Description

See Figure 1.

The Rhino SD2/XD2 runaway sensor monitors pump strokes and runaway pump conditions. The system controller supplies the logic and control voltage to the sensor. The system controller indicates a runaway fault condition when the sensor senses a pump cycle rate of 10 strokes in 20 seconds or greater.

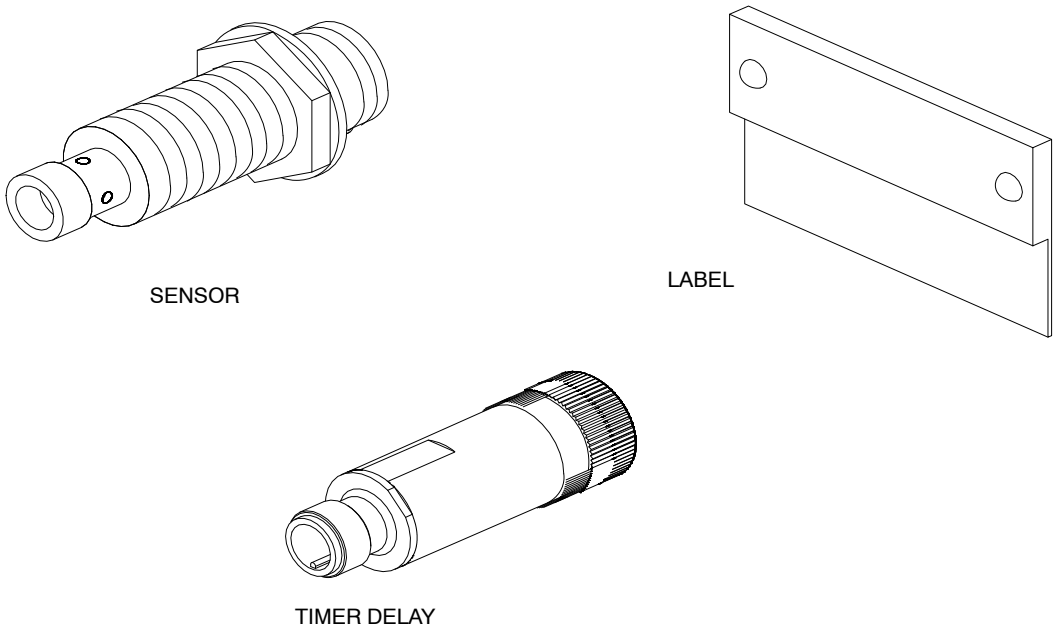

Figure 1 Typical Runaway Sensor Assembly

The sensor threads into the air motor trip bar assembly. Two sensors are available:

- 18-mm 24 Vdc with micro connector and timer delay
- 18-mm 120 Vac with mini connector

The timer delay included with the 18-mm 24 Vdc with micro connector sensor assembly holds up the pulse long enough for a controller to detect the stroke and the stroke count for runaway detection.

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Repair

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

Disconnect and lock out power to the system before performing repairs.

1. Remove the screws (10) securing the cover (1) to the trip rod assembly (2).
2. **First-Time Installations:** Remove the cap plug (3) from the trip rod assembly (2).
3. Depending on the sensor assembly, either disconnect the connector (4) from the timer delay (11) or the sensor (5).
4. **24 Vdc Controller Applications:** Disconnect the timer delay (11) from the sensor (5).
5. Loosen the jam nut (6). Remove the washer (7), jam nut, and sensor (4) from the trip rod assembly (2).
6. Install the new sensor (5) in the reverse order of the removal procedure. Make sure that the sensor slightly touches the trip bar (11).
7. Turn the sensor (5) 1-$^1/_2$ to 2 turns counterclockwise to achieve a gap of 0.06-0.08 in. (1.54–2 mm).
8. **First-Time Installations:** Install the label (9) to the trip rod assembly (2) using the drive screws (8).

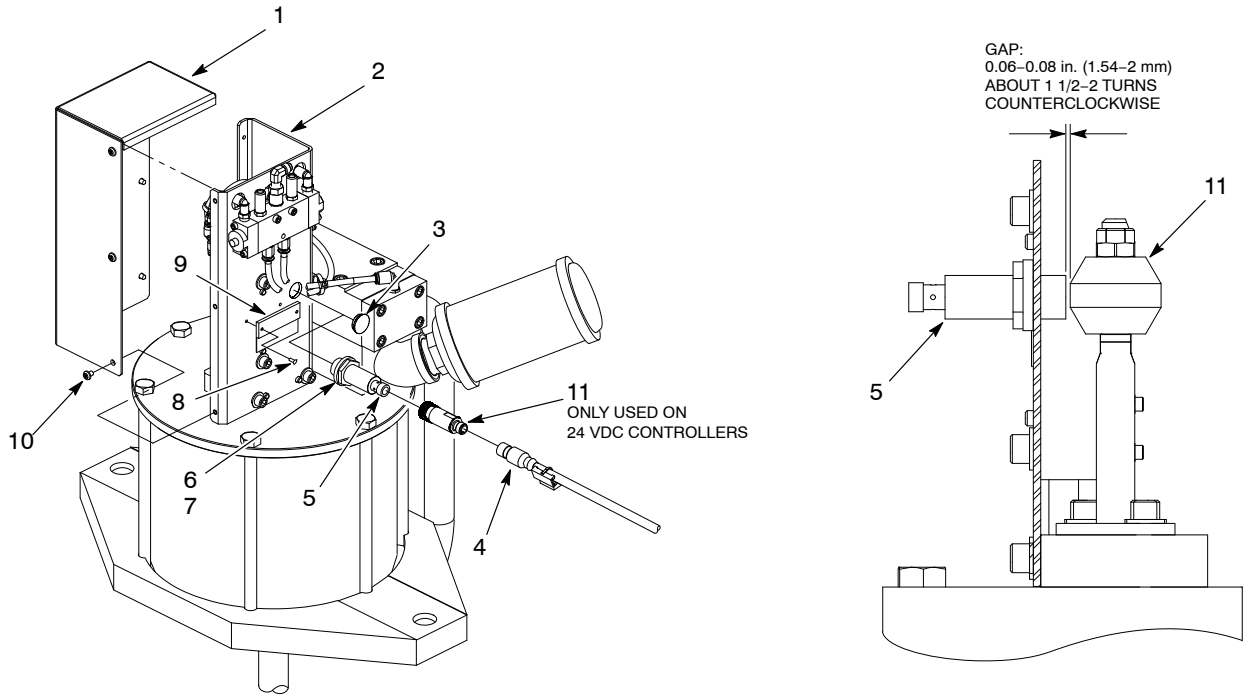

Figure 2 Replacing a Runaway Sensor

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Parts

See Figure 3 and refer to the following parts lists.

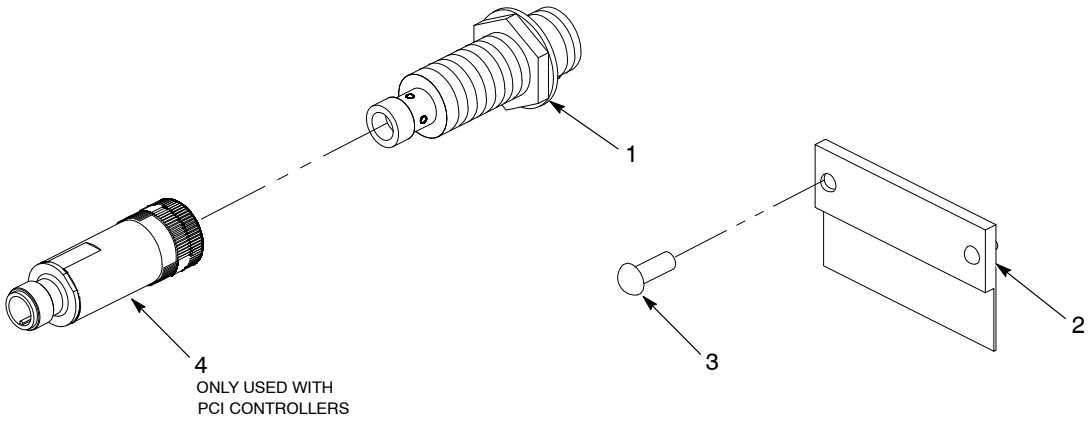

Figure 3 Parts

18-MM 24 Vdc with Micro Connector for PCI Controls

Item	Part	Description	Quantity
—	1070251	Module, runaway, proximity 18-mm, 24 V, micro	1
1	1070254	• Sensor, proximity	1
2	1070311	• Label	1
3	1025108	• Screw, drive, 4 x 0.312	2
4	1097932	• Timer, delay, On-Off, M12 x 1, 10-30 Vdc	1

18-MM 24 Vdc with Micro Connector, for PLC Controls

Item	Part	Description	Quantity
—	1613460	Module, runaway, 18-mm proximity, SD2, no delay	1
1	1070254	• Sensor, proximity	1
2	1070311	• Label	1
3	1025108	• Screw, drive, 4 x 0.312	2

18-MM 120 Vac with Mini Connector

Item	Part	Description	Quantity
—	1070252	Module, runaway, proximity 18-mm, 120 V, mini	1
1	1070255	• Sensor, proximity	1
2	1070311	• Label	1
3	1025108	• Screw. drive, 4 x 0.312	2

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