TECHNICAL BULLETIN

TB-521: Size 1.5" Flex Mounting Instructions (Models 15TH ,755A)

ENCODER PRODUCTS COMPANY

After carefully unpacking the unit, inspect it and ensure that the motor shaft is the correct size and free of all burrs and aberrations.

The maximum recommended motor axial endplay is ±0.030". Maximum motor TIR is 0.008".

Step 1

Slide the encoder over the motor shaft.

Note: Do not use undue force.

The encoder should be positioned so that the flex mount arms just touch the mounting surface. Install two screws through the holes in the flex mount and tighten securely. (Typical torque range of 115 to 160 oz-in.) For additional security, a drop of Loctite 222 can be added to the threads of the screws.

Step 2

Tighten the two set screws in the encoder's shaft. (Typical torque range of 30 to 45 oz-in.) For additional security, a drop of Loctite 222 can be added to the threads of the set screws. Do not allow Loctite to run into the bore or onto the bearings.

Step 3 (Slotted Flex Mount option only)

For encoders with the Slotted Flex Mount option, the index or home position can be fine-tuned by loosening the mounting screws and rotating the encoder to the desired position, then retightening the screws.

Alignment Note: When turning the motor shaft by hand, the rocking movement of the encoder should be minimal. If it isn't, loosen the encoder bore set screws and rotate the encoder shaft relative to the motor shaft to reposition the encoder, until this movement is minimal.

In Case of Difficulty

Note 1: Make sure the two set screws in the encoder's shaft are backed off and do not protrude into the bore of the encoder. Clean the shaft of any burrs using fine crocus cloth.

Note 2: When tightening the two set screws, avoid holding the motor shaft with anything that may scar or burr the shaft.

Removal

Loosen (do not remove) the two set screws in the encoder bore. Remove the flex mount screws and slide the encoder off.

Commutation Alignment (if necessary)

Note: This procedure is the most standard. However, different procedures may be specified by the motor manufacturer. For details, please consult the motor manufacturer.

Step 1

Complete Step 1 as explained above.

Step 2

Lock the motor rotor to hold the motor shaft in a fixed position for alignment to the commutation channels. Apply a current limited DC power source to the #2 terminal of the motor, and the DC return to the #1 terminal to hold the rotor at the positive transition of V12.

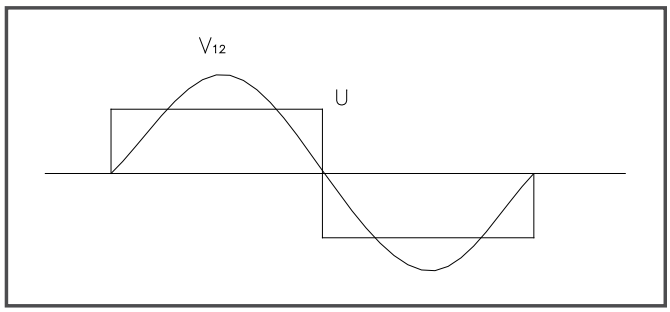

Figure 1

Step 3

While viewing encoder U channel on an oscilloscope, rotate the encoder shaft to a positive going transition of the U channel. Tighten the encoder set screws.

Step 4

The alignment can then be checked by turning the motor shaft and comparing the V12 and U channel transition points (see Fig.1). To fine-tune the alignment, loosen the two flex mount screws and rotate the encoder housing slightly to align the channels. The same procedure can be performed using the V channel and the V23 winding, or the W channel and the V31 winding.