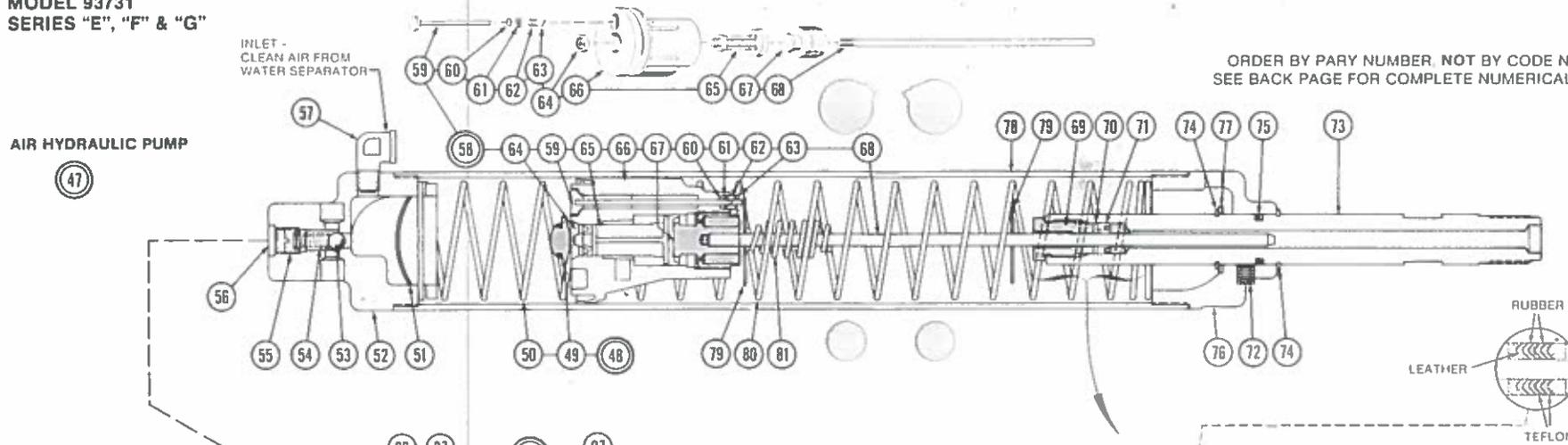
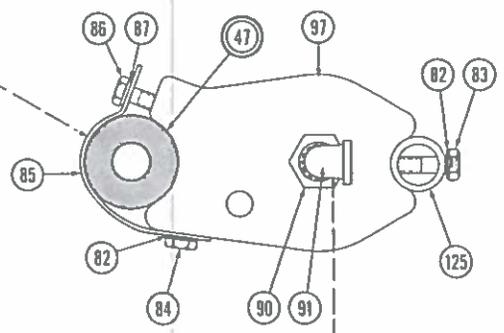


ORDER BY PARY NUMBER NOT BY CODE NUMBER
SEE BACK PAGE FOR COMPLETE NUMERICAL LISTING

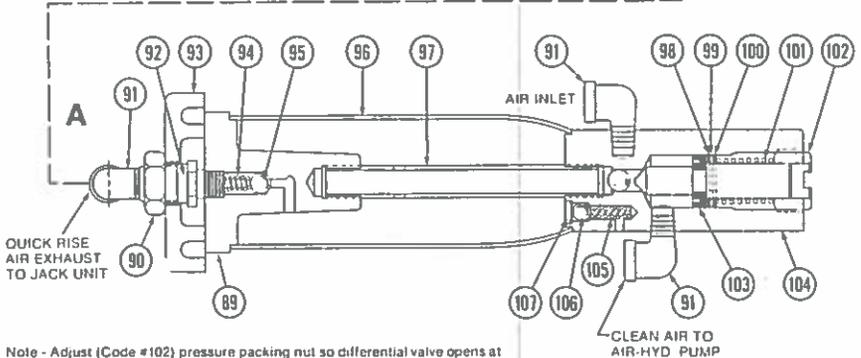


NOTE: Early versions had the parts shown at left. If repairs are required in this area, discard Code Nos. 69, 70 and 71.

SPEED PACK SUPPORT



WATER SEPARATOR & DIFFERENTIAL VALVE ASSEMBLY



Note - Adjust (Code #102) pressure packing nut so differential valve opens at 60 P.S.I. when opening "A" is plugged and Air Pressure is applied to air inlet.

Code No.	Part No.	Description	Series	No. Req'd	Code No.	Part No.	Description	Series	No. Req'd
47	See Note 1	Air - Hydraulic Pump	E, F & G	1	77	224469	Washer	E, F & G	1
48	223194	Spring & Cushion Assembly	E, F & G	1	78	224034	Cylinder Trip Washer	E, F & G	1
49	225371	Cushion	E, F & G	1	79	223203	Spring Return	E, F & G	2
50	226153	Spring	E, F & G	1	80	223173	Spring Return	E, F & G	1
51	223680	Screen	E, F & G	1	81	225384	Trip Spring	E, F & G	1
52	231572	Cylinder Cap	E, F & G	1	82	201787	Lock Washer	E, F & G	2
53	203202	Ball Valve	E, F & G	1	83	224643	Bolt	E, F & G	1
54	224156	Spring	E, F & G	1	84	212566	Bolt	E, F & G	1
55	226373	Adjusting Screw	E, F & G	1	85	224639	Clamp	E, F & G	1
56	201733	Plug	E, F & G	1	86	224642	Bolt	E, F & G	1
57	222202	Elbow	E, F & G	1	87	224343	Washer	E, F & G	1
58	228930	Piston Assembly	E, F & G	1	88	224157	Water Separator	E, F & G	1
59	223187	Valve Plunger	E, F & G	1	89	226956	End Block	E, F & G	1
60	222288	"O" Ring	E, F & G	1	90	203299	Nut	E, F & G	1
61	228813	Washer	E, F & G	1	91	222202	Elbow	E, F & G	3
62	223184	Spring	E, F & G	1	92	224187	Adapter	E, F & G	1
63	228235	Cotter Pin	E, F & G	1	93	224587	Mounting Block	E, F & G	1
64	221013	"U" Cup	E, F & G	1	94	224074	Spring	E, F & G	1
65	223678	Piston Assembly	E, F & G	1	95	203199	Ball Valve	E, F & G	1
66	231347	Piston, Roll Pin Assembly	E, F & G	1	96	223910	Tank	E, F & G	1
67	223183	Plug Retainer	E, F & G	1	97	224186	Center Tube	E, F & G	1
68	224038	Pump Rod	E, F & G	1	98	224212	Valve	E, F & G	1
69	228814	Gland Nut	E, F & G	1	99	221276	Roll Pin	E, F & G	1
70	228816	Washer	E, F & G	1	100	224213	Washer	E, F & G	2
71	228815	"U" Cup	E, F & G	1	101	224160	Spring	E, F & G	1
72	226451	Set Screw	E, F & G	2	102	222209	Packing Nut	E, F & G	1
73	228933	Cylinder Retaining Ring	E, F & G	1	103	216523	"U" Cup	E, F & G	1
74	221820	Retaining Ring	E, F & G	2	104	224210	Differential Valve Block	E, F & G	1
75	219861	"O" Ring	E, F & G	1	105	224163	Spring	E, F & G	1
76	226450	End Block	E, F & G	1	106	203200	Ball Valve	E, F & G	1
					107	221880	Retaining Ring	E, F & G	1

NOTE 1 - Contact nearest factory branch or service depot when replacement is required

SERVICE ADJUSTMENT PROCEDURE - 228929 AIR HYDRAULIC PUMP ASSEMBLY

NOTE — Before checking below, make sure that the user had properly opened the vent screw P/N 224073. Also, air pressure (130 p.s.i. required) has been checked at connecting point to Jack — many times there is a serious loss of pressure in the line between the reserve tank and the point of operation.

- I. If Air-Hydraulic Jack will not lift but sounds normal:
 - A. Check hydraulic Jack portion, could be release valve stuck open, ram cup worn out or cut, discharge ball not seating, etc.
 - B. If all of these items clear, the Jack is probably air bound. To correct, make sure vent screw is open, cycle the air pump to extend the ram to its highest point, - then lower the ram. Several complete cycles will be required to purge the air from the hydraulic system.
- II. If Air-Hydraulic Jack will not lift and does not sound normal, look for the following:
 - A. If the air pump is cycling unusually fast —
 1. The Jack may be air bound.
 2. The suction ball in the hydraulic unit base may not be seating.
 - B. If the air pump is not cycling at all, but air can be heard rushing out the exhaust port, the air pump should be removed and checked for the following:
 1. Rubber bumper on cushion spring may have been dislodged from the spring
 2. The valve plunger assembly 223187 may be stuck open.
 3. The two weep holes in the pump retainer plug 223183 may be plugged with dirt.
 4. The return spring 223173 may be broken.
 - C. If the air pump is not cycling at all and no air is coming out of the exhaust, check for the following:
 1. The pump rod 224038 may be frozen in its packing gland.
 2. The valve plunger assembly 223187 is not opening. Look for a bent trip washer or a bent or rusted valve plunger which has seized in the piston.
 3. The differential valve 224212 in the water separator and differential valve block assembly is not opening - look for a rusted or jammed valve - remove the adjusting nut 222209 and valve - clean and lubricate
 4. If air is escaping thru the bleed hole in the differential valve block (with air valve wide open), rust or foreign material is preventing valve from closing. Remove and clean.
 5. P/N 223678 Pump piston - broken.
- III. If the Jack will raise a load but much more slowly than normal, the trouble is almost certainly related to the air pump. Look for the following:
 - A. If the pump cycles slowly
 1. There may be a restriction in the air line between the air valve and the water separator.
 2. One of the weep holes in the 223183 pump retainer plug may be plugged.
 3. Restriction in the differential valve.
 - B. If the pump cycles very rapidly -
 1. There may be an air leak at the threads of the pump retainer plug 223183 allowing the 223678 piston (plastic) to reseat prematurely. This results in a short stroke and a rapid cycle. Correct by recoating the threads with Loctite (CVV).
 2. The "U" packing that seals against the pump rod may be worn out.
 3. The 225384 trip spring may be deformed or broken.
- IV. If the Jack will raise a load, and acts normal but does not have a "quick raise" when not loaded. Look for the following:
 - A. Differential valve opening too soon - tighten adjusting nut 222209 a turn.
 - B. Restriction in air line or pipe nipple between water separator and hydraulic unit tank.