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Non-Gear to Gear Conversion Instructions, 4"-24"

The following instructions outline the procedure to convert a Mueller® Resilient Wedge Gate Valve from a non-gear unit to a bevel gear unit or a spur gear unit. Note that Mueller Co. recommends that this change should be performed by qualified Mueller personnel. If non- Mueller personnel perform this conversion, Mueller will not be responsible for any leakage or future problems that may occur.

Procedure

1. Note: If valve is commissioned in a line, isolate the valve from flow and relieve the pressure. Valve must be kept in vertical position during conversion to allow for reinsertion of stem.
2. Remove stuffing box bolts. Sizes 4"- 16" (2 bolts), sizes 18" - 24" (4 bolts).
3. Turn operating nut / stem in the closing direction until it has disengaged from the disc nut. At this point, the stem will be able to turn in the closing direction but will not continue rising out of the valve body.
4. Remove the stem / operating nut / stuffing box assembly by lifting the stem vertically out of the valve bonnet and set aside. Remove washer from bonnet recess.
5. Lubricate new thrust washer with approved grease (Dow Corning 111) and place in bonnet recess.
6. Lubricate stem threads and o rings with approved grease (Dow Corning 111). Install 3 new O-rings on geared stem.
7. Insert geared stem into bonnet, turning the stem in the opening direction until stem thrust collar is seated in bonnet recess. Continue rotating the stem two to three turns to ensure stem is firmly seated. Lubricate and install thrust washer on top of thrust collar.
8. Place geared stuffing box over stem and install bolts to connect stuffing box to bonnet. Sizes 4"- 16" (2 bolts), sizes 18" - 24" (4 bolts). See recommended Torque below.
9. Place flat gearing gasket on adapter plate. Install gear unit to geared adapter plate. Use 4 cap screws to connect gear to adapter plate. Remove gear pipe plug. See Recommended Torque below.
10. Place adapter plate unit over stem. On the 4"-12" valves, drive sleeve must be aligned to stem key before assembly. On the 14" – 24" valves, align the drive sleeve key slot to the stem key slot by rotating the operating nut. When aligned, insert the drive key in the slot until it is flush with the top of the drive sleeve.
11. For 14" – 24" only. Install hold-down cap screw and washer onto the top of the stem. See recommended torque table below.
12. Rotate adapter plate unit to align bolt holes with stuffing box and install bolts to recommended torque below. Reinstall pipe plug into top of gear.

Bolt Connection	Torque(ft-lb)									
	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Stuffing Box to Bonnet	90	90	90	90	90	150	150	150	150	150
Stuffing Box to Adapter Plate	90	90	90	90	90	90	90	150	150	150
Adapter Plate to Gear	20	20	20	20	20	90	90	90	90	90
Cap Screw on Stem and Key	NA	NA	NA	NA	NA	45	45	45	45	45