NO. 33-587 AIR OPERATED HYDRAULIC TIRE PRESS

I. SETTING UP PRESS FOR OPERATION

This press was shipped set-up ready for operation except for oil and the following necessary air line connections:

Connect airline from source of supply to pipe tee located ahead of lever operated valve (Item 74).

Hose line (Item 52) connects from this tee to foot operated valve and another hose line (Item 52) connects from foot valve up to air manifold (Item 95). The lever operated valve and the foot are thus in parallel on the supply line.

Remove pipe plug from quick exhaust valve outlet (Item 72).

CAUTION—DO NOT PLUG QUICK EXHAUST VALVE OUTLET.

Fill press with oil.

A. Be sure to use a good grade of light industrial oil.

We recommend Mobil D.T.E. oil light or D.T.E. 24. The oil must be filtered carefully to avoid foreign substances.

B. Remove $\frac{3}{4}$" pipe plug from reservoir cover (Item 86) and $\frac{1}{8}$" pipe plug located on left side of reservoir (Item 69).

Fill with oil through hole in reservoir cover until oil reaches $\frac{1}{8}$" pipe tapped hole on side of reservoir (5 gallons).

C. Replace both pipe plugs.

II. OPERATION AND CONTROL

A. Approach Speed

Turn the release valve handle (Item 66) clockwise so that the release valve (Item 83) is closed, and open the air valve (Item 74) by locking the air valve hand lever in the down position. The air automatically closes the quick exhaust valve (Item 72) located on top of the reservoir (Item 69). Admitting air above the oil in the reservoir which forces oil out past the ball check valve (Item 79) at the bottom of the reservoir and up through the release valve (Item 83) down through the check valve (Item 81) and into the bottom of the cylinder (Item 42) to force piston (Item 36) and lower platen (Item 33) upward at approach speed. After work is contacted close the air valve (Item 74) which will automatically exhaust the air from reservoir.

B. Pressing.

After the work has been reached it is only necessary to step on the foot valve (Item 51) to admit air to the air motors (Item 60).

The air operated pumps will supply oil to the cylinder (Item 42) under a maximum of 5,000 P. S. I. at which pressure the relief valve (Item 80) located at the back of the reservoir (Item 69) will bypass the oil back to the reservoir.

To release the press force and lower the platen the hand operated release valve lever (Item 66) must be turned counter-clockwise which releases air from the reservoir and permits the oil to flow from the cylinder back to the reservoir by gravity due to the weight of the platen (Item 33) and piston (Item 36).

C. Hoist

Air operated hydraulic tire press model 33-587 is equipped with a hoist (700111). The hoist hand crank (Item 14) is provided to raise or lower the upper platen (Item 3) to the proper height for work.

To change the vertical position of the upper platen sufficient tension must first be applied to the hoisting cable (Item 19) to permit removal of the table pins (Item 28) and the upper platen may then be raised or lowered to the desired position and all table pins must then be inserted.

NOTE: Be sure all table pins are in place before applying any pressure. Also slack off on cable. It is advisable to lower the upper platen one or two holes rather than run the ram and lower platen to the limit of its stroke.

III. MAINTENANCE

1. IF OIL LEAKS UP AROUND PISTON—

A. Oil above piston leather:

If the rated stroke of the press is exceeded repeatdly by running the piston up so as to uncover the bypass hole in the side of the cylinder, the small amount of oil which drains back from the bypass line will collect above the piston leather. Eventually enough may accumulate so that when the piston is brought to the top of its stroke, oil is forced out between the piston guide and the piston. This can be remedied by disconnecting the bypass tube line from cylinder, raising piston slowly to about $2\frac{1}{2}$" less than its rated stroke allowing the oil above the piston cap to overflow out the bypass hole into a clean can. Replace the tube line. The oil can be put back ino the reservoir by removing the fill plug in the reservoir cover.

B. Check Valve not seating:

On the first presses made with rapid advance the bypass oil was returned through a check valve to the bottom of the reservoir. This has now been changed on the newer presses so that the oil is returned to the reservoir above the oil level. Previously, if the check valve failed to seat properly when the press was operated at rapid advance speed by applying air pressure to the oil in the reservoir, oil was forced back

thru the bypass line causing leakage around the piston. These old style rapid advance presses can be improved by relocating the check valve in the inspection cover so that the oil from the bypass line discharges above the oil level. Instructions as to how to do this can be obtained from the factory.

2. IF PRESS DOES NOT HOLD PRESSURE—

A. Loose tube connection:

Check all connections and tighten any loose tube nuts.

B. Dirt under release valve ball:

To remedy this condition, remove release valve stem, packing nut, packing and ball. Clean out valve seat. Reseat valve ball using brass rod as a drift and tapping lightly. Reassemble valve. If this occurs frequently, the oil should be drained from the reservoir and the reservoir should be flushed out. Fill reservoir (to oil level plug) with clean oil.

C. Worn cup leather:

If neither of the previous conditions seem to have been the cause of the press not holding pressure, the trouble may be that the piston cup leather is worn out or damaged. To inspect this it is best to first remove the lower platen. Next remove capscrews which bolt piston guide to cylinder flange. Piston and Piston guide may now be lifted out of cylinder and inverted. Leather can now be inspected and replaced if necessary. Press may be reassembled, being careful not to damage lip of leather cup as it enters the cylinder.

3. IF PRESS DOES NOT DEVELOP RATED TONNAGE—

A. Dirt under release valve ball:

Refer to section 2B above.

B. Worn Cup leather:

Refer to section 2C above.

C. Air pressure too low:

This is easily seen to be the trouble if the pump operates up to the maximum tonnage available with the press and then the air motor stalls. We supply either pumps rated to develop 5000 psi oil pressure when used with 90 psi air pressure or to develop 5000 psi oil pressure when used with 145 psi air pressure. If the air supply pressure is less than 90 or 145 psi these pumps will develop less than 5000 psi pressure. When the air supply has enough pressure, it is best to use the 145 psi pump because of the greater oil output giving faster ram speed.

D. Relief valve set wrong:

When the press will not develop its rated tonnage even though the air motor continues to pump, it usually indicates that the oil is by-passing through the relief valve. The relief valve is set at the factory to bypass oil back to the reservoir when the press reaches its rated capacity. The load on the spring, which governs the pressure at which the valve will bypass oil, is adjusted by turning the threaded cap. Turning it cockwise increases the load on the spring or turning it counterclockwise decreases the load on the spring. After the valve is adjusted, the cap is locked in place with a headless setscrew. We advise that the relief valve not be tampered with after it is once set at the capacity of the press.

4. IF NOTHING HAPPENS WHEN PUMPS ARE OPERATED (ram will not come up)—

A. Insufficient oil:

This is not likely to be the trouble with a tire press but if the press will only make a fraction of its rated stroke and no more, check the oil level in the reservoir. With the ram down the oil should be at the level of the small plug on the side of and about four inches from the top of the reservoir.

B. Release valve open:

Be sure to have release valve firmly closed when using press.

C. Air line connected improperly:

If the air motors do not run the first time the press is connected up, check the instructions given on the sheet which is furnished with the press.

D. Press not assembled properly:

All presses are tested before shipment but sometimes the customer when overhauling a press to install new packings or seat a ball valve may omit the check valve spring or even leave out a check ball. Naturally then the press will not function properly.

5. IF PRESS IS TOO SLOW—

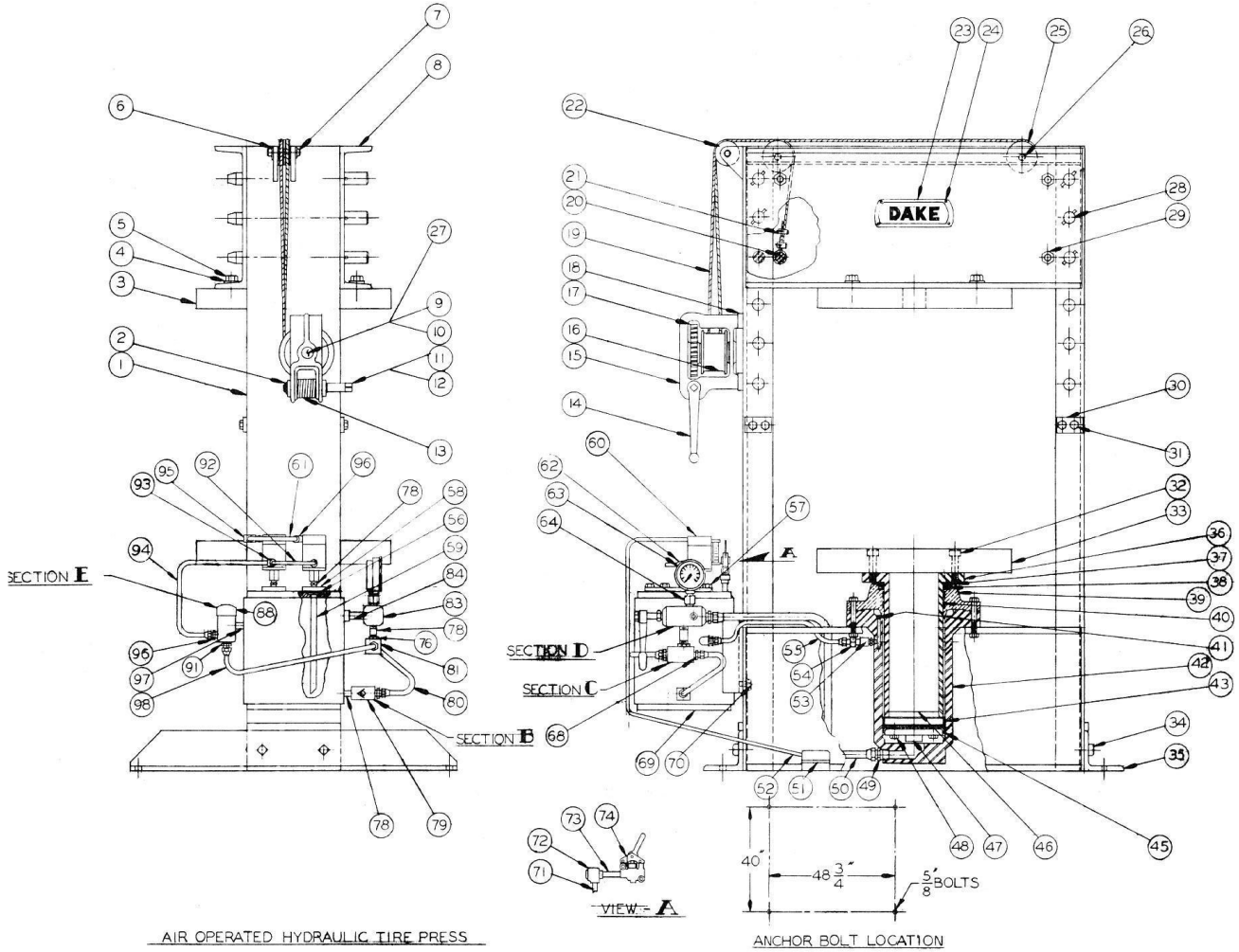
The rated ram speed for each model of our tire presses is given on the catalog sheet. These speeds are based upon having an air supply pressure of either 90 or 145 psi. If press is slower than it is rated, the trouble may be one of the following:

A. Too low air pressure:

If the air line is not of ample size in proportion to the distance the air has to travel from the compressor, there may be a large pressure drop in the line while air is being used. Pressure drop can be checked by installing an air gauge near the press.

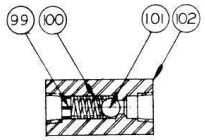
B. Wrong oil:

The use of too heavy an oil will slow up the press speed. We recommend the use of Mobil D.T.E. oil light or D.T.E. 24 oil.



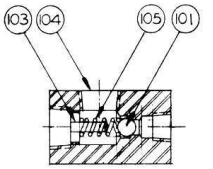
AIR OPERATED HYDRAULIC TIRE PRESS

ANCHOR BOLT LOCATION



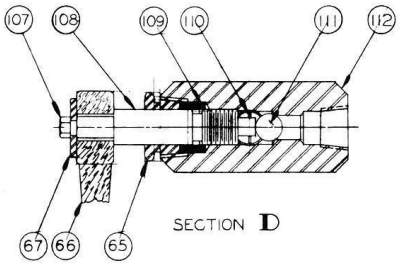
SECTION B

VALVE NO 700232



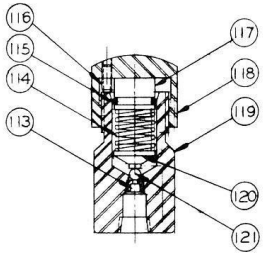
SECTION C

VALVE NO 700244



SECTION D

VALVE NO 700218



SECTION E

VALVE NO 700141

ITEM NO.	PART NO.	PART NAME	NO. REQ.
1	1909	Frame	1
2	43982	Nat'l. Retaining Ring No. XSO-239	2
3	1813	Upper Platen	1
4	43649	3/4" Lockwashers	4
5	43373	3/4" — 10 x 2" Hex Cap Screws	4
6	43978	Nat'l. Retaining Ring No. XSO-230	
7	1810	Cable Pulley Shaft	1
8	1812	Head Channels	2
9	741	Drum Shaft	1
10	745	Drum Shaft Key	1
11	742	Worm Shaft	1
12	746	Worm Shaft Key	1
13	744	Worm	1
14	701653	Hoist Crank Assembly	1
15	739	Hoist Frame	1
16	740	Cable Drum	1
17	743	Worm Gear	1
	700111	Hoist Assembly (Items 2, 9 thru 17, & 27)	
19	1837	Cable	1
20	1553	Table Spacers	4
21	583	Cable Clamps — 1/4"	4
22	1809	Cable Pulley	2
23	2252	"Dake" Name Plate	1
24	43876	No. 6 — 32 x 1/4" Self Tapping Screw	4
25	1563	Cable Pulley	2
26	1811	Cable Pulley Shaft	2
27	43983	Nat'l. Retaining Ring. No. XSO-247	1
28	1555	Table Pins	6
29	43919	3/4" — 10 Hex Nuts	8
30	1819	Stop Blocks	4
31	43348	1/2" — 13 x 1-1/4" Hex Cap Screws	8
32	24569	3/4" — 10 x 3-1/4" Soc. Cap Screws	4
33	1798	Lower Platen	1
34	43365	5/8" x 11 x 1-3/4" Hex Cap Screw	4
35	1551	Base Angle	2
**	43648	5/8" Lockwashers	4
**	607	Model No. Plate	1
**	43573	No. 2 x 3/16" Drive Screws	2
**	43349	1/2" — 13 x 1-1/2" Hex Cap Screws (Hoist)	2
36	1796	Piston	1
37	52478	Retainer	3
**	43817	No. 10 — 24 x 1/2" Flat Head Screws	3
38	1871	Oil Seal	1
39	31871	Piston Guide	1
40	31400	Wear Ring	2
41	589	Pipe Plug — 1/8"	1
42	1793	Cylinder	1
**	43358	1/2" — 13 x 4" Hex Cap Screws	6
**	43359	1/2" — 13 x 4-1/2" Hex Cap Screws	4
**	43916	1/2" — 13 Hex Nuts	10
**	43647	1/2" Lockwashers	10
43	31399	Wear Ring	1
45	1538	Piston Leather - **For Serial Numbers < 192522**	1
	37052	**T-ring Seal - For Serial Numbers > 192523**	1
46	30425	Piston Cap	1
47	1536	Supporting Ring	1
48	43332	3/8" — 16 x 1-3/4" Hex Cap Screws	8
**	43645	3/8" Lockwashers	8
49	1943	7/8 Straight Fitting	2
50	703770	Pressure Tube Assembly	1
51		Foot Valve ..... No longer available	
52		Hose Assembly ..... No longer available	
53	1841	Check Valve	1
54	1330	1/4 Pipe Coupling	3
55	700238	By-Pass Tube Assembly	1
56	912	O-Ring	2
57	43305	1/4" — 20 x 1" Hex Cap Screws	8
58	63491	Pump Adaptor	2
59	64629	3/8" Pipe x 13 1/4"	2

ITEM NO.	PART NO.	PART NAME	NO. REQ.
60	63453	Pump	2
61	713440	Air Tube Assembly	2
62	1247	3/8" Straight Fitting	7
63	71268	Gauge	1
64	45387	Pulsation Dampener	1
65	1931	Valve Rod Packing Nut	1
66	2230	Release Valve Handle	1
67	898	Valve Handle Socket Washer	1
68	1251	1/2" Straight Fitting	3
69	1904	Reservoir	1
70	43348	1/2" — 13 x 1-1/4" Hex Cap Screws	4
**	43647	1/2" Lockwashers	4
71	1275	3/8" x 3" Pipe Nipple Extra Strong	1
72	1911	Quick Exhaust Valve	1
73	5020	3/8" x 6" Pipe Nipple Extra Strong	1
74	1912	3-Way Lockdown Air Valve	1
76	1127	1/2" — 3/8" Hex Bushing	1
78	58226	3/8" Close Nipple Extra Strong	4
79	700232	Check Valve (See Section B)	1
80	700235	Rapid Advance Tube Assembly	1
81	700147	Check Valve (See Section C)	1
83	710557	Release Valve (See Section D)	1
84	44194	3/4" x 2-1/2" Pipe Nipple Extra Strong	1
85	1823	Reservoir Cover Gasket	1
86	1822	Reservoir Cover	1
87	43347	1/2" — 13 x 1" Hex Cap Screws	6
**	1745	Pipe Plug 3/4" (Fill Hole)	1
88	701350	Release Valve (See Section E)	1
89	61736	1/2" Close Nipple	1
91	1102	3/8" — 1/4" Hex Bushing	4
92	713439	Pressure Tube Assembly	1
93	1249	3/8" Tube Tee	1
94	713438	Pressure Tube Assembly	1
95	1115	1/4" Pipe Tee	1
96	1248	3/8" Tube Elbow	1
97	58225	1/4" Close Pipe Nipple	2
98	703769	Pressure Tube Assembly	1
99	1109	Spring Retainer	1
100	890	Check Valve Spring	1
101	586	Ball Valve — 1/2" Dia.	2
102	1825	Check Valve Body	1
103	588	3/8" Socket Pipe Plug	1
104	1112	Check Valve Body	1
105	579	Check Valve Spring	1
106			
107	6203	Valve Handle Bolt	1
108	47946	Valve Rod	1
109	1937	Valve Rod Packing (8 Req'd)	8
110	1935	Ball Retainer	1
111	1936	Ball Valve 3/4" Dia.	1
112	1752	Release Valve Body	1
113	1780	Valve Seat	1
114	1221	Valve Spring	1
115	1111	O-Ring	1
116	43566	1/4" — 20 x 3/4" Soc. Set Screw	1
117	1095	Spring Retainer	1
118	1096	Relief Valve Cap	1
119	1093	Relief Valve Body	1
120	1094	Ball Retainer	1
121	1222	Ball Valve 5/16" Dia.	1
	703922	Repair Kit (Items 38, 45, 53, 56, 101, 109, 111, 115 & 121)	1
	713034	Pump Repair Kit **(Haskel Air Pumps only)**	1

**Not Illustrated
C.A. Commercially Available

All prices are subject to change without notice. Prices do not include postage or express charges.

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