

24M433 Installation Fixture Kit

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EN

To enable installation of a position sensor on Series C and earlier E-Flo Pumps, to allow use with the Graco ACS Module. Also requires 24J305 Sensor Circuit Kit and new style motor coupler with five position sensing holes. See Related Manuals, below.
For professional use only.



Important Safety Instructions

Read all warnings and instructions in this manual and in your E-Flo instruction manuals. Save these instructions.

Related Manuals

Manual	Description
311594	E-Flo Pump Repair-Parts Manual
311603	24J305 Sensor Circuit Kit Manual
311605	16C487 and 15H880 Motor Coupler Kits
3A0006	24H372 ACS Module Instruction Manual

Kit Parts

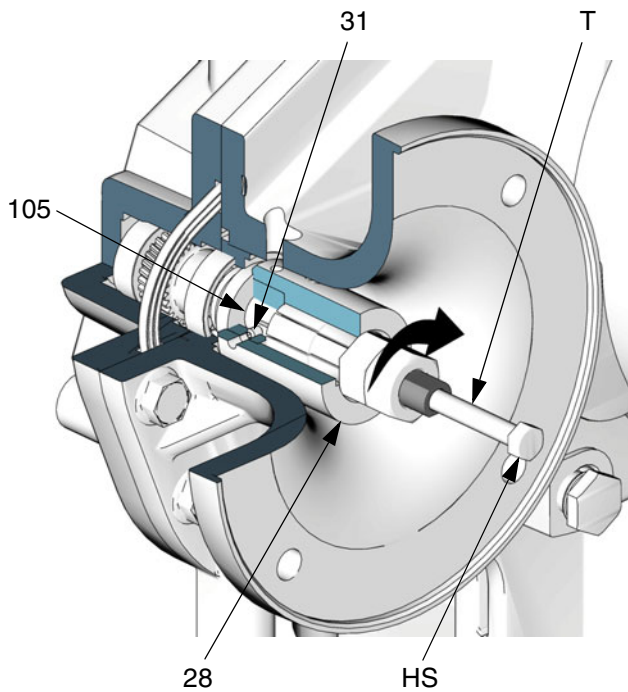
The following parts are included in the kit.

Description	Qty
FIXTURE, drill guide	1
DRILL BIT; 16.5 mm diameter x 223 mm	1
TAP, metric thread; M18 x 1.5	1

Installation

Motor Removal

1. Jog the motor to bring the lower on the side opposite from the motor to the bottom of its stroke.
2. Relieve pressure as explained in your E-Flo Pump Repair-Parts Manual.
3. Shut off electrical power to the unit.
4. Remove the motor as explained in your E-Flo Pump Repair-Parts Manual. Retain the motor mounting screws.
5. See FIG. 1. Loosen both coupler setscrews (31). Insert the 15J827 coupler removal tool (T) into the coupler (28). Turn nut clockwise until tight, then pull the coupler off the gear reducer input shaft (105) by turning hex-head screw (HS) clockwise.



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FIG. 1. Motor Coupler Removal

Drill the Position Sensor Hole

The drill guide ensures that the position sensor mounting hole is properly located in the gear reducer housing.

1. See FIG. 2. Align the holes in the drill guide (DG) with the holes in the gear reducer flange (GR). Orient the guide as shown, then install using the motor mounting screws (MS).

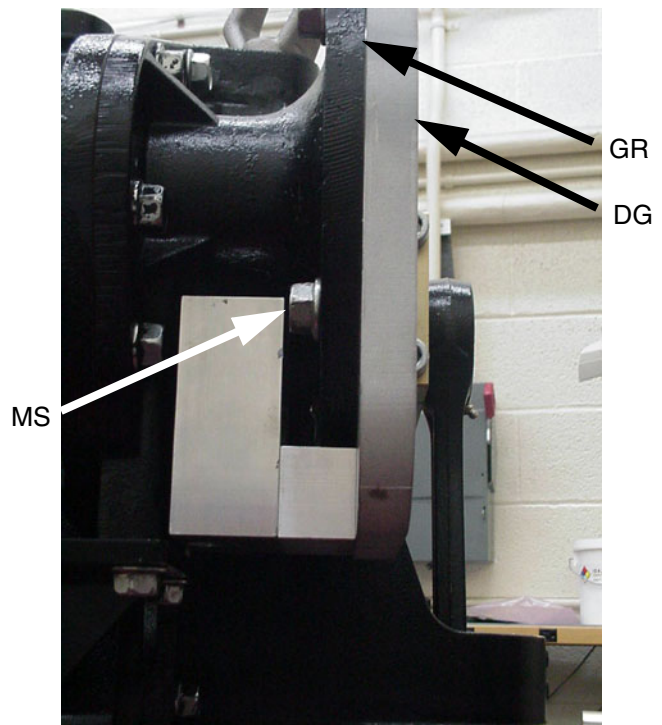


FIG. 2. Install the Drill Guide

2. See FIG. 3. Use the drill guide and a 16.5 mm diameter x 223 mm long tap drill bit to drill the hole for the position sensor in the gear reducer housing.



FIG. 3. Drill the Hole for the Position Sensor

3. See FIG. 4. Remove the drill guide. Tap the mounting hole, using a M18 x 1.5 thread tap.

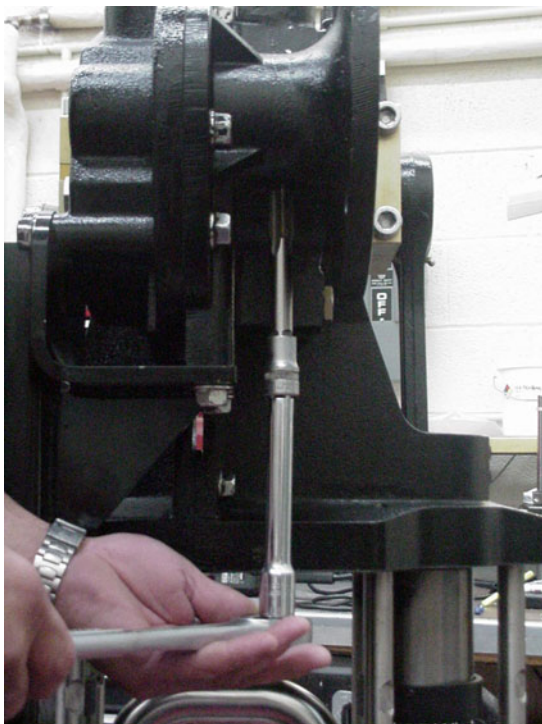


FIG. 4. Tap the Mounting Hole

Install the Coupler

See FIG. 5 on page 4. The position sensor requires a new style coupler with five machined sensing holes (H). See manual 311605 to select the correct coupler for your motor frame, and install the coupler as directed.

Install the Sensors

See manual 311603 for complete instructions to install the 24J305 Sensor Circuit Kit.

1. Remove the existing TDC sensor and install the new sensor supplied in the sensor circuit kit.
2. Remove the existing pressure transducer, conduit, conduit nut, and transducer adapter.
3. Slide the new transducer adapter onto the transducer cable. The new adapter has larger threads which fit the nut on the new conduit.
4. See FIG. 5 on page 4. Slide the position sensor sleeve (S) onto the position sensor (P) cable.
5. Thread the transducer cable into the short leg of the new conduit. Thread the position sensor cable into the long leg of the conduit.
6. Continue threading both cables through the conduit until they exit. Insert the conduit into the 45° adapter at the pump wiring enclosure, and bring both cables into the enclosure.
7. Install the new transducer and adapter into the pump outlet manifold. Secure with the conduit nut.

Installation

8. See FIG. 5. Apply thread lubricant and install the position sensor adapter (A) into the tapped hole. Torque to 75-80 ft-lb (102-108 N•m).

1 Apply thread lubricant. Torque to 75-80 ft-lb (102-108 N•m).

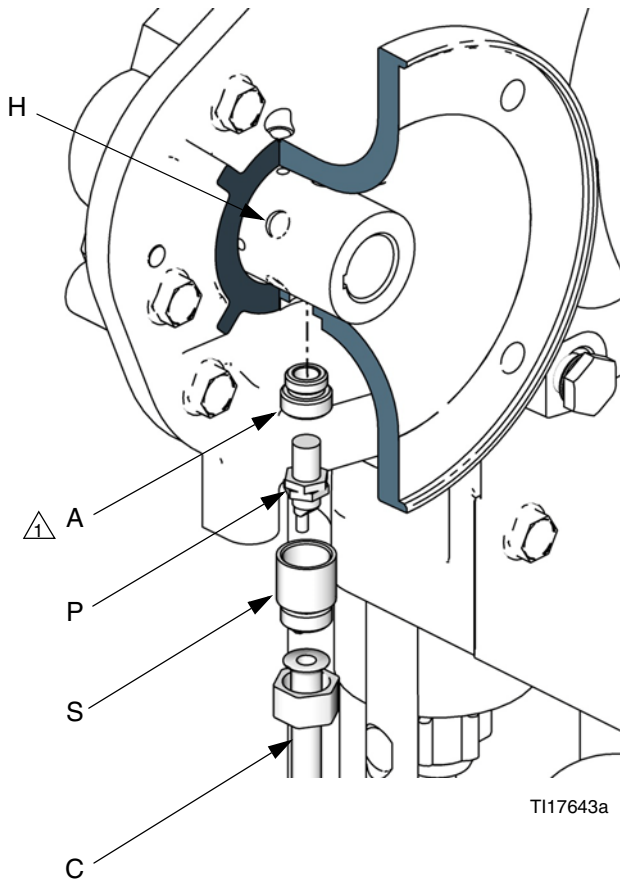


FIG. 5. Install the Position Sensor

9. See FIG. 6. Loosen the jam nuts of the position sensor (P). Adjust the position of the sensor so there is a 1.0-1.2 mm gap between the sensor tip and the coupler. Verify the distance with a feeler gauge (G) or a set of pin gauges, then tighten the jam nuts and sleeve (S) to lock the sensor in place.

10. Secure the conduit (C) to the sleeve (S) with the nut (M). Torque to 15-20 ft-lb (21-27 N•m).

2 Torque to 15-20 ft-lb (21-27 N•m).

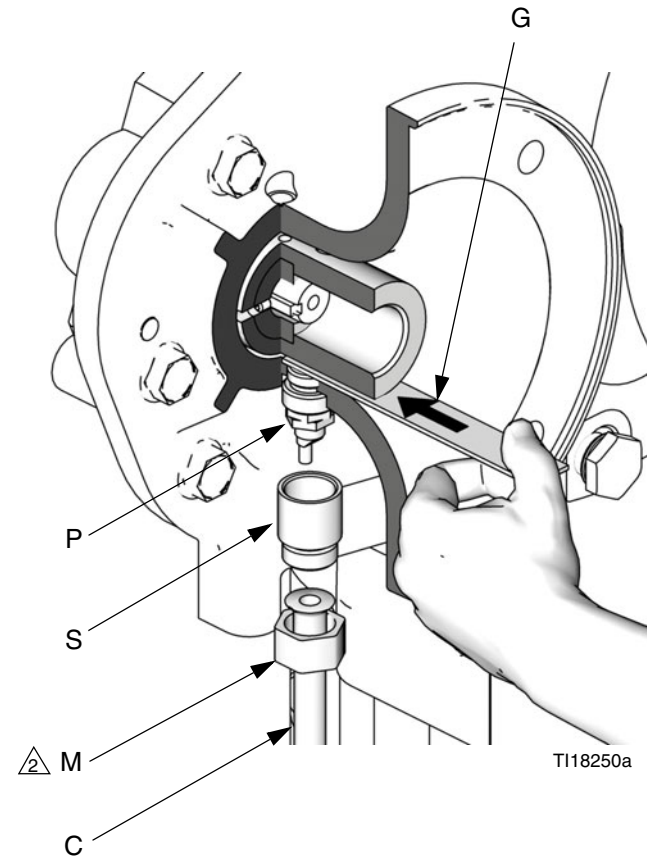


FIG. 6. Measure 1.0-1.2 mm Gap from Sensor to Coupler

11. Wire the TDC, pressure transducer, and position sensor cables to the board as described in manual 311603.
12. Complete the proper grounding of the pressure transducer and field wiring to the pump wiring enclosure, as shown in manual 311603.
13. Complete the wiring of the position sensor to field wiring, using the spring-loaded terminal blocks supplied.
14. Close the wiring enclosure. Reinstall the motor and all covers.
15. Restore power and return the pump to service.

IMPORTANT: Verification of Sensor Placement.

Once the E-Flo/ACS system is operating, run the pump at a constant speed. Use a volt/ohm meter with a frequency/percent output feature (or a scope) to ensure that the position sensor is operating in a 25-35% on duty range. Take this measurement at the output of the barrier (see the Electrical Diagrams in your E-Flo Repair-Parts manual). This duty range ensures proper sensor location and alignment.

If the duty cycle is outside the 25-35% on range, readjust the position sensor as follows. (See step 9 for the adjustment procedure.)

- If the duty cycle is less than 25% on, move the sensor further away from the coupler.
- If the duty cycle is more than 35% on, move the sensor closer to the coupler.

NOTE: Move the sensor in increments no greater than 0.25 mm. Be careful not to contact the coupler.

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Original instructions. This manual contains English. MM 3A2236

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