

Multi-turn Valve Sensor

Installation Manual

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V1.1



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Necessity overview

Tool list*

- Flat 0,8x4,0 Screwdriver
- <Hex key 2>
- Torx 20 Screwdriver
- Plier Wrench (min. capacity 60mm)
- Hook Spanner D50-80
- LOCTITE® 243
- 3M™ EPX Applicator
- 3M™ Scotch-Weld™ EPX Mixing Nozzle, Square Orange, 45mL
- 3M™ Scotch-Weld™ Acrylic Adhesive - DP8405NS
- Pure Acetone
- Clean Cloth
- Metal brush
- File
- latex gloves

Part list (supplied by TWTG)

- 1x Valve Sensor
- 1x Mounting Nut
- 1x Mounting Bracket
- 1x Magnet Bracket
- 5 x M4x10 Screw
- 1x Set Screw M4x10
- 2x Spring Washer M4

*Note: TWTG only supplies the parts listed in the overview. All tools listed in the overview will be supplied by the installer.

Before Installation

Valve assessment

There are a couple of crucial points that need to be considered before installation;

Before installation the condition of the valve, on which the installation will take place, needs to be assessed whether it is suitable for the correct installation described in this manual.

Before and during installation the valve should be fully closed and safe to open.

The valve stem should not be damaged in any way. Or kept to a bare minimum, as long as the top surface of the stem has no protruding damage and a flat surface.

Installation requires a bare metal surface on the stem to successfully bond the magnet bracket. All impurities like oil, metal shavings and dust should be removed as well as paint if there is any. Any impurities will affect the adhesion of the magnet bracket.

Failing to follow these points can lead to inaccuracies in the values in the sensors' readout and concurrently lead to a failed instalment.

Valve Sensor installation

Step 1

Sequence:

1. Remove the set screw with a Flat 0,8x4,0 screwdriver.
2. Remove the handwheel nut with a Plier wrench (min. capacity 60mm).

Necessities:

1. Flat 0,8x4,0 screwdriver
2. Plier wrench (min. capacity 60mm)

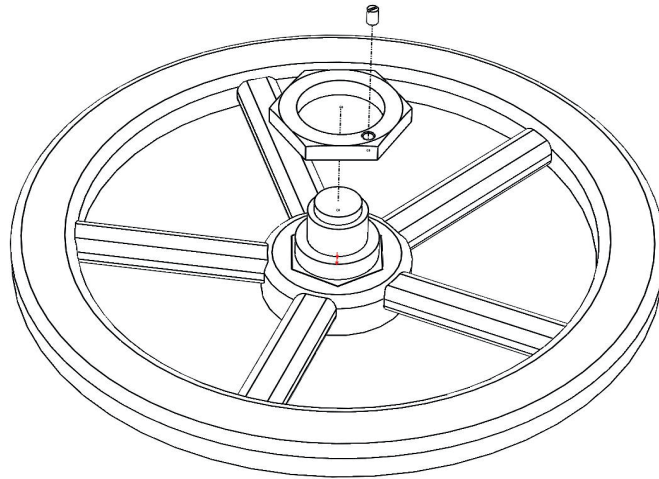


Fig. 1: Remove set screw and handwheel nut

Step 2

Sequence:

1. Screw the Mounting Nut onto the yoke sleeve, tighten firmly with a Hook Spanner D50-80.
2. Put LOCTITE® 243 on the thread of the Set Screw M4X10 and use a Flat 0,8x4,0 screwdriver <hex key 2> to screw it tightly into its designated place.

Necessities:

1. Hook Spanner D50-80
2. Flat 0,8x4,0 screwdriver
3. <hex key 2>
4. 1x Mounting Nut
5. 1x Set Screw M4x10
6. LOCTITE® 243

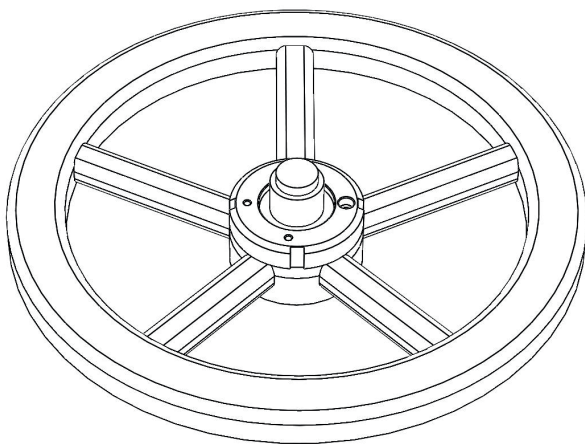


Fig. 2: Screw on Mounting Nut

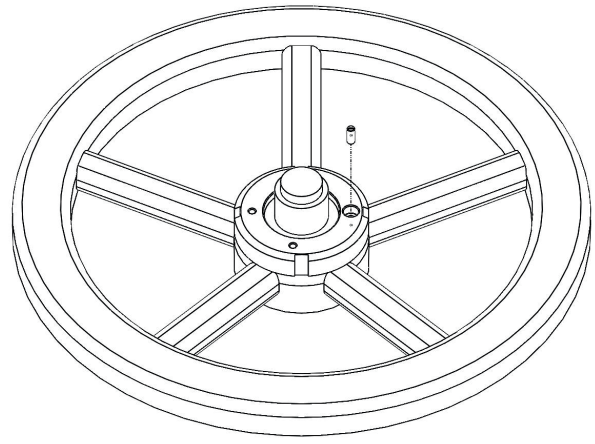


Fig. 3: Screw in set screw

Valve Sensor installation

Step 3

Sequence:

1. Line the Mounting Bracket up with the three mounting holes on the Mounting Nut.
2. Put LOCTITE® 243 on the M4x10 screw 3x. Use a Torx 20 Screwdriver and tighten the screws into place.

Necessities:

1. Torx 20 Screwdriver
2. 1x Mounting Bracket
3. 3x M4x10 Screw
4. LOCTITE® 243

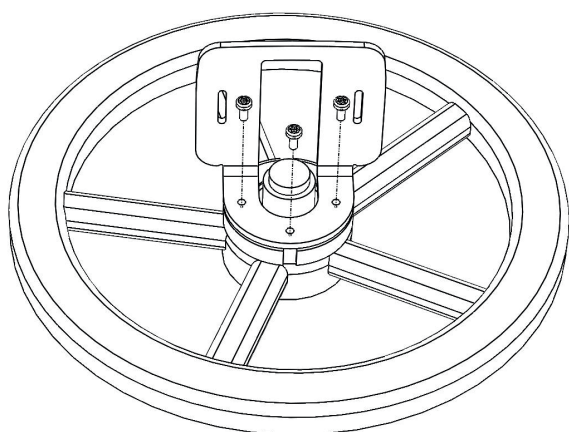


Fig. 4: Align Bracket with screw holes

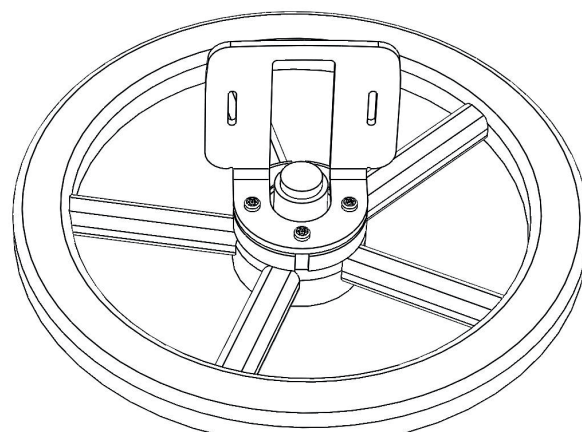


Fig. 5: Tighten screws in to place

Step 4

Sequence:

1. Prepare the stem surface for mounting the bracket. (Blue refers to the outer edges of the thread on the stem) (Grey refers to the inner diameters of the stem)
2. Wipe the grey and blue indicated surfaces free of dust, dirt and iron particles with a Clean Cloth.
3. Wipe the grey and blue indicated surfaces again, only this time with a Clean Cloth and Pure Acetone* to remove any oil and loose particles

Necessities:

1. Pure Acetone
2. 2x Clean Cloth

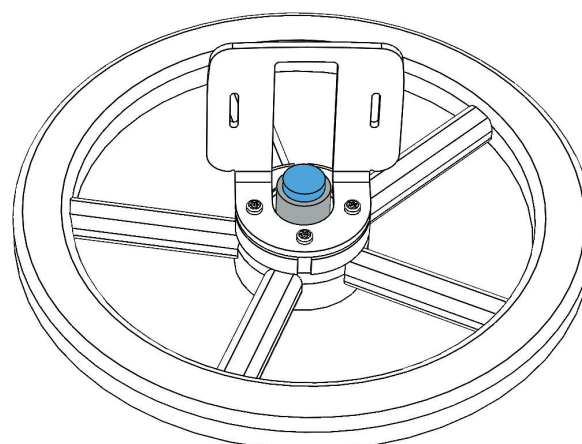


Fig. 6: Prepare stem

*Note: Follow the manufacturer's precautions and directions for use.

Valve Sensor installation

Step 5

Sequence:

1. Insert the cartridge into the 3M™ EPX Applicator* and start the plunger into the cylinders using light pressure on the trigger. Then remove the cap and expel a small amount of adhesive to ensure material flows freely from both sides of cartridge. Finally, attach the 3M™ EPX Mixing Nozzle to the cartridge and begin dispensing the adhesive. Whilst adhesive is in the nozzle, it has a work life of 4-6 minutes. And an open time of 2-4 minutes.
2. Apply a generous amount of Scotch-Weld™ DP8405NS to the inside of the Magnet Bracket, indicated with green.
3. Slide the Magnet Bracket over the stem and apply pressure.
4. Line the cutout on the side of the Magnet Bracket up with the Mounting Bracket. Indicated by the red arrow.
5. The bond must be fixed into place within the open time. Full cure time 24 hours.

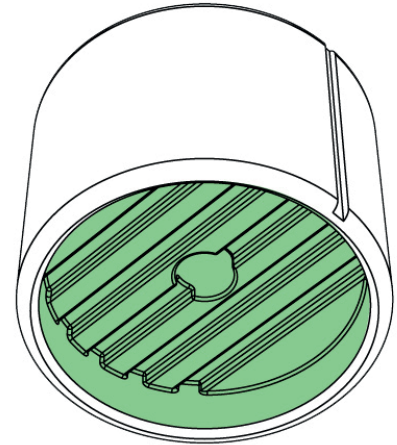


Fig. 7: Magnet Bracket

*Note: Follow the manufacturer's precautions and directions for use.

Necessities:

1. 3M™ EPX Applicator
2. 3M™ Scotch-Weld™ EPX Mixing Nozzle, Square Orange, 45mL
3. 3M™ Scotch-Weld™ Acrylic Adhesive - DP8405NS*
4. 1x Magnet Bracket

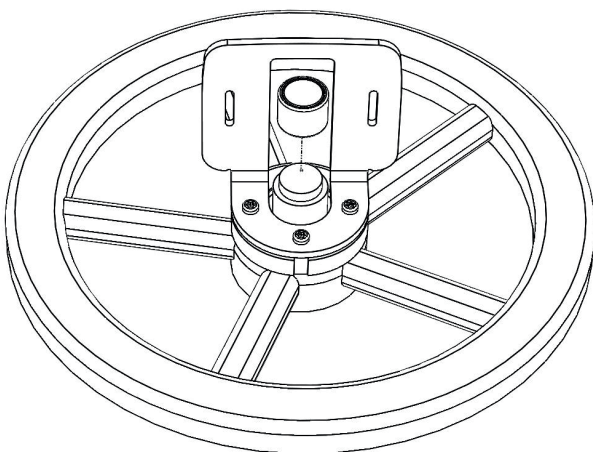


Fig. 8: Place Magnet Bracket

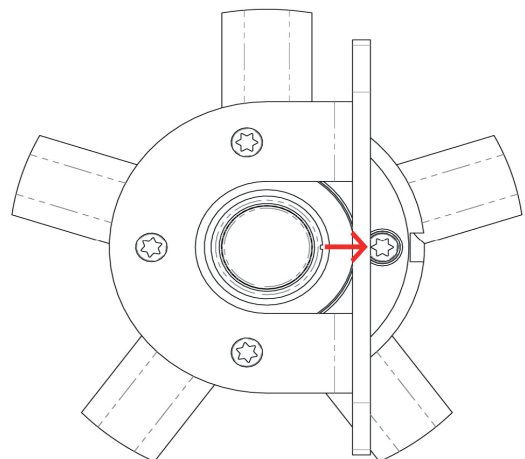


Fig. 9: Line the cutout on the side

Valve Sensor installation

Step 6

Sequence:

1. Mount the Valve Sensor Enclosure in the upright position on to the Mounting Bracket. The LED indicator should be at the top and the label should be in a readable position as shown in image 10.
2. Make sure before screwing the Valve Sensor Enclosure is at its lowest position on the bracket (image 11).
3. Attach enclosure with M4x10 Screw and M4 Spring Washer (2x) and tighten firmly.

Necessities:

1. Torx 20 Screwdriver
2. 1x Valve Sensor Enclosure
3. 2x M4x10 Screw
4. 2x Spring Washer M4

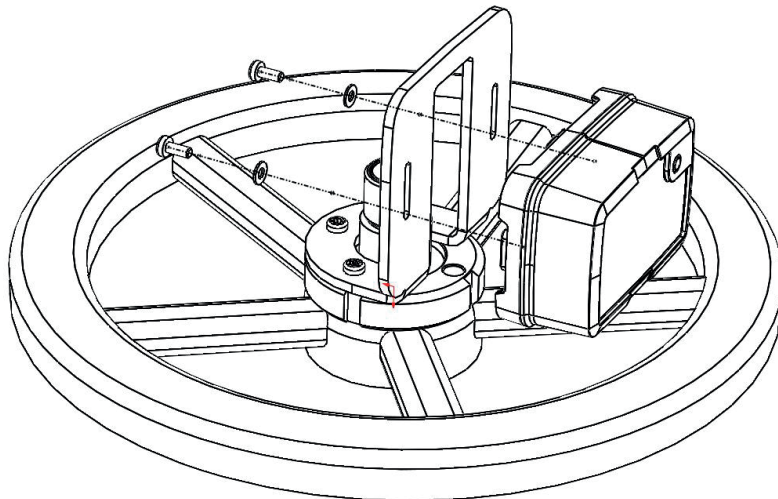


Fig. 10: Enclosure in the upright position

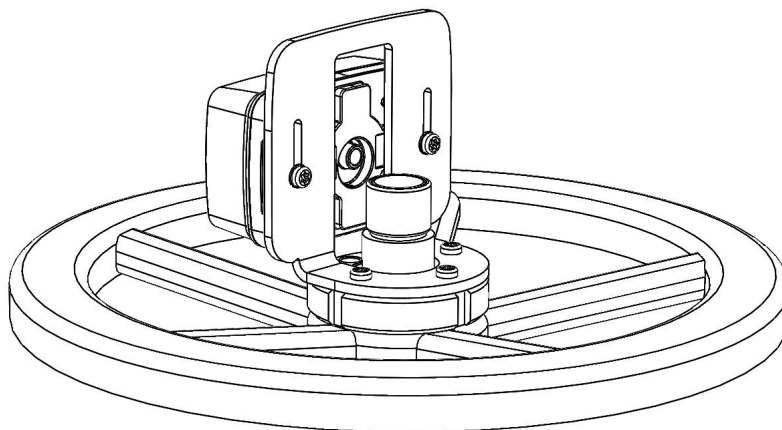


Fig. 11: Attach enclosure with screws and washer



We're tireless tinkerers - motivated by challenge, curiosity, and changing the status quo. We're the kind of people that used to be called 'inventors'.

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