



NYC Half/Pack[®]

INCLUDING STANDARD, FREEDOM AND SIERRA

OPERATION MANUAL

24AB SERIES 301-325, 401-417

ISSUED SEPTEMBER 2024

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.





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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NYC Half/Pack

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OPERATION MANUAL

ISSUED SEPTEMBER 2024

TP1NYCHP-OM-0924

NOTES:

SECTION 1

INTRODUCTION

PREVIEW

Read this section to learn about:

- The responsibilities of the owner, the operator, and the mechanic
- Warranty information
- Telephone numbers and website URL for parts, technical support, warranty claims, training and manuals
- Identifying the different models
- Identifying the left (street side) of the unit
- The unit serial plate
- Various parts of the unit

HOW TO USE THIS MANUAL

Product Variance

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

Manual Sections

This manual is divided into ten (10) sections.

1. Introduction
2. Safety Messages and Decals
3. Lock-Out/Tag-Out Procedures
4. Controls, Switches, and Indicator Lights
5. Body and Tailgate Props
6. Daily Checklist
7. Before Going on Route
8. On-Route Operation Procedures
9. Landfill/Transfer Station/Recycle Center Procedures
10. End of Day Procedures

Terminology

This manual uses terminology that is defined in the **Glossary** which is in Section 1, Introduction.

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") NYC 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 Chassis Owner's Manual and the NYC 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 sure that repairs are made that may affect the safe operation of the unit before it is made available for operation.
- 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 NYC 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, this Operation Manual should be used in conjunction with any associated CNG System Manufacturer's Operation and Maintenance Manuals. Always read and understand all associated manuals alongside the Heil Parts and Service Manual and Heil Operation Manual.

As the operator of the unit, you have several responsibilities:

- You must have a valid driver's license.
- You must understand and follow all manufacturers' instructions for equipment operation.
- You must observe pertinent laws and regulations.
- Do not use drugs or alcohol while you operate the unit.

- You must read, study and understand all procedures and requirements of this Operation Manual before you operate the unit for the first time. If you do not understand or have difficulty reading this manual, **YOU MUST** tell the owner or designated person before you operate the unit. **DO NOT** operate the unit until you understand the procedures and requirements of this manual.
- 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 the **Daily Checklist** [77](#).
- 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.

TO THE OPERATOR (CONTINUED)

- 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**  in this manual.
- 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 in a collection route environment or before you do repair or maintenance procedures.
- Before each time you start the engine or operate the unit, you must clear the area of other people.
- 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.

NOTES:

WARRANTY CLAIMS AND 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** page for the location of the body serial plate.

CONTACT INFORMATION

Customer Care

Phone: 866-275-4345

Technical Service

Phone: 866-310-4345

Parts Central

Phone: 800-528-5308

4301 Gault Avenue North
Fort Payne, AL 35967
www.heil.com

MODEL

The NYC Half/Pack® has one body model:

- Eject

The Eject model uses 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 Eject body model does not have Service Hoist Cylinders.



Figure 1. Rapid Rail® Eject Model

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”. The figure below shows the locations of the serial plates on the street side of the unit’s body and tailgate. See the next page for a description of the information that is on the serial plate.

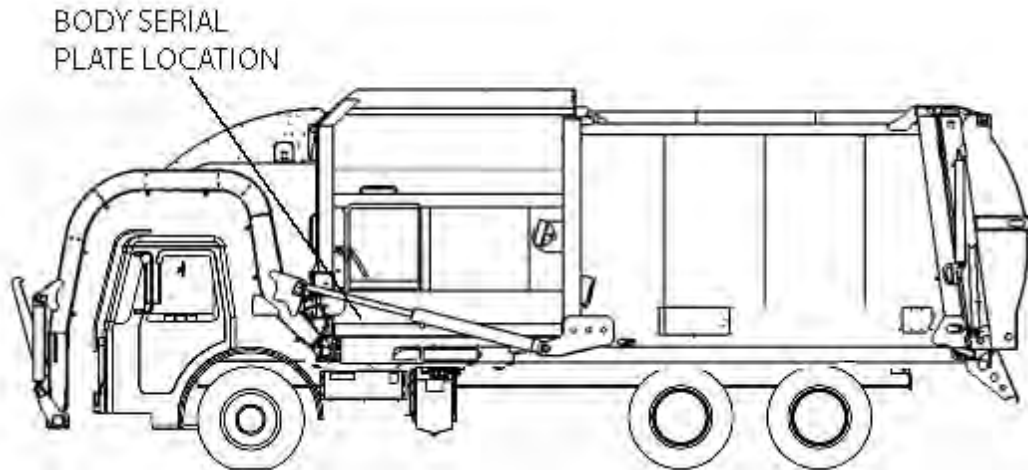


Figure 2. Serial Plate Locations

READING THE SERIAL PLATE

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



Figure 3. Reading the Serial Plates

Information stamped in the boxes on the serial plate indicates:

Model number:
612-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. J078 is year 2018 and the 78th day of 2018).

NOTICE

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

Year of Manufacture			
Year Code	Year	Year Code	Year
5	2005	F	2015
6	2006	G	2016
7	2007	H	2017
8	2008	J	2018
9	2009	K	2019
A	2010	L	2020
B	2011	M	2021
C	2012	N	2022
D	2013	P	2023
E	2014	R	2024

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.

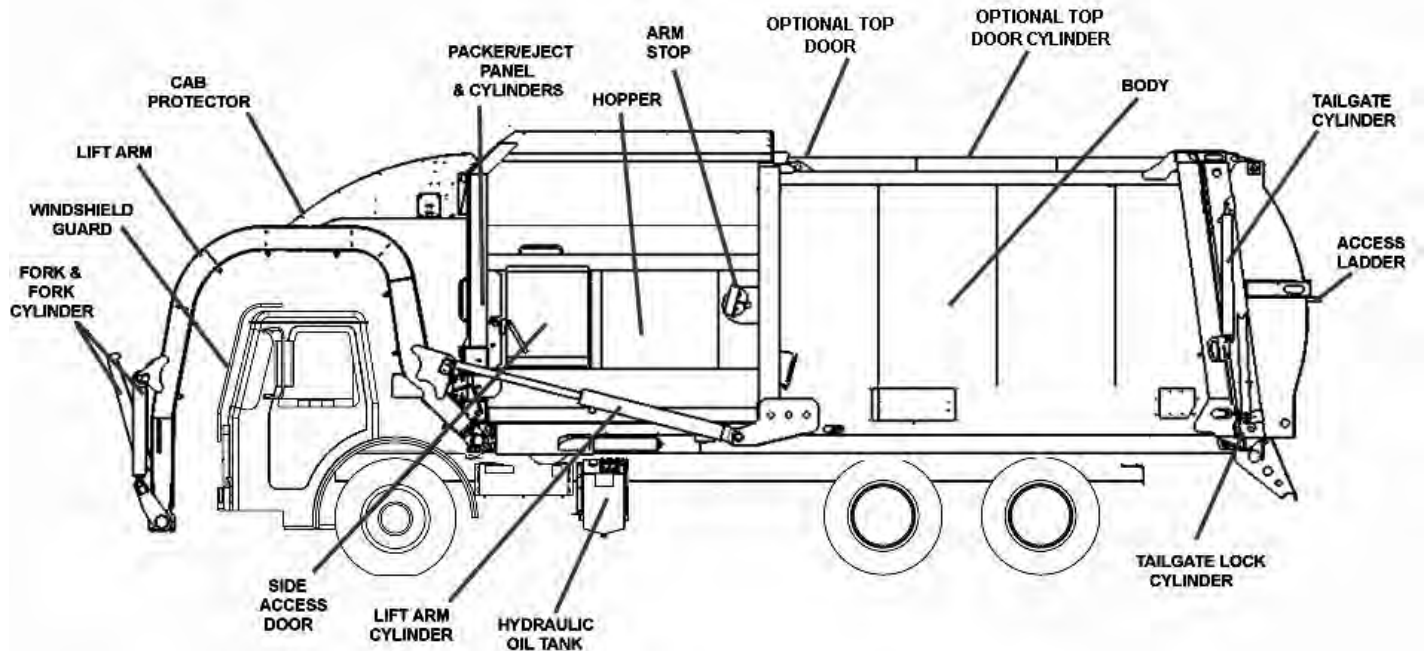


Figure 4. Product Nomenclature

PRODUCT NOMENCLATURE (CONTINUED)

Access Ladder – MAKE SURE the unit is in Lock-Out/Tag-Out mode before you use the access ladder AND the Top Door (Sliding Top Door) is CLOSED. BE CAREFUL at all times when you use the ladder. Maintain good balance with two feet and one hand, or one foot and two hands, firmly in place at all times.

Arm Stop – The lift arms stop their movement at the arm stops.

DANGER

Make sure the unit is in the Lock-Out/Tag-Out mode before you enter the body. When the unit is not in the Lock-Out/Tag-Out mode and a person is in the body, the packer/ejector panel and/or diverter panels can be operated. Serious injury or death may occur if the packer/ejector panel moves while a person is in the body.

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

Cab Controls – The standard cab control panel is located in the vehicle cab. See **Cab Controls, Switches and Indicator Lights** 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.

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

PRODUCT NOMENCLATURE (CONTINUED)

Fork & Fork Cylinder – You use the two fork cylinders to rotate (RAISE or LOWER) the forks to the correct angle to engage a refuse container's pickup sleeves.

DANGER

Do not enter the hopper unless the unit is in the Lock-Out/Tag-Out mode. When the unit is not in the Lock-Out/Tag-Out mode, the packer/ejector panel can be operated. DEATH or SERIOUS INJURY may 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 between the Packer/Eject panel and the body bin and is under the opening of the optional sliding top door. The hopper is the loading chamber for the refuse. Refuse dumped into the unit falls inside the hopper where it stays until the operator packs the load into the body with the packer/eject panel. NEVER use the hopper as an entrance to the body.

Hydraulic Oil Tank – The tank is the reservoir for the hydraulic oil which operates all hydraulic cylinders described above.

WARNING

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.

Hydraulic Pump – The unit's hydraulic pump provides the oil flow for the hydraulic system. It is located underneath the unit powered by the transmission through a Power Take-Off (PTO).

Lift Arms & Cylinders – You use these two cylinders to RAISE and LOWER the lift arms to lift a container for dumping and to set it back on the ground.

Operator Controls – The standard operator controls for running the NYC Half/Pack® components are inside the vehicle cab. See **Controls, Switches, and Indicator Lights** for the different controls that may be installed in your unit.

PRODUCT NOMENCLATURE (CONTINUED)

WARNING

The side door must be closed before you start a packer operation. Serious injury or death may 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 Access Door – Use this street side door to enter the body when required for cleaning or other maintenance tasks. **MAKE SURE** the unit is in Lock-Out/Tag-Out mode and the keys removed from the ignition and in the operator's control **BEFORE** you enter through the side door.

The door has a proximity switch that the Cortex Controller™ uses to disable the hydraulic system unless the door is closed.

DANGER

A tailgate in motion is dangerous. Serious injury or death may 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.

NOTICE

The tailgate system restricts the tailgate from unlocking or opening when the unit is moving in excess of 5mph.

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.

NOTICE

You unload the refuse by opening the tailgate and fully extending the packer panel cylinder, which pushes the refuse out the rear of the body.

PRODUCT NOMENCLATURE (CONTINUED)

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

The InSight™ Diagnostic Display shows red when the tailgate is OPEN or UNLOCKED and green when the tailgate is CLOSED and LOCKED.

DANGER

Always prop a tailgate when you leave it raised for maintenance, service or cleaning procedures. 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 may occur if any part of your body is between the tailgate and the body if the tailgate suddenly closes.

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

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.

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.

WARNING

Close the top door and follow the Lock-Out/Tag-Out procedures on the unit before you climb on the ladder. You may get part of your body caught by the top door or the cylinders if the cover moves or the cover door opens which may result in death or serious injury.

NOTICE

The top door must be open when you pack the refuse. You can cause damage to the unit if you compact the refuse with the top door closed. You must close the top door to eject the refuse.

PRODUCT NOMENCLATURE (CONTINUED)

Top Door & Cylinder – The unit will have a top door which the operator opens and closes with a hydraulic cylinder. You OPEN the top door to dump refuse into the hopper. You CLOSE the top door when the body is full of refuse, when you are traveling between collection routes or you are traveling to the refuse station or landfill.

Windshield Guard – The guard protects the windshield from falling debris. DO NOT use the windshield guard as a ladder.

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.
CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
collapsed position	The fully retracted position of a cylinder
Cortex Controller™	Heil Electronic Body Controller (Half/Pack®, Half/Pack® Freedom, Half/Pack® Sierra, Odyssey HP/HPF/HPS, NYC Half/Pack®, DuraPack® Python®, DuraPack® 7000, MultiPack®, Rapid Rail®, and STARR® System units only).
DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
extend/EXTEND	Make a cylinder rod move out its base / Command to move the packer panel towards the body
fall-back	Material loaded in the body that drops from its initial compacted position into the hopper
FEL	Front End Loader
fouling	Damage to the lid(s) of the refuse bins (containers) that interferes with unloading the refuse
front head	The part of the body that allows access to the body from the front of the body. This is the ONLY access to the body when the unit does not have an optional side access door.

GLOSSARY

TERM	DEFINITION
fully retracted position	The packer/extend cylinder is fully retracted and the packer panel is all the way to the front of the hopper. May also be referred to as “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.
illuminate	Make a lamp shine light (the lamp is on).
incident	An unintended and undesired event that has the potential to harm.
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/LOWER	Move the lift arms, forks, body or tailgate down. / Command to 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.
NOTICE	Alerts you to practices not related to personal injury, such as damage to the unit or other equipment.
off/OFF	When a light or lamp does not illuminate / The position of a switch or other control to stop a function
on/ON	When a light or lamp illuminates / The position of a switch or other control to start a function

GLOSSARY

TERM	DEFINITION
operator	Any person who uses the unit and its equipment. One who controls the operation of various unit accessories and mechanisms, loads material, performs functions such as operating the loader, cart tipping and packing of wastes or recycled products, and who may also drive the unit along the route during the collection process. The operator may also be the driver.
PN	Part Number
PTO	Power Takeoff
raise/RAISE	Move the lift arms, forks, or tailgate up / Command to move the lift arms, forks, or tailgate up
retract/RETRACT	Make a cylinder rod go into its base / Command to move the packer panel towards the hopper
RPM	Revolutions Per Minute
should	The action is advised.
side access door	The side access door is located on the street side of the unit. This is the preferred access into the body. ALWAYS Lock-Out/Tag-Out ⁽⁵⁷⁾ the unit BEFORE entering the body.
top door	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	The Heil NYC Half/Pack® refuse collection vehicle referred to in this manual.
UNLATCHED	The side access door is not closed or secured.
UNLOCK	Command to use the tailgate lock/unlock switch and unlock the tailgate lock cylinders
WARNING	Indicates a hazardous situation, which if not avoided, could result in death or serious injury.

SECTION 2

SAFETY MESSAGES AND DECALS


PREVIEW

Read this section to learn about:

- General safety precautions and safety precautions for the safe operation and maintenance of the unit
- The safety precautions for NOT towing another vehicle or machine
- Safety decals on the unit

PRECAUTIONARY STATEMENTS

Read this entire manual and 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.

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 PUSH the SYSTEM POWER switch so the pump shuts off when you are not using the unit, when you are repairing the unit, when you are working on the unit, or when traveling in the unit for longer than two minutes.
 - **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 lift cylinders (including the body raise cylinders) to the collapsed position.
 - For units with manual transmissions, **DISENGAGE** the PTO and PUSH the PUMP switch so it shuts off the pump.
 - For units with automatic transmissions PUSH the SYSTEM POWER switch 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**  57.
 - 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 **Controls, Switches, and Indicator Lights** **In-Cab Display and Controls** 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.
- **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 section**  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 a Carry Can or 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. Become familiar with your route. Be aware of all overhead trees and obstructions that could cause problems during refuse collection.
- **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. See Tables 1 and 2.
- **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. See Tables 1 and 2.
- **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.**

OVERHEAD CLEARANCES

NOTICE

Table 1 and 2 is in accordance with OSHA 29CFR 1910.333. (Also refer to ANSI Standard B30.5-2004, 5-3.4.5.) If local rules and laws require more clearance, you must follow those.

Table 1. Overhead Clearances When Operating the Unit

Voltage of Electric Line	Minimum Clearance
50,000 or less	10 feet (3 m)
Above 50,000 to 200,000	15 feet (4.6m)
Above 200,000 to 350,000	20 feet (6.1 m)

Table 1. Overhead Clearances When Operating the Unit

Voltage of Electric Line	Minimum Clearance
Above 350,000 to 500,000	25 feet (7.6 m)
Above 500,000 to 750,000	35 feet (10.7 m)
Above 750,000 to 1,000,000	45 feet (13.7 m)

Table 2. Overhead Clearances When Driving the Unit

Voltage of Electric Line	Minimum Clearance
750 or less	4 feet (1.2 m)
Above 750 to 50,000	6 feet (1.8 m)
Above 50,000 to 345,000	10 feet (3 m)
Above 345,000 to 750,000	16 feet (4.9 m)
Above 750,000 to 1,000,000	20 feet (6.1 m)

**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. Refer to Tables 1 and 2.

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** ⁽⁵⁷⁾ condition **BEFORE** you work in or around the unit.
- **DO NOT** go under the chassis or enter the body area unless the unit is locked-out. To lock-out the unit, stop the engine, apply the brakes and make sure the brakes hold and work properly, chock all wheels, remove the keys from the cab, and place a lock-out tag on the steering wheel. See the **Lock-Out/Tag-Out Procedure** ⁽⁵⁷⁾.
- **BE CAREFUL** at all times when you use the 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. Read and follow the instructions for **Propping the Body**.
- **DO NOT** use the hopper opening and tailgate opening as an entrance or exit to the body or hopper. **ONLY USE** the side access 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 Parts and Service Manual 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 below and in the Parts Manual. You can purchase replacement decals from your **Heil Dealer** or from the **Heil Parts Central, 800-528-5308**.

REFLECTIVE SAFETY MATERIALS

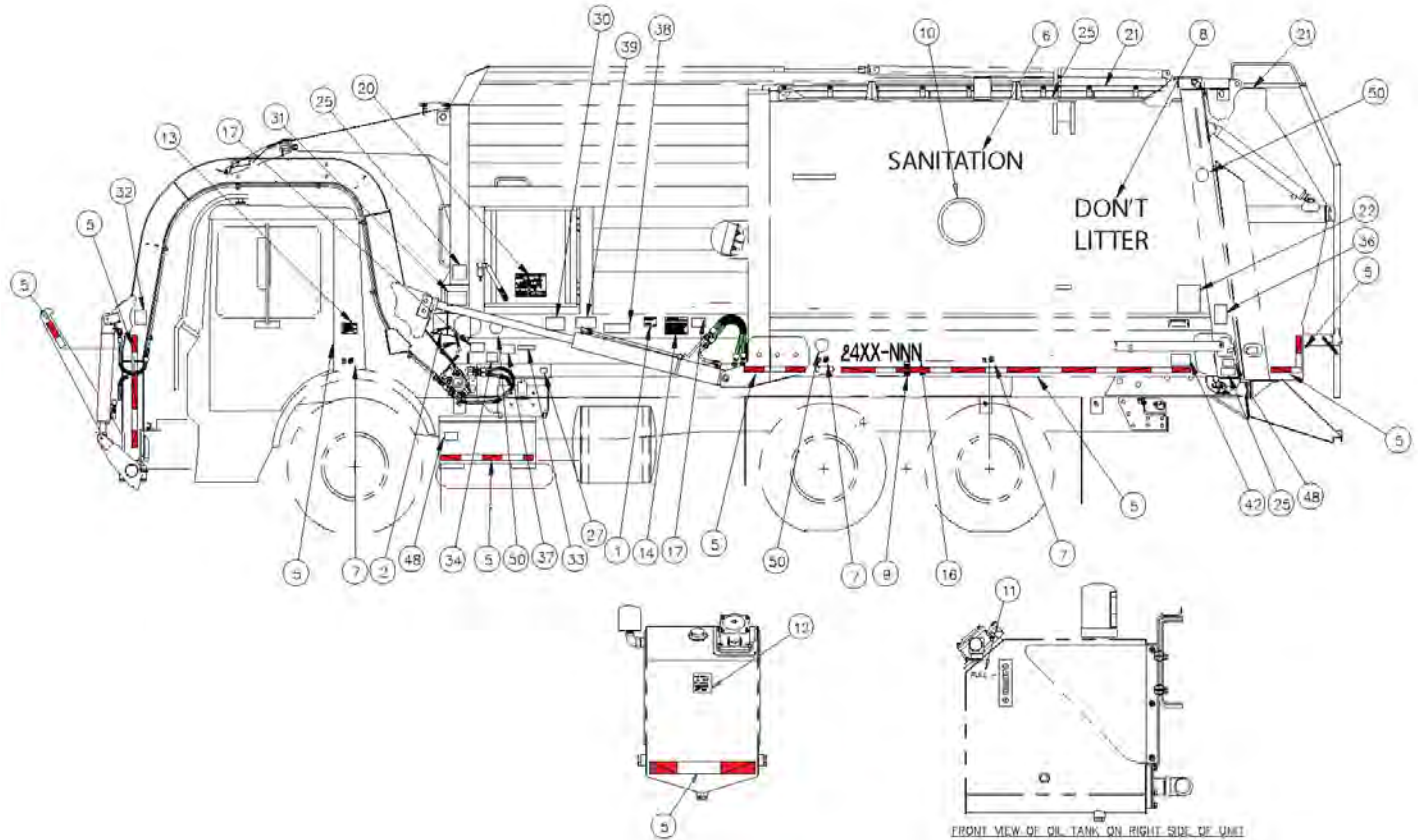
See the Parts and Service Manual for the location and part numbers of the reflective safety materials on the unit.

NOTICE

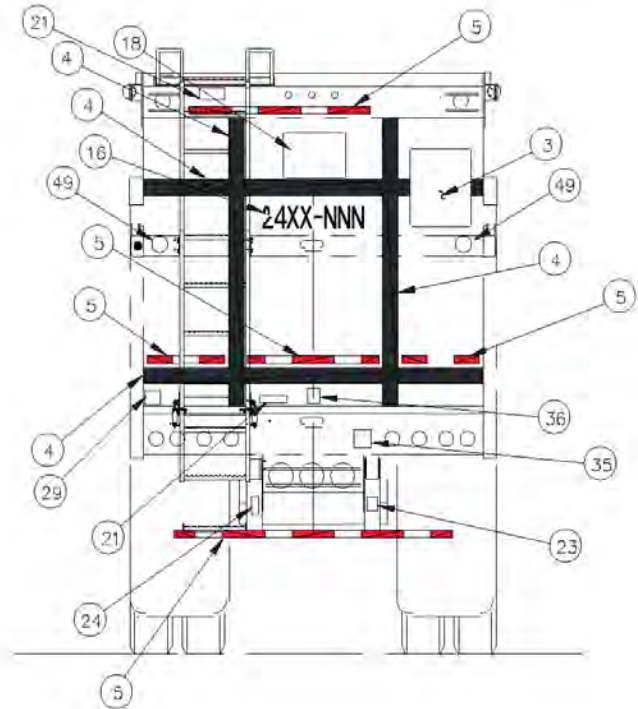
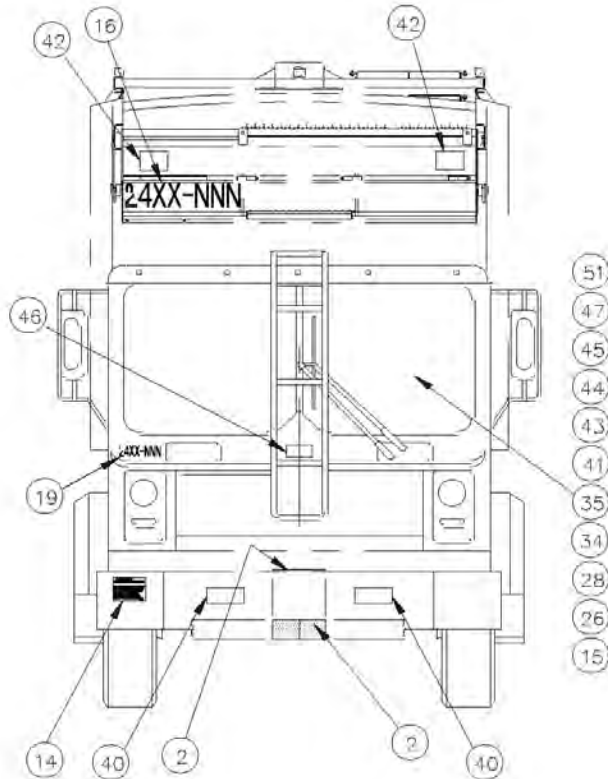
Replace any safety material with new safety material if the old safety material is lost, destroyed, painted over or cannot be seen. When you replace a part that had safety material on it, make sure you install new safety material on the new replacement part. See the Parts and Service Manual for all part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



DECAL PLACEMENT (CONTINUED)



DECAL PLACEMENT (CONTINUED)

REF	PART No.	DESCRIPTION	EFF	QTY
1	212-3067	DECAL, ARM LOWER	-	1
2	121-1429-024	ANTI-SLIP STEP SURFACE	-	5
3	212-1719	DECAL, CAUTION, WIDE TURN	-	1
4	212-1982	TAPE, BLACK REFLECTIVE, 4"	-	30'
5	212-2070	DECAL, RED & WHITE REFLECTIVE	-	50'
6	212-2195	DECAL, SANITATION	-	2
7	212-2199	STENCIL, T.P. 120	-	6
8	212-2200	DECAL, DON'T LITTER	-	2
9	212-2441	DECAL, TOWING	-	2
10	212-2443	DECAL, NYC LOGO	-	2
11	212-2460	DECAL, STENCIL, FULL	-	1
12	212-2567	DECAL, HYDRAULIC OIL ONLY	-	1
13	212-2579	DECAL, CAUTION, CAB-TILT	-	2
14	212-2580	DECAL, CAUTION, TOWING STOP	-	3
15	212-2606	DECAL, OPERATOR INSTRUCTION	-	1
16	212-3033	STENCIL,NDECAL, 26", 24X-NNN	-	4
17	212-3050	DECAL, MAN. HANDLE OPERATION	-	2
18	212-3003	DECAL, SLOW DOWN	-	1
19	212-3038	STENCIL DECAL, ", 24X-NNN	-	1
20	212-3231	DECAL, LUBRICATION GUIDE	-	1
21	212-2394	DECAL, DANGER, LOCKOUT/SHUT	-	4
22	212-2811	DECAL, TAILGATE PROP OPER.	-	2

Note: - before the REF Number means Not Pictured.

DECAL PLACEMENT (CONTINUED)

REF	PART No.	DESCRIPTION	EFF	QTY
23	212-1631	DECAL, WARNING, BUMPER/STEP	-	1
24	212-1634	DECAL, DANGER, STAND CLR T/G	-	1
25	212-2228	DECAL, PROX SWITCH ADJUST	-	5
26	212-2183	DECAL, OVERHEIGHT	-	1
27	212-2067	DECAL, CAUTION-SUMP DOOR	-	2
28	212-1918	DECAL, SAFETY INSTRUCTIONS	-	1
29	212-1914	DECAL, CAUTION LADDER	-	1
30	212-1911	DECAL, CAUTION, STAND CLEAR	-	1
31	212-1907	DECAL, DANGER, ACCESS DOOR	-	1
32	212-1899	DECAL, DANGER, STAY CLEAR	-	1
33	212-1841	DECAL, A.N.S.I. STANDARDS	-	1
34	212-2689	DECAL, U.S.A. FLAG	-	3
35	212-1819	DECAL, DANGER, DO NOT TOW	-	2
36	212-1801	DECAL, DANGER, STAND CLEAR	-	3
37	212-1783	DECAL, DO NOT OPERATE	-	1
38	212-1781	DECAL, CAUTION, REMOVE KEY	-	1
39	212-1780	DECAL, CAUTION, ACCESS DOOR	-	1
40	212-1764	DECAL, DANGER, UNDER CHASSIS	-	2
41	212-3049	DECAL, 8400 LBS LIFTING CAP.	-	1
42	212-1642	DECAL, DANGER, NO ENT/EXIT	-	4
43	212-0735	DECAL, WARNING, OPS MANUAL	-	1
-44		NOT USED		

Note: - before the REF Number means Not Pictured.

DECAL PLACEMENT (CONTINUED)

REF	PART NO.	DESCRIPTION	EFF	QTY
45	212-3091	DECAL, OVERALL HEIGHT	-	1
46	212-2611	DECAL, WINDSHIELD GUARD	-	1
47	212-2408	DECAL, EOS	-	1
48	212-2448	DECAL, DIS. BEFORE WELDING	-	2
49	115-0757	REFLECTOR, RED	-	2
50	115-0758	REFLECTOR AMBER	-	6
51	212-3347	DECAL, PRESSURE REGULATOR	-	2

Note: - before the REF Number means Not Pictured.

DECAL IMAGES



Figure 5. Danger:
Stand clear, PN
212-1801-E



Figure 6. Danger:
Stand clear
tailgate, PN
212-1634



Figure 7. Danger: Lock-out / Tag-out, PN 212-2394-E



Figure 8. Warning:
Operator's Manual, PN
212-1783-E

DECAL IMAGES (CONTINUED)



Figure 9. Caution: Using Ladder, PN 212-1914



Figure 10. Caution: Wide turn, PN 212-1719

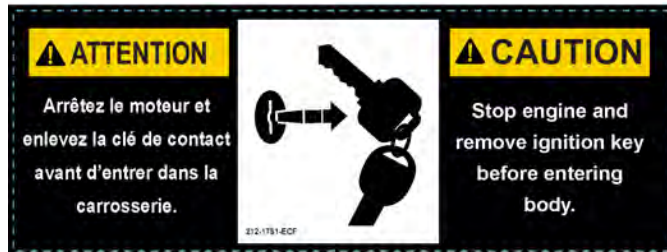


Figure 11. Caution: Remove Key, PN 212-1781-E



Figure 12. Warning: Windshield Guard, PN 212-2611

DECAL IMAGES (CONTINUED)

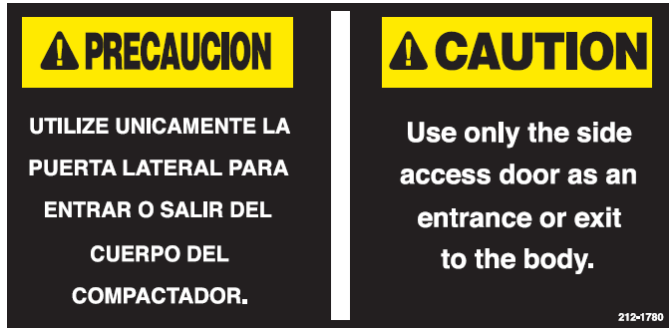


Figure 13. Caution: Access Door, PN 212-1780



Figure 14. Danger: Stay clear, PN 212-1899-E



Figure 15. Danger: Under Chassis, PN 212-1764-E



Figure 16. Danger: Access Door, PN 212-1907-E

DECAL IMAGES (CONTINUED)



Figure 17. Danger: Do Not Tow, PN 212-1819

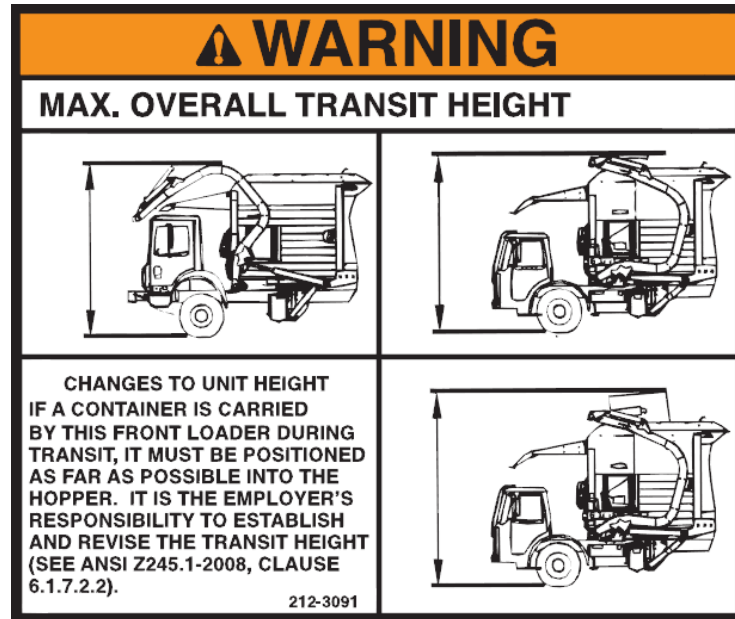


Figure 18. Warning: Overall Height, PN 212-3091

**DO NOT TRAVEL WITH ARMS ABOVE THE CAB
OR IN THE HOPPER, AS THIS UNIT IS OVER 13' 6".**

212-2183

Figure 19. Do Not Travel with Arms Above the Cab, PN 212-2183

DECAL IMAGES (CONTINUED)



Figure 20. Danger: No Entrance/Exit, PN 212-1642

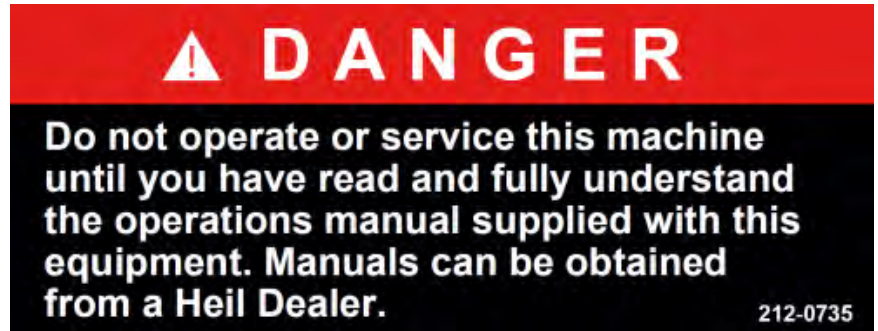


Figure 21. Warning: Operations Manual, PN 212-0735



Figure 22. Caution: Disconnect Battery Before Welding, PN 212-2448

DECAL IMAGES (CONTINUED)

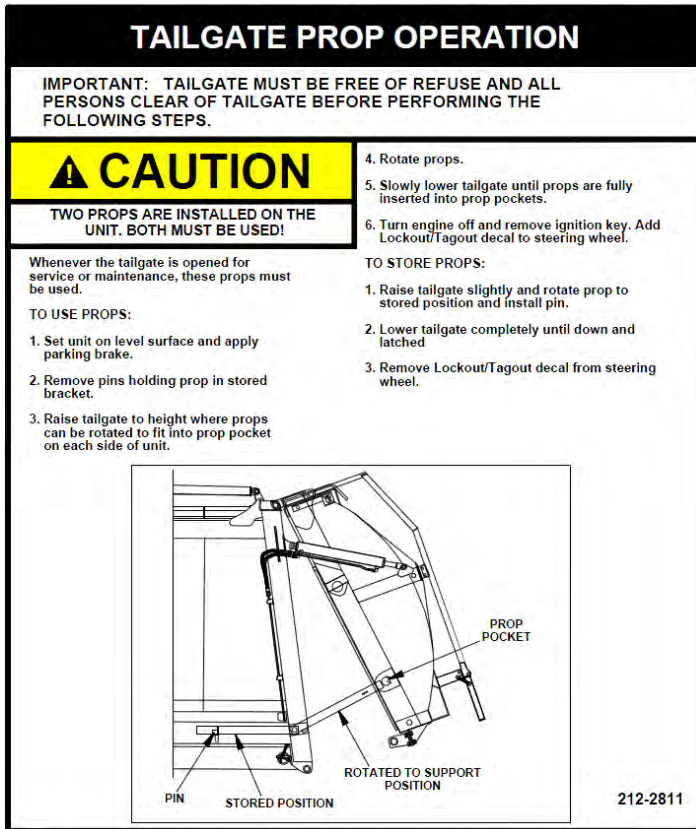


Figure 23. Caution: Tailgate Prop Operation, PN 212-2811



Figure 24. Safety Instructions, PN 212-1918



Figure 25. Warning: Bumper/Step, PN 212-1631

DECAL IMAGES (CONTINUED)

D.S.N.Y. FRONT LOADER OPERATOR INSTRUCTIONS

TO LOAD CONTAINER

- Pull up system power knob (red knob).
- Move pump switch to "on" position.
- Check that hopper door is in full open position. (green light).
- Check control panel for any warning lights.
- Proceed with container operation.
- After dumping container and running packer blade (green button), **turn "off" pump switch only** and proceed to next stop.

NOTE: Auto pack – push green button – Packer blade will pack load and retract automatically.
(Black button is used to retract the blade in the event auto-pack does not work).

HOPPER DOOR OPERATION

- Switch on control panel will close and open hopper door.

NOTE: Hopper door should be left open while on route and closed before traveling to disposal site or when traveling long distances.

DUMPING LOAD

- Set parking brake – transmission in neutral – power on – pump on.

NOTE: The following switches are located under metal bar on console.

- Hold tailgate lock switch to unlock (red light will come on).
- Hold tailgate lift switch to up (red light will come on).
- Hold packer blade switch to extend blade (dumps load).
- Hold packer blade switch to retract until blade is at front of body.
- Hold tailgate switch to lower tailgate (red light out).
- Hold tailgate lock switch (red light out).
- Move the pump switch to the "off" position.

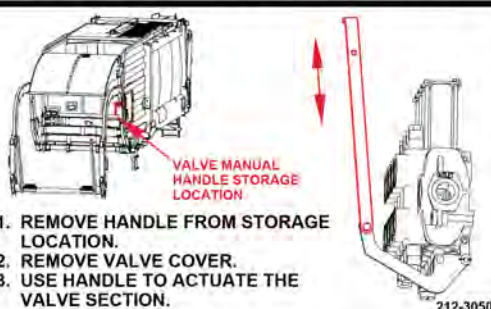
SYSTEM SHUT DOWN

- Move pump switch to "off" position.
- Push down system power knob (red knob).

212-2606

Figure 26. Caution, Operating Instructions, PN 212-2606

D.S.N.Y. FRONT LOADER VALVE MANUAL HANDLE OPERATION



1. REMOVE HANDLE FROM STORAGE LOCATION.
2. REMOVE VALVE COVER.
3. USE HANDLE TO ACTUATE THE VALVE SECTION.

212-3050

Figure 27. Operation, Valve Manual Handle, PN 212-3050


TO LOWER ARMS ON DISABLED UNIT

1. Make sure area is clear of all unnecessary people and equipment.
2. Connect auxiliary hydraulic hook-up.
3. Shift valve either in cab with joystick (move joystick to LOWER ARMS) or manually with override tool.

212-3067

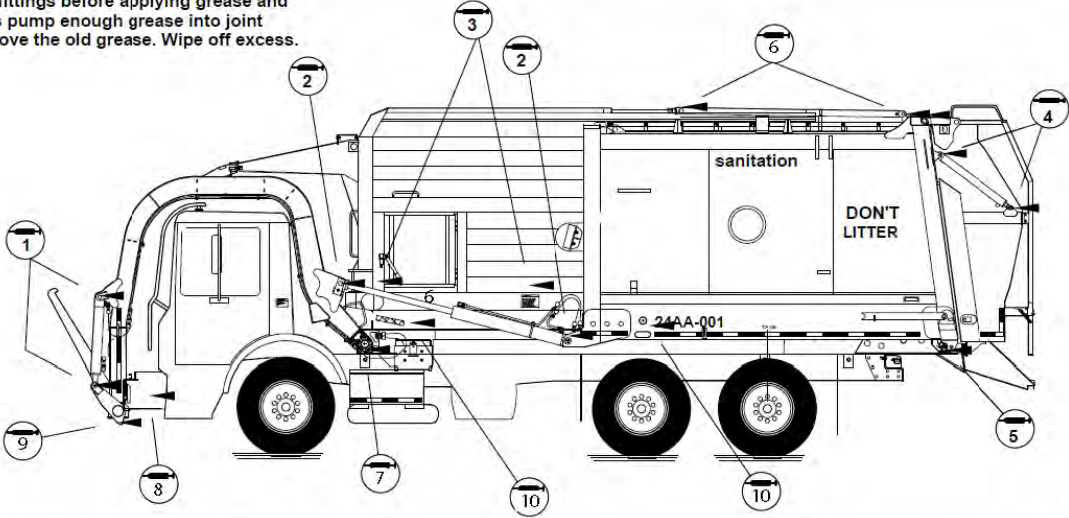
Figure 28. To Lower Arms on Disabled Unit, PN 212-3067

DECAL IMAGES (CONTINUED)





NYC Half/Pack Lubrication Guide


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



212-3231

REF NO.	DESCRIPTION	QTY.	
1	Fork Cylinders	4	 Grease Weekly/ Every 40 Hours
2	Arm Cylinders	4	
3	Packer/Ejector Cylinders	4	
4	Tailgate Cylinders	4	
5	Tailgate Lock Cylinder Bracket	2	
6	Top Door Cylinder	2	
7	Arm Cross Shaft	4	
8	Pump Drive Shaft	3	

REF NO.	DESCRIPTION	QTY.	
9	Fork Cross Shaft	2	 Grease Weekly/ Every 40 Hours
10	Packer Panel Tracks	2	


 Lubricate Moveable Mechanical Parts Without Fittings
Every 60 Days with Non-Detergent Engine Oil.



 Grease Monthly/
Every 200 Hours

Figure 29. NYC Half/Pack Lubrication Guide, PN 212-3231

DECAL IMAGES (CONTINUED)

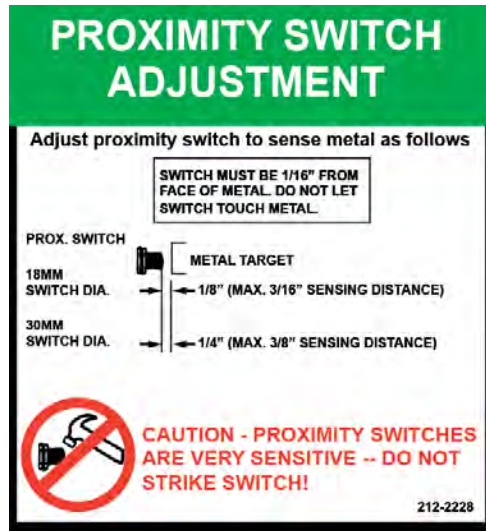


Figure 30. Proximity Switch, Adjustment, PN 212-2228



Figure 31. Flag, Made in USA, PN 212-2689



Figure 32. Safety Requirements, ANSI, PN 212-1841



Figure 33. Rated Lifting Capacity, PN 212-3049

DECAL IMAGES (CONTINUED)



Figure 34. Before Towing Disabled Vehicle, Remove Both Axle Shafts, PN 212-2441



Figure 35. Heil Pressure Regulator, Pressure Setting, PN 212-3347

**DON'T
LITTER**

Figure 36. Don't Litter, PN 212-2200

DECAL IMAGES (CONTINUED)

**HYDRAULIC
OIL ONLY
40.6 GAL. FILL
SYSTEM PRESSURE
2700 P.S.I.**

Figure 37. Hydraulic Oil Only, PN 212-2567



Figure 38. City Logo, PN 212-2443



39. Stand Clear, PN 212-1911



40. Sump Door, PN 212-2067

DECAL IMAGES (CONTINUED)



41. Caution Arms must be in Raised Position, PN 212-2579



42. Caution Towingl, 212-2580

DECAL IMAGES (CONTINUED)

The word "sanitation" is displayed in a large, bold, lowercase sans-serif font.

Figure 43. Sanitation, PN 212-2195 and 212-2449

The text "T.P. 120" is displayed in a large, bold, sans-serif font.

Figure 44. T.P. 120, PN 212-2199

The text "FULL -" is displayed in a large, bold, sans-serif font.

Figure 45. Full -, PN 212-2460

DECAL IMAGES (CONTINUED)

24X-NNNN

Figure 46. Sanitation, 212-3033 and 212-3038



T.P. 120

Figure 47. T.P. 120, PN 212-2199



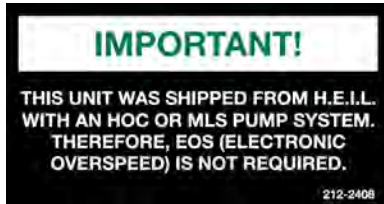
FULL -

Figure 48. Full -, PN 212-2460

DECAL IMAGES (CONTINUED)



Figure 49. Slow Down, 212-3003



**Figure 50. T.P. 120, PN
212-2199**

REFLECTIVE SAFETY MATERIALS

See the Parts and Service Manual 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 Parts and 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**.

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.

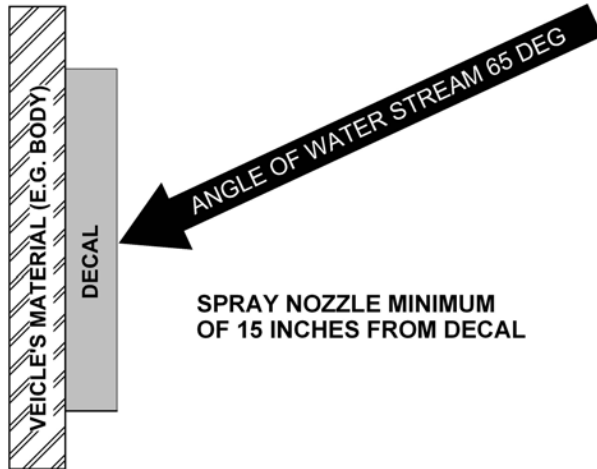
General Instructions

- 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

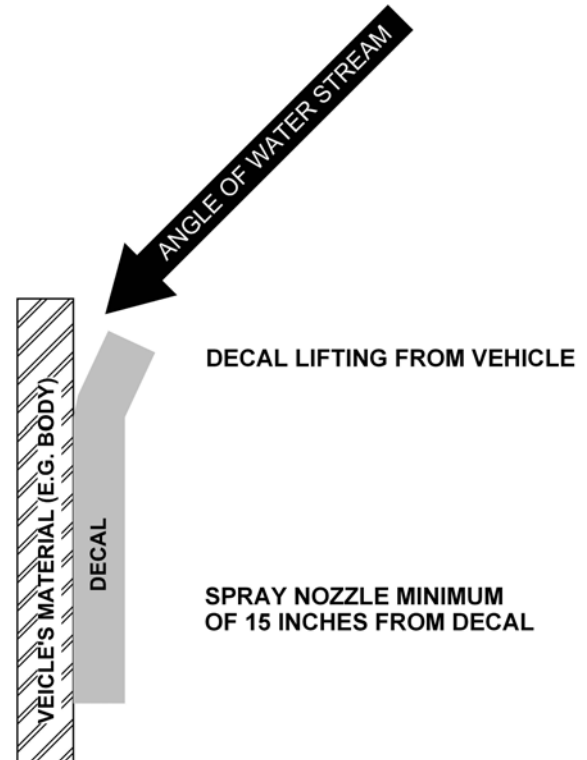
- Pressure washing can cause damage to decals. It can cause the edges of the decals to lift and peel the decal away from the unit. Over time, the decal can fade, crack or chip away.
- See the following figures for correct and incorrect methods of pressure washing.
- Use pressure washing only when other 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”.

PRESSURE WASHER TECHNIQUE



RECOMMENDED TECHNIQUE

Figure 51. Recommended Technique



INCORRECT TECHNIQUE

Figure 52. 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. Flush eyes and skin with water for 15 minutes after contact. 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.

NOTES:

SECTION 3

LOCK-OUT/TAG-OUT PROCEDURE

PREVIEW

Read this section to learn about the proper Lockout/Tagout procedures.

You MUST Lockout/Tagout a unit BEFORE:

- You enter the body
- Do any maintenance or repair procedures.

LOCKOUT/TAGOUT PROCEDURE

DANGER

This procedure **MUST** be followed before entering the units body or performing any maintenance repair or cleaning procedures on the unit.

WARNING

If you do not have functioning Lockout/Tagout gear and/or are not an authorized employee, **STOP** and **DO NOT** initiate any service on the unit. Contact your supervisor immediately.

NOTICE

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

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

A. Put the unit in a Lockout/Tagout mode:

- BEFORE you enter the unit's body
- 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):

- Hydraulics
- Electrical
- Gravity
- Pneumatics
- Mechanical

C. Examples of some basic equipment required, see Figure:

- Multi-hasp
- Single-keyed red lock
- Lockout tag

LOCKING OUT THE UNIT (CONTINUED)



Figure 53. Examples of Lockout/Tagout Gear.

Follow These Steps:

1. APPLY the brakes. MAKE SURE the brakes do not let the unit move and they work 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 main battery power, VERIFY all the following stored energy sources are depleted according to your company 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 your pocket, or another 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-hasp into the disconnect switch.
9. ATTACH your red single-keyed Lockout/Tagout lock with your tag exposed and visible to the multi-hasp.
 - a. ALWAYS use individually assigned locks and tags when performing ANY service or maintenance with other authorized employees. Each employee MUST place their personally assigned tag and lock to the multi-hasp connected to the disconnect switch.

LOCKING OUT THE UNIT (CONTINUED)

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 Lockout/Tagout gear 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 Lockout/Tagout procedure to verify all stored energy is removed from the unit BEFORE applying their Lockout/Tagout gear.

11. BEFORE removing your Lockout/Tagout gear 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 Lockout/Tagout devices are being removed.

NOTES:

SECTION 4

CONTROLS, SWITCHES, AND INDICATOR LIGHTS

PREVIEW

Read this section to learn about the operation of the in-cab and outside controls, switches, buttons, and indicator lights.

NOTICE

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

This section tells you:

- The in-cab cab controls, switches and buttons
- How the in-cab controls work
- The in-cab indicator lights available
- The outside controls and how they work

IN-CAB MAIN CONTROL PANEL

The In-Cab Main Control Panel can vary with different models of truck chassis. See the figure for an illustration of a typical control panel. 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.

The labeling/marketing scheme is straight-forward and identifies a function and its operations. For example, the figure below shows a portion of a panel that includes the TAILGATE function and its RAISE operation. The marking identifies the function (TAILGATE) and its operation (RAISE). When you want to raise the tailgate, for example, you MOVE the TAILGATE switch (not shown in the figure) to the RAISE position and HOLD it there until the tailgate is at the position you want, and then RELEASE the switch.

Similarly, the following instructions tell you to MOVE a rocker switch to a position (as given with the panel's label/markings).

In-Cab Main Control Panel Switches and Indicator Lights

Use the switches and indicator lights described below to operate the unit's hydraulic functions. All the switches are rocker switches except for the System Power switch, which is a push button.

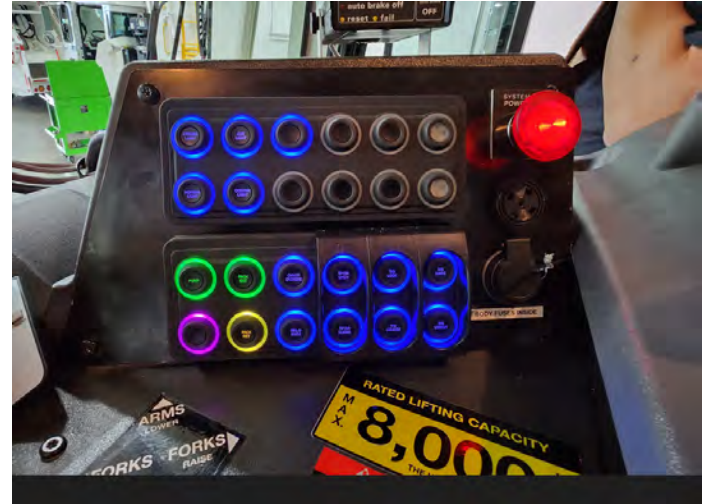


Figure 54. In-Cab Main Control Panel

⚠ WARNING

After the System Power switch is pressed and motion of components has appeared to stop, additional movement can occur.

IN-CAB SWITCHES

Rocker switches operate functions, some of which are described in the following paragraphs, and the override function. Your control panel may have different functions. Become familiar with the control panel and its rocker switches in your unit.

Most rocker switches have an ON and OFF position. Press the rocker switch to the ON position to activate a function and to OFF to deactivate a function. See the figure to the right. The following directions tell you to PRESS a switch to a position as indicated by the label on the control panel.

The Pump Switch is an ON/OFF momentary switch (spring return). The Packer Extend/Retract switch is an ON/OFF/ON momentary two directions switch with a spring return to a neutral OFF position.

Rocker Switches

The functions controlled by the rocker switches include:

1. Operation of optional lights when you work in minimal light or darkness.

These lights include:

- Strobe Light
- Hopper Light
- AUX Light
- Cab Light

Use the switches described below to operate the unit's hydraulic functions.

All the switches are rocker switches except for the E-Stop switch, which is a push button.

WARNING

After the System Power switch is pressed and motion of components has appeared to stop, additional movement can occur.

NOTICE

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

2. POWER ON and OFF/STOP SWITCH (RED) - Must be in the ON position for any function of the pack mechanism to operate. Side door must be closed.
 - a. PULL for ON position.
 - b. PUSH for OFF/STOP position.
3. AUTOPACK EXTEND button.
4. AUTOPACK RETRACT button..

IN-CAB SWITCHES (CONTINUED)

5. TAILGATE LOCK/UNLOCK Switch
 - a. PUSH to the T/G LOCK position to LOCK.
 - b. PUSH to the T/G UNLOCK position to UNLOCK.
6. TAILGATE RAISE/LOWER Switch
 - a. PUSH to the T/G RAISE position to RAISE.
 - b. PUSH to the T/G LOWER position to LOWER.
7. TOP DOOR OPEN/CLOSE Switch
 - a. PUSH to the TOP DOOR OPEN position to OPEN.
 - b. PUSH to the TOP DOOR CLOSE position to CLOSE.
8. PACKER EXTEND/RETRACT Switch
 - a. PUSH PACKER EXTEND to extend packer.
 - b. PUSH PACKER RETRACT to retract packer.
9. TRAVEL POSITION
 - a. PUSH to turn travel position ON.
 - b. PUSH to turn travel position OFF.

10. OVERHEIGHT OVERRIDE Switch – Optional on Commercial units only, use this rocker switch to override the packer logic on a unit when you want to use the packer with the arms above the cab protector.

This allows an operator:

- To manually operate the packer with the arms up.
- To extend the packer, get in the hopper, and clean behind the packer.

INSIGHT™ DIAGNOSTIC DISPLAY NOTIFICATION INDICATORS

The following describes the display notification indicators that may be on your unit, depending on the selected options. See the figure below.



Figure 55. InSight Diagnostic Display Notification Indicators

- **Indicator 1** can be: “Side door” in Red (when Side Door is not fully closed), “System Pwr Off” in Yellow, “Pump On” in Green or “Pump Off” in Red.
- **Indicator 2** is OFF
- **Indicator 3** is OFF
- **Indicator 4** can be: “T/G Open” in Red, “T/G Unlock” in Red, or “T/G Locked” in Green, or OFF.
- **Indicator 5** can be: “Packer Home” in Green, “Packer Extending” in Yellow, “Packer Extended” in Red, “Packer Retracting” in Red, or OFF.
- **Indicator 6** is OFF
- **Indicator 7** is OFF
- **Indicator 8** can be: “Top Door Warn” in Red (when Top Door is not fully closed), “Top Door Open” in Green, or OFF.
- **Indicator 9** can be: “Hyd Oil > 200F” in Red (When Hydraulic Oil Temperature is greater than 200° F), “Hyd Oil < 125° F” in Blue (When Hydraulic Oil Temperature is lesser than 125° F), “Hyd Oil Temp OK” in Green, or OFF.
- **Indicator 10** can be: “Low Hyd Oil” in Red, “Bypass\$” in Red (where \$ is number of hours in Bypass), “Hyd Oil OK” in Green, or OFF.
- **Indicator 11** can be: “Throttle Limit” in Yellow, or OFF.
- **Indicator 12** can be: “Cab Prot Up” in Red (When Cab Protector Shield is in UP / Raised position), “Arms Abv Height” in Red (when Arms are above the top of the windshield), “Arms Blw Height” in Green (When Arms are in fully Down position), or OFF.

INSIGHT™ DIAGNOSTIC DISPLAY NOTIFICATION INDICATORS (CONTINUED)

The Text Bar can be any of the following:

Normal Modes: “Manual mode” / “Auto mode”.

Fault Modes:

- Top Door Not Fully Open. Pack Cycle Not Allowed (If the Top Door is not fully open and Packer Extend Push button is pressed).
- Filter Bypass Switch Fault (If the Cortex Controller™ has lost the signal from the Filter Pressure Switch while Hydraulic Pump was in operation).
- Lift Above Transit Shorted Switch Fault (If the Lift above Transit proximity switch is shorted during operation).
- Lift Above Transit Open Switch Fault (If the Lift above Transit proximity switch is open during operation).
- Hydraulic Oil Temp Switch Fault (if the Hydraulic Oil temperature has dropped below a safe operating level <125° F).
- Packer Proximity Switch Fault (If Packer Extend and Retract proximity switch are ON at the same time).
- Auto-Pack Time Out.
- Arms Interlock. Packer Not Retracted (If Arms have been raised and the Packer Fully Retracted Proximity switch is OFF).
- Packer Extend Interlock (If the Lift Above Transit proximity switch is OFF/Faulty).
- High Oil Temperature. Pump Disabled (If Hydraulic Oil Temperature is greater than 200° F).
- Filter By Pass Shutdown (If hydraulic system has been operating in bypass condition in excess of 6 Hours).
- Side Door Open. Pump Disabled. (If the Side door is opened during a packing operation)
- Low Oil Level. Pump Disabled.
- Arms Interlock, Top Door Not Fully Open (If Arms have been raised when the Top Door is not fully open).
- Arms Interlock, Cab Protector Up. Lower Cab Protector To Continue (If the Arms have been raised and the Cab Protector is in UP / Raised position).
- Engine Not Running (If Pump is enabled and Engine speed is lesser than 400 RPM).
- RPM Signal Lost, Check J1939 (If Engine RPM signal has been lost from the Chassis to the Controller).

AUTOPACK™ FEATURE

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 for Commercial units until you use the packer override switch 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 switches to extend or retract the packer panel.
- The packer will not function when the operator raises or lowers a container so that hydraulic flow is available for the lift arms.
- When the packer extends, the "Packer Extending" notification indicator is yellow on the InSight™ Diagnostic Display.
- You can manually retract the packer at any time by pressing the PACKER RETRACT switch.
- When the packer retracts, the "Packer Retracting" notification indicator is red or blank on the InSight Diagnostic 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.

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**^[100] in the **On-Route Operation Procedure** section^[91] for more information.

SELECT-O-PACK™ FEATURE

The Select-O-Pack feature is standard on Commercial units. For Commercial units, a Select-O-Pack Switch is installed in the dash.

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. For Commercial Half/Pack units, the automatic pack cycle is initiated when the arms go below transit height (below the top of the windshield).

NOTES:

IN-CAB CONTROLS

The NYC Half/Pack® has one in-cab joystick controls for the lift arms and forks functions.

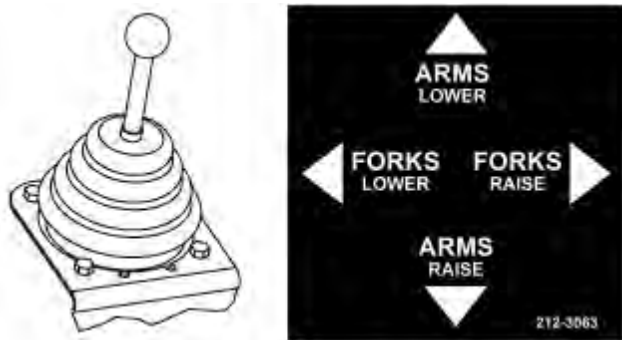


Figure 56. Joystick Controls

Joystick Air Controls

The joystick controls the operation of two components – the lift arms and the forks – in two directions – up (raise) or down (lower). The joystick has decals that show you where to push/pull (move) the joystick for each function and direction. The operation continues until you move the joystick back to the center or neutral position or let go of the control, as it is self-centering.

The joystick can control both the arms and the forks by moving the joystick halfway between functions. This action reduces the speed of the operations, as the hydraulic flow is divided between both functions.

For example, if you want to raise the lift arms, you move the joystick to the ARMS RAISE position and hold it there until the lift arms are at the height you need, then release the lever.

⚠ 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.

A. Raise and Lower Arms:

- PULL the joystick DOWN towards ARMS RAISE position to raise the lift arms.
- PUSH the joystick UP towards ARMS LOWER position to lower the lift arms.

B. Raise and Lower Forks:

- MOVE the joystick RIGHT towards FORKS RAISE position to raise the forks.
- MOVE the joystick LEFT towards FORKS LOWER position to lower the forks.

SECTION 5

BODY AND TAILGATE PROPS

PREVIEW

Read this section to learn about:

- Using the tailgate props

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 tailgate with the factory tailgate props.



A tailgate is dangerous while you raise or lower it. A prop may fail and cause the tailgate to close suddenly which can 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.

Refer to the figure on the next page and carefully follow the tailgate propping procedures below.

☑ 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 the Lock-Out/Tag-Out mode. Refer to **Lock-Out/Tag-Out Procedure** ⁵⁷.

PROPPING THE TAILGATE (CONTINUED)

B. How to Store the Tailgate Props

1. When you finish using the props, take the unit out of the Lock-Out/Tag-Out mode, 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.

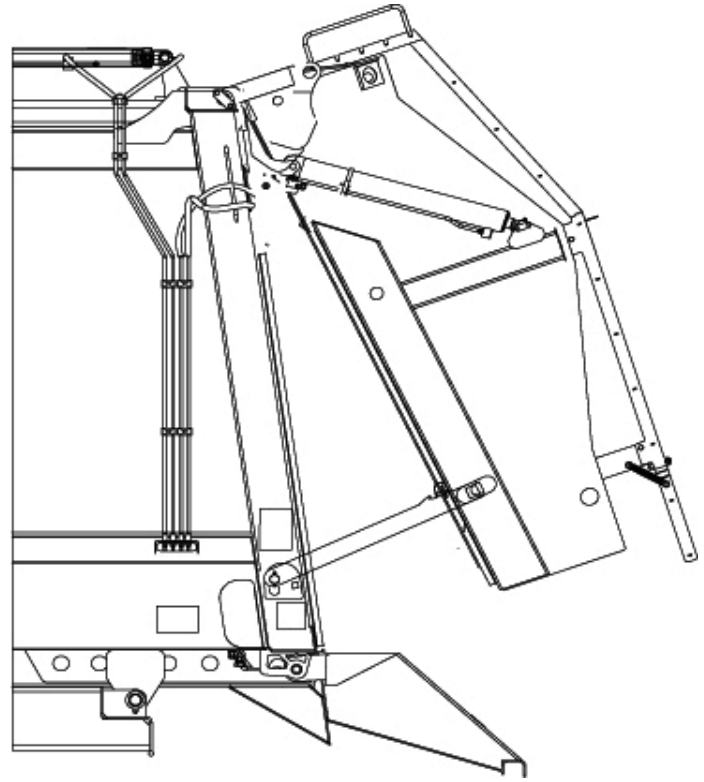


Figure 57. Factory Tailgate Props

SECTION 6

DAILY CHECKLIST

DAILY CHECKLIST

Make sure you perform a daily check of the unit. 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
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

DAILY CHECKLIST MAINTENANCE ITEMS	
Item	Required Action
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

NOTES:

SECTION 7

BEFORE GOING ON ROUTE

PREVIEW

Read this section to learn proper procedures for:

- Checking the unit each day
- Starting the unit in cold weather
- Setting the unit up for the route
- Removing power to the unit during periods of not using the unit

BEFORE STARTING A ROUTE

Before you start a route, do the following:

- ☐ Perform an inspection of the unit with the **Daily Checklist**⁷⁷.
- ☐ Check the **Hydraulic Oil Level**⁸⁴.
- ☐ Cycle all **Hydraulic Functions**⁸⁶.
- ☐ If equipped, close the **Side Access Door**⁸⁶.
- ☐ If equipped, close the **Sliding Top Door (Hopper Cover)**⁸⁷.
- ☐ Check the **“In-transit” Settings**.

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 section**⁷⁷. Make sure you complete the inspections on the checklist and you make all entries, including your signature.

COLD WEATHER WARMUP PROCEDURE

When ambient air temperature is cold (below 0 degrees F), it is necessary to warm up the unit's hydraulic oil before you start your daily route operation or to check the oil level. The hydraulic oil is sufficiently warmed when the temperature is between 120° and 160°F.

WARNING

Moving parts on the unit are dangerous. Serious injury or death can occur if a person is struck by the equipment. Clear all people from the area before you operate the unit

Follow the steps below to warm up the hydraulic oil.

1. START the TRUCK and let the engine idle.
2. APPLY the PARKING BRAKE and make sure it holds.
3. ENGAGE the HYDRAULIC PUMP for approximately five minutes.
4. MAKE SURE the AREA IS CLEAR of all unnecessary people BEFORE you operate the controls.
5. OPERATE the PACKER EXTEND and PACKER RETRACT functions through ten (10) cycles while the engine idles.
6. Make sure the oil temperature on the site gauge is between 120° and 160°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

CHECK HYDRAULIC OIL LEVEL

Check 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, fork, top door (if equipped), packing panel, body and tailgate functions two or three times each. See **Section 4** 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 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 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 WITH SIGHT GAUGE

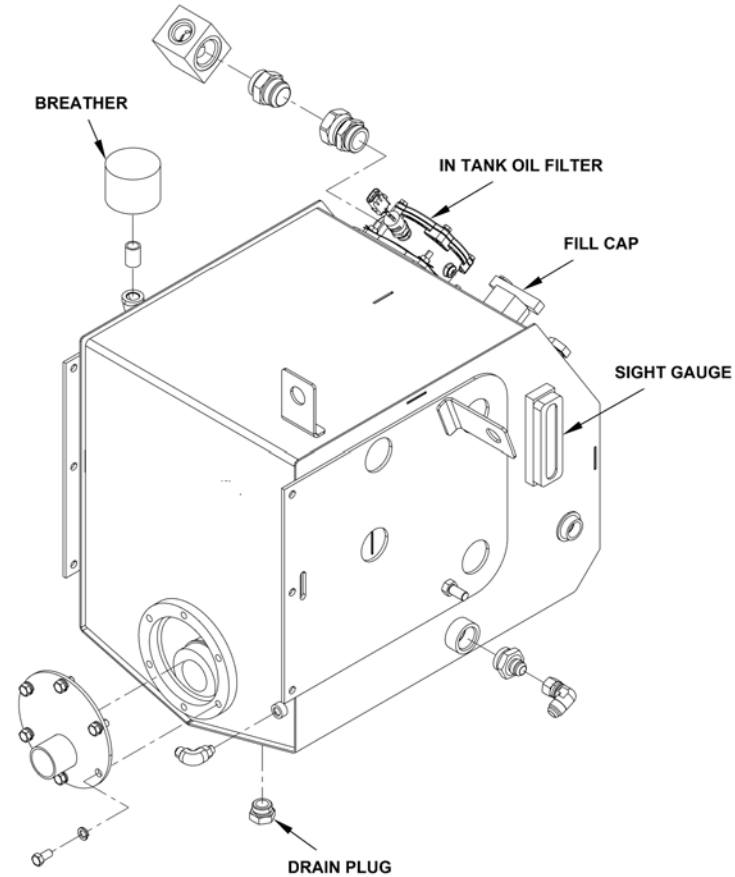


Figure 58. Hydraulic Oil Tank with Sight Gauge

CYCLE ALL HYDRAULIC FUNCTIONS

Check the operation of all hydraulic controls on the unit. See **Controls, Switches, and Indicator Lights** for proper operation of controls.

☑ Follow These Steps:

1. Top Door Cycle
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 ACCESS DOOR

A side access door is on the street side of the body. See the figure below. 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.

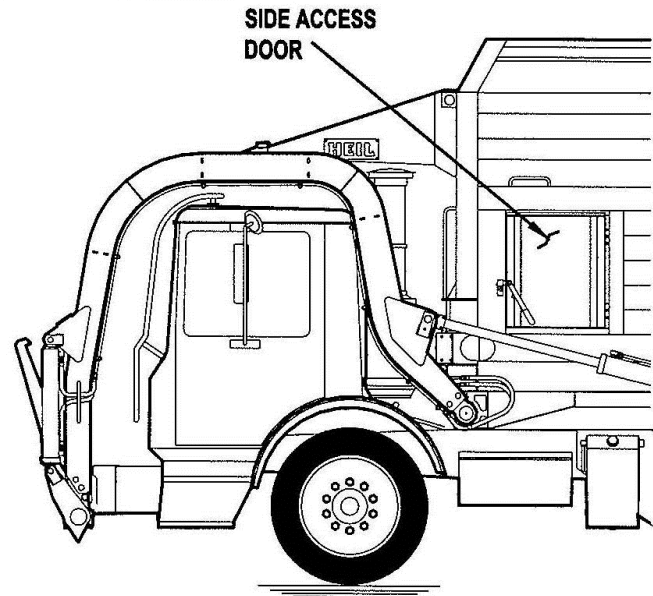


Figure 59. Close the Side Access Door

TOP DOOR

MAKE SURE you **CLOSE** the Top Door before you go on a route. See the figure to the right. See **Controls, Switches, and Indicator Lights** 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.

For Commercial Half/Pack® units with a full body or before leaving collection route to empty load, **CLOSE** the Top Door. A closed Top Door prevents refuse from “flying” out of the body.

For additional information, refer to **Check the Traveling or "In-transit" Position**.

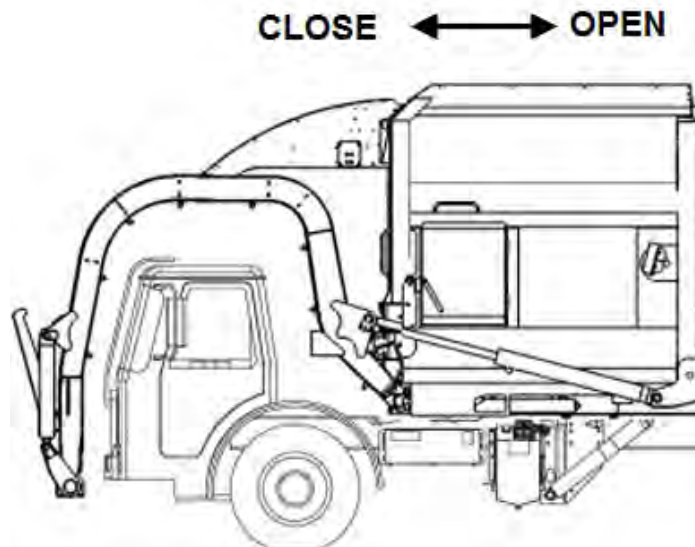


Figure 60. Top Door

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 (see the figure to the right):

NYC Half/Pack Units:

- The Body is fully LOWERED.
- 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 Access Door is CLOSED and LATCHED.
- All outside lights operate properly.

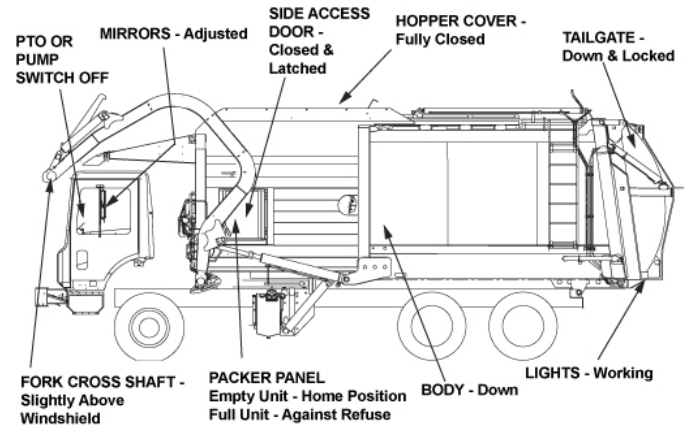


Figure 61. In-Transit Position

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 hinged cab protector in its normal position. Always move the hinged cab protector 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** you:

- 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. See the figure to the right.

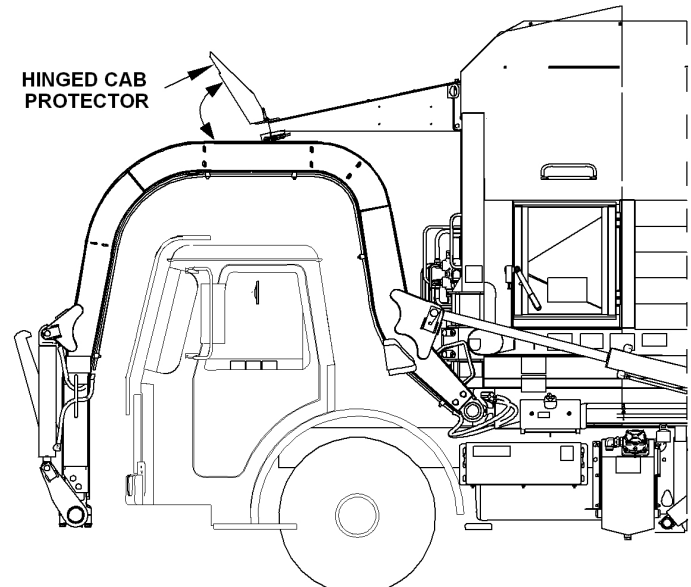


Figure 62. Moving the Cab Protector

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.

NOTES:

SECTION 8

ON-ROUTE OPERATION PROCEDURES

PREVIEW

Read this section to learn about:

- Setting up the unit for a route
- Loading refuse manually with the lift arm
- Packing the load
- Packing on-the-move
- Washout system
- Setting up the unit for the landfill or transfer station

DRIVING TO PICK-UP LOCATIONS

Whenever you drive the NYC 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.**
4. The Top Door (Hopper Cover) is:
 - For a Commercial unit before it is on-route – CLOSED
 - For an on-route unit – OPEN
 - For a full Commercial 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 Commercial Unit – FULLY retracted position (front of body/hopper)
 - For a Full Commercial Unit – up tight against refuse
6. The Pump Switch is OFF.
7. The PTO is DISENGAGED.
8. The Mirrors are properly adjusted and clean.
9. The Side Access Door and Sump Door (if equipped) is CLOSED and LATCHED.
10. All Outside Lights operate properly.

COMMERCIAL 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. See the figure below.

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 NYC Half/Pack® unit.

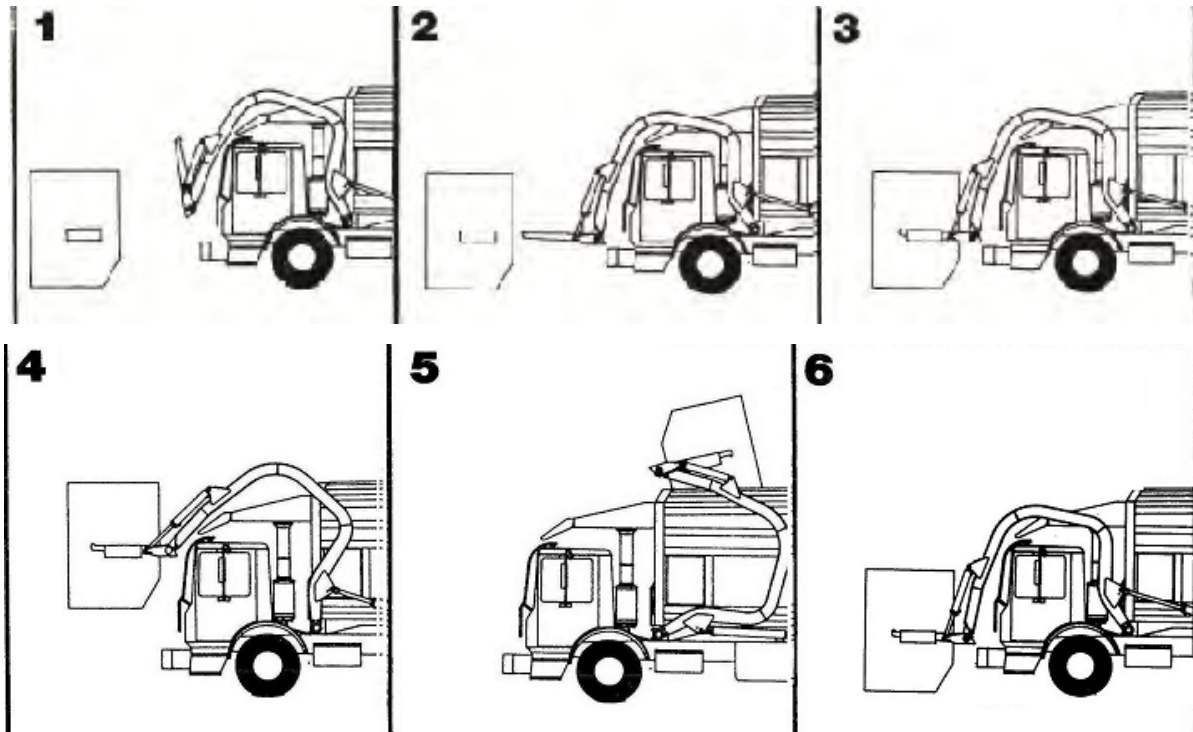


Figure 63. Loading and Unloading Process

COMMERCIAL LIFTING AND LOADING REFUSE

Use the following procedure at each stop along the route to load refuse into the NYC 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. See the figure on the next page.
5. Use the fork control and ROTATE the forks to a horizontal position then RELEASE the control.

Refer to **Controls, Switches, and Indicator Lights** for more information.

NOTES:

COMMERCIAL LIFTING AND LOADING REFUSE (CONTINUED)

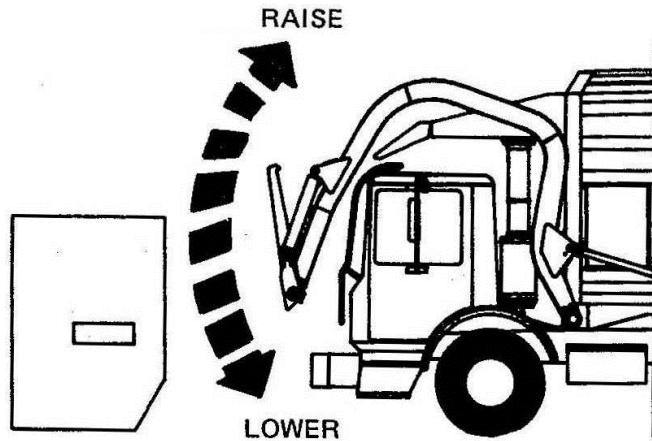


Figure 64. Lower Lift Arms

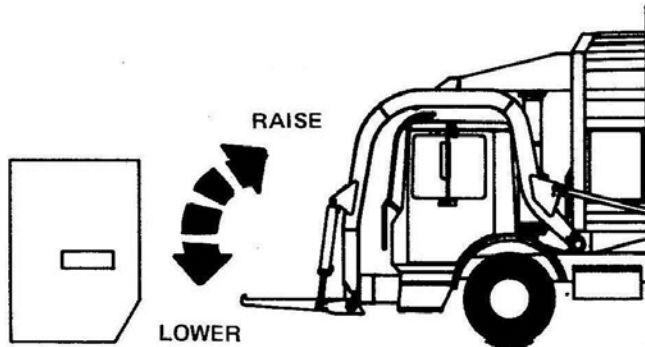


Figure 65. Rotate Forks to Horizontal Position

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. See the figure below.



Figure 66. Fully Insert Forks into Container Pick-up Sleeves

DANGER

Contact of the unit with overhead electric lines is dangerous. Serious injury or death may occur. Make sure there is adequate overhead clearance before you raise the container. Refer to **Tables 1 and 2. Overhead Clearances** ²⁷. If the unit does make contact with overhead electric lines do not touch metal in the cab. Stay in the unit until help arrives.

COMMERCIAL LIFTING AND LOADING REFUSE (CONTINUED)

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.

8. If the unit does not have the AutoLevel™ 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. See the figure below.

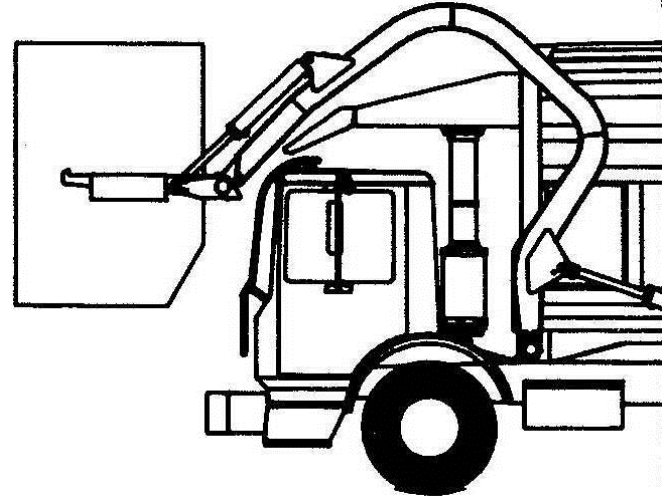


Figure 67. Raise Container with Arm and Fork Controls

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. See the figure on the next page.

COMMERCIAL LIFTING AND LOADING REFUSE (CONTINUED)

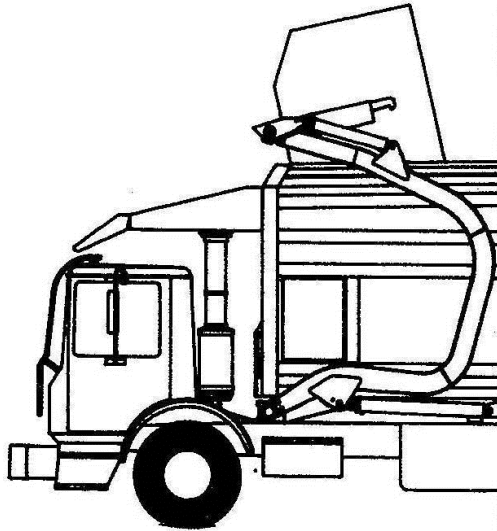
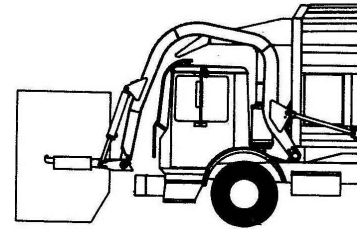


Figure 68. Dump Container into Hopper

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. See the figure to the right.



**Figure 69. 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. See the figure below.

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

See **Achieving Packing Payloads** for helpful information and guidelines to be followed.

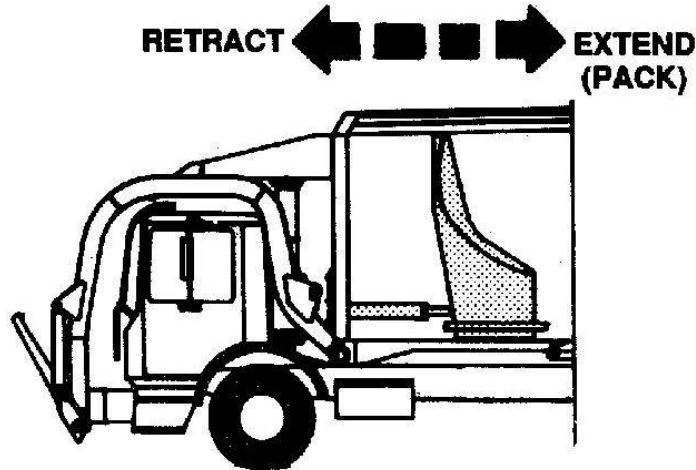


Figure 70. Compact the Load

AUTOPACK™

Use the following procedure to compact the load with the unit's AutoPack function. Also, see the figure to the right. For more information on this feature, refer to **AutoPack Feature** [70](#).

NOTICE

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

☒ Follow These Steps:

1. The lift arms must be lowered or in the transit position.
2. If the hydraulic system is not activated, pull the System Power switch UP to the ON position.
3. PRESS and RELEASE the PUMP ON button. The PUMP ON light will turn ON.
4. PRESS and RELEASE the START/EXTEND button of the packing mechanism. See the figure to the right.

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.

5. When the auto-cycle is completed, the packer panel will be in position for the next load.
6. If you want to do another cycle, PRESS and RELEASE the start/extend button again.

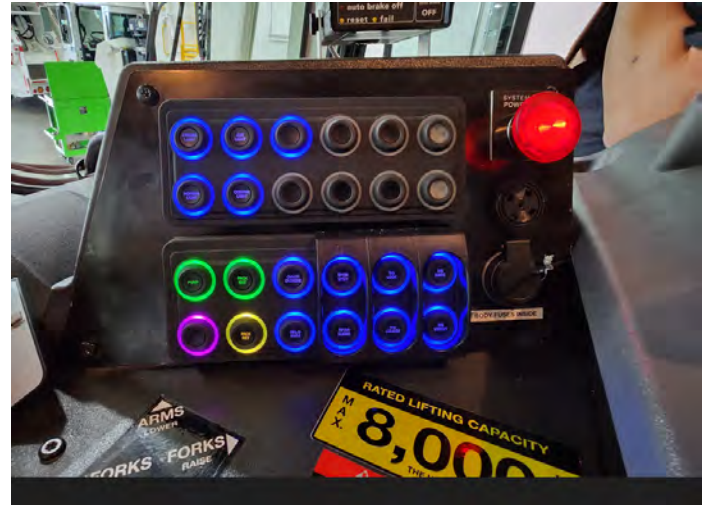


Figure 71. AutoPack Controls

PACKING ON-THE-MOVE

Heil 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. (Dump models have single stage packing cylinders.) 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 Half/Pack 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. See the figure on the next page. 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.

BASIC PACKING TECHNIQUES (CONTINUED)

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 blade which will require you to remove it at the landfill. The larger capacity bin you unload, the more likely this is to happen.

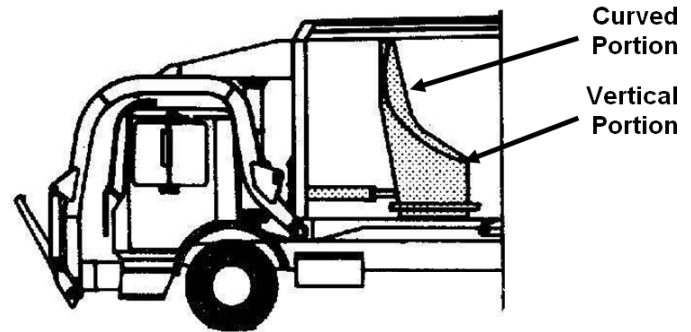


Figure 72. Packer Panel Surfaces

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. See the figure on the next page.

BASIC PACKING TECHNIQUES (CONTINUED)

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. See the figure to the right. 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.

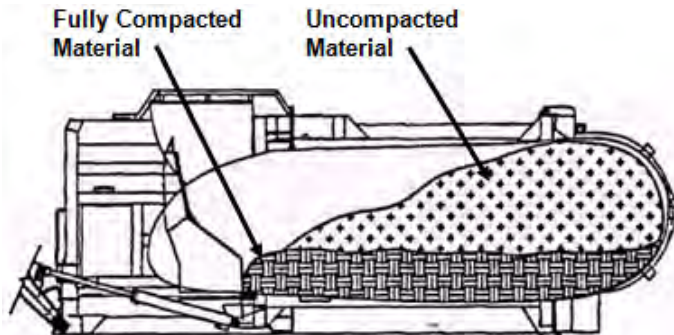


Figure 73. Occurance of "Bridging" Condition

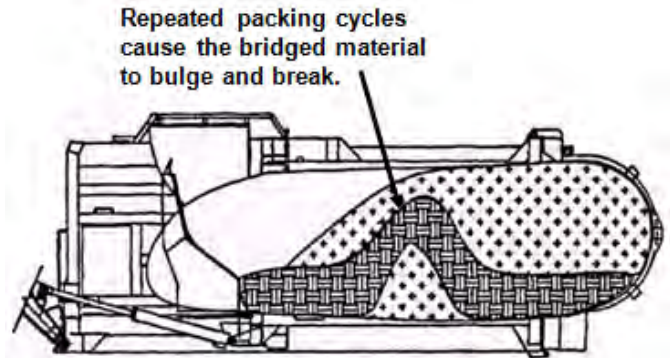


Figure 74. Breaking a "Bridge"

7. 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.

8. 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.

BASIC PACKING TECHNIQUES (CONTINUED)

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 (CONTINUED)

NOTICE

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

NOTICE

The current production Heil Half/Pack® and Odyssey units have a timer in the Cortex 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 InSight™ Diagnostic Display will display a warning that the AutoPack™ has timed out and will beep.

NOTES:

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**.
4. The Top Door (Hopper Cover) is:
 - For a Commercial unit before it is on-route – CLOSED
 - For an on-route unit – OPEN
 - For a FULL Commercial 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 Commercial Unit – FULLY retracted position (front of body/hopper)
 - For a FULL Commercial Unit – up tight against refuse
6. The Pump Switch is OFF.
7. The PTO is DISENGAGED (manual transmissions).
8. The Mirrors are properly adjusted and clean.
9. The Side Access Door and Sump Door (if equipped) is CLOSED and LATCHED.
10. All Outside Lights operate properly.

NOTES:

SECTION 9

LANDFILL/TRANSFER STATION/ RECYCLE CENTER PROCEDURES

PREVIEW

Read this section to learn about:

- Setup conditions to eject the refuse
- Unloading the refuse
- Using the sump and (optional) washout system
- Preparing the unit to return to route

SETTING UP THE UNIT FOR EJECTING THE REFUSE

After you position the unit on firm and level ground at the landfill in preparation for ejecting the refuse, follow this procedure.

☑ Follow These Steps:

1. Shift the transmission to NEUTRAL.
2. APPLY the parking brake and make sure it is holds.
3. For manual transmission, engage the PTO and MOVE the Pump Switch to ON. For automatic transmissions just MOVE the pump switch to ON.

Unlocking and Raising the Tailgate

Unlocking the Tailgate

NOTICE

The tailgate system restricts the tailgate from unlocking or opening when the unit is moving in excess of 5mph.

⚠ DANGER

Contact of the unit with overhead electric lines is dangerous. Serious injury or death may occur. Make sure there is adequate overhead clearance before you raise the tailgate. Refer to **Tables 1 and 2. Overhead Clearances** [27]. If the unit does make contact with overhead electric lines do not touch metal in the cab. Stay in the unit until help arrives.

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.

☑ Follow These Steps:

1. MOVE the tailgate electric control switch to the UNLATCH position.
2. RELEASE the tailgate electric toggle switch.
3. MOVE the tailgate raise electric toggle switch to RAISE and HOLD the toggle switch until the tailgate is COMPLETELY raised, which is 30° above the body. See the figure to the below.
4. RELEASE the switch.

NOTICE

The tailgate OPEN light turns ON and the in-cab alarm will sound to indicate the tailgate is raised.

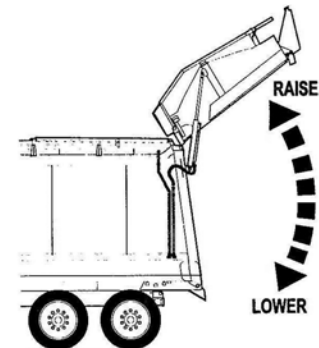


Figure 75. Raising the Tailgate

NOTES:

UNLOADING REFUSE

A. Commercial Half/Pack Eject and Service Hoist Models


1. Set the Commercial Half/Pack 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** procedure on the next page.

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.

Lowering the Tailgate

Prop the Tailgate

Before you clean and inspect the tailgate seal, prop the tailgate with the two factory body props. See **Propping the Tailgate** .

Clean and Inspect the Tailgate Seal

BEFORE you lower the tailgate, MAKE SURE the area where tailgate seal mates with the body is CLEAN AND FREE of any refuse and debris. Inspect the seal for possible wear or damage and replace if necessary.

DANGER

A tailgate in motion is dangerous. Serious injury or death may 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.

Lowering the Tailgate (Continued)

1. PUSH the TAILGATE RAISE/LOWER switch to the RAISE position and RAISE the tailgate sufficiently to rotate the props out of the prop pockets.
2. STORE the tailgate props.
3. PRESS and HOLD the TAILGATE RAISE/LOWER switch to the LOWER position and fully LOWER the tailgate, then RELEASE the switch.

Lock the Tailgate

You MUST LOCK the tailgate after you lower it.

1. MOVE the tailgate lock electric toggle switch to the LATCH position.
2. HOLD the switch until both sides of the tailgate locked indicators are UP to indicate the tailgate is locked, then RELEASE the switch.

CLEAN BEHIND THE PACKER PANEL

NOTICE

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.

☑ Follow These Steps:

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 mode. Refer to the **Lock-Out/Tag-Out Procedure** ⁽⁵⁷⁾. Turn the ignition key to the OFF position and remove the ignition key.
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.

CLEAN BEHIND THE PACKER PANEL (CONTINUED)

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 access 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 AND EXHAUST AREAS

WARNING

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

SUMP AND WASHOUT SYSTEMS

Sump Compartment

A sump compartment with a door is on both sides of the FULLY RETRACTED POSITION of the unit.

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. See the figures on the next page.

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.

SUMP AND WASHOUT SYSTEMS (CONTINUED)

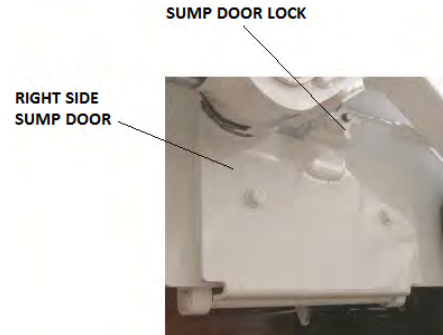


Figure 76. Sump Door



Figure 77. 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. The body is fully DOWN.
2. On an empty unit, the packer panel is in the FULLY RETRACTED POSITION to the front of the body.
3. If for some reason you leave the transfer station or landfill with refuse in the body, the packer panel is EXTENDED up tight against the refuse.
4. The tailgate is DOWN and LOCKED.
5. For a Standard (Commercial) unit, the Top Door (hopper cover) is closed.
6. The fork cross shaft is in the correct **"In-transit" Position**:
 - For a Standard Commercial unit, put the fork cross shaft slightly ABOVE the cab windshield.
7. CLOSE and LATCH the side access door.
8. The body lights function and turn ON and OFF properly.
9. You DISENGAGE the PTO (manual transmissions).
10. MOVE the pump switch to OFF.
11. You properly ADJUST and CLEAN the mirrors.
12. MAKE SURE the sump doors are CLOSED.

NOTES:

SECTION 10

END OF DAY PROCEDURES

PREVIEW

Read this section to learn about:

- Parking the Unit
- Final Inspection
- Report to Employer/Supervisor
- Ignition Keys

END OF DAY PROCEDURES


Parking the Unit

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

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) 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 the **Lock-Out/Tag-Out mode** .
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.

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HEIL ENVIRONMENTAL WARRANTY STATEMENT

Our products are subject to a limited warranty as outlined in the document linked below – please see the linked Heil Warranty Policies & Procedures for our full, limited warranty.

As a summary, 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 (if one is offered on a particular product), 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. Heil only warrants the collection body. Please consult respective chassis manufacturer for respective specifics on chassis.

Ask your local Heil Dealer about our Extended Warranty offerings or contact Heil Customer Care at 866-ASK-HEIL (866.275.4345). For Warranty programs for international accounts outside of North America please consult with your Regional Manager for further details and/or appropriate policies.

EXCEPT AS CONTAINED IN THE HEIL WARRANTY POLICIES AND PROCEDURES, 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 FOR LOSS OF PROFITS, PRODUCT, TIME, OR ANY OTHER DIRECT, INCIDENTAL, OR INDIRECT CONSEQUENTIAL LOSSES, DAMAGES OR DELAYS. ANY IMPROPER USE, OPERATION BEYOND RATED EQUIPMENT/ 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 AFFECTS THE PRODUCT OPERATION OR INTEGRITY SHALL VOID THE WARRANTY.

Heil retains the right to modify its factory warranty program at any time. The warranty in place at the time of your respective purchase applies.

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

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@DoverESG.com