

Step 1:

- a) Mounting surface must be clean and flat. Fasten ring to mounting/motor surface by installing mounting screws as shown in **Illustration 1**. Screws must be tightened and then backed out ¼ to 1 turn.

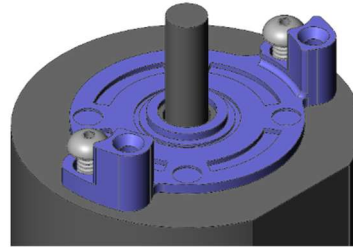


Illustration 1

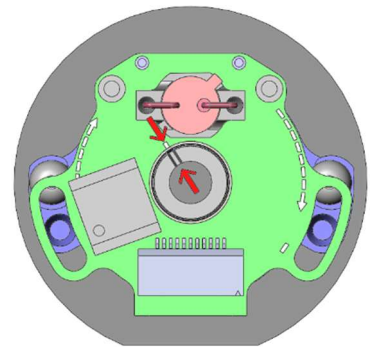


Illustration 2

Step 2:

- a) Before putting base and printed circuit board (PCB) assembly on to the shaft, align the Z slot on the hub with the white mark on the PCB. **Illustration 2**
- b) Place the base and PCB assembly on the ring and shaft as illustrated in **Illustration 2**.

Step 3:

- a) Press down on the hub with the Q-Scale (p/n 2160AG276) to a force between 150 g (0.33 lb) and 700 g (1.5 lb). This will center the encoder assembly to the motor shaft. **Illustration 3** shows the appropriate zone for the pin on the Q-Scale to achieve the specified force range.
- b) Rotate the assembly Clockwise - as indicated by the white arrows on the PCB - to the installation position. Proper installation position is achieved when rotation is at limit and the two cover mounting holes are exposed as indicated in **Illustration 4**.
- c) Confirm the Z slot and white mark alignment; realign if necessary.

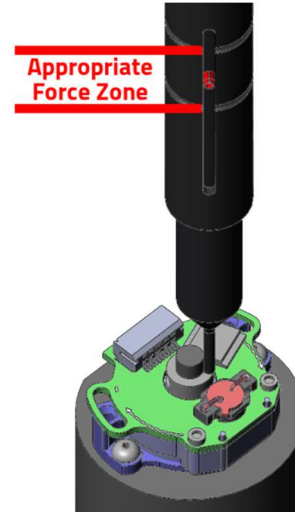


Illustration 3

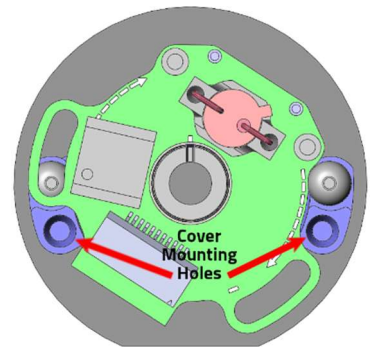


Illustration 4

Step 4:

- a) Tighten hub set screw to motor shaft to 18-22 oz-in.
- b) The downward force on the hub can be removed.
- c) Tighten mounting screws to 45-51 oz-in. One screw will have to be tightened through the slot in the PCB as show in **Illustration 5**.

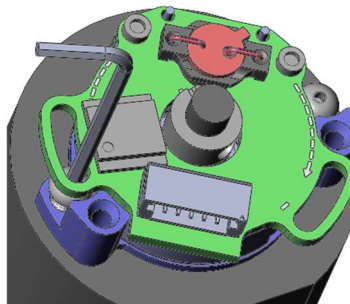


Illustration 5

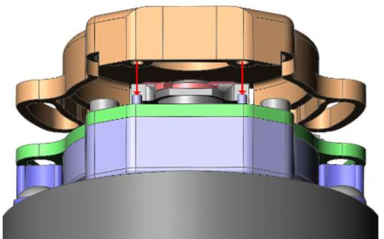


Illustration 6

Step 5:

- a) Place cover on encoder, ensuring alignment of base dowel pins into mating cover holes. **Illustration 6**
- b) Rotate encoder so cover and PCB mounting slots align with the cover mounting holes in the ring. **Illustration 7**
- c) Install cover screws and tighten to 37-43 oz-in.

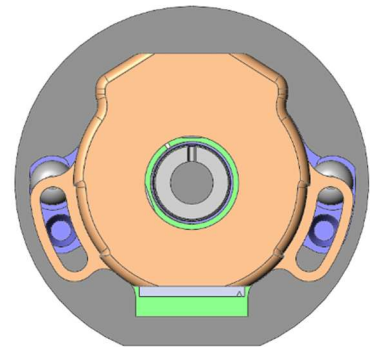


Illustration 7

DYNAMIC ALIGNMENT OF U, V, AND W COMMUTATION CHANNELS:

- a) Install cable.
- b) Loosen the cover screws slightly, allowing the encoder body to be rotated. **Illustration 8**
- c) While maintaining a slight downward pressure on the cover, rotate encoder to align commutation channels to motor windings.
- d) Tighten cover screws to 37-43 oz-in.

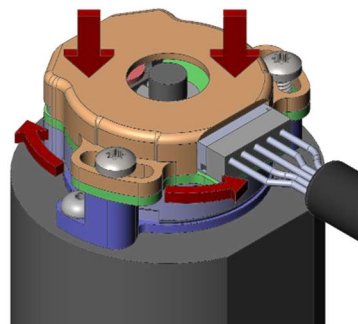


Illustration 8

Note: Refer to specification sheet for driver sizes.