

## Multi-Turn Bevel Gear (BG Type) Installation & Operation Instructions

### **Installation Tips:**

All DYNATORQUE™ operators & accessories have been designed to transmit the rated output torque of the operator with a safety factor. When designing mounting kits, torque transmission devices, or specifying mounting hardware the operator rating should be considered. DYNATORQUE recommends using grade 5 and higher bolts with lock washers for mounting operators to valve operator flanges and valve adaptation kits. DYNATORQUE components should not be installed in areas where those components will be subjected to high temperatures, corrosive atmospheres, or high pressures without prior knowledge by DYNATORQUE or unless originally designed for that purpose. Doing so may affect the product warranty.

### **Installation:**

Before assembly is begun please insure that mounting bolt patterns have been machined correctly for the application. The following steps should be taken to install the DYNATORQUE BG manual multi-turn operator. DYNATORQUE recommends operator mounting while on the test stand with the valve in the closed position.

### **Yoke Nut Driver Installation:**

1. Move the valve in the closed position and insure valve seal has been attained.
2. Install the Yoke Nut Driver on the bottom of the bevel gear using the bolt pattern supplied.
3. Before installing the operator, liberally grease the Yoke Nut and the Yoke Nut Driver. This will reduce the possibility of corrosion between the two components.
4. Align the operator with the Yoke Nut and lower the operator into position on the valve flange or mounting kit.
5. Install and tighten the valve to operator mounting bolts.
6. Rotate the operator handwheel counterclockwise moving the valve from the closed to the open position checking to make sure the operator turns smoothly through the complete cycle. Visually verify that the open position has been achieved.
7. Rotate the valve from closed to open several times to insure proper operation.

### **Threaded Stem Nut Installation:**

1. Move the valve in the closed position and insure valve seal has been attained.
2. Install the Threaded Stem Nut on the bottom of the bevel gear using the bolt pattern supplied.
3. Before installing the operator, liberally grease the Valve Stem and the Threaded Stem Nut. This will reduce the possibility of corrosion between the two components.
4. Position the Stem Nuts threaded hole over the valve stem. As you lower the operator, turn the input shaft. This rotation should engage the male with the female threads in the nut. Continue to rotate the input shaft until the unit comes into contact with the mounting adapter or valve operator-mounting flange.
5. Align the mounting holes by rotating the operator while allowing the input shaft to rotate freely. (If the operator-input shaft is held the valve position may move off the seat.)
6. Install and tighten the valve to operator mounting bolts.
7. Rotate the operator handwheel counterclockwise moving the valve from the closed to the open position checking to make sure the operator turns smoothly through the complete cycle. Visually verify that the open position has been achieved.
8. Rotate the valve from closed to open several times to insure proper operation.





**Safety:**  
DYNATORQUE operators have been designed and manufactured to the highest quality standards. In most cases, operator and handwheel packages have been sized to produce rated torque with a maximum of 80 lbs. of handwheel rim effort. The use of larger handwheels, cheater bars, etc. will void the override warranty and may cause damage to the operator, valve stem, drive shafts, or other torque transmitting devices as well as being dangerous to the user. Additionally, the use of chainwheels on operators that are not recommended for those applications will result voiding operator warranty.

**Operation:**  
Once the valve assembly has been installed, operation of multi-turn manual gear operators is very simple. Assuming a clockwise to close valve as in the assembly instructions, rotating the handwheel clockwise will result in clockwise output rotation or clockwise to close. Reversing rotation of the handwheel, counterclockwise, will result in counterclockwise rotation of the output or counterclockwise to open.

**Please Note:**

When assembling DYNATORQUE products to a valve or to an automated valve package, standard engineering practices must be utilized to assure proper mounting orientation, configuration, and distribution of weights and forces. Failure to do so could cause product damage and/or malfunction, **and void warranty consideration**. If there are any questions please contact the factory.

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