



# INSTRUCTIONS AND PARTS LIST FOR Models 6-225, 6-425, 6-250, 6-450, 6-275, 6-475, 6-650, and 6-850 Air Hydraulic Presses

## WARNING LABELS



To the left is the safety Alert symbol. When you see these safety alert symbols on your press, be alert to the potential for personal injury.  
Follow recommended precautions and safe operating practices.

## SETTING UP THE PRESS FOR OPERATION

For shipping convenience, some of the parts are not assembled. Assemble these parts in the following order:

1. Bolt the base angles to uprights using four bolts and nuts, which are provided. Make sure base angles are against stops on uprights.  
**NOTE: The press should set on a level floor with the base angles touching the floor at all points. Use shims where necessary.**
2. Connect airline into street elbow (Item No. 136) at right hand side of control block.  
**NOTE: Avoid restrictions in air supply line to insure ample air-to-air motor. To ensure maximum performance the air supply line should be 1/2" pipe line if the distance from the compressor to press is 0-30 feet, 3/4" line 30-60 feet, and 1" if greater than 60 feet.**  
**NOTE: AIR MUST BE MOISTURE FREE. WATER IN AIR LINE WILL CORRODE THIS PRESS BEYOND REPAIR.**
3. **Oil Requirements:** Fill reservoir with Mobil DTE 24 or equivalent oil thru pipeline in back of press at pipe coupling by removing pipe plug. **NOTE: Make sure the air-source is removed from the reservoir prior to removal of plug. Oil level may be checked (with ram up) by removing the pipe plug on the right side of reservoir near the front. Replace plug before operating the press.**  
Model 6-225 & 6-425 25-ton presses use 6 quarts  
Model 6-250 & 6-450 50-ton presses use 8 quarts  
Model 6-275 & 6-475 75-ton presses use 10 quarts  
Model 6-650 & 6-850 150-ton presses use 20 quarts.
4. Attach nose piece to ram by inserting shank into ram and tightening the set screw.
5. **CAUTION!** Place the hoist crank on the lift drum shaft. Turn the hoist crank to relieve the pressure on the table pins. Keeping tension on the hoist crank, remove the table pins one at a time. After removing the table pins, turn the crank running the table channels from top to bottom. Check to make sure the cable is tracking correctly. The cable should be on each of the two upper pulleys and should track back and forth on the cable drum. Always place table pins under the table channels before releasing the hoist crank when positioning the table channels for cable tracking, servicing, or set-up for desired work opening. If a tracking problem exists, contact the Dake factory for instructions. Be sure all table pins are fully inserted in place before applying pressure. Always remove or release pressure on the cable before pressure is applied.

## OPERATIONS

**WARNING: DO NOT OVERSTROKE THE RAM.** Overstroking will cause premature seal failure. Models 6-225, 6-425, 6-250, 6-275 and 6-475 have a 10-inch stroke. Models 6-650 and 6-850 have a 16-inch stroke.

The press has been completely tested at the factory and after setting up according to instructions above, the press is ready for operation. However, it is necessary for the operator to acquaint themselves with the controls.

1. Three screws (item 109) are used to lock the workhead in the desired position along head channels.
2. The handcrank (item 19) is provided to raise or lower the table channels to the proper work height. When desired height is obtained insert the table pins. Models 6-225, 6-425, 6-250 and 6-450 use 2 pins on each side (4 total) and Models 6-275, 6-475, 6-650 and 6-850 use 3 pins on each side (6 total). **NOTE: Be sure ALL table pins are in place an in as far as they can go before pressure is applied. Be sure to slack off on the cable before pressure is applied. (Refer to point 5 under SETTING UPS THE PRESS FOR OPERATION)**
3. The handle on the left side of the control block (item 76) opens and closes the ball valve, which releases pressure on the ram. This valve should be kept firmly closed and opened only when it is desired to return the ram to its up position.
4. The two table plates and two V-blocks are used for supporting the work in process.
5. The control knob (item 103) on the right side of the panel regulates the speed of ram travel. The knob will return to the off position when released.
6. The relief valve (item 90) has been set at factory to open at maximum tonnage of press. The valve can be adjusted by removing hex nut located on top of the valve block at the right front of reservoir and turning the adjusting screw to the left for a lower setting. **WARNING: Never exceed rated tonnage of press.**

## MAINTENANCE

**CAUTION: When disconnecting any parts of this machine be extremely careful that all parts are clean to prevent entrance of dirt in the hydraulic system.**

### 1. If press loses Pressure:

- a. Check all tubing joints for leaks and tighten the tube nuts.
- b. Leakage past release valve (Item 72). Drain the reservoir, and remove packing nut (Item75), valve rod (Item 73), and ball valve (Item 72). Clean out valve seat and reseal ball valve using brass rod as a drift striking sharply with a hammer. Reassemble valve rod, packing and packing nut. Refill reservoir with appropriate oil amount.
- c. Leakage past eductor inlet check ball (Item 69). Drain reservoir, remove large pipe plug (Item 71), valve seat (Item 70), and check ball (Item 69). Clean and inspect seat. Reseat ball on seat or replace seat with a new one if necessary. Reassemble with ball above the seat tightening plugs securely.
- d. Worn cup leather (Serial No < 192522) or T-ring seal (Serial No > 192523). If none of the previous conditions seem to have been the cause of the trouble, the cup leather or T-ring seal may be worn out or damaged. To inspect this it is necessary to drain the oil and remove the workhead from the press frame. Remove tube assembly (Item 144). Set 2 4x4 blocks on the table then raise table channels with the block up to the bottom of the reservoir applying pressure to the reservoir. Remove roller brackets from the reservoir and lower workhead using the table. **WARNING: Be sure that stroke indicator rod support (item 61) is installed in the side of the piston. If not, Insert 1/2"-13 stud or capscrew in tapped hole in piston. This will hold the piston down under spring pressure.** Next remove nuts from cylinder flange and lift cylinder off piston. The piston leather or T-ring seal can now be inspected and replaced if necessary. Press may be reassembled in reverse order being careful not to damage the lip of the leather cup or T-ring seal as it enters the cylinder.

**2. If press will not develop rated tonnage.**

- a. Dirt under valve balls. Refer to MAINTENANCE 1 – c above.
- b. Worn cup leather. Refer to MAINTENANCE 1 – d above.
- c. Relief valve not set properly. This valve is located on the top side near the right end of the control block at the front of the reservoir. The valve is set at the factory to bypass oil from the pump back to the reservoir when the press reaches its rated capacity. The load on the spring (Item 91), which governs the pressure at which the valve will bypass oil, is adjusted by turning the screw (Item 90) in to increase pressure or out to decrease pressure. Replace seal (Item 89) and cap nut (Item 88). **NOTE: We advise that the relief valve not be tampered with after it is once set at the capacity of the press.**

**3. If nothing happens when press is operated.**

- a. Release valve open. Be sure to have release valve firmly closed when using press.
- b. If the ram will come down only a fraction of its rated stroke, check the oil level in the reservoir with the ram at the top of its stroke. It should be visible in the sight window at the side of the reservoir.

**4. If press is operating slow.**

- a. Check air supply line for restrictions to determine if air motors are getting ample supply of air.
- b. Release valve not closed properly. Release valve must be firmly closed when using the press.
- c. Wrong hydraulic fluid. After considerable research and tests made with the cooperation of the pump manufacturer, we recommend Mobil DTE 24 oil or equivalent.

**5. If Oil is coming out of the air vent.**

Drain out the spring chamber by removing the 1/8" pipe plug, which is put in the hub or boss that contains the oil seal where the ram extends out of the reservoir. Once oil is drained, run the press up to full tonnage with pipe plug still out. Excessive oil is a sign that the head seal has been damaged. Refer to Maintenance section 1 item d to replace seal. Replace pipe plug.

**6. Excessive leakage around the ram.**

Drain out the spring chamber as instructed in Maintenance section 5. A small amount of oil in this chamber facilitates lubricating the bushing the ram passes thru and prevents scoring. However, if operation performed on press is spoiled due to slight leakage of oil, remove pipe plug as described in MAINTENANCE 5 and connect tube line to continually drain this chamber.

**WARNING LABELS**



To the left is the safety Alert symbol. When you see these safety alert symbols on your press, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.

Carefully read all safety messages in these instructions and on your press safety signs.

Keep safety labels in good condition. Replace missing or damaged safety labels. **This machine is intended to be operated by one person.** This person should be conscious of the press ram movement not only for himself but also for persons in the immediate area of the machine.

**WARNING**

Establish solid footing to prevent falls.  
Keep hand away from point of operation. Read instructions.  
Guard workpiece to prevent projectiles from reaching operator. Wear eye protection.

Label 300168

**CAUTION**

ALL pins must be inserted before applying any pressure.  
Read instructions.

**CUIDADO**

Todos los escalamos tienen que ser insertados ante de aplicar la presión.  
Lea las instrucciones.

Label 84487

**WARNING**

Keep fingers out of pin holes.

**PELIGRO ATENCION**

No ponga los dedos en los agujeritos.

Label 84399

**DANGER**

High voltage. Can cause severe injury or death.  
Service by authorized personnel only.  
Use lockout.

**PELIGRO**

Alta tensión. Puede provocar lesiones severas o la muerte.  
Para reparaciones, emplee personal autorizado solamente.  
Use cierre eléctrico.

Label 84395

**MAINTENANCE INSTRUCTIONS**

**HYDRAULIC FLUID**

FILL RESERVOIR WITH A GOOD CLEAN OIL SUCH AS MOBIL DTE® 24 (A MOBIL PRODUCT)

RESERVOIR CAPACITY FOR:  
25 TON 6 QT. 50 TON 8 QT.  
75 TON 10 QT. 150 TON 20 QT.

**PUMP**

INSTRUCTIONS FOR CARE AND OPERATION ARE FURNISHED WITH PRESS.

**BEFORE APPLYING PRESSURE:**  
A- LOCK WORKHEAD IN POSITION WITH SET SCREWS  
B- INSERT TABLE PINS  
C- SLACK OFF CABLE  
D- CLOSE RELEASE VALVE FIRMLY

**MODEL**

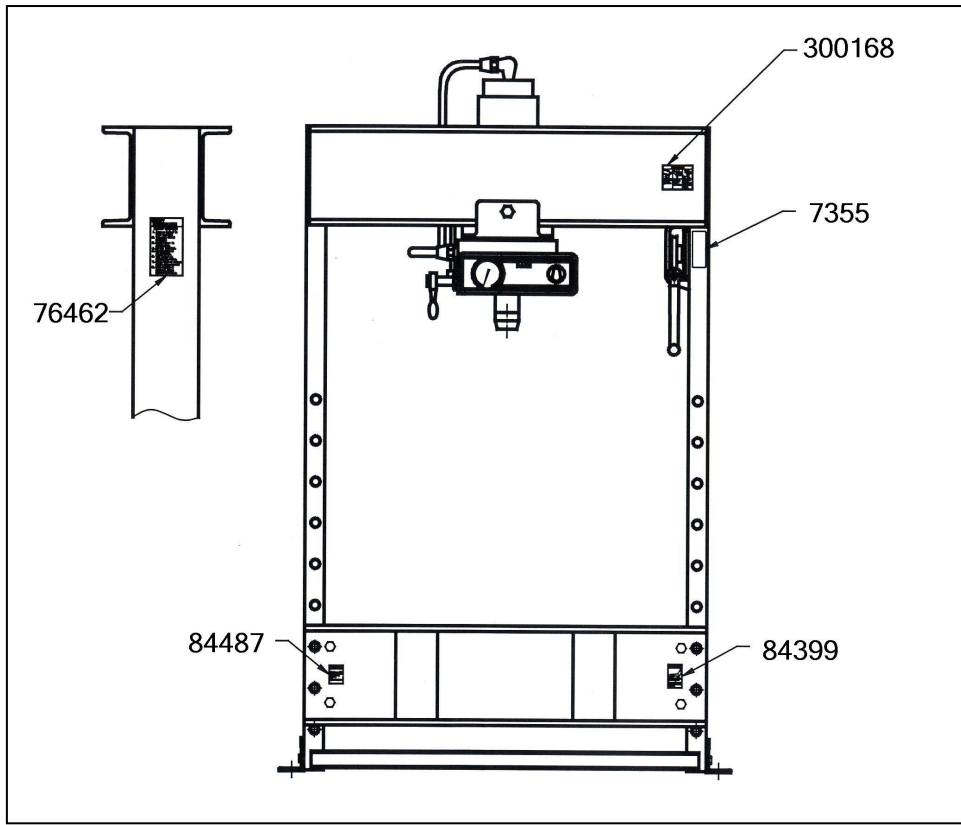
**SERIAL**

**DAKE**

GRAND HAVEN, MICH.  
7355 R-O

Label 7355

**Label Placement View**



**SAFETY INSTRUCTIONS**

**LOCKOUT PROCEDURE**

1. Announce lockout to other employees.
2. Turn power off at main panel.
3. Lockout power in off position.
4. Put key in pocket.
5. Clear machine of all personnel.
6. Test lockout by hitting run button.
7. Block, chain or release stored energy sources.
8. Clear machine of personnel before restarting machine.

Label 76462

FOR WORKHEAD DETAILS  
SEE FIGURE 2

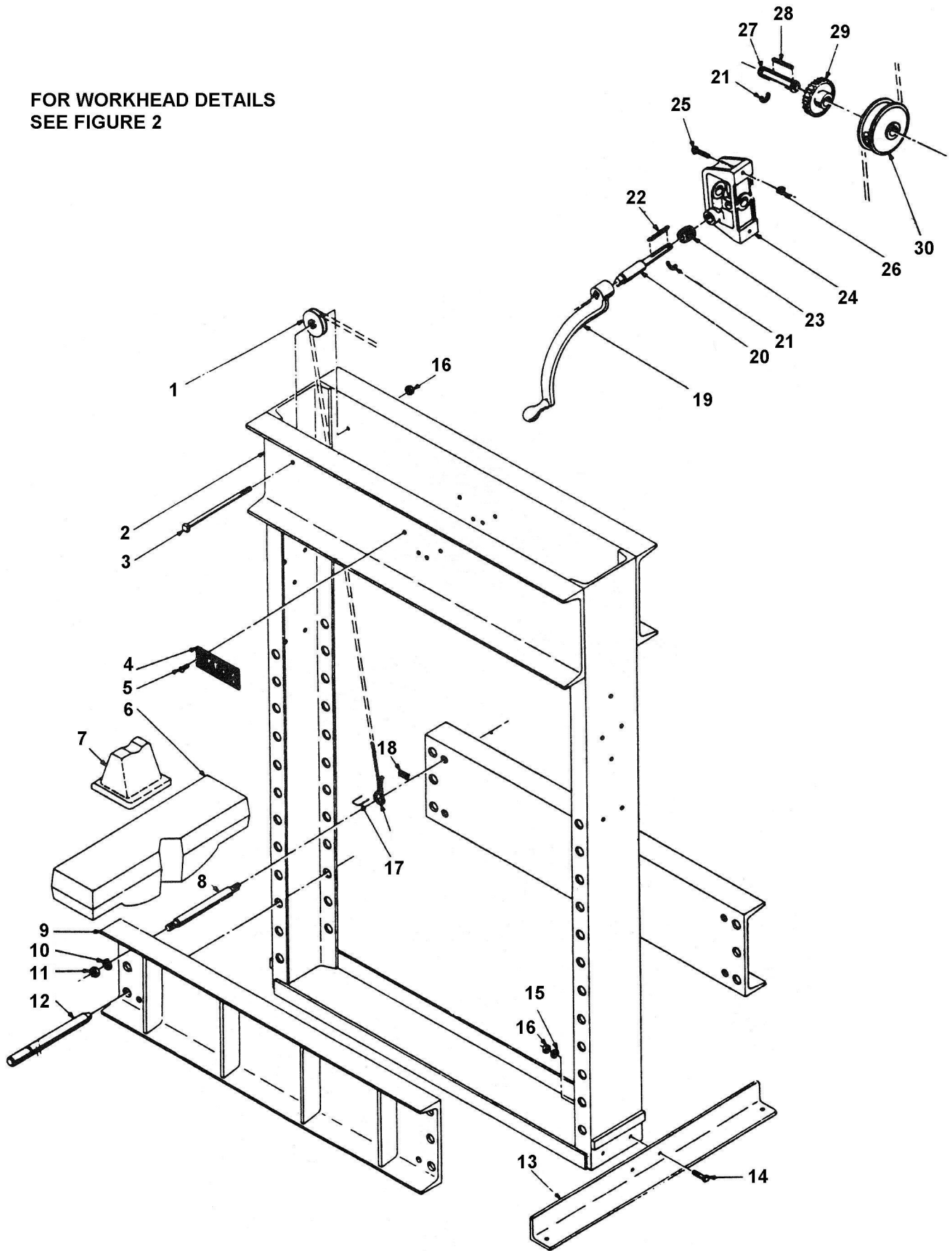


FIGURE 1



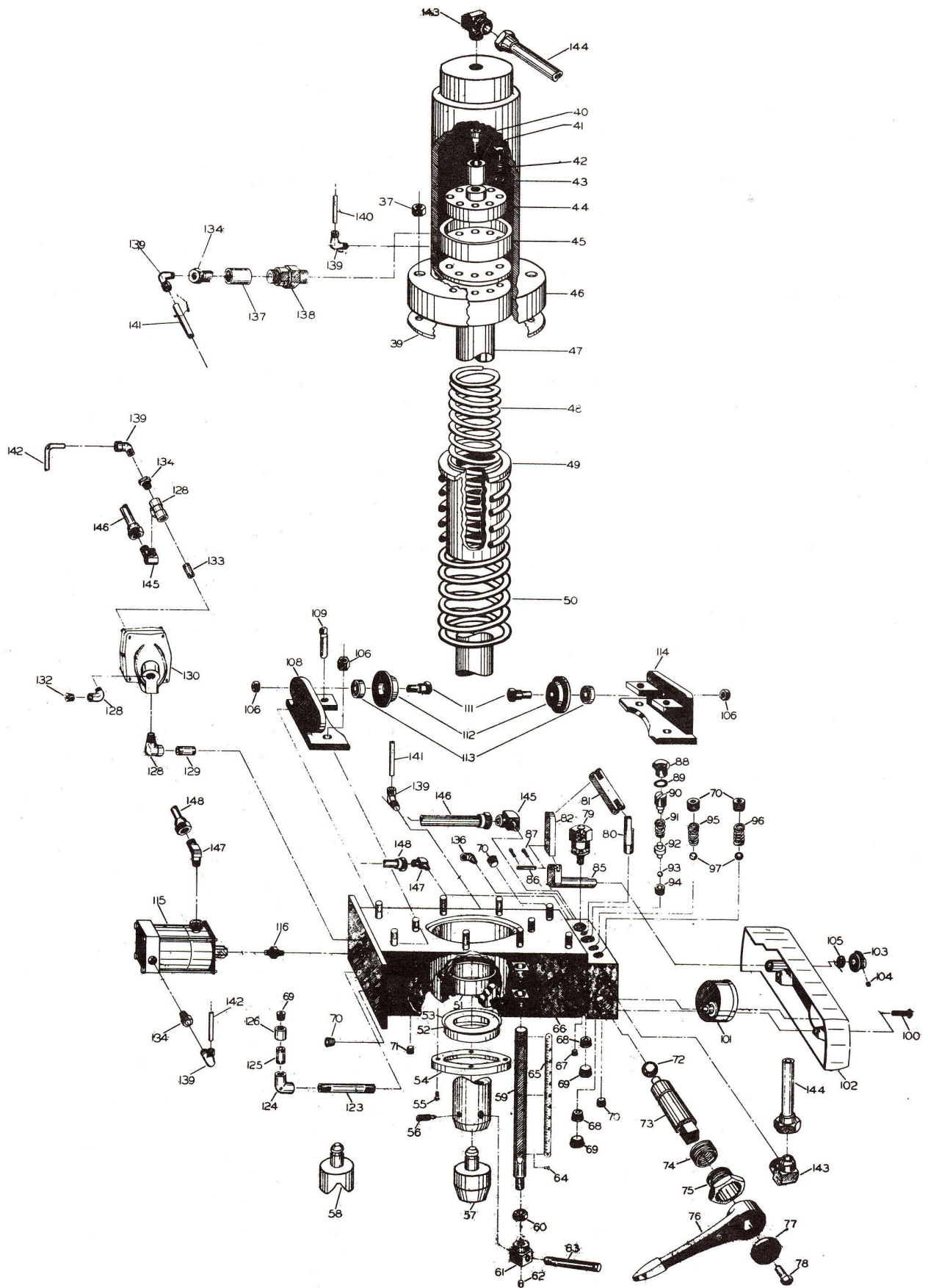
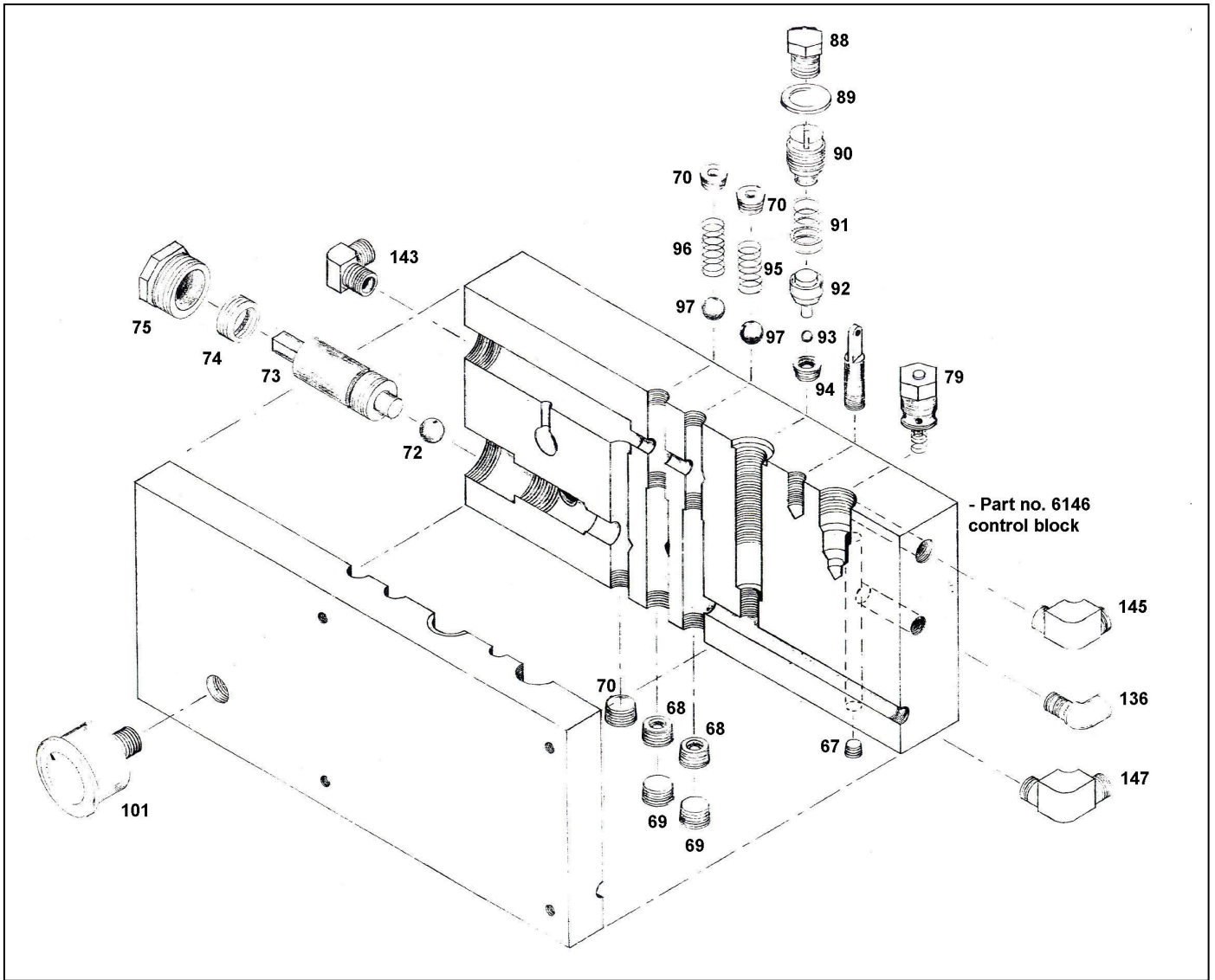


FIGURE 2

Mode

6-275, 6-475, 6-650, & 6-850

## Control Block Exploded View



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**Figure 1**

<b>Item</b>	<b>Part Name</b>	<b>Model 6-225 6-425</b>	<b>Model 6-250 6-450</b>	<b>Model 6-275 6-475</b>	<b>Model 6-650 6-850</b>	<b>Qty</b>
1	Pulley	602-25H	602	727	1563	2
2	Frame	700134	700116	706943	701030	1
3	Hex head cap screw	43341	43342	43361	43720	2
4	Name plate	81002	81002	81002	81003	1
5	6-32 x 1/2" Self tapping screw	43876	43876	43876	43876	4
6	Table plate	966	545	702	1534	2
7	V-block	-	336	336	1576	2
8	Table spacer assembly	716691	716692	716788	1553	4
9	Table channel	701020	701091	706945	701032	2
10	Lockwasher	43647	43647	43648	43649	8
11	Hex nut	43916	43916	43917	43919	8
12	Table pins	981	569	-	-	4
	Table pins	-	-	569	1555	6
13	Base angle	978	566	566	1551	2
14	Hex cap screw	43349	43349	43349	43365	4
15	Lockwasher	43647	43647	43647	43648	4
16	Square nut	43916	43916	43916	43917	4
17	Cable	988	580	726	1562	1
18	Cable clamp	991	991	991	583	4
19	Hoist crank assembly	701653	701653	701653	701653	1
20	Worm shaft	7530	7530	7530	742	1
21A	Retaining ring	43978	43978	43978	43982	2
21B	Retaining ring	27437	27437	27437	43983	2
22	Worm key	386	386	386	746	1
23	Worm	385	385	385	744	1
24	Hoist frame	725	725	725	739	1
25	Hex cap screw	43335	43335	43335	43353	2
26	Hex nut	43912	43912	43912	43916	2
27	Drum shaft	724	724	724	741	1
28	Drum key	737	737	737	745	1
29	Worm gear	736	736	736	743	1
30	Cable drum	723	723	723	740	1
<b>Complete Table Hoist Assembly (Items 20, 21A, 21B, 22, 23, 24, 27, 28, 29,30)</b>		<b>701677-S</b>	<b>701677-S</b>	<b>701677-S</b>	<b>700111-S</b>	<b>1</b>

**Figure 2**

37	1/2" Hex Nut	43916	43916	43916	43916	6
39	Cylinder Gasket	9776	9777	9777	9778	1
40	1/2"-13 x 1-1/2" Soc. Hd. Cap Screw (Serial No. < 192522)	--	43471	43471	--	1
41	Piston Bumper (Serial No. < 192522)	--	2221	2221	--	1
42	1/4"-20x1" HHCS (Serial No. < 192522)	43305	--	--	--	4
	3/8"-16x1-1/4" HHCS (Serial No. < 192522)	--	43330	--	--	6
	3/8"-16x1-3/4" HHCS (Serial No. < 192522)	--	--	43332	43332	8
43	1/4" Lockwasher (Serial No. < 192522)	43643	--	--	--	4
	3/8" Lockwasher (Serial No. < 192522)	--	43645	43645	43645	6-8
44	Supporting Ring (Serial No. < 192522)	967	4110	2222	1536	1
45	Leather Cup (Serial No. < 192522)	969	557	706	1538	1
	T-ring Seal (Serial No. > 192523)	17976	17878	17942	37052	1
46	Cylinder	7361	4101	2213	4197	1
47	Piston Assembly (Serial No. < 192522)	701401	701402	701403	701404	1
	Piston Assembly (Serial No. > 192523)	716225	716226	716227	716228	1
48	Ram Spring (Small)	5722	4107	2231	4196	1
49	Spring Spacer	5725	4108	2233	4201	1
50	Ram Spring (Large)	5721	4106	2232	4195	1



Item	Part Name	Model 6-225 6-425	Model 6-250 6-450	Model 6-275 6-475	Model 6-650 6-850	Qty
51	Piston Bushing (Serial No. < 192522)	5731	4111	2229	1158	1
	Wear Ring (Serial No. > 192522)	76805	76806	76807	37045	
52	Oil Seal	6019	6020	6021	1477	1
53	Oil Seal Gasket	6516	6517	6518	6519	1
54	Retaining Plate	7359	6513	6514	6474	1
55	No. 10-24 x 1/2" Rd. Hd. Screw	43881	43881	43881	43881	4-6
56	5/16" Set Screw	43575	43575	43575	43575	1
57	Nose Piece Assembly	701706	701707	701708	701709	1
58	V-Nose Assembly	701710	701711	701712	701713	1
59	Stroke Indicator Rod	2260	2260	2260	4264	1
60	1/2"-13 Hex Jam Nut	43940	43940	43940	43940	1
61	Special Nut	2259	2259	2259	2259	1
62	1/4"-20 x 1/4" Soc. Hd. Set Screw	43558	43558	43558	43558	1
63	Support Stud	2258	2258	2258	4266	1
64	No. 2 x 3/16" Drive Screw	43616	43616	43616	43616	3
65	Scale	2261	2261	2261	4265	1
66	Reservoir Assembly	715266	716784	716784	715269	1
67	1/8" N.P.T.F. Soc. Hd. Pipe Plug	589	589	589	589	2
68	Check Valve Seat	1300	1300	1300	1300	2
69	1/2" N.P.T.F. Soc Hd. Pipe Plug	596	596	596	596	3
70	3/8" N.P.T.F. Soc Hd. Pipe Plug	588	588	588	588	5
71	1/4" N.P.T.F. Soc. Hd. Pipe Plug	1567	1567	1567	1567	1
72	Ball Valve 3/4" Dia.	1936	1936	1936	1936	1
73	Release Valve Rod	2257	2257	2257	2257	1
74	Valve Rod Packing	1937	1937	1937	1937	7
75	Packing Nut	1931	1931	1931	1931	1
76	Valve Handle	2230A	2230A	2230A	2230A	1
77	Handle Washer	348	348	348	348	1
78	3/8"-16 x 3/4" Hex Cap Screw	43326	43326	43326	43326	1
79	Plunger Unit	6151	6151	6151	6151	1
80	Pivot Pin	6152	6152	6152	6152	1
81	Air Control Arm	6153	6153	6153	6153	1
82	Air Control Link	6154	6154	6154	6154	1
85	Air Control Shaft	6156	6156	6156	6156	1
86	Pin	5772	5772	5772	5772	3
87	1/16" x 1/2" Cotter Pin	44049	44049	44049	44049	6
88	Valve Cap Nut	2236	2236	2236	2236	1
89	O-ring	3965	3965	3965	3965	1
90	Relief Valve Adj. Screw	2237	2237	2237	2237	1
91	Relief Valve Spring	893	893	893	893	1
92	Ball Retainer	892	892	892	892	1
93	Ball Valve 1/4" Dia.	918	918	918	918	1
94	Relief Valve Seat	891	891	891	891	1
95	Check Valve Spring	579	579	579	579	1
96	Check Valve Spring	890	890	890	890	1
97	Ball Valve 1/2" Dia.	586	586	586	586	2
100	No. 10-24 x 2-3/4" Machine Screw	300248	300248	300248	300248	4
101	Gauge	71270	71271	71272	71273	1
102	Control Pannel	80743	80743	80743	80743	1
103	Control Knob	2250A	2250A	2250A	2250A	1

Item	Part Name	Model 6-225 6-425	Model 6-250 6-450	Model 6-275 6-475	Model 6-650 6-850	Qty
104	1/4"-20 x 1/2" Soc. Hd. Set Screw	43562	43562	43562	43562	1
105	1/2" Washer	43634	43634	43634	43634	1
106	5/8"-11 Hex Nut	43917	43917	43917	43917	7
108	Rear Roller Bracket	9472	9472	9472	4204	1
109	3/4"-10 x 3" Set Screw	43616	43616	43616	43616	3
112	Flanged Roller	2244	2244	2244	2244	3
113	Bearing	6023	6023	6023	6023	3
114	Front Roller Bracket	9473	9473	9473	4205	1
115	Pump – Haskel Air	63453	63453	63453	63453	1
116	3/8" Pipe Nipple	58226	58226	58226	58226	1
123	3/4" x 4" Pipe Nipple	1818	1818	1818	1818	1
124	3/4" 90° Pipe Elbow	44110	44110	44110	44110	1
125	3/4" x 2" Pipe Nipple	1739	1739	1739	1739	1
126	3/4" Pipe Coupling	1744	1744	1744	1744	1
128	3/8" Street Elbow	1264	1264	1264	1264	2
129	3/8" Pipe Nipple	58226	58226	58226	58226	1
130	Quick Exhaust	1911	1911	1911	1911	1
132	Restrictor	7368	7368	7368	7368	1
133	3/8" Pipe Nipple	58226	58226	58226	58226	1
134	1/4" - 1/8" Bushing	1100	1100	1100	1102	3
136	1/4" 90° Street Elbow	1110	1110	1110	1110	1
137	1/4" Pipe Coupling	1330	1330	1330	1330	1
138	Check Valve	1841	1841	1841	1841	1
139	Tube Fitting	19576	19576	19576	19576	5
140	Air Vent	632	632	632	632	1
141	Tube	7680	7681	7682	7683	1
142	Tube	7684	7684	7684	7685	1
143	Tube Elbow	1944	1944	1944	1944	2
144	Tube Assembly	701719	701720	701721	701722	1
145	Tube Elbow	1252	1252	1252	1252	2
146	Tube Assembly	701723	701723	701723	701724	1
147	Tube Elbow	1248	1248	1248	1248	2
148	Tube Assembly	701725	701725	701725	701726	1
<b>Cylinder Repair Kit (Items: 39, 45, 52, 53, 72, 74, 89, 93, 97)</b>		<b>713053</b>	<b>713054</b>	<b>713055</b>	<b>713056</b>	<b>1</b>
<b>Haskel Pump Repair Kit</b>		<b>713034</b>	<b>713034</b>	<b>713034</b>	<b>713034</b>	<b>1-2</b>

**ADDED PARTS USED WITH DOUBLE PUMP PRESSES NOT ILLUSTRATED**

115	Pump	63453	63453	63453	63453	1
139	Tube Fitting	597	597	597	597	5
149	Tube Tee	1249	1249	1249	1249	1
150	Tube Tee	7693	7693	7693	7693	1
151	Tube Assembly	701727	701727	701727	701728	1
152	Straight Fitting	1251	1251	1251	1251	1
153	Tube Assembly	701729	701729	701729	701729	1
154	Straight Fitting	1247	1247	1247	1247	1
155	Tube Assembly	701730	701730	701730	701731	1