Maintenance Manual

Expert (t) 2000 ™

labrie
environmental group

equipment for the solid waste industry

LABRIE LEACH WITTKE Juggler INDUSTRIAL LIFTERS

EXPERT® 2000
MAINTENANCE MANUAL

1/4/2008 **Part # : 55379-04**

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INTRODUCTION

ABOUT THIS MANUAL

The current manual is designed to help qualified maintenance personnel through repairing, servicing and maintaining the Expert(t) 2000™.

What You Will Find in this Manual

This manual outlines maintenance procedures of the body and packer components.

Elements that are not covered in this Manual

- *For maintenance of the chassis*, refer to the chassis manufacturer service manual;
- *For details on options* such as cameras and backing-accidents prevention systems, refer to the optional material manufacturer service manual;
- *For details on operation of the* Expert(t) 2000™, refer to the Expert(t) 2000™Operator Manual;
- *For details and schematics concerning body parts*, refer to the Expert(t) 2000™ Parts Catalog;
- *For body systems schematics*, refer to the schematics provided with your Expert(t) 2000™.
- *For electrical system schematics,* refer to the schematics provided with your Expert(t) 2000™.
- *For pneumatic and hydraulic system schematics,* refer to the schematics provided with your *Expert(t) 2000™*.

INTRODUCING THE EXPERT(T) 2000™

The Expert(t) 2000™ is a side-loading refuse collection vehicle. It is designed and built to aid in the manual collection of different types of refuse by only one operator.

- Expert(t) 2000™ units equipped with a lifting arm are primarily designed to be operated by only one person.

  If, however, the end user elects to operate the unit with more than one worker, the following safety items shall be installed to protect the co-worker from hazardous situations.

  For example, an additional set of sustained manual pressure controls for each additional worker shall be provided. The actuation of the controls shall take place concurrently in order to operate the automated arm (if equipped). The sustained manual pressure control shall be located so that the co-worker pressing it, is not in the path of the arm and has a clear and full view of the point of operation.

- In such a case, Labrie Environmental Group must be informed of every and all units equipped with a lifting arm operated by more than one worker. Labrie Environmental Group will then determine and supply, at the customer's expense, the required safety items.

- Please contact LabriePlus at 1-800-231-2771 for additional information.

⚠ DANGER

FAILURE TO CONTACT LABRIE ENVIRONMENTAL GROUP TO REPORT THE UNIT IS SUBJECT TO BE USED BY MORE THAN ONE OPERATOR AT A TIME MAY RESULT IN UNIT AND / OR PROPERTY DAMAGES, PERSONAL INJURY OR EVEN DEATH.

The Expert(t) 2000™ is a unit that, depending on the type of collection it will be used for, appears in three main categories: manual, semi automated, and automated. The Expert(t) 2000™ always allows for manual collection, that is, in whatever configuration the product is built, manual collection is available.

Also, the Expert(t) 2000™ exists in what is called a "co-mingle" version where the body is split in half to create two separate compartments for the collection of two different types of load.

Expert(t) 2000™ for Manual and Automated Collection

ALL Expert(t) 2000™ vehicles are designed with a lowered hopper to allow easier manual collection.

That is, instead of placing the body on top of a straight frame chassis, we have placed it on a chassis frame that has been modified and lowered at the hopper area. Therefore, the hopper is at a more friendly height for the manual collection of waste bags and other refuse.

Figure 1. **Expert(t) 2000™ for manual and automated collection**

SOME Expert(t) 2000™ vehicles are equipped with an automated arm called Helping Hand™ or Cool Hand™ for collecting waste from roller carts.

SERVICE AND MAINTENANCE ON THE EXPERT(T) 2000™

Maintenance on the Expert(t) 2000™ is of utmost importance to ensure a longer durability of all its parts and optimal performance in the field. Maintenance has to be done on almost every system involved in the operation of the Expert(t) 2000™ such as the hydraulic, electrical, and mechanical systems. There are parts submitted to more repetitive and intensive activity than others, therefore, a more often and dedicated maintenance is required on them.

In this manual, you'll find the most common maintenance and inspection procedures needed on the Expert(t) 2000™.

CONTACTING LABRIE ENVIRONMENTAL GROUP

LabriePlus

Address 3630 Stearns Drive
Oshkosh, WI 54904

Toll free: 1-800-231-2771

Telephone: 1-800-231-2771

Parts, Service and Warranty

(during business hours, 7:00AM to 7:00PM Central Standard Time)

Technical Support Service

(24 hours)

Web Site:www.labriegroup.com

E-mail: sales@labriegroup.com

IMPORTANT

FOR TECHNICAL SUPPORT AND PARTS ORDERING, THE SERIAL NUMBER OF YOUR VEHICLE IS REQUIRED, THEREFORE, LABRIE ENVIRONMENTAL GROUP RECOMMENDS TO KEEP RECORD OF THE INFORMATION FOUND ON THE VIN PLATE WHICH IS LOCATED IN THE CAB.

Plant information

Address 175 du Pont
St-Nicolas (Quebec)
CANADA G7A 2T3

Phone: 1-877-831-8250
(418) 831-8250

Fax: Sales Dept.:
(418) 831-5255

Service & Warranty:
(418) 831-1673

Parts:
(418) 831-7561

SAFETY

Being a heavy duty vehicle, the Expert(t) 2000™ implies a number of safety issues. Such issues, along with all necessary safety instructions and conventions, are presented in this section of the *Maintenance Manual*.

SAFETY CONVENTIONS

⚠ DANGER

INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, **WILL** RESULT IN DEATH OR SERIOUS INJURY.

⚠ WARNING

INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, **COULD** RESULT IN DEATH OR SERIOUS INJURY.

⚠ CAUTION

INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, **MAY** RESULT IN MINOR OR MODERATE INJURY.

Responsibilities of the Employer

In accordance with ANSI Z245.1 1999 Standards, it is the responsibility of the employer:

- To ensure the operation of the Expert(t) 2000™ is in accordance with all safety requirements and codes, including all applicable regulations, the Occupational Safety and Health Act (OSHA) and the American National Standards Institute (ANSI).
- To ensure the employees are qualified for the operation of the equipment and take all safety measures before working with this equipment.
- To properly maintain all mobile equipment to meet all provincial/state and federal safety standards.
- To supply adequate instructions and training for the safe use of the vehicle before assigning the employee to such equipment.
- To keep the vehicle maintained and properly adjusted to meet the manufacturer's standards and recommendations. For help or more information, contact the manufacturer or any authorized representative.
- To keep record of any breakdowns or malfunctions of the vehicle as well as any inspection and maintenance.
- To ensure the repair of any failures or malfunctions that may affect the safe use of the vehicle, always before it is used again.
- To meet the appropriate lighting requirements for night shift work (if permitted).
- To regularly accompany the operator of the vehicle and take measures to ensure the smooth and safe operation of the vehicle.
- To make sure that the backup alarm works properly while the vehicle is in reverse.
- To take the necessary measures that follow a damage or malfunction report from any employee.
- To establish and ensure the application of a "Lockout/Tagout Procedure" at the time of any inspection, repair or maintenance to the

vehicle, whether it takes place on the road or in the garage.

⚠ WARNING

PRIOR TO PERFORMING ANY MAINTENANCE ON THE VEHICLE, ALL SAFETY REGULATIONS MENTIONED IN CHAPTER 1 OF THE *OPERATOR MANUAL*, MUST BE RESPECTED, ESPECIALLY THE "LOCKOUT/ TAGOUT" ON PAGE 6.

⚠ CAUTION

MAINTENANCE AND REPAIRS CARRIED OUT ON THIS VEHICLE MUST ONLY BE DONE BY QUALIFIED PERSONNEL WHO ARE FAMILIAR WITH THE EQUIPMENT. LABRIE ENVIRONMENTAL GROUP DECLINES ANY RESPONSIBILITY FOR FAILURES RESULTING IMPROPER REPAIRS PERFORMED BY THE END USER.

Responsibilities of the Employee

In accordance with ANSI Z245.1 1999 Standards, it is the responsibility of the employee:

- To enforce all safety measures to meet the requirements established by the employer.
- To operate the Expert(t) 2000™ only after having received instructions and training in accordance with the *Operator Manual*.
- To immediately report to the employer or supervisor, any damage or malfunction of the vehicle.
- To make sure that the area is clear around the vehicle before activating any of the controls and be prepared to stop everything upon the existence of possible danger.

⚠ WARNING

PRIOR TO PERFORMING ANY MAINTENANCE ON THE VEHICLE, ALL SAFETY REGULATIONS MENTIONED IN CHAPTER 1 OF THE *OPERATOR MANUAL*, MUST BE RESPECTED, ESPECIALLY THE "LOCKOUT/ TAGOUT" ON PAGE 6.

⚠ CAUTION

MAINTENANCE PERSONNEL SHALL NEVER PERFORM ANY MAINTENANCE ON THE EQUIPMENT IF THEY ARE NOT WELL ACQUAINTED WITH THE OPERATIONS OF THE EQUIPMENT AS WELL AS ALL SAFETY PRECAUTIONS OF SUCH OPERATIONS. REFER TO THE OPERATOR MANUAL BEFORE ATTEMPTING TO PERFORM ANY TYPE OF WORK ON THE UNIT.

⚠ CAUTION

MAINTENANCE AND REPAIRS CARRIED OUT ON THIS VEHICLE MUST ONLY BE PERFORMED BY QUALIFIED PERSONNEL WHO IS FAMILIAR WITH THE EQUIPMENT. LABRIE ENVIRONMENTAL GROUP DECLINES ANY RESPONSIBILITY FOR FAILURES RESULTING IMPROPER REPAIRS PERFORMED BY THE END USER.

LOCKOUT/TAGOUT PROCEDURE

The *Lockout/Tagout Procedure* procedure must be applied to render the vehicle out of service and thus ensure its safety and that of those who will be around it.

⚠ DANGER

NEVER PERFORM ANY REPAIR OR MAINTENANCE ON A VEHICLE THAT HAS NOT BEEN UNLOADED.

To lock out and tag out the Expert(t) 2000™:

1. Apply the parking brake. See Figure 2. “Parking brake knob”.

Figure 2. **Parking brake knob**

2. Turn the pump switch in the console (PTO switch) to the **OFF** position.
3. Stop the engine.
4. Remove the key from the ignition switch.
5. Put the key in a safe controlled area.
6. Put adhesive tape over the ignition switch keyhole.

Note: If the Expert(t) 2000™ is equipped with a master switch on the battery set, you must turn it off. See Figure 3. “Master switch location”.

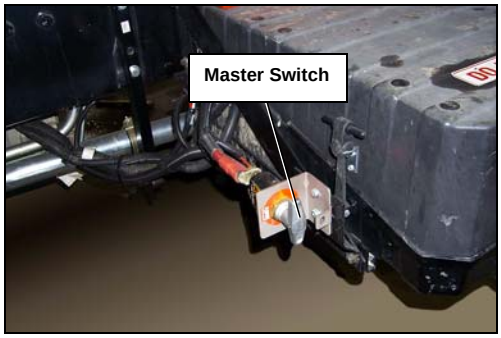


Figure 3. **Master switch location**

7. Put an “Off Service” tag on all steering wheels.
8. Put an “Off Service” sign in the windshield.
9. Block any system that could move by gravity with a proper and visible safety prop (open tailgate, raised body, etc.)

10. Release any residual pressure from the hydraulic and pneumatic system. Refer to “Air Tank Draining Procedure” on page 20 for details.
11. Move all control levers to release any residual pressure from the system.
12. Chock wheels on both sides to prevent the vehicle from moving.
13. Disconnect the following items if any type of welding is required:
    - Battery[1]
    - ABS module (anti-lock braking system)[1]
    - Electronic transmission (ECU)[1]
    - Electronic engine module (ECM)[1]
    - Intermittent wiper module[1]

1. Refer to the chassis manufacturer service manual to locate electronic components.

Protection Against Fire

It is mandatory to have an ABC-type fire extinguisher easily accessible from both, outside and inside the cab.

⚠ CAUTION

ALWAYS MAKE SURE THE HOPPER AND/OR BODY OF THE EXPERT(T) 2000™ IS EMPTY BEFORE SERVICING IT, SINCE EXPLOSIVE AND/OR FLAMMABLE OBJECTS, SUCH AS TELEVISION TUBES, FLUORESCENT TUBES, CANS UNDER PRESSURE, ETC. MAY HAVE BEEN COLLECTED. FAILURE TO EMPTY THE HOPPER AND/OR BODY OF THE EXPERT(T) 2000™ MAY RESULT IN UNIT AND/ OR PROPERTY DAMAGES, PERSONAL INJURY.

If, for any reason, the maintenance personnel has to work on equipment that has not been unloaded, for any type of work, a fire extinguisher (see Figure 4. “Fire extinguisher location”) should be made readily available and close to this vehicle. Anytime a loaded vehicle is inside a garage, there shall be a fire extinguisher very close nearby.

The employer must inform and train all personnel about the measures to be taken in case of a truck and/or a loaded body catching on fire. The employer must also inform its employees of an appropriate place to drop the load near the maintenance facility (preferably away from traffic, surface drains and ditches).

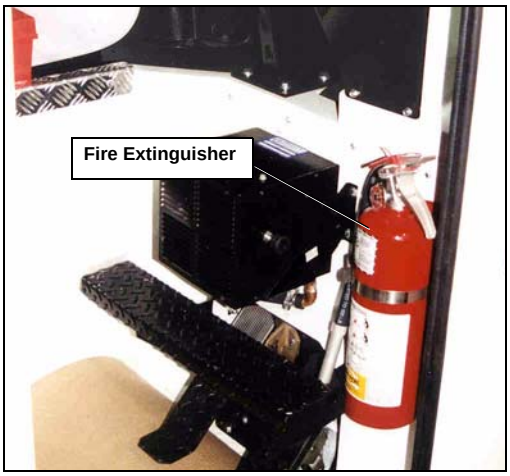


Figure 4. **Fire extinguisher location**

Safety Props

Safety props are essential safety devices which are to be used every time maintenance has to be performed under a raised body or tailgate. Two types of safety props are installed on every Expert(t) 2000™:

- the body safety prop is designed to hold the empty body in case a hoist-related failure occurs;
- the tailgate safety prop is designed to hold the tailgate in case a tailgate-cylinder-related failure occurs.

⚠ DANGER

SAFETY PROPS MUST BE SET PRIOR TO PERFORMING ANY MAINTENANCE UNDER A RAISED BODY OR TAILGATE. FAILURE TO DO SO MAY RESULT IN SEVERE INJURY OR EVEN DEATH.

⚠ DANGER

DO NOT USE PROPS WITH A LOADED BODY. NEVER STAND UNDER A RAISED AND LOADED BODY.

Body Safety Prop

The body safety prop is used to support and keep the empty body raised during inspection or when maintenance is carried out on the vehicle. It is mandatory to set the safety prop each time the empty body is raised for such purpose.

Setting the Body Safety Prop

DANGER

ALWAYS USE THE BODY SAFETY PROP WHEN WORKING UNDER A RAISED BODY.

To set the body safety prop, apply the following procedure:

1. Lift the body until the safety prop is clear to be tilted under the body.
2. Pull the handle (see Figure 5. “Body safety prop release handle”) to release the safety prop, then pull down the safety prop.

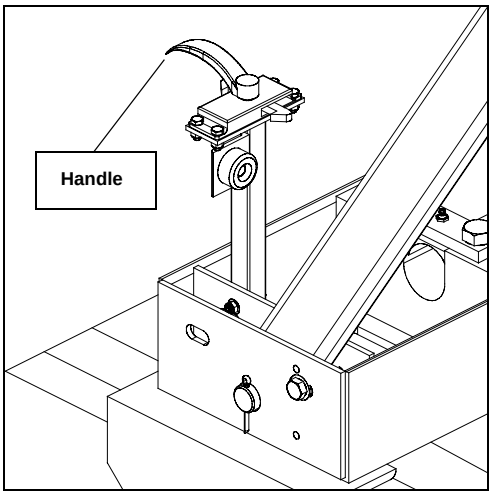


Figure 5. **Body safety prop release handle**

3. Slowly lower the body so it rests properly on the prop (see Figure 6. “Body safety prop”).

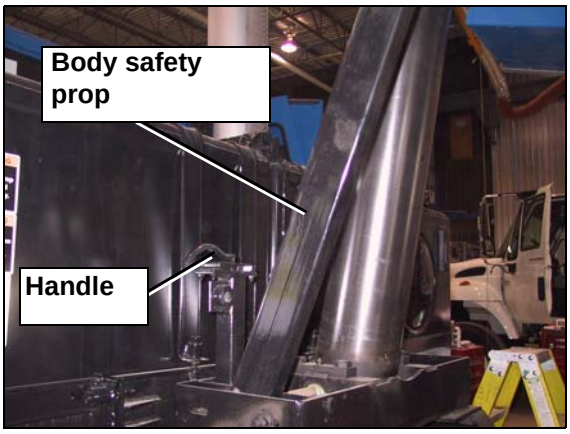


Figure 6. **Body safety prop**

Putting the Body Safety Prop in its Home Position

Once finished with repairs or inspection, you may want to put the body safety prop in it’s home position and lower the body.

To safely put the body safety prop in its home position, apply the following procedure:

1. Slightly raise the body.
2. Bring the safety prop (see Figure 5. “Body safety prop release handle”) back to its vertical position. The release handle must click.
3. Slowly lower the body so it rests properly on the chassis and the body raised status light turns off.

Tailgate Safety Prop

The tailgate safety prop is used to support and keep the tailgate open during inspection or when maintenance is carried out on the vehicle. It is mandatory to set the safety prop each time the tailgate is open for such purpose.

The safety prop can be easily set when the tailgate is slightly open.

DANGER

ALWAYS USE THE TAILGATE SAFETY PROP WHEN WORKING UNDER A RAISED TAILGATE. THE SAFETY PROP MUST BE INSTALLED EVEN IF THE TAILGATE IS IN THE FULLY RAISED POSITION.

Setting the Tailgate Safety Prop

To set the tailgate safety prop, apply the following procedure:

1. Make sure there is no garbage inside the body.
2. Remove the tailgate-locking mechanism safety pins.

DANGER

MAKE SURE THAT NO ONE IS STANDING BEHIND THE TRUCK AND THAT THERE IS NO WASTE MATERIAL IN THE BODY PRIOR TO RAISING THE TAILGATE.

3. Start the engine.
4. Turn the pump switch **ON.**

DANGER

MAKE SURE NO ONE IS STANDING BEHIND THE TRUCK PRIOR TO RAISING THE TAILGATE.

5. Open the tailgate and raise it about 3 feet high (enough to raise the safety prop) by using the tailgate control lever in the cab console.
6. Pull the safety prop upward (see Figure 7. “Pulling the tailgate safety prop out from its home position”).

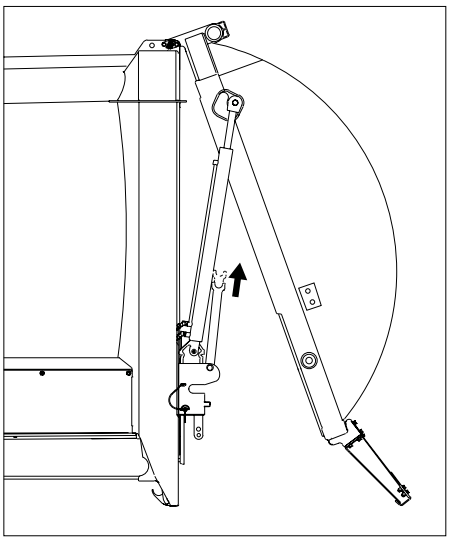


Figure 7. **Pulling the tailgate safety prop out from its home position**

7. Set the safety prop (see Figure 8. “Putting the tailgate safety prop in its set position”).

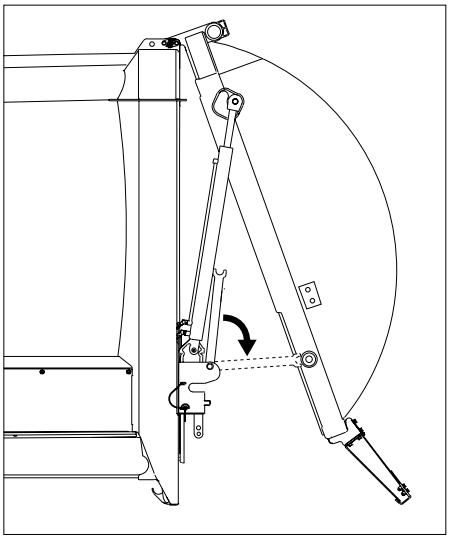


Figure 8. **Putting the tailgate safety prop in its set position**

8. Lower the tailgate onto the safety prop.

Putting the Tailgate Safety Prop Back in Place

To put the tailgate safety prop in its home position, apply the following procedure:

1. Start the engine.
2. Turn the pump switch **ON** and raise the tailgate about 3 feet high.
3. Raise the tailgate safety prop (see Figure 9. “Raising the tailgate safety prop upward”).

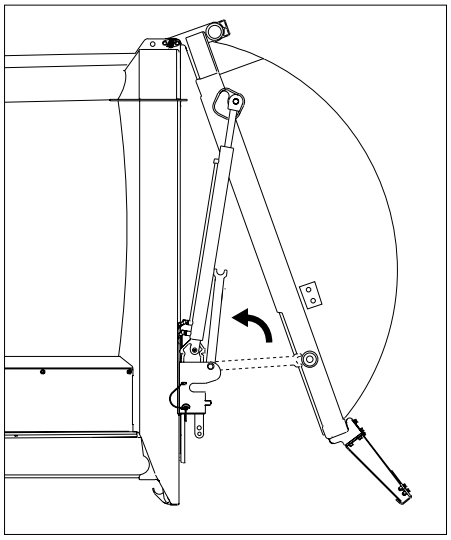


Figure 9. **Raising the tailgate safety prop upward**

4. Release your grip on the safety prop to set in its home position (see Figure 10. “Putting the tailgate safety prop back in its home position”).

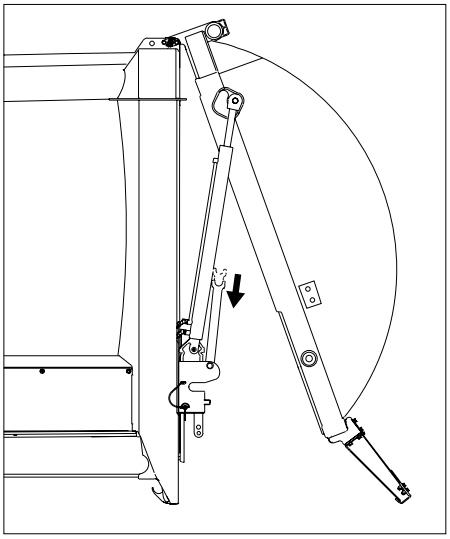


Figure 10. **Putting the tailgate safety prop back in its home position**

5. Completely close the tailgate by using the tailgate control lever in the cab console. The **TAILGATE OPEN** light indicator shall turn off.
6. Put the safety pins back in place.

OTHER GENERAL SAFETY PRECAUTIONS

The following are general safety and operational precautions which should be adhered to by operators AND/OR maintenance personnel at all times.

⚠ DANGER

DO NOT OPERATE OR SERVICE THIS VEHICLE BEFORE HAVING READ AND COMPLETELY UNDERSTOOD THIS MANUAL AND THE SAFETY LABELS ON THE VEHICLE. MAINTENANCE PERSONNEL MUST ALSO READ AND UNDERSTAND THE OPERATOR MANUAL PROVIDED WITH THIS VEHICLE.

⚠ DANGER

FAILURE TO CONTACT LABRIE ENVIRONMENTAL GROUP TO REPORT A TWO-OPERATOR USE OF THE UNIT MAY RESULT IN UNIT AND/ OR PROPERTY DAMAGES, PERSONAL INJURY OR EVEN DEATH.

⚠ DANGER

NEVER STAND UNDERNEATH A RETRACTED AUTOMATED ARM, SINCE NO ARM CYLINDER IS EQUIPPED WITH A HOLDING VALVE. SHOULD A HYDRAULIC COMPONENT BREAK, SUCH AS AN HYDRAULIC HOSE, FAILURE TO STAY AWAY FROM THE ARM MAY RESULT IN PERSONAL INJURY OR EVEN DEATH.

- The operator of the automated arm shall make sure that the area is clear and obstructions are far away before moving it. Failure to do so may result in unit and/or property damages, personal injury or even death.
- At the beginning of every working day, inspect the body, the packing system and any system that might endanger the safety of the public and/or the operator.
- Verify that the mirrors, brakes, accelerator pedal, steering wheel and turn signals are in good working condition.
- Do not operate this equipment if there are any signs of damage or incomplete repairs.
- Report any doubts and any equipment safety service requirements to your supervisor.
- Maximum speed while right-hand-side driving, if permitted, is 20 Mph (or 32 km/h).

Note: The previous point applies only to cabs modified by Labrie Environmental Group. For cabs that have not been modified by Labrie Environmental Group, please refer to the cab manufacturer recommendations.

- Keep both hands on the steering wheel at all times for better control.
- Do not leave the driving position until the vehicle is completely stopped and the parking brake applied.
- When the vehicle is parked, the parking brake must be applied.
- For any work, including cleaning and inspection, being performed between the body and the chassis, the body safety prop must be used. The vehicle must also be on level ground.
- When removing nylon locknuts, always replace them by new ones.

⚠ DANGER

WATCH AND BE ABSOLUTELY SURE THAT THE AREA IS CLEAR AT THE REAR OF THE VEHICLE WHEN OPENING AND/OR CLOSING THE TAILGATE, OR WHEN RAISING AND/OR LOWERING THE BODY.

⚠ DANGER

DO NOT ENTER THE HOPPER COMPARTMENT OR TRY TO REPAIR ANYTHING BEHIND THE PACKER WHEN IT IS WORKING OR WHEN THE HYDRAULIC PUMP IS STILL RUNNING. PERSONNEL AUTHORIZED TO ENTER THE HOPPER MUST FIRST COMPLETE THE LOCKOUT/TAGOUT PROCEDURES REQUIRED BY THE EMPLOYER.

MAINTENANCE

In spite of our efforts to build a vehicle that is as safe as possible, the operator safety certainly depends on the precautionary measures taken while operating or servicing the vehicle.

Note: ***If in doubt, ask your supervisor or contact LabriePlus for any technical support you may require.***

Establish and apply a periodic inspection program to keep moving parts in good working order, properly adjusted and safe. It is recommended that a brief inspection be done by the operator every day and any detected malfunctions must be reported for correction before using the equipment.

Once a month, inspect the chassis and the body for breaks, cracks or any potential problems. Any defects found must be repaired without delay. To ensure the good working order of the equipment, particular attention should be paid to structural components in order to prevent deterioration due to corrosion; touchups and/or complete paint jobs should be done when necessary.

PRIOR TO START UP

Before starting the vehicle, ensure that no system will engage and start to operate as you are starting the engine. All electrical components should be turned **OFF** and the hydraulic pump disengaged (see Figure 11. “Hydraulic pump switch”).

Figure 11. **Hydraulic pump switch**

The main valve on the hydraulic tank must be open (see Figure 12. “Main hydraulic tank (pressurized model)” and Figure 14. “Suction-line-mounted valve”).

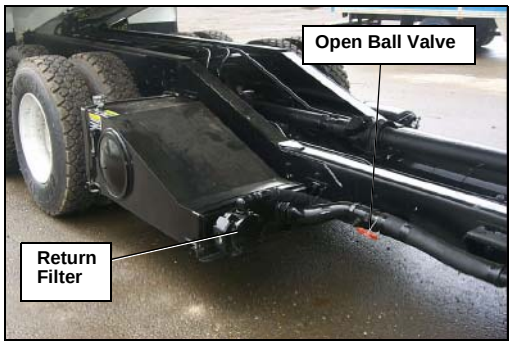


Figure 12. **Main hydraulic tank (pressurized model)**

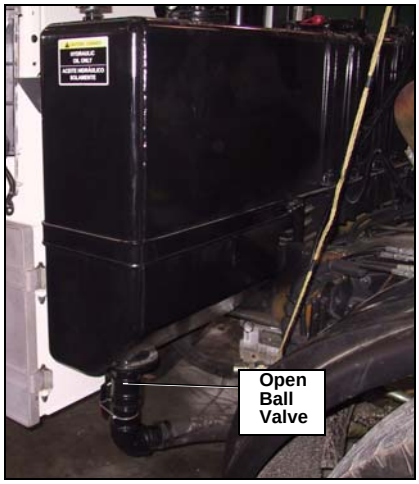


Figure 13. **Main hydraulic tank (“saddle” model)**

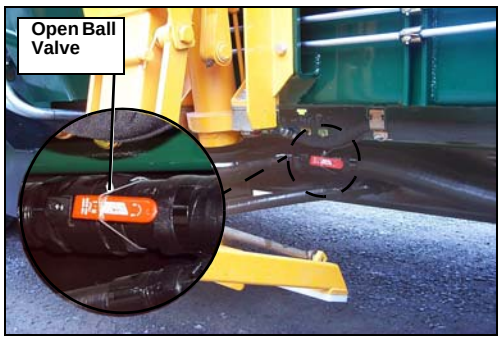


Figure 14. **Suction-line-mounted valve**

⚠ WARNING

MAKE SURE THE BALL VALVE ON THE HYDRAULIC TANK IS FULLY OPEN BEFORE STARTING THE ENGINE (SEE FIGURE 12. "MAIN HYDRAULIC TANK (PRESSURIZED MODEL)", FIGURE 13. "MAIN HYDRAULIC TANK ("SADDLE" MODEL)" AND FIGURE 14. "SUCTION-LINE-MOUNTED VALVE").
IF NOT OPEN, IMMEDIATE DAMAGE WILL OCCUR TO THE PUMP, EVEN THOUGH THE PTO SWITCH IS TURNED OFF.

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

⚠ CAUTION

DO NOT OPERATE OR MOVE THE VEHICLE UNTIL THE AIR PRESSURE HAS REACHED 70 PSI.

SHUTDOWN PROCEDURE

If the vehicle has to be stored for an extended period; follow the chassis manufacturer shutdown requirements as well as the maintenance requirements and perform the following procedure.

1. Park on a hard, level surface.
2. Apply the parking brake.
3. Make sure all moving parts are in stored position (tailgate, body, crusher panel, packer, etc.).
4. Turn hydraulics, electrical and engine off.
5. Turn the master switch to the **OFF** position.
6. Drain all air tanks. (See “Air Tank Draining Procedure” on page 20.)

Air Tank Draining Procedure

Labrie™ strongly recommends draining the Expert(t) 2000™ air tanks and water trap (refer to “Air System Maintenance” on page 90) at the end of each working day and prior to any maintenance.

⚠ CAUTION

THE OPERATOR **MUST** WEAR SAFETY GLASSES TO PROTECT HIS EYES AGAINST DUST AND SUSPENDED MATTERS. THE OPERATOR MUST ALSO STAY AWAY FROM THE STREAM TO AVOID POTENTIAL INJURIES.

To drain the air tanks, apply the following procedure:

1. Find the valve(s).

Note: Some trucks are equipped with more than one drain valve.

2. Before opening the valve, be sure to stay away from the stream. Open the valve and leave it open until moisture is removed.

   - *If the truck is equipped with the following type of tank*, turn the valve one-quarter turn.

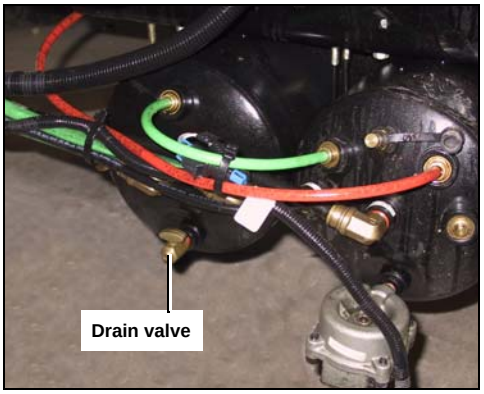


Figure 15. **Air tank**

   - *If the drain valve is equipped with a steel cable* (see Figure 16. “Air tank with steel cable on drain valve”), the operator has to pull the cable in order to open the valve.

Figure 16. **Air tank with steel cable on drain valve**

- *When the air tanks are not easily reachable*, extension hoses join them to ball valves in order to perform draining remotely (optional).

Figure 17. **Ball valves with extension hoses**

- In this case, the operator has to open the valves (quarter turn) to proceed with the draining.

3. Close the valve and repeat the procedure for all the other valves.

GENERAL CLEANLINESS

Cleanliness is part of the safety. Consequently:

- Ensure the equipment to work properly by removing any stacked garbage in the hopper area.
- Clean all truck lights, warning lights and safety stickers, so the operator and the surrounding pedestrians and vehicles will be safe around the truck at all times.
- Keep the contact surface clean between the body and chassis. Labrie Environmental Group recommends to clean the chassis after every unloading.
- Make sure that the side step and/or the hopper step (if installed) are clean and free of any slippery material.

⚠ WARNING

KEEP THE RIGHT- AND LEFT-HAND SIDE CAB FLOOR DRY AND CLEAN TO PREVENT ANY RISK OF SLIPPING AND ACCIDENT.

⚠ DANGER

USE A STEPLADDER TO WORK ON THE HIGHER PARTS OF THE VEHICLE. REMEMBER THE ROOF IS NOT MEANT TO BE WALKED ON. BE VERY CAUTIOUS IF YOU HAVE TO WORK ON THE ROOF AREA.

⚠ DANGER

ALWAYS USE SAFETY HARNESS WHEN WORKING OR WALKING ON THE ROOF OF THE VEHICLE.

Cleaning the Hopper Area

The area behind the packer should be cleaned out every day. The packer will not work properly if waste accumulates in this area; this could cause severe damage to the packer and other related parts.

This section indicates the cleaning procedure of the hopper section.

***Note:** The procedure may vary depending on what type of chassis and options are installed on the vehicle (i.e. crusher panel, comingled body, glass compartment, automated arm type, etc.)*

⚠ DANGER

ALWAYS WEAR GLOVES, SAFETY BOOTS, SHIRT, FULL-LENGTH PANTS AND SAFETY GLASSES WHEN CLEANING THE HOPPER AND BODY.

On units equipped with an Helping Hand™

To clean the hopper of a Expert(t) 2000™ equipped with an Helping Hand™, apply the following procedure:

1. Park the Expert(t) 2000™ on level ground, in an area where small debris can fall on the ground for further collection.
2. Apply the parking brake.
3. Using the **PACKER CONTROL SELECTOR** switch on the console, select the right-hand side packer control station (see Figure 18. “Packer control selector switch”).

***Note:** This switch is found only on vehicles equipped with multiple packer control stations.*

Figure 18. **Packer control selector switch**

4. Disable the speed-up system on the console (see Figure 19. “Main console from right-hand side driving position”) by pulling out the **SPEED-UP INHIBITOR** switch.

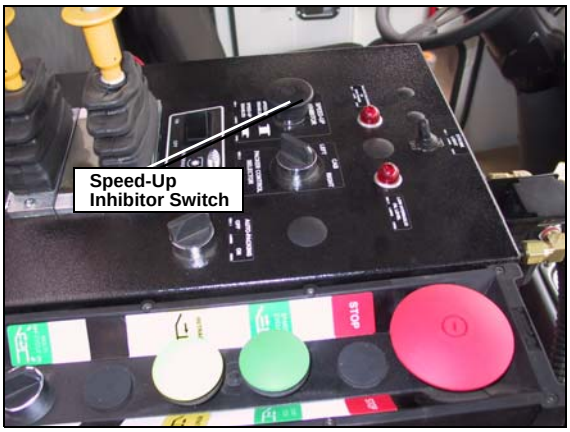


Figure 19. **Main console from right-hand side driving position**

5. Raise the crusher panel using the lever located on the main hydraulic valve (see Figure 21. “Crusher panel lever”).

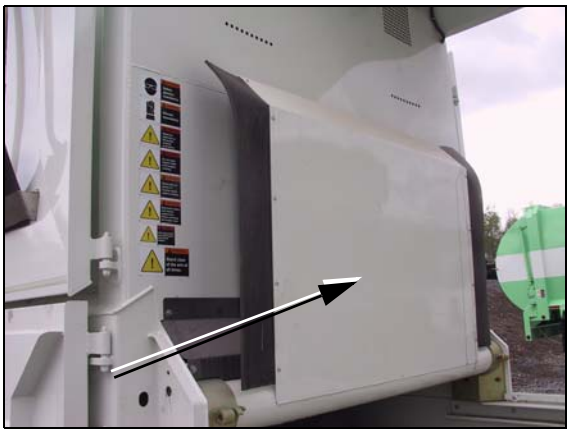


Figure 20. **Crusher panel**

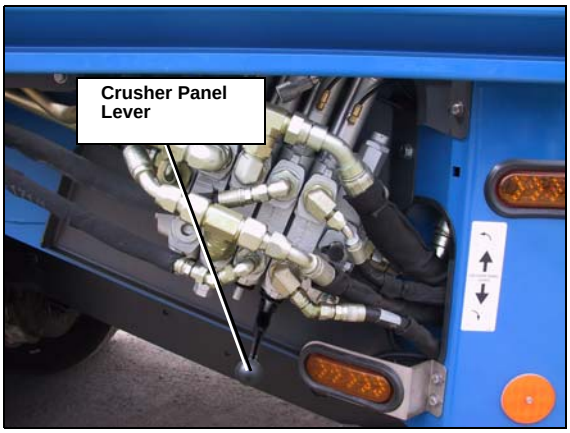


Figure 21. **Crusher panel lever**

6. Using the joystick, fully extend the Helping Hand™.

7. Push the green **START CYCLE** button to fully extend the packer, then push the red emergency **STOP** button when the packer is fully extended.

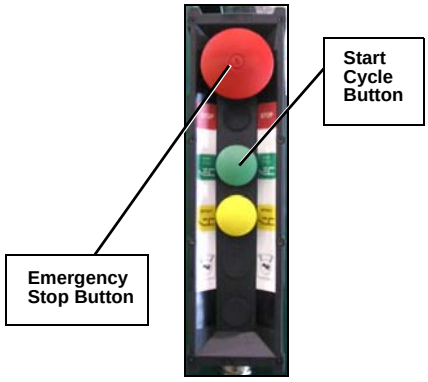


Figure 22. **Right-hand side control station**

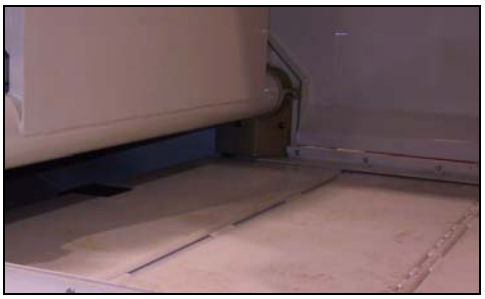


Figure 23. **Extended packer**

8. Apply the Lockout/Tagout procedure. Refer to “Lockout/Tagout Procedure” on page 7.

⚠ DANGER

APPLY THE LOCKOUT/TAGOUT PROCEDURE TO PREVENT ANY ENGINE START-UP.

9. Open the clean-out trap door on both sides of the hopper.

Figure 24. **Clean-out trap door**

10. Clean all accumulated dirt under the cylinders and in the side tracks using a hoe and a water jet if necessary.

⚠ CAUTION

DO NOT USE THE WATER JET DIRECTLY ON CONNECTORS OR BATTERY FUSES.

11. Clean out the rest of the Expert(t) 2000™ body.

Note: Perform a visual inspection of the hopper area, checking for possible leaks in the hydraulic system and wear on the mechanical parts.

12. Using the hoe, pull small pieces of garbage out of the clean-out trap.
13. Clean the area with a water jet.
14. Close the clean-out trap doors.

⚠ CAUTION

WHEN PARKING THE TRUCK OVERNIGHT (THAT IS ONCE THE HOPPER HAS BEEN CLEANED), LABRIE ENVIRONMENTAL GROUP RECOMMENDS LEAVING THE TRUCK'S CLEAN-OUT-TRAP DOORS SLIGHLTY OPEN IF FROST IS FORECASTED IN YOUR AREA. THIS PROCEDURE SHOULD PREVENT RAIN ACCUMULATION AT THE BOTTOM OF THE HOPPER AND ICE BUILD-UP IN THE AREA OF THE PACKER CYLINDER. IT WILL ALSO HELP YOU USE THE TRUCK RIGHT AWAY, IN THE MORNING.

NEVER USE THE PACKER WHEN ITS COMPONENTS ARE STUCK IN ICE. FAILURE TO DO SO COULD CAUSE COMPONENT DAMAGE AND/OR FAILURE.

BEFORE EACH WORK SHIFT, MAKE SURE ALL CLEAN-OUT TRAP DOORS ARE SECURELY CLOSED.

15. Start the engine.
16. Engage the hydraulic system.
17. Fully retract the packer.
18. Park the Helping Hand™ in the hopper.
19. Close the hopper doors.

On manual-collection units and on units equipped with a cart tipper or a Cool Hand™

To clean the hopper on an Expert(t) 2000™ used for manual collection or on a unit equipped with cart tipper or a Cool Hand™, apply the following procedure:

1. Park the Expert(t) 2000™ on level ground, in an area where small debris can fall on the ground for further collection.
2. Apply the parking brake.
3. Using the **PACKER CONTROL SELECTOR** switch on the console, select the right-hand side packer control station (see Figure 18. "Packer control selector switch").

Note: This switch is found only on vehicles equipped with multiple packer control stations.

4. Disable the speed-up system on the console (see Figure 19. “Main console from right-hand side driving position”) by pulling out the **SPEED-UP INHIBITOR** switch.

5. Extend the Cool Hand™ automated arm (if equipped) outside the hopper.

6. Raise the crusher panel (see Figure 20. “Crusher panel”) using the lever located on the main hydraulic valve (see Figure 21. “Crusher panel lever”).

7. Push the green **START CYCLE** button to fully extend the packer, then push the red **EMERGENCY STOP** button when the packer is fully extended.

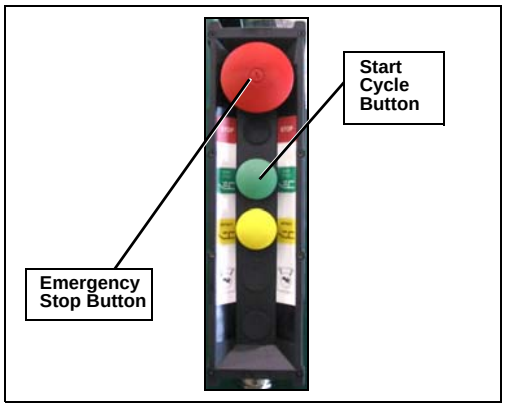


Figure 25. **Right-hand side control station**

8. Apply the lockout/tagout procedure. Refer to “Lockout/Tagout Procedure” on page 7.

DANGER

APPLY THE LOCKOUT/TAGOUT PROCEDURE TO PREVENT ANY ENGINE START-UP.

9. Open both hopper doors.

10. Slowly open the clean-out trap door on both sides of the hopper.

CAUTION

THE CLEAN-OUT TRAPS MAY BE FILLED WITH CERTAIN AMOUNTS OF LIQUID, MAINLY WATER WHICH SOAKED GARBAGE DURING THE WORK DAY. BE CAREFUL NOT TO SPILL THESE LIQUIDS ON BARE SKIN AND/OR IN EYES.

Note: ***Keep the clean-out traps open during the cleaning.***

Figure 26. **Clean-out trap door**

11. Clean all accumulated dirt under the cylinders and in the side tracks using a hoe and a water jet if necessary.

CAUTION

DO NOT USE THE WATER JET DIRECTLY ON CONNECTORS OR BATTERY FUSES.

DANGER

APPLY THE LOCKOUT/TAGOUT PROCEDURE TO PREVENT ANY ENGINE START-UP.

12. Climb inside the hopper using a small step-ladder.

13. Pull the safety pin to remove it from the first hole, open the floating panel and and put the safety pin in the other hole on the side edge. This pin is a mandatory safety device, preventing from being caught at the pinch point, when manipulating the floating panel.

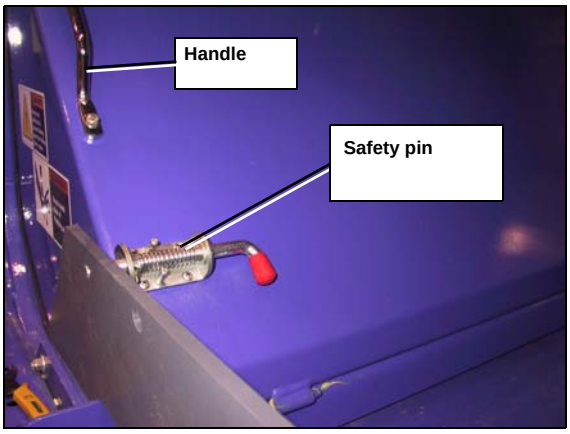


Figure 27. **Safety pin on the floating panel**

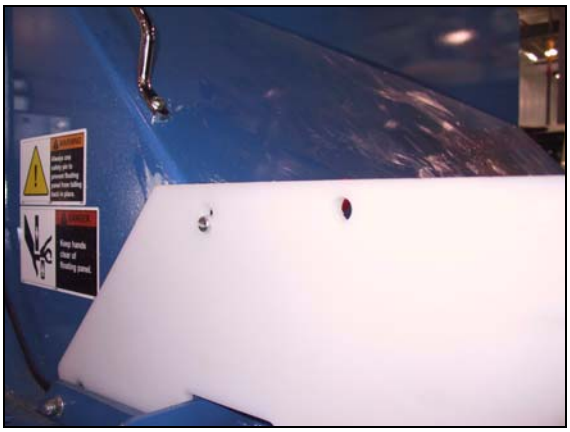


Figure 28. **Holes used to hold the panel in place**

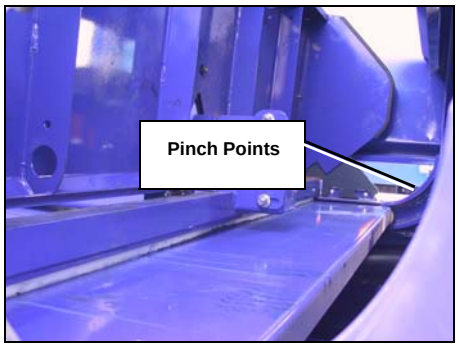


Figure 29. **Tilted floating panel**

14. Remove all accumulated dirt under the cylinder brackets and side rails (see Figure 30. “Cylinder bracket and side rail”) using a scraper or pressurized water.

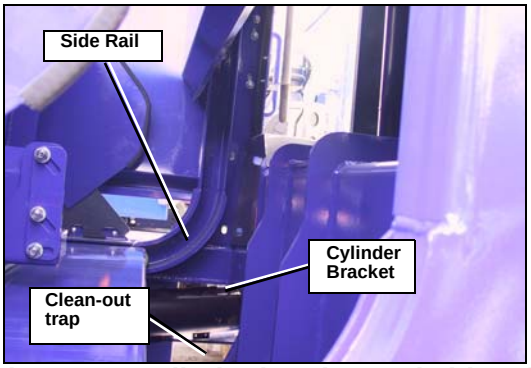


Figure 30. **Cylinder bracket and side rail**

15. Pull small pieces of garbage towards the clean-out traps (see Figure 31. “Clean-out trap”).

Figure 31. **Clean-out trap**

16. Finish cleaning the area with pressurized water.

17. Perform a visual inspection of the hopper area, checking for proper working order and/or alignment, possible leaks in the hydraulic system and wear on the mechanical parts, such as:

    - Rollers;
    - Cylinders pins;
    - Hoses, pipes and connections;
    - Proper tightness of bolts;
    - Check for excessive wear of the floor and sidewalls of the hopper;
    - Check cylinders and hoses for leaks**;**

18. After cleaning and inspecting, pull on the safety pin to remove it from the hole.

⚠ DANGER

ALWAYS USE THE HANDLE TO HOLD THE FLOATING PANEL. HOLDING THE FLOATING PANEL BY ITS EDGE WILL CAUSE SEVERE INJURIES TO HANDS AND/OR FINGERS.

19. Push the floating panel towards the front of the vehicle, and secure the panel using the lock handle (see Figure 28. “Holes used to hold the panel in place”).
20. Clean out the rest of the Expert(t) 2000™ body.

Note: Perform a visual inspection of the hopper area, checking for possible leaks in the hydraulic system and wear on the mechanical parts.

21. Exit the hopper (if applicable).
22. Using the hoe, pull small pieces of garbage out of the clean-out traps.
23. Clean the area with a water jet.
24. Close the clean-out trap doors.

⚠ CAUTION

WHEN PARKING THE TRUCK OVERNIGHT (THAT IS ONCE THE HOPPER HAS BEEN CLEANED), LABRIE ENVIRONMENTAL GROUP RECOMMENDS LEAVING THE TRUCK’S CLEAN-OUT-TRAP DOORS SLIGHLTY OPEN IF FROST IS FORECASTED IN YOUR AREA. THIS PROCEDURE SHOULD PREVENT RAIN ACCUMULATION AT THE BOTTOM OF THE HOPPER AND ICE BUILD-UP IN THE AREA OF THE PACKER CYLINDER. IT WILL ALSO PROVIDE QUICKER START UP, IN THE MORNING.

NEVER USE THE PACKER WHEN ITS COMPONENTS ARE STUCK IN ICE. FAILURE TO DO SO COULD CAUSE COMPONENT DAMAGE AND/OR FAILURE.

BEFORE EACH WORK SHIFT, MAKE SURE ALL CLEAN-OUT TRAP DOORS ARE SECURELY CLOSED.

25. Start the engine.
26. Engage the hydraulic system.
27. Fully retract the packer.
28. Retract the Cool Hand™ (if equipped) in the hopper.

PACKER MAINTENANCE

The Expert(t) 2000™ packing system has a heavyduty guiding system using high-strength steel wear plates. Because of the intensive use of the packer (1000 to 3000 cycles per day), Labrie™ recommends both:

- a mandatory visual inspection of the packer and its components, performed daily by the operator.
- a mandatory inspection and maintenance, carried out weekly by maintenance personnel.

Greasing all moving parts on a daily basis is very important, and the proper adjustment of the limit switches is imperative, especially on units equipped with multi-cycle options. Refer to “Lubrication” on page 97 for detailed diagrams of greasing points and lubrication schedule.

⚠ CAUTION

DO NOT GREASE THE SIDE RAILS: ABRASIVE MATERIAL STICKS TO THE GREASE AND CAN CAUSE PREMATURE WEAR OF THE ROLLERS AND/OR THE SIDE RAILS.

Any problem found on the packing system must be corrected immediately. Please contact LabriePlus for any type of technical support.

⚠ DANGER

APPLY THE LOCKOUT/TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

To prevent down time and reduce maintenance expenses, apply the following procedure:

1. Park the Expert(t) 2000™ on level ground, in an area where small debris can fall on the ground for further collection.
2. Apply the parking brake.
3. Using the **PACKER CONTROL SELECTOR** switch on the console, select the right-hand side packer control station (see Figure 18. “Packer control selector switch”).

Note: This switch is found only on vehicles equipped with multiple packer control stations.

4. Disable the speed-up system on the console (see Figure 19. “Main console from right-hand side driving position”) by pulling out the **SPEED-UP INHIBITOR** switch.
5. Raise the crusher panel (see Figure 20. “Crusher panel”) using the lever located on the main hydraulic valve (see Figure 21. “Crusher panel lever”).
6. Push the green **START CYCLE** button to fully extend the packer, then push the red emergency **STOP** button when the packer is fully extended.
7. Apply the Lockout/Tagout procedure. Refer to “Lockout/Tagout Procedure” on page 7.

⚠ DANGER

APPLY THE LOCKOUT/TAGOUT PROCEDURE TO PREVENT ANY ENGINE START-UP.

8. Check the follower panel hinges and make sure there is no wear on the panel surface (see Figure 32. “Extended packer”).

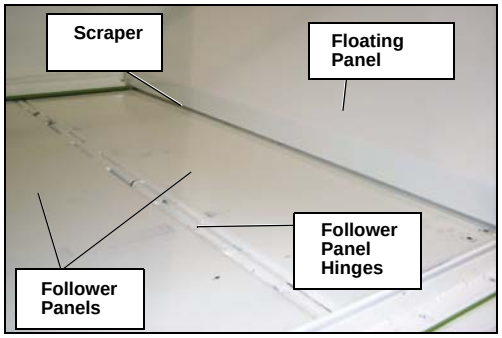


Figure 32. **Extended packer**

9. Remove the scraper (refer to “Teflon Scraper Replacement” on page 64).
10. Inspect the scraper (see Figure 32. “Extended packer”).

Note: This scraper wipes out dirt each time the packer goes back and forth.

11. Visually inspect both hopper side rails and packer rollers (see Figure 33. “Packer roller”) for premature wear.

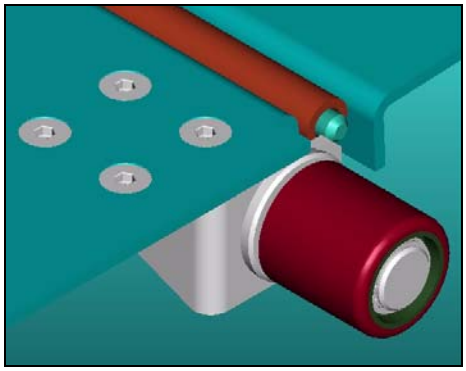


Figure 33. **Packer roller**

12. Make sure there are no leaks on hydraulic hoses and tubes. Tighten leaking connections and/or replace the defective hose.
13. Cylinder rod ends must be clear of any debris.
14. Verify cylinder rods for scratches that may cause the cylinder to leak oil. In this case, the cylinder and/or the seal must be replaced immediately.
    - To perform this check, refer to “Packer Cylinder Inspection Procedure” on page 42.

IMPORTANT

DO NOT ATTEMPT TO CHANGE CYLINDER SEALS AND PACKING DURING THE WARRANTY PERIOD.

15. Check for vertical and horizontal movement of the packer. If the packer has a vertical or horizontal movement, the packer wear pads need to be replaced. Extensive wear of the hopper floor also suggests that the sliding shoes require immediate replacement. Refer to “Sliding Shoes and Wear Pads” on page 32, “Replacing Sliding Shoes and Wear Plates” on page 33 and “To Replace Wear Pads Located Between Packer and Side Rails” on page 38.
16. Proper packer panel adjustment is necessary to prevent cylinders from bottoming out under pressure. A knocking noise will indicate that both limit switches require adjustment. Refer to “Adjusting the Limit Switches” on page 31 for details.
17. To check if hydraulic cylinders are internally leaking (insufficient packing force), see “Packer Cylinders Internal Leak Detection” on page 73.

Changing Packer Multi-cycle Settings

The packer multi-cycle module is programmed at the factory to execute three cycles when the Multi-cycle switch on the console has been turned on and the packer is activated. However, if these settings do not suit your needs, you can manually change them for those you desire.

Note: The packer multi-cycle function lets you program up to 8 cycles at a time.

To change the packer multi-cycle settings:

1. Turn on the engine and the hydraulic system (**PUMP** switch).
2. Apply the parking brake.
3. On the console, turn the **MULTI-CYCLE** switch on.
4. Remove the front side panel located behind the cab on the left-hand side of the Expert(t) 2000™ body.

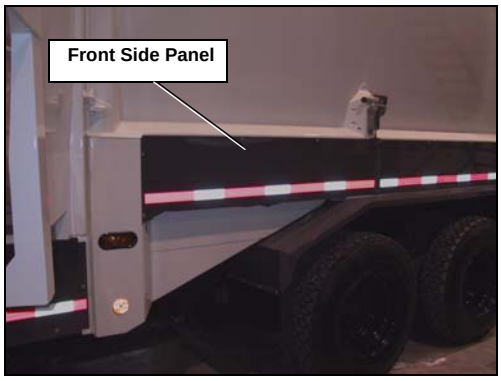


Figure 34. **Front side panel**

5. Locate the settings switch found on the harness feeding the module (see Figure 35. “Electronic module”).

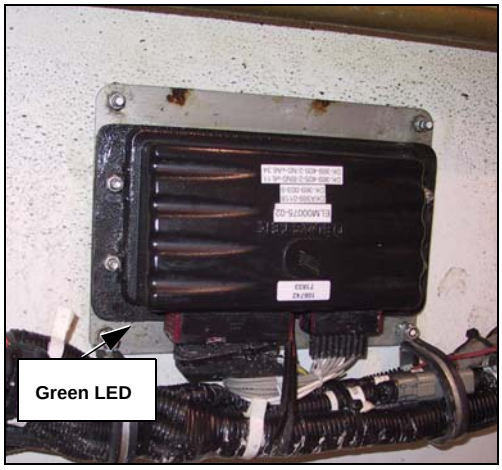


Figure 35. **Electronic module**

On the bottom left of the packer module, a green LED flashes on and off (Figure 36. “Status LED”).

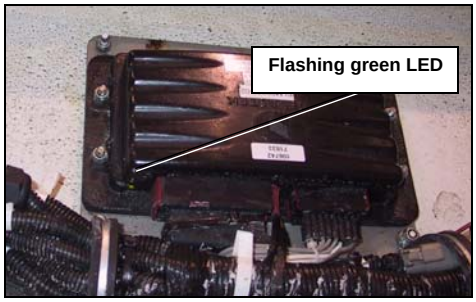


Figure 36. **Status LED**

6. Press and hold the button on the settings switch (see Figure 37. “Multi-cycle settings switch”) for about three to four seconds. A continuous red light will appear.

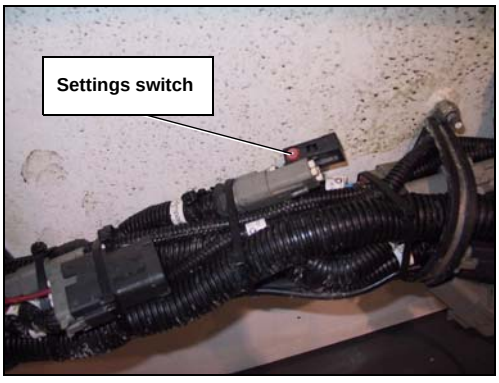


Figure 37. **Multi-cycle settings switch**

7. At this time, press the button the number of times you want the packer to continuously cycle.

Note: The module has been set at the factory to three cycles.

Once you have entered the desired number of cycles, the LED flashes red/ green the same number of times to confirm that the new settings have been stored.

8. On the control station or the right-hand side console, press the green **START CYCLE** button to test the new settings of the packer multi-cycle function.

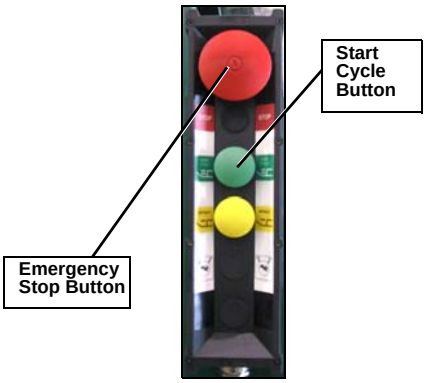


Figure 38. **Right-hand side control station**

9. If the packer performs the desired number of cycles, re-install the side panel. The vehicle is ready to use the new settings.

Note: For any other issues concerning the multi-cycle function, please contact LabriePlus.

Adjusting the Limit Switches

The packer limit switches were properly adjusted at the factory for optimal operation of the packer. If a daily cleaning is not properly done behind the packer, it is possible that the limit switches no longer stop the packer, creating a knocking noise when the packer reaches the end of a stroke (bottoming out). The packer may also not retract far enough to touch the limit switch preventing the automatic cycle to work properly.

After a period of time, a misalignment of the components may occur due to the frequent back and forth movement of the packer. An adjustment might be necessary to prevent the cylinders from completely extending and retracting to the end of their strokes.

Two limit switches control the extension and retraction limits of the packer (before the end of cylinder's stroke):

- the packer extension limit switch stops the packer during its extension.
- the packer retraction limit switch stops the packer during its retraction.

Both limit switches are generally located at the front end of the body, on the right-hand side, between the cab and the body (Figure 39. "Packer cylinder limit switches").

Note: On units equipped with a 3-cubic-yard glass compartment (without Helping Hand™), these limit switches are located between the cab and the body, but on the left-hand side.

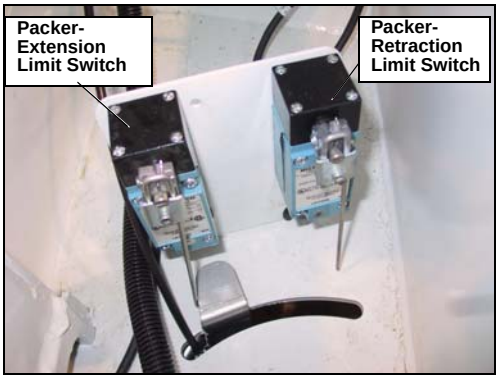


Figure 39. **Packer cylinder limit switches**

Optional proximity switches can also be installed on the vehicle but the adjustment procedure remains the same.

To adjust the packer limit switches, apply the following procedure:

1. Park the Expert(t) 2000™ on level ground, in an area where small debris can fall on the ground for further collection.
2. Apply the parking brake.
3. Using the **PACKER CONTROL SELECTOR** switch on the console, select the right-hand side packer control station (see Figure 18. "Packer control selector switch").

Note: This switch is found only on vehicles equipped with multiple packer control stations.

4. Disable the speed-up system on the console (see Figure 19. "Main console from right-hand side driving position") by pulling out the **SPEED-UP INHIBITOR** switch.
5. Raise the crusher panel (see Figure 20. "Crusher panel") using the lever located on the main hydraulic valve (see Figure 21. "Crusher panel lever").
6. Push the green **START CYCLE** button to fully extend the packer, then push the red emergency **STOP** button when the packer is fully extended.
7. Apply the **Lockout/Tagout** procedure. Refer to "Lockout/Tagout Procedure" on page 7.

⚠ DANGER

APPLY THE LOCKOUT/TAGOUT PROCEDURE TO PREVENT ANY ENGINE START-UP.

8. Locate the limit switches at the front of the body, between the cab and the body (see Figure 39. "Packer cylinder limit switches").
9. Adjust the limit-switch-finger (Figure 40. "Packer cylinder finger") so the cylinder lever can trigger the switch when the packer cylinder reaches this position.

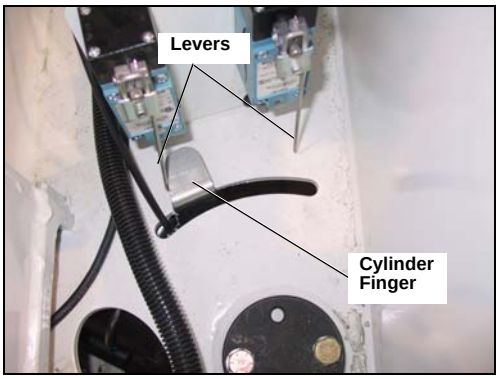


Figure 40. **Packer cylinder finger**

Note: If the vehicle is equipped with proximity switches (Figure 41. "Proximity switches"), loosen the proximity switch on the bracket and move the proximity switch over the trigger lever to allow the light found on the proximity switch to turn ON. The gap between the proximity switch and the trigger lever must be adjusted to 3/16 of an inch.

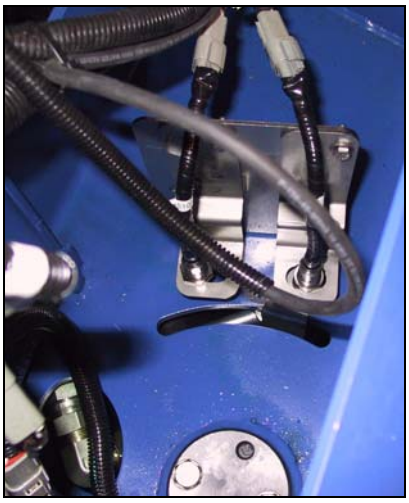


Figure 41. **Proximity switches**

10. To adjust the packer retracted limit switch, retract the packer to 1" before the fully retracted position, using the yellow button on the packer control station.
11. Push the red emergency-stop button when the packer reaches the correct position.
12. Stop the engine and apply the lockout/tagout procedure. Refer to "Lockout/Tagout Procedure" on page 7 for details.

⚠ DANGER

NEVER CLIMB IN THE HOPPER WHILE THE ENGINE IS RUNNING.

13. Locate the limit switch (see Figure 39. "Packer cylinder limit switches").
14. Adjust the limit-switch-finger (Figure 40. "Packer cylinder finger") so the cylinder lever can trigger the switch when the packer cylinder reaches this position.
15. Start the engine.
16. Test the packer for a full cycle. Make sure that the speed-up function is turned on (1200 to 1500 RPM depending on the pump) and there is no knocking noise at either end of the packer cylinder stroke.

To adjust the cylinder finger (see Figure 40. "Packer cylinder finger"), unscrew the bolts (2) of the cylinder brackets, which can be reached by raising the floating panel and opening the right-hand side clean-out trap door, and then move the finger until it reaches the proper position.

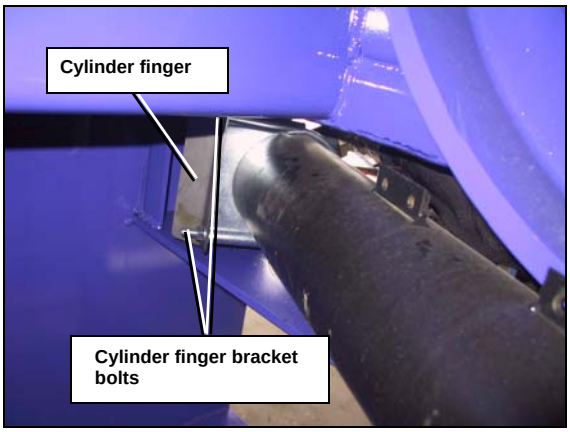


Figure 42. **Cylinder finger bracket**

Sliding Shoes and Wear Pads

Use a pry bar to move the packer up and down and from side to side and if the packer has a vertical movement greater than 3/16" or a horizontal movement greater than 1/8", verify both packer sliding shoes as well as wear pads (see Figure 43. "Packer sliding shoes") under the side rails for excessive wear.

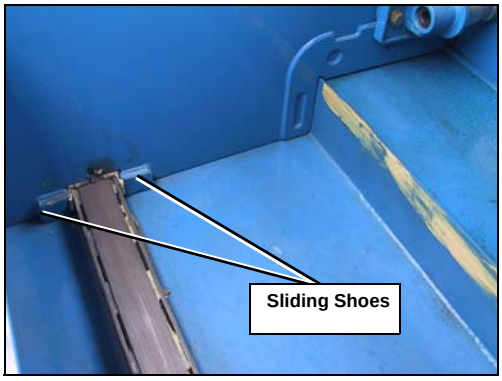


Figure 43. **Packer sliding shoes**

Two different types of steel are used on packer guiding system:

- AR-425 type steel; and
- AR-500 type steel.

The sliding shoes are made of AR-425 type steel to wear before floor guides, which are made of AR-500. Refer to the Parts Catalog for replacement part numbers.

To keep the packer in good working order and to prevent breakdowns, replace the sliding shoes and wear pads before extensive wear or damage appears on the hopper floor and walls.

Replacing Sliding Shoes and Wear Plates

Note: It is not necessary to remove the packer to perform this procedure.

To replace the sliding shoes and the wear plates located in the packer rails, apply the following procedure:

1. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to “Lockout/Tagout Procedure” on page 7);
2. Start the engine and engage the hydraulic system.
3. Disable the speed-up system on the console (Figure 44. “Main console from right-hand side driving position”) by pulling out the **SPEED-UP INHIBITOR** switch.

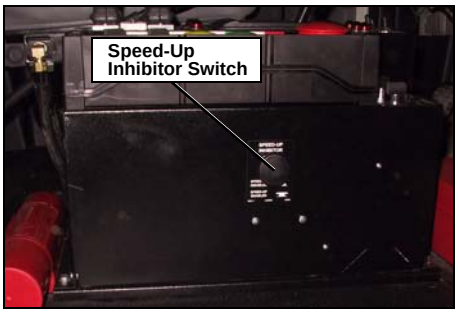


Figure 44. **Main console from right-hand side driving position**

4. Then using the selector switch on the console, select the right-hand side packer control station (Figure 45. “Packer control selector”). This switch exists only on vehicles equipped with multiple packer control stations.

Figure 45. **Packer control selector**

5. Fully retract the packer.
6. Turn off the engine and hydraulic pump.
7. Remove tack weld from behind both packer’s rails. To access this area, open the clean-out trap doors.

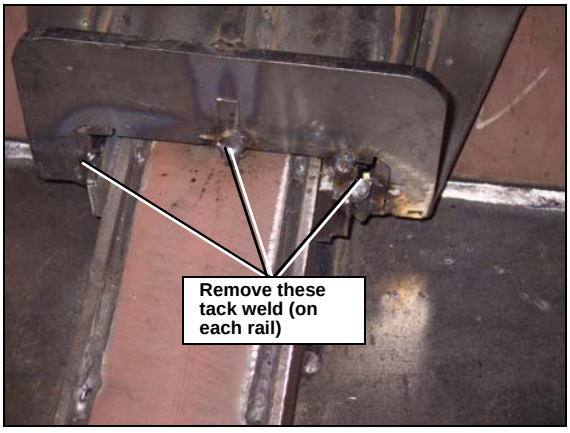


Figure 46. **Tack weld to be removed (behind the packer)**

8. Cut the weld tracks (Figure 47. “Sliding shoes (front of the packer)”) of the sliding shoes located in front of the packer.

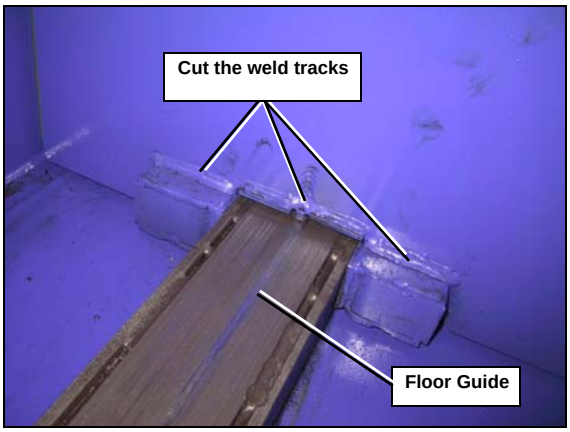


Figure 47. **Sliding shoes (front of the packer)**

Note: ***In order to move the packer (retract or extend) for a short distance, press on the green (or yellow) button then immediately push the red button to stop the packer. Pull out the red button and repeat the process until the packer reaches the desired position.***

9. Start the engine.

10. Engage the hydraulic pump to extend the packer about 18 inches before the end of the stroke (Figure 48. “Packer extended 18” from end of stroke”).

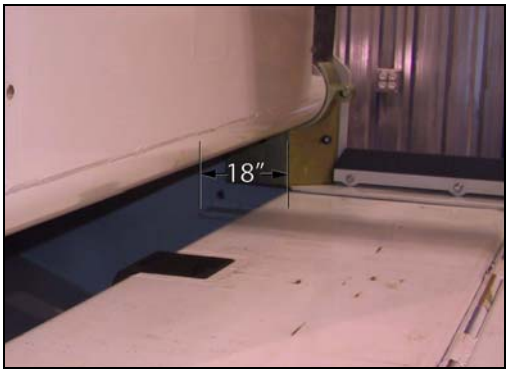


Figure 48. **Packer extended 18” from end of stroke**

11. Turn the engine and hydraulic pump off.

12. Tack weld the right-hand side sliding shoes to the floor and the wear plate to the floor guide (in front of the packer). See Figure 49. “Tack weld the sliding shoes and wear plates”. Do the same for the ones on the left-hand side.

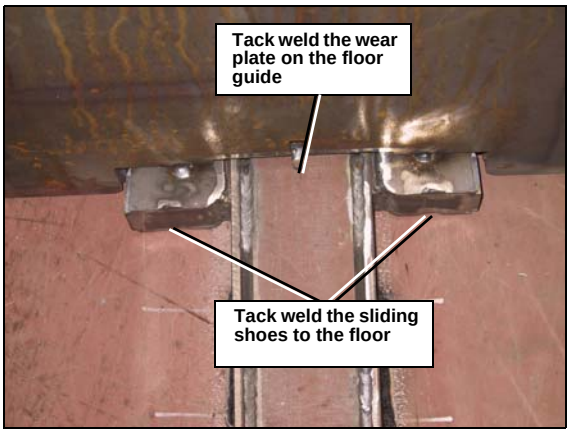


Figure 49. **Tack weld the sliding shoes and wear plates**

13. Then start the engine, engage the hydraulic pump and slowly retract the packer by pressing the yellow button and the red button.

14. The sliding shoes and wear plates will come out from under the packer as it is retracting.

15. Remove the old sliding shoes and wear plates. Make sure to remove the weld on the floor guide using a grinder.

To install packer sliding shoes and wear plates (located under the packer):

1. Make sure that the packer is parallel to the front of the hopper.

2. Install both wear plates (one on each side) by inserting them between the packer and the rails.

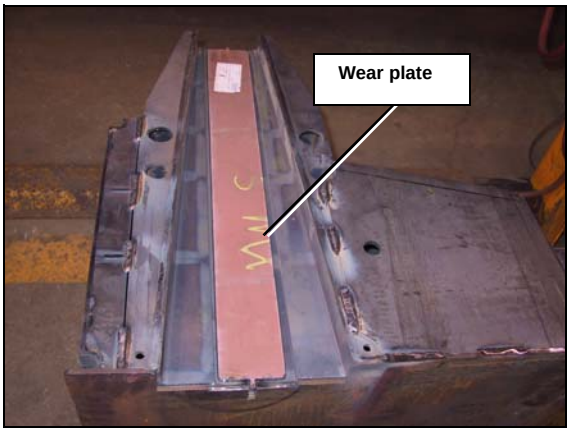


Figure 50. **Wear plate (view from under the packer)**

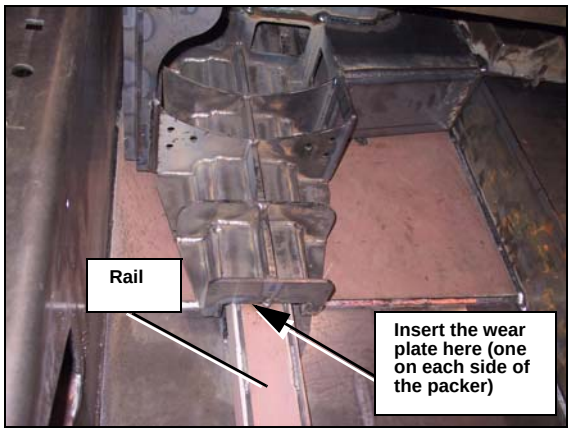


Figure 51. **Wear plate location**

3. Tack weld the wear plates at both ends.

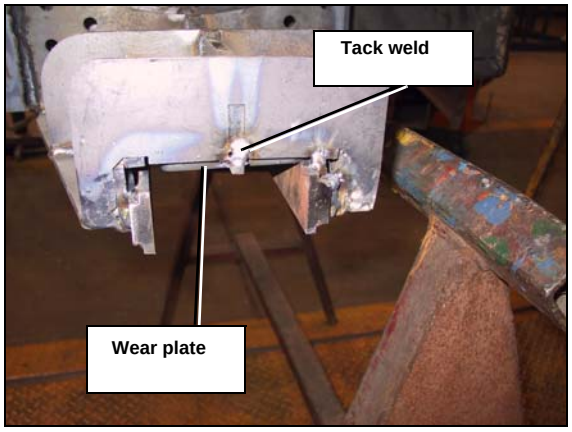


Figure 52. **Tack weld the wear plates at both ends**

4. Center the packer laterally. The gap on each side of the beam must be the same.

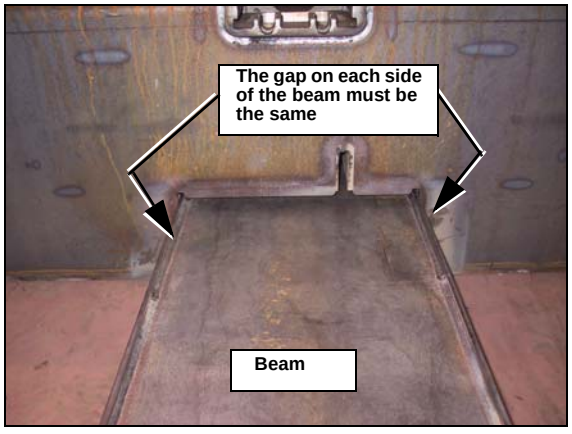


Figure 53. **Center the packer laterally**

5. Insert the sliding shoes on each side of both rails. The largest end of the sliding shoe must face the front of the hopper.

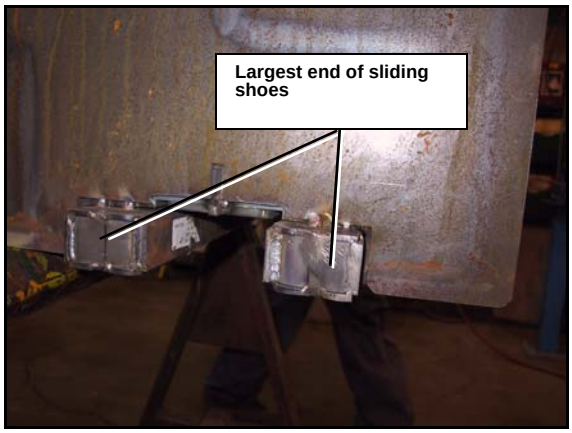


Figure 54. **Largest end of sliding shoes**

Note: ***The sliding shoes shall not exceed the packer by more than one inch. Failure to do so will cause premature wear and damage.***

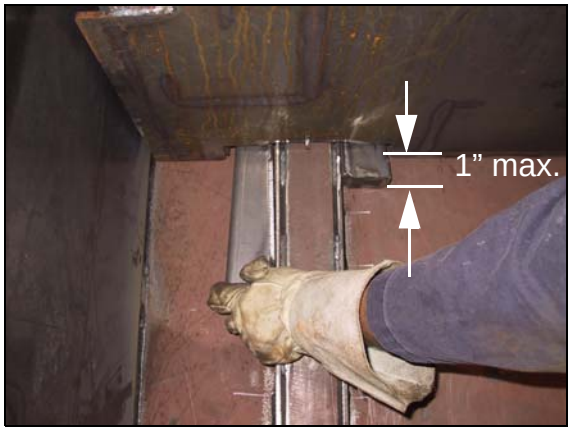


Figure 55. **Insert sliding shoes on each side of both rails**

6. Place a pry bar under the sliding shoe you want to weld and put another one on its side to make sure it rests completely against the rail and the packer.

IMPORTANT

DO NOT OVERPRY THE SLIDING SHOE. FAILURE TO DO SO WILL CAUSE THE PACKER TO BECOME OFF CENTER.

Figure 56. **Use pry bars to place the sliding shoe correctly**

7. Tack weld the sliding shoe (on top, in the middle).

Figure 57. **Tack weld the sliding shoe**

8. Repeat both previous steps for the three remaining sliding shoes.

9. Once the largest end of all the sliding shoes are fastened, tack weld the smallest end of every sliding shoe (front of the packer) by using the same method (pry bars).

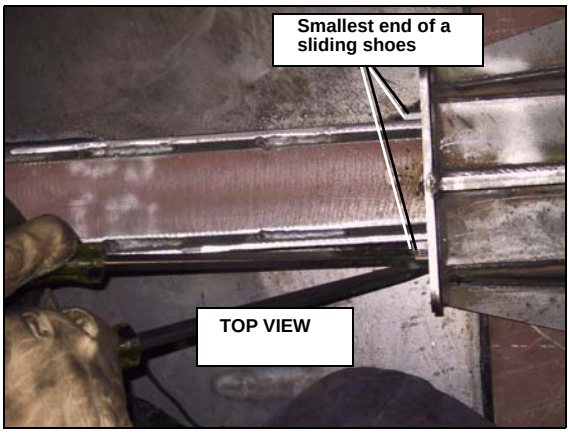


Figure 58. **Use of pry bars to place the smallest ends of the sliding shoes correctly**

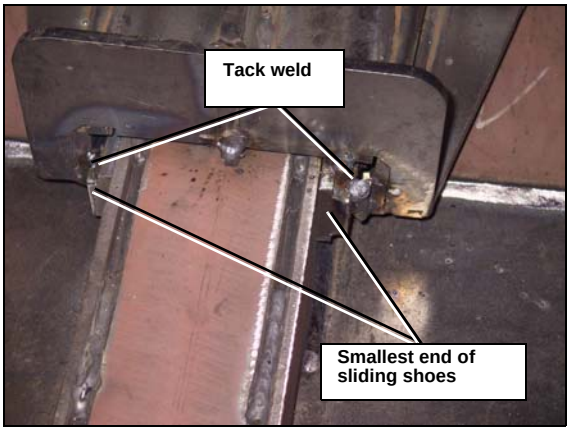


Figure 59. **Tack weld the smallest end of the sliding shoes**

10. Once all the sliding shoes are fastened at both ends, fill the gaps between the sliding shoes and the packer by welding shims.

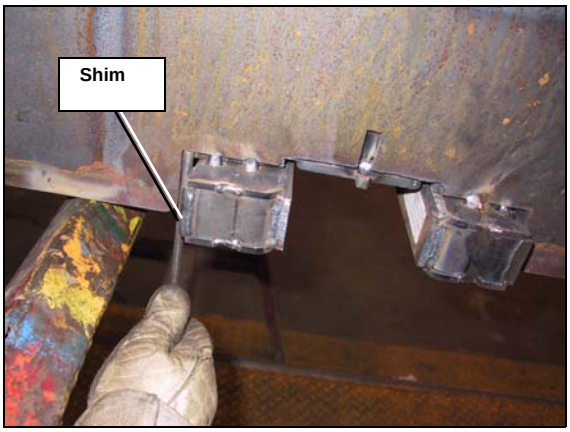


Figure 60. **Fill the gaps by welding shims**

11. Weld two shims in front of both wear plates to avoid the wear plates from coming out in case of failure.

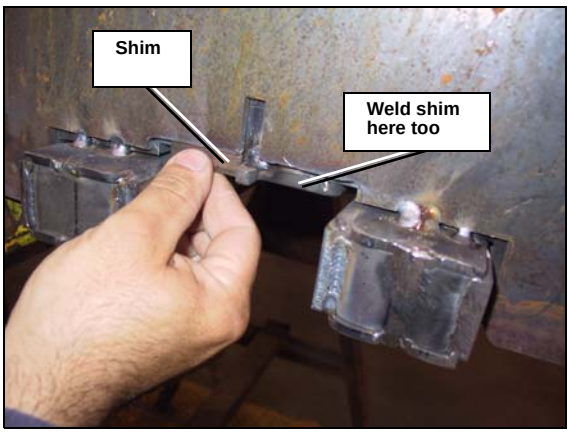


Figure 61. **Weld shims in front of wear plates**

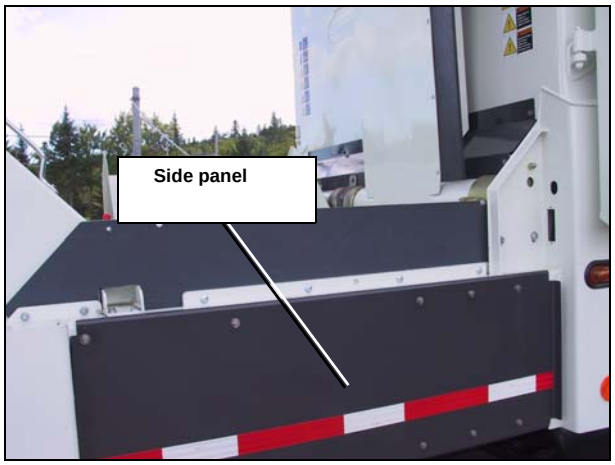
12. Test the packer for proper operation.

To Replace Wear Pads Located Between Packer and Side Rails

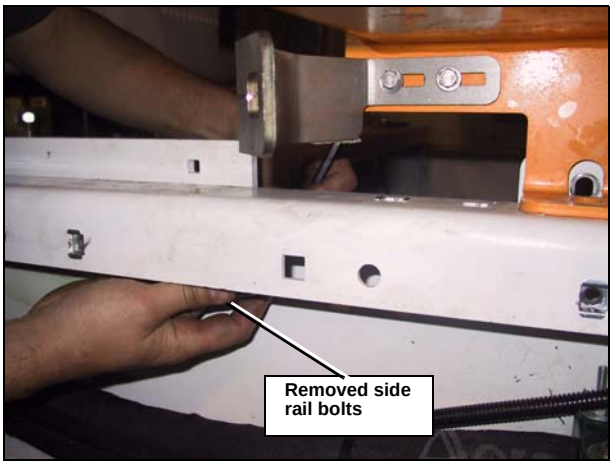
There are wear pads (steel and teflon) located between the packer and side rails. When these wear pads are too worn, replacement is necessary.

To replace the steel wear pads:

1. Extend the packer until it has reached the middle of the hopper.
2. If the unit is equipped with a chute (co-mingle trucks only), place the chute at the upright position.
3. Remove the panels located on each side of the hopper.



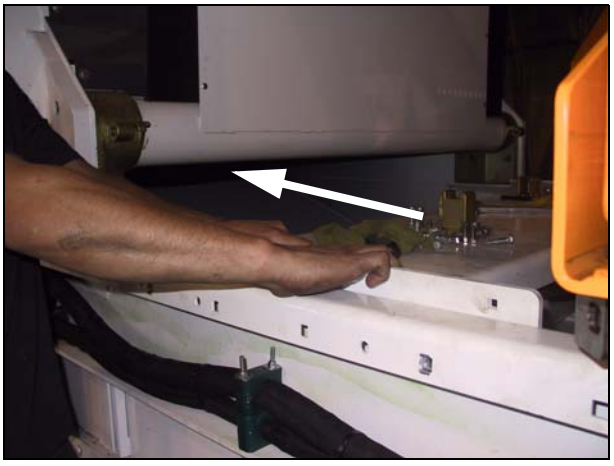
4. Unscrew side rails' bolts. You will have to remove the midway flashing lights located on each side of the truck to access the last bolts.



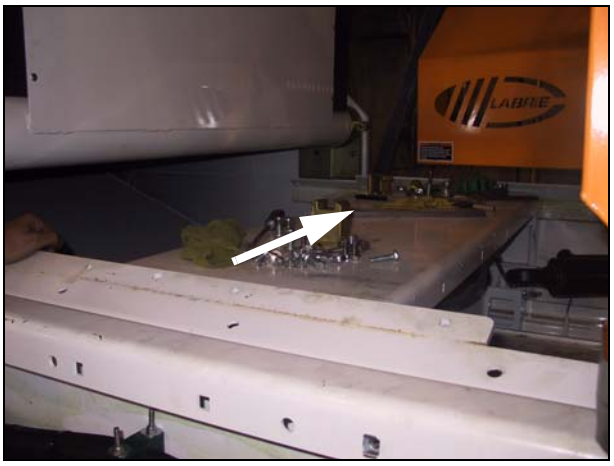
5. Remove the rails.

To do so:

A. Pull the rail toward the body.



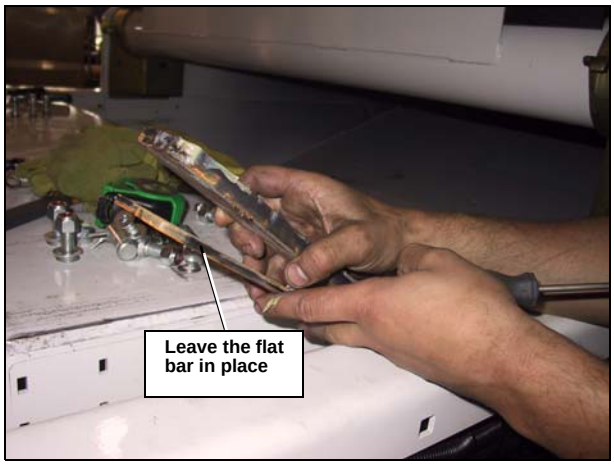
B. Push the upper part of the rail inside the hopper.



C. Slide the rail toward the body and remove it from the hopper.

D. Perform the same procedure with the opposite rail.

6. Replace the wear pads, but leave flat bars in place.



7. Once the new wear pads are installed, put grease on the surface that is in contact with the side rails.
8. Reinstall both rails and side panels.

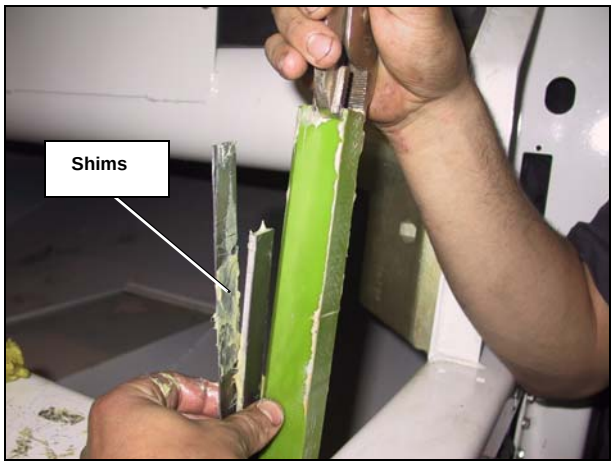
Replacing Packer Teflon Wear Pads

There are also teflon wear pads and shims on each side of the packer.

To replace the teflon wear pads:

1. Once the side rails are removed, take out the teflon wear pads and shims by using a pliers.

Note: If the teflon is worn, it is also possible to add a shim instead of replacing it.

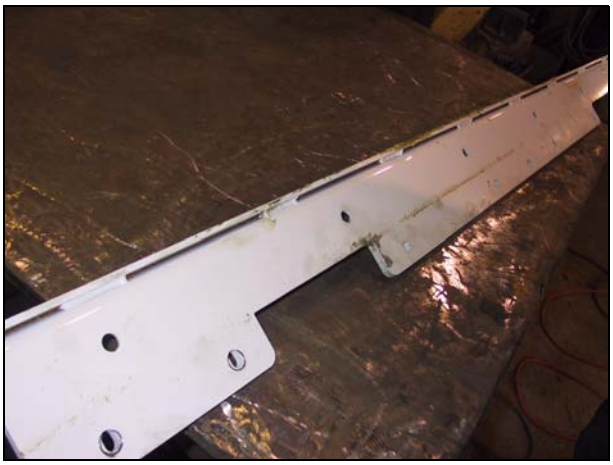


2. Insert the new teflons and/or shims. The rounded part of the teflon must be turned toward the exterior of the hopper.

Replacing Side Rails Wear Pads

To replace side rail wear pads, you will have to replace the entire rail. To do so:

1. Remove the upper part of side rail.
2. Remove the lower part of side rail.



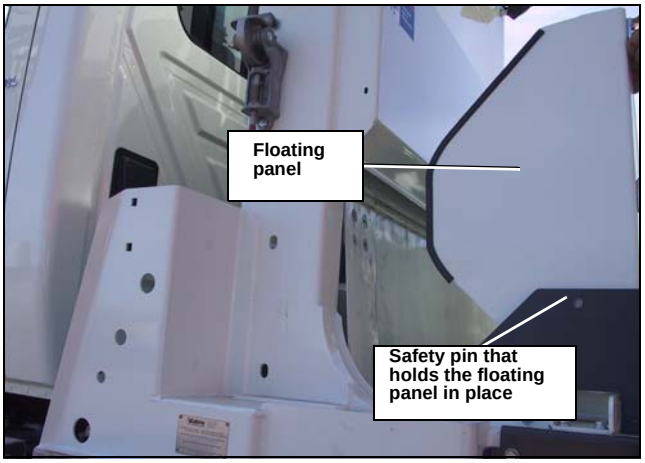
⚠ CAUTION

DO NOT GREASE THE SIDE RAILS: ABRASIVE MATERIAL STICKS TO THE GREASE AND CAN CAUSE PREMATURE WEAR OF THE ROLLERS AND/OR THE SIDE RAILS.

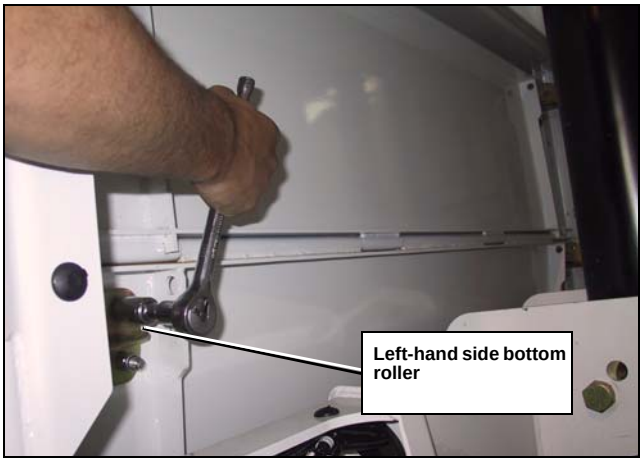
3. Reinstall the rail.

Replacing the follower panel rollers

1. Fully retract the packer.
2. Perform the lockout/tagout procedure (refer to the *Operator Manual*).
3. Raise the floating panel (if equipped) and install the safety pins so it will stay in place.



4. Remove the left-hand side bottom roller and replace it.



To do so:

- Use a 5/16-inch Allen wrench and a 3/4-inch box.
- Remove the bolts that retain the roller in place (4).

- Remove the roller assembly and replace it with a new one.
- Place the four bolts in their respective hole before tightening them up.

5. Removed the right-hand side bottom roller and replace it by repeating the procedure mentioned above.
6. Start the engine and engage the hydraulic pump.
7. Extend the packer until the top rollers are at the same height as the bottom rollers in the previous steps.
8. Perform the lockout/tagout procedure (refer to the *Operator Manual*).
9. Replace both top rollers (one at a time) by performing the same procedure.
10. Close the floating panel (if equipped).

Replacing a roller

If the roller itself has to be replaced because of wear, perform the following procedure:

1. Once the roller has been removed from the follower panel, remove the external snap ring.

2. Remove the washer.

3. Slide the roller to remove it.
4. Perform the reverse procedure to reinstall the roller.

How to Separate the Follower Panels from the Packer

In order to remove the packer, you'll have to separate the follower panels from the packer.

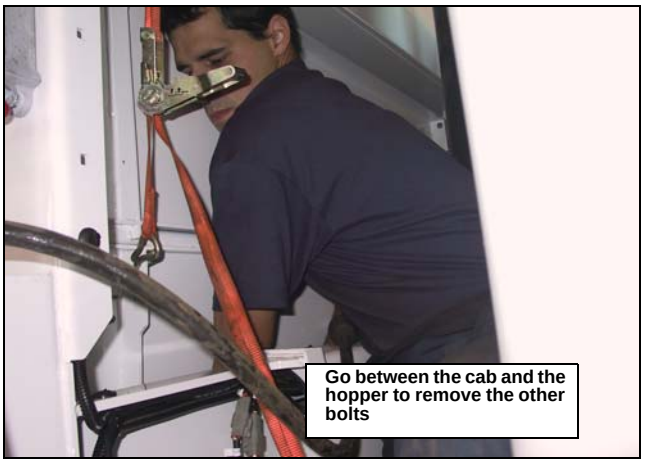
Note: This procedure applies only if it is not necessary to remove the follower panels for maintenance purposes.

1. Fully retact the packer so the follower panels are upright.

2. Stop the hydraulic pump.
3. Turn off the engine.
4. Securely attach the follower panels on both sides to make sure that they will stay in place.

5. By using 9/16-inch wrenches, remove the bolts (6) that retain the follower panels to the packer.

Note: It is possible to remove the first bolts by the cleaning traps. To remove the bolts located in the center, go between the cab and the hopper.



6. To reinstall the follower panels on the packer, perform the reverse procedure.

Packer Cylinder Inspection Procedure

It is very important to inspect the packer cylinders regularly to avoid premature wear.

To inspect the packer cylinders of a Helping Hand™ equipped unit:

1. Fully extend the packer.
2. Perform the lockout/tagout procedure (refer to the *Operator Manual*).
3. Open the clean-out trap doors.
4. Check for oil leaks between cylinders' head and jacket and between cylinders' head and rod.

5. Visually inspect the rods to make sure that the surface is not damaged in any way.

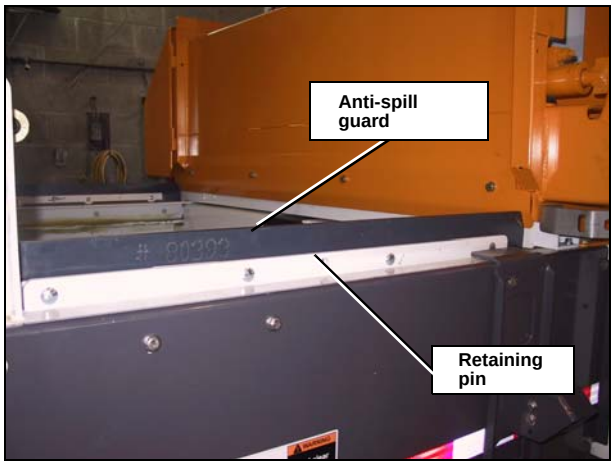
To inspect the packer cylinders of a unit NOT equipped with a Helping Hand™:

1. Fully extend the packer.
2. Perform the lockout/tagout procedure (refer to the *Operator Manual*).
3. Open the floating panel(s).
4. Check if for oil leaks between cylinders' head and jacket and between cylinders' head and rod.
5. Visually inspect the rods to make sure that the surface is not damaged in any way.

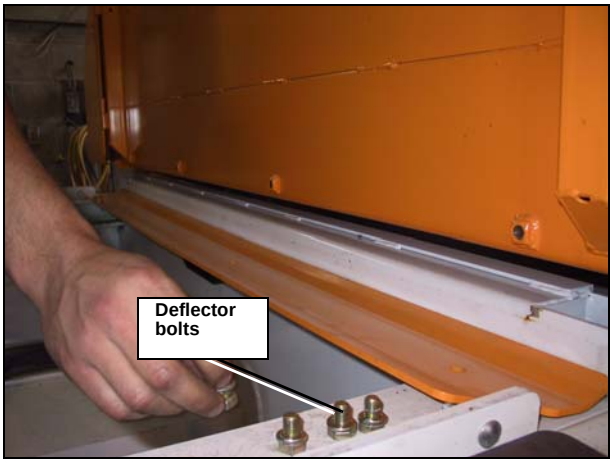
Packer Cylinder Replacement

To replace the packer cylinders on Helping Hand™ equipped units, perform the following procedure:

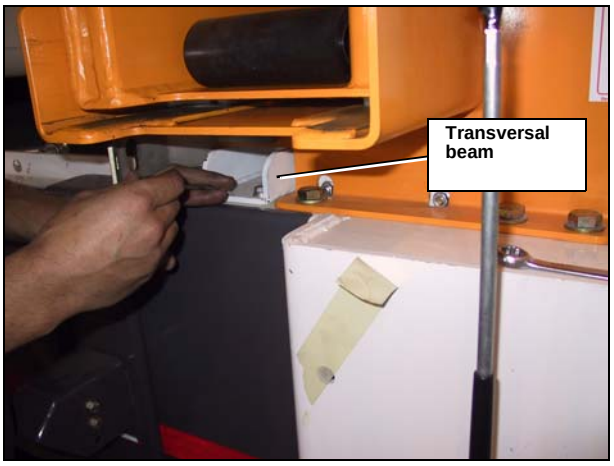
1. Unbolt the follower panels. Refer to “How to Separate the Follower Panels from the Packer” on page 42.
2. Remove the anti-spill guards located on each side of the hopper.

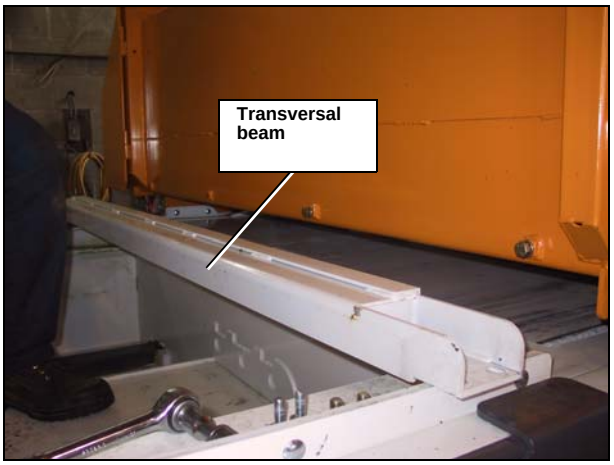


3. Remove the deflector panel. Use a 3/4-inch wrench to remove the four bolts.

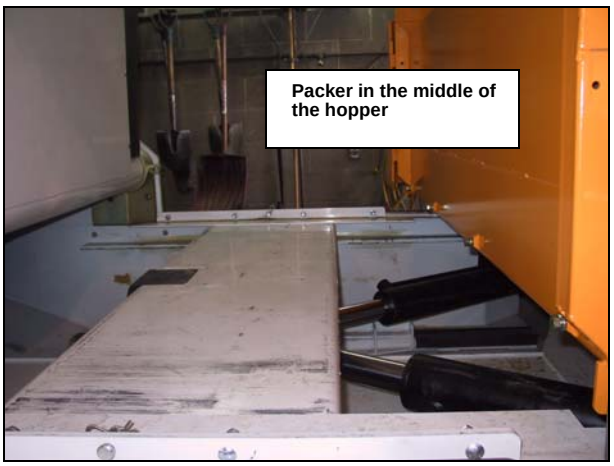


4. Remove the transversal beam by removing the four bolts (two on each side) that retain it. Use a 9/16-inch wrench.

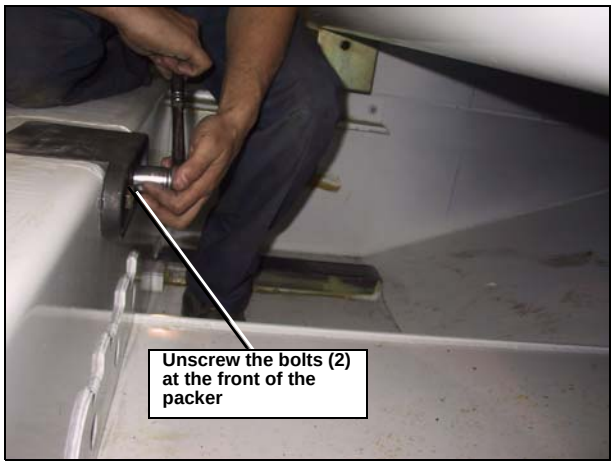




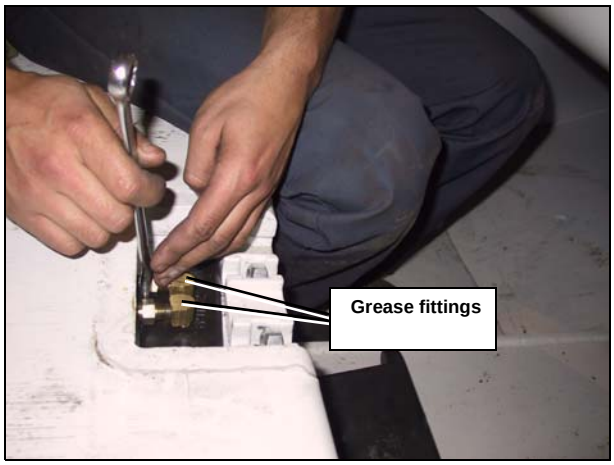
5. Extend the packer until it has reached the middle of the hopper.



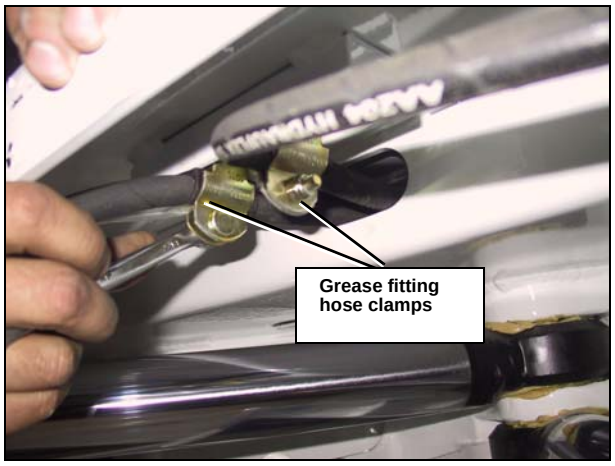
6. By using a 15/16-inch wrench, unscrew the bolts (2) located at the front of the packer.

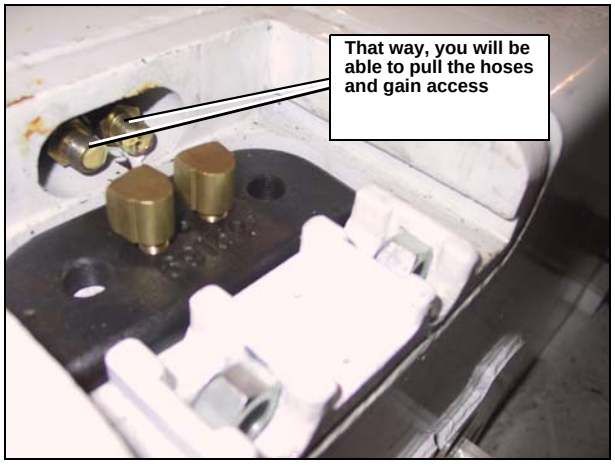


7. Unscrew both grease fittings by using a 11/16-inch wrench.

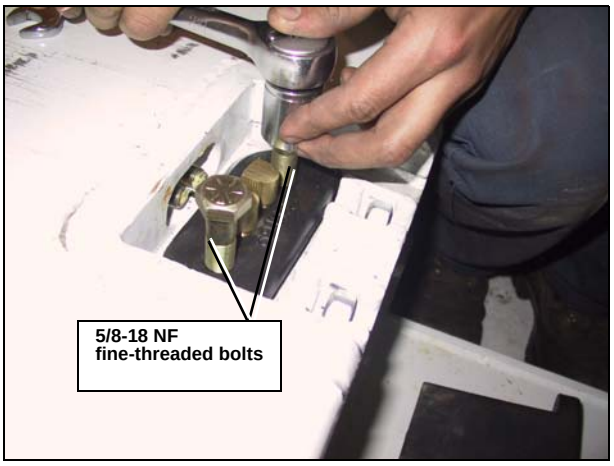


8. Loosen the grease fitting hose clamps located under the packer in order to move the hoses and gain access.





9. Take two 5/8-18NF, 9-inch long fine-threaded bolts and screw them in the pin head holes.



10. Tighten until the cylinder pin is removed.

11. Exit the hopper and activate the hydraulic pump.

12. Completely retract the packer cylinders.

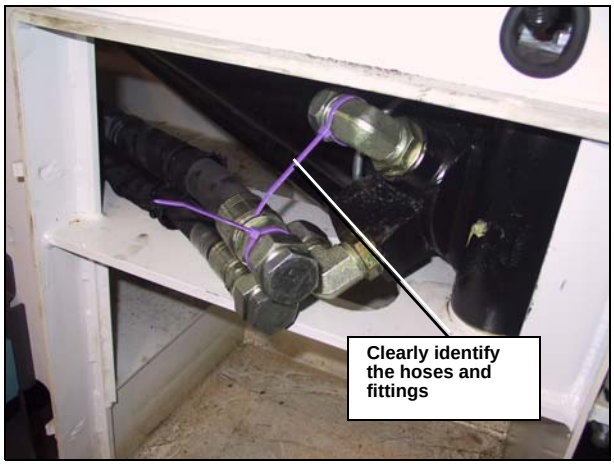
13. Remove both hydraulic hoses from the right-hand side packer cylinder by using a 1½-inch wrench.

⚠ CAUTION

MAKE SURE TO PLACE A BUCKET UNDER THE HYDRAULIC HOSES BEFORE REMOVING THEM IN ORDER TO AVOID OIL SPILLS.

14. To avoid oil spills, cap each hose and cylinder fitting as soon as the hoses are removed from the cylinder. Use 16 JIC-type caps (male for the hoses and femelle for the cylinder adapters).

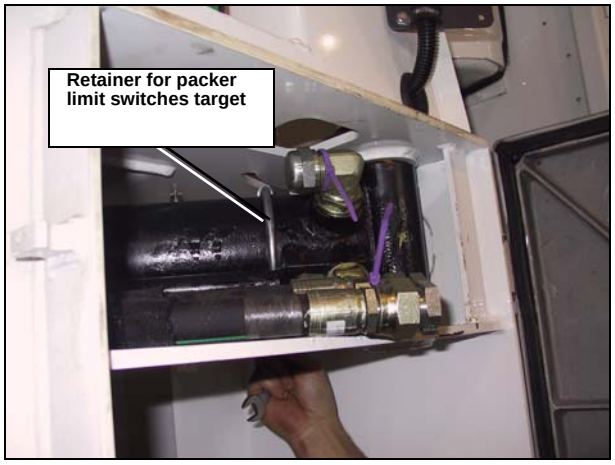
15. Clearly identify the hoses and the cylinder fittings to avoid an inversion during the reinstallation.



16. Repeat steps 13 to 15 for the left-hand side cylinder.

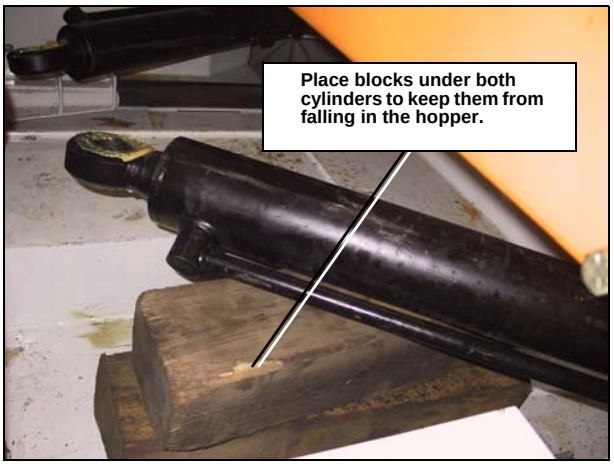
17. Using a 9/16-inch wrench, remove the packer limit switches target bracket, which is mounted on the right-hand side cylinder.

Note: You'll need to readjust the packer limit switches after the cylinder reinstallation.



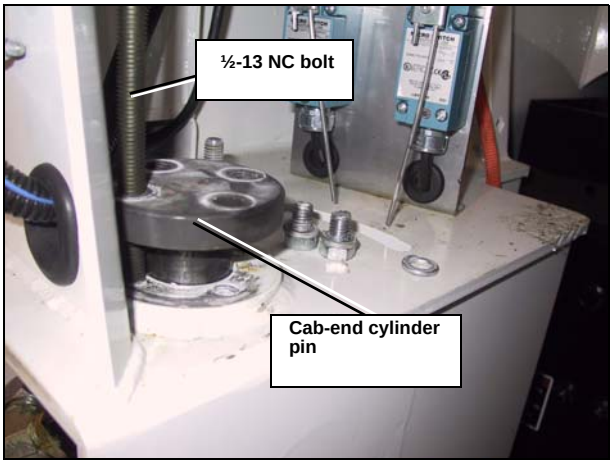
18. Push the cylinder hoses away (on both sides) to facilitate the cylinder removal.

19. Chock both packer cylinders by placing blocks under them, to keep them from falling in the hopper.



20. Close the cleaning trap doors to have a better access.

21. Remove the cab-end pin of the right-hand side cylinder by using two ½-13 NC bolts. Screw these bolts in until the cylinder pin comes out.



Note: ***Make sure that the cylinder stays in a horizontal position to make the pin removal easier.***

22. Completely remove the pin.

23. Remove the cylinder through the cleaning trap doors.

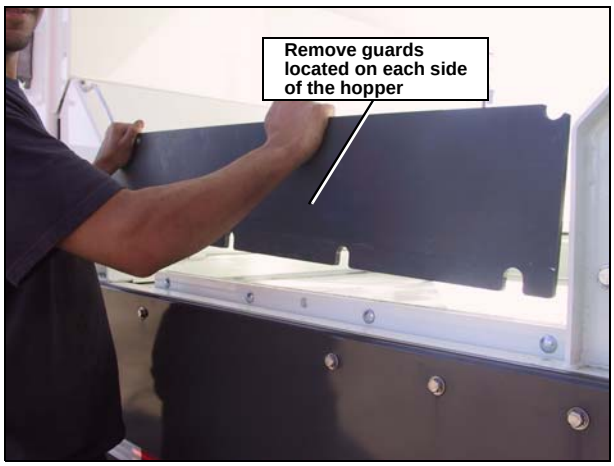
⚠ CAUTION

THIS TASK MUST BE PERFORMED BY TWO PEOPLE.

24. Repeat steps 21 to 23 for the left-hand side cylinder.

If the truck is not equipped with a Helping Hand™:

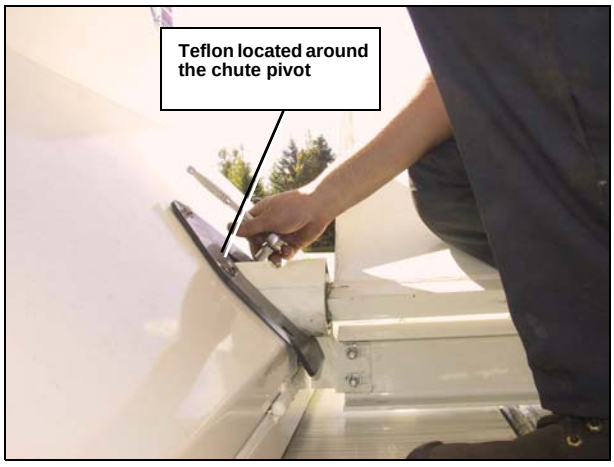
1. Separate the follower panels from the packer (refer to “How to Separate the Follower Panels from the Packer” on page 42).
2. Extend the packer at mid-stroke.
3. Remove guards located on each side of the hopper.



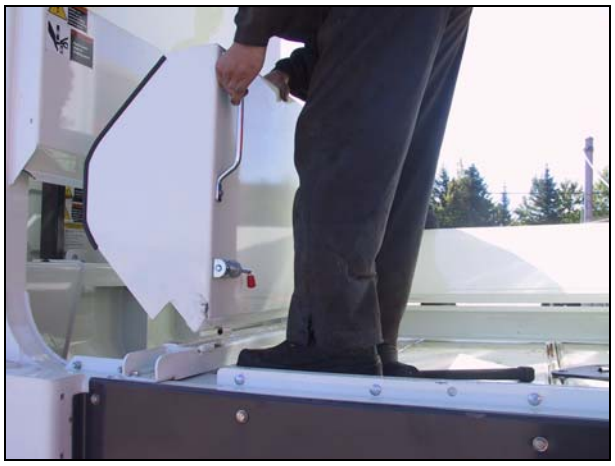
4. Remove the floating panel.

To do so:

- If the truck is equipped with a chute (co-mingle units only), remove the teflon located around the chute pivot.



- Open the floating panel and remove it from the hopper by pushing it toward the curb side.



5. Perform the steps 6 to 24 of the previous procedure. Refer to “To replace the packer cylinders on Helping HandTM equipped units, perform the following procedure:” on page 44.

How to Remove the Packer

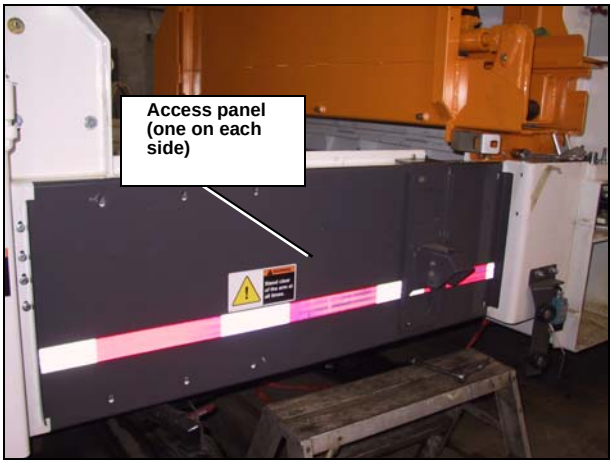
To remove the packer on a Helping Hand™ equipped unit:

1. Perform steps 1 to 12 of the packer cylinder removal procedure on a Helping Hand™ equipped unit (refer to “To replace the packer cylinders on Helping HandTM equipped units, perform the following procedure:” on page 44).
2. Push on the packer cylinders toward the front of the hopper in order to have a better access.

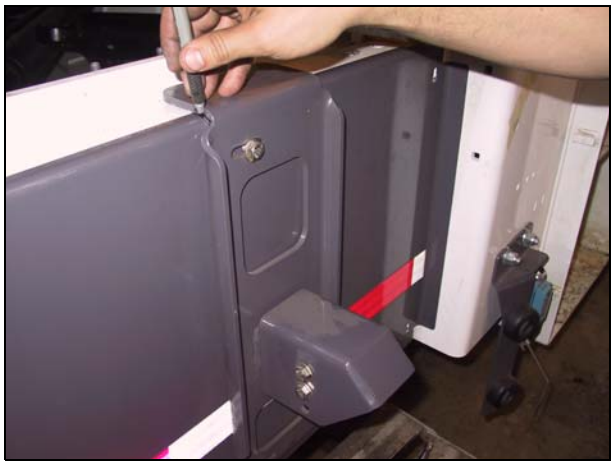
3. Remove the upper part of both side rails.

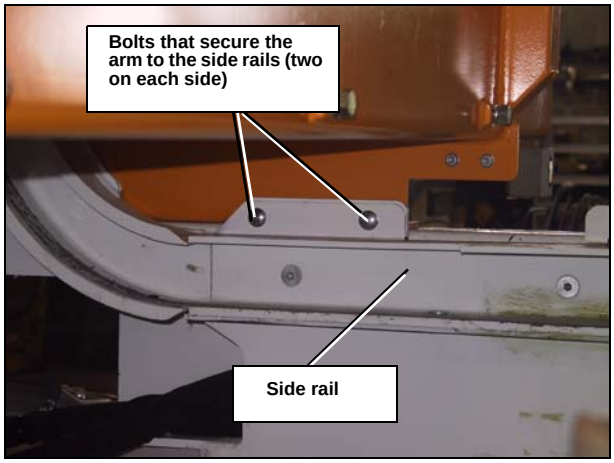
To do so:

A. Remove the access panels located on each side of the hopper.



B. By using a pen, mark the arm stopper location.

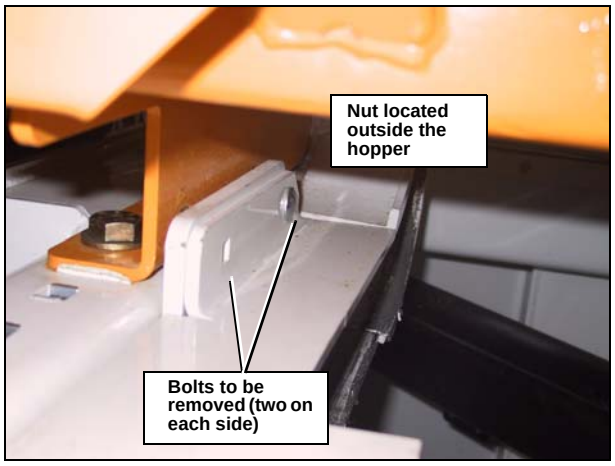




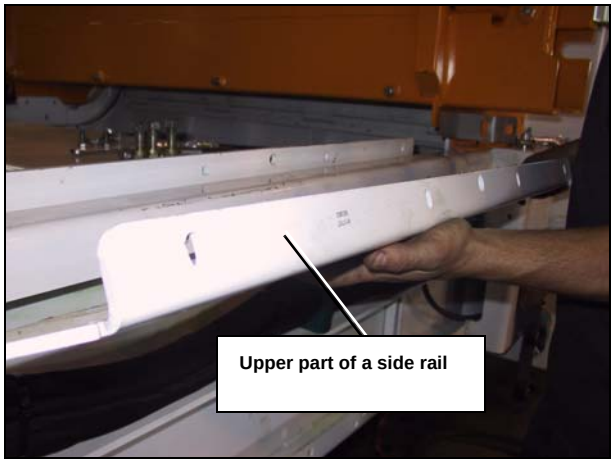
C. Remove the four bolts (two on each side) that secure side rails and lower the arm.

IMPORTANT

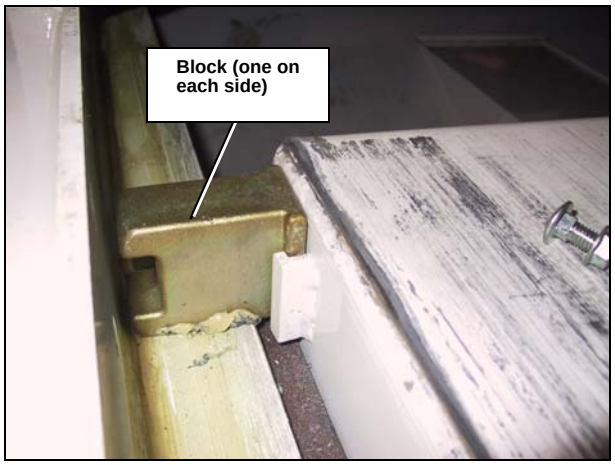
FOR HELPING HAND™ **EQUIPPED UNITS ONLY:** IF THE NUTS OF THESE FOUR BOLTS ARE LOCATED OUTSIDE THE HOPPER, CUT THE BOLTS TO REMOVE THEM. INSTALL THE NEW BOLTS WITH BY PLACING NUTS INSIDE THE HOPPER.



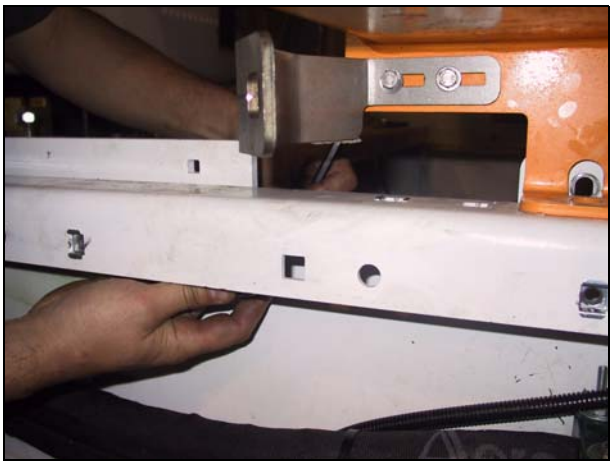
D. Remove the upper part of the left-hand side rail.



4. Remove the blocks (two) located on each side rail.

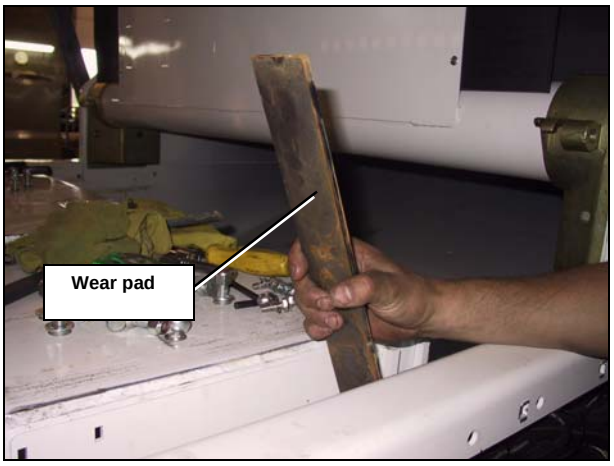


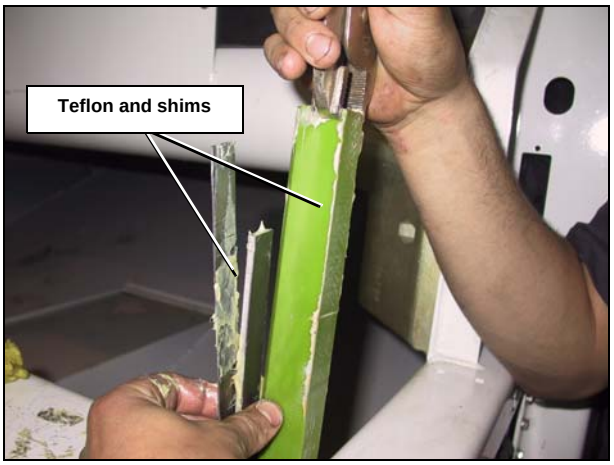
5. Remove all the bolts that retain the lower part of the side rails by using an 5/16-inch Allen wrench and a 3/4-inch wrench. There are 6 bolts on each side.



6. Remove the midway flashing lights located on each side of the truck to access the last bolts.

7. Remove the wear pads (steel and teflon) and shims on each side of the packer.





8. Fully extend the Helping Hand™.

9. Attach the packer with an appropriate lifting device and raise it.

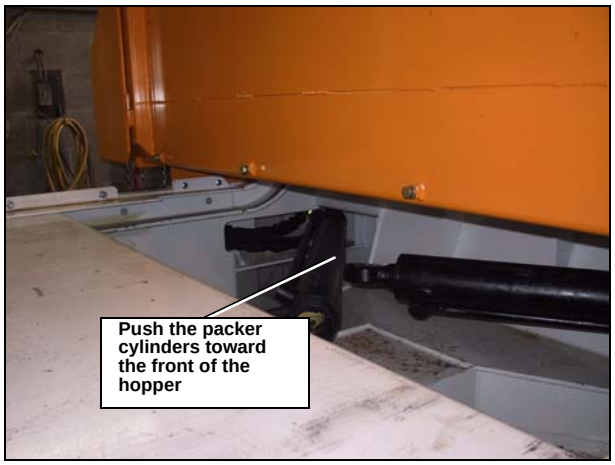
⚠ WARNING

USE AN APPROPRIATE LIFTING DEVICE TO REMOVE THE PACKER FROM THE HOPPER. FAILURE TO DO SO MAY RESULT IN SERIOUS DAMAGES, INJURIES OR EVEN DEATH.

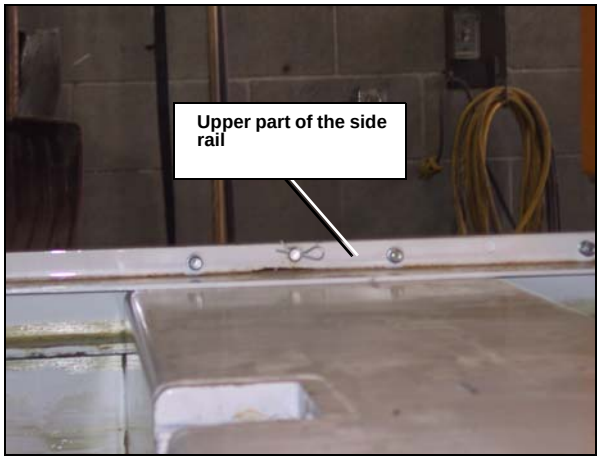
10. Remove the packer from the hopper.

To remove the packer of a unit without Helping Hand™:

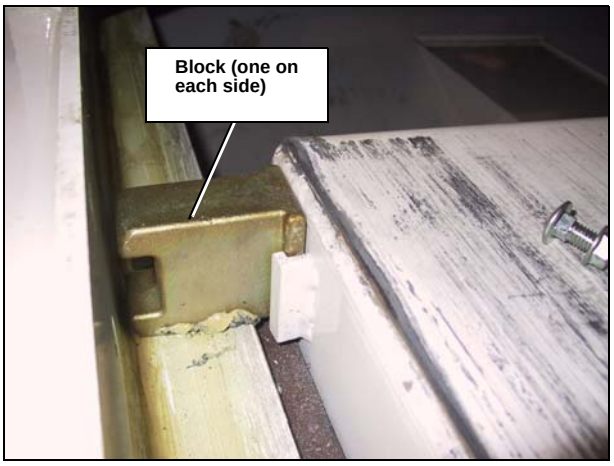
1. Perform steps 1 to 5 of the packer cylinder removal procedure for a non Helping Hand™ equipped unit (refer to “If the truck is not equipped with a Helping HandTM:” on page 49).
2. Push on the packer cylinders toward the front of the hopper in order to have a better access.



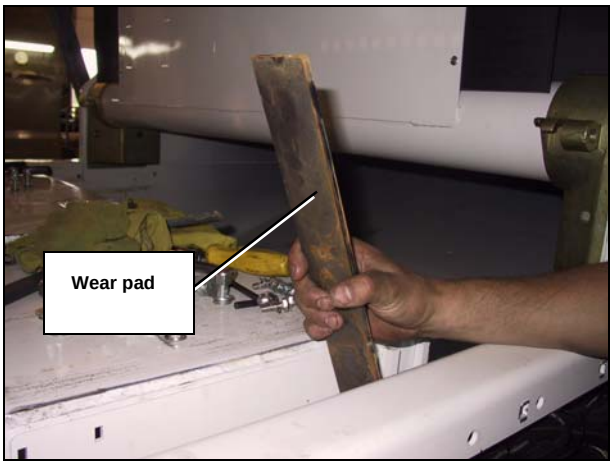
3. Remove the upper part of both side rails.

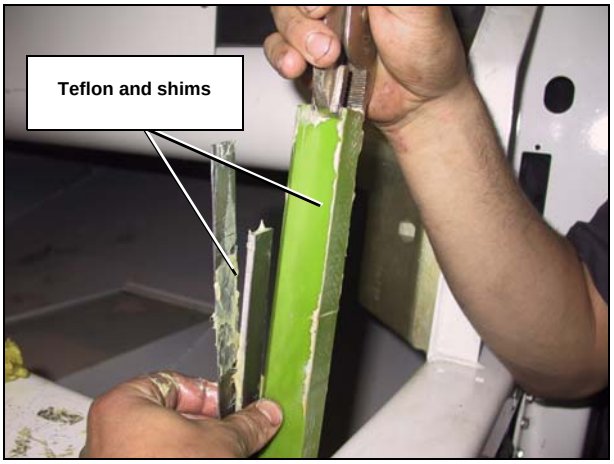


4. Remove the blocks (two) located on each side rail.



5. Remove all the bolts that retain the side rails by using an 5/16-inch Allen wrench and a 3/4-inch wrench. There are 6 bolts on each side.
6. Remove the wear pads (steel and teflon) and shims on each side of the packer.





7. Securely attach the packer to an appropriate lifting device and raise the packer.

⚠ WARNING

USE AN APPROPRIATE LIFTING DEVICE TO LIFT THE PACKER. IF YOU DO NOT DO DO THIS OPERATION WITH THE UTMOST CARE, SERIOUS DAMAGES, INJURIES OR EVEN DEATH MAY RESULT.

How to Reinstall the Packer

Once the floor guides and all the wear pads are replaced, reinstall the packer.

To reinstall the packer:

1. Using an appropriate lifting device, place the packer back in the hopper.
2. Reinstall teflons and shims on each side of the packer.

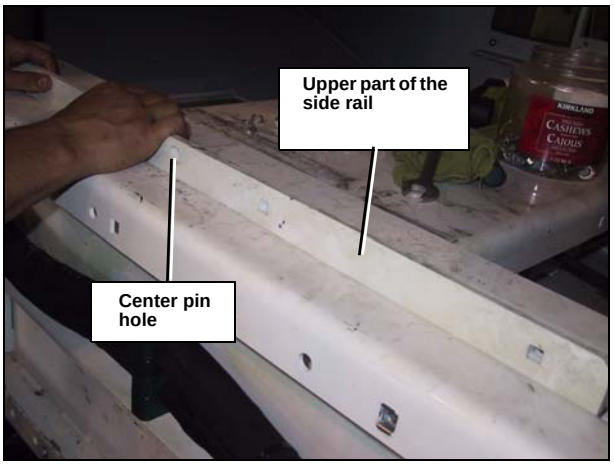
3. Reinstall the steel wear pads.

4. Reinstall side rails. If the packer or wear pads have been replaced by new ones, adjust packer's height with shims if needed.

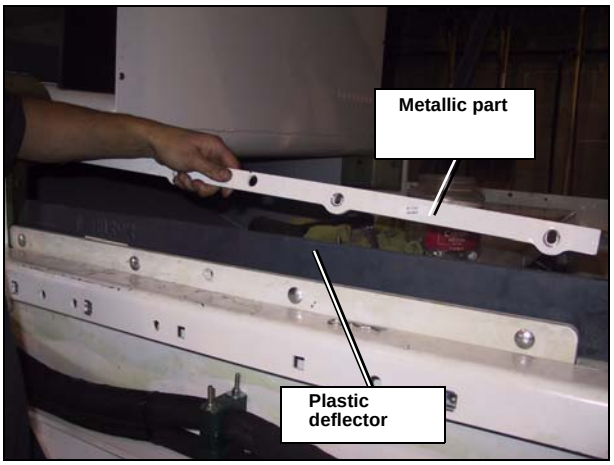
5. Reinstall the midway flashing lights (on each side) once all the side rail bolts are tightened.

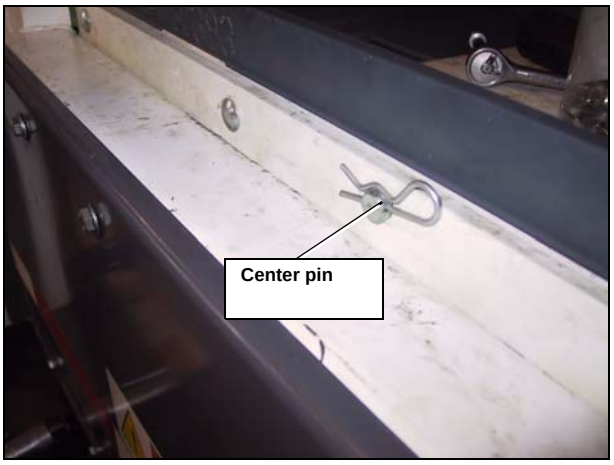
6. Reinstall blocks (one on each side).

7. Reinstall the upper part of both side rails. Do not install the center pin at this point.

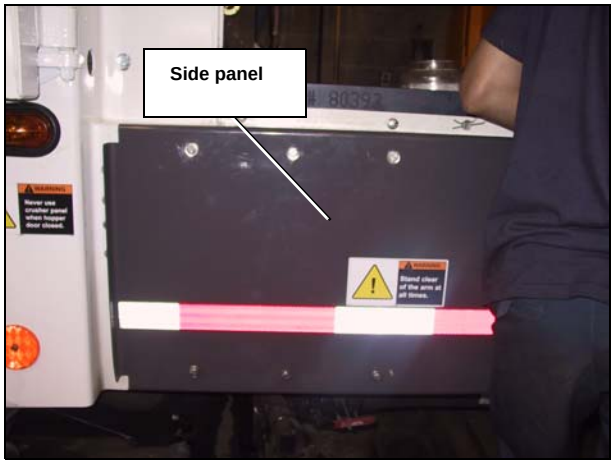


8. Reinstall plastic deflectors on each side of the hopper and place the corresponding metallic parts just behind them. Put the center pins (one on each side) back in place.

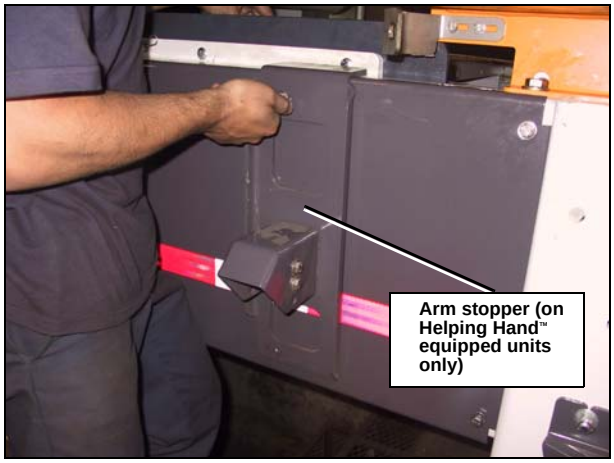




9. Reinstall both side panels without tightening the bolts.



10. If the truck is equipped with a Helping Hand™, reinstall the arm stopper on the right-hand side panel by using the marks previously traced. Do not over tighten the bolts.



11. Tighten the side panels (one on each side) and arm stopper bolts.

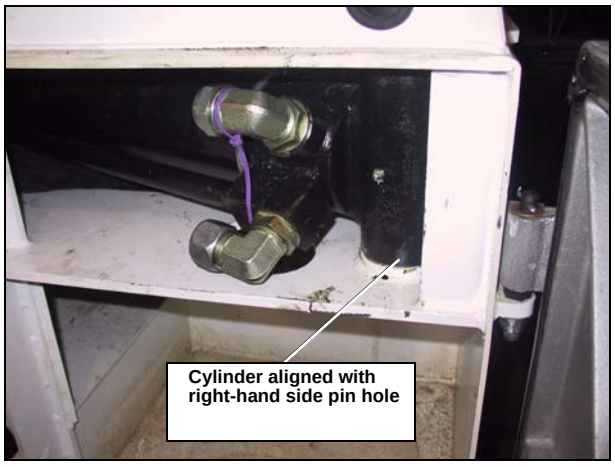
12. Loosen the packer cylinder hoses in order to pull them manually.

13. Perform steps 5 to 14 of the Packer Cylinders Reinstallation procedure (refer to “Packer Cylinders Reinstallation” on page 58).
14. Reinstall the follower panels on the packer (refer to “How to Separate the Follower Panels from the Packer” on page 42).

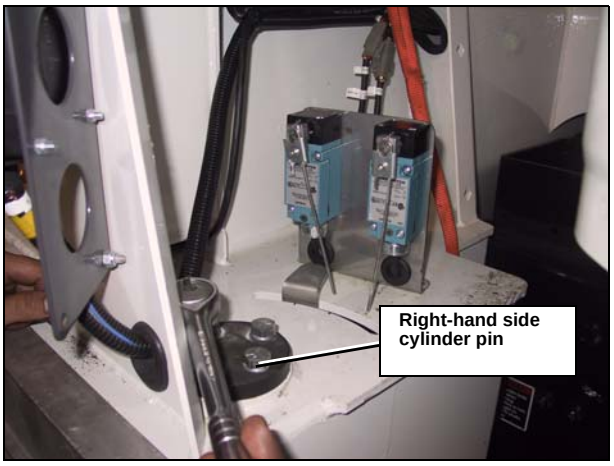
Packer Cylinders Reinstallation

To reinstall the packer cylinders, perform the following procedure:

1. Insert the right-hand side cylinder in the right-hand side cleaning trap door. Align the cylinder with the right-hand side pin hole.



2. Reinstall the right-hand side cylinder pin and tighten up the bolts.



3. Reinstall the limit switch target bracket without tightening it. The limit switches and the target will have be readjusted after the cylinder retinstallation.

4. Reinstall the right-hand side cylinder hoses, which were previously identified.

   To do so:

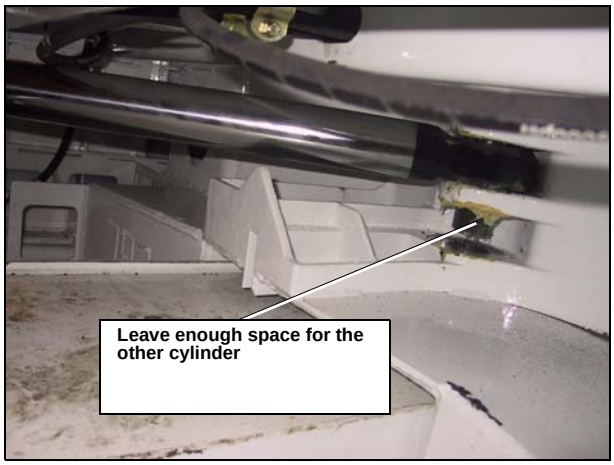
   - Place a bucket under the hoses in order to collect the hydraulic oil.
   - Remove hoses’ caps and install the hoses.

5. Extend the right-hand side cylinder under the packer by using the green and red buttons. You may need to use the yellow button to retract the cylinder.

⚠ WARNING

OIL WILL COME OUT OF THE CYLINDER HOSES WHEN YOU PULL THE CYLINDER. MAKE SURE THERE IS ENOUGH CLEARANCE AROUND THE CLEANING TRAP DOORS WHEN PERFORMING THIS STEP.

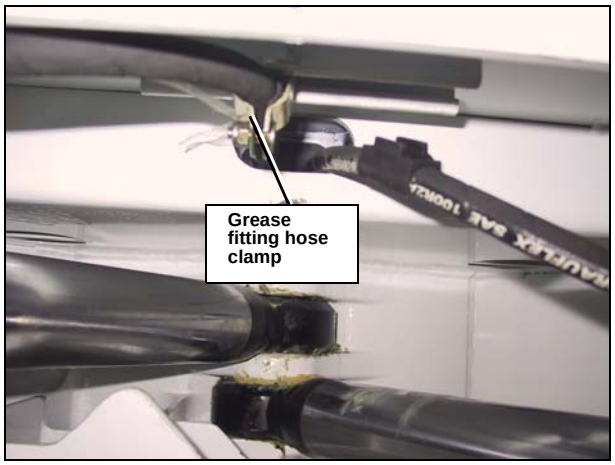
6. Align the packer cylinder with the pin hole.
7. Insert the pin halfway. That way, there will be enough space to insert and align the second cylinder.



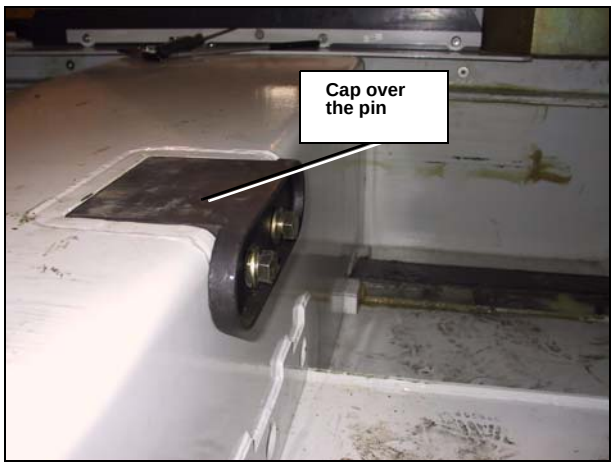
8. Tighten the right-hand side cylinder hoses.

9. Perform steps 4 to 6 for the left-hand side cylinder.
10. Completely insert the cylinder pin once the left-hand side cylinder is aligned with the pin hole.

11. Tighten both grease fitting hoses and reinstall their clamps (2) under the packer.



12. Reinstall the cap on the cylinder pin.



13. Tighten the left-hand side cylinder hoses.

14. Fully retract the packer.
15. Reinstall the hopper divider on the packer (co-mingle units only).
16. Properly adjust packer limit switches' target.
17. Reinstall the transversal beam and the teflon scraper.

    To do so:

    - Insert the teflon in the beam.
    - Slide the beam over the packer.
    - Install beam retaining bolts (4).

18. Reinstall plastic deflectors on both sides of the hopper.
19. Reinstall the follower panels on the packer (refer to "How to Separate the Follower Panels from the Packer" on page 42).

Packer Scraper Adjustment

When there's a ¼-inch gap between the tunnel and the scraper, adjustment or replacement of the scraper is necessary.

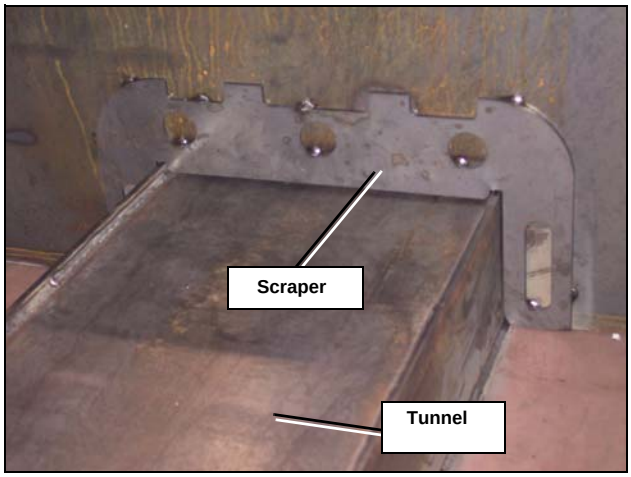


Figure 62. **Packer scraper**

To install the packer scraper:

1. Place the scraper over the tunnel (see Figure 62. "Packer scraper").
2. Place two1/8-inch shims on the tunnel, below the scraper (one on each end).

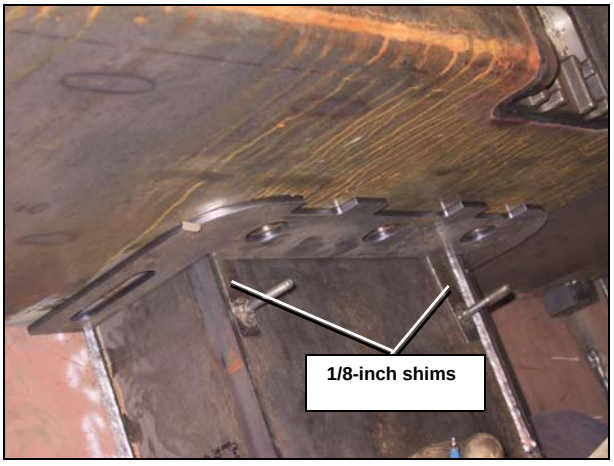


Figure 63. **Shims below the scraper**

3. The bottom of the scraper must be flush with the bottom of the packer.

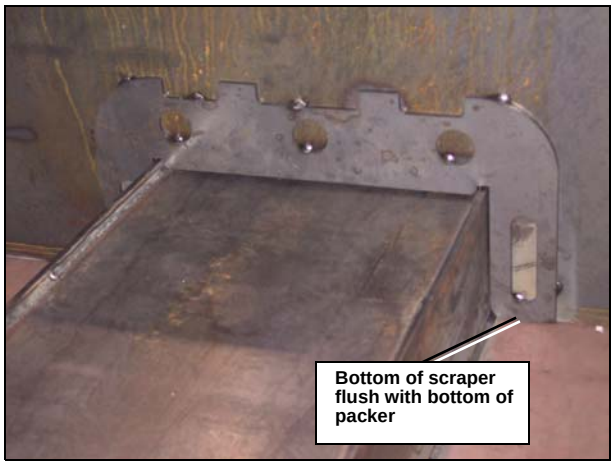


Figure 64. **The bottom of the scraper must be flush with the bottom of the packer**

Note: ***If the scraper is not flush with the bottom of the packer once the shims are in place, buff the bottom of the scraper.***

4. Make sure that the scraper doesn't make contact with tunnel upper edges.

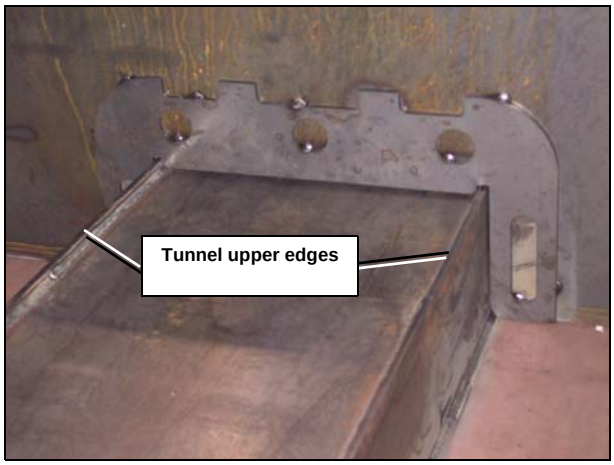


Figure 65. **Make sure that the scraper doesn't make contact with tunnel upper edges**

5. Once all the proper adjustments are done, tack weld the scraper in place.

Figure 66. **Tack weld the scraper in place**

IMPORTANT

IF YOU REPLACE THE SLIDING SHOES WITHOUT REMOVING THE PACKER, DO NOT REMOVE THE SCRAPER.

Floor Guide Replacement Procedure

After years of hard work, the floor guides inside the hopper may require replacement. The following step-by-step procedure will help removing and replacing the floor guides inside the hopper.

To replace the floor guide, apply the following procedure:

1. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to “Lockout/Tagout Procedure” on page 7).
2. Start the engine and engage the hydraulic system.
3. Disable the speed-up system on the console (Figure 67. “In-cab console from right-hand side driving position”) by pulling out the **SPEED-UP INHIBITOR** switch.

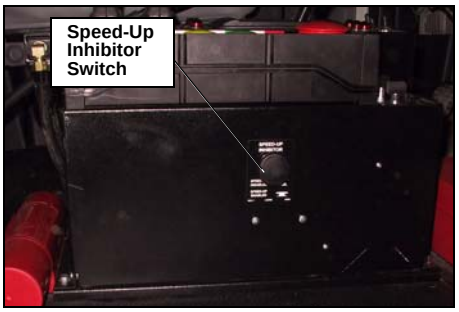


Figure 67. **In-cab console from right-hand side driving position**

4. Using the selector switch on the console, select the right-hand side packer control station (Figure 68. “Packer control selector”).

Note: This switch exists only on vehicles equipped with multiple packer control stations.

Figure 68. **Packer control selector**

5. Extend the automated arm (if equipped) a few feet away from the body.
6. Remove the packer from the hopper (refer to “Packer Cylinder Inspection Procedure” on page 42).
7. Retract the hydraulic cylinders and move them out of the way.
8. Mark the exact location of both floor guides to ensure the proper positioning of the new ones.
9. Using a grinder or cutting tool, remove the floor guides by cutting the weld.
10. Clean the hopper floor and wall surfaces from any metal shavings or dirt.
11. Position new guides onto the hopper floor.

Note: Do not tack or weld at this time.

12. Using a proper lifting device, bring the packer over the hopper.
13. Lower the packer on the floor guides, and align them with the packer.
14. Once the packer is positioned on the floor guides, center the packer (and the floor guides) in the hopper, making sure they are parallel to the hopper wall (see Figure 69. “View from behind the packer when fully extended”).

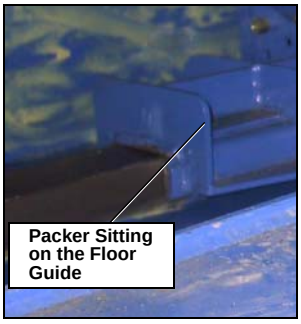


Figure 69. **View from behind the packer when fully extended**

15. Tack weld the floor guides to the hopper floor (see Figure 70. “Floor guide top-view”).

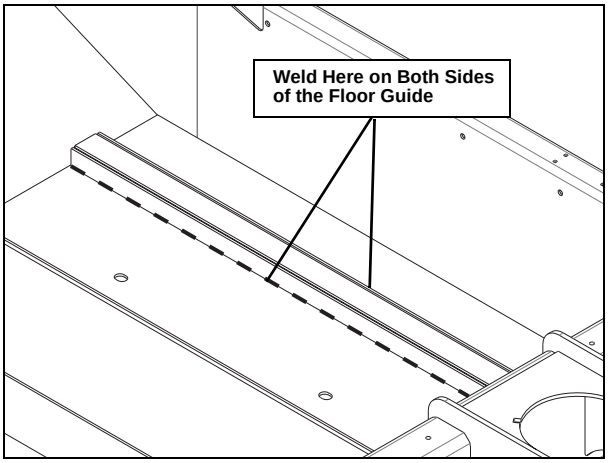


Figure 70. **Floor guide top-view**

16. Adjust the packer wipers on both sides (UHMW plastic).
17. Connect the packer cylinders (refer to “Packer Cylinder Inspection Procedure” on page 42).
18. *Slowly* retract the packer under the rails until the end of the packer stroke. Keep the packer centered with the hopper, re-install the side rails then tack the floor guides to the hopper floor (see Figure 71. “Floor guide end-view”).

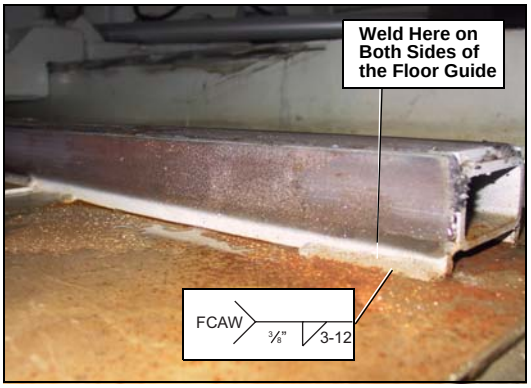


Figure 71. **Floor guide end-view**

19. Extend the packer to the middle of the hopper. Verify the alignment with the hopper side rails.
20. Stitch weld the floor guides going towards the back of the vehicle.
21. Fully extend the packer to finish welding under the packer.
22. Check for proper operation.

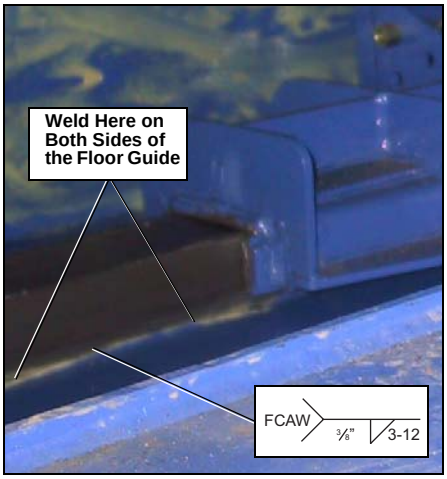


Figure 72. **Floor guide end-view**

Teflon Scraper Replacement

To replace the scraper located under the floating panel, apply the following procedure (for trucks not equipped with a Helping Hand™):

1. Start the engine and engage the hydraulic system.
2. Disable the speed-up system on the console (see Figure 73. “In-cab console from right-hand side driving position”) by pulling out the **SPEED-UP INHIBITOR** switch.

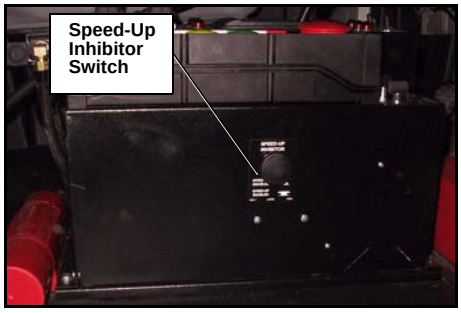


Figure 73. **In-cab console from right-hand side driving position**

3. Using the selector switch on the console, select the right-hand side packer control station (see Figure 74. “Packer Control Selector”).

Note: This switch exists only on vehicles equipped with multiple packer control stations.

Figure 74. **Packer Control Selector**

4. Fully extend the packer.
5. Press the red emergency stop button to keep it at this position.

⚠ DANGER

NEVER CLIMB IN THE HOPPER WHILE THE ENGINE IS RUNNING.

6. Disengage the hydraulic pump and stop the engine.
7. Pull on the floating panel locking pin.

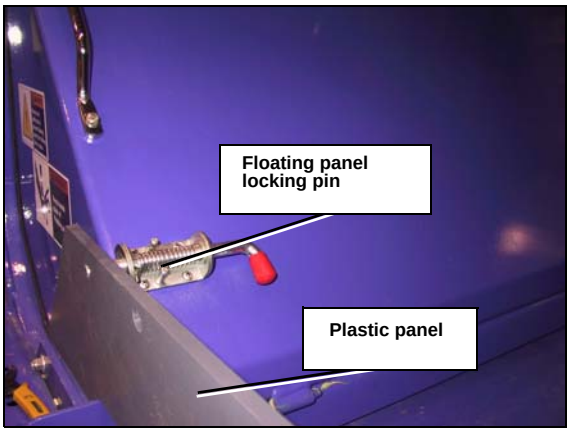


Figure 75. **Floating panel locking pin that retains the side panel**

⚠ CAUTION

THIS PIN IS A MANDATORY SAFETY DEVICE, PREVENTING FROM BEING CAUGHT AT THE PINCH POINT, WHEN MANIPULATING THE FLOATING PANEL.

⚠ WARNING

INSTALL THE FLOATING PANEL SAFETY PIN TO PREVENT HANDS OR FINGERS FROM BEING CAUGHT AT THE PINCH POINT OF THE FLOATING PANEL (SEE FIGURE 78. "TILTED FLOATING PANEL" FOR DETAILS).

8. Pull on the other locking pin at the other end of the side panel.

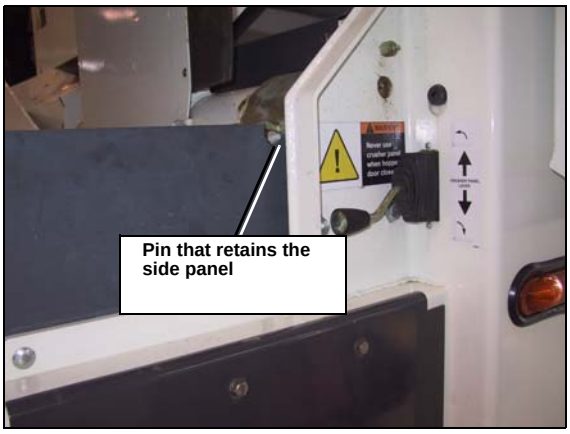


Figure 76. **Locking pin that retains the other end of side panel**

9. Remove the side panel (right).

Figure 77. **Side panel removal**

10. Tilt the floating panel and slide it out by the right-hand side of the hopper.

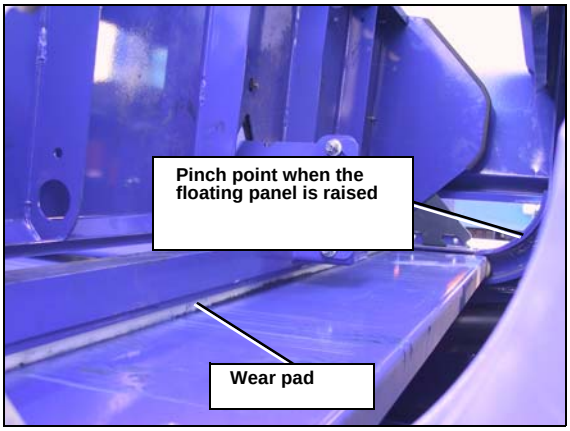


Figure 78. **Tilted floating panel**

11. Remove the four bolts (two on each side) that retain the beam located under the floating panel.
12. Remove the beam and then the scraper.

Note: The scraper is not bolted on the beam.

13. Check the compression rubber located inside the beam (under the scraper). Replace it if needed.
14. Insert the new scraper.
15. Reinstall the four beam bolts.
16. Check for even contact of scraper with the packer and follower panels.

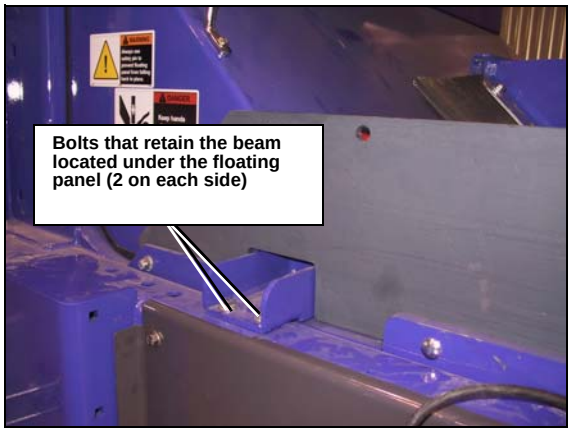


Figure 79. **Bolts that retain the beam**

17. Put the floating panel back in place.
18. Reinstall the plastic panel.

To replace this scraper on a truck equipped with a Helping Hand™, apply the following procedure:

Note: When the truck is equipped with a Helping Hand™, there's no floating panel.

1. Start the engine and engage the hydraulic system.
2. Disable the speed-up system on the console by pulling out the **SPEED-UP INHIBITOR** switch.
3. Using the selector switch on the console, select the right-hand side packer control station.

Note: This switch exists only on vehicles equipped with multiple packer control stations.

4. Fully extend the packer.
5. Fully extend the arm to clear the hopper area.

⚠ DANGER

NEVER CLIMB IN THE HOPPER WHILE THE ENGINE IS RUNNING.

6. Disengage the hydraulic pump and stop the engine.
7. Remove the protective cover by unscrewing all the bolts that retain it.

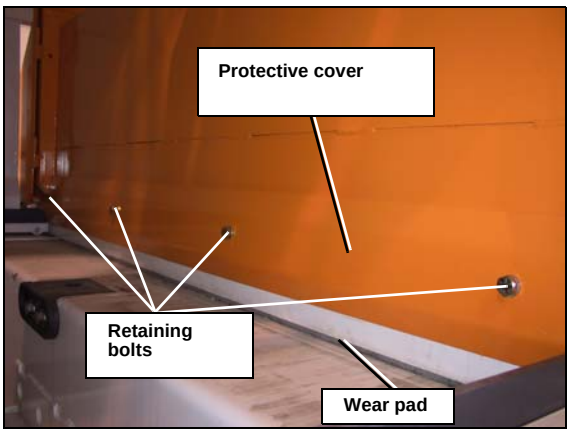


Figure 80. **Protective cover (on Helping Hand™-equipped units)**

8. Remove the four bolts (two on each side) that retain the beam located under the protective cover.
9. Remove the beam by sliding it out.
10. Remove the scraper.

Note: The scraper is not bolted on the beam.

11. Replace the rubber located inside the beam (under the scraper).
12. Insert the new scraper.
13. Put the beam back in place.
14. Reinstall the beam four retaining bolts.

Figure 81. **Bolts that retain the beam (two on each side)**

15. Check for even contact of scraper with the packer and follower panels.
16. Once it's done, reinstall the protective cover.

TAILGATE AND BODY HINGES MAINTENANCE

Tailgate Locking Mechanism (Single Tailgate)

It is important to lubricate the tailgate hinges and the locking mechanism with multipurpose grease as per the lubricating schedule (refer to “Recommended lubricants” on page 97).

⚠ CAUTION

EXCESSIVE WEAR MIGHT BE DANGEROUS AND HARMFUL TO THE PROPER WORKING ORDER OF THE TAILGATE.

Also, inspect the weld around hinges. The proper working order of the following components is also to be checked (Figure 85. “Tailgate locking components” to Figure 88. “Body-to-chassis left hinge”):

- Tailgate hydraulic cylinders.

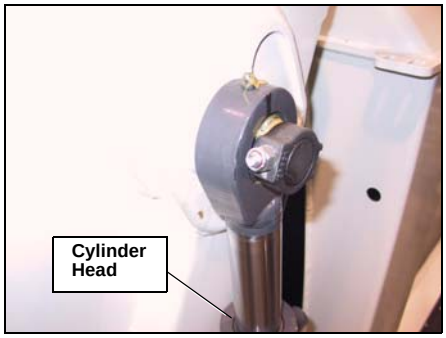


Figure 82. **Right-hand side tailgate cylinder**

- Cylinder retaining bolts and circlips.

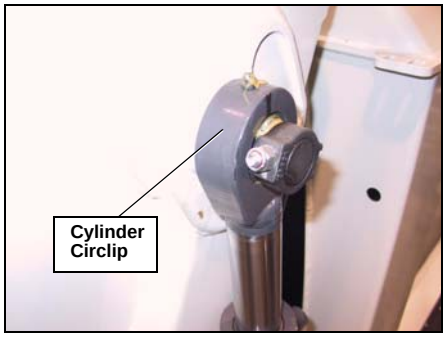


Figure 83. **Tailgate left cylinder circlip**

- Tailgate hinges and pins.

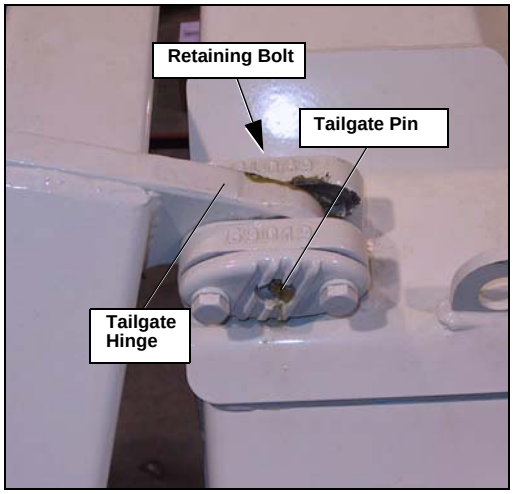


Figure 84. **Right side tailgate hinge and pin**

- Wear on the locking mechanism.

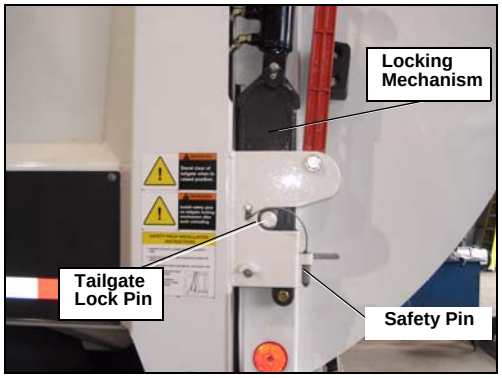


Figure 85. **Tailgate locking components**

- Wear on the tailgate lock pins.
- Tailgate rubber seal.

Figure 86. **Tailgate rubber seal**

Tailgate Seal and Hinges Inspection

Tailgate hinge pins must not have any sign of wear or metal fatigue.

The retaining bolts must be kept tight (Figure 84. “Right side tailgate hinge and pin”).

The tailgate rubber seal must not show any sign of damage. Replace the seal as needed (Figure 86. “Tailgate rubber seal”).

Body/Chassis Hinges Inspection

Monthly lubrication of the body-to-chassis hinges should be done. Also, inspect for cracks or corrosion. Any crack must be reported, and repaired by qualified personnel. Contact LabriePlus for technical support, if required.

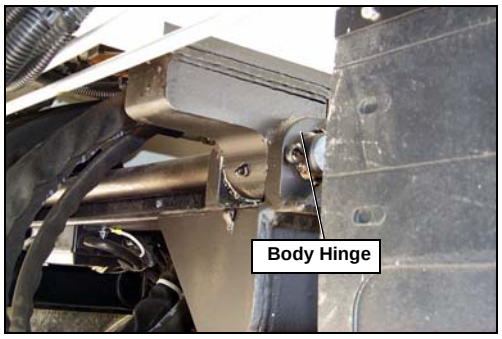


Figure 87. **View from behind the rear-right mud guard**

DANGER

DO NOT OPERATE THIS EQUIPMENT IF THERE ARE ANY SIGNS OF DAMAGE OR INCOMPLETE REPAIRS.

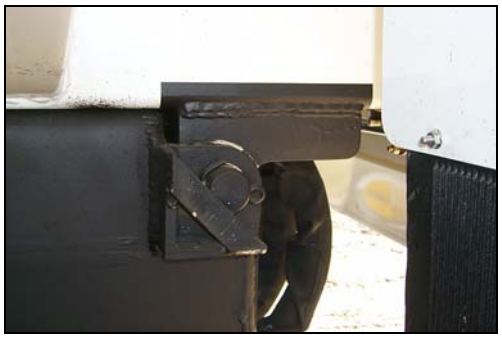


Figure 88. **Body-to-chassis left hinge**

Body Raised Limit Switch

A limit switch located on the truck chassis (Figure 89. “Body raised limit switch”) activates the backup alarm and a warning buzzer sounds as soon as the body is about one foot above the chassis. Adjust the limit switch accordingly.

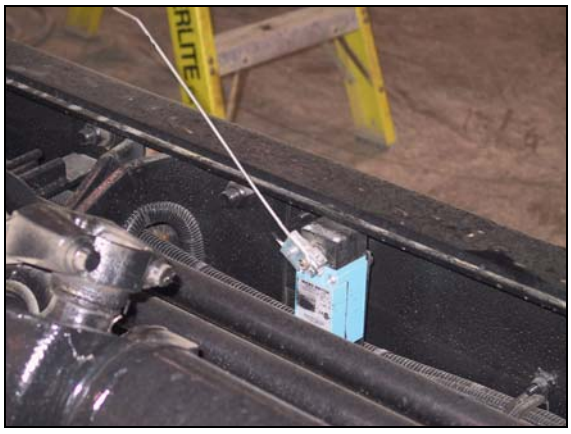


Figure 89. **Body raised limit switch**

This safety feature is provided to warn people around, that the truck is unloading and to tell the operator that the body is still raised.

DANGER

APPLY THE LOCKOUT/TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

Tailgate Limit Switch Adjustment

Non-comingle Expert(t) 2000™ units are equipped with a limit switch located on top of the left-hand side tailgate cylinder (Figure 90. “Left-hand side tailgate cylinder”). When the tailgate latches are unlocked, the cylinder releases the limit switch lever that activates the backup alarm and a warning buzzer inside the cab.

As the cylinder head is moving down, the limit switch trigger lever is released, and the warning buzzer and backup alarm should be heard.

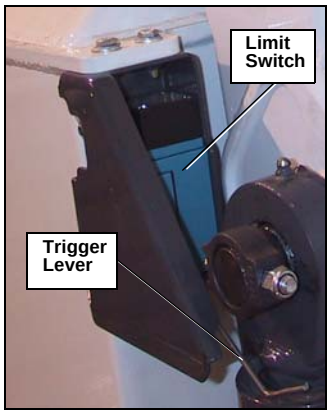


Figure 90. **Left-hand side tailgate cylinder**

To adjust the limit switch located next to hydraulic cylinder (tailgate unlocked), apply the following procedure:

1. Start the engine and engage the hydraulic system.
2. Open the tailgate using the lever on the console and listen if the warning buzzer and the backup alarm start to beep as you move the lever.
3. Adjust the trigger lever of the limit switch so the limit switch will “click”, as the cylinder head is moving down (Figure 90. “Left-hand side tailgate cylinder”).

⚠ WARNING

MAKE SURE THE AREA IS CLEAR BEHIND OR NEAR THE TAILGATE WHEN ADJUSTMENT PROCEDURE IS CARRIED OUT.

A proximity switch may also be used to trigger the backup alarm and warning buzzer in the cab (tailgate unlocked).

Note: The location and the procedure to adjust the proximity switch may differ from the standard limit switch.

The Tailgate unlocked proximity switch will be located behind the left-hand side tailgate locking mechanism. This proximity switch requires no other maintenance than checking the distance between the metal target and the face of the proximity switch. The proximity switch must be adjusted to 3/16” of an inch from the metal plate (Figure 91. “Proximity switch side-view” & Figure 92. “Proximity switch front-view”).

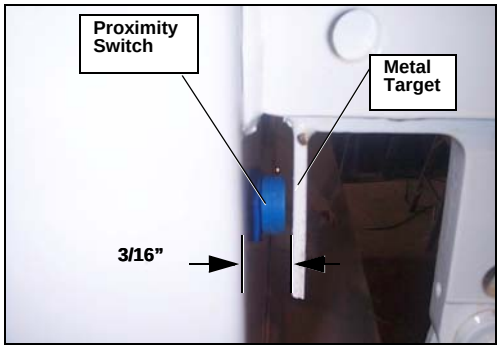


Figure 91. **Proximity switch side-view**

Figure 92. **Proximity switch front-view**

Tailgate Fully Open Proximity Switch

An *optional* proximity switch is also available to warn the operator that the tailgate is fully open. When installed, this proximity switch is located next to the left-hand side tailgate hinge. When the tailgate reaches its fully open position, the optional fully open switch will trigger a red light on the console.

Figure 93. **Tailgate fully open proximity switch (optional)**

Glass Compartment Limit Switch

On trucks equipped with a glass compartment, there's a limit switch that triggers an alarm in the cab and outside the truck as soon as the glass compartment is raised.

Always make sure that the limit switch lever is released as soon as the glass compartment is raised. If it's not the case, adjust the limit switch lever properly.

Figure 94. **Glass compartment limit switch location**

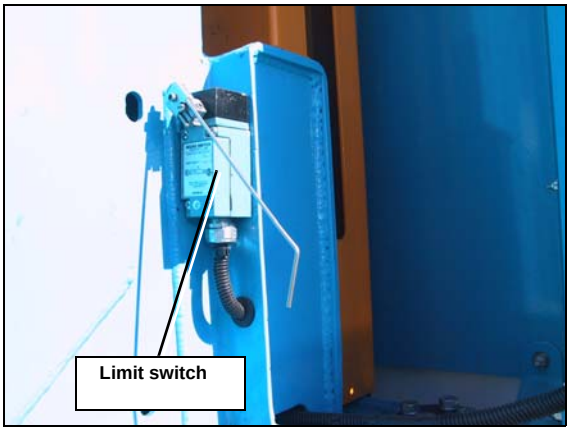


Figure 95. **Glass compartment limit switch**

HYDRAULIC SYSTEM MAINTENANCE

In order to keep the hydraulic system efficient and reliable, the following care must be taken:

- For new vehicles, change the return filter element after 50 hours of use, and twice a year afterwards (refer to “Filter Element Replacement Procedure” on page 78).
- Clean the strainer inside the tank after the first 50 hours of use, and once a year afterwards (refer to “Strainer Cleaning Procedure” on page 79).
- Hydraulic oil must be replaced at least once a year or when contaminated (refer to “Hydraulic Oil Replacement Procedure” on page 77).
- When maintenance is carried out, protect all hoses, fittings, pipes or any other areas that would allo debris to eventually get into the oil and contaminate it. Use plugs to block hoses that are not connected.
- Monthly inspect and adjust (as needed) the oil pressure of the hydraulic system (refer to “Hydraulic Vane Pump Systems (single pump)” on page 83).
- On a daily basis, inspect the hydraulic lines and connections for leaks, and correct as needed.
- Inspect the pump for leaks or unusual noise.
- The ball valve on the hydraulic tank must be completely open before engaging the pump or starting the engine (refer to “Prior to start up” on page 18).
- When draining the hydraulic oil from the system — e.g. when replacing the hydraulic oil — the hydraulic system must first be filled with hydraulic oil; the hydraulic pump must then be removed and filled individually with hydraulic oil. This procedure will prevent the pump from running dry, and therefore burning out.

Hydraulic Cylinder Inspection Procedures

To maintain proper working order and extend cylinder life, it is essential to inspect the hydraulic cylinders at least once a month. Make sure that connections between all hoses and pipes are tightened, and there are no oil leaks.

DANGER

APPLY THE LOCKOUT / TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

Check that all cylinder caps are firmly tightened and there are no leaks. All leaks must be repaired immediately by replacing damaged or faulty cylinders. Lubricate and inspect all cylinders’ mounting points (pins, retaining bolts, etc.).

WARNING

MAKE SURE THE BALL VALVE ON THE SUCTION LINE IS COMPLETELY OPEN BEFORE ENGAGING THE HYDRAULIC SYSTEM.

Packer Cylinders Internal Leak Detection

An internal leak is caused by a damaged seal inside the hydraulic cylinder. Because the cylinder is leaking oil inside (bypassing), a certain amount of pressure is lost, reducing the cylinder efficiency and its capacity to push or pull.

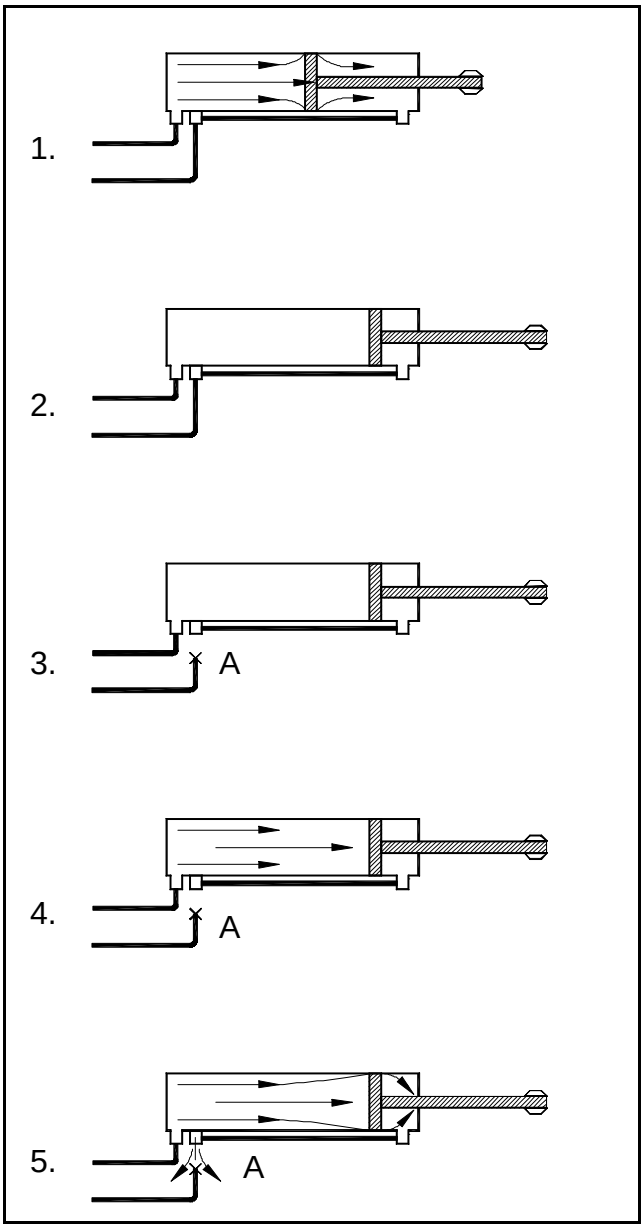


Figure 96. **Internal leak detection for packer cylinders**

If the packer cylinders are bypassing, the seal inside the cylinders may require to be replaced. If an internal leak is suspected, apply to following procedure to verify it.

To detect an internal leak on a packer cylinder:

1. Apply all safety measures to ensure safety around the vehicle at all times.
2. Ensure that the parking brake is applied.
3. Pull out the Emergency Stop button (red).
4. Start the engine and engage the hydraulic pump.
5. Fully extend the packer cylinders.
6. Disengage the hydraulic pump.
7. Disable the fully extend limit switch, by removing the arm of the limit switch. This will prevent the packer from returning to its initial position.
8. Disconnect hose “A” and install a plug at the end of it
9. Engage the hydraulic pump.
10. Press on the green button and see if oil is leaking from port “A”, then press on the Emergency stop button.
11. If oil leaks from port “A” when pressure is applied, this could mean there is an internal leak.
12. Replace or repair the cylinder.

Note: ***It should be necessary to do the procedure in retract position.***

Main Hydraulic Valve

The Expert(t) 2000™ side-loading unit is equipped with a directional control valve which is assembled as follows from top to bottom (see Figure 97. “Main hydraulic valve” and Valve Section Description Table on next page).

For further details, refer to the hydraulic diagrams provided with the truck and the Parts Catalog.

Note: Configuration of the main valve may change depending on what options are installed on the vehicle.

To get more information regarding specific options, refer to the proper section of the manual included with the vehicle documentation or contact LabriePlus.

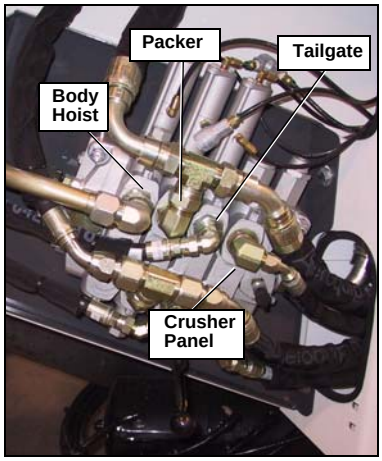


Figure 97. **Main hydraulic valve**

Standard Valve Section Description			
Valve Section	**Valve Type**	**Number of Positions**	**Operation**
Crusher panel	4 ways	3 positions	Manually operated
Tailgate	4 ways	3 positions	Operated with an air actuator or electrically controled (optional)
Packer	4 ways	3 positions	Operated with an air actuator or electrically controled (optional)
Body hoist	3 ways	3 positions	Operated with an air actuator or electrically controled (optional)

Cycle Time for All Hydraulic Functions

Engine at 1200RPM (vane pump)	
VANE PUMP	CYCLE TIME
CRUSHER PANEL	4-5 SEC.
TAILGATE	40-50 SEC.
PACKER	12-14 SEC.
BODY HOIST	55-65 SEC.

Hydraulic Tank Inspection Procedure

Verify that the oil in the reservoir is clean and always at the appropriate level. The oil must be clean and not colored.

Note: ***The hydraulic tank model varies according to cab type. When the cab is a cab over type, the truck is equipped with a saddle tank. Use the maintenance procedures below, for cab over units.***

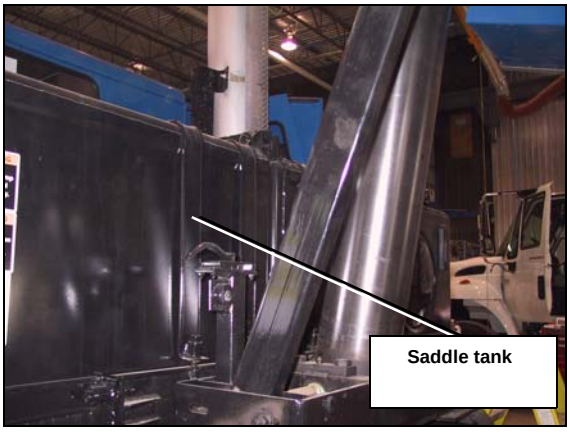


Figure 98. **Saddle tank on a cab over**

⚠ CAUTION

MAXIMUM TEMPERATURE FOR HYDRAULIC OIL IS 180°F.

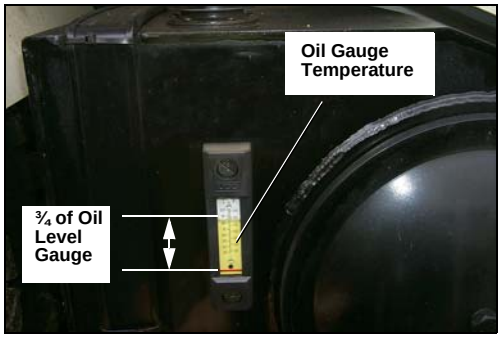


Figure 99. **Hydraulic Tank Gauge**

1. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to “Lockout/Tagout Procedure” on page 7).
2. Clean the suction strainer and replace the filter element inside the tank after the first 50 hours of service. Refer to “Strainer Cleaning Procedure” on page 79.
3. Change the return filter element, twice a year (after the first 50 hours). Refer to “Filter Element Replacement Procedure” on page 78.
4. Ensure the proper operation of the filler cap (Figure 100. “Hydraulic Tank (pressurized model)”). Make sure the filler cap has no obstruction.
5. The hydraulic oil must be clean and not colored and filled to the recommended level (level at ¾ of the oil level gauge, with all cylinders retracted).

Note: ***The entire system requires 50 to 60 gallons of oil.***

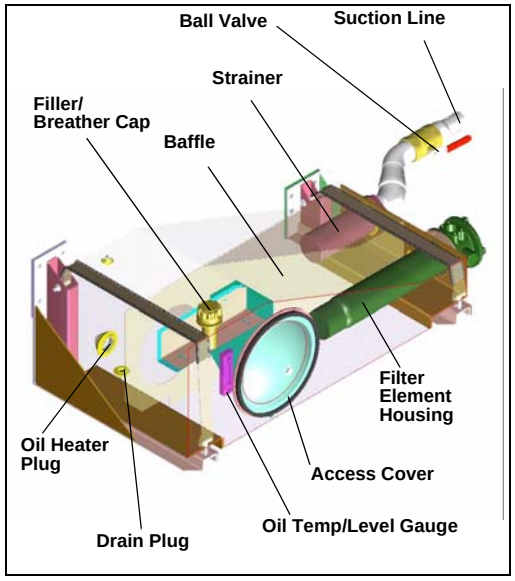


Figure 100. **Hydraulic Tank (pressurized model)**

Hydraulic Oil Replacement Procedure

⚠ WARNING

HIGHLY CONTAMINATED HYDRAULIC FLUID MUST BE CHANGED PROMPTLY TO AVOID ANY DAMAGE ON THE HYDRAULIC SYSTEM.

To change the hydraulic oil, apply the following procedure:

1. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to “Lockout/Tagout Procedure” on page 7).

⚠ DANGER

APPLY THE LOCKOUT / TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

2. Start the engine.
3. Engage the hydraulic pump.
4. Disable the speed-up system.
5. Retract all cylinders (Packer, crusher panel, tailgate etc.).
6. Disengage the pump.
7. Stop the engine.
8. Clean around the filler cap and remove it.

⚠ CAUTION

SOME HYDRAULIC TANKS ARE PRESSURIZED (3 TO 5 PSI). UNSCREW THE FILLER CAP SLOWLY.

9. Use a clean container with a minimum capacity of 60 US gallons to collect the oil.
10. To drop the oil, remove the drain plug under the tank.
11. Completely drain the tank.
12. Once the system is emptied, reinstall the drain plug, .
13. Remove and clean the strainer (once a year).
14. Change the return filter element (twice a year).
15. Open the access cover. (Refer to "Figure 101. Hydraulic tank (saddle-type)" on page 77 for details.)
16. Clean the inside of the tank of any metal particles or debris that may have accumulated at the bottom.
17. Reinstall the access cover.

Figure 101. **Hydraulic tank (saddle-type)**

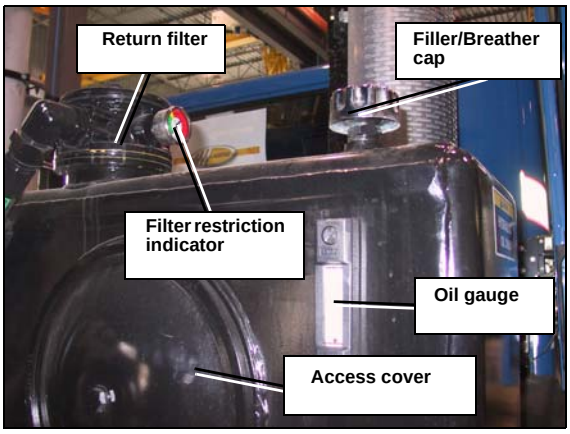


Figure 102. **Saddle tank components**

18. Refill the tank until oil reaches 3/4 of the oil gauge.

Note: Use a high quality oil, that performs best in cold weather (if applicable), such as Shell Tellus T32 or equivalent (refer to "Lubrication" on page 97) The whole system will require between 50 and 60 gallons.

⚠ WARNING

IT IS NOT RECOMMENDED TO MIX DIFFERENT BRAND NAMES AND/OR GRADES OF OIL IN THE SAME TANK.

Note: The oil must be clean and free of any contamination (dirt, metallic particles or sand etc.) The use of a filtering screen is strongly recommended while filling the tank with new oil.

19. Start the engine without pushing on the gas pedal. The engine **MUST** run at idle speed at least 5 minutes to make sure that there's no more air in the system. You can slowly raise the engine RPM only after 5 minutes. When you raise the RPM, always make sure that the pump doesn't make excessive noise.

⚠ WARNING

WAIT 5 MINUTES BEFORE INCREASING THE ENGINE RPM. FAILURE TO DO SO MAY CAUSE DAMAGES TO THE PUMP AND HYDRAULIC SYSTEM.

Filter Element Replacement Procedure

To protect the components of the hydraulic system, the return filter element must be changed after the first 50 hours of operation of the vehicle. Then, change the element twice a year.

The filter restriction indicator located at front of the tank (see Figure 103. "Filter restriction indicator") will indicate if the filter requires to be changed. Replace the filter when the indicator is in the yellow zone, before it reaches the red zone. This will keep the oil clean, extend component life expectancy and reduce failures.

Figure 103. **Filter restriction indicator**

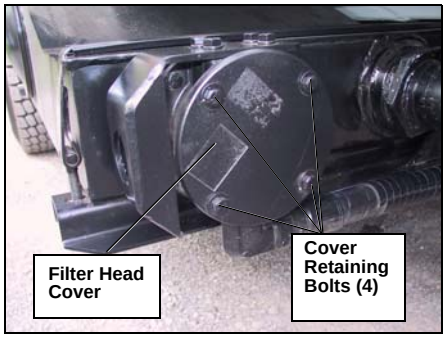


Figure 104. **Hydraulic tank's filter head cover**

To replace the hydraulic filter, apply the following procedure:

1. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to "Lockout/Tagout Procedure" on page 7).

DANGER

APPLY THE LOCKOUT / TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

2. Prepare a pan or a bucket to recuperate oil that will spill out of the filter housing (2 gallons of oil).
3. Remove the four (4) bolts of the filter head cover on the hydraulic tank (see Figure 104. “Hydraulic tank’s filter head cover”); this in-tank return filter system has a check valve that closes as you remove the cartridge therefore preventing the whole tank to from emptying.
4. Change the filter element with a new one (Figure 105. “Filter element”).

WARNING

CHANGE RETURN FILTER ELEMENT AFTER THE FIRST 50 HOURS OF OPERATION.

Figure 105. **Filter element**

5. Reinstall the filter head cover.

Strainer Cleaning Procedure

To clean the strainer, apply the following procedure:

1. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to “Lockout/Tagout Procedure” on page 7).

DANGER

APPLY THE LOCKOUT / TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

2. Extend all cylinders (packer, crusher panel, tailgate etc.)
3. Raise the body and install the safety prop.
4. Disengage the hydraulic pump.
5. Stop the engine.
6. Clean around the filler cap and remove it.

CAUTION

SOME HYDRAULIC TANKS ARE PRESSURIZED (3 TO 5 PSI). UNSCREW THE FILLER CAP SLOWLY.

7. Drain the hydraulic tank using the drain plug under the tank (Refer to “Hydraulic Oil Replacement Procedure” on page 77).
8. Once emptied, reinstall the drain plug (Figure 106. “Hydraulic tank”).

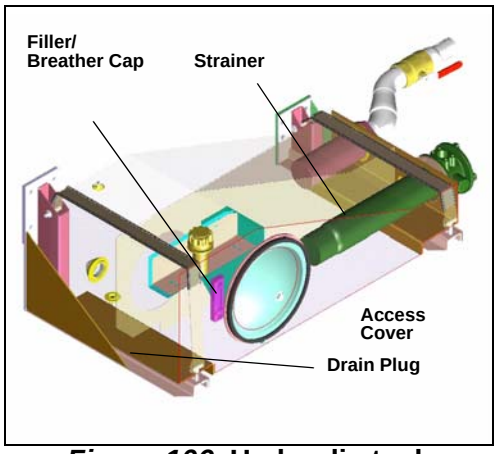


Figure 106. **Hydraulic tank**

9. Remove both hose clamps from the suction hose (Figure 107. “Suction hose”) and slide the hose over the pipe until it clears the ball valve (slide towards the front of the vehicle).

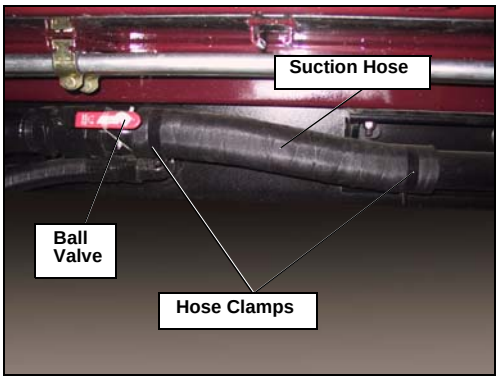


Figure 107. **Suction hose**

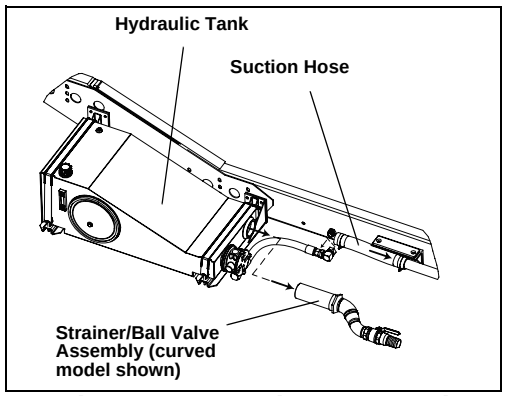


Figure 108. **Strainer removal**

Note: There's two types of strainer/Ball valve assembly: one is curved and the other is straight. The model installed depends on the truck configuration.

Figure 109. **Straight strainer/ball valve assembly**

Figure 110. **Curved strainer/ball valve assembly**

10. Disconnect the bulkhead of the return hose to allow the ball valve assembly to turn freely when the strainer is loosened (see Figure 111. "Bulkhead fitting" and Figure 113. "Strainer removal").

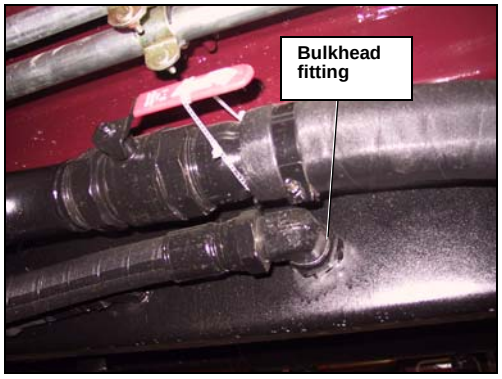


Figure 111. **Bulkhead fitting**

11. Remove the strainer from the tank port (see Figure 112. "Strainer/Ball Valve Assembly" and Figure 113. "Strainer removal"). The strainer has to be turned counterclockwise to be removed.

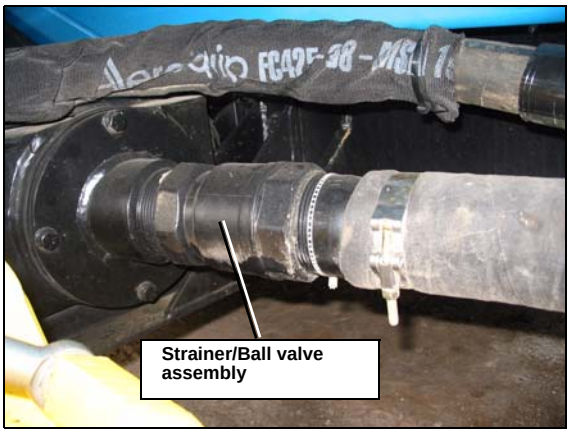


Figure 112. **Strainer/Ball Valve Assembly**

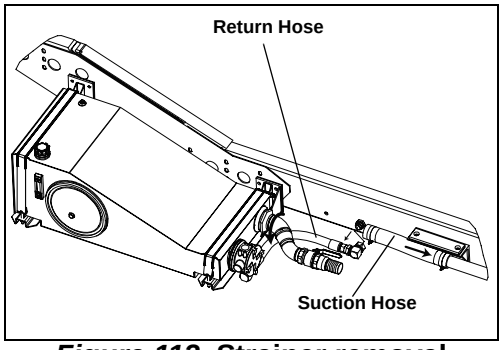


Figure 113. **Strainer removal**

12. Once the strainer is removed, clean it using solvant, and inspect for damage; replace as needed.
13. Apply thread seal compound on the strainer threads and re-install the strainer.
14. Refer to “Hydraulic Oil” on page 98 for filling up the tank and ensure there is no leak.

Pressurizing the Tank System

Note: This section applies only to trucks equipped with a pressurized hydraulic tank. Please note that the saddle-type tanks are not pressurized.

Cavitation is defined as the formation of air pockets in a moving fluid. The presence of air in the hydraulic oil produces cavitation inside the pump, generating excessive wear and noise. Cavitation forms after replacing hydraulic components or after flushing the hydraulic system.

To prevent cavitation in the hydraulic system, air pressure of 3 to 3.5 PSI is applied to the hydraulic tank. A gauge and a pressure regulator are installed to adjust the pressure inside the tank. This gauge is located inside the frame rail on the curb side of the chassis. This gauge can be accessed only when body is raised. To adjust the pressure regulator, turn its knob until the pressure reaches 3 to 3.5 PSI.

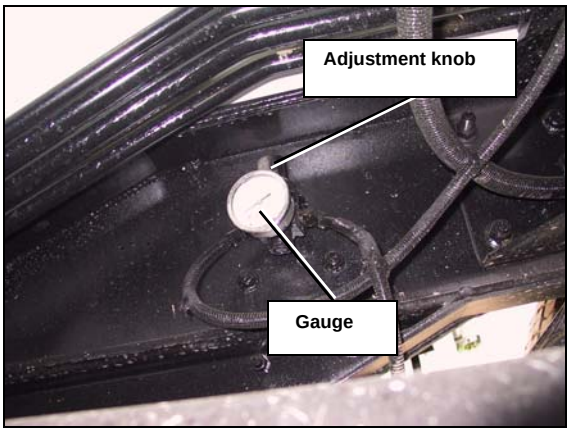


Figure 114. **Tank pressure regulator**

The hydraulic tank is also equipped with a 5-PSI relief valve and a 5-PSI pressurized screw on the filler cap.

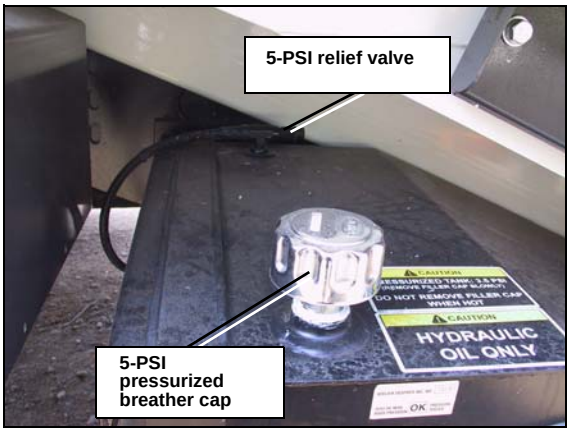


Figure 115. **Tank relief valve and pressurized cap**

⚠ WARNING

THE AIR PRESSURE INSIDE THE TANK SHALL NOT EXCEED 5 PSI.

⚠ DANGER

INSTALL THE BODY SAFETY PROP BEFORE PERFORMING ANY WORK UNDER THE BODY.

HYDRAULIC VANE PUMP SYSTEMS (SINGLE PUMP)

The Expert(t) 2000™ side loader is offered with a vane-type hydraulic pump. This high-efficiency pump can be used at lower RPMs than gear pumps, between 750 and 1200 RPM. This results in lower fuel consumption and less noise, which increase the operator's safety. It also can achieve higher pressure settings (3000 PSI).

The vane pump is a constant drive pump that can be linked with the engine crank shaft. On some units, the vane pump can also be linked to the PTO transmission, through a drive shaft or an extension shaft. In both cases, there are two possible configurations: Constant dive or hot shift.

In a constant drive system, the pump is synchronized with the engine. It uses an electric solenoid dump valve to send the hydraulic flow either to the system or back to the tank when not in use. The dump valve limits the flow to the main valve to 45 gallons per minute. The pump (PTO) switch found on the console controls this dump valve.

Figure 116. **Vane pump**

Figure 117. **PTO switch**

In a hot shift system, the pump is declutched when the PTO is disengaged. In that configuration, there is no coil on the dump valve. The dump valve will regulatte the hydraulic flow to 45 gallons per minute. The pump (PTO) switch found on the console controls the clutch engagement.

Main Relief Valve Pressure Adjustment (Vane Pump Systems)

It is recommended to check the pressure setting once every month in order to prevent damage to the equipment and to make sure it operates as efficiently as posssible. (i.e: keeping a good packing capacity). If the pressure is not at the recommended setting, the main relief valve has to be readjusted. Refer to the pressure adjustment table for proper settings according to the type of chassis.

Each of the hydraulic valve sections operates at a different pressure setting. Some are using a fixed work port relief (Figure 118. “Main hydraulic valve”) and others use system pressure. For details, refer to the hydraulic system schematics provided with the truck.

⚠ CAUTION

DO NOT ADJUST THE MAIN RELIEF VALVE TO A HIGHER PRESSURE THAN RECOMMENDED. THIS COULD DAMAGE THE PUMP AND OTHER COMPONENTS, AND VOID THE WARRANTY.

Starting from the right of the valve stack:

Crusher panel

Down: System pressure (refer to “Pressure Adjustment Table” on page 86)

Up: System pressure (refer to “Pressure Adjustment Table” on page 86)

Tailgate

Down: System pressure (refer to “Pressure Adjustment Table” on page 86)

Up: System pressure (refer to “Pressure Adjustment Table” on page 86)

Packer

Extend: System pressure (refer to “Pressure Adjustment Table” on page 86)

Retract: Work port relief at 1500 PSI at idle speed (to prevent shocks when packer changes direction)

Hoist

Down: To tank

Up: Work port relief at 1700 PSI at idle speed

Note: ***The work port relief cartridges are fixed and do not need adjustment. If pressures differ from those above by + or – 100 PSI, remove and clean the cartridges or replace them as needed.***

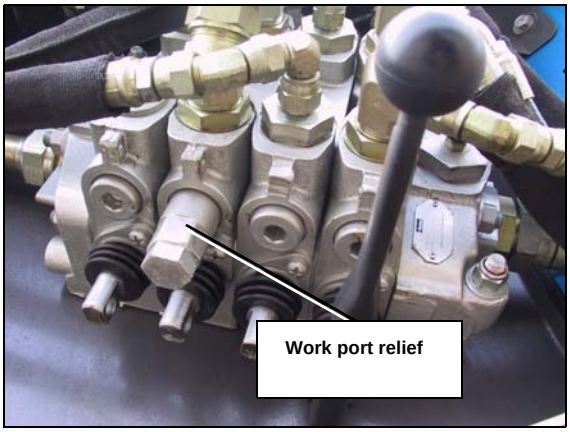


Figure 118. **Main hydraulic valve**

To adjust the main relief valve pressure, apply the following procedure:

⚠ DANGER

APPLY THE LOCKOUT / TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

1. Start the engine.
2. Engage the hydraulic system.
3. Using the selector switch on the console, select the right-hand side packer control station (Figure 119. “Packer Control Selector”). This switch exists only on vehicles equipped with multiple packer control stations.

Figure 119. **Packer Control Selector**

4. Make sure the speed-up inhibitor on the console is set to “Enable”.
5. Turn on the speed-up system (Bunny button) on the packer control station: Engine must be running at 1200 RPM before checking the pressure (refer to “Pressure Adjustment Table” on page 86).
6. Attach a 0-4000 PSI pressure gauge on the quick connect located on the hydraulic valve (see Figure 120. “Quick-connect pressure gauge”).

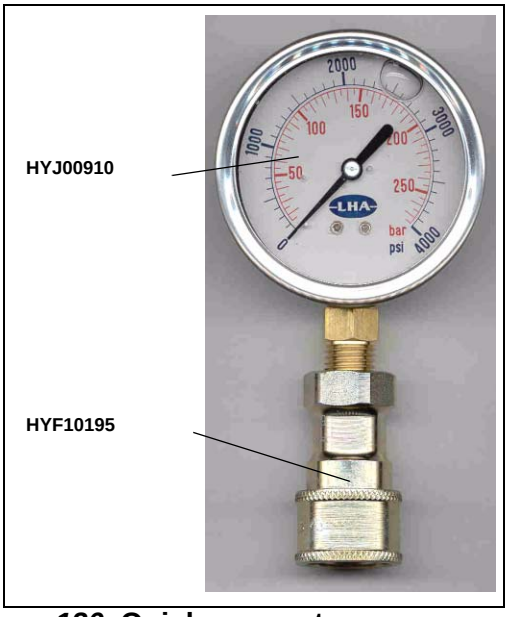


Figure 120. **Quick-connect pressure gauge**

7. Start the engine, engage the hydraulic system.
8. Raise the crusher panel until it reaches the end of its stroke. Hold the lever in order to make the pressure build up in the system.
9. Check the pressure at the same time on the pressure gauge.
10. Adjust the main relief as needed (Figure 121. “Main valve”) by loosening the lock nut and turning the adjustment screw clockwise to increase the pressure or counterclockwise to reduce it.

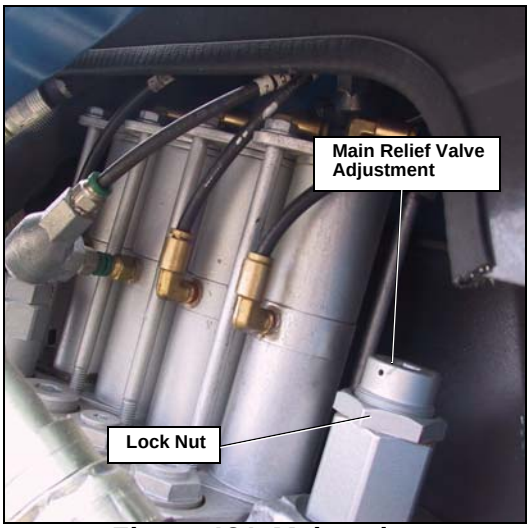


Figure 121. **Main valve**

11. When finished, hold the adjustment screw and tighten the lock nut.

Pressure Adjustment Table		
Pump	**Chassis**	**Main Relief Pressure (±50 PSI)**
VANE PUMP	6x4	3000 PSI@ 1200 RPM
	4x2	2000 PSI@ 1200 RPM

PRIMING A NEW PUMP

To prevent cavitation or air in the hydraulic system after installing a new pump or even when flushing the hydraulic system, make sure to prime the pump before starting the engine.

Apply the following procedure for any new installed pump:

1. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to “Lockout/Tagout Procedure” on page 7).

⚠ DANGER

APPLY THE LOCKOUT / TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

2. With the ball valve closed (Figure 122. “Hydraulic pump on front bumper”), fill the suction line before installing it on the pump.
3. Fill the pump housing with new oil.
4. Reinstall the pressure hose on the pump housing.
5. Open the ball valve on the suction line.
6. Crank the engine repeatedly — about five times — without letting it start in order to fill the suction hose and the pump with hydraulic oil and to push the air back into the tank.
7. Start the engine. You can slowly raise the engine RPM only after 5 minutes. When you raise the RPM, always make sure that the pump doesn’t make excessive noise.
8. Before putting the vehicle back in service, recalibrate the system pressures.

Note: For units equipped with vane pump.

Figure 122. **Hydraulic pump on front bumper**

Figure 123. **Ball valve in closed position**

BODY HOIST REPLACEMENT PROCEDURE

To replace the body hoist, apply the following procedure:

1. Remove the locknut located on top of the cylinder cover (Figure 124. “Top of the body hoist”).

Figure 124. **Top of the body hoist**

2. Lift the body by using a bridge crane or another **proper** lifting device..

⚠ DANGER

UNLOAD THE BODY PRIOR TO PERFORMING ANY REPAIRS.

3. Put the body safety prop in place.
4. Install another safety device that will securely block the body in place.

⚠ DANGER

ALWAYS MAKE SURE THE THE BODY IS SECURELY BLOCKED IN PLACE WHEN PERFORMING MAINTENANCE UNDER IT. WHEN THE BODY DOESN’T REST ON THE SAFETY PROP BECAUSE IT RAISED TOO HIGH.

5. Using a lifting device secure the cylinder to prevent the cylinder from tilting on the cab or falling onto the chassis.
6. Disconnect the hydraulic hose, then remove the fitting (Figure 125. “Hydraulic fitting”).

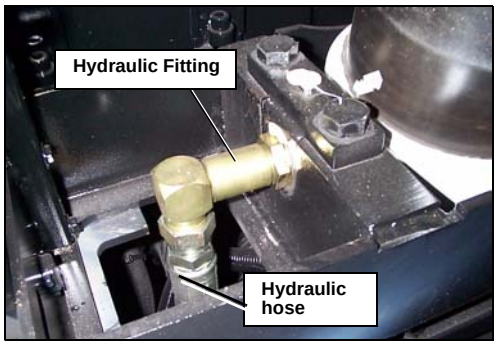


Figure 125. **Hydraulic fitting**

7. Remove the cylinder base pillow blocks (Figure 126. “Base pillow blocks”).

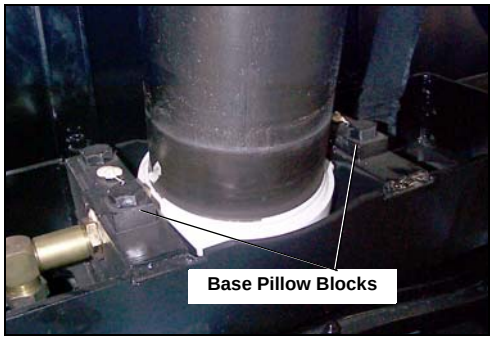


Figure 126. **Base pillow blocks**

8. Replace the cylinder by making sure that the new cylinder is placed in the same angle as the old cylinder.
9. Using a lifting device secure the new cylinder.
10. Reinstall the cylinder base pillow blocks on both sides.
11. Reinstall the hydraulic fitting and reconnect the hydraulic hose.
12. Remove the safety devices that block the body in place and the body safety prop.
13. Slowly lower the body until the cylinder reaches the top of the cover where the lock nut will be tightened.

Note: The cover must be aligned with the threaded rod at the top end of the cylinder.

14. When the threaded rod passes through the cover, install the locknut.

15. Lubricate the cover and the base pillowblocks (Figure 126. “Base pillow blocks” & Figure 127. “Cover pillow blocks”).

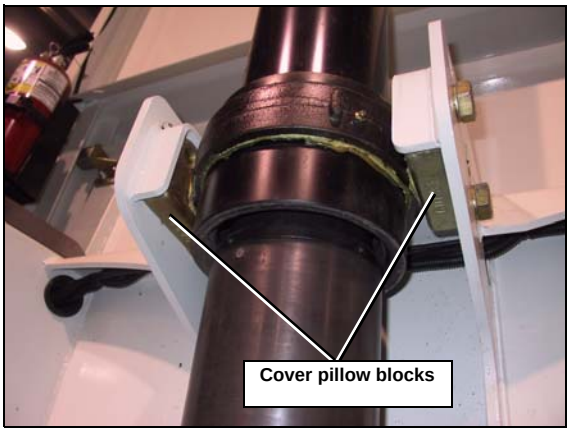


Figure 127. **Cover pillow blocks**

Note: ***Periodically verify the status of the hoist cylinder glands. With time, these glands can loosen and may cause the body to suddenly drop. If the glands loosen, tighten them back up.***

Speed-up System Maintenance

The speed-up system is provided with electronic engines. There are no mechanical components that require maintenance, since electronic signals from the engine are switched by one (1) or more relays (depending on the engine used), located and identified inside the console.

Refer to the electrical schematic provided with the truck if you have some problems with the **SPEED-UP** function. If the speed up system is not working properly, check the speed-up function relays (located in the console), the switch and the **SPEED-UP INHIBITOR** switch.

If the engine computer has been replaced or reprogrammed by the dealer, it may cause a **SPEED-UP** malfunction. If needed, please call LabriePlus to obtain the programming procedures.

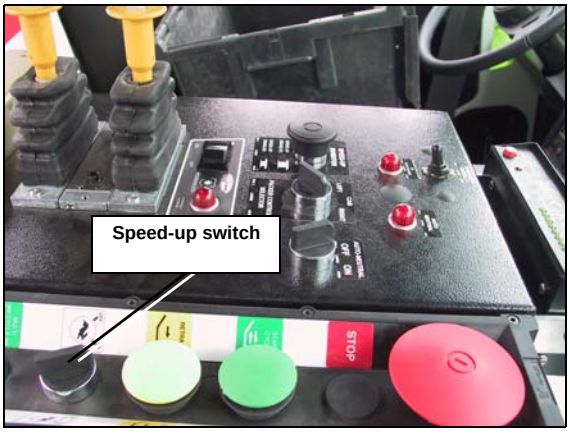


Figure 128. **Speed-up switch**

AIR SYSTEM MAINTENANCE

Air system is crucial for the brakes and body to operate with maximum efficiency. All air tanks on the chassis must be drained after each working day.

Note: The air tank model may vary

Figure 129. **Air tank**

Some units are equipped with an air dryer and/or alcohol evaporator (see Figure 129. “Air tank”). These devices are used to reduce water in the air system, preventing air components to rust or to freeze in cold weather.

To perform maintenance on the air dryer and alcohol evaporator, refer to the chassis manufacturer maintenance manual.

The main hydraulic valve which controls the body functions, is activated by air actuators (see Figure 130. “Air actuators”). When the tailgate or body lever on the console is moved, air pressure passing through the lever will activate the corresponding air actuator on the main valve; resulting in a movement of the hydraulic spool inside the valve.

This also occurs when the packer is activated; when pressing the green button on the packer control station, an electric signal is sent to the air-valve that controls the actuator on the main hydraulic valve.

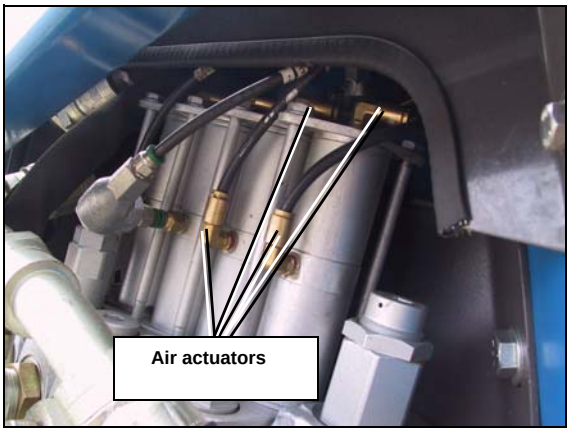


Figure 130. **Air actuators**

At the end of each day :

DANGER

APPLY THE LOCKOUT / TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

To bleed the water from the air filter bowl located on the cab console (see Figure 131. “In-cab console”):

1. Unscrew the drain cock.
2. Using a small rag in hand, collect the water that will come out.

Note: This water trap helps keep residual moisture out of the air system.

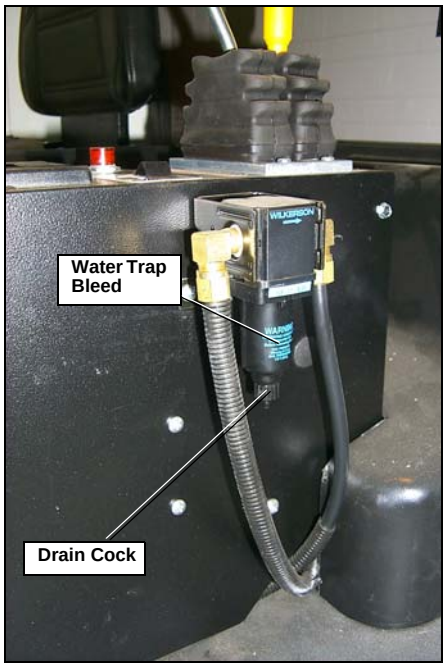


Figure 131. **In-cab console**

Note: The location of the water trap may vary according to the cab model.

Figure 132. **Example of another water trap location**

To avoid failure of the packer or other systems on the vehicle (especially under cold weather conditions), apply the following procedure:

DANGER

APPLY THE LOCKOUT / TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

1. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to “Lockout/Tagout Procedure” on page 7).
2. Drain all air tanks daily. Refer to “Air Tank Draining Procedure” on page 20 for details.
3. Change the cartridge in the air dryer regularly: On this type of equipment the compressor works all the time (frequent use of the brake system). This allows moisture to be injected into the air system. Refer to chassis manufacturer recommendations.

Note: For vehicles equipped with alcohol evaporator, please refer to the chassis manufacturer dealer for proper maintenance.

Figure 133. **Air dryer**

SURFACE FINISHING AND PAINTING

Type of surface finishing recommended:

Painting Procedure	
SURFACE PREPARATION	SANDBLASTING
PRIMARY COAT	ANTICORROSIVE EPOXY PRIMER
FINISHING COAT	TWO (2) COATS, INDUSTRIAL TYPE PAINT (OR EQUIVALENT)

Preventive Maintenance Chart					
Component/ System	**Daily**	**Weekly**	**Monthly**	**Each year**	**Page**
Hydraulic system	Check oil level in tank and refill if required. Check if the ball valve is open on the main tank. Check on ground for overnight leaks.				page 76 page 18

Preventive Maintenance Chart					
Component/ System	**Daily**	**Weekly**	**Monthly**	**Each year**	**Page**
Hydraulic system (continued)		Check cylinders, pump, control valve and system for leaks. Repair or replace if required.			page 72
				Replace hydraulic filter (twice a year)[1]	page 78
				Drain, flush, clean and refill strainer.	page 79
			Check pressure.		page 83
Hopper area	Clean traps on each side.				page 22
	Tilt down the floating panel and clean dirt under or behind the packer.				page 22

Preventive Maintenance Chart					
Component/ System	**Daily**	**Weekly**	**Monthly**	**Each year**	**Page**
Body and chassis	Perform a visual inspection of the rollers, hydraulic cylinders and cylinder pins, hoses, inspection of the pipes and connections, wear on the floor and side of hopper.				page 22
			Check for corrosion.		
	Keep the contact surfaces clean, between the body and chassis.				page 22
Limit switches		Proper adjustment of the limit switches is imperative.			page 31
	Check and clean area around switches.				
Lubrication	Lubricate packer and its accessories.				
	See lubrication chart on side of the truck				
Cart tipper	Grease and inspect all pivots.		Check pressure.		

Preventive Maintenance Chart					
Component/ System	**Daily**	**Weekly**	**Monthly**	**Each year**	**Page**
Steering wheel gearbox				Add light grease if required.[2]	
Wiring system				Check for damaged harnesses and/or bad connections.	
Operator's control	Check for proper operation.				
Air tanks	Drain.				page 90
Air system	Check for leaks.				page 90
Safety systems	Check for proper operation (tailgate alarm and special devices).				page 9

1. Replace return filter after the first 50 hours of operation
2. Applies only to cabs modified by Labrie Environmental Group

LUBRICATION

RECOMMENDED LUBRICANTS

Grease

Any lithium-base commercial multipurpose grease may be used.

⚠ CAUTION

BECAUSE OF ITS INTENSE USE, THE PACKER AND ITS ACCESSORIES MUST BE LUBRICATED EVERY WORKING DAY.

HOPPER LUBRICATION

Side rails and the exterior of the rollers should not be greased.

Grease causes sand and other abrasives to stick to it which leads to premature wear of the components.

When regularly collecting dry and/or abrasive refuse material, Labrie recommends the use of Shell Malleus® Gl Multi-Lube on the floor guides and hopper side walls on a weekly basis to provide optimal operation of the packer.

The following sections present detailed lubrication points on packer, crusher panel, cylinder pins, hopper door's headplate bearings and body chassis hinges.

For a vehicle equipped with special options such as the automated arm, glass compartment and cart tipper, refer to the lubrication charts or the section related to such options.

GLASS COMPARTMENT LUBRICATION

If your truck is equipped with a glass compartment, it is recommended to lubricate it once a week to ensure proper working order.

To lubricate the glass compartment:

Note: Use commercial all-purpose lithium based grease for all components EXCEPT on teflon pads, which require MAX-EP.

1. Grease the roller which tips up the cart by using grease (see "Grease" on page 97).

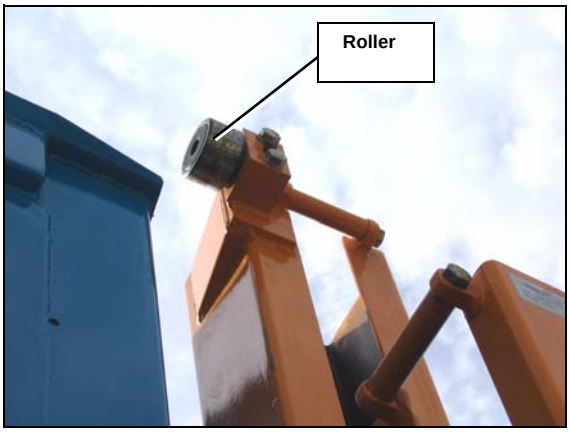


Figure 134. **Glass compartment roller**

2. Grease pins (head and foot) and pillow blocks of both glass compartment cylinders by using grease (see "Grease" on page 97).
3. Grease teflon pieces located in both glass compartment beams by using MAX-EP lubricant. To do so:
   - Make sure that the glass compartment is completely lowered.
   - Apply MAX-EP inside the upper part of the beams, on four sides.

Note: Never use grease on teflon pads. In case of emergency, you can use dishwashing liquid.

Figure 135. **Glass compartment beams**

- Apply MAX-EP on the longest teflon pad, located behind the glass compartment.

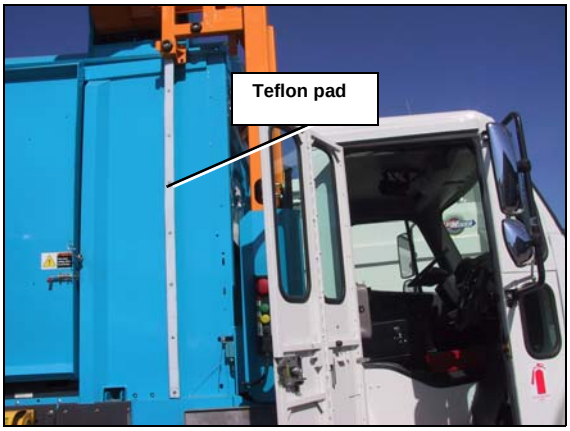


Figure 136. **Teflon pad located behind glass compartment**

- Raise the glass compartment high enough to clear the small teflon pad located on the left-hand side.

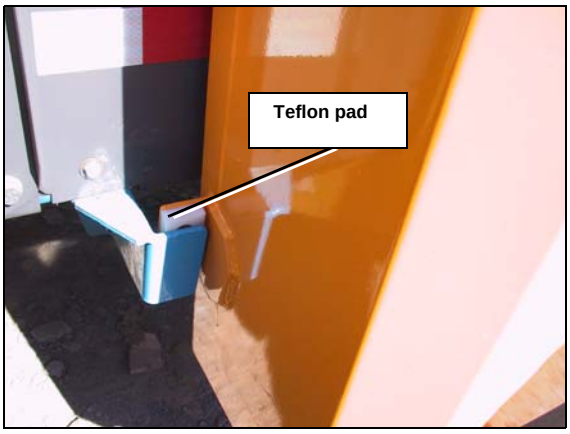


Figure 137. **Small teflon pad located on the L-H side of the glass compartment**

⚠ CAUTION

NEVER USE GREASE TO LUBRICATE TEFLON. THIS WILL JAM THE MOVING PARTS. ALWAYS USE MAX-EP LUBRICANT TO LUBRICATE TEFLON.

- Raise and lower the glass compartment a few times to lubricate all the teflon pads properly.

ENGINE OIL

Refer to the engine manufacturer maintenance manual for recommended type of oil.

HYDRAULIC OIL

⚠ DANGER

DO NOT MIX DIFFERENT BRANDS OF OIL. IN DOUBT, DRAIN AND REFILL WITH NEW OIL.

Minimum Requirements for Hydraulic Oil

Viscosity of:

- 32.2 cSt at 104 °F (40 °C);
- 6.4 cSt at 212 °F (100 °C).

The oil must contain anti-wear, anti-foam additives, rust and oxidation neutralizers and self- protecting agents.

The oil must also meet MIL-H-5606 or SAE IOW “MS” standards.

Note: For cold regions, Shell Tellus T 32 is strongly recommended.

Hydraulic Oil Test

It is recommended to have the hydraulic oil tested and analysed by a lab to prevent hydraulic system or pump breakdowns. This will also optimize oil change frequency.

To take oil samples on Labrie trucks, apply the following procedure:

Note: The procedure may change depending on the corresponding lab sample kits and standards. The procedure presented here is used as an example to follow.

1. Apply all safety measures to ensure safety around the vehicle at all times.
2. Start the engine and raise the body.

⚠ DANGER

DO NOT USE PROPS WITH A LOADED BODY. NEVER STAND UNDER A RAISED AND LOADED BODY.

3. Install the body safety prop and lower the body onto it.
4. Slowly lower the body so it rests properly on the prop (see Figure 138. “Body safety prop”).

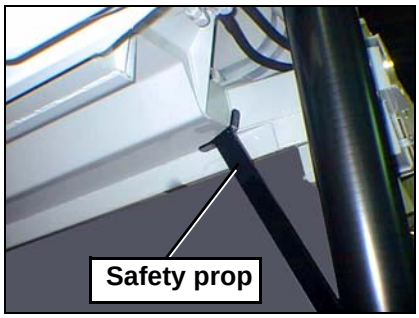


Figure 138. **Body safety prop**

5. Disengage the pump and stop the engine.
6. Locate the oil sample coupler on the side of the hydraulic tank (Figure 139. “Standard hydraulic tank”), or on the top of it in the case of a saddle type tank (Figure 140. “Saddle-type hydraulic tank”).

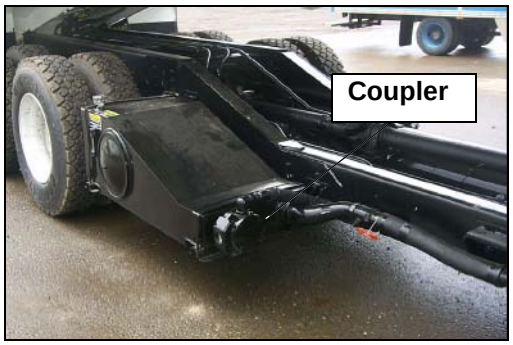


Figure 139. **Standard hydraulic tank**

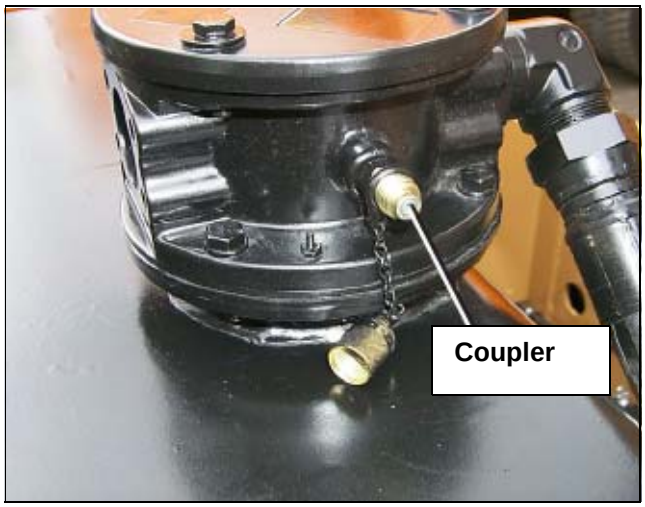


Figure 140. **Saddle-type hydraulic tank**

7. Remove the cap from the coupler and clean the sample coupler using a clean rag (“Sample coupler” on page 100).

Figure 141. **Sample coupler**

8. Using a small tip (Figure 142. “Pressing the coupler spring ball”), press on the coupler spring ball (Figure 143. “Spring ball”) to purge oil before taking sample.

Figure 142. **Pressing the coupler spring ball**

Figure 143. **Spring ball**

9. Use a small bucket to retrieve the oil that will come out. Let the oil leak for a few seconds (about half a cup). The residual pressure on the system will push the oil out of the coupler.

⚠ CAUTION

DO NOT ENGAGE THE HYDRAULIC PUMP.

10. Remove the sample kit from its bag and using a screw driver, remove the vent cap from the bottle cap.

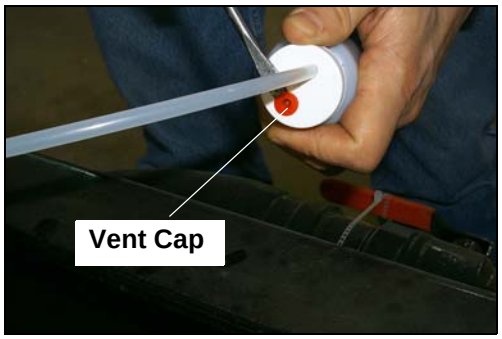


Figure 144. **Sample bottle top-view**

11. Remove the protective cap from the probe.

Figure 145. **Sample bottle probe tip**

12. Install the probe on the coupler to fill the sample bottle.

⚠ CAUTION

DO NOT OPEN THE BOTTLE CAP.

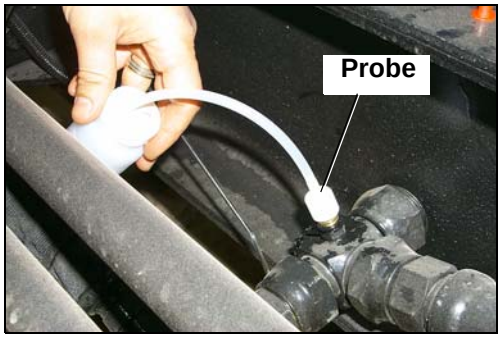


Figure 146. **Sample bottle probe**

13. Fill the bottle to the level mark (Figure 147. “Sample bottle”).

Figure 147. **Sample bottle**

14. Remove any excess of oil through the vent.
15. Once the sample is taken, remove the probe from the coupler and remove the probe from the bottle (Figure 148. “Probe removal from the bottle”).

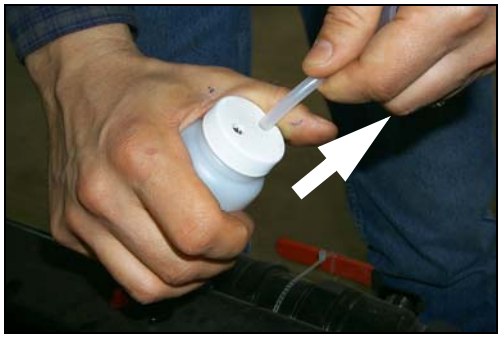


Figure 148. **Probe removal from the bottle**

Figure 149. **Bottle cap with probe removed**

16. Put the seal cover over the bottle cap.

Figure 150. **Seal cover over the bottle cap**

Figure 151. **Sealed sample**

17. Fill the identification form (sticker) and apply it on the sample bottle.

Figure 152. **Labeled sample bottle**

CRUSHER PANEL LUBRICATION

In order to maintain the crusher panel in good working order, you have to lubricate the cylinder and hinge weekly.

To lubricate the crusher panel:

1. Park the Expert(t) 2000™ on level ground.
2. Apply the parking brake.
3. Disable the speed-up system on the console (see Figure 20. “Main console from right-hand side driving position”) by pulling out the **SPEED-UP INHIBITOR** switch.
4. Lower the crusher panel using the lever located on the main hydraulic valve.

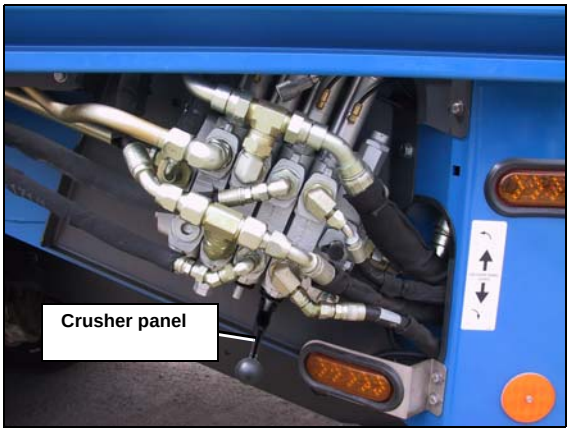


Figure 153. **Crusher panel control lever on main valve**

Note: Some trucks are equipped with a crusher panel control lever located on the left-hand side. In that case, the operator must push on the **PERMISSION BUTTON** ***to activate the lever. This avoids potential injuries.***

Figure 154. **Crusher panel control lever on left-hand side**

Figure 155. **Permission button used to activate the crusher panel control lever on he left-hand side**

5. Turn off the hydraulic pump.
6. Turn off the engine.
7. Apply the lockout/tagout procedure.
8. Grease the crusher panel cylinder head and foot by using the grease fittings (see “Crusher Panel and Floating Panel” on page 107).

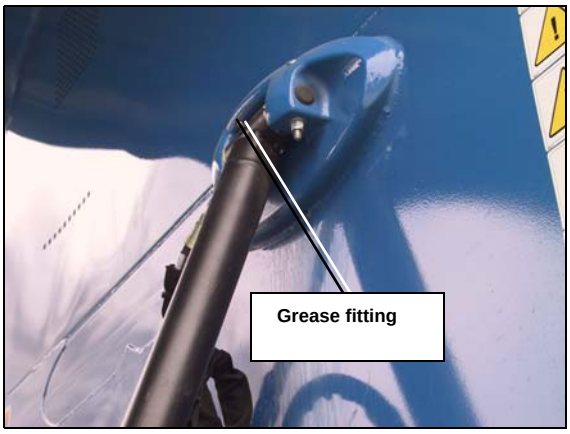
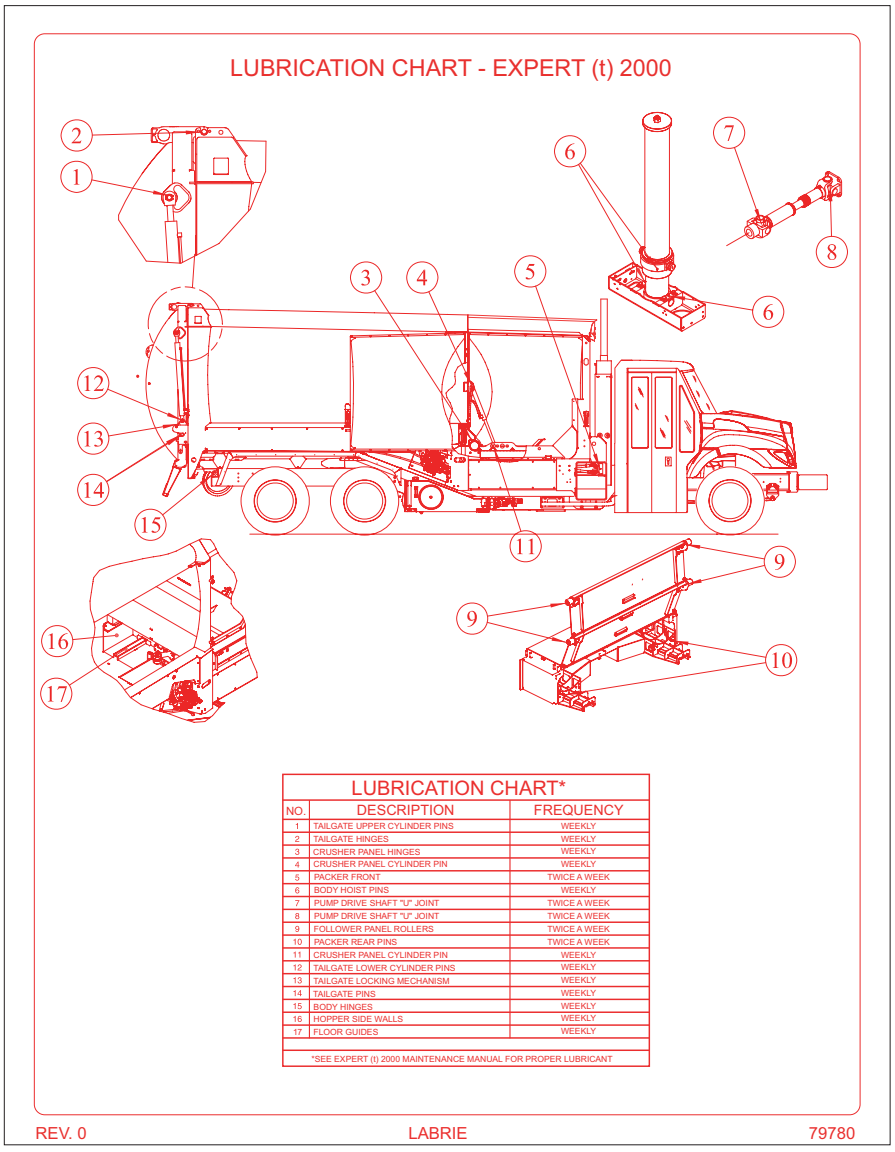


Figure 156. **Crusher panel cylinder head grease fitting**

9. Lubricate the crusher panel bushings by using the remote grease fitting located on the side of the hopper.

Figure 157. **Remote grease fitting for crusher panel bushings**

LUBRICATION CHARTS



LUBRICATION CHART*		
NO.	DESCRIPTION	FREQUENCY
1	TAILGATE UPPER CYLINDER PINS	WEEKLY
2	TAILGATE HINGES	WEEKLY
3	CRUSHER PANEL HINGES	WEEKLY
4	CRUSHER PANEL CYLINDER PIN	WEEKLY
5	PACKER FRONT	TWICE A WEEK
6	BODY HOIST PINS	WEEKLY
7	PUMP DRIVE SHAFT "U" JOINT	TWICE A WEEK
8	PUMP DRIVE SHAFT "U" JOINT	TWICE A WEEK
9	FOLLOWER PANEL ROLLERS	TWICE A WEEK
10	PACKER REAR PINS	TWICE A WEEK
11	CRUSHER PANEL CYLINDER PIN	WEEKLY
12	TAILGATE LOWER CYLINDER PINS	WEEKLY
13	TAILGATE LOCKING MECHANISM	WEEKLY
14	TAILGATE PINS	WEEKLY
15	BODY HINGES	WEEKLY
16	HOPPER SIDE WALLS	WEEKLY
17	FLOOR GUIDES	WEEKLY
*SEE EXPERT (t) 2000 MAINTENANCE MANUAL FOR PROPER LUBRICANT		

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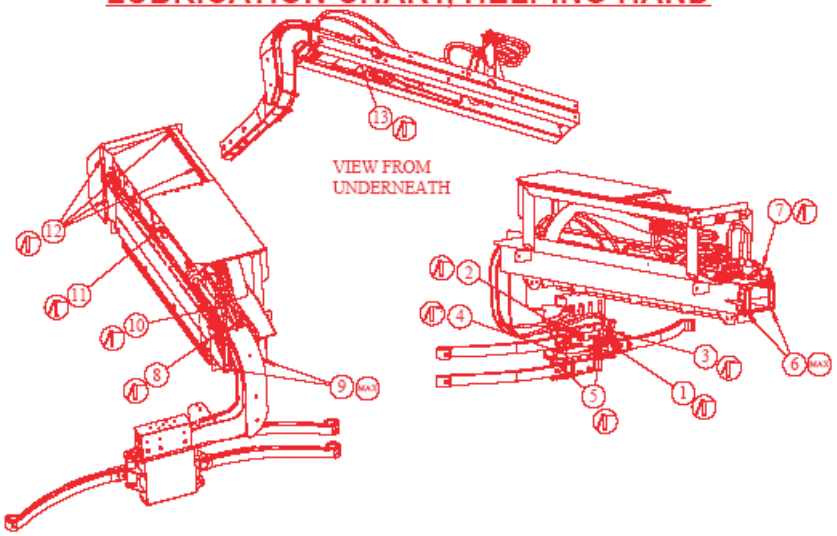
LUBRICATION CHART, HELPING HAND



LUBRICATION CHART

NO	DESCRIPTION	FREQUENCY
1	GRIPPER RIGHT PIVOT	WEEKLY
2	GRIPPER CYLINDER ROD END	WEEKLY
3	GRIPPER CYLINDER BUSHING	WEEKLY
4	GRIPPER LEFT PIVOT	WEEKLY
5	GRIPPER LEVELING ROD PIVOT	WEEKLY
6	ARM INNER WEAR PLATE (MAX EP)	WEEKLY
7	ARM IN/OUT CYLINDER ROD END	WEEKLY
8	ARM IN/OUT CYLINDER BUSHING	WEEKLY
9	ARM INNER WEAR PLATE (MAX EP)	WEEKLY
10	GRIPPER UP/DOWN CYLINDER ROD END	WEEKLY
11	GRIPPER UP/DOWN CYLINDER BUSHING	WEEKLY
12	HINGES	WEEKLY
13	TILT PIVOT BUSHING	WEEKLY

USE ALL PURPOSE COMMERCIAL LITHIUM BASE GREASE.
NEVER APPLY GREASE ON THE WEAR PLATES. USE MEX EP LUBRICANT OR DISH WASHING SOAP.

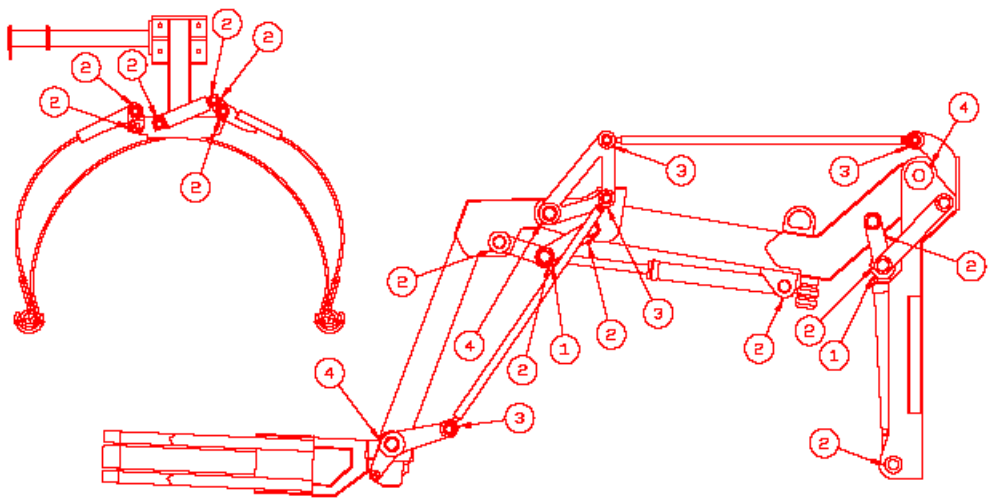
LEGEND:

ANY LITHIUM BASE GREASE

MAX EP LUBRICANT

Rev. 0 LABRIE 47843

LUBRICATION CHART FOR "COOL HAND" AUTOMATED ARM OF EXPERT 2000



LUBRICATION SCHEDULE

NO.	DESCRIPTION	FREQUENCY	GREASE
1	SPHERICAL ROD END ON HYD. CYL.	WEEKLY	SKF-LGEM2 OR EQUIVALENT
2	BUSHING	WEEKLY	ESSO UNIREX LOTEMP EP OR EQUIVALENT
3	LEVELLING ROD END	WEEKLY	SKF-LGEM2 OR EQUIVALENT
4	TAPER ROLLER BEARING	YEARLY	SKF-LGEM2 OR EQUIVALENT

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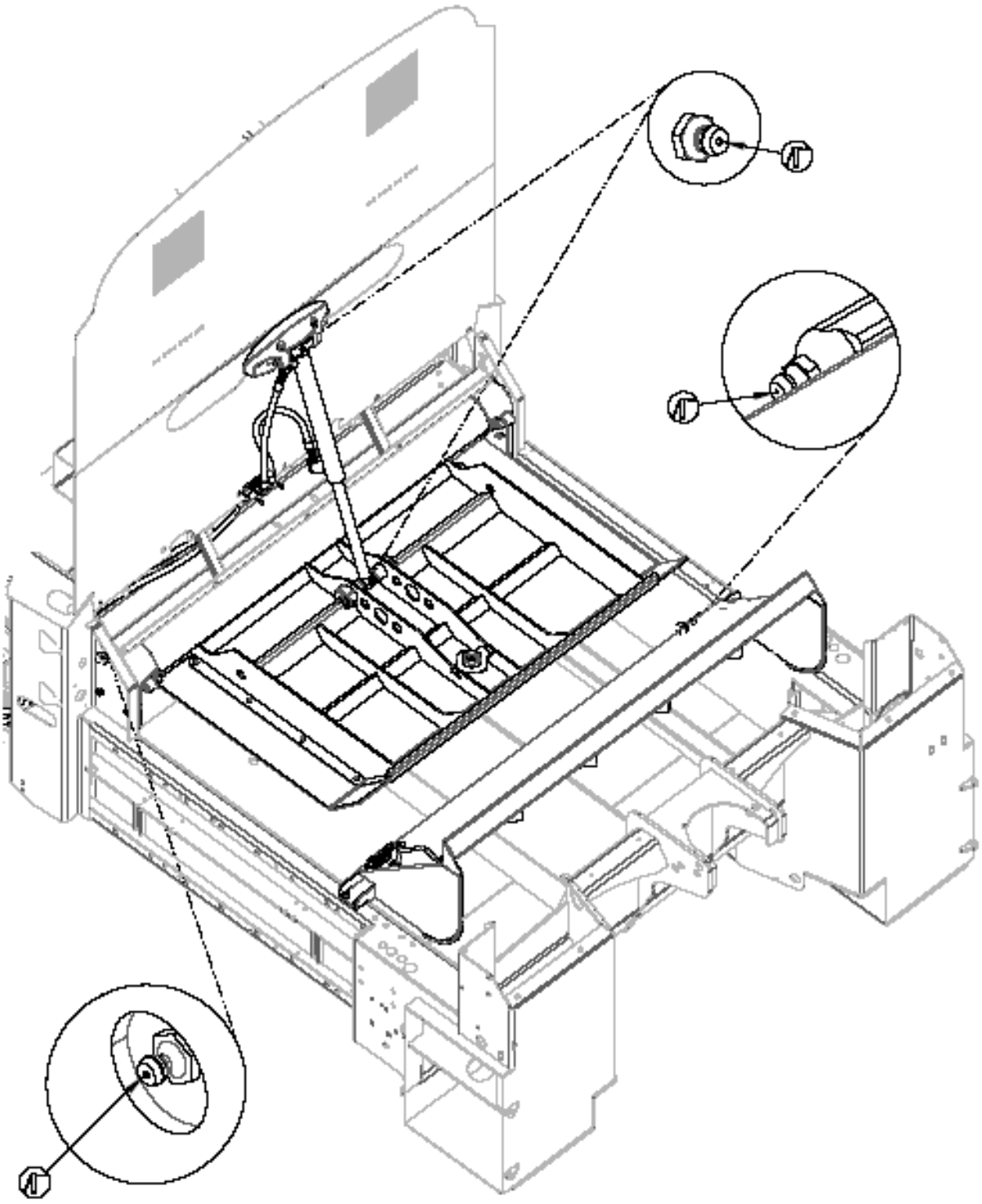
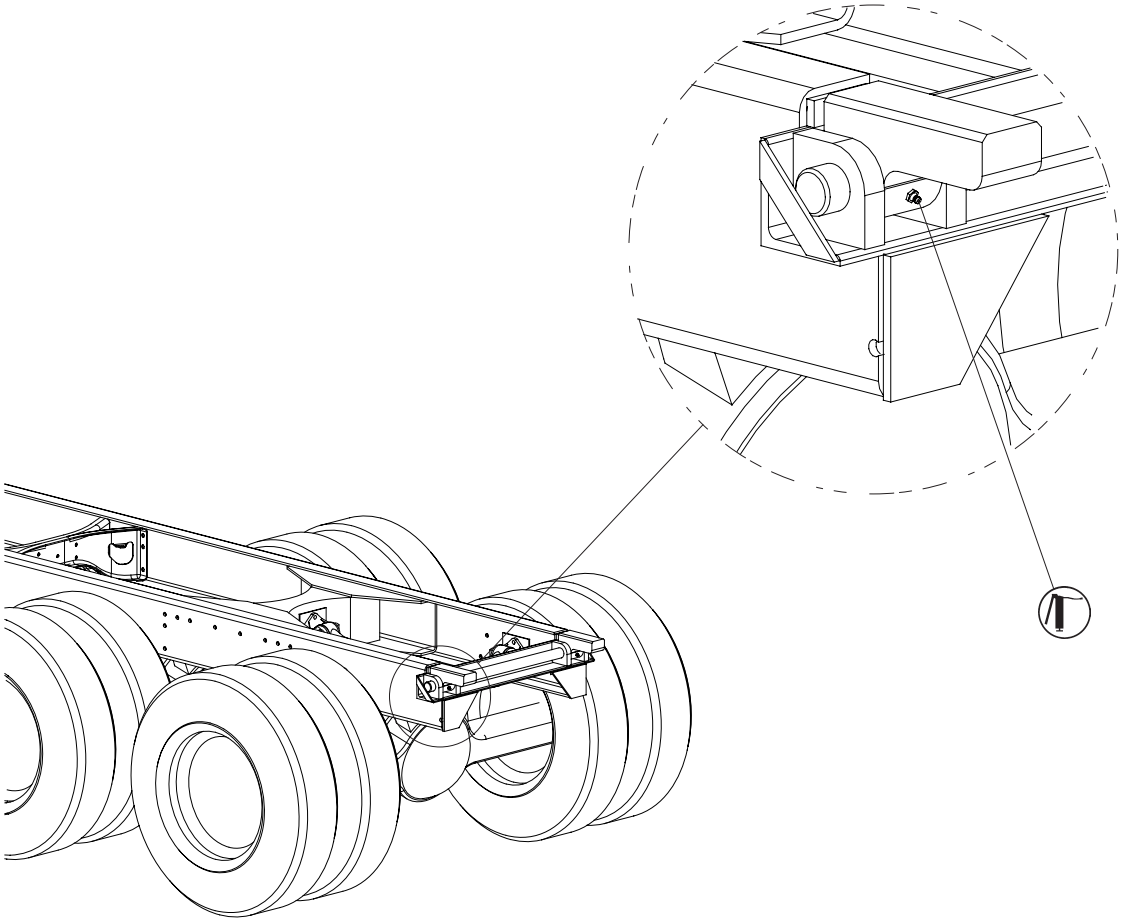
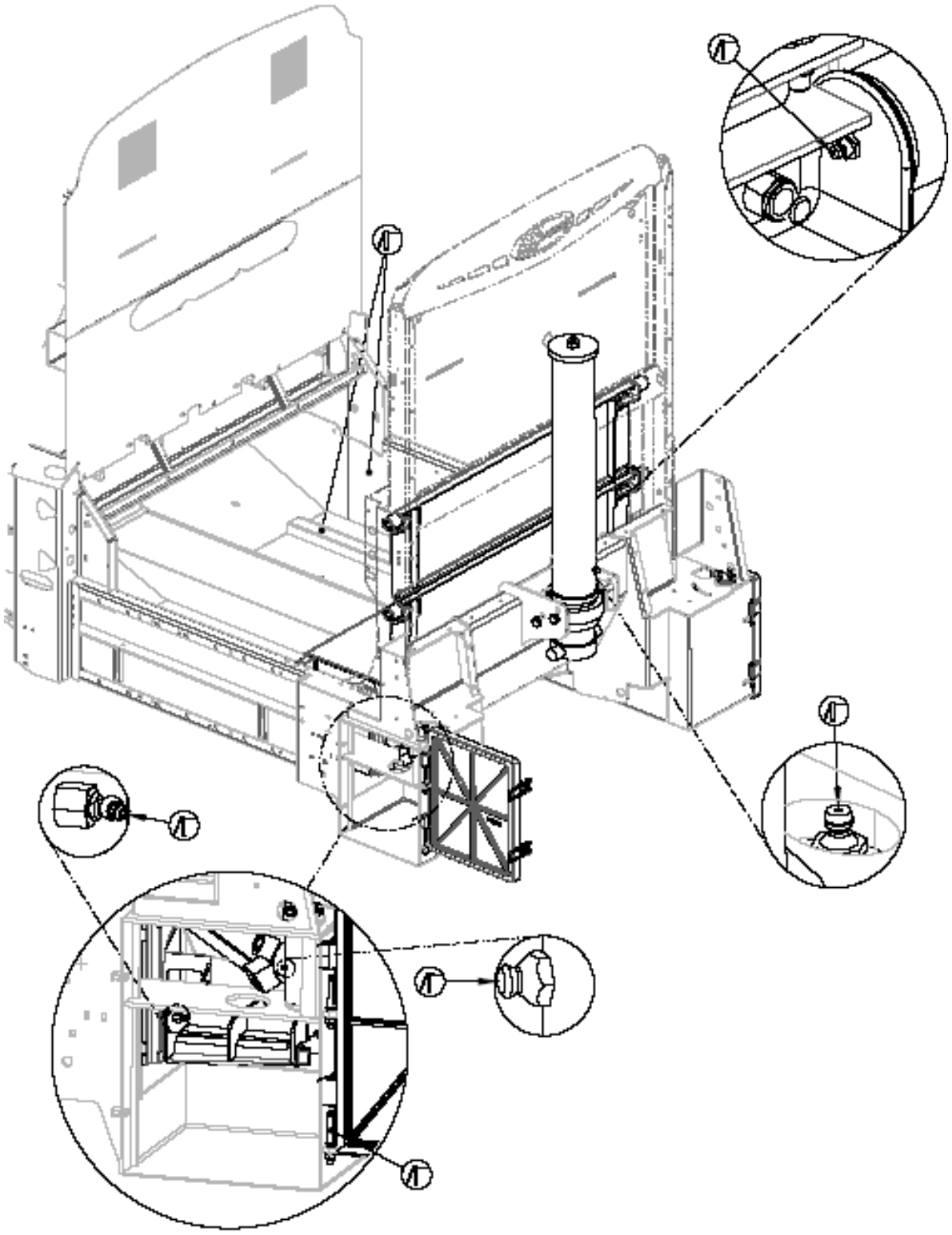
CRUSHER PANEL AND FLOATING PANEL



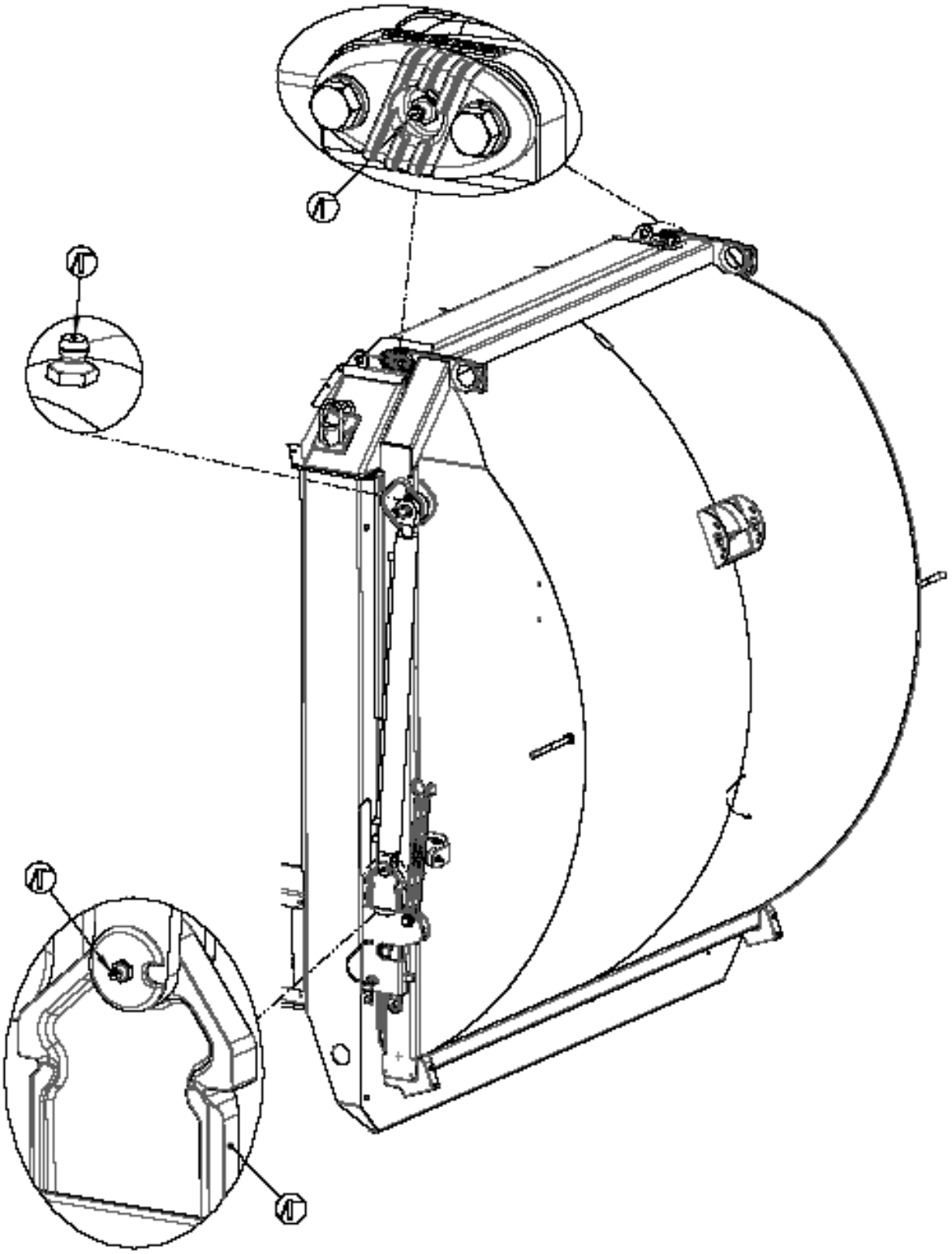
BODY-CHASSIS HINGES



HOPPER, PACKER AND BODY HOIST CYLINDER



TAILGATE



TROUBLESHOOTING

This section of the manual guides you through some of the typical troubleshooting procedures to be performed on the Expert(t) 2000™. Troubleshooting the Expert(t) 2000™ is a process where, in the event of a failure, malfunction, or breakdown, you will inspect and spot its causes and then proceed to accordingly apply a solution.

Note: Only qualified staff must be allowed to perform troubleshooting tasks on the Expert(t) 2000™.

IMPORTANT

YOU MUST ENSURE THAT ALL SAFETY FEATURES ARE CORRECTLY LOOKED AT AND ALL RELATED PROCEDURES ARE APPLIED, SUCH AS THE LOCKOUT/TAGOUT. REFER TO "LOCKOUT/TAGOUT PROCEDURE" ON PAGE 7 FOR DETAILS.

TROUBLESHOOTING GUIDE

Problem	Possible cause(s)	Solution(s)
Insufficient packing ratio	Low oil pressure	Perform the hydraulic pressure adjustment procedure.
	The packer hydraulic cylinder is internally bypassing.	Call LabriePlus. Refer to "Hydraulic Cylinder Inspection Procedures" on page 72 and "Packer Cylinders Internal Leak Detection" on page 73.
	Defective pump	Replace the pump.

Problem	Posible cause(s)	Solution(s)
The hydraulic oil is over heating (temperature higher than 180°F or 77°C)	The oil level in the hydraulic tank is too low.	Add oil to the tank upto the required level. Refer to "Hydraulic Oil" on page 98.
	Hydraulic pressure is either too low or too high.	Perform the hydraulic pressure adjustment procedure.
	The oil doesn't have the proper grading (i.e. too thin in hot temperatures and too thick in cold temperatures).	See "Recommended lubricants" on page 97 to find out about the proper type of oil to use. Refer also to "Hydraulic Oil Replacement Procedure" on page 77.
	Contaminated oil	Change the return filter and oil.
	Restrictions in the hydraulic system	Check all hydraulic components that may have the presence of debris causing restrictions in the system. Have the pump inspected by a specialist.

Problem	Possible cause(s)	Solution(s)
Oil is foaming	The oil level is low.	Add oil to the tank upto the required level. Refer to “Hydraulic Oil” on page 98
	Air is getting into the system.	Check and tighten all hose and pipe connections between the pump and the hydraulic tank.
	The oil doesn’t have the proper grading (i.e. too thin in hot temperatures and too thick in cold temperatures).	See “Recommended lubricants” on page 97 to find out about the proper type of oil to use. Refer also to “Hydraulic Oil Replacement Procedure” on page 77.

Problem	Possible cause(s)	Solution(s)
Cavitation, excessive noise or vibration of the pump	The hydraulic tank valve is not fully open.	Fully open the hydraulic tank valve.
	The oil level is low.	Add oil to meet the requirements.
	The oil is too thick.	Verify the oil in the system is part of the recommended lubricants and/or change the oil. See “Recommended lubricants” on page 97 to find out about the proper type of oil to use. Refer also to “Hydraulic Oil Replacement Procedure” on page 77.
	The hydraulic tank pressure regulator is not properly adjusted.	Adjust the pressure regulator (refer to “Pressurizing the Tank System” on page 81).
	There is air in the system.	Check all the connections of hoses and pipes and tighten them if necessary.
	There is particle contamination.	Change the oil return filter and replace the oil in the system. See “Hydraulic Oil Replacement Procedure” on page 77.

Problem	Possible cause(s)	Solution(s)
The hydraulic system does not engage.	There is a red emergency **STOP** button pressed in.	Check all red emergency **STOP** buttons and pull out the one that has been pressed in.
	Low air pressure	Make sure the air pressure is above 70 PSI.
	Engine runs at more than 900 RPM.	Lower the engine RPM to less than 900 RPM. If you can’t accomplish such task, contact your local chassis dealer.
	Electrical fault	Check fuses on the console and the main fuses on the batteries.

Problem	Possible cause(s)	Solution(s)
No hydraulic pressure	The pump is not engaged.	Turn on the pump switch.
	Hydraulic pressure needs adjustment.	Perform the hydraulic pressure adjustment procedure.

Problem	Possible cause(s)	Solution(s)
The pump is leaking oil	Hydraulic connections are loose.	Check and tighten all hydraulic connections.
	The pump is damaged.	Change the hydraulic pump.

Problem	Possible cause(s)	Solution(s)
The packer moves irregularly or sideways	The packer wear plates are worn out.	Replace the wear plates.

Problem	Possible cause(s)	Solution(s)
The tailgate unlocks and lowers by itself	The velocity fuse is dirty or deffective	Clean or replace the velocity fuse. Call LabriePlus for details.
	Inverted hydraulic hoses on the main hydraulic valve.	Test the power bleed on the tailgate section of the valve. Call LabriePlus for details.

Problem	Possible cause(s)	Solution(s)
The packer doesn't complete a full cycle	The body is full, preventing the packer to reach the fully extended position.	Unload the body.
	An accumulation of refuse material behind the packer doesn't allow the packer to reach its fully retracted position.	Clean the area behind the packer.
	The limit switches for the packer lost their settings or are annoyed by some debris.	Clean the area around the limit switches and/or adjust their settings.

Problem	Possible cause(s)	Solution(s)
The packer does not start when you press the green button.	The PTO switch is off.	Turn on the PTO switch.
	There is a red emergency **STOP** button pressed-in.	Verify that all red emergency **STOP** buttons are pulled out.
	The packer controls station selector switch is not on the correct station.	Verify the packer controls station selector switch; it must be turned to the corresponding station.

Problem	Possible cause(s)	Solution(s)
The yellow **RETRACT** button functions as a press-and-hold button instead of a just-press button.	There is a hydraulic defficiency.	Verify and make sure the hydraulic pressure is at the proper level.
	There is a defective electrical harness.	Apply the electrical system troubleshooting between the packer module and the corresponding packer control station.
	The packer module is deffective.	Troubleshoot the packer module. Call LabriePlus for details.

Problem	Possible cause(s)	Solution(s)
The green **START CYCLE** button functions as a press-and-hold button instead of a just-press button.	There is a deffective electrical harness.	Apply the electrical system troubleshooting between the packer module and the corresponding packer control station. Call LabriePlus for details.
	The packer module is deffective.	Apply the packer module trobleshooting. Call LabriePlus for details.

Problem	Possible cause(s)	Solution(s)
The packer moves forward but stops at the end of the stroke.	The packer wear plates are worn out.	Replace the wear plates.
	The packer extension limit switch needs adjustment.	Adjust the packer extension limit switch.

Problem	Possible cause(s)	Solution(s)
Packing is insufficient	Low hydraulic pressure	Adjust the hydraulic pressure. Call LabriePlus for details.
	Packer limit switches are not properly set up.	Verify and adjust the packer limit switches. “Adjusting the Limit Switches” on page 31.
	The hydraulic system prematurely switches off.	Verify the packer cylinder is not bypassing. Refer to “Hydraulic Cylinder Inspection Procedures” on page 72 for details.

Problem	Possible cause(s)	Solution(s)
The backup alarm and the warning buzzer in the cab are continuously on.	Tailgate limit switch needs adjustment.	“Tailgate Limit Switch Adjustment” on page 69.
	Faulty electrical harness	Troubleshoot the electrical harness connected to the tailgate limit switch. Change the electrical harness if necessary.

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