Description

See Figure 1. The Rhino XD2 Type-H Low Level Drum Proximity Sensor (1) monitors the distance between the bottom of the follower plate and the base surface of the bulk unloader frame. The proximity sensor sends a Low Level signal to the controller when the crossover (2) moves in front of the low level proximity sensor.

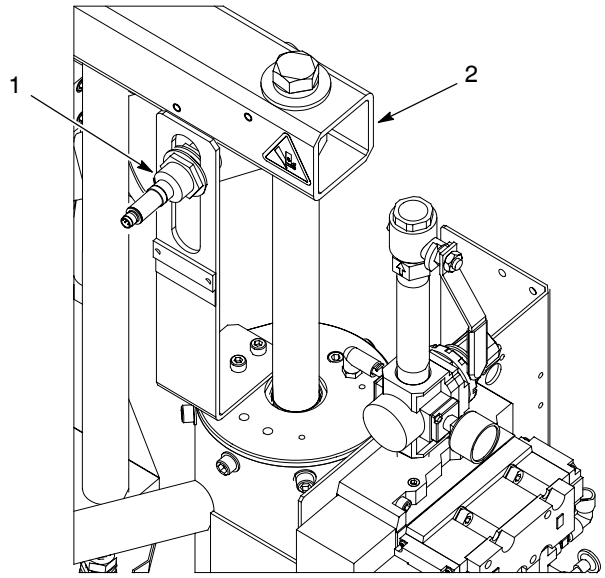

Figure 1 Rhino XD2 Low Level Proximity Sensor

Repair

Repairs consist of replacing the proximity sensor and setting the Low Level signal.

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

CAUTION: To prevent damage to equipment, personnel performing these procedures must know how to safely operate the elevator control valve on the Rhino SD2/XD2 bulk unloader.

NOTE: Read and understand these procedures before performing repairs. If necessary, contact a local Nordson representative regarding repairs to this equipment.

Replace the Proximity Sensor

Use the following procedure to replace the proximity sensor.

1. See Figure 2. Disconnect the control cable (1) from the PNP/NPN converter (2).
2. Disconnect the PNP/NPN converter (2) from the proximity sensor (5).
3. Mark the bracket (6) to ensure that the new sensor is properly positioned during installation.
4. Remove the nut (8) and washer (7) securing the proximity sensor (5) to the bracket (6). Remove the proximity sensor from the bracket.
5. Perform the following:
   a. Install the washer (4) and nut (3) onto the new proximity sensor (5).
   b. Install the proximity sensor onto the bracket (6). Loosen or tighten the nut (3) to obtain a gap of 0.25 in. between the face of the proximity sensor and the crossover bar.
   c. Install the remaining washer (7) and nut (8) and tighten securely.
6. Connect the PNP/NPN converter (2) to the proximity sensor (5). Connect the cable (1) to the PNP/NPN converter.
7. Using the Rhino SD2/XD2 bulk unloader elevator control valve, raise and lower the follower plate to test the Low Level signal. Adjust the sensor if necessary. Refer to the *Set the Low Level Signal* procedure.

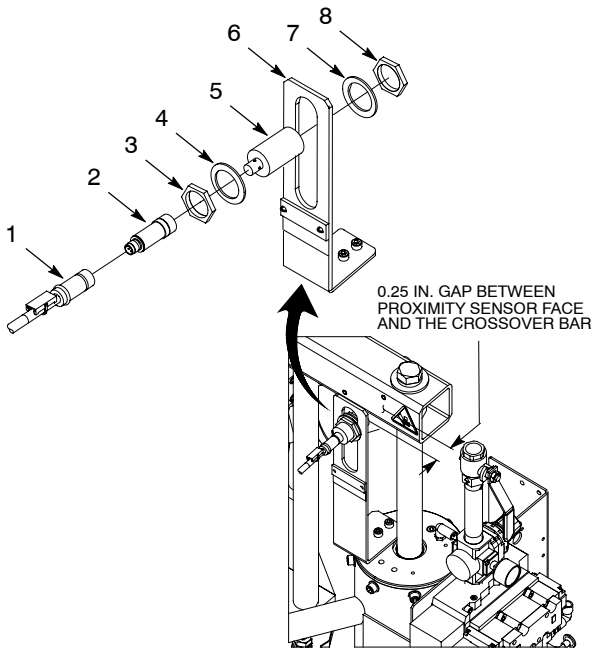

Figure 2 Replacing the Proximity Sensor

Set the Low Level Signal

Perform the *Change the Factory Setting* procedure to change the factory settings. Perform the *Reset the Factory Setting* procedure to reset the Low Level signal back to the factory setting.

CAUTION: To prevent damage to equipment, personnel performing these procedures must know how to safely operate the elevator control valve on the Rhino SD2/XD2 bulk unloader.

NOTE: The Low Level signal is factory set to 3 in. between the bottom of the follower plate and the base surface on the frame.

Change the Factory Setting

NOTE: Obtain a spacer of the desired height to set between the base of the follower plate and the base surface of the frame.

CAUTION: The spring-loaded hold down shoes must be removed to prevent damage to the follower plate seals.

1. See Figure 3. If installed, remove the spring-loaded hold down shoes. Fixed-position centering shoes do not need to be removed.
2. Set a spacer onto the base surface of the frame as shown in Figure 4.
3. Using the bulk unloader elevator control valve, lower the follower plate onto the spacer.
4. See Figure 5. Loosen the nut (1) securing the proximity sensor to the bracket (2). Move the proximity sensor until the LED (3) illuminates. Tighten the nut securely.
5. Using the bulk unloader elevator control valve:
   a. Raise the follower plate and remove the spacer.
   b. Raise and lower the follower plate to test the Low Level signal.

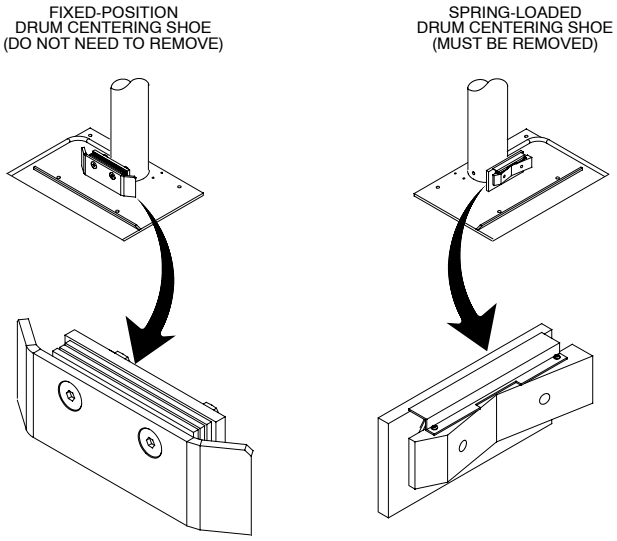

Figure 3 Fixed-Position Centering and Spring-Loaded Hold Down Shoes

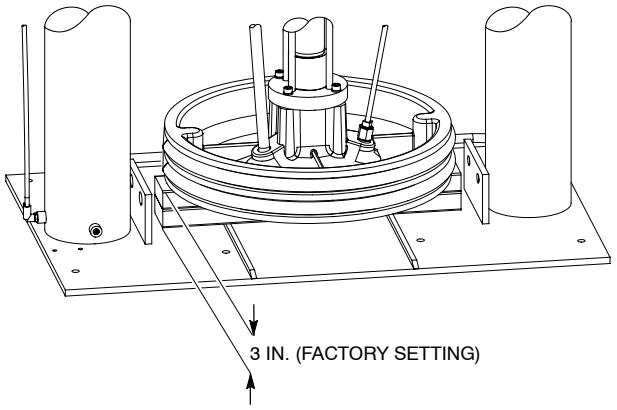

Figure 4 Spacer Placement

Reset the Factory Setting

NOTE: Obtain a 3-in. spacer to set between the base of the follower plate and the base surface of the frame.

CAUTION: If installed, the spring-loaded hold down shoes must be removed to prevent damage to the follower plate seals.

1. See Figure 3. If installed, remove the spring-loaded hold down shoes. Fixed-position centering shoes do not need to be removed.
2. Set 3-in. spacers onto the base surface of the frame as shown in Figure 4.
3. Using the bulk unloader elevator control valve, lower the follower plate onto the spacers.
4. See Figure 5. Loosen the nut (1) securing the proximity sensor to the bracket (2). Move the proximity sensor until the LED (3) illuminates. Tighten the nut securely.
5. Using the bulk unloader elevator control valve:
   a. Raise the follower plate and remove the spacer.
   b. Raise and lower the follower plate to test the Low Level signal.

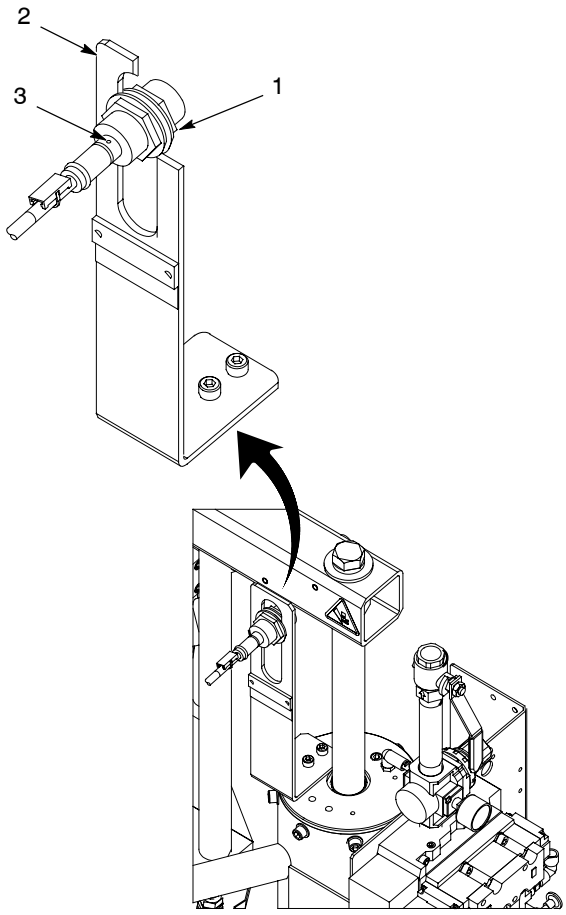

Figure 5 Changing and Resetting the low Level Signal

Parts

See Figure 6 and the following parts list. To order parts, call the Nordson Customer Service Center or your local Nordson representative.

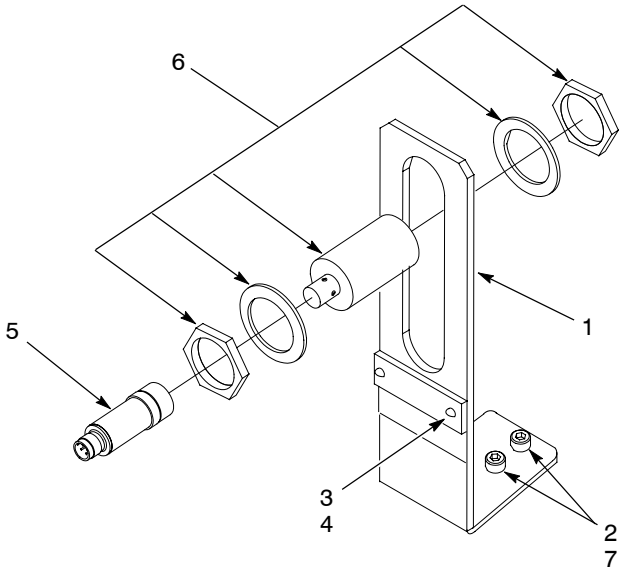

Figure 6 Low Level Indicator

Item	Part	Description	Qty	Note
—	1082305	Module, drum low proximity, 30 mm, DC	1	
1	1082307	• Bracket	1	
2	982035	• Screw, socket, M8 x 16	2	
3	1079275	• Label	1	
4	985112	• Rivet	2	
5	1081460	• Converter, PNP to NPN, 4-pin, M12 x 1	1	
6	332947	• Switch, proximity	1	
7	900464	• Loctite 242, blue	AR	
AR: As Required				

Notes:

Change Record

Revision	Date	Change
A01	6/09	Released

Issued 6/09