WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

This document provides instructions on replacing the packing gland in a Rhino® unloader with Rhino SD3 air motor and a Rhino SD2 pump.

NOTE: Refer to the appropriate Rhino hydraulic section manual for additional information.

Remove Packing Gland

Tool Required	Nordson Part Number
Magnet	1611971
Metric hex key set	—
SAE hex key set	—

See Figure 1.

NOTE: If necessary, perform container change removal removing the packing gland. Refer to the appropriate Rhino container change operator's card for detailed procedures.

Set the air motor lockout valve (1) to *On*.

1. Operate the air motor (7) until the split coupling (11) is accessible.

Set the air motor lockout valve (1) to *Off*.

2. Place the elevator control valve (3) in the *Neutral* position and shut off the air motor lockout valve (1).
3. Open the ball valve (8).
4. Bleed the hydraulic pressure through the ball valve (8) and dispense gun(s). Leave the ball valve open.
5. Remove the screws (12) securing the split coupling (11) to the plunger rod (13) and floating joint coupling (10).
6. Drain the solvent cup (14).
7. Set the air motor regulator (2) to 0 bar/psi.
8. Disconnect the output air line (5) from the lower magnetic sensor (6).

Set the air motor lockout valve (1) to *On*.

9. Use a magnet to trigger the upper magnetic sensor (4). This will cycle the air motor (7) and force the plunger rod (13) downward. Use minimal air pressure.

Set the air motor lockout valve (1) to *Off*.

10. With the air supply off, the air motor rod (9) can be moved by hand. Manually raise the air motor rod.
11. Remove the solvent cup (14) from the packing gland (17).
12. Remove the four packing gland screws (16) from the packing gland (17).
13. Insert two of the packing gland screws (16) into the threaded holes (18) of the packing gland (17) to serve as jacking screws. Alternate tightening the packing gland screws to remove the packing gland assembly.

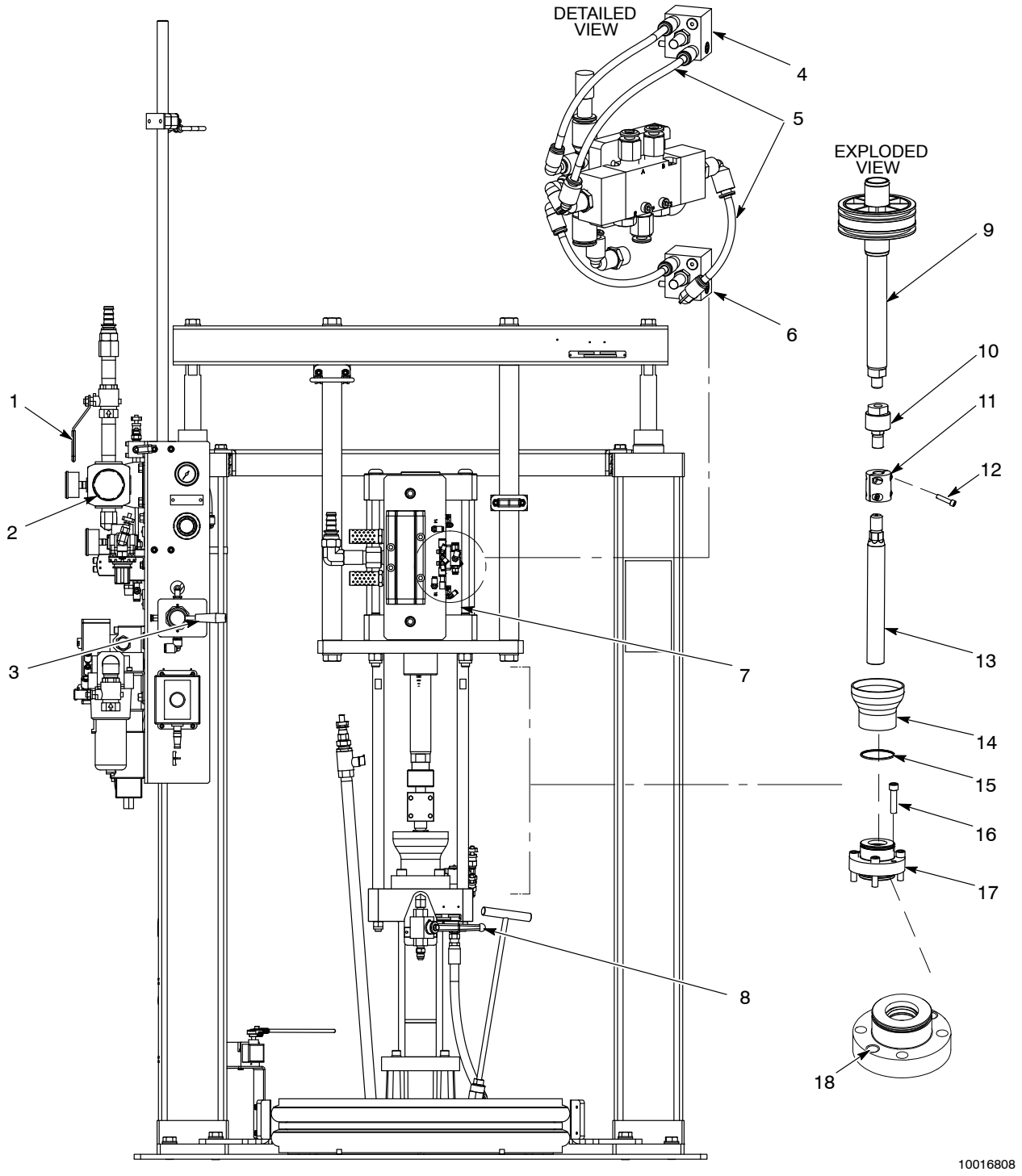

Figure 1 Removing Packing Gland

1. Air motor lockout valve
2. Air motor regulator
3. Elevator control valve
4. Upper magnetic sensor
5. Output air line
6. Lower magnetic sensor
7. Air motor
8. Ball valve
9. Air motor rod
10. Floating joint coupling
11. Split coupling
12. Split coupling screw
13. Plunger rod
14. Solvent cup
15. Solvent cup O-ring
16. Packing gland screw
17. Packing gland
18. Threaded hole

Note: For clarity, some parts are not shown.

Rebuild Packing Gland

Tool Required	Nordson Part Number
Insertion tool	1081096
Mobil™ SHC 634	156289
Removal arbor	1073580
Compatible solvent for cleaning dispense material	—
Hydraulic or arbor press	—
Metric hex key set	—
SAE hex key set	—

See Figure 2.

1. Place the packing gland housing (2) on a fixture (5) with the solvent cup end facing up.

   NOTE: During the removal of the internal parts, the retainer groove will break the O-ring (3).

2. Insert the removal arbor (1) into the packing gland housing (2). Using the press, push out the internal parts (4).
3. Thoroughly clean the packing gland housing (2) in a compatible solvent to remove all sealant material and O-ring debris.
4. Coat the bore (7) of the packing gland housing (2) with Mobil SHC 634 (8).
5. Insert the scraper or retaining ring (10), sharp edge down, into the packing gland housing (2).
6. Using the insertion tool (6) and press, insert the new internal parts into the packing gland housing (2). Be sure the brass seal retainer or backup washer (9) is flush or slightly below the packing gland housing as shown in Figure 2.

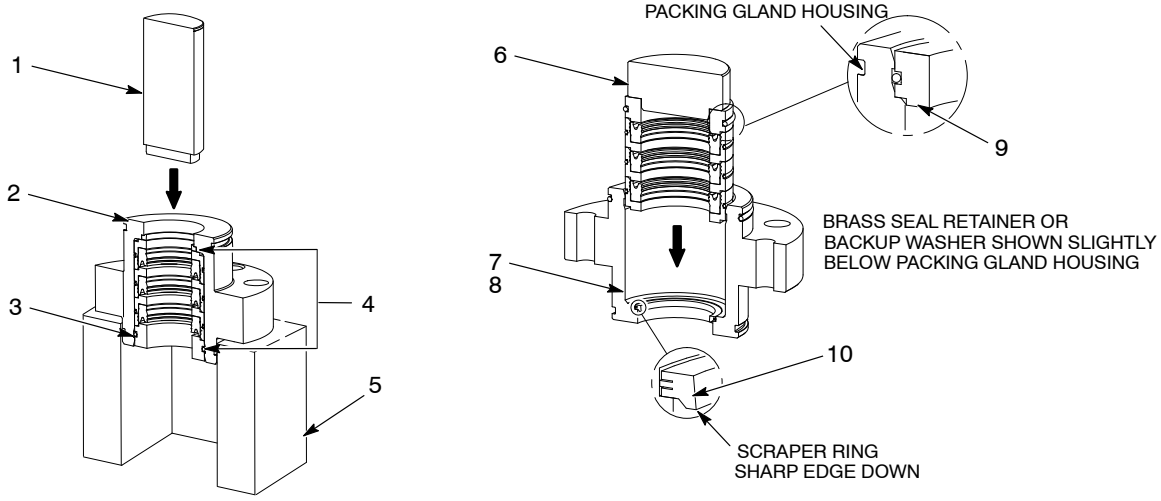

Figure 2 Rebuilding Packing Gland

1. Removal arbor
2. Packing gland housing
3. O-ring
4. Internal parts
5. Fixture
6. Insertion tool
7. Bore
8. Mobil SHC 634
9. Backup washer
10. Scraper/retaining ring

Note: For clarity, some parts are not shown.

Install Packing Gland

Tool Required	Nordson Part Number
Installation tool	1609505
Magnet	1611971
Mobil SHC 634	156289
Never-Seez®	900344
Metric hex key set	—
SAE hex key set	—

See Figure 3.

NOTE: Some O-ring lubricants may react to certain dispensing materials. Contact a Nordson representative to determine the appropriate O-ring lubricant.

Set the air motor lockout valve to *Off*.

1. Ensure the packing gland O-ring and the bore of the packing gland are lubricated with Mobil SHC 634.
2. Install the packing gland into the plunger rod.
3. Install the solvent chamber cup onto the packing gland.
4. Place the packing gland insertion tool on top of the solvent chamber cup.

Set the air motor lockout valve to *On*.

5. Use a magnet to trigger the upper magnetic sensor. This will cycle the air motor and force the plunger rod downward. Use minimal air pressure.

Set the air motor lockout valve to *Off*.

6. With the air supply off, the air motor rod can be moved by hand. Manually adjust the air motor rod to the top of stroke.
7. Remove the packing gland insertion tool and the solvent chamber cup.
8. Apply Never-Seez lubricant to the threads of the screws. Install the screws into the packing gland and tighten to 102–108 N•m (75–80 ft-lb).
9. Refer to the *Install Split Coupling Halves* section of this document to complete the packing gland replacement procedure.

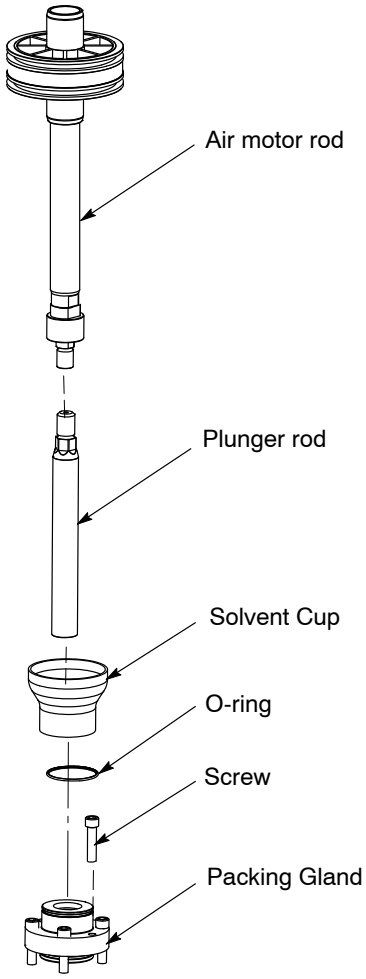

Figure 3 Installing Packing Gland

Install Split Coupling Halves

Tool Required	Nordson Part Number
Loctite® Threadlocker Blue 242®	900464
Mobil SHC 634	156289
Metric hex key set	—
SAE hex key set	—

See Figure 4.

Set the air motor lockout valve to *Off*.

1. Adjust the air motor regulator to 0 bar/psi.
2. With the air supply off, the air motor rod can be moved by hand. Manually lower the air motor rod so it touches the top of the plunger rod.

   NOTE: The split coupling halves are a matched set. Each half is stamped with the same serial number.
3. Ensure the grooved end of each split coupling half is facing upward. Position both split coupling halves over the floating joint coupling shaft and the plunger rod.
4. Ensure the ball valve on the pump body is open and not plugged.
5. Install one split coupling half. Adjust the floating joint coupling shaft position to obtain a 0.76–2.54-mm (0.030–0.100-in.) gap between the floating joint coupling and the plunger rod.
6. Install the remaining split coupling half. Ensure the gaps between the sides of the coupling halves are equal.
7. Apply Loctite Threadlocker Blue 242 to the threads of the screws. Install the coupling screws and tighten to 19–21 N•m (14–16 ft-lb).
8. Using the appropriate type of solvent for the application, fill the solvent cup to 0.75 in. (19 mm) from the top.
9. See Figure 1. Reconnect the output air line (5) to the lower magnetic sensor (6).

Set the air motor lockout valve to *On*.

See Figure 1.

10. Purge air from the system by cycling the pump until no additional air bubbles come out of the ball valve (8).
11. Close the ball valve (8).

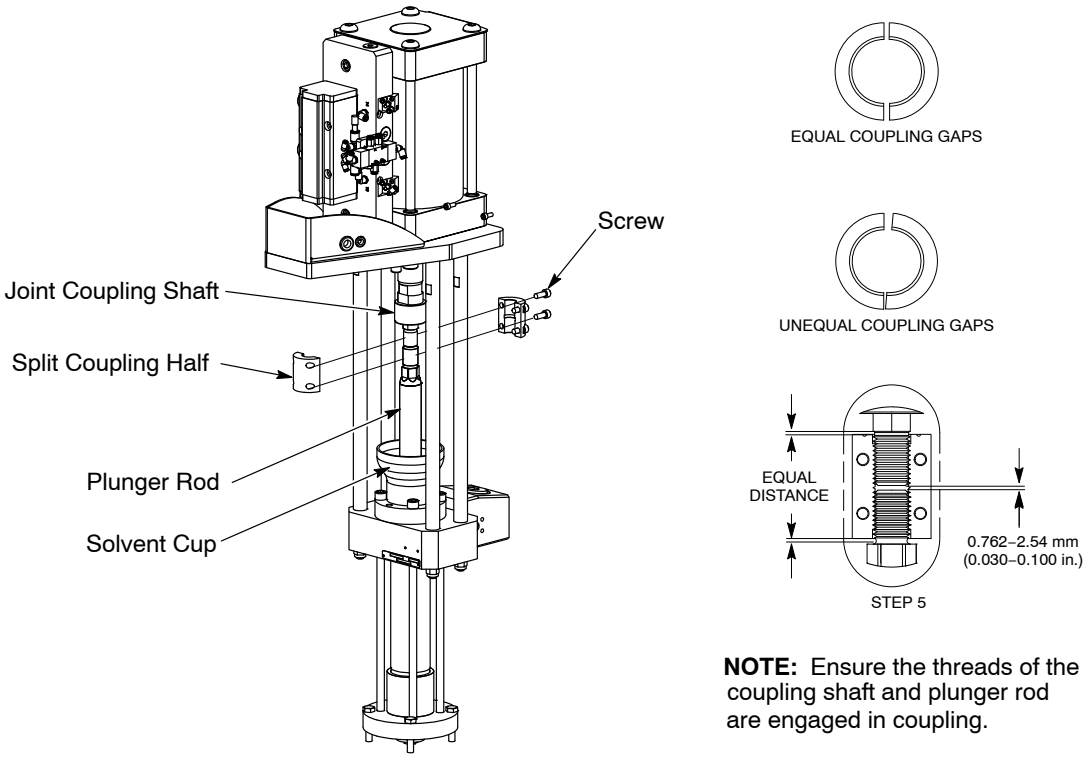

Figure 4 Installing Split Coupling Halves

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