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MANUAL OVERVIEW

The New Way Diamondback Rear Loaders were designed to work hard and withstand the rigors of daily use. The forces used on the packer to compact refuse are accomplished with hydraulic pressure which is created and then directed through hoses to the packer panel. Extreme care and safety practices need to be used at all times while operating the packer.

**NOTE:** THE OWNER IS RESPONSIBLE TO REQUIRE ALL EMPLOYEES ASSOCIATED WITH THIS UNIT TO READ AND THOROUGHLY UNDERSTAND ALL INSTRUCTIONS CONTAINED WITHIN.

Publication of these safety precautions does not imply and should not be considered an all inclusive list. It is the operator’s responsibility to learn and follow the proper operational procedures that are in accordance with all safety codes and the requirements including the American National Standards Institute (ANSI) requirements and the Occupational Safety and Health Act (OSHA) regulations. *ANSI Z245.1-2007* has been released and should be followed. Failure to operate this machine correctly or failure to heed warnings in this manual or on the safety decals may cause **DEATH** or **DISMEMBERMENT** to the operator, coworkers or bystanders.

**WARNING**

As you read this manual you will see the above graphics appear to alert the operator or mechanic of specific issues concerning a particular operation. Operators and maintenance personnel shall read and comply with the instructions carefully. Compliance and common sense are crucial for the safe operation of these units. **WARNING** denotes hazards or unsafe practices which COULD result in SEVERE personal injury or death. **CAUTION** denotes hazards or unsafe practices which COULD result in MINOR personal injury or property damage. **DANGER** denotes immediate hazards which WILL result in personal injury or death. **NOTE:** will also appear and is followed by information that will clarify or provide emphasis to a certain point in the manual.

**PRIOR TO START UP**

**NOTE:** **DO NOT** START OR OPERATE ANY EQUIPMENT THAT IS MALFUNCTIONING. **KNOW WHERE TO GET HELP IN CASE OF AN EMERGENCY.**

1. Scranton Manufacturing Company, Inc. (SMC), recommends that, at a minimum, operators wear steel toed safety shoes, OSHA approved safety glasses and gloves. SMC also recommends that operators do not wear any jewelry on their wrist or hands. Loose clothing that could catch on operating levers or moving components of the packer should be avoided.
2. Do not operate any machinery while under the influence of drugs or alcohol.
3. Before operating this refuse packer, the operators must be properly instructed and trained to be a qualified operator. They must be familiar with all danger caution and warning decals, warning devices, hand signals and traffic rules.
4. Do not operate any equipment without proper instruction and training.

**NOTE:** A GOOD SOURCE FOR TRAINING IS “COACHING THE REFUSE TRUCK DRIVER II” FROM “NATIONAL SOLID WASTES MANAGEMENT ASSOCIATION” WASHINGTON, DC. CALL **(800) 424-2860** FOR PRICING INFORMATION.
**PRE-OPERATION INSPECTION CHECKLIST**

1. Placement and readability of decals.
2. Fluid leaks.
3. Mounting hardware in place and fastened tightly.
4. No metal fatigue or cracks in the welds.
5. Hydraulic fluid reservoir at recommended level with cylinders retracted.
6. All operation controls function correctly.
7. All debris removed from under and behind ejection panel and all areas around packing cylinders.
8. All debris removed between cab and packer body.
9. All safety and running lights functioning.
10. Engine warmed up according to manufacturer’s instructions.
11. Accelerator buttons are operational.
12. Driver alarm signal is functioning correctly.
13. Packing cycle operates properly.
14. Backup and tailgate ajar alarms are working correctly.
15. A fully charged and operational fire extinguisher is in the cab.
16. All problems have been reported to authorized personnel.

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Inspector’s Signature:____________________
Date of Inspection:____________________
5. Inspect the packer body using a checklist similar to the list on the previous page.
6. Inspect the chassis in accordance with the chassis manufacturer’s guidelines.
7. Make sure all obstructions and people are clear of the unit.
8. Inspect all lights and the backup and tailgate ajar alarms.
9. Check all mounting bolts, cylinder pins and other fasteners for placement and tightness.
   a. Adjust or replace as necessary with the same grade and size.
10. Any malfunctions should be reported to a supervisor or mechanic. Before walking away from a malfunctioning unit do the following:
    a. Set the parking brake
    b. Disengage the power take off (PTO)
    c. Turn off the engine
    d. Remove the ignition key and put it in your pocket.
11. Any service work completed on the unit should be done with the proper tools and procedures as outlined in this manual. Only authorized personnel should attempt the repair work. Use ONLY proper replacement parts on the unit.
12. If the height of your unit is altered, correct the overall height and make sure this height plus 3 inches is noted on the decals.
13. Thoroughly understand the functioning of every operating control. Be aware of the function and location of every instrument, control, gauge and protective device.

**HYDRAULICS**

1. Hydraulic fluid flows through at a very hot temperature and can cause burns.
2. Do not touch cylinders, piping or hoses to protect yourself from such burns.
3. When checking for hydraulic fluid leaks never use your hands since escaping hydraulic fluid can cause injuries.

**DANGER**

**HIGH PRESSURE INJECTION OF HYDRAULIC FLUID INTO THE BODY MAY CAUSE GANGRENE AND/OR DEATH.**

**FIRE PROTECTION**

1. Always have a fire extinguisher available and check it monthly to ensure it is full and operable.
2. Never have an open flame around flammable materials.
3. Never load smoldering ashes into your packer because they could ignite the refuse.
4. Thoroughly check all hydraulic hoses and tubing for wear that many cause leaks.
5. Repair all hydraulic leaks immediately.
6. Remove any debris that is near the vehicle exhaust system.

**HOUSEKEEPING**

1. Keep driving area as well as steps and handrails clean and free of debris and grease.
2. Any highly combustible material such as paper or cardboard should be stored in metal containers clear of flames or sparks.
3. Make sure any maintenance equipment, etc., are kept away from packer controls so no accidental activation takes place.
INTRODUCTION

DIAMONDBACK REAR LOADERS

SHUTDOWN

1. Put all controls in the neutral position.
2. Set the parking brake
3. Disengage the PTO
4. Shut off the accelerator cab switch.
5. Shut off any accessory switches such as work lights, strobe or beacon lights.
6. Shut off the engine.
7. Remove the key.
8. Lock the vehicle.

CONTROL LOCATIONS

1. Automatic accelerator
2. Slide control lever
3. Sweep control lever
4. Container handling control levers (optional)
5. Hook break away
6. Cable hook
7. Fire extinguisher
8. Tailgate fully closed when arrows aligned
9. Safety prop with instructions for use (one on each side)

a. Rear Accelerator
b. Driver Alert
c. Emergency Stop

Hook and Safety Latch
1. Know the location of all controls for the packer unit as well as instruments, gauges and protective devices before attempting operation of the unit.
2. Refer to the chassis manufacturer’s manual for safety precautions for the chassis.
3. Before operating the unit, proper safety equipment such as protective shoes, safety glasses, appropriate gloves and a safety vest should be worn.
4. Always ensure that coworkers and/or bystanders can be seen and are in a safe position before moving the unit or operating controls of the unit.
5. All access doors and service opening covers must be latched and maintained while unit is in operation.
6. Personnel are prohibited from riding on any specified riding platforms or steps if vehicle speeds will exceed 10 MPH or if the vehicle will be travelling further than 0.2 miles without stopping.
7. Before travelling in reverse, ensure no obstructions or coworkers are behind the vehicle. Use a guide if moving in reverse for more than 10 feet and know what the local ordinances are for travelling in reverse.
8. Do not use hoses or controls for hand holds.
9. All hydraulic pressure and electrical programming including overspeed and accelerator settings are set at the factory and should not be modified without the express authorization of the Customer Service Manager or the Chief Engineer at SMC or the warranty will be voided. Modifications can cause serious injury or serious damage to the unit.
10. Damaged Safety or Operational decals should be replaced immediately. Contact SMC Parts department for replacement decals. 1-800-831-1858
The new way Diamondback was created to safely and efficiently load, compact, transport and unload refuse. The following pages will give a basic idea of how this is accomplished.

**LOADING**

With the packer body empty, the ejection panel should be positioned at the rear of the packer. The first step is to load the refuse into the hopper of the packer. The slide and sweep should be in the closed position. Refuse can be loaded by hand or by containers.

**USING A DUMPSTER TYPE CONTAINER**

**ATTACH:**
Attach the container to the loader by latching it to the guide ears.

**DUMP:**
The container is then raised and its contents are emptied into the hopper.

**DISCONNECT:**
After being emptied the container is lowered to the ground and the latch arms are released before moving the truck forward.

More container options will be discussed in the OPERATION section of the manual.
SAFETY FIRST

1. Notify SMC of any malfunction that could be unsafe for the operator. SMC’s address and phone information is on the front cover of this manual.
2. Ensure the backup alarm is working properly.
3. Never dismount any part of the vehicle when it is in motion.
4. Use of the container handling cables or chains for pushing or towing with the unit is prohibited.
5. Immediately stop the unit if the tailgate ajar system light comes on.
6. Never step on the throttle if the accelerator system is activated.
7. To prevent unwanted engine speedup if the tailgate slide panel control lever is shifted, keep the main accelerator switch in the cab in the “off” position when parked or between pickups.
8. All tailgate locks must be fully engaged before starting to load the packer.
9. Safety glasses or a full face shield should be used when trying to dislodge material.
10. Stay clear of any pinch points. Never place hands, body, head, arms, finger or limbs where moving parts may cause Death or Dismemberment.
11. Do not use the unit to transport containers from one location to another.
12. Set the parking brake before handling a container.
13. Raise the container slowly and smoothly.
14. Always read and follow all container decals and container manufacturer’s information on accepted usage practices.
15. Inspect all containers for safe and usable condition. Repair as needed.
16. In cold weather ensure the container is not frozen down.
17. Stand clear and never cross under a raised container.
18. Center the container on the attachment and ensure enough overhead clearance before dumping.
19. If debris needs to be cleaned from the container, first make sure the container is firmly on the ground. Use a probe or other appropriate tool to dislodge debris.
20. Never use hands to clean a container and never position any part of the body between the container and the unit.
21. Place the container on a flat level surface and detach before moving the vehicle.
22. The hopper should never be loaded above the load sill and refuse should never extend outside of the hopper when packing.
23. Never load refuse into the hopper once the packing cycle has been initiated.
24. Allow the sweep and slide panel control handles to shift automatically.
25. The edge of the sweep should not be used as a cutting tool.
26. If the sweep cannot clear all the refuse in the hopper, stop the sweep panel in its downward stroke before crushing glass bottles or similar items.
27. Use only containers that are compatible with New Way container attachment.
28. Do not use nonstandard or damaged trunnion bars.
29. Lock both arms before lifting container.
30. Do not attach the hook to any lift point which will not be completely encircled by the hook with the hook safety latch closed.
31. When using an eye type container attachment point, the base of the hook must be positioned to lift on the inside of the eye.
32. When not in use attach the hook to the hook breakaway on the tailgate and eliminate slack before moving the vehicle.
33. Do not hold the hook while eliminating the slack in the cable.

**COMPACTION**

After the refuse is loaded into the hopper, the operator initiates the packing cycle. During this cycle the slide and sweep panels move rearward over the load. The slide and sweep panels automatically stop at the “interrupted cycle” position.

Prior to proceeding to the next step, the operator must visually inspect the load sill for any obstructions and/or personnel.

After the “interrupted cycle” position is reached the operator must activate the packing cycle again. When the operator does this the slide and sweep panels move forward sweeping the refuse from the hopper up and into the body and packs it against the ejection panel. When the cycle is completed the slide and sweep panels come to rest in the “closed” position and the hopper is ready to accept more refuse.
While compaction is occurring, the hydraulic pressure is being applied to the cylinders that move the slide and sweep panes. This results in a highly compacted load and allows for a large refuse capacity.

The ejection panel is equipped with a back pack function that allows the panel to move forward automatically.

**UNLOADING**

**NOTE:** Ensure over head clearance before lifting tailgate.

To begin the unloading process release the tailgate locks and slowly and smoothly raise the tailgate. Once the tailgate is fully raised move the ejection panel to the rear of the body. This will push the load from the packer.

Return the ejection panel to the “forward” position. The tailgate can now be lowered and locked to the body.
SAFETY FIRST

1. When unloading, cycle the sweep/slide panel to the “fully packed” position to clear the hopper of all refuse before raising the tailgate to prevent the center of gravity from shifting to a point behind the rear axle.
2. Do not attempt to unload the packer uphill, against a bank or hill or against a pile of garbage.
3. Warn others of your intent before raising or lowering the tailgate.
4. The tailgate should be raised and lowered in a slow and smooth manner.
5. Never stand or cross under a raised tailgate.
6. Do not move the unit with the tailgate raised unless needed to assist in unloading of the packer.
7. The following minimal Lockout/Tagout procedure must be completed before entering into or under any part of the packer.
   a. Park on level surface
   b. Engage the emergency/parking brake
   c. Disengage the PTO, pump controls, and accelerator switch and place all control handles in the neutral position.
   d. Shut down the engine and remove the keys.
   e. Place the keys in your pocket
   f. Attach a “DO NOT OPERATE” tag or cover on the steering wheel.
   g. Chock the wheels

NOTE: A FULL LOCKOUT/TAGOUT PROCEDURE IS EXPLAINED FURTHER IN THE SAFETY SECTION OF THIS MANUAL.

8. This manual in it’s entirety is to be considered a permanent part of the equipment. In the event there is a transfer of ownership the manual should be included or transferred with the equipment.
9. SMC must be notified of the name and address of the new owner in order to make the new owner aware of any safety or service bulletins issued. SMC contact information is on the cover of this manual.
# SAFETY

## DIAMONDBACK REAR LOADERS

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### FOR COMPLETE DECAL KITS

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- **A**
  - Logo
- **B**
  - White Reflective Sheeting
- **C**
  - Red/White Reflective Sheeting
- **D**
  - Serial Number Riveted
DRIVING THE DIFFERENCE

DIAMONDBACK REAR LOADERS

SAFETY

9
PART # 101438

10
PART # 110826
PART # 110829

Red Reflectors

11
PART # 110827
PART # 110828

Amber Reflectors

12
PART # 110827
PART # 110828

13
PART # 101437

15
PART # 105207

14
PART # 101423

WARNING

COMPACTOR SAFETY RULES

If improperly used, this equipment can cause serious injury. It is to be operated only by authorized, fully trained, qualified personnel who are aware of the dangers and follow these safety rules.

- Operating the equipment without proper training can cause serious injury.
- Do not operate the equipment if you are under the influence of alcohol or drugs.
- Always wear appropriate personal protective equipment, including headgear, eye protection, and hearing protection.
- Do not operate the equipment if the operator is fatigued or if the equipment is damaged.
- Only use the equipment for its intended purpose.
- Do not modify the equipment in any way.
- Always follow the manufacturer's instructions.
- Regularly inspect the equipment for damage and wear before each use.
- Do not operate the equipment in hazardous environments.
- Do not allow children or unauthorized personnel to operate the equipment.
- Keep the equipment clean and well-maintained.
- Do not operate the equipment near flammable materials.
- Do not operate the equipment under wet or slippery conditions.
- Do not operate the equipment in areas where there is a risk of explosion.
- Always stop the equipment immediately if you notice any abnormality.
- Do not attempt to repair the equipment yourself.
- Always follow the manufacturer's recommendations for maintenance.
- Do not operate the equipment if the weather conditions are hazardous.
- Do not operate the equipment if there is any risk of electrical hazards.
- Do not operate the equipment if there is any risk of mechanical hazards.
- Always follow the manufacturer's instructions for all safety features.
- Do not operate the equipment if there is any risk of chemical hazards.
- Do not operate the equipment if there is any risk of biological hazards.
- Always follow the manufacturer's instructions for all safety features.
- Do not operate the equipment if there is any risk of physical hazards.
- Always follow the manufacturer's instructions for all safety features.
- Do not operate the equipment if there is any risk of psychological hazards.
- Always follow the manufacturer's instructions for all safety features.
- Do not operate the equipment if there is any risk of social hazards.
- Always follow the manufacturer's instructions for all safety features.
- Do not operate the equipment if there is any risk of economic hazards.
- Always follow the manufacturer's instructions for all safety features.
- Do not operate the equipment if there is any risk of legal hazards.
- Always follow the manufacturer's instructions for all safety features.
- Do not operate the equipment if there is any risk of political hazards.
- Always follow the manufacturer's instructions for all safety features.
- Do not operate the equipment if there is any risk of environmental hazards.
- Always follow the manufacturer's instructions for all safety features.
SAFETY

DIAMONDBACK REAR LOADERS

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PART # 101434

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PART # 101110

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PART # 101439

20
PART # 105208

21
PART # 101445

22
PART # 101424

23
PART # 101430

24
PART # 101425

25
PART # 110422

26
PART # 110423

27
PART # 110424

DANGER
STAND CLEAR OF LOADER ARM(S) WHEN IN OPERATION.

WARNING
PERSONAL INJURY MAY OCCUR IF YOU FAIL TO FOLLOW THESE INSTRUCTIONS
• PERFORM LOCKOUT/TAGOUT BEFORE CLIMBING LADDER, OR BEFORE ACCESSING THE ROOF OF THIS UNIT.

CAUTION
STAND CLEAR WHEN CONTAINER IS BEING LIFTED

NOTICE

Operator Responsibility:
1. Inspect footing steps before each use.
2. Make sure steps are secure.
3. Never ride on damaged, bent or broken steps.
4. Notify supervisor if steps need repair.
5. Keep step clean of all debris.
6. Make sure steps are clean of grease or stick material before using.

Tips for Repair:
1. Never make a temporary repair on steps that have major damage.
2. Make step damage should be replaced with original equipment steps.

ACCEL ON
DRIVER ALERT
PTO KILL
SAFETY

DRIVING THE DIFFERENCE

DIAMONDBACK REAR LOADERS

28
PART# 101428

WARNING
DO NOT USE RIDE ON STEPS WHEN THE
VEHICLE IS EXCEEDING 10 mph (10 mph)
OPERATING IN REVERSE, OR WHEN DISTANCE
TRAVERED EXCEEDS 0.3 km (0.2 mi). DO NOT
MOUNT OR DISMOUNT STEP WHEN VEHICLE IS
IN MOTION. RIDE FACING THE SIDE OF THE
VEHICLE WITH BOTH HANDS ON HAND HELD.

29
PART# 101426

DANGER
PINCH POINT
STAND CLEAR WHEN
PACKER PANEL IS
IN MOTION

30
PART# 112838

CART TIPPER
KICK BAR
WINCH

31
PART# 101422

READ ALL OPERATIONAL MANUALS
BEFORE OPERATING THIS MACHINE

PULL TO PACK
PACKER PANEL

32
PART# 101442

33
PART# 122637

PULL TO RAISE TAILGATE
SAFETY

DIAMONDBACK REAR LOADERS
LOCKOUT/TAGOUT PROCEDURES

NOTE: Proper repair and servicing is important to keep your equipment operating at peak efficiency. Some of these procedures require special tools and procedures. Using improper tools can be dangerous to the person using them. Any modifications must be made in accordance with ANSI Z245.1-2007. Deviating from these standards could cause damage to the user and operators.

Call SMC with any questions or concerns.

LOCKOUT: To render safe and isolate all energy sources.

1. Shut down all power sources.
   a. Turn off the truck engine and remove the ignition keys.
   b. Turn off any auxiliary engines or power sources and remove the keys.
   c. Turn off any electric power source and turn off the power panel. Turn off the main breaker. Lock out the power panel and the main breaker and remove the keys.
   d. Lock the battery shut off in the “off” position if so equipped.

ALL KEYS MUST BE PLACED IN YOUR POCKET.

IF MORE THAN ONE SET OF KEYS EXISTS FOR YOUR VEHICLE, OBTAIN ALL SETS AND ALSO PLACE THEM IN YOUR POCKET.

NO OTHER PERSONNEL SHOULD HAVE ACCESS TO ANY KEYS.

2. Hydraulic PTO disengagement procedures.
      * Disengage clutch and with the engine off or at idle, push in on the PTO shift control. The PTO should disengage and the indicator lamp should go out.
   b. Automatic transmission with wire shift PTO and cable control.
      * With the engine off, push in on the PTO shift control. The PTO should disengage and the indicator lamp should go out.
   c. Automatic transmission with air shift PTO.
      * With the engine off or at idle, lift up lock button and shift control to the “out” position. The PTO should disengage and the indicator lamp should go out.
   d. Automatic transmission with electric over air shift PTO.
      * With ignition switch on and engine off or at an idle, push dash control rocker switch to the “off” position. The PTO should disengage and the indicator lamp should go out.
SAFETY

DIAMONDBACK REAR LOADERS

e. Automatic transmission with electric shift PTO.
   * With ignition switch on and engine off or at idle, push the dash control rocker switch to the “off” position. The PTO should disengage and the indicator lamp should go out.

3. Remove all keys from engines, trucks and electric device switches.

4. Install a tag on the steering wheel with nonreusable fastener. An example of such a tag follows:

```
DANGER
EQUIPMENT LOCKED OUT BY:
NAME:________________________________
DEPARTMENT:________________________
DATE:_________________________________
TIME:_________________________________
```

5. Place equipment in Non-free fall positions.
   a. Place wheel chocks in front and back of two wheels to keep truck from moving.
   b. Raised tailgates should be lowered either under power or by gravity. Caution should be used to do so slowly when lowering by gravity.
   c. Use factory installed prop rods to block tailgate open, whenever possible, to keep the tailgate open.
   d. Follow the instructions on the decal located on the prop rod.
   e. If prop rods cannot be used, block open with carefully stacked and nailed 4x4 or 6x6 lumber.
   f. Before placing yourself in a potentially dangerous position, check for steadfastness of prop rods or lumber beams as well as wheel chocks.

6. When maintenance of hydraulic cylinders is needed, the stored hydraulic pressure needs to be relieved.
   a. Ejection/packer panel telescoping cylinders.
      * Open all shutoff valves incorporated into your particular unit
      * With Lockout/Tagout in process, operate the appropriate valve control handle in both directions and hold momentarily in both positions.
      * Close all shutoff valves incorporated into your particular unit.
      * Loosen the hydraulic fittings to the hydraulic telescoping cylinder at a point of attachment away from the cylinder to be worked on.
      * Check for any leakage of fluid under residual pressure.
      * Once residual pressure has been relieved, tighten the previously loosened fittings and proceed to work on the cylinder requiring maintenance.
   b. Tailgate double acting single stage cylinders.

**NOTE:** **THE LOWER PORTS ON THESE CYLINDERS ALWAYS HAVE HIGH PRESSURE APPLIED. THESE CYLINDERS INCORPORATE A SAFETY PILOT CHECK VALVE LOCATED AT THE FRONT VALVE BODY.**
   * Open all shutoff valves incorporated into your particular unit.
   * Follow procedures in part 5 above.
   * When tailgate is lowered or securely supported, operate the appropriate valve control handle in both directions, holding in each position momentarily.
SAFETY

DIAMONDBACK REAR LOADERS

* As mentioned earlier, the lower port on these cylinders always has high pressure applied, but need to be loosened very carefully to relieve the residual pressure stored.
* Close all shut off valves incorporated into your particular unit.
* After all residual pressure is removed from the hose lines, tighten the loosened fittings.
* You have relieved the stored pressure in the cylinders to be worked on and may proceed with the maintenance needed.

NOTE: IF POWER IS REAPPLIED TO THE HYDRAULIC SYSTEM FOR ANY REASON BEFORE MAINTENANCE IS COMPLETED THE STEPS MUST BE RESTARTED.

c. Sweep and slide cylinders.
  * Open all shutoff valves incorporated into your particular unit.
  * Safely block up any movable assemblies with carefully stacked and nailed 4x4 or 6x6 lumber and check for steadfastness.
  * Operate the appropriate control lever for the cylinders needing maintenance in both directions, holding them in position momentarily to relieve pressure.
  * Close all shutoff valves incorporated in your unit.
  * Loosen the hydraulic fittings to the cylinder or cylinders at a point of attachment away from the cylinder or to be worked on.
  * Check for leakage of fluid under residual pressure.
  * Once the residual pressure is removed, tighten the loosened fittings and proceed with maintenance needed.
PRE-OPERATION INSPECTION

Using a chart as shown on page 1-2 of this manual, perform the following inspection every day before starting the unit.

1. Inspect all safety and operational decals to ensure legibility and proper placement. (See the SAFETY section of this manual for the proper decals and placement on the packer.)
2. Contact SMC Parts Department at (800) 831-1858 for replacement stickers when necessary.
3. Look for fluid leaks on and around the unit, valves, fittings and hydraulic cylinders.
4. Check all mounting bolts, cylinder pins and other fasteners for placement and tightness.
   a. Adjust or replace as necessary with the same grade or size fastener or pins.
5. Inspect visible welds and make sure there are no cracks or metal fatigue problems.
6. Ensure proper movement of control levers.
7. Check the hydraulic fluid level at the sight gauge with all cylinders in the retracted position and all control levers in the neutral positions.
8. Inspect the sweep and slide panel area and clean out any refuse that might prevent proper operation.
9. Check the condition of all container handling equipment.
   a. Replace the cable of winch or reeving equipment if frayed.
   b. Ensure trunnions or latch equipment are free of defects.
10. Start the truck according to the manufacturer’s instructions.
11. Walk around the vehicle as the engine warms up and inspect all lights for proper functionality.
   a. Replace burned out or broken lights.
12. The tailgate ajar light and alarm should be off.
13. Do not operate the unit if the light is illuminated or the alarm is sounding.

HYDRAULIC ENGAGEMENT PROCEDURES

PTO driven or engine driven hydraulic pumps are utilized to supply the hydraulic power to operate your refuse packer. Consult operating instructions before engaging the pump. (See driver’s sun visor.)

MANUAL TRANSMISSIONS:
The PTO is an integral part of the main transmission and must be operated as such. Before shifting the PTO into or out of gear, disengage the clutch and wait for the transmission and PTO gears to stop rotating.

AUTOMATIC TRANSMISSION WITH MANUAL SHIFT PTO INCLUDING AIR SHIFT
With automatic transmissions, the gears in the transmission turn when the transmission is in neutral. The gears will clash if the PTO is shifted into gear in neutral.

14. Converter Drive Gear
   a. To stop the gears from turning, shift the transmission into any of the drive positions.
   b. Shift the PTO into gear.
   c. Shift the transmission back into neutral and start the transmission gears and PTO gears turning.

15. Engine Driven Gear
   a. To eliminate gear clash, start the engine with the PTO engaged.
   b. Start the engine using normal starting procedures as outlined in the manufacturer’s operation manual.

AUTOMATIC TRANSMISSION WITH POWER SHIFT PTO INCLUDING HOT SHIFT
16. Engage the PTO with the engine at idle. (See the transmission manufacturer’s instructions for special instructions.)
PROCEDURES TO ENSURE FUNCTIONALITY OF UNIT

17. Accelerator checks:
   a. Engage the PTO according to the procedures outlined previously for your particular unit.
   b. Activate the “Accelerator On” switch at the right rear of the unit.
      * The engine should audibly accelerate. Disengage.
   c. Activate the “Accelerator On” switch on the front bulkhead of the unit.
      * The engine should audibly accelerate. Disengage.
   d. Activate the automatic accelerator.
      * Pull both sweep and slide handles outward.

   NOTE: NEVER HOLD THE SWEEP OR SLIDE PANEL LEVERS IN POSITION. ENGAGE AND LET GO IMMEDIATELY.
   * The engine should automatically accelerate.
   * Observe the sweep and slide panels for smooth operation.
   * They should stop in the “interrupted cycle” position.
   * Push the sweep and slide handle inward.
   * Again, observe the sweep and slide panels for smooth operation.
   * They should stop in the “home” position.

18. Depress the “Driver Alert” switch located on the right rear of the unit and ensure the alarm sounds in the cab.
19. Shift the transmission to reverse and back the unit up for a few feet to ensure the “Backup Alarm” sounds and is loud enough to be heard in the noisiest conditions.
   a. If equipped, the rear vision camera should be checked for proper operation.

20. Tailgate alarm and light check
   a. Place the transmission in neutral or park if equipped.
   b. Raise the tailgate about 6 inches.
      * The “tailgate ajar” light should illuminate.
      * The “tailgate ajar” alarm should sound.

   NOTE: DO NOT OPERATE THE UNIT IF IT NEEDS TO BE REPAIRED OR SERVICED. REPORT ALL PROBLEMS TO THE MAINTENANCE SUPERVISOR.
   INITIATE LOCKOUT/TAGOUT AS REQUIRED.

CONTAINER HANDLING OPTIONS

HYDRAULIC KICK BAR CONTAINER LIFT
1. Push in on the vertical container latch arm and release the arm lock by lifting.
2. Pivot the container latch arm down and position the container trunnion bar into the latch slot.
3. Raise the latch arm up and lock it into place with the arm lock.
4. Unpin the two pivoting retainer latches built into the container latch arm and allow to pivot freely.
5. Engage the hydraulic system and using the control lever marked “Kick Bar - Up - Down” on the right rear of the unit, lift the container for dumping.

   NOTE: STAND CLEAR OF THE CONTAINER LIFT ARMS AND THE CONTAINER DURING THIS OPERATION.

6. The container will rise and tip for dumping into the packer hopper.
7. Release the lift lever to stop the container at any desired point.
8. Operate the sweep and slide control levers as previously described to clear refuse from the unit hopper as required.
9. After the container is empty, operate the Kick Bar control lever to the “down” position.
10. When the container comes into contact with the surface of the ground, stop the lift’s downward motion and insert the pins into the left and right lower pivoting retainer latches.
11. Operate the Kick Bar control lever to the “down” position until the kick bar is in its original position below the bumper.
12. Remove the empty container from the trunnion slots.
13. Relock the latch arms before travelling to the next stop.

**European Kick Bar Container Lift**

14. With the hydraulic system engaged, operate the control lever located on the right rear of the unit labeled “Kick Bar - Up - Down” until the kick bar clears the bottom of the bumper.

**NOTE: STAND CLEAR OF THE CONTAINER LIFT ARMS AND THE CONTAINER DURING THIS OPERATION**

15. Grasp the European fold-down arms and lift upward to pivot into the spring-loaded “open” position.
16. Position the European container trunnions into the trunnion receivers.
17. Operate the Kick Bar control lever to raise and dump the container.
18. Release the lift lever to stop the container at any desired point.
19. Operate the sweep and slide control levers as previously described to clear refuse from the unit hopper as required.
20. After the container is empty, operate the Kick Bar control lever to the “down” position.
21. When the container comes into contact with the surface of the ground, remove the European container.
22. Lower the trunnion receivers to the kick bar.
23. Lower the kick bar to its original position under the bumper before travelling to the next stop.

**Drum Winch**

24. Push in on the vertical container latch arm and release the arm lock by lifting.
25. Pivot the container latch arm down and position the container trunnion bar into the latch slot.
26. Place the latch arm up and lock it into place.
27. With the hydraulic system engaged, spool out the cable and slip hook by operating the control lever marked “Winch - Up - Down” on the rear right of the unit.

**NOTE: IT IS NOT RECOMMENDED TO USE ACCELERATION DURING THE SPOOLING OUT OF CABLE OR LOWERING THE CONTAINER.**

28. Stop the cable movement by positioning the control lever in the “neutral” position when enough cable has been spooled out to connect to the proper area of the container.
29. Attach the slip hook to the container, ensuring the safety latch is in place.

**NOTE: STAND CLEAR OF THE CONTAINER LIFT ARMS AND THE CONTAINER DURING THIS OPERATION**

30. Acceleration is allowed in raising the container if desired.
31. Operate the control lever in the “up” position until the container reaches the desired height.
32. Release the control lever to the “neutral” position prior to the container hitting the container stops.
33. Operate the sweep and slide control levers as previously described to clear refuse from the unit hopper as required.
34. Once the container is empty, operate the control lever in the “down” position until the container reaches the surface and enough slack is in the cable to detach the slip hook from the container.
35. Disconnect the container from the trunnion locks and hold the cable hook while retracting the cable to the “tailgate” position.
36. Attach the slip hook to the break away and take up slack without holding the hook.
REEVING SYSTEM CONTAINER LIFT

37. Push in on the vertical container latch arm and release the arm lock by lifting.
38. Pivot the container latch arm down and position the container trunnion bar into the latch slot.
39. Place the latch arm up and lock it into place.
40. With the hydraulic system engaged, spool out the cable and slip hook by operating the control lever marked “Winch - Up - Down” on the rear right of the unit.

**NOTE:** IT IS NOT RECOMMENDED TO USE ACCELERATION DURING THE SPOOLING OUT OF CABLE OR LOWERING THE CONTAINER.

41. Stop the cable movement by positioning the control lever in the “neutral” position when enough cable has been spooled out to connect to the proper area of the container.
42. Attach the slip hook to the container, ensuring the safety latch is in place.

**NOTE:** STAND CLEAR OF THE CONTAINER LIFT ARMS AND THE CONTAINER DURING THIS OPERATION

43. Acceleration is allowed in raising the container if desired.
44. Operate the control lever in the “up” position until the container reaches the desired height.
45. Release the control lever to the “neutral” position prior to the container hitting the container stops.
46. Operate the sweep and slide control levers as previously described to clear refuse from the unit hopper as required
47. Once the container is empty, operate the control lever in the “down” position until the container reaches the surface and enough slack is in the cable to detach the slip hook from the container.
48. Disconnect the container from the trunnion locks and hold the cable hook while retracting the cable to the “tailgate” position.

**NOTE:** FAILURE TO KEEP TENSION ON THE CABLE MAY ALLOW THE CABLE TO BECOME WEDGED BETWEEN THE PULLEYS IN THE REEVING SYSTEM AND DAMAGE THE CABLE.

49. Attach the slip hook to the break away and take up slack without holding the hook.

ANY ADDITIONAL QUESTIONS OR CONCERNS SHOULD BE DIRECTED TO CUSTOMER SERVICE AT SMC. (800)831-1858
MAINTENANCE

DIAMONDBACK REAR LOADERS

FRONT HYDRAULIC VALVE

- PRESSURE IN
- MAIN RELIEF
- TAILGATE CLOSE
- EJECTION PANEL RETRACT
- TAILGATE OPEN
- EJECTION PANEL EXTEND
- PRESSURE GAUGE
- RETURN TO TANK
- BACK PACK RELIEF VALVE 7CR2 LOCATED IN THE LOWER SECTION OF THE FRONT VALVE
WARNING

ONLY TRAINED PERSONNEL SHOULD CONDUCT ADJUSTMENTS TO THE HYDRAULIC SYSTEM PRESSURES. HYDRAULIC PRESSURES SET ABOVE THE STATED SETTINGS MAY CAUSE DAMAGE TO THE EQUIPMENT AND/OR PERSONAL INJURY.

MAIN RELIEF SETTING: 1800 PSI

1. Accelerate the engine using the secondary accelerator switch above the control handles at the front of the packer.
2. Push and maintain inward force on the tailgate lever and observe the pressure on the gauge.
3. For optimum performance, safety and durability the pressure should be set as indicated above.
4. If an adjustment is needed, use a 9/16” combination wrench to loosen the jam nut on the adjustment valve and use a 5/32” hex Allen wrench to adjust the pressure in 1/8-turn increments (clockwise to increase pressure and counterclockwise to decrease the pressure).
5. Tighten the jam nut and recheck the pressure.
6. Repeat process 1-5 as required.
MAINTENANCE

DIAMONDBACK REAR LOADERS

DAILY MAINTENANCE

**NOTE:** **DO NOT START OR OPERATE ANY EQUIPMENT THAT IS MALFUNCTIONING. KNOW WHERE TO GET HELP IN CASE OF AN EMERGENCY.**

1. SMC recommends that, at a minimum, operators wear steel toed safety shoes, OSHA approved safety glasses and gloves. SMC also recommends that operators do not wear any jewelry on their wrist or hands. Loose clothing that could catch on operating levers or moving components of the packer should be avoided.
2. Do not operate any machinery while under the influence of drugs or alcohol.
3. Before operating this refuse packer, the operators must be properly instructed and trained to be a qualified operator. They must be familiar with all danger caution and warning decals, warning devices, hand signals and traffic rules.
4. Do not operate any equipment without proper instruction and training.

**NOTE:** A GOOD SOURCE FOR TRAINING IS “COACHING THE REFUSE TRUCK DRIVER II” FROM “NATIONAL SOLID WASTES MANAGEMENT ASSOCIATION” WASHINGTON, DC. CALL (800) 424-2860 FOR PRICING INFORMATION.

**INSPECT THE PACKER BODY USING A CHECKLIST SIMILAR TO THE LIST ON THE FOLLOWING PAGE.**

1. Inspect the chassis in accordance with the chassis manufacturer’s guidelines.
2. Make sure all obstructions and people are clear of the unit.
3. Inspect all lights and the backup and tailgate ajar alarms.
4. Check all mounting bolts, cylinder pins and other fasteners for placement and tightness.
   a. Adjust or replace as necessary with the same grade and size.
5. Any malfunctions should be reported to a supervisor or mechanic. Before walking away from a malfunctioning unit do the following:
   a. Set the parking brake
   b. Disengage the PTO
   c. Turn off the engine
   d. Remove the ignition key and put it in your pocket.
6. Any service work completed on the unit should be done with the proper tools and procedures as outlined in this manual. Only authorized personnel should attempt the repair work. Use ONLY proper replacement parts on the unit.
7. If the height of your unit is altered, correct the overall height and make sure this height plus 3 inches is noted on the decals.
8. Thoroughly understand the functioning of every operating control. Be aware of the function and location of every instrument, control, gauge and protective device.
**PRE-OPERATION INSPECTION CHECKLIST**

1. Placement and readability of decals.
2. Fluid leaks.
3. Mounting hardware in place and fastened tightly.
4. No metal fatigue or cracks in the welds.
5. Hydraulic fluid reservoir at recommended level with cylinders retracted.
6. All operation controls function correctly.
7. All debris removed from under and behind ejection panel and all areas around packing cylinders.
8. All debris removed between cab and packer body.
9. All safety and running lights functioning.
10. Engine warmed up according to manufacturer’s instructions.
11. Accelerator buttons are operational.
12. Driver alarm signal is functioning correctly.
13. Packing cycle operates properly.
14. Backup and tailgate ajar alarms are working correctly.
15. A fully charged and operational fire extinguisher is in the cab.
16. All problems have been reported to authorized personnel.

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Inspector’s Signature:____________________
Date of Inspection:______________________
WEEKLY MAINTENANCE
1. Tailgate cylinders, two places both sides
2. Tailgate hinge, both sides
3. Slide cylinders, two places both sides
4. Sweep cylinders, two places both sides
5. Sweep pivot, two places both sides
6. Control handles, one place on each handle equipped
7. Slide rails and ejection panel wear surfaces, one place on each side
   a. Use high quality grease applied with rags on a handle or similar equipment

MONTHLY MAINTENANCE
8. Inspect all wiring for tightness, corrosion, or excessive wear
9. Inspect hoses and fittings for wear or leakage
10. Inspect pins and fasteners for excessive wear or looseness
11. Inspect welds for fatigue or cracking

NOTE: REPORT ANY PROBLEMS TO MAINTENANCE SUPERVISOR AND LOCKOUT/TAGOUT THE UNIT UNTIL PROBLEMS ARE FIXED. NEVER OPERATE A DEFECTIVE UNIT

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<th>Viscosity Grade</th>
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<th>Specific Gravity</th>
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<th>Flash Point Degree F</th>
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NOTE: WHEN ADDING OR REPLACING THE HYDRAULIC FLUID, GIVE THE ABOVE INFORMATION TO YOUR SUPPLIER TO PROVIDE A SIMILAR PRODUCT. THE OIL PROVIDED WITH THE UNIT IS A PREMIUM HYDRAULIC FLUID THAT IS FORMULATED TO MEET THE STRINGENT PERFORMANCE REQUIREMENTS OF REFUSE COLLECTION EQUIPMENT EXPOSED TO BROAD AMBIENT OPERATING TEMPERATURES.
HYDRAULIC TANK MAINTENANCE

1. Check sight gauge daily for proper level and operating temperature of approximately 35 degrees.
   a. All cylinders should be in retracted positions when checking level
2. Check the breather for cleanliness and obstructions
   a. Replace this breather every six months.
3. The spin on return filter should be changed initially after 50 hours of use and should be changed every 250 hours thereafter.
4. The internal suction strainer (PART #106231) should be cleaned when the hydraulic fluid is changed. Initially, clean the strainer and hydraulic fluid at six months and then yearly thereafter.
   a. Loosen the cover with an 18 mm combination wrench
   b. Remove the disc and seal assembly
   c. Pry off the clip and remove the strainer
   d. Clean with mineral spirits and allow to dry
   e. Reassemble
119997

NOTE: MALE 180
FASTEN #0716049 OR EQUIVALENT

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IN WITNESS OF SCRANTON MANUFACTURING COMPANY.

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE

REV. DESCRIPTION SCO # BP DATE

REVISIONS

1 119997

01/27/2012

PART DESCRIPTION

1/2" 1/4" 1/8" X 10 X 15 10 50

MATERIAL SPEC./BLNK

NEW WAY
SCRANTON MANUFACTURING
101 South Street
Scranton, PA 18502

DRAWING IDENTIFICATION

DIAMONDBACK REAR LOADERS

MAINTENANCE
123092

CONNECTOR
DT06-08SC (GREEN)
0462-209-1641
WSS
114017

SOCKETS
PLUG
DEUTSCH

RT TURN GRN 14AWG
LT TURN YEL 14AWG
REV LTS BLU 14AWG
RUN LTS BRN 14AWG
GRND WHT 14AWG
BRK LTS RED 14AWG

NOTES:
18 INCH FLYING LEADS

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MANUFACTURING / NEW WAY IS PROHIBITED

MATERIAL SPEC./BLANK
PURCHASED

NEW WAY
SCRANTON MANUFACTURING
101 State Street
Scranton, PA 18503

PART DESCRIPTION
PIGTAILEDOT, RL MARLIN BOX

REV
A

REVISIONS
"
TROUBLESHOOTING TIPS

Electrical troubleshooting will be less intimidating if it is remembered that all electric circuits are electricity passing from the battery through the wires, fuses, switches and relay to the component or components and to ground, from which is passed back to the battery. Any electrical problem is an interruption of the flow of electricity to and from the battery.

The two most used tools for troubleshooting this 12-volt, negative-ground, alternator-charged system are a digital multimeter or a test light.

**NOTE:** THE TRUCK IGNITION MAY NEED TO BE IN THE ON POSITION TO HAVE VOLTAGE TO MOST CIRCUITS. FOR TROUBLESHOOTING PURPOSES, THE BATTERY WILL NEED TO BE CONNECTED. WHEN IT IS TIME TO SERVICE ANY COMPONENTS REMOVE THE GROUND CABLE AND THE 30 AMP IN LINE FUSE LOCATED AT THE POWER SOURCE.

The various schematics for the packer body and also the harnessing to connect to the chassis have been included in this chapter and should be very helpful in investigating any electrical problems. The following paragraphs will help with most problems encountered and the diagnostic steps in solving those problems.

CHECKING FOR VOLTAGE

Electrical problems generally are attributed to blown fuses, loose or corroded connections or a failed relay. Checking these things is the first step in troubleshooting. When changing a blown fuse, always use the same amperage rating as the circuits require this amount of protection. Using a larger fuse value could cause serious damage. If the new fuse blows soon after replacement, do not replace until the problem is found and corrected. Usually the fastest way to find the problem is to start at the point closest to the power source and following it along the path of the circuit having the problem. Close attention should be paid to points where connections are made as they can often be trouble areas. Connector cases hide oxidation and misaligned or loose wires. Often this is the case if intermittent problems are being experienced.

CHECKING FOR GROUND

To determine if a component is grounded, disconnect the ground from the battery. Set the multimeter to the ohms scale and connect one lead to a good ground source and the other to the ground wire in question. The resistance should be 5 ohms or less if the ground is good.

RELAY CIRCUITS

The first step in troubleshooting a circuit controlled by a relay is to understand how relays work.
Following the exposed relay on the previous page will help understand how the relay works. When power is applied across the 85 and 86 terminals (control circuits), current passes through the coil which builds a magnetic field in the bar it is wrapped around. This pulls the steel plate to it and that is the audible snap heard when power is applied. The spring attached to the steel plate pulls the plate away from the bar when power is removed. The relays use a low-current circuit (control circuit) to open and close the high current circuit (power circuit).

If a failed relay is suspected, while being close enough to hear, have the switch to the component in question turned on. Remember that you must have the ignition on. When the switch is turned on, an audible snap should be heard. Continuity between 30 and 87 should be found at this point. With the switch in the “off” position continuity should be between 30 and 87a. If not, then you have a failed relay that needs replaced.

It is important to remember that relays can be wired to have power energize the circuit or can be wired to have ground energize the circuit. The following are examples of each:

[Diagram of relay circuits]
### CAPSCREW MARKING AND TORQUE VALUES

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<td>6 OR 7</td>
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### CAPSCREW HEAD MARKINGS

Manufacturers marks may vary. These are all SAE Grade 5 (3 lines).

- ![Cap Screw Head Markings]

### CAPSCREW BODY SIZE (INCHES - THREAD) | TORQUE (FT-LB KGI) | TORQUE (FT-LB KGI) | TORQUE (FT-LB KGI) |
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### NOTES

1. Always use the torque values listed above when specific torque values are not available.
2. The above is based on use of clean, dry threads.
3. Reduce torque by 10% when engine oil is used as a lubricant.
4. Reduce torque by 20% if new plated cap screws are used.
5. General formula for calculating torques is as follows: Torque in inch lbs = 2 x nominal diameter of screw x loads in lbs, where load = 80% of yield strength, expressed in lbs, not pounds per square inch.
4a. American Manufactured Trucks, with 34” frame width;
The top of the mounting brackets must be 7/8” above the top of the frame, the top of the steel bearing (spacer) strips, or the top of the riser tubes depending on the application.

4b. Foreign Manufactured Trucks, with 33 1/2” or less, frame width;
The top of the mounting brackets must be level with the top of the riser tubes. (see photos on previous page)

As shown in the above pictures, the bottom brackets need to be 7/8” above the frame. The front mounting brackets should be located between 8” and 24” from the front of the packer. The rear bracket will vary according to individual chassis requirements. The rear bracket should be located as close as possible to the center of the rear axle.

Clamp the lower mounting brackets to the frame at the desired location and mark the holes for drilling.

**CAUTION** Insure that all electrical wiring, air lines, fuel lines, or any components are out of the way and will not be drilled into. Any holes located near tubing or wires should have the bolts installed from the inside of the frame with the nuts to the outside.
Use only the 5/8” grade 8 bolts and nuts provided. Torque to 210 ft-lbs.
Set the packer body onto the truck frame. Center the packer body on the truck frame by measuring the distance from the truck frame to the outside packer body channel. Remember to allow the 3” min set back requirement from the cab.

**REAR BRACKET**
Place a 1” flat washer between the hex head of the 1-8x2” bolt and the top bracket and install the bolt through the bottom bracket. A 1” flat washer and a 1” top lock nut will be used to tighten the brackets together. Torque to 910 ft-lbs.