

DENISON**Hydraulics****SERVICE LITERATURE**

DENISON PRESSURE COMPENSATOR CONTROL

These Controls Are For Use On The Following Denison Pumps:

OLD MODEL NO.	SERIES	NEW MODEL NO.
PA-072-564-L	600	PV06-007-51L-04
PA-072-564-R	600	PV06-007-51R-04
PA-202-574-L	700	PV07-020-51L-04
PA-202-574-R	700	PV07-020-51R-04
PA-352-584-L	800	PV08-035-51L-04
PA-352-584-R	800	PV08-035-51R-04

OPERATION AND ADJUSTMENT

The operation of the pressure compensator control is in many ways similar to the operation of the relief valve.

As the pressure is increased in the system, the flow from the compensator valve is applied directly against piston (69), pressing this piston against the hanger mechanism, reducing the angle of the cam plate. The greater the pressure, the greater distance the hanger is depressed, reducing the volume but maintaining pressure. The volume will continue to reduce until the bottom stop (located on opposite side of pump housing is encountered. This minimum stop is used only when it is not desirable to go to zero volume delivery. The adjustment which decides when your pump is to decrease its volume, is the knurled knob located on top of the pump housing. Always be certain that after adjustment the knurled lock nut is hand tight. The minimum adjustable stop is operated in much the same manner.

DISASSEMBLY

To remove compensator control from pump proceed as follows:

- A. If compensator is not at top of pump drain the oil from the pump housing before dismantling the parts of the control.
- B. Remove four bolts (101) holding assembly to the pump. Care should be taken that the piston (69) does not fall out during removal.

If the compensator is to be disassembled proceed as follows:

- A. Remove two bolts (102) holding control cap (71) to body (67).
- B. Remove adjusting housing and adjustment assembly by turning with a wrench, on the hex base of the housing (85). Be careful during removal that the steel ball (82) does not fall out.

- C. Remove control sleeve (80) and piston (81) with pliers.
- D. Next remove spring retainer (79) and spring (78) with pliers or by lifting out with small brass rod.
- E. On the other side of the control cap, remove adapter (77) to remove control sleeve (73) and piston (72). These normally drop out easily by tapping housing on a block of wood.

Inspect all parts carefully for dirt or wear and clean thoroughly in a solvent. Piston (72) and (81) should move freely, without binding but, if too loose, will cause the compensator control to have excess leakage. The control sleeve (80) and piston (81) must fit correctly or the metering of oil through this control will be faulty.

Inspect all "O" rings and replace, if necessary. Before reassembly, carefully clean all parts as they are reassembled. Check snap rings to see that they are not broken or out of position. After inspection and cleaning, lubricate all internal parts with a heavy lubricating oil or light grease.

REASSEMBLY

- A. Replace bronze piston (72) in spool (73) so that piston head is opposite the end on which the snap ring is located.
- B. Insert this assembly, piston head end first, into the bore of the cap on the side opposite the small tank drain outlet.
- C. Check piston at this time by running wire through the opposite end of the cap and through the control sleeve and moving the piston back and forth with the wire, checking if it moves freely and without binding.
- D. Be sure "O" ring is in place on the adapter (77) and replace the adapter in the control cap.

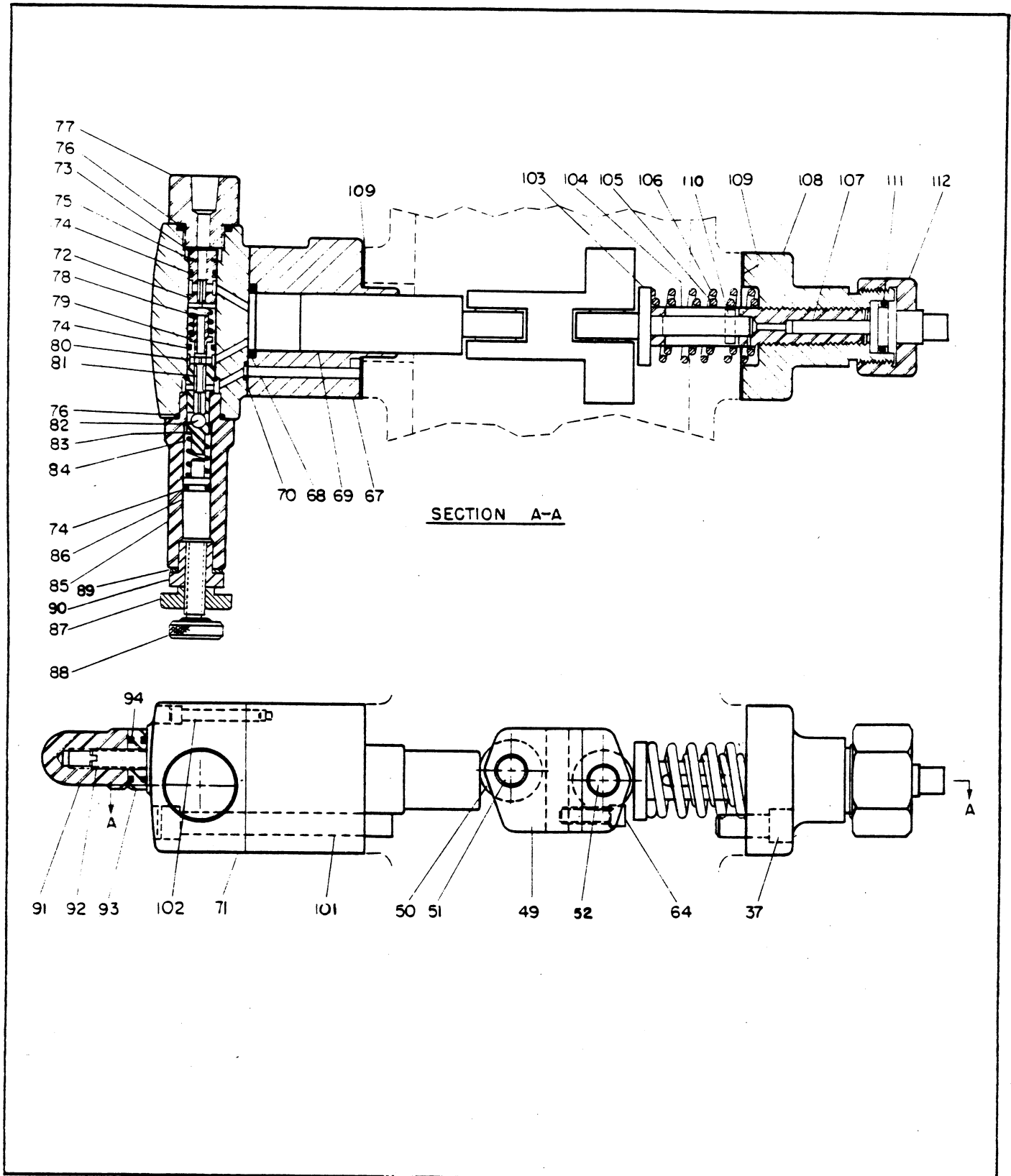
E. Turn the cap around, replace the spring (78), the spring retainer (79), the control sleeve (80), and piston (81) as a unit, checking with the finger that all parts are located properly and that there is tension against the spring.

F. Place ball support (83), spring (84), and seal piston (86), in the body from the threaded

end of the adjustment housing and replace adjusting screw (88), and lock nut (87).

G. Check "O" ring on the adjustment housing and replace if necessary.

The control mechanism is then ready to thread into the control cap.



PARTS LIST

REF. NO.	DESCRIPTION	600 SERIES	700 SERIES	800 SERIES	QTY
37	S.H.C. screw 7/16-14 x 1	308-18160	-----	-----	4
	S.H.C. screw 5/8-11 x 1	-----	308-24160	308-24160	4
49	Clevis †	035-15868	035-15821	035-15824	1
50	Clevis Roller †	035-42011	035-42011	035-42011	2
51	Dowel pin 5/8 x 1-3/8 †	324-24022	324-24022	324-24022	1
52	Dowel pin 5/8 x 3 †	324-24048	324-24048	324-24048	1
64	S.H.C. screw 5/16-18 x 1 (Nylok)	308-14166	308-14166	308-14166	4
67	Control body housing	S15-02501	S15-02247	S15-02247	1
68	"O" ring 70-6227-22 ARP-217	671-00217	-----	-----	1
	"O" ring 70-6230-3 ARP-225	-----	671-00225	671-00225	1
69	Control body piston	035-14190	035-14082	035-14082	1
70	"O" ring 70-6227-3 ARP-008 *	671-00008	671-00008	671-00008	1
71	Control cap *	035-13987	035-14027	035-14027	1
72	Piston (large head) *	035-13977	035-13977	035-13977	1
73	Control sleeve (1-1/16 long) *	035-13982	035-13982	035-13982	1
74	"O" ring 70-6227-7 ARP-012 *	671-00012	671-00012	671-00012	3
75	Retaining ring Eaton No. 413 *	356-15885	356-15885	356-15885	2
76	"O" ring 70-6290-8 ARP-908 *	671-00908	671-00908	671-00908	2
77	Spool stop *	035-12562	035-12562	035-12562	1
78	Spring *	035-22051	035-22051	035-22051	1
79	Spring retainer *	035-13976	035-13976	035-13976	1
80	Control sleeve (1-3/8 long) *	035-13981	035-13981	035-13981	1
81	Control piston *	035-45998	035-45998	035-45998	1
82	Steel ball 1/4 inch dia. *	201-08001	201-08001	201-08001	1
83	Ball support *	035-11697	035-11697	035-11697	1
84	Spring *	035-12289	035-12289	035-12289	1
85	Adjustment housing *	035-12555	035-12555	035-12555	1
86	Seal piston *	035-11712	035-11712	035-11712	1
87	Lock nut *	035-17116	035-17116	035-17116	1
88	Adjusting screw *	035-17115	035-17115	035-17115	1
89	Washer Shakeproof No. 1228 *	348-10040	348-10040	348-10040	1
90	Retainer nut *	035-17117	035-17117	035-17117	1
91	Cap *	035-12565	035-12565	035-12565	1
92	S.S. screw 3/8 -16 x 3-3/8 flat point *	311-16332	-----	-----	1
	S.S. screw 3/8-16 x 3 3/4 flat point	-----	311-16352	311-16352	1
93	Lock nut *	035-12566	035-12566	035-12566	1
94	"O" ring 70-6227-12 ARP-114 *	671-00114	671-00114	671-00114	2
101	S.H.C. screw 7/16-14 x 4	308-18360	-----	-----	4
	S.H.C. screw 5/8-11 x 5	-----	308-24400	308-24400	4
102	S.H.C. screw 10-24 x 1 1/2	308-10200	308-10200	308-10200	2
103	Piston ▲	035-14717	035-15072	035-15072	1
104	Stop ▲	035-14719	035-15071	035-15071	1
105	Spring ▲	035-22322	-----	-----	1
106	Spring ▲	035-22404	035-22413	035-22413	1
107	Tongue ▲	035-14718	035-14751	035-14751	1
108	Stop body ▲	035-14715	035-15070	035-15070	1
109	Vellumoid gasket	035-12592	035-12279	035-12279	2
110	Rollpin 3/16 inch dia. ▲	325-12110	325-12150	325-12150	1
111	"O" ring 70-6227-15 ARP-210 ▲	671-00210	-----	-----	1
	"O" ring 70-6227-19 ARP-214	-----	671-00214	671-00214	1
112	Nut ▲	035-14716	035-14752	035-14752	1
*	Compensator cap assembly	S15-00052	S15-00164	S15-00164	1
▲	Minimum stop assembly	S15-00050	S15-00163	S15-00163	1
†	Clevis assembly	S15-00043	S15-00162	S15-00249	1

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