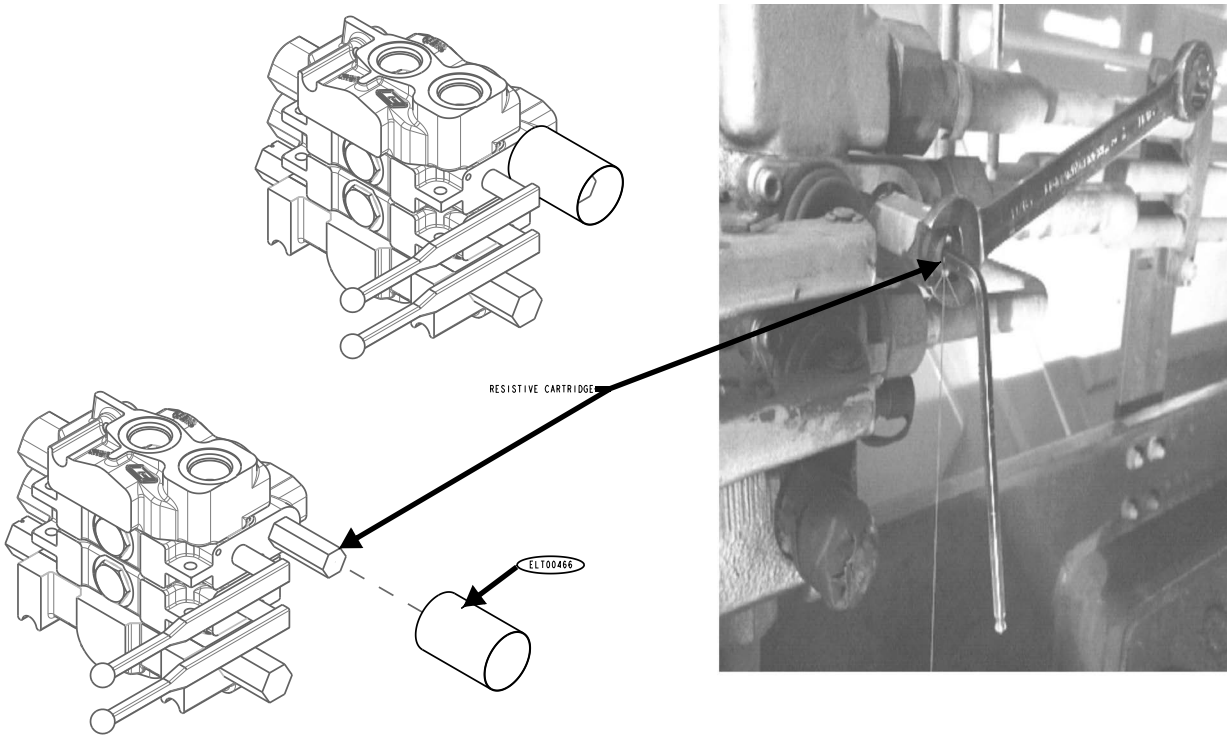
2. Install Labrie*Plus* part # HYF13701 plug (see above illustration) on the hydraulic hose connected to the extension side of the cylinder.
3. Install hydraulic connectors as shown below.



4. Connect manual pump (see Figure 6-2) to the empty quick-connect (FD56).

Figure 6-2 **Hydraulic manual pump**

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 2300 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.

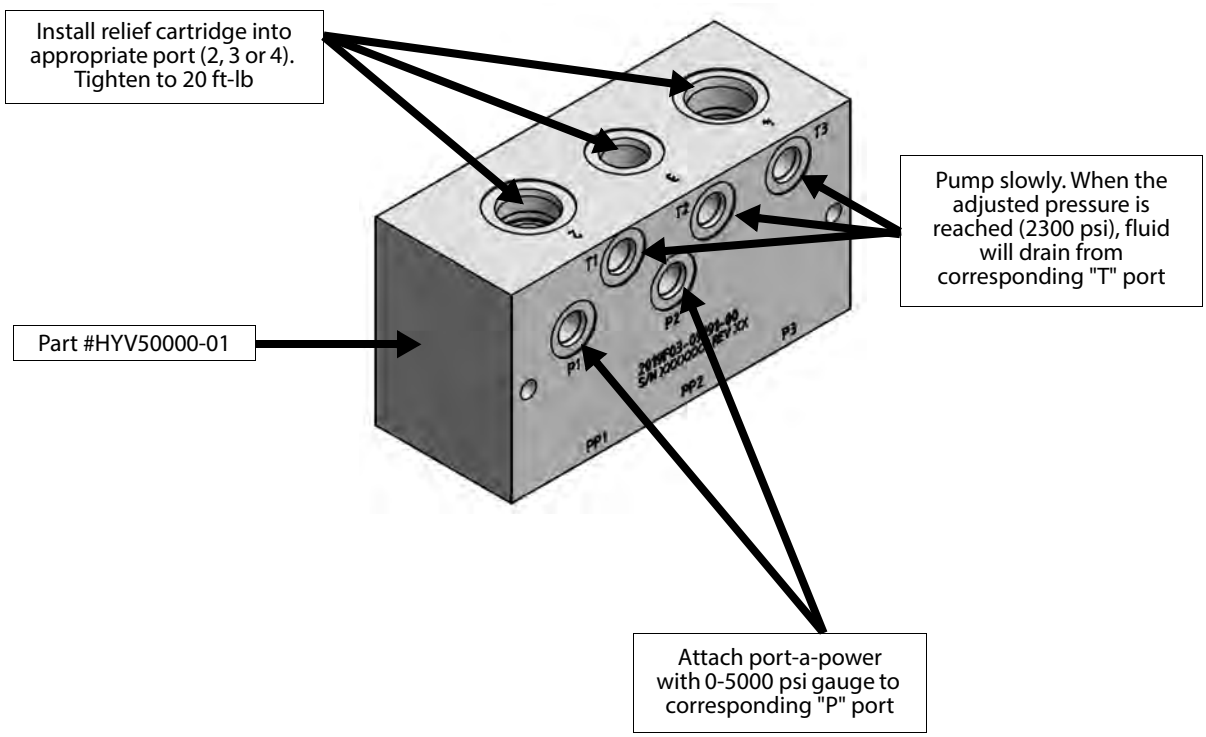
   If pressure exceeds that value, the set-screw must be loosened.

   Repeat this step until pressure has reached 2300 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 Pushout Circuit Relief Cartridge

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

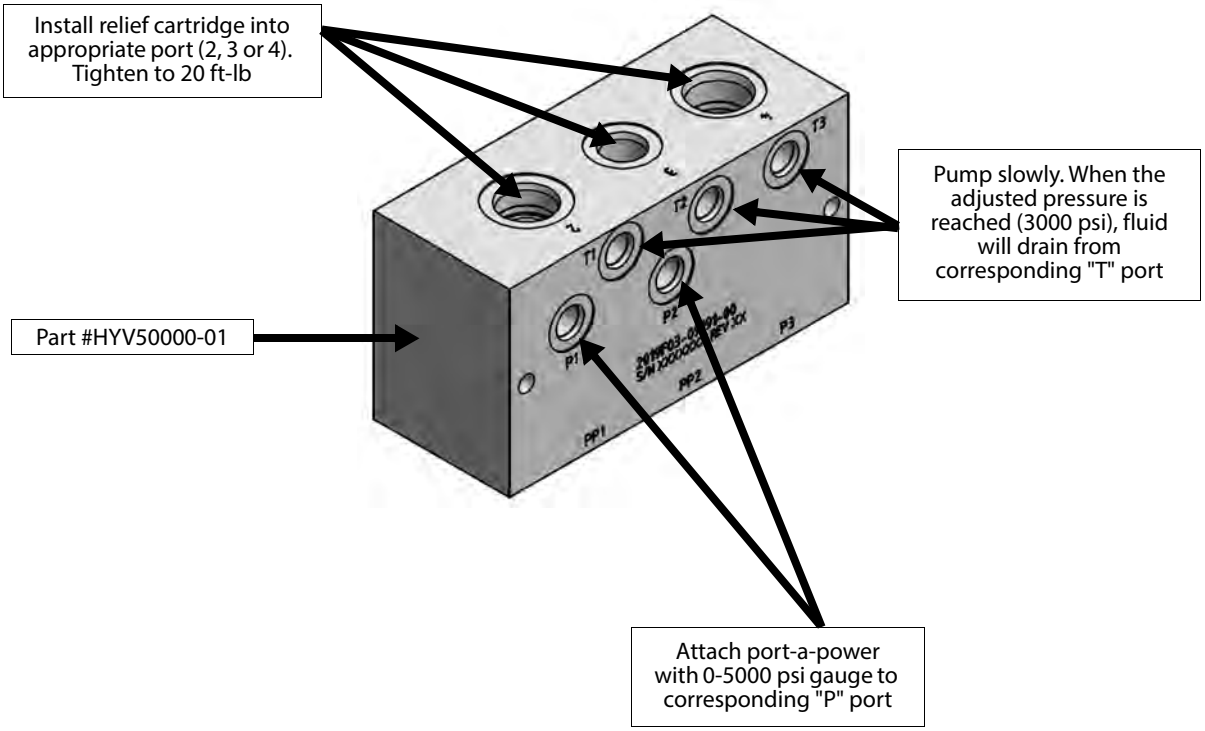
Use the test fixture and test as shown on illustration.



Checking Packer Port Relief Cartridge

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

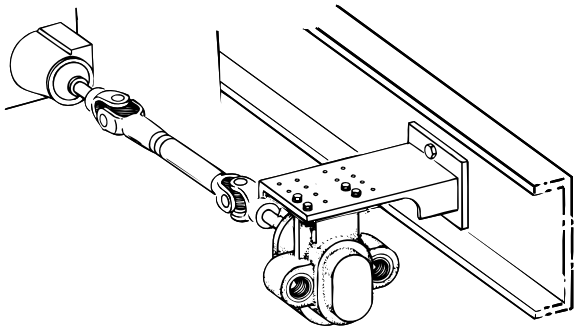
Use the test fixture and test as shown on illustration.



Power Take Off (PTO)

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

Periodically re-torque the mounting bolts or studs as outlined in the PTO 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 (units w/ fuel/CNG powered chassis only)	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 44).
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 44).
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 (or shut-off 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 44).
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 44).
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 (UNITS W/ FUEL/CNG POWERED CHASSIS ONLY)	
Possible cause	Remedy
Short in electrical wiring	Repair broken wire. See *Electrical System* on page 173.
Blown fuse on speed-up relay	Replace fuse and check electrical system for shorts. See *Electrical System* on page 173.

ENGINE WILL NOT SPEED UP WHEN CARRIER PANEL LEVER OR SPEED-UP BUTTON IS ENGAGED (UNITS W/ FUEL/CNG POWERED CHASSIS ONLY)	
Possible cause	Remedy
Relay or switch is defective	Check for and replace defective parts. See *Electrical System* on page 173.
Electrical system not grounded properly	Check all ground connections for corrosion or breaks. Clean or repair. See *Electrical System* on page 173.
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 (UNITS W/ FUEL/CNG POWERED CHASSIS ONLY)	
Possible cause	Remedy
Short circuit in electrical system	Check for and repair short in system. See *Electrical System* on page 173.
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 65.

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 67.

PACKER PANEL VALVE SECTION WILL NOT SHIFT	
Possible cause	Remedy
Packer panel cylinder leaking	Perform test for leaking cylinder. See *Test for Leaking Packer Panel Cylinders* on page 109.
Packer panel valve section shift pressure too high	Perform pressure check as described in *Checking Pressures* on page 65.
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 *Test for Leaking Carrier Panel Cylinders* on page 113.
Carrier panel valve section shift pressure too high	Perform pressure check as described in *Checking Packer and Carrier Panel Shift (Knockout) Pressures* on page 67.
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 65.
Hydraulic fluid in tank is low	Add fluid to correct level (see *Checking Fluid Level (Daily)* on page 50).
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 50.
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 53).
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 66).

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 159.
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 65.
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. (Units w/ fuel/CNG powered chassis only) ◆ 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 65).
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 70).

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 *Test for Leaking Packer Panel Cylinders* on page 109.
Packer panel valve section shift pressure too low	Perform pressure test as described in *Checking Pressures* on page 65.

CYCLE TIME TOO SLOW	
Possible cause	Remedy
Engine rpm too low	Set engine rpm to achieve 20 to 23-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 50).
Hydraulic fluid filter needs servicing	Service filter (see *Hydraulic System Service* on page 50).
Hydraulic tank breather dirty	Service breather (see *Checking Tank Breather Cap (Weekly)* on page 50).

CYCLE TIME TOO SLOW	
Possible cause	Remedy
Hydraulic pump worn or defective	Replace pump. See *Hydraulic Pump* on page 159.
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 44).
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 66).
Hydraulic pump is defective	Replace pump. See *Hydraulic Pump* on page 159.
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 65.
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 WON'T LIFT	
Possible cause	Remedy
Container frozen to the ground	Do not use lifting device to break container loose from the ground.
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.

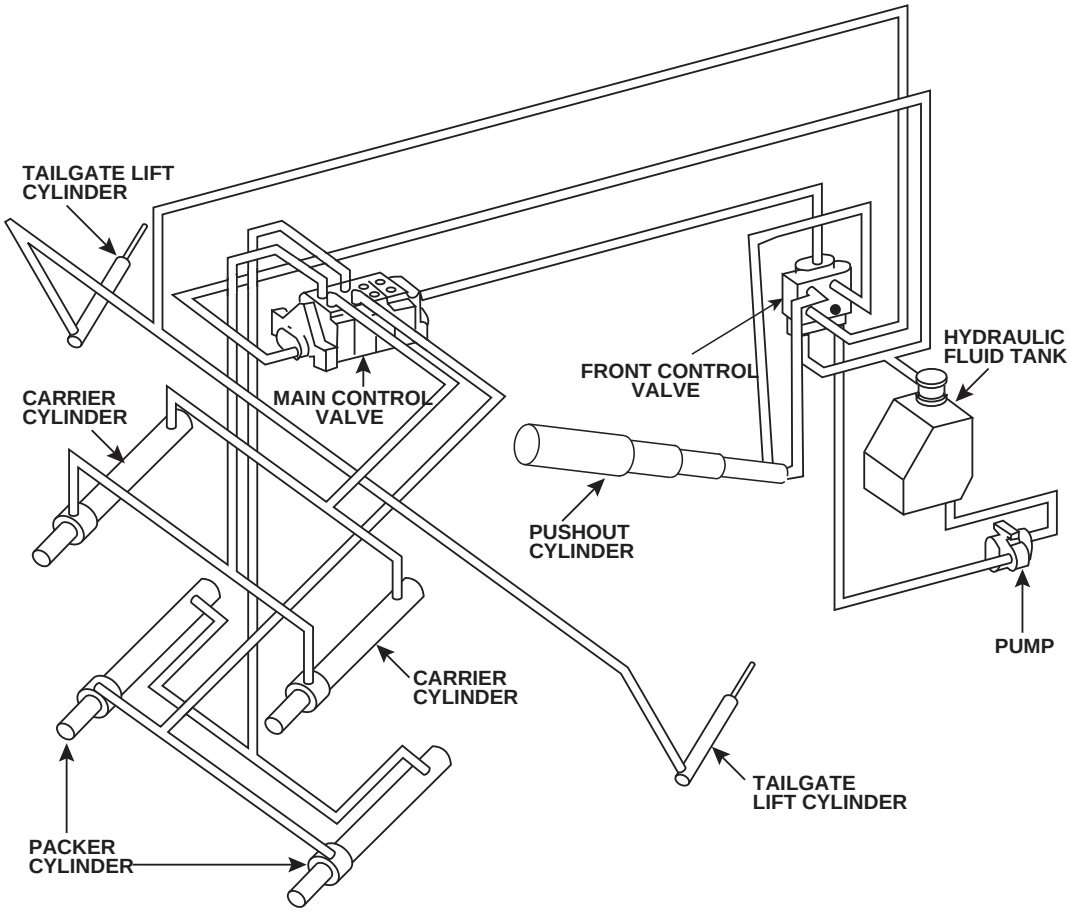
CONTAINER RAISES VERY SLOWLY	
Possible cause	Remedy
Winch motor by-passing	Repair or replace motor.
Rear loader hydraulic system not providing sufficient flow rate or pressure for container handling systems	Check and repair rear loader hydraulic system following procedures in Service Manual.

Hydraulic System

The following is a description with flow diagrams of what happens in the hydraulic system 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 below 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

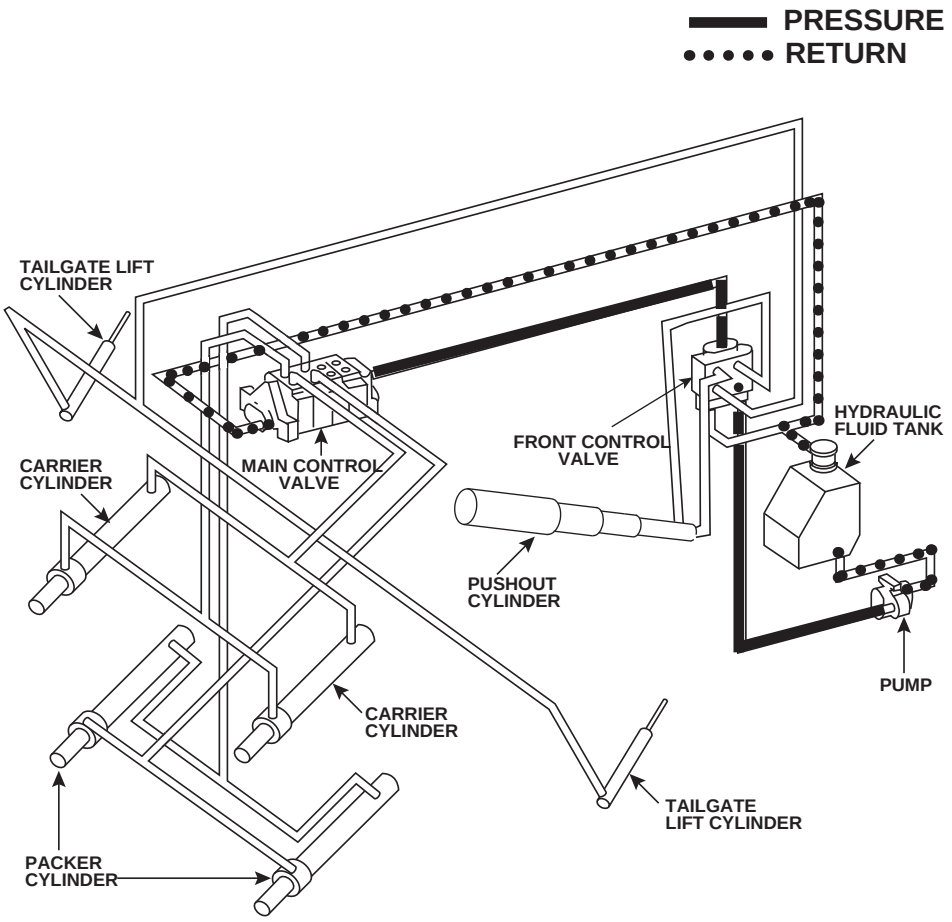
Operator starts the truck and engages the PTO/pump and speed-up system.

OPERATIONAL STATUS		
Truck running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)

NOTE: On a truck equipped with an electrically powered chassis there is no SPEED UP switch installed in the cab.

Hydraulic Sequence

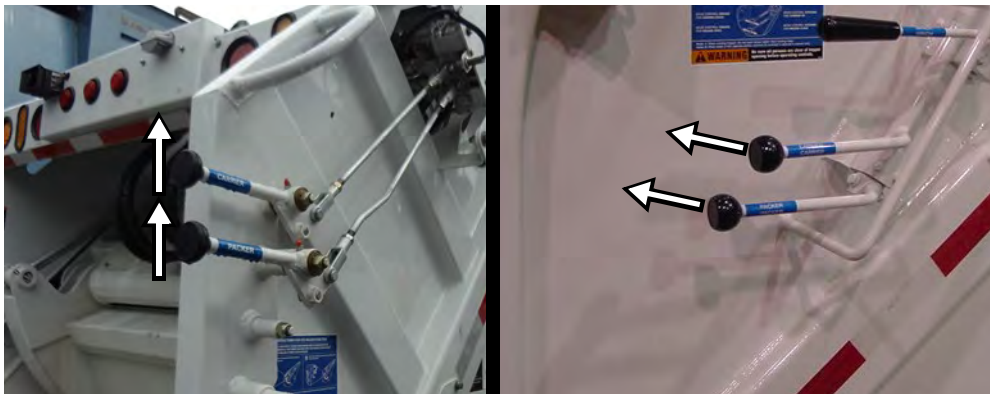
Hydraulic fluid flows from the tank, by gravity, to the pump; from there, it is pumped to the FCV (Front Control Valve). Flow continues through the valve to and through the MCV (Main Control Valve) and then back to the tank. During packer operation, if pressure increases to the main relief setting, excess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



Packer Panel Sweeps Back Over Load

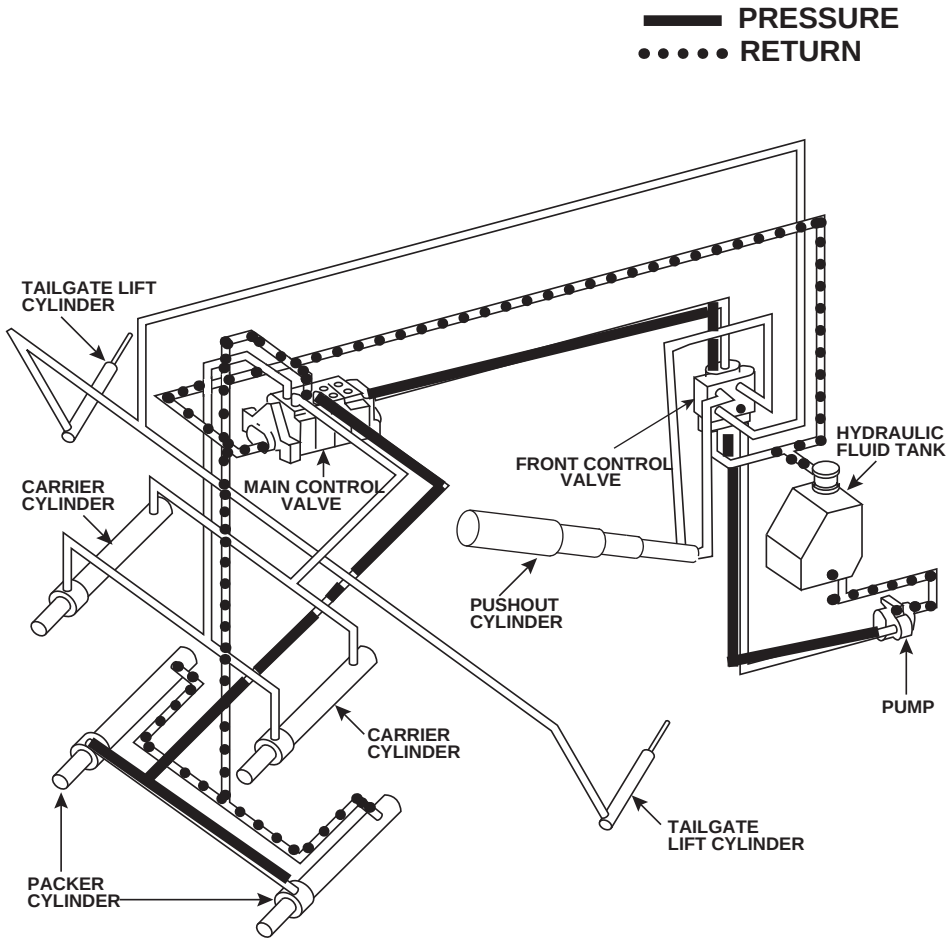
Operator Action

The operator moves the control levers upward (or 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.



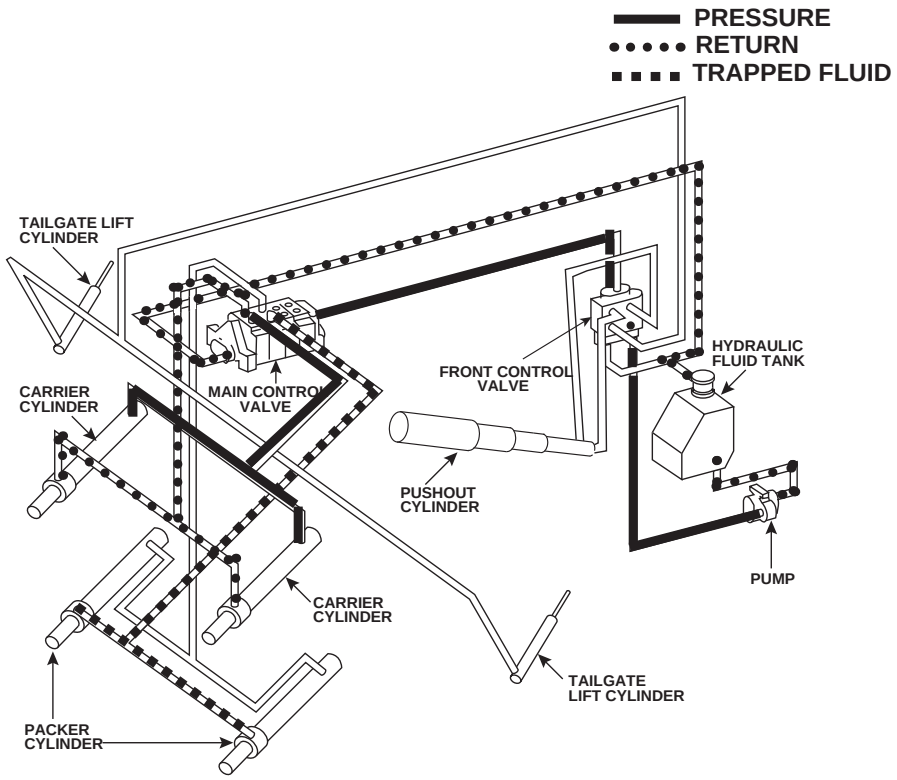
Carrier & Packer Panels Move Down to "Interrupted Cycle" Position

Operator Action

None. MCV (Main Control Valve) shifts automatically.

Hydraulic Sequence

At the end of the packer cylinder stroke, pressure builds to 2250 psi (155 bar) causing the MCV (Main Control Valve) to shift, diverting flow to the base end of the carrier cylinders. The cylinders extend, 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 extension stroke, pressure builds to 2400 psi (165 bar) causing the MCV to shift to neutral.



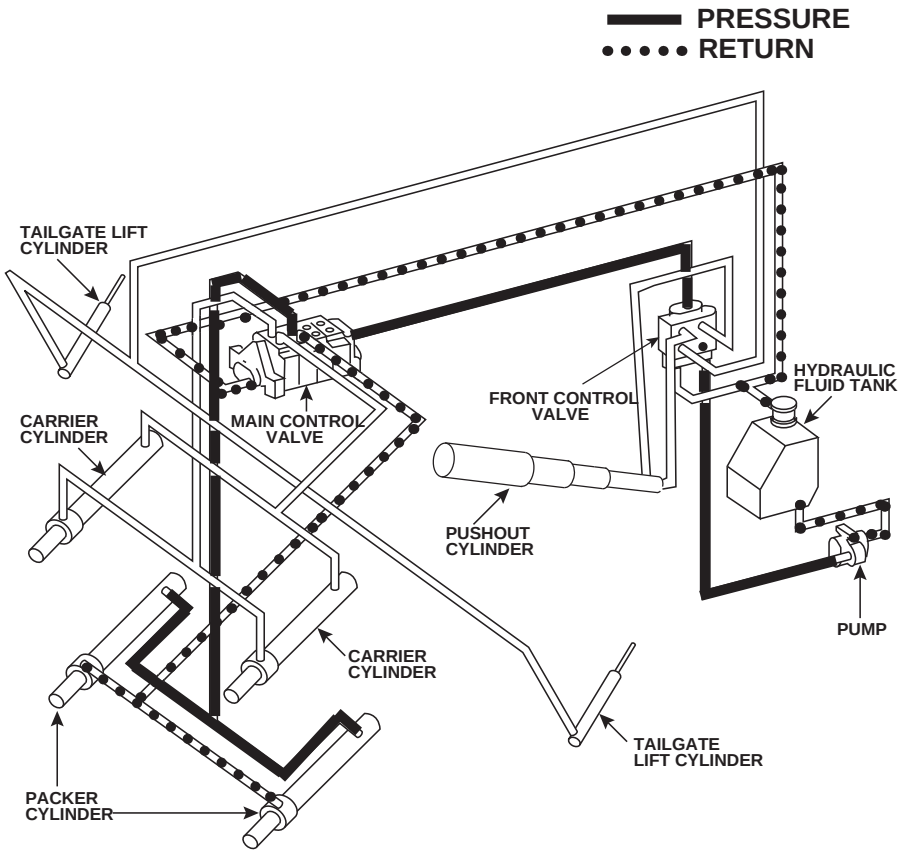
Packer Panel Sweeps Hopper

Operator Action

Operator shifts the control levers downward (or outward) to start compaction.

Hydraulic Sequence

Fluid flows through the MCV (Main Control Valve) packer section to the base 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 2250 psi (155 bar) causing the MCV to shift.



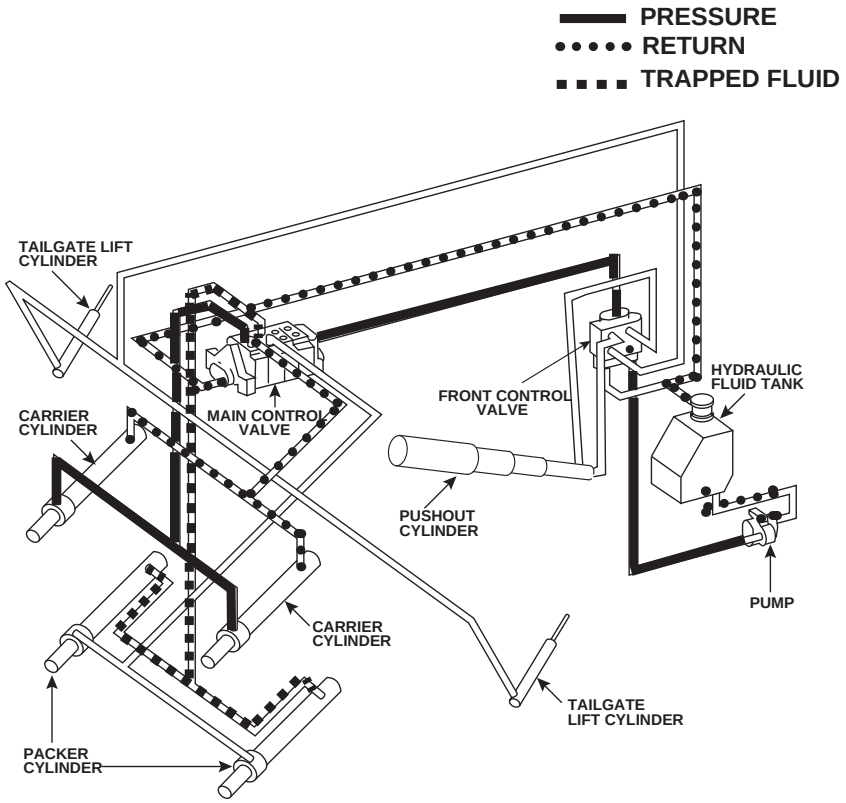
Packing Refuse (1)

Operator Action

None. MCV (Main Control Valve) shifts automatically.

Hydraulic Sequence

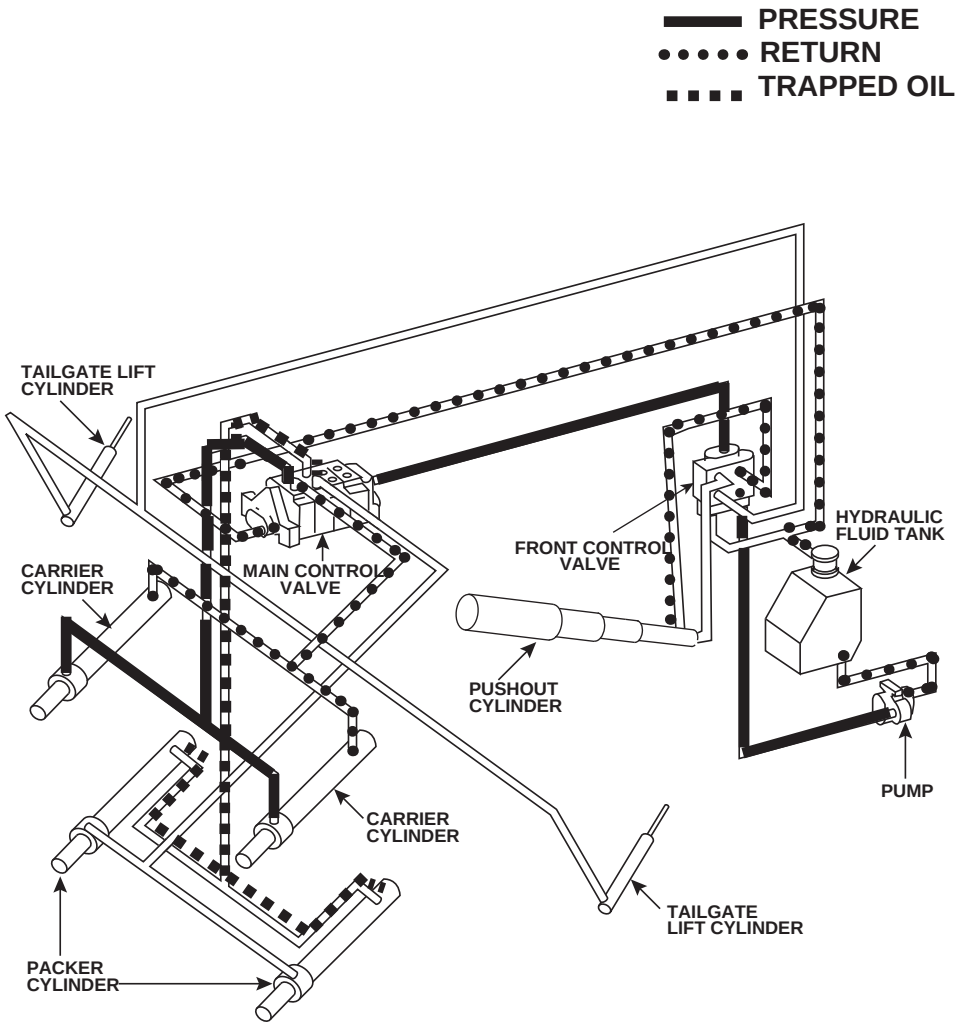
Fluid flows from the MCV (Main Control Valve) to the rod end of the carrier panel cylinders. The cylinders retract, moving the carrier and packer panels up, packing refuse against the pushout panel. When the pressure reaches 2400 psi (165 bar), the MCV shifts into neutral and the packing cycle is completed. 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 3000 psi (207 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

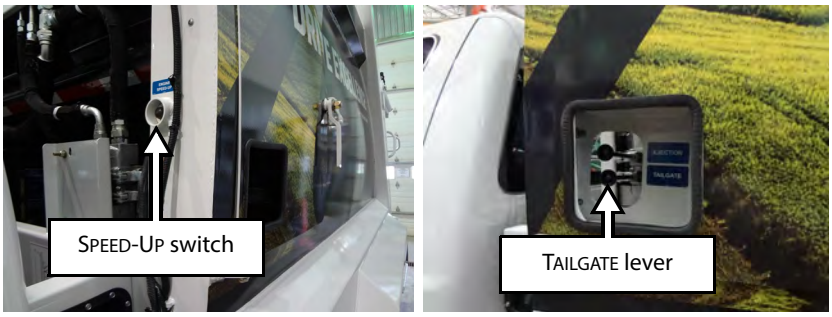
While the carrier and packer panels are moving up, compacting refuse against the pushout panel, pressure is building in the rod end of the carrier cylinders. When this pressure reaches 2300 psi (159 bar), a relief (resistance) cartridge opens in the FCV (Front Control Valve) pushout section, allowing some base end pressure from the telescopic pushout cylinder to return to tank. This allows the pushout panel to come forward slightly.



Raising Tailgate

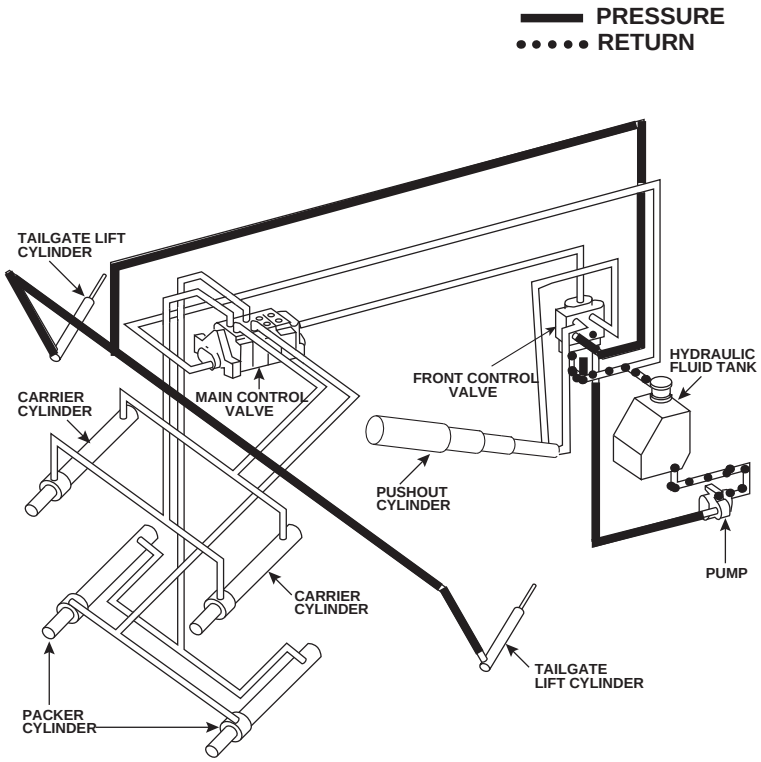
Operator Action

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 (or pushes the HYDRAULIC ENABLE button in the case of a unit equipped with an electrically powered chassis), then moves the tailgate lift lever rearward.



Hydraulic Sequence

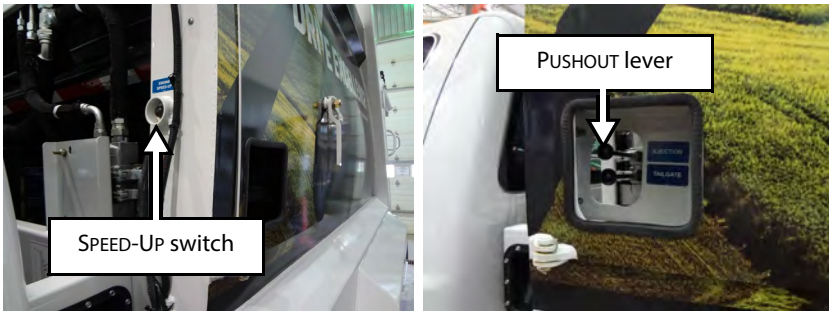
Moving the tailgate lift lever rearward shifts a spool in the FCV (Front Control Valve) causing flow to the tailgate lift cylinders. The cylinders extend, causing the tailgate to raise. Excess fluid flow from the FCV returns back to tank.



Ejecting Load

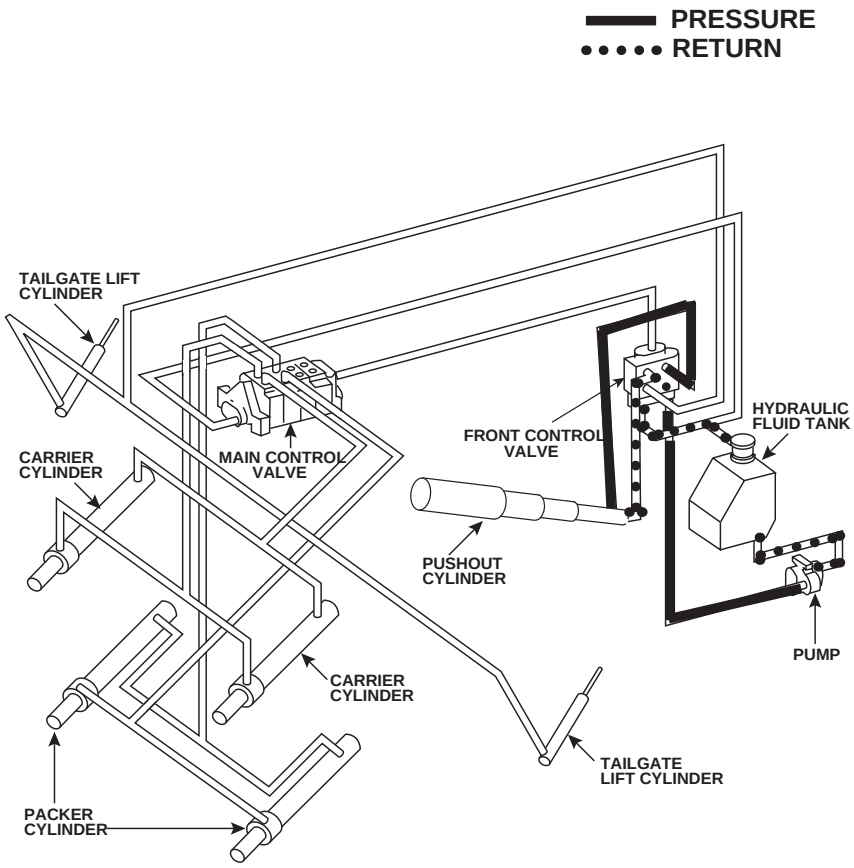
Operator Action

Operator depresses the SPEED-UP button (or pushes the HYDRAULIC ENABLE button in the case of a unit equipped with an electrically powered chassis) and moves the 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.

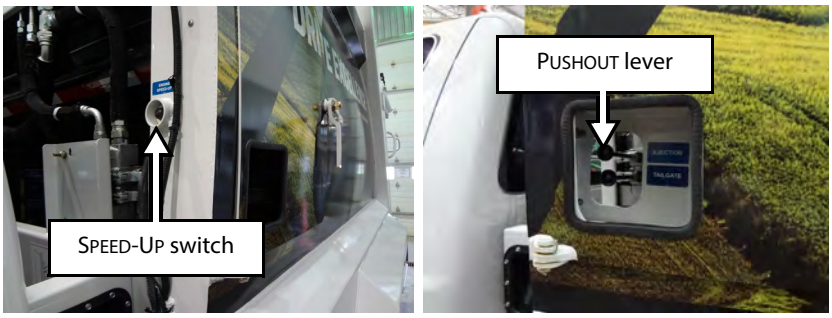


Retracting Pushout Panel

Operator action

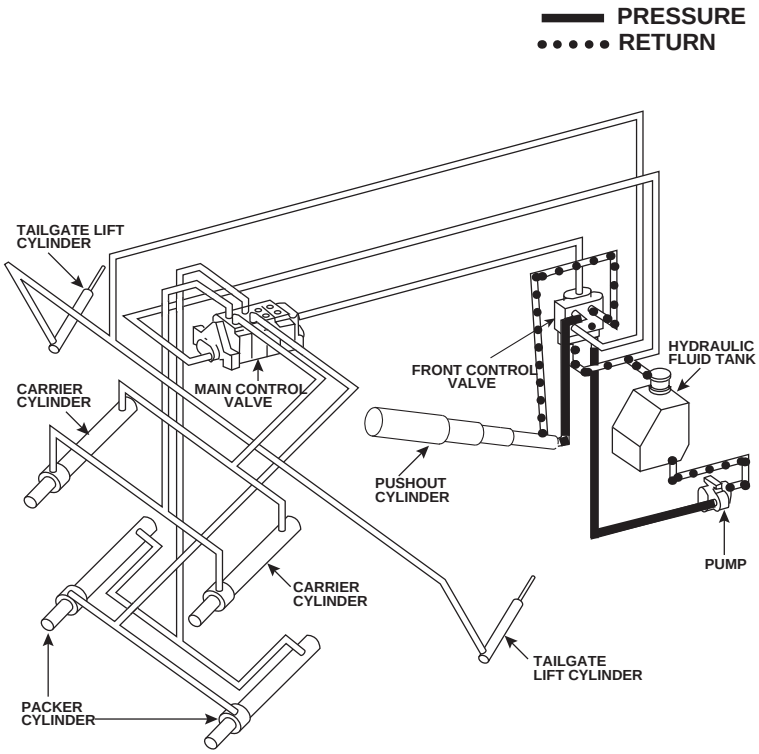
Operator releases the SPEED-UP button (if operating a unit equipped with a fuel/CNG powered chassis) and moves the pushout lever forward.

NOTE: Speed-up may have to be used to retract the pushout panel if engine rpm drops too far. If operating a unit equipped with an electrically powered chassis, the operator has to press and let go of the HYDRAULIC ENABLE button for the pushout panel to move.



Hydraulic Sequence

Moving the pushout lever forward shifts a spool 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

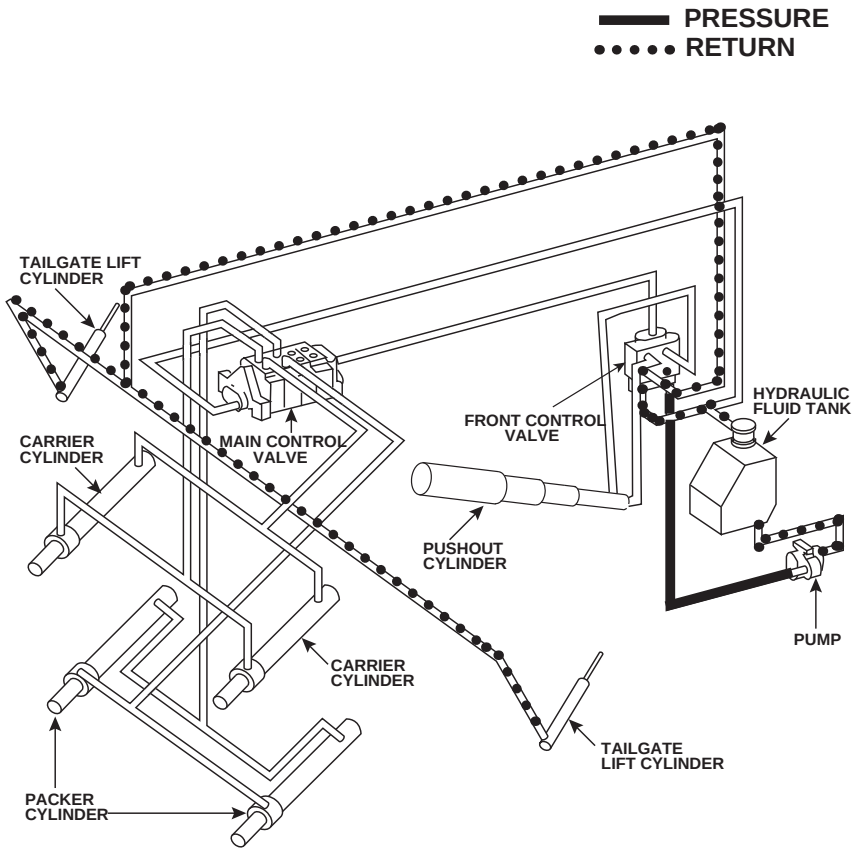
Operator Action

Operator moves the tailgate lift lever forward.

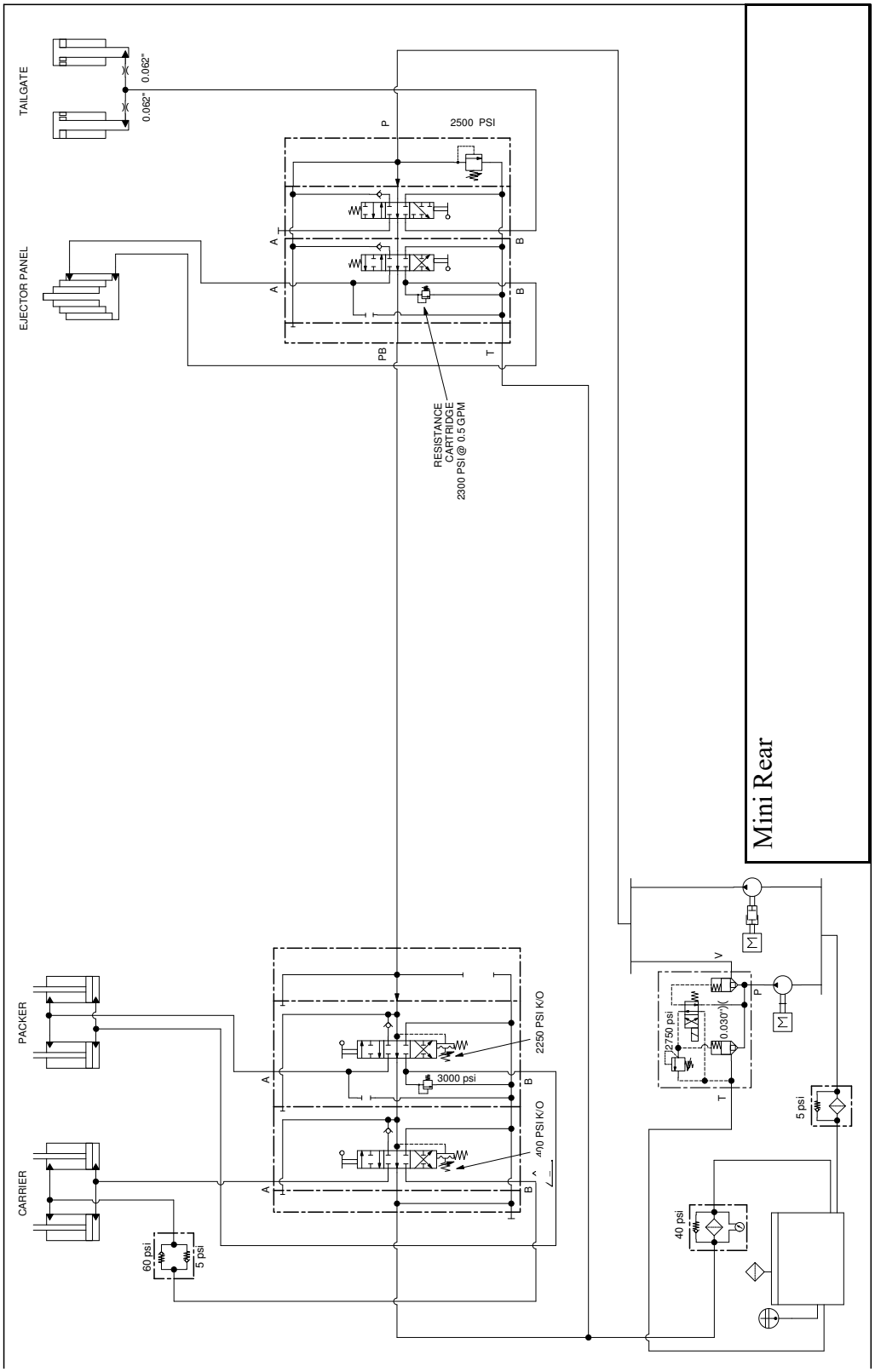
NOTE: On a unit equipped with an electrically powered chassis, the SPEED-UP switch is replaced by a HYDRAULIC ENABLE button.

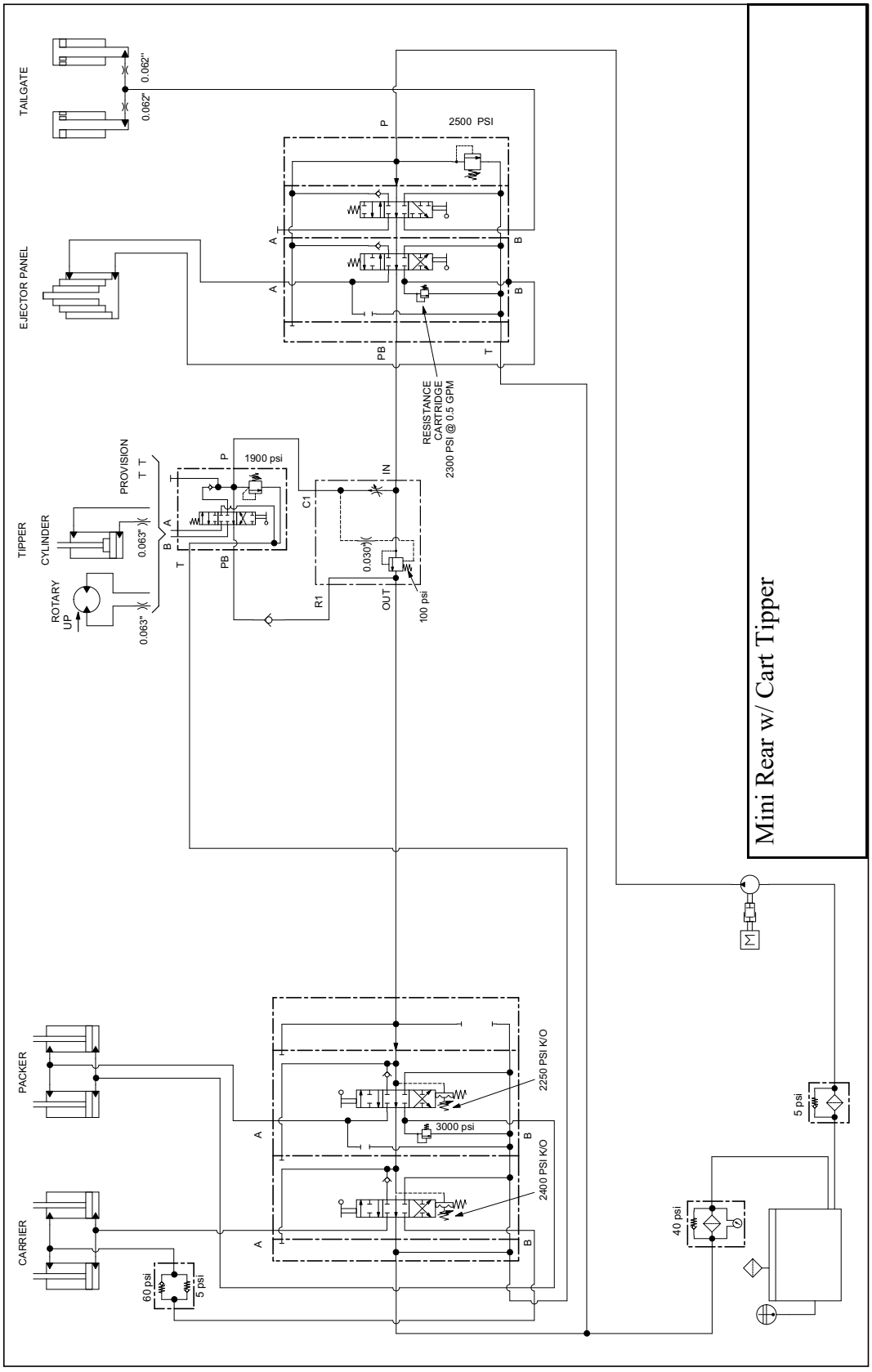
Hydraulic Sequence

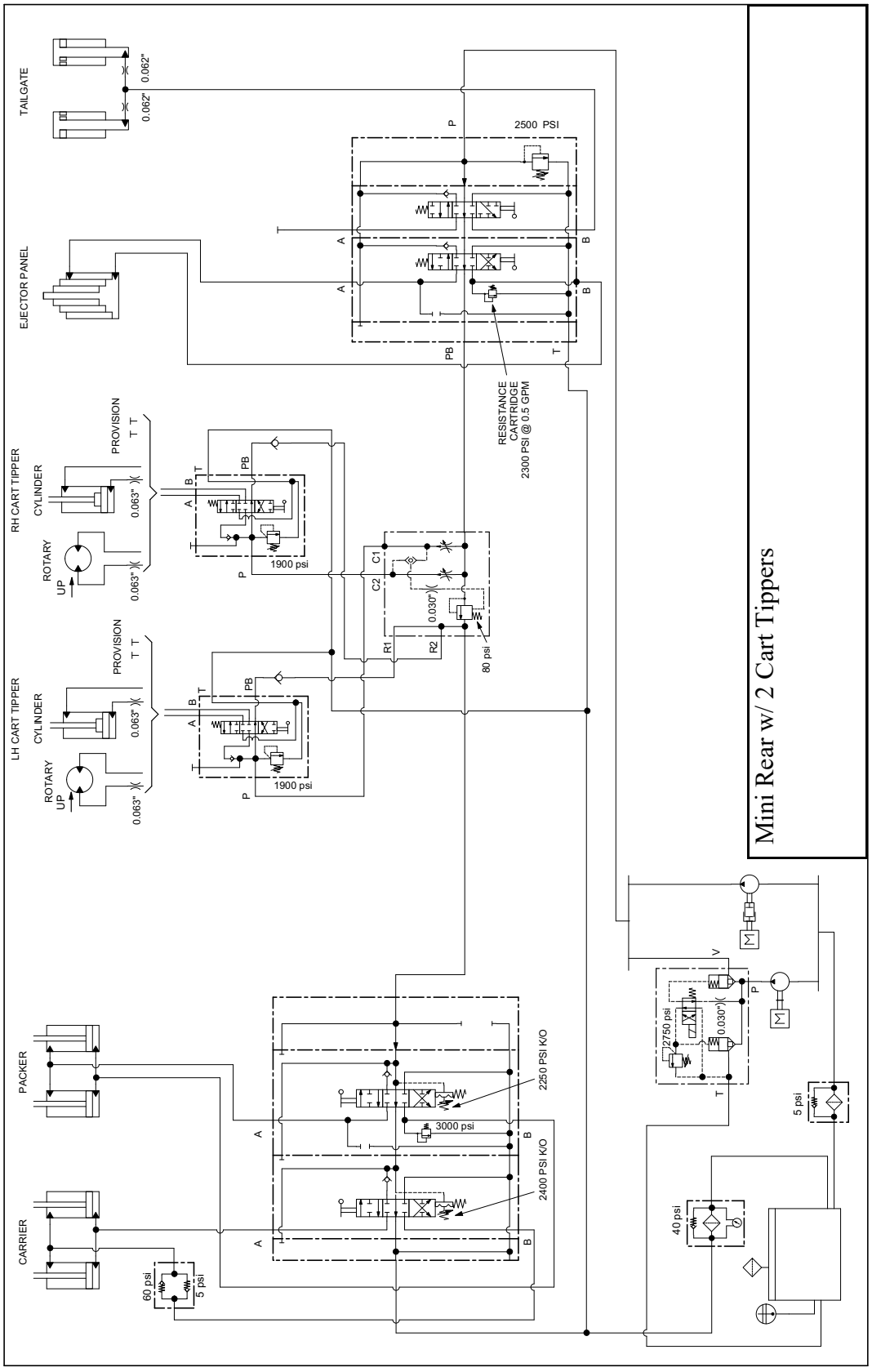
Moving the tailgate lift lever forward shifts a spool in the FCV (Front Control Valve) allowing fluid in the tailgate lift cylinders to drain back to tank. The weight of the tailgate forces fluid out of the cylinders; the cylinders retract and the tailgate lowers.

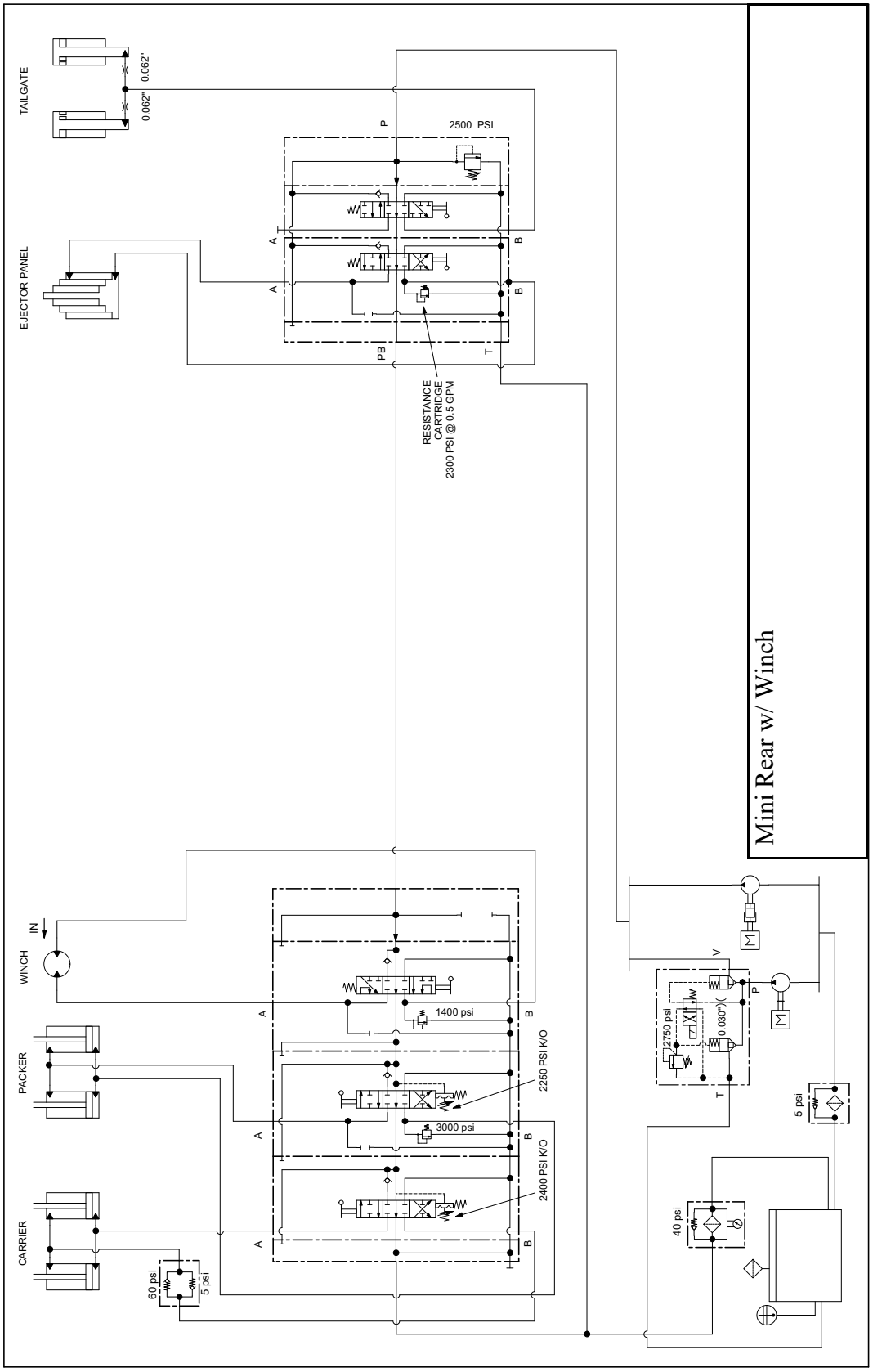


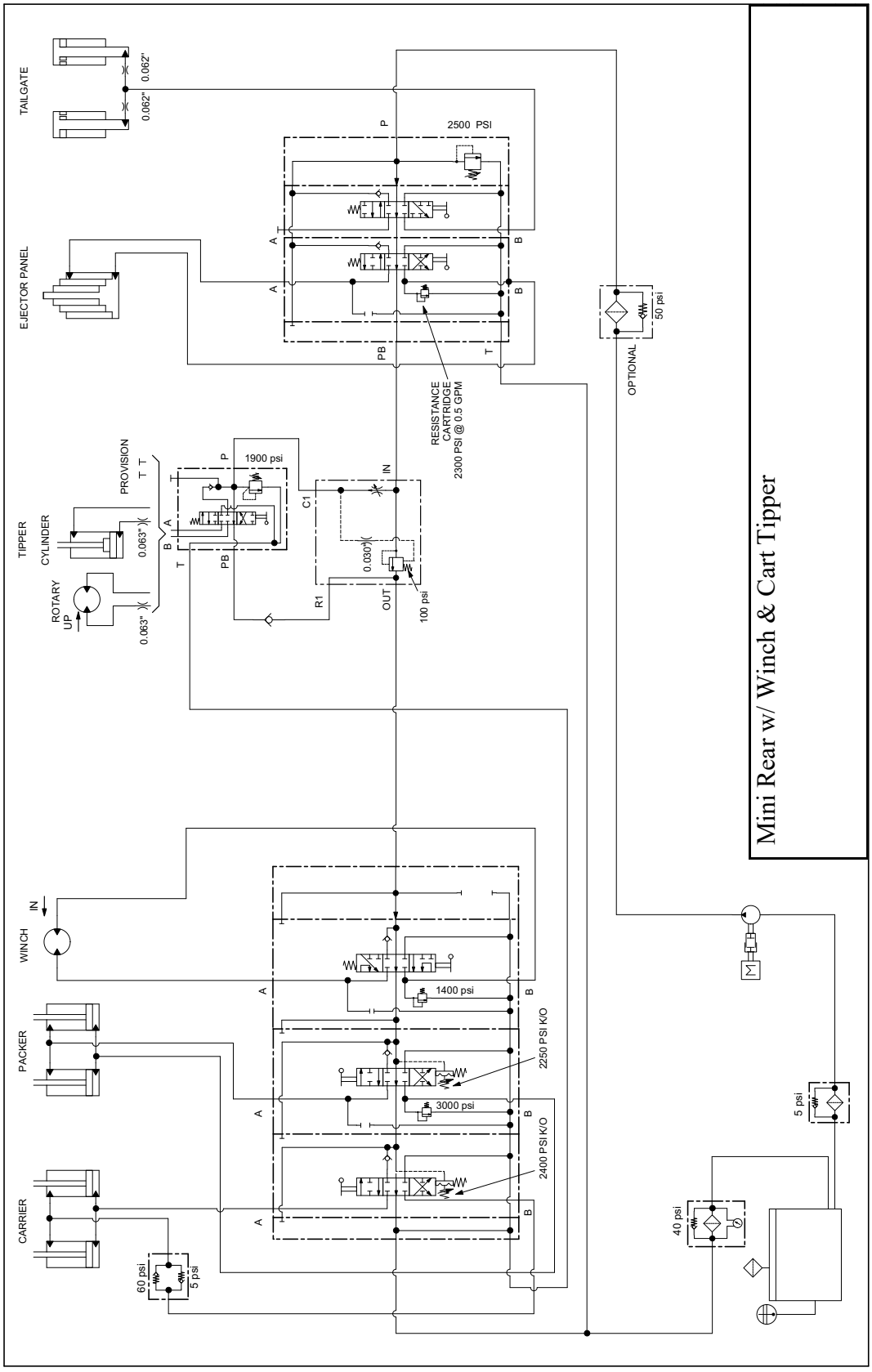
Hydraulic Schematics

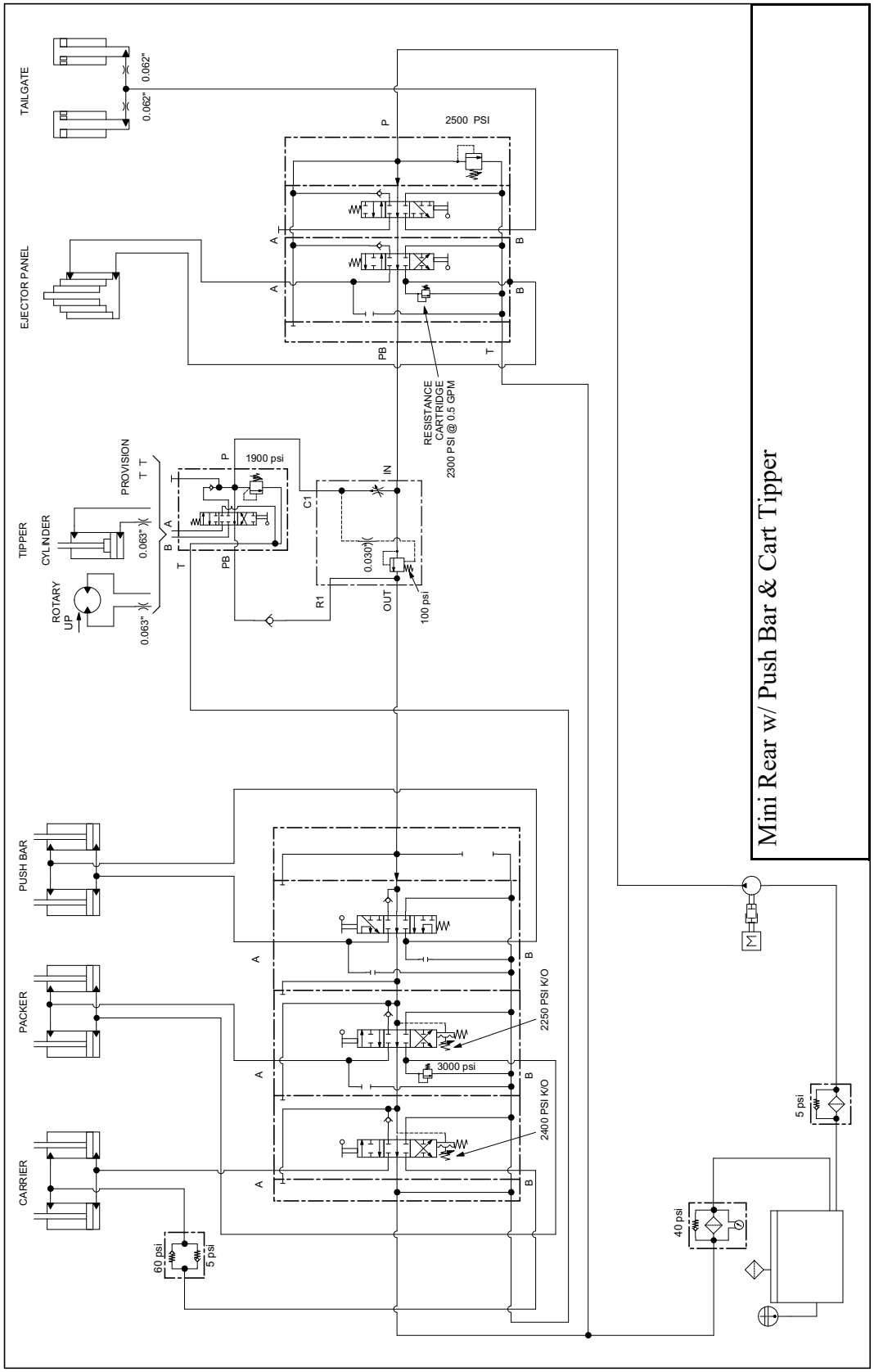



Mini Rear w/ Cart Tipper
TAILGATE
0.062"
0.062"
EJECTOR PANEL
2500 PSI
P
A
B
PB
T
RESISTANCE CARTRIDGE 2300 PSI @ 0.5 GPM
PROVISION
T T
TIPPER CYLINDER
ROTARY UP
0.063"
0.063"
1900 psi
C1
IN
0.030"
R1
OUT
100 psi
PACKER
CARRIER
2250 PSI K/O
3000 psi
2400 PSI K/O
60 psi
5 psi
40 psi
5 psi

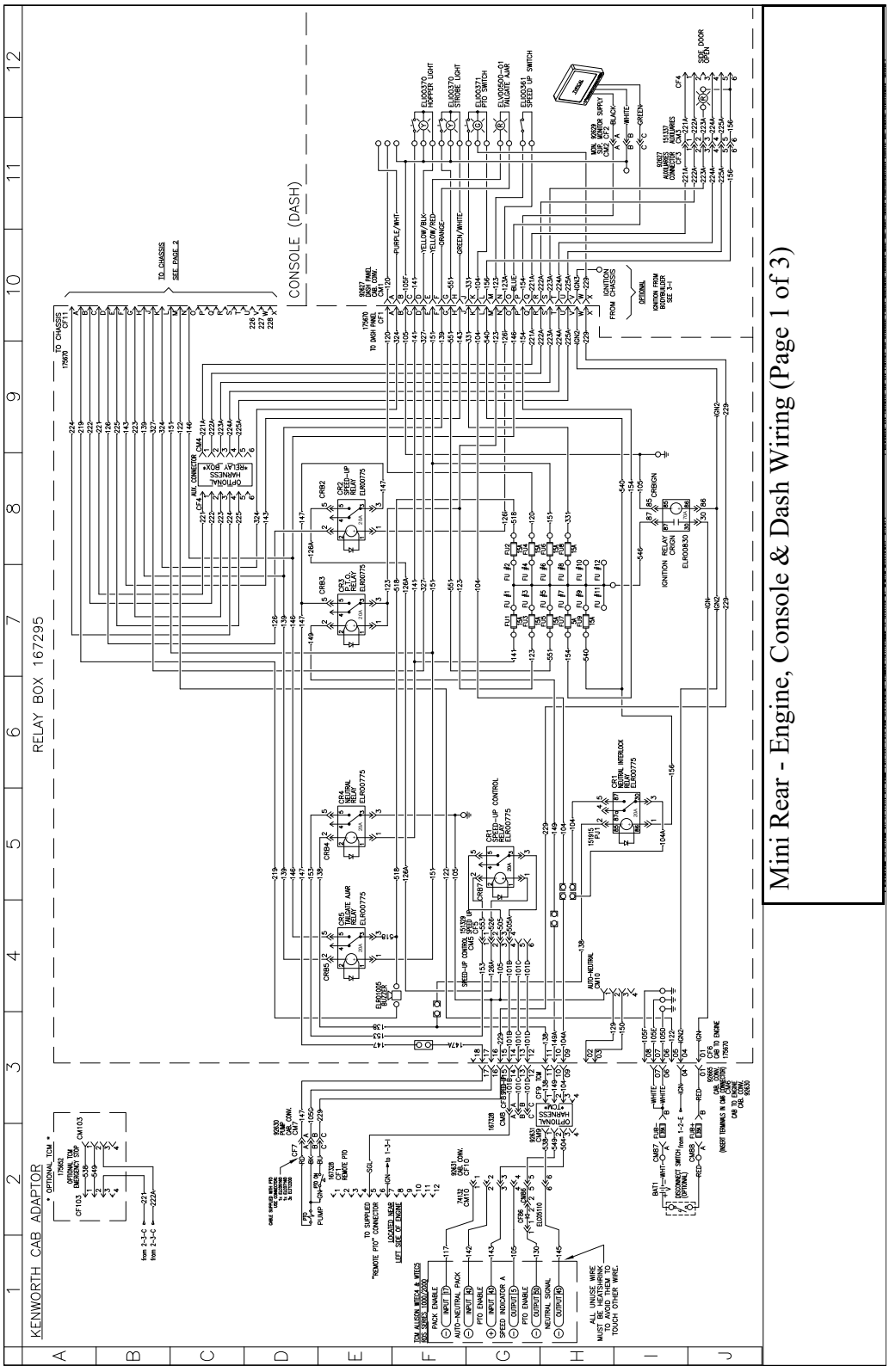

Mini Rear w/ 2 Cart Tippers
TAILGATE
0.062"
0.062"
EJECTOR PANEL
2500 PSI
P
A
B
T
PB
RESISTANCE CARTRIDGE 2300 PSI @ 0.5 GPM
RH CART TIPPER
CYLINDER
ROTARY
UP
PROVISION
0.063"
1900 psi
C1
C2
R1
R2
0.030"
80 psi
LH CART TIPPER
PACKER
CARRIER
2250 PSI K/O
3000 psi
2400 PSI K/O
60 psi
5 psi
V
2750 psi
40 psi

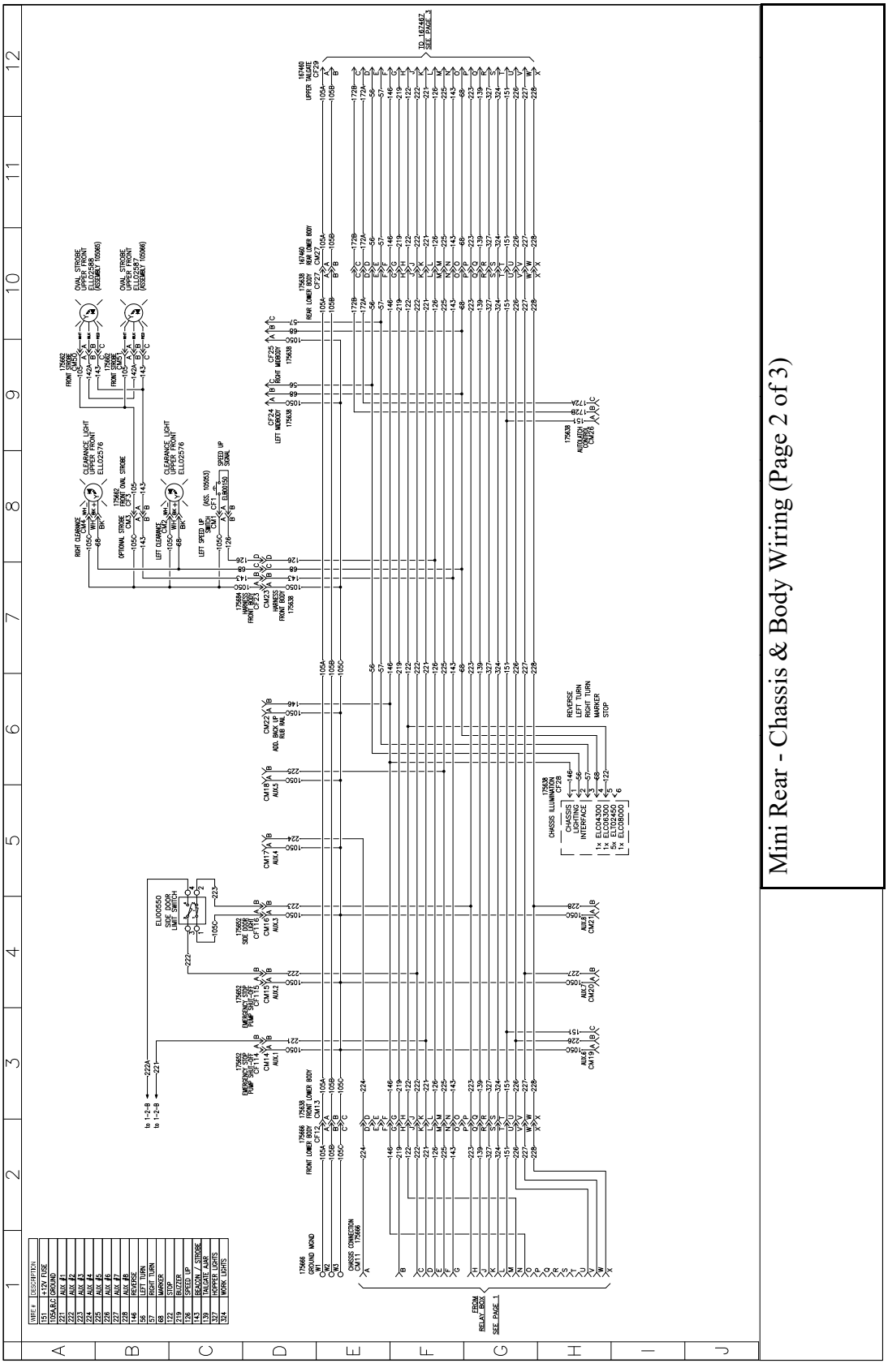

Mini Rear w/ Winch
TAILGATE
0.062"
0.062"
EJECTOR PANEL
2500 PSI
P
A
T
B
PB
RESISTANCE CARTRIDGE 2300 PSI @ 0.5 GPM
WINCH
IN
PACKER
CARRIER
1400 psi
2250 PSI K/O
3000 psi
2400 PSI K/O
60 psi
5 psi
V
2750 psi
0.030"
40 psi
5 psi

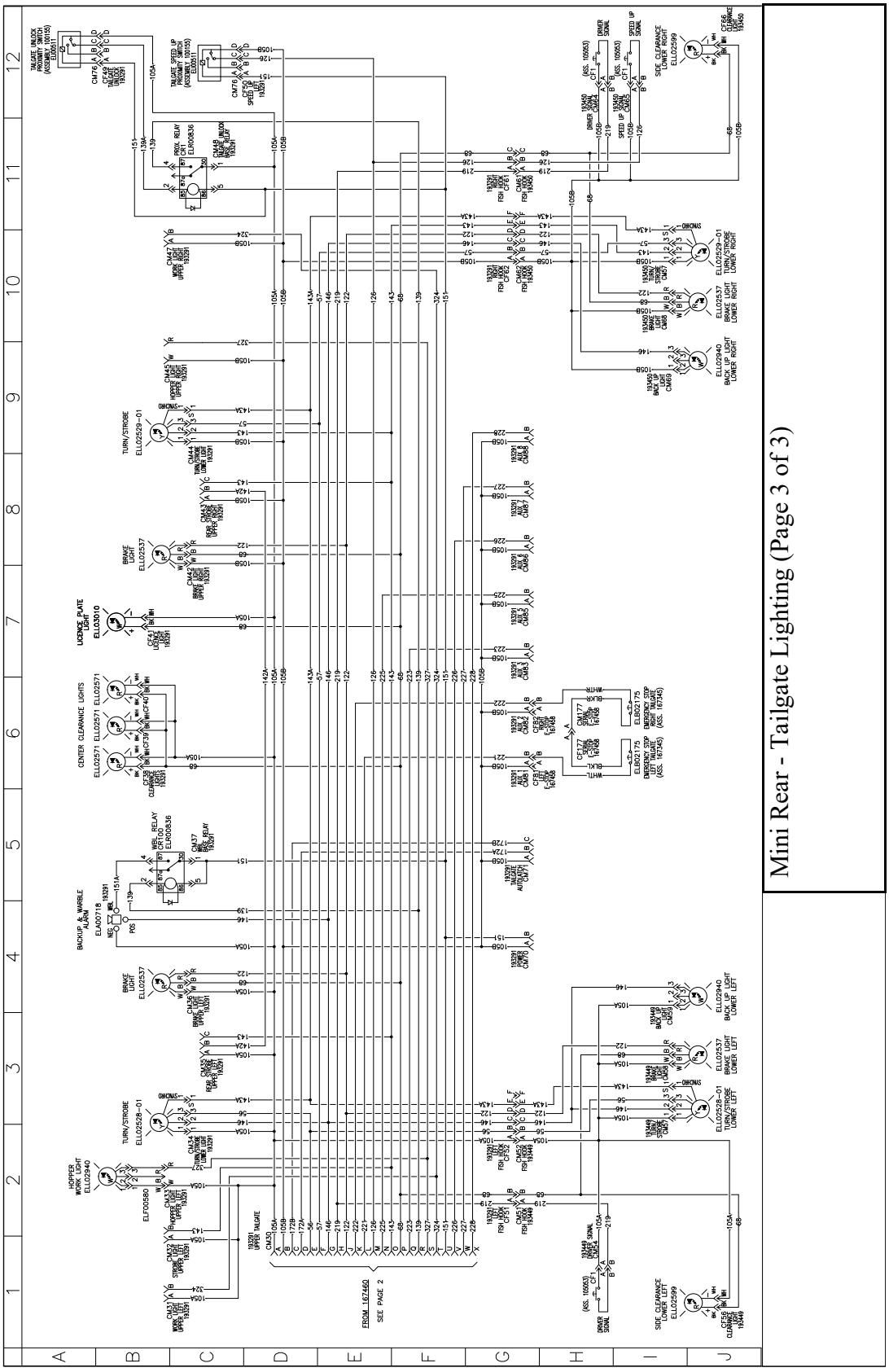

Mini Rear w/ Winch & Cart Tipper
TAILGATE
0.062"
0.062"
EJECTOR PANEL
2500 PSI
P
A
B
T
PB
RESISTANCE CARTRIDGE 2300 PSI @ 0.5 GPM
OPTIONAL
50 psi
PROVISION
TIPPER CYLINDER
ROTARY UP
0.063"
0.063"
1900 psi
C1
IN
0.030"
R1
OUT
100 psi
WINCH
IN
PACKER
CARRIER
1400 psi
2250 PSI K/O
3000 psi
2400 PSI K/O
60 psi
5 psi
40 psi
5 psi


Mini Rear w/ Push Bar & Cart Tipper
TAILGATE
0.062"
0.062"
EJECTOR PANEL
2500 PSI
P
A
B
PB
T
RESISTANCE CARTRIDGE 2300 PSI @ 0.5 GPM
TIPPER CYLINDER
ROTARY
UP
PROVISION
0.063"
0.063"
1900 psi
C1
IN
0.030"
R1
OUT
100 psi
PUSH BAR
PACKER
CARRIER
2250 PSI K/O
3000 psi
2400 PSI K/O
60 psi
5 psi
40 psi
5 psi

Electrical Schematics




Mini Rear - Chassis & Body Wiring (Page 2 of 3)



Mini Rear - Tailgate Lighting (Page 3 of 3)

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, 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 the resulting movement of the unit's parts can cause serious injury or death.

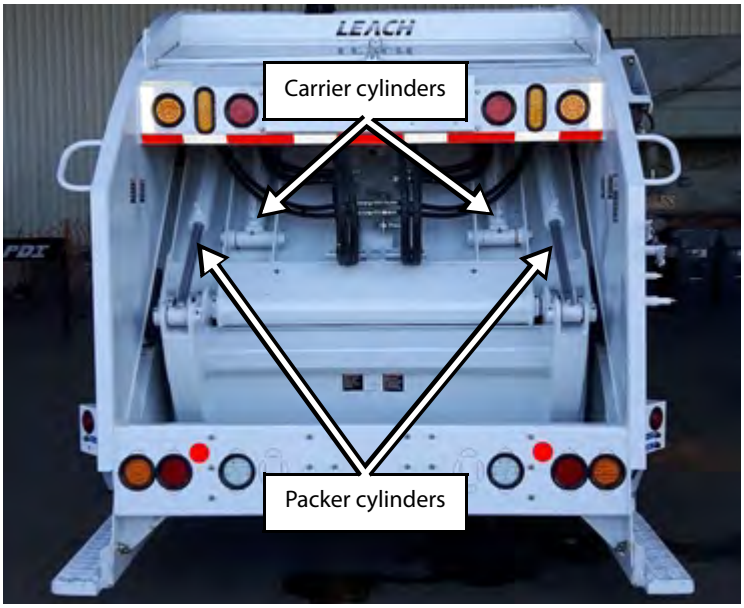
Danger!

Is the chassis of your truck electric-powered? If so, please read the following: Repair work on an electrically powered chassis must be done by experienced mechanics following recommendations and procedures contained in the service manual of the electric chassis manufacturer. If you don't have the correct training, you shouldn't try to repair anything on an electric-powered chassis. Bear in mind there is a fire risk and a high risk of electric shocks if repairs are not done properly or you touch something you shouldn't.

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".

Packer cylinders are different in length and weight from the carrier cylinders. Also, the two packer panel cylinders are mounted in the opposite direction of the carrier panel cylinders and the pivot mountings are different.



NOTE: On units equipped with an electrically powered chassis, you have to press the HYDRAULIC ENABLE button to make the corresponding operating cylinders move. HYDRAULIC ENABLE buttons replace SPEED-UP buttons on such units. SPEED-UP switch/buttons are found only on units with a fuel/CNG powered chassis.

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 66.

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 (units w/ fuel/CNG powered chassis only)	Transmission Neutral

NOTE: On units with an electrically powered chassis, there is no in-cab SPEED-UP switch. See note on page 108 for more details.

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

NOTE: Packer/carrier control levers are shifted differently depending on the unit you are operating. On some units, these control levers are shifted upward and downward whereas on other units they are shifted inward and outward.

Caution!

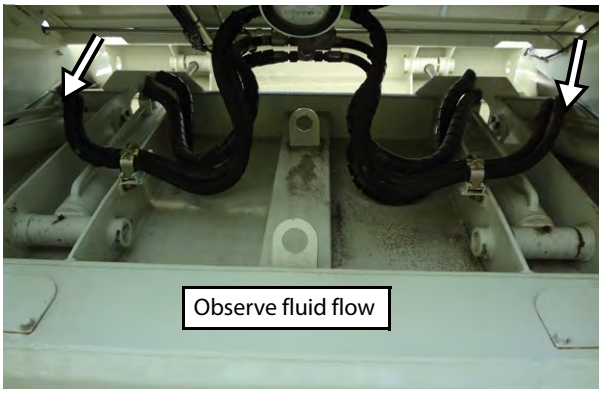
Loosen the hydraulic fittings slowly to release any trapped pressure. Watch for inadvertent movement of components.

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 (units w/ fuel/CNG powered chassis only)

4. Shift the packer panel lever downward to apply hydraulic pressure to the base 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.



NOTE: Packer/carrier control levers are shifted differently depending on the unit you are operating. On some units, these control levers are shifted upward and downward whereas on other units they are shifted inward and outward.

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

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)	Transmission Neutral

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

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

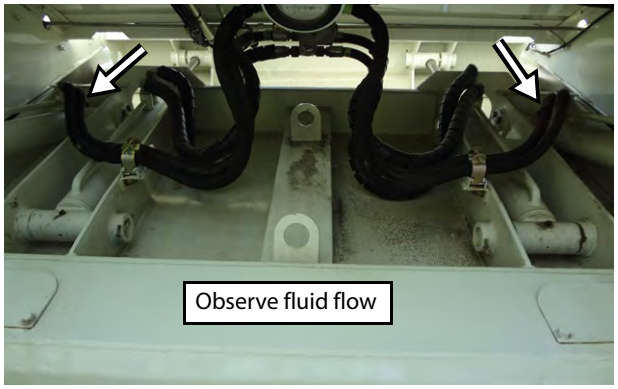
8. Disconnect and plug the hydraulic lines which connect to the base end of a packer panel cylinder.

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 (units w/ fuel/CNG powered chassis only)	Transmission Neutral

9. Shift the packer panel lever upward 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 base 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.



NOTE: Packer/carrier control levers are shifted differently depending on the unit you are operating. On some units, these control levers are shifted upward and downward whereas on other units they are shifted inward and outward.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

10. If the cylinder does not leak, reconnect the hydraulic lines to the cylinder and tighten to 110 ft-lb.
11. Repeat steps 8-10 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 66.

Procedure:

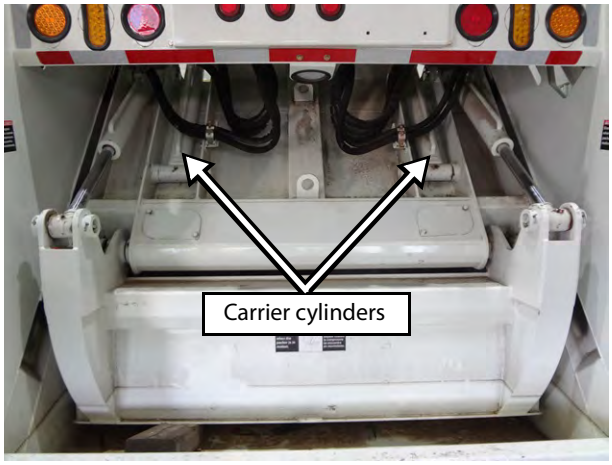
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

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

OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)	Transmission Neutral

NOTE: On units with an electrically powered chassis, there is no in-cab SPEED-UP switch. See note on page 108 for more details.

2. Shift the carrier panel lever upward to fully retract the carrier panel cylinders ("home position").



NOTE: Packer/carrier control levers are shifted differently depending on the unit you are operating. On some units, these control levers are shifted upward and downward whereas on other units they are shifted inward and outward.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

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

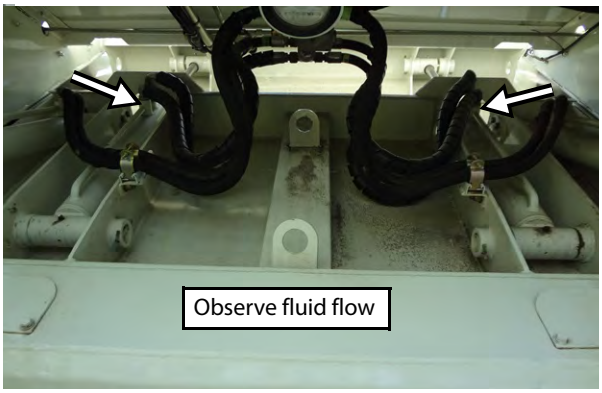
Caution!

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 (units w/ fuel/CNG powered chassis only)	Transmission Neutral

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



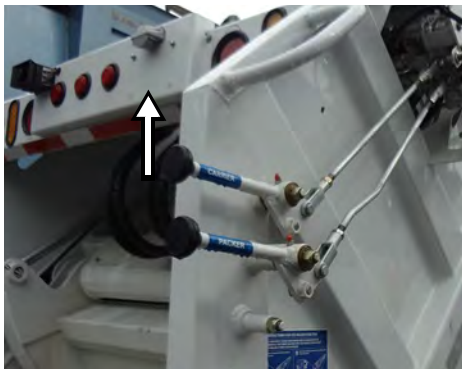
NOTE: Packer/carrier control levers are shifted differently depending on the unit you are operating. On some units, these control levers are shifted upward and downward whereas on other units they are shifted inward and outward.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

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

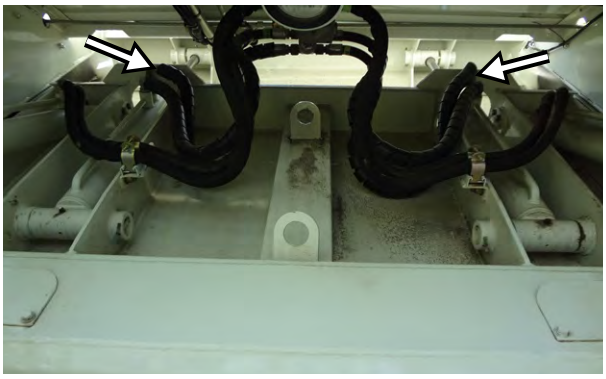
OPERATIONAL STATUS			
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)	Transmission Neutral

6. Shift the carrier panel lever downward to extend the carrier panel cylinder.



OPERATIONAL STATUS	
Truck Off	PTO Disengaged

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



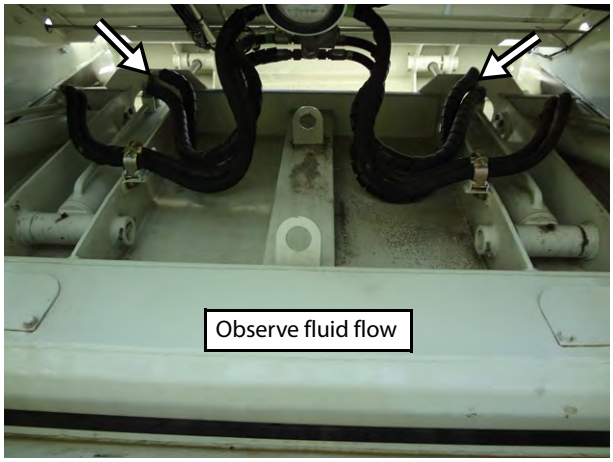
Caution!

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 (units w/ fuel/CNG powered chassis only)	Transmission Neutral

8. Shift the carrier panel lever downward to apply hydraulic pressure to the base end of the carrier 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. Disassemble the cylinder and replace the piston seal.



NOTE: Packer/carrier control levers are shifted differently depending on the unit you are operating. On some units, these control levers are shifted upward and downward whereas on other units they are shifted inward and outward.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

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

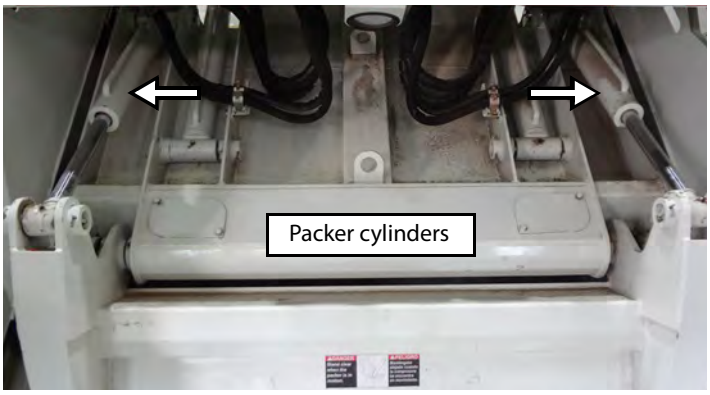
Removal of Packer Panel Cylinders

Procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

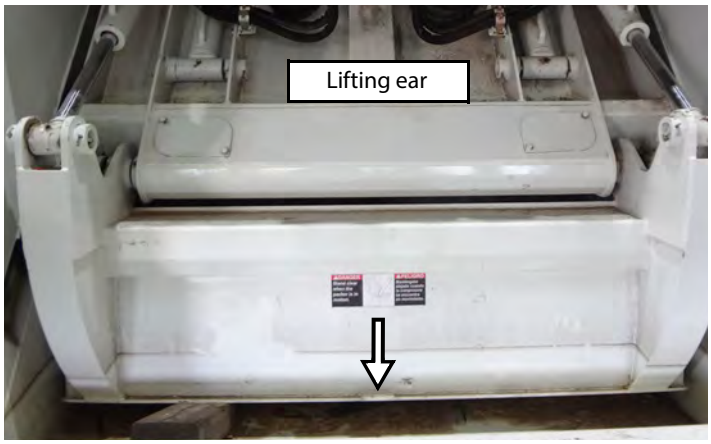
1. Open both hinged top sheets for better accessibility to the packer panel.

   Be sure to secure them together.

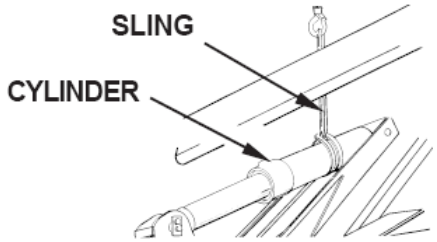


NOTE: On units with a winch, remove the bolted top sheets.

2. Secure chains or a sling to the lower edge of the packer panel. Attach the other end to a suitable lifting device. Adjust the hoist so that it will support the panel once the pivot pins are removed, but not so tight that it changes the position of the packer panel.



3. Secure a nylon sling around the cylinder and attach to a suitable lifting device. Operate the hoist to make the lifting cable snug without applying strain on the cylinder.



OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up Off (units w/ fuel/CNG powered chassis only)

NOTE: On units with an electrically powered chassis, there is no in-cab SPEED-UP switch. See note on page 108 for more details.

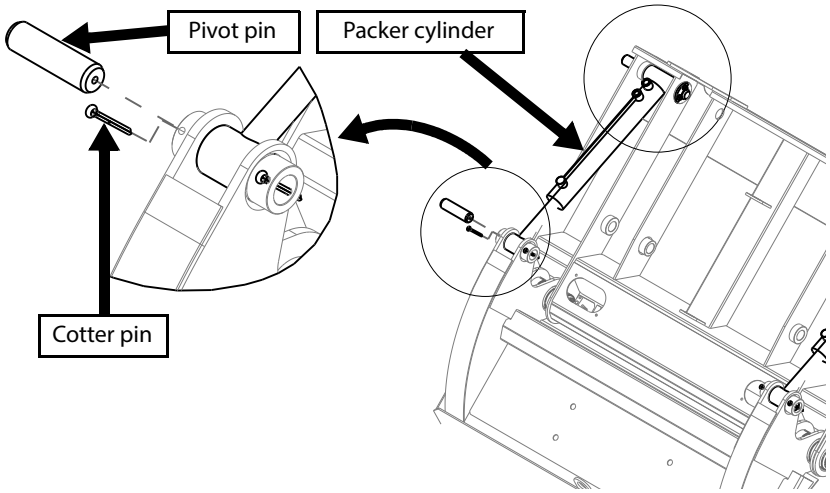
4. Shift the packer panel lever upward to partially retract the packer panel cylinders. Disengage the lever when the panel is vertical. This relieves the weight of the panel from the cylinder rod end.

NOTE: Packer/carrier control levers are shifted differently depending on the unit you are operating. On some units, these control levers are shifted upward and downward whereas on other units they are shifted inward and outward.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

5. Remove both cotter pins and the pivot pin from the rod end of the cylinder.
   Use a puller to remove the pin.

IMPORTANT: Make sure the cylinder weight is securely supported by the hoist.



OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up Off (units w/ fuel/CNG powered chassis only)

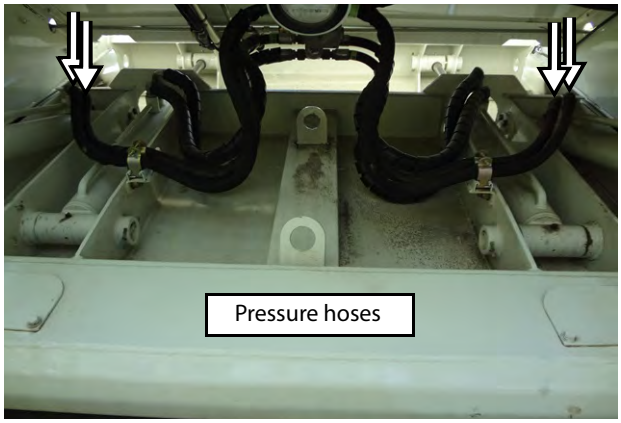
6. Shift the packer panel lever upward to completely retract the cylinder.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

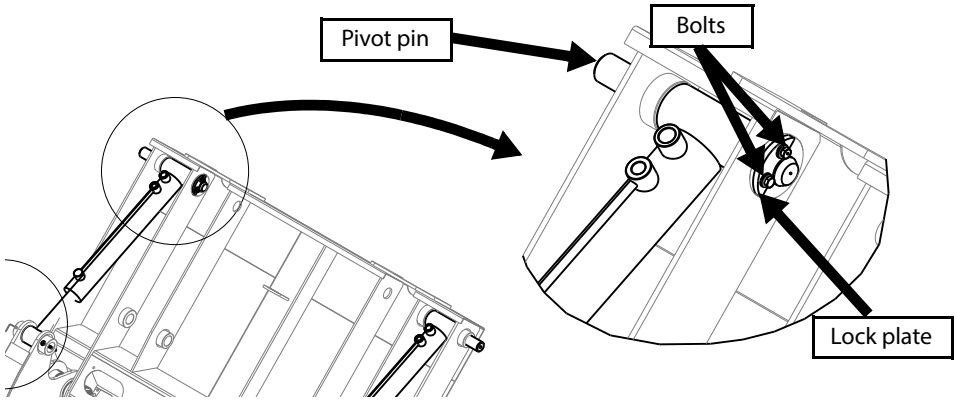
7. Disconnect both the base end and rod end pressure hoses. Immediately cap or plug the pressure hoses and cylinder ports to keep fluid in and dirt out.

Caution!

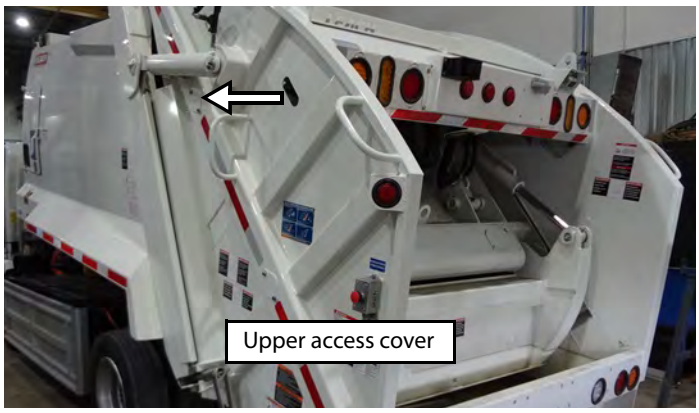
Loosen the hydraulic fittings slowly to release any trapped pressure. Watch for inadvertent movement of components.



8. Remove both retaining bolts and the pin lock plate from the base end of the cylinder.



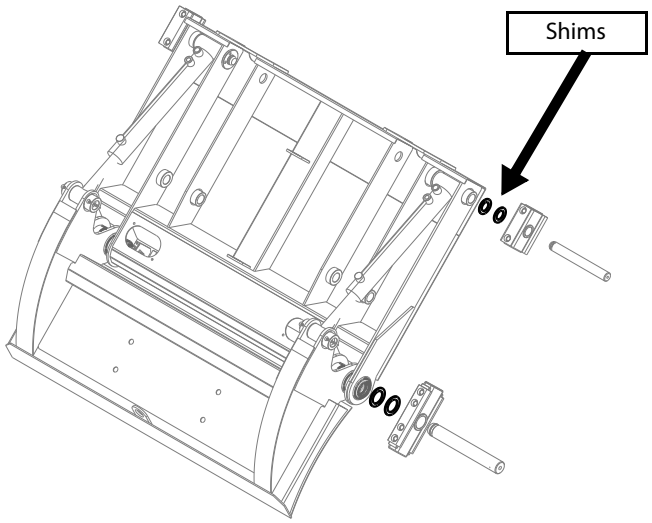
9. On the outside of the tailgate, remove the upper access cover.



10. Using a puller slide the pivot pin out.

    Before removing the pin, use chains or a sling to also support the upper edge of the carrier panel. Adjust the hoist so that it will support the panel once the pivot pin is removed, but not so tight that it changes the position of the carrier panel.

    Watch for any shims that may fall during removal.



11. Carefully lift the packer cylinder out of the tailgate and place it in a safe work area.

Warning! Use caution when lifting the cylinder out of the tailgate to avoid accidents and injuries.

12. Check for bent pivot pins and inspect pin hubs for broken welds and elongated holes.

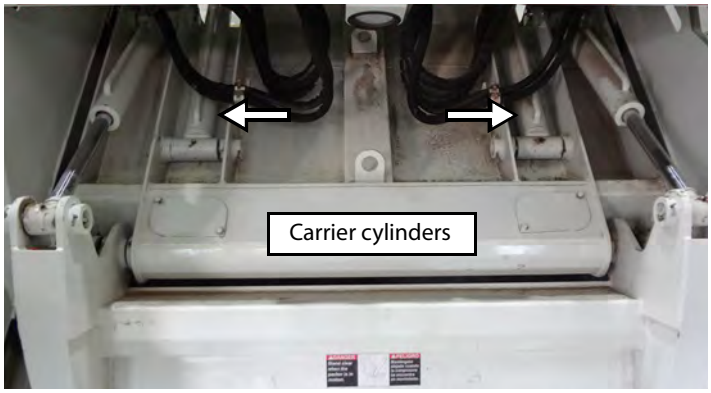
NOTE: If the cylinder is not to be installed immediately, keep ports sealed to prevent dirt from entering.

Removal of Carrier Panel Cylinders

Procedure:

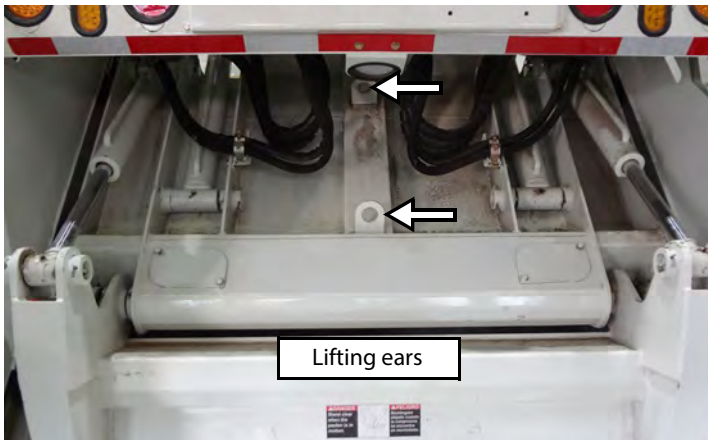
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Open both hinged top sheets for better accessibility to the carrier panel.
   Be sure to secure them together.

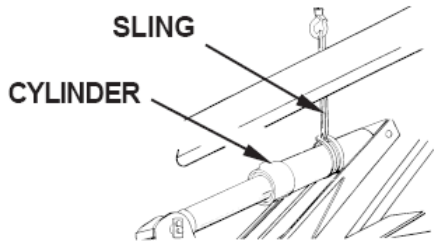


NOTE: On units with a winch, remove the bolted top sheets.

2. Secure chains or a sling to the upper and lower ends of the carrier panel. Attach the other end to a suitable lifting device. Adjust the hoist so that it will support the panel once the pivot pins are removed, but not so tight that it changes the position of the carrier panel.



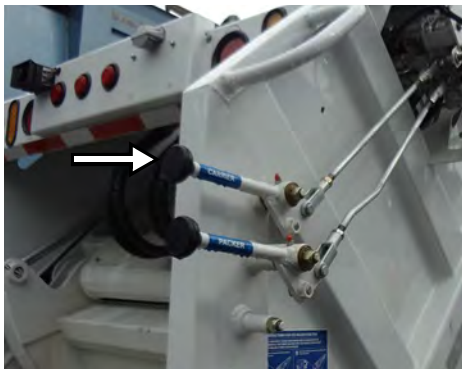
3. Secure a nylon sling around the cylinder and attach to a suitable lifting device. Operate the hoist to make the lifting cable snug without applying strain on the cylinder.



OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up Off (units w/ fuel/CNG powered chassis only)

NOTE: On units with an electrically powered chassis, there is no in-cab SPEED-UP switch. See note on page 108 for more details.

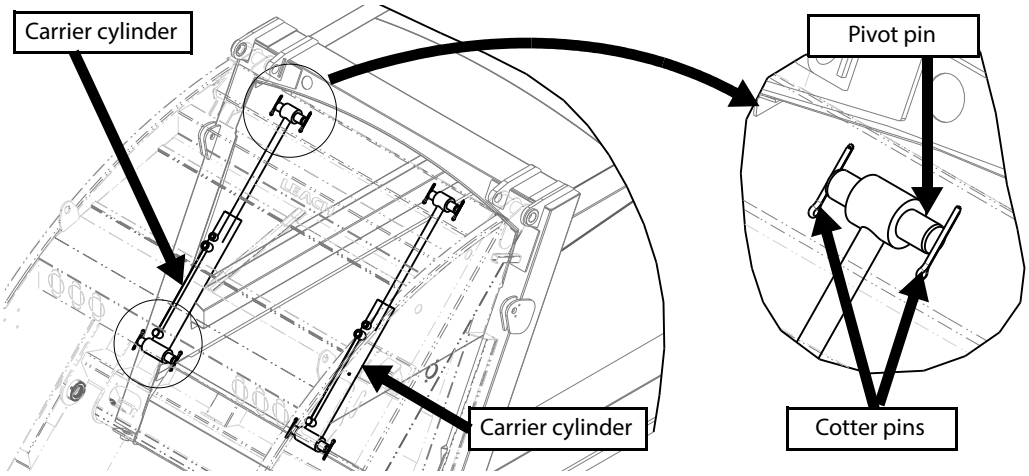
4. Shift the carrier panel lever to partially retract the carrier cylinders.



OPERATIONAL STATUS	
Truck Off	PTO Disengaged

5. Remove both cotter pins and the pivot pin from the rod end of the cylinder.
   Use a puller to remove the pin.

IMPORTANT: Make sure the cylinder weight is securely supported by the hoist.



OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up Off (units w/ fuel/CNG powered chassis only)

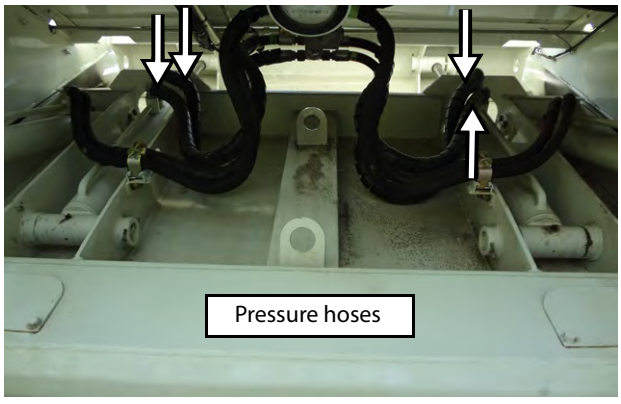
6. Shift the carrier panel lever to completely retract the cylinder.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

7. Disconnect both the base end and rod end pressure hoses. Immediately cap or plug the pressure hoses and cylinder ports to keep fluid in and dirt out.

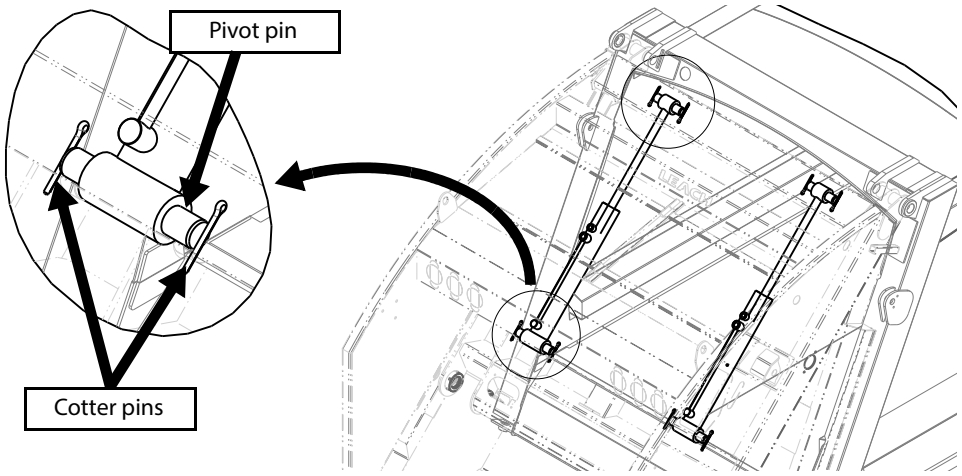
Caution!

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



8. Remove both cotter pins and the pivot pin from the base end of the cylinder.
   Use a puller to remove the pin.

IMPORTANT: Make sure the cylinder weight is securely supported by the hoist.



9. Carefully lift the carrier cylinder out of the tailgate and place it in a safe work area.

Warning! Use caution when lifting the cylinder out of the tailgate to avoid accidents and injuries.

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.

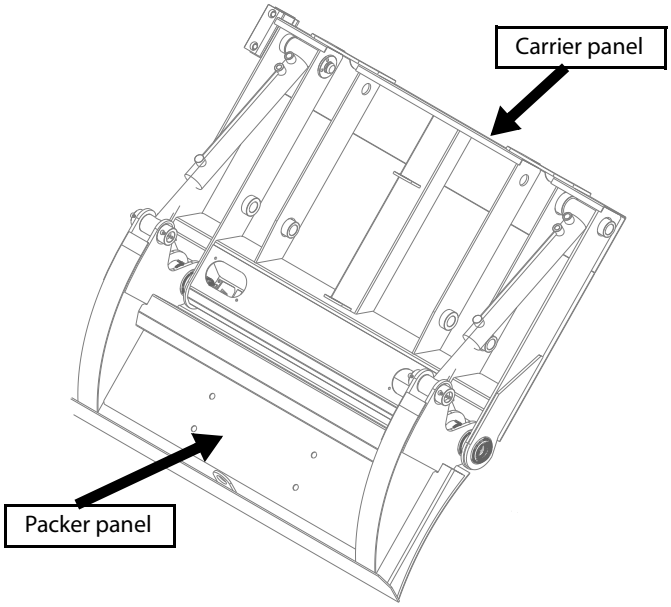
Installation of Operating Cylinders

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. Slide shoes 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.



Slide Shoes

Slide shoes (see Figure 8-1) are utilized to guide the downward and upward movements of the packer and carrier panels inside the hopper.

Two slide shoes ride inside a track channel (see Figure 8-2) on each side of the hopper.

Figure 8-1 **Slide shoes**

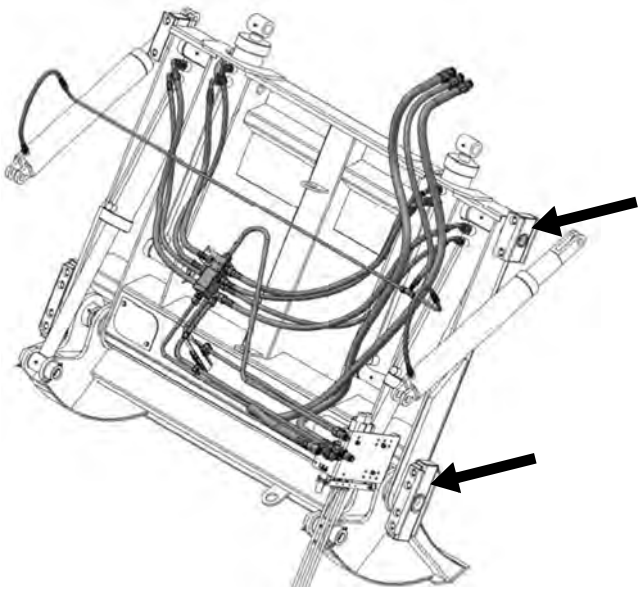
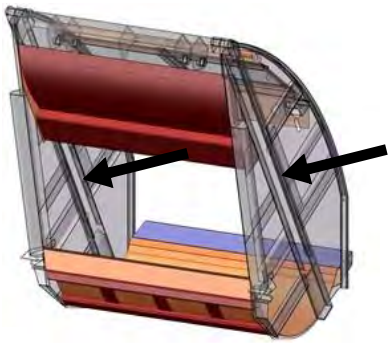


Figure 8-2 **Track channels**



Track channels must be kept clean. Check the condition of the channels daily and clean them if necessary.

Caution! Do not lubricate the track channels.

Slide Shoe Maintenance

When slide shoes start to show signs of wear, they can be rotated to decrease the clearance between shoes and track channels, increasing their service life.

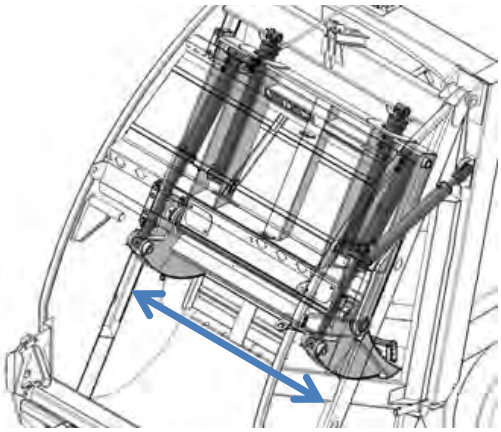
This procedure may only be applied once. The slide shoes must then be replaced.

Reverse or replace all four slide shoes every 5400 hours.

Caution!

Rotation of the slide shoes is a recommended practice, as long as the side clearance is ensured and maintained as much as possible, in order to keep the packing cylinders in good working order.

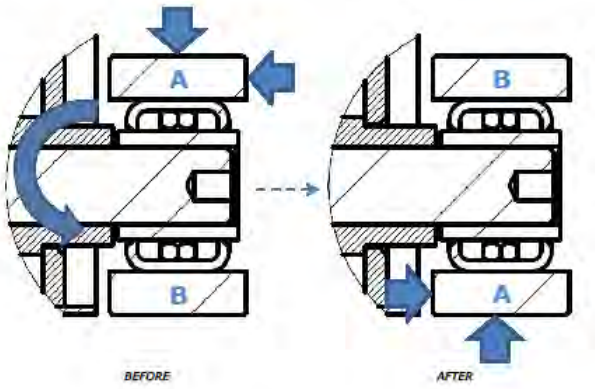
Figure 8-3 **Side clearance**



Upper Slide Shoes

It is recommended to rotate the upper slide shoes as shown in the following illustration: the original outer and upper faces, which had the greater wear, should be rotated inward and downward, respectively.

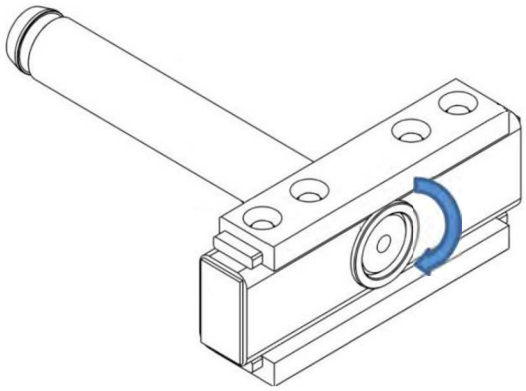
Figure 8-4 **Rotating upper slide shoes**



Lower Slide Shoe

The lower slide shoe is asymmetrical. Therefore, it is only possible to compensate for wear on the upper side. Rotate the slide shoe on its own axis, so that the original upper face, which had the greater wear, is now facing downward.

Figure 8-5 **Rotating lower slide shoe**



If side wear and lateral play are observed, the wear plates should be replaced.

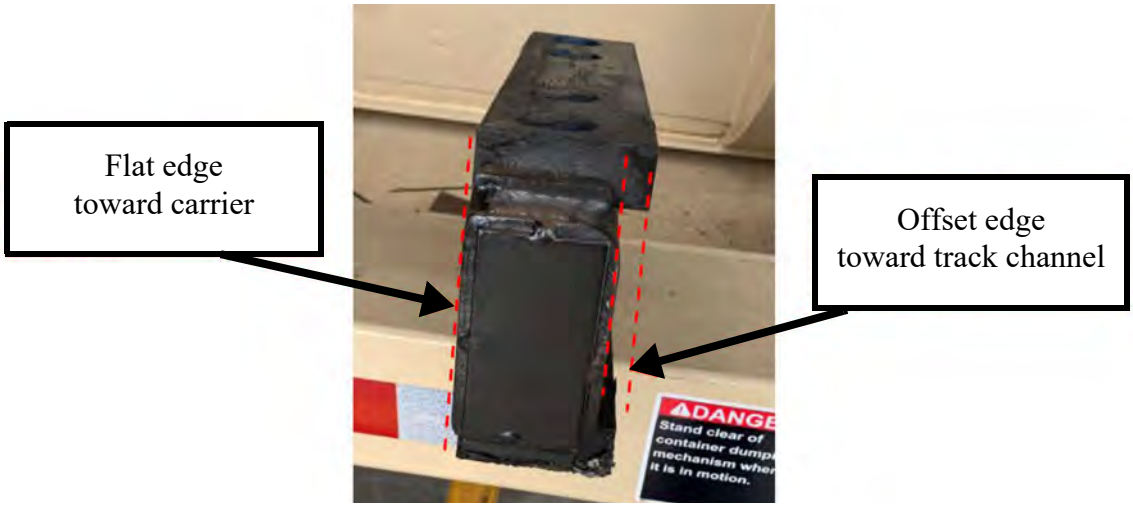
Packer/Carrier Shimming Procedure

Side-to-side travel of the carrier and packer during travel may cause the packer to contact the tailgate side walls. The addition of shims behind the slide shoes will minimize the side-to-side travel to resolve this.

Shimming of the lower slide shoes is a fairly simple procedure, and may be performed with minimal disassembly by driving the shoe pins (also the packer pivot pins) inward to both remove the slides and install the shims:

1. Check the orientation of the slide shoes.

   The UHMW slides are offset on the steel shoe holder; the offset edge should be facing outward.



2. Operate the packer/carrier through several cycles to determine the number of shims needed to correct any side movement of the assembly during or at either end of their travel.

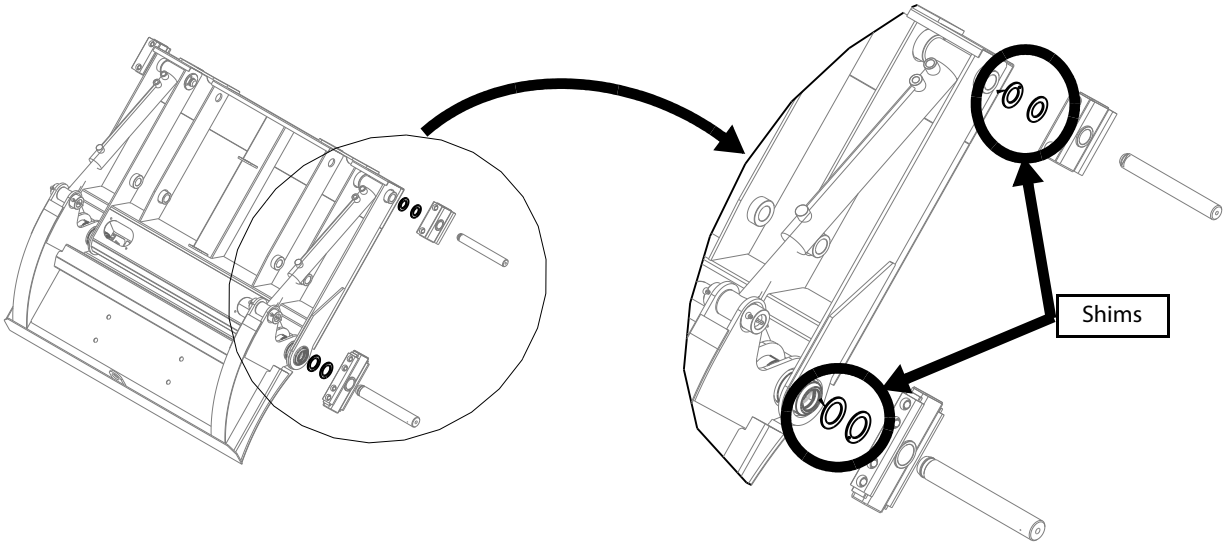
   Shimming the slide shoes must be limited to avoid rubbing on the vertical face of the tailgate track channel. The point where the slide shoe is closest to the vertical face of the track channel will dictate the maximum number of shims to be used.
3. Place the packer panel in the folded (cylinders extended) position, and the carrier in the lowered (cylinders extended) position.
4. Perform the lockout/tagout procedure (see *Locking Out and Tagging Out the Vehicle* on page 29).
5. Use a lifting device at the lower carrier lifting eye. Raise it just to the point of relieving the weight on the slide shoes.

6. Remove the lower access covers on the outside of the tailgate channels.

7. Remove the access covers on the lower channel of the carrier panel, and remove the packer pin retainers.

8. Drive the packer pin inward, just to the point of allowing removal of the slide shoe.

9. Place the shims onto the pin as shown below.



10. Place the slide shoe back into position and tap the pin outward until in proper position.

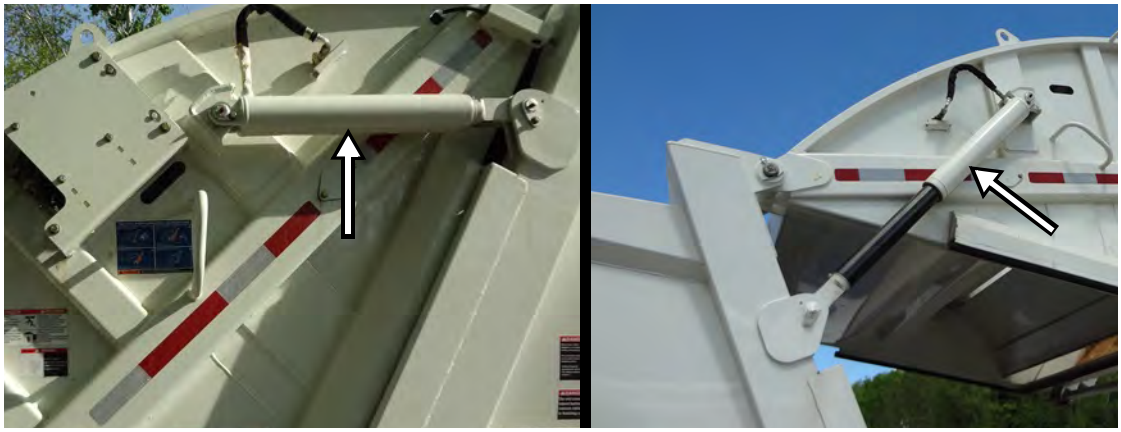
    2 people are required.

11. Install the packer pin retainers, all covers and tighten hardware.

The upper slide shoes cannot be done in the same manner due to interference of the carrier cylinders. The shoe pins (which are also the packer case end cylinder pins) must be pulled outward with a slide hammer. This will require supporting of the packer cylinder in addition to supporting the carrier panel during the process.

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.



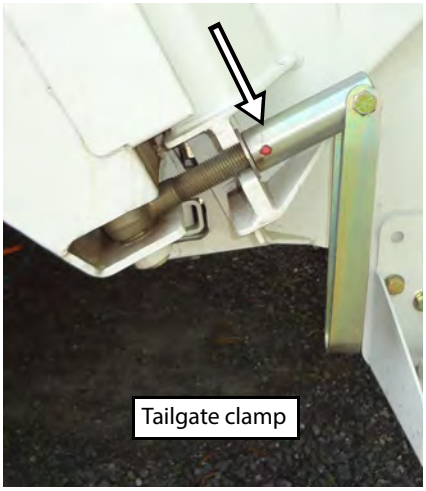
Test for Leaking Tailgate Cylinders

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 (units w/ fuel/CNG powered chassis only)	Transmission Neutral

NOTE: On units with an electrically powered chassis, there is no in-cab SPEED-UP switch. See note on page 108 for more details.

2. Depress the speed-up button and move the tailgate lift lever to raise the tailgate and hold.

NOTE: On units with an electrically powered chassis, there is no SPEED-UP button; instead there is a HYDRAULIC ENABLE button that needs to be pressed for the tailgate to raise.

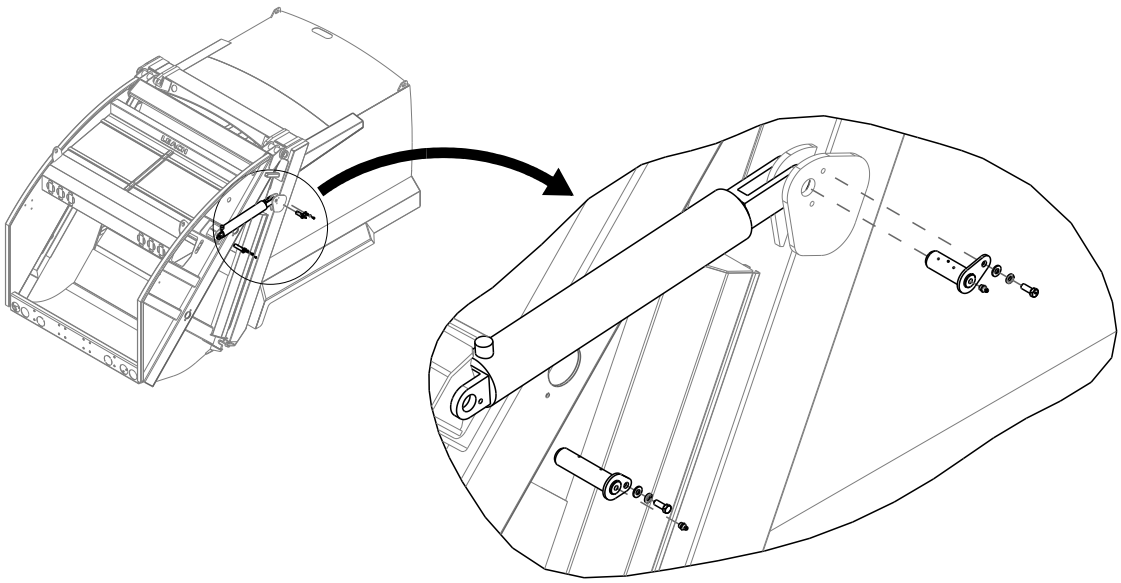
3. Visual inspection of the tailgate cylinders is the only leakage test necessary.

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 to the tailgate lift cylinder.
2. Disconnect the hydraulic line at the cylinder port in the base end and cap the line.
3. Remove the capscrew, lockwasher, retainer and pin from the cylinder base end.
4. Remove the capscrew, lockwasher, retainer and pin 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 base end of the cylinder to a workbench or floor mount and the rod end to an overhead lifting device.
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.

NOTE: On units with an electrically powered chassis, you will need to press the HYDRAULIC ENABLE button to activate the control lever.

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.

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.

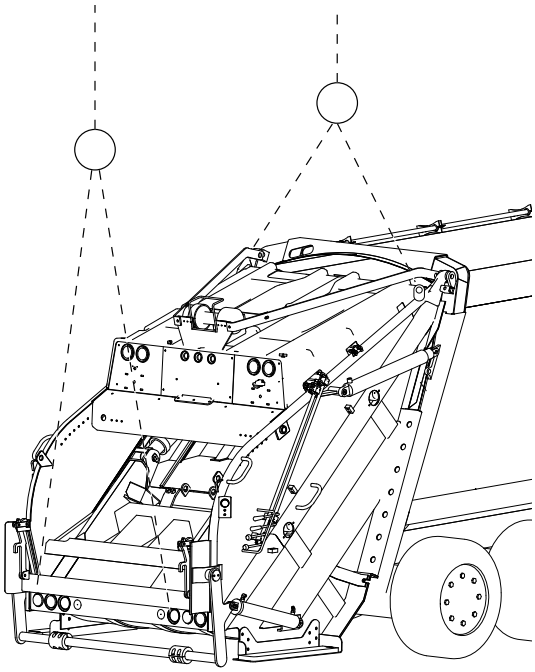
Removal of the Tailgate Assembly

For this task, apply the following procedure:

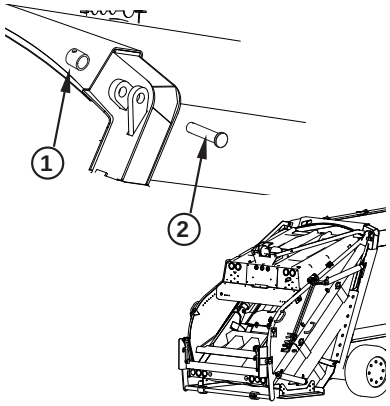
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Loosen and turn outward both tailgate clamps.
2. Disconnect and remove the tailgate lift cylinders (see *Removal of Tailgate Lift Cylinders* on page 134).
3. Disconnect and cap the hydraulic lines.

4. Attach chains connected to a suitable lifting device to the tailgate as shown in the illustration below. 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 the total weight of the tailgate.

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)

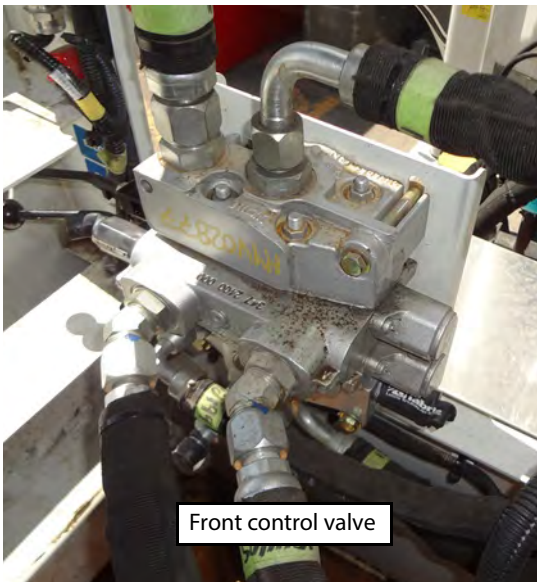
The Front Control Valve is located behind the access door in the front left hand side of the body. It is manually activated and controls the raising and lowering of the tailgate and the operation of the pushout panel. This valve also contains the main pressure relief for the hydraulic system.

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.

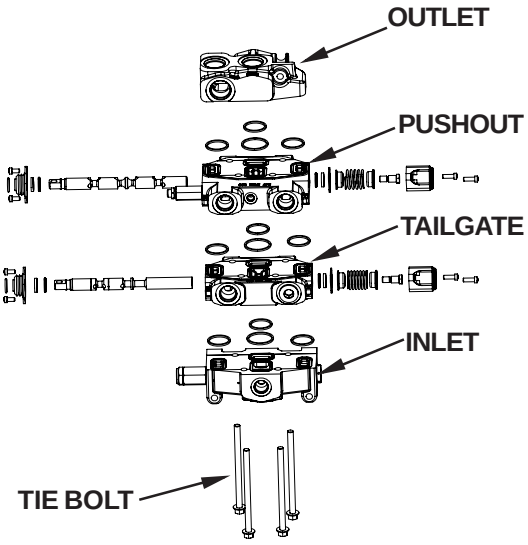

Front control valve

Disassembly and Reassembly of the Front Control Valve

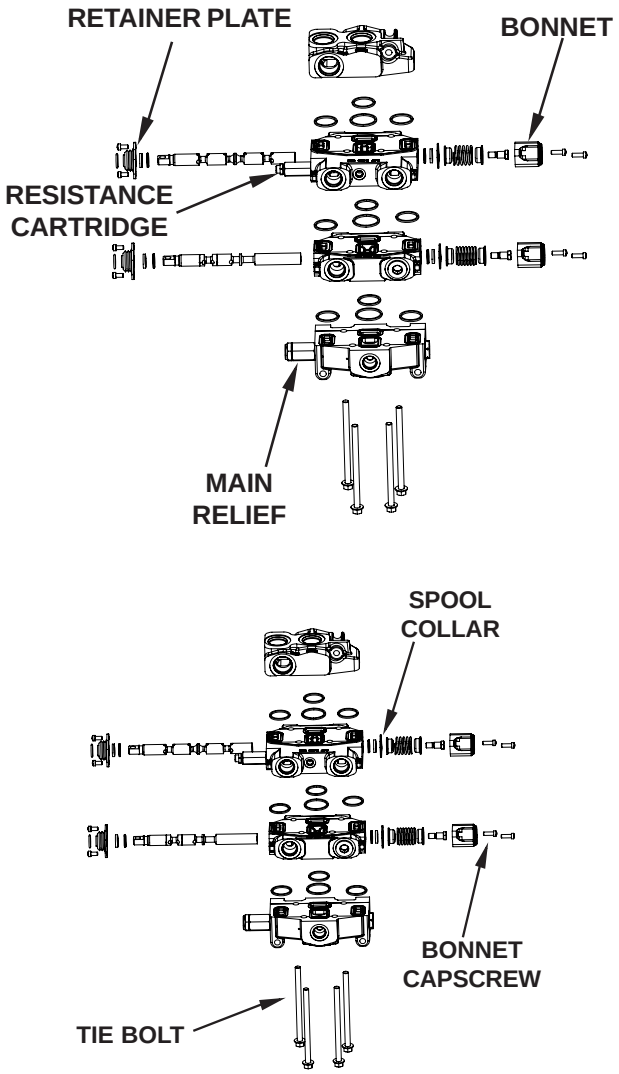
For these tasks, refer to the valve manufacturer's manual for detailed instructions.

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.



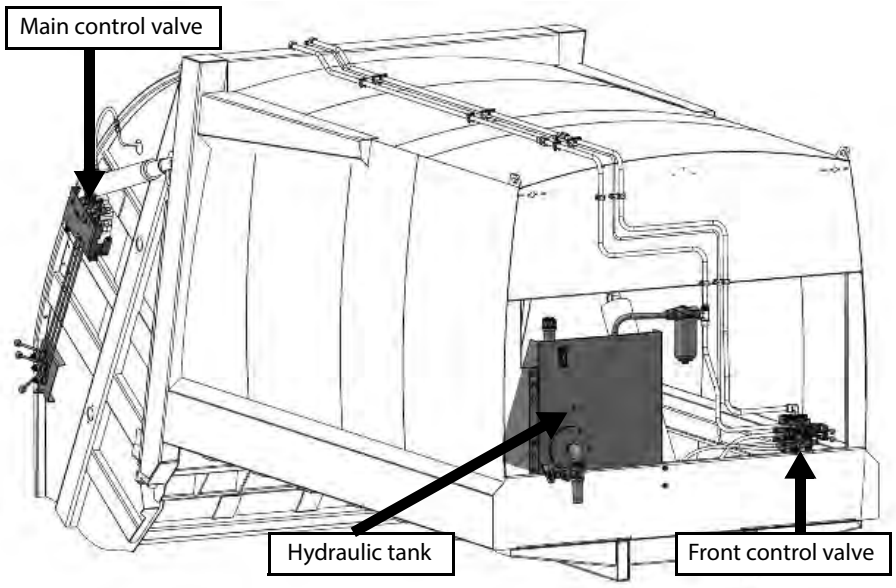
Re-installation of the Front Control Valve

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 JIC o-rings. Torque all hydraulic lines per torque chart as described in Chapter 3 *General Repair Practices*.

Main Control Valve (MCV)

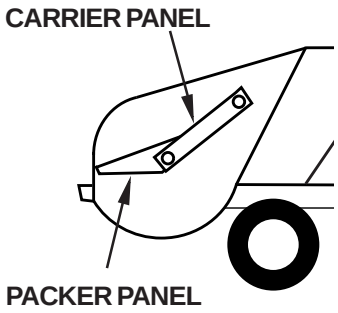
The Main Control Valve is located on the upper tailgate right-hand side (may be found behind an optional protective cover). This valve controls the operation of the packer and carrier panels through the entire packing cycle. It may have either 2, 3 or 4 individual valve sections, depending on the installation of options. The standard valve will have 2 sections.



Removal of the Main Control Valve

For this task, apply the following procedure:

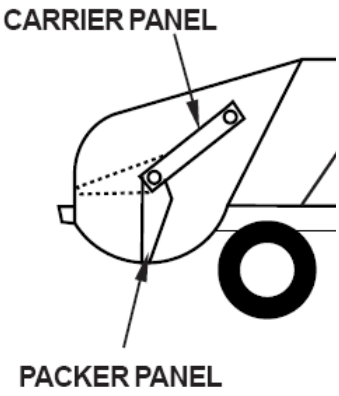
1. Place the packer and carrier panels in the "interrupted cycle" position (see illustration below).



2. Move the packer panel control lever downward 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).

NOTE: Packer/carrier control levers are shifted differently depending on the unit you are operating. On some units, these control levers are shifted upward and downward whereas on other units they are shifted inward and outward.

NOTE: On units with an electrically powered chassis, you will need to press the HYDRAULIC ENABLE button to activate the packer and carrier control levers.



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: Use appropriate lifting procedures and techniques when handling the main control valve assembly.

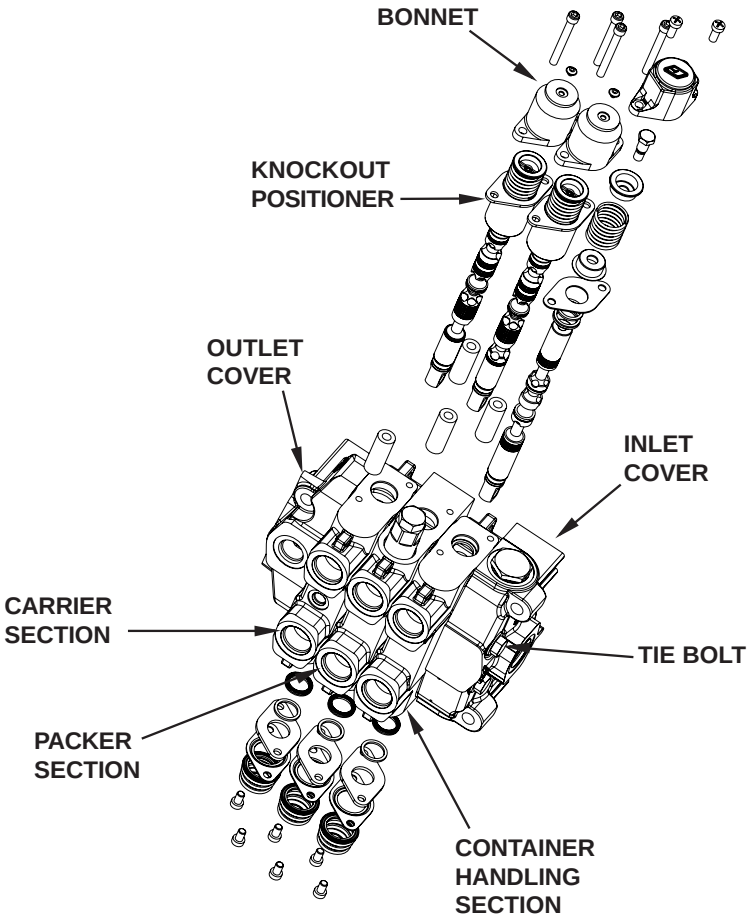
7. Remove the capscrews, washers and nuts securing the valve to the mounting plate.

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.



Re-installation of the Main Control Valve

For this task, apply the following procedure:

1. Using a suitable lifting device, re-install the valve assembly to the body.
2. Tighten the hardware securing the valve or the valve mounting plate to the body.
3. Install the hoses to their respective fittings.
   Torque all hydraulic lines per torque chart as described in Chapter 3 *General Repair Practices*.
4. Install and tighten the hydraulic tank fill cap.
5. Operate all functions until the hydraulic fluid is at operating temperature, and check for leaks.
6. Disengage the pump and turn OFF the engine.
7. Attach a 0-4000 psi hydraulic gauge on the test port of the inlet cover.
8. Start the truck and engage the pump.
9. Check and adjust pressures (see *Checking Pressures* on page 65).
10. Add hydraulic fluid as required to the hydraulic tank.

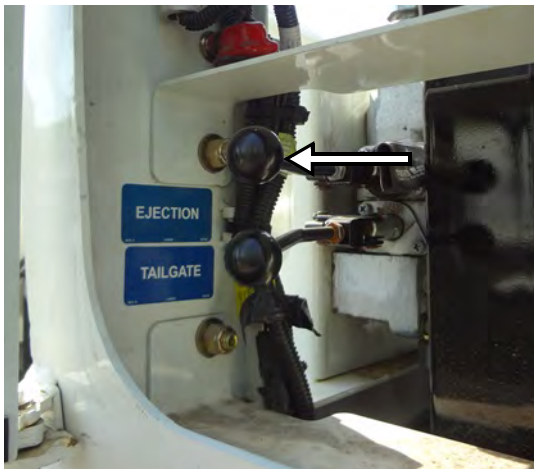
Telescopic Cylinder

Removal of Telescopic Cylinder

For this task, apply the following procedure:

OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)

1. Move the pushout lever to position the pushout panel approximately midway in the body.

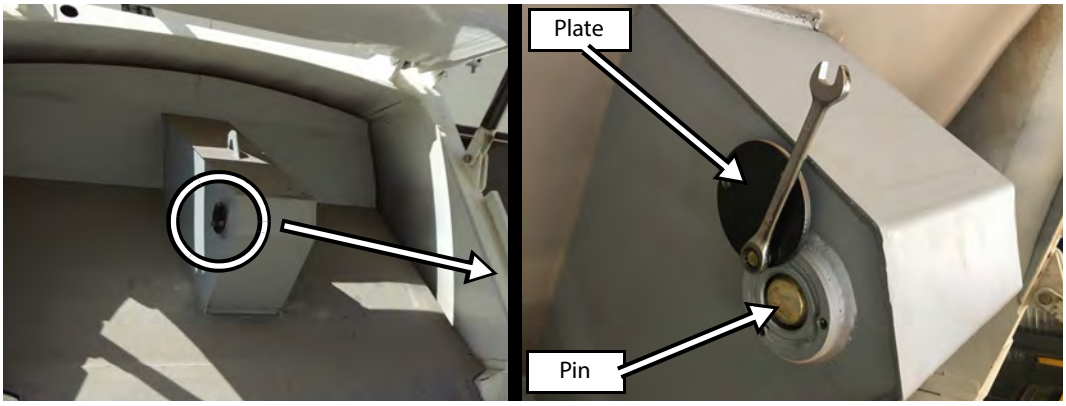


NOTE: On units with an electrically powered chassis, there is no in-cab SPEED-UP switch. See note on page 108 for more details.

NOTE: On units with an electrically powered chassis, you will need to press the HYDRAULIC ENABLE button to activate the pushout lever.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

2. Weld a lifting eye to the roof of the body.
3. Attach a sling connected to a lifting device to the telescopic cylinder.
4. Remove the bolts, plate and cylinder pin from the base end of the telescopic cylinder.

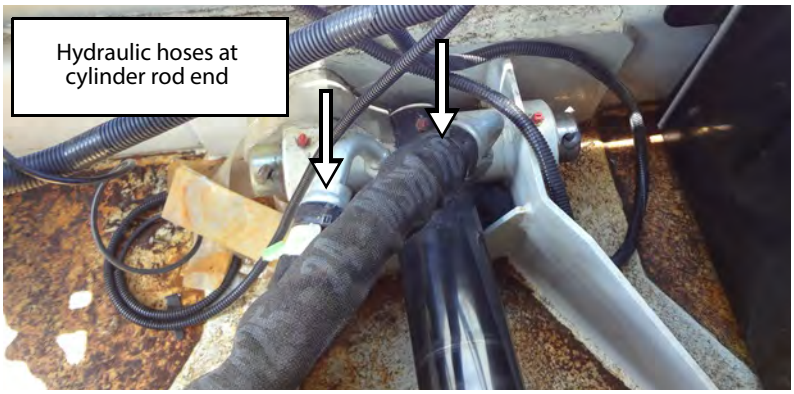


OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up Off

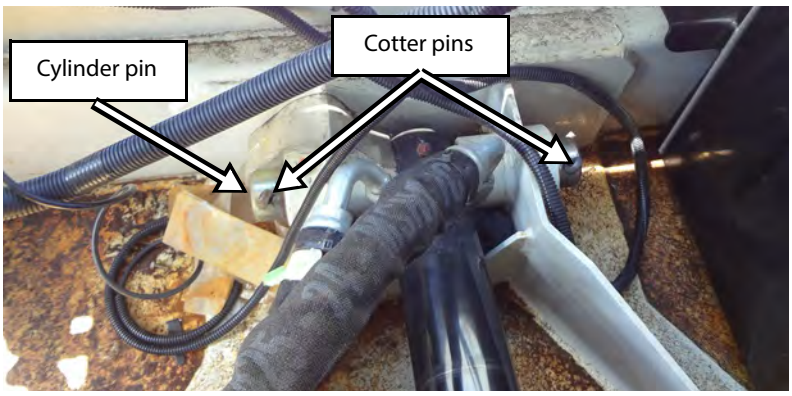
5. Move the pushout lever to slowly retract the telescopic cylinder until it is completely retracted.

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 both cotter pins securing the cylinder rod end pin.



9. Remove the cylinder rod end pin by sliding it to the left.
10. Attach a sling connected to a suitable lifting device.
11. Operate the lifting device slowly and guide the cylinder out of the body through the side access door.

Caution!

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

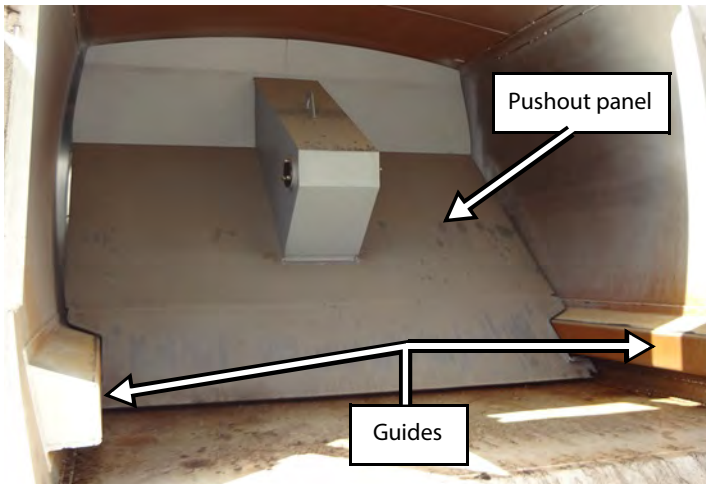
Pushout Panel

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.

The pushout panel runs the entire length of the body between steel guides arranged on its sides. It is important to check the general condition of the guides on a regular basis.

It is important to keep the guides well lubricated with automotive grease. Application of grease should be done with a brush, weekly or every 75 hours.

The entire length of the guides must be inspected and cleaned by removing any accumulation of waste or debris found.



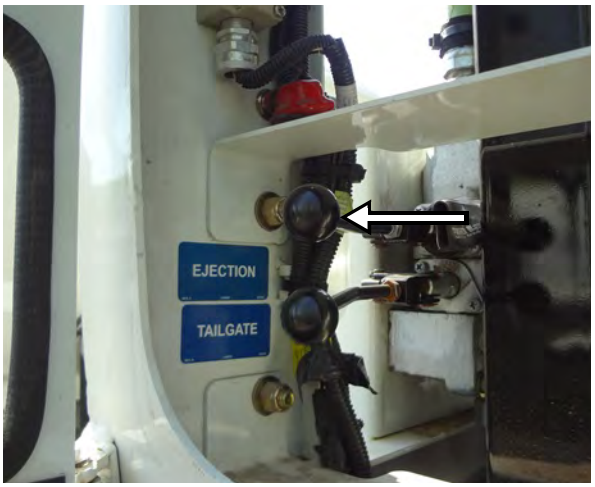
Removal of Pushout Panel

For this task, apply the following procedure:

OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)

NOTE: On units with an electrically powered chassis, there is no in-cab SPEED-UP switch. See note on page 108 for more details.

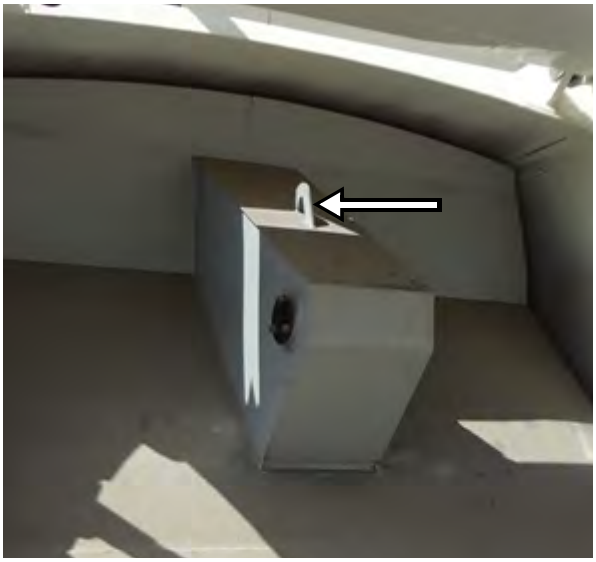
1. Move the pushout lever rearward and position the pushout panel at the extreme rear of the body.



NOTE: On units with an electrically powered chassis, you will need to press the HYDRAULIC ENABLE button to activate the pushout lever.

2. Remove the tailgate lift cylinders as described on Page 134.
3. Remove the tailgate as described on Page 136.
4. Remove the telescopic cylinder base end pin, then retract the cylinder (refer to "Removal of Telescopic Cylinder" on page 144).
5. Attach a chain connected to a suitable lifting device to the lifting eye on the pushout panel to prevent the panel from tipping over upon removal.

Figure 8-6 **Lifting eye**



6. The pushout panel can now be removed from the body.

   The method of removal will depend on the equipment available. Be sure that the equipment being used is capable of lifting the weight of the pushout panel.

   Also, the panel should be secured safely to the removal device.

Installation of Pushout Panel

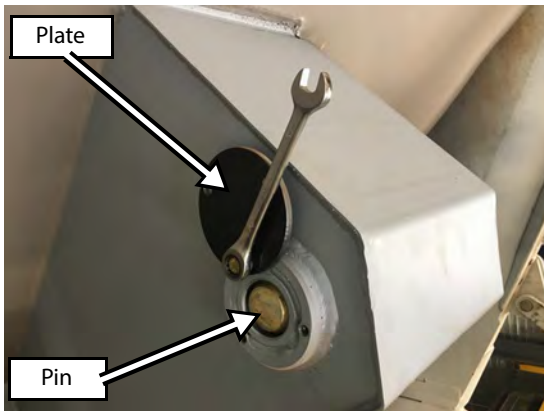
For this task, apply the following procedure:

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 base 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.

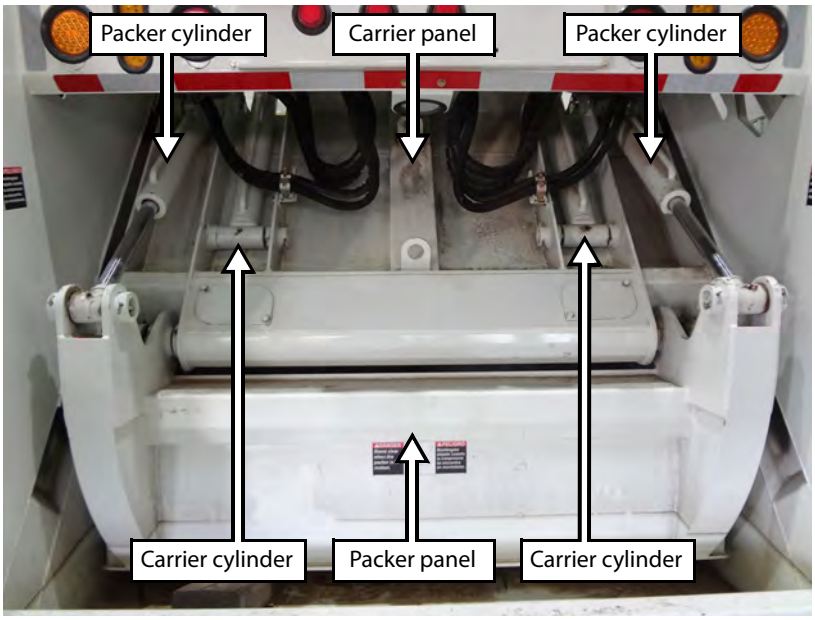
4. Attach a lifting device to the cylinder.
5. Raise the cylinder and slowly extend it until it can be attached to the pushout panel with the pin, plate and bolts.



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 slide shoes. These slide shoes ride inside a 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:

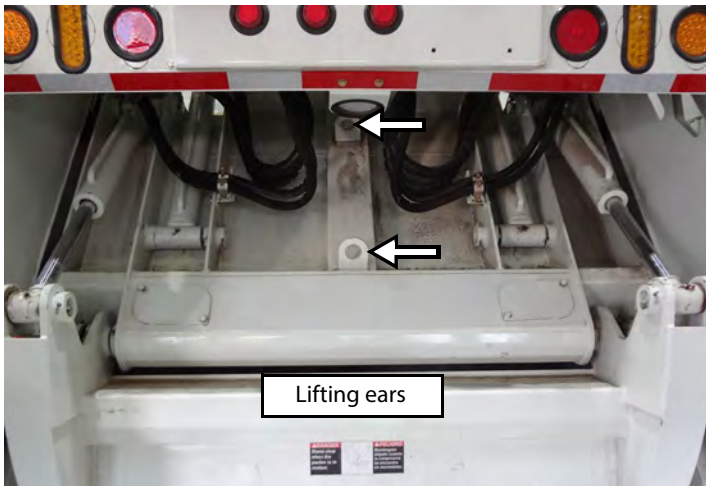
OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. (***If the carrier panel is also to be removed***) - Remove all four operating cylinders (see *Removal of Packer Panel Cylinders* on page 117 and *Removal of Carrier Panel Cylinders* on page 122) and proceed to step 6.

OR

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

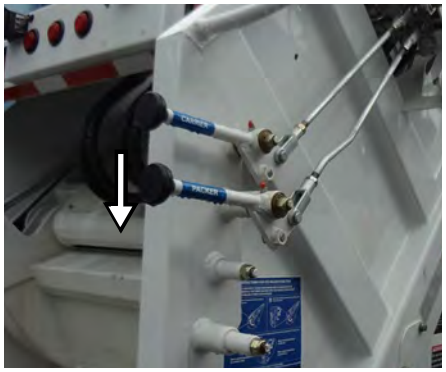
2. (***If the carrier panel is NOT to be removed***) - Attach a chain connected to a suitable lifting device to both lifting ears of the carrier panel (see next illustration). This will support the carrier panel once the packer panel is removed.



OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)

NOTE: On units with an electrically powered chassis, there is no in-cab SPEED-UP switch. See note on page 108 for more details.

3. Move the packer panel operating lever downward 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.

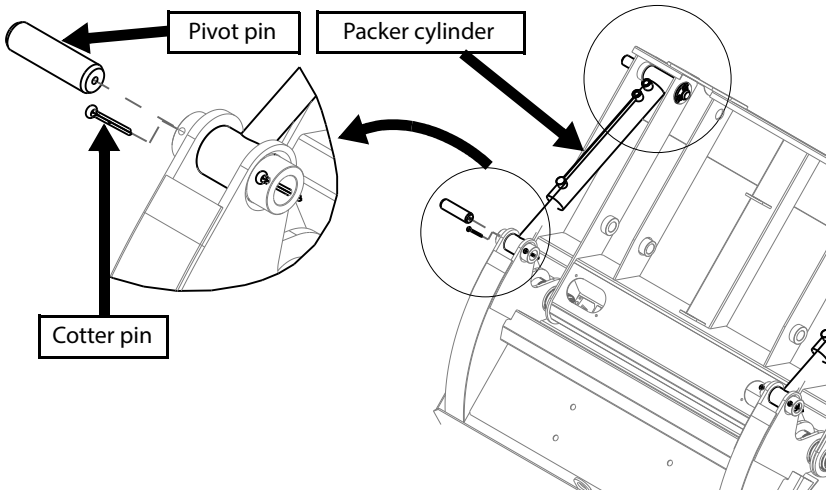


NOTE: On units with an electrically powered chassis, you will need to press the HYDRAULIC ENABLE button to activate the packer panel lever.

NOTE: Packer/carrier control levers are shifted differently depending on the unit you are operating. On some units, these control levers are shifted upward and downward whereas on other units they are shifted inward and outward.

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

4. Remove both cotter pins from the cylinder rod end pin (see next illustration).

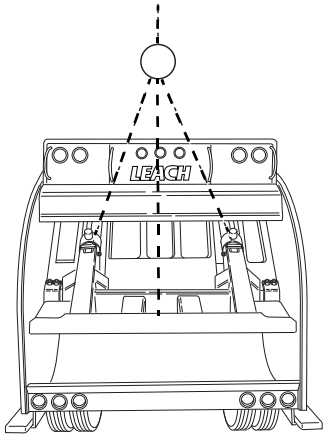


5. Make sure the cylinder weight is securely supported by the hoist and carefully remove the pivot pin from the rod end of the cylinder.

   Use a puller to remove the pin.

6. Attach a chain connected to a suitable lifting device 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 slide shoe assemblies.

   For the carrier panel removing procedure, go to page 156.



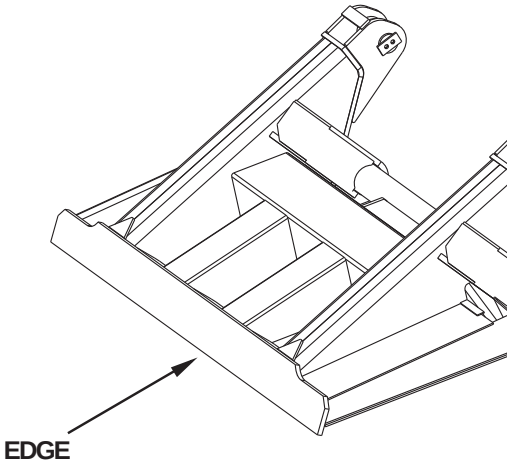
7. Remove the inside bearing assemblies.
8. Remove the slide shoe assemblies (see *Slide Shoes* on page 127).
9. Remove the outside bearing assemblies.
10. With the bearing assemblies removed, carefully operate the hoist and lift the packer panel out of the hopper. Use care to avoid damaging the hopper.

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 slide shoe 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 154).

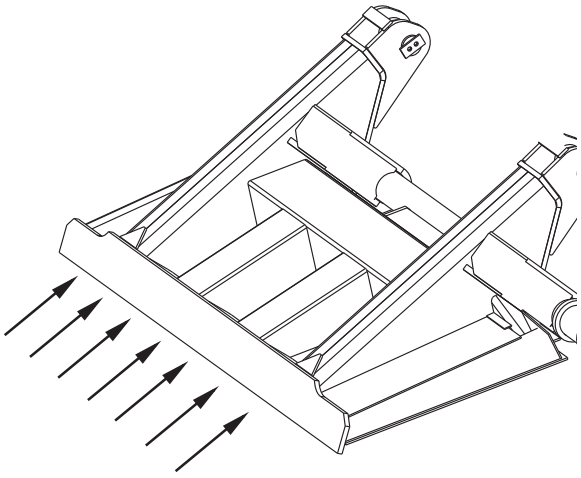


4. Replace parts as necessary (see Chapter 3 *General Repair Practices*).

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 slide shoe and bearing assemblies.

Carrier Panel

The correct method of operation is thoroughly described in the MINI REAR *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.

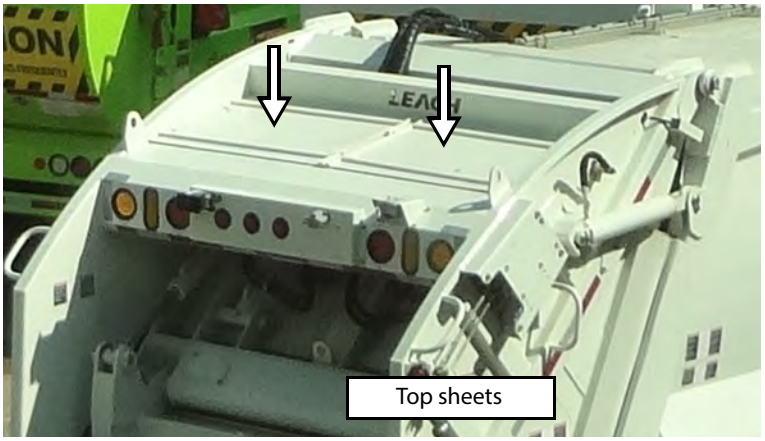
Removal of Carrier Panel

For this task, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Open both hinged top sheets for better accessibility.

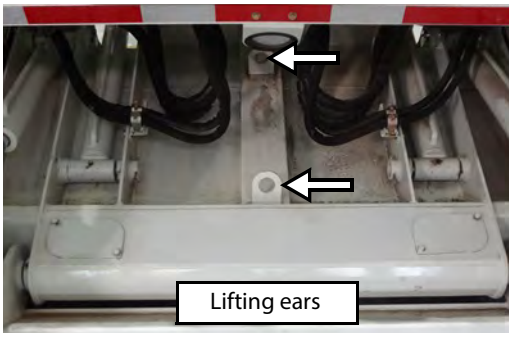
   Be sure to secure them together.



NOTE: On units with a winch, remove the bolted top sheets.

2. Remove the packer panel (see *Removal of Packer Panel* on page 151).
3. Remove the operating cylinders (see *Removal of Packer Panel Cylinders* on page 117 and *Removal of Carrier Panel Cylinders* on page 122).
4. Remove the tubing to the main control valve. Cap the lines and plug the ports in the valve to prevent contamination.
5. Make sure the chains are well fixed to the two lifting ears of the carrier panel (see next illustration).
6. Remove the carrier panel.

   Carefully operate the hoist and lift the carrier panel out of the hopper. Use care to avoid damaging the hopper.

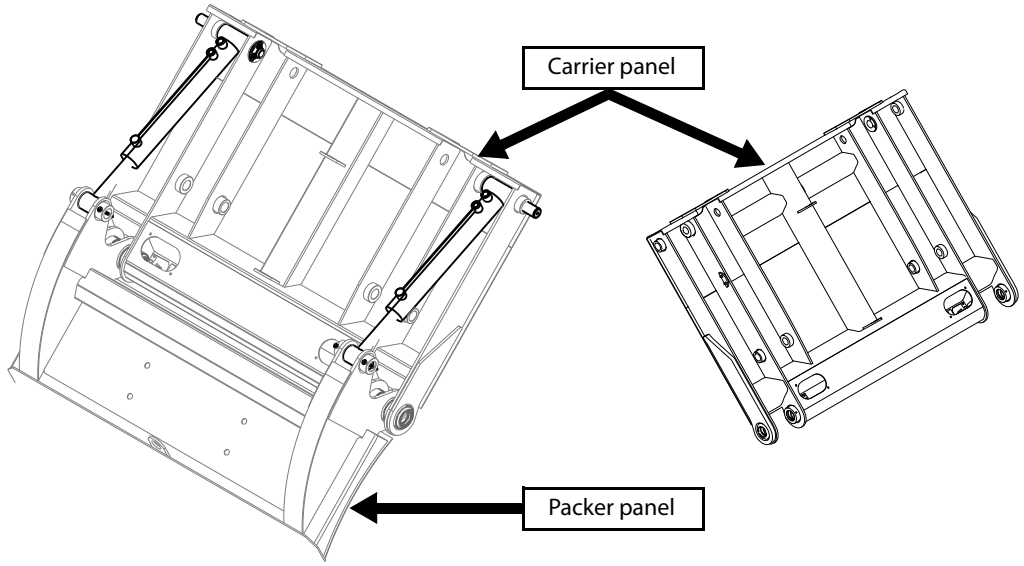


Inspection and Replacement of Carrier Panel

For these tasks, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Carefully inspect all pivot, bearing and slide shoe 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 slide shoe and bearing assemblies (see *Slide Shoes* on page 127).

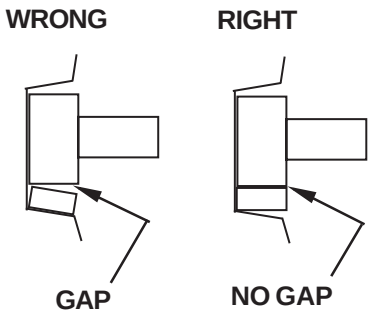
Track Bar Replacement

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 slide shoe will run true.

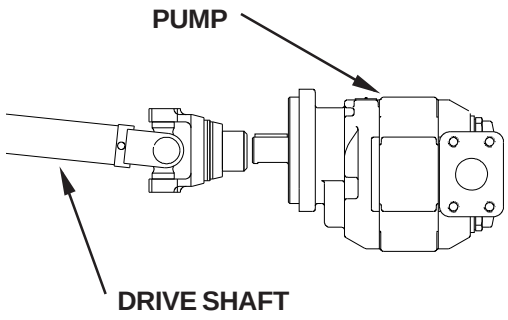


Caution!

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. On some units, pumps are directly mounted on an electric engine.

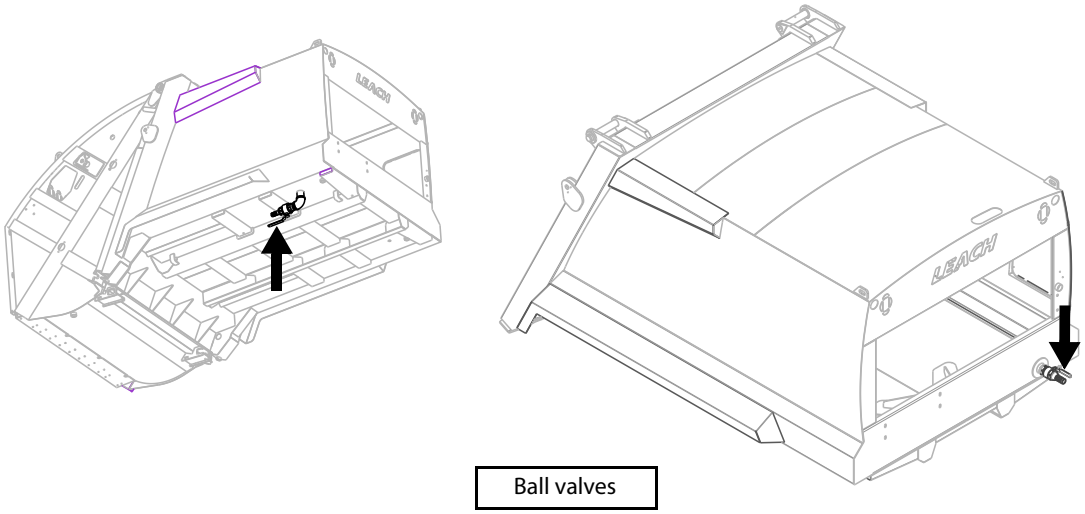


Removal of Hydraulic Pump

For this task, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

1. Shut the ball valve located either at the underside of the hydraulic fluid tank or at the front end of the body, on the streetside.



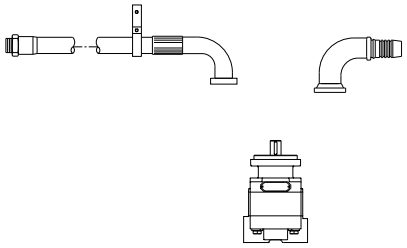
Ball valves

2. Remove the hose clamp.

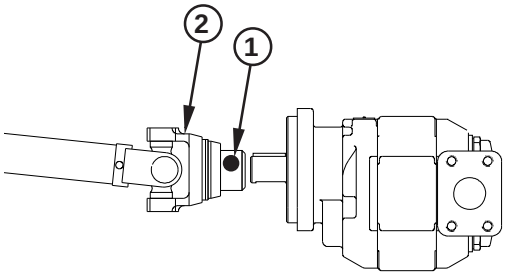
3. Remove the pump suction line and allow the fluid to drain.

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.

Removal of Hydraulic Pump (Mounted on an Electric Engine)

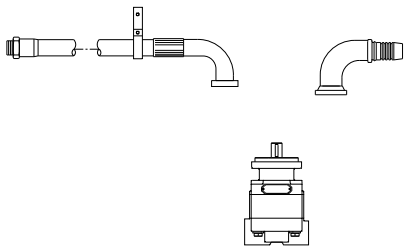
For this task, apply the following procedure:

OPERATIONAL STATUS	
Truck Off	PTO Disengaged

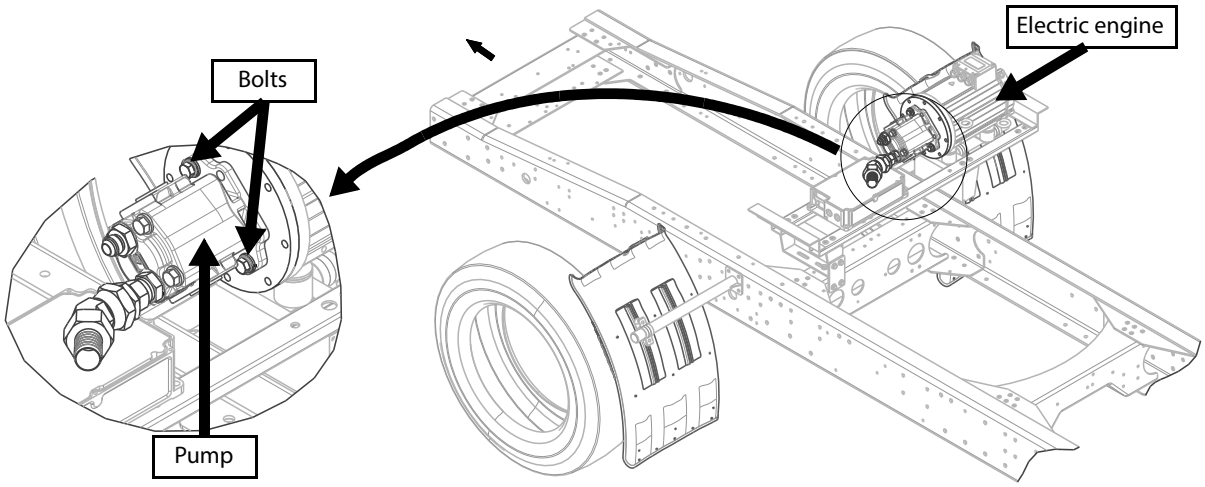
1. Shut the ball valve located either at the underside of the hydraulic fluid tank or at the front end of the body, on the streetside.
2. Remove the hose clamp.
3. Remove the pump suction line and allow the fluid to drain.

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. Remove all bolts securing the pump to the electric engine.



Installation of Hydraulic Pump

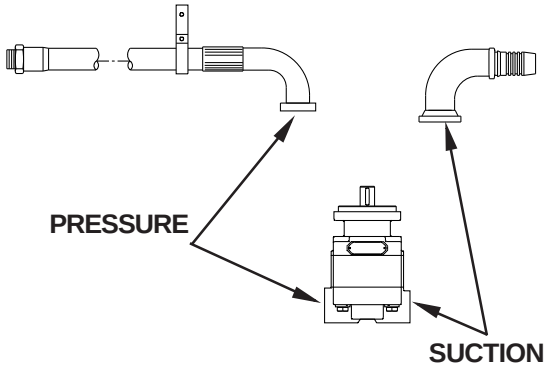
For this task, apply the following procedure:

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.



NOTE: Before proceeding with the installation of the drive shaft, apply the following procedure to ensure a strong mechanical connection between the pump yoke and the input shaft.

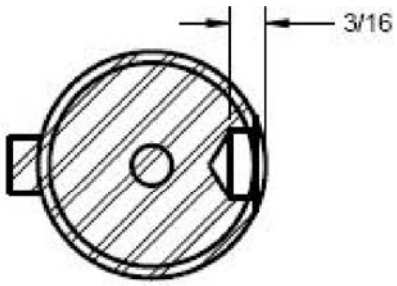
Installing a Yoke-Locking Bolt

To install a yoke-locking-bolt, do the following:

1. On the drive shaft mark the location where a hole must be drilled.
   Use the yoke as a jig to determine where exactly the hole must be drilled then remove it.

NOTE: The yoke must be fully engaged on the shaft before determining the exact location where the hole must be drilled.

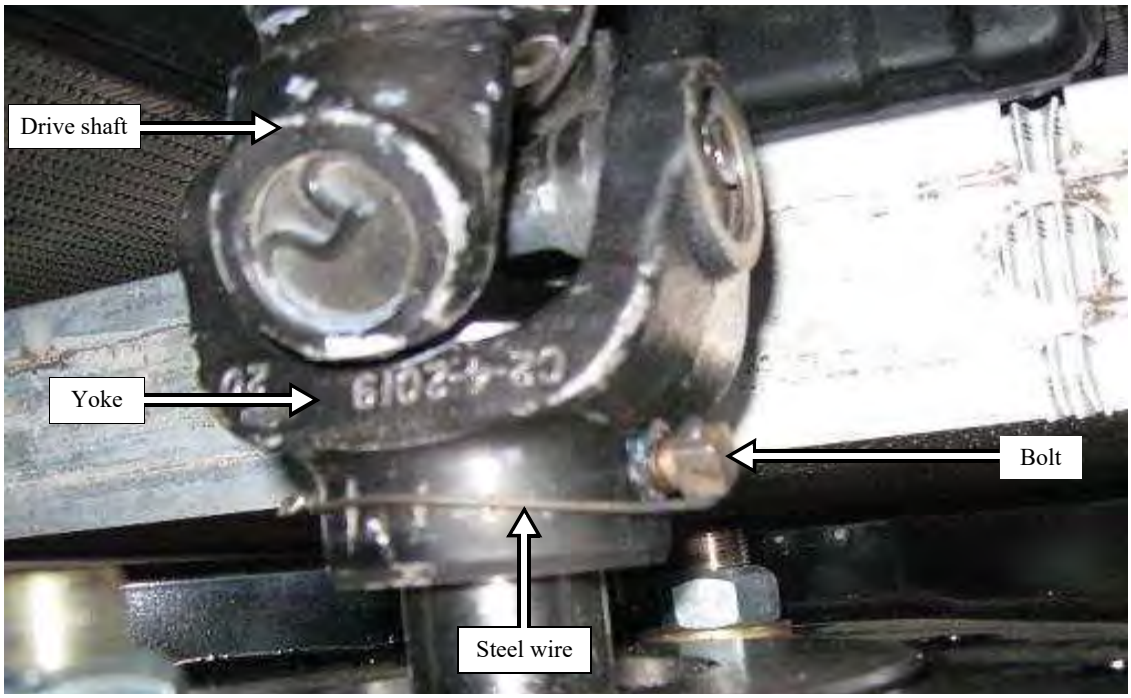
2. Drill a detent, with a diameter of 5/16” and depth of 3/16” on the pump shaft.



SECTION A-A
SCALE 3:4

3. Reinstall the drive shaft, placing the yoke on the shaft as illustrated.

   The yoke must be fully engaged on the shaft with both holes aligned (one hole over the other).



4. Apply Loctite 243 (medium strength) to bolt threads and insert the bolt firmly into the holes to properly secure the yoke to the shaft.
5. Install a steel wire on the yoke bolt.

   The wire must be tight around the bolt head, in a fashion that prevents LH rotation, as shown above.

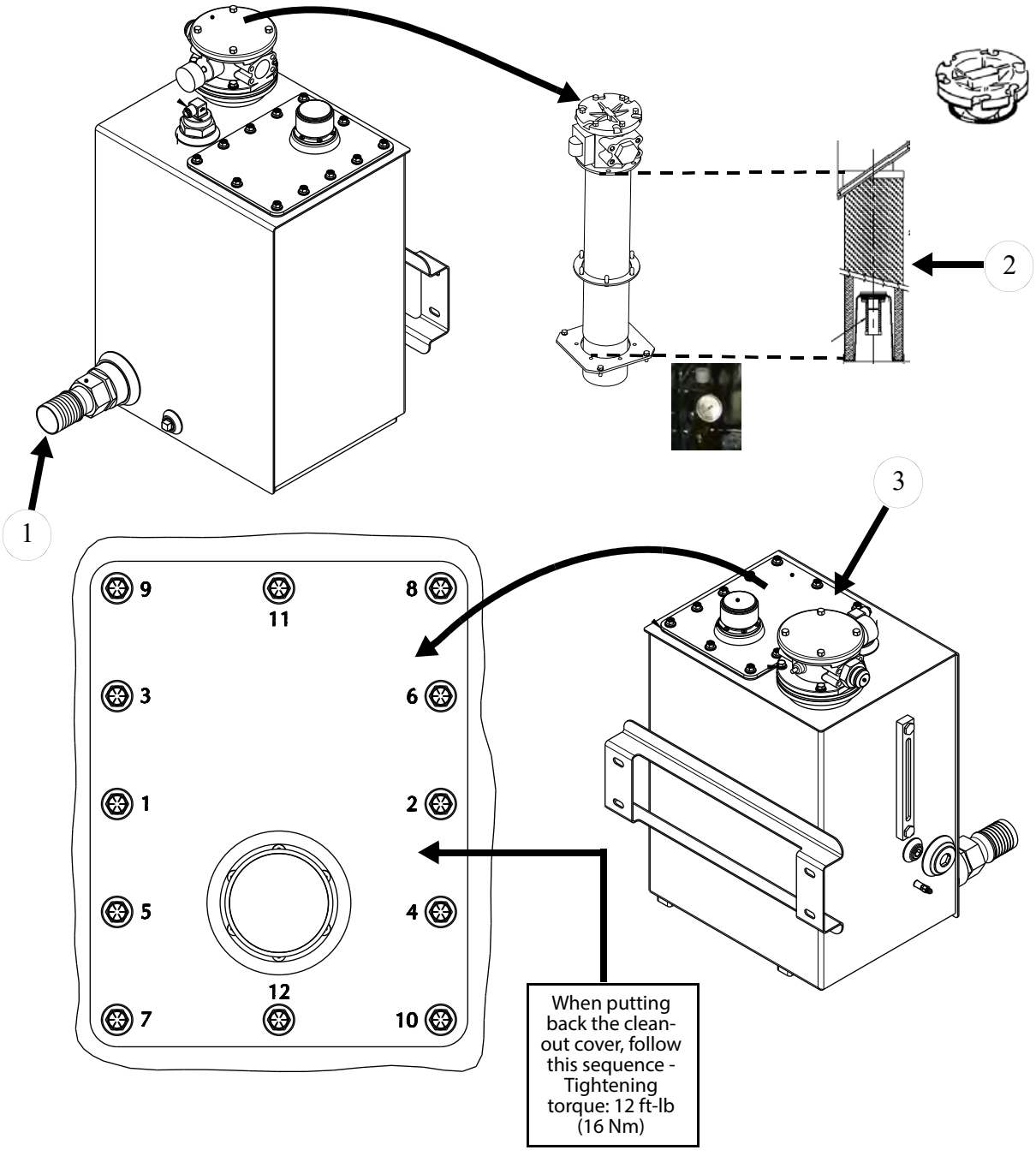
New Pump Preparation

Before installing a new pump, refer to Chapter 5 *Preventive Maintenance*. 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 53.
4. Remove the clean-out cover (3) and wipe out the bottom of the tank.

NOTE: Numbers refer to the following illustration.


1
2
3
9
11
8
3
6
1
2
5
4
12
7
10
When putting back the clean-out cover, follow this sequence - Tightening torque: 12 ft-lb (16 Nm)

Testing a New Pump

OPERATIONAL STATUS		
Truck Running	PTO Engaged	Speed Up On (units w/ fuel/CNG powered chassis only)

NOTE: On units with an electrically powered chassis, there is no in-cab SPEED-UP switch. See note on page 108 for more details.

After installing a new pump, check for correct cycle time and main line pressure (see *Checking Pack Cycle Time* on page 64 and *Checking Main Line Pressure* on page 66).

Cart Tipper (optional)

The cart tipper is an option that may be installed on a MINI REAR. If your unit is equipped with this option, we suggest you read this section as it contains important information including how to lubricate the tipper, how to adjust its speed and how to make necessary adjustment to its hydraulic pressure.

Types of Cart Tippers

Cart tippers installed on the MINI REAR can handle American- and European-type roller carts from 38 to 95 US gallons (140 to 360 liters). LABRIE™ offers two types of cart tippers: a vertical hydraulic cylinder driven type and a rotary actuator or hydraulic motor driven type.

Models of Cart Tippers

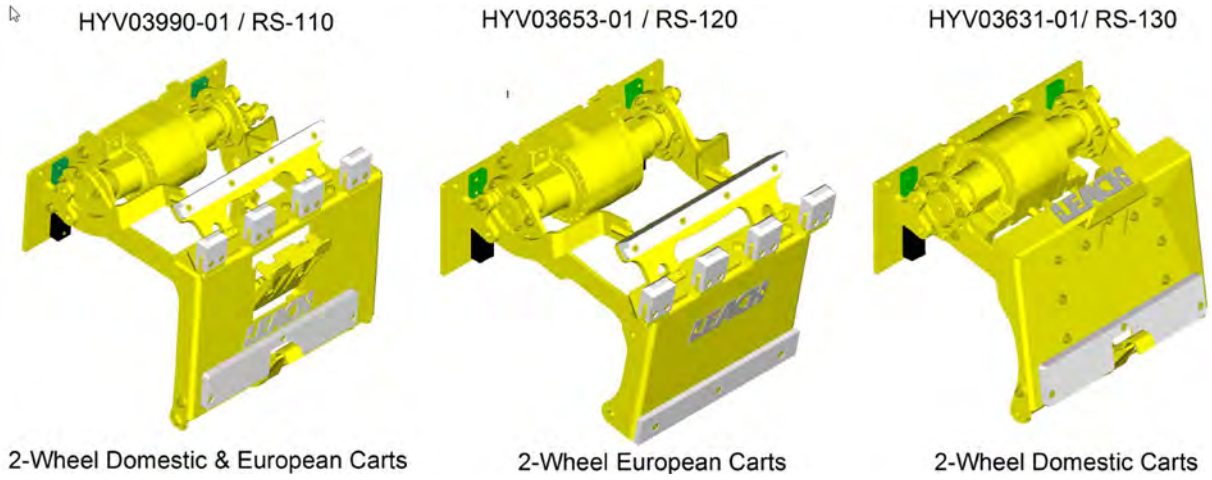
LABRIE™ offers different models of cart tippers. Each of these models have been designed for optimum performance and reliability. The following is a list of tipper models that may be installed on a MINI REAR unit.

1- RS-110 (HYV03990-01)

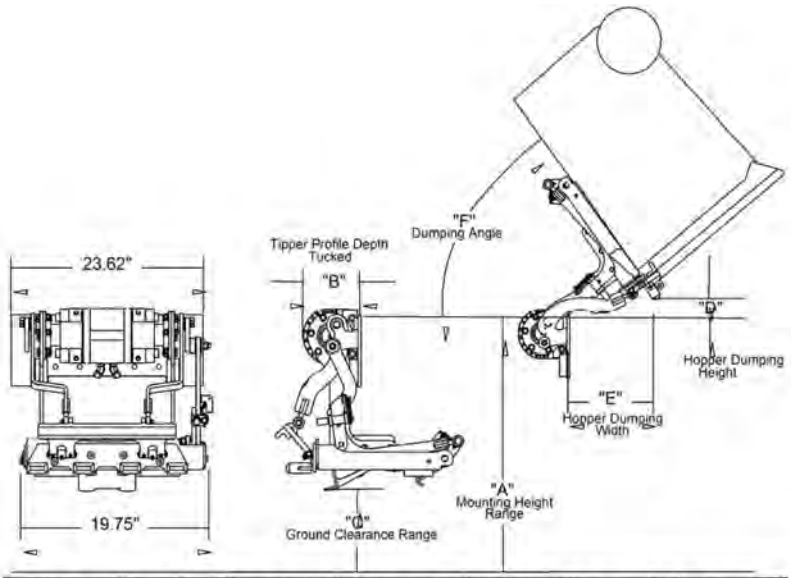
2- RS-120 (HYV03653-01)

3- RS-130 (HYV03631-01)

Figure 8-7 **Models of tippers (1)**



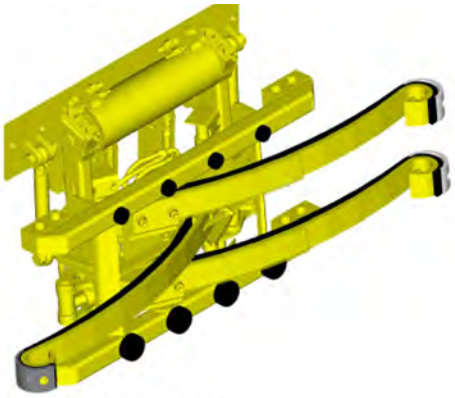
Hydraulic Flow	2 - 3 GPM
Cycle Time	8 - 10 Seconds
Maximum Load Weight	250 LBS (113 KG)
Cart Capacity	35 - 95 GAL (140 - 360 Liters)
Hydraulic PSI	1900 PSI



MODEL	"A" DIM.	"B" DIM.	"C" DIM.	"D" DIM.	"E" DIM.	"F" DIM.
HYV03990-01	38" - 44"	6"	14.50" - 20.50"	5.25"	18.88"	45°
HYV03653-01	38" - 44"	6"	14.50" - 20.50"	5.25"	18.88"	45°
HYV03631-02	38" - 44"	6"	14.50" - 20.50"	5.25"	18.88"	45°

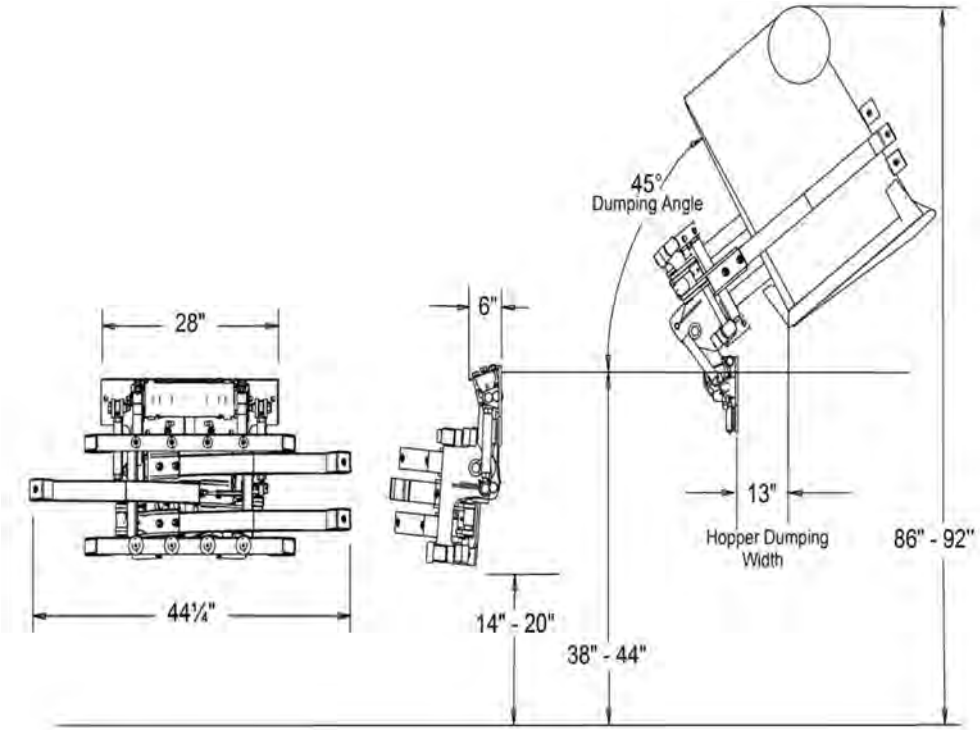
4- RS-150 (HYV03628)

Figure 8-8 **Models of tippers (2)**



HYV03628 (RS-150)

Hydraulic Flow	2 - 3 GPM
Cycle Time	8 - 10 Seconds
Maximum Load Weight	300 LBS (136 KG)
Cart Capacity	35 - 95 GAL (140 - 360 Liters)
Hydraulic PSI	1900 PSI



Tipper Parts

Because of the numerous variations of tipper installations and related hydraulic circuits, please contact Labrie*Plus* customer support with the following information when inquiring about tipper parts. Please have available the following when contacting us: body model and serial number.

Lubricating the Cart Tipper

It is important to lubricate the cart tipper mechanism, hinges and joints (as well as its cylinder if the tipper is cylinder-actuated) with multipurpose grease as per the lubrication schedule (see below). This ensures good working condition of the tipper.

Check the tipper retaining bolts. These must be kept tight.

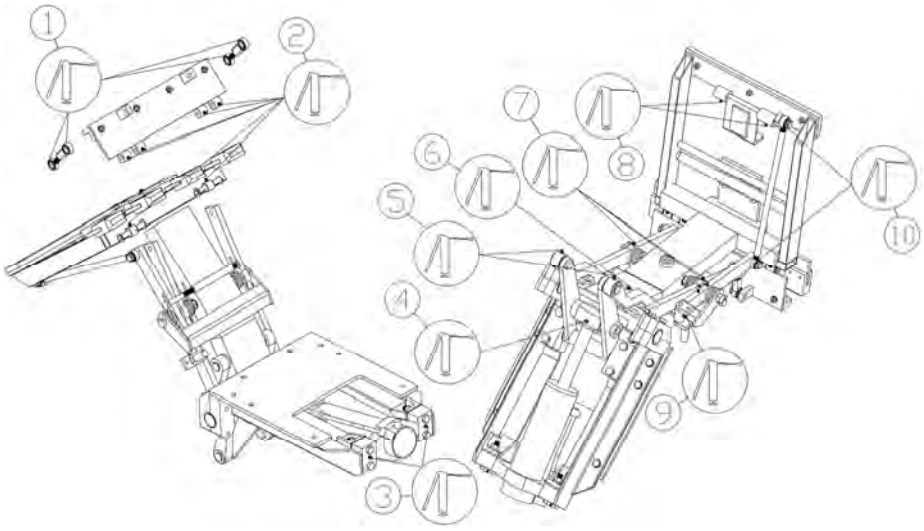
Also, inspect the various parts of the cart tipper for signs of wear and tear.

Caution! Excessive wear may compromise the proper working condition of the cart tipper.

NOTE: Routine lubricating reduces component failures.

To have easier access to all the grease fittings of the cart tipper during lubrication procedure, it is best to completely extend the tipper just like it is shown in the following illustration.

Figure 8-9 **Location of grease fittings**



No. (refers to numbers in Figure 8-10)	Quantity	Description	Frequency
1	4	Rod End	Weekly
2	6	Jaw	Weekly
3	2	Cylinder Block	Weekly
4	1	Cylinder Head	Weekly
5	2	S Arm	Weekly
6	1	Lever	Weekly
7	3	Locking Arm	Weekly
8	2	American Grip	Weekly
9	1	Am. Grip	Weekly
10	2	Am. Rod End	Weekly

NOTE: Cart tippers depicted in Figure 8-9 and data in the table above are for reference purposes only and may differ from the product delivered.

Adjusting Cart Tipper Hydraulic Pressure

This section of the manual outlines the procedure for adjusting the cart tipper hydraulic pressure.

NOTE: 2 people are needed to make this adjustment correctly.

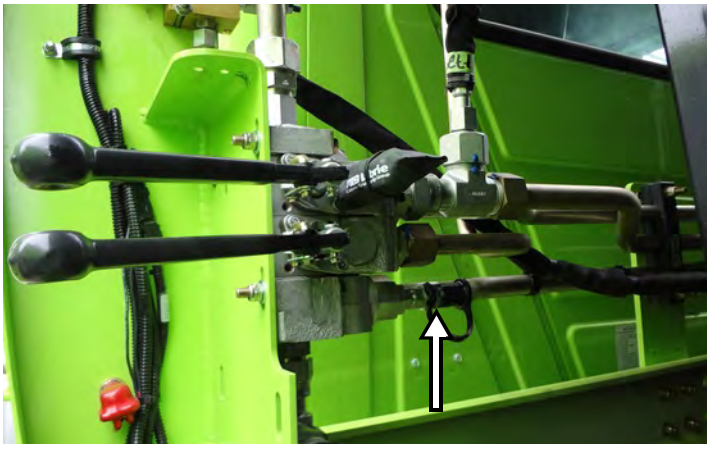
To adjust the cart tipper hydraulic pressure, do the following:

1. Make sure the MINI REAR is parked in a safe area with enough clearance around it to allow safe activation of hydraulic functions.
2. Remove the rubber cover from the quick-connect coupler on the front control valve (see Figure 8-10).
3. Install a 0-4000 psi pressure gauge on the quick-connect coupler.

Caution!

You must connect the pressure gauge to the quick-connect coupler while the engine is off.

Figure 8-10 **Quick-connect coupler**

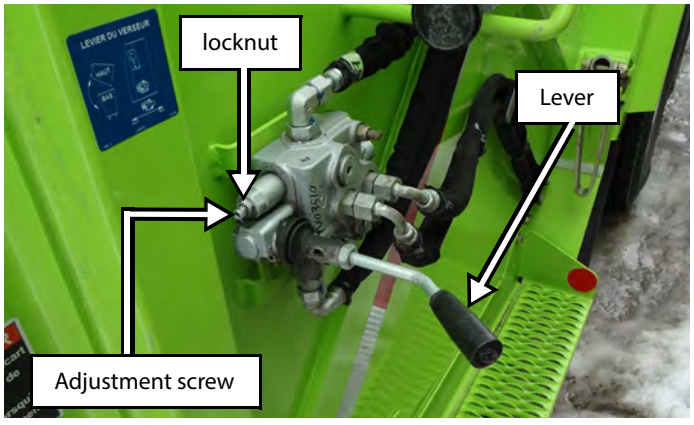


4. Start the engine and turn ON the pump switch on the control panel.
5. Pull up the tipper lever and hold it while your helper reads the pressure on the gauge.
   Correct pressure is 1900 psi (± 50 psi).

NOTE: On units with an electrically powered chassis, you will need to press the HYDRAULIC ENABLE button to activate the tipper lever.

6. If the pressure on the gauge is lower or higher than the correct value, the tipper pressure should be adjusted. To do so:
   6 a. On the tipper valve assembly (see Figure 8-11), loosen the locknut.

Figure 8-11 **Tipper valve assembly**



6 b. While pulling the lever up, turn the adjustment screw clockwise or counter-clockwise depending on the gauge readout using an Allen key.

Turn the adjustment screw clockwise to raise the pressure or counter-clockwise to lower the pressure.

The tipper circuit pressure should be set at 1900 psi (± 50 psi).

7. Once the pressure is adjusted, re-tighten the locknut.
8. Disengage the pump and turn OFF the engine.
9. Remove the pressure gauge from the quick-connect coupler and put back the rubber cover.

NOTE: Cart tippers mentioned in this section are given as examples. Other cart tipper models can be installed on your unit. Also, the tipper hydraulic pressures mentioned in this section may be different from the ones indicated in the hydraulic schematic of your unit. In case of doubt, always refer to the latter.

Adjusting Cart Tipper Speed

Cart tipper speed is controlled by the amount of hydraulic fluid (flow) that is being sent to the tipper valve. The tipper flow divider can reduce or increase the flow of hydraulic oil going to the tipper valve, thus allowing adjustment of the tipper speed.

Danger! Do not stand too close to the cart tipper while carrying out these adjustments.

If you want to increase or decrease the speed by which the cart tipper moves, simply apply the following procedure:

1. Make sure the parking brake is applied.
2. Start the engine, and engage the hydraulic pump.
3. Move the lever (Figure 8-11) to evaluate tipper speed, then release it.

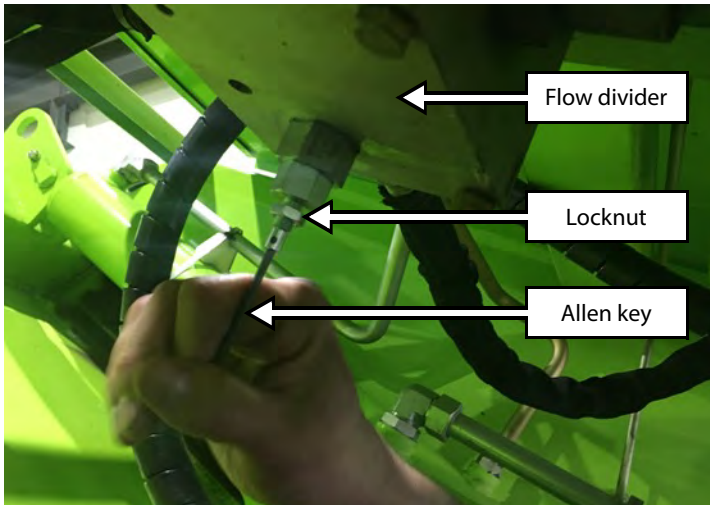
   Tipper cycle should take from 8 to 11 seconds to complete at 700 rpm.

NOTE: On units with an electrically powered chassis, you will need to press the HYDRAULIC ENABLE button to activate the tipper lever.

4. Locate the tipper flow divider.

   The flow divider is located next to the main control valve (see Figure 8-12).
5. Loosen the locknut (see Figure 8-12).
6. Using an Allen key turn the adjustment screw only one eighth (1/8th) of a turn at a time to clearly feel a significant change in the tipper speed.

Figure 8-12 **Flow divider**



7. Move the lever again to evaluate tipper speed. Repeat until cycle times are properly set.
   Tipper cycle should take from 8 to 11 seconds to complete at 700 rpm.
8. Once done, re-tighten the locknut.

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.

NOTE: On units with an electrically powered chassis, there is no in-cab SPEED-UP switch. See note on page 108 for more details.

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 39).

Repair

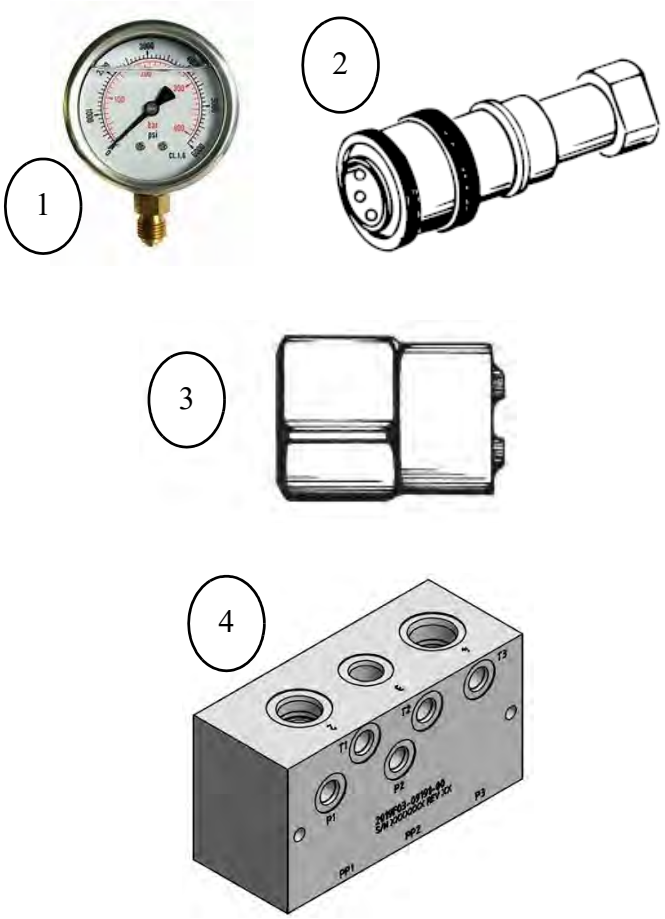
Repair of the electrical system is limited to the replacement of burned-out bulbs and other defective parts or wiring.

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.

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 Environmental Group Distributor.



NO.	PART NO.	DESCRIPTION	PURPOSE	UNIT
1	HYJ00910	Pressure Gauge	To measure system pressure	All except FL104/Beta
2	HYF10195	Snap Connector	Quick coupling for pressure gauges	All
3	HY010000	Plunger Tool	Remove/install spring loaded plungers on rear loader container attachments	All
4	HYV50000-01	Test Block	Test circuit relief cartridges	All Series III

labrieplus
SERVICE + PARTS

USA

TECHNICAL SUPPORT SERVICE

Toll Free: 1-800-231-2771
(24-hour Emergency Support)
email: labrieplusservice@labriegroup.com
www.labriegroup.com/fsr

PARTS

email: partscenter@labriegroup.com
usa.labrieplus.com

WARRANTY

During Business Hours:
8:00 am - 6:00 pm Eastern Standard Time
email: labriepluswarranty@labriegroup.com

CANADA

TECHNICAL SUPPORT SERVICE

Toll Free: 1-877-452-2743
(24-hour Emergency Support)
email: labrieplusservice@labriegroup.com
www.labriegroup.com/fsr

PARTS

email: labrieplusQC@labriegroup.com
canada.labrieplus.com

WARRANTY

During Business Hours:
8:00 am - 5:00 pm Eastern Standard Time
email: labriepluswarranty@labriegroup.com

For technical support and parts ordering, the body serial number of your vehicle is required. LabriePlus recommends keeping record of the information found on the body serial number stickers located in the cab doorjamb and street side front corner of the body.

OFFICES

1198 Shattuck Industrial Blvd.
LaFayette, GA 30728
Toll Free: 1-800-231-2771
Telephone: 1-706-591-8764

MAILING ADDRESS

P.O. Box 530
LaFayette, GA 30728

OFFICES & MAILING ADDRESS

455 1st Avenue
Levis, QC G6W 5M6
Toll Free: 1-877-452-2743
Customer Service: 1-877-452-2743

CERTIFIED BNQ ISO 9001:2008 SYSTEM

Part # 200274 (rev.00.09.2024)