

Description

See Figure 1. The Electric Drum/Pail Level indicators use proximity sensors to monitor the distance between the bottom of the follower plate and the base surface of the bulk unloader frame.

The Empty Drum/Pail Level Indicator sends an Empty Level signal to the controller when the bulk unloader crossover moves in front of the empty level proximity sensor.

The Low and Empty Drum/Pail Level Indicator sends a Low Level signal to the controller when the crossover moves in front of the low level proximity sensor. The target plate prevents the low level proximity sensor circuit from opening during the downward movement of the crossover. When the crossover moves in front of the empty level proximity sensor, the indicator sends an Empty Level signal to the controller.

Four Drum/Pail Level Indicators are available:

- Drum/Pail Empty
(18 mm and 30 mm Proximity Sensors)
- Drum/Pail Low and Empty
(18 mm and 30 mm Proximity Sensors)

Repair

Repairs consist of replacing the proximity sensors and setting the Low and Empty Level signals.



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.

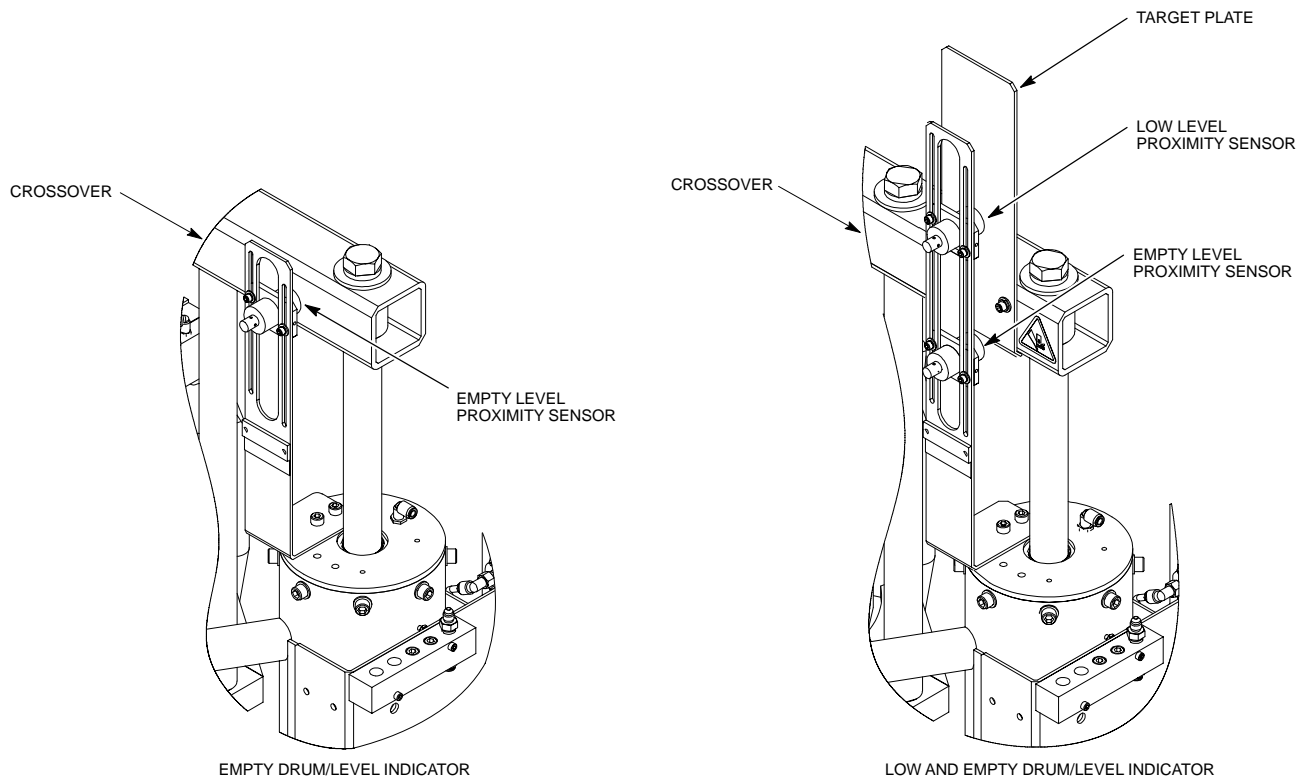


Figure 1 Rhino SD2/XD2 Drum/Pail Level Indicators

Replace a Proximity Sensor

Use the following procedure to replace a proximity sensor.

1. See Figure 2. Disconnect the control cable (4) from the proximity sensor (3).
2. Remove the setscrew (2) securing the proximity sensor (3) to the adjustment plate (1). Remove the proximity sensor from the adjustment plate.
3. Screw the new proximity sensor into the adjustment plate (1) until there is a 0.25 in. gap between the face of the proximity sensor and the crossover bar or target plate.



CAUTION: To prevent damage to the proximity sensor, do not overtighten the setscrew.

4. Apply Loctite 242 to the threads of the setscrew (2). Install the setscrew and tighten until the proximity sensor is secure. Do not overtighten the setscrew.
5. Connect the control cable (4) to the proximity sensor (3).
6. Using the Rhino SD2/XD2 bulk unloader elevator control valve, raise and lower the follower plate to test the Low and Empty signals.

Set the Low and Empty Level Signals

Refer to Table 1. The Low and Empty Level signals are factory set. If desired, adjust the proximity sensor to change the factory settings.



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.

Perform the *Change the Factory Settings* procedure to change the factory settings. Perform the *Reset the Factory Settings* procedure to reset the Low and Empty Level signals back to the factory settings.

Table 1 Low and Empty Signal Factory Settings

Signal	Setting
Low	Pail Follower Plate: 4.5 in. between the bottom of the follower plate and the base surface on the frame Drum Follower Plate: 7.5 in. between the bottom of the follower plate and the base surface on the frame
Empty	1.5 in. between the bottom of the follower plate and the base surface of the frame

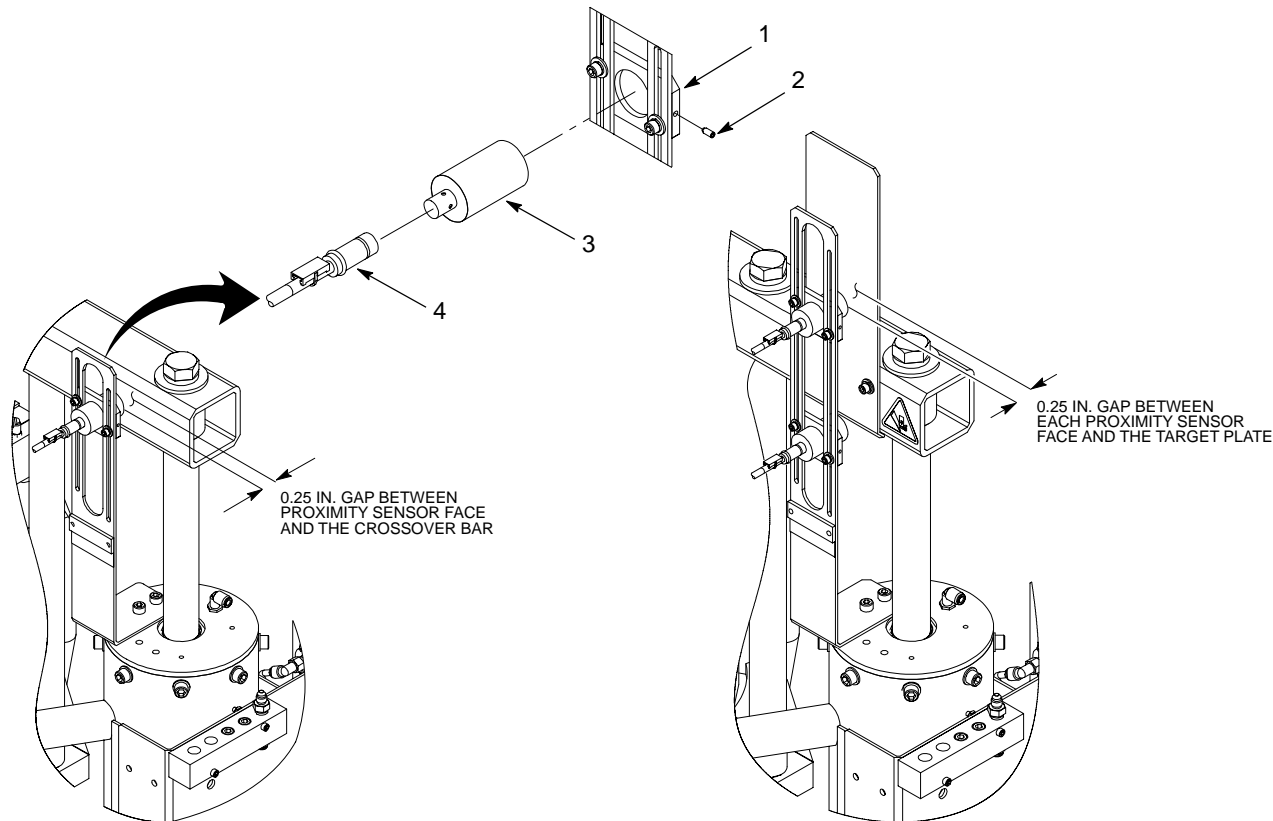


Figure 2 Replacing a Proximity Sensor

Change the Factory Settings

NOTE: The bottom lip on standard drums/pails can vary and must be taken into consideration when making adjustments to the empty level proximity sensor. The Low Level signal can be adjusted to within 1.75 inches of the Empty Level signal.



CAUTION: If using spacers to adjust the Empty Level signal setting on 30- and 55-gallon systems, remove the frame hold-down shoes to prevent damage to the follower plate seals.

1. See Figure 3. If applicable, remove the hold-down shoes (1) from the frame (2).
2. Set spacers onto the base surface of the frame as shown in Figure 4. Using the Rhino SD2/XD2 bulk unloader elevator control valve, lower the follower plate onto the spacers.
3. Loosen the screws (3) securing the adjustment plate (4). Move the adjustment plate until the applicable proximity sensor LED (5) illuminates. Tighten the screws (3) securely.
4. If spacers were used, raise the follower plate and remove them.
5. Repeat steps 2 through 4 for the remaining proximity sensor if necessary.
6. Using the Rhino SD2/XD2 bulk unloader elevator control valve, raise and lower the follower plate to test the Low and Empty signals.
7. If removed, install the hold-down shoes (1) onto the frame (2).

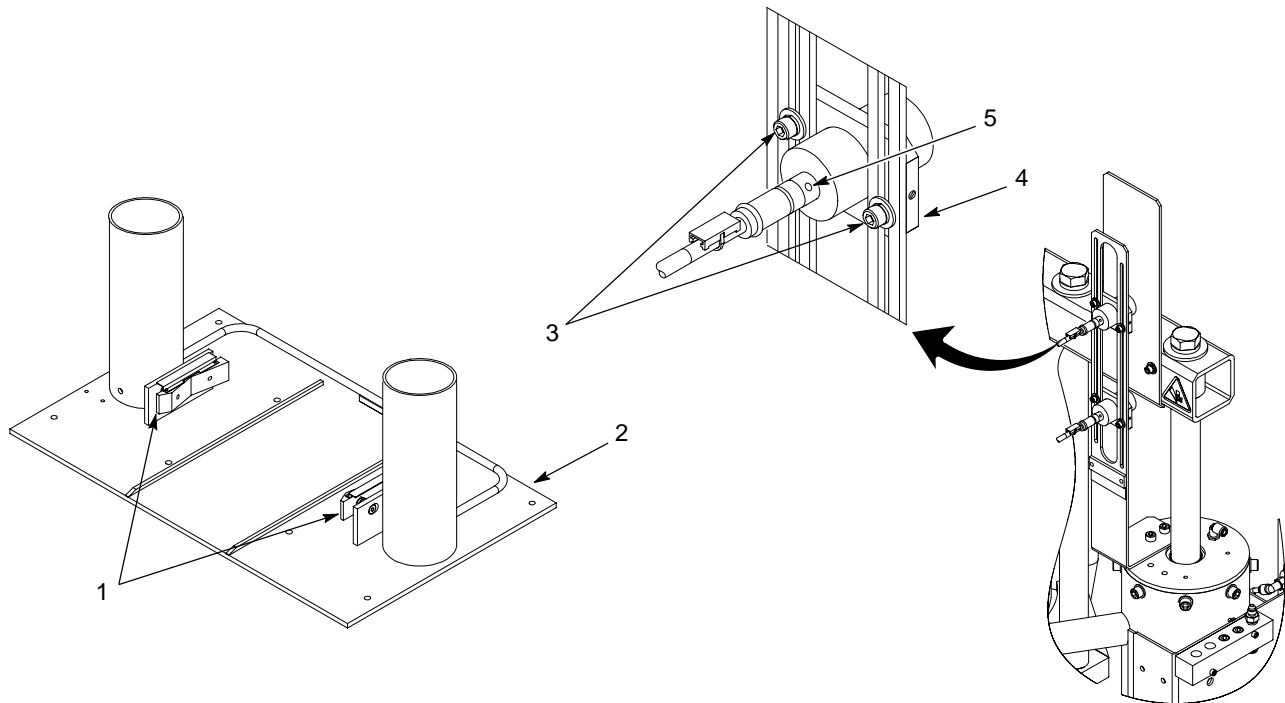


Figure 3 Adjusting the Proximity Sensors

Reset the Factory Settings

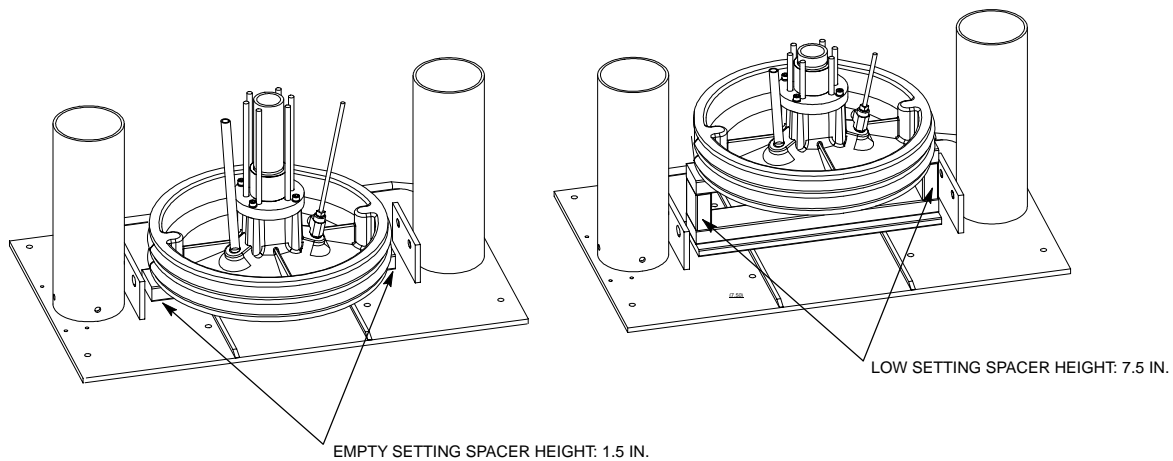
NOTE: See Figure 4. Have spacers of the proper height on hand before performing this procedure.



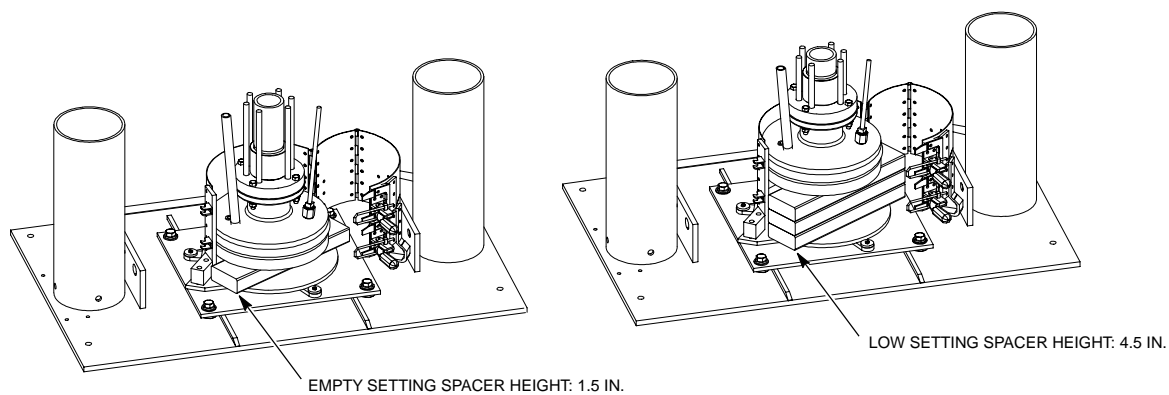
CAUTION: Remove the frame hold-down shoes on the 30- and 55-gallon systems to prevent damage to the follower plate seals.

1. See Figure 3. If applicable, remove the hold-down shoes (1) from the frame (2).
2. Set spacers onto the base surface of the frame as shown in Figure 4. Using the Rhino SD2/XD2 bulk unloader elevator control valve, lower the follower plate onto the spacers.
3. Loosen the screws (3) securing the adjustment plate (4). Move the adjustment plate until the applicable proximity sensor LED (5) illuminates. Tighten the screws (3) securely.
4. Raise the follower plate. Remove the spacers from the surface base of the frame.
5. Repeat steps 2 through 4 for the remaining proximity sensor if necessary.
6. Using the Rhino SD2/XD2 bulk unloader elevator control valve, raise and lower the follower plate to test the Low and Empty signals.
7. If removed, install the hold-down shoes (1) onto the frame (2).

LARGE FRAME WITH DRUM FOLLOWER PLATE



LARGE FRAME WITH PAIL FOLLOWER PLATE AND HOLD DOWN MODULE



LARGE FRAME WITH PAIL FOLLOWER PLATE

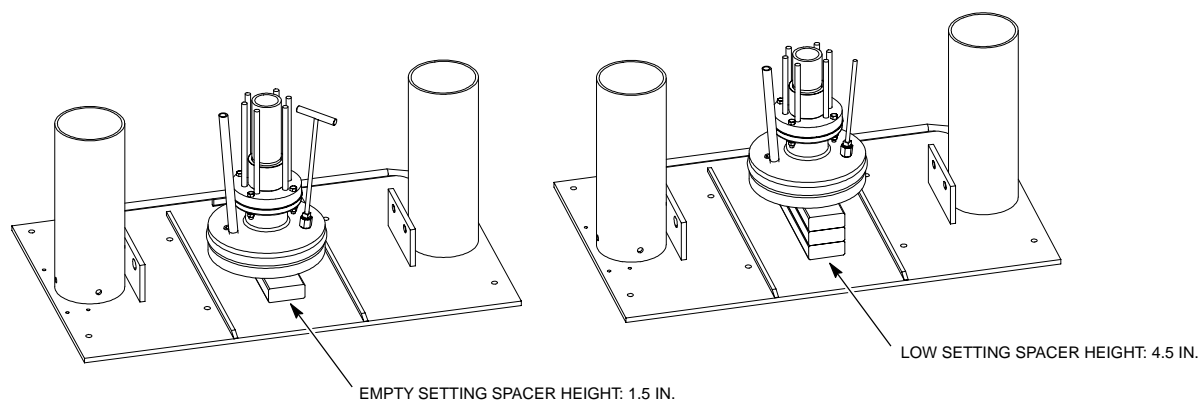


Figure 4 Spacer Height for Factory Settings

Parts

To order parts, call the Nordson Customer Service Center or your local Nordson representative.

Empty Level Indicator

See Figure 5. and the following parts list.

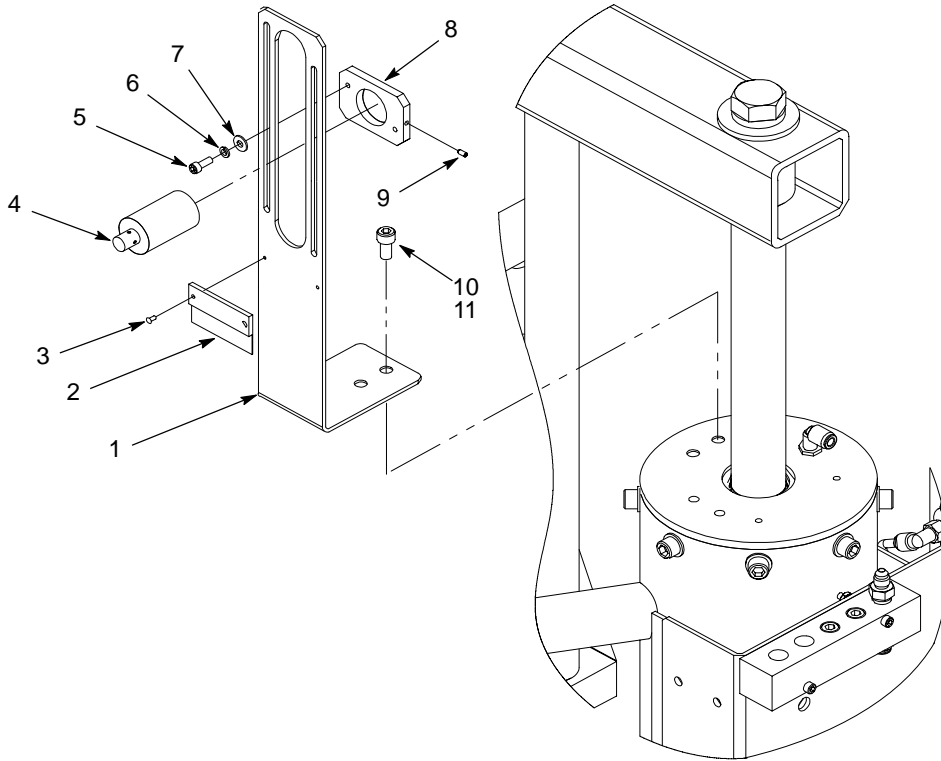


Figure 5 Empty Level Indicator

Item	Part	Description	Qty	Note
—	1070334	Module, drum empty 30 mm	1	
—	1070335	Module, drum empty 18 mm	1	
1	1070398	• Bracket	1	
2	1042530	• Label	1	
3	985112	• Rivet	2	
4	332947	• Switch, proximity, 30 mm (FOR USE ON LEVEL INDICATOR 1070334)	1	
4	223492	• Switch, proximity, 18 mm (FOR USE ON LEVEL INDICATOR 1070335)	1	
5	345754	• Screw, socket, 10-24 x 0.50, grade 8	2	
6	983079	• Washer, lock, #10	2	
7	983123	• Washer, flat	2	
8	1042618	• Plate, adjustable, M30 (FOR USE ON LEVEL INDICATOR 1070334)	1	
8	1044341	• Plate, adjustable, M18 (FOR USE ON LEVEL INDICATOR 1070335)	1	
9	1042635	• Screw, set, 8-32 x 0.375, nylon	1	
10	982035	• Screw, socket, M8 x 16	2	
11	900464	• Loctite 242, blue	AR	

AR: As Required

Low and Empty Level Indicator

See Figure 6 and the following parts list.

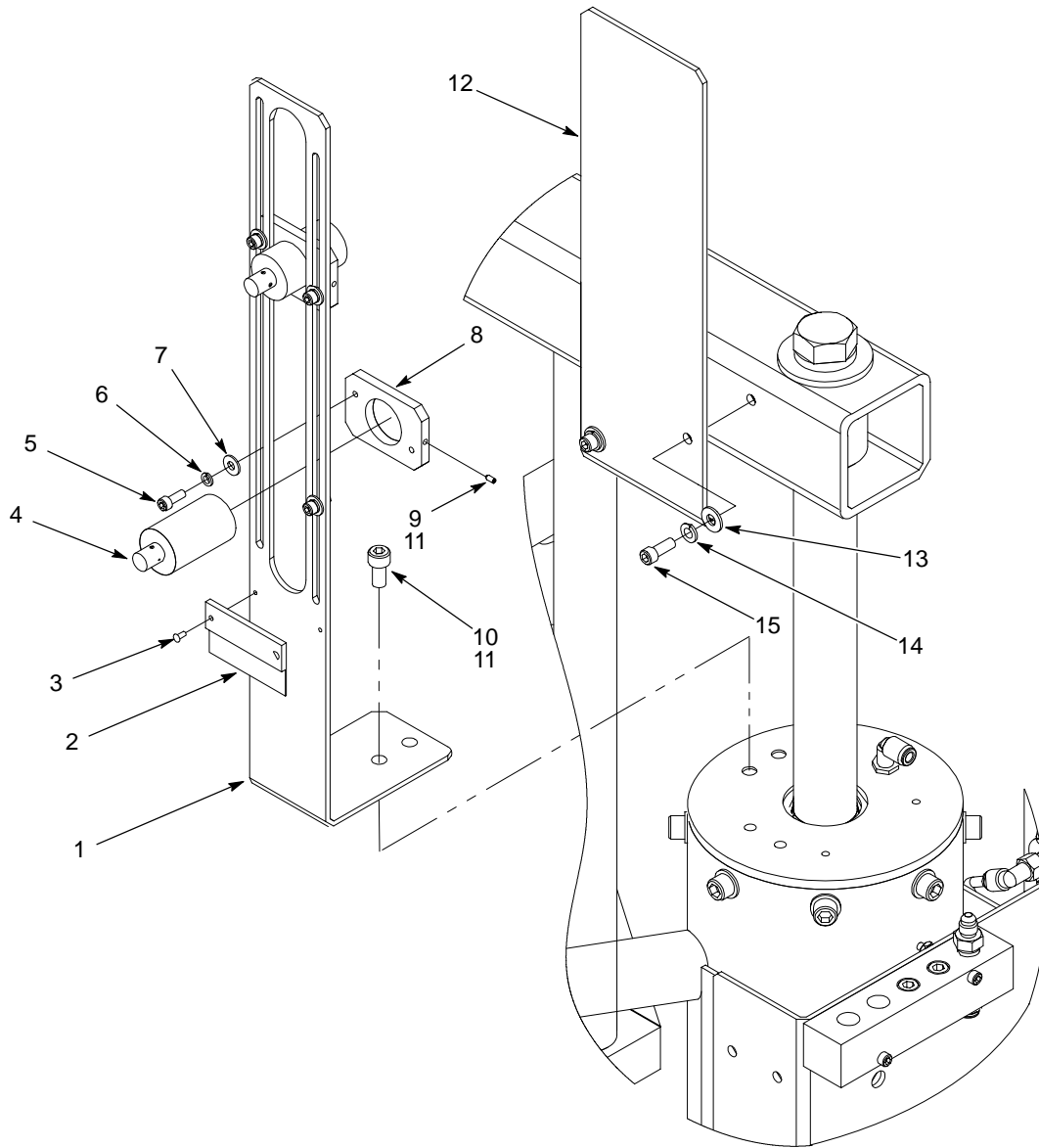


Figure 6 Low and Empty Level Indicator

Item	Part	Description	Qty	Note
—	1070336	Module, drum low/empty 18 mm	1	
—	1070337	Module, drum low/empty 30 mm	1	
1	1070399	• Bracket	1	
2	1044196	• Label	1	
3	985112	• Rivet	2	
4	223492	• Switch, proximity, 18 mm (FOR USE ON LEVEL INDICATOR 1070336)	2	
4	332947	• Switch, proximity, 30 mm (FOR USE ON LEVEL INDICATOR 1070337)	2	
5	345754	• Screw, socket, 10-24 x 0.50, grade 8	4	
6	983079	• Washer, lock, #10	4	
7	983123	• Washer, flat	4	
8	1044341	• Plate, adjustable, M18 (FOR USE ON LEVEL INDICATOR 1070336)	2	
8	1042618	• Plate, adjustable, M30 (FOR USE ON LEVEL INDICATOR 1070337)	2	
9	1042635	• Screw, set, 8-32 x 0.375, nylon	2	
10	982035	• Screw, socket, M8 x 16	2	
11	900464	• Loctite 242, blue	AR	
12	1044094	• Plate, proximity target	1	
13	345913	• Washer, flat	2	
14	345977	• Washer, lock	2	
15	345750	• Screw, socket, 1/4-20 x 0.75	2	
AR: As Required				

Notes:

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