

## Quadrature Speed Sensor for Heavy Duty, Hydrostatic Fixed Displacement Piston Motors

Installation Data Sheet

This bulletin provides instructions for the proper installation of the Quadrature speed sensor into Heavy Duty Hydrostatic piston motors. These instructions should be followed carefully to prevent damage to the sensor and ensure proper operation.

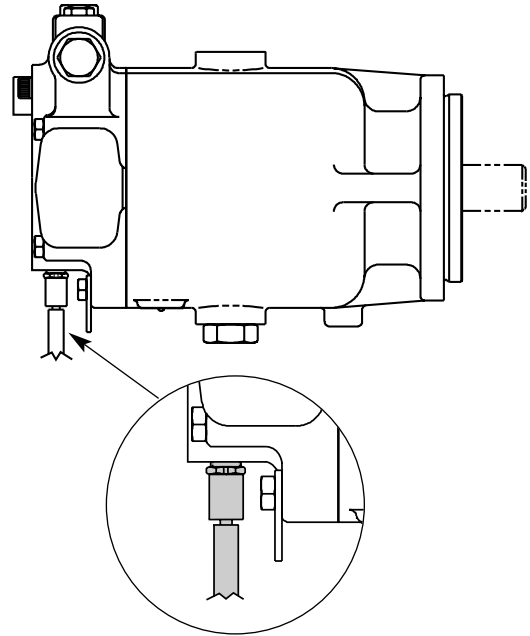


As with any service procedure, care must be taken to prevent any debris or contamination from entering the motor. Prior to installing a new sensor into the motor, thoroughly clean the motor endcover around the sensor, and remove the old sensor.

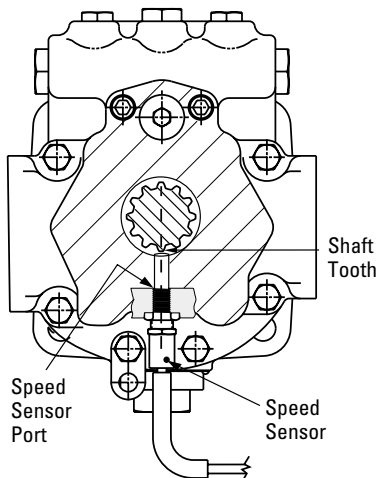
As with any service procedure, care must be taken to prevent any debris or contamination from entering the motor. Prior to installing a new sensor into the motor, thoroughly clean the motor endcover around the sensor, and remove the old sensor.

### Note

Some motors come equipped "speed sensor ready" (an O-ring plug is installed in the port instead of a sensor). Remove O-ring plug after cleaning the endcover as noted above, then follow these instructions.

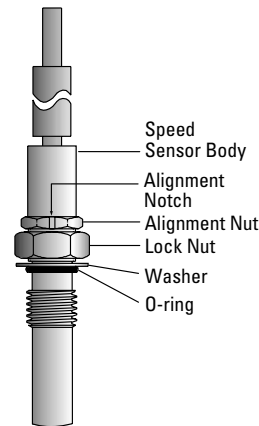


**Figure 1**

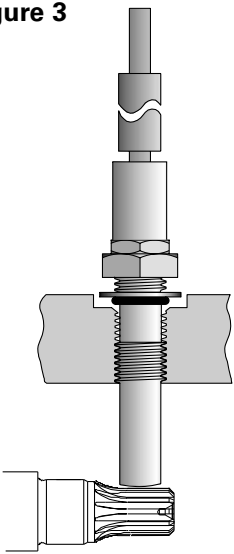


- 1) Rotate the motor shaft until a (gear/target) tooth is centered in the speed sensor port. If this is not done, the sensor may be damaged during the operation of the motor. (See Figure 1.)

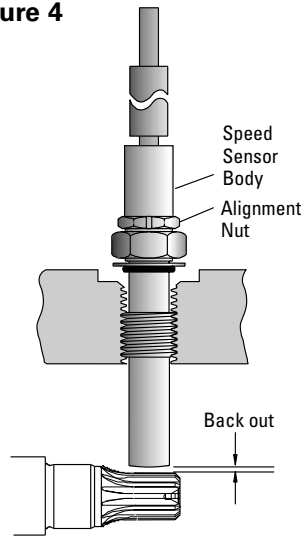
**Figure 2**



- 2) Make sure the lock nut and its threads are clean and dry for the proper torque. Position the lock nut against the alignment nut as shown in Figure 2.
- 3) Move the washer and the O-ring up against the speed sensor body threads as shown in Figure 2.

**Figure 3**

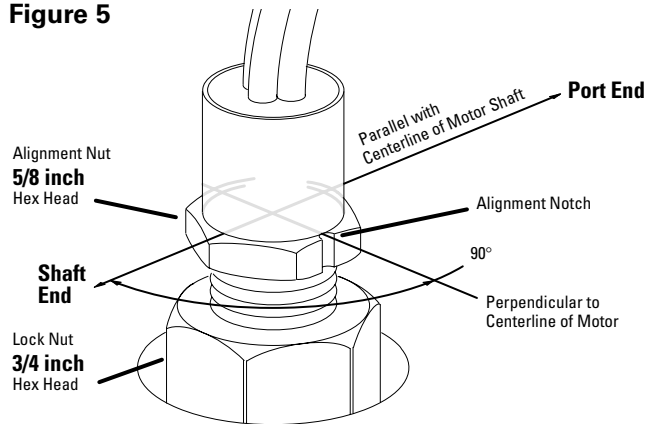
- 4) By hand, lightly thread the speed sensor body to the housing until the sensor touches against the motor (shaft) tooth. Use of excessive force will damage the sensor. Make sure the O-ring and the washer are not touching the housing, see **Figure 3**.

**Figure 4**

- 5) Back out the speed sensor body one quarter turn (CCW) plus the additional amount (CCW) needed to make the sensor alignment notch point to your right (when viewing from the shaft end of the motor with the sensor pointing straight up). The speed sensor must be backed out (turned CCW from the (shaft) tooth no more than 1-1/4 turns max. (450 degrees). The sensor alignment notch should be perpendicular to the motor shaft +/- 5 degrees (**Figures 4 and 5**).

- 6) Maintain the speed sensor body alignment (**Figure 5**) and tighten the lock nut to 8,5 Nm [75-125 lb-in]. Torque values are for clean dry threads.

- 7) Check the speed sensor body for correct alignment (**Figure 5**) and reinstall the sensor if it is not correct.

**Figure 5**

To verify that the speed sensor is installed properly, review the following steps:

- Imagine holding the motor shaft in your hand with the port end of the motor pointing away from your body.
- Rotate the motor such that the speed sensor is pointing straight up.
- The alignment notch should be pointing directly to your right.
- The sensor alignment notch should be perpendicular to the motor shaft centerline +/- 5 degrees.

**Eaton**  
14615 Lone Oak Road  
Eden Prairie, MN 55344  
USA  
Tel: 952 937-9800  
Fax: 952 974-7722  
www.hydraulics.eaton.com

**Eaton**  
20 Rosamond Road  
Footscray  
Victoria 3011  
Australia  
Tel: (61) 3 9319 8222  
Fax: (61) 3 9318 5714

**Eaton**  
Dr.-Reckeweg-Str. 1  
D-76532 Baden-Baden  
Germany  
Tel: (49) 7221 682-0  
Fax: (49) 7221 682-788