



HALF/PACK®
INCLUDING STANDARD, LOWRIDER™ & SIERRA
COMMON BODY PLATFORM
OPERATION MANUAL
ISSUED MAY 2026

⚠ WARNING

Failure to follow all instructions and safety precautions in this manual, in the Service Manual, in other manufacturers' manuals and on the safety decals attached to the product could result in serious injury or death to operators or bystanders and/or damage to property.

DO NOT operate this vehicle before you READ and UNDERSTAND this Operation Manual, the Service Manual for this unit, other applicable manufacturers' manuals, and the safety decals on the product.

Each operator of this unit must read and understand all directions in this manual before they first operate this vehicle.

Keep this manual in the cab for new operators and to remind all operators about safe use.





WARNING: Operating, servicing and maintaining equipment can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your equipment in a well-ventilated area and wear gloves or wash your hands frequently when servicing your equipment. For more information go to **www.P65Warnings.ca.gov**.



WARNING: Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system.
- Do not idle the engine except as necessary.

For more information go to **www.P65warnings.ca.gov/diesel**.



READ THIS MANUAL!

EVERY PERSON who will **OPERATE, MAINTAIN, REPAIR, OR OTHERWISE WORK** with the Heil unit **MUST READ AND UNDERSTAND** this entire Operator's Manual before starting the engine or activating any switches or controls. **MAKE SURE** to read the Service Manual for the unit **BEFORE** you do any maintenance or repair procedures.

ALL USERS of this equipment must be trained professionals who understand how the machine operates and know how to avoid the risks associated with driving the vehicle and with picking up, compacting, and dumping refuse in an ever-changing traffic environment.

If you do not understand an operation or instruction, seek additional help or instruction from a qualified source **BEFORE** you operate the unit.

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SECTION 1

INTRODUCTION

HOW TO USE THIS MANUAL

Products & Application

This manual covers Half/Pack Standard and Half/Pack Sierra Front End Loaders (FELs).

Product Variance

This manual may cover options not included on your unit. Also, the location and appearance of the controls on your unit may be different than those shown in this manual. Make sure you know the location of the controls and how to properly operate the controls on your unit before operation.

Terminology

This manual uses terminology that is defined in the “**Glossary**” on page 16.

Directives

When we give directions for using the equipment, we capitalize key words. These words are usually a command followed by a result. For example, “MOVE the body raise switch to LOWER ...”.

Use of **Bold** and CAPITAL Letters

We also put some words in **BOLD AND CAPS** for emphasis, usually related to safety or something of other importance, such as “**MAKE SURE** you close the side doors”.

We put some words in just bold for emphasis, such as “All warranty repairs **must** be performed by ...”.

Each DANGER, WARNING, and CAUTION notice precedes its applicable text.

TO THE OWNER

This manual is designed to help ensure safe, efficient and proper operation of The Heil Co. d/b/a Heil Environmental ("Heil") Half/Pack Front End Loader (FEL) refuse collection vehicle (or the unit).

The manual will familiarize you with the unit and will give you proper operating procedures and tips.

For chassis operation and maintenance instructions, see the applicable Chassis Owner's Manual and Half/Pack Service Manual.

As the owner, you have several responsibilities:

- You must complete and return the warranty registration for the unit to Heil.
- You must make sure that each operator has the proper driver's license.
- You must make sure that the operator does not operate the unit under the influence of drugs or alcohol.
- You must make sure that the unit is properly maintained to meet all local, state and federal requirements along with FMCSA (Federal Motor Carrier Safety Administration) and DOT (Department of Transportation) .
- You must keep the vehicle maintained and properly adjusted to meet the manufacturer's standards and recommendations.
- You must keep accurate records of daily inspections, breakdowns, malfunctions, maintenance and repairs of the unit.

- You must make all repairs that could affect safe operation before returning the unit to service.
- You must provide adequate lighting on the unit for safe operation under low light or night conditions.
- You must provide adequate training for each operator and mechanic that will operate the unit BEFORE an operator goes on route or BEFORE a mechanic performs maintenance or repair procedures.
- You must determine if an operator or mechanic has difficulties reading or understanding this manual. When a person has difficulties reading or understanding this manual, you must provide adequate assistance so that the person does understand the material in this manual.
- You must make sure that each operator uses the equipment on a route as given in the instructions of this manual and other manufacturers' manuals.
- You must provide on-going training for each operator and mechanic that operates the unit.
- You must make sure that this manual stays with the vehicle at all times.

Properly operated and maintained, your Half/Pack unit should give you years of low-cost, trouble free service.

TO THE OPERATOR

DANGER

Do not operate the unit or perform repair or maintenance procedures on the unit until you read and understand all of the instructions in this manual. Failure to do so may result in injury or death to operators or bystanders.

NOTICE

For Compressed Natural Gas (CNG) units, use this Operation Manual together with the CNG System Manufacturer's Operation and Maintenance Manuals. Always read and understand those manuals along with the Heil Service Manual and Heil Operation Manual.

As the Operator, you have several responsibilities:

- You must understand and follow all manufacturers' instructions for equipment operation.
- You must observe pertinent laws and regulations.
- Read and understand all procedures in this Operation Manual before operating the unit. If you have trouble reading or understanding the manual, notify the owner or designated person immediately. Do not operate the unit until you fully understand its procedures and requirements.
- You must receive proper training before you operate (or service and maintain) the unit. If you have not been trained, you must inform the owner.
- You must perform a daily inspection of the unit before you go on route. Refer to **"DAILY CHECKLIST" on page 81.**

- You must make sure that all decals and labels are clean and readable.
- You must report to the owner (or the designated person) any and all deficiencies, malfunctions or problems you find during the daily inspection.
- You must read, understand and obey all safety messages and decals that are on the outside or in the cab of the unit.
- Always use your employer's Lock-Out/Tag-Out procedures. If your employer does not have Lock-Out/Tag-Out procedures, use the **"LOCK-OUT/TAG-OUT PROCEDURE" on page 46.**
- Before you start the engine or operate the unit for the first time:
 - You must clear the area of other people.
 - YOU MUST learn and practice safe use of all controls and indicators before operating the unit on a collection route or performing repair or maintenance.
- Before you operate the unit in reverse, you must make sure the area behind the unit is clear of other people, vehicles or other obstructions.
- You must make sure the unit is on hard, stable ground when you unload refuse at the landfill or transfer station.

TO THE TECHNICIAN

WARNING

Do not operate the unit or perform repair or maintenance procedures on the unit until you read and understand all of the instructions in this manual. Failure to do so may result in **SERIOUS INJURY** or **DEATH** to operators or bystanders and/or damage to the unit or other property.

NOTICE

If you do not understand a procedure or instruction, tell the owner or the designated person immediately. Do not operate the unit if you do not understand all procedures and instructions in this manual. The owner or designated person can contact your Heil Dealer or Heil for additional help. See **“Customer Service & Repair Parts Contact” on page 133.**

WARNING

A unit that needs service or repair can malfunction and create a dangerous condition. A part failure during operation can cause **SERIOUS INJURY** or **DEATH** to a person or damage to the unit. Repair or replace any failed or defective part immediately.

As the Technician, you have several responsibilities:

- You must understand and follow all manufacturers' instructions for equipment operation.
- You must observe pertinent laws and regulations.
- You must read, study and understand all procedures and requirements of this Operation Manual and the

Service Manual applicable to your truck before you operate the unit for the first time.

- If you do not understand or have difficulty reading this manual or the Service Manual applicable to your truck, you must tell the owner or designated person before you operate or service the unit.
- **DO NOT** operate or service the unit until you understand the procedures and requirements of the Operation Manual and the Service Manual applicable to your truck.
- You must receive proper training before you operate or service and maintain the unit. If you have not been trained, you must inform the owner.
- You must read, understand, and obey all safety messages and decals that are on the outside or in the cab of the unit.
- Always use your employer's Lock-Out/Tag-Out procedures. If your employer does not have Lock-Out/Tag-Out procedures, use the **“LOCK-OUT/TAG-OUT PROCEDURE” on page 46.**
- Before you start the engine or operate the unit for the first time:
 - You must clear the area of other people
 - You must learn and practice safe use of all controls and indicators before you operate the unit or before you do repair or maintenance procedures.
- Before you operate the unit in reverse, you must make sure the area behind the unit is clear of other people, vehicles or other obstructions.

WARRANTY CLAIMS & INQUIRIES

The HEIL ENVIRONMENTAL WARRANTY STATEMENT is printed on the inside, back cover of this manual. Should a failure occur that is covered by this warranty, contact the nearest Heil Dealer for warranty repair unless otherwise authorized by Heil.

For all parts, warranty claims, and inquiries, please give the dealer or service center the unit's model and serial number located on the body serial plate. See **“Serial Plate Location” on page 7** for the location of the body serial plate.

MODELS

The Half/Pack has two body models:

- Serviceable Eject
- Service Hoist

Both body models use a Packer/Eject panel and two cylinders to compact the refuse from the hopper into the body (packer mode) and to push all of the refuse from the body (eject mode).

The Service Lift (Serviceable Eject) body model does not have Service Hoist Cylinders. See **“Propping The Body” on page 78**.

The Service Hoist body model is an Eject body with two Service Hoist Cylinders to raise the body a short distance for service and maintenance operations. See **“Propping The Body” on page 78**.

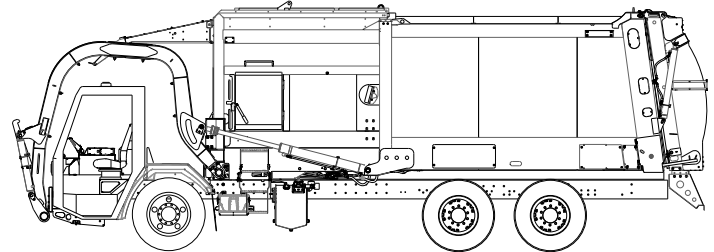


Figure 1. Serviceable Eject

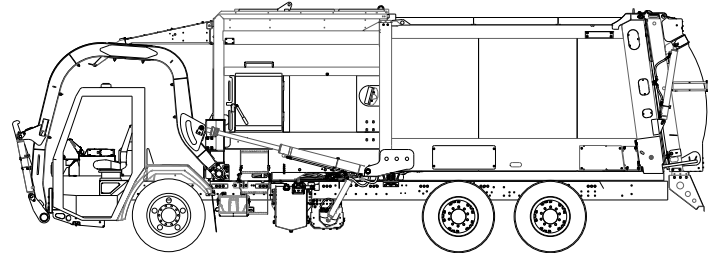


Figure 2. Service Hoist

SERIAL PLATE LOCATION

You determine the sides of the unit by facing the direction of forward travel. The left side is the “streetside” and the right side is the “curbside”.



Figure 3. Serial Plate Location Streetside

READING THE SERIAL PLATE

The serial plate is the “birth certificate” of the unit.

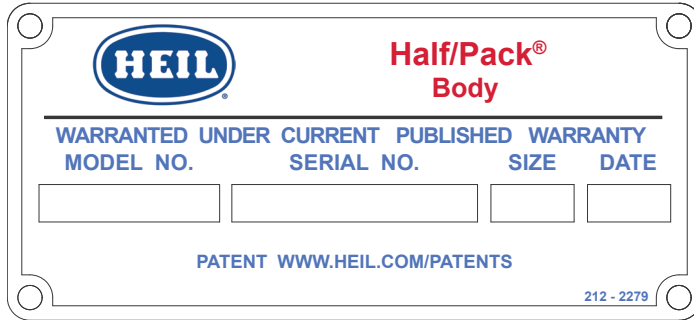


Figure 4.

Information stamped in the boxes on the serial plate indicates:

Model number:

402-nnnn (“n” is any single-digit number)

Unit’s unique serial number

Body size (cu. yd.)

Date of manufacture (last number of the year followed by the number of the day of the year, e.g. T020 is year 2026 and the 20th day of 2026).

NOTICE

The code for the year of manufacture is in accordance with FMVSS 115.

Year of Manufacture			
Year Code	Year	Year Code	Year
T	2026	6	2036
V	2027	7	2037
W	2028	8	2038
X	2029	9	2039
Y	2030	10	2040
1	2031	11	2041
2	2032	12	2042
3	2033	13	2043
4	2034	14	2044
5	2035	15	2045

PRODUCT NOMENCLATURE

The figure below shows the major components and their typical location on the unit. See the following pages for brief descriptions of each component shown below.

Note: Options may be shown in the image below, and all corresponding images within this manual.

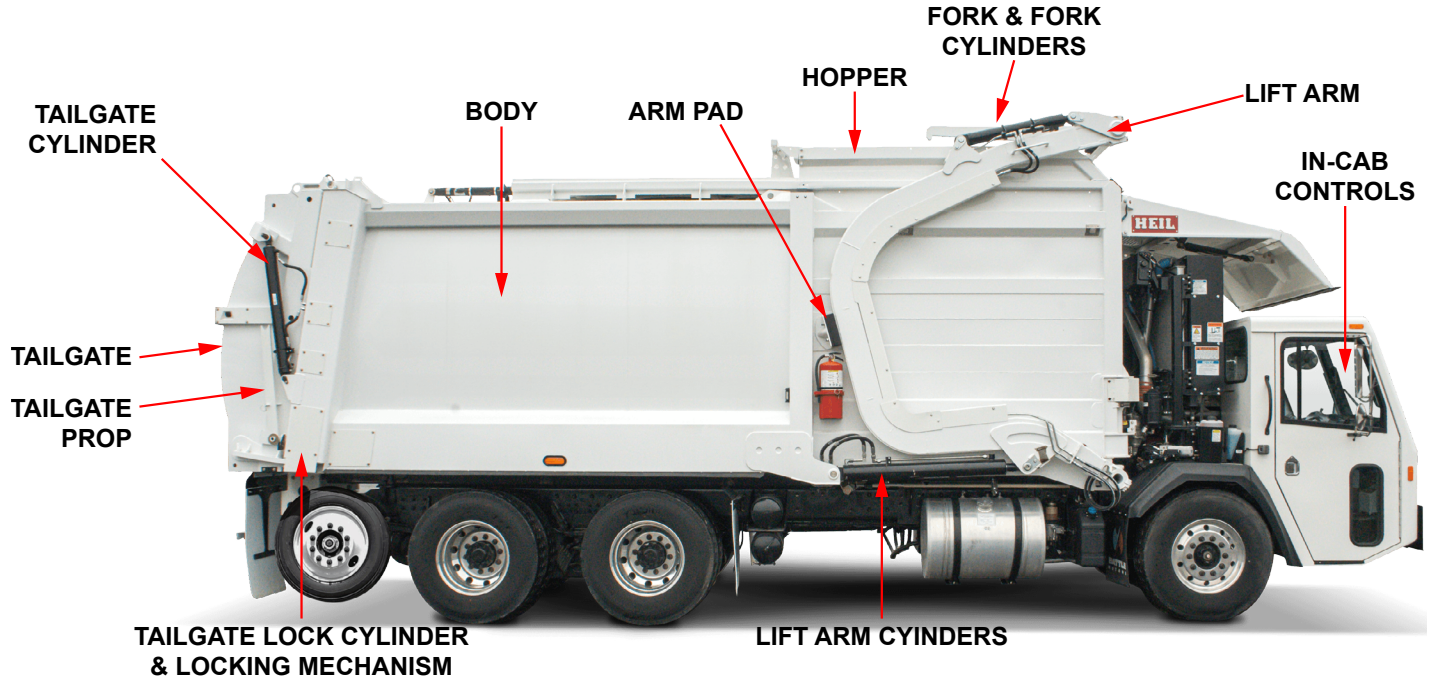


Figure 5.

PRODUCT NOMENCLATURE

The figure below shows the major components and their typical location on the unit. See the following pages for brief descriptions of each component shown below.

Note: Options may be shown in the image below, and all corresponding images within this manual.

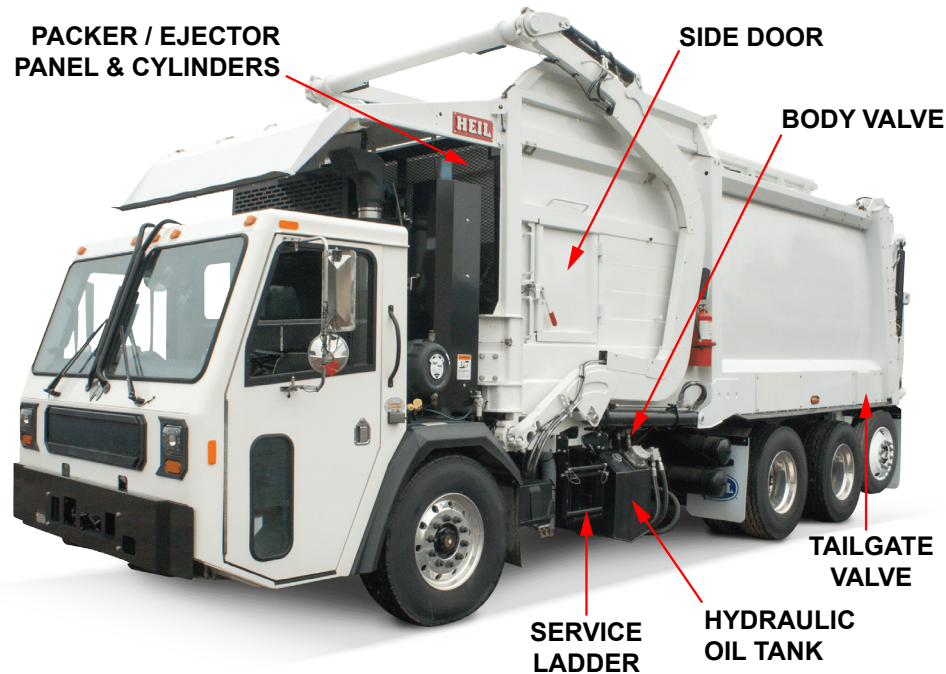


Figure 6.

PRODUCT NOMENCLATURE

Hydraulic Pump - The unit's hydraulic pump provides the oil flow for the hydraulic system. It is either located in front of the engine on a bumper bracket or underneath the unit, powered by the transmission through a Power Take-Off (PTO). Depending on the pump and PTO combination, hydraulic oil may flow through the system when the pump is off, however, the operator controls are inoperative and the system hydraulic oil pressure is not sufficient to operate the unit's functions.

WARNING

Moving equipment can be dangerous to bystanders. **SERIOUS INJURY** or **DEATH** can occur if a person is in the area of operation or is not attentive to the operations. Clear the area of all unnecessary people before you operate the controls.

Cab Controls – The standard cab control panel is located in the vehicle cab. See “**FEATURES & CONTROLS**” on **page 49** for the different controls that may be installed in your unit.

Lift Arm – You use these two cylinders to **RAISE** and **LOWER** the lift arms to lift and dump the refuse container.

DANGER

Do not enter the hopper unless the unit is in the “**LOCK-OUT/TAG-OUT PROCEDURE**” on **page 46**. When the unit is not in the Lock-Out/Tag-Out, the packer/ejector panel can be operated. **DEATH** or **SERIOUS INJURY** will occur if the packer/ejector panel moves while a person is in the hopper.

Hopper – The hopper is the front part of the body assembly. The packer panel is in the hopper. The hopper is the loading chamber for the refuse. Refuse dumped into the unit falls inside the hopper where it is moved by the packer panel into the body.

Body – The body contains the compacted refuse until you eject the refuse at the landfill. **DO NOT** enter the body from the hopper.

Body Props – Always use both body props, one on each side of the unit, when you raise the body for maintenance or service procedures.

WARNING

Make sure hopper area is clear of people on both sides of unit before starting packer cycle. The packer completes cycle(s) when ANY packer **EXTEND** icon is “**ON**” or when AutoPack™ is “**ON**” and cart lowers from hopper. **SERIOUS INJURY** or **DEATH** can occur if any part of your body is in the hopper when the packer panel is in motion.

PRODUCT NOMENCLATURE

Packer/Eject Panel & Cylinders – The packer/eject panel is inside the hopper (at the front of the hopper) and has two functions:

1. The packer function compacts the loaded refuse from the hopper into the body (packer mode).
 - During the PACKER mode, you extend the packer/eject panel cylinders to push the packer panel towards the rear of the body, which compacts the load.
 - Normal operation of the AutoPack feature consists of one extension and retraction of the packer panel.
2. The eject function pushes the loaded refuse out of the body (eject mode) through the open tailgate.
 - During the EJECT mode, you use the packer/eject panel and cylinders to remove the refuse from the body.
 - On the Eject and Service hoist models when the tailgate is open, the EJECT mode lets the packer/eject panel travel further than during the packer mode. This extra travel of the panel removes ALL of the refuse from the body. DO NOT use the service hoist to empty refuse from the body.



DANGER

Before entering the hopper/body area, place the unit in Lock-Out/Tag-Out (see “**LOCK-OUT/TAG-OUT PROCEDURE**” on page 46). SERIOUS INJURY or DEATH will occur if any part of your body is in the hopper when the packer panel is in motion.



DANGER

The side door must be closed before you start a packer operation. SERIOUS INJURY or DEATH will occur if a person is inside the body or hopper. Make sure no one is inside the hopper or body before you close the door and begin a packer function.

Side Door – Use this street side door to enter the body when required for cleaning or other maintenance tasks. MAKE SURE the unit has been Locked-Out/Tagged-Out BEFORE you enter through the side door.

PRODUCT NOMENCLATURE

DANGER

Always prop a tailgate when you have it raised for maintenance, service, or cleaning procedures. Always utilize the tailgate props according to specifications when propping the tailgate (see **“Propping The Tailgate” on page 79**). Any part of your body between the unit’s body and the tailgate while you prop the tailgate or when the tailgate is propped is dangerous. SERIOUS INJURY or DEATH will occur if any part of your body is between the tailgate and the body if the tailgate suddenly closes.

Sump Doors – A sump door needs to be open when cleaning out the sump area.

Tailgate Props – Always use both tailgate props (see **“Propping The Tailgate” on page 79**), one on each side of the unit, when you raise the tailgate for maintenance or service procedures.

Tailgate Cylinders – You use these cylinders to RAISE the tailgate before you unload the compacted refuse at the landfill. After you unload the refuse, you use the cylinders to LOWER the tailgate.

Tailgate Latches – The tailgate’s lock status is shown by a indicator light on the in-cab display screen. The icon illuminates when the tailgate is open, unlocked, or not fully locked. When the tailgate is locked the indicator icon is off. See **“Propping The Tailgate” on page 79**.

Tailgate Lock Cylinders – Heil’s patented Shur-Lock™ system uses tailgate lock cylinders to UNLOCK the tailgate before you RAISE the tailgate and to LOCK the tailgate after you LOWER the tailgate.

DANGER

A tailgate in motion is dangerous. SERIOUS INJURY or DEATH will occur if a person is struck by a moving tailgate or becomes trapped between the tailgate and the body. Clear the area near the tailgate of all unnecessary people before you lower the tailgate.

Tailgate – Raise the tailgate at the landfill or transfer station to unload the refuse.

An red indicator on the in-cab display and an audible alarm inside the cab let the operator know when the tailgate is raised. The red indicator illuminates (is “ON”) and the alarm sounds when the tailgate is RAISED. The indicator is “OFF” and the alarm stops when the tailgate is CLOSED.

PRODUCT NOMENCLATURE

NOTICE

You must use the tailgate lock cylinder (described previously) to unlock the tailgate in order to raise the tailgate or to fully close (lock) the tailgate.

DANGER

Keep all parts of your body out from underneath the unit's body and away from the cylinders when raising or lowering the body. **SERIOUS INJURY** or **DEATH** will occur if the unit's body suddenly lowers and traps a part of your body.

NOTICE

Always unload refuse from the body before you raise it for maintenance or service procedures. Refuse in the body can make the unit unstable. Always use the body props when you raise the body for maintenance or service procedures.

WARNING

Raising the body with the tailgate closed can damage the underride bumper. The underride bumper can hit the ground when the tailgate is not fully raised before you raise the body. **SERIOUS INJURY** or **DEATH** may occur and also cause damage to the unit.

Service Hoist Cylinders - RAISE the body with these cylinders to perform service or maintenance on the unit. When you do service or maintenance with the body raised, **ALWAYS** use the body props. After completion of the service or maintenance procedures, always LOWER the body until it rests on the chassis.

Controller – The unit has a controller. The controller monitors critical components and controls operation of the various functions. When the controller detects a fault or unsafe condition, it alerts the operator with an indicator light and/or a buzzer alarm. During certain conditions, the controller will not allow operation of all functions.

Hydraulic Oil Tank - The tank is the reservoir for the hydraulic oil which operates all hydraulic cylinders described in this manual.

NOTICE

Operating the unit's controls with a suspended load, such as a raised tailgate or a container on a lift mechanism, will allow the load to move even when the hydraulic pump is OFF.

PRODUCT NOMENCLATURE

Operator Controls – The standard operator controls for running the components are inside the vehicle cab. See “**FEATURES & CONTROLS**” on **page 49** for the different controls that may be installed in your unit.

Cab Protector – The cab protector helps keep falling debris from landing on the cab.

WARNING

Moving equipment can be dangerous to bystanders. **SERIOUS INJURY** or **DEATH** can occur if a person is in the area of operation or is not attentive to the operations. Clear the area of all unnecessary people before you operate the controls.

Forks & Fork Cylinder – Use the two fork cylinders to rotate (**RAISE** or **LOWER**) the forks to the correct angle to engage a refuse container’s pickup sleeves.

NOTICE

Refer to your company and OSHA guidelines for proper PPE and best practices for ascending/descending ladders.

Service Ladder – **MAKE SURE** the unit is in Lock-Out/Tag-Out before you use the service ladder(s) **AND** the top door is **CLOSED**. **BE CAREFUL** at all times when using any ladder(s). Maintain good balance with two feet and one hand, or one foot and two hands, firmly in place at all times.

Arm Pads – Once the lift arms stop their movement, they rest on the arm pads.

GLOSSARY

TERM	DEFINITION
Accident	An incident that results in unintended harm.
AutoPack	A feature on all units that allows an operator to press one button to automatically complete one extend and retract cycle of the packer to compress the refuse.
Bin	The refuse collection container
Body	The complete body assembly or the area of the body where the refuse is stored.
Boiling	Refuse material rising from a compacted base to the unit's roof.
Bridge	Refuse material densely compacted on a bottom layer with refuse material loose or lightly compacted on a top layer.
Collapsed Position	The fully retracted position of a cylinder.
Controller	Heil Electronic Controller - a cab controller and body controller
Extend (Packer Function)	Command for moving the packer panel into the body.
Extend (Cylinder Function)	Command that extends the cylinder rod from the cylinder base.
Fall-Back	Material loaded in the body that drops from its initial compacted position into the hopper
AFL	Automated Front Loader
FEL	Front End Loader
Front Head	The point of the body, closest to the cab.
Retracted Position (Home Position)	Packer cylinder fully retracted with the packer panel at the front of the hopper. Also known as the "Home Position" or "Front Head".
Harm	An action that causes death, injury or property damage.
Hazard	A potential source of harm.
Hopper	The loading chamber of the unit in front of the packer panel where you dump the refuse material.
Incident	An unintended and undesired event that has the potential to harm.

GLOSSARY

TERM	DEFINITION
Interlock	A safety mechanism that disables a function or action.
Latched	The condition when the tailgate is fully CLOSED, thereby locking the tailgate.
Lock	Command to use the tailgate lock/unlock switch and lock the tailgate lock cylinders.
Lower	Move the lift arms, forks, body or tailgate down.
May	You are allowed to do the action, but it is not mandatory. It is understood to be permissive.
Must	The action is mandatory.
Off	The position of a switch, button, or other control to stop a function.
On	The position of a switch, button, or other control to start a function.
Operator	A qualified person who operates the unit and its equipment, controlling accessories and mechanisms, loading materials, performing collection functions (such as operating the loader, cart tipping, and packing waste or recyclables), and may also drive the unit along the route.
PN	Part Number
PTO	Power Take-Off
Raise	Move the lift arms, forks, body or tailgate up.
Retract	Make a cylinder rod go into its base.
RPM	Revolutions Per Minute
Should	The action is advised.
Side Door	The side door is located on the street side of the unit. This is the only access point into the body. ALWAYS complete the “ LOCK-OUT/TAG-OUT PROCEDURE ” on page 46 BEFORE entering the body.
Top Door (Hopper Cover)	This optional top door covers and uncovers the hopper. The cover is closed during transit and must be open during loading of refuse in the hopper.
Unit	Refuse collection vehicle.
Unlatched	The side door is not closed or secured.
Unlock	Command to use the tailgate lock/unlock switch and unlock the tailgate lock cylinders

SECTION 2

SAFETY MESSAGES & DECALS

PRECAUTIONARY STATEMENTS

Read this entire manual, especially this safety section, before you operate the vehicle. Failure to follow these important precautions could result in serious injury, death, or property damage.



This safety alert symbol indicates important safety messages in this manual and on safety decals attached to the equipment. Make sure you read all of these messages and follow the instructions and precautions.
DANGER

In the general text of the manual and in the safety labels attached to the product, signal words indicate the type and seriousness of risk that you could encounter if you do not follow the precautions. The signal words and their definitions follow:

DANGER

DANGER indicates a hazardous situation which, if not avoided, **WILL** result in **DEATH** or **SERIOUS INJURY**.

WARNING

WARNING indicates a hazardous situation which, if not avoided, **COULD** result in **DEATH** or **SERIOUS INJURY**.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **COULD** result in **MINOR** or **MODERATE INJURY**.

NOTICE

NOTICE addresses practices not related to personal injury, such as property damage or damage to the equipment.

The following pages provide a summary of some of the more important safety precautions that are in this manual. There are additional safety precautions in other sections of this manual that are not contained in this section. You must also read, understand and follow those messages.

GENERAL SAFETY PRECAUTIONS

- **DO NOT** operate the unit under the influence of alcohol or drugs or when extremely tired or when you are not alert, as this may result in an accident that can cause serious injury or death.
- **DO NOT** operate the unit unless you have the proper training and vehicle operator license.
- **ALWAYS** carry and maintain a fire extinguisher and first aid kit in the unit. **MAKE SURE** you know how to use them.
- **CLEAN AS NECESSARY** any safety decals that you cannot read at a safe viewing distance from the hazard because of dirt. If any decals are illegible from damage or wear, **REPLACE** them **IMMEDIATELY**. Get decals from your Heil Dealer or Heil.
- **DO NOT** use this refuse collection vehicle to **TOW** another vehicle or equipment. It **IS NOT DESIGNED** or equipped to tow another vehicle or other equipment. Towing another vehicle or equipment may result in injury or death to the operator or other people or damage to the unit.
- **MAKE SURE** all individuals are clear of any moving parts, mechanisms or components of the unit before you operate the controls.
- **DISENGAGE** the PTO or press the **SYSTEM POWER** switch to shut off the pump unless working on the unit or in collection mode.
- **ENGAGE** the PTO or **PULL** the System Power switch **ONLY** when you are on route **OR** as necessary to perform repairs.

- When the unit is stored or not in use, you **MUST** do the following:
 - **SET ALL** cylinders to the collapsed positions **EXCEPT** the **TAILGATE LOCK CYLINDERS** and the **ARM RAISE CYLINDERS**. Keep the Tailgate LOCK CYLINDERS in the **LOCKED** position. Keep the ARM RAISE CYLINDERS in the **LOWERED** position.
 - **PRESS** the pump icon so the pump shuts off.
 - **REMOVE** the key from the ignition. This helps prevent tampering by unauthorized persons. Refer to “**LOCK-OUT/TAG-OUT PROCEDURE**” on **page 46**.
- You must be attentive at all times while you operate the controls and be ready to stop or reverse the function if necessary.

Before Operating The Equipment

- **DO NOT** operate or service this machine until you are fully trained and have read and understand this entire manual.
- **NEVER** operate the unit **UNLESS** you are fully knowledgeable of all control functions. See the “**FEATURES & CONTROLS**” on **page 49** of this manual.
- **MAKE SURE BEFORE** you operate the vehicle or its controls that all individuals are at a safe distance away from the unit.
- **DO NOT** operate the unit when it needs service or repair.

GENERAL SAFETY PRECAUTIONS

- **DO A VISUAL CHECK** at the beginning of each shift of the unit and run it through several cycles to find fluid leaks, broken, missing or malfunctioning, and excessively worn components (including hoses). See the “**DAILY CHECKLIST**” on **page 81** of this manual. If you find leaks, broken, missing or malfunctioning parts, immediately stop and get the condition repaired or serviced.

Use Personal Protective Equipment

- **ALWAYS WEAR** the proper safety equipment, such as hard hats, safety shoes, protective eye wear, reflective clothing and gloves. Confirm with the owner/operator that you are using proper safety equipment.
- **WEAR PROPER EYE PROTECTION** and avoid contact with oil if possible whenever you work on or about hydraulic lines or components. NEVER check for oil leaks with your bare hands.

Do Not Ride Outside The Vehicle

- The Half/Pack front loader was not designed like a rear end loader and has no exterior riding steps or handholds.
- **NEVER** ride on the forks.
- **NEVER** ride on or in anything attached to the forks.
- **NEVER** ride **ANYWHERE** outside the vehicle.

Beware Of Overhead Obstructions

- **KNOW** the clearance required for **ALL** overhead obstructions (such as viaducts and bridges) that you may encounter when you drive the unit. See the decal in the chassis cab for your unit's overall height.
- **NEVER** drive the unit under any overhead obstruction of unknown height clearance.
- Arms and forks in the **UP** position may make the unit too high to clear overhead obstructions.
- **CHECK** the height of the unit after you do any modifications to the chassis suspension. Any chassis suspension modification may change the height of the unit.
- **LOOK UP AND LIVE. MAKE SURE** there is enough clearance between a lowered or raised container and overhead power lines. It is not necessary for the unit or container to touch the electric cable for the electricity to pass through the unit.
- **STAY IN THE CAB and KEEP AWAY FROM ALL METAL PARTS OF THE UNIT** if the unit does touch a power line. **STAY IN THE UNIT UNTIL HELP ARRIVES.**

GENERAL SAFETY PRECAUTIONS

Loading Refuse Into The Unit

- **YOU MUST BE ATTENTIVE** at all times when you load refuse and be ready to stop or reverse the function in use if necessary.
- **ALL PERSONS MUST STAND CLEAR** when the tailgate is in motion and during the unloading cycle. **MAKE SURE** no one stands under or crosses under a raised tailgate.
- **LOOK UP AND LIVE.** Make sure there is enough clearance between a raised container and overhead power lines.

Unloading

- **MAKE SURE** the unloading area is clear of all personnel.
- **ALL PERSONS MUST STAND CLEAR** when the tailgate is in motion and during the unloading cycle. **MAKE SURE** no one stands under or crosses under a raised tailgate.

When Working In Or Around The Vehicle

- **MAKE SURE** the unit is in “**LOCK-OUT/TAG-OUT PROCEDURE**” on page 46 condition **BEFORE** you work in or around the unit.
- **DO NOT** go under the chassis or enter the body area unless the unit is in Lock-Out/Tag-Out. To Lock-Out/Tag-Out the unit, see the “**LOCK-OUT/TAG-OUT PROCEDURE**” on page 46.

- **BE CAREFUL** at all times when using any ladder. Maintain good balance with two feet and one hand, or one foot and two hands, firmly in place at all times.
- **NEVER** put any part of your body between a raised body and the chassis frame unless the frame is securely propped up using both body props, one on each side of the unit. Read and follow the instructions for “**Propping The Tailgate**” on page 79.
- **DO NOT** use the hopper opening and tailgate opening as an entrance or exit to the body or hopper. **ONLY USE** the side door as an entrance or exit to the body.
- If the unit has a washout option, **RELIEVE** the air pressure in the wash-out tank **BEFORE** you open the cap.
- **DO NOT** use the cab windshield guard as a ladder.

Towing Of Any Equipment

- Heil **DOES NOT** recommend that you tow any kind of equipment with the unit. The unit was **NOT DESIGNED** nor intended for towing.

DECALS

The following pages show the DANGER, WARNING and CAUTION decals and list the reflective safety materials that are on the vehicle. See the service manual applicable to this unit for the location and part numbers of all decals on the unit.

NOTICE

Replace any decal with a new decal if the old decal is lost, destroyed, painted over or cannot be read. When you replace a part that had decals, make sure you install new decals on each new part. Decal part numbers can be found in the applicable service manual for this unit. You can purchase replacement decals from your **Heil Dealer** or from the **Heil Parts Central, 800-528-5308**.

REFLECTIVE SAFETY MATERIALS

See the service manual applicable to this unit for the location and part numbers of the reflective safety materials on the unit.

NOTICE

Replace any safety material with new safety material if the old safety material is lost, destroyed, painted over or cannot be seen. When you replace a part that had safety material on it, make sure you install new safety material on the new replacement part. See the applicable Service Manual for all part numbers and location of the safety materials.

You can purchase replacement decals from your **Heil Dealer** or from the **Heil Parts Central, 800-528-5308**.

DECAL PLACEMENT

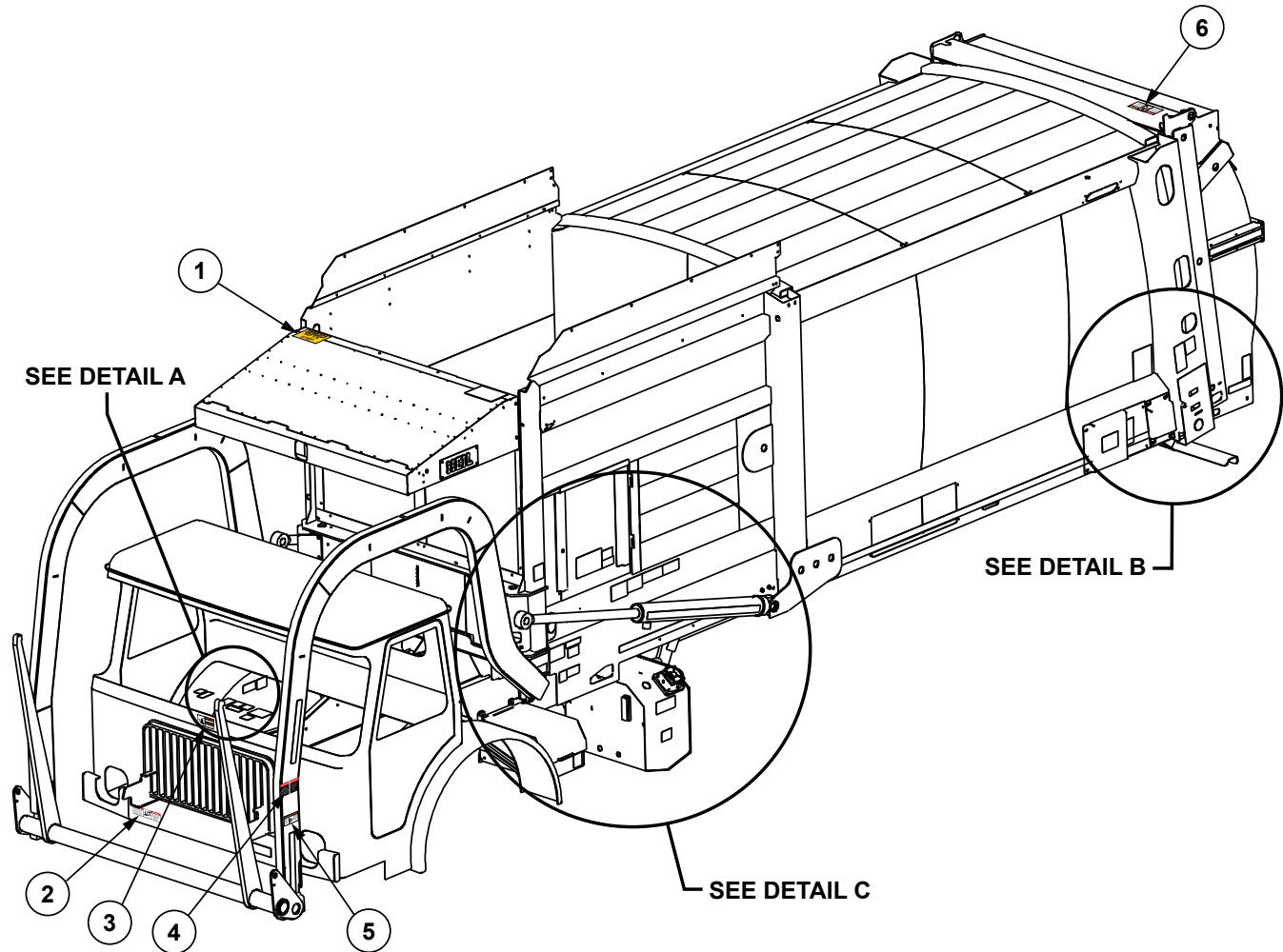


Figure 7.

DECAL PLACEMENT

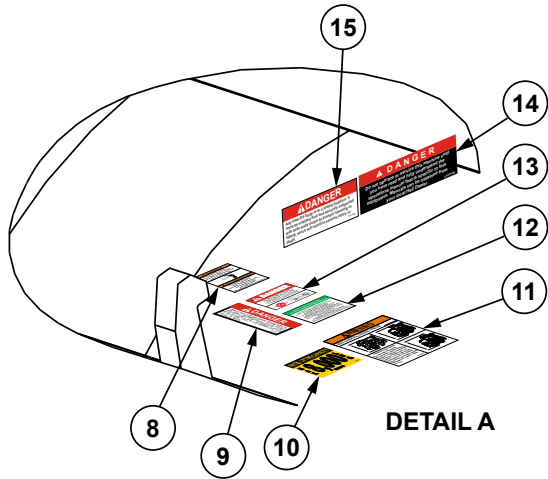


Figure 10.

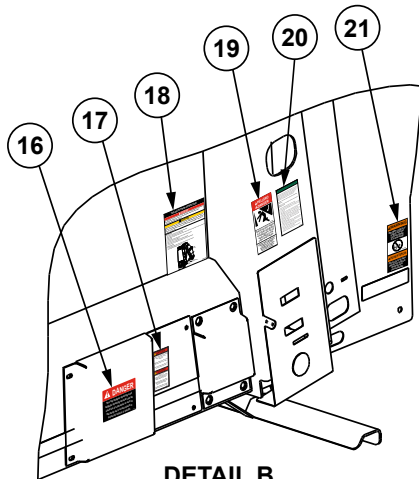


Figure 9.

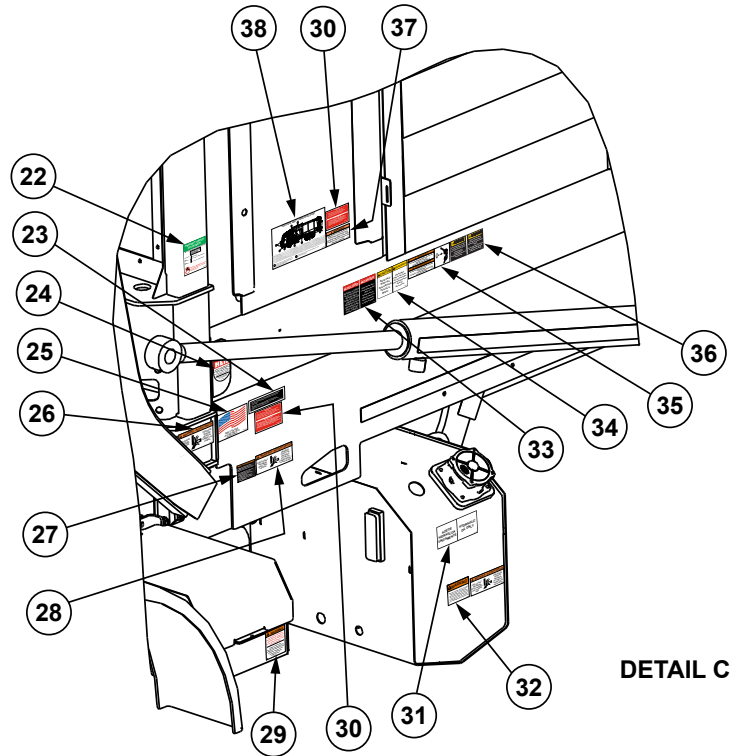


Figure 8.

DECAL PLACEMENT

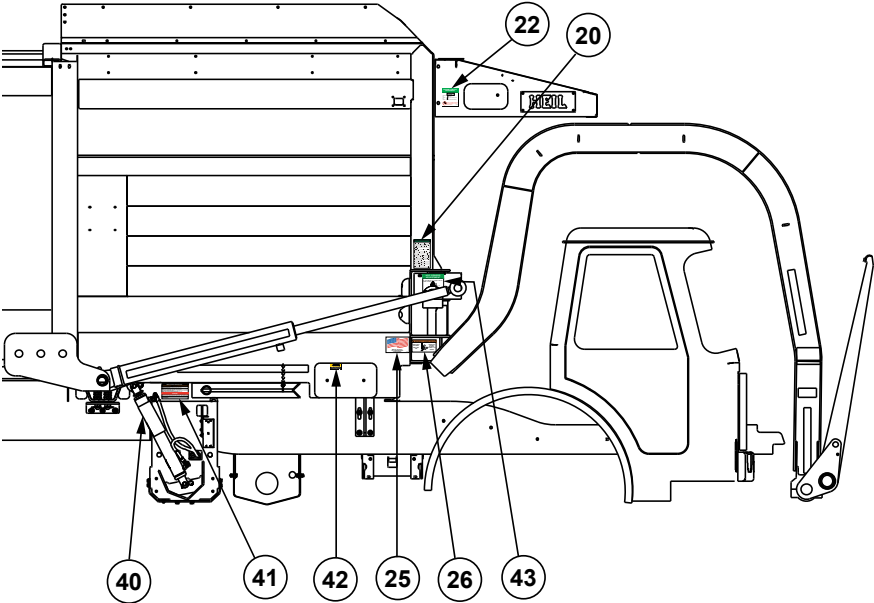


Figure 12.

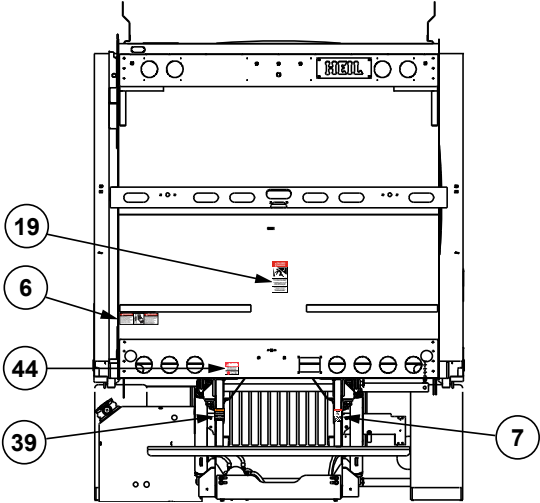


Figure 11.

DECAL PLACEMENT

ITEM	PART NO.	DESCRIPTION	QTY
-	490-0062-006	DECAL KIT, BODY	REF
-	490-0062-015	DECAL KIT, ENG-CANADIAN-FRENCH (available upon request)	REF
1	212-3128	DECAL, CAUTION, DO NOT STEP	2
2	212-1764	DECAL, DANGER - DO NOT ENTER UNDER...	2
3	212-2611	DECAL, WINDSHIELD GUARD WARNING	1
4	212-1899	DECAL, STAY CLEAR, CONTAINER OFF GRND	2
5	212-3413	DECAL, WARNING, PINCH POINTS	1
6	212-2394	DECAL, WARNING, UNIT LOCKOUT	2
7	212-1634	DECAL, DANGER - STAND CLEAR	1
8	212-3279	DECAL, WARNING, LOCK/OUT - TAG/OUT	1
9	212-1626	DECAL, DANGER, RAISE T/G BEFORE BODY	1
10	212-0983	DECAL, LIFT CAPACITY	1
11	212-3091	DECAL, OVERALL HEIGHT, FEL	1
12	212-1918	DECAL, SAFETY INSTRUCTIONS	1
13	212-1820	DECAL, DANGER - TOWING - IN CAB	1
14	212-0735	DECAL, INFORMATION - IN CAB	1
15	212-1104	DECAL, DANGER, ELEVATED BODY	1
16	212-1642	DECAL, DANGER - HOPPER AND T/G OPENING	2
17	212-3062	DECAL, TAILGATE PROPS OPERATION	2
18	212-3631	TAILGATE PROP DECAL	2
19	212-1801	DECAL, DANGER - STAND CLEAR	2
20	212-2384	DECAL, PACKER/EJECTOR ADJ.	1
21	212-2691	DECAL, WARNING, DO NOT CROSS	2
22	212-2228	DECAL, PROX. SWITCH ADJUSTMENT	4
23	212-1841	DECAL, ANSI SPECIFICATIONS	2

DECAL PLACEMENT

ITEM	PART NO.	DESCRIPTION	QTY
24	212-1915	DECAL, WARRANTY PARTS	1
25	212-2689	DECAL, FLAG	2
26	212-3418	DECAL, WARNING, PINCH POINTS	2
27	212-3288	DECAL, WARNING, LADDER DOWN/PINNED	1
28	212-3415	DECAL, CAUTION PINCH POINTS	1
29	212-2875	DECAL, WARNING BATTERY	1
30	212-1783	DECAL, OPER. MANUAL WARNING	2
31	212-1782	DECAL, HYDRAULIC OIL ONLY	1
32	212-3548	DECAL, WARNING, OIL TANK	1
33	212-1907	DECAL, DANGER, ACCESS DOOR	1
34	212-1911	DECAL, CAUTION PANEL IN MOTION	1
35	212-1781	DECAL, CAUTION-STOP ENGINE	1
36	212-1780	DECAL, CAUTION-SIDE DOOR	1
37	212-3287	DECAL, WARNING, DAILY INSPECTION FORM	1
38	212-3406	DECAL, LUBRICATION GUIDE	1
39	212-1631	DECAL, WARNING, BUMPER NOT STEP	1
40	212-1103	DECAL, DANGER, EMPTY BODY BEFORE RAISING, LG	2
41	212-1329	DECAL, BODY PROP OPERATION	2
42	212-2067	DECAL, CAUTION-SUMP DOOR	1
43	212-3298	DECAL, ARC SENSOR ADJUSTMENT	1
44	212-1819	DECAL, DANGER - TOWING	1

DECAL IMAGES

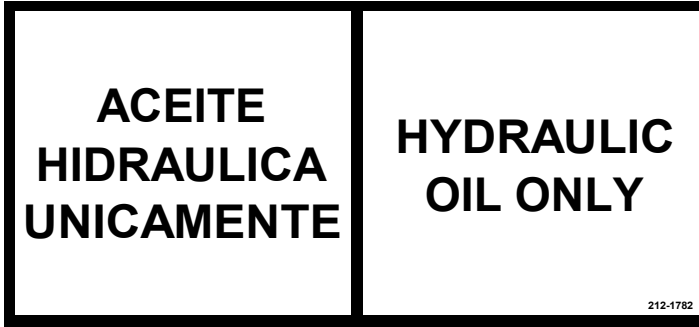


Figure 13. Hydraulic Oil Only, PN 212-1782

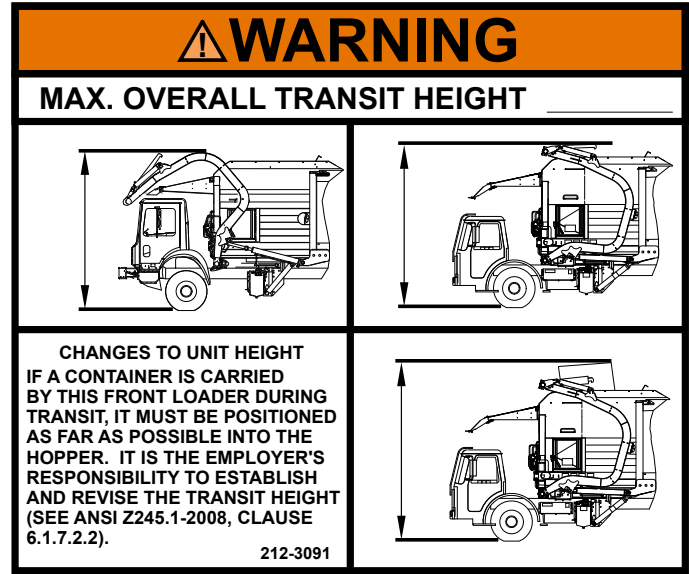


Figure 14. Overall Height, PN 212-3091

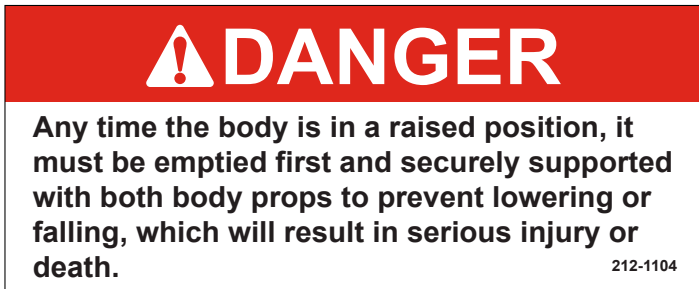


Figure 15. Danger: Elevated Body, PN 212-1104



Figure 16. Danger: Raise Tailgate Before Raising Body, PN 212-1626

DECAL IMAGES



Figure 17. Danger: Hopper & Tailgate Opening, PN 212-1642



Figure 19. Danger, PN 212-1634



Figure 18. Caution: Side Door, PN 212-1780

DECAL IMAGES

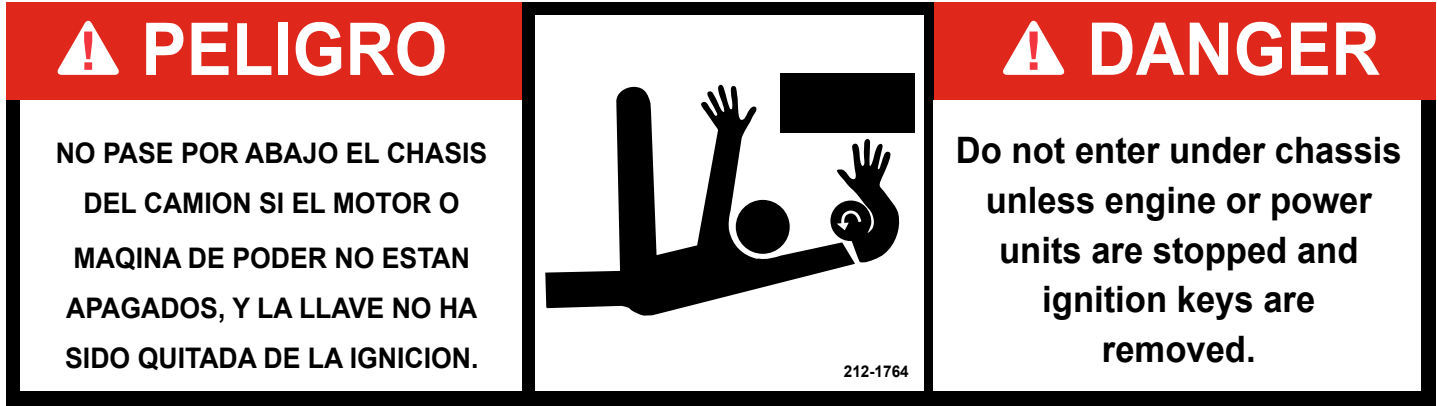


Figure 20. Danger: Do Not Enter Under Chassis, PN 212-1764

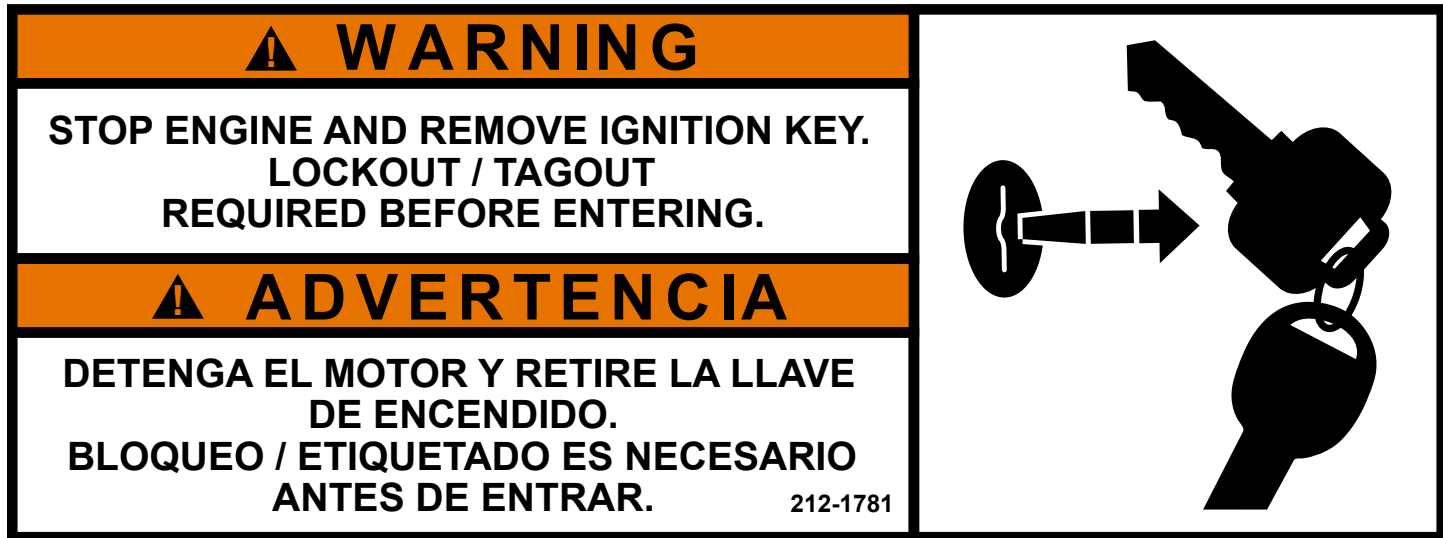


Figure 21. Caution: Stop Engine, PN 212-1781

DECAL IMAGES

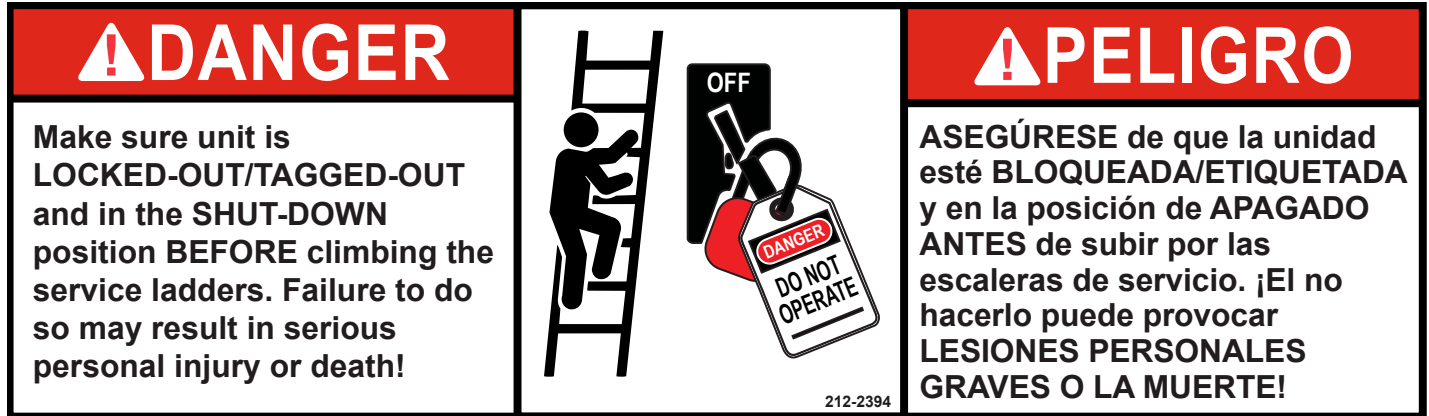


Figure 22. Warning: Unit Lockout, PN 212-2394



Figure 23. Danger: Windshield Guard Warning, PN 212-2611

DECAL IMAGES

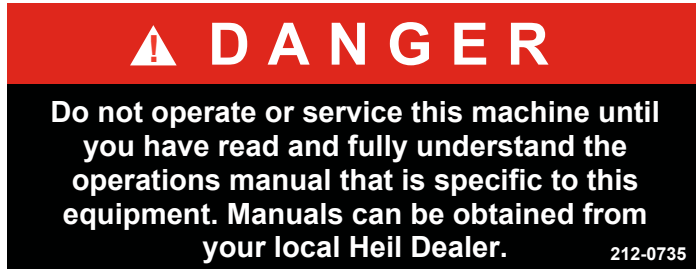


Figure 24. Danger: Read Ops Manual, PN 212-0735

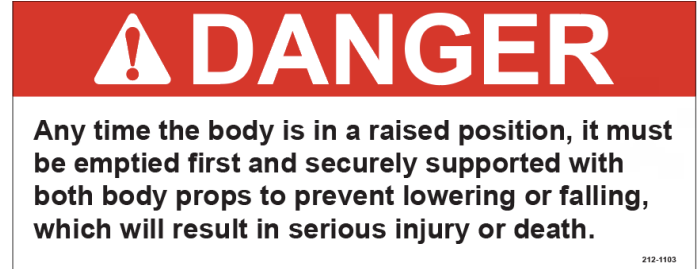


Figure 25. Danger: Empty Body Before Raising, PN 212-1103

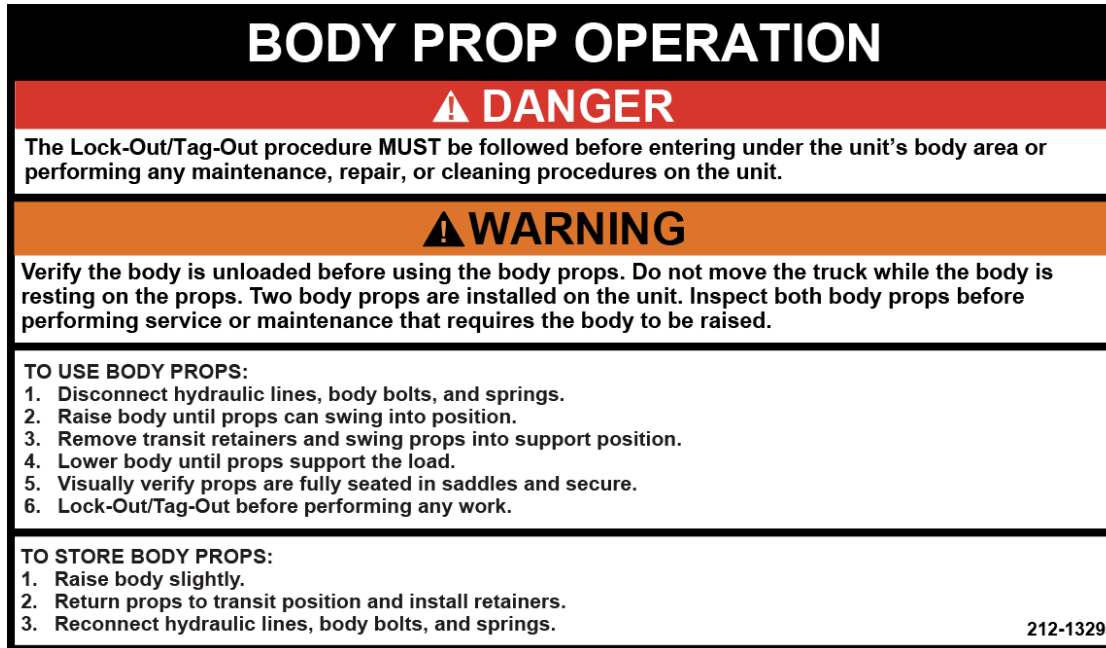


Figure 26. Body Prop Operation, PN 212-1329

DECAL IMAGES



Figure 27. Warning: Do Not Cross,
PN 212-2691

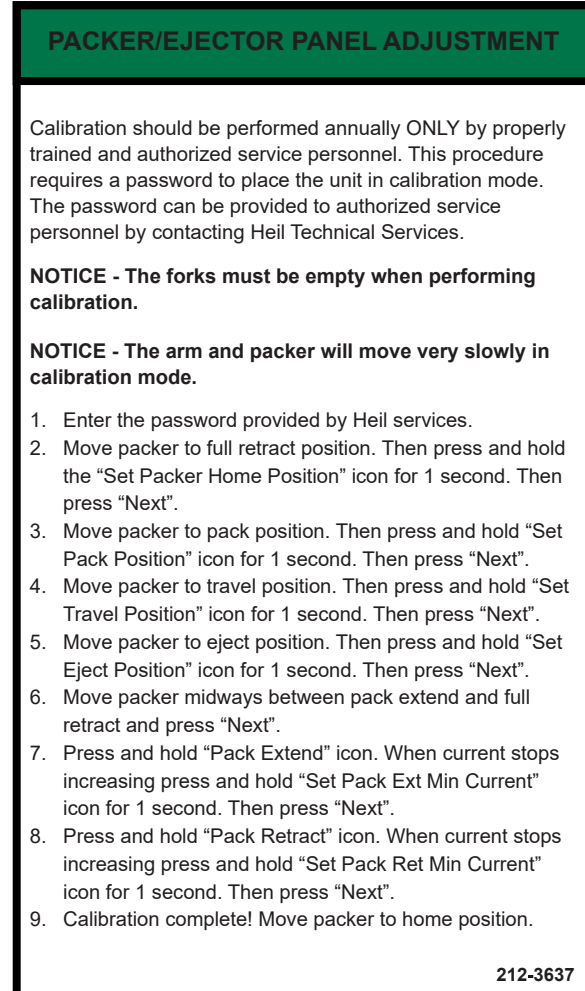


Figure 28. Adjustment, Packer/Ejector,
PN 212-2384

DECAL IMAGES



Figure 29. Warning: Lock-Out/Tag-Out, PN 212-3279



Figure 31. Danger, No Towing, PN 212-1820

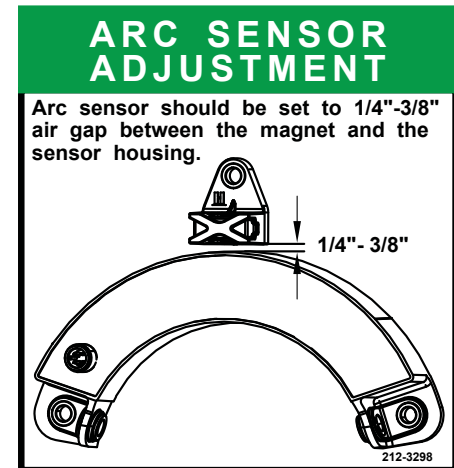


Figure 30. Arc Sensor, PN 212-3298

DECAL IMAGES

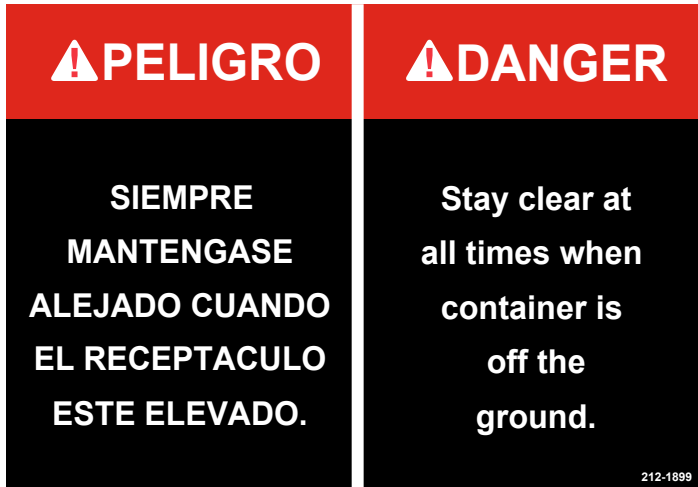


Figure 32. Danger: Stay Clear, PN 212-1899

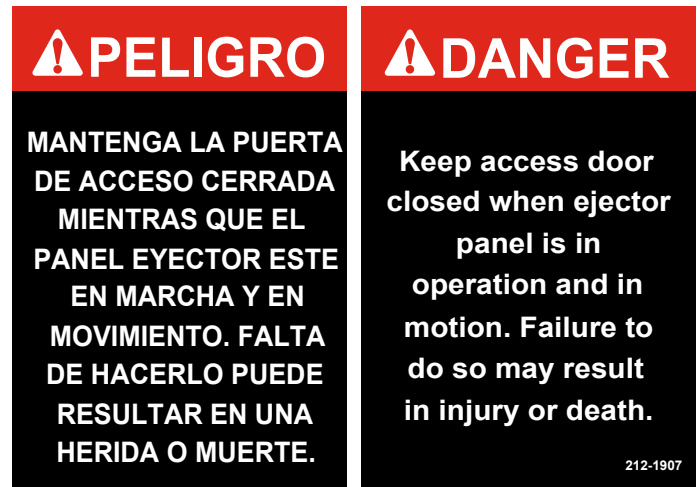


Figure 33. Danger: Access Door, PN 212-1907



Figure 34. Caution: Do Not Step, PN 212-3128



Figure 35. Caution: Sump Door, PN 212-2067

DECAL IMAGES



Figure 36. Danger: Stand Clear of Tailgate,
PN 212-1801



Figure 37. Danger: Tailgate Props
Operation, PN 212-3062

DECAL IMAGES

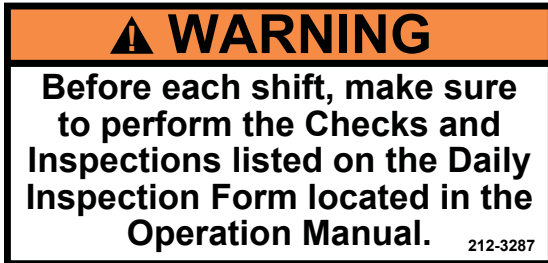


Figure 38. Warning: Daily Inspection, PN 212-3287



Figure 39. Warning: Disconnect Battery, PN 212-2875

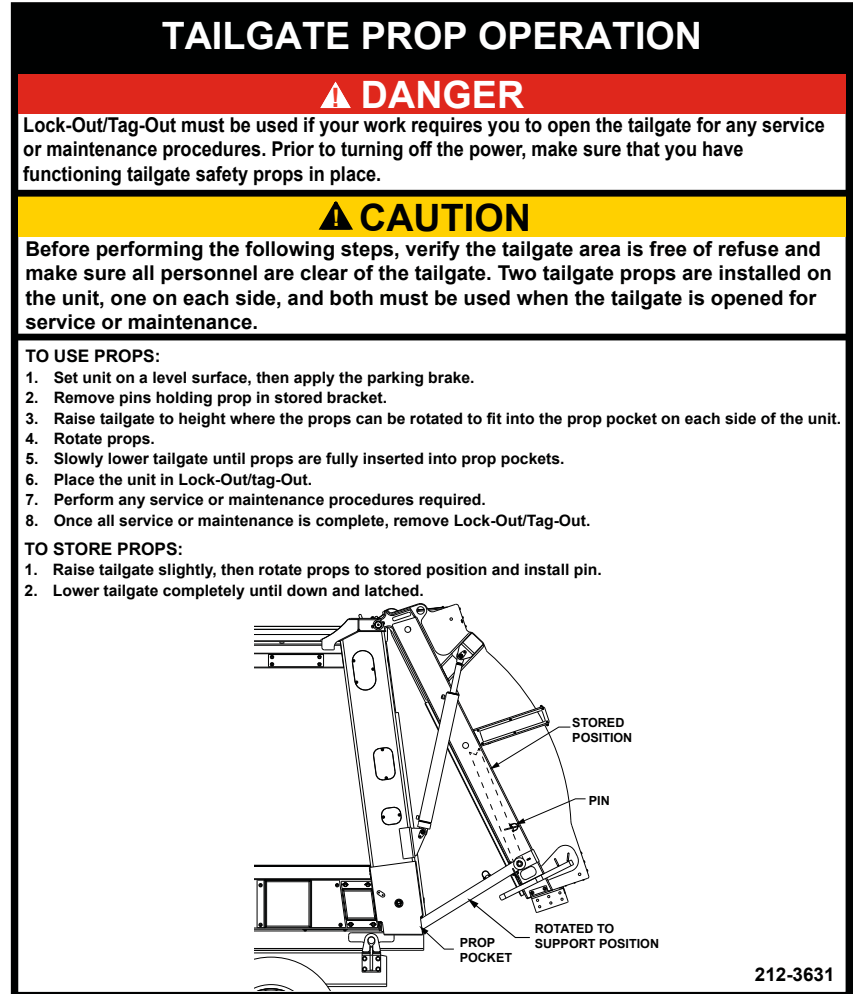


Figure 40. Caution, Tailgate Prop Operation, PN 212-3631

DECAL IMAGES

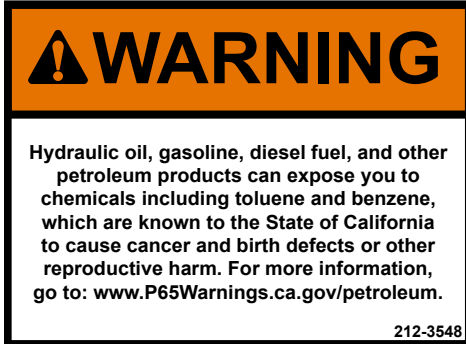


Figure 41. Decal, Warning, Oil Tank, Petroleum, PN 212-3548



Figure 42. Heil Replacement Parts, PN 212-1915



Figure 43. Safety Instructions, Back-Up Alarm, PN 212-1918



Figure 44. Safety Requirements, ANSI, PN 212-1841

DECAL IMAGES

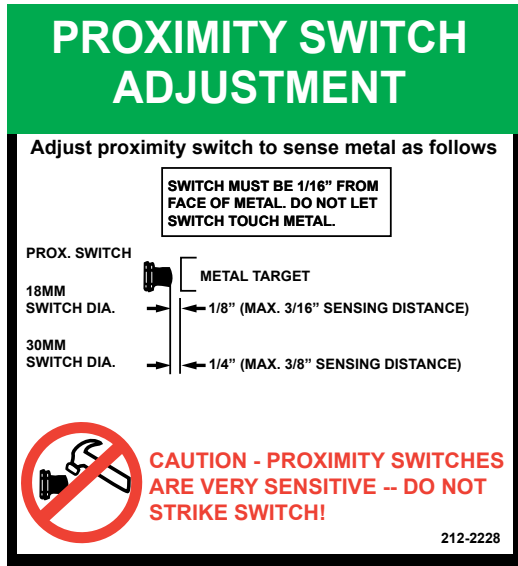


Figure 45. Proximity Switch, Adjustment, PN 212-2228



Figure 46. Flag, Made in the USA, ANSI, PN 212-2689



Figure 47. Figure 42. Lift Capacity, PN 212-0983
(4.5" Lift Cylinders)

DECAL IMAGES

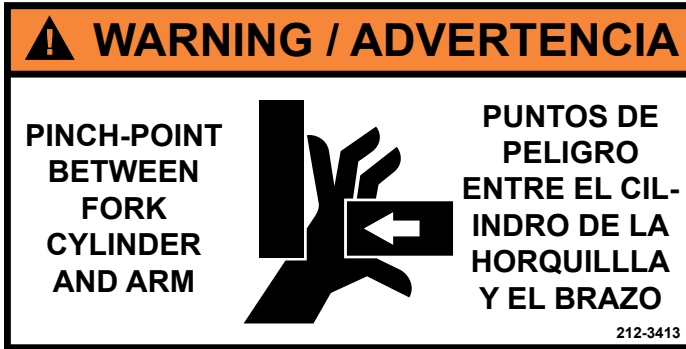


Figure 48. Warning, Pinch Points, PN 212-3413

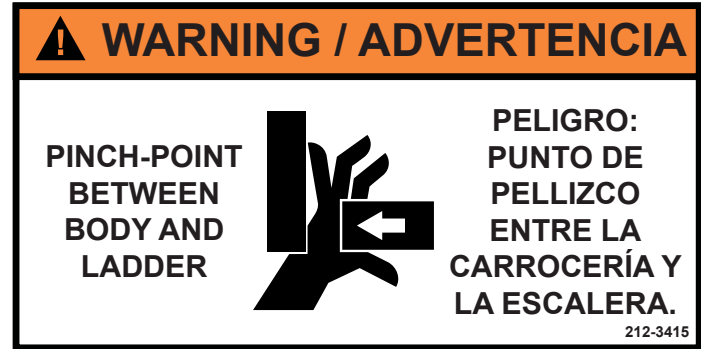


Figure 49. Warning, Pinch Points, PN 212-3415

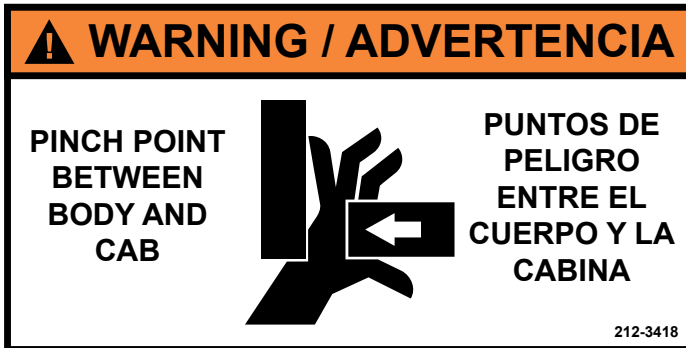


Figure 50. Warning, Pinch Points, PN 212-3418

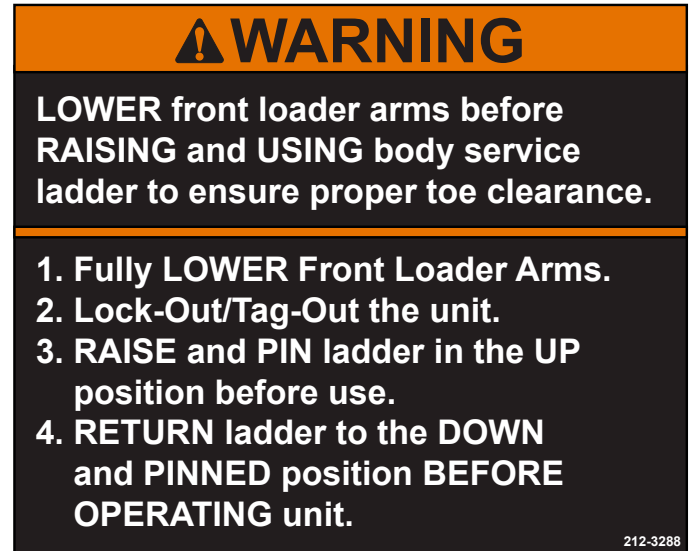


Figure 51. Caution: Ladder Down/Pinned Before Operating, PN 212-3288



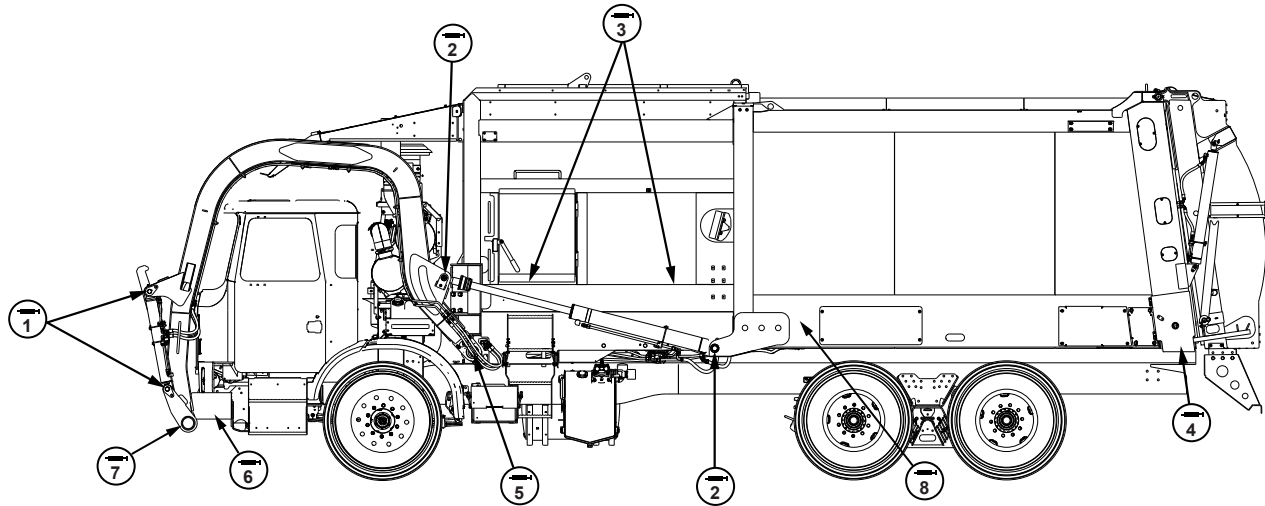
Figure 52. Caution: Stand Clear While Panel in Motion, PN 212-1911



Figure 53. Warning: Read Operation Manual, PN 212-1783

DECAL IMAGES

HALF/PACK® BODY LUBRICATION GUIDE



REF NO.	DESCRIPTION	QTY.	FREQUENCY	REF NO.	DESCRIPTION	QTY.	FREQUENCY
1	FORK CYLINDERS	4	WEEKLY/EVERY 40 HOURS	5	ARM CROSS SHAFT	4	WEEKLY/EVERY 40 HOURS
2	ARM CYLINDERS	4	WEEKLY/EVERY 40 HOURS	6	PUMP DRIVE SHAFT	2	WEEKLY/EVERY 40 HOURS
3	PACKER/EJECTOR CYLINDERS	4	WEEKLY/EVERY 40 HOURS	7	FORK CROSS SHAFT	2	WEEKLY/EVERY 40 HOURS
4	SHUR-LOCK TAILGATE CYLINDER BRACKET	2	WEEKLY/EVERY 40 HOURS	8	PACKER PANEL TRACKS	2	MONTHLY/EVERY 200 HOURS



Use No. 1 pressure gun grease. Clean fittings before applying grease and always pump enough grease to remove old grease. Wipe off excess.



Lubricate moveable mechanical parts without fittings every 60 days with non-detergent engine oil.

212-3406

Figure 54. Decal, Lubrication Guide PN 212-3406

CARE OF DECALS

It is important that the decals are properly cleaned to make sure that they are readable and do not come off the unit. Use the following steps to clean the decals.

General Instructions

- Wash the decals with a blend of mild car wash detergent and clean water.
- Rinse with clean water.
- Let the vehicle air-dry or dry with a micro-fiber cloth.
- Do not allow fuels to stay in contact with the decal for an extended period of time. Remove the fuel contamination as quickly as possible.
- Do not use carnauba-based wax over the decals.
- Do not use a mechanical brush while washing the decals.

Pressure Washer Precautions

- Pressure washing can cause damage to decals. It can cause the edges of the decals to lift and peel the decal away from the unit. Over time, the decal can fade, crack or chip away.
- See the following figures for correct and incorrect methods of pressure washing.
- Use pressure washing only when other cleaning methods are not effective. If you use a pressure washer, use the following precautions.
 - Spray nozzle opening: 40° wide pattern
 - Spray angle: 65° from vehicle's body
 - Distance of nozzle to decal: 15" minimum
 - Water pressure: ≤ 800 psi
 - Length of time: not more than 30 sec.
 - Do not use sharp angles to clean the decals – this can lift the decals from the unit.
 - NEVER use a “turbo pressure nozzle”.

CARE OF DECALS

Pressure Washer Technique

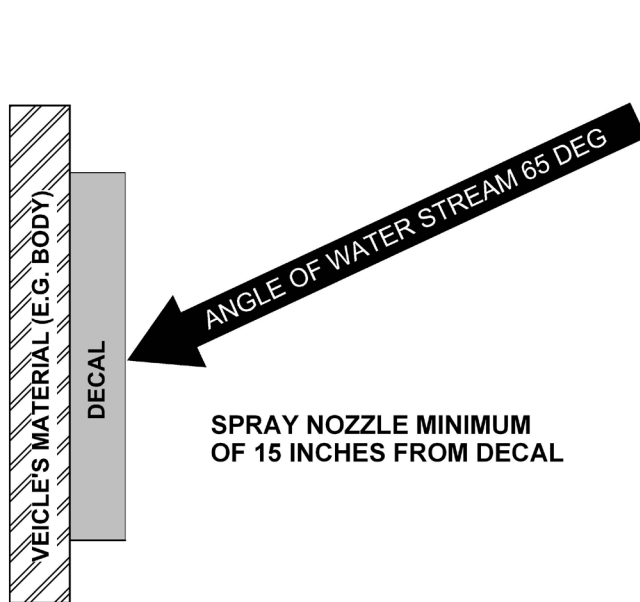


Figure 55. Recommended Technique

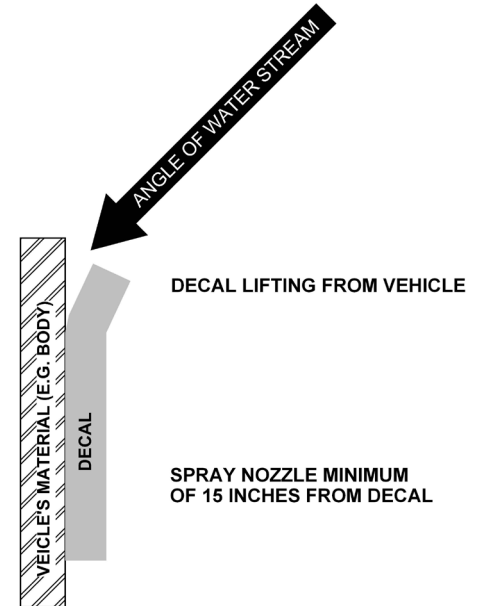


Figure 56. Incorrect Technique

Alternative Cleaning Procedure

When normal cleaning procedures do not remove difficult debris from the decals, try the following:

⚠ WARNING

Isopropyl alcohol is flammable and is harmful to eyes and skin. Keep isopropyl alcohol away from heat or open sources of ignition. Refer to OSHA standards and seek immediate medical help.

- Spot clean the decal with Isopropyl Alcohol and a micro-fiber cloth (rag).
- If these methods do not work on a problem area, call a Heil Dealer or Heil Customer Service.

SECTION 3

LOCK-OUT/TAG-OUT PROCEDURE

LOCK-OUT/TAG-OUT PROCEDURE

⚠ DANGER

This procedure **MUST** be followed before entering the unit's body or performing any maintenance, repair, or cleaning procedures on the unit. **SERIOUS INJURY or DEATH** will occur if not followed.

⚠ WARNING

If you do not have functioning Lock-Out/Tag-Out equipment and/or are not an authorized employee, **STOP** and **DO NOT** initiate any service on the unit. Contact your supervisor immediately.

NOTICE

This Lock-Out/Tag-Out procedure represents Heil's minimum recommendation and should be used in conjunction with and should not supersede additional or more stringent safety requirements specified by your company's policy. Please check with your supervisor to determine if your company has a specific Lock-Out/Tag-Out procedure. Contact your supervisor, Heil Technical Service, or reference OSHA Regulation 1910.147 if you have any questions about Lock-Out/Tag-Out.

Watch the Service Shack Video online at **Heil Service Shack** by selecting **Lock-Out/Tag-Out**.

- A. Put the unit in a Lock-Out/Tag-Out:
 1. **BEFORE** you enter the unit's body
 2. **BEFORE** you perform ANY maintenance, repair or cleaning procedures on the unit.
- B. All stored energy must be removed and/or protected against, common sources found on Heil units (Including, but not limited to):
 1. Hydraulics
 2. Electrical
 3. Gravity
 4. Pneumatics
 5. Mechanical
- C. Examples of some basic equipment required:
 1. Multi-hasp
 2. Single-keyed red lock
 3. Lock-Out tag



Figure 57. Lock-Out/Tag-Out Tag (Do Not Operate Tag)

LOCK-OUT/TAG-OUT PROCEDURE

Locking Out The Unit

Follow These Steps:

1. APPLY the parking brakes. VERIFY they hold the unit securely in place and function properly.
2. Chock all wheels.
3. SET the tailgate props when the tailgate is raised for any service, maintenance or cleaning.
4. SET the body props when the body is raised for any service, maintenance or cleaning.
5. BEFORE disconnecting the main battery power, VERIFY that all stored energy sources have been fully depleted according to your company's policy.
 - a. Hydraulic (such as forks or grabber arm in stowed position).
 - b. Pneumatic (such as tag axles).
 - c. Mechanical (such as springs).
 - d. Gravity (such as tailgate raised).
6. REMOVE the key from the ignition and store it in a secured location for your safety.
7. Disconnect the battery power by flipping the battery box disconnect switch to OFF.
 - a. VERIFY all electrical stored energy is depleted according to your company procedure.
8. INSERT the multi-hasps into the disconnect switch.
9. ATTACH your red single-keyed Lock-Out/Tag-Out lock with your tag exposed and visible to the multi-hasps.
 - a. ALWAYS use your individually assigned lock and tag when performing any service or maintenance with other authorized employees. Each employee must place their own lock and tag on the multi-hasps attached to the disconnect switch.
10. REMOVE your lock key and put it in your pocket for your safety.
 - a. ONLY the person who placed the lock and tag on the multi-hasps is authorized to remove it.
 - b. NEVER remove another employee's Lock-Out/Tag-Out equipment without approval from the authorized person responsible.
 - c. Shift or personnel changes: Off-going employees MUST provide all details pertaining to the unit's status to the oncoming employee(s). The oncoming employee(s) MUST perform the Lock-Out/Tag-Out procedure to verify all stored energy is removed from the unit BEFORE applying their Lock-Out/Tag-Out equipment.
11. BEFORE removing your Lock-Out/Tag-Out equipment to return the unit to service, follow these steps.
 - a. INSPECT the work area to ensure all nonessential items have been removed.
 - b. VERIFY all unit components are operationally intact.
 - c. ENSURE all employees are safely positioned or removed from the area.
 - d. NOTIFY all affected employees that the Lock-Out/Tag-Out devices are being removed.

SECTION 4

FEATURES & CONTROLS

FEATURES

NOTICE

The location and appearance of the controls may be different than those shown in this manual. Make sure you know the location and how to operate the controls on your unit before using the vehicle.

In-Cab Display

The body and cab controller uses the in-cab display for displaying the current status of Input/Output, engine speed, temperatures, etc. This can also be used for configuring or selecting different options in the controller.

For more information see the Body Controller Software section of the Half/ Pack service manual that is applicable to this unit.

Select-O-Pack

The Select-O-Pack icon is located in the in-cab display. This feature can be enabled or disabled as needed through the in-cab display.

The Select-O-Pack feature automatically initiates the pack cycle. When the pack cycle is automatically initiated by this feature depends on the type of unit. The automatic pack cycle is initiated when the arms go below transit height (at which point the “Arms below Height Light” comes on).

Note: Adjust the CANS PER PACK via the display by performing the following steps.

1. Select “On Route”



Figure 58.

FEATURES

2. Press in the white area under CANS Per Pack.

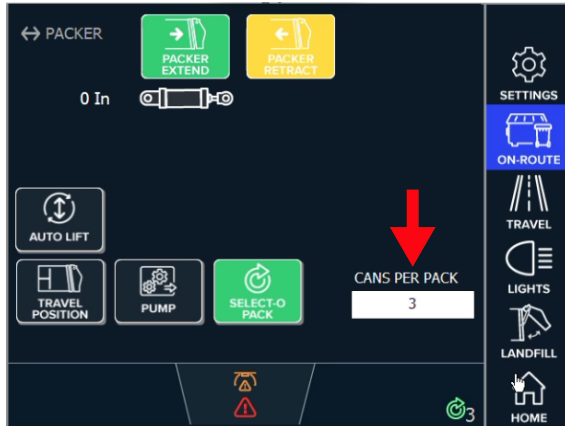


Figure 59.

3. Enter the number of CANS PER PACK; press OK.



Figure 60.

4. Number in active telltale should update.



Figure 61.

AutoPack

The AutoPack Feature is a hydraulic system that is standard on all units and provides automatic pack/return of the packer panel when you compact the load. The system is always ON until you use the packer override icon and use the packer manually.

- The tailgate must be closed for AutoPack to operate. When the tailgate is open, AutoPack does not operate, and the operator must PRESS and HOLD the PACKER EXTEND and PACKER RETRACT icon to extend or retract the packer panel.
- The packer will not function when the operator raises or lowers a refuse container so that hydraulic flow is available for the lift arms.
- When the packer extends, the PACKER EXTEND notification indicator is green on the In-cab Display.

FEATURES

- You can manually retract the packer at any time by pressing the PACKER RETRACT icon.
- When the packer retracts, the PACKER RETRACT notification indicator is yellow or blank on the In-cab Display.

In the auto mode, when you PRESS the PACKER EXTEND button, the packer extends to the end of the first cylinder stage and retracts automatically to the FULLY RETRACTED POSITION, ready for the next cycle. For more information, see **“AutoPack” on page 109**.

The packer retracts automatically when:

- It reaches its travel limit with the tailgate closed
- It reaches its maximum cycle time

The tailgate must be closed for AutoPack to operate. When the tailgate is open, AutoPack does not operate, and the operator must PRESS and HOLD the PACKER EXTEND and PACKER RETRACT switches to extend or retract the packer panel. Refer to AutoPack in the On-Route Operation Procedure section for more information.

Travel Position Operation

Travel Position Controls are located on the in-display. For units without a top door, enabling the Travel Position icon and pressing the Packer Extend push button extends the packer to clear refuse from the hopper and holds it within the body for vehicle travel.

1. Turn ON the TRAVEL POSITION.
2. PRESS the PACKER EXTEND BUTTON. The packer will extend until the packer is just inside the body and will stop.

3. While the packer is extending, the Travel Position indicator flashes. If the packer stops before reaching the Travel Position inside the body, the indicator continues to flash until the packer is retracted (for example, if excessive refuse causes the packer to time out). Once the packer reaches the Travel Position proximity switch, the Travel Position indicator remains on and turns off only when Travel Position is disabled.
4. The packer will not retract until the Travel Position is turned off.
5. Turning off the Travel Position and pressing Packer Retract will automatically bring the packer back to the Fully Extended position ONLY. To return to the front head, the operator has to continually hold the packer retract button down. This is a safety feature.

IN-CAB MAIN CONTROL PANEL

The in-cab main control panel can vary with different models of truck chassis and configuration. The control panels have labels or markings that identify each function and its operations. Make sure you are familiar with the control panel in your unit.

Note: If the switch bank fails, use the in-cab display switchboard as a temporary solution.



Figure 62. Control Panel

⚠ WARNING

After the system power switch is pressed and motion of components has appeared to stop, additional movement can occur. **SERIOUS INJURY or DEATH** can occur if stored energy is not released.

1. **SYSTEM POWER ON and OFF/STOP SWITCH (RED)** - The switch must be ON and the side door closed for the pump to turn on. The packer, lift, and tailgate will not operate with the side door/system power OFF.
 - a. PULL for ON position.
 - b. PUSH for OFF/STOP position.

NOTICE

The packer panel can be stopped at any position by pushing switch to OFF/STOP position.

2. **IN-CAB ALARM** - Sounds when tailgate or body is opened or raised, the lift is extended, when switching between Auto and Manual Pack Modes or Auto and Manual Lift Modes, when various other conditions occur, or a fault condition occurs. Refer to Diagnostic Fault Codes and the applicable Service Manual , “Body Controller Software” section.
3. **USB CHARGING PORT**
4. **SWITCH BANK** - Pump, Pack Extend, OVHGT Override, Auto Lift, Pack Retract, and Select-O-Pack functions are located in the In-Cab Display.

IN-CAB MAIN CONTROL PANEL

Switchbank Nomenclature

Use the push buttons and indicator lights described below to operate the unit's hydraulic functions. Note: All functions are momentary. The button works only while it is being pressed. When released, it automatically returns to its default position.



Figure 63.

⚠ WARNING

After the System Power push button is pressed and motion of components has appeared to stop, additional movement can occur and may cause **SERIOUS INJURY** or **DEATH**.

Press the button to activate the hydraulic function; press it again to deactivate it. Some buttons have lighted notification status colors around them.

NOTICE

The packer panel can be stopped at any position by pushing the system power switch.

1. PUMP BUTTON

- PUSH to turn hydraulic pump ON. The lighted ring around the switch light comes ON.
- PUSH again to turn hydraulic pump OFF. The lighted ring around the switch light goes OFF.

2. PACK EXT / RET buttons - Controls extending and retracting the packer. The lighted ring around the PACK RET button will be RED if packer is not retracted to the full retract position.

- PUSH to PACK EXT button to EXTEND packer.
- PUSH to PACK RET position to RETRACT packer.

⚠ DANGER

Perform the **“Locking Out The Unit”** on page 48 before **“Clean Behind The Packer Panel”** on page 119. Failure to do so will cause **SERIOUS INJURY** or **DEATH**.

- OVHGT OVERRIDE BUTTON – Use this function to override the packer logic on a unit when you want to use the packer with the arms above the cab protector.

IN-CAB MAIN CONTROL PANEL

The lighted ring around the OVHGT OVERRIDE button will flash RED if arms are above height and forks are not tucked OR if commercial grippers/ adjustable forks are over height. This allows an operator to:

- manually operate the packer with the arms raised.
- extend the packer and clean behind the packer on Commercial units.

4. SELECT-O-PACK BUTTON - Enables Select-O-Pack function.
 - a. PUSH to turn Select-O-Pack ON with one pack cycle (lighted ring turns YELLOW).
 - b. PUSH again to turn Select-O-Pack ON with two pack cycles (lighted ring turns GREEN).
 - c. PUSH again to turn Select-O-Pack OFF (lighted ring turns BLUE).

IN-CAB DISPLAY

Icon Functions

This table provides a reference for the icon function colors and the status indicated.

FUNCTION COLOR	FUNCTION STATUS
Green	Active/State Achieved
Yellow/Blurring	Transition/moving
Gray	Inactive
Red	Unsafe/Not Achieved
EXCEPTIONS	
Pack Extend icon is green when inactive, flashing green when extending and green when fully extended.	
Pack retract icon is yellow when inactive, flashing yellow when retracting and yellow when fully retracted.	
Top Door icon (open) is gray when inactive, flashing green when opening and gray when fully open.	
Top Door icon (close) is red when top door is not fully open and not commanded, flashing green when closing and gray when fully closed.	
Select-O-Pack is gray when inactive, yellow when in half pack mode, green when in double pack mode.	

IN-CAB DISPLAY

Boot-Up Screen

This image will appear on the display once it receives power.



Figure 64.

Customer Resource QR Code

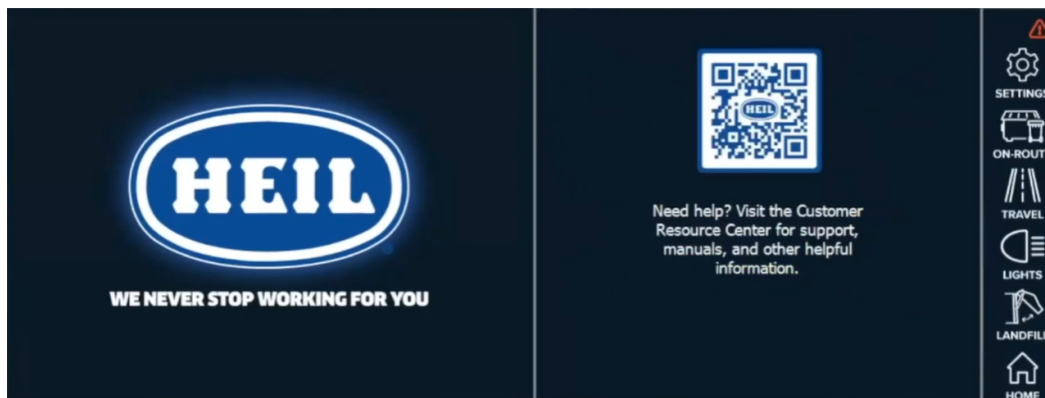


Figure 65.

IN-CAB DISPLAY

Notice Page

Appears for ten seconds along with the telltale bulb check.

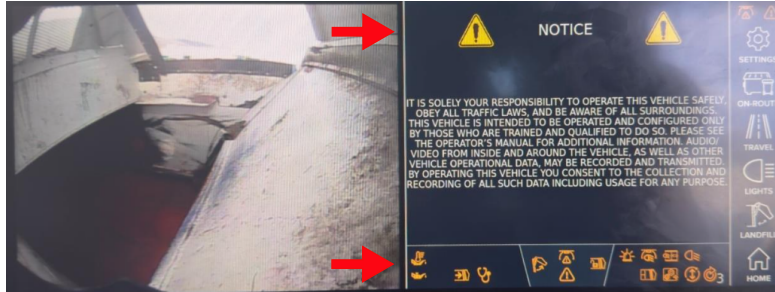


Figure 66.

Home Screen Nomenclature

Note: If cameras are configured, it will appear on the left side as shown and can show up to four cameras at one time. If not configured the Heil logo will appear.

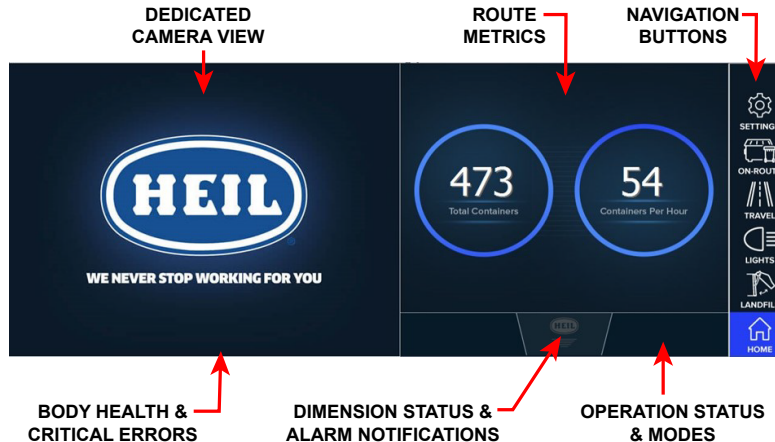


Figure 67.

IN-CAB DISPLAY

Home Screen

NOTE: If camera is configured, it will be shown in the left area.

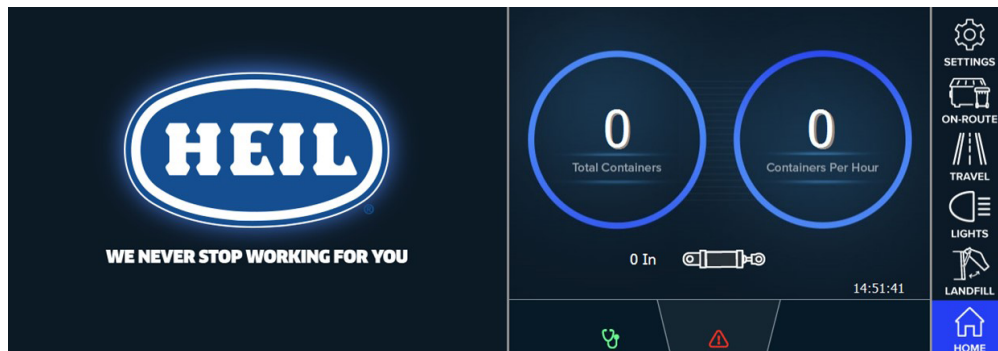


Figure 68.

Settings Page

Here you can view active alarms and other details for the unit by tapping the corresponding icon. If an alarm occurs, it will be identified under the settings page.

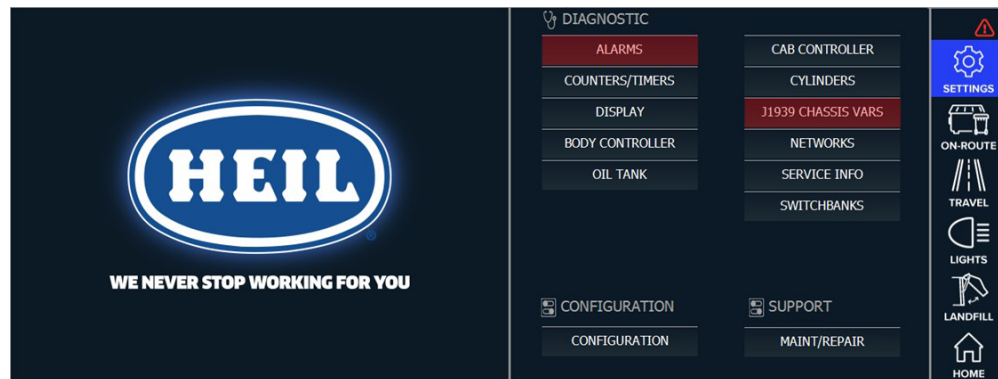


Figure 69.

IN-CAB DISPLAY

A. Alarms

Press the “Clear Alarms” icon to clear current alarms. Press the back icon to return to the previous screen.

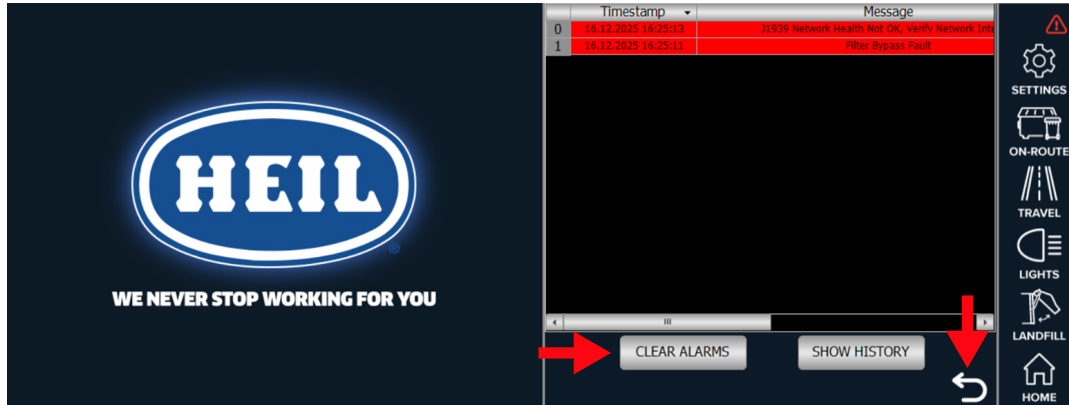


Figure 70.

B. Body Controller Inputs

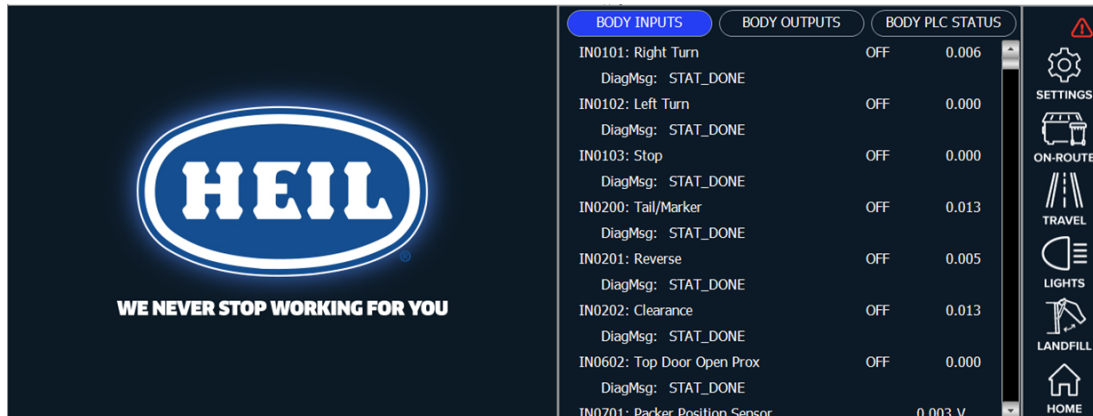


Figure 71.

IN-CAB DISPLAY

C. Body Controller Output

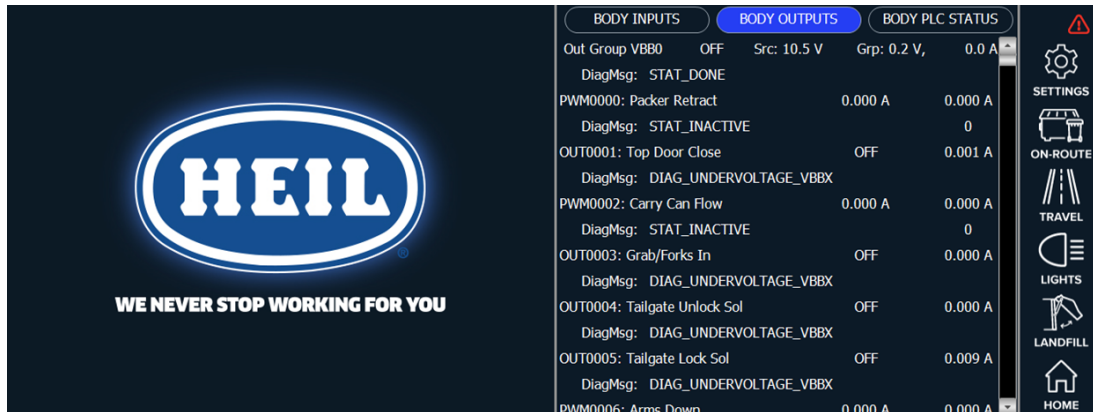


Figure 72.

D. Body Controller PLC Status

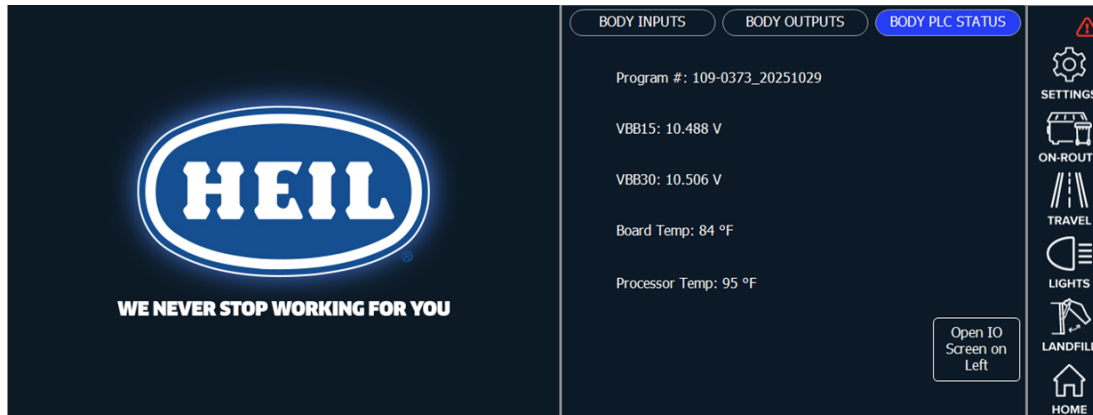


Figure 73.

IN-CAB DISPLAY

E. Cab Controller PLC Status

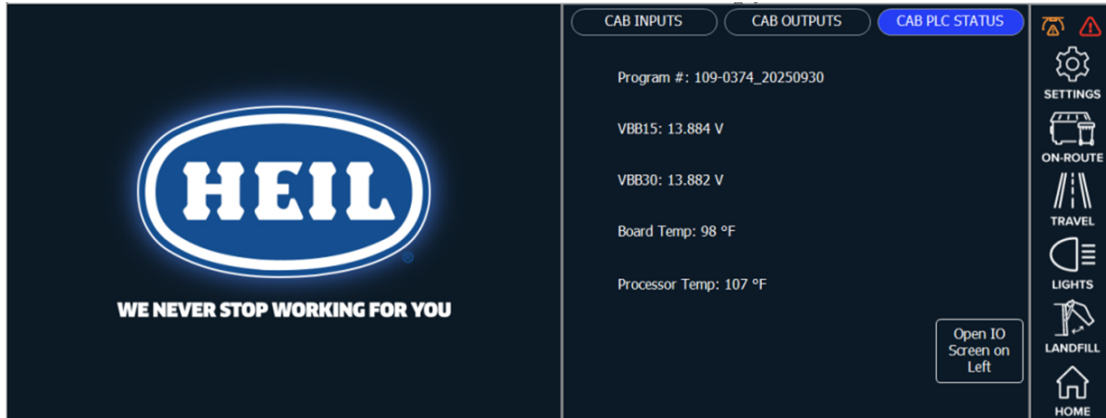


Figure 74.

When the “Open I/O Screen on Left” icon is pressed the display will view as shown.

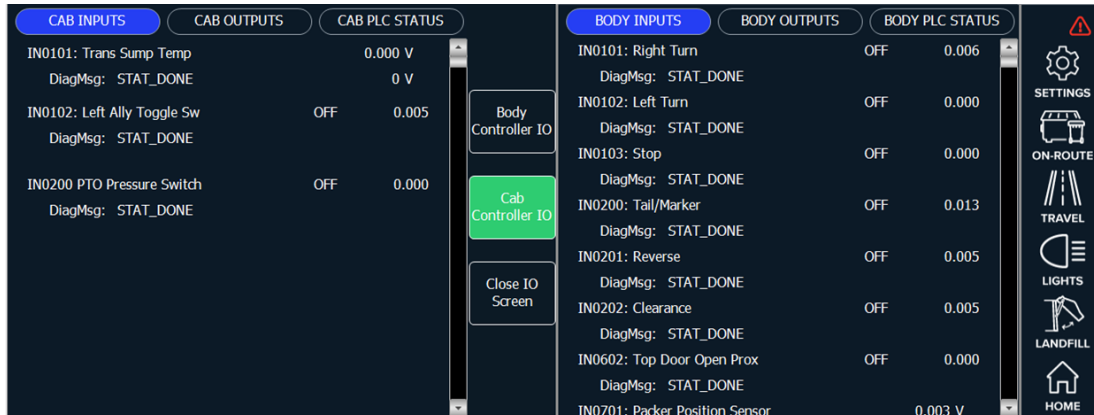


Figure 75.

IN-CAB DISPLAY

F. Counters & Timers

Counters can be reset by pressing the respective icons on this screen.

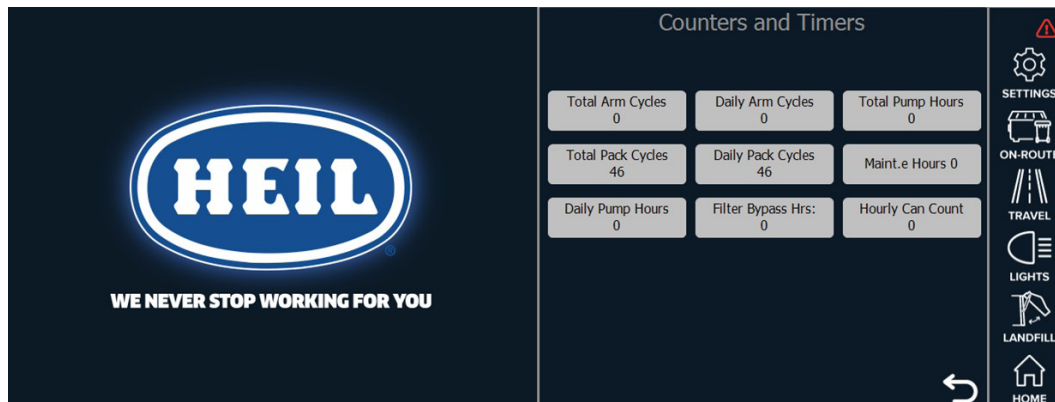


Figure 76.

G. Cylinders



Figure 77.

IN-CAB DISPLAY

H. Display

Set the time, screen brightness, and language preference from this screen.



Figure 78.

I. Chassis

Note: Values & status will show when the truck in on.

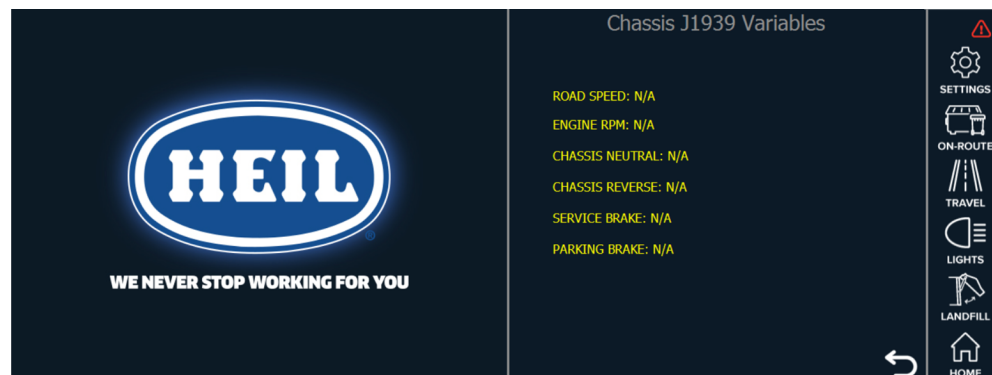


Figure 79.

IN-CAB DISPLAY

J. Network

Verify the body & cab controller status here.

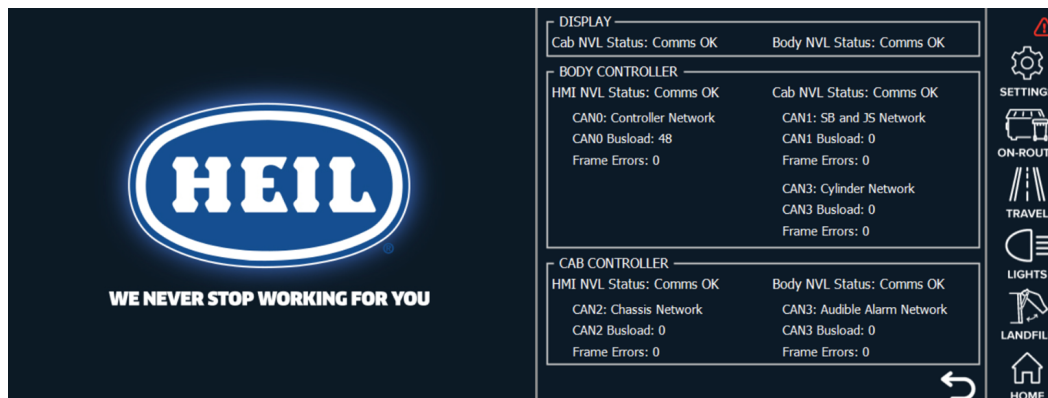


Figure 80.

K. Oil Tank

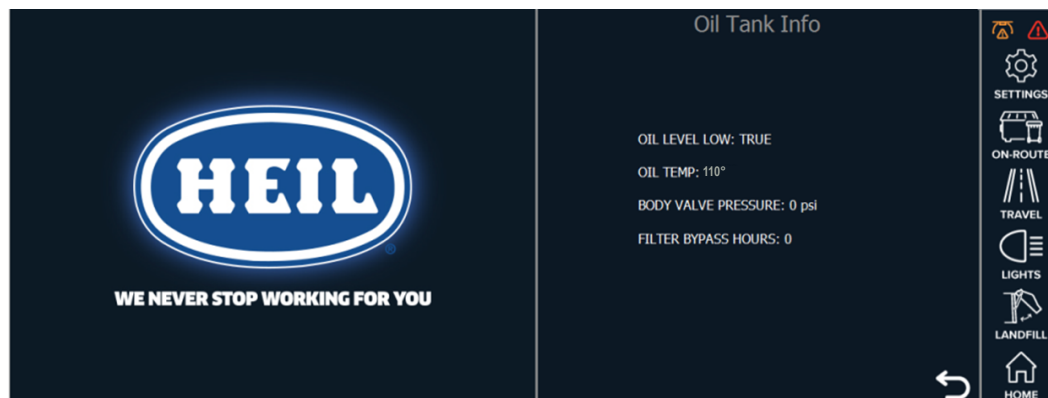


Figure 81.

IN-CAB DISPLAY

L. Switch Bank Main

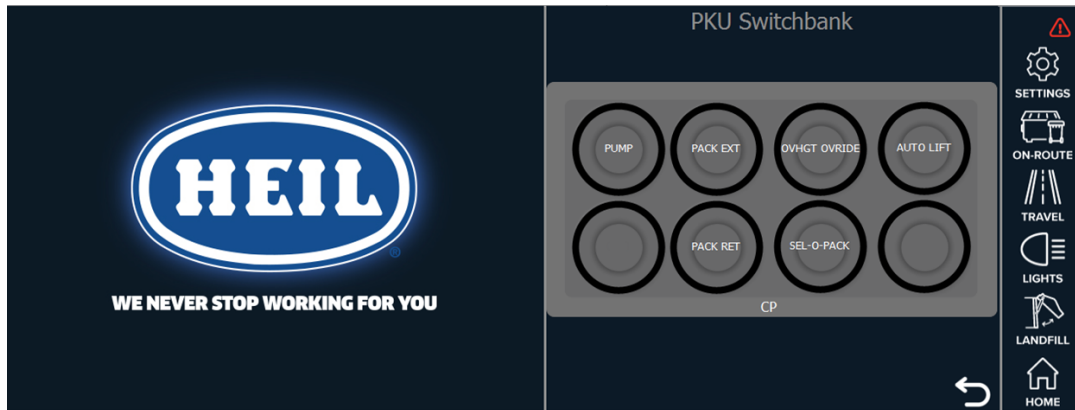


Figure 82.

On Route Screen

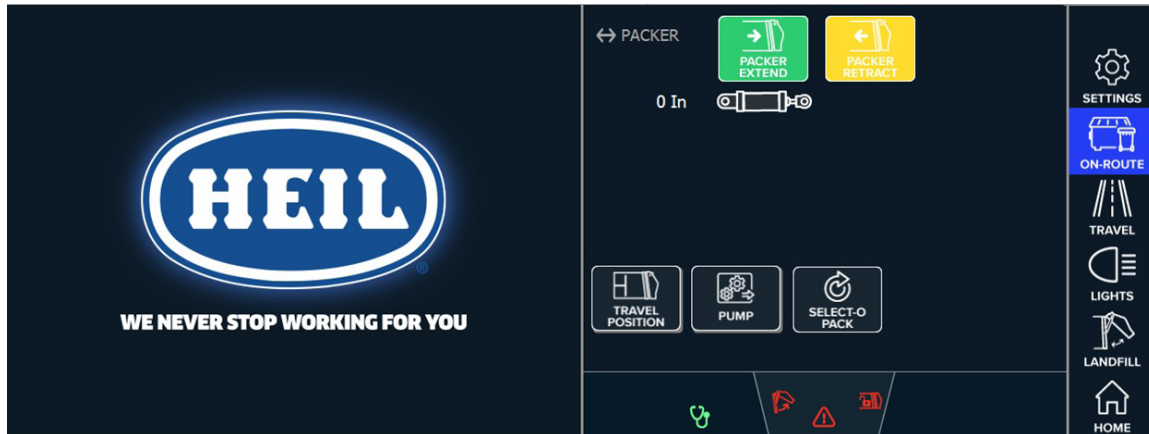


Figure 83.

IN-CAB DISPLAY

Travel Screen

Turn on the travel position from this screen.

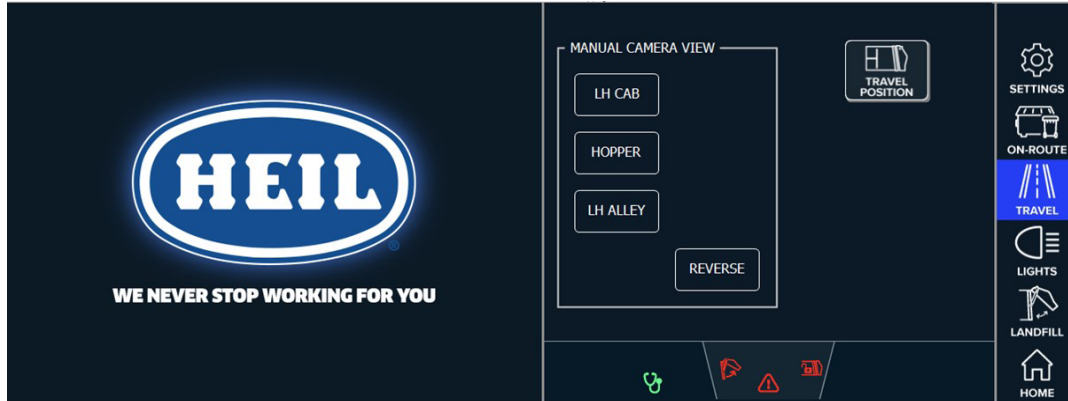


Figure 84.

Lights

A. No active lights.

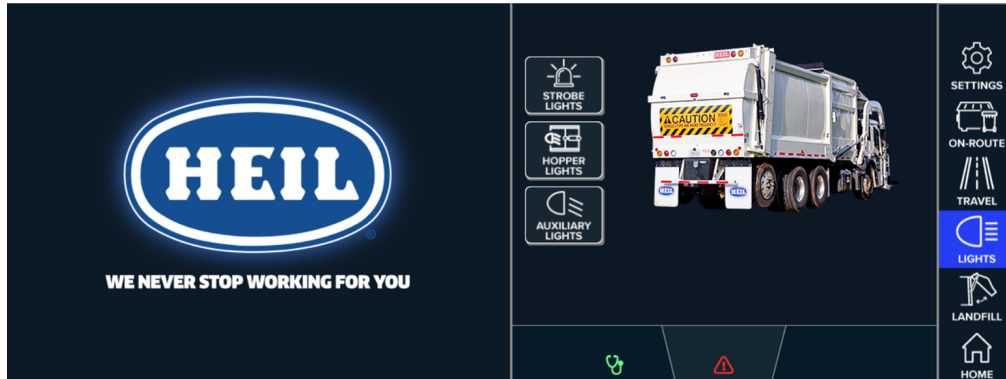


Figure 85.

IN-CAB DISPLAY

B. Active lights are indicated by green icons and represented by the truck image displaying illuminated lights.

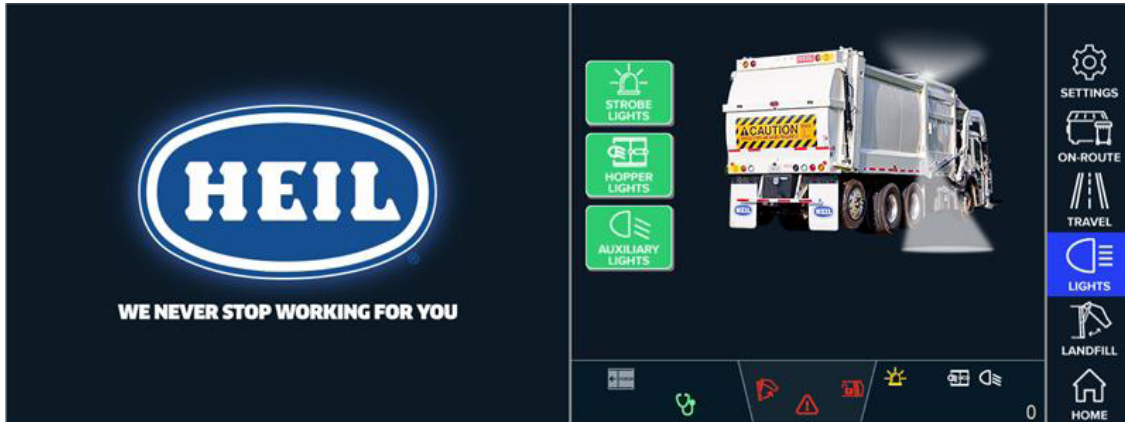


Figure 86.

Landfill Screen

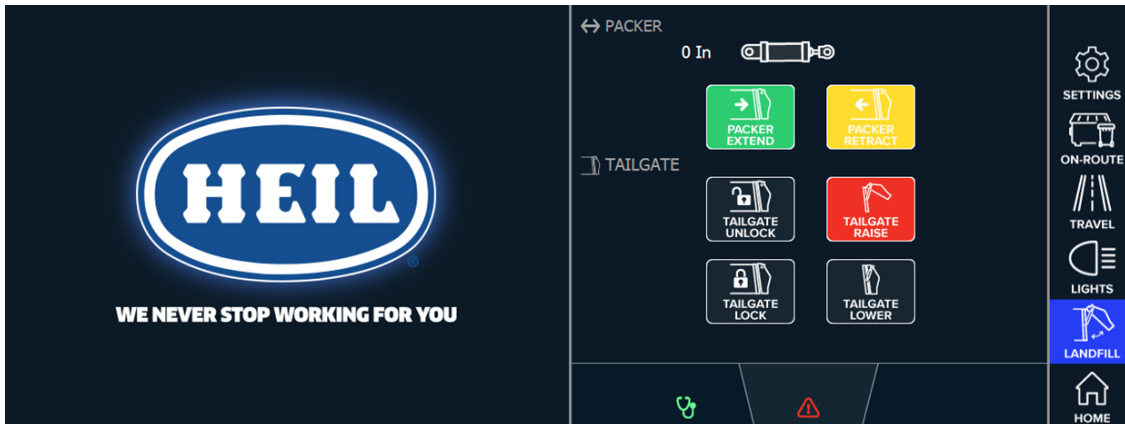


Figure 87.

IN-CAB DISPLAY

Body Health

The advanced diagnostics within the control system enable the in-cab display to guide maintenance staff precisely to the root cause of the problem.

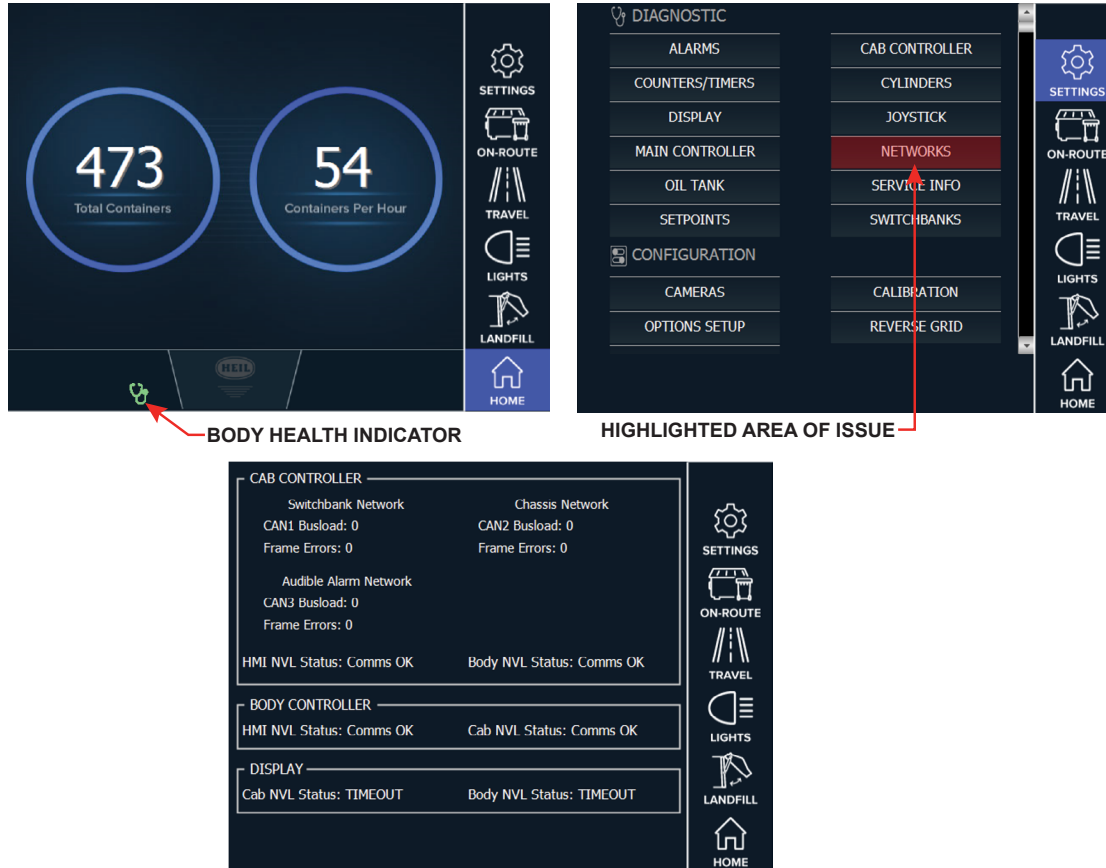


Figure 88.

IN-CAB DISPLAY

Out Of Dimension / Tailgate Status

In addition to the audible alert, Telltales offer a visual warning indicating that the vehicle is not positioned to safely travel above the posted speed limit. This feature helps the operator recognize when the vehicle may be exceeding height or width restrictions.

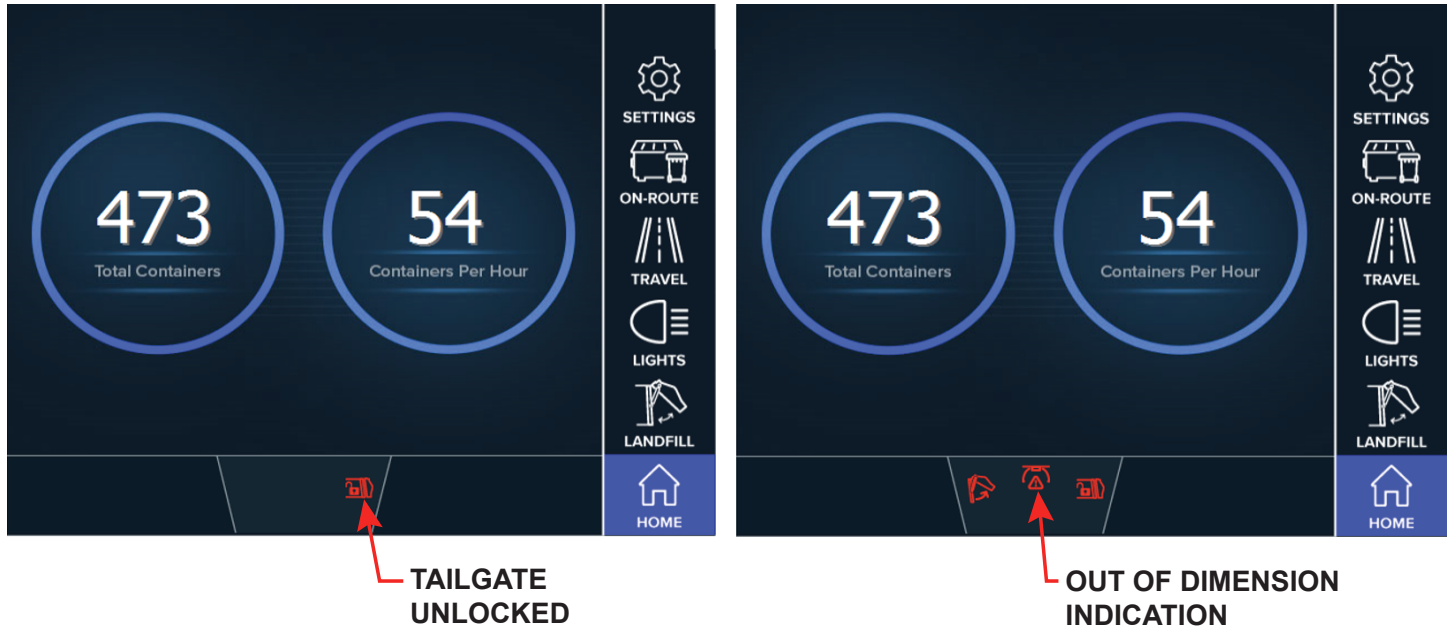


Figure 89.

IN-CAB DISPLAY

Active Telltales

While on route the driver can easily see the operation mode of the vehicle and variables associated to those modes.

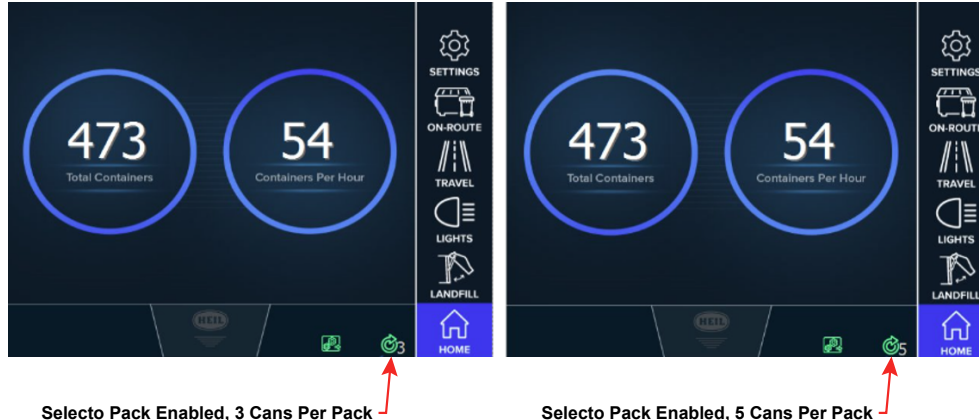


Figure 90.

Telltale Status Legend

TELLTALE	STATUS
Gray	Inactive
Green	Normal/Active/State Achieved/Select-O-Pack Set to Double Pack
Amber	Warning/Abnormal
Yellow	Strobe Lights hen Active/Select-O-Pack Set to Half Pack
Red	Fault/Unsafe/Critical
White	All Lights Except Strobe
EXCEPTION	
Select-O-Pack is gray when inactive, yellow when in half pack mode, green when in double pack mode.	

IN-CAB DISPLAY

Telltale Banner

The telltale area on the bottom of the in-cab display can provide all relevant information to the operator needed to run their route. Eliminating the need to change screens or dedicate focus away from the job of collection.



Figure 91.

Telltales will be stacked, and the higher priority will be displayed.

Prio 3									
Prio 2									
Prio 1									
Prio 1									
Prio 2									
Prio 3									

Figure 92.

IN-CAB DISPLAY

A. Telltale Legend Alarms & Health

Icon	Definition	Action
	Active Alarm	Critical error detected on the Body; immediate action should be taken to resolve the issue
	Active Warning	Noncritical error detected on the Body; should be checked when possible
	Logged In	Password login active
	Hydraulic Oil Error	Hydraulic oil level or pressure is out of specified range and should be checked immediately
	Hydraulic Oil Warning	Hydraulic oil level or pressure is approaching an out-of-specified range and should be checked when possible
	Hydraulic Oil Temperature Error	Hydraulic oil temperature is out of specified range and should be checked immediately
	Hydraulic Oil Temperature Warning	Hydraulic oil temperature is approaching an out-of-specified range and should be checked when possible
	Travel Position Selected	Packer Travel Position has been selected; next movement of the pack will move to the travel position and maintain that position
	Travel Position	Packer is in the travel position
	Packer/Ejector Malfunction	Critical error detected in the Packer or Ejector
	Packer/Ejector Warning	Warning of potential issues with the packer or ejector
	Pump ON	Pump is ON and pump icon is BLUE on the in-cab display
	Pump Off (Flashing)	Pump is OFF but pump command is requested

IN-CAB DISPLAY

B. Body Lighting - Body Status

Icon	Definition	Activation Trigger / Action
	Auxiliary Lighting On	Rear auxiliary backup lights are on
	Lift Lighting On	Lift lights are on
	Hopper Lighting On	Hopper lights are on
	Strobe Lighting On	Strobe lights are on
	Select-O-Pack Enabled	Select-O-Pack is enabled with number of packs showing to the left
	Hydraulic Pump Running	Hydraulic pump is on and running at its specified parameters
	Enable Hyd Pump	Flashing when the pump needs to be on but is not
	Auto Lift Enabled	
	In Travel Position	Vehicle is in the travel position
	Travel Position Sel.	Travel Position is selected but not in travel position

IN-CAB DISPLAY

C. Dimension & Tailgate Status

Icon	Definition	Activation Trigger / Action
	Tailgate Not Fully Closed	Tailgate is not sensed in the lowered position, lower tailgate before driving
	Tailgate Not Fully Locked (Flashing)	Tailgate not fully locked, lock tailgate before driving, flash above road speed limit
	Tailgate Unlocked (Solid)	Tailgate unlocked, lock tailgate before driving
	Out of Dimension	Above road speed limit, vehicle is not in the travel position, return arm, lower tailgate, close/lock any interlocked access doors.
	Out of Dimension	Below road speed limit, vehicle is not in the travel position, return arm, lower tailgate, close/lock any interlocked access doors.

Alarm Pop-Up

A notification pop-up will appear on home screen. There is an alarm pop-up (red header) and a warning pop-up (yellow header) both can be cleared with the return icon, and the in-cab alarm will sound. The alarm message is also available in the settings sub-screen.

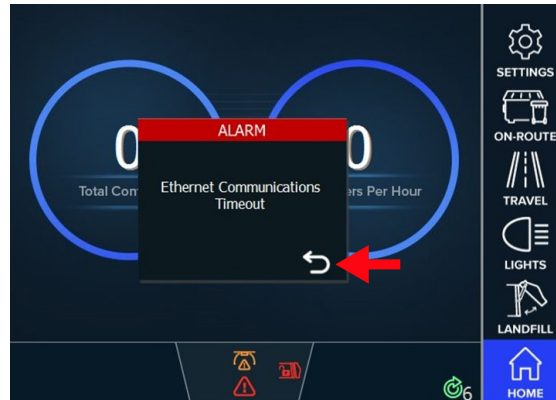


Figure 93.

IN-CAB DISPLAY

Alarm List

Alarm List	Pop Up Color
Setup Variables Not Loaded Properly (Ethernet Communication Fault)	RED
J1939-3 Network Health NOT OK Verify Network Integrity	RED
Packer Sensor Communication Error Place Unit In Service Mode and Contact Heil Tech Service	RED
Engine RPM Not Detected	AMBER
Arms Up Interlock Cab Protector Raised Lower Cab Protector To Continue	AMBER
Arms Up Interlock Top Door Not Fully Open	AMBER
Filter Bypass Hours	AMBER
Auto-Pack Not Allowed Pump Not Active	AMBER
Packer Ext/Ret On At Same Time	AMBER
Packer Retract Time Out	AMBER
Packer Fully Extended	AMBER
Auto-Pack Not Enabled	AMBER
Packer Extend Interlock	AMBER
Arms Up Interlock Packer Not Retracted	AMBER
Auto-Pack Time Out	AMBER
Packer Fully Retracted	AMBER
Tailgate Closed While Ejecting	RED
Arms Down Interlock Cab Protector Raised Lower Cab Protector To Continue	AMBER
Arms Down Interlock Top Door Not Fully Open	AMBER
Arms Down Interlock Forks Not Clear To Lower Arms	AMBER
Top Door Not Fully Open Pack Cycle Not Allowed	AMBER
Side Door Open Pump Disabled	RED
Low Hydraulic Oil	RED

IN-CAB DISPLAY

Alarm List	Pop Up Color
Temperature Sensor Fault, Reading Out of Range	RED
Hydraulic Oil Temp Alarm Notification > 210°F	AMBER
Pump NOT Enabled Pull Red System Power to Turn ON	AMBER
Tailgate Open and Road speed Above 5 mph	RED
Tailgate Unlocked and Road speed Above 5 mph	RED
Filter Bypass Switch Fault	AMBER
Hydraulic Oil Temp Alarm Press OK to Acknowledge	AMBER
Hydraulic Oil Temp Alarm Notification > 180°F	AMBER
Hydraulic Oil Temp Alarm Warning < 50°F	AMBER
Camera Configuration Error	AMBER

SECTION 5

BODY & TAILGATE PROPS

PROPPING THE BODY

Operators **MUST KNOW** how to **SAFELY** prop up the unit's body. You may need to prop the body up when you clean the inside of the body or for maintenance or repair procedures.

Observe and obey the following DANGER and WARNING notices while you prop the body with the factory body props.

DANGER

Keep all parts of your body out from underneath the unit's body and away from the cylinders when raising or lowering the body. **SERIOUS INJURY** or **DEATH** will occur if the unit's body suddenly lowers and traps a part of your body.

DANGER

The unit may roll when you raise the body on unstable or uneven ground and will cause **SERIOUS INJURY** or **DEATH** to you or bystanders. Do not prop the body while the unit is on unstable or uneven ground. Clear the area of all unnecessary people for this procedure and set the unit on stable and even ground before you start this procedure. Make sure all tire pressures are correct.

NOTICE

Interconnected body props are installed on the unit. Both props **MUST** be used.

NOTICE

Empty body of all refuse before using body props.

WARNING

Never drive the unit with the body propped. **SERIOUS INJURY** or **DEATH** to you or bystanders and damage to the equipment could occur.

BODY LIFTING DEVICES

We use three different body lifting devices: Service Hoist, Service Hoist Lite, and Serviceable Eject.

A. Service Hoist

This lift requires an on-board 12v power unit.

B. Service Hoist Lite

This lift requires an external hydraulic-powered unit to raise the body.

C. Serviceable Eject

This lift requires overhead lifting devices to raise the body.

PROPPING THE TAILGATE

YOU MUST prop the tailgate when you open it for service or maintenance. Use the instructions that follow and prop the tailgate with either the factory-installed tailgate props or a tailgate prop built specifically for your unit.

Observe and obey the following DANGER and WARNING notices while you prop the body with either the factory body props or with alternate props.

DANGER

A tailgate is dangerous while you raise or lower it. A prop may fail and cause the tailgate to close suddenly which will result in SERIOUS INJURY or DEATH if you become trapped between the tailgate and the body. Do not walk under or go between the body and the tailgate when the tailgate is in motion, while you prop the tailgate or while the tailgate is propped.

Factory Tailgate Props

YOU MUST USE BOTH of the two support props at the rear of each unit whenever you open the tailgate for service or maintenance.

Carefully follow the tailgate propping procedures.

Follow These Steps:

A. How to Use the Tailgate Props

1. Set unit on flat, stable ground, apply the parking brake, and chock the wheels.
2. Make sure the area around the tailgate is clear of all people.

3. UNLOCK the tailgate. Make sure the tailgate unlock flags are down (if equipped).
4. Use the tailgate raise lever or rocker switch in the cab (if equipped) to RAISE the tailgate enough to RELEASE and ROTATE the props so that you can SECURE each prop on its prop pin on each side of the tailgate.
5. LOWER the tailgate until you can SECURE each PROP on its pin.
6. Turn OFF the engine and REMOVE the ignition key.
7. Put the unit in Lock-Out/Tag-Out see “**LOCK-OUT/TAG-OUT PROCEDURE**” on page 46.

B. How to Store the Tailgate Props

1. When you finish using the props, take the unit out of Lock-Out/Tag-Out, insert the ignition key, and start the engine.
2. RAISE the tailgate enough so that you can REMOVE each prop bar from its pin, then ROTATE each prop so that you can put the props in the stored position.
3. SECURE each prop with a pin.
4. LOWER the tailgate until it is completely CLOSED.
5. LOCK the tailgate.

PROPPING THE TAILGATE

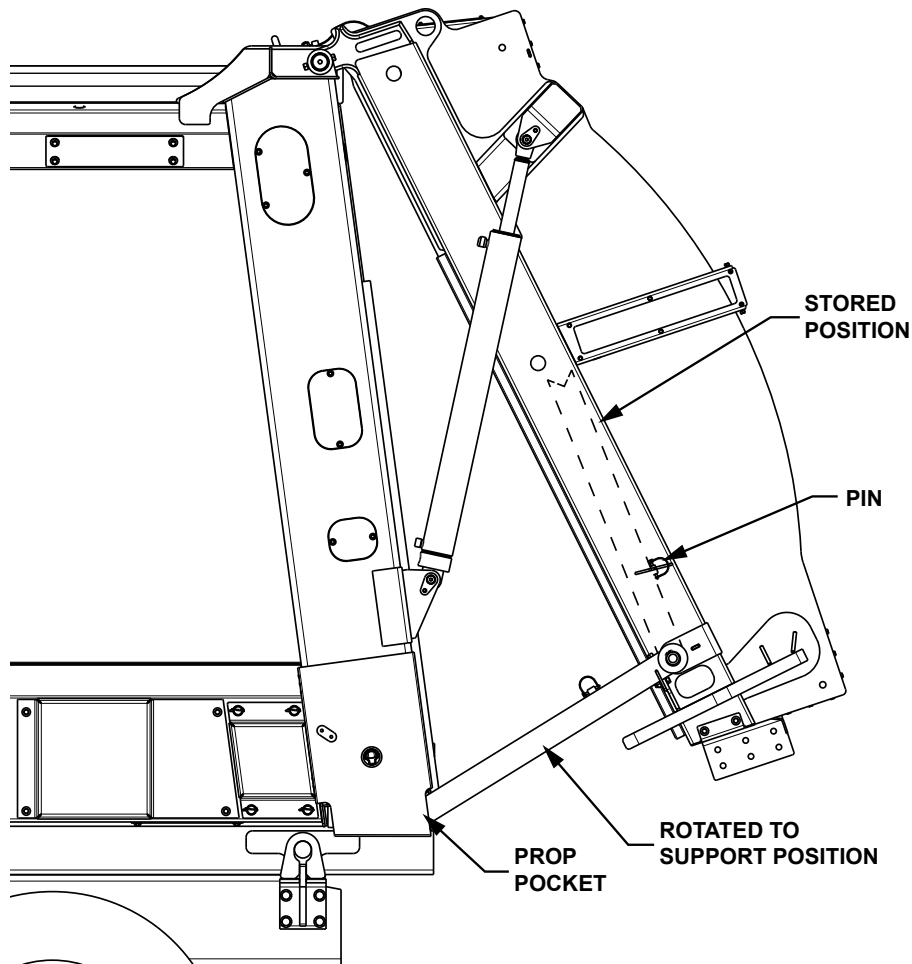


Figure 94. Factory Tailgate Props

SECTION 6

DAILY CHECKLIST

DAILY CHECKLIST

Make sure you perform a daily check of the unit. Make copies of the Refuse Vehicle Daily Inspection on the next several pages to have the Operator mark completed items before each route. Many checks in the Daily Checklist are maintenance related, such as checking tire pressures and hoses for wear and damage.

Refer to the Daily Checklist Maintenance Items Chart below for items to check and the required action.

DAILY CHECKLIST MAINTENANCE ITEMS	
Item	Required Action
Low air pressure in tires	Inflate the tire to the correct air pressure given on the tire
Worn tire	Replace when the wear is greater than allowed by law or before the tread is no longer visible
Damaged tire	Replace immediately BEFORE going on route.
Hydraulic pump leaks	Determine the cause of the leak and repair immediately.
Damaged hydraulic pump	Repair or replace IMMEDIATELY
Loose or missing hardware for the hydraulic pump	Tighten loose hardware. Replace missing hardware immediately
Damaged decal or decal not readable	Replace decal immediately
Low level of hydraulic oil	Fill the hydraulic oil tank immediately
Worn or damaged hoses	Replace immediately
Leaks at cylinders, hoses or fittings.	Tighten loose connection

DAILY CHECKLIST

Loose or missing hardware	Tighten loose connections. Replace missing hardware
Worn fiber guards	Replace hoses/fittings as necessary Install new fiber guard on new hoses
Worn or damaged tailgate lock components	Replace worn or damaged components
Loose or missing tailgate lock hardware	Tighten loose hardware. Replace missing hardware
Damaged tailgate seal	Replace seal
Body structure has loose or missing hardware	Tighten loose hardware. Replace missing hardware
Body structure has cracked weld joints	Repair immediately
Body mounting brackets have loose hardware, damaged hardware or cracked welds	Tighten loose hardware. Replace missing hardware. Repair cracked welds.
Air regulator (typically located at front of body)	90 PSI

DAILY CHECKLIST



REFUSE VEHICLE DAILY INSPECTION

DATE: _____

UNIT NO. _____

Enter one of the following codes in the Inspection Results Code column:

Use a **√** to indicate inspected and no repair, service or adjustment is necessary.

Use an **R** to indicate repair, service or adjustment is necessary.

Use an **N** to indicate vehicle not equipped.

FOLLOW ALL APPLICABLE LOCK-OUT/TAG-OUT PROCEDURES

Printed Name of Operator:

Refer to “**PREVENTIVE MAINTENANCE CHART**” on page 126 and “**LUBRICATION GUIDE**” on page 124 for additional information and requirements.

I certify with the signature that follows that I performed a complete inspection in accordance with the following check list on the date given above.

Signature of Operator:

DAILY CHECKLIST

CHECKS & INSPECTIONS	INSPECTION RESULTS CODE (✓/R/N)
<i>INSPECT PER APPLICABLE MANUFACTURER MANUAL</i>	
Cab/Drive	
Wheels and Tires	
Tractor and Chassis Electrical	
Chassis	
Engine & Transmission & Fluid Levels	
Chassis Lubrication	
<i>REFUSE COLLECTION SYSTEMS AND COMPONENTS</i>	
CAB OUTSIDE AREA	
Check tire pressure. If low, adjust to manufacturer's specifications before going on route.	
Check wear of tire tread. Replace tire worn below tire manufacturer's recommendation or state requirement before going on route.	
Check tires for damage. Replace any damaged tire before going on route.	
Inspect forks and lift arms for damage and wear.	
Inspect pump for leaks.	
Inspect pump for damage or loose hardware.	
Inspect lift arm cylinders, mounts and pins for damage and leaks.	
Check forks and lift arms for:	
Play	
Cylinder and hose leaks	
Sufficient lubrication	
Hose damage or wear	

DAILY CHECKLIST

CHECKS & INSPECTIONS	INSPECTION RESULTS CODE (✓/R/N)
Cracks or other damage to welds	
Loose lift arm clamp hardware	
Inspect condition of cab protector for damage. Remove all refuse on or around the cab protector.	
Inspect unit for refuse on or around the engine or exhaust components. Remove all refuse to prevent a thermal event.	
BODY AND CHASSIS CURB SIDE INSPECTION	
Inspect decals on curb side body for damage and readability.	
Inspect decals on body prop for damage and readability.	
Inspect body structure for damage, loose or missing nuts and bolts and for cracked welds and metal.	
Inspect body mounting brackets for cracked welds, missing bolts or nuts or movement.	
Inspect lift arm pad for damage.	
Inspect level of hydraulic oil. It must be full. Add recommended oil as necessary.	
Check tire pressure. If low, adjust to manufacturer's specifications before going on route.	
Check wear of tire treads. Replace any tire worn below tire manufacturer's recommendation or state requirement before going on route.	
Check tires for damage. Replace any damaged tire before going on route.	
Inspect tailgate raise components.	
Cylinder, hoses and fittings for leaks	
Hoses for wear and damage	
Cylinder for damage	
Loose or missing mounting hardware	

DAILY CHECKLIST

CHECKS & INSPECTIONS	INSPECTION RESULTS CODE (✓/R/N)
Inspect tailgate lock components	
Cylinder, hoses and fittings for leaks	
Hoses for wear and damage	
Cylinder for damage	
Loose or missing mounting hardware	
Make sure tailgate is locked	
TAILGATE & TOP DOOR	
Inspect decals on tailgate and underride bumper for damage and readability	
Inspect service ladder(s) for loose rails and steps	
Make sure service ladder steps and rails are clean and safe	
Inspect tailgate seal for visible damage	
Make sure top door is functioning correctly	
Top door components:	
Cylinder, hoses and fittings for leaks	
Hoses for wear and damage	
Cylinder for damage	
Loose or missing mounting hardware	
Damage to top door and rails	
Inspect underride bumper for damage and loose components.	
BODY & CHASSIS STREET SIDE INSPECTION	
Make sure tailgate is locked.	
Inspect tailgate lock components.	

DAILY CHECKLIST

CHECKS & INSPECTIONS	INSPECTION RESULTS CODE (✓/R/N)
Cylinder, hoses and fittings for leaks	
Hoses for wear and damage	
Cylinder for damage	
Loose or missing mounting hardware	
Inspect tailgate raise components.	
Cylinder, hoses and fittings for leaks	
Hoses for wear and damage	
Cylinder for damage	
Loose or missing mounting hardware	
Check tire pressure. If low, adjust to manufacturer's specifications before going on route.	
Check wear of tire treads. Replace any tire worn below tire manufacturer's recommendation or state requirements before going on route.	
Check tires for damage. Replace any damaged tire before going on route	
Inspect all decals on curb side body for damage and readability.	
Inspect decals on body prop for damage and readability.	
Inspect body structure for damage, loose or missing nuts and bolts and for cracked welds.	
Inspect body mounting brackets for cracked weld, missing bolts or nuts or movement.	
Inspect lift arm pad for damage.	
Inspect level of hydraulic oil if tank is mounted on streetside. It must be full. Add recommended oil as necessary.	
Make sure sump door (if equipped) is closed and latched.	

DAILY CHECKLIST

CHECKS & INSPECTIONS	INSPECTION RESULTS CODE (✓/R/N)
Battery disconnect switch is turned to OFF then:	
Check wiring and battery cables from the battery box to the engine starter for wear and other damage. IMMEDIATELY REPLACE WORN OR DAMAGED WIRING	
Check wiring and cables for loose connections. IMMEDIATELY TIGHTEN LOOSE CONNECTIONS	
Inspect lift arm pad for damage.	
Inspect level of hydraulic oil if tank is mounted on streetside. It must be full. Add recommended oil as necessary.	
OPERATION OF UNIT	
Make sure the air tank drain valve is closed.	
Turn battery disconnect to ON.	
Clear the area of all unnecessary people.	
Chock the wheels	
Apply parking brake and make sure the parking brake is holding.	
Make sure the starter interlock operates – make sure unit will not start in gear.	
Start the engine.	
Telltale on the in-cab display and gauges show normal operation of engine.	
Make sure the parking brake does not allow the vehicle to move forward or reverse at idle.	
Make sure the throttle advance operates only in neutral.	
Check all cab, body and tailgate lights for proper operation.	
Make sure the backup alarm and light operate.	

DAILY CHECKLIST

CHECKS & INSPECTIONS	INSPECTION RESULTS CODE (✓/R/N)
Verify that all nonessential personnel are clear of the area and that no hazards are present before continuing:	
Pull the system power switch – the switch’s red light is ON.	
Press the pump push button.	
Press the packer extend icon and before the packer fully extends:	
Press the packer retract icon.	
The packer should stop extending.	
Press the packer retract icon and before the packer fully retracts:	
Press the packer extend icon.	
The packer should stop retracting.	
Press the packer extend icon and before the packer fully extends:	
Press and hold the packer retract icon and fully retract the packer.	
Open the side door.	
The “Side Door Open Pump Disabled” telltale will be activated on the in-cab display.	
Try to start the packer with AutoPack - it should not operate.	
Close and latch the side door – the side door icon is “ON”.	
Set the lift arms and forks so that the forks cross shaft is over the cab (not in transit position) - the arms above transit telltale is “ON”.	
Start an AutoPack mode – the packer should not operate.	
Return the lift arms and forks to the transit position. The lift arms above transit telltale is OFF.	
If the body does not have refuse:	
Unlock the tailgate and open the tailgate.	

DAILY CHECKLIST

CHECKS & INSPECTIONS	INSPECTION RESULTS CODE (✓/R/N)
The tailgate icon and alarm are “ON” with the tailgate is open.	
Set the tailgate props	
Inspect the tailgate seal for damage.	
Inspect the packer tracks and hopper floor for excessive wear or damage. Report wear and damage.	
Remove the tailgate props and raise the tailgate completely.	
Close the tailgate.	
The tailgate open icon is “OFF” and the alarm is “OFF”.	
Lock the tailgate.	
Open the top door. The door open light is “ON”.	
Close the top door. The door open light is “OFF”.	
Test arms up interlock – start with arms fully lowered for each test.	
Fully extend packer.	
Raise arms - arms should stop at top of windshield.	
Close top door (if equipped).	
Raise arms - arms should stop at top of windshield.	
Raise cab protector (if equipped).	
Raise arms - arms should stop at top of windshield.	
Close top door (if equipped).	
Lower arms - arms should not move.	
Raise cab protector (if equipped).	
Lower arms - arms should not move.	

DAILY CHECKLIST

CHECKS & INSPECTIONS	INSPECTION RESULTS CODE (✓/R/N)
Test top door interlock (if equipped).	
Close Top Door.	
Packer extend not allowed (we will allow packer retract with top door closed).	
IN-CAB INSPECTION	
Inspect all in-cab decals for damage and readability.	
Make sure the following icons are OFF:	
Tailgate open	
Top door open	
Arms above transit	
Filter bypass	
If equipped, check the operation of each camera.	
FINAL INSPECTION	
While you walk completely around the vehicle, look for:	
Fluid leaks	
Cracked or damaged welds and metal	
Loose or missing bolts, nuts and clamps	

SECTION 7

BEFORE GOING ON ROUTE

BEFORE STARTING A ROUTE

Before you start a route, do the following:

- ☐ Inspect the unit using the **“DAILY CHECKLIST”** on page 81.
- ☐ Check the **“Preparing The Unit To Check The Hydraulic Oil Level”** on page 96.
- ☐ **“Cycle All Hydraulic Functions”** on page 98.
- ☐ If equipped, **“Close The Side Door”** on page 98.
- ☐ If equipped, close the **“Optional Top Door”** on page 99.
- ☐ **“Check The Traveling Or “In-Transit” Position”** on page 100.

Use the Daily Checklist to Inspect the Unit

It is the operator’s responsibility to do a visual inspection of the unit and make sure the unit is in good operating condition before you start a route.

The requirements for the daily checks are given in the **“DAILY CHECKLIST”** on page 81. Make sure you complete the inspections on the checklist and you make all entries, including your signature.

HYDRAULIC OIL WARM-UP PROCEDURE

It is necessary to warm up the unit's hydraulic oil before you start your daily route operation or to check the oil level. Make sure the hydraulic oil has reached normal operating temperature, or a minimum of 100°F.

WARNING

Moving parts on the unit are dangerous. Clear all unnecessary people from the area before you operate the unit. **SERIOUS INJURY or DEATH** can occur if a person is struck by the equipment.

Follow the steps below to warm up the hydraulic oil.

1. **MAKE SURE** the **AREA IS CLEAR** of all unnecessary people **BEFORE** you operate the unit.
2. **START** the **TRUCK** and let the engine idle.

3. **APPLY** the **PARKING BRAKE** and make sure it holds.
4. **ENGAGE** the **HYDRAULIC PUMP** for approximately five minutes.
5. **OPERATE** the **PACKER** functions through ten (10) cycles while the engine idles.
6. Make sure the hydraulic oil has reached normal operating temperature, or a minimum of 100°F. If not, repeat step 5.
7. Check for fluid leaks. Repair if necessary.

PREPARING THE UNIT TO CHECK THE HYDRAULIC OIL LEVEL

Before checking the oil level or adding oil, make sure the oil is warmed up and the unit is in the following position with all cylinders collapsed:

- Truck – on level ground
- Tailgate and Body – fully down and locked
- Packer Panel – at the front of the body
- Forks – fully tucked
- Lift Arms – fully raised
- Top Door – fully open

Hydraulic Oil Level

Inspect the hydraulic oil level (after warming up the oil) daily or every eight (8) hours, whichever comes first. Fill as necessary.

✓ Follow These Steps:

1. Operate the lift arm, grabbers, packing panel, body and tailgate functions two or three times each. See **“FEATURES & CONTROLS” on page 49** for proper operation of controls.
2. Put the unit back in the position described above and check the oil level again.
3. Add oil if necessary. Refer to the Service Manual applicable to your truck for instructions for filling the oil tank.

Current Heil standard hydraulic oil is **Shell Tellus S2 VX 32**. Please see product TDS and MSDS for more detail information about it. We strongly recommend to use it on Heil products to get best system performance and oil service life. Refer to the Service Manual applicable to your truck for other approved hydraulic oils

NOTICE

Cold weather operation requires special oil considerations. Viscosity should not exceed 7500 SSU at lowest startup temperature. Continuous operation should range between 40–1000 SSU for all temperature ranges.

NOTICE

Contamination is a hydraulic system’s worst enemy. DO NOT let dirt enter the system. Use a clean rag and remove dirt or other contamination around any system component before you disconnect or remove it. While you fill the reservoir, filter the oil through a 200 mesh (or finer) screen. NEVER use a cloth to filter the oil.

HYDRAULIC OIL TANK NOMENCLATURE

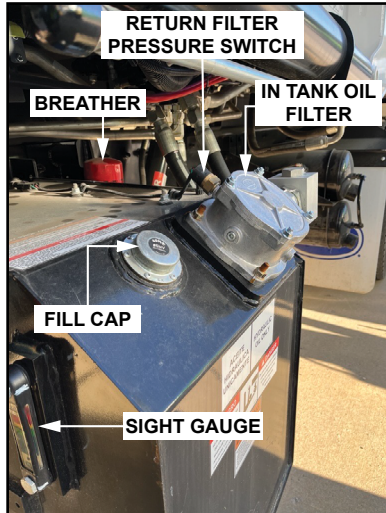


Figure 96.

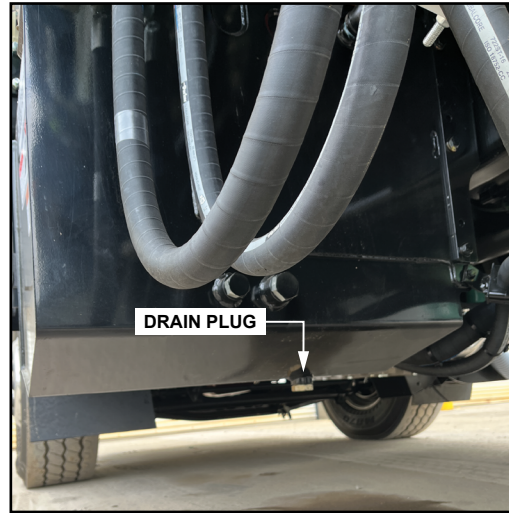


Figure 97.

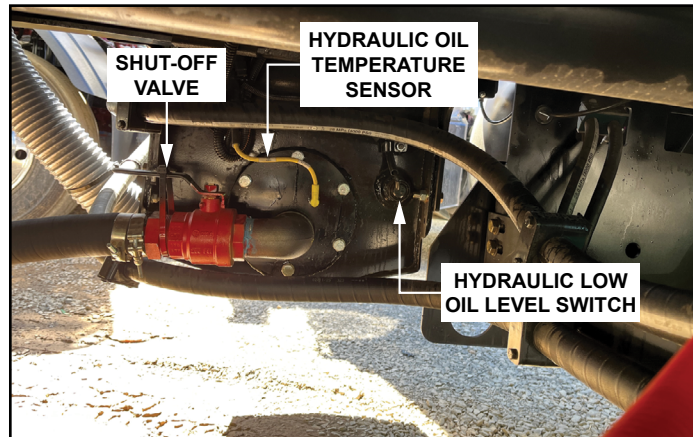


Figure 95.

CYCLE ALL HYDRAULIC FUNCTIONS

Check the operation of all hydraulic controls on the unit.
See “**FEATURES & CONTROLS**” on **page 49** for proper operation of controls.

✓ Follow These Steps:

1. Top Door Cycle (If Equipped)
OPEN and CLOSE the Top Door several times.
2. Lift Arm and Fork Cycles
Do several LOAD and UNLOAD cycles.
3. Packing Cycle
Perform several EXTEND and RETRACT cycles of the packer panel.
4. Tailgate Raise Cycle
If the body is empty, do several tailgate RAISE and LOWER cycles, DO NOT Raise the tailgate with refuse in the body.
5. Tailgate Lock Cycle
Do several tailgate LOCK and UNLOCK cycles.

Close The Side Door

A side door is on the street side of the body. Use this door as the **ONLY** access to the hopper area. **MAKE SURE** the door is closed and latched when you are not in the body.



Figure 98. Close the Side Door

OPTIONAL TOP DOOR

MAKE SURE you **CLOSE** the Top Door before you go on a route. See **“FEATURES & CONTROLS”** on **page 49** for proper operation of the controls. Keep the Top Door **CLOSED** until the first stop on your route, and then **OPEN** the Top Door. Keep the Top Door **CLOSED** except when on route picking up refuse.

NOTICE

The Top Door is not designed to be closed while packing the load. You may cause damage to the unit if you operate the packer with the Top Door closed. Never pack the load with the Top Door closed. Do not close the Top Door until you have completed your route or you are ready to empty the load.

When you are on your refuse collection route, leave the Top Door **OPEN** until the unit is full or you have completed your route and you are ready to empty your load.

CLOSE the top door when the unit body is full or before leaving the collection route to empty the load. A closed top door prevents refuse from flying out of the body.

For additional information, refer to **“Check The Traveling Or “In-Transit” Position”** on **page 100** .



Figure 99. Top Door

CHECK THE TRAVELING OR “IN-TRANSIT” POSITION

Before you travel to and from the landfill, transfer station, or recycle center make sure the unit is in the “in-transit” position as follows:

- The tailgate is DOWN and LOCKED.
- The top door is CLOSED.
- The packer panel is:
 - For an empty unit, at the front of body/hopper.
 - For a unit with refuse in the body, up tight against refuse.

- SET the fork crossshaft in a position slightly ABOVE the cab windshield.
- The pump switch is OFF.
- The PTO is DISENGAGED.
- The mirrors are properly adjusted and clean.
- The side door is CLOSED and LATCHED.
- All outside lights operate properly.

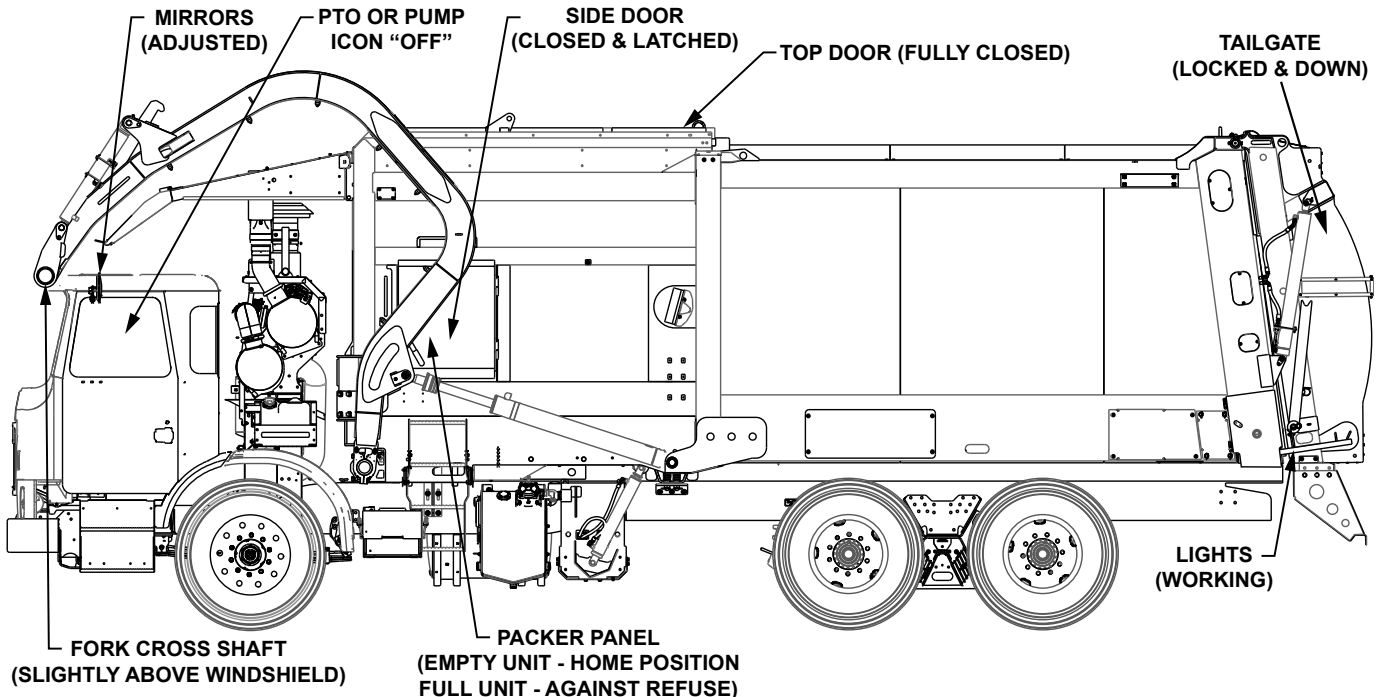


Figure 100. In-Transit Position

TILTING THE CHASSIS CAB

NOTICE

Do not tilt the cab before you raise the hinged cab protector. The hinged cab protector in its normal position is in the way of tilting the cab for service or maintenance. You may cause damage to the unit if you tilt the cab with the cab protector extension in its normal position. Always move the cab protector extension to the “UP” position before you tilt the cab.

BEFORE you tilt the chassis cab to get at the engine and related parts, **MAKE SURE:**

- The cab protector is raised by a hydraulic cylinder.

- Use a ladder to access the turnbuckles. Make sure you keep two hands and a foot or one hand and two feet firmly in place at all times.
- **LOOSEN** the cab protector turnbuckles and **SWING** the hinged cab protector extension up and out of the way to allow clearance of the tilting chassis cab.
- **TIGHTEN** the turnbuckles.
- **AFTER** you tilt the cab back to its normal position, **LOOSEN** the turnbuckles, **LOWER** the cab protector and **TIGHTEN** the turnbuckles.

BATTERY DISCONNECT SWITCH

The battery box is typically located on the streetside of the chassis frame near the front of the body, however it can be mounted at a different location on different chassis. Become familiar with the location of the battery box and battery disconnect switch on your unit.

1. You must turn the battery disconnect switch to the OFF position whenever the unit is shut off for any length of time – especially when the unit will be left unattended.
2. You must turn the battery disconnect switch to the ON position whenever you will use the unit.

3. You must check the position of the battery disconnect switch as part of the daily inspection.

NOTICE

Battery cables must be securely anchored and not rubbing other equipment. Cable insulation must be free of damage and abrasion. Inspect weekly.

NOTICE

Always disconnect the battery before welding on the chassis or body.

SECTION 8

ON-ROUTE OPERATION

PROCEDURES

DRIVING TO PICK-UP LOCATIONS

Whenever you drive the Half/Pack unit to and from a route, along the route, to the landfill, etc., make sure the unit is set up as follows:

1. The Body is fully LOWERED.
2. The Tailgate is DOWN and LOCKED.
3. Put the arms and forks in the TRANSIT POSITION. See **“Check The Traveling Or “In-Transit” Position” on page 100.**
4. The Top Door (Hopper Cover) is:
 - For a unit before it is on-route – CLOSED
 - For an on-route unit – OPEN
 - For a FULL unit or a not on-route unit – CLOSED
 - The arms will interlock if the Top Door (if equipped) is not fully open.

5. The packer panel is:
 - For an EMPTY unit – FULLY retracted position (front of body/hopper)
 - For a FULL unit – up tight against refuse
6. The pump icon is OFF.
7. The mirrors are properly adjusted and clean.
8. The side door and sump door (if equipped) is CLOSED and LATCHED.
9. All outside lights operate properly.

LOADING/UNLOADING SEQUENCE QUICK REFERENCE

The following six steps show the basic procedures to pick up a commercial refuse container, dump it into the hopper, set the container back down and compact the load.

Use these quick-reference illustrations for overview purposes only. Each operator must be properly trained and qualified, and must read and understand this entire section of the manual before the operator actually operates the Half/Pack unit.

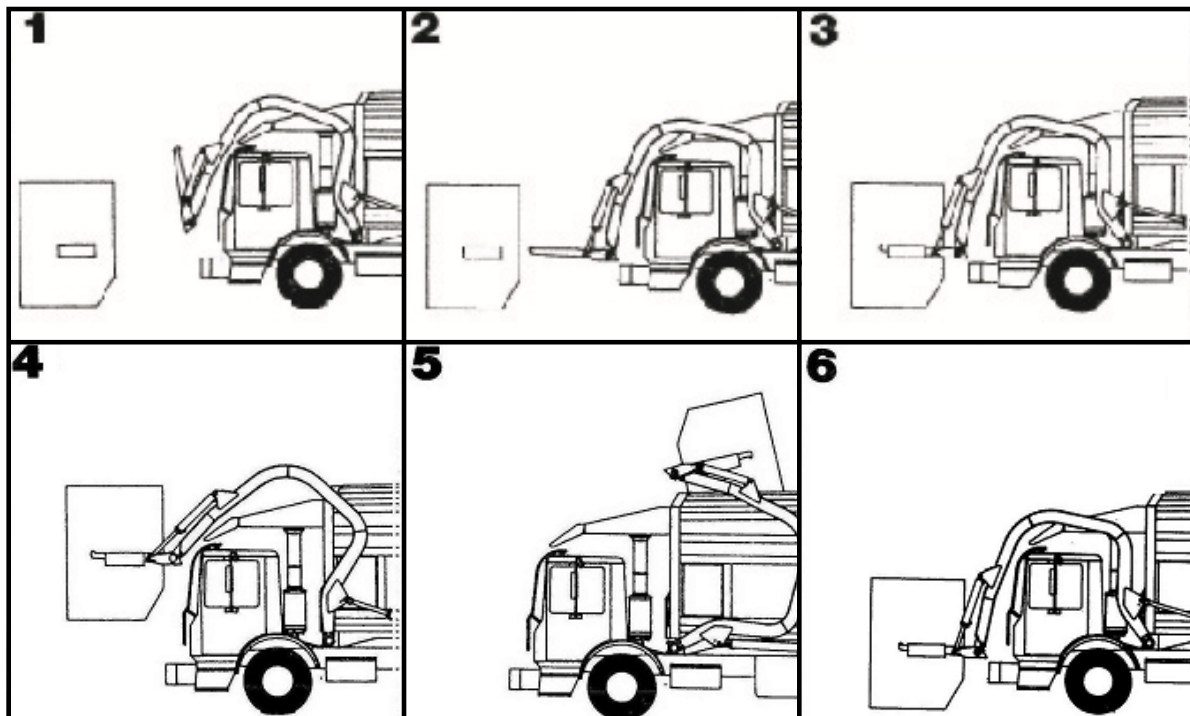


Figure 101. Loading and Unloading Process

LIFTING & LOADING REFUSE

Use the following procedure at each stop along the route to load refuse into the Half/Pack unit. Observe all DANGER and WARNING notices.

✓ Follow These Steps:

1. Approach the container squarely and stop a few feet from the container. If the hydraulic system is not activated, pull the System Power switch UP to the ON position.
2. Make sure the Side Door is CLOSED.

NOTICE

Loading refuse with the top door (hopper cover) CLOSED will cause damage to the unit. Make sure the hopper cover is OPEN before you load refuse.

3. MAKE SURE the Top Door is OPEN.
4. Use the lift arm control and LOWER the arms to the same height as the pick-up sleeves on the container then RELEASE the control.
5. Use the fork control and ROTATE the forks to a horizontal position then RELEASE the control.

Refer to “FEATURES & CONTROLS” on page 49 for more information.

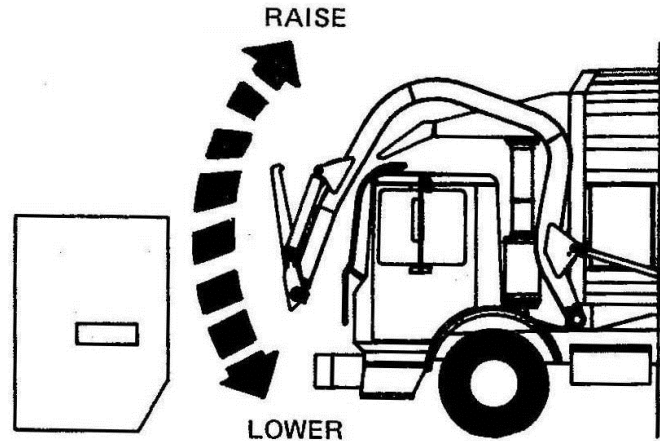


Figure 102. Lower Lift Arms

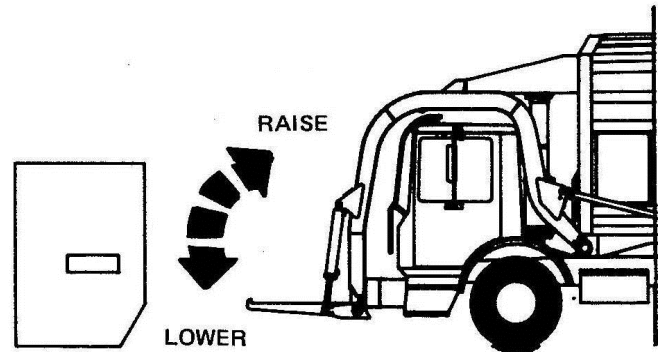


Figure 103. Rotate Forks to Horizontal Position

LIFTING & LOADING REFUSE

6. Move the unit forward SLOWLY until both forks are in the container pick-up sleeves. After the forks are fully inserted, use the arm control and cradle the container on the forks and arms. Release the control.

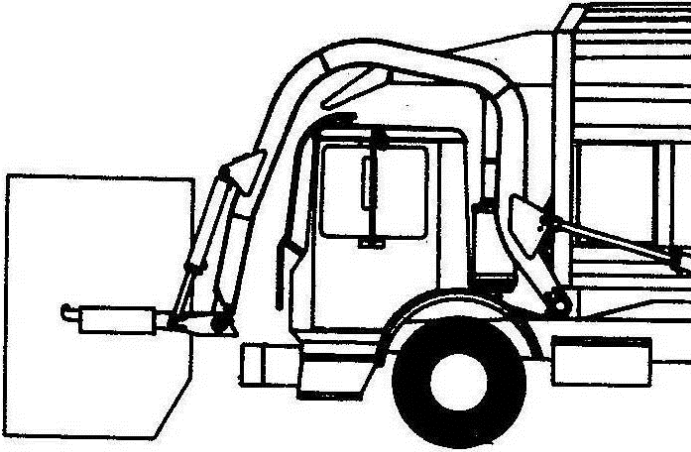


Figure 104. Fully Insert Forks Into Container Pick-Up Sleeves

⚠ DANGER

Contact of the unit with overhead electric lines is dangerous. **SERIOUS INJURY** or **DEATH** will occur. Make sure there is adequate overhead clearance before you raise the container. If the unit does make contact with overhead electric lines do not touch metal in the cab. Stay in the unit until help arrives.

NOTICE

If local rules and laws require more clearance, you must follow them.

7. Adjust the container spot mirror for best overhead vision of the hopper cover area while you raise container.

⚠ WARNING

Be careful when raising an over-filled container or a container with refuse protruding from the top or side. This may cause the refuse to fall while lifting or dumping the refuse. Falling refuse is dangerous and may cause injury or death or damage to the unit. Keep your hands and arms inside the cab and clear the area of all unnecessary people while you raise a container.

NOTICE

If the arms will not raise the container, the container may exceed the lifting capacity of the unit. Contact your supervisor for instructions before you try to lift the container again. You may cause damage to the unit.

LIFTING & LOADING REFUSE

8. If the unit does not have the Auto Level feature, raise the container, alternating operation of the lift arm and fork controls to keep container level to the ground while you raise the lift arms over the cab. ONLY trained and experienced operators should level the forks during an ARM RAISE operation.

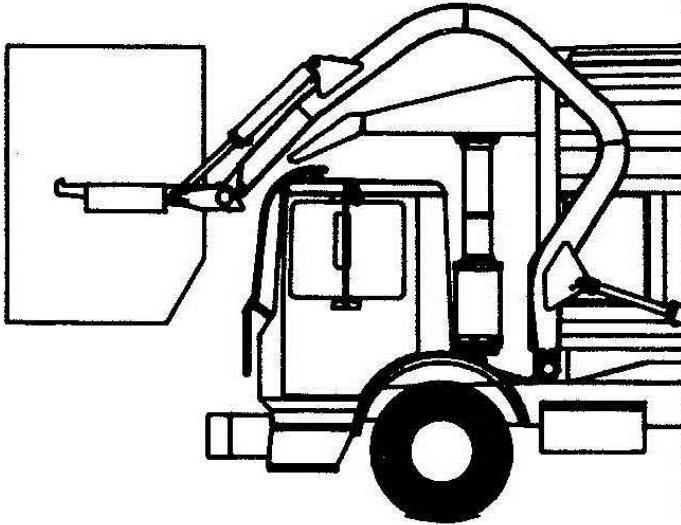


Figure 105. Raise Container With Arm & Fork Controls

9. When the lift arms make contact with the arm stops, use the fork control lever and rotate the container to its full dump position.



Figure 106. Dump Container Into Hopper

10. Release the lever and allow all refuse to drop out of the container.
11. When the container is empty, use the fork control lever and rotate the container to its full vertical position. Release the lever.
12. Set the container gently on the ground with partial movements of the arm control lever.

LIFTING & LOADING REFUSE

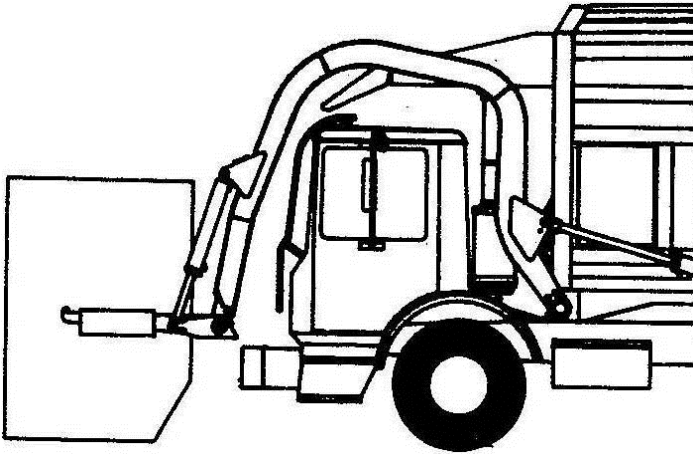


Figure 107. Rotate Container Back Before Lowering

Manual Packer Override**NOTICE**

Operation of the packer while you dump refuse in the hopper can cause damage to the unit. Do not use the packer override switch for the manual packer when you dump the refuse from the container into the hopper. Use the packer override switch only when the refuse container is not in the hopper.

Use the manual override when you need to pack the refuse while the lift arms are raised.

1. MAKE SURE the refuse container IS NOT in the hopper, then PRESS the Manual Override Switch to ON.
2. Cycle the packer.
3. Move the manual override switch to OFF, then dump more refuse into the hopper.

COMPACTING THE LOAD

When there is an appropriate amount of refuse in the hopper, use the packer panel and compact the load into the body of the unit.

Many factors affect how often you need to compact the load, including the experience of the operator.

See **“Achieving Packing Payloads”** on **page 110** for helpful information and guidelines to be followed.

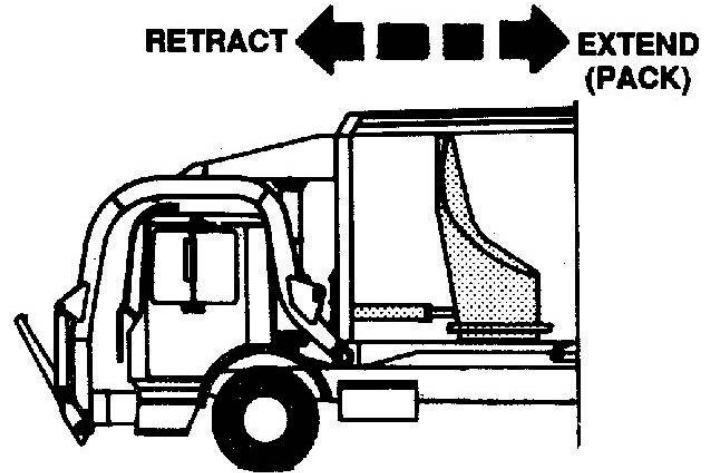


Figure 108. Compact the Load

AUTOPACK

Use the following procedure to compact the load with the unit's AutoPack function.

NOTICE

To attain maximum efficiency in loading and unloading, the unit should have a packing cycle time (empty body) between 18 - 23 seconds with throttle advance.

✓ Follow These Steps:

1. The lift arms must be lowered or in the transit position.

2. If the hydraulic system is not activated, turn the system ON.
3. PRESS and RELEASE the start/extend button of the packing mechanism. The panel will extend approximately 81" to move the refuse into the body and clear the hopper and automatically return to the front of the hopper.
4. When the auto-cycle is completed, the packer panel will be in position for the next load.
5. If you want to do another cycle, PRESS and RELEASE the start/extend button again.

PACKING ON-THE-MOVE

Half/Pack units can pack on-the move. This means you can operate the packing mechanism while the vehicle is moving, as well as when it is stationary.

Achieving Packing Payloads

Read this section for advice and tips on how to pack the most efficient loads with your Half/Pack unit.

Payloads in any refuse/waste handling vehicle will vary greatly, depending on the type of material loaded. Dry bulk cardboard and reconstruction/building materials, foam packing materials, loose plastic, etc. cannot be compressed and packed as effectively as wet, soft,

garbage type materials. If dry materials can be mixed with some wet material, more effective payloads can be achieved.

The Half/Pack is designed to pack material into the body with a relatively short packer panel movement – “half pack.” The packing stroke of the multi-stage cylinder in eject models is set to extend on the first stage. The first stage of the cylinder develops the most force and thus packs the densest load. The “extra” stages are used to eject the load at the landfill or transfer station.

BASIC PACKING TECHNIQUES

Follow these techniques to attain greater efficiency in packing the load in your unit:

1. After you load the first two or three bins, move the material from the hopper into the body by cycling the packer panel. Very little packing occurs until the body starts to fill.

If you are loading small bins (2–3 cubic yard capacity), you can empty two bins in the hopper at this stage and effectively move the refuse back into the body. If you are loading large bins (8–10 yard), you must cycle the packer after you empty every bin.

2. After you empty the first few bins, the body begins to fill and material can begin to “fall back” into the hopper as the packer is retracted. This is normal. Cycle the panel again to move this material back into the body.
3. The packer panel is shaped with a vertical lower surface and a sloping, curved top portion. You can see this by looking into the back of the body with the tailgate up.

While the curved portion does some packing, you should think of this section as a “spill shield”. The most effective packing is done by the vertical lower portion of the panel.

The lower portion of the packer panel travels further into the body on the packing stroke. With the shape of the panel, it is easy to see how material can fall back into the hopper as the panel retracts. Again, this is normal. Cycle the panel again to move this material back into the body.

4. For approximately the first half of the load, cycle the packer panel **AT LEAST TWO TIMES** after you empty each bin to effectively clear the hopper of

the fall-back material. Larger bins (8–10 yards) may require additional packer cycles.

5. **VERY IMPORTANT.** After you load a bin into the hopper, it is important to watch the packer panel as it moves rearward and compacts the material. Watch for material that may be ‘boiling up’ or about to spill over the top of the packer panel. When you see this happening, reverse the packer panel all the way using the auto retract and allow the material to “fall back” into the hopper. Then start the packer cycle again.

In some cases you may have to cycle the panel three or four times to clear the hopper of material that falls back into the hopper.

Material that “boils up” can get jammed between the top of the packer panel and body roof and cause extensive damage to your unit. It can also spill over the top and get trapped behind the packer panel which will require you to remove it at the landfill. The larger capacity bin you unload, the more likely this is to happen.

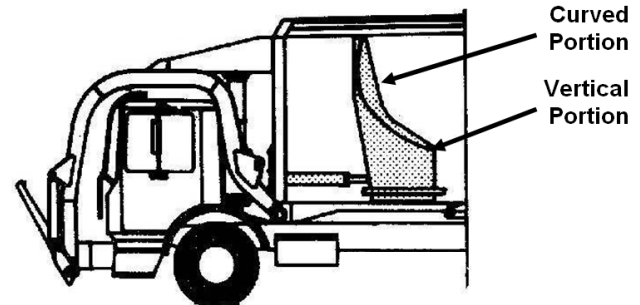


Figure 109. Packer Panel Surfaces

BASIC PACKING TECHNIQUES

As the body fills, it is more and more important to watch for the 'boiling up' of material. With large bins, it may be necessary to cycle the packer a foot or two, reverse it, cycle it a few feet, reverse it, partially cycle it, reverse it, etc., until the material is effectively packed.

As the body fills, even if you don't see the material "boiling up", it is good practice to cycle the packer two or three times to repack any fall back material which might occur.

When the body begins to fill, a condition called "bridging" can occur. Bridging is the build-up of compacted material in the bottom of the body. The material at the top of the body may still be relatively un-compacted.

When bridging occurs, the packer panel will not complete its automatic stroke cycle. That is, the panel may stop before it automatically reverses. In many cases, you do not have a full load at this time.

6. To break the bridge, cycle the panel repeatedly until it completes a full cycle. This will usually break the bridge and allow you to load considerably more material. It is important to attempt to break the bridge as soon as the panel cannot complete the automatic cycle.

This helps to pack any fall back material and compact more effectively.

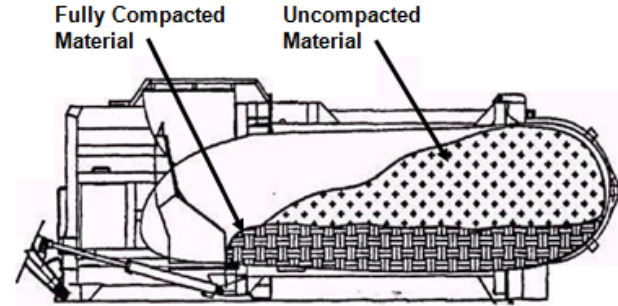


Figure 110. Occurance of "Bridging" Condition

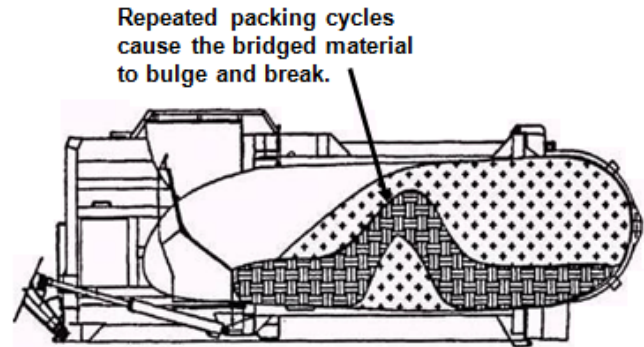


Figure 111. Breaking a "Bridge"

As the body fills, it is very important that you cycle the packer more often to keep the hopper clear.

With experience on a given route, you will soon develop a feel for the load and material to determine when you have a full load or if bridging is occurring. You can help develop this skill by observing the number of bins loaded, noting how full the bins are and the type of material in the bins.

BASIC PACKING TECHNIQUES

7. If the route allows, mix some wet bins in with dry bins. This helps compact the dry material more. Wet material also helps lubricate the body, which results in better packing. Of course some routes will not let you selectively pick up bins. It is not wise to drive long distances just to mix wet material with dry material.

As the body gets very full, the material in the hopper is more likely to “boil up” as you pack it. You will have to decide at what point loading another bin before you go to the landfill is worth the additional packer cycling that will be required to pack the material. It has been observed that some operators load one or two smaller bins (2 to 3 yard size) at this point to make packing easier. Again, if the route permits, select heavier, wet bins to load after the smaller bins, as this can significantly add to the payload capacity.

NOTICE

Packing the load with the hopper cover closed can cause damage to the unit. Keep the hopper cover open until you have completed your route or are to ready drive to the landfill or transport station.

The top door is not designed to assist in packing. It is a closure for traveling long distances, and it must be kept open throughout the loading and packing process.

A key operation to get effective payloads is pack, pack, pack and pack again – especially as the body fills. Always watch for material “boiling up” to prevent spillage over the packer panel and possible jamming of the packer panel.

All units have a standard packer override switch. When

you MOVE the Packer Override switch to ON, it lets you manually operate the packer panel with the packer extend and retract buttons when the container is in the hopper.

Under certain circumstances, you can use this feature very effectively. For instance, there may not be enough room in the hopper to empty an overfull, very large bin into the hopper or if the hopper has not been totally cleared before you empty the bin.

Normally, the bin must be lowered to use the AutoPack button. Lowering a partly empty bin can spill material on the cab protector, etc.

An alternate procedure is to rotate the forks and level the bin to make sure it is out of the hopper, then use the override switch and operate in the manual packer mode to partially pack the material already in the hopper creating enough room to load more refuse.

Watch the top of the packer panel and make sure material does not fall from the bin and go behind the panel or the material in the hopper does not “boil over” the top. Cycle the packer panel back and forth with the Extend and Retract push buttons to move material rearward and make more room in the hopper.

When you have made enough room and the packer is fully retracted, you can try to empty the bin again. Make sure that you have made enough room to prevent fouling of bin lids. Another caution is that the bin can be “kicked off” the forks if the bin lids hit material already in the hopper or the packer panel if it is not fully retracted.

BASIC PACKING TECHNIQUES

NOTICE

Remember the machine has been designed to pack full loads as a “Half Pack”.

NOTICE

The current production of the Half/Pack have a timer in the Controller that individually times the duration of the packer extend and packer retract cycle. If a pack cycle is more than 24 seconds, the packer panel will return to the FULLY RETRACTED POSITION and the In-Cab Display will display a warning that the AutoPack has timed out and will beep.

SUMMARY OF PACKING TECHNIQUES

1. With the first half of the load, cycle the packer panel twice for each bin loaded. When loading large bins (8–10 yards) a third pack may be necessary.
2. Always watch the packer panel for material “boiling up” which could cause jamming or spillage. If this occurs, reverse the panel all the way and pack again. Repeat as necessary.
3. As the body fills, you may need to perform additional packing cycles to clear the “fall-back” material and effectively clear the hopper.
4. If “bridging” occurs, the packer will not automatically complete its cycle. Repeatedly cycle the packer manually to break the bridge. When the automatic cycle returns, you can load more bins. By breaking the bridging material, you can significantly increase payloads.
5. As the body fills, pack more often to keep the hopper clear of fall back material and pack more effectively.
6. The key to achieving effective payloads is pack, pack, pack!
7. Always operate your machine safely and wisely.

LEAVING THE ROUTE FOR THE LANDFILL/TRANSFER STATION/RECYCLE CENTER

At the end of the route, or when the unit has a full load, prepare the unit to go to the landfill. Also see Driving to Pick-up Locations and make sure the unit is properly set up for travel.

1. The Body is fully LOWERED.
2. The Tailgate is DOWN and LOCKED.
3. Put the arms and forks in the TRANSIT POSITION. See **“Check The Traveling Or “In-Transit” Position” on page 100.**
4. The Top Door (Hopper Cover) is:
 - For a unit before it is on-route – CLOSED
 - For an on-route unit – OPEN
 - For a FULL unit or a unit not on-route – CLOSED
 - The arms will interlock if the Top Door (if equipped) is not fully open

5. The packer panel is:
 - For an EMPTY Unit – FULLY retracted position (front of body/hopper)
 - For a FULL Unit – up tight against refuse
6. The pump icon is OFF.
7. The mirrors are properly adjusted and clean.
8. The side door and sump door (if equipped) is CLOSED and LATCHED.
9. All outside lights operate properly.

SECTION 9

LANDFILL/TRANSFER STATION/ RECYCLE CENTER PROCEDURES

SETTING UP AN EJECT UNIT FOR UNLOADING

Set up the Unit

After positioning unit on firm stable ground for unloading at the landfill, set up as follows.

⚠ CAUTION

Make sure that all individuals are clear of the point of operation before actuating controls. Be ready to stop or reverse the function.

1. Shift the transmission to NEUTRAL.
2. APPLY the parking brake and MAKE SURE it is holding.
3. UNLOCK the tailgate by PUSHING and HOLDING the tailgate latch icon (located on the in-cab display), until the tailgate is completely unlocked.

Raise the Tailgate

⚠ DANGER

A tailgate in motion is dangerous. SERIOUS INJURY or DEATH will occur if a person is struck by a moving tailgate or becomes trapped between the tailgate and the body. Clear the area near the tailgate of all unnecessary people before you lower the tailgate.

1. PRESS the TAILGATE UP/DOWN icon to UP and HOLD the icon until the tailgate is COMPLETELY raised, which is about 30° above the body.
2. RELEASE the icon.

NOTICE

The BODY TAILGATE UP notification turns ON and the in-cab alarm will sound to indicate the tailgate is open.

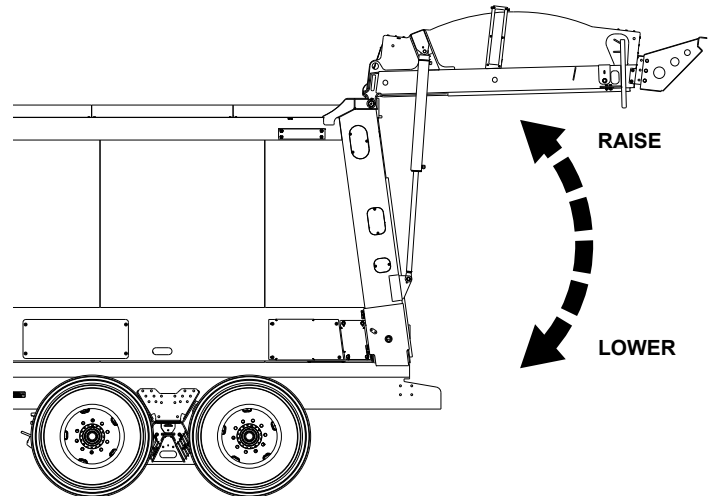


Figure 112. Raising the Tailgate

UNLOADING REFUSE

1. Set the unit in position for ejecting the refuse.
2. UNLOCK and RAISE the tailgate.
3. EJECT (remove) the refuse by fully extending the eject panel.
4. RETRACT the ejector after you unload the refuse.
5. Perform Prop the Tailgate and Clean and Inspect the Tailgate Seal procedures.

NOTICE

The location of the controls on your unit may be different than those shown in this manual. Make sure you know your unit's control pattern before you operate the unit.

Clean & Inspect the Tailgate Seal

DANGER

A tailgate in motion is dangerous. SERIOUS INJURY or DEATH will occur if a person is struck by a moving tailgate or becomes trapped between the tailgate and the body. Clear the area near the tailgate of people before you lower the tailgate.

1. Before you clean and inspect the tailgate seal, prop the tailgate with the two factory body props. See **“Propping The Tailgate” on page 80.**
2. PUSH the TAILGATE RAISE/LOWER icon to the RAISE position and RAISE the tailgate sufficiently to rotate the props out of the prop pockets.

3. STORE the tailgate props.
4. PRESS and HOLD the TAILGATE RAISE/LOWER icon to the LOWER position and fully LOWER the tailgate.

Lock The Tailgate

You **MUST LOCK** the tailgate after you lower it.

1. PRESS the tailgate lock icon.
2. PRESS and HOLD the lock icon for three seconds until both sides of the tailgate are locked, then RELEASE the icon.

CLEAN BEHIND THE PACKER PANEL

After you remove refuse from the body at the landfill or transfer station, REMOVE refuse and other materials that may be behind the packer panel BEFORE you leave the landfill or transfer station.

DANGER

Place the unit in Lock-Out/Tag-Out before cleaning behind the packer panel. Refer to the **“Lock-Out/Tag-Out Procedure” on page 47**. SERIOUS INJURY or DEATH will occur if not followed.

1. PRESS and RELEASE the PACKER EXTEND switch and EXTEND the packer panel FULLY to the rear of the hopper area.
2. Use the joystick or 2-lever controls and RAISE the arms and forks to the full UP position.
3. PRESS and RELEASE the pump switch to turn the pump OFF.
4. Place the unit in Lock-Out/Tag-Out. Refer to the **“LOCK-OUT/TAG-OUT PROCEDURE” on page 46** Procedure.
5. Open the access door and clean behind the packer panel. You can push refuse into the sump and then remove the refuse through the sump doors. Be careful and do not cause damage to the packer cylinder rods by standing on them or hitting them with the cleanout tool. A plastic cleanout shovel is recommended and is offered by Heil.
6. INSPECT the packer panels and hopper floor for excessive wear or possible damage. If there is excessive wear or other damage, report the wear or damage to your supervisor and get the damage repaired or parts replaced as soon as possible.
7. Exit the body, close and latch the side door, close and latch the sump door(s).
8. Start the vehicle's engine engage the PTO (if equipped) then PULL the System Power switch UP and PRESS and RELEASE the PUMP ON button.
9. PRESS and RELEASE the packer retract switch and retract the packer panel fully to the front of the body to the FULLY RETRACTED POSITION.
10. MAKE SURE the packer panel is at the FULLY RETRACTED POSITION.
11. Use the packer switches and do one more cycle of extend and retract. Make sure the packer travels fully forward during the extend operation and travels fully to the FULLY RETRACTED POSITION during the retract operation.
12. CLOSE and LATCH the access door.

REMOVE REFUSE FROM THE ENGINE & EXHAUST AREAS

⚠ WARNING

IMPORTANT! Inspect unit for refuse on or about the engine or exhaust components. **Remove all refuse to prevent a fire.**

SUMP & WASHOUT SYSTEMS

Sump Compartment (Optional)

A sump compartment with an access door is located on the curb side of the unit when it is in the fully retracted position.

The sump compartment is below the hopper area and collects liquids that drain out of the collected and compacted refuse that is inside the unit body.

You can open the door and clean out the sump compartment. Keep the sump doors closed at all times except when you clean out the compartment.

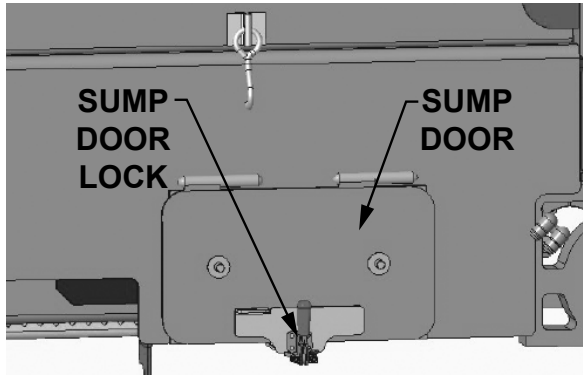


Figure 113.Sump Door

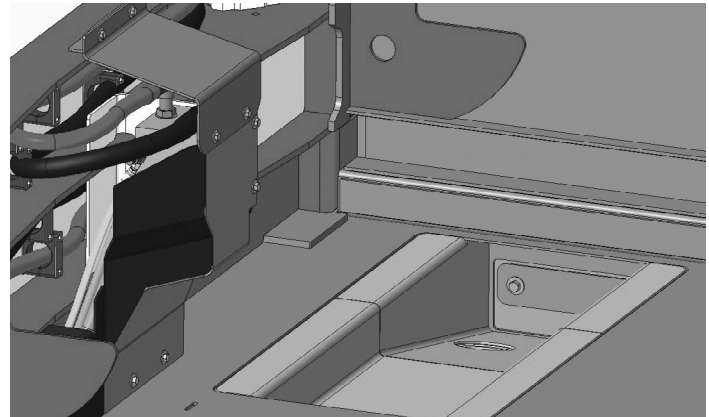


Figure 114.Inside Sump Door

Washout System

If your unit has an optional washout system, use it to clean out the sump area, the hopper or body interior, or the outside of the unit. This is typically done at the end of a work day.

PREPARING TO RETURN TO ROUTE

MAKE SURE before you leave the landfill or transfer station:

1. On an empty unit, the packer panel is in the FULLY RETRACTED POSITION to the front of the body.
2. If you leave the transfer station or landfill with refuse in the body the packer panel should be in the travel position see **“Check The Traveling Or “In-Transit” Position” on page 100.**
3. The tailgate is DOWN and LOCKED.
4. The top door (hopper cover) is closed.
5. The fork cross shaft is in the correct **“Check The Traveling Or “In-Transit” Position” on page 100** with the fork cross shaft slightly ABOVE the cab windshield.

6. CLOSE and LATCH the side door.
7. Ensure the body lights function and turn ON and OFF properly.
8. PRESS the pump icon to turn the pump OFF.
9. You properly ADJUST and CLEAN the mirrors.
10. MAKE SURE the sump doors (if equipped) are CLOSED.

SECTION 10

END OF DAY PROCEDURES

END OF DAY PROCEDURES

Parking the Unit

1. Park the unit in the space designated by your employer/supervisor.
2. Set the parking brake.

Washout System

If the unit has a washout system and you did not use it at the landfill/transfer station, you should clean the body and hopper, unless your employer has a different policy. If your employer's policy is different from this manual, follow their policy.

Final Inspection

Perform a final inspection of the unit:

1. Clear the area of all people.
2. Start the engine if it is not running.
3. Make sure all lights and in-cab control switches operate correctly.
4. Put the transmission in reverse while you press the service brake. The backup alarm should sound in the cab. If the alarm does not sound in the cab, report this to your employer/supervisor immediately.
5. Check the unit for fluid leaks from the hoses, cylinders, valves, pump and fittings. Report any leaks to your employer/supervisor.

6. Make sure all cylinders (except tailgate lock cylinders and arm raise cylinders) are in their retracted position.
7. APPLY the parking brake.
8. Put the transmission in neutral and turn the engine OFF.
9. Put the unit in **“Lock-Out/Tag-Out Procedure”** on **page 47**.
10. Open the air tank drain valve.
11. Turn the battery disconnect switch to OFF.
12. Follow the company policy for locking the cab doors.

Reports to Employer/Supervisor

Complete any reports required by your employer/supervisor. If you found any problems during the final inspection, prepare the necessary report for the employer/supervisor.

Ignition Keys

Put the ignition keys in a secure storage area designated by your employer/supervisor.

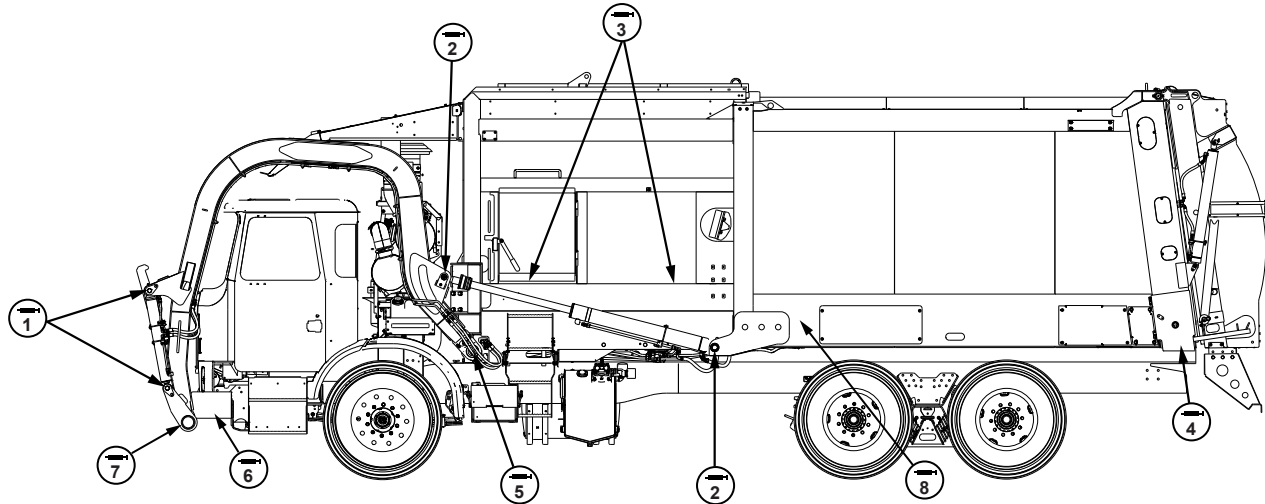
SECTION 11

LUBRICATION GUIDE

BODY LUBRICATION GUIDE

Clean fittings before applying grease and always pump enough grease into joint to remove the old grease. Wipe off excess grease. Lubricate movable mechanical parts without fittings every 60 days with non-detergent engine oil.

HALF/PACK® BODY LUBRICATION GUIDE



REF NO.	DESCRIPTION	QTY.	FREQUENCY	REF NO.	DESCRIPTION	QTY.	FREQUENCY
1	FORK CYLINDERS	4	WEEKLY/EVERY 40 HOURS	5	ARM CROSS SHAFT	4	WEEKLY/EVERY 40 HOURS
2	ARM CYLINDERS	4	WEEKLY/EVERY 40 HOURS	6	PUMP DRIVE SHAFT	2	WEEKLY/EVERY 40 HOURS
3	PACKER/EJECTOR CYLINDERS	4	WEEKLY/EVERY 40 HOURS	7	FORK CROSS SHAFT	2	WEEKLY/EVERY 40 HOURS
4	SHUR-LOCK TAILGATE CYLINDER BRACKET	2	WEEKLY/EVERY 40 HOURS	8	PACKER PANEL TRACKS	2	MONTHLY/EVERY 200 HOURS



Use No. 1 pressure gun grease. Clean fittings before applying grease and always pump enough grease to remove old grease. Wipe off excess.



Lubricate moveable mechanical parts without fittings every 60 days with non-detergent engine oil.

212-3406

Figure 115.

SECTION 12

PREVENTIVE MAINTENANCE

CHART

PREVENTIVE MAINTENANCE CHART

Preventive maintenance must be performed to ensure the safe and reliable operation of your unit. Use the chart below as a guideline for when essential items should be checked and serviced.

Daily = 8 hrs. Weekly = 40 hrs. Monthly = 200 hrs. 6 Months = 1000 hrs. Yearly = 2000 hrs.						
COMPONENT/SYSTEM	8	40	200	1000	2000	CHECK/SERVICE
Hydraulic System	☒					Check oil level – add if necessary
		☒				Inspect cylinders, pump, hoses, tubes, fittings, and adapters for leaks. Check hoses for cracks, crushing, and cover blisters. Repair or replace as needed using genuine Heil parts. Replacement hoses must match the original OEM hose size and pressure rating.
		☒				Check Control valve seals for leaks. Repair or replace if necessary.
				☒		Replace filter after first 30 days of operation, then every 6 months or 1000 hours of operation OR when filter bypass light is ON.
				☒		Replace tank breather filter every time you replace filter element.
					☒	Drain, flush, and refill. Change filter element.
Operator Controls	☒					
Grease Fittings		☒				Lubricate as shown in the “ Body Lubrication Guide ” on page 125 .
Body Undercoating					☒	Inspect body undercoating and repair as necessary.
Fork Bearing Block Bolts			☒			Each of the four fork bearing block bolt torques should be 460 Ft-Lbs.

PREVENTIVE MAINTENANCE CHART

Daily = 8 hrs. Weekly = 40 hrs. Monthly = 200 hrs. 6 Months = 1000 hrs. Yearly = 2000 hrs.						
COMPONENT/SYSTEM	8	40	200	1000	2000	CHECK/SERVICE
Clamp-On Arm Bolts			☑			Inspect for tightness. Torque locknut to 600 Ft-Lbs.
Arm Cross-Shaft Clamp Bolts			☑			Inspect each clamp/bolt for tightness. Each bolt should be torqued to 81 ft-lbs.
Arm Cross-Shaft Bearing Block			☑			Inspect bolts for tightness. Keep the mounting bolts torqued to 200 ft-lbs. using a torque wrench (lubricated threads).
Calibrate Cylinder Sensors					☑	For Odyssey models only, calibrate cylinder sensors. See Cylinder Sensors / Arc Sensor Calibration in the applicable service manual for this unit.
Tailgate Seal Integrity	☑					See “ Clean & Inspect the Tailgate Seal ” on page 118
Packer/Ejector Cylinder Preventive Maintenance	☑	☑	☑			See Packer/Ejector Cylinder Preventive Maintenance in the applicable service manual for this unit.
Packer/Ejector Panel Bolt-in Cylinder Mount Bolts			☑			Check for tightness. Bolt torques should be 192 Ft-Lbs. (lubricated threads)
PTO/Transmission Interface Inspection			☑			Check the torque on the PTO mounting screws and tighten to the proper torque specification.
Electrical, Battery Cables	☑					Check for proper operation.
		☑				Check battery cables from battery to starter for loose cables, rubbing or damage and abrasions to cables. Replace if necessary.

Daily = 8 hrs. Weekly = 40 hrs. Monthly = 200 hrs. 6 Months = 1000 hrs. Yearly = 2000 hrs.						
COMPONENT/SYSTEM	8	40	200	1000	2000	CHECK/SERVICE
Front Mount Pump or Power Take-Off (PTO)		☒				Check seals for leaks and operation. Replace if necessary
		☒				Check drive line for smooth operation. Replace as necessary.
		☒				Check set screws for tightness. Tighten as necessary.
		☒				Make sure keys are in place. Replace if necessary.
			☒			For greaseable (non-wet spline) PTOs, loosen the pump flange bolts and pull the pump back about 2 inches. Apply grease to the female pilot of the PTO pump flange. Failure to lubricate the female pilot may damage the pump shaft. Greasing is not required for wet spline PTOs, such as the Chelsea 890/897 series.

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HEIL ENVIRONMENTAL WARRANTY STATEMENT

The Heil Co. d/b/a Heil Environmental (“Heil”) warrants its solid waste collection equipment to be free from defects in material and workmanship under normal use for a period of one (1) year or 2000 hours of operation (whichever comes first) from the date of equipment In-Service or during the period of coverage offered by an extended warranty program, when proper service and maintenance as described in Heil Service Bulletins and Parts & Service Manuals are performed. The standard or extended equipment warranty is not transferable except for sales demonstration units.

This warranty is expressly limited to the repair or replacement of any component or part thereof, of any such refuse or recycling collection body manufactured by Heil that is proven to Heil’s satisfaction to have been defective in material or workmanship. Such components or parts shall be repaired or replaced at Heil’s option without cost to the standard purchaser for parts and labor provided such unit is returned to an authorized Heil Distributor for replacement or repair. The repair or replacement must be made during the standard or extended warranty coverage period. Before any warranty can be allowed on new equipment, a validated warranty registration form must be on file with Heil’s Customer Service Department within sixty (60) days of the equipment’s In-Service date. Wear items are excluded from warranty coverage.

All OEM service parts sold by Heil have a six (6) month warranty from the date of purchase. Aftermarket parts purchased from Heil are supported by a 90-day warranty. The parts warranty covers parts only, providing that factory inspection reveals a defect in material or workmanship. Labor, troubleshooting, equipment downtime, etc. is not covered under the parts warranty policy.

HEIL MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AND MAKES NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE. HEIL DOES NOT ASSUME ANY LIABILITY OR ACCEPT CLAIMS FOR LOSS OF PROFITS, PRODUCT DOWN TIME OR ANY OTHER DIRECT, INCIDENTAL OR INDIRECT CONSEQUENTIAL LOSSES, COSTS, DAMAGES OR DELAYS.

Any improper use, operation beyond rated equipment or component capacity, substitution of parts that are not Heil-approved, or any alteration or repair by others in such a manner as in Heil’s sole judgment affect the product operation or integrity shall void the warranty.

Other than the extension of the standard warranty period purchased under a supplemental Heil Extended Warranty Program, no employee or representative is authorized to modify this warranty in any way nor shall any other warranties be granted. No dealersupplied warranty program is endorsed or supported by Heil.

Heil retains the right to modify its factory warranty program prospectively at any time.

The statements included herein is merely a summary of the full Limited Warranty provided by Heil. Please see the full limited warranty as outlined at <https://www.heil.com/warranty/> under Heil Warranty Policies and Procedures.



WE NEVER STOP WORKING FOR YOU

Customer Service & Repair Parts Contact

www.heil.com

Customer Care:
866-ASK-HEIL
(866-275-4345)

The Heil Co.
4301 Gault Avenue North
Fort Payne, AL 35967-9984

Parts Central:
800-528-5308

Technical Service:
866-310-4345
Techsupport@Heil.com