# RevAMP®

## ELECTRIC AUTOMATED SIDE LOADER

## OPERATION MANUAL

### ISSUED JULY 2025

**⚠ WARNING**

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

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

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

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

**⚠ WARNING**

RevAMP units are electric bodies powered by a high voltage battery power source. Only those properly trained and qualified on high voltage vehicle applications should perform service. All users must be aware of the risks associated with electric vehicles. IF YOU ARE NOT SURE IF YOU ARE QUALIFIED, CONSULT YOUR ORGANIZATION'S EHS FUNCTION BEFORE USE OR PERFORMING ANY WORK. Please note that various procedures are different from other Heil bodies due to the electric nature of the RevAMP units – please read this Operation Manual and related documents in full.

NOTE: This Operation Manual only applies to the Heil RevAMP body. Heil is not the manufacturer of the chassis. Please consult respective manual(s) from the applicable chassis maker as well.



TP1REV-OM-0725


## NOTICE

RevAMP units are electric bodies, powered by a high voltage battery power source. Only those properly trained and qualified on high voltage vehicle applications should perform service. All users must be aware of the risks associated with electric vehicles. IF YOU ARE NOT SURE IF YOU ARE QUALIFIED, CONSULT YOUR ORGANIZATION'S EHS FUNCTION BEFORE USE OR PERFORMING ANY WORK. Please note that various procedures are different from other Heil bodies due to the electric nature of the RevAMP units – please read this Operation Manual and related documents in full.

**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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## Introduction



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## ELECTRIC AUTOMATED SIDE LOADER

**OPERATION MANUAL**

**ISSUED JULY 2025**

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**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 body serial plates
- Various parts of the unit

## HOW TO USE THIS MANUAL

### *Product Variance*

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

### *Manual Sections*

This manual is divided into seventeen (13) sections.

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

### *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.

### *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") RevAMP 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 RevAMP 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 shall not operate while impaired including but not limited to the use of drugs or alcohol.
- You must make sure that the unit is properly maintained to meet all local, state and federal requirements.
- 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 RevAMP 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.

**⚠ 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:

- It is the operator’s responsibility to ensure compliance of the vehicle in accordance with this Operator’s Manual, Occupational Safety and Health Administration (OSHA)regulations, the standards of the American National Standards Institute (ANSI), FMCSA (Federal Motor Carrier Safety Administration) and DOT (Department of Transportation) and any other relevant state or federal organization, at all time.
- The operator must be comfortable with the functions and location of all instruments, gauges, safety devices and controls on the unit. It is strongly recommended that this equipment not be used without proper instruction and training. Labels and other safety devices, hand signals and federal and state regulations must be known to the operator.
- Any malfunction must be communicated to the employer in order to avoid any risks to the operator. Please refer to RevAMP service manual for any other information that may arise concerning the operation and maintenance of this vehicle not stated in this manual. It is strongly recommended not to use the unit if one or more systems are defective.
- In accordance with the local traffic regulations, wearing a seat belt is mandatory when the vehicle is traveling.
- For chassis information (engine, starting procedure, etc.) refer to the chassis manufacturer’s instruction manual.
- Always keep access and service doors closed and locked during the operation of the unit.
- Use the unit only for tasks for which it was designed.

## TO THE OPERATOR (CONTINUED)

- Never use electrical cables or other components as a handle.
- Always keep arms, hands, fingers, or other limbs away from moving parts.
- To dislodge waste, make sure that no moving parts of the unit are activated and that you wear the proper protective equipment. It is strongly recommended to put the vehicle in emergency stop mode before carrying out any handling near the moving parts.
- Do not attempt to lift overloaded containers. When collecting waste, the operator must ensure that the containers are safe and usable. Containers should be centered on the arm and handled slowly.
- It is important to never go under any part of the unit in the raised position.(e.g.,the back door, a container, the automated arm, etc.).
- When unloading, keep a safe distance from the truck.
- Always make sure that there is sufficient clearance and that no one is nearby when raising or lowering the mechanical arm or rear door.
- It is recommended to always handle the various components of the waste collection equipment slowly.
- Always keep the vehicle up to date according to the maintenance schedule to ensure optimal and safe operation.
- Before performing any maintenance on the unit, it is important to turn off all power sources as detailed later in the full lockout procedure.
- For maintenance situations where the tailgate must be opened, refer to the locking system procedure as explained on Tailgate Prop Operation decal and in the "Tailgate Props" section.
- The pre-programmed factory settings for electrical components must not be changed. Any alteration could cause the unit to malfunction and/or increase the risk of injury to the operator and bystanders.For any information regarding these settings, please see Customer Service and Repair Parts Contact Information for contact information.
- A hard copy of this manual should always be accessible in the operator's cabin.
- Maintenance on the unit must be carried out with suitable tools and by qualified personnel only.
- In the event of ownership transfer of the unit, Heil Enviromantal must be notified in order to ensure adequate monitoring of the condition of the unit and the maintenance to be carried out.

## TO THE MECHANIC

**⚠ WARNING**

On electrified bodies (such as RevAMP), serious death or injury can occur from improper handling of charged environments. Please be sure to observe any and all precautions with regard to working in a high voltage environment, including following proper lock out / tag out and decommissioning procedures and allowing for the discharge of residual voltage.

**⚠ WARNING**

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

**⚠ WARNING**

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

**NOTICE**

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

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

- You must have a valid driver's license if you operate the unit on a public road.
- 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 service or operate the unit.
- You must read, study and understand all procedures and requirements of this Operation Manual and the Service Manual before you operate the unit for the first time.
- If you do not understand or have difficulty reading this manual or the Service Manual, You must tell the owner or designated person before you operate or service the unit.

## TO THE MECHANIC (CONTINUED)

**⚠ WARNING**

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

- DO NOT operate or service the unit until you understand the procedures and requirements of this manual and the Service 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 read, understand, and obey all safety messages and decals that are on the outside or in the cab of the unit.
- Always use your employer's Lock-Out/Tag-Out procedures. If your employer does not have Lock-Out/Tag-Out procedures, use the **Lock-Out/Tag-Out Procedure** 53 in this manual.
- Before you start the engine or operate the unit for the first time:
  - o You must clear the area of other people
  - o You must learn and practice safe use of all controls and indicators before you operate the unit or before you do repair or maintenance procedures.
- Before you operate the unit in reverse, you must make sure the area behind the unit is clear of other people, vehicles or other obstructions.

## WARRANTY CLAIMS 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** 14 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

## MODELS

The RevAMP has one body model, the eject model. See the figure below.

You use the lift arm to pick up containers, lift the containers and dump the refuse into the hopper. You then use the lift arm to put the refuse container on the ground.

The unit uses an auger system to pack the refuse into the truck.

You remove the refuse from the body by raising the tailgate and then putting the truck into ejector mode. The ejector panel ejects the load.

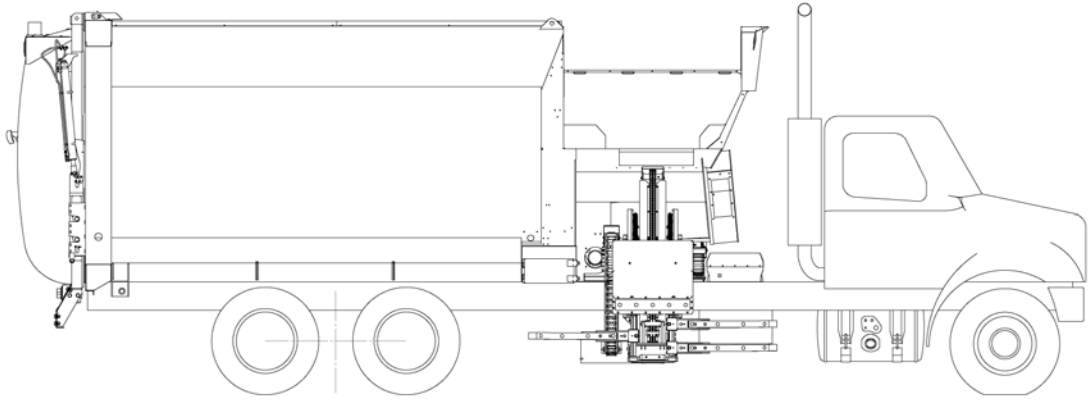


**Figure 1. Eject Model**

## SERIAL PLATE LOCATIONS

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 location of the serial plate on the streetside of the unit’s body and lift arm serial plate. See the next page for a description of the information that is on the serial plate.

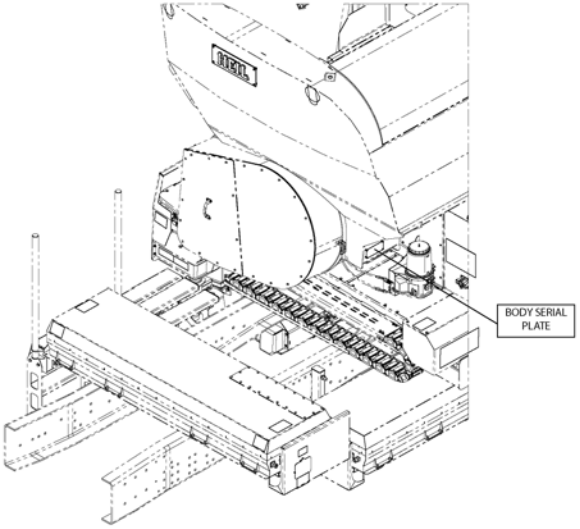



**Figure 2. Body Serial Plate**

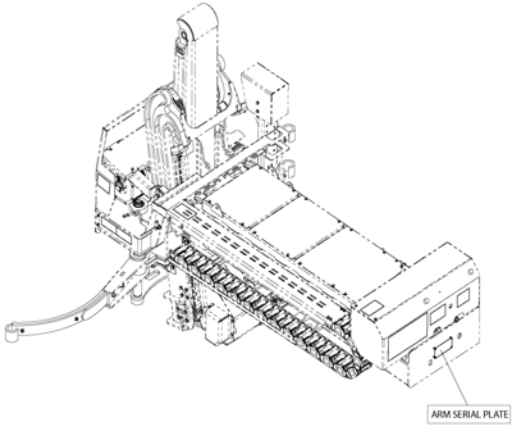



**Figure 3. Lift Serial Plate**

## PRODUCT NOMENCLATURE

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

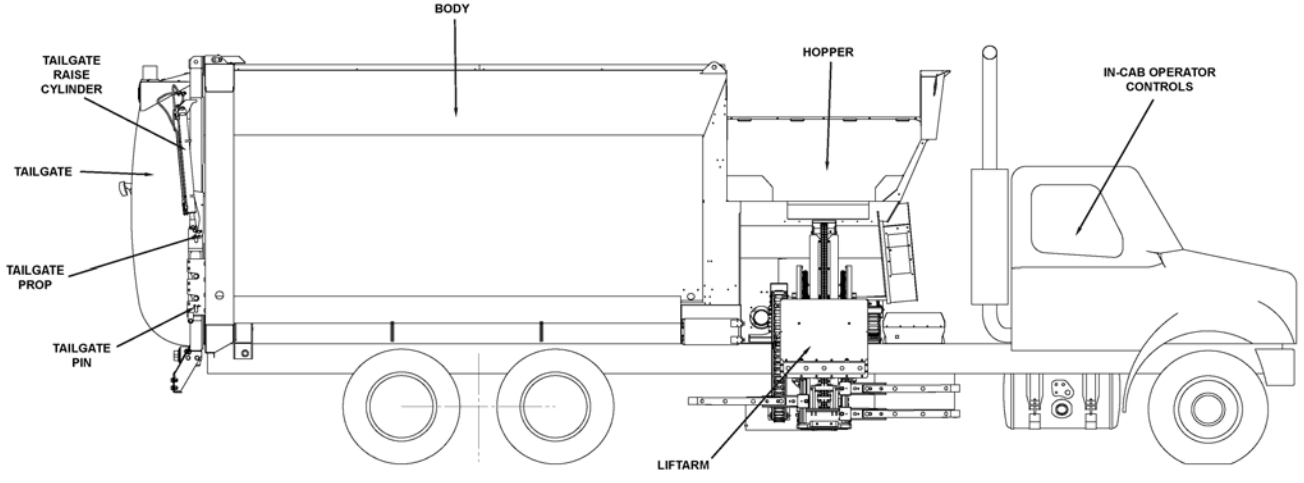



**Figure 4. Product Nomenclature Curb Side**

## PRODUCT NOMENCLATURE (CONTINUED)

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

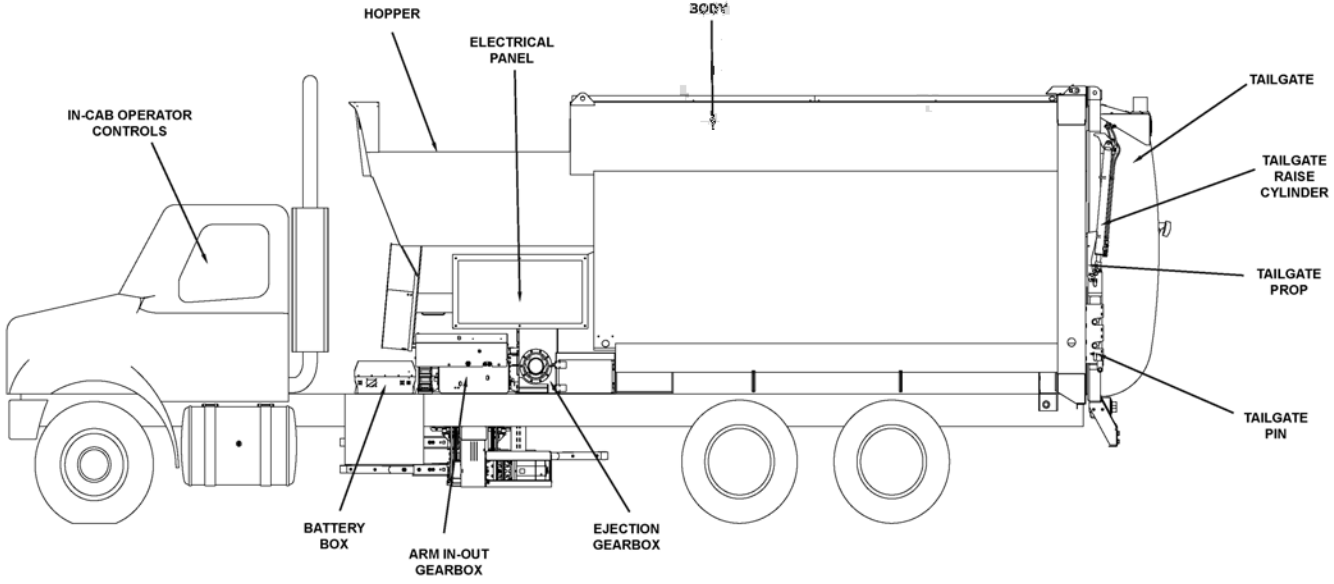



**Figure 5. Product Nomenclature Street Side**

## PRODUCT NOMENCLATURE (CONTINUED)

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

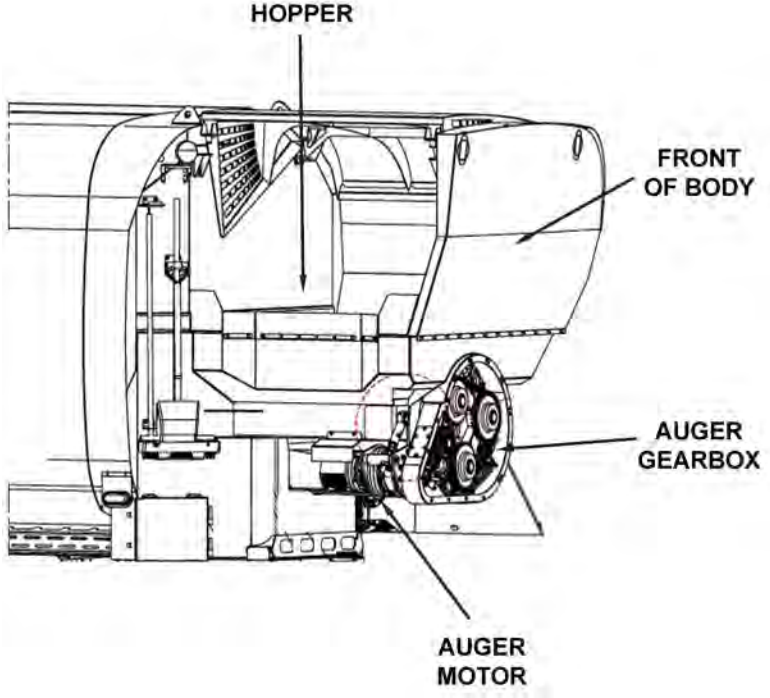



**Figure 6. Product Nomenclature Hopper**

## PRODUCT NOMENCLATURE (CONTINUED)

**⚠ WARNING**

Moving equipment can be dangerous to bystanders. Serious injury or death can occur if a person is in the wrong area or is not attentive to the operations. Clear the area of all unnecessary people before you operate the controls.

**Cab Controls** – The standard cab control panel is located in the vehicle cab.

**Lift Arm** – Use the loader's lift arm to pick up and dump refuse from a refuse container into the hopper. (The loader is the assembly that includes the lift arm, the grabber assembly, and other parts.)

**⚠ 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. The hopper is the loading chamber for the refuse. Refuse dumped into the unit falls inside the hopper where it is moved by the auger into the body.

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

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

**Tailgate Pins** – The unit uses tailgate pins on each side of the body to lock (latch) the tailgate.

## PRODUCT NOMENCLATURE (CONTINUED)

**⚠ 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.

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

**Hydraulic Oil Tank For Tailgate**- The tank is the reservoir for the hydraulic oil that operates all hydraulic cylinders described above.

**Operator Controls** – The standard operator controls for running the components are inside the vehicle cab.

## NOTES:

## GLOSSARY

| TERM | DEFINITION |
|---|---|
| accident | An incident that results in unintended harm. |
| 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 |
| 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 |
| 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. |
| Grabber | The entire grabber assembly or the grabber arms. |
| GRIP | The command to close the grabber arms around a refuse container. |
| 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. |

## GLOSSARY

| TERM | DEFINITION |
|---|---|
| interlock | A safety mechanism that disables a function or action. |
| LATCHED | The condition when the tailgate is fully CLOSED, thereby locking the tailgate. |
| Lift Arm | That part of the RevAMP loader that moves IN, OUT, UP, DOWN and PIVOTS. |
| LOCK | Command to use the tailgate lock/unlock switch and lock the tailgate lock cylinders. |
| lower/LOWER | Move tailgate down. / Command to move the lift arms, forks, 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 /<br>The position of a switch or other control to stop a function |
| on/ON | When a light or lamp illuminates /<br>The position of a switch or other control to start a function |
| 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 |
| retract/RETRACT | Make a cylinder rod go into its base /<br>Command to move the packer panel towards the hopper |
| RPM | Revolutions Per Minute |
| should | The action is advised. |

## GLOSSARY

| TERM | DEFINITION |
|---|---|
| unit | The Heil RevAMP refuse collection vehicle referred to in this manual. |
| 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

### Introduction

The safety measures in this operating manual should not be considered exhaustive. It is the operator's responsibility to know and follow the appropriate operating procedures that are in accordance with the American National Standards Institute (ANSI), the Occupational Safety and Health Administration (OSHA) and any other organization depending on the state. Product misuse, non-compliance with the warnings in this manual and/or safety labels may result in serious injury or even death to anyone near the truck (operator, co-workers or bystanders).

### Safety Labels

Safety labels are a very important safety measure. It is the operator's responsibility to ensure that all stickers are present and visible to ensure his protection and that of others. It is also the operator's responsibility to observe all labels during the operation and maintenance of the vehicle. Replacement labels can be ordered from

Safety labels are grouped into three categories: "DANGER" which indicates an immediate hazard that could result in serious injury or death, "CAUTION" that indicates hazards or unsafe practices that could result in minor personal injury or property damage, and "WARNING" indicates hazards or unsafe practices that could result in serious injury or death. Safety compliance and common sense are essential for safe operation.

## DECALS

The following pages show the DANGER, WARNING and CAUTION decals and list the reflective safety materials that are on the vehicle.

**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.

**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

Locate the decal callout number on the illustration(s) below. Reference the **parts list** 35 and **decal images** 37 found after the illustrations.

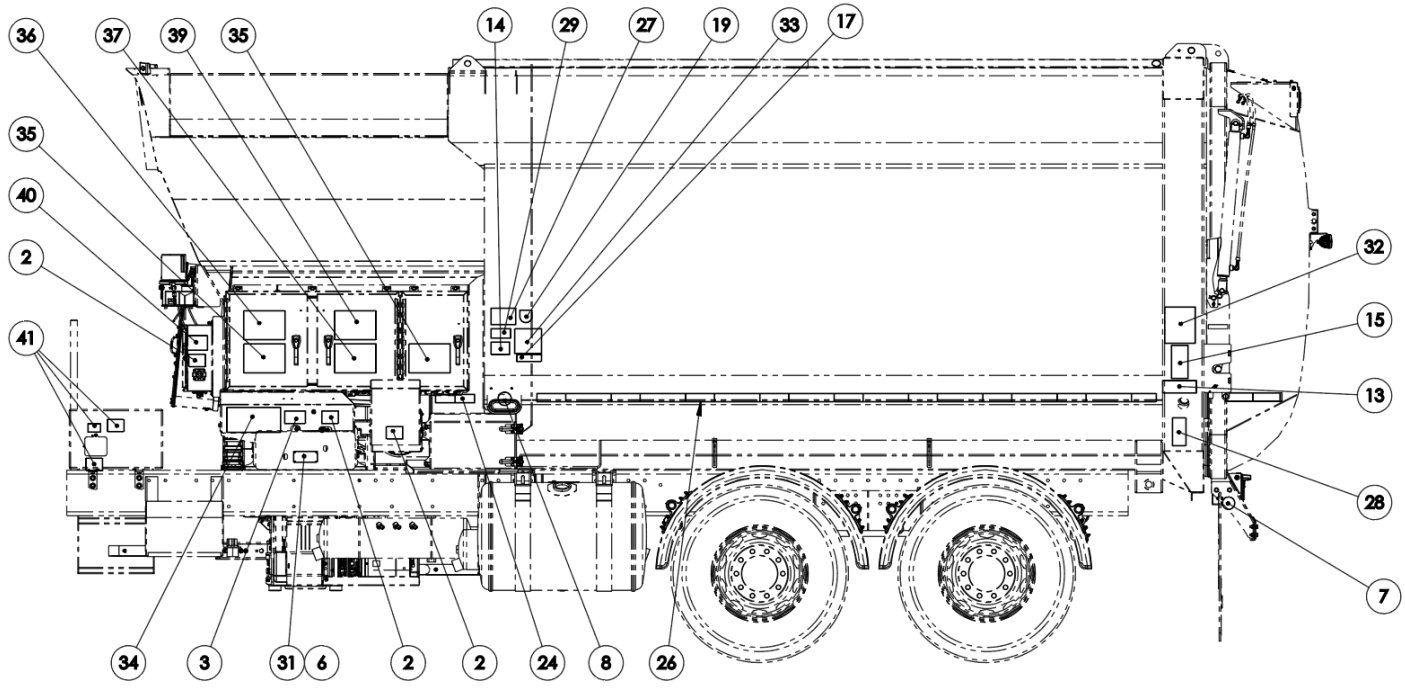



**Figure 7. Decal Placement Sheet 1**

## DECAL PLACEMENT (CONTINUED)

Locate the decal callout number on the illustration(s) below. Reference the **parts list** 35 and **decal images** 37 found after the illustrations.

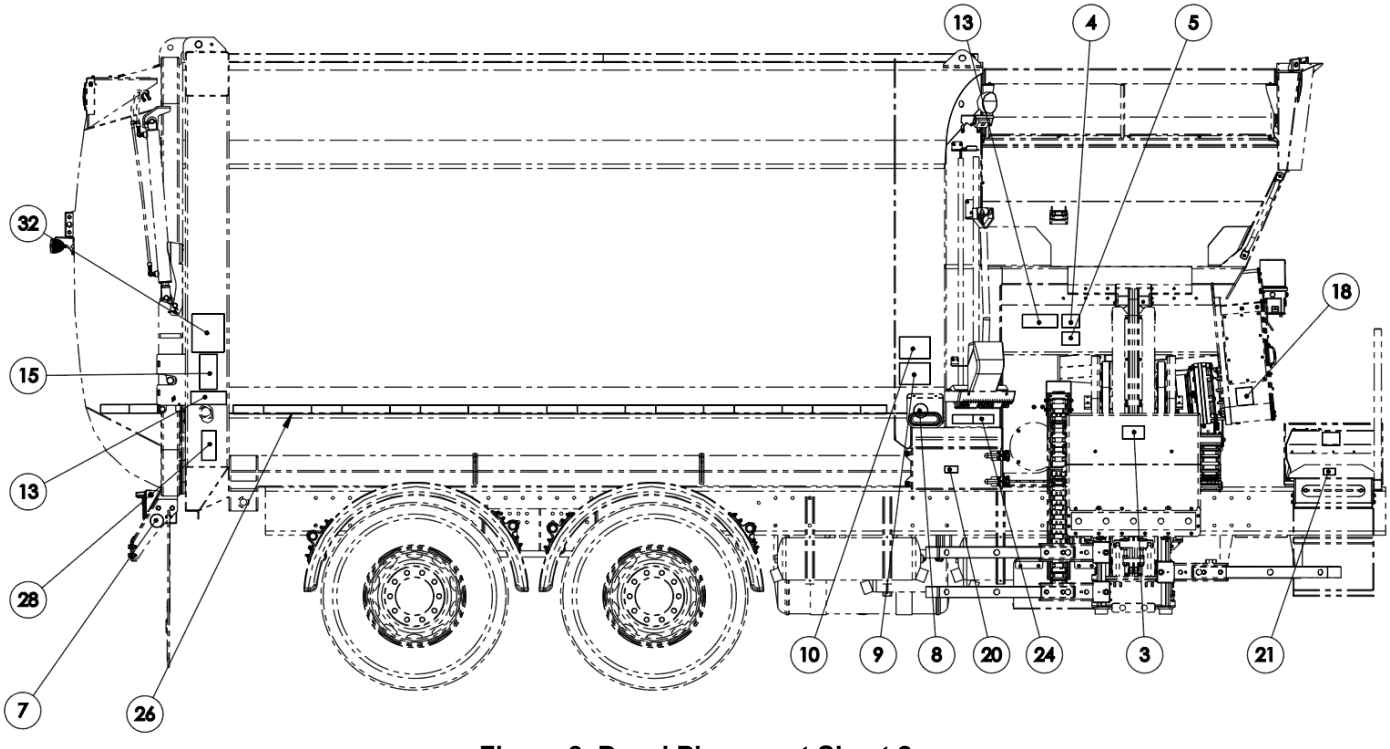



**Figure 8. Decal Placement Sheet 2**

## DECAL PLACEMENT (CONTINUED)

Locate the decal callout number on the illustration(s) below. Reference the **parts list** 35 and **decal images** 37 found after the illustrations for decal part number.

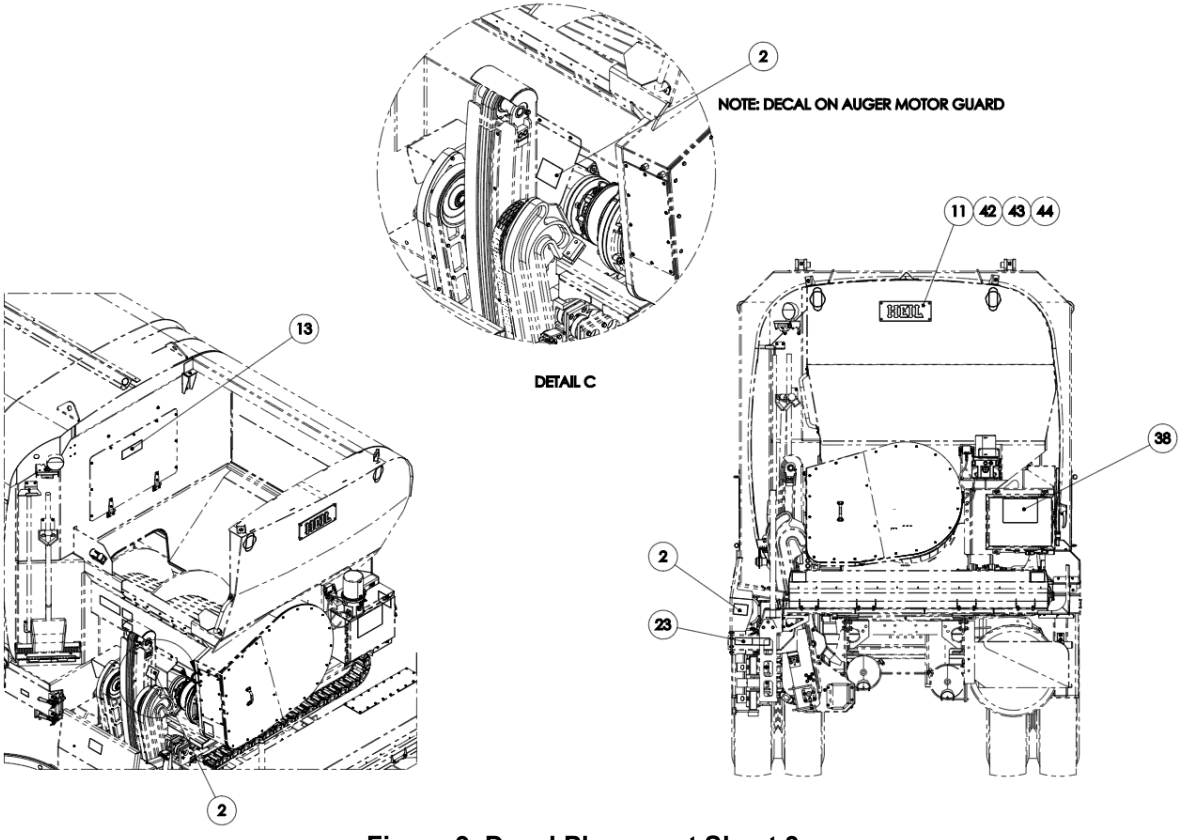



**Figure 9. Decal Placement Sheet 3**

## DECAL PLACEMENT (CONTINUED)

Locate the decal callout number on the illustration(s) below. Reference the **parts list** 35 and **decal images** 37 found after the illustrations.

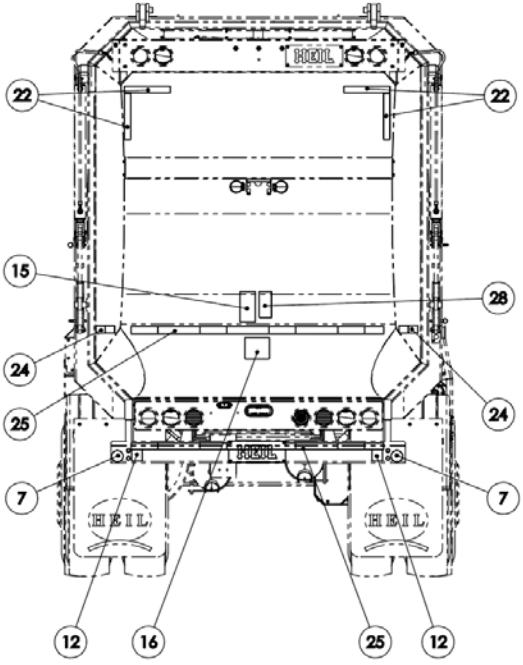



**Figure 10. Decal Placement Sheet 4**

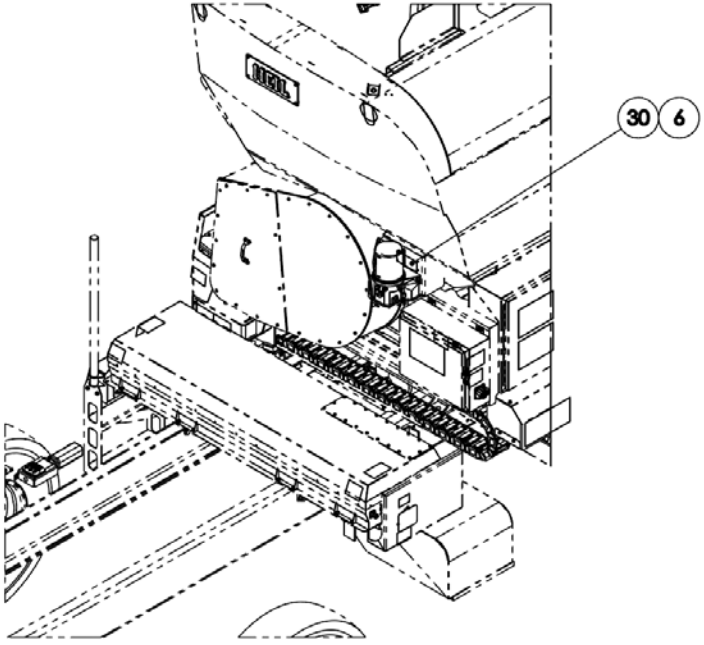



**Figure 11. Decal Placement Sheet 5**

## DECAL PLACEMENT (CONTINUED)

Locate the decal callout number on the illustration(s) below. Reference the **parts list** 35 and **decal images** 37 found after the illustrations.

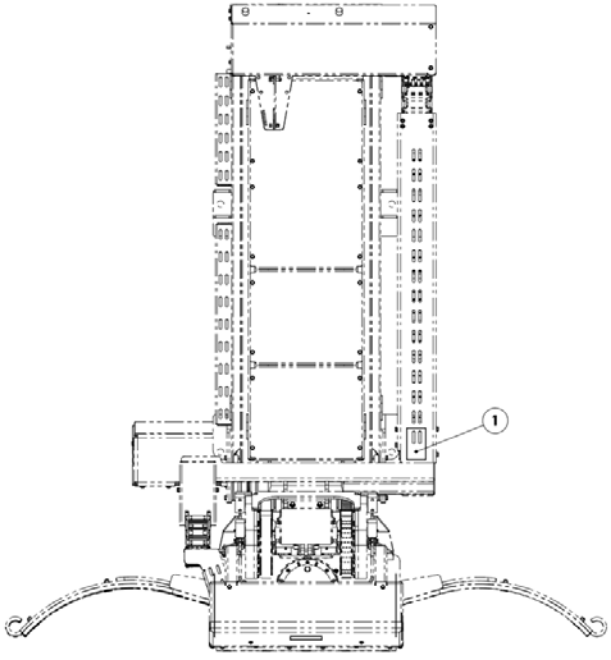



**Figure 12. Decal Placement Sheet 6**

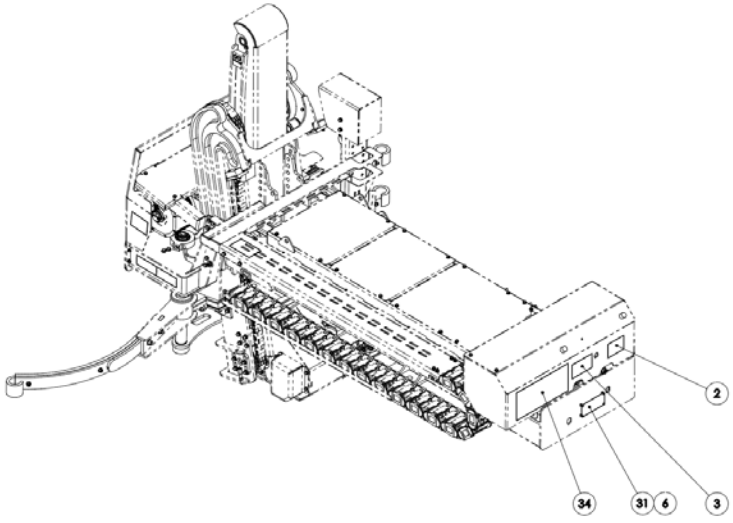



**Figure 13. Decal Placement Sheet 7**

## DECAL PLACEMENT (CONTINUED)

Locate the decal callout number on the illustration(s) below. Reference the **parts list** 35 and **decal images** 37 found after the illustrations.

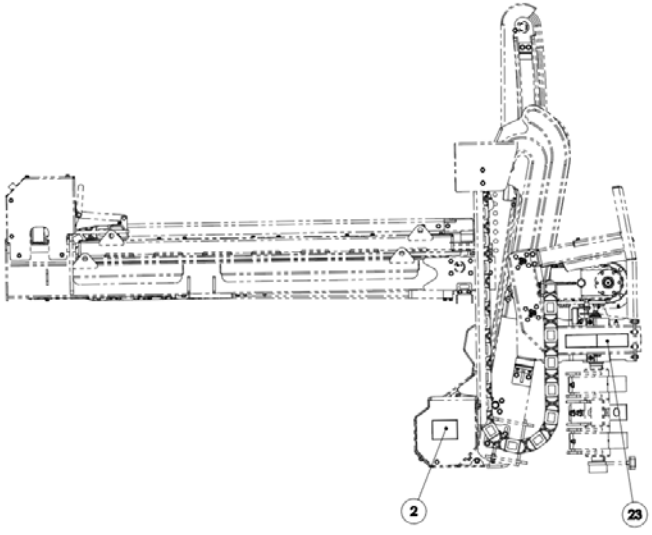



**Figure 14. Decal Placement Sheet 8**

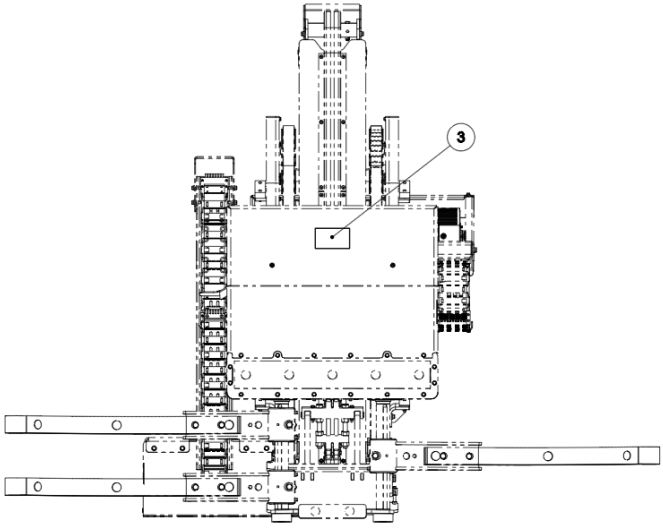



**Figure 15. Decal Placement Sheet 9**

## DECAL PLACEMENT (CONTINUED)

Locate the decal callout number on the illustration(s) below. Reference the **parts list** 35 and **decal images** 37 found after the illustrations.

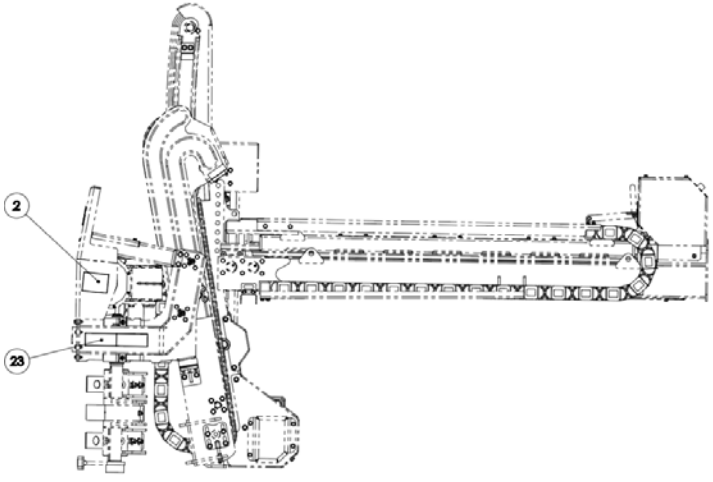



**Figure 16. Decal Placement Sheet 10**

## DECAL PLACEMENT (CONTINUED)

| ITEM | PART NUMBER | DESCRIPTION | QTY |
|---|---|---|---|
| 1 | 01711 | DECAL, WARNING, DO NOT STEP | 1 |
| 2 | 01712 | DECAL, WARNING DO NOT PRESSURE WASH | 6 |
| 3 | 01720 | DECAL, DANGER CRUSH AND PINCH HAZARD | 2 |
| 4 | 01721 | DANGER, ROTARY SHAFT | 1 |
| 5 | 01728 | DECAL, WARNING, FLAMMABLE MATERIAL | 1 |
| 7 | 115-0461 | REFLECTOR, ADHESIVE BACK 3" RED | 4 |
| 8 | 115-0914 | REFLECTOR, ADHESIVE BACK 3" AMBER | 2 |
| 9 | 212-0980 | DECAL, DANGER CONTAINER OFF GROUND | 1 |
| 10 | 212-1242 | DECAL, DANGER LIFT IN MOTION | 1 |
| 11 | 212-1343 | LOGO, HEIL | 2 |
| 12 | 212-1631 | DECAL, WARNING, BUMPER NOT STEP | 2 |
| 13 | 212-1781 | DECAL, CAUTION-STOP ENGINE | 4 |
| 14 | 212-1783 | DECAL, OPERATION MANUAL WARNING | 1 |
| 15 | 212-1801 | DECAL, DANGER - STAND CLEAR | 3 |
| 16 | 212-1820 | DECAL, DANGER - TOWING - IN CAB | 1 |
| 17 | 212-1841 | DECAL, ANSI SPECIFICATIONS | 1 |
| 18 | 212-1914 | DECAL, CAUTION - LADDER | 1 |
| 19 | 212-1915 | DECAL, WARRANTY PARTS # | 1 |
| 20 | 212-2067 | DECAL, CAUTION-SUMP DOOR | 1 |
| 21 | 212-2276-006 | DECAL, WARNING, DO NOT RIDE | 1 |
| 22 | 212-2419-012 | REFLECTIVE TAPE, WHITE 12" | 4 |
| 23 | 212-2420-010 | 2" REFLECTIVE TAPE, RED AND WHITE, 10" | 2 |
| 24 | 212-2420-014 | 2" REFLECTIVE TAPE, RED AND WHITE | 4 |
| 25 | 212-2420-066 | 2" REFLECTIVE APE, RED AND WHITE, 66" | 2 |
| 26 | 212-2420-150 | 2" REFLECTIVE TAPE, RED AND WHITE, 150" | 2 |

| ITEM | PART NUMBER | DESCRIPTION | QTY |
|---|---|---|---|
| 27 | 212-2689 | DECAL, FLAG | 1 |
| 28 | 212-2691 | DECAL, WARNING, DO NOT CROSS | 3 |
| 29 | 212-3287 | DECAL, WARNING, DAILY INSPECTION FORM | 1 |
| 30 | 212-3568 | PLATE, SERIAL, REVAMP BODY | 1 |
| 31 | 212-3569 | PLATE, SERIAL, REVAMP LIFT | 1 |
| 32 | 212-3570 | DECAL, TAILGATE SUPPORT | 2 |
| 33 | 212-3571 | DECAL, REVAMP BODY GREASE POINTS | 1 |
| 34 | 212-3572 | DECAL, REVAMP ARM GREASE POINTS | 1 |
| 35 | 212-3583 | DECAL, WARNING DO NOT HIGH PRESSURE WASH, HV, LV AND CHARGER CABINET | 2 |
| 36 | 212-3584 | DECAL, WARNING HIGH VOLTAGE, HV CABINET | 1 |
| 37 | 212-3585 | DECAL, ELECTRICAL SHOCK HAZARD, LV CABINET AND CHARGER CABINET | 1 |
| 38 | 212-3586 | DECAL, EV CHARGING, SHORE POWER | 1 |
| 39 | 212-3594 | DECAL, HIGH VOLTAGE, 140 VOLTS DC | 1 |
| 40 | 212-3595 | DECAL, HIGH VOLTAGE, 240 VOLTS DC | 1 |

## DECAL IMAGES


**Figure 17. Danger Do Not Step, PN 01711**


**Figure 18. Do Not Pressure Wash, PN 01712**


**Figure 19. Danger: Crush Hazard, PN 01720**


**Figure 20. Danger Rotating Shaft, PN 01721**

## DECAL IMAGES (CONTINUED)


Figure 21. Fire or Explosion , PN 01728


Figure 22. Danger Stay Clear, PN 212-0980


Figure 23.Danger: Stand Clear, PN 212-1242


Figure 24. Warning Never Use The Bumper as a Riding, PN 212-1631

## DECAL IMAGES (CONTINUED)


Figure 25. Warning Lockout/Tagout, PN 212-1781

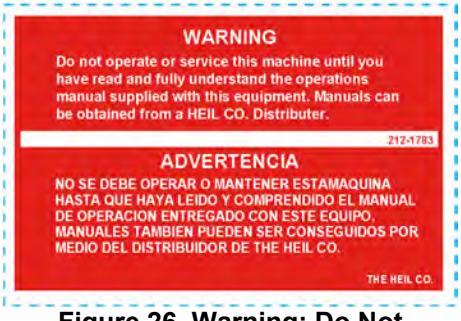



Figure 26. Warning: Do Not Operate, PN 212-1783


Figure 27. ANSI Standards, PN 212-1841


Figure 28. Danger Do Not Tow, PN 212-1820

## DECAL IMAGES (CONTINUED)


**Figure 29. Danger Stand Clear of Moving Tailgatel, PN 212-1801**


**Figure 30. Caution When Using the Ladder, PN 212-1914**

## DECAL IMAGES (CONTINUED)


**Figure 31. Heil Warranty , PN 212-1915**


**Figure 32. Caution: Sump Door Must be Closedr, PN 212-2067**


**Figure 33.Warning: DO NOT Ride on Body or Tailgate, PN 212-2276-6**


**Figure 34. Made in the USA, PN 212-2689**

## DECAL IMAGES (CONTINUED)


**Figure 35. Warning Do Not Cross Behind A Backing Truck , PN 0212-2691**

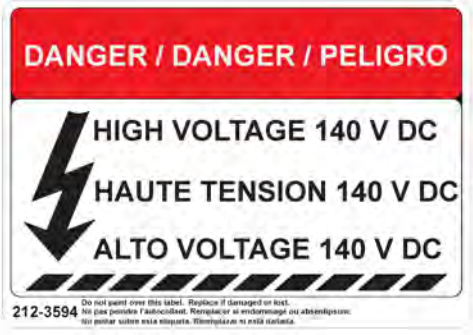



**Figure 36.Danger: High Voltage 140 V DC, PN 212-3594**


**Figure 37. Danger: High Voltage 240 V DC, PN 212-3595**

## DECAL IMAGES (CONTINUED)


Figure 38. Warning: High Voltage, KEEP OUT, PN 212-3584


Figure 39. Warning: Do not directly high pressure wash, PN 212-3585


Figure 40. Warning: Hazardous Voltage Inside, PN 212-3585

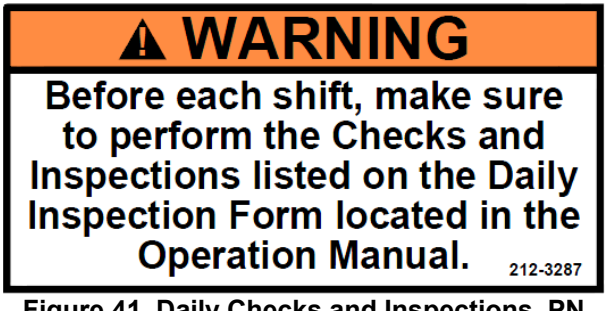



Figure 41. Daily Checks and Inspections, PN 212-3287

## DECAL IMAGES (CONTINUED)

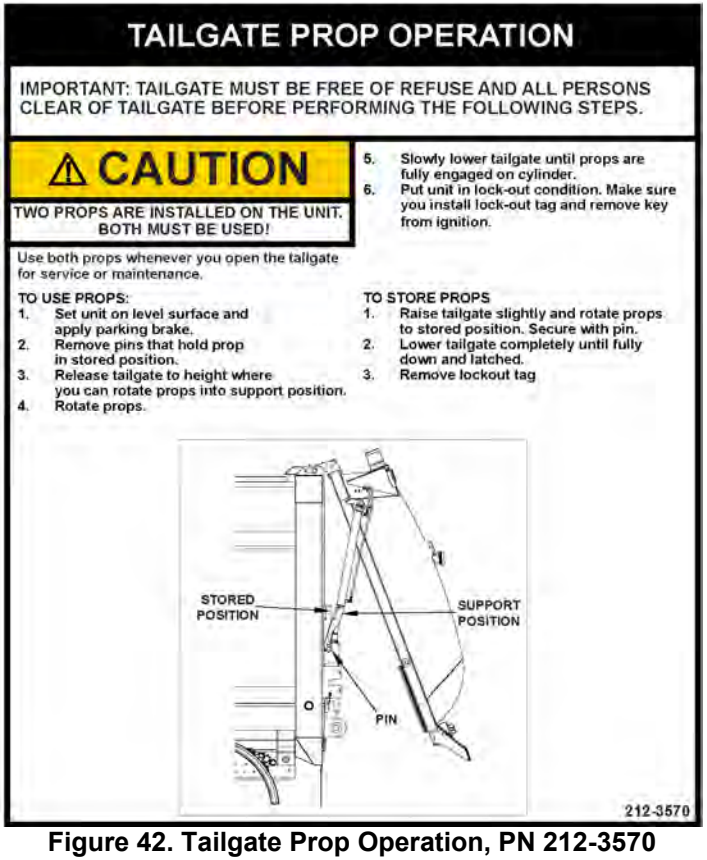
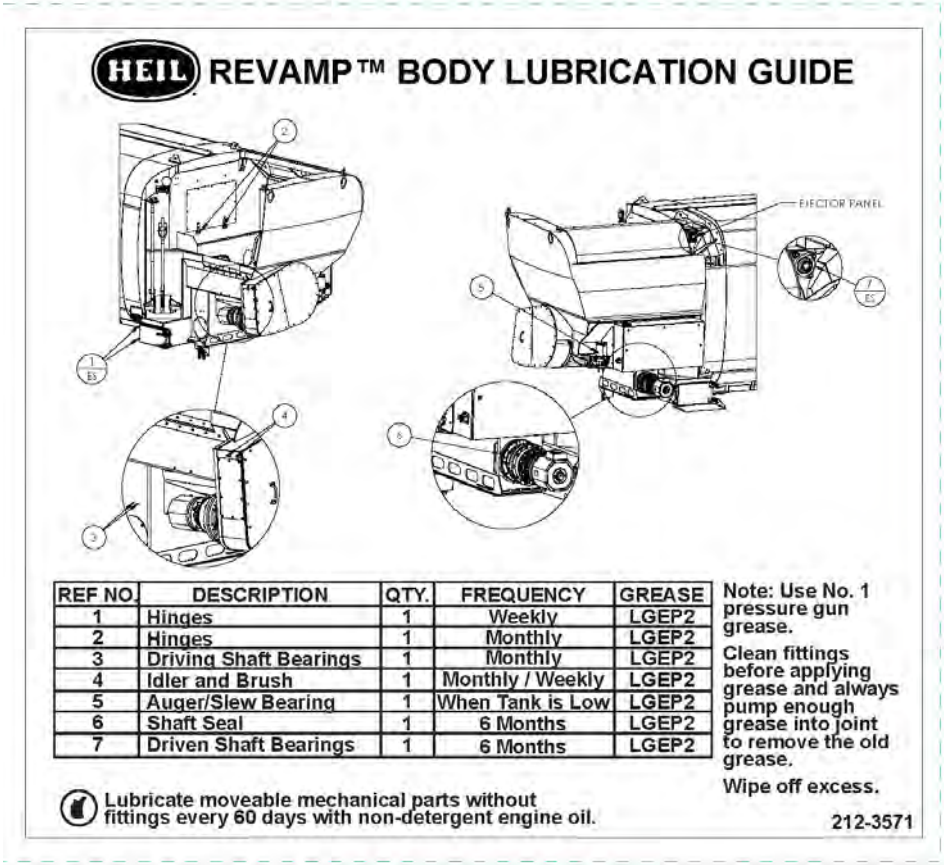



**Figure 42. Tailgate Prop Operation, PN 212-3570**


**Figure 43. Warning: High Voltage, KEEP OUT, PN 212-3584**


**Figure 44. Danger: Crush and Pinch Hazard, PN 01720**

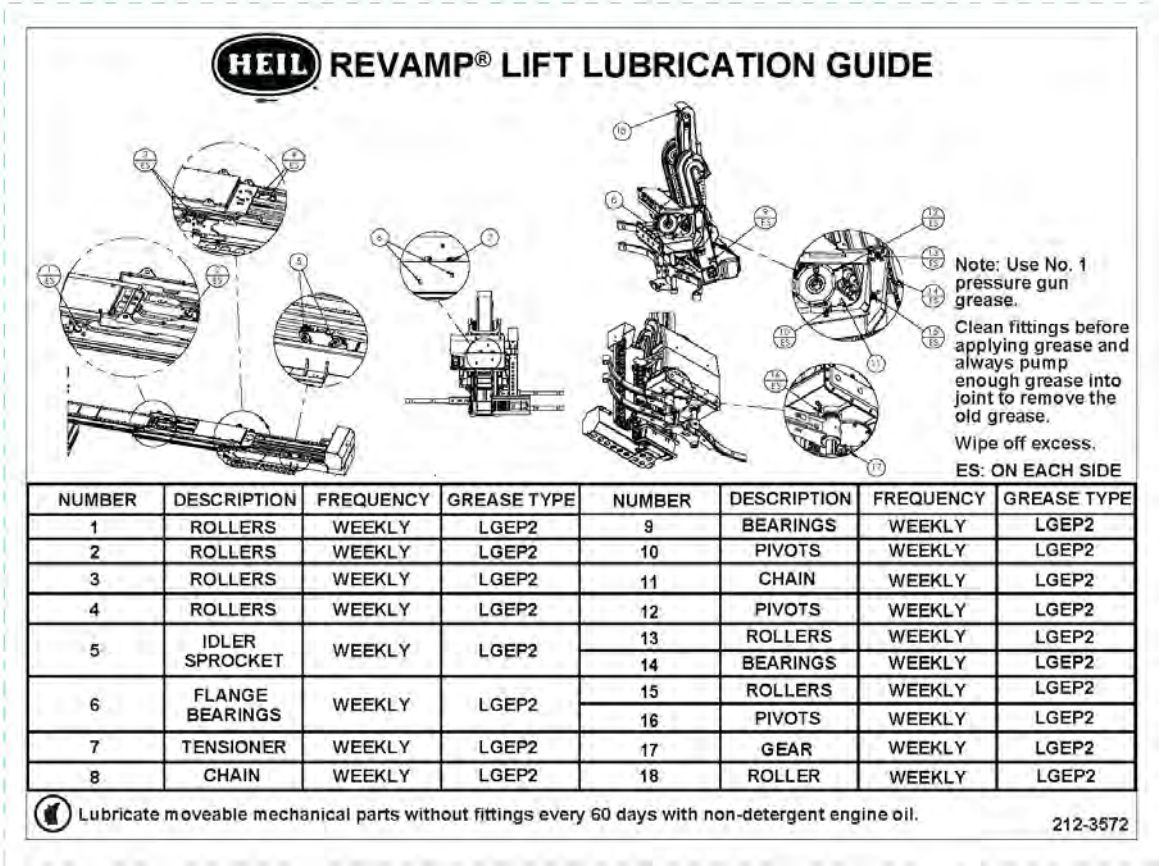
## DECAL IMAGES (CONTINUED)




| REF NO. | DESCRIPTION | QTY. | FREQUENCY | GREASE |
|---|---|---|---|---|
| 1 | Hinges | 1 | Weekly | LGEP2 |
| 2 | Hinges | 1 | Monthly | LGEP2 |
| 3 | Driving Shaft Bearings | 1 | Monthly | LGEP2 |
| 4 | Idler and Brush | 1 | Monthly / Weekly | LGEP2 |
| 5 | Auger/Slew Bearing | 1 | When Tank is Low | LGEP2 |
| 6 | Shaft Seal | 1 | 6 Months | LGEP2 |
| 7 | Driven Shaft Bearings | 1 | 6 Months | LGEP2 |

**Figure 45. Body Lubrication Guide, PN 212-3571**

## DECAL IMAGES (CONTINUED)




| NUMBER | DESCRIPTION | FREQUENCY | GREASE TYPE | NUMBER | DESCRIPTION | FREQUENCY | GREASE TYPE |
|---|---|---|---|---|---|---|---|
| 1 | ROLLERS | WEEKLY | LGEP2 | 9 | BEARINGS | WEEKLY | LGEP2 |
| 2 | ROLLERS | WEEKLY | LGEP2 | 10 | PIVOTS | WEEKLY | LGEP2 |
| 3 | ROLLERS | WEEKLY | LGEP2 | 11 | CHAIN | WEEKLY | LGEP2 |
| 4 | ROLLERS | WEEKLY | LGEP2 | 12 | PIVOTS | WEEKLY | LGEP2 |
| 5 | IDLER SPROCKET | WEEKLY | LGEP2 | 13 | ROLLERS | WEEKLY | LGEP2 |
| | | | | 14 | BEARINGS | WEEKLY | LGEP2 |
| 6 | FLANGE BEARINGS | WEEKLY | LGEP2 | 15 | ROLLERS | WEEKLY | LGEP2 |
| | | | | 16 | PIVOTS | WEEKLY | LGEP2 |
| 7 | TENSIONER | WEEKLY | LGEP2 | 17 | GEAR | WEEKLY | LGEP2 |
| 8 | CHAIN | WEEKLY | LGEP2 | 18 | ROLLER | WEEKLY | LGEP2 |

**Figure 46. Lift Lubrication Guide, PN 212-3572**

## 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

**⚠ WARNING**

Avoid directing any pressurized water at electrical components such as the electric motors, the encoder, the electrical panel, or the charger.

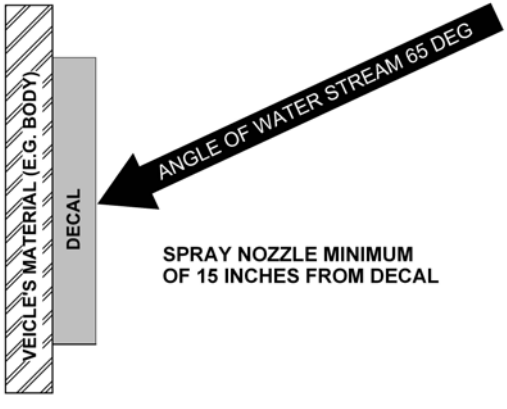



**Figure 47. Recommended Technique**

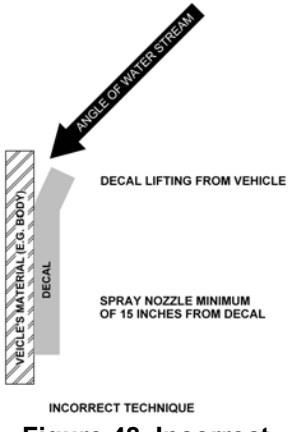



**Figure 48. Incorrect Technique**

**VERY IMPORTANT:**

Before performing the cleaning procedure, proceed to shut down as described in the Lock-out/Tag-out section on pg.

- **Avoid directing any pressurized water at electrical components** such as the electric motors, the encoder, the electrical panel, or the charger.
- Make sure to clean the trap door and the laser sensor **behind the ejection panel**. Failure to do so can cause systems to malfunction.

## 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.

## FIRE DANGER

It is important to always have a fire extinguisher nearby (in the cabin or near the mechanical arm). This fire extinguisher must be checked monthly to make sure it is functional.

Please be advised that Heil provides 10 B:C category extinguisher(s) with each body. Please be sure to inspect for presence and condition of extinguishers before each trip.

Always keep flames or heat sources away from combustible and/or flammable materials. Avoid loading burning/smoldering waste or smoking ashes as this could ignite the contents of the body (including hopper and auger).

## CRITICAL BATTERY TEMPERATURE CONDITION

It is critical to understand that the RevAMP body is powered by a high voltage battery system – either as part of the Heil RevAMP body installation or from the chassis (e.g. the traction battery). As with all high voltage battery systems, there is a potential for critical over temperature conditions, especially if subjected to misuse or abuse. Please be sure to familiarize yourself with any and all related instructions, warnings, and procedures related to chassis battery systems (chassis battery is not Heil's responsibility). This manual only covers Heil-provided body battery systems.

In the event of a Critical Battery Temperature condition, the below warning will displayed on the body display screen.

**IF YOU SEE THIS DISPLAYED, IMMEDIATE ACTION MUST BE TAKEN.**


In the event of a Critical Battery Temperature condition as displayed above, or if fire and/or smoke are observed coming from the body battery, please follow the below instructions. Serious injury or death may result in the failure to do so.

- Immediately stop the RCV in a safe location as far away from buildings and other vehicles as safely and reasonably possible.
- Once in a safe location, immediately turn off power to the body and follow shut-down/park instructions provided by the chassis manufacturer. Exit the RCV and move away as quickly as safely possible after power is shut off and check surrounding area for any potential dangers.

## FIRE DANGER (CONTINUED)

- Immediately contact relevant emergency services (e.g. 911 in most U.S. jurisdictions) and ensure you communicate that the potential emergency involves a high voltage electric garbage truck.Keep at a safe distance and warn others to keep back.

**NOTE:** While Heil RCV bodies are equipped with fire extinguishers, the above process must be followed for a Critical Battery Temperature condition. Operators should not attempt to fight high voltage battery fires – that must be left to professional fire fighters. Fire extinguishers are provided solely to facilitate emergency egress in a Critical Battery Temperature condition.

**NOTE**: Even if no visible signs of smoke or fire are observed, but the Critical Battery Temperature condition is displayed, please obey the above instructions. Serious injury or death may result in the failure to do so.

## ELECTRICAL DANGER

Electric motors are powered by a 113VDCvoltage source. Misuse could result in electric shock, burns or even death.

The battery charging terminals provide a voltage of 240VAC, which may result in the same damage as mentioned above.

Before servicing, be sure to turn off all voltage sources, open chassis main switch and wear appropriate protective equipment.

At all times, the power cables must be orange, or covered with an orange sheath.

**NOTES:**

# SECTION 3
# LOCK-OUT/TAG-OUT PROCEDURE

## PREVIEW

Read this section to learn about the proper Lock-Out/Tag-Out procedures.

You MUST Lock-Out/Tag-Out a unit BEFORE:

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

## LOCKOUT/TAGOUT PROCEDURE

**⚠ DANGER**

This procedure MUST be followed before entering the unit's 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**

See Electric Body Decommission in the Service Manual before proceeding.

**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 specified 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**.

1. 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.
2. 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
3. Examples of some basic equipment required (see figure on next page):
   - Multi-hasp
   - Single-keyed red lock
   - Lockout tag

## LOCKING OUT THE UNIT (CONTINUED)


**Figure 49. Lock-Out/Tag-Out Tag (Do Not Operate Tag)**

Follow These Steps:

1. APPLY the brakes. MAKE SURE the brakes prevent the unit from moving and are functioning 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 mufti-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-hasp 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:

**NOTES:**

# SECTION 4
# GENERAL OPERATION

## GENERAL OPERATION

1. It is the operator's responsibility to ensure compliance of the vehicle in accordance with this Operator's Manual, Occupational Safety and Health Administration (OSHA) regulations, the standards of the American National Standards Institute (ANSI) and any other relevant state or federal organization, at all time.
2. The operator must be comfortable with the functions and location of all instruments, gauges, safety devices and controls on the unit. It is strongly recommended that this equipment not be used without proper instruction and training. Labels and other safety devices, hand signals and federal and state regulations must be known to the operator.
3. Any malfunction must be communicated to the employer in order to avoid any risks to the operator. It is strongly recommended not to use the unit if one or more systems are defective.
4. In accordance with the local traffic regulations, wearing a seat belt is mandatory when the vehicle is traveling.
5. For chassis information (engine, starting procedure, etc.) refer to the chassis manufacturer's instruction manual.
6. Always keep access and service doors closed and locked during the operation of the unit.
7. Use the unit only for tasks for which it was designed.
8. Never use electrical cables or other components as a handle.
9. Always keep arms, hands, fingers, or other limbs away from moving parts.
10. To dislodge waste, make sure that no moving parts of the unit are activated and that you wear the proper protective equipment. It is strongly recommended to put the vehicle in emergency stop mode before carrying out any handling near the moving parts.
11. Do not attempt to lift overloaded containers. When collecting waste, the operator must ensure that the containers are safe and usable. Containers should be centered on the arm and handled slowly.
12. It is important to never go under any part of the unit in the raised position. (e.g., the back door, a container, the automated arm, etc.).
13. When unloading, keep a safe distance from the truck.
14. Always make sure that there is sufficient clearance and that no one is nearby when raising or lowering the mechanical arm or rear door.
15. It is recommended to always handle the various components of the waste collection equipment slowly.
16. Always keep the vehicle up to date according to the maintenance schedule to ensure optimal and safe operation.

## GENERAL OPERATION (CONTINUED)

17. Before performing any maintenance on the unit, it is important to turn off all power sources as detailed later in the full lockout procedure.
18. For maintenance situations where the tailgate must be opened, refer to the locking system procedure as explained in the “tailgate” section.
19. The pre-programmed factory settings for electrical components must not be changed. Any alteration could cause the unit to malfunction and/or increase the risk of injury to the operator and bystanders. For any information regarding these settings, please contact **Heil Customer Service** 12.
20. A hard copy of this manual should always be accessible in the operator’s cabin.
21. Maintenance on the unit must be carried out with suitable tools and by qualified personnel only.
22. In the event of ownership transfer of the unit, **Heil Customer Service** 12 must be notified in order to ensure adequate monitoring of the condition of the unit and the maintenance to be carried out.

*Before Disembarking*

1. Wearing of safety gloves and Arc Rated Boots is strongly recommended for all operators. It is also not appropriate to wear jewelry or loose clothing that could catch on control levers or moving parts of the unit.
2. In accordance with the law, it is strictly prohibited to drive and control the vehicle while under the influence of drugs and/or alcohol.
3. The operator taking control of the unit must have adequate training, know the operation of controls and machinery and be comfortable with manual signals, safety warnings and traffic regulations.
4. Before each use of the unit, it is important to ensure proper operation of the main components by following the checklist located in the maintenance manual.
5. Any item found to be non-compliant, whether from the checklist or simply according to the operator’s judgment, must be immediately reported to the owner to remedy the situation. Before leaving the vehicle with a malfunction, follow the shutdown procedure further in this manual.
6. If, for any reason, the height of the unit has changed, you must ensure that the new height is indicated on the safety label provided for this purpose.
7. The operator must be aware of the positioning and operation of all controls and emergency devices on the unit.
8. Keep the driving area, steps and handles clean and free of debris and grease.

**NOTES:**

# SECTION 5
# 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 covers:

- Learn about the unit's features and operation specifications
- 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

## LIFT ARM

To Operate Manually, it is important to ensure enough clearance before performing any movement with the automated arm. Before every movement, check the surroundings to prevent accidents.To operate the arm follows these steps:

1. The vehicle must be at a complete stop in order to use the automated arm.
2. The collection mode must be engaged.
3. Once positioned in front of the residential bin, bring the arm out until it is close to it.
4. Close the grippers on the container. It is important to ensure that the bin is correctly secured by the grippers.
5. Retract the arm COMPLETELY.
6. Lift the arm until the bin has been completely emptied.It is normal that you cannot shake the bin very hard when you reach the top position because of electrical cushioning. There is enough dumping angle to ensure that the bin is empty after a cycle.
7. Lower the arm.
8. Remove the container by releasing the grippers at the desired location.
9. Retract the arm before moving the vehicle.The mechanical arm controls are illustrated on the figures to the right.

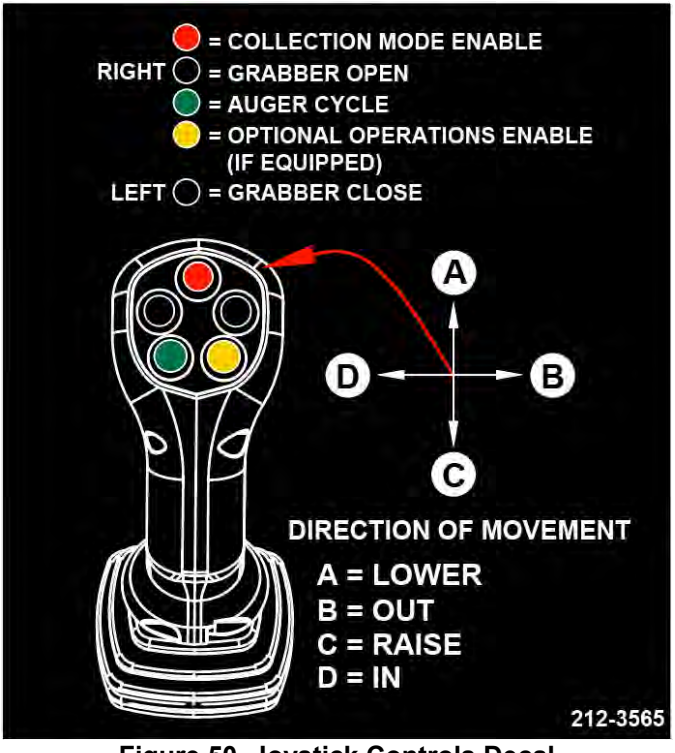



**Figure 50. Joystick Controls Decal**

## TROUBLESHOOTING

If you encounter any operational issues, the truck is equipped with many features to help you, or you may perform some simple procedures to troubleshoot it.

Here is a list of items you may encounter, and easy procedures to be performed by the operator.

- If no function works when starting the truck, make sure the charging cable is unplugged.
- If the grabber does not close over the bin, try to fully open it at maximum width. It will reset the position sensor and make it work again.
- If the up-down section does not go all the way up, make sure the arm is close enough to the chassis.
- If the auger will not start either manually or with the arm, it might be because the ejector is not at its retracted position. To solve this problem, simply retract the ejector manually until there is no movement or motor working. Afterward, you should be able to use the auger normally.

## NOTES:

# SECTION 6
# TAILGATE PROPS

## PREVIEW

Read this section to learn about:

- Using the tailgate props

## TAILGATE OPEN / CLOSE

The tailgate is controlled by using the touch controls on the screen. It must always be in the closed position during collection mode. If maintenance needs to be performed on the tailgate or inside the body, it is important to follow a **Lock-Out/Tag-Out procedure** 53 BEFORE performing any operation or maintenance.

To open the tailgate, you must exit the cab and remove the tailgate locking pins located on each side of the tailgate. See the image below.

**Figure 51. Removing Tailgate Locking Pin**

Then return to the cab and press and hold the tailgate open button. To close the tailgate, press and hold tailgate close button. There is an indicator of the tailgate position on the screen. The number on the tailgate icon shows the opening percentage level of the tailgate. 0 means fully closed and 100 means fully opened. Before driving off, you must secure the locking pins on the tailgate to prevent the tailgate from opening in an unwanted situation.


**Figure 52.**


**Figure 53.**

## TAILGATE LOCKING PINS

The tailgate locking pins on each side of the tailgate should always be securely in place in collection mode. See image below.


**Figure 54. Tailgate Locking Pin**

## TAILGATE SAFETY PROPS

The procedure to secure the opened tailgate shall be followed for cleaning around the ejector panel or tailgate or servicing and repairs inside the body.

**⚠ WARNING**

DO NOT stand under a raised tailgate during operation or when the safety props are not installed. Doing so could result in serious injuries or even death.

1. Open the rear door at approximately 30°. It must be raised enough for the props to be lowered.
2. Remove the locking pins from the stand and position them (one on each side of the tailgate) so they are in contact with the cylinder housing.
3. Close the tailgate until it is seated on the props.
4. To close the tailgate, reverse the procedure.

The figure below left shows the tailgate in the free position. The figure below right shows the tailgate in the secured position.

**Figure 55. Prop Engaged**

**Figure 56. Prop in Stored Position**

**NOTES:**

# SECTION 7
# DAILY CHECKLIST

## REFUSE VEHICLE DAILY INSPECTION

**DATE:** _____/_____/_____

**UNIT NO.** _____

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

Use a √ to indicate inspected and no repair, service or adjustment is necessary.
Use an **R** to indicate repair, service or adjustment is necessary.
Use an **N** to indicate vehicle not equipped.

---

**FOLLOW ALL APPLICABLE LOCK-OUT / TAG-OUT PROCEDURES**

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

Printed Name of Operator:

_____

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

Refer to **Lubrication Guide** 143 for additional information and requirements.

Signature of Operator:

_____

| CHECKS AND INSPECTIONS | INSPECTION RESULTS CODE (√/R/N) |
|---|---|
| ***INSPECT PER APPLICABLE MANUFACTURER MANUAL*** | |
| **Cab/Drive** | |
| **Wheels and Tires** | |
| **Tractor and Chassis Electrical** | |
| **Chassis** | |
| **Engine & Transmission & Fluid Levels** | |
| ***REFUSE COLLECTION SYSTEMS AND COMPONENTS*** | |
| **CAB OUTSIDE AREA** | |
| Check air pressure of tires. Add air to any tire with air pressure lower than recommended before going on route. | |
| Check wear of tire tread. Replace tire worn below tire manufacturer's recommendation or state requirement before going on route | |
| Check tires for damage. Replace any damaged tire before going on route | |
| Inspect for leaks | |
| Inspect for damage or loose hardware | |
| Decals for damage and readability | |
| Inspect unit for refuse on or about the engine or exhaust components. **Remove all refuse to prevent a fire** | |
| **BODY AND CHASSIS CURB SIDE INSPECTION** | |
| Inspect decals on body for damage and readability | |
| Inspect body structure for damage, loose or missing nuts and bolts and for cracked welds and metal | |
| Inspect body mounting brackets for cracked welds, missing bolts or nuts or movement | |

| CHECKS AND INSPECTIONS | INSPECTION RESULTS CODE (√/R/N) |
|---|---|
| Inspect decals on curb side body for damage and readability | |
| Inspect tailgate raise components | |
| Cylinder, hoses and fittings for leaks | |
| Hoses for wear and damage | |
| Cylinder for damage | |
| Loose or missing mounting hardware | |
| Inspect tailgate lock components | |
| Latch components for wear or damage | |
| Loose or missing mounting hardware | |
| Tailgate is locked | |
| **TAILGATE** | |
| Inspect decals on tailgate and underride bumper for damage and readability | |
| Inspect tailgate seal for visible damage | |
| Inspect underride bumper for damage and loose components | |
| **BODY AND CHASSIS STREET SIDE INSPECTION** | |
| Tailgate is locked | |
| Inspect tailgate lock components | |
| Latch components for wear and damage | |
| Loose or missing mounting hardware | |
| Inspect tailgate raise components | |

| CHECKS AND INSPECTIONS | INSPECTION RESULTS CODE (√/R/N) |
|---|---|
| Cylinder, hoses and fittings for leaks | |
| Hoses for wear and damage | |
| Cylinder for damage | |
| Loose or missing mounting hardware | |
| Inspect all decals on curb side body for damage and readability | |
| Inspect body structure for damage, loose or missing nuts and bolts and for cracked welds | |
| Inspect body mounting brackets for cracked weld, missing bolts or nuts or movement | |
| Inspect level of hydraulic oil tank is mounted above tailgate. It must be full. **Add recommended oil as necessary** | |
| Battery disconnect switch is turned to OFF then: | |
| Check wiring and battery cables from the battery box to the engine starter for wear and other damage. **IMMEDIATELY REPLACE WORN OR DAMAGED WIRING** | |
| Check wiring and cables for loose connections. **IMMEDIATELY TIGHTEN LOOSE CONNECTIONS** | |
| **OPERATION OF UNIT - *Skip this section if the unit will not be operated today*** | |
| Turn battery disconnect to ON | |
| Apply parking brake | |
| Make sure the starter interlock operates – make sure unit will not start in gear | |
| Start the engine. Indicator lights and gauges show normal operation of engine | |
| Make sure the parking brake does not allow the vehicle to move forward or reverse at idle | |
| Make sure all cab, body and tailgate lights operate | |
| Make sure the backup alarm and light operate | |

| CHECKS AND INSPECTIONS | INSPECTION RESULTS CODE (√/R/N) |
|---|---|
| Make sure all people not necessary and any hazards are clear of the area and then: | |
| Pull the System Power knob UP – the switch's red light is ON and the PUMP ON light is ON | |
| Push the System Power knob DOWN – the switch's red light is OFF and the PUMP ON light is OFF | |
| Pull the System Power knob UP – the switch's red light is ON and the PUMP ON light is ON | |
| **OPERATION OF UNIT - Continued** | |
| Open the tailgate | |
| The T/G UNLOCK light and alarm are ON | |
| Set the tailgate props | |
| Inspect the tailgate seal for damage | |
| Store the tailgate props and raise the tailgate completely | |
| Close the tailgate | |
| The T/G UNLOCK light and alarm are OFF | |
| Move the lift arm to the TRANSIT position – lift arm is towed and the grabber is fully OPEN and against the unit OR move the lift arm to the alternate position – lift arm is IN and the grabber is in the hopper | |
| Keep the engine running and continue the inspection | |
| **IN-CAB INSPECTION** | |
| Inspect all in-cab decals for damage and readability | |
| Do one automatic cycle | |
| Make sure the following lights and/or alarms are OFF: | |

| CHECKS AND INSPECTIONS | INSPECTION RESULTS CODE (√/R/N) |
|---|---|
| T/G Unlock | |
| TRANS TEMP | |
| PUMP ON light is OFF – if it is ON, push the System Power knob DOWN | |
| If equipped, check the operation of each camera | |
| ***FINAL INSPECTION*** | |
| While you walk completely around the vehicle, look for: | |
| Fluid leaks | |
| Cracked or damaged welds and metal | |
| Loose or missing bolts, nuts and clamps | |
| | |

**NOTES:**

# SECTION 8
# 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 DISEMBARKING

- Wearing of safety gloves and Arc Rated foot wear is strongly recommended for all operators. It is also not appropriate to wear jewelry or loose clothing that could catch on control levers or moving parts of the unit.
- In accordance with the law, it is strictly prohibited to drive and control the vehicle while under the influence of drugs and/or alcohol.
- The operator taking control of the unit must have adequate training, know the operation of controls and machinery and be comfortable with manual signals, safety warnings and traffic regulations.
- Before each use of the unit, it is important to ensure proper operation of the main components by following the checklist located in the maintenance manual.
- Any item found to be non-compliant, whether from the checklist or simply according to the operator's judgment, must be immediately reported to the owner to remedy the situation.Before leaving the vehicle with a malfunction, follow the shutdown procedure further in this manual.
- If, for any reason, the height of the unit has changed, you must ensure that the new height is indicated on the safety label provided for this purpose.
- The operator must be aware of the positioning and operation of all controls and emergency devices on the unit.
- Keep the driving area, steps and handles clean and free of debris and grease.

## 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.

## DAILY CHECKLIST

See the **Daily Check section** for the daily checks and procedures checklist. Make a copy of the check list.

**⚠ WARNING**

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

## OPERATING STATE

It is important that during operation the indicator stays blue and the corner dot stays green. It means the ejector panel is in fully retracted, at-home position. Otherwise,the auger is not operational. Collected material behind the ejector panel should be minimal and no pressure shall be exerted on the trap door. This will be explained later. All indicators must be green for all functions to be fully operational. If one indicator is red or gray, it means that a motor is not responding properly. The best way to troubleshoot this problem is to hit the emergency stop, wait 15 seconds and release it. This is the way to reset the controller. The number under each motor indicates the position of the system in percentage (0% means retracted and 100% means full reach). When collecting mode is engaged, the screen will automatically switch to the display below. On this screen, you can see the arm and hopper area simultaneously.


**Figure 57 Collection Mode Engaged**


**Figure 58 Collecting Mode Screen**

When using the screen for manual operation of the tailgate or the ejection panel for example, a maximum actuation of 15 seconds is allowed. Over this period of time, the commands will stop. You just need to take your finger off the command and press and hold it again.

## COMPACTION

The compaction is performed by the auger. The red button on the joystick is to enter collection mode. In automatic mode, the auger is activated each time the lifting arm is raised.Manual actuation of the auger allows it to run forward or backward as needed. If manual commands are actuated while the automatic mode is still in operation, it will stop the current automated cycle.

As shown in the picture, the automatic mode is activated. This is the default mode and it should be used most of the time. The manual mode can be useful to empty the hopper if several bins are dumped at once and it needs more time for the auger to push material inside the body. It can also be used to move bulky material in the hopper. The ejector panel should be in retracted position and the trap door should be fully opened in order for the auger to be operational.This position is indicated by the blue indicator and green dot (see arrow), if this one is gray or the dot is white, the auger will not operate.


**Figure 59 Automated Mode**

**Figure 60 Auger**

**⚠ WARNING**

You always have visibility inside the hopper. It is your responsibility to verify that nothing or no one could make the operation dangerous for you, bystander or the equipment.

# SECTION 9
# ON-ROUTE OPERATION PROCEDURES

## DRIVING TO PICK-UP LOCATIONS

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

1. The tailgate is fully LOWERED (DOWN).
2. The TAILGATE is down and in lock position.
3. The eject panel is fully retracted.
4. The lift arm is in a transit position:
   a. The lift arm is fully STOWED.
   b. The grabber arm assembly is against the body and the grabbers are fully OPEN.
5. The mirrors are properly adjusted and clean.
6. ALL body lights operate correctly.

## USE OF CURB SIDE DRIVE

If equipped, drive from the curb-side driver position ONLY on the collection route. DO NOT use this station during travel to or from a route, landfill or transfer station.

## 4-BUTTON LIFT CONTROLS

Use the instruction that follow for either the standard 4-button controls or a remote (optional) 4-button control.

**⚠ CAUTION**

Grabbing a refuse container with too much pressure can damage the container. Pieces of the container can “fly” off the container and cause moderate or minor injury to a bystander. Use enough pressure with the grabber to raise the container with the lift arm and not damage the container.

**NOTICE**

Grabbing a refuse container with too much pressure can damage the container. The container can become unusable. Use enough pressure with the grabber to raise the container with the lift arm and not damage the container.

1. Use the 4-button control and MOVE the lift arm IN/OUT and UP/DOWN to position the grabbers to grip the refuse container.
2. Make sure the container is in the center of the grabbers. DO NOT use the tips of the grabbers to squeeze and lift the container.
3. PRESS the GRIP/RELEASE rocker switch to the GRIP position until the container is firmly secured with the grabber.
4. Use the 4-button control and move the lift arm with the UP/DOWN and IN/OUT functions until the lift arm is in position to unload the refuse container in the hopper.
5. Use the 4-button control and PRESS the DUMP/UNDUMP switch to the DUMP position to unload the refuse into the hopper.
6. After the refuse container is empty, use the 4-button control and PRESS the DUMP/UNDUMP switch to the UNDUMP position to rotate the grabber out of the hopper.
7. Use the 4-button control IN/OUT and the DOWN/IN switches to move the lift arm until the lift arm sets the refuse container on the ground.
8. Use the 4-button control and PRESS the GRIP/RELEASE switch to the RELEASE position to open the grabbers, releasing the refuse container.
9. Use the 4-button controls IN/OUT and the DOWN/IN switches and set the lift arm to the TRANSIT position. (You can do this while the packer operates.)
   - MOVE the lift arm fully DOWN and IN. This is the stowed position.
   - MOVE the grabber against the body and fully open the grabber with the RELEASE control.
10. Go to the next stop on the route.

## JOYSTICK LIFT CONTROLS

Use the instruction that follow for units equipped with joystick lift controls. See the image on the next page.

**⚠ CAUTION**

Grabbing a refuse container with too much pressure can damage the container. Pieces of the container can “fly” off the container and cause moderate or minor injury to a bystander. Use enough pressure with the grabber to raise the container with the lift arm and not damage the container.

**NOTICE**

Grabbing a refuse container with too much pressure can damage the container. The container can become unusable. Use enough pressure with the grabber to raise the container with the lift arm and not damage the container.

1. Use the joystick and move the lift arm with the UP, DOWN, IN and OUT functions by actuating the joystick until the lift arm is in position to grab the refuse container.
2. Press the GRIP button until the container is firmly secured with the grabber.
3. The joystick can be used to position the lift and grabbers to align with the container. Use the joystick to move the lift arm with the UP, DOWN, IN and OUT functions until the lift arm is in position to unload the refuse container.
4. Use the joystick and PRESS and hold the grip button to start Autolift and unload the refuse into the hopper.
5. After the refuse container is emptied, move the joystick to the down position to rotate the grabber out of the hopper.
6. Use the IN/OUT and the DOWN to move the lift arm until the lift arm sets the refuse container on the ground.
7. Press and hold the RELEASE button on the joystick to open the grabbers, releasing the refuse container and auto-stowing the lift arm.
8. Go to the next stop on the route.

## JOYSTICK LIFT CONTROLS (CONTINUED)

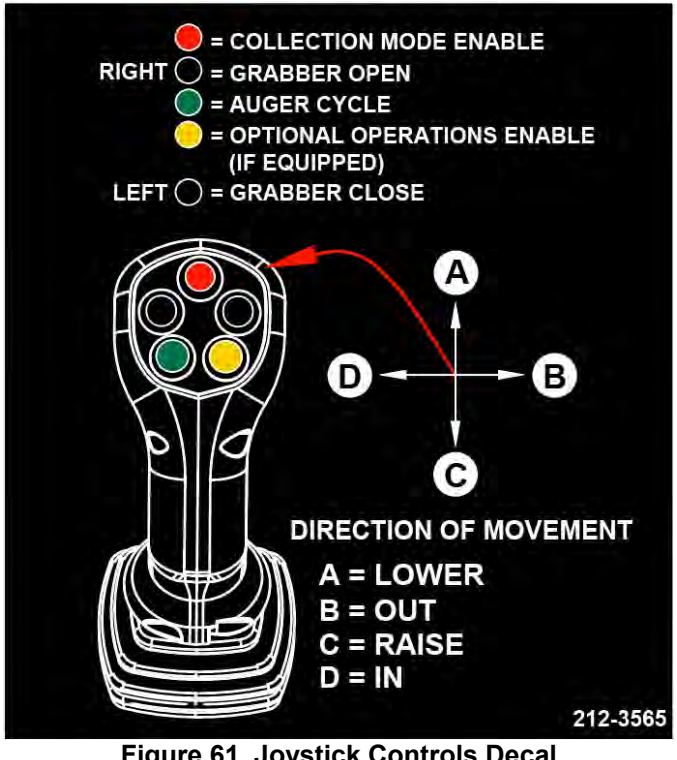



**Figure 61. Joystick Controls Decal**

## NOTES:

## AUTOLIFT MODE

To enable Aulolift Mode, follow the instructions below.

1. Press the Config Button.

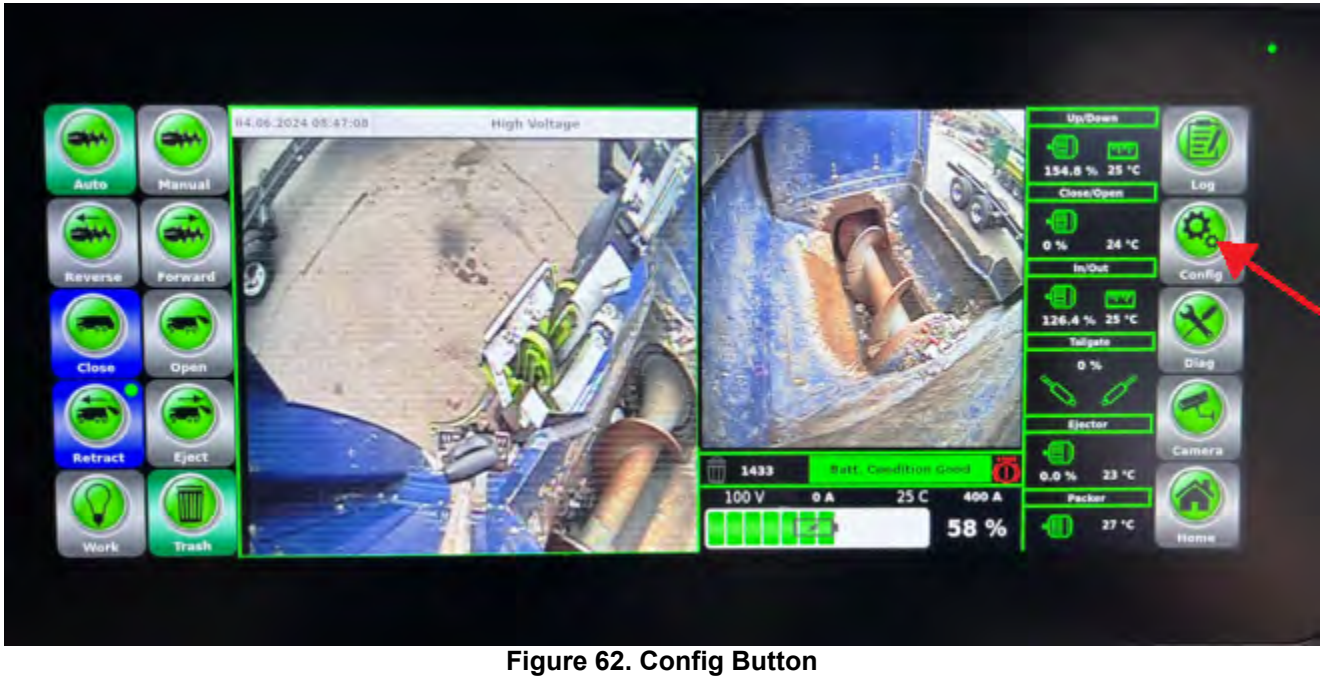



**Figure 62. Config Button**

## AUTOLIFT MODE (CONTINUED)

2. Press the **Arm** Button on the display screen.


**Figure 63. Arm Button**

## AUTOLIFT ENABLE (CONTINUED)

3. Check **Autolift Enable** on the display screen.
4. To invert the grabber buttons, check the **"Inverted"** box

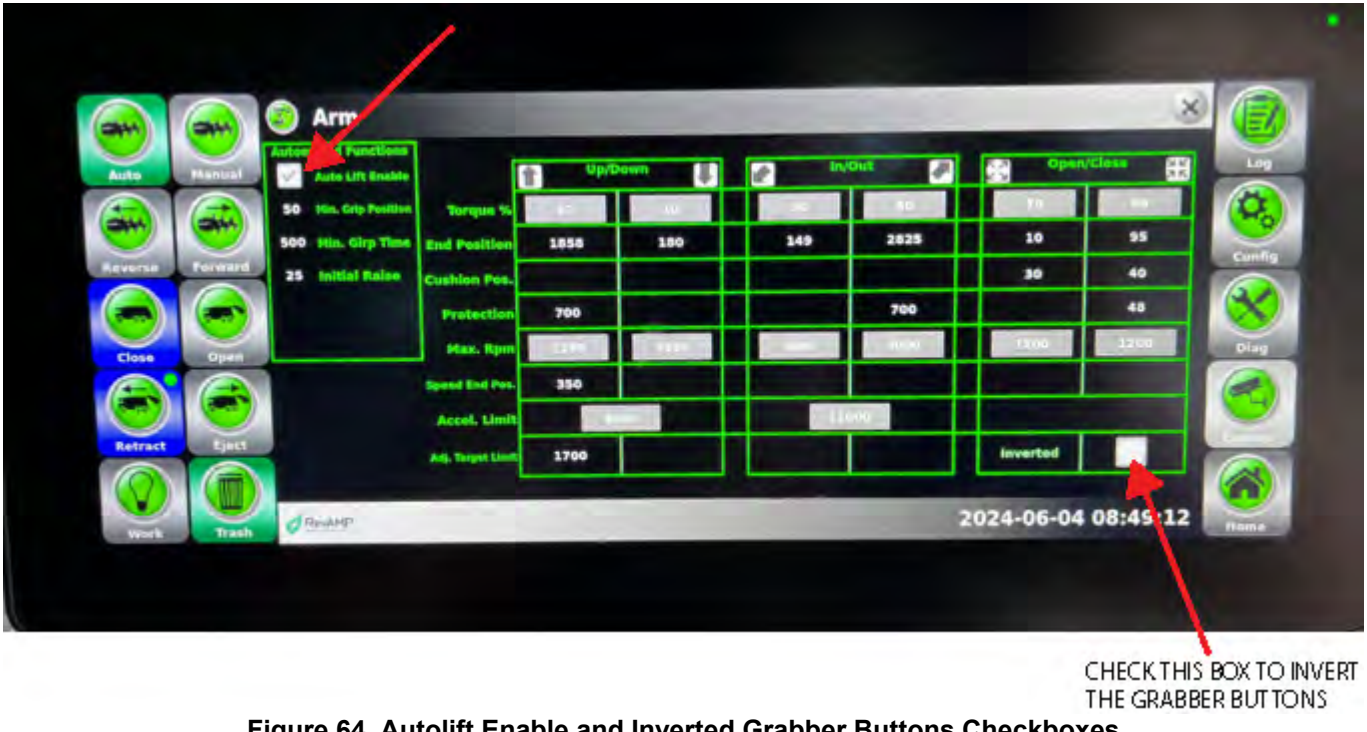



**Figure 64. Autolift Enable and Inverted Grabber Buttons Checkboxes**

## AUTOLIFT MODE

All the collection equipment controls are carried out from the monitor and the **Joystick** 90. An overall view of the monitor and its indicators is shown in the image below.

1. With Collection Mode ON, Position the grabbers to align with the cart.
2. Manually move the lift out by moving the joystick to the 3 o'clock position until positioned to grab the cart.
3. Then press and hold the grip button to start Autolift.
4. The arm will dump the cart.
5. After the cart has dumped, manually lower the lift by moving the joystick to the 12 o'clock position.
6. Then move the joystick to the 3 o'clock position to place the cart at the curb.
7. Then hold the grabber open button and the lift arm will release the cart and auto stow the lift arm.


**Figure 65. Auger Automatic Mode**

## AUGER AUTOMATIC MODE BUTTON

1. Auger manual mode selection on the display screen


**Figure 66. Auger Automatic Mode**

## AUGER MANUAL MODE

2. Auger manual mode selection on the display screen


**Figure 67. Auger Manual Mode**

## AUGER REVERSE BUTTON

3. Auger reverse button
   a. Manual mode only: press and hold the button on the display screen to reverse the auger manually.


**Figure 68. Auger Reverse Mode**

## AUGER FORWARD BUTTON

4. Auger forward button;
   a. Manual mode; press and hold to activate auger manually.
   b. Automatic mode: Press once to automatically start a compaction cycle.


**Figure 69. Auger Forward Mode**

## EJECTOR PANEL MANUAL REVERSE BUTTON

5. Ejector panel manual reverse button;
   a. Press and hold for manual retraction of the ejector panel;
      - Grey indicator shows that the ejector is not in working position (not fully retracted).

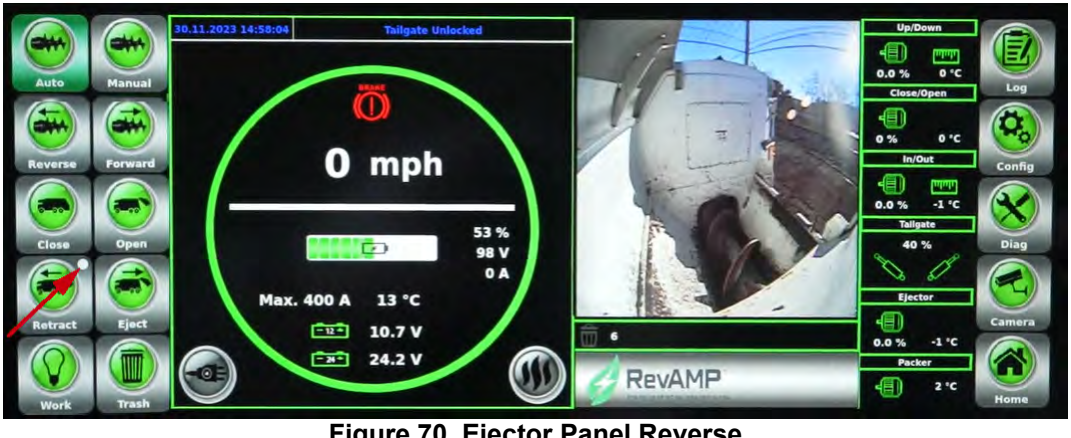



**Figure 70. Ejector Panel Reverse**


**Figure 71. Blue Indicator**

- Blue indicator shows the ejector is at its original position.
- White dot: Ejector trapdoor not fully close.
- Green dot: Ejector trapdoor fully close.

## EJECTOR PANEL FORWARD BUTTON

6. Ejector panel manual forward button
   a. Press and hold for moving the ejector panel rearward (toward the rear of the truck);
      - Grey indicator shows that the panel is NOT fully extended;
      - Blue indicator shows that the panel is at fully extended position;

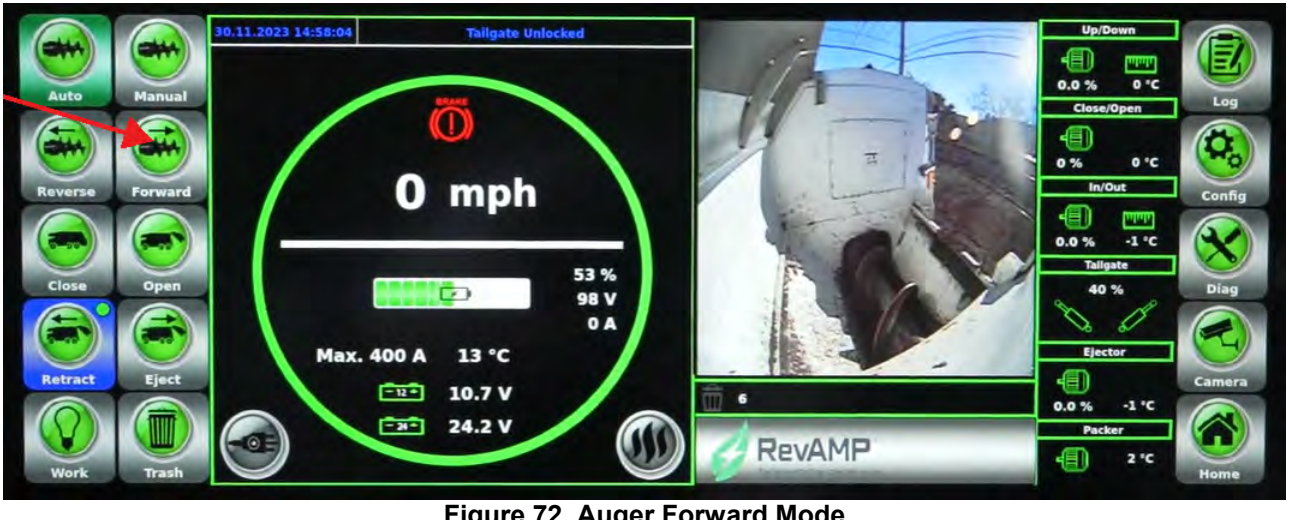



**Figure 72. Auger Forward Mode**

## TAILGATE OPEN BUTTON

7. Tailgate manual opening button, Tailgate pins must be removed before opening.
   a. Press and hold for unlocking and opening the tailgate
      - Grey color indicates when tailgate is NOT fully opened;
      - Blue color indicates when tailgate is fully open;

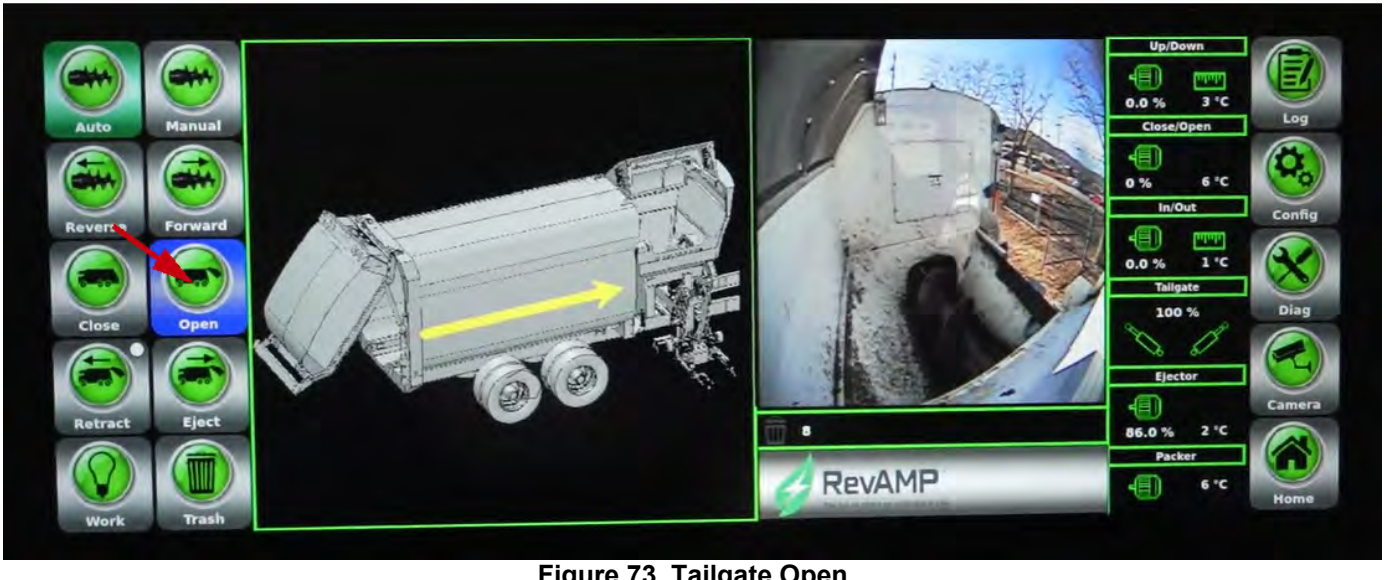



**Figure 73. Tailgate Open**

## TAILGATE CLOSE BUTTON

8. Tailgate manual closing button, after tailgate is closed replace locking pins.
   a. Press and hold for closing and locking the tailgate;
      - Grey indicator shows that the tailgate is NOT fully closed or locked;
      - Blue indicator appears when the tailgate is fully closed and locked;


**Figure 74. Tailgate Close**

## WORK LIGHTS BUTTON

9. Hopper and arm work lights control


**Figure 75. Work Light**

## COLLECTION MODE BUTTON

10. Collection mode indicator/Bin counter reset button
    a. Grey color indicates when NOT in collecting mode
        - At any time (even when not in collection mode), the arm can be retracted/lowered and stored. The grabber can be opened.
    b. Green color indicates when in collection mode
        - Lifting arm is fully operational
        - Rear strobe is flashing (optional)
        - Rear lights are alternatively flashing (X pattern)
    c. Side markers are flashing (Follows rear X pattern)

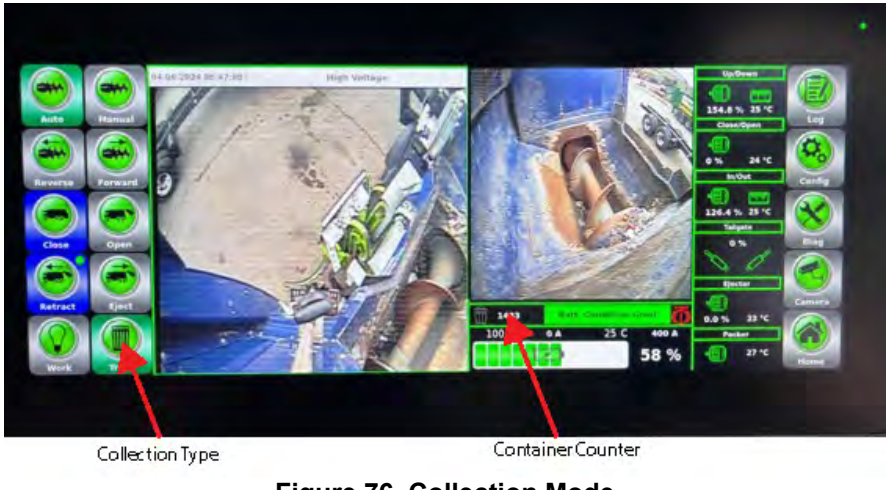



**Figure 76. Collection Mode**

NOTE: In collecting mode, the arms camera appears instead of the battery status.

## COLLECTION MODE BUTTON (CONTINUED)

10. Collection mode indicator/Bin counter reset button (continued)

d. Recycle collection mode


**Figure 77. Recycle Mode**

e. Organic collection mode

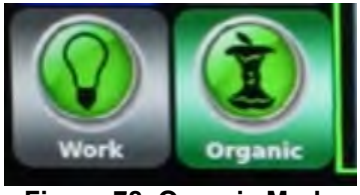



**Figure 78. Organic Mode**

## ALARM SCREEN AND ALL CAMERAS BUTTON

11. Alarm screen. Displays any error messages since last reset
12. Settings window access.(These settings are factory set.Only trained maintenance personnel shall have access.)
13. Status window access. (These settings are factory set.Only trained maintenance personnel shall have access.)
14. All cameras button
    a. Press once to activate all three cameras (hopper, arm and rear)
    b. Press again to turn off three camera mode


**Figure 79. Camera**

## MOTOR STATUS

15. Motor and encoder status. In this section you will find information about each motor and actuator.
    a. Motor status. There are three different colors possible:
        - GREY: Motor is not powered or in Pre-Operational mode. This state will be activated when an emergency stop is activated. NOTE: If after power up, a motor remains in GREY state, activate the System Power switch and release it to force drive reset.
        - RED: Motor is in alarm state.
        - GREEN: Motor is in normal state and functional.
    b. Encoder status. There are two different colors possible:
        - GREY: Encoder is not functional, not powered or there is no communication with it (CAN issue).
        - GREEN: Encoder is in normal state and functional.
    c. Position Values (%)
        - All functions have positioning values in %.

          NOTE: Auger has no value
        - Motor temperature (°C). Normal motor temperature must be lower than 130Â°C. Above 130Â°C, the motor will be yellow indicating that it is hot.Above160Â°C, there is an overheating condition. The motor will be red and won't be able to operate until it cools down.


**Figure 80. Motor Status**

## HOME SCREEN

16. Return to the main screen.


**Figure 81. Home Screen**

## CHARGING STATUS

17. Charging status

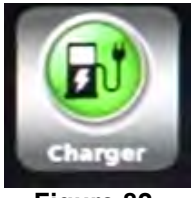



**Figure 82.**

a. Icon color: The charging icon is GREY when truck is NOT in charging mode. The charging Icon in yellow indicates that J1772 connector is plugged in but the vehicle is not charging. When charging starts, icon will be GREEN. Get behind the truck to make sure lights are flashing. This indicates that J1772 connector is connected to the charging port inlet. There is a hook located on the J1772 gun. That hook NEEDS to be properly locked to the inlet to allow the truck to charge.

b. To be sure the truck is charging when J1772 gun is connected, check that the hook is full engaged.

   (1) The icon on the screen needs to be GREEN.

   (2) 240V AC power outlet with 50A breaker to avoid breaker tripping issues after a few minutes/hours of charge

   (3) Lights at the back of the truck should be flashing:

   - When charging and battery is 0 to 24%, the lower right amber light will flash.
   - When the charge is between 25% and 49% the lower right amber light flashes and the lower left are on solid.
   - When the charge is between 50% and 74% the lower right amber light flashes and the lower left and upper left lights are on solid.

## CHARGING STATUS (CONTINUED)

- When the charge is between 75% and 99% the lower right amber light flashes and the lower left, upper left and upper right amber lights are on solid.
- When fully charged the amber lights are all on solid. The SOC may drop to 99% or 98% on the screen.

c. NOTE: Battery SOC shouldn't be kept at 100% for too long. It will shorten the lifespan of the battery. For a long period (a few days is considered as a long period) of non-use, we recommend keeping SOC at 40% to 80%. Good practice is to charge the truck only the day before it will be used. We can accept a full weekend of charging but even in this condition it is best to program the charging station correctly to start Sunday night.

## BIN COUNTER, DATE, AND ERROR

18. Collected bins counter.
19. Actual date & time.
20. Live error feedback. Really useful if you suspect something is wrong. This could indicate the problem.


**Figure 83.**

## MAIN SCREEN STATUS

21. Main screen status


**Figure 84. Main Screen**

a. Parking brake indicator
   - RED: parking brake is engaged
   - GREY: parking brake is released

b. Speed indicator
   - NOTE: If arm is out from home position, a full-screen alarm will occur.

c. Battery gauge: visual indication of battery SOC (State of Charge).
   - The circle around the area is normally GREEN. It's an indication that full current is available from the battery.

## MAIN SCREEN STATUS (CONTINUED)

21. Main screen status (Continued)

- Circle around the area could be YELLOW. Different conditions related to battery temperature/SOC could limit battery current and operation. If battery temperature is too low, the heating element will warm up battery pack to allow maximum current to be available. In all conditions, current consumption is monitored and may be limited to only one function at a time. An alarm will occur if the current used is over maximum limit and functions will be stopped to protect the battery.
- Circle around the area could be RED. This occurs as soon as the battery temperature is below the minimum battery operating temperature of 0°C. In this case, the truck will be completely inoperative until battery pack reaches a minimum temperature of 0°C. The battery pack is equipped with a battery-monitoring system (BMS). The BMS protects the battery at all times and is a completely independent controller. If the BMS is in error, circle will also be RED. An alarm will be displayed in the error box.See Figure

d. SOC (State of charge)

e. Battery voltage: This value will be different at full charge depending on the factory-installed battery. Nominal battery voltage is around 96V. It could reach a maximum of 113V fully charged.

f. Maximum current available.

g. Battery pack temperature. Battery pack is equipped with a heating element.

**NOTICE**

The unit must be plugged in, and **System Power** switch must be on and pulled up (NOT engaged) with its light illuminating in order for the battery to regulate its temperature within operating range.

- When the truck is not powered: Battery pack temperature is not monitored and controlled. Battery pack temperature will be as low as outside temperature. Minimum required battery pack temperature is 0°C. When the truck is charging with **System Power switch** pulled up (NOT engaged) with its light illuminating, battery pack temperature is monitored and controlled. Temperature will stay between 13 and 17°C. In winter, it is recommended to leave the truck connected at all times even if the battery is fully charged. It will keep battery pack warm using land power and not battery power. Thus, the truck will be ready to operate without having to consume battery energy to heat it up and limit its range.

## MAIN SCREEN STATUS (CONTINUED)

21.Main screen status (Continued)

- When the truck is working (chassis ignition on) and the System Power switch is pulled out (NOT engaged) with its light illuminating: Battery pack temperature is monitored and controlled. Temperature will stay between 10 and 15°C. When the body is almost empty and the auger is not requiring a lot of power, the battery pack may need to turn on the heating element if outside temperature is very low. When the body is almost full and the auger requires a lot of power, this power consumption will warm up the battery by itself.
- Actual current consumption. That value cannot be higher than the maximum current available. If that condition occurs, the BMS will open the main switch on charge. It will protect the battery pack but main switches may fail and not be able to close again.Battery pack servicing may be required. That should not happen under normal condition.
- Voltage reading from 12V DC to DC converter
- Voltage reading from 24V DC to DC converter.
- All motors on the body are High Voltage.

## BATTERY STATUS

22. Battery heater status

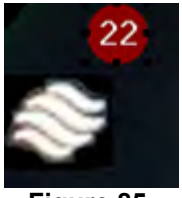



**Figure 85.**

a. Grey: Battery pack heater pad is off.
b. Orange: Battery heater pad is activated. Minimum battery temperature to reach: 59 ° F.

## ACHIEVING PAYLOADS

Read this section for advice and tips on how to pack the most efficient loads with your Heil RevAMP 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, Styrofoam, 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.

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

1. 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.)

## LEAVING THE ROUTE FOR THE LANDFILL/ TRANSFER STATION

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

1. The tailgate is fully LOWERED. Check the T/G UP light in the cab. It must be OFF.
2. Put the lift arm and grabber in the TRANSIT (or STOWED) position.
   - The lift arm is fully DOWN and IN.
   - The grabber is fully OPEN and against the unit's body.
3. The mirrors are properly adjusted and clean.
4. ALL body lights operate correctly.

**NOTES:**

# SECTION 10
# 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.

## OVERVIEW OF LANDFILL/TRANSFER STATION PROCEDURES

Use the following information as an overview of the steps to follow when you eject a load of refuse at the landfill. For each step in this overview, read and follow the detailed instructions that follow the overview:

1. Set the RevAMP unit in position for ejecting.

**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 RevAMP.

2. Fully RAISE the tailgate.
3. The ejector panel pushes the refuse from the body.
4. After the refuse empties from the body, the ejector panel retracts.
5. Fully LOWER the tailgate.
6. Prepare the unit to return to the route.

## SETTING UP THE UNIT FOR EJECTING

After you position the unit on firm ground for ejecting at the landfill, set it up properly before ejecting the refuse.

**Follow These Steps:**

1. Some suspensions allow more movement in the chassis than others. Always stop the unit on the most stable, hard, dry and level surface you can find before ejecting.
2. Shift the transmission to NEUTRAL.
3. Apply Parking Brake
4. Start the ejection process.

## EJECTOR

The ejection procedure can either be in automatic or in manual modes.Before launching the ejection, you must take the safety locking pins off the tailgate, failure to do so could result in equipment damages. You must be in ejection mode (not in collection mode) and if equipped make sure the tilting roof (option) is in the lowered position (this should be automatic when deactivating the arm). Once you are in a safe position to eject, simply press and hold the green joystick button to start the automatic ejection sequence (parking brake must be on) and then hold it until the tailgate is fully open. The auger will run for 3 turns in reverse direction. This is to prevent garbage from falling behind the ejection panel. The procedure will then start ejecting the load automatically. If you release the button before the tailgate is fully open, the automatic ejection sequence will pause.

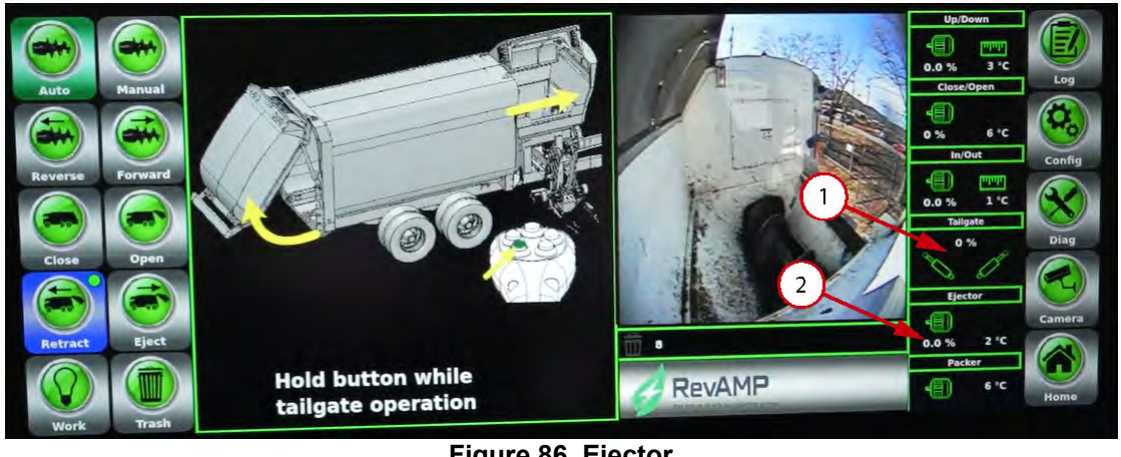



**Figure 86. Ejector**

At all time, opening percentage indicates the position of travel. For Example 0% is fully retracted, and % is fully xtended.

## EJECTOR (CONTINUED)


**Figure 87. Ejector Panel Starts**

When the tailgate is fully open, you must take off the parking brake and move the truck forward during ejection to ensure enough clearance to close the tailgate. The ejector panel goes all the way to the rear and comes back to the retracted position.

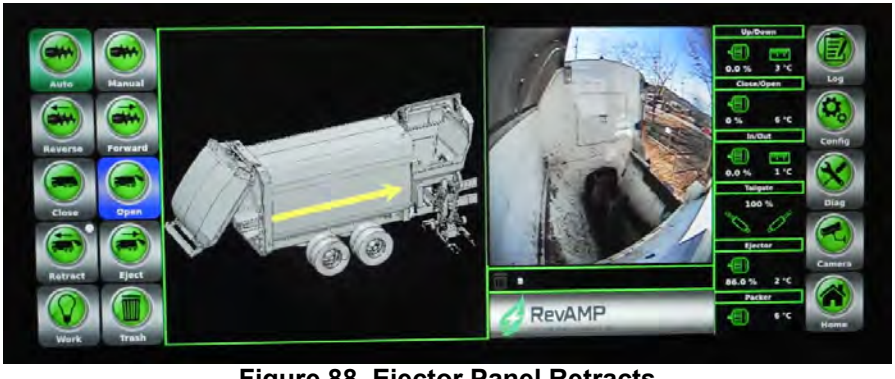



**Figure 88. Ejector Panel Retracts**

## EJECTOR (CONTINUED)


**Figure 89. Push When Ready**

Afterward, the auger will start pushing residual material inside the hopper. When the hopper is empty,simply press and hold the green joystick button for 2 seconds and the ejector panel will do another complete travel and stop at the rear.

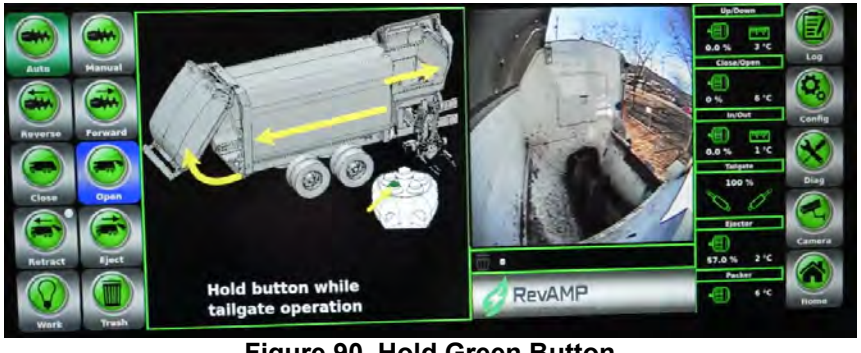



**Figure 90. Hold Green Button**

## EJECTOR (CONTINUED)

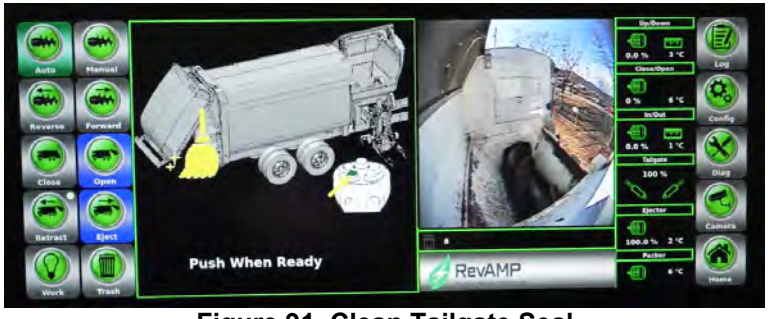



**Figure 91. Clean Tailgate Seal**

At this time, get out of the cab and go to the back of the body and check if the body is completely empty and remove any material hanging at the back of the body or on the ejector panel. Material trapped inside the juice traps will be cleaned at each body unloading.

**Note:** "Put cylinder props in place before cleaning around tailgate area".

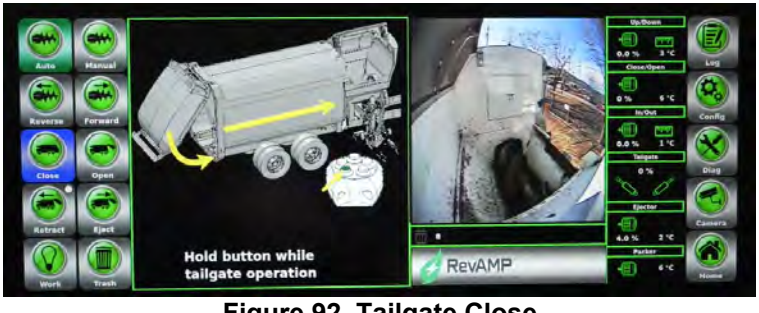



**Figure 92. Tailgate Close**

To retract the ejector and close the tailgate, simply push (again) the green button for 2seconds and then hold the button until the tailgate is fully closed.

## EJECTOR (CONTINUED)

When the procedure is completed, you can reinstall the tailgate safety locking pins.

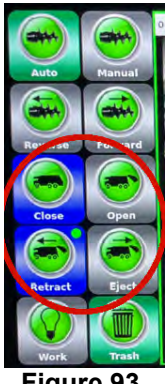



Figure 93.

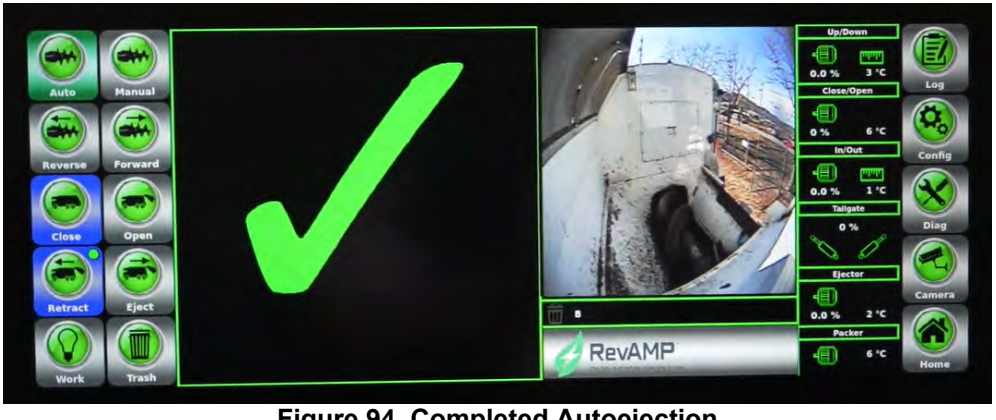



Figure 94. Completed Autoejection

The ejection procedure can be stopped at all times by pressing the emergency stop. If you do so, you will need to finish the procedure manually with the commands on the screen. Left buttons are for closing the tailgate and retracting the ejector and right ones are for opening the tailgate and eject the load.

## UNLOCKING AND RAISING THE TAILGATE

*Unlocking the Tailgate*

The tailgate is controlled by using the touch controls on the screen. It must always be in the closed position during collection mode. If maintenance needs to be performed on the tailgate or inside the body, it is important to follow a lockout/tagout procedure BEFORE performing any operation or maintenance. To open the tailgate, you must remove the tailgate locking pins, then press and hold the right button showing the tailgate in open position. To close the tailgate, press and hold left button. There is an indicator of the tailgate position on the screen. The number on the tailgate icon shows the opening percentage level of the tailgate. 0 means fully closed and 100 means fully opened. Before driving off, you must secure the locking pins on the tailgate to prevent the tailgate from opening in an unwanted situation. Those pins must be taken out before attempting to open the tailgate.

**Figure 95. Tailgate Locking Pins**


**Figure 96. Tailgate Controls**

*Raising the Tailgate*

1. Put the packer in the MANUAL mode - PRESS the AUTO PACK button to MANUAL.

**⚠ 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.

2. Exit cab and remove the tailgate locking pins
3. PRESS the TAILGATE OPEN/CLOSE switch to UP and HOLD the switch until the tailgate is COMPLETELY raised, which is about 30º above the body. See the figure on the next page.
4. RELEASE the switch.

**NOTICE**

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

## RAISING THE TAILGATE (CONTINUED)

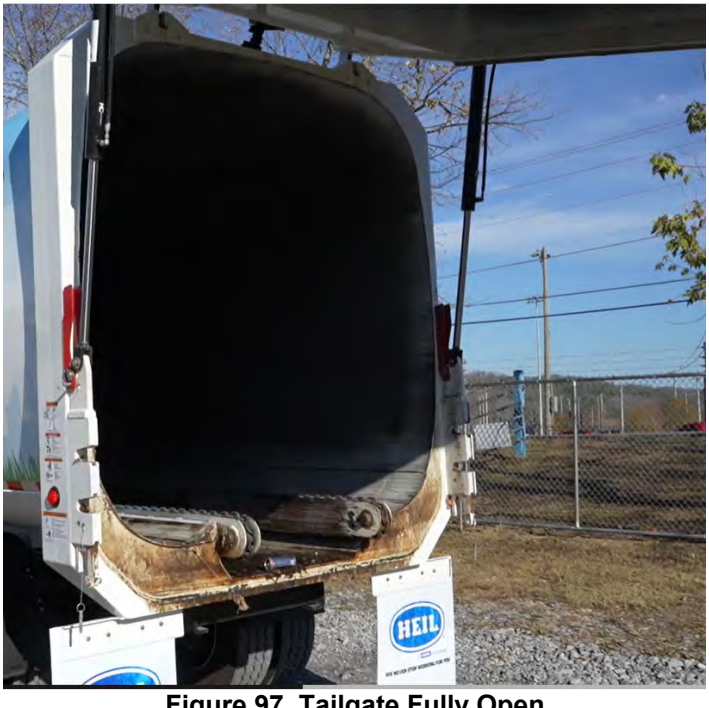



**Figure 97. Tailgate Fully Open**

## NOTES:

## CLEAN AND INSPECT THE TAILGATE SEAL

Before entering the area between the Tailgate and Body make sure the tailgate props are in the position shown below.

**Figure 98. Prop in Position to Clean 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 excessive wear or damage and replace if necessary. Report any excessive wear or damage to your supervisor.

**Figure 99. Clean Seal**

*Clean Out Hopper Sump*

A sump door is located on the front corner on each side of the body and needs to be open when cleaning out the sump area. A cleaning tool is provided with each unit to clean out the sump area. Clean out the sump area after unloading at the landfill. Be sure to close and latch BOTH sump doors when completed.

**Figure 100. Street Side Sump Door Open**


**Figure 101. Sump Door Closed**

**Figure 102. Curb Side Sump Door Open**

## LOWERING THE TAILGATE

**Follow These Steps:**

**⚠ 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.

1. PRESS the TAILGATE OPEN/CLOSE switch to the UP position and RAISE the tailgate sufficiently to rotate the props out of the prop pockets.
2. STORE the tailgate props.
3. PRESS the TAILGATE OPEN/CLOSE switch to the DOWN position and fully LOWER the tailgate until the tailgate flag is UP, then RELEASE the switch.

*Lock the Tailgate*

Replace the tailgate pins after tailgate is closed and locked.

Before continuing on route.

## REMOVE REFUSE FROM THE ENGINE AND EXHAUST AREAS

**NOTICE**

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

**NOTES:**

# SECTION 11
# END OF DAY PROCEDURES

## PREVIEW

Read this section to learn about:

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

## END OF DAY PROCEDURES

### *Parking the Unit*

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

### *Washout System*

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

### *Final Inspection*

Perform a final inspection of the unit:

1. Clear the area of all people.
2. Start the engine if it is not running.
3. Make sure all lights and in-cab control switches operate correctly.
4. Put the transmission in reverse while you press the service brake. The backup alarm should sound in the cab. If the alarm does not sound in the cab, report this to your employer/supervisor immediately.
5. Check the unit for fluid leaks from the hoses, cylinders, valves, pump and fittings. Report any leaks to your employer/supervisor.
6. Make sure all functions are in the home 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** 55.
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.

## CLEANING

Before performing the cleaning procedure, proceed to shut down as described in the **Lock-Out/Tag-Out Procedure** 53.

**VERY IMPORTANT:**

- Avoid directing any pressurized water at electrical components such as the electric motors, the encoder, the electrical panel, or the charger.
- Make sure to clean the trap door and the laser sensor behind the ejection panel. Failure to do so can cause systems to malfunction.

## CHARGING ELECTRIC BODY BATTERY

*Charging Information*

To charge the RevAMP battery it must be connected to a Level 2 EV Charger by definition, but it is not performing the actual charging. It acts as an interface between the facility power and the on-board charger. It must be J1772 certified. There are 2 devices on-board the body. There is a Charge Control Unit (CCU) and the actual charger that charges the battery. The body controller and imbedded software is used to control the CCU so that the actual charge parameters are congruent with battery configuration.


**Figure 103. Charging Port**


**Figure 104. Charging Port**

The RevAMP battery cannot be charged with the chassis battery and also cannot be charged with the charger used for the chassis battery because it is a level 3 charger. The rear Amber lights on the tailgate flash in a sequence, depending on the percentage of battery charge.

- When charging and battery is 0 to 24%, the lower right amber light will flash.
- When the charge is between 25% and 49% the lower right amber light flashes and the lower left are on solid.
- When the charge is between 50% and 74% the lower right amber light flashes and the lower left and upper left lights are on solid.
- When the charge is between 75% and 99% the lower right amber light flashes and the lower left, upper left and upper right amber lights are on solid.
- When fully charged the amber lights are all on solid. The SOC may drop to 99% or 98% on the screen. This is normal when the battery is fully charged and internal cells are self-balancing the voltage.

## CHARGING ELECTRIC BODY BATTERY (CONTINUED)

*Battery Charging Process*

The following process outlines steps to connect and charge the electric body battery. Please read through the entire process before beginning the charging process. For steps to decommission the chassis, please follow instructions provided by the respective chassis manufacturer. **The Heil Co. (Heil) makes no statements for or on behalf of any chassis system or chassis manufacturer – it is your responsibility to consult with the respective manufacturer for your chassis**.

**NOTICE**

The unit must be plugged in, and **System Power** switch must be on and pulled up (NOT engaged) with its light illuminating in order for the battery to regulate its temperature within operating range.

*Connecting Power Cord to Activate Charging*

1. Plug generic charging cord into power outlet.
2. Locate the Battery Disconnect between cab and body on the Street Side of the truck, move switch to the “ON” position. The light will turn on as in the top right figure on this page.
3. In the cab, Place and verify that the System Power switch in the UP Position. If it is in the UP Position with the Chassis Key in the OFF. See the bottom right figure on this page.

**Figure 105. Battery Disconnect**


**Figure 106. System Power Switch**

## CHARGING ELECTRIC BODY BATTERY (CONTINUED)

*Connecting Power Cord to Activate Charging (Continued)*

4. Find the J1772 RECEPTACLE charging port located on the street side of the body and open cap.


**Figure 107 Charging Port**


**Figure 108 Charging Port**

5. Before insertion, Verify correct orientation of the charging plug by matching the placement of the pins from plug to the corresponding holes on the charging port.
6. Once Verified, insert plug into the J1772 RECEPTACLE.

**Figure 109 Charging Port**

**Figure 110 Charging**

When the Charging Plug is correctly connected, the electric body will automatically activate the charging sequence.

## CHARGING ELECTRIC BODY BATTERY (CONTINUED)

The display screen in the cab should show a green plug icon in the lower left-hand side, and the charging amps will show on the right-hand side measuring above 0 A.


**Figure 111 Charging Screen**

## NOTES:

# SECTION 12
# PREVENTIVE MAINTENANCE CHART

## BODY PREVENTIVE MAINTENANCE CHART

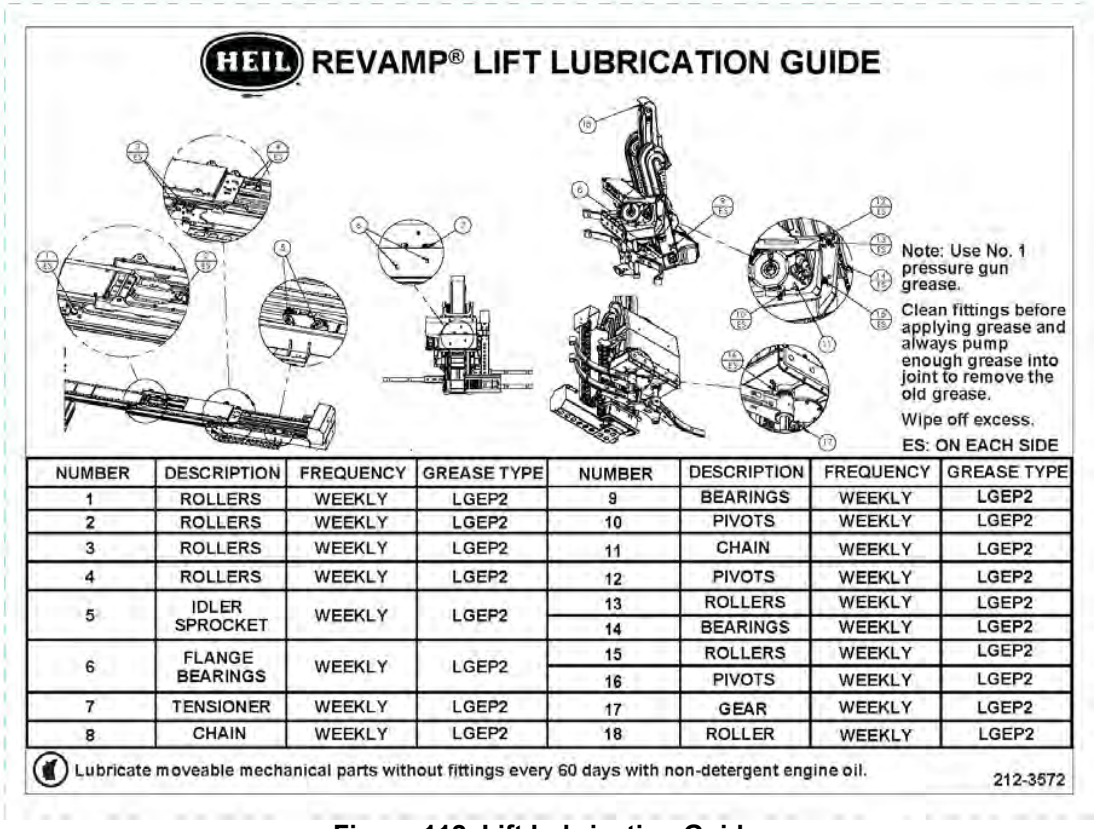
Preventive maintenance must be performed to ensure the safe and reliable operation of your unit. Use the chart below as a guideline for when essential items should be checked and serviced.

| *HOURS OF OPERATION | | | | | | |
|---|---|---|---|---|---|---|
| **COMPONENT/SYSTEM** | **8** | **40** | **200** | **1000** | **2000** | **CHECK/SERVICE** |
| Tailgate Hydraulic System Only used to Raise and Lower Tailgate | ☑ | | | | | Check oil level, the reservoir is located above the tailgate, add if necessary |
| | | ☑ | | | | Check tailgate cylinders, hoses, and fittings for leaks. |
| Electrical, Battery Cables | ☑ | | | | | Check for proper operation. |
| | | ☑ | | | | Check battery cables from battery to starter for loose cables, rubbing or damage and abrasions to cables. Replace if necessary. |
| Operator Controls | ☑ | | | | | Check for correct operation. |
| Grease Fittings | | ☑ | | | | Lubricate as shown on Body Lube Chart. |
| Body Undercoating | | | | | ☑ | Inspect body undercoating and repair as necessary. |
| Tailgate Seal Integrity | ☑ | | | | | Check for damage. |
| *** Daily = 8 hrs. Weekly = 40 hrs. Monthly = 200 hrs. 6 Months = 1000 hrs. Yearly = 2000 hrs.** | | | | | | |

# SECTION 13
# LUBRICATION GUIDE

## LIFT LUBRICATION GUIDE

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




| NUMBER | DESCRIPTION | FREQUENCY | GREASE TYPE | NUMBER | DESCRIPTION | FREQUENCY | GREASE TYPE |
|---|---|---|---|---|---|---|---|
| 1 | ROLLERS | WEEKLY | LGEP2 | 9 | BEARINGS | WEEKLY | LGEP2 |
| 2 | ROLLERS | WEEKLY | LGEP2 | 10 | PIVOTS | WEEKLY | LGEP2 |
| 3 | ROLLERS | WEEKLY | LGEP2 | 11 | CHAIN | WEEKLY | LGEP2 |
| 4 | ROLLERS | WEEKLY | LGEP2 | 12 | PIVOTS | WEEKLY | LGEP2 |
| 5 | IDLER SPROCKET | WEEKLY | LGEP2 | 13 | ROLLERS | WEEKLY | LGEP2 |
| | | | | 14 | BEARINGS | WEEKLY | LGEP2 |
| 6 | FLANGE BEARINGS | WEEKLY | LGEP2 | 15 | ROLLERS | WEEKLY | LGEP2 |
| | | | | 16 | PIVOTS | WEEKLY | LGEP2 |
| 7 | TENSIONER | WEEKLY | LGEP2 | 17 | GEAR | WEEKLY | LGEP2 |
| 8 | CHAIN | WEEKLY | LGEP2 | 18 | ROLLER | WEEKLY | LGEP2 |

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

212-3572

**Figure 112. Lift Lubrication Guide**

## BODY LUBRICATION GUIDE

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


| REF NO. | DESCRIPTION | QTY. | FREQUENCY | GREASE |
|---|---|---|---|---|
| 1 | Hinges | 1 | Weekly | LGEP2 |
| 2 | Hinges | 1 | Monthly | LGEP2 |
| 3 | Driving Shaft Bearings | 1 | Monthly | LGEP2 |
| 4 | Idler and Brush | 1 | Monthly / Weekly | LGEP2 |
| 5 | Auger/Slew Bearing | 1 | When Tank is Low | LGEP2 |
| 6 | Shaft Seal | 1 | 6 Months | LGEP2 |
| 7 | Driven Shaft Bearings | 1 | 6 Months | LGEP2 |

**Figure 113. Body Lubrication Guide**

**NOTES:**

## N



## O



## P



## R



## S



## T



## U



## W

# HEIL ENVIRONMENTAL WARRANTY STATEMENT

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

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

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

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

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

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

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

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

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**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