

Heavy Duty Gear Override

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Gear overrides on Automax heavy duty actuators provide an easy, durable method for manually operating the actuator. The gear overrides are declutchable for efficient, automatic operation. The gear override consists of a declutchable gear mounted to the accessory side of the actuator. Any accessories, such as limit switches and positioners, may be offset mounted. The gear override is designed for the full rated torque of the actuator.

Installation

Automax standard gear overrides are provided as a complete integral component of the heavy duty actuator. Gear override units are shipped with the gear mounted to the actuator and shut-off & vent valves installed on the pressure cylinder. No additional customer installation is required. See Automax Heavy Duty IOM (B00032) for instructions on installing Heavy Duty actuator into service.

To retrofit gear override onto existing heavy duty actuator, existing torque shaft must be replaced with override torque shaft.

1. Disconnect air pressure and electrical power from actuator. Remove all accessories from actuator and dismount from valve.
2. Loosen stop bolt jam nut and back off clockwise stop bolt to remove spring cartridge preload. Refer to Heavy Duty IOM (B00032) for cross-sectional view of parts.

3. Remove the bearing retainer screws from the valve mounting side and slide the retainer plate off the shaft.
4. The torque shaft may now be tapped out using a soft faced hammer. Use care not to drop the shaft or the bearing when they come out.
5. Reverse steps 3 and 4 with manual override torque shaft. Orientation of the torque shaft is unimportant, since it is symmetrical.

To install gear override to heavy duty actuator with manual override torque shaft:

1. Assemble bracket and coupler provided with gear override field mounting kit to the accessory side of the actuator.
2. Mount gear override to actuator in orientation shown below. Gear override should be declutched. To declutch, lift declutching handle out of slot and rotate 90 degrees.
3. Add shut-off and vent valves to actuator per operating schematic (see back).
4. Mount any accessories to actuator and test in automatic mode.

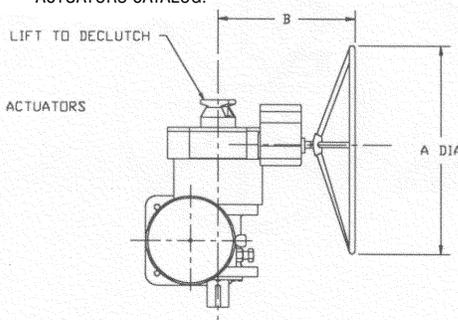
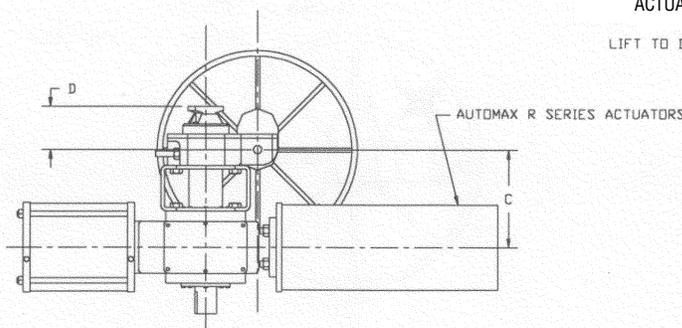
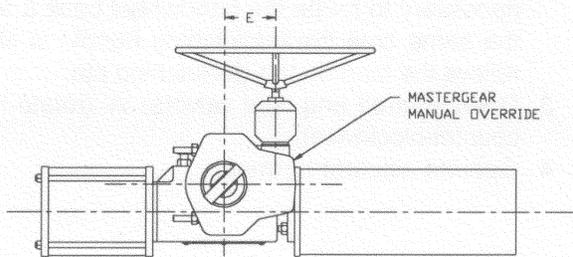
Note: After mounting actuator to valve, the gear override travel stops must be set. Make sure that the actuator travel stops are set correctly. Then set the gear override travel stops at the same position.

GEAR MANUAL OVERRIDE DIMENSIONAL DATA

ACTUATORS	VERRIDE	A	B	C	D	E
R2	C24	24.00	10.44	7.80	4.69	3.02
R2	D30	30.00	12.94	8.00	5.69	3.38
R2	E30	30.00	12.94	8.13	5.88	4.38
R2	F24	24.00	16.21	8.13	5.88	1.31
R3	G30	30.00	18.33	12.00	6.03	2.31
R3	H30	30.00	18.71	13.08	6.19	2.11
R3	J30	30.00	19.33	12.63	10.37	2.68
R4	H30	30.00	18.71	15.77	6.19	2.11
R4	J30	30.00	19.33	15.32	10.37	2.68
R4	K36	36.00	19.96	15.32	10.75	3.81
R4	L36	36.00	23.33	15.57	10.65	9.33

NOTES:

- 1) ACTUATOR IS SHOWN IN THE FULL CLOCKWISE POSITION AS VIEWED FROM THE ACCESSORY SIDE.
- 2) FOR COMPLETE ACTUATOR MOUNTING DIMENSIONS SEE PNEUMATIC ACTUATORS CATALOG.



Operation:

Manual Operation

1. Rotate the handwheel on the manual override until the position indicator on the manual override agrees with the valve position.

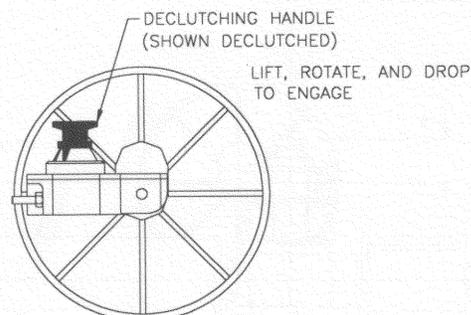
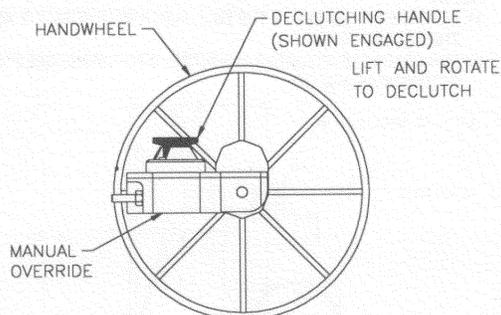
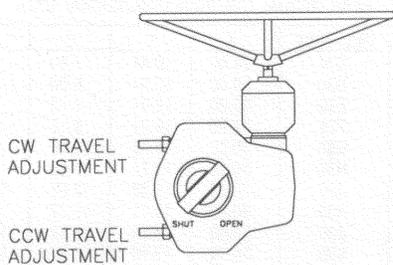
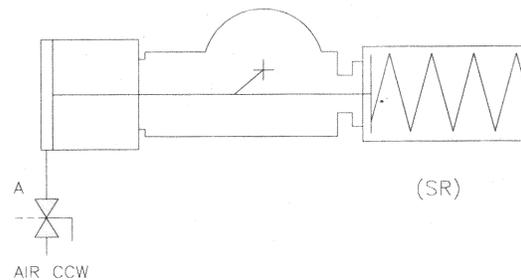
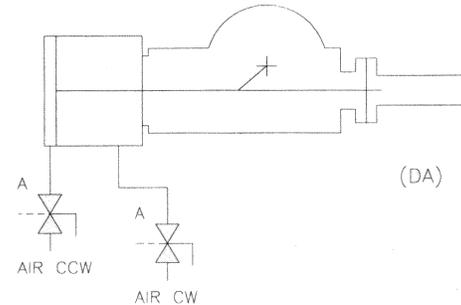
Note: The position indicator on the manual override indicates actuator/valve position only when the handwheel is engaged. (Position indicator shows 'SHUT' in full CW position and 'OPEN' in full CCW position.)

2. Engage handwheel by lifting the declutching handle from the shallow slot and rotating handle 90 degrees. Handle is spring loaded to drop into the deep slot. Operate handwheel until the handle drops fully into the deep slot.

Note: Occasionally it may be necessary to back the gear override travel stops out slightly to engage the declutch mechanism.

3. Turn the shut-off and vent valve(s) 'A', located on the supply port(s) of the actuator, to the full clockwise position, to vent air pressure from the cylinder.
4. Manually operate the actuator/valve by turning the handwheel. Turning handwheel clockwise will rotate actuator/valve clockwise.

Operating Schematic



Automatic Operation

1. Operate handwheel to desired valve position. This should be full failed position for a spring return actuator.
2. Lift the declutching handle out of deep slot. Rotate 90 degrees and drop into shallow slot. It may be necessary to rotate the handwheel back & forth at the same time the declutching handle is lifted to relieve the load on the declutching pin.
3. Open shut-off and vent valve(s) 'A' (rotate handle counter-clockwise).
4. Operate actuator normally.