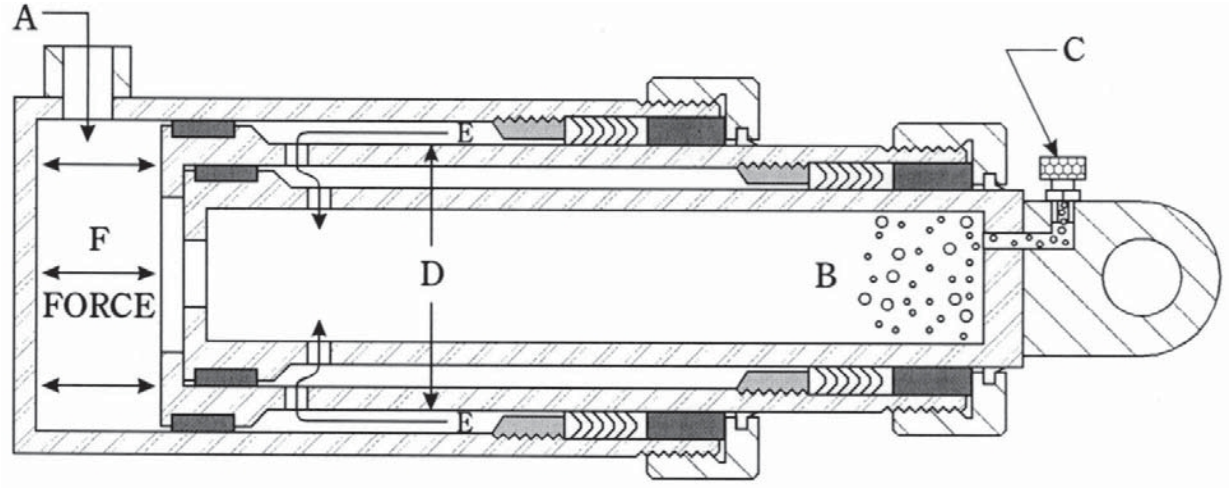
SINGLE ACTING TELESCOPIC CYLINDERS



To Extend:
High pressure oil from the pump is directed by the control valve through the port (A) to fill the cylinder. Any air in the system is trapped in the end of the cylinder (B) and may be bled off through the bleeder valve (C). Generally, bleeding is only necessary on initial start up or if air has been allowed to enter the system.

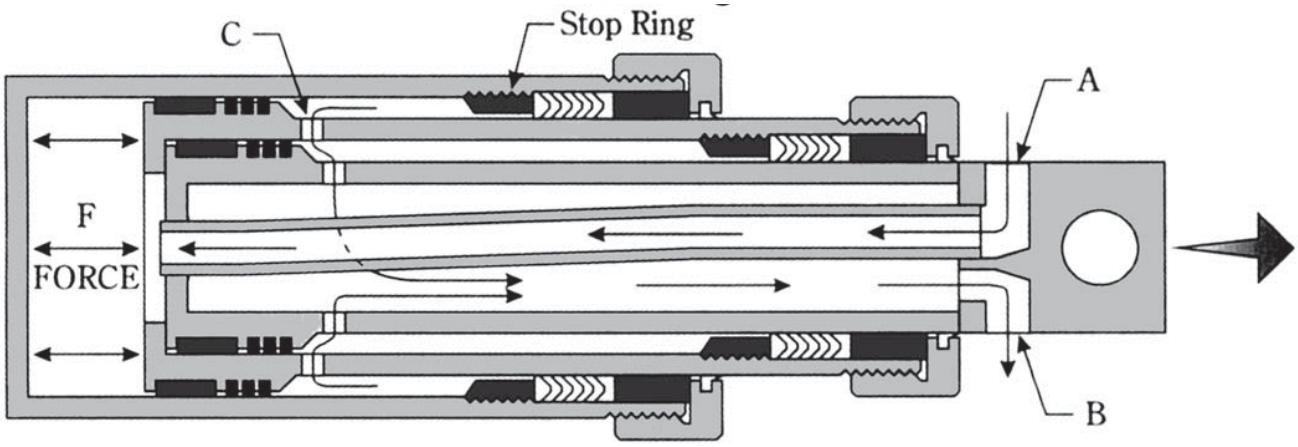
Oil pushes on the bottom of the sleeve or plunger forcing (F) it to move out. The outside diameter or sealing area of the sleeve or plunger (D) determines the effective area.

As the sleeve or plunger moves out, the oil trapped between (E) the sleeve or plunger wall is released through holes in the sleeve or plunger.

To Retract:
A single acting cylinder must be retracted by gravity or mechanical means.

DOUBLE ACTING TELESCOPIC CYLINDERS

EXTENDING

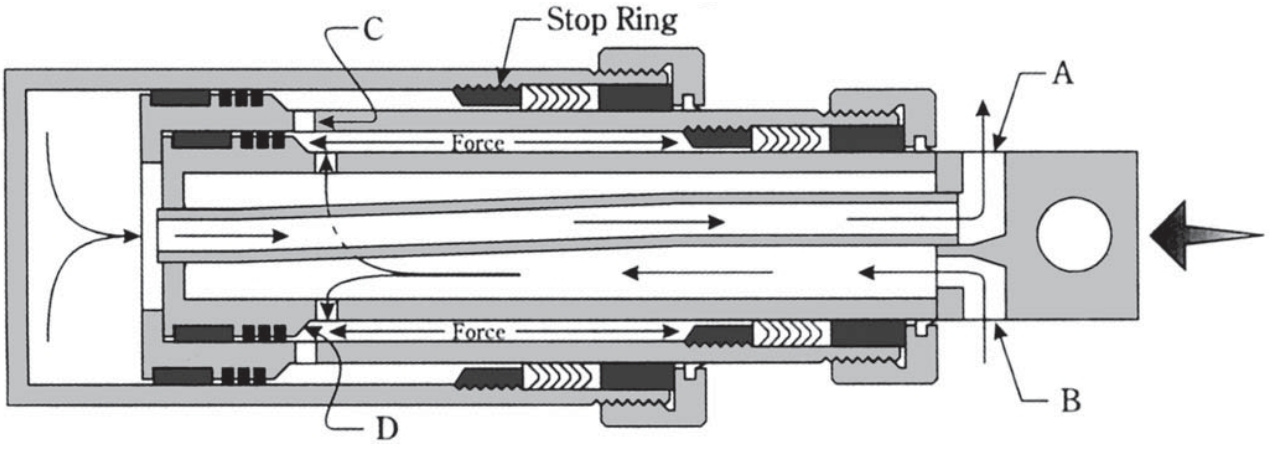


To Extend:
High pressure oil is directed by the control valve into port A. The oil passes through the transfer tube in the rod to the base of the cylinder. The pressure acts on the effective area (area of the largest piston) and extends all stages to the first stop ring.

The next stage then begins to extend. The effective area of each stage is figured from the inside diameter of the next largest stage. Each stage extends in its turn to the stop ring.

Oil trapped between the sleeves escapes through holes (c) in each sleeve and returns to tank through port B.

RETRACTING



To Retract:
High pressure oil is directed by the control valve in port B. The pressure is applied to the effective area (d) of the plunger which retracts first. Each stage from the smallest to the largest retracts in its turn, however, THE EFFECTIVE AREA FOR RETRACTING EACH STAGE IS THE AREA (D) OF THE PLUNGER.

TECHNICAL INFORMATION