

Milwaukee

MODEL

220

AIR AND HYDRAULIC SERVICE JACK

OPERATING INSTRUCTIONS

PARTS LIST

MAINTENANCE GUIDE

The Milwaukee Model 220 Jack is equipped to operate with two means of power, air or hydraulic, each independent of the other, or a combination of both. For the most efficient and smooth operation, refer to the following operating instructions.

OPERATING INSTRUCTIONS

1. TO RAISE JACK HYDRAULICALLY - Close release by turning RELEASE LEVER 81 in a clockwise direction with fingertip pressure, then pump HANDLE 21.

2. TO RAISE JACK WITH AIR - Apply air to port provided at right side of PUMP BODY 84. (Port has 1/4-18 pipe thread for insertion of customer's quick hose coupler.) Close hydraulic RELEASE LEVER 81. Push to depress air valve LEVER 68 to raise Jack. Rate of ascent is controlled by the amount the air valve lever is depressed. When the air hose is disconnected for other uses and it is desired to further raise the Jack to maximum height, lifting may be continued by pumping hydraulically or re-connecting the air supply.

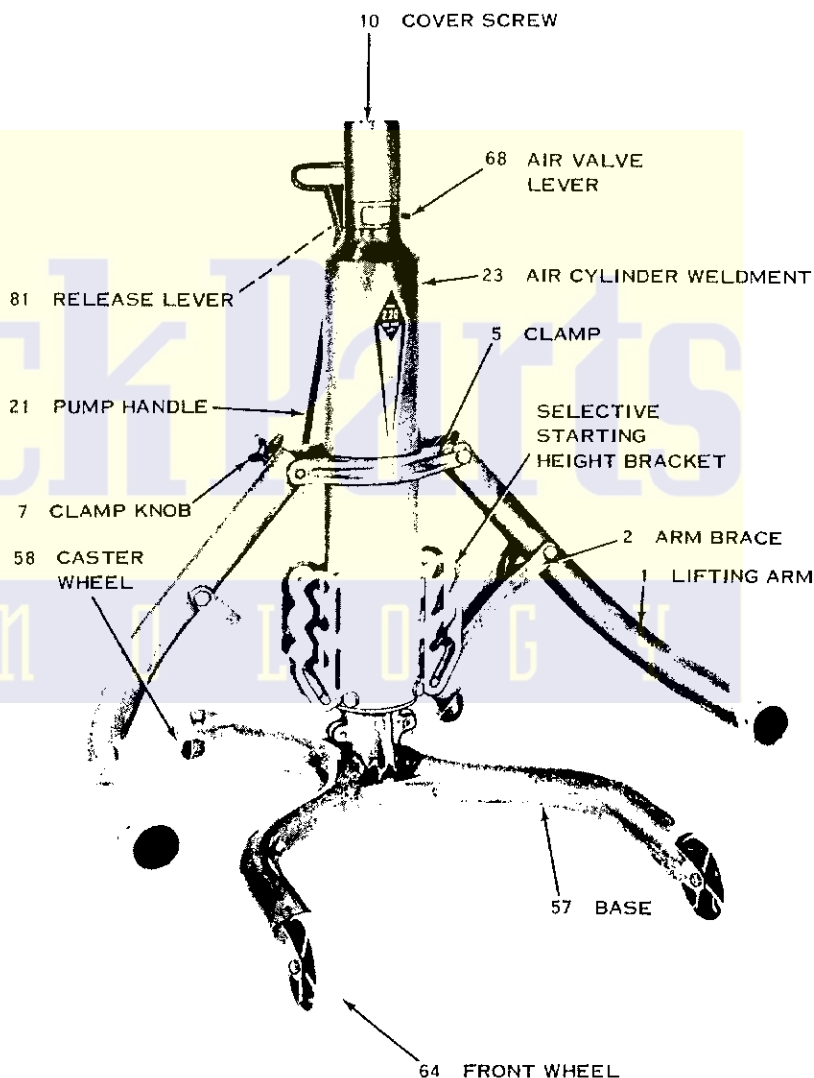
3. TO LOWER JACK - Disengage safety stop (see Instruction 7), pull air valve LEVER 68 out to maximum position to exhaust air. Turn hydraulic release valve LEVER 81 in a counterclockwise direction. Rate of descent may be controlled by the amount hydraulic release is opened.

4. TO ADJUST LIFTING ARMS 1 - Loosen CLAMP KNOB 7 located on back side of Jack column, and slide CLAMP 5 up or down as required to spread LIFTING ARMS 1.

5. SELECTIVE STARTING HEIGHT - Position ARM BRACES 2 in parallel seats to any one of four desired starting locations in SELECTIVE STARTING HEIGHT BRACKETS.

6. TO ENGAGE SAFETY STOP - Lower SAFETY STOP LEVER 41 to down position. Safety locks will engage automatically. Be sure to engage safety stop and employ the use of Jack Stands before working on raised vehicle.

7. TO DISENGAGE SAFETY STOP - Pump the Jack HANDLE 21 slightly to relieve the load on Safety Stop. Lift SAFETY STOP LEVER 41 to up position.



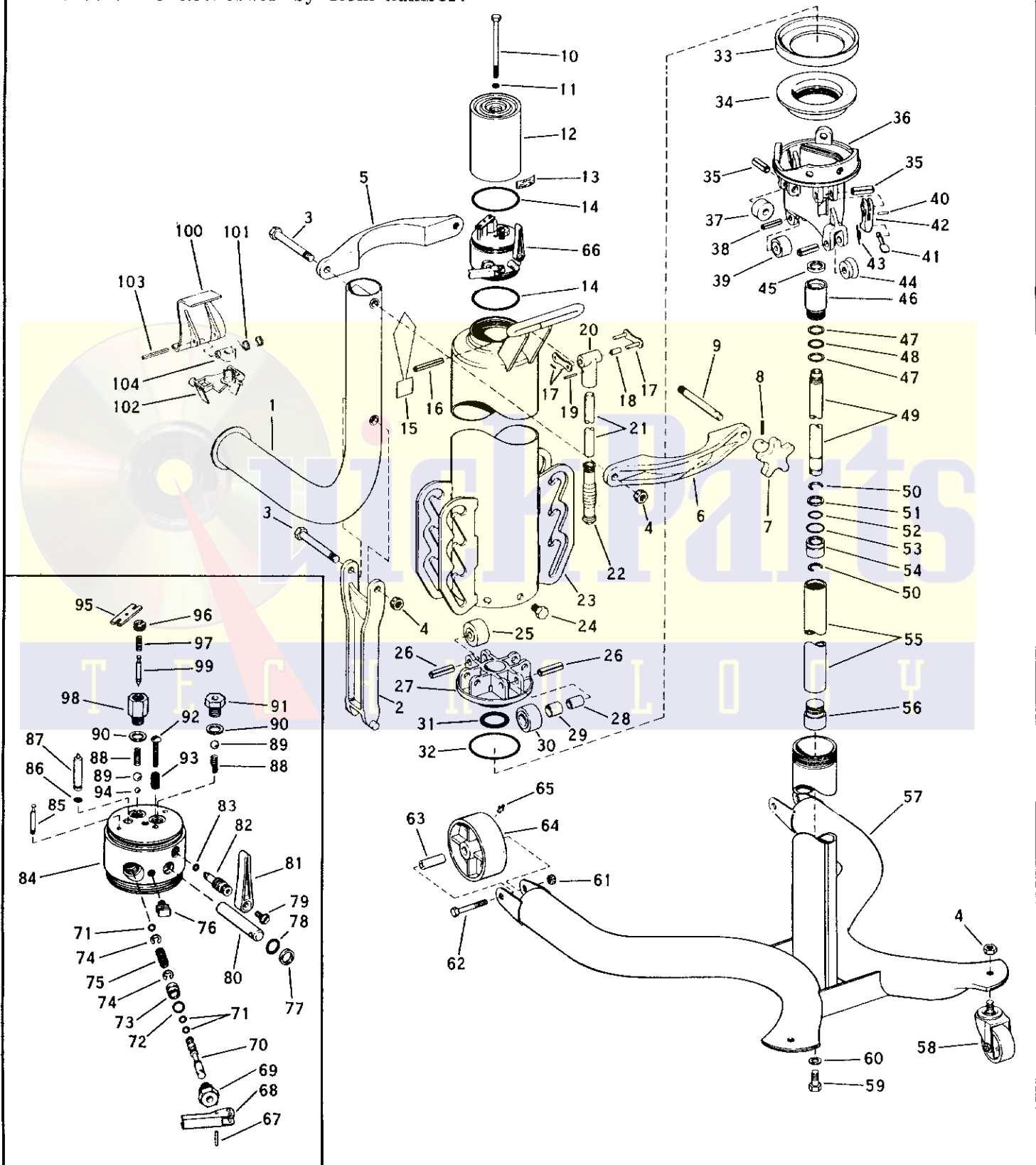
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Milwaukee

HYDRAULIC PRODUCTS CORPORATION

MILWAUKEE, WISCONSIN 53214, U. S. A.

When ordering replacement parts, specify serial number of Jack in addition to part number. Do not order by item number.

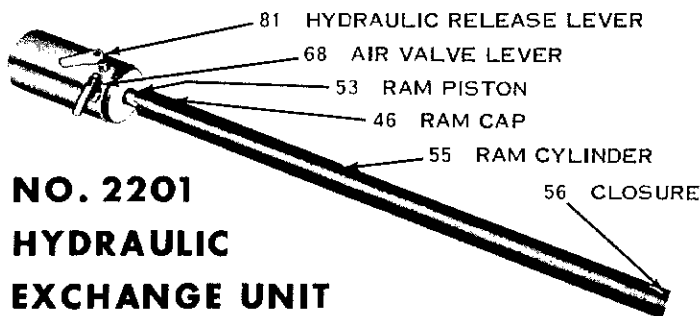


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PARTS LIST MODEL 220

Ref. No.	Part No.	Description	No. Req'd.	Ref. No.	Part No.	Description	No. Req'd.
1	1304	Arm Weldment	2	54	1264	Sleeve	1
2	3539	Arm Brace	2	55	1297	Ram Cylinder	1
3	3517	Screw 1/2"-13 x 4-1/8"	3	56	1282	Closure	1
4	1563	Locknut 1/2"-13	5	57	1303	Base Weldment	1
5	1259	Clamp Half, Front	1	58	1583	Caster Wheel Assembly	2
6	1258	Clamp Half, Rear	1	59	2690	Screw 1/2" x 1"	1
7	1260	Knob	1	60	2699	Lock Washer	6
8	1584	Roll Pin 3/16" x 1	1	61	3529	Lock Nut 3/8"-24	2
9	3518	Clamp Screw	1	62	3528	Screw 3/8"-24 x 2-5/16"	2
10	1552	Screw 5/16"-18 x 4-1/2"	1	63	3527	Wheel Bushing	2
11*	1527	Copper Washer	1	64	3524	Wheel Assembly	2
12	3541	Reservoir	1	65	1594	Grease Fitting	2
13	1321	Safety Decal	1	66		Pump Assembly (Consists of items 67 thru 99)	1
14*	1558	O-Ring 3"	2	67	2638	Roll Pin 1/8" x 5/8"	1
15	1318	Decal	1	68	1279	Lever Assembly	1
16	1549	Roll Pin 3/8" x 2-1/4"	1	69	1287	Valve Nut	1
17	1291	Link Assembly	1	70	1281	Valve Stem	1
18	1581	Bushing	1	71*	1246	O-Ring 3/16"	3
19	4075	Roll Pin 5/32" x 1"	1	72*	4410	O-Ring 3/8"	1
20	1276	Handle Lever	1	73	1292	Valve Bushing	1
21	1517	Handle	1	74	1262	Snap Ring	2
22	1560	Handle Grip	1	75	1290	Spring	1
23	1307	Air Cylinder Weldment	1	76	1285	Stud	1
24	3561	Screw 1/2"-13 x 3/4"	5	77*	1555	Back Up Washer 1/2"	1
25	1201	Upper Roller	3	78*	2280	O-Ring 1/2"	1
26	1309	Roll Pin 1/2" x 1-3/4"	4	79	1562	Screw #10-24 x 1/2"	1
27	1255	Upper Roller Bracket	1	80	1509	Pump Piston	1
28	1286	Bearing Race	1	81	1561	Release Lever	1
29	1294	Bushing	1	82	1508	Release Needle	1
30	1293	Rear Roller	1	83*	2675	O-Ring 3/16"	1
31*	1268	O-Ring 1-1/2"	1	84	1257	Pump Body	1
32*	1269	O-Ring 3-3/8"	1	85	1274	Stud	1
33*	1320	Packing Cup	1	86*	2279	O-Ring 1/4"	1
34	1256	Packing Base	1	87	1283	Safety Piston	1
35	1548	Roll Pin 1/2" x 1-1/2"	4	88	1277	Spring	2
36	1254	Lower Roller Bracket	1	89*	2270	Ball 3/8" Dia.	2
37	3532	Lower Roller	2	90*	1587	Copper Washer	2
38	1746	Roll Pin 3/8" x 1-1/2"	1	91	1284	Cap Screw	1
39	1296	Roller	1	92	1322	Screw	1
40	1671	Roll Pin 5/32" x 11/16"	1	93	1323	Screen	1
41	2515	Stop Lever	1	94*	2269	Ball 1/4" Dia.	1
42	2514	Stop Pawl	1	95	1275	Safety Plate	1
43	2516	Stop Spring	1	96	1271	Tension Screw	1
44	3510	Guide Roller	1	97	1270	Spring	1
45*	1289	Oil Seal	1	98	1273	By Pass Plug	1
46	1299	Ram Cap	1	99	1272	Needle	1
47*	1556	Back Up Washer 7/8"	2	100	1723	Saddle Plate	2
48*	3563	O-Ring 7/8"	1	101	1726	Torsion Spring	2
49	1298	Ram Piston	1	102	3555	Support Bracket Assembly	2
50	1265	Snap Ring	2	103	1725	Roll Pin 1/4" x 2"	2
51	1263	Washer	1	104	1722	Pivot Block	2
52*	1266	O-Ring 7/8"	1	*	M220KT	Repair Kit	1
53*	1267	O-Ring 1-1/16"	1				

* Contents of M220KT Repair Kit



NO. 2201 HYDRAULIC EXCHANGE UNIT

When service becomes necessary, complete factory tested hydraulic power units are readily available from your service station, local distributor or factory.

These units are economical to exchange and simple to install. See Page 4, Paragraphs 4 and 5 for instructions.

MAINTENANCE INSTRUCTIONS

1. LUBRICATION - External parts of Jack, PUMP HANDLE 21, LINK ASSEMBLY 17, CLAMP 6, SAFETY STOP 42 and all other bearing surfaces should be lubricated regularly with SAE 30 Oil to insure maximum performance. The FRONT WHEELS 64 should be greased and CASTER WHEELS 58 oiled frequently to provide smooth, easy maneuverability of Jack.
2. HOW TO ADD HYDRAULIC OIL - The need of additional oil is indicated when your Milwaukee Model 220 does not raise to full height when pumped hydraulically. Extreme care should be taken to thoroughly clean top of Jack around COVER SCREW 10. CAUTION: Do not attempt removal of COVER SCREW while Jack is in fully lowered position. Reservoir is slightly pressurized when Jack is fully lowered. Raising Jack relieves all pressure. Raise Jack to full height. Remove COVER SCREW from RESERVOIR CASE 12 along with COPPER WASHER 11. Release Jack to fully lowered position. Do not allow dirt to enter reservoir. With Jack in fully lowered position, add clean hydraulic Jack oil through the cover screw hole until the oil reaches the top of the hole. Fully raise and lower the Jack several times by air or hydraulically to bleed air trapped in the lower portions of the hydraulic unit. Each time the Jack is completely lowered, the hydraulic oil should come to the top of the cover screw hole. If it does not, add more oil. After bleeding, fully raise Jack to top position and replace COVER SCREW and COPPER WASHER and tighten securely.
3. HOW TO BLEED AIR FROM HYDRAULIC SYSTEM - Air from the oil reservoir becomes entrained in the oil because of the following: (1) Low oil supply. Refer to Instruction #2. (2) Jack or hydraulic unit was at one time lying down or tipped upside down, in which case the following instructions will apply. Close hydraulic release valve by turning LEVER 81. Fully raise Jack, using air power. Open only hydraulic release. Allow Jack to stand in the fully raised position for about fifteen (15) minutes. After this time, the air valve LEVER 68 should be opened and the Jack allowed to descend several inches. Close hydraulic release valve and again raise Jack to full height, using air power. Immediately open air and hydraulic releases, allowing Jack to descend a few inches. Continue raising and lowering in this manner several more times. All air should now be expelled from the system and the Jack ready for operation.
4. HOW TO REMOVE HYDRAULIC UNIT NO. 2201 - With Jack in fully lowered position, tip Jack forward and remove 1/2" SCREW 59 and LOCK WASHER 60 from the lower end of the BASE WELDMENT 57. Tip Jack back upright to normal standing position. Raise Jack to lowest safety stop position and engage SAFETY STOP PAWL 42. Remove cotter pins from LINK ASSEMBLY 17 and remove one side link. Drive out ROLL PIN 16 from HANDLE LEVER 20. CAUTION: Since reservoir is pressurized, prevent PUMP PISTON 80 from pushing outward by applying hand pressure. Disengage the remaining parts of the Link assembly from the Pump Piston and the Handle Lever. Tape or wire the pump piston into fullest engagement with the pump body. Remove any quick air couplers screwed into pump body. Unscrew unit No. 2201 by turning in a counterclockwise direction.
5. HOW TO REPLACE HYDRAULIC UNIT NO. 2201 - Raise AIR CYLINDER 23 to engage SAFETY STOP PAWL 42 in lowest position. Apply a light coating of grease to the threads and counter-bore at the top of the air cylinder; carefully insert Unit No. 2201 into Jack and open RELEASE LEVER 81. Screw Hydraulic Unit all the way down until PUMP PISTON 80 is exactly centered between the brackets welded to the air cylinder. Remove tape holding the PUMP PISTON 80. CAUTION: Since reservoir is pressurized, prevent PUMP PISTON 80 from pushing outward by applying hand pressure. Connect LINK ASSEMBLY 17 including loose side link and cotter pins to pump piston and HANDLE LEVER 20. Drive in ROLL PIN 16 engaging the handle lever. Fully lower Jack and tip forward to replace 1/2" SCREW 59 and LOCK WASHER 60 at the lower end of the BASE WELDMENT 57. Tip Jack upright and following instruction No. 3, HOW TO BLEED AIR FROM HYDRAULIC SYSTEM.

SERVICE FACILITIES

While your MILWAUKEE Model 220 is designed and constructed to render long and dependable service, it may eventually require attention. Service is available through your Authorized Service Station, as listed on the back cover of our catalog, Local Distributor, or the Factory. It is recommended that you do not tamper with the internal mechanism of the Jack. Unwarranted damage may result. Factory-tested hydraulic exchange units are readily available, economical to exchange and simple to install.

GUARANTEE

MILWAUKEE products are guaranteed against defects in material and workmanship for one year from date of delivery to user, except Model 5000 series Hand Jacks, which carry the standard 90-day guarantee. Defective Jacks or parts thereof will be repaired or replaced, at the option of the manufacturer, during the guarantee period, if returned to the factory or nearest Authorized Service Depot, with transportation charges Prepaid. A complete explanation of the defect and proof of purchase date must accompany the Jack. This warranty does not apply to Jacks or parts thereof damaged by brake fluid, tampering, abuse, overload or accident, nor does it apply to any product which has been altered or used with special attachments other than those recommended by the manufacturer.

MILWAUKEE PRODUCTS ARE GUARANTEED LONGER BECAUSE THEY LAST LONGER