

Installation and Operation of the Automatic Block Splitter

Model 16A, 16AR, 24A, 24AR

INTRODUCTION

Upon arrival of your machine, make close inspection for possible shortage or damage in transit. If any, please report extent and particulars to your local representative or factory immediately.

INSTALLATION

Select a location for your splitter which will require the least amount of handling of your product.

- (1) **ELECTRICAL CONNECTIONS** • Wire through a fused pull switch located nearby. Consult your local authorities or dependable electrician for wire sizes, grounding, etc. Some find it desirable to locate special range plug outlets at various places and to use a heavy rubber drop cord on the machine to allow for some portability of the machine. We strongly urge consulting a competent electrician.
- (2) **HYDRAULIC OIL** • Fill oil tank with Shell Clavus No. 29 machine oil or equal.
- (3) **PUMP ROTATION** • The splitter will not operate if pump is rotating in wrong direction. There is an arrow on the pump directly over the shaft. If rotation is wrong, turn off electricity immediately and reverse motor wiring connections. Check with your electrician if uncertain how.
- (4) **OIL PRESSURE** • Normally 400 P.S.I. pressure is sufficient. If necessary to increase it, remove dust cover from top of pump and adjust screw. Consult the hydraulic section of your Columbia Manual for complete information.

OPERATION IN AUTOMATIC

Your splitter leaves the factory inspected and tested. It is adjusted for automatic operation using 4" high by 8" wide blocks.

- (1) **HOW TO START MACHINE** • Close hand valve No. 68 (Drawing No. 1, Page 2-ABS). For automatic use, be sure link No. 102 is unhooked from slide valve No. 78. This makes the foot pedal inoperative. Start pump. Open hand valve No. 68 until feed carriage travels at your desired speed of operation.
- (2) **HOW TO CONTROL MACHINE SPEED** • This is done with hand valve No. 68.
- (3) **HOW TO STOP MACHINE** • Close hand valve No. 68. If for a long period of time be sure to turn off motor.
- (4) **HOW TO USE FOOT-PEDAL** • Close hand valve No. 68. Turn on pump motor. Open valve No. 68 just enough to place feeder carriage about half way through its stroke. Shut off hand valve No. 68. Hook connecting link No. 102 into valve latch No. 100 of valve No. 78. The splitter is now ready for semi-automatic operation. By stepping on foot pedal No. 45, you can cut blocks at any place you desire.
- (5) **HOW TO CHANGE BACK FROM SEMI TO FULL AUTOMATIC** • Unlatch link No. 102 and open hand valve No. 68.
- (6) **HOW TO ADJUST BLADE TO HEIGHT OF BLOCK** • First set machine for semi-automatic operation as in (4) above. First loosen nuts No. 169 and adjust gate plate No. 151 — ¼-inch higher at each end than the block thickness and tighten nuts. Now with foot pedal No. 45 depressed, raise or lower top blade No. 148 using spanner wrench on cone nuts No. 147 until blade just touches block. Turn lower nuts No. 147L a short distance lower than blade, release foot pedal and tighten upper nuts No. 147. For maximum power, adjust penetration of blade into the block to a minimum.
- (7) **HOW TO ADJUST FOR CENTERING BLOCK UNDER BLADE** • If your machine is not cutting close enough to the block center to suit adjust as follows: Set machine for automatic operation as in (5) above if not already so. Place a block in magazine, open hand valve No. 68 enough to feed to EXTREME forward end of stroke so block is under blade. Shut off valve at this point. If block isn't centered, loosen nut No. 145 and move push plate No. 144 forward or backward as necessary and tighten nut No. 145.
- (8) **ADJUSTMENT OF SMALLER HAND VALVE NO. 74** • The hydraulic cylinder operating the feeder carriage is a two-speed cylinder. It will slow down as it brings the block to rest under the blade. This is so the inertia of the block will not cause it to over travel and cut off center. Smaller hand valve No. 74 adjusts the speed of this slower portion of travel and may be adjusted to suit every condition.
- (9) **HOW TO ADJUST REAR TABLE NO. 158 FOR USE OF 16" BLOCKS** • The machine is set at the factory for use on 8" blocks to break into two 4" blocks. When desired to break 16s into two 8-inch blocks, unscrew 6 cap screws holding table No. 158 and move it back 4" to set of holes provided and tighten screws. Then re-adjust push plate No. 144 as described in (7) above.
- (10) **HOW TO ADJUST MAGAZINE FOR CHANGE FROM 16" TO 24" LONG BLOCKS** • On models 24A and 24AR, unbolt gate plate supports No. 152, move them to outer set of holes. Re-adjust gate plate No. 151 as described in (6) above ¼" higher than block to be split.
- (11) **ADJUSTMENT OF BLADE POSITION FOR 16" OR 24" LONG BLOCKS** • On models 24A and 24AR upper and lower blade pins No. 142 should be moved outward to alternate mounting holes to equalize knife pressure across block when cutting wider than 16". This is done by removing and replacing 4 blade holding bolts No. 142. Those holding two stationary blades are accessible after first removing large table No. 159. This table is held by four flat head screws No. 127 and two hinge pins under end table.

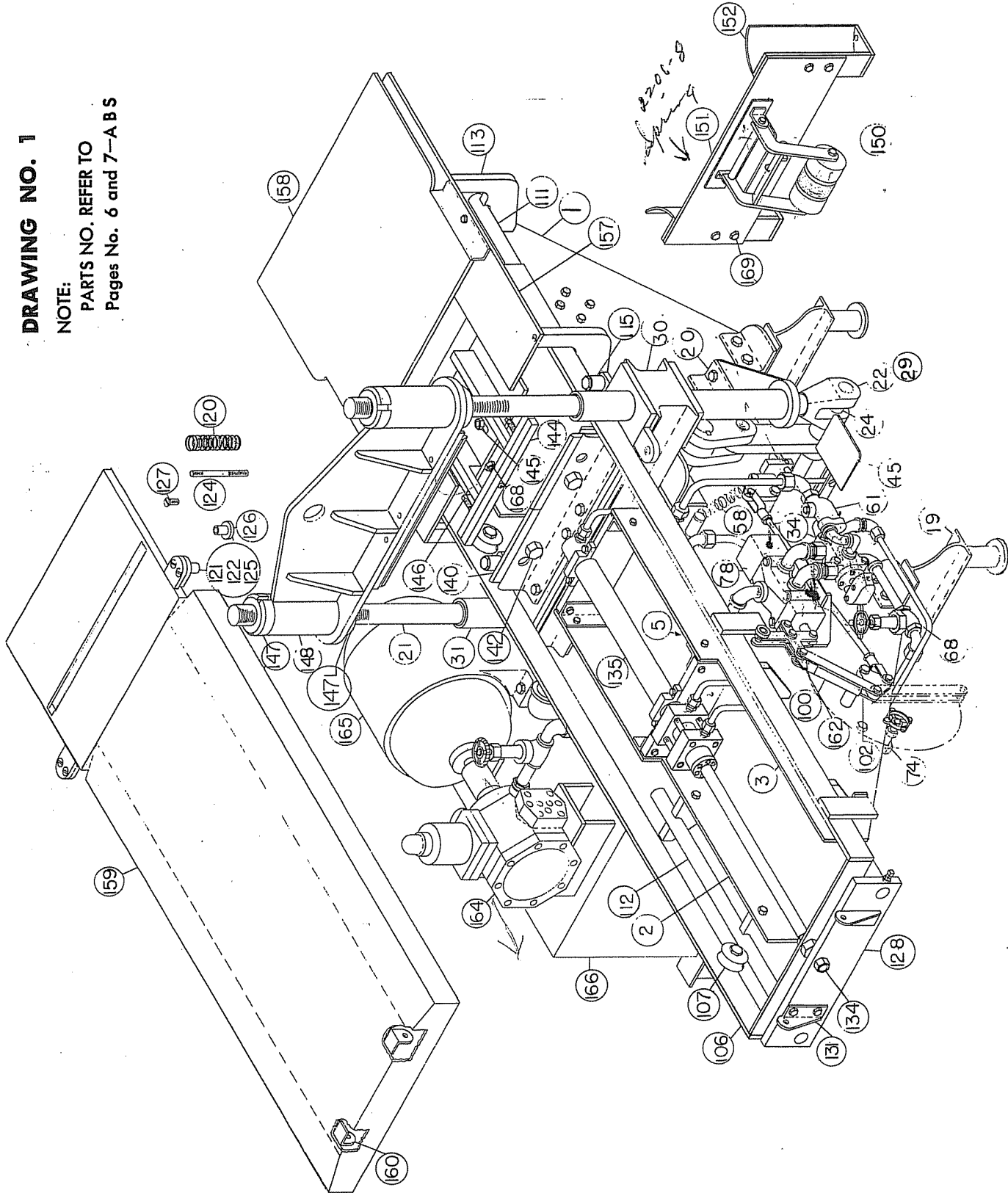
AUTOMATIC BLOCK SPLITTER

DRAWING NO. 1

NOTE:

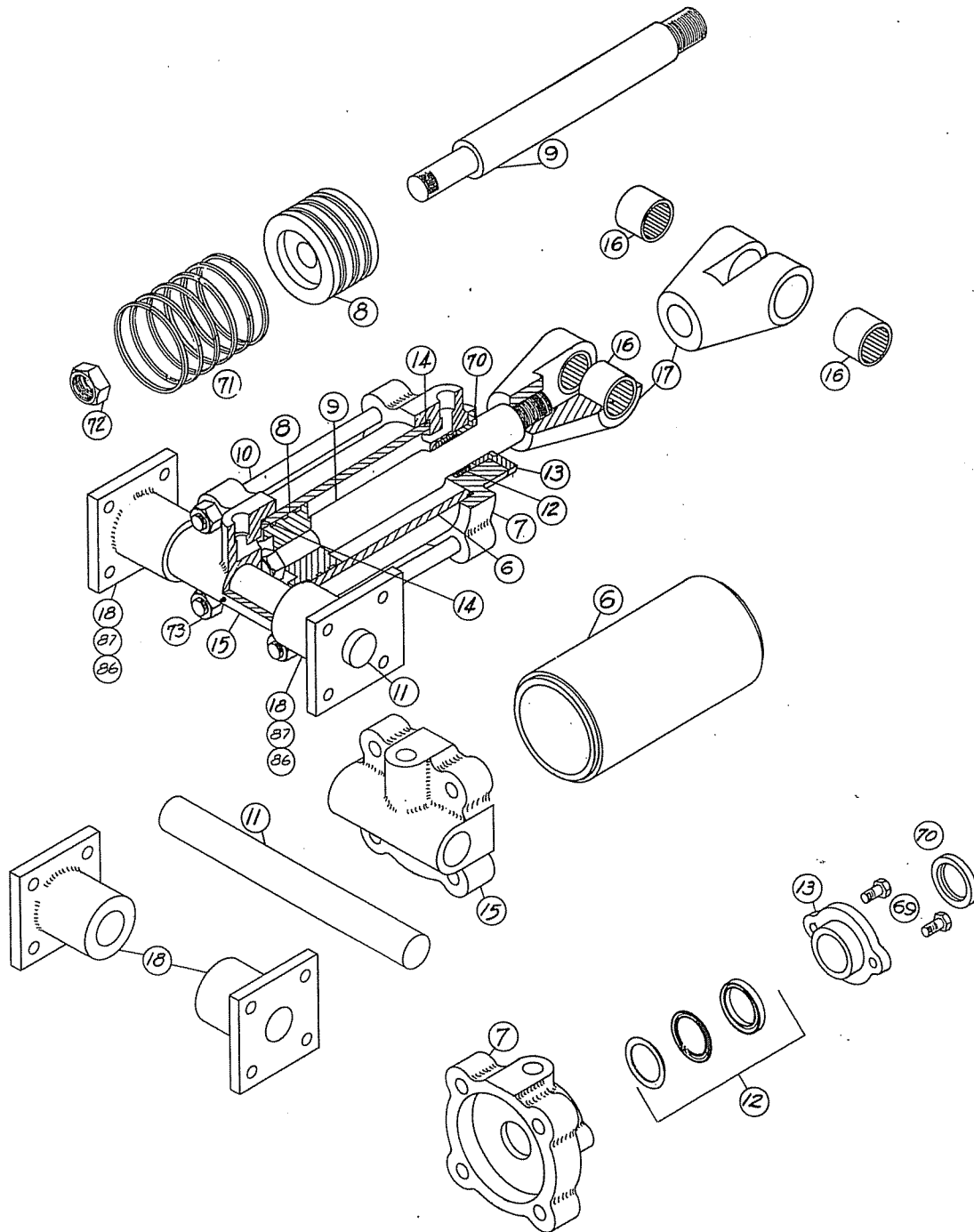
PARTS NO. REFER TO

Pages No. 6 and 7-A B S



DRAWING NO. 2 AUTOMATIC BLOCK SPLITTER PARTS

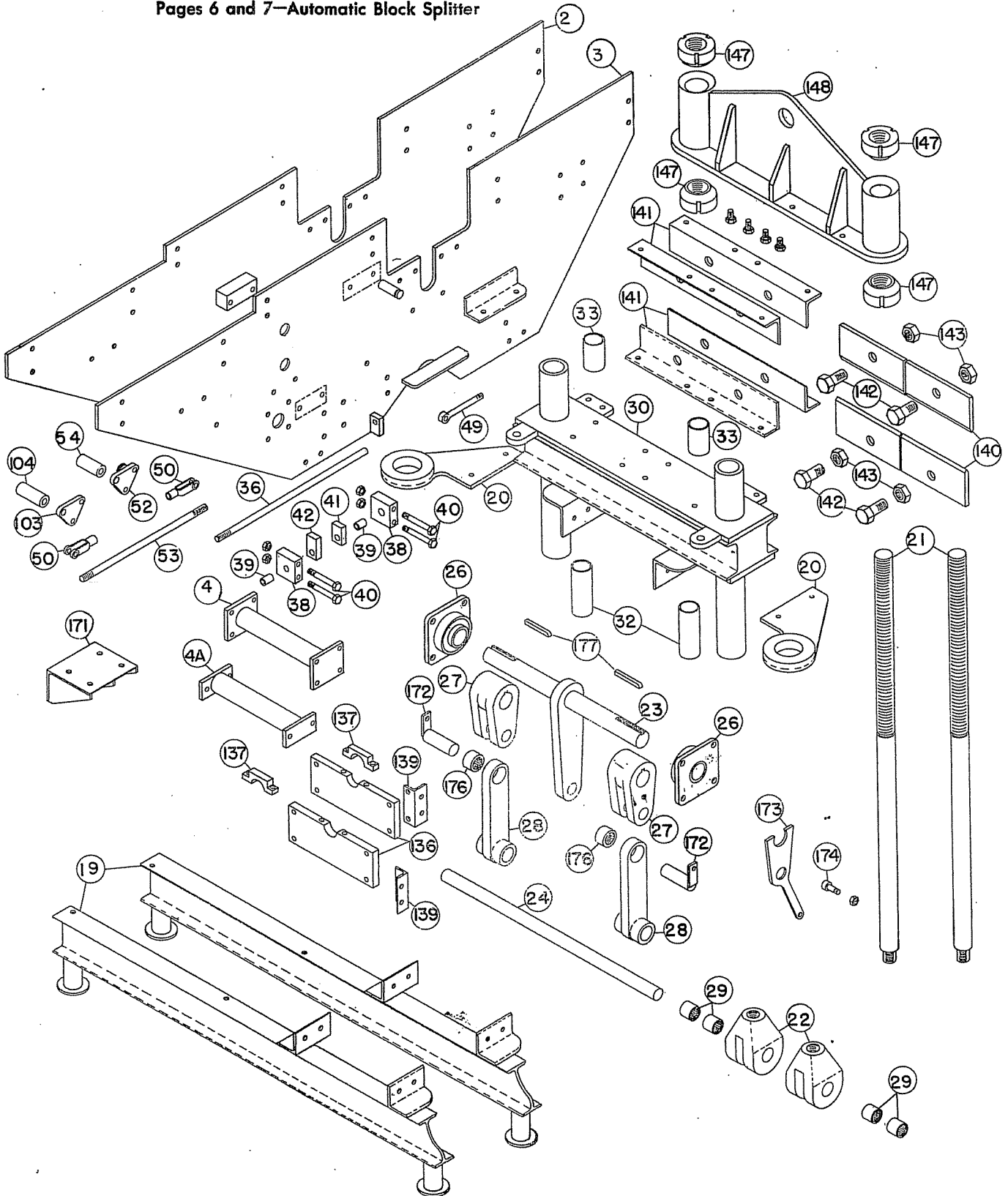
NOTE:
PARTS NO. REFER TO
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⑤ CYLINDER ASSEMBLY

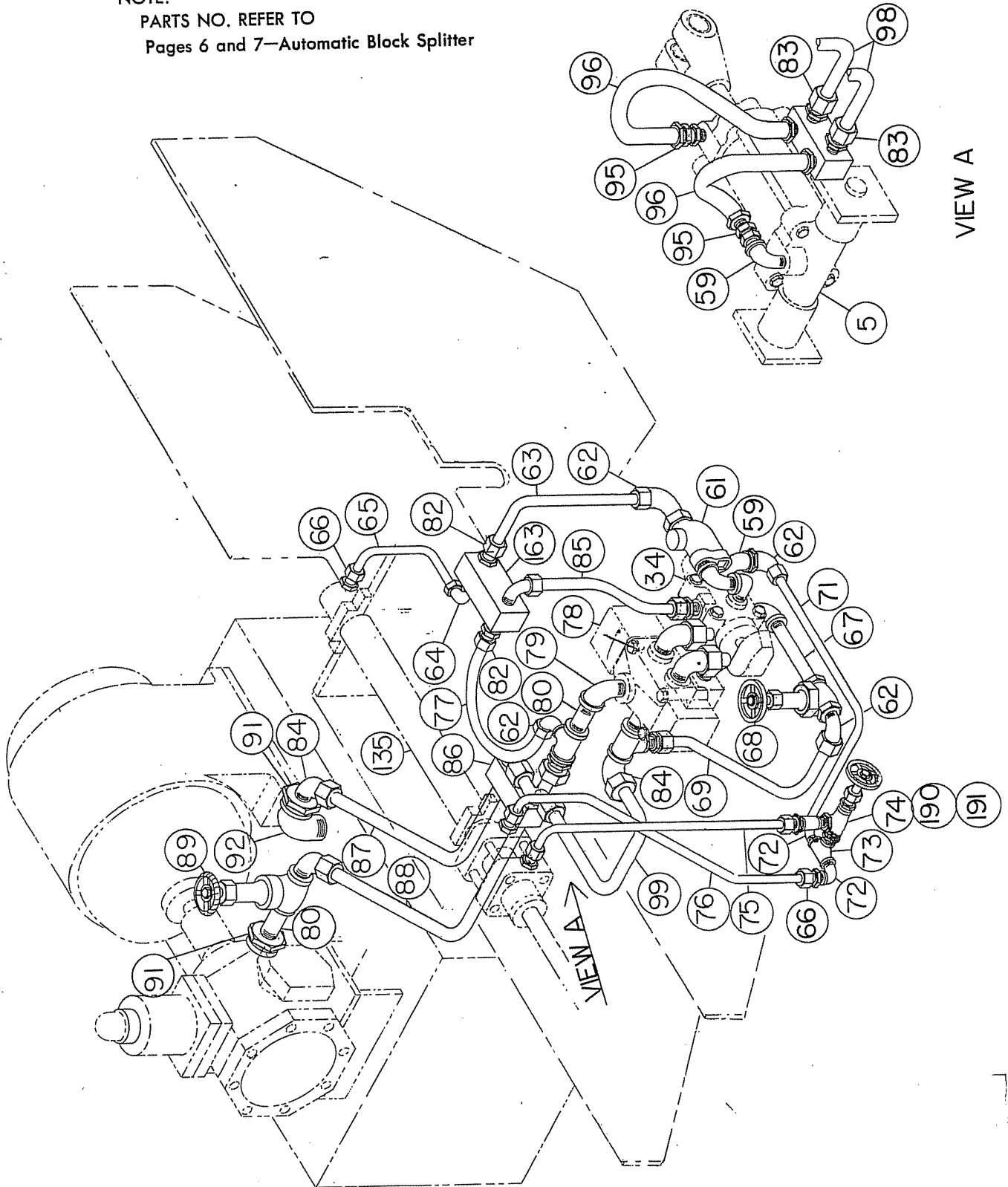
DRAWING NO. 3 AUTOMATIC BLOCK SPLITTER PARTS

NOTE:
PARTS NO. REFER TO
Pages 6 and 7—Automatic Block Splitter



DRAWING NO. 4 AUTOMATIC BLOCK SPLITTER PARTS

NOTE:
PARTS NO. REFER TO
Pages 6 and 7—Automatic Block Splitter



AUTOMATIC BLOCK SPLITTER—PARTS LIST

No.	Description	Part No. 16"	Part No. 24"	No. Req'd.	No.	Description	Part No. 16"	Part No. 24"	No. Req'd.
1	Main Frame Assem.....	8302	8352	1	47	Cap Screw.....	CM1-6-15	CM1-6-15	2
2	Side.....	8302-2	8302-2	1	48	Hex Nut.....	CM2-6	CM2-6	2
3	Side.....	8302-3	8302-3	1	49	Foot Control Rod.....	8308-2	8308-2	1
4	Spreader (front).....	8202-4	8352-2	1	50	Clevis.....	CM38-8	CM38-8	3
4A	Spreader (rear).....	8302-4	8352-3	1	51	Jam Nut.....	CM2-8	CM2-8	3
5	Main Cylinder Assem.....	8203	8203	1	52	Link Assem.....	8310	8310	1
6	Cylinder.....	8203-2	8203-2	1	53	Control Rod.....	8311	8311	1
7	Cylinder Cap.....	8203-3	8203-2	1	54	Link Support.....	8312	8312	1
8	Piston.....	8203-4	8203-4	1	55	Cap Screw.....	CM1-8-10	CM1-8-10	4
9	Cylinder Shaft.....	8203-5	8203-5	1	56	Spring Retainer.....	8310-2	8310-2	1
10	Tie Rods- 3/8 S.A.E. Nut.....	8203-6	8203-6	4	57	Spring Support.....	8313	8313	1
11	Cylinder Pivot Rod.....	8203-7	8268	1	58	Spring.....	8310-4	8310-4	2
12	Packing.....	CM21-150G	CM21-150G	1 Set	59	1/2" Street Ell.....	CM34-4-S	CM34-4-S	4
	1 Top Ring				60	1/2" Close Nipple.....	CM34-4-N	CM34-4-N	1
	7 Packing Rings				61	1/2" Flow Control Valve..	CM32-50-F-J	CM32-50-F-J	1
	1 Bottom Ring				62	3/8" Tube Fitting.....	CM35-10-4E	CM35-10-4-E	3
13	Packing Gland.....	866	866	1	63	3/8" Tube.....	8314-2	8314-2	1
14	"O" Ring.....	CM30-400	CM30-400	2	64	1/2" Tube Fitting.....	CM35-8-3E	CM35-8-3E	3
15	Cylinder Base.....	8204	8204	1	65	1/2" Tube.....	8314-3	8314-3	1
16	Needle Bearings.....	CM16-2220TR	CM16-2220TR	2	66	1/2" Tube Fitting.....	CM35-8-3	CM35-8-3	4
	Cylinder Clevis.....	8205	8205	1	67	1/2" Std. Pipe Nipple.....	CM34-4-N	CM-34-4-N	1
	Cylinder Pivot Mounts.....	8253	8206	2	68	1/2" Gate Valve.....	CM32-50-G	CM32-50-G	1
19	Foot Assem.....	8303	8353	2	69	3/8" Tube.....	8314-4	8314-4	1
20	Torque Brace, r/l.....	8208	8269	1 Each	70	1/2"-3/8" Bushing.....	CM34-4-3-R	CM34-4-3-R	1
21	Head Shaft.....	8209-2	8255-2	2	71	1/2" Tube.....	8314-5	8314-5	1
22	Head Shaft Clevis.....	8205	8255-3	2	72	3/8" Street Ell.....	CM34-3E	CM34-3E	2
23	Main Shaft.....	8211-2	8257-2	1	73	3/8" Pipe Tee.....	CM34-3T	CM34-3T	1
24	Lower Shaft.....	8211-3	8257-3	1	74	1/2" Gate Valve.....	CM32-25G-J	CM32-25G-J	1
25	Center Arm.....	8211-4	8211-4	1	75	1/2" Tube.....	8314-6	8314-6	1
26	Main Bearings.....	CM16-SF28M	CM16-SF28M	2	76	1/2" Tube.....	8314-7	8314-7	1
27	Upper Toggle Arm.....	8212	8212	2	77	3/8" Tube.....	8314-8	8314-8	1
28	Lower Toggle Arm.....	8334	8213	2	78	Main Cyl. Control Valve..	CM32-75-S	CM32-75-S	1
29	Needle Bearing.....	CM16-2220R	CM16-2816TR	2	79	3/4" Street Ell.....	CM34-6E	CM34-6-E	1
30	Main Beam.....	8210	8256	1	80	3/4" Pipe Nipple.....	CM34-6N	CM34-6-N	1
31	Main Guide Tube.....	8214	8259	2	81	3/4" Pipe Tee.....	CM34-6-6-4T	CM34-6-6-4T	2
32	Lower Bearing.....	8214-3	8259-3	2	82	3/8" Tube Fitting.....	CM35-10-4	CM35-10-4	4
33	Upper Bearing.....	8214-4	8259-4	2	83	3/4" Tube Fitting.....	CM35-12-6	CM35-12-6	3
34	Carriage Control Valve..	CM32-37-S-R	CM32-37-S-R	1	84	3/4" Tube Fitting.....	CM35-12-6E	CM35-12-6E	7
35	Cap Screws.....	CM6-5-25	CM6-5-25	4	85	3/8" Tube.....	8314-10	8314-10	1
36	Valve Rod.....	8304-2	8304-2	1	86	Manifold.....	8302-5	8302-5	1
37	Jam Nut.....	CM2-8	CM2-8	1	87	3/4" Tube.....	8314-11	8314-11	1
38	Valve Rod Support.....	8304	8304	2	88	3/4" Tube.....	8314-12	8314-12	1
39	Brass Bushing.....	CM23-50-75	CM23-50-75	2	89	3/4" Gate Valve.....	CM32-75G-J	CM32-75G-J	1
40	Cap Screw.....	CM1-6-30	CM1-6-30	4	90	3/4" Pipe Nipple.....	CM34-6N	CM34-6N	1
41	Valve Rod Stop (front).....	8305	8305	1	91	3/4"x1 1/2" Bushing.....	CM34-12-6R	CM34-12-6R	2
42	Valve Rod Stop (rear).....	8306	8306	1	92	1 1/2" Street Ell.....	CM34-12E	CM34-12E	1
43	Hollow Hd. Set Screw.....	CM39-4-2	CM39-4-2	1	93	3/4" Tube.....	8314-13	8314-13	1
44	Valve Control Bracket.....	8307	8307	1	94	Manifold.....	8302-6	8302-6	1
45	Foot Control Pedal.....	8308	8308	1	95	Hose Adapter.....	CM36-4-4M	CM36-4-4M	4
46	Foot Control Bracket.....	8309	8309	1	96	1/2" Hose.....	CM33-4-24	CM33-4-24	2