kentintrol

Instruction Leaflet and Parts List No IN 12

Series 'M' Manual Operator Series 'GM' Geared Manual Operator

The Koso Kent Introl Manual Operator is basically a handwheel and spindle assembly, generally as illustrated below. The bearings are pre-packed with molybdenum disulphide and lubricating grease, and generally the actuator requires no routine maintenance.

However, for dismantling purposes, the following procedure should be carried out:

Remove Locknut (523)

Remove Setscrews (594)

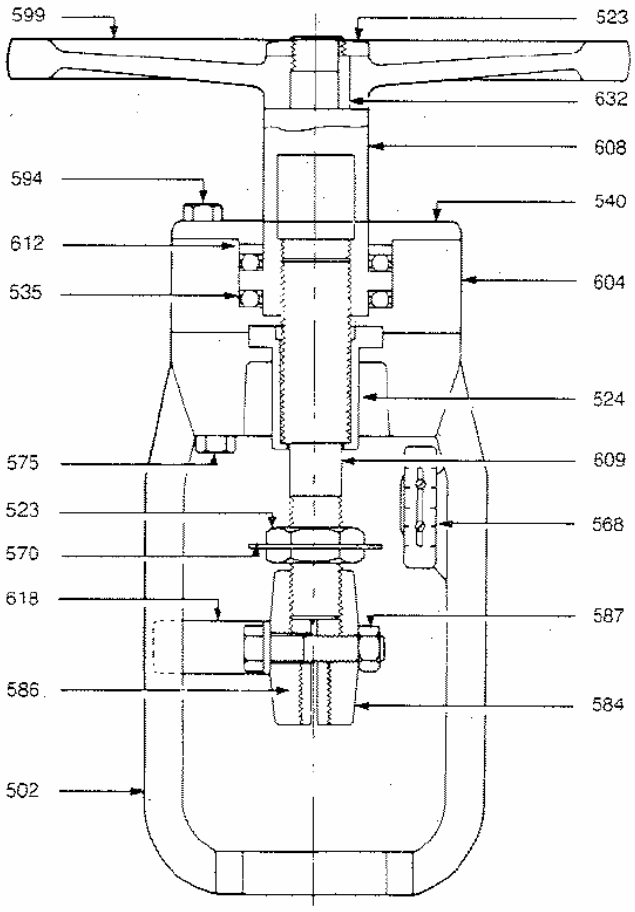
Remove Handwheel (599)

Remove Split Coupling (584)

Remove Key (632)

Remove Locknuts and Travel Indicator Pointer (523 & 570)

MANUAL OPERATOR



At this stage the complete spindle assembly will lift from the housing including the Upper Ball race, the Thrust Bearing (535) can be removed separately.

A Bearing Retainer (612) is normally fitted between the Upper Bearing and the Cover Plate (540). In addition to the Bearing Plate, there may be Shims fitted to give appropriate bearing clearance. When dismantling this portion the relative positions of the Bearings, Bearing Plate, Shims and Cover Plate should be noted and replaced in this order.

Assembly Procedure

The assembly procedure for the actuator is exactly the reverse of dismantling, but before re-connecting the actuator and split coupling to the valve, the handwheel should be rotated until the Stem Connector (609) is in the 'down' position against the Travel Stop (524).

PART NO	NAME OF PART
502	Yoke
523	Travel Stop Nut and Handwheel Locknut
524	Travel Stop
535	Thrust Bearing
540	Cover Plate
568	Travel Indicator Plate
570	Travel Indicator Pointer
575	Yoke Screw
584	Stem Coupling
586	Stem Coupling Screw
587	Stem Coupling Screw Nut
594	Setscrew
599	Handwheel
604	Bearing Housing
608	Revolving Nut
609	Stem Connector
612	Bearing Retainer
618	Stop Fork
632	Handwheel Key

Instructions for Geared Manual Operator

General

The Koso Kent Introl Manual Operator provides a means of manually actuating a Control Valve via a Worm and Worm Wheel arrangement capable of developing high outputs for relatively low handwheel efforts. The Bearings are packed with grease on assembly and generally the unit requires no routine maintenance.

Method of Operation

Rotating the Handwheel clockwise, will tend to close the Valve, anti-clockwise rotation will tend to open the Valve.

Dismantling the Operator

1. To remove the Operator from the Valve:

   a. Ensure the Valve is on it's seat.

   b. Remove Split Coupling (584) by withdrawing the Split Coupling Screw (586).

   c. Remove the locking ring that connects the Yoke (502) to the Valve Bonnet.

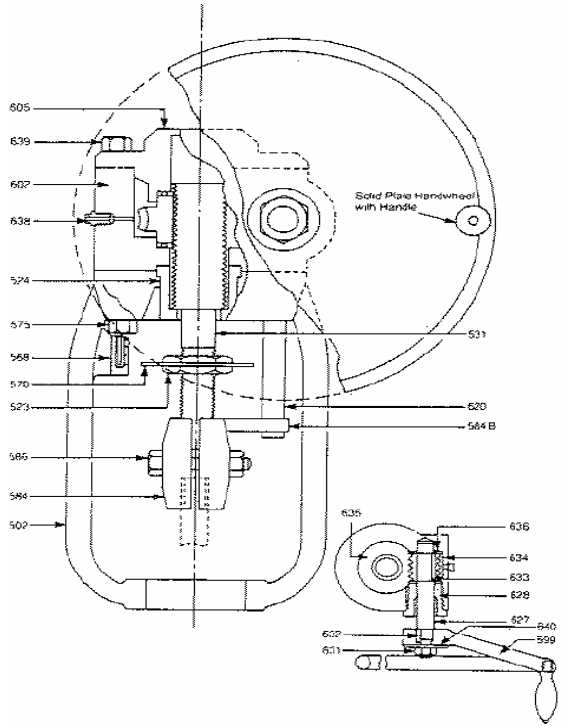
   d. With draw the Manual Operator from the Valve

2. Remove the Travel Stop Nuts (523) and Travel Indicator Pointer (570) from the Actuator Stem (531).

3. Remove the Handwheel Locknut (631), Handwheel Indicator Plate (640) and withdraw the Handwheel (599).

4. Withdraw the End Cap (605) by removing the Retaining Screws (639)

SERIES 'GM' – GEARED MANUAL OPERATOR



5. Remove the Handwheel Stem Nut (628) and withdraw the Handwheel Stem (627) and Worm (634), by rotating in an anti-clockwise direction (replace Handwheel if necessary). If the Thrust Bearing (636) does not come out when the Handwheel Stem is withdrawn, this should be removed from the Housing.

6. Lift out the Worm Wheel (635), Thrust Bearings and Actuator Stem (531).

7. The Worm (634) is keyed to the Handwheel Stem (627) using a Sunk Key. Normally it should be necessary to remove the Worm, however, this can be done, when required, by holding the Worm and lightly tapping the Shaft at the opposite end to ther Handwheel.

8. Should it be necessary to remove the Lower Travel Stop (524) this can be done by separating the Gearbox (602) from the Yoke (502) by removing the Housing Screws (575)

Re-Assembly of the Unit

This is essentially a direct reversal of the dismantling procedure, ensuring that the components are free of dirt and the Gearbox is packed with grease.

When re-fitting the Operator to the Valve, before replacing the Split Coupling (584), ensure that the Actuator Stem (531) is wound down against the lower Travel Stop (524) and then backed off $^{1}/_{32}$".

After connecting the Valve, ensuring that the Valve is seated, set the Travel Stop Nuts (523) to give the required travel. Check the position of the Travel Indicator Plate (568).

PART NO	NAME OF PART
502	Yoke
523	Travel Stop Nut and Handwheel Locknut
524	Travel Stop
531	Actuator Stem
568	Travel Indicator Plate
570	Travel Indicator Pointer
575	Yoke Screw
584	Stem Coupling
586	Stem Coupling Screw
599	Handwheel
602	Gearbox
605	End Cap
620	Stop Peg
627	Handwheel Stem
628	Handwheel Stem Nut
631	Handwheel Lock Nut
632	Handwheel Key
633	Worm Key
634	Worm
635	Wormwheel
636	Thrust Bearing
638	Grease Nipple
639	Retaining Screw
640	Handwheel Indicator

kentintrol™

Koso Kent Introl Ltd
Armytage Road,
Brighouse, West Yorkshire,
England. HD6 1QF
Telephone: Brighouse (01484) 710311
FAX: (01484) 407407