SERVICE INSTRUCTIONS

Bulletin 947517

HYDURA TYPE "CU" SOFT START PRESSURE COMPENSATOR CONTROLS FOR "PVW" AND "PVWH" PUMPS

PURPOSE OF INSTRUCTIONS:

These instructions have been prepared to simplify and minimize your work of operating Hydura type "CU" controlled units. This material will inform you as to basic construction, principle of operation and service part listings. Some controls may be modified for specific applications from those described in this bulletin and other changes may be made without notice.

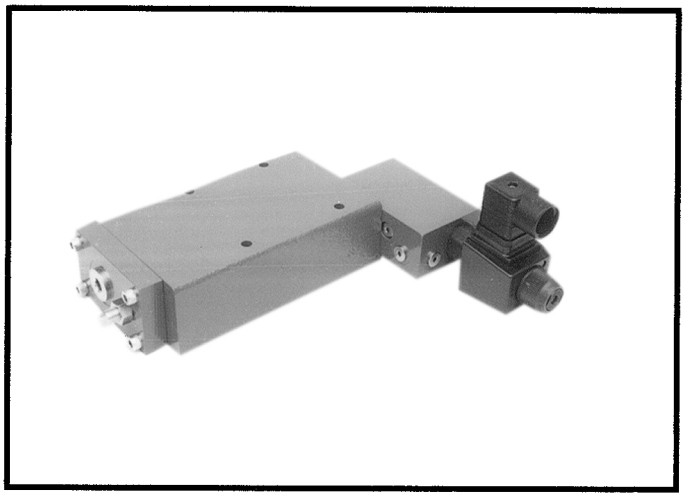
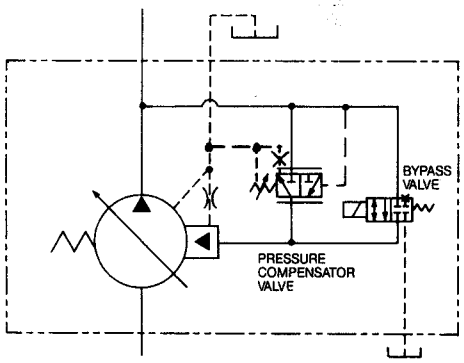


Figure 1. Typical "CU" control for Hydura "PVW" and "PVWH" pumps (N89-002-14).



ASA diagram for "CU" control shown with typical pump.

PRINCIPLE OF OPERATION

Refer to figure 3. "CU" controls are designed for "soft" start ups for low delivery and low pressure to reduce start up torque requirements. The control is equipped with a solenoid operated valve that when energized will bypass the pressure compensator valve and direct internal pilot fluid directly against the control piston which destrokes the pump against the resistance of the control spring. The control may also be used to hold a pump off stroke in cases of intermittent duty cycles. Upon dropping out the bypass solenoid, the unit reverts to and reacts as a pressure compensated controlled pump. As such, it ensures maximum pump flow until the system reaches the controls preset pressure setting. When the system pressure exceeds the compensator control setting, the control destrokes the pump while maintaining preset pressure. A remote compensating option can be accomplished by using an Oilgear sequence type compensator module remote from the control. Use L51542 for units rated continuously for 4000 psi or less, use L51542-1 for units rated above 4000 psi.

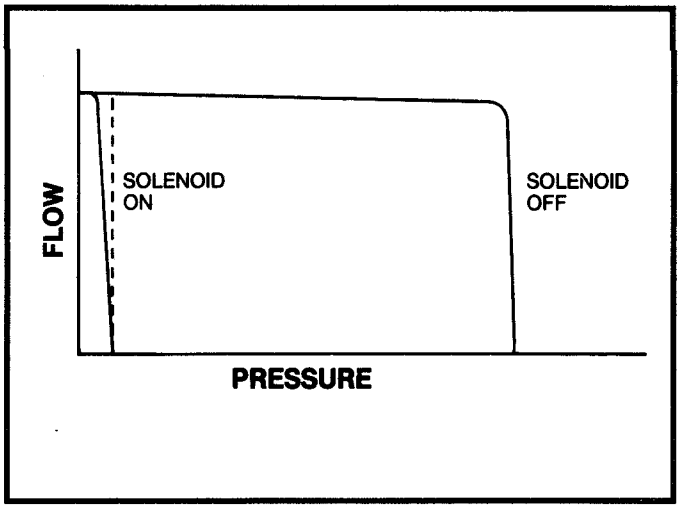


Figure 2. Curve indicating flow vs pressure for "CU" type controls.

REFERENCE MATERIAL

DESCRIPTION	BULLETIN
Fluid Recommendations	90000
Filtration Recommendations	90007
"PVW" & "PVWH" Variable Delivery Pumps	SW-IA or 947015

THE OILGEAR COMPANY
2300 So. 51st. Street
Milwaukee, Wisconsin 53234

Reissued: May, 1991

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PARTS USED IN THIS ASSEMBLY ARE PER HYDURA SPECIFICATIONS. USE HYDURA PARTS TO ENSURE COMPATIBILITY WITH ASSEMBLY REQUIREMENTS. WHEN ORDERING REPLACEMENT PARTS, INCLUDE TYPE DESIGNATION, SERIAL NUMBER STAMPED ON NAMEPLATE, ITEM NUMBER AND BULLETIN NUMBER. WHEN ORDERING O-RINGS AND SEALS, SPECIFY TYPE OF HYDRAULIC FLUID USED.

PARTS LIST

ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION
303	Screw, HHC Mounting	373	Pin, Control Piston
355	O-ring	374	Screw, SHC
356	O-ring	375	O-ring
357	Nut, Jam	376	O-ring
358	Screw, Pressure Adjusting	377	Screw, SHC
359	Plug, Pipe, NPT	** 378	Stop, Control Piston
360	Plug, SAE	379	O-ring
361	Plug, SAE	380	O-ring
362	Piston, Control	381	Pressure Compensator, Adjusting Assembly
363	Spool, Pressure Compensator	+ 382	Sleeve, Control Piston Stop
364	Seat, Spring	383	Adapter, "CU"
365	Gasket, Cover	384	Plug, SAE
366	Spring, Pressure Compensator	385	O-ring
* 367	Orifice, Control Piston	388	Plug, (Set Screw)
368	Housing, Control	390	Nut, Jam
369	Gasket, Control Housing	391	Stem, Minimum Volume Stop
370	Spring, Control Piston	392	Adapter, Minimum And Maximum Stop
371	Plug, Control	393	O-ring
372	Cover, Control Housing	997	Assembly, Bypass Valve

* Spring side: For sizes 15 thru 60 on "PVW" models; For sizes 11 thru 20 on "PVWH" models. Outer Side: For sizes 06 and 10 on "PVW" models; For sizes 06, 10 and 25 thru 60 on "PVWH" models.

** For sizes 15 thru 60 on "PVW" models; For sizes 11 thru 60 on "PVW" models.

\+ For size 34 thru 60 on "PVW" models ONLY; Exists as one piece (Item 362) on "PVWH" models.

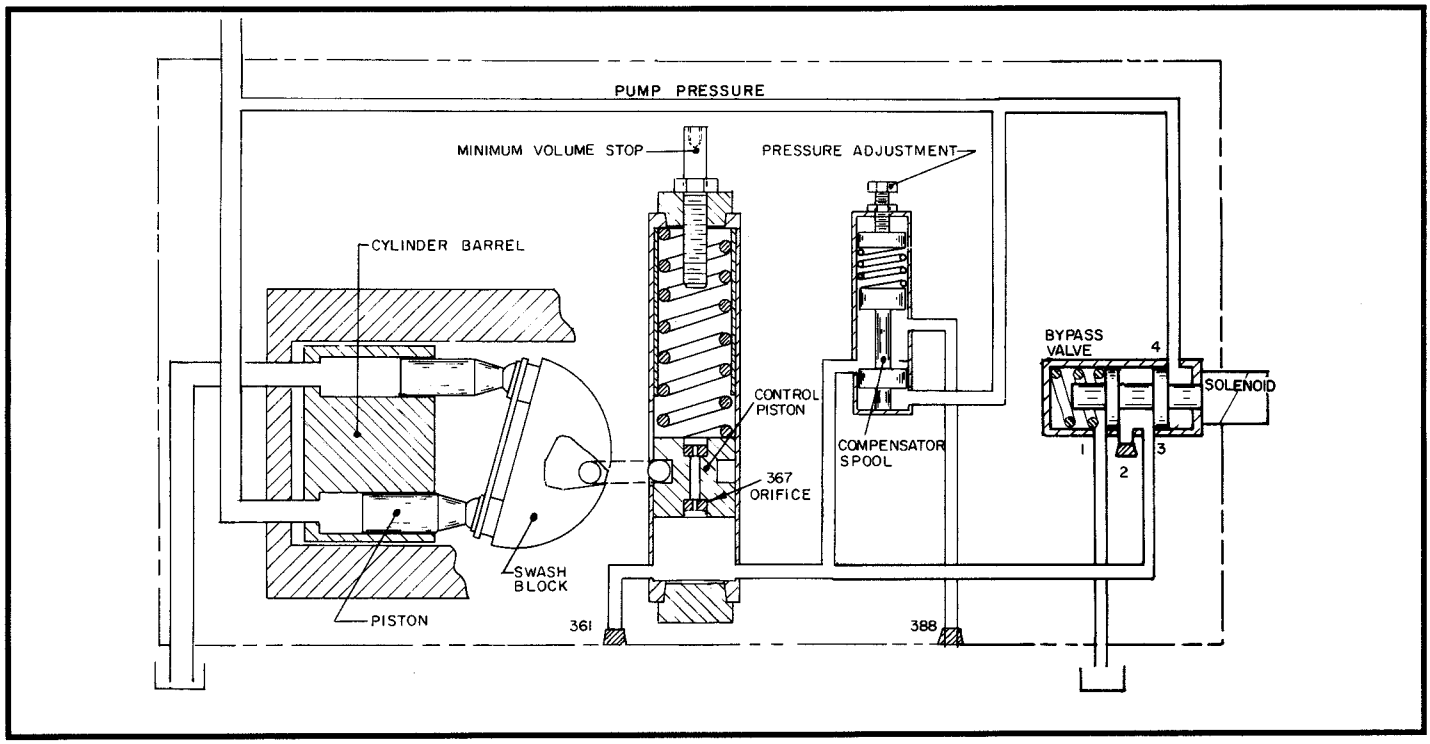

Figure 3. Diagram illustrating swashblock at full delivery and type "CU" control.

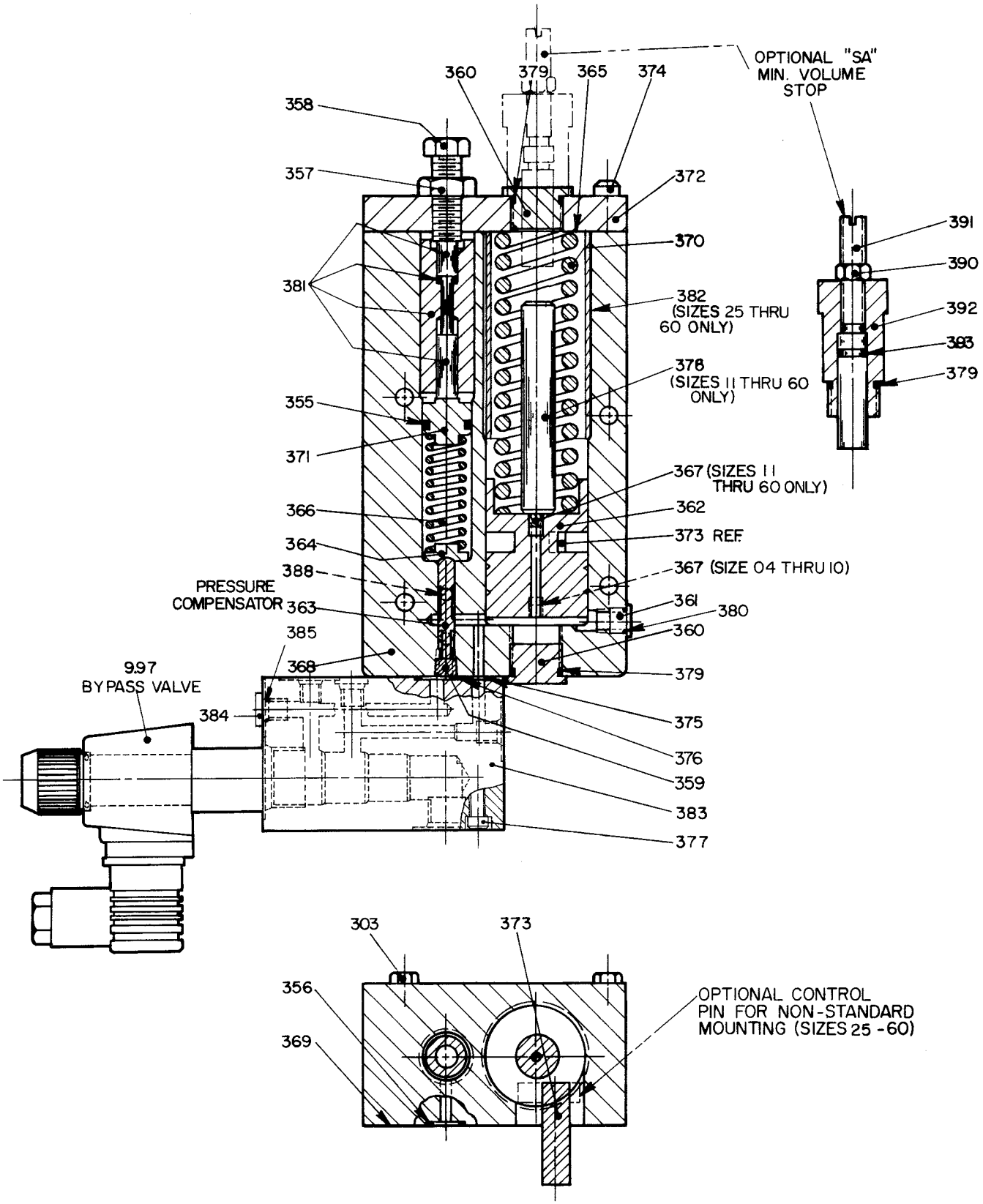

Figure 4. Parts drawing, Hydura type "CU" control (E51316).

LINE MOUNTED REMOTE PRESSURE CONTROL FOR "CU" TYPE PUMP CONTROLS

Refer to figure 5. Remote operation of type "CU" controls can be accomplished by installing a Hydura remote compensator model at the location shown in the control circuit. Use L51542 for units rated continuously for 4000 psi or less, use L51542-1 for units rated above 4000 psi.

PRINCIPLE OF OPERATION

When system pressure reaches the setting of the remote pressure compensating module, the module opens and ports fluid into the control piston through the port from which plug 361 has been removed. This fluid flow causes the pump to destroke and maintain remote pressure setting.

MINOR CHANGES TO PUMP CONTROL

The compensator setting on the pump control must be set at least 200 psi (13,8 bar) higher than required maximum system pressure setting of the remote compensator module. Doing this will prevent the pump compensator control from interacting with the remote adjustable compensator module.

NOTE:

The compensating spool drain is plugged at the factory, therefore, a set screw is not necessary and the response time remains unchanged.

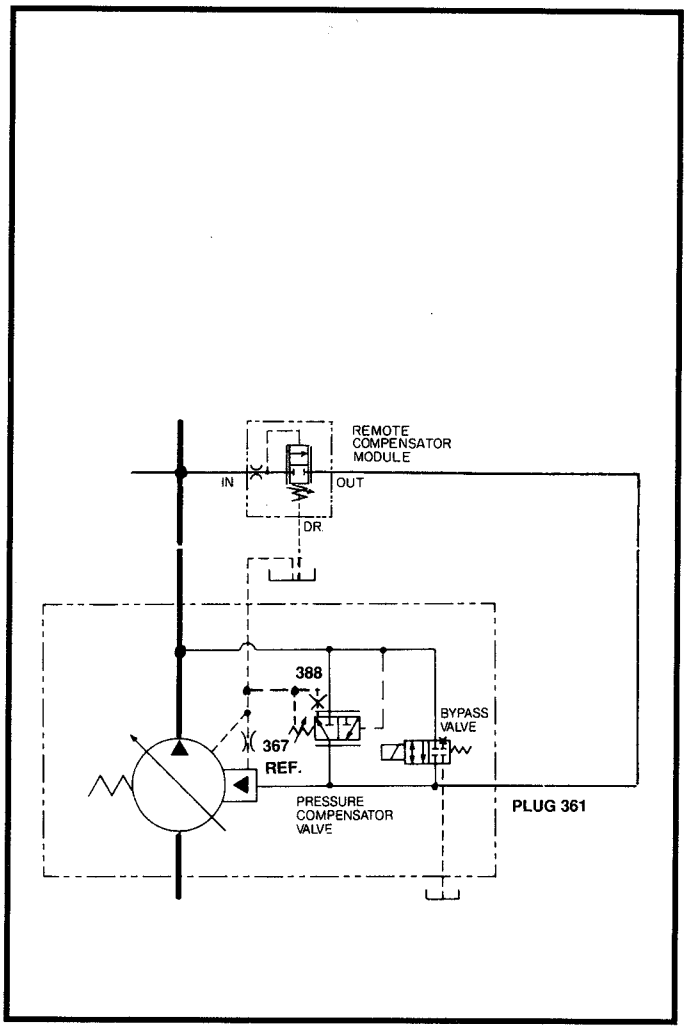

Figure 5. "CU" control circuit with remote pressure control.

NOTES:

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