

DynaTorque Inc.

Quarter-Turn Worm Gear (DT 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 the output bore and mounting bolt patterns have been machined correctly. The following steps should be taken to install the DynaTorque DT manual quarter-turn operator. DynaTorque recommends operator mounting while on the test stand with the valve in the closed position.

These instructions assume a CW (Clockwise) to close valve.

1. Check to insure that the valve and operator are in the same position. If the positions do not correspond, rotate the operator handwheel either clockwise or counterclockwise until the correct position is achieved.
2. For applications where the valve stem includes a keyway, install the key in the valve stem making sure that it is fully seated in the keyway.
3. The operators travel stops have been visually set at the factory to 90 degrees of travel. This setting may not correspond to actual application settings. Loosen the travel stop lock nut on each side of the operator and rotate the travel stop bolt counterclockwise about six turns. Rotating the stop bolt more than 6 turns may allow the worm and worm gear to rotate out of contact.
4. Before installing the operator, liberally grease the valve stem and operator bore. This will reduce the possibility of corrosion between the two components.
5. Align the operator with the valve stem and lower the operator into position on the valve flange or mounting kit.
6. Tighten the valve to operator mounting bolts.
7. Rotate the handwheel until the valve is in the closed position. Verify the position visually checking the disc, ball, or plug position.
8. Rotate the closed side travel stop bolt clockwise until it comes into contact with the worm wheel.
9. Tighten the travel stop lock nut against the housing. The closed side stop is now set.
10. 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. Visual verify that the full open position has be achieved.
11. Rotate the open side travel stop bolt clockwise until it comes into contact with the worm wheel.
12. Tighten the travel stop lock nut against the housing. The open side stop is now set.
13. 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 recommend for those applications will result voiding operator warranty.

Operation:

Once the valve assembly has been installed, operation of quarter-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.