

## REFERENCES

### Connecting Motor Amp Draw Signal to Edge Device

See Rexnord Document [SS3-001](#): *Rexnord Smart Condition Monitoring System Installation Manual — Large Gear Drives, Section 2.*

### Connecting AC Input Power

See Rexnord Document [SS3-001](#): *Rexnord Smart Condition Monitoring System Installation Manual — Large Gear Drives, Section 1.*

### Connecting to an Ethernet/IP PLC Network

See Rexnord Document [SS3-002](#): *Rexnord Smart Condition Monitoring System Edge – PLC Setup and Interface*

### Security Guidelines

See Rexnord Document [SS5-001](#): *Rexnord Smart Condition Monitoring System – Security Guidelines*

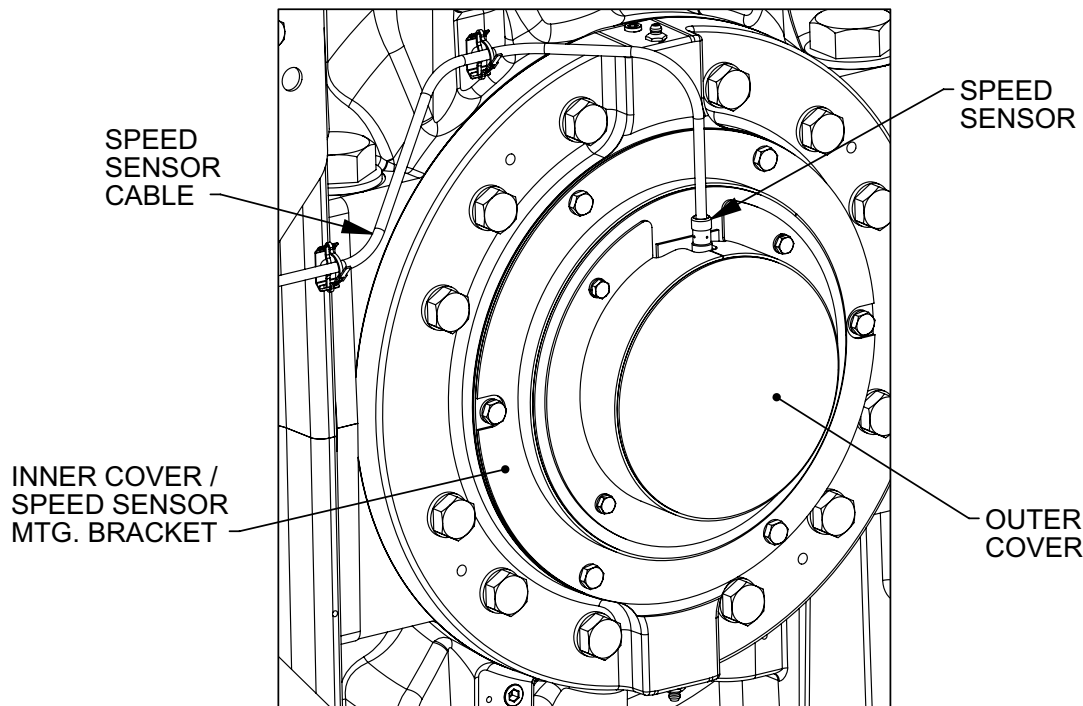
## INSTALLATION

### 1. Calibration of Factory Installed Speed Sensor: Tapered Bushing and Hollow Shaft — Type VPT, VPQ, VRT and VRQ

**NOTE:** These instructions should be followed during the mechanical installation of the gearbox. Reference Rexnord Falk V-Class owner's manual (Document [178-052](#)).

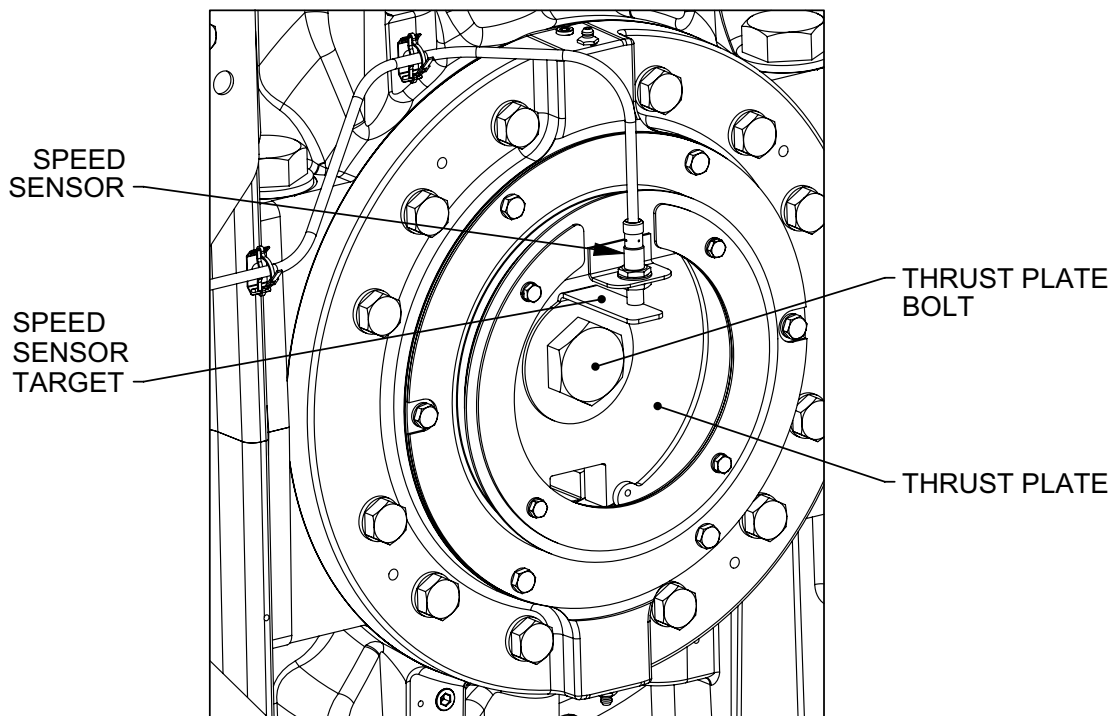
- 1.1 Follow instructions in Falk V-Class Owner's Manual (Document [178-052](#)) through step 3 of the "INSTALLATION OF SHAFT-MOUNTED DRIVES" section.
- 1.2 Find and identify the two piece cover on the outboard side of the gearbox.

Figure 1 — Factory installed output shaft speed sensor assembly (Type T&Q)



- 1.3 Remove the outer cover. There are four M6 cap screws securing it to the inner cover. A 10mm wrench or socket is required.

Figure 2 — Output shaft speed sensor assembly with outer cover removed (Type T&Q)

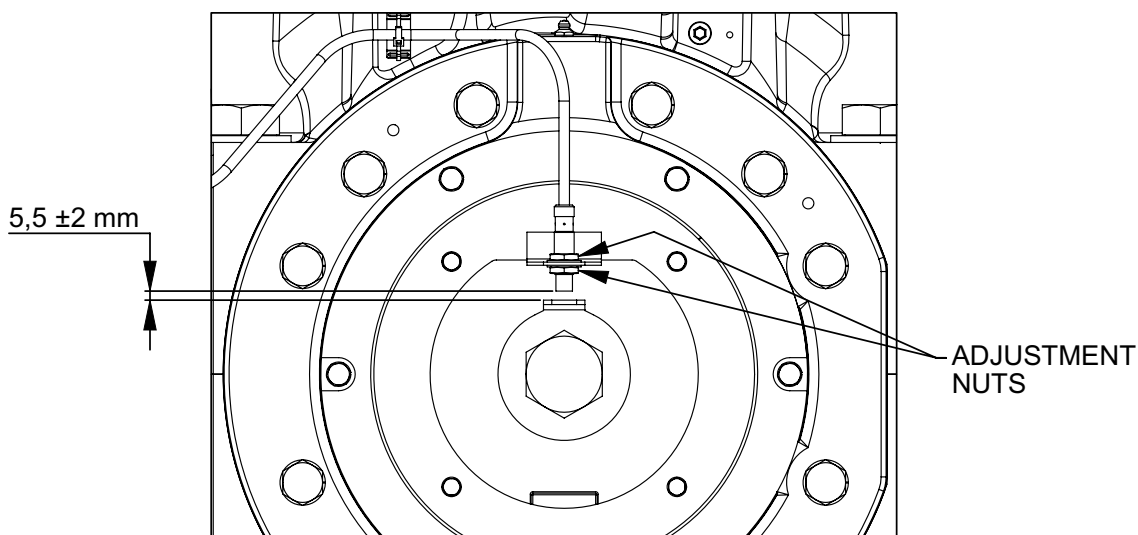


1.4 While installing the thrust plate (step 4 of the “INSTALLATION OF SHAFT-MOUNTED DRIVES” section of document [178-052](#)), align the speed sensor target such that it is oriented as shown in figure 2 (directly under the speed sensor).

1.4.1 **NOTE:** if the entire installation has already been completed, the thrust plate bolt will be secured in place with Loctite. In this situation, the input shaft of the gearbox must be rotated until the tang of the speed sensor target is aligned as indicated above.

1.5 Once the speed sensor target is aligned, the rest of the installation procedure in document [178-052](#) can be completed (applying Loctite 242 or equivalent and proper torque to the thrust plate fastener).

Figure 3 — Adjusting the spacing of the speed sensor with the speed sensor target (Type T&Q)



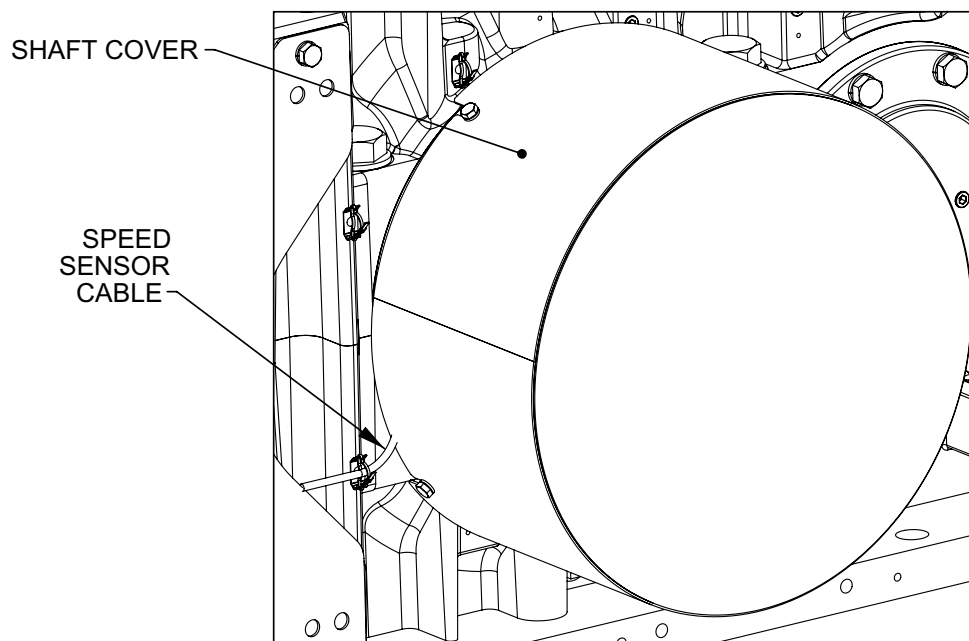
- 1.6 Adjust the position of the speed sensor until a gap of  $5.5\text{mm} \pm 2\text{mm}$  [ $0.22" \pm 0.08"$ ] between the tip of the sensor and the tang of the speed sensor target has been achieved. A feeler gauge is suitable for this task. The speed sensor position can be adjusted by loosening and tightening the two adjustment jam nuts on the body of the speed sensor. The jam nuts require a 17mm open-ended wrench and should be torqued to 11 ft-lbs (15 Nm).
- 1.7 To confirm proper operation:
  - 1.7.1 Rotate the gearbox input shaft and ensure the speed sensor target does not collide with the speed sensor
  - 1.7.2 With the Edge Device powered, a light will illuminate on the body of the speed sensor. Ensure that the light turns on with the target is under the sensor and turns off when the target clears the sensor.
- 1.8 Replace shaft cover and corresponding cap screws.

## 2. Calibration of Factory Installed Speed Sensor: Shrink Disk — Type VPJ and VRJ

**NOTE:** These instructions should be followed during the mechanical installation of the gearbox. Reference Rexnord Falk V-Class Owner's Manual (Document [178-052](#)) and Shrink Disc Installation (Document [168-850](#)).

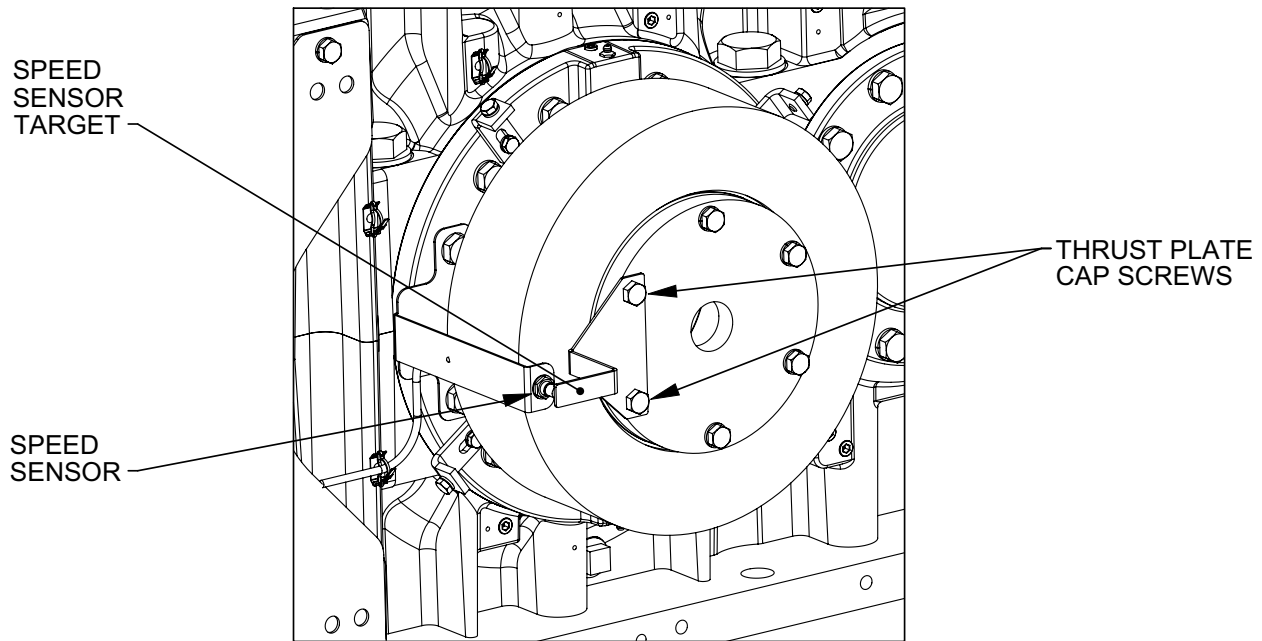
- 2.1 Follow instructions for Shrink Disc Installation (Document [168-850](#)) prior to adjusting the speed sensor.
- 2.2 Find and identify the shaft cover located on the shrink disc side of the gearbox.

Figure 4 — Shrink disk guard as installed from factory (Type J)



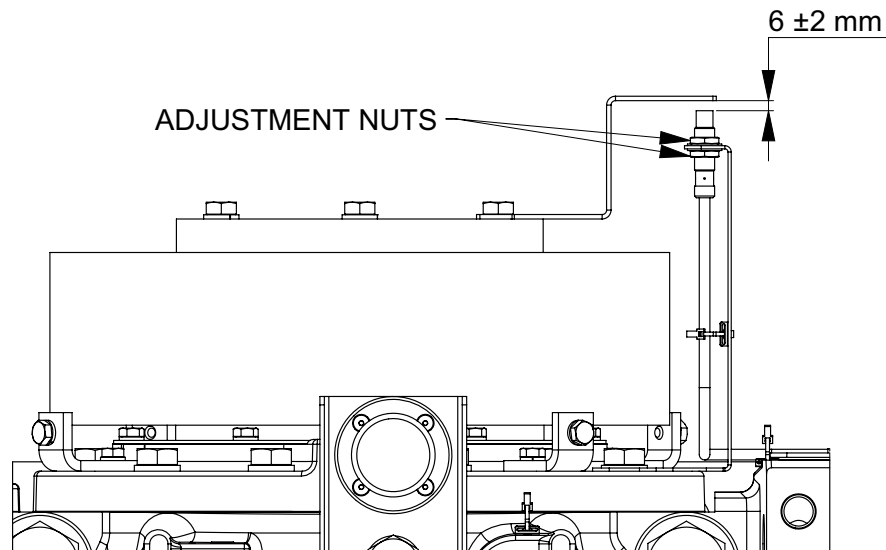
- 2.3 Remove the M8 cap screws holding the cover to the cover mounting brackets. A 13mm wrench or socket is required for this. Remove the shaft cover.
- 2.4 Remove two adjacent thrust plate retention cap screws to allow for installation of the speed sensor target bracket. Install the bracket and replace the cap screws. See Document [168-850](#) for sizes and torque values of the cap screws for your gearbox.

Figure 5 — Output shaft speed sensor assembly with outer cover removed (Type J)



- 2.5 Adjust the position of the speed sensor until a gap of  $6\text{mm} \pm 2\text{mm}$  [ $0.24'' \pm 0.08''$ ] between the tip of the sensor and the tang of the speed sensor target has been achieved. A feeler gauge is appropriate for this task. The speed sensor position can be adjusted by loosening and tightening the two adjustment jam nuts on the body of the speed sensor. The jam nuts require a 17mm open ended wrench and should be torqued to 11 ft-lbs (15 Nm).

Figure 6 — Adjusting the spacing of the speed sensor with the speed sensor target (Type J)



- 2.6 To confirm proper operation:
- 2.6.1 Rotate the gearbox input shaft and ensure the speed sensor target does not collide with the speed sensor.
  - 2.6.2 With the Edge Device powered, a light will illuminate on the body of the speed sensor. Ensure that the light turns on with the target is under the sensor and turns off when the target clears the sensor.
- 2.7 Replace shaft cover and corresponding cap screws.



## APPENDIX A: FLIPPING A GEARBOX WITH A SMART CONDITION MONITORING SYSTEM PACKAGE

### Right Angle (VR) Units Only

**NOTE:** *flipping a gearbox with a Smart Condition Monitoring System Package requires removal and reinstallation of multiple components. If the drive was not sold with a flipability package, the inspection cover of the gearbox will need to be opened to relocate internal oil catchers. This process is not covered by this document.*

1. Complete the mechanical flipping of the drive and re-installation. The procedure for doing this is not covered by this document — consult factory if additional guidance is needed for this step.
  - 1.1 Note that the oil needs to be drained from the gearbox during this process and remain drained until the Smart Condition Monitoring System Package flipping is completed.
2. The following Smart Condition Monitoring System Package components will need to be removed and re-assembled to the gearbox to re-position them as they were oriented before the gearbox was flipped.
  - 2.1 Oil Quality Sensor
  - 2.2 Andon light and associated brackets
  - 2.3 Edge Device, signal converter and associated bracket (can be removed and re-installed as an assembly)
  - 2.4 Sensor cables (as needed)
  - 2.5 The speed sensor on the output shaft (optional) can be re-located if desired, but it will function in any orientation
  - 2.6 Critically low oil level sensor and associated plumbing
3. Note that the vibration sensors and high speed bearing temperature sensors cannot be re-positioned as their mounting locations are fixed. The cables for those may need to be re-routed when gearbox is re-oriented after flipping.
4. When re-installing the oil quality sensor, make sure to install it on the port on the same side of the gearbox as the low speed gear. Also observe the torque spec for the sensor is 40-43 FT-LBS (54-58 Nm).
5. When re-installing the critically low oil level sensor, make sure to install it on the port opposite the low speed gear. Also make sure to re-install the vent line.
6. Additional cable tie mounts may need to be installed for new cable routings. Holes are pre-drilled in the housing to accept the #8 drive screws for the cable tie mounts. Additional cable tie mounts can be acquired from Rexnord.
7. Upon completion, ensure all cables are re-connected to all sensors and that all cables are secured and free from rotating components.