



**AUTOMATED  
VALVE  
PACKAGES  
BOOK 4**



**COOPER CAMERON  
VALVES**



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### ADDITIONAL ORBIT INFORMATION

The Company and it's Products  
Technical Reference Data  
Dimensional Data, Valves and Actuators  
Standard Instrumentation Packages  
Installation and Maintenance  
Parts List and Ordering Instructions



## AUTOMATED VALVE PACKAGES

### ORBIT CAN PROVIDE YOU WITH PERFECTLY MATCHED PACKAGES WHICH INCLUDE VALVE, ACTUATOR AND INSTRUMENTATION

#### ORBIT'S UNIQUE DESIGN MAKES AUTOMATION EASIER.

ORBIT valves are ideal for automation by the very nature of their operating principle.

Many automated valves remain open or closed for extended periods of time. This and other environmental and process conditions can cause higher breakaway torque in valves with friction between their sealing surfaces.

The mechanical camming action of an ORBIT valve retracts the core from its seat as it opens. The core is then rotated to the open position without scraping the seat. This reduces the need for the high torque actuators found on many other valves which scrape their seating surfaces together during opening and closing.

By eliminating the opening and closing friction, ORBIT can provide economical, low-pressure operators and still be assured of sufficient thrust to open and close the valve.

#### ORBIT ACTUATORS ARE SPECIALLY DESIGNED FOR USE EXCLUSIVELY ON ORBIT VALVES.

ORBIT actuators provide reliable, trouble-free, on-off operation and are especially suitable for simple or extensive instrumentation.

#### ORBIT OFFERS A WIDE VARIETY OF PISTON AND DIAPHRAGM ACTUATORS.

All ORBIT valves can be equipped with perfectly matched ORBIT linear actuators.

Many capabilities can be added to the basic double acting actuator. Models are available with spring return to open or close. Manual override mechanisms are also available.

#### ORBIT OFFERS A FULL RANGE OF INSTRUMENTATION CAPABILITIES.

A variety of instrumentation capabilities can be provided to meet your system's needs. Many common systems are available as economical standard packages. Pneumatically or Electrically activated systems are available. You may order our standard systems or custom systems designed to your specifications. Standard packages include combinations for spring return or double acting actuators, with signals to open or close and provisions for fail open, fail close, or fail in last position on loss of signal or pneumatic supply.

#### ORBIT DESIGN ASSISTANCE.

ORBIT can provide design assistance and recommended proven systems, or you may prefer to specify your own design and have our factory mount and test it for you. Most ORBIT valves can be easily automated in the field at a later date.





## DIAPHRAGM ACTUATORS



DOUBLE ACTING



SPRING OPEN

Using low pressure air supply (up to 65 psi/4.4 bars), these simple reliable diaphragm actuators are designed and built by ORBIT to match the exact needs of the smaller sizes of ORBIT valves.

With valve and actuator from the same company, there is single-source responsibility for the complete package:

- Operations and maintenance advice
- Repair parts and field service
- Warranty



DOUBLE ACTING WITH SNUBBER



DOUBLE ACTING WITH  
MANUAL CLOSE MECHANISM



SPRING OPEN WITH  
MANUAL CLOSE



DOUBLE ACTING WITH  
TWO-WAY MANUAL MECHANISM



SPRING CLOSE

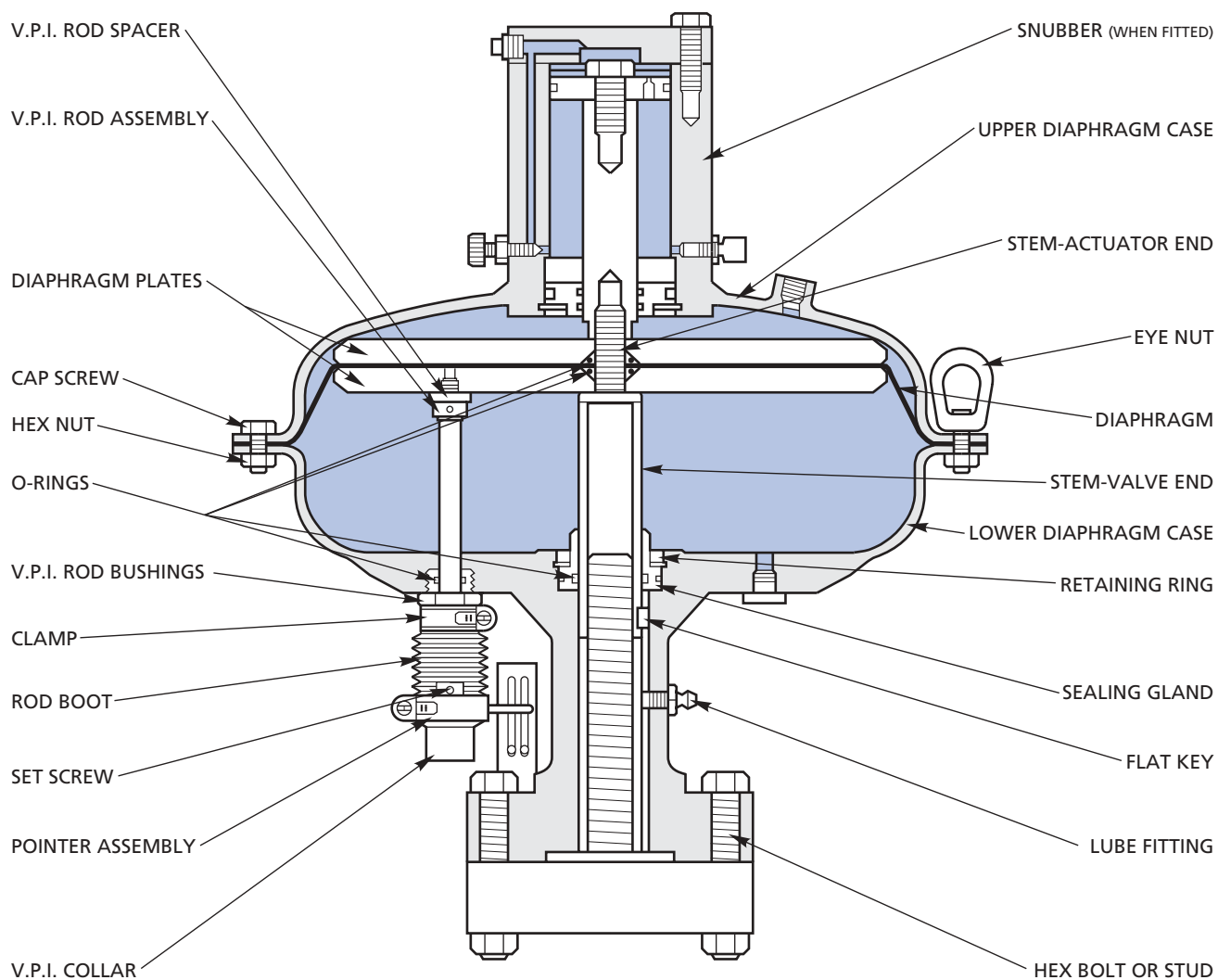


SPRING CLOSE WITH  
TWO-WAY MANUAL MECHANISM



# DIAPHRAGM ACTUATOR

DOUBLE ACTING  
SERIES 84, 164 & 424

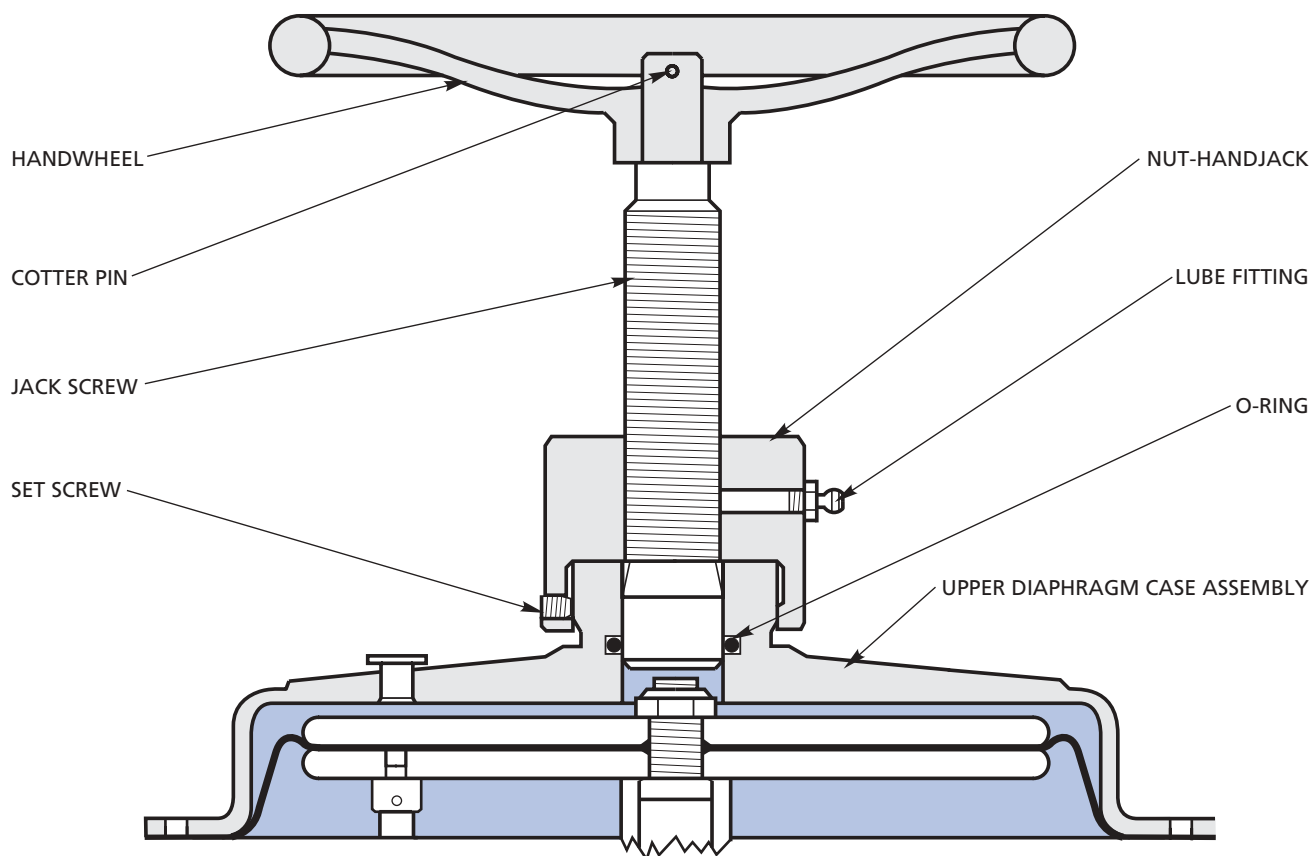


NOT TO SCALE



# DIAPHRAGM ACTUATOR

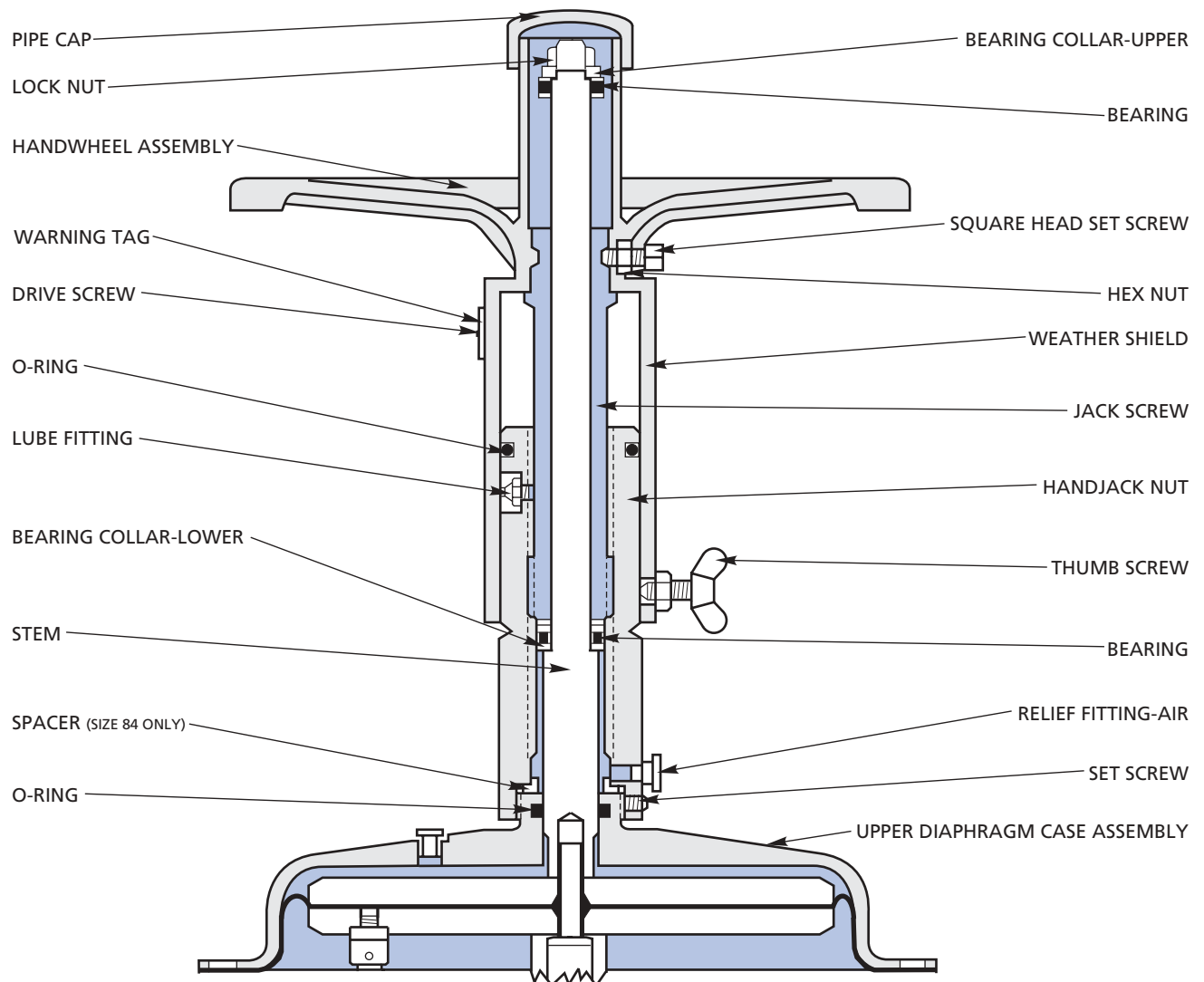
DOUBLE ACTING WITH MANUAL CLOSE MECHANISM  
SERIES 84 & 164





# DIAPHRAGM ACTUATOR

DOUBLE ACTING WITH TWO-WAY MANUAL MECHANISM  
SERIES 84 & 164

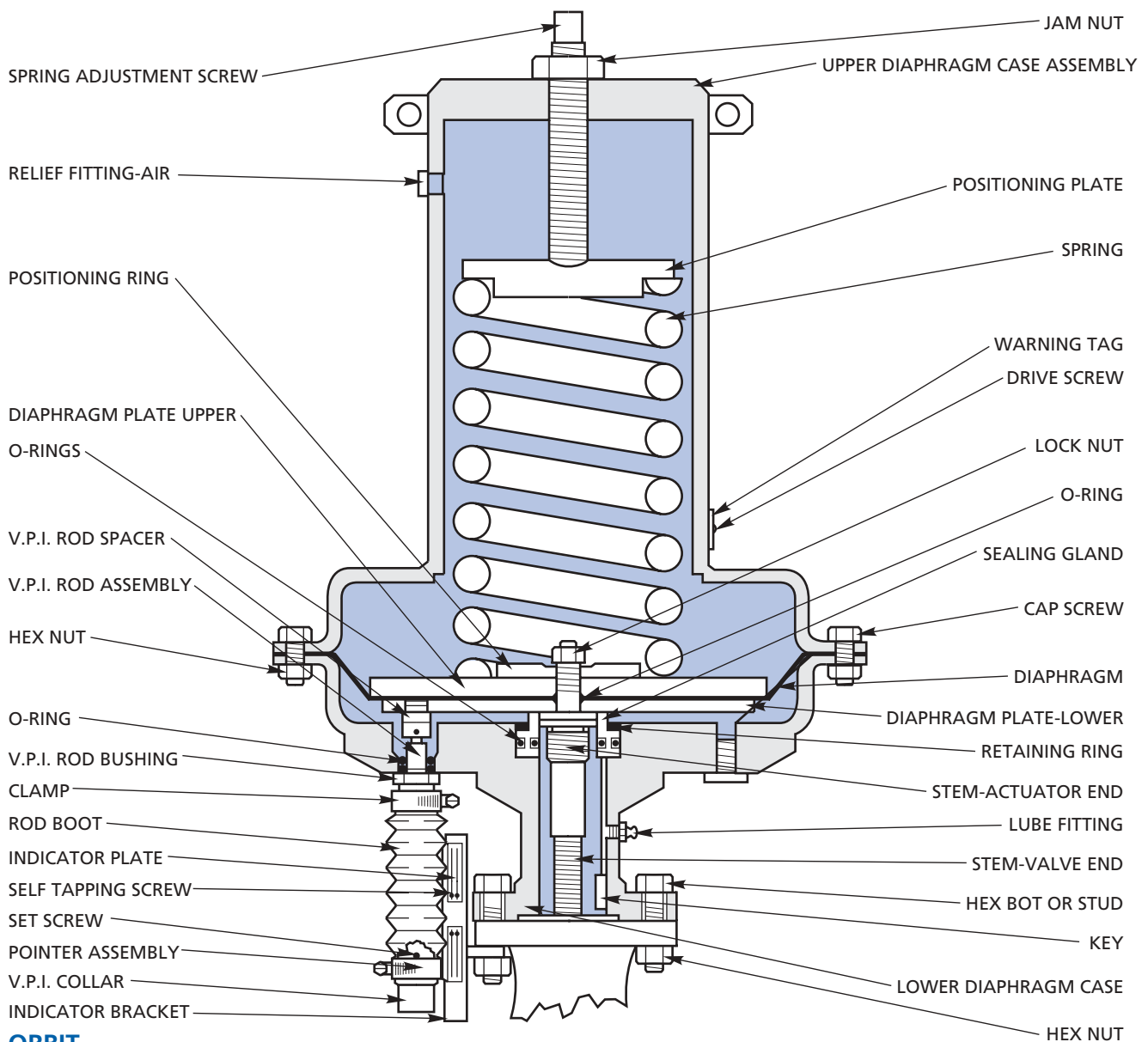


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# DIAPHRAGM ACTUATOR

SPRING CLOSE  
SERIES 84, 164 & 167



ORBIT

TC1842  
11/04 NP-5M



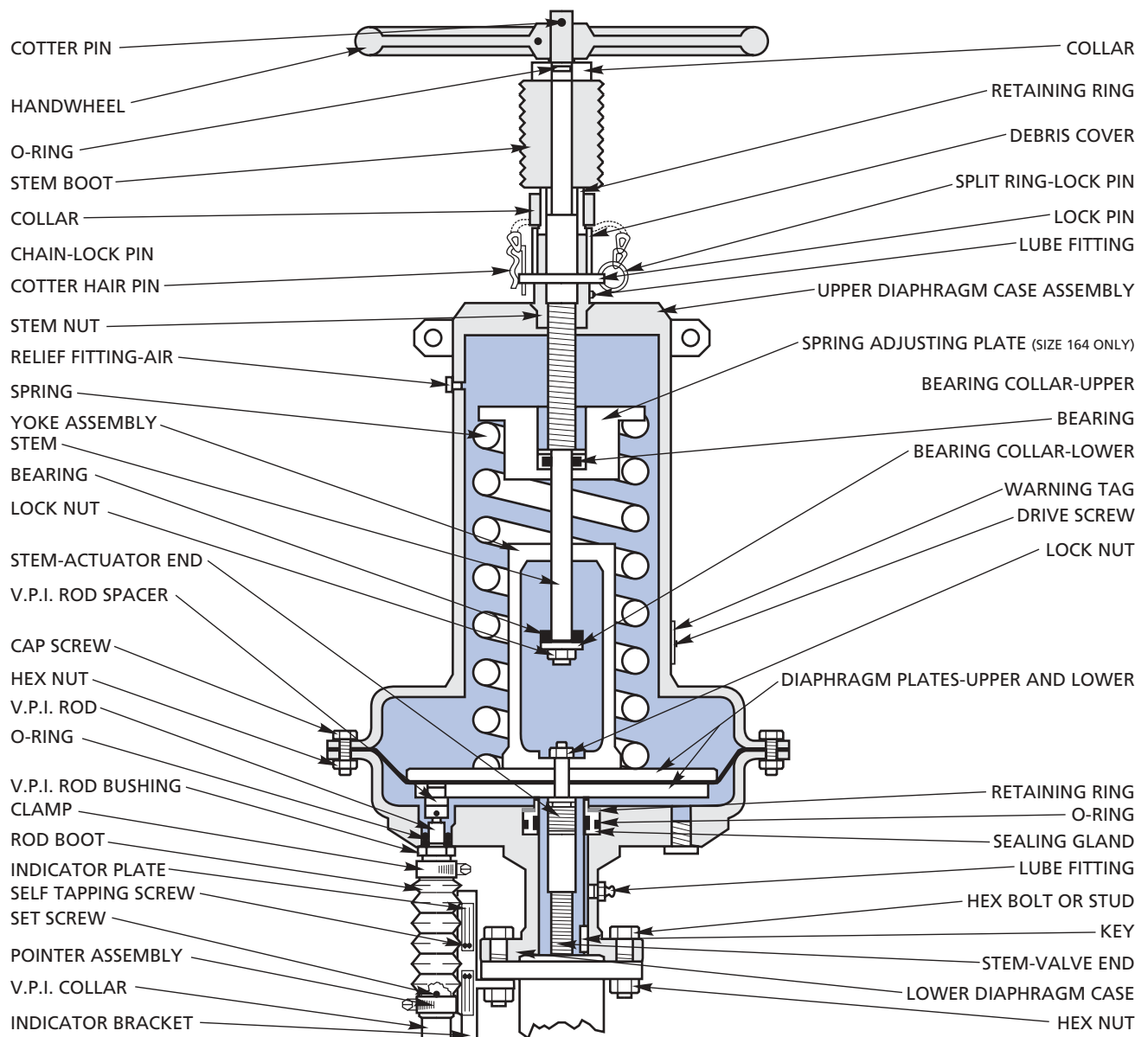
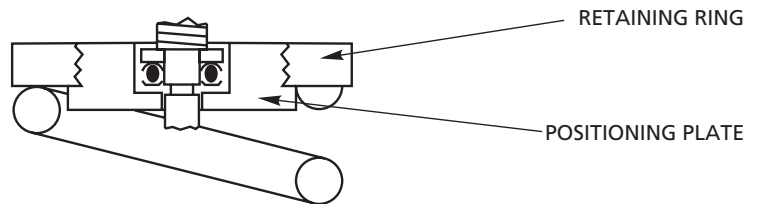


# DIAPHRAGM ACTUATOR

SPRING CLOSE WITH TWO-WAY MANUAL MECHANISM  
SERIES 84, 164 & 167



(FOR 84 ONLY)

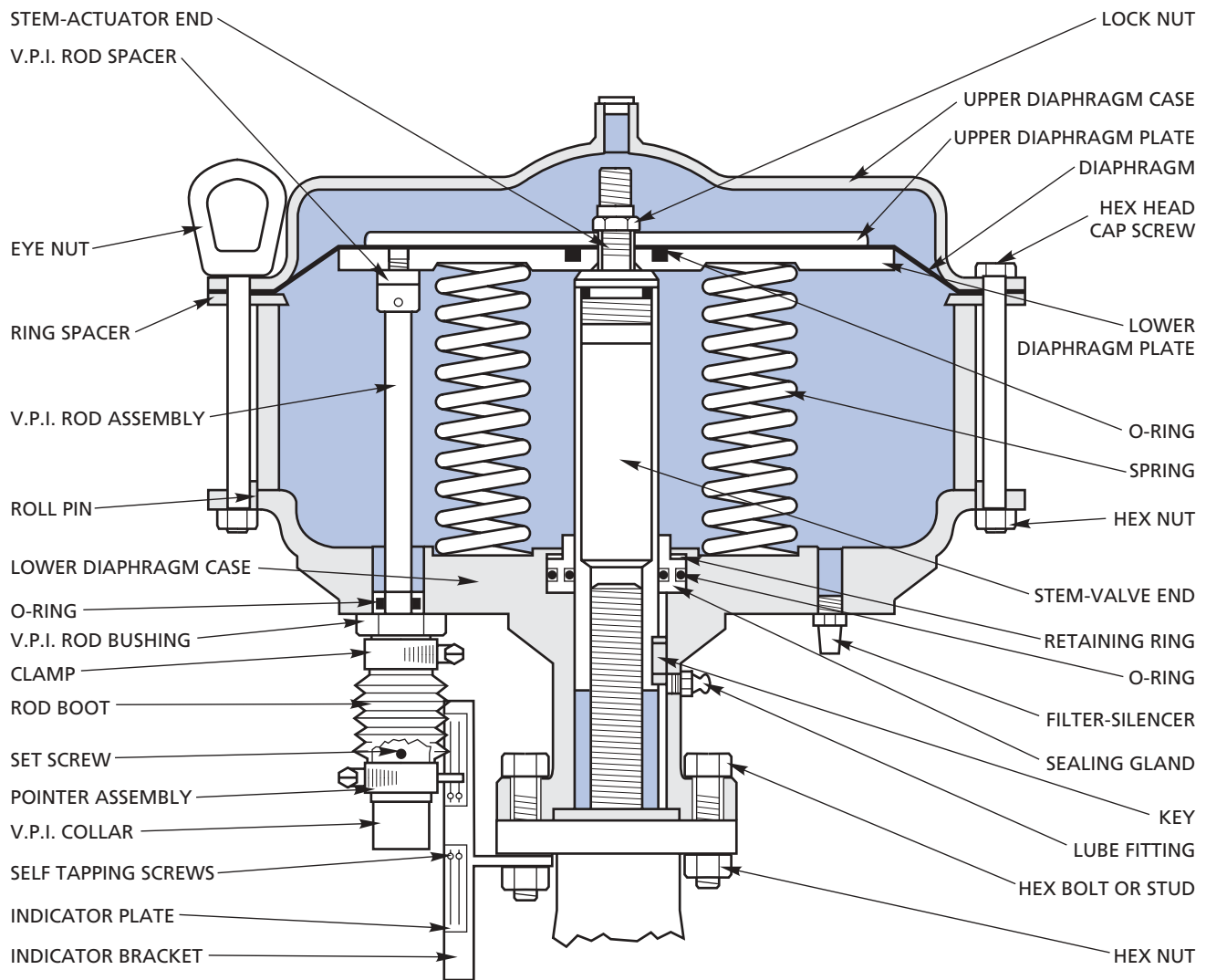


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# DIAPHRAGM ACTUATOR

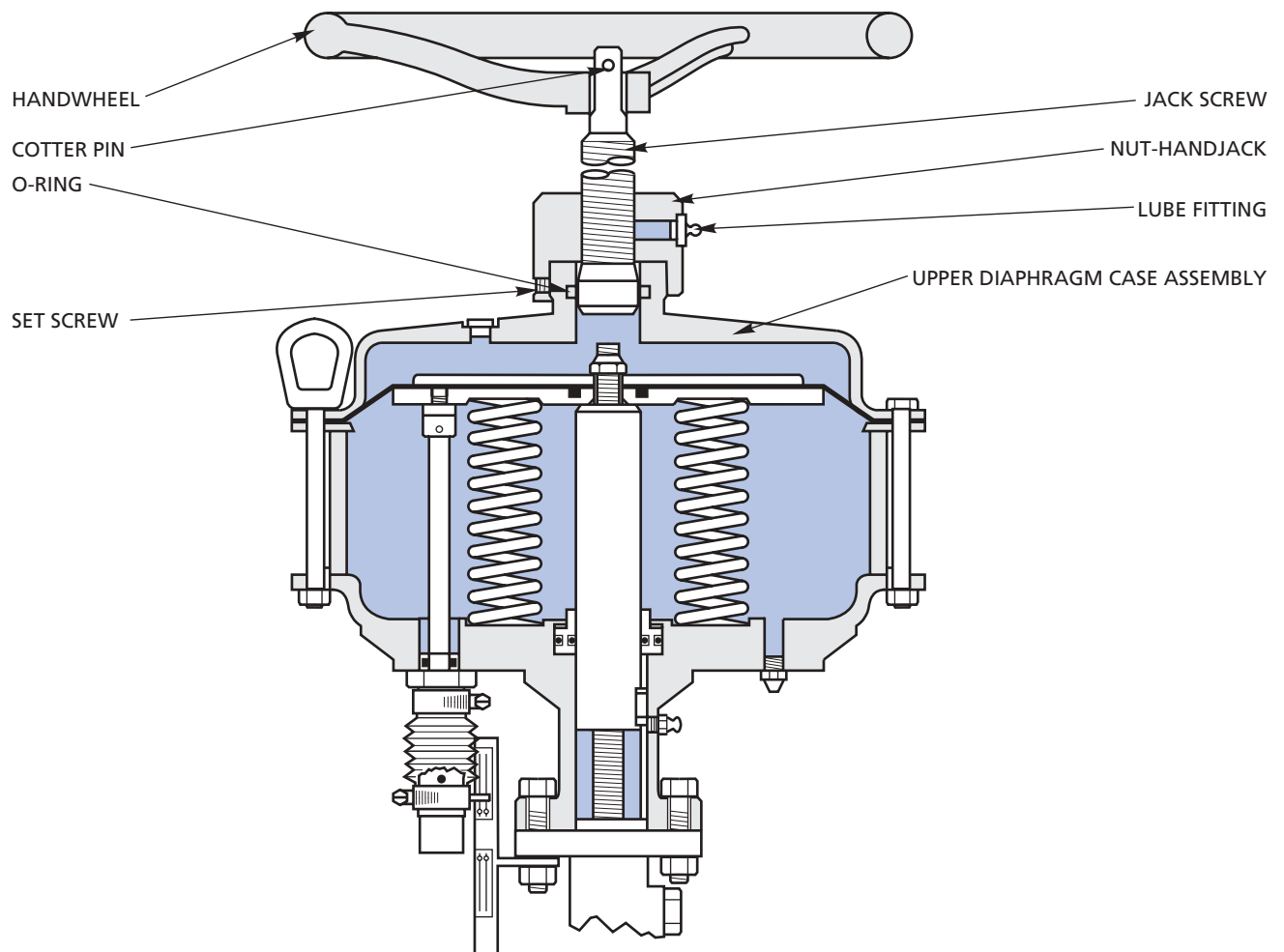
SPRING OPEN  
SERIES 85 & 165





# DIAPHRAGM ACTUATOR

## SPRING CLOSE WITH MANUAL CLOSE MECHANISM SERIES 85 & 165



NOT TO SCALE



## PISTON ACTUATORS



Double Acting



Double Acting with  
Manual Close Mechanism

ORBIT Piston Actuators are ideal for larger size valves and are available with many types of optional equipment.

These actuators will provide the required opening or closing force using air, gas or hydraulic pressure. On-off operation is sure, efficient and consumes very little power.

The actuators use two cylinders, one on top of the other, with double acting pistons joined to common central shaft or stem to generate sufficient linear thrust from a compact unit.

A gas over oil tank provides smooth operation, lubrication and assures many years of trouble-free operation. The piston and rod seals operate against polished surfaces, coated with molybdenum disulfide, a dry film lubricant that also minimizes wear.

A variety of accessories can be mounted at various locations on the actuator.

NOTE: Some mounting applications may require bracing to support the cylinder actuator. Consult your ORBIT Representative for mounting positions other than vertical.



Double Acting with  
Hydraulic Open, Manual Close



Spring Close



Spring Close with  
Two-Way Manual Mechanism



Spring Close with  
Two-Way Manual Mechanism



# PISTON ACTUATOR

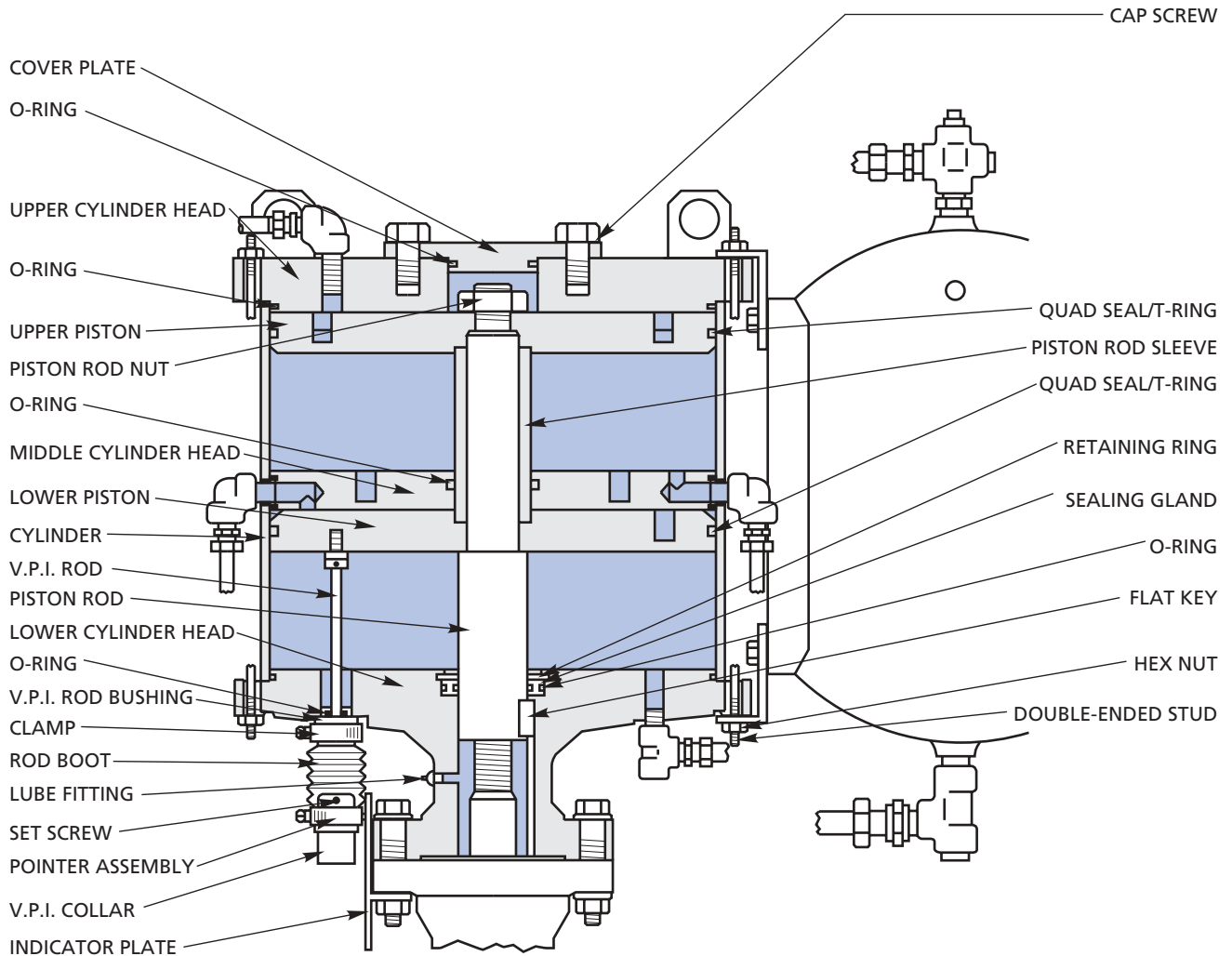
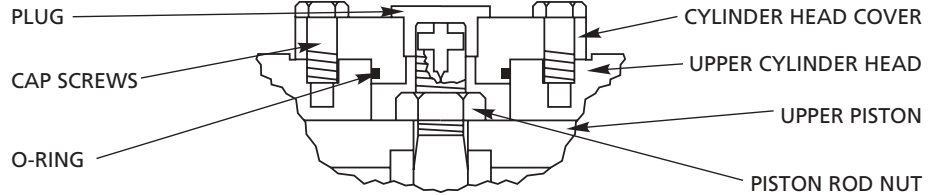
## DOUBLE ACTING

**SERIES LS-124D, LS-185D, LS-205D, LS-207D, LS-208D, LS-267D, LS-269D & LS-2611T**

NOTE: "T" Suffix indicates triple stack cylinders.



(FOR LS-124D ONLY)



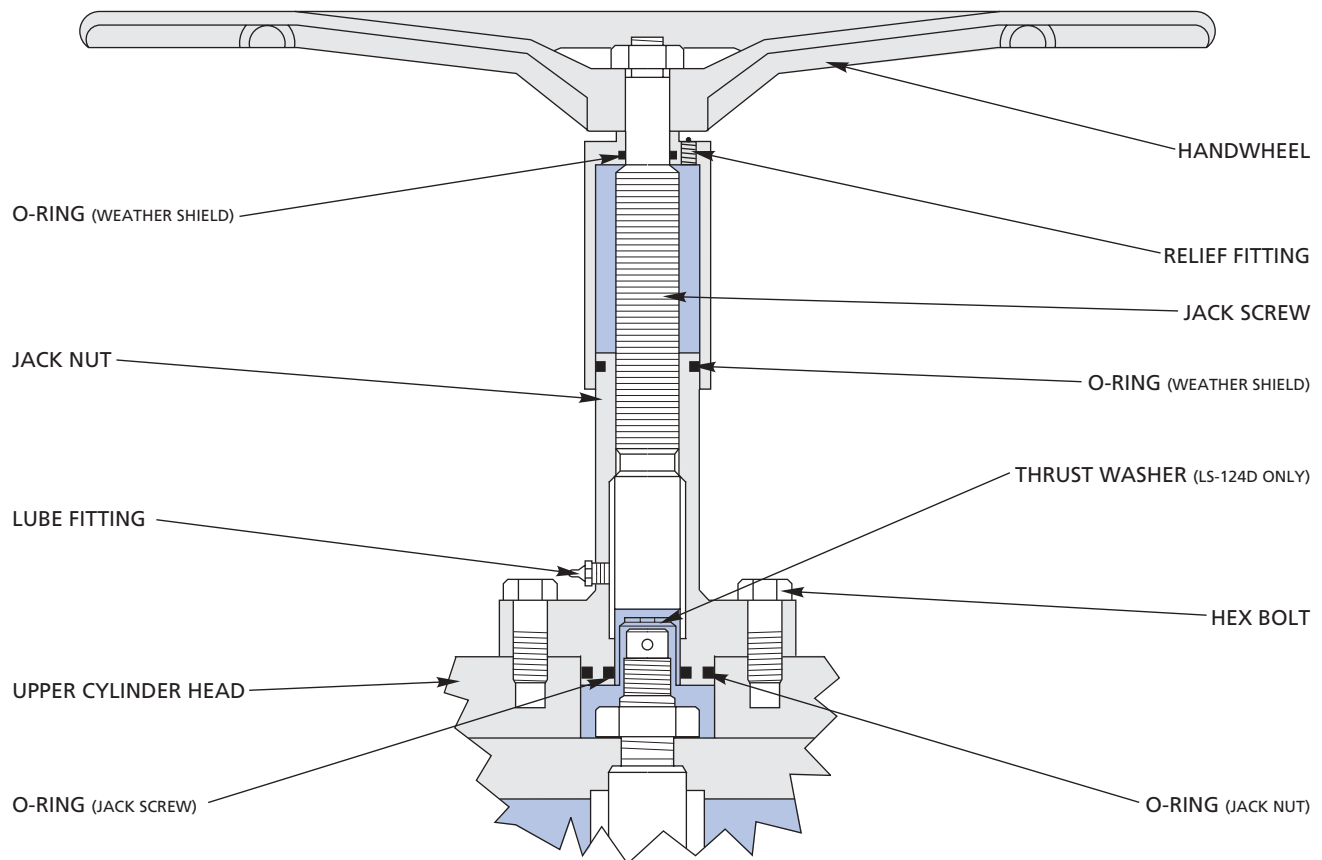
NOTE: Piston stack can be double as illustrated, or triple.

NOT TO SCALE



## PISTON ACTUATOR

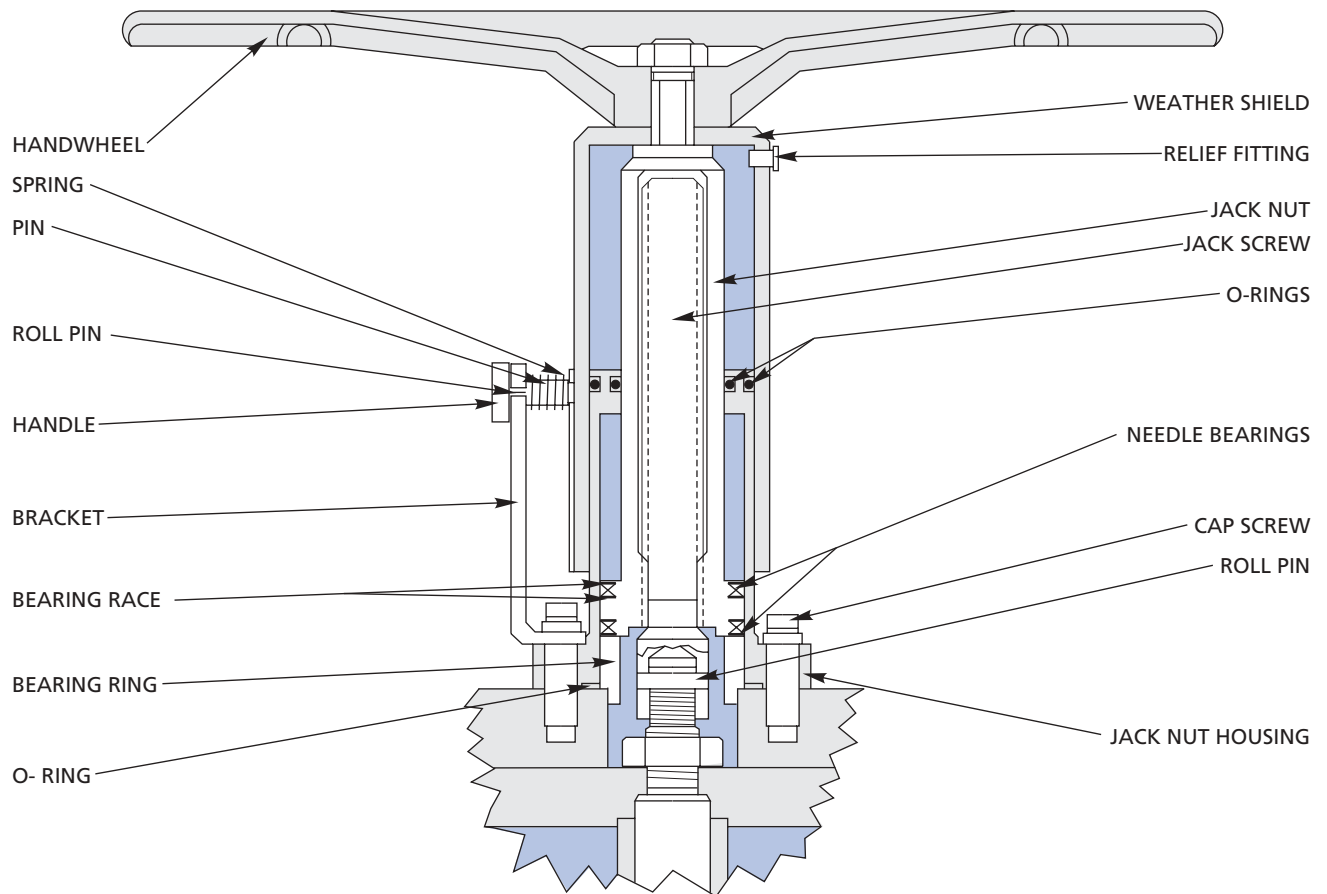
DOUBLE ACTING WITH MANUAL CLOSE MECHANISM  
SERIES LS-124D, LS-185D, LS-205D & LS-207D





## PISTON ACTUATOR

DOUBLE ACTING WITH TWO-WAY MANUAL MECHANISM  
SERIES LS-124D

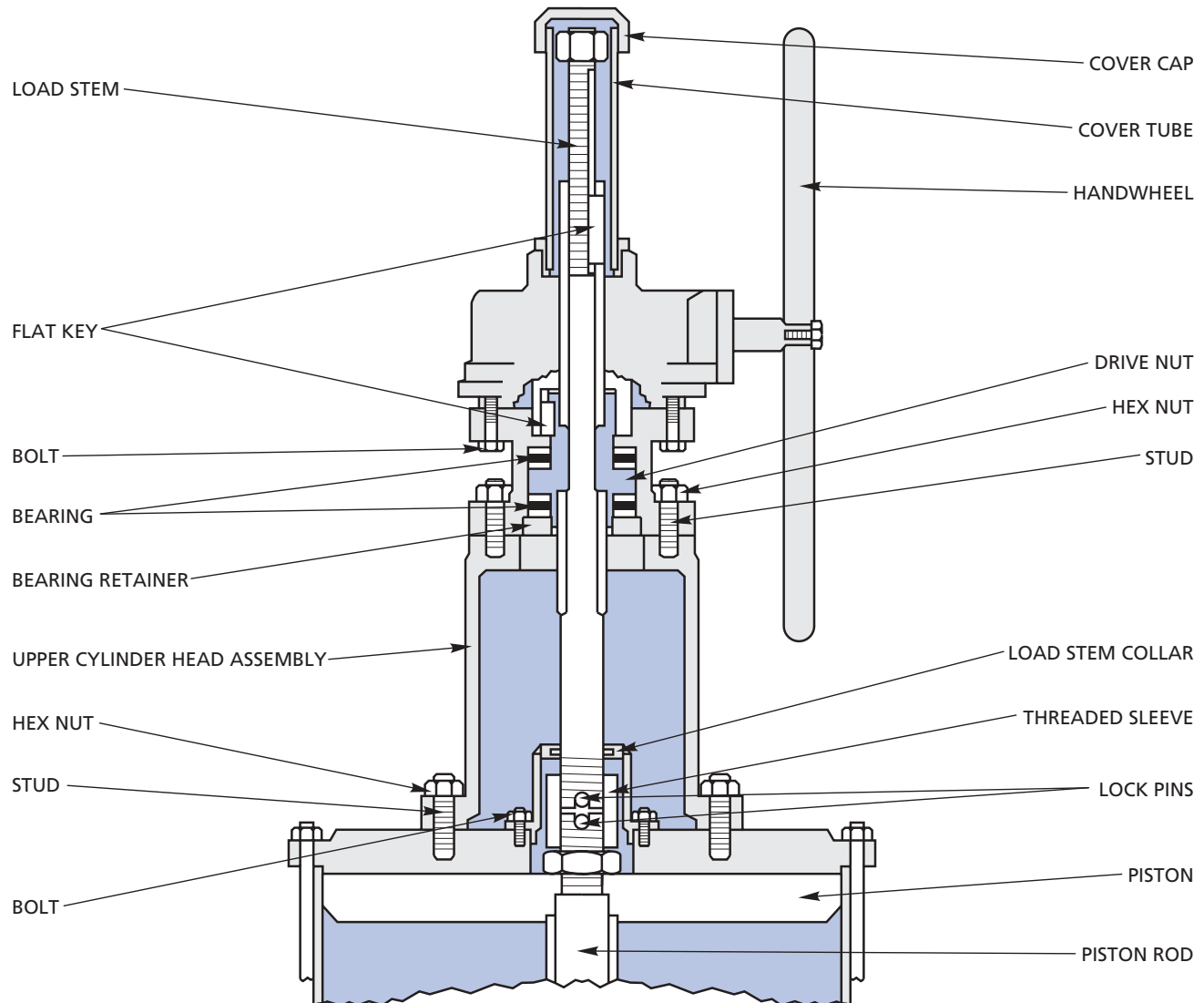


NOT TO SCALE



## PISTON ACTUATOR

DOUBLE ACTING WITH TWO-WAY MANUAL MECHANISM  
SERIES LS-267D & LS-269D







## PISTON ACTUATOR

### SPRING CLOSE

SERIES LS-124D, LS-185D, LS-205D, LS-207D & LS-267D



(FOR LS-185 & 205D ONLY)

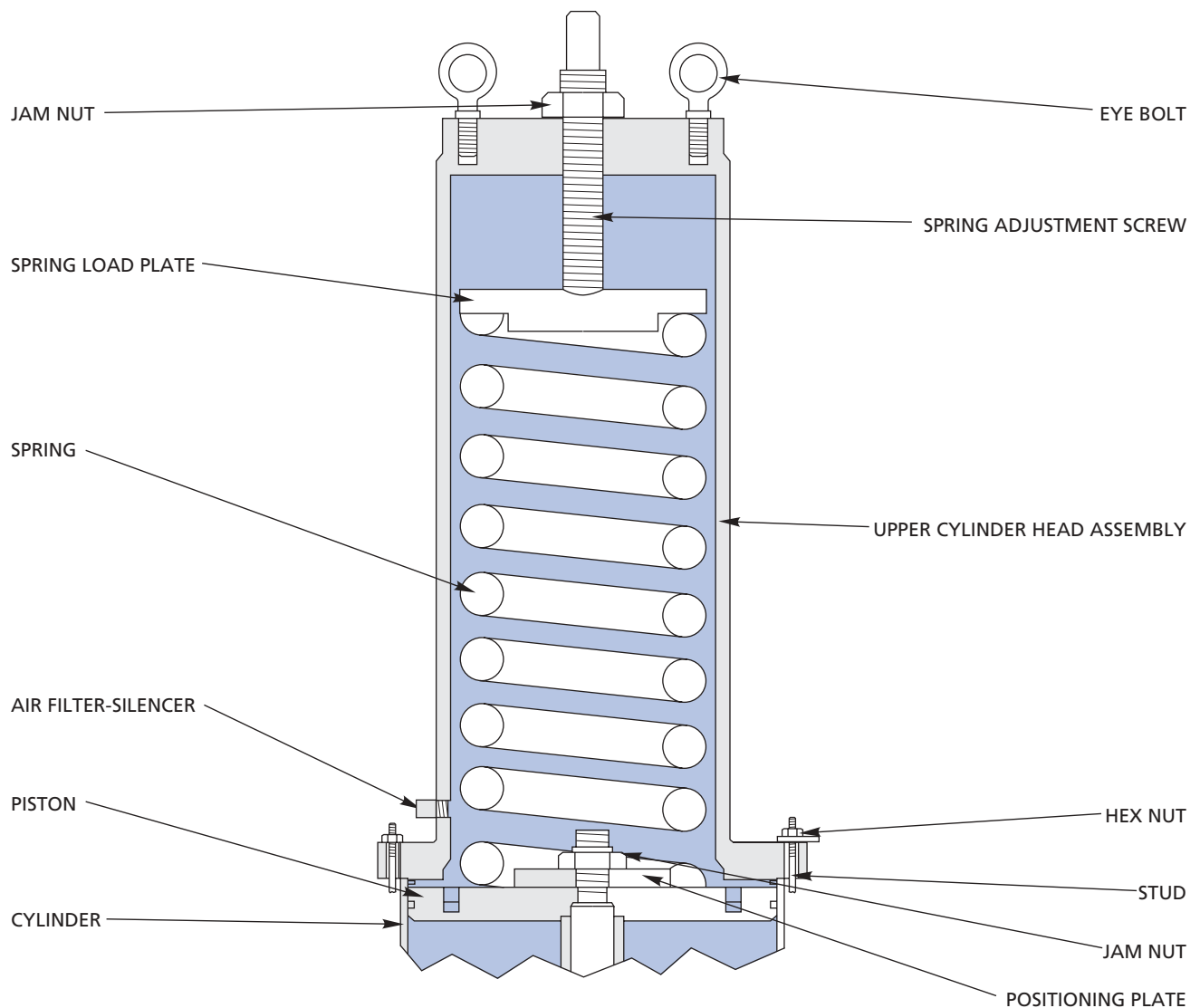
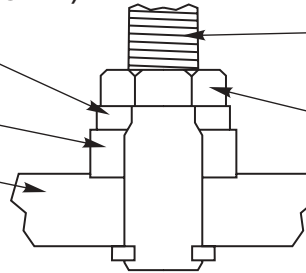
BEARING COLLAR

BEARING

SPRING LOAD PLATE

SPRING ADJUSTING SCREW

JAM NUT

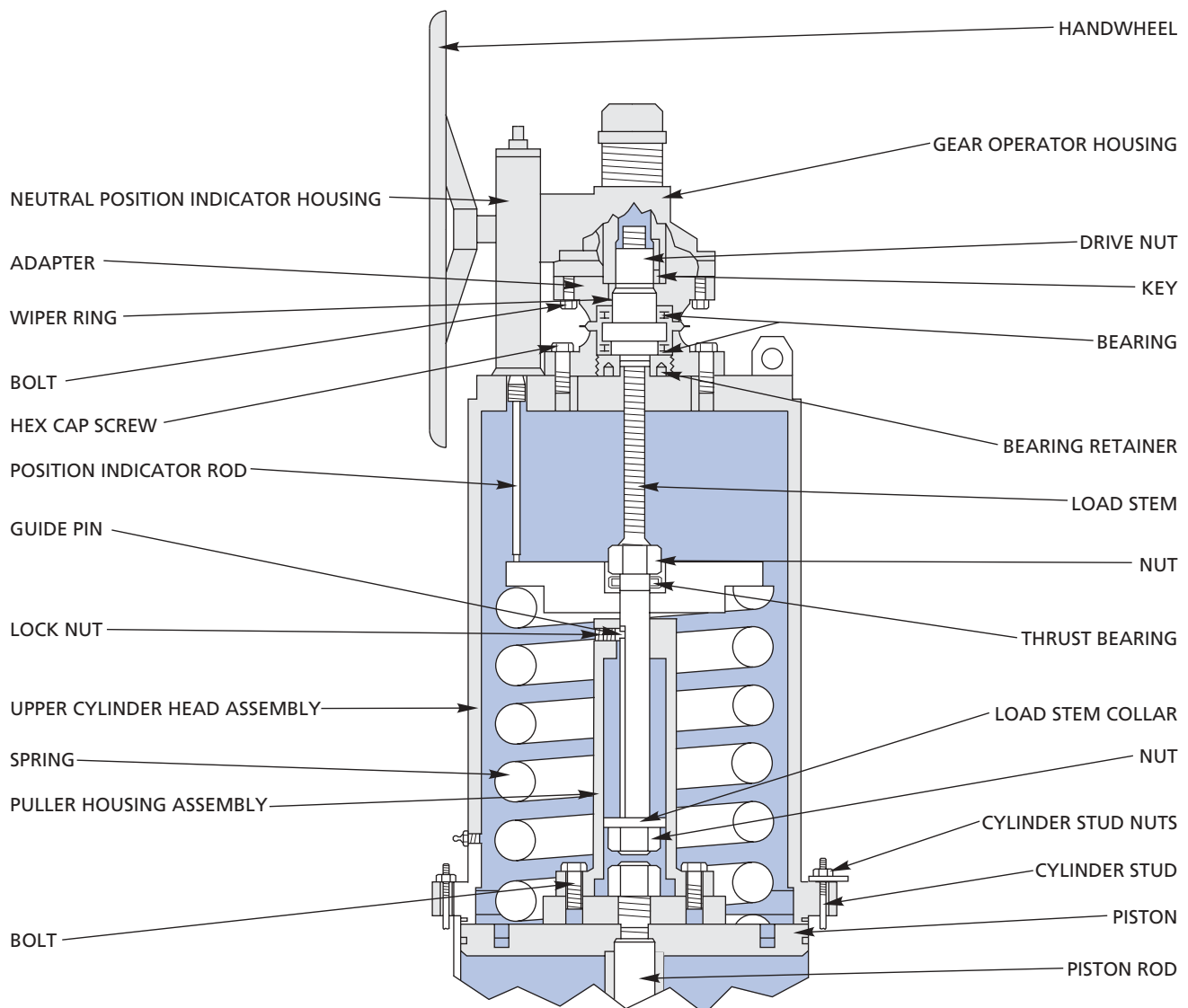


NOT TO SCALE



## PISTON ACTUATOR

SPRING CLOSE WITH TWO-WAY MANUAL MECHANISM  
SERIES LS-205D, LS-207D & LS-267D





## PISTON ACTUATOR

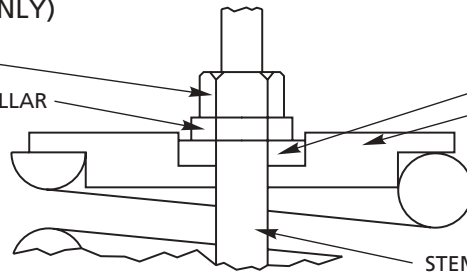
### SPRING CLOSE WITH TWO-WAY MANUAL MECHANISM SERIES LS-124D & LS-185D



(FOR LS-185D ONLY)

JAM NUT

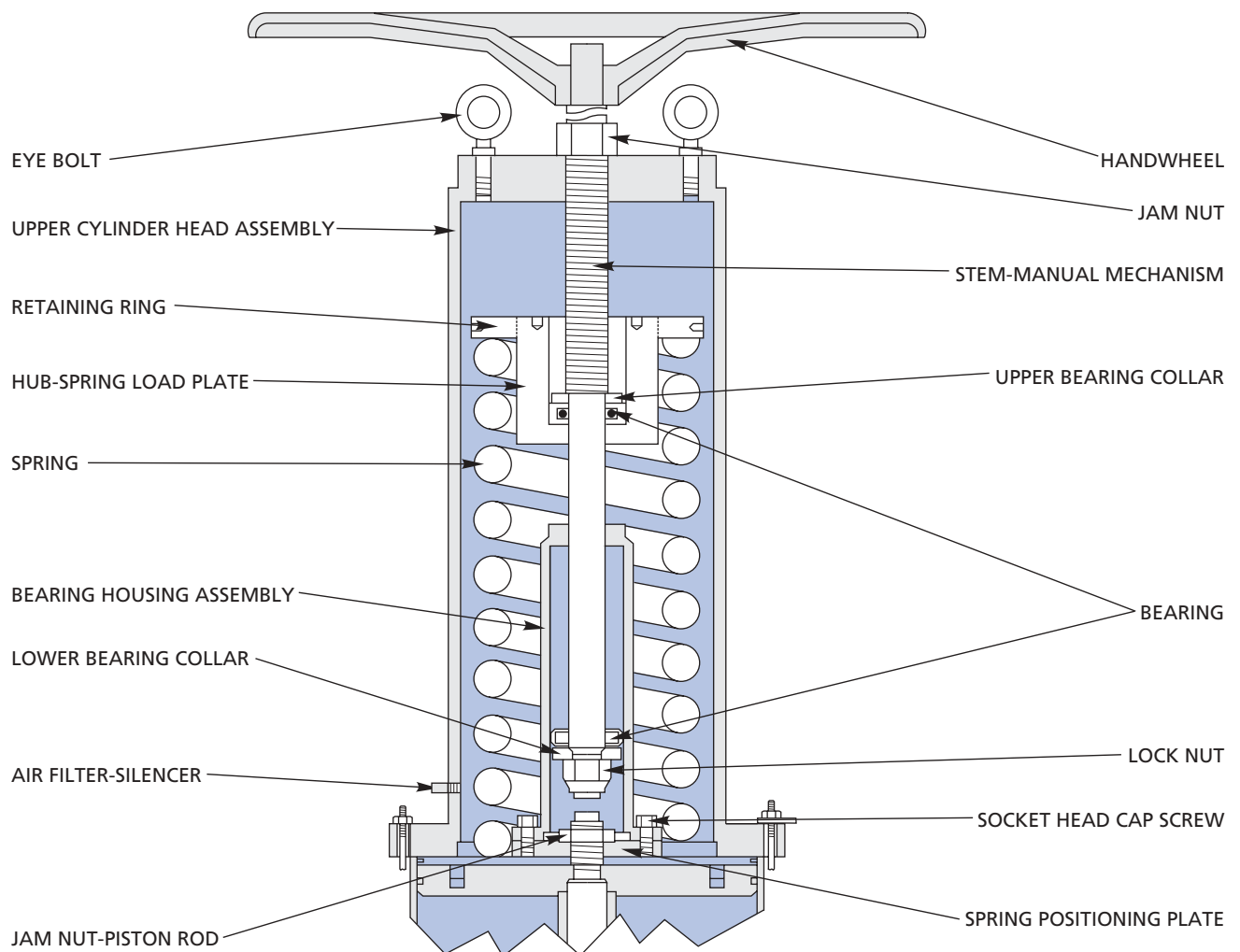
UPPER BEARING COLLAR



BEARING

SPRING LOAD PLATE

STEM-MANUAL MECHANISM



NOT TO SCALE

## ORBIT AUTOMATED VALVE PACKAGES BOOK 4

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