



INSTRUCTIONS

BULLETIN 947602

OILGEAR TYPE "R-Y" THREE POSITION REMOTE HYDRAULIC CONTROL FOR TYPE "D" UNITS

REFERENCE BULLETINS

Type "D" Variable Delivery Pumps - - - - 947000

Type "DN" Variable Delivery Pumps - - - - 947925

I. CONSTRUCTION

Basically, the control consists of a large area reverse stroke piston (301), a large area intermediate stroke piston (312) with a stroke limiting shaft pressed in, an intermediate stroke adjusting knob (341) and a control housing (300). A maximum stroke spacer (314) is used with some units.

These controls are usually opposed by a type "C" acceleration-deceleration operator but other operators can be used.

II. PRINCIPLE OF OPERATION

See reference bulletins for pump principle of operation and opposing operator bulletin for its operation. The "R-Y" control is normally mounted on left side of unit, facing driveshaft. Control pressure is always behind the small area piston of the opposing operator tending to move the slideblock towards the "R-Y" control.

When the chamber behind the reverse stroke piston (301) is connected to drain but fluid is directed to the chamber behind the intermediate stroke piston

(312), the small area opposing operator moves the slideblock towards the "R-Y" control until the reverse stroke piston contacts the limit shaft (310) of the intermediate piston. Because the intermediate stroke piston is larger, the opposing operator can not force the slideblock past this point. The position of the intermediate stroke piston is controlled by the hook type shaft and the stop nut (311) which pulls up against the collar of the intermediate stroke adjusting knob (341). Normally this is set so pump will deliver an intermediate volume from port A (some units may be designed so this can be set for neutral or even intermediate volume from port B).

When both chambers are connected to drain, the opposing operator forces the slideblock towards the "R-Y" control. The reverse stroke piston backs against the intermediate piston limit shaft, with its piston, sliding it through the housing and adjusting knob gland (306), backing the lock nut away from knob collar, until the intermediate piston is forced against the maximum stroke spacer (314) or housing. The pump will deliver maximum output from port "A". The width of stroke spacer (314) determines maximum delivery.

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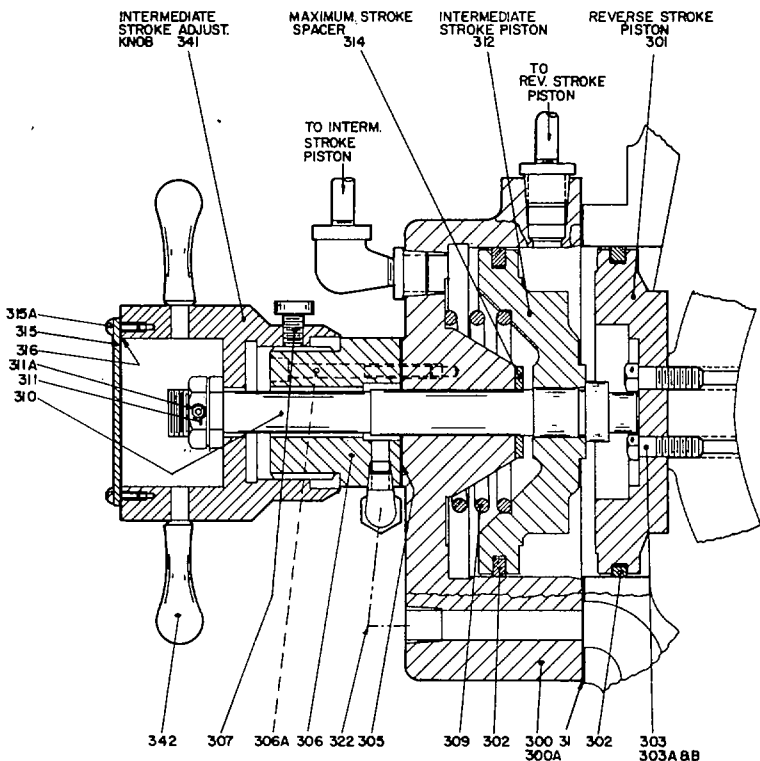


Figure 1. Parts drawing, Oilgear Type "R-Y" Control. DS-947602 (508998).

IX. PARTS LIST

Part No.	Description
300	Housing, Control
300A	Screw, Sock. Hd. Cap
301	Piston, Reverse Stroke
302	Ring, Piston
303	Screw, Piston
303A	Gasket, Screw
303B	Wire, Locking
305	Gasket, Gland
306	Gland, Adjust. Knob
306A	Screw, Sock. Hd. Cap
307	Screw, Thumb
309	Spring, Intermediate Piston
310	Shaft Interm. Piston Limit
311	Nut, Stop
311A	Screw, Set
312	Piston, Intermediate Stroke
314	Spacer, Maximum Stroke
315	Cover, Adjust. Knob
315A	Screw, Rd. Hd.
316	Gasket, Cover
322	Assembly, Gland Drain Line
341	Knob, Interim. Stroke Adj.
342	Handles, Knob

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Issued Oct. 1974

BULLETIN 947602

When fluid is directed to both chambers; both pistons move outward in their bores, overcoming the force of the small area opposing operator, and force the slideblock away from the "R-Y" control until the limit adjustment of the opposing operator is contacted. Normally this is set so pump delivers a small volume from port "B". (some units may be designed so this limit is adjustable from zero to maximum from port "B").

If control and operator sides are reversed from those described, delivery functions will also be reversed.

III. SPECIFICATIONS

See unit bulletin, application circuit and drawings for eccentricity and other specifications.

IV. MALFUNCTIONS AND CAUSES

- A. Sluggish or Unresponsive Control
1. Low gear pump (pilot) pressure (see reference bulletin).
 2. Faulty opposing operator (see operator information).
 3. Faulty remote control valves.
 4. Faulty radial piston pump (see reference bulletin).
 5. Binding control pistons or slideblock.
 6. Excessive leakage past piston rings.
 7. Intermediate piston limit shaft binding in housing.

V. ADJUSTING

With "R-Y" control on left side facing pump drive-shaft, the adjusting knob presets the intermediate volume delivered. Loosen thumb screw (307) before adjusting and tighten when done. Turning knob counter-clockwise increases intermediate delivery from port A (or decreases from port B).

The maximum delivery from port A can be changed by removing control and changing thickness of spacer (314). Grinding down thickness will increase delivery.

Delivery from port B can be adjusted by the opposing operator adjustment. Generally, turning the screw outward will increase delivery.

Parts used in this assembly are per Oilgear specifications. Use Oilgear supplied parts to insure compatibility with assembly requirements. When ordering repair parts, be sure to include unit serial number, part number and bulletin number.

TO THE USER AND OPERATOR OF OILGEAR "R-Y" CONTROLLED UNITS

These instructions are printed to simplify and minimize your work of operating and maintaining these units. Your acquaintance with the construction, principle of operation and characteristics of these units will help you obtain optimum performance, reduce shut-downs and increase service life. We feel confident the unit will operate to your satisfaction if these instructions are adhered to. Some units have been modified from those described and other changes may be made without notice.

VI. DISASSEMBLY

Remove remote control valve connections from control, but do not remove gland drain line assembly (322). Remove screws (300A) and control housing (300) from unit. Piston (301) can be removed by cutting wire (303B), turning out screws (303) and pull piston with rings (302) from case bore. Loosen thumb screw (307) and turn adjusting knob (341) all the way in. Remove cover screws (315A), adjusting knob cover (315) and gasket (316). Measure from top of intermediate piston limit shaft (310) to top of stop nut (311) so it can be returned to original position. Loosen set screw (311A), remove stop nut (311) and turn intermediate stroke adjusting knob off gland (306). Slide piston limit shaft with intermediate stroke piston (312) and piston ring from bore. Do not press shaft out of piston (312) unless necessary. Intermediate piston spring (309) and maximum stroke spacer (314) can be removed. If necessary, adjusting knob gland (306) can be removed after disconnecting drain line from housing.

VII. INSPECTION

Check for hardening or deterioration of gaskets. Inspect all pistons, their rings and bores for scratches, grooves or undue wear. Be sure all pistons and limit shaft (310) move freely in their bores. Check all threads for wear or damage. Replace any part that appears unduly worn. Wash all parts prior to assembly and lubricate.

VIII. ASSEMBLY

Connect drain line assembly (322) to gland (306). Fasten gland, with gasket (305) in place to housing. Press shaft (310) into piston (312) and insert piston ring (302) into groove. Place spring (309) in recess in back of piston and slide spacer (314) down on shaft (310). Insert shaft through hole in center of housing and gland, carefully push through while guiding piston (312) and ring (302) into bore. Screw knob (341) all the way on the gland. Turn stop nut (311) onto shaft to previously measured position and secure with set screw (311A). Fasten gasket (316) and cover (315) on knob with screws (315A). Place piston ring (302) on piston (301) and guide into case bore. Put gasket (303A) on screws (303) and fasten piston to slideblock, locking with wire (303B). Insert screws (300A) in control housing, place gasket (31) on control mounting face (being sure all holes line up) and mount control assembly on unit. Make all connections to the control from remote valves. Test and adjust per section V.