

Brown & Sharpe

**Replacement Parts
Manual**

**for the
618 and 818 Micromaster
Series II
Surface Grinding
Machines**



REPAIR PARTS for the 618 and 818 MICROMASTER SERIES II SURFACE GRINDING MACHINES

The parts are arranged in the same relative positions as in the machine. This is to facilitate stripping and assembling as well as identifying the parts.

The parts are shown separated to make the construction of the machine more readily understood and to show each part to best advantage. In some cases, when a particular part is ordered, not only that part but one or more supplementary parts also may be sent when, from our experience, this is known to be advisable for a more satisfactory repair job.

Repair parts, in some cases, will require fitting and therefore may need holes to be drilled, shoulders to be squared or similar machining in order to make them fit properly.

As Brown & Sharpe is constantly improving the design of its machines, there may be some instances where this book differs somewhat from the machine that you are concerned with.

HOW TO ORDER REPAIR PARTS

This information is essential:

- 1 — Quantity, Part Number and Name
- 2 — Size and Name of Machine*
- 3 — Serial Number of Machine*

*If part is for an arrangement or attachment, also give name and serial number of arrangement or attachment.

Replacement Parts Service

Brown & Sharpe has made genuine replacement parts available with no delay. We have appointed "Authorized Brown & Sharpe Replacement Parts Distributors" in key industrial areas. These distributors carry a large stock from which you may procure genuine parts for routine or emergency requirements. See listing below for distributor nearest you.

Georgia, Atlanta 30309

Southern Tool Distributing Co.
54 Eleventh Street, N.E.
Phone: 404-892-2021

Ohio, Cleveland 44113

Cleveland Tool & Supply Co.
4521 Willow Parkway
Phone 441-5700

New Jersey, Elizabeth 07201

Johnson-Mandeville
595 Division Street
Phone: 201-289-5800

Pennsylvania, Philadelphia 19107

Alden Supply Co., Inc.
926 Arch Street
Phone: 215-922-7910

Massachusetts, Boston 02215

Chandler & Farquhar Co., Inc.
900 Commonwealth Avenue
Phone: 617-566-7800

South Carolina, Columbia 29202

Southern Tool Distributing Co.
of the Carolinas
P.O. Box 146
Phone: 803-796-0440

New York, Elmira 14902

Chapin-Owen Co., Inc.
Williams & 2nd Street
Phone: 607-733-6625

Rhode Island, Providence 02904

Providence Mill Supply Co.
389 Charles Street
Phone: 401-831-7800

Illinois, Chicago 60646

Harry Lee & Sons
6045 N. Keystone Avenue
Phone: 312-588-1700

Ohio, Dayton 45401

Dayton Supply & Tool Co.
520 East First Street
Phone: 513-461-4550

California, Los Angeles 90054

Frey Industrial Supply Co.
P.O. Box 54350
Phone: 213-846-2121

New York, Rochester 14608

Chapin-Owen Co., Inc.
205 St. Paul Street
Phone: 716-454-5100

Illinois, Chicago 60607

Screw Machine Supply Co.
118 North Aberdeen Street
Phone: 312-243-5000

Michigan, Detroit 48220

B-H Tool & Supply Co.
570 W. 8 Mile Road
Phone: 313-566-7943

Connecticut, New Britain 06051

Ray H. Morris & Co., Inc.
30 Precision Court, P.O. Box 1048
Phone: 203-224-2678

H & C Tool Supply Corporation
40 Verona Street
Phone: 716-232-5020

Brown & Sharpe Mfg. Co.

PRECISION PARK, NORTH KINGSTOWN, R. I. 02852

Phone 401-886-2000

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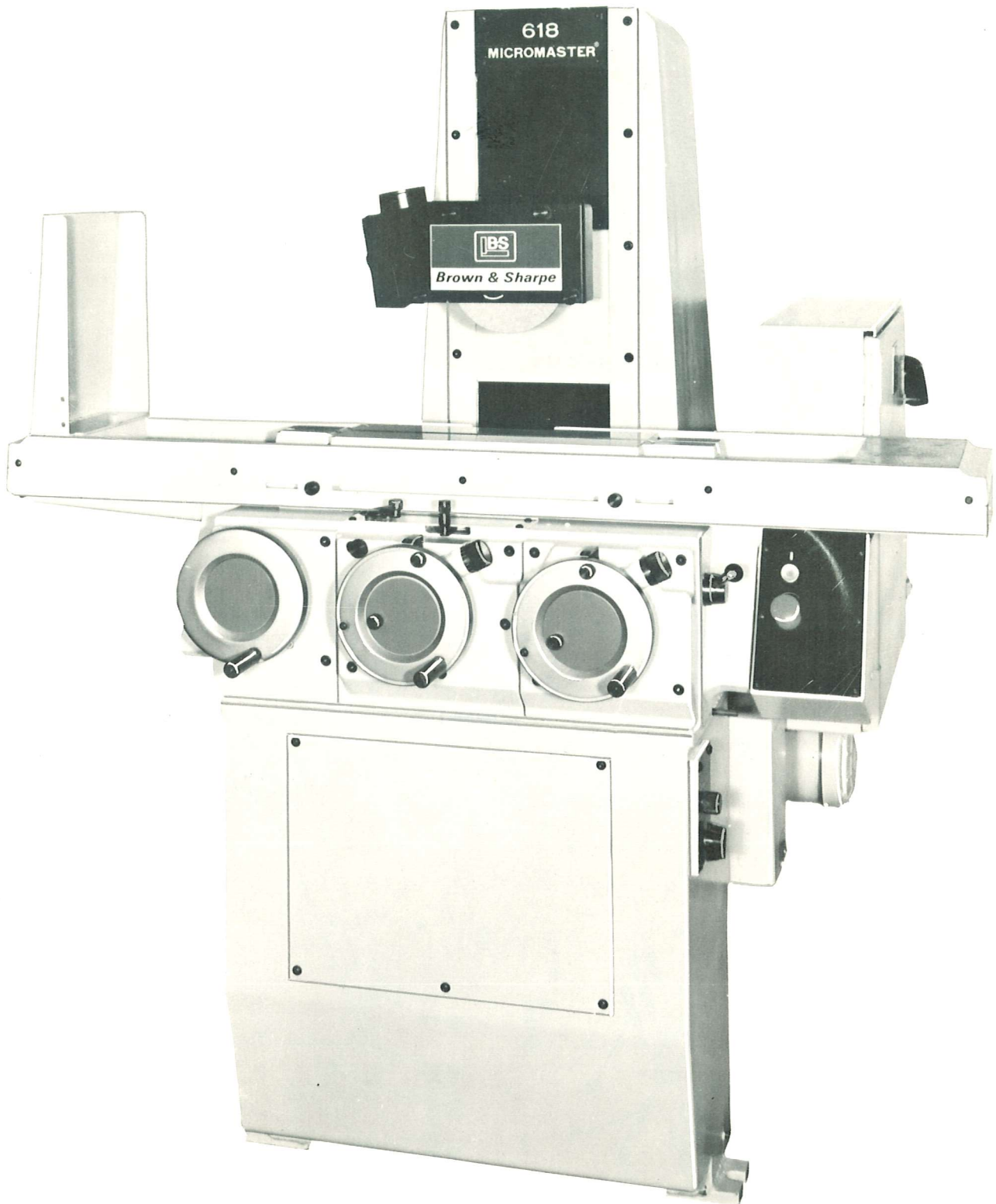
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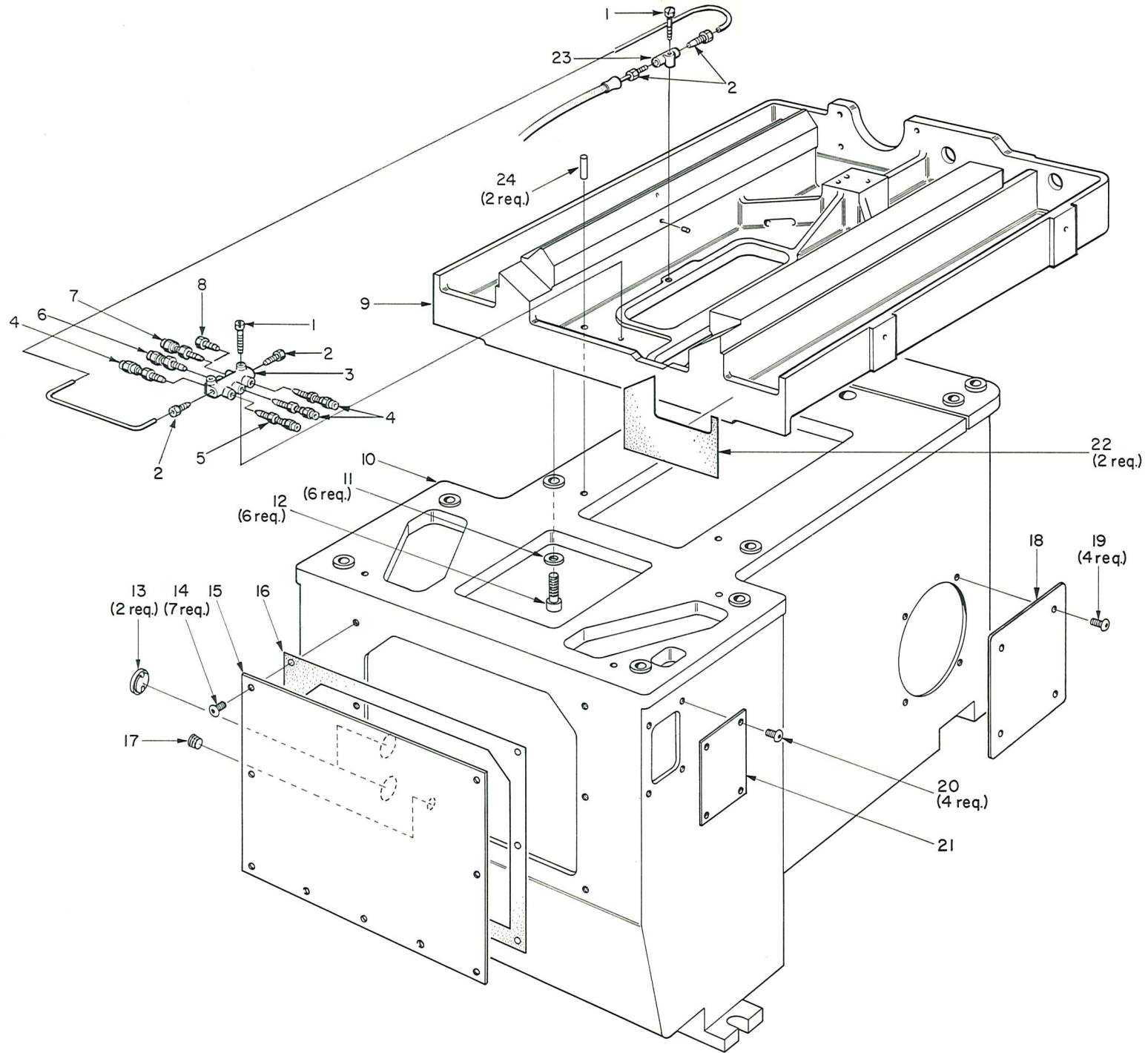
Not all electrical components are shown in this book.

Always give all data shown on manufacturer's plate when ordering electrical components.



FRONT VIEW

618/818 MICROMASTER SERIES II



MACHINE BASE PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	92-5050-834	Screw (2 Req)
2	461-951	Compress Sleeve
	461-953	Compress Bushing
3	461-964	Junction Bar
4	461-3960	#3 Meter Unit
	461-918	Compress Nut
	461-919	Compress Bushing
5	461-3953	#4 Meter Unit
	461-918	Compress Nut
	461-919	Compress Bushing
6	961-3951	#0 Meter Unit
	461-918	Compress Nut
	461-919	Compress Bushing
7	461-21	#5 Meter Unit (hand feed machine only)
	461-918	Compress Nut
	461-919	Compress Bushing
8	461-974	Plug (power table only)
9	23-6603	Upright Base
10	23-6600	Machine Base
11	92-2010-1608-28	Washer, 1/2" I.D. x 1 1/8" O.D. x 1/8"
12	92-5380-1644	Socket Head Screw, 1/2"-13 x 1 1/2"
13	461-911	Oil Level Window
14	92-5385-1016	Button Head Screw, 5/16"-18 x 1/2"
15	23-4778	Hydraulic Compartment Cover
16	23-6007	Cover Gasket
17	463-697	Pipe Plug
18	23-6606	Cover (machines without power table feed only)
19	92-5385-1216	Button Head Screw, 3/8"-16 x 1/2"
20	92-5385-1016	Button Head Screw, 5/16"-18 x 1/2"
21	23-6641	Cover (machines without power cross feed only)
22	23-5513	Table Bed Gasket
23	461-97	Junction Bar
24	92-900-1236	Dowel

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

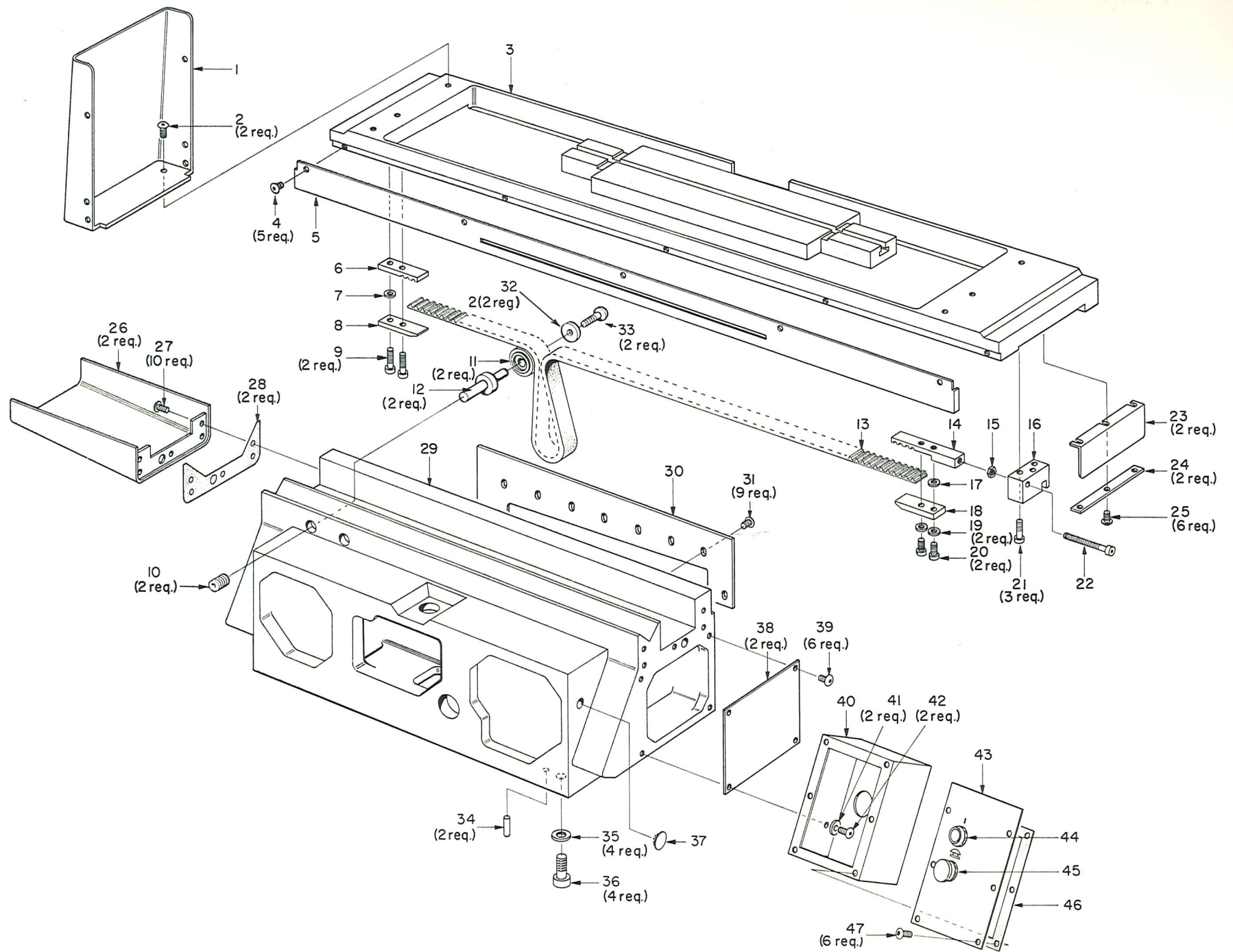
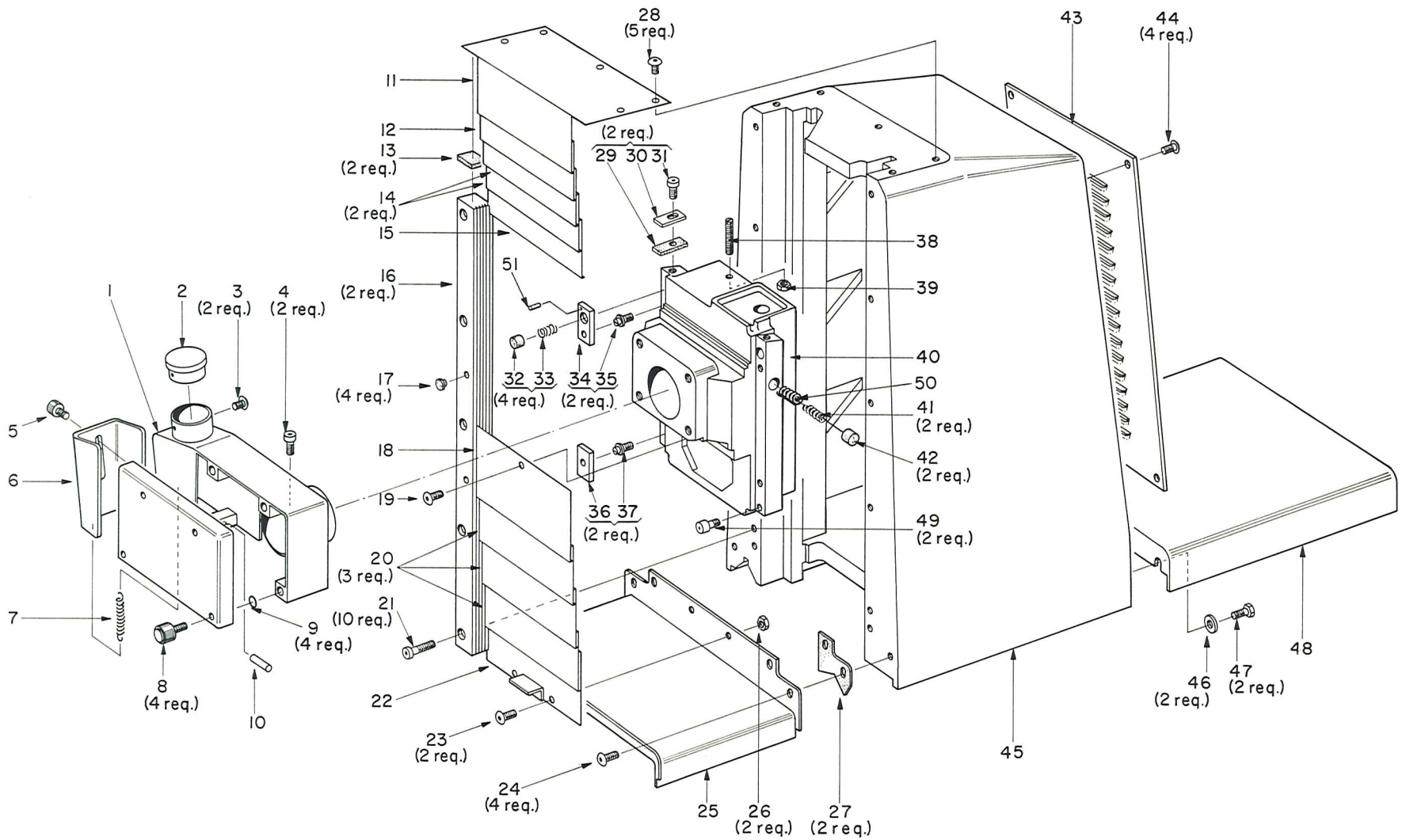


TABLE AND TABLE BED PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-4912	Splash Guard	16	23-6682	Table Thrust Block	32	92-2040-1204-32	Washer
2	92-5385-820	Button Head Screw, 1/4"-20 x 5/8"	17	92-2010-1202- 24	Washer, 3/8" I.D. x 3/4" O.D. x 1/16"	33	92-5385-1232	Screw
3	23-6784	Table (618 machines with hand table feed only)	18	23-4830	Belt Clamp	34	92-900-1236	Dowel
	23-6602	Table (618 machines with power table feed)	19	92-2010-1204-24	Washer, 3/8" I.D. x 3/4" O.D. x 1/8"	35	92-2010-1604- 34	Washer, 5/8" I.D. x 1 1/8" O.D. x 1/8"
	23-6785	Table (818 machines with hand table feed only)	20	92-5380-1224	Socket Head Screw, 3/8"-16 x 3/4"	36	92-5381-2048	Socket Head Screw, 5/8"-11 x 2"
	23-6628	Table (818 machines with power table feed)	21	92-5380-1236	Socket Head Screw, 3/8"-16 x 1 1/4"	37	479-90	Plug Button (machines with hand cross feed only)
4	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"	22	92-5380-1260	Socket Head Screw, 3/8"-16 x 3 1/2"	38	23-4799	Bed End Plate
5	23-6661	Table Front Guard	23	23-4832	End Guard	39	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"
6	23-4827	Belt Support	24	23-4833	End Guard Strap	40	23-6512	Control Box
7	92-2010-1202- 24	Washer, 3/8" I.D. x 3/4" O.D. x 1/16"	25	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"	41	92-2040-802- 20	Washer
8	23-4830	Belt Clamp	26	23-4834	Bed Extension	42	92-5385-828	Button Head Screw, 1/4"-20 x 7/8"
9	92-5380-1232	Socket Head Screw, 3/8"-16 x 1"	27	92-5385-820	Button Head Screw, 1/4" x 20 x 5/8"	43	88-4-2	Control Plate
10	91-90-781	Plug	28	23-5079	Bed Extension Gasket	44	412-343	Pushbutton Cap
11	429-155	Roller	29	23-6601	Table Bed		412-342	Pushbutton Operator
12	23-7418	Idler Pulley Shaft	30	23-4836	Table Bed Guard (618 machines only)		412-346	Contact Block
13	442-76	Belt		23-6666	Table Bed Guard (818 machines only)	45	412-345	Mushroom Pushbutton Cap
14	23-4829	Belt Tension Plate					412-344	Pushbutton Operator
15	92-6015-1221	Nut, 3/8"-16	31	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"		412-347	Contact Block
						46	23-6511	Control Plate Gasket
						47	92-5385-612	Button Head Screw, #10-32 x 3/8"

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

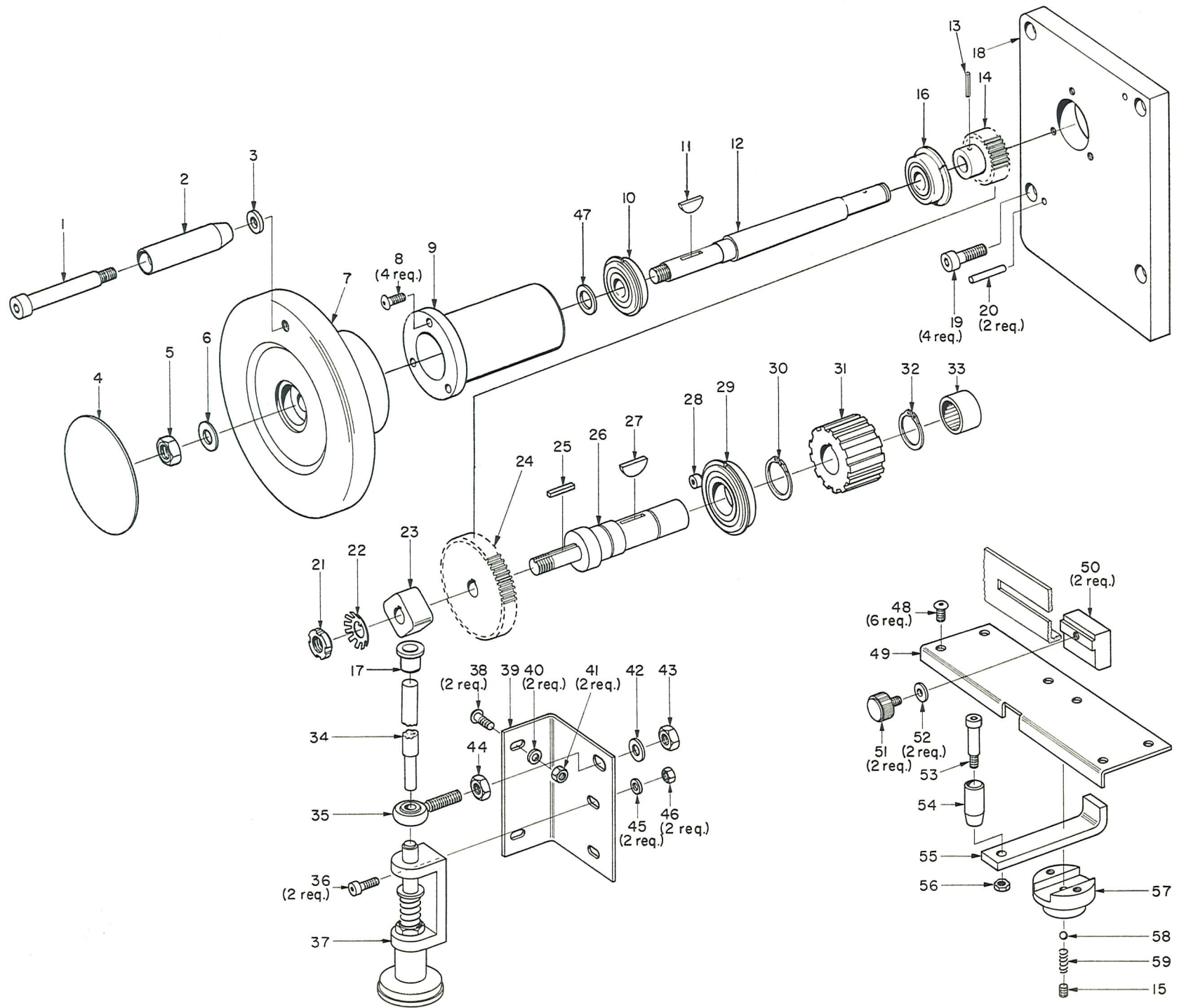


UPRIGHT PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-4721	Wheel Guard for 8" Wheel (includes 2 through 9)	27	23-4941	Splash Guard Gasket
2	23-6699	Exhaust Plug	28	92-5385-1012	Button Head Screw, 5/16"-18 x 1/2"
3	92-5385-612	Button Head Screw, #10-32 x 3/8"	29	23-4672	Felt Wiper
4	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"	30	23-5225	Wiper Plate
5	88-5125-824	Thumb Screw	31	92-5380-1024	Socket Head Screw, 5/16"-18 x 3/4"
6	23-6700	Deflector	32	23-6612	Stabilizer Button
7	91-100-262	Spring	33	479-703	Spring
8	88-5125-1232	Thumb Screw	34	23-6611	Spindle Head Gib
9	466-3601	O-ring	35	23-7278	Adjusting Screw
10	92-900-834	Pin (for 7" grinding wheels only)	36	23-6610	Spindle Head Gib
11	23-4947	Elevating Screw Guard	37	23-7278	Adjusting Screw
12	23-5573	Elevating Screw Guard	38	92-5071-1049	Headless Set Screw, 5/16"-18 x 2 1/8"
13	23-6087	Strap Filler	39	92-6015-1012	Nut, 5/16"-18
14	23-4709	Elevating Screw Guard	40	23-4720	Spindle Head (618 machines only)
15	23-4710	Elevating Screw Guard		23-6609	Spindle Head (818 machines only)
16	23-4719	Upright Strap	41	92-1000-2436-15	Spring
17	479-70	Plug Button	42	23-4956	Stabilizer Button
18	23-4711	Elevating Screw Guard	43	23-4715	Upright Rear Cover
19	92-5385-1012	Button Head Screw, 5/16"-18 x 3/8"	44	92-5385-1216	Button Head Screw, 3/8"-16 x 1/2"
20	23-4709	Elevating Screw Guard	45	23-6022	Upright
21	92-5380-1240	Socket Head Screw, 3/8"-16 x 1 1/2"	46	92-2010-1204-32	Washer, 3/8" I.D. x 1" O.D. x 1/8"
22	23-4712	Elevating Screw Guard	47	92-5385-1224	Hex Head Screw, 3/8"-16 x 3/4"
23	92-5385-612	Button Head Screw, #10-32 x 3/8"	48	23-6012	Base Ways Guard
24	92-5385-1216	Button Head Screw, 3/8"-16 x 1/2"	49	429-238	Roller
25	23-4946	Splash Guard	50	92-1000-1636-17	Spring
26	92-6015-608	Nut, #10-32	51	92-900-420	Pin

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

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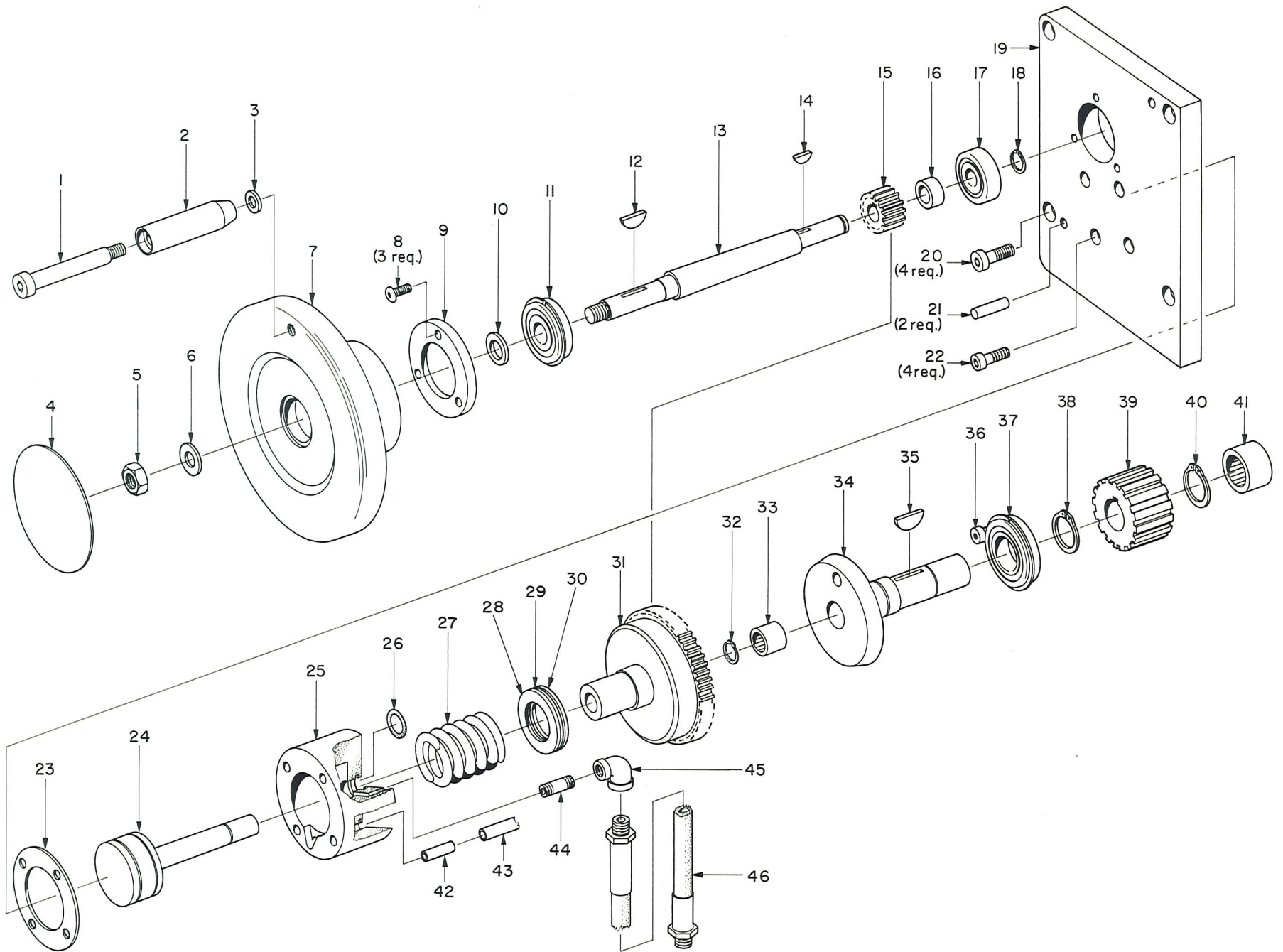


HAND TABLE FEED MECHANISM AND LUBRICATING PUMP

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	472-1044	Shoulder Screw	28	92-5380-816	Socket Head Screw, 1/4"-20 x 1/2"
2	88-5805-16	Handwheel Handle	29	437-4451	Ball Bearing
3	23-7332	Washer, 3/8" I.D. x 5/8" O.D. x 1/8"	30	429-1476	Retaining Ring
4	23-6676	Handwheel Insert	31	23-4807	Belt Sprocket
5	92-6015-1620	Nut, 1/2"-13	32	429-1475	Retaining Ring
6	92-2010-1604-32	Washer, 1/2" I.D. x 1" O.D. x 1/8"	33	422-32	Needle Bearing
7	23-7057	Handwheel	34	23-4909	Pump Operating Rod
8	92-5380-328	Button Head Screw, 1/4"-20 x 5/8"	35	429-129	Rod End Bearing
9	23-7247	Bearing Retainer	36	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"
10	437-15	Ball Bearing	37	461-180	Lubricating Pump
11	92-980-628	Key	38	92-5385-824	Button Head Screw, 1/4" x 20 x 3/4"
12	23-7248	Handwheel Shaft	39	23-4911	Pump Bracket
13	92-902-1228	Pin	40	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"
14	23-7252	Pinion, 2 7/8" Table Travel	41	92-6015-814	Nut, 1/4"-20
	23-7250	Pinion, 2" Table Travel	42	92-2010-1202-24	Washer, 3/8" I.D. x 3/4" O.D. x 1/16"
	23-7254	Pinion, 3 1/2" Table Travel	43	472-568	Nut
15	472-229	Set Screw	44	472-568	Nut
16	437-15	Ball Bearing	45	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"
17	421-875	Bronze Bearing	46	92-6015-814	Nut, 1/4"-20
18	23-7260	Handwheel Bracket	47	23-7249	Washer, 5/8" I.D. x 1" O.D. x 1/16"
19	92-5380-1232	Socket Head Screw, 3/8"-16 x 1"	48	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"
20	92-900-1038	Pin	49	23-6663	Cover Plate
21	92-6043-19	Lock Nut	50	23-6680	Table Dog
22	92-2031-19	Lock Washer	51	23-6772	Thumb Screw
23	23-4906	Pump Cam	52	92-2040-802-20	Washer
24	23-7253	Gear, 2 7/8" Table Travel	53	472-1050	Shoulder Screw
	23-7251	Gear, 2" Table Travel	54	88-5805-10	Stop Handle
	23-7259	Gear, 3 1/2" Table Travel	55	23-6662	Feed Stop
25	92-970-632	Key	56	92-6015-810	Nut, 1/4"-20
26	23-4806	Table Drive Shaft	57	23-6681	Stop Retainer
27	92-980-832	Key	58	429-1293	Steel Ball
			59	92-1000-620-22	Spring

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE



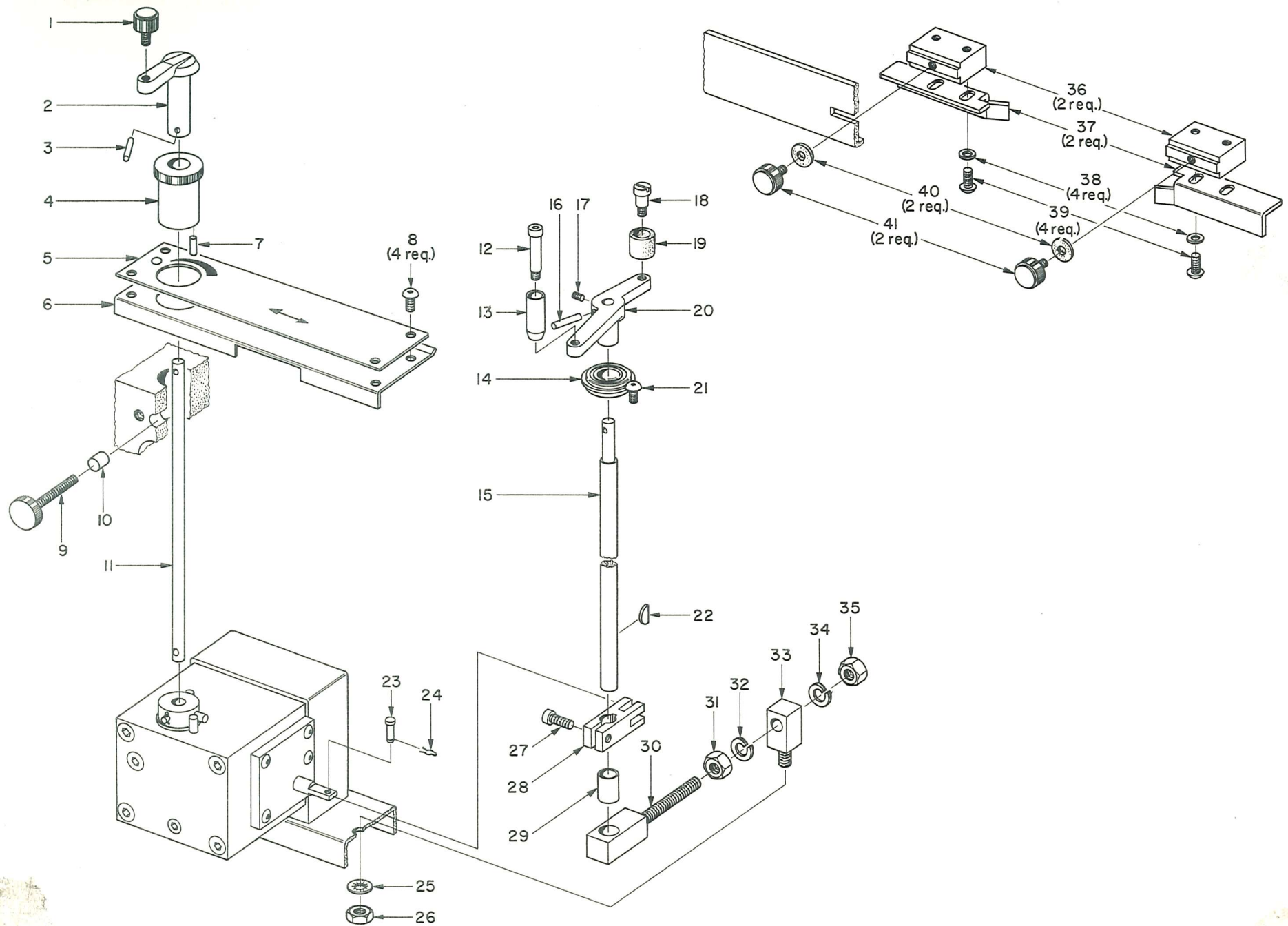
POWER TABLE FEED HANDWHEEL

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	472-1044	Shoulder Screw	24	23-6649	Piston
2	88-5805-16	Handwheel Handle	25	23-6648	Handwheel Cylinder
3	23-7332	Washer, 3/8" I.D. x 5/8" O.D. x 1/8"	26	466-3620	O-ring
4	23-6676	Handwheel Insert	27	23-6792	Clutch Spring
5	92-6015-1620	Nut, 1/2"-13	28	438-32	Thrust Bearing Race
6	92-2010-1604-32	Washer, 1/2" I.D. x 1" O.D. x 1/8"	29	438-7	Needle Thrust Bearing
7	23-6634	Handwheel	30	438-32	Thrust Bearing Race
8	92-5385-820	Button Head Screw, 1/4"-20 x 5/8"	31	23-6639	Clutch and Gear
9	23-6655	Bearing Retainer	32	429-241	Retaining Ring
10	92-2040-2004-32	Washer	33	422-62	Needle Bearing
11	437-1467	Ball Bearing	34	23-4804	Clutch Plate
12	92-980-628	Key	35	92-980-832	Key
13	23-4901	Handwheel Shaft	36	92-5380-816	Socket Head Screw, 1/4"-20 x 1/2"
14	92-980-420	Key	37	437-4451	Ball Bearing
15	23-6650	Pinion	38	429-1476	Retaining Ring
16	23-6652	Pinion Spacer	39	23-4807	Belt Sprocket
17	434-7	Ball Bearing	40	429-1475	Retaining Ring
18	429-45	Retaining Ring	41	422-32	Needle Bearing
19	23-6646	Handwheel Bracket	42	92-2450-1032	Tube
20	92-5380-1232	Socket Head Screw, 3/8"-16 x 1"	43	464-275	Plastic Tube (order in inches)
21	92-900-1034	Pin	44	92-2440-432	Nipple, 1/8" N.P.T. x 1"
22	92-5381-1032	Socket Head Screw, 5/16"-18 x 1"	45	463-788	90° Reducing Elbow, 1/4" x 1/8"
23	23-6658	Cylinder Gasket	46	463-46	Hose Assembly

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

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POWER TABLE FEED CONTROLS

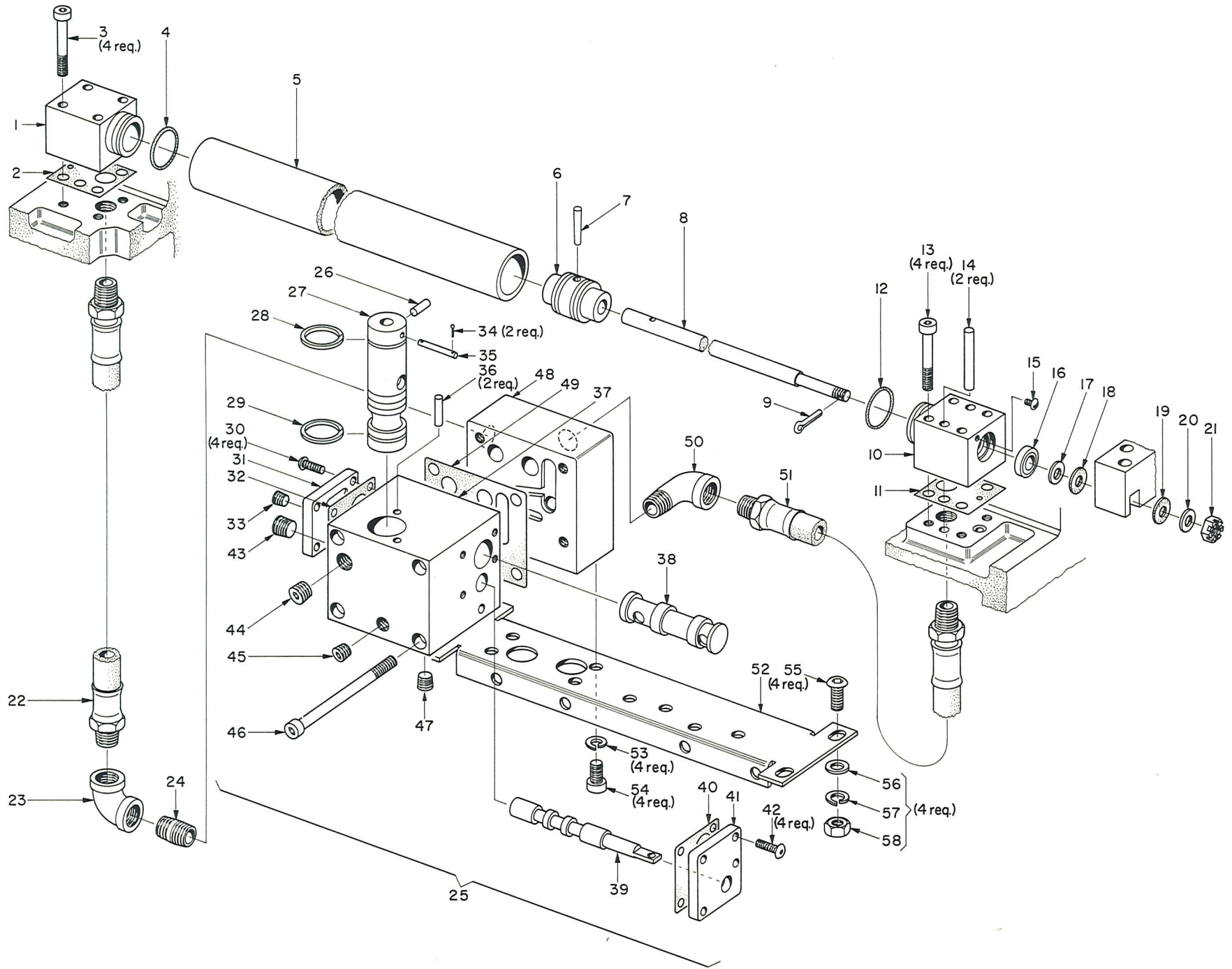
PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	88-5125-816	Knob	22	92-980-420	Key
2	23-4814	Throttle Lever (includes 1)	23	23-4821	Pin
3	92-900-628	Pin	24	472-199	Hair Cotter Pin
4	23-4816	Throttle Adjusting Bushing (includes 7)	25	472-1040	Lockwasher
5	88-4-1	Instruction Plate	26	92-6015-1224	Nut, 3/8"-16
6	23-6672	Throttle Lever Cover	27	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"
7	92-900-420	Pin	28	23-4820	Lever
8	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"	29	421-807	Bushing
9	88-5128-850	Throttle Adjusting Screw	30	23-4822	Support Block (includes 29)
10	92-930-1312	Throttle Adjusting Shoe	31	92-6015-1224	Nut, 3/8"-16
11	23-4815	Throttle Shaft	32	92-2030-12	Lockwasher, 3/8"
12	472-1050	Shoulder Screw	33	23-6620	Support Block Pivot
13	88-5805-10	Handle	34	92-2030-12	Lockwasher, 3/8"
14	437-3	Ball Bearing	35	92-6015-1224	Nut, 3/8"-16
15	23-4819	Reversing Shaft	36	23-4824	Table Dog Carrier
16	92-900-432	Pin	37	23-6788	Table Dog
17	92-5390-608	Cup Point Set Screw, # 10-32 x 1/4"	38	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"
18	92-5270-816	Shoulder Screw	39	472-703	Screw
19	23-6659	Contact Roller	40	472-986	Nylon Washer
20	23-4818	Reversing Lever (includes 12, 13, 17, 18, 19)	41	23-6772	Thumb Screw
21	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"			

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ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

Brown & Sharpe _____ **618/818 MICROMASTER SERIES II**

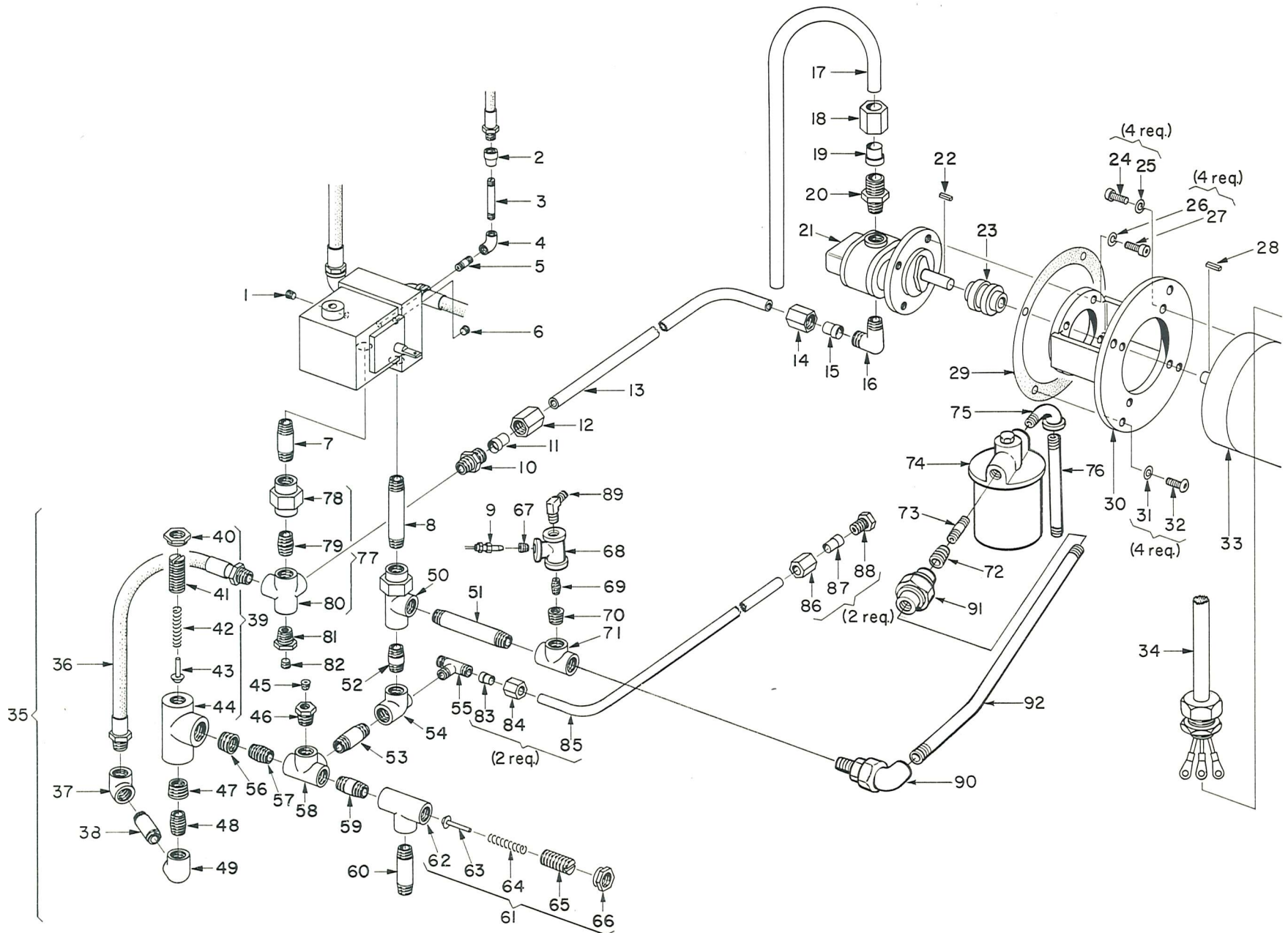


POWER TABLE FEED CYLINDER AND VALVE

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-4795	Left Cylinder Head	30	92-5385-824	Button Head Screw, 1/4"-20 x 3/4"
2	23-4798	Cylinder Head Gasket	31	23-4898	Left Valve End Cover
3	92-5381-1050	Socket Head Screw, 5/16"-18 x 2 1/4"	32	23-4899	End Cover Gasket
4	466-71	O-ring	33	463-698	Plug, 1/8" N.P.T.
5	23-4792	Cylinder	34	92-5990-416	Cotter Pin
6	23-4793	Piston	35	23-4878	Piston Pin
7	92-890-322	Taper Pin	36	92-900-832	Pin
8	23-4794	Piston Rod	37	23-4888	Valve Body
9	92-5990-632	Cotter Pin	38	23-4890	Control Piston
10	23-4797	Right Cylinder Head	39	23-4891	Reversing Piston
11	23-4798	Cylinder Head Gasket	40	23-4897	End Cover Gasket
12	466-71	O-ring	41	23-4896	Right End Cover
13	92-5381-1050	Socket Head Screw, 5/16"-18 x 2 1/4"	42	92-5385-824	Button Head Screw, 1/4"-20 x 3/4"
14	92-900-1032	Pin	43	463-697	Plug, 1/2" N.P.T.
15	21-5418	Screw	44	463-697	Plug, 1/2" N.P.T.
16	466-3945	Oil Seal	45	463-696	Plug, 1/4" N.P.T.
17	92-2010-1202-24	Washer, 3/8" I.D. x 3/4" O.D. x 1/16"	46	472-3525	Screw
18	23-5184	Nylon Washer	47	463-696	Plug, 1/4" N.P.T.
19	23-5184	Nylon Washer	48	23-6615	Valve Subplate
20	92-2010-1202-24	Washer, 3/8" I.D. x 3/4" O.D. x 1/16"	49	23-4889	Valve Gasket
21	92-6013-12	Hex Slotted Nut, 3/8"-16	50	463-778	Street Elbow, 1/2" N.P.T.
22	463-47	Hose Assembly	51	463-48	Hose Assembly
23	463-752	90° Pipe Elbow, 1/2" N.P.T.	52	23-6614	Valve Mounting Bracket
24	92-2440-1648	Nipple, 1/2" N.P.T. x 2"	53	92-2030-12	Lockwasher, 3/8"
25	23-4957	Table Feed Valve (includes 26 through 42)	54	92-5380-1224	Socket Head Screw, 3/8"-16 x 3/4"
26	92-900-820	Pin	55	92-5385-1224	Button Head Screw, 3/8"-16 x 3/4"
27	23-4892	Throttle Piston	56	23-3773	Adjustable Washer
28	429-44	Retaining Ring	57	92-2030-12	Lockwasher, 3/8"
29	429-44	Retaining Ring	58	92-6015-1214	Nut, 3/8"-16

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

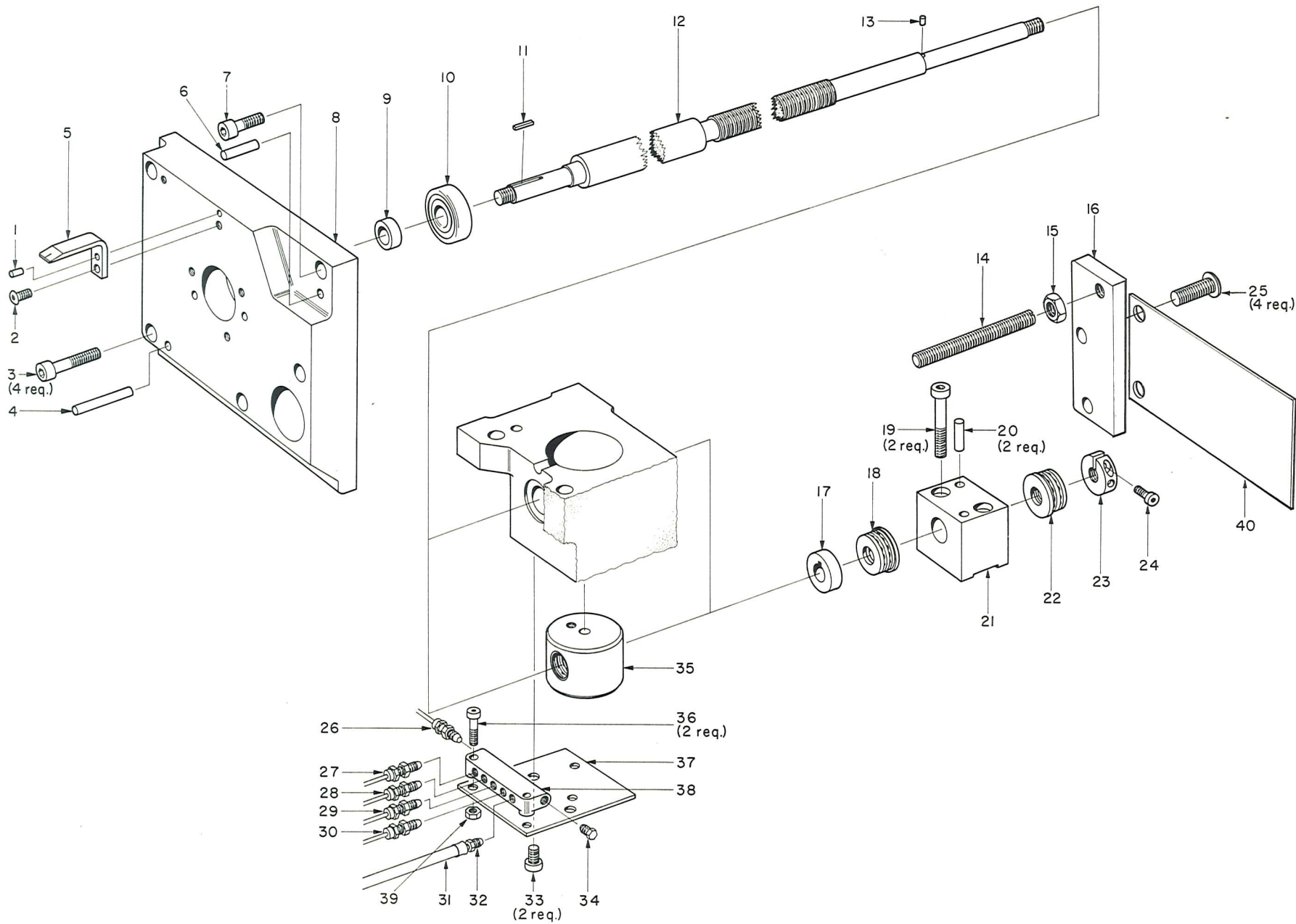


POWER TABLE FEED HYDRAULIC SYSTEM

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	463-698	Pipe Plug, 1/8" N.P.T.	32	92-5385-1232	Button Head Screw, 3/8"-16 x 1"	63	213-9001-2207	Plunger
2	463-3772	Reducer Coupling, 1/4" x 1/8" N.P.T.	33	401-120	Motor	64	92-1000-1652-17	Spring
3	92-2440-456	Nipple, 1/8" N.P.T. x 3"	34	23-4928-3	Motor Cable, Complete	65	213-3-783	Adjusting Screw
4	463-3771	90° Elbow, 1/8" N.P.T.	35	23-6582-1	Oil Filter Assembly (includes 37 through 76)	66	91-101-47	Check Nut
5	92-2440-424	Nipple, 1/8" N.P.T. x 3/4"	36	463-468	Hose Assembly	67	463-786	Reducing Bushing, 1/4" x 1/8" N.P.T.
6	463-698	Pipe Plug, 1/8" N.P.T.	37	463-752	90° Elbow, 1/2" N.P.T.	68	463-764	Tee, 1/4" N.P.T.
7	92-2440-1648	Nipple, 1/2" N.P.T. x 2"	38	92-2440-1664	Nipple, 1/2" N.P.T. x 4"	69	92-2440-828	Nipple, 1/4" N.P.T. x 7/8"
8	92-2440-1664	Nipple, 1/2" N.P.T. x 4"	39	23-4951	High Pressure Relief Valve (includes 40 through 44)	70	463-365	Reducing Bushing, 1/2" x 1/4" N.P.T.
9	461-3935	Adapter	40	91-101-47	Check Nut	71	463-759	Tee, 1/2" N.P.T.
	461-950	Compress Nut	41	213-3-783	Adjusting Screw	72	463-3752	Reducing Bushing, 1/2" x 3/8" N.P.T.
	461-951	Sleeve	42	92-1000-1656-13	Spring	73	92-2440-1236	Nipple, 3/8" N.P.T. x 1-1/4"
10	464-3680	Connector	43	213-3-786	Plunger	74	461-85	Oil Filter (filter cartridge obtainable separately)
11	464-670	Sleeve	44	23-5083	Body	75	463-27	Reducing Street Elbow, 1/2" x 3/8" N.P.T.
12	464-672	Coupling Nut	45	463-696	Pipe Plug, 1/4" N.P.T.	76	92-2440-1672	Nipple, 1/2" N.P.T. x 5"
13	464-130	Aluminum Tubing, 5/8" O.D. (order in inches)	46	463-787	Reducing Bushing, 1/2" x 1/4" N.P.T.	77	23-6712	High Pressure Piping Assembly (includes 78, 79, 80)
14	464-672	Coupling Nut	47	463-3789	Reducing Bushing, 3/4" x 1/2" N.P.T.	78	463-3793	Female Union, 1/2" N.P.T.
15	464-670	Sleeve	48	92-2440-1634	Nipple, 1/2" N.P.T. x 1-1/8"	79	92-2440-1634	Nipple, 1/2" N.P.T. x 1-1/8"
16	464-3986	90° Elbow	49	463-752	90° Elbow, 1/2" N.P.T.	80	463-799	Side Outlet Tee, 1/2" N.P.T.
17	464-131	Aluminum Tubing, 3/4" O.D. (order in inches)	50	463-49	Tee Female Union, 1/2" N.P.T.	81	463-787	Reducing Bushing, 1/2" x 1/4" N.P.T.
18	464-678	Coupling Nut	51	92-2440-1672	Nipple, 1/2" N.P.T. x 5"	82	463-696	Pipe Plug, 1/4" N.P.T.
19	464-674	Sleeve	52	92-2440-1640	Nipple, 1/2" N.P.T. x 1-1/2"	83	464-628	Sleeve
20	464-3693	Connector	53	92-2440-1652	Nipple, 1/2" N.P.T. x 2-1/2"	84	464-629	Coupling Nut
21	123-618-503	Rotary Gear Pump	54	463-84	Reducing Tee, 1/2" x 1/4" x 1/2" N.P.T.	85	464-126	Aluminum Tubing, 1/4" O.D. (order length in inches)
22	92-970-624	Key	55	464-52	Tee	86	464-629	Coupling Nut
23	473-139	Flexible Coupling	56	463-3789	Reducing Bushing, 3/4" x 1/2" N.P.T.	87	464-628	Sleeve
24	92-5380-1232	Socket Head Screw, 3/8"-16 x 1"	57	92-2440-1634	Nipple, 1/2" N.P.T. x 1-1/8"	88	23-6796	Orifice
25	92-2030-12	Lockwasher, 3/8" I.D.	58	463-799	Side Outlet Tee, 1/2" N.P.T.	89	464-665	90° Adapter
26	92-2030-12	Lockwasher, 3/8" I.D.	59	92-2440-1640	Nipple, 1/2" N.P.T. x 1-1/2"	90	463-779	1/2" Union Elbow
27	92-5380-1232	Socket Head Screw, 3/8"-16 x 1"	60	92-2440-1656	Nipple, 1/2" N.P.T. x 3"	91	463-3793	1/2" Female Union
28	92-970-624	Key	61	23-4796	Low Pressure Relief Valve (includes 62 through 66)	92	23-7211	Low Press. Filter Pipe
29	23-6605	Mounting Bracket Gasket	62	213-9001-2201	Body			
30	23-6604	Pump and Motor Mounting Bracket						
31	92-2010-1202-24	Washer, 3/8" I.D. x 3/4" O.D. x 1/16"						

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

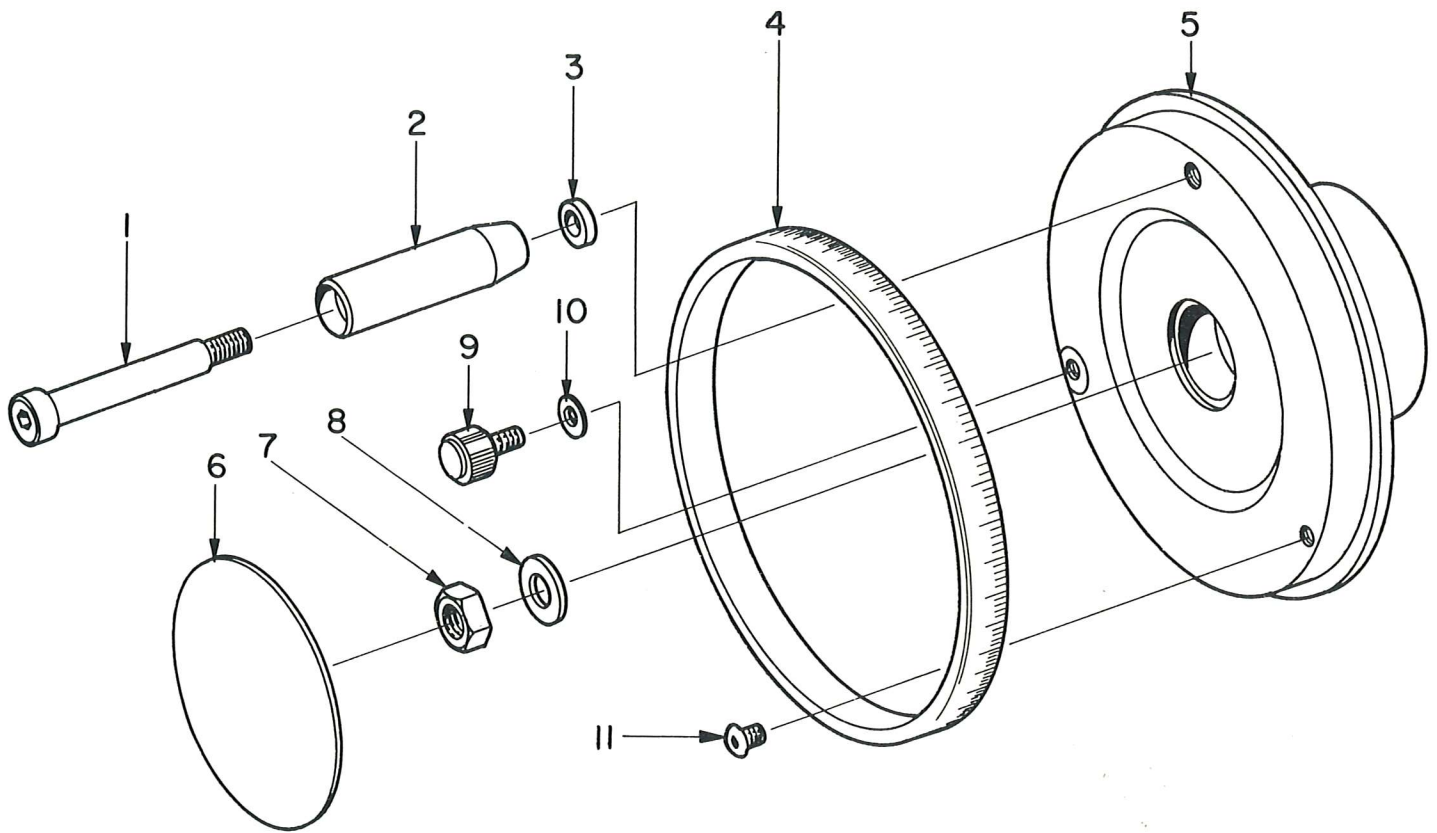


HAND CROSS FEED MECHANISM

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	92-900-614	Pin	26	461-21	#5 Meter Unit
2	92-5385-820	Button Head Screw, 1/4"-20 x 5/8"		461-918	Compress Nut
3	92-5380-1248	Socket Head Screw, 3/8"-16 x 2"		461-919	Sleeve
4	92-900-1050	Pin	27	461-3951	#0 Meter Unit
5	23-6657	Pointer		461-918	Compress Nut
6	92-900-1038	Pin		461-919	Sleeve
7	92-5380-1236	Socket Head Screw, 3/8"-16 x 1 1/4"	28	461-3951	#0 Meter Unit
8	23-4837	Handwheel Bracket		461-918	Compress Nut
9	23-5052	Handwheel Spacer		461-919	Sleeve
10	434-1167	Ball Bearing	29	461-21	#5 Meter Unit
11	92-970-624	Key		461-918	Compress Nut
12	23-4838	Cross Feed Screw, English (includes 13)		461-919	Sleeve
	23-5571	Cross Feed Screw, Metric (includes 13)	30	461-21	#5 Meter Unit
13	92-900-406	Pin		461-918	Compress Nut
14	23-6627	Cross Feed Stop (618 machines only)		461-919	Sleeve
	23-6708	Cross Feed Stop (818 machines only)	31	464-7	Hose Assembly
15	92-6015-1620	Nut, 1/2"-13	32	461-951	Compress Sleeve
16	23-7172	Mounting Plate		461-953	Compress Bushing
17	23-6218	Bearing Spacer	33	92-5380-1016	Socket Head Screw, 5/16"-18 x 1/2"
18	438-74	Thrust Ball Bearing	34	461-974	Plug
19	92-5380-1250	Socket Head Screw, 3/8"-16 x 2 1/4"	35	23-4949	Cross Feed Nut
20	92-900-1032	Pin	36	92-5380-832	Socket Head Screw, 1/4"-20 x 1"
21	23-6222	Cross Feed Screw Rear Support	37	23-4691	Junction Bar Mounting Plate
22	438-74	Thrust Ball Bearing	38	461-967	Junction Bar
23	23-6219	Nut (includes 24)	39	92-6015-814	Nut, 1/4"-20
24	92-5380-624	Socket Head Screw, #10-32 x 3/4"	40	23-7173	Cover
25	472-312	Button Head Screw			

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE



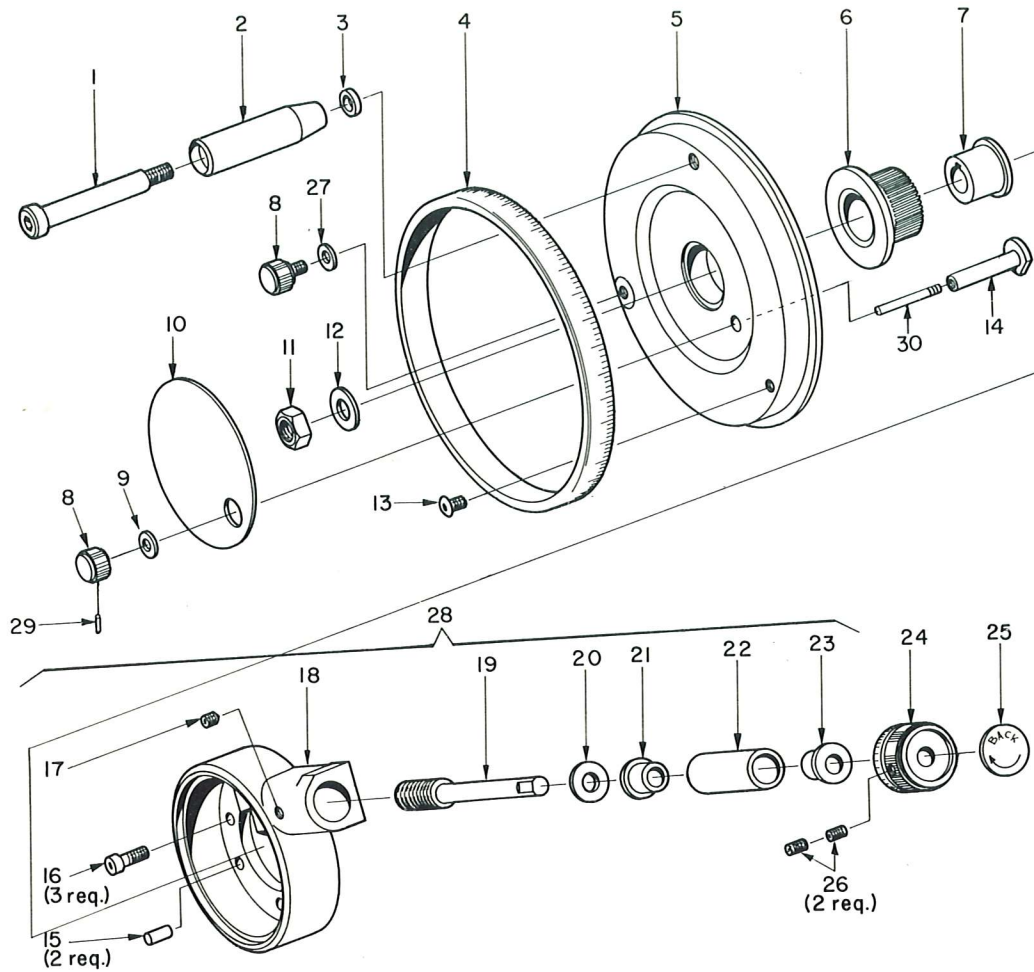
CROSS FEED HANDWHEEL

PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	472-1044	Shoulder Screw
2	88-5805-16	Handwheel Handle
3	23-7332	Washer, 3/8" I.D. x 5/8" O.D. x 1/8"
4	23-6644	Cross Feed Indicator Ring, English
	23-6645	Cross Feed Indicator Ring, Metric
5	23-6635	Handwheel
6	23-6676	Handwheel Insert
7	92-6015-1620	Nut, 1/2"-13
8	92-2010-1604-32	Washer, 1/2" I.D. x 1" O.D. x 1/16"
9	88-5125-816	Clamp Knob
10	23-7333	Washer
11	92-5385-812	Button Head Screw, 1/4"-20 x 3/8"

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

Brown & Sharpe



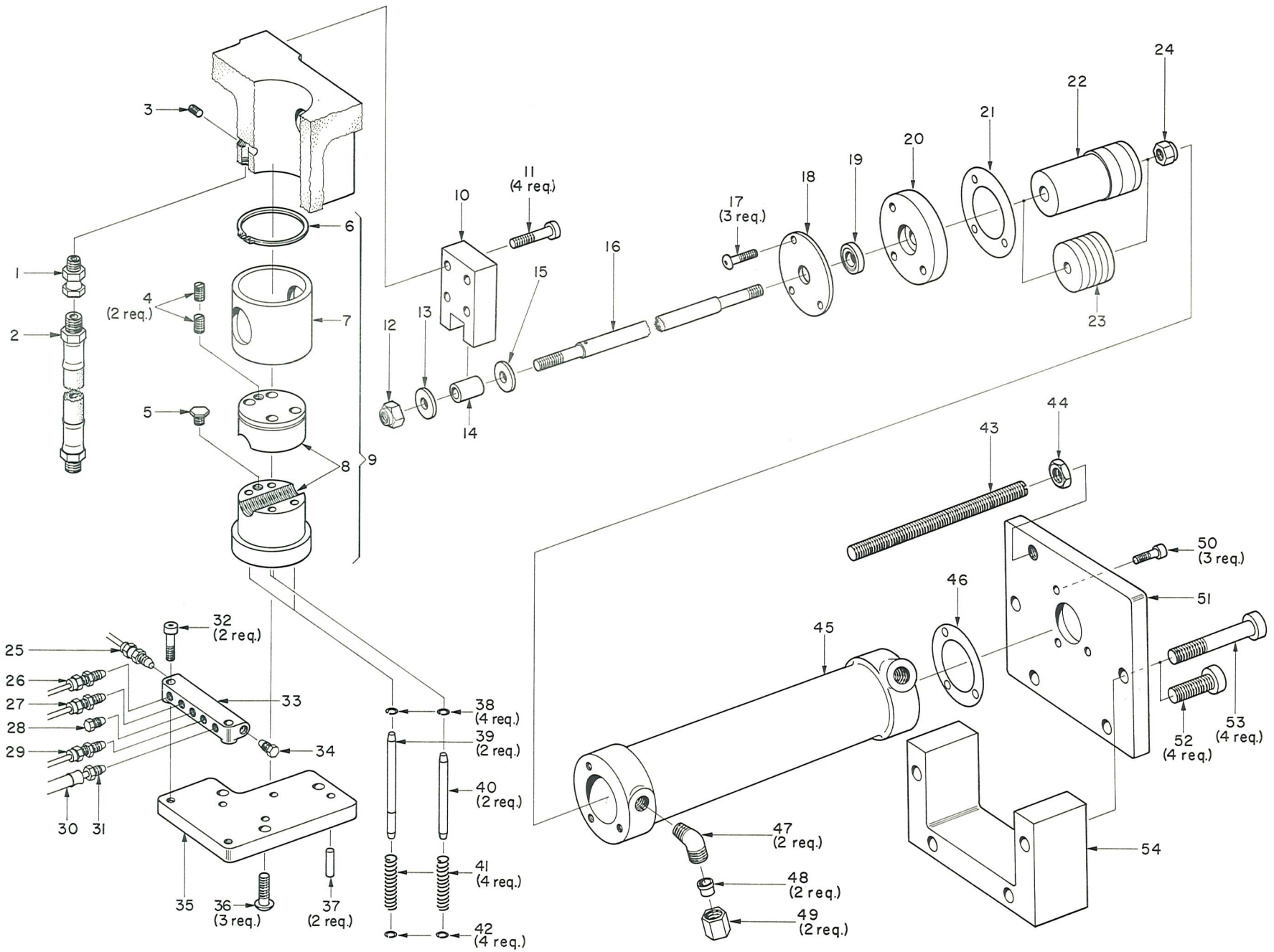
CROSS FEED AND VERTICAL FEED HANDWHEELS WITH FINE FEED MECHANISM

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	472-1044	Shoulder Screw	17	472-3553	Set Screw
2	88-5805-16	Handwheel Handle	18	23-6637	Handwheel Bracket Extension
3	23-7332	Washer, 3/8" I.D. x 5/8" O.D. x 1/8"	19	23-6653	Worm
4	23-6644	Cross Feed Indicator Ring, English	20	92-2010-1404-28	Washer, 7/16" I.D. x 7/8" O.D. x 1/8"
	23-6645	Cross Feed Indicator Ring, Metric	21	23-5351	Worm Bushing Spacer (includes 21 & 23)
	23-6642	Elevating Indicator Ring, English	22	23-5351	Worm Bushing Spacer (includes 21)
	23-6643	Elevating Indicator Ring, Metric	23	421-36	Worm Bushing
5	23-6608	Handwheel	24	23-6668	Fine Cross Feed Dial, English
6	23-5051	Worm Gear		23-6669	Fine Cross Feed Dial, Metric
7	23-5010	Worm Gear Bushing		23-5046	Fine Elevating Dial, English
8	88-5725-6	Clamp Knob		23-5564	Fine Elevating Dial, Metric
9	472-1144	Washer	25	23-6675	Dial Insert, Cross Feed
10	23-6677	Handwheel Insert		23-6674	Dial Insert, Elevating
11	92-6015-1620	Nut, 1/2"-13	26	92-5390-608	Cup Point Set Screw, #10-32 x 1/4"
12	92-2010-1604-32	Washer, 1/2" I.D. x 1" O.D. x 1/16"	27	23-7333	Washer
13	92-5385-812	Button Head Screw, 1/4"-20 x 3/8"	28	23-6671	Handwheel Bracket Assembly (includes 17 thru 23)
14	23-6656	Clamp Bolt (includes 8, 9 & 30)	29	92-902-420	Pin
15	92-900-820	Pin	30	23-7225	Clamp Stud
16	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"			

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

618/818 MICROMASTER SERIES II



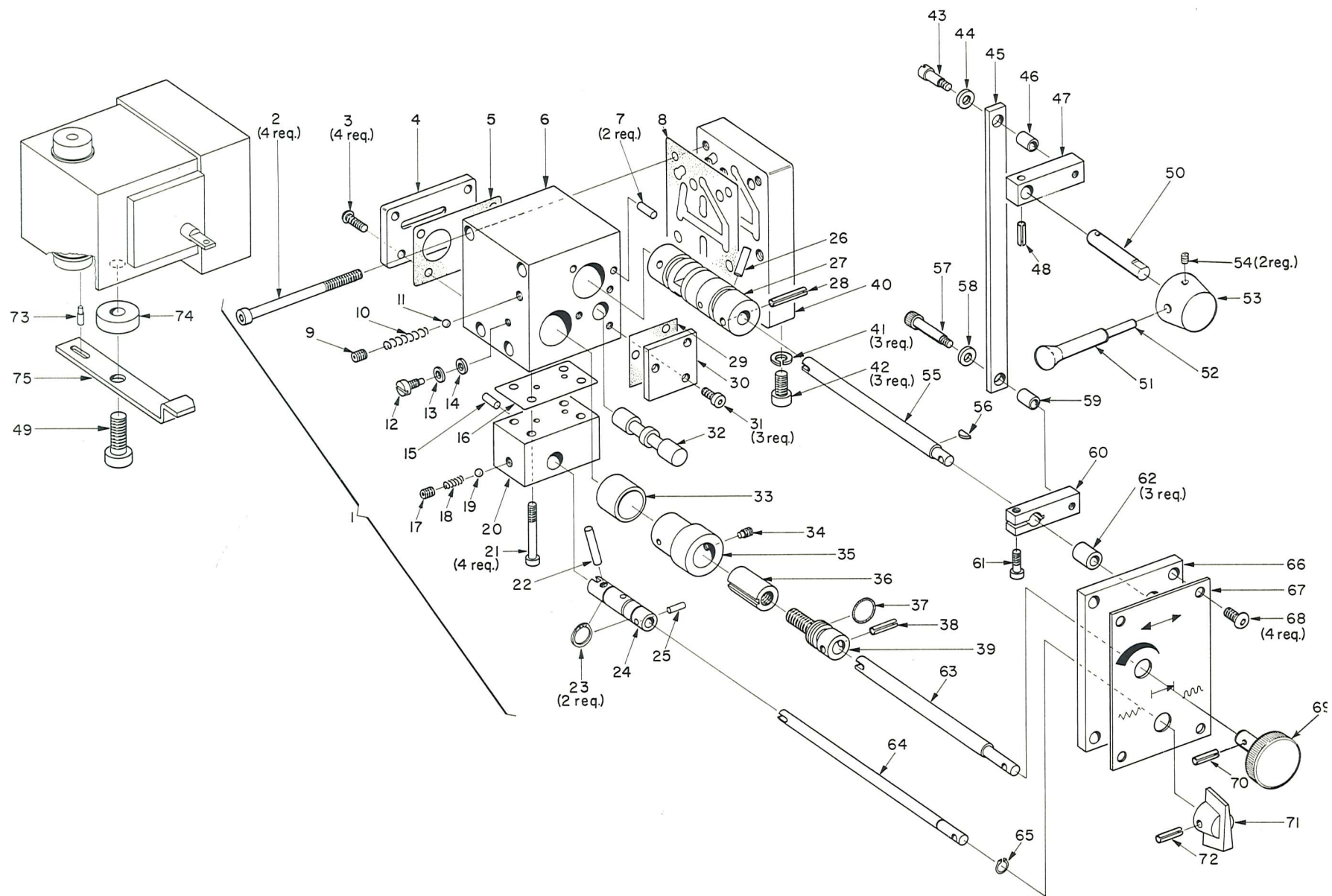
POWER CROSS FEED MECHANISM

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	463-284	Adapter Union	18	23-4954	Cylinder Cap Cover	34	461-974	Plug
2	463-44	Hose Assembly	19	466-3945	Oil Seal	35	23-4907	Retaining Plate
3	91-90-719	Plug	20	23-4790	Cylinder Cap	36	92-5385-1032	Button Head Screw,
4	92-5071-1016	Headless Set Screw, 5/16"-18 x 1/2"	21	23-4786	Cylinder Gasket	37	92-900-828	Pin
5	23-6629	Cross Feed Nut Stop	22	23-6625	Piston (618 machines only)	38	429-239	Retaining Ring
6	429-240	Retaining Ring	23	23-4788	Piston (818 machines only)	39	23-6631	Long Guide Pin
7	23-6624	Cross Feed Nut Sleeve	24	472-582	Stop Nut	40	23-6630	Short Guide Pin
8	23-4865	Cross Feed Nut, English	25	461-21	#5 Meter Unit	41	92-1000-1250-18	Spring
	23-5567	Cross Feed Nut, Metric		461-918	Compress Nut	42	429-239	Retaining Ring
9	23-6632	Complete Cross Feed Nut, English (includes 4 through 8, 38 through 42)		461-919	Sleeve	43	23-6627	Cross Feed Stop
	23-6633	Complete Cross Feed Nut, Metric (includes 4 through 8, 38 through 42)	26	461-3951	#0 Meter Unit	44	92-6015-1620	Nut, 1/2"-13
				461-21	#5 Meter Unit (Dial-A-Size only)	45	23-4787	Cross Feed Cylinder
				461-918	Compress Nut	46	23-4786	Cylinder Gasket
				461-919	Sleeve	47	464-651	45° Elbow
			27	461-3951	#0 Meter Unit	48	464-653	Sleeve
				461-21	#5 Meter Unit (Dial-A-Size only)	49	464-654	Nut
				461-918	Compress Nut	50	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"
				461-919	Sleeve			
10	23-4862	Piston Rod Block	28	461-974	Plug	51	23-4780	Cylinder Mounting Plate
11	92-5050-1040	Fillister Head Screw, 5/16"-18 x 1 1/2"	29	461-21	#5 Meter Unit	52	92-5050-1632	Fillister Head Screw, 1/2"-13 x 1" (618 machines only)
12	472-582	Stop Nut		461-918	Compress Nut			
13	92-2010-1204-32	Washer, 3/8" I.D. x 1" O.D. x 1/8"		461-919	Sleeve	53	92-5050-1656	Fillister Head Screw, 1/2"-13 x 3" (818 machines only)
14	23-4791	Piston Rod Spacer	30	464-7	Hose Assembly			
15	92-2010-1204-32	Washer, 3/8" I.D. x 1" O.D. x 1/8"	31	461-951	Compress Sleeve			
				461-953	Compress Bush	54	23-6626	Mounting Plate Spacer (818 machines only)
16	23-4789	Piston Rod	32	92-5380-832	Socket Head Screw, 1/4"-20 x 1"			
17	92-5385-832	Button Head Screw, 1/4"-20 x 1"	33	461-967	Junction Bar			

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ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE



POWER CROSS FEED CONTROLS AND VALVES

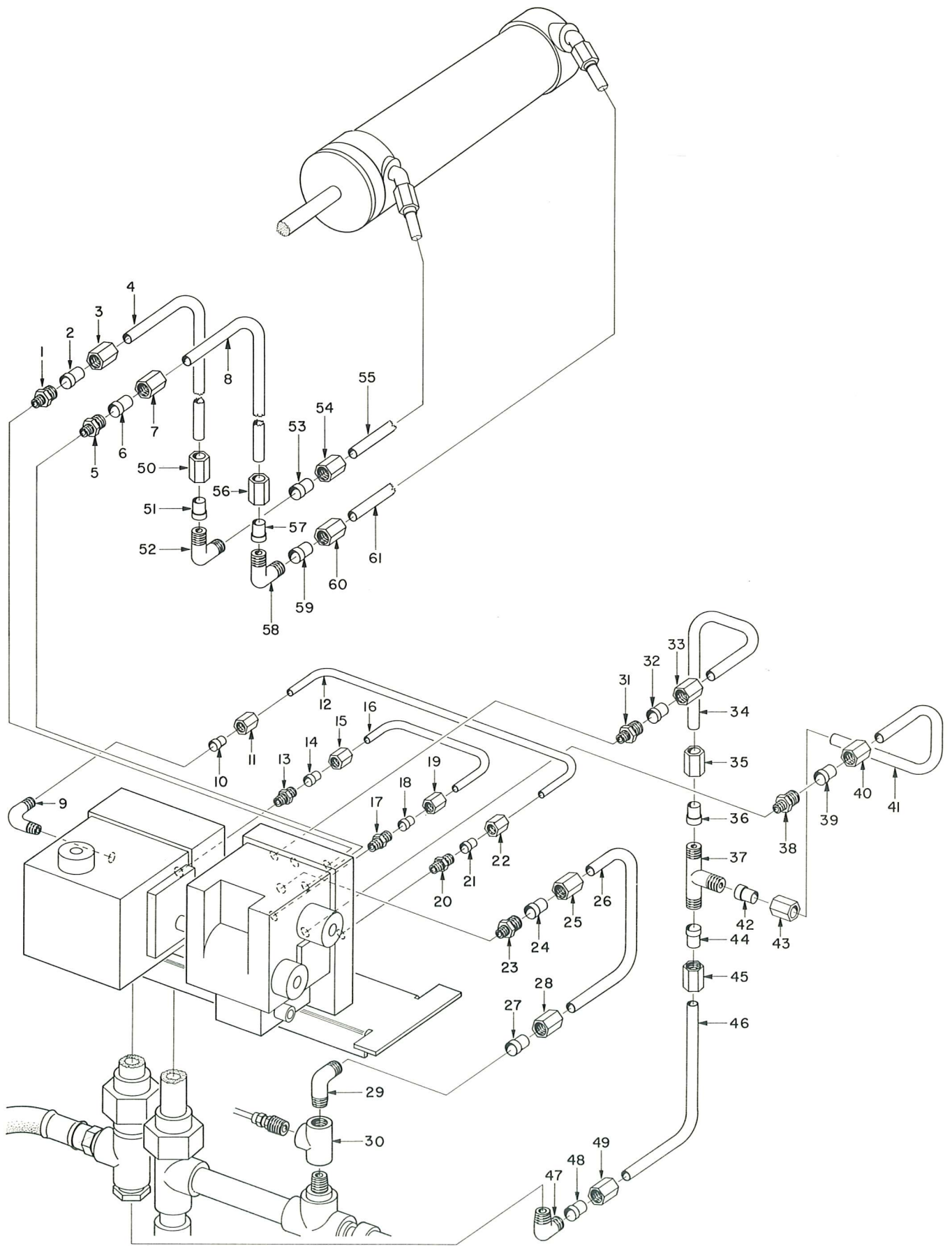
PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-4958	Cross Feed Valve (includes 3 through 39)	23	429-1496	Retaining Ring	50	23-7157	Pin
2	92-5381-1060	Socket Head Screw, 5/16"-18 x 3 1/2"	24	23-4921	Valve Spool	51	88-5855-12	Lever Handle
3	92-5385-824	Button Head Screw, 1/4"-20 x 3/4"	25	92-902-1220	Roll Pin	52	92-900-1232	Lever
4	23-4880	Left Valve Cap	26	92-900-834	Pin	53	23-7299	Lever Boss (includes 51 and 52)
5	23-4881	Valve Cap Gasket	27	23-4876	Valve Piston	54	472-229	Set Screw
6	23-4875	Cross Feed Valve Body	28	92-902-1636	Roll Pin	55	23-4767	Directional Shaft
7	92-900-824	Pin	29	23-4887	Valve Cap Gasket	56	92-980-416	Key
8	23-4886	Valve Gasket	30	23-4877	Right Valve Cap	57	472-1109	Shoulder Screw
9	92-5390-1012	Cup Point Set Screw, 5/16"-18 x 3/8"	31	472-540	Socket Head Screw	58	92-2040-1003-20	Washer
10	92-1000-840-19	Spring	32	23-4879	Valve Piston	59	421-118	Bronze Bushing
11	429-1295	Steel Ball	33	23-4883	Regulating Piston	60	23-6670	Lower Clevis
12	92-5340-816-8	Screw	34	92-5361-810-4	Set Screw	61	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"
13	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"	35	23-6617	Adjusting Nut Retainer	62	421-3809	Bronze Bushing
14	472-817	Thread Seal Washer	36	23-6618	Adjusting Nut	63	23-4771	Regulating Shaft
15	92-900-824	Pin	37	466-271	O-ring	64	23-4925	Rapid Positioning Shaft
16	23-4923	Valve Gasket	38	92-902-1628	Roll Pin	65	429-4485	Retaining Ring
17	92-5390-1012	Cup Point Set Screw, 5/16"-18 x 3/8"	39	23-6619	Regulator Screw Extension	66	23-6640	Aligning Plate (includes 62)
18	92-1000-816-20	Spring	40	23-6616	Valve Subplate	67	88-4-3	Rapid Positioning Plate
19	429-1295	Steel Ball	41	92-2030-12	Lockwasher	68	92-5385-1024	Button Head Screw, 5/16"-18 x 3/4"
20	23-4920	Rapid Positioning Valve Body	42	92-5080-1224	Socket Head Screw, 3/8"-16 x 3/4"	69	23-7393	Knob, Cross Feed
21	92-5380-844	Socket Head Screw, 1/4"-20 x 1 3/4"	43	472-1109	Shoulder Screw	70	92-902-824	Roll Pin
22	92-900-836	Pin	44	92-2040-1003-20	Washer	71	88-5865-12	Knob
			45	23-6664	Connecting Rod (includes 46 and 59)	72	92-902-824	Roll Pin
			46	421-118	Bronze Bushing	73	23-6104	Control Lever Pin
			47	23-6665	Upper Clevis (incl 50 & 48)	74	23-6103	Control Lever Collar
			48	92-902-824	Roll Pin	75	23-4926	Valve Control Lever
			49	472-789	Self Locking Screw			

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

Brown & Sharpe

618/818 MICROMASTER SERIES II



POWER CROSS FEED HYDRAULIC SYSTEM

Brown & Sharpe

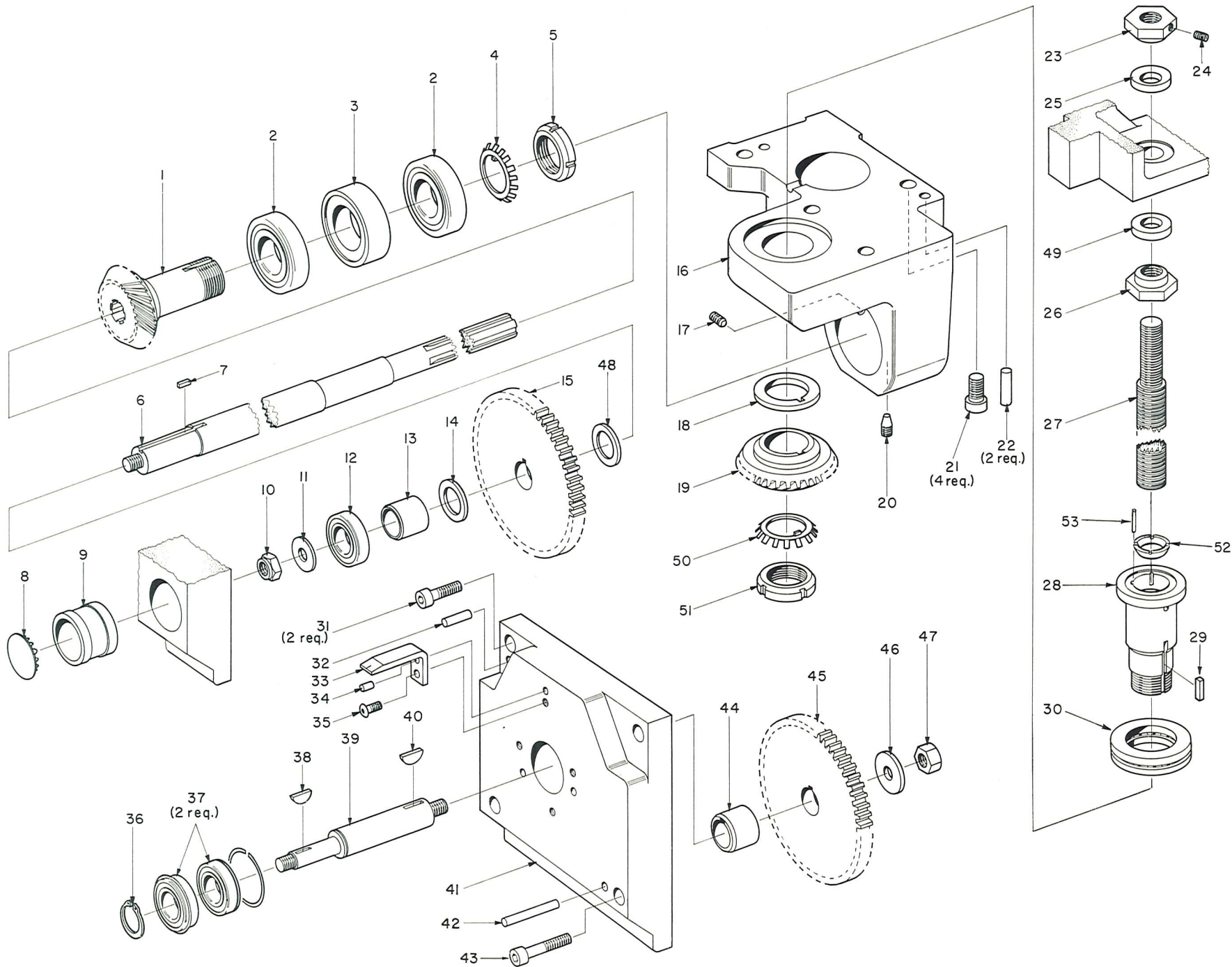
POWER CROSS FEED HYDRAULIC SYSTEM

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	464-652	Connector	31	464-652	Connector
2	464-653	Sleeve	32	464-653	Sleeve
3	464-654	Coupling Nut	33	464-654	Coupling Nut
4	23-7136	Aluminum Tube, 3/8" O.D. (includes 2, 3, 50, 51)	34	23-7137	Aluminum Tube, 3/8" O.D. (includes 32, 33, 35, 36)
5	464-652	Connector	35	464-654	Coupling Nut
6	464-653	Sleeve	36	464-653	Sleeve
7	464-654	Coupling Nut	37	464-661	Tee
8	23-7135	Aluminum Tube, 3/8" O.D. (includes 6, 7, 56, 57)	38	464-652	Connector
9	464-3	90° Elbow	39	464-653	Sleeve
10	464-628	Sleeve	40	464-654	Coupling Nut
11	464-629	Coupling Nut	41	23-7138	Aluminum Tube, 3/8" O.D. (includes 39, 40, 42, 43)
12	23-7141	Aluminum Tube, 1/4" O.D. (includes 10, 11, 21, 22)	42	464-653	Sleeve
13	464-626	Connector	43	464-654	Coupling Nut
14	464-628	Sleeve	44	464-653	Sleeve
15	464-629	Coupling Nut	45	464-654	Coupling Nut
16	23-7140	Aluminum Tube, 1/4" O.D. (includes 14, 15, 18, 19)	46	23-7139	Aluminum Tube, 3/8" O.D. (includes 44, 45, 48, 49)
17	464-626	Connector	47	464-655	90° Elbow
18	464-628	Sleeve	48	464-653	Sleeve
19	464-629	Coupling Nut	49	464-654	Coupling Nut
20	464-626	Connector	50	464-654	Coupling Nut
21	464-628	Sleeve	51	464-653	Sleeve
22	464-629	Coupling Nut	52	464-111	90° Elbow
23	464-652	Connector	53	464-653	Sleeve
24	464-653	Sleeve	54	464-654	Coupling Nut
25	464-654	Coupling Nut	55	23-7144	Aluminum Tube
26	23-7133	Aluminum Tube, 3/8" O.D. (includes 24, 25, 27, 28)	56	464-654	Coupling Nut
27	464-653	Sleeve	57	464-653	Sleeve
28	464-654	Coupling Nut	58	464-111	90° Elbow
29	464-655	90° Elbow	59	464-653	Sleeve
30	463-764	Tee, 1/4" N.P.T.	60	464-654	Coupling Nut
			61	23-7145	Aluminum Tube

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

618/818 MICROMASTER SERIES II



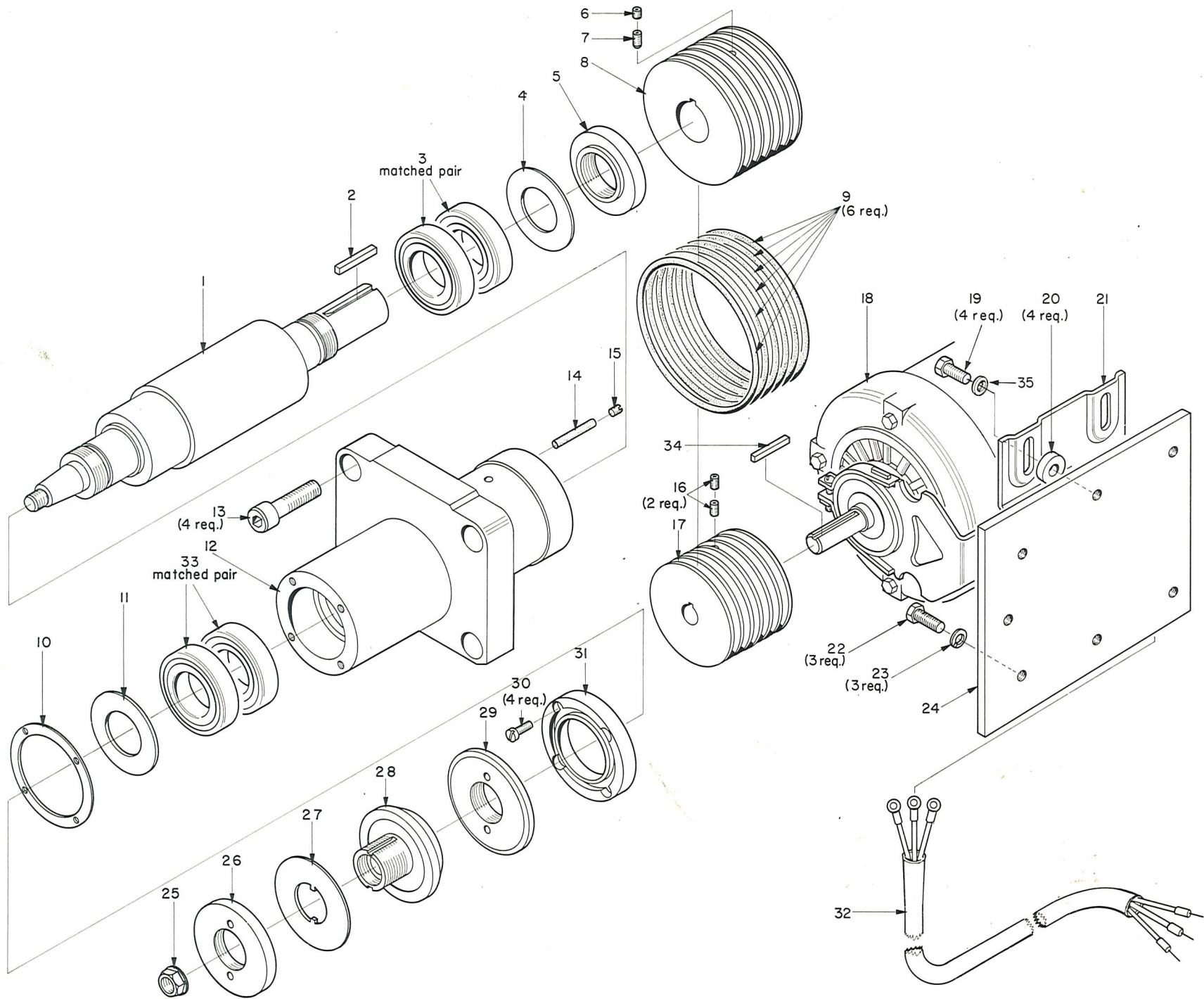
VERTICAL HAND FEED MECHANISM

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-6623	Screw Pinion	28	23-4735	Elevating Nut, English
2	434-5	Ball Bearing		23-5565	Elevating Nut, Metric
3	23-4861	Spacer	29	92-970-624	Key
4	92-2031-38	Lock Washer	30	438-3	Thrust Ball Bearing
5	92-6043-38	Nut	31	92-5380-1236	Socket Head Screw, 3/8"-16 x 1 1/4"
6	23-4849	Elevating Driving Shaft	32	92-900-1038	Pin
7	92-970-814	Key	33	23-6657	Pointer
8	479-206	Plug Button	34	92-900-614	Pin
9	23-6660	Bearing Spacer	35	92-5385-820	Button Head Screw, 1/4"-20 x 5/8"
10	472-588	Stop Nut	36	429-1485	Retaining Ring
11	92-2040-1604-36	Washer	37	437-1471	Ball Bearing
12	434-1164	Ball Bearing	38	92-980-624	Key
13	23-4847	Collar	39	23-5049	Handwheel Shaft
14	92-2010-3204-40	Washer, 1" I.D. x 1 1/2" O.D. x 1/8"	40	92-980-828	Key
15	23-4848	Elevating Shaft Gear	41	23-4840	Elevating Handwheel Bracket
16	23-4940	Feed Nut Bracket	42	92-900-1050	Pin
17	92-5071-1016	Headless Set Screw, 5/16"-18 x 1/2"	43	92-5380-1248	Socket Head Screw, 3/8"-16 x 2"
18	23-6636	Nut Spacer	44	23-5257	Bearing Retainer
19	23-4939	Screw Gear	45	23-5117	Elevating Handwheel Shaft Gear
20	92-5370-1224	Set Screw	46	92-2040-1604-40	Washer
21	92-5380-1636	Socket Head Screw, 1/2"-13 x 1 1/4"	47	472-599	Nut
22	92-900-1238	Pin	48	92-2010-3204-40	Washer, 1" I.D. x 1 1/2" O.D. x 1/8"
23	23-6182	Clamp Nut	49	92-2060-24	Washer
24	92-5390-808	Cup Point Set Screw, 1/4"-20 x 1/4"	50	92-2031-38	Lock Washer
25	92-2060-24	Washer	51	92-6043-38	Nut
26	23-4718	Clamp Nut	52	23-7402	Safety Nut, English
27	23-4717	Elevating Screw, English		23-7403	Safety Nut, Metric
	23-5569	Elevating Screw, Metric	53	23-7401	Pin
	23-7187	Elevating Screw, (Dial-A-Size only)			

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ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

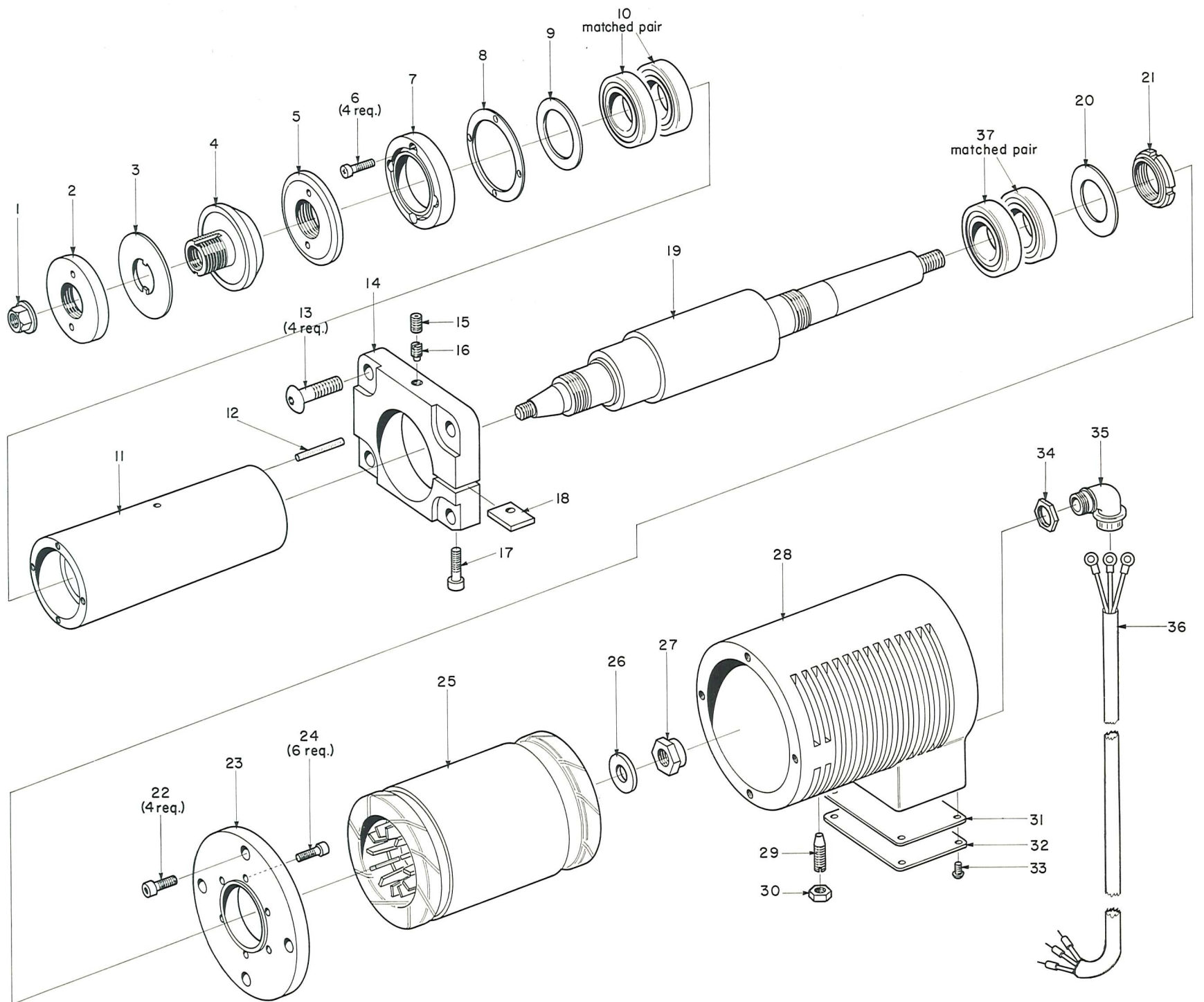


1 HP ORIFLEX DRIVE SPINDLE UNIT

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-4759	Spindle	19	92-5035-1024	Hex Head Screw, 5/16"-18 x 3/4"
2	92-970-638	Key	20	91-204-350	Motor Mounting Washer
3	431-17	Ball Bearing	21	21-5687	Motor Base
4	429-140	Friction Seal Washer	22	92-5035-1028	Hex Head Screw, 5/16"-18 x 7/8"
5	23-4763	Ball Bearing Retaining Nut	23	92-2030-10	Lock Washer
6	472-824	Locking Screw	24	23-4726	Motor Mounting Plate, 60 c/s
7	92-5390-616	Cup Point Set Screw, # 10-32 x 1/2"		23-6622	Motor Mounting Plate, 50 c/s
8	23-4765	Spindle Pulley, 60 c/s (includes 6 & 7)	25	23-4785	Spindle Nut
	23-5711	Spindle Pulley, 50 c/s (includes 6 & 7)	26	23-5119	Wheel Sleeve Nut
9	466-64-1	O-Ring	27	23-5120	Wheel Sleeve Washer
10	23-6613	Fitting Washer	28	23-5118	Wheel Sleeve (includes 26 and 27)
11	429-1141	Friction Seal Washer	29	23-4760	Ball Bearing Retaining Nut
12	23-4761	Spindle Sleeve	30	92-5050-828	Fillister Head Screw, 1/4"-20 x 3/4"
13	93-5380-1636	Socket Head Screw, 1/2"-13 x 1 1/4"	31	23-4758	Spindle Bearing Dust Guard
14	466-178	Felt Wick	32	23-4745	Motor Cable
15	92-5071-810	Headless Set Screw, 1/4"-20 x 5/16"	33	431-17	Ball Bearing
16	472-347	Motor Pulley Set Screw	34	92-970-638	Key
17	23-4727	Motor Pulley (includes 16)	35	92-2010-1002-24	Washer
18	401-2920	1 H.P. Motor			

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE



1½ HP DIRECT DRIVE SPINDLE UNIT

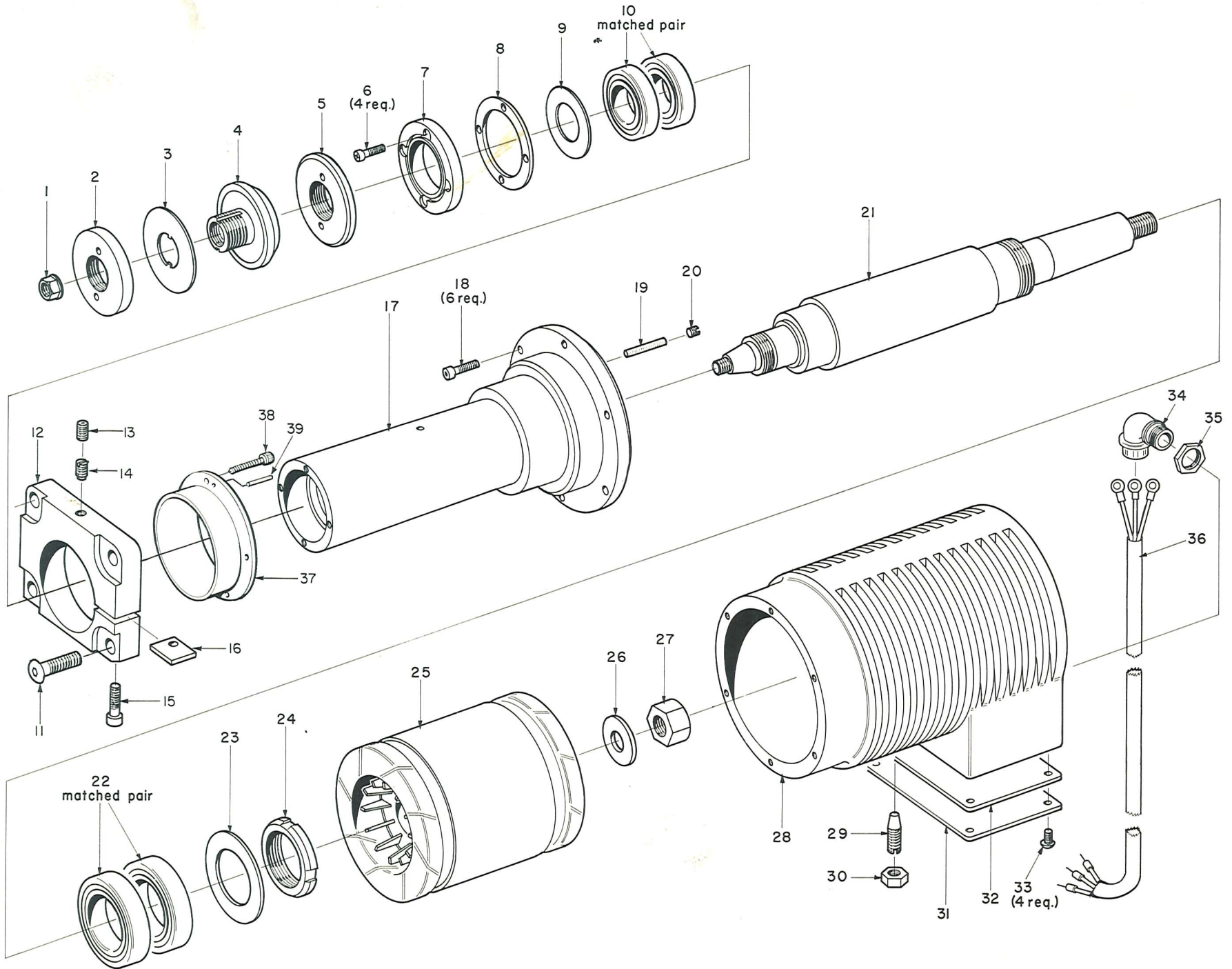
PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-4785	Spindle Nut	19	23-4984	Spindle
2	23-5119	Wheel Sleeve Nut	20	429-140	Friction Seal Washer
3	23-5120	Wheel Sleeve Washer	21	23-5128	Ball Bearing Lock Nut
4	23-5118	Wheel Sleeve (includes 2 & 3) (618 only)	22	92-5381-1024	Socket Head Screw, 5/16"-18 x 3/4"
	23-6790	Wheel Sleeve (includes 2 & 3) (818 only)	23	23-4989	Motor Housing Mounting Cap
5	23-4760	Ball Bearing Retaining Nut	24	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"
6	92-5050-828	Fillister Head Screw, 1/4"-20 x 7/8"	25	402-62	1 1/2 H.P. Motor
7	23-4758	Spindle Bearing Dust Guard	26	92-2010-2004-38	Spindle Washer
8	23-6613	Bearing Fitting Washer	27	472-99	Elastic Stop Nut, 5/8"-18
9	429-1141	Friction Seal Washer	28	23-4983	Motor Housing
10	431-17	Ball Bearing	29	92-5370-1238	Motor Housing Set Screw
11	23-4985	Spindle Sleeve	30	92-6015-1221	Nut, 3/8"-16
12	466-178	Felt Wick	31	23-4991	Motor Housing Cover Gasket
13	472-312	Button Head Socket Screw	32	23-4990	Motor Housing Cover
14	23-5104	Spindle Sleeve Front Support (includes 17 and 18)	33	92-5385-612	Button Head Screw, # 10-32 x 3/8"
15	92-5390-1220	Cup Point Set Screw, 3/8"-16 x 5/8"	34	413-2117	Lock Nut
16	92-5361-1214-4	Front Support Set Screw	35	415-60	Connector
17	92-5381-1036	Socket Head Screw, 5/16"-18 x 1 1/4"	36	23-4745	Spindle Motor Cable
18	23-6989	Front Support Shim	37	431-17	Ball Bearing

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ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

Brown & Sharpe _____ **618/818 MICROMASTER SERIES II**



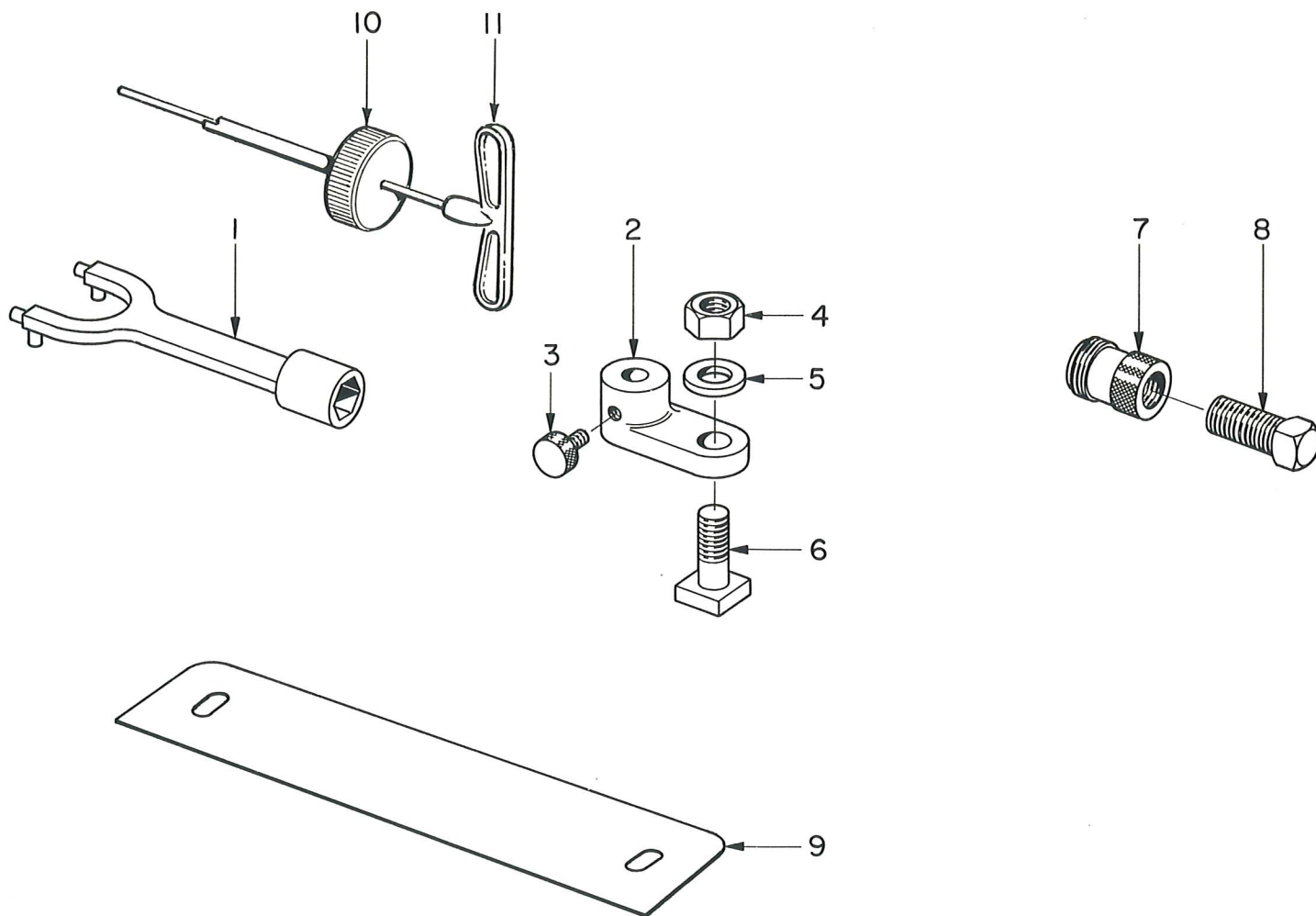
**2 H.P., 3600 R.P.M., DIRECT DRIVE SPINDLE UNIT
PARTS LIST**

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-4785	Spindle Nut	20	472-824	Set Screw, # 10-32 x 1/4"
2	23-5119	Wheel Sleeve Nut	21	23-6651	Spindle
3	23-5120	Wheel Sleeve Washer	22	431-29	Spindle Ball Bearing
4	23-5118	Wheel Sleeve (includes 2 & 3) (618 only)	23	21-5731	Friction Seal Washer
	23-6790	Wheel Sleeve (includes 2 & 3) (818 only)	24	472-353	Ball Bearing Lock Nut
5	23-4760	Ball Bearing Retaining Nut	25	402-169	2 H.P. Motor
6	92-5050-828	Fillister Head Screw, 1/4"-20 x 7/8"	26	92-2010-2404-44	Spindle Washer, 3/4" I.D. x 1 3/4" O.D. x 1/8"
7	23-4758	Spindle Bearing Dust Guard	27	472-162	Elastic Stop Nut
8	23-6613	Fitting Washer	28	23-6688	Motor Housing
9	429-1141	Friction Seal Washer	29	92-5370-1238	Motor Housing Set Screw
10	431-17	Spindle Ball Bearing	30	92-6015-1221	Nut, 3/8"-16
11	472-312	Button Head Socket Screw	31	23-6691	Motor Housing Cover
12	23-5104	Spindle Sleeve Front Support (includes 15 and 16)	32	23-6690	Motor Housing Cover Gasket
13	92-5390-1220	Cup Point Set Screw, 3/8"-16 x 5/8"	33	92-5385-612	Button Head Screw, #10-32 x 3/8"
14	92-5361-1214-4	Front Support Set Screw	34	415-60	Connector
15	92-5381-1036	Socket Head Screw, 5/16"-18 x 1 1/4"	35	413-2117	Locknut
16	23-6989	Neoprene Shim	36	23-4745	Spindle Motor Cable
17	23-6692	Spindle Sleeve	37	23-6678	Spindle Support (618 only)
18	92-5380-832	Socket Head Screw, 1/4"-20 x 1"	38	92-5381-1036	Socket Head Screw, 5/16"-18 x 1 1/4"
19	466-169	Felt Wick	39	92-900-832	Pin

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ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

Brown & Sharpe _____ **618/818 MICROMASTER SERIES II**



MISCELLANEOUS PARTS

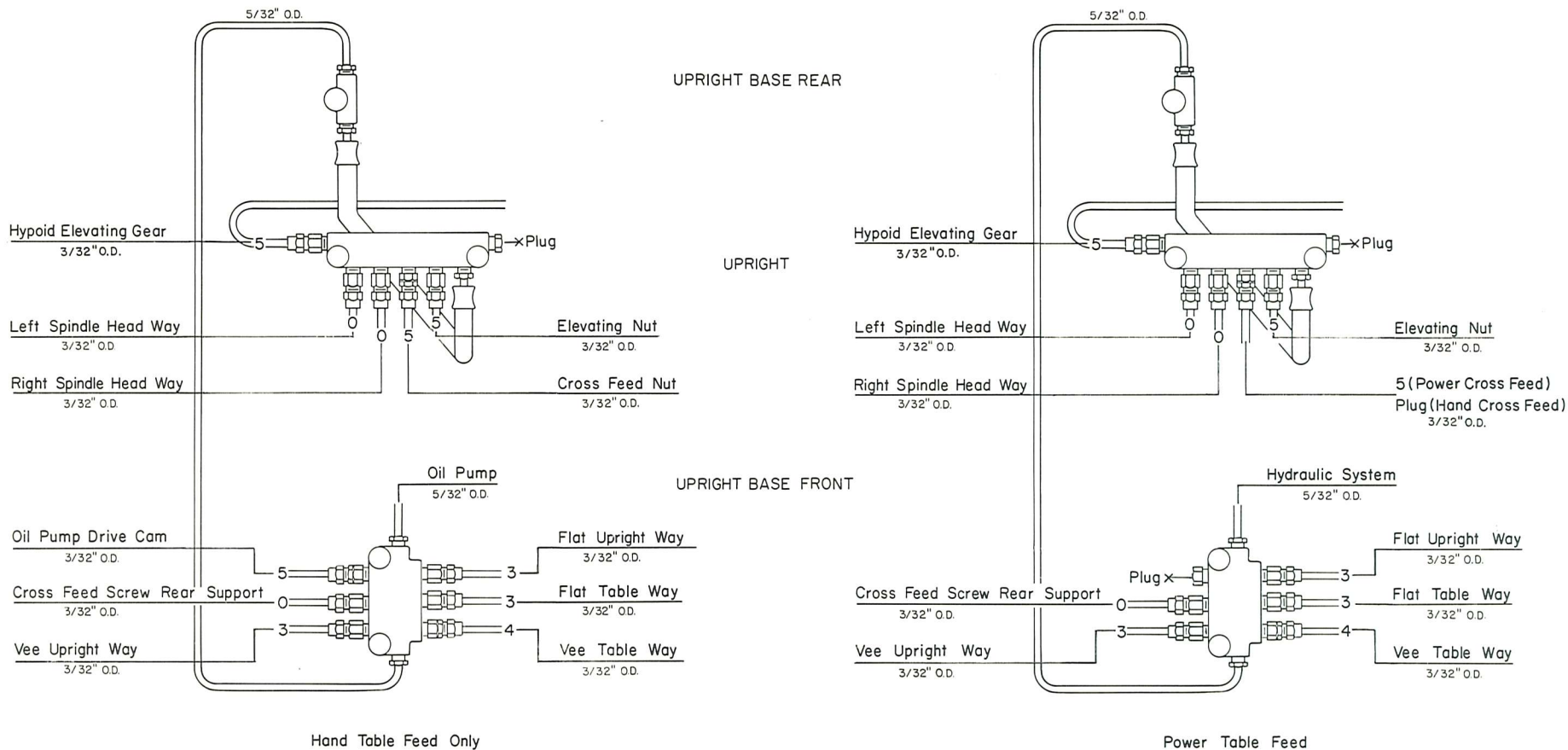
PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	471-6	Wheel Sleeve Wrench
2	23-4611	Wheel Truing Fixture (includes 3 through 6)
3	92-5120-820	Screw
4	92-6015-1628	Nut, 1/2"-13
5	92-2040-1604-32	Washer
6	92-5020-1638	Tee-Bolt
7	25-1488	Wheel Sleeve Puller (includes 8)
8	92-5010-2040	Screw
9	23-6745	Splash Guard Gasket
10	23-7379	Gib Adj Screw Wrench (MC11)
11	471-34	Hex Tee Handle Wrench

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE

Brown & Sharpe ————— **618/818 MICROMASTER SERIES II**

LUBRICATION SYSTEM DIAGRAM

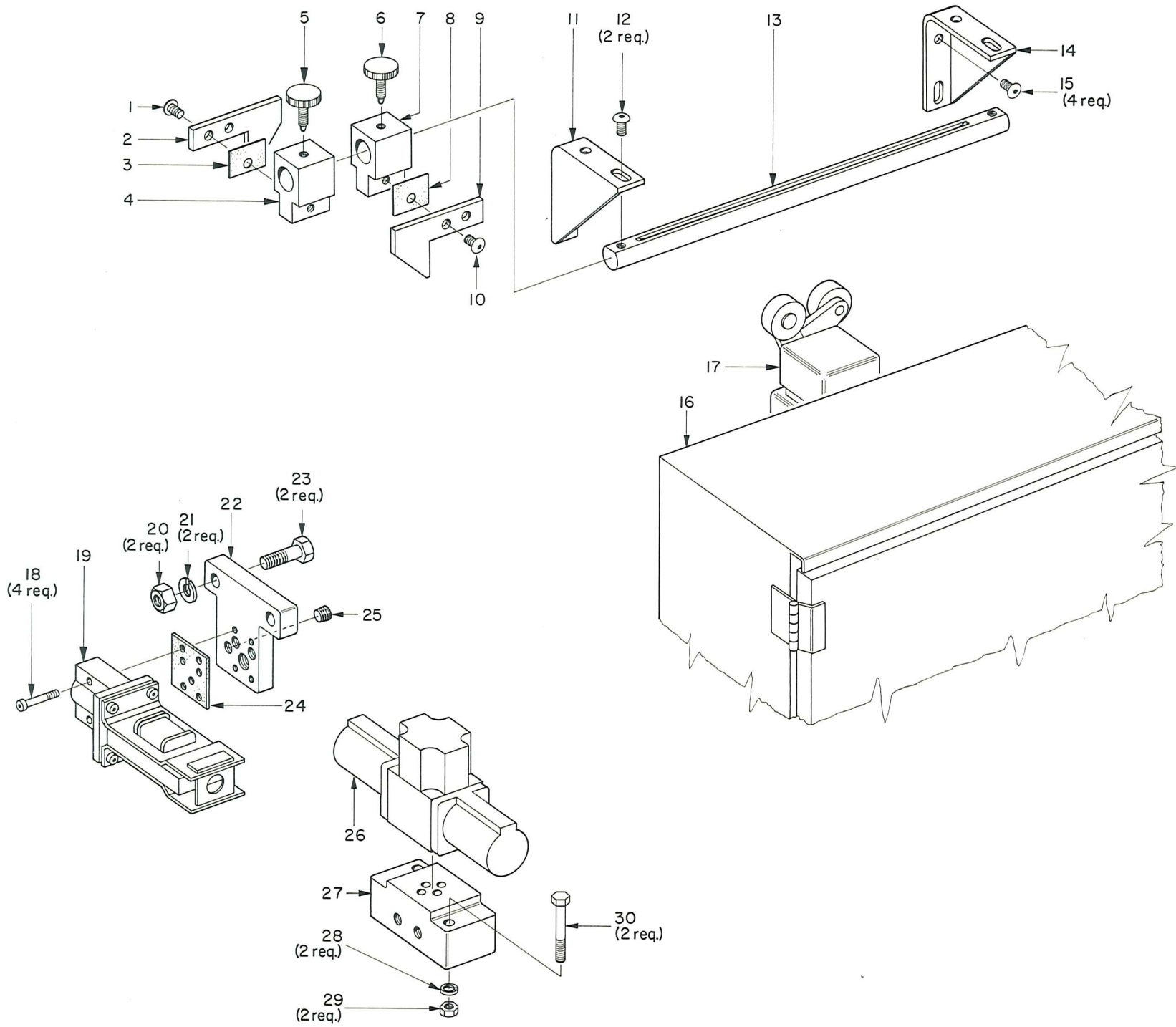


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When ordering new lubrication pipes, always give the length of pipe required, as well as the outside diameter. See the appropriate pages in this book for the pipe fittings.

The numbers at the junction-bar connections designate the numbers of the metering unit to which the pipes are to be fitted.

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE



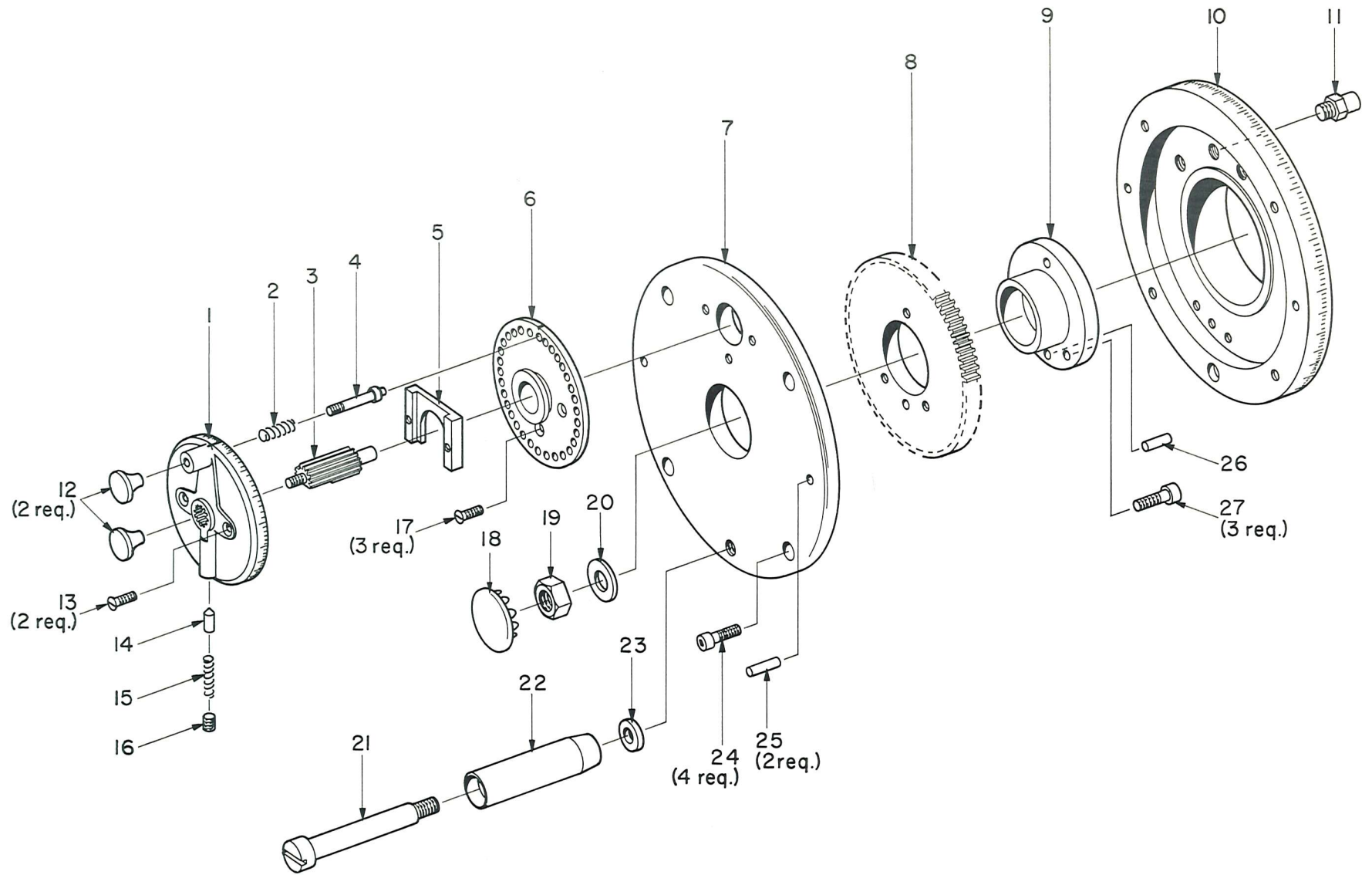
AUTOMATIC CROSS FEED REVERSING ARRANGEMENT

PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"
2	23-6826	Cross Feed Dog
3	23-6990	Dog Gasket
4	23-6827	Dog Mounting Block
5	23-5585	Thumb Screw
6	23-5585	Thumb Screw
7	23-6827	Dog Mounting Block
8	23-6990	Dog Gasket
9	23-6826	Cross Feed Dog
10	92-5385-820	Button Head Screw, 1/4"-20 x 1/2"
11	23-6828	Rail Mounting Bracket
12	92-5385-820	Button Head Screw, 1/4"-20 x 1/2"
13	23-6829	Dog Rail
14	23-6828	Rail Mounting Bracket
15	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"
16	23-5751	Electrical Control Cabinet
17	412-369	Limit Switch
18	92-5380-632	Socket Head Screw, #10-32 x 1"
19	23-5617	Pilot Valve
20	92-6015-1214	Nut, 3/8"-16
21	92-2030-13	Lockwasher, 3/8"
22	23-5628	Valve Mounting Plate (includes 25)
23	92-5035-1236	Hex Head Screw, 3/8"-16 x 1 1/4"
24	23-5463	Gasket
25	463-698	Pipe Plug, 1/8" N.P.T.
26	411-410	Solenoid Valve
27	464-319	Sub Plate
28	92-2030-8	Lockwasher, 1/4"
29	92-6015-814	Nut, 1/4"-20
30	92-5035-848	Hex Head Screw, 1/4"-20 x 2"

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT

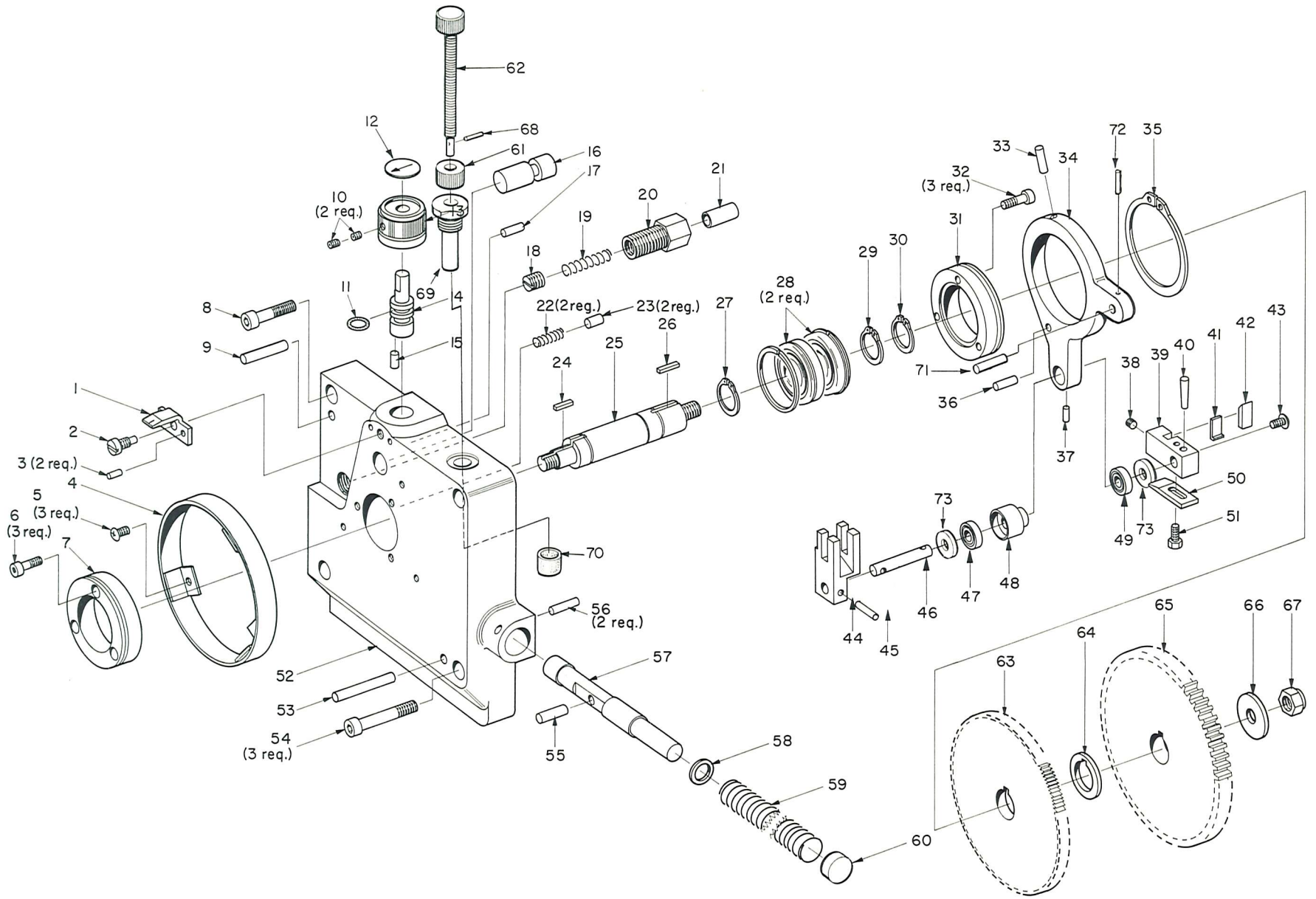
Brown & Sharpe _____ **618/818 MICROMASTER SERIES II**



**POWER DOWN FEED ARRANGEMENT HANDWHEEL
PARTS LIST**

INDEX NO.	PART NO.	PART NAME
1	23-5035	Index Dial, English
	23-5840	Index Dial, Metric
2	92-1000-824-23	Spring
3	23-5036	Adjusting Pinion
4	23-5523	Index Plunger
5	23-5522	Index Dial Clamp
6	23-5034	Index Plate
7	23-5038	Handwheel, Front Half
8	23-5040	Handwheel Gear
9	23-5039	Driving Sleeve
10	23-5037	Handwheel, Rear Half, English
	23-5839	Handwheel, Rear Half, Metric
11	23-5032	Handwheel Stop
12	479-140	Knob
13	92-5080-612	Flat Head Screw, # 10-32 x 3/8"
14	92-920-612	Locking Pin
15	92-1000-632-23	Spring
16	92-5390-808	Cup Point Set Screw, 1/4"-20 x 1/4"
17	92-5081-616	Flat Head Screw, # 10-32 x 1/2"
18	479-189	Plug Button
19	92-6015-1620	Nut, 1/2"-13
20	92-2010-1602-32	Washer, 1/2" I.D. x 1" O.D. x 1/16"
21	472-1044	Shoulder Screw
22	88-5805-16	Handwheel Handle
23	23-7332	Washer, 3/8" I.D. x 5/8" O.D. x 1/8"
24	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"
25	92-900-624	Pin
26	92-900-620	Pin
27	92-5380-616	Socket Head Screw, # 10-32 x 1/2"

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT

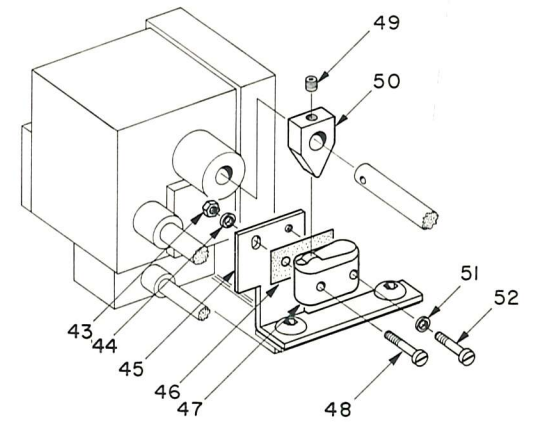
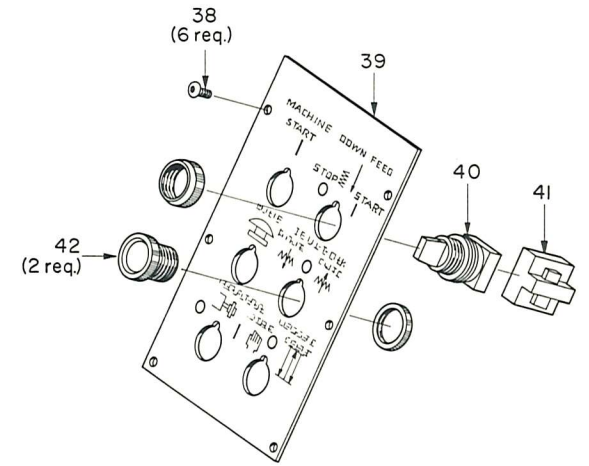
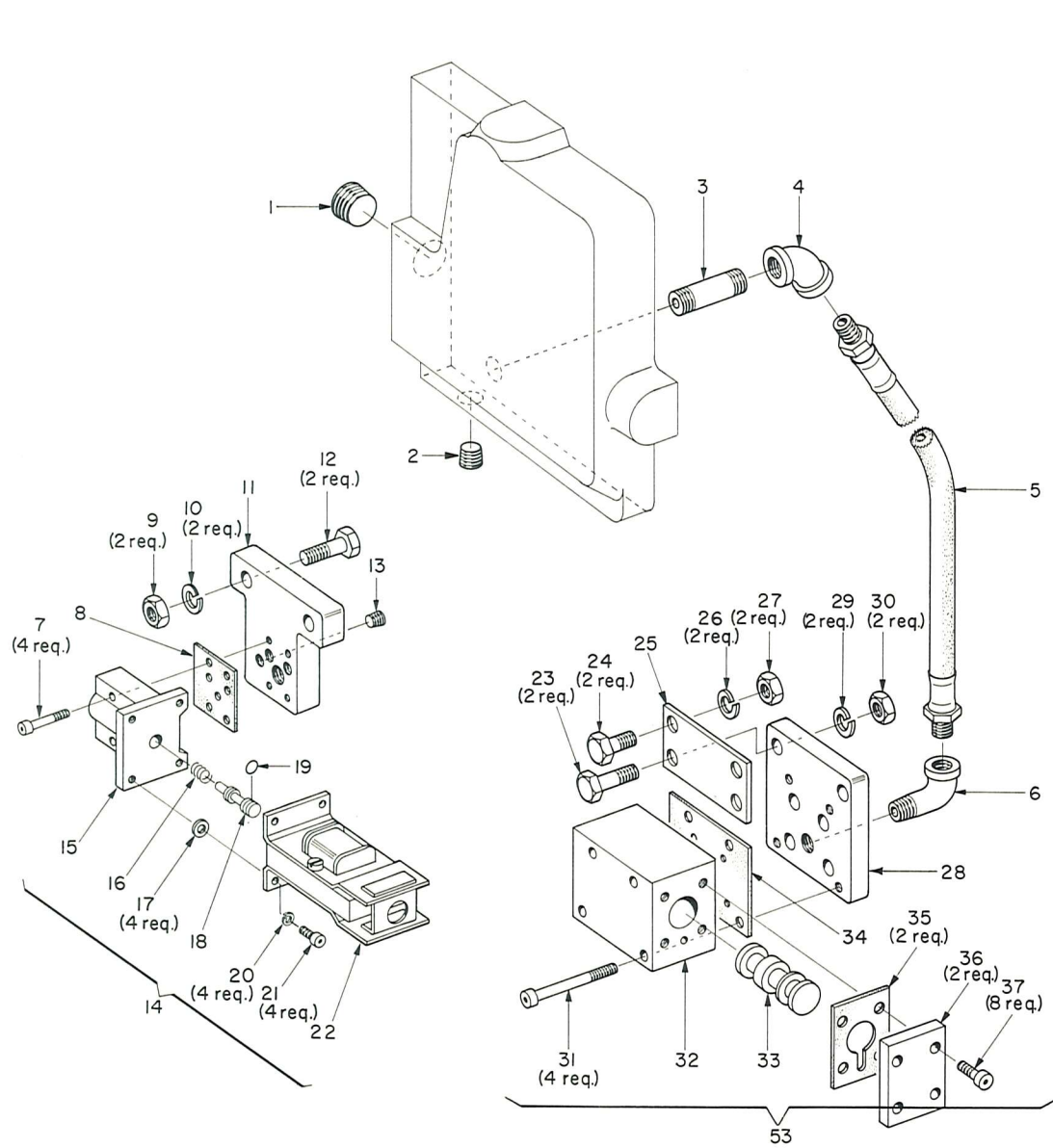


POWER DOWN FEED ARRANGEMENT HANDWHEEL BRACKET

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-4842	Pointer	25	23-4843	Handwheel Shaft	51	472-873	Hex Head Screw
2	92-5340-1020-8	Screw	26	92-970-824	Key	52	23-5012	Handwheel Bracket
3	92-900-612	Pin	27	429-1485	Retaining Ring	53	92-900-1050	Pin
4	23-6841	Handwheel Guard	28	437-1471	Ball Bearing	54	472-111	Socket Head Screw
5	92-5385-612	Button Head Screw, #10-32 x 3/8"	29	429-242	Retaining Ring	55	472-1037	Pin
6	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"	30	429-1485	Retaining Ring	56	92-900-832	Pin
7	23-5014	Bearing Retainer	31	23-5014	Bearing Retainer	57	23-5017	Piston
8	92-5380-1240	Socket Head Screw, 3/8"-16 x 1-1/2"	32	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"	58	92-2010-2002-28	Washer, 5/8" I.D. x 7/8" O.D. x 1/16"
9	92-900-1042	Pin	33	472-3176	Pin	59	23-5100	Spring
10	92-5390-608	Cup Point Set Screw, #10-32 x 1/4"	34	23-5013	Operating Lever (includes 37, 48)	60	23-5018	Adjusting Screw Housing
11	466-609	O-ring	35	429-50	Retaining Ring	61	23-6821	Adjusting Nut
12	23-6820	Dial Insert	36	472-3176	Pin	62	23-7372	Adjusting Screw
13	23-6819	Feed Selector Dial	37	92-900-410	Pin	63	23-6824	Ratchet, English
14	23-6818	Feed Selector Shaft	38	472-173	Set Screw		23-5858	Ratchet, Metric
15	472-1064	Pin	39	23-5015	Operating Lever Link	64	92-2120-3264-40	Spacer
16	23-7092	Adjustable Handwheel Stop	40	92-890-322	Taper Pin	65	23-5117	Handwheel Shaft Gear
17	472-3176	Pin	41	22-5049	Pawl Tooth Side	66	92-2040-1604-40	Washer
18	472-637	Tensioning Screw	42	22-5050	Pawl Tooth	67	472-599	Stop Nut
19	92-1000-1240-16	Spring	43	472-360	Button Head Screw	68	92-902-416	Roll Pin
20	23-5023	Brake Shoe Housing	44	23-6941	Piston Lever	69	23-7323	Adjusting Screw Insert
21	23-5042	Brake Shoe	45	92-900-632	Pin	70	23-7324	Down Feed Stop
22	92-1000-832-19	Spring	46	23-7088	Piston Lever Pivot	71	23-7022	Feed Adjusting Spot Pin
23	92-900-1016	Pin	47	432-1000	Ball Bearing	72	92-900-432	Pin
24	92-970-622	Key	48	23-6942	Operating Pin Bearing	73	23-7184	Spacer
			49	432-1000	Ball Bearing			
			50	23-6202	Pawl Retainer			

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT



POWER DOWN FEED ARRANGEMENT CONTROLS AND VALVES

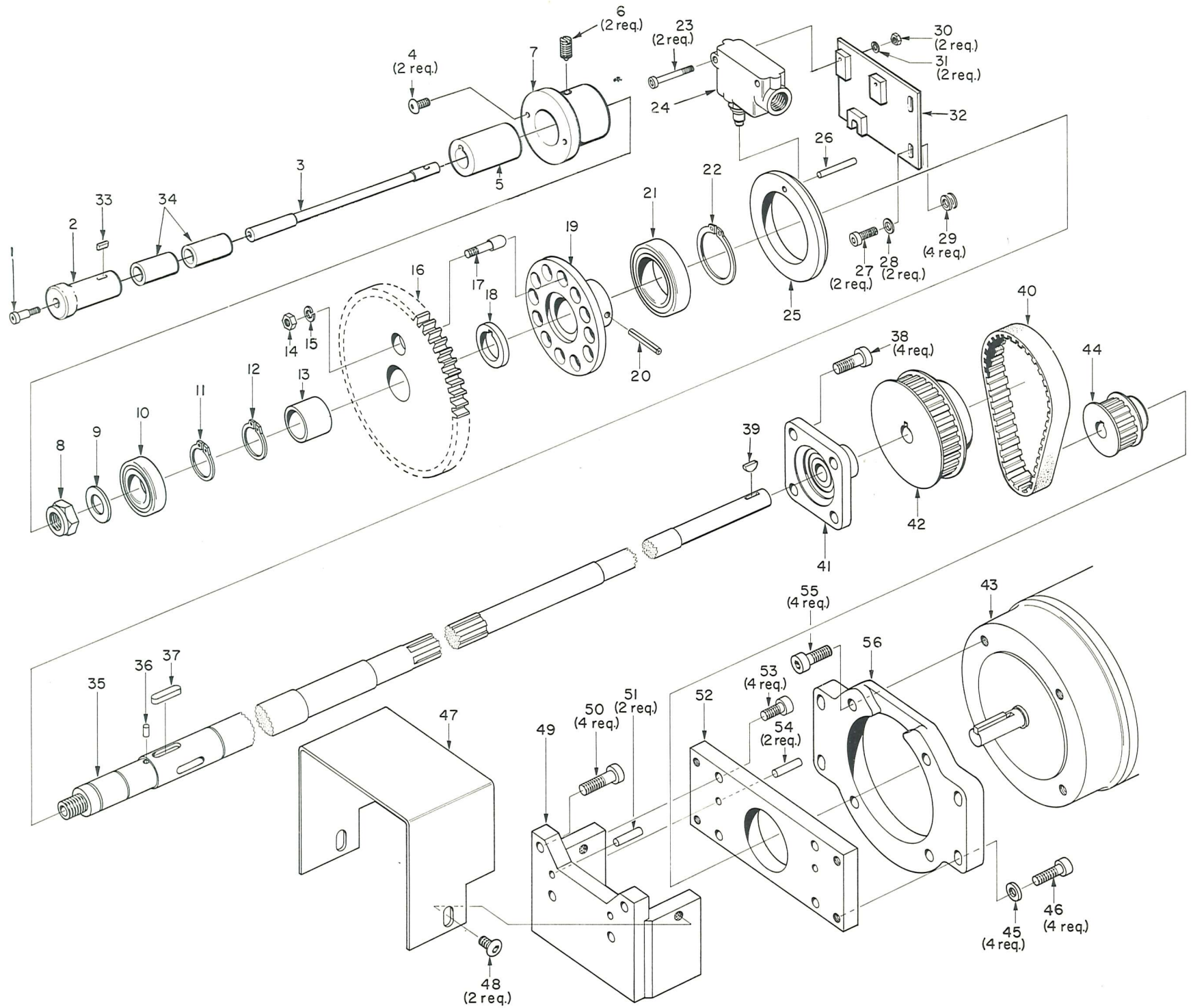
PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	463-695	Hex Socket Pipe Plug, 3/4" N.P.T.	28	23-5625	Valve Mounting Plate
2	463-696	Hex Socket Pipe Plug, 1/4" N.P.T.	29	92-2030-12	Lockwasher, 3/8"
3	92-2440-848	Nipple, 1/4" N.P.T. x 2"	30	92-6015-1214	Nut, 3/8"-16
4	463-3796	45° Pipe Elbow, 1/4" N.P.T.	31	92-5380-852	Socket Head Screw, 1/4"-20 x 2 1/2"
5	463-63	Downfeed Hose	32	23-5620	Downfeed Valve Body
6	463-6708	Street Elbow, 1/4" N.P.T.	33	23-5622	Valve Piston
7	92-5380-632	Socket Head Screw, #10-32 x 1"	34	23-5621	Valve Gasket
8	23-5463	Valve Gasket	35	23-5624	Valve Gasket
9	92-6015-1214	Nut, 3/8"-16	36	23-5623	Valve Cap
10	92-2030-12	Lockwasher, 3/8"	37	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"
11	23-5628	Valve Mounting Plate	38	92-5385-612	Button Head Screw, #10-32 x 3/8"
12	92-5035-1236	Hex Head Screw, 3/8"-16 x 1 1/4"	39	88-4-7	Control Plate
13	463-698	Hex Socket Pipe Plug, 1/8" N.P.T.	40	412-348	Selector Switch
14	23-5617	Pilot Valve (includes 15 through 22)	41	412-346	Contact Block
15	23-5462	Valve Body	42	412-452	Plug
16	23-5465	Spring	43	472-578	Nut
17	472-299	Washer	44	472-92	Lockwasher
18	23-5464	Valve Piston	45	23-7095	Switch Mounting Bracket
19	466-272	O-ring	46	415-89	Fabric Shield
20	92-2030-6	Lockwasher, #10	47	412-370	Micro Switch
21	92-5380-616	Socket Head Screw, #10-32 x 1/2"	48	472-3504	Screw
22	411-82	Solenoid	49	92-5390-808	Cup Point Set Screw, 1/4"-20 x 1/4"
23	92-5035-1236	Hex Head Screw, 3/8"-16 x 1 1/4"	50	23-7096	Switch Dog
24	92-5035-1224	Hex Head Screw, 3/8"-16 x 3/4"	51	472-92	Lockwasher
25	23-6825	Mounting Plate	52	472-189	Screw
26	92-2030-12	Lockwasher, 3/8"	53	23-7384	Down Feed Valve Complete (includes 28 & 31 thru 37)
27	92-6015-1214	Nut, 3/8"-16			

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ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT

Brown & Sharpe — **618/818 MICROMASTER SERIES II**



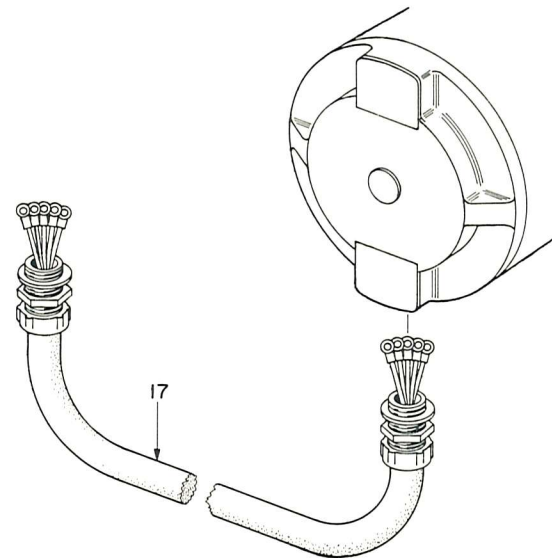
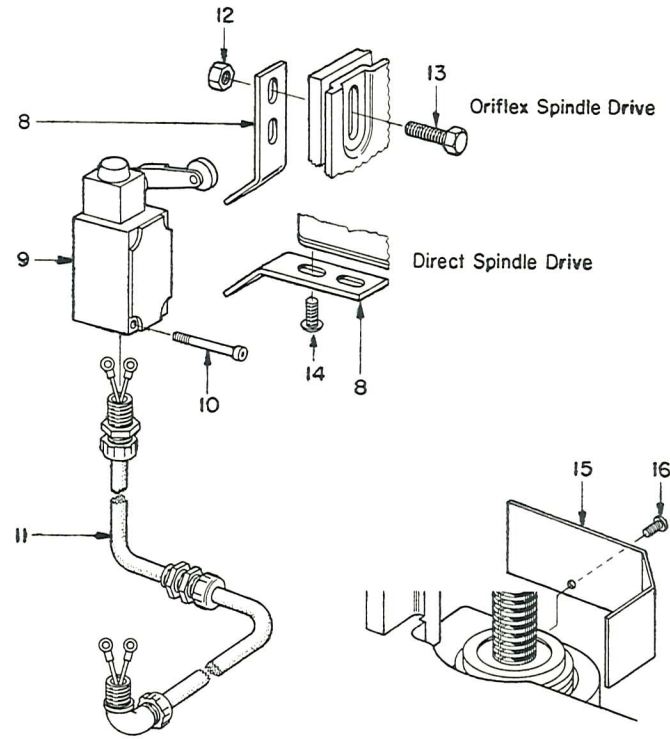
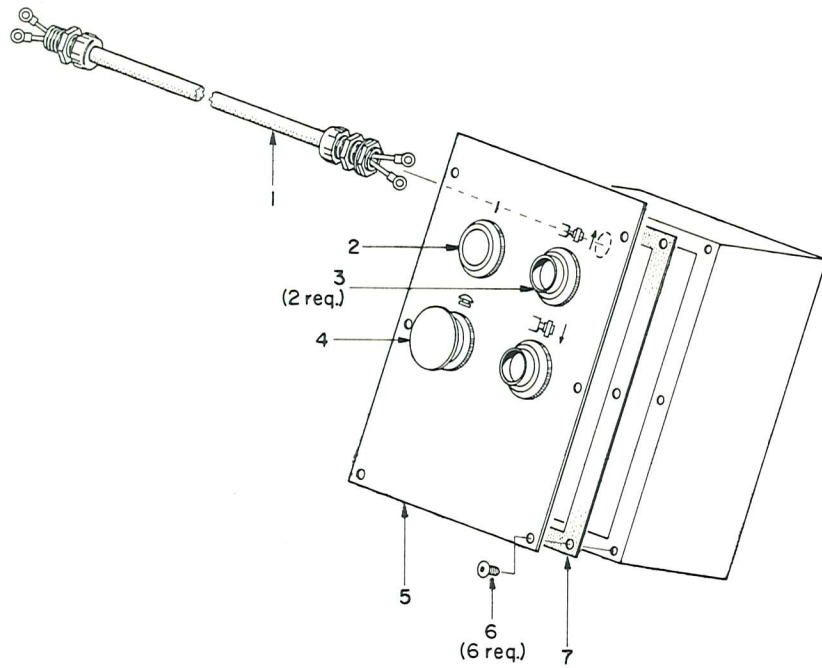
RAPID VERTICAL POSITIONING ARRANGEMENT CLUTCH AND DRIVE

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	472-1080	Shoulder Screw	29	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"
2	23-7068	Pull Knob (includes 33 & 34)	30	92-6015-608	Nut, #10-32
3	23-6846	Clutch Control Rod	31	92-2030-6	Lockwasher, #10
4	472-703	Nylock Button Head Screw	32	23-6842	Switch Mounting Bracket
5	421-130	Oil Tight Bearing	33	23-7155	Key
6	419-837	Spring Plunger	34	421-802	Bronze Bushing
7	23-6839	Bearing Thrust Bushing (includes 5)	35	23-5164	Drive Shaft (includes 36)
8	472-1083	Lock Nut	36	92-900-306	Pin
9	92-2010-2002-36	Washer, 5/8" I.D. x 1 1/4" O.D. x 1/16"	37	23-6854	Key
10	434-1164	Ball Bearing	38	92-5380-1232	Socket Head Screw, 3/8"-16 x 1"
11	428-1475	Retaining Ring	39	92-980-624	Key
12	428-1475	Retaining Ring	40	442-118	Driving Belt
13	421-123	Bushing	41	432-1	Flange Mounted Ball Bearing
14	92-6015-814	Nut, 1/4"-20	42	473-181	Belt Pulley
15	92-2030-8	Lockwasher, 1/4"	43	401-130	Motor
16	23-6845	Gear (includes 13)	44	473-180	Belt Pulley
17	23-6838	Clutch Drive Pin	45	92-2010-1002-20	Washer, 5/16" I.D. x 5/8" O.D. x 1/16"
18	23-6847	Thrust Bearing	46	92-5380-1032	Socket Head Screw, 5/16"-18 x 1"
19	23-6843	Drive Clutch	47	23-5166	Belt Guard
20	472-1115	Pin	48	92-5385-1020	Button Head Screw, 5/16"-18 x 5/8"
21	432-1038	Ball Bearing	49	23-5165	Motor Mounting Bracket
22	429-4496	Retaining Ring	50	92-5380-1236	Socket Head Screw, 3/8"-16 x 1 1/4"
23	472-72	Socket Head Screw	51	92-900-832	Dowel
24	412-198	Interlocking Switch	52	23-6793	Motor Mounting Plate
25	23-6840	Cam Ring (includes 26)	53	92-5380-1024	Socket Head Screw, 5/16"-18 x 3/8"
26	92-900-640	Pin	54	92-900-832	Dowel
27	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"	55	92-5380-1232	Socket Head Screw, 3/8"-16 x 1"
28	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"	56	23-6724	Motor Mounting Flange

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT

Brown & Sharpe — **618/818 MICROMASTER SERIES II**

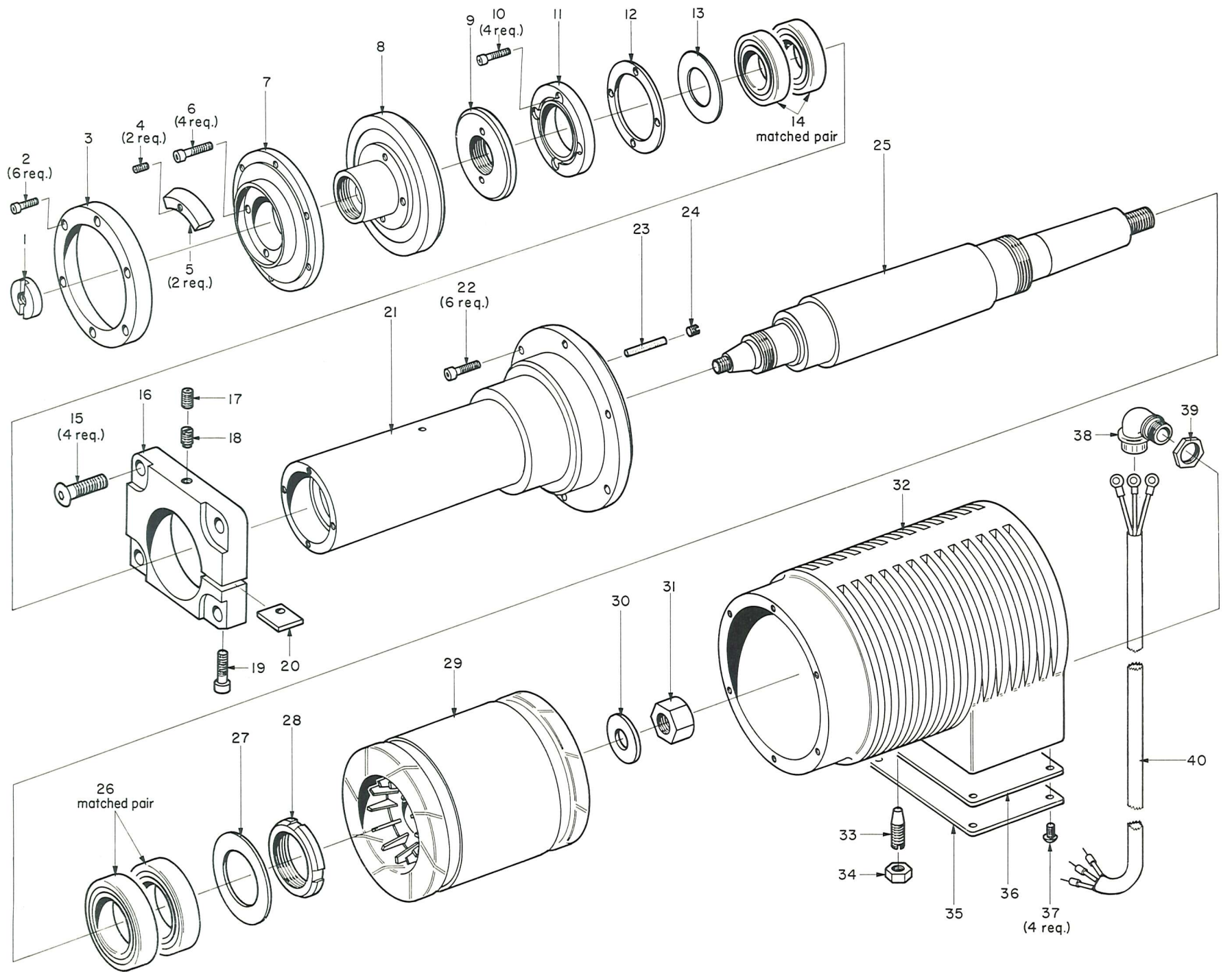


RAPID VERTICAL POSITIONING ARRANGEMENT CABLES AND MISCELLANEOUS PARTS

PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	23-6746	Interlocking Switch Cable
2	412-343	Pushbutton Cap
	412-342	Pushbutton Operator
	412-346	Contact Block, normally open
3	412-353	Pushbutton Operator
	412-346	Contact Block, normally open
	412-347	Contact Block, normally closed
4	412-345	Mushroom Pushbutton Cap
	412-344	Pushbutton Operator
	412-347	Contact Block, normally closed
5	88-4-5	Control Plate
6	92-5385-612	Button Head Screw, #10-32 x 3/8"
7	23-6511	Control Plate Gasket
8	23-5170	Limit Switch Cut-Off
9	412-60	Limit Switch
10	472-3552	Socket Head Screw
11	23-6730	Limit Switch Cable
12	92-6015-1012	Nut, 5/16"-18
13	92-5035-1036	Hex Head Screw, 5/16"-18 x 1 1/4"
14	472-847	Button Head Screw
15	23-6090	Oil Splash Guard
16	92-5385-612	Button Head Screw, #10-32 x 3/8"
17	23-6725	Motor Cable Harness
	413-2150	Motor Cable Conduit and Fittings

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT



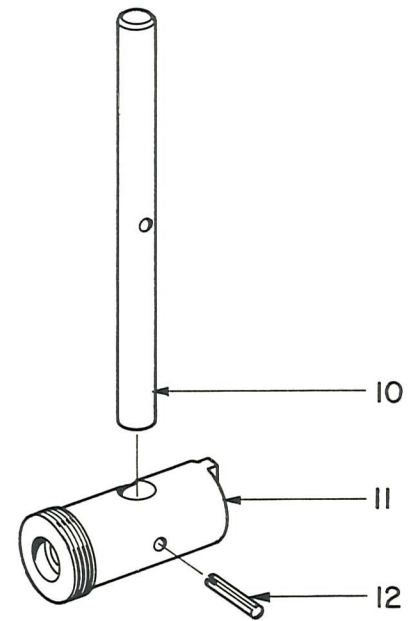
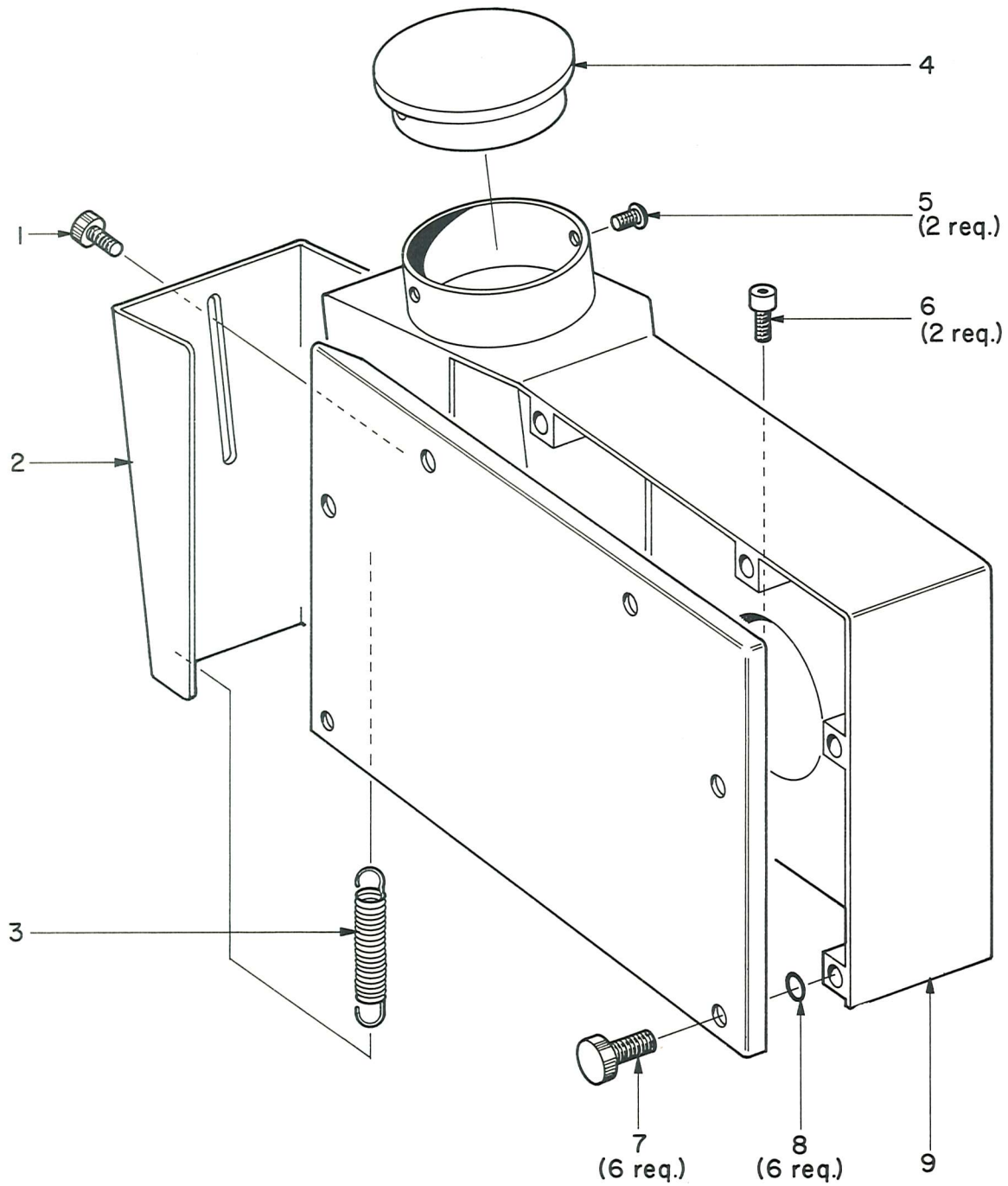
2 H.P., 1800 R.P.M., DIRECT DRIVE SPINDLE

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-6713	Spindle Nut	20	23-6989	Sleeve Support Shim
2	92-5380-624	Socket Head Screw, #10-32 x 3/4"	21	23-6692	Spindle Sleeve
3	23-5254	Retaining Ring	22	92-5380-832	Socket Head Screw, 1/4"-20 x 1"
4	92-5391-816	Oval Point Set Screw, 1/4"-20 x 1/2"	23	466-169	Felt Wick
5	23-5253	Balancing Segment (includes 4)	24	472-254	Set Screw
6	92-5381-1040	Socket Head Screw, 5/16"-18 x 1 1/2", For 1/2" Grinding Wheel	25	23-6654	Spindle
	92-5381-1048	Socket Head Screw, 5/16"-18 x 2", For 1" Grinding Wheel	26	431-29	Ball Bearing
7	23-5252	Wheel Sleeve Flange	27	21-5731	Friction Seal Washer
8	23-6711	Wheel Sleeve	28	472-353	Ball Bearing Lock Nut
9	23-4760	Ball Bearing Retaining Nut	29	402-170	2 H.P. Motor
10	92-5050-828	Fillister Head Screw, 1/4"-20 x 7/8"	30	92-2010-2404-44	Washer, 3/4" I.D. x 1 3/4" O.D. x 1/8"
11	23-4758	Spindle Bearing Dust Guard	31	472-162	Elastic Stop Nut
12	23-6613	Fitting Washer	32	23-6688	Motor Housing
13	429-1141	Friction Seal Washer	33	92-5370-1238	Set Screw
14	431-17	Ball Bearing	34	92-6015-1221	Nut, 3/8"-16
15	472-312	Button Head Socket Screw	35	23-6691	Motor Housing Cover
16	23-5104	Spindle Sleeve Support (includes 19 and 20)	36	23-6690	Motor Housing Cover Gasket
17	92-5390-1220	Cup Point Set Screw, 3/8"-16 x 5/8"	37	92-5385-612	Button Head Screw, #10-32 x 3/8"
18	92-5361-1214-4	Set Screw	38	415-60	Connector
19	92-5381-1036	Socket Head Screw, 5/16"-18 x 1 1/4"	39	413-2117	Lock Nut
			40	23-4745	Motor Cable

E3

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT



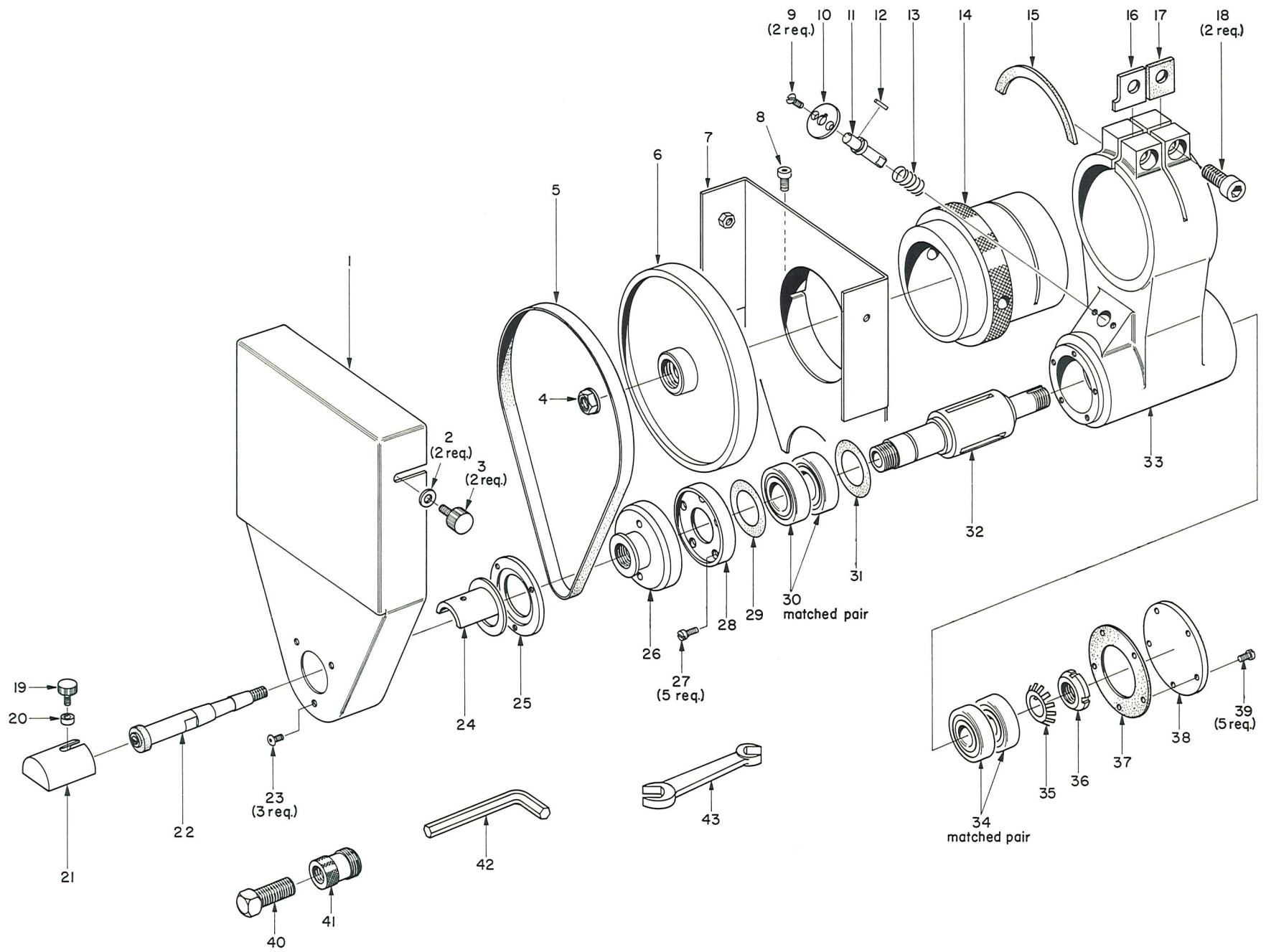
12" WHEEL EQUIPMENT
(See pages 52 and 53 for spindle and wheel sleeve parts)

PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	88-5125-824	Knurled Thumb Screw
2	23-6704	Wheel Guard Deflector
3	23-6707	Spring
4	23-6706	Exhaust Cover
5	92-5385-612	Button Head Screw, #10-32 x 3/8"
6	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"
7	88-5125-1232	Knurled Thumb Screw
8	466-3601	O-ring
9	23-6703	Wheel Guard (includes 1 to 8)
10	26-644	Handle
11	26-573	Wheel Puller and Wrench (includes 10 and 12)
12	92-902-1236	Roll Pin, 3/16" x 1 1/4"

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT

Brown & Sharpe _____ **618/818 MICROMASTER SERIES II**

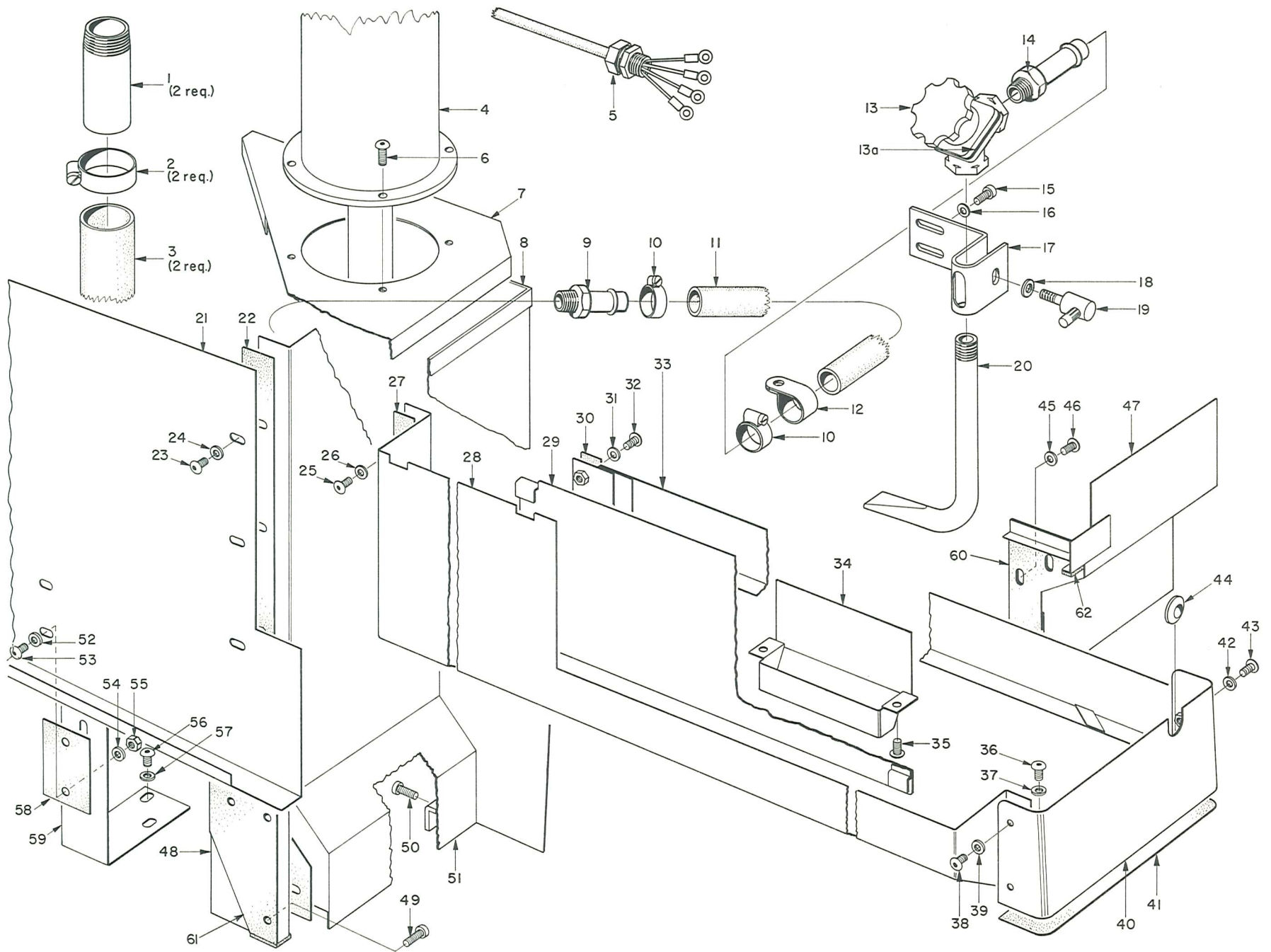


HIGH-SPEED SURFACE GRINDING ATTACHMENT

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-2576	Belt Guard	23	92-5385-612	Button Head Screw, 1/4"-20 x 1/2"
2	92-2010-802-20	Washer, 1/4" I.D. x 5/8" O.D. x 1/16"	24	23-6874	Wheel Guard Support
3	88-5125-824	Thumb Screw	25	23-6876	Wheel Guard Support Ring
4	23-4785	Nut	26	23-2574	Spindle Pulley
5	442-81	Belt	27	92-5051-616	Fillister Head Screw, #10-32 x 1/2"
6	23-2665	Driving Pulley	28	23-2095	Front Bearing Retainer
7	23-5081	Belt Guard Support (includes 8)	29	429-1137	Friction Seal Washer
8	92-5380-816	Socket Head Screw, 1/4"-20 x 1/2"	30	431-1050	Ball Bearing
9	92-5080-616	Flat Head Screw, #10-32 x 1/2"	31	429-1137	Friction Seal Washer
10	23-2580	Locking Pin Guide	32	23-2573	Spindle
11	23-2579	Locking Pin (includes 12)	33	23-2572	Spindle Housing (includes 15, 16, 17, 18, 38, 39)
12	92-970-420	Key	34	431-1051	Ball Bearing
13	91-100-401	Spring	35	92-2031-26	Lockwasher
14	23-2581	Belt Take-up Eccentric	36	92-6043-25	Nut
15	442-64	Leather Shim	37	23-5097	Gasket
16	23-2578	Shim	38	23-2575	Spindle Housing Cover
17	442-67	Leather Shim	39	92-5051-616	Fillister Head Screw, #10-32 x 1/2"
18	92-5380-1640	Socket Head Screw, 1/2"-13 x 1 1/2"	40	92-5010-2040	Screw
19	88-5128-616	Thumb Screw	41	25-1488	Wheel Sleeve Puller (includes 40)
20	91-215-15	Spacer	42	471-427	Hex Key Wrench, 3/8"
21	23-6875	Wheel Guard	43	471-410	Double End Wrench, 1/2" x 11/16"
22	—	Grinding Wheel and Arbor, not included with attachment. See 618 Specification Bulletin.			

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT

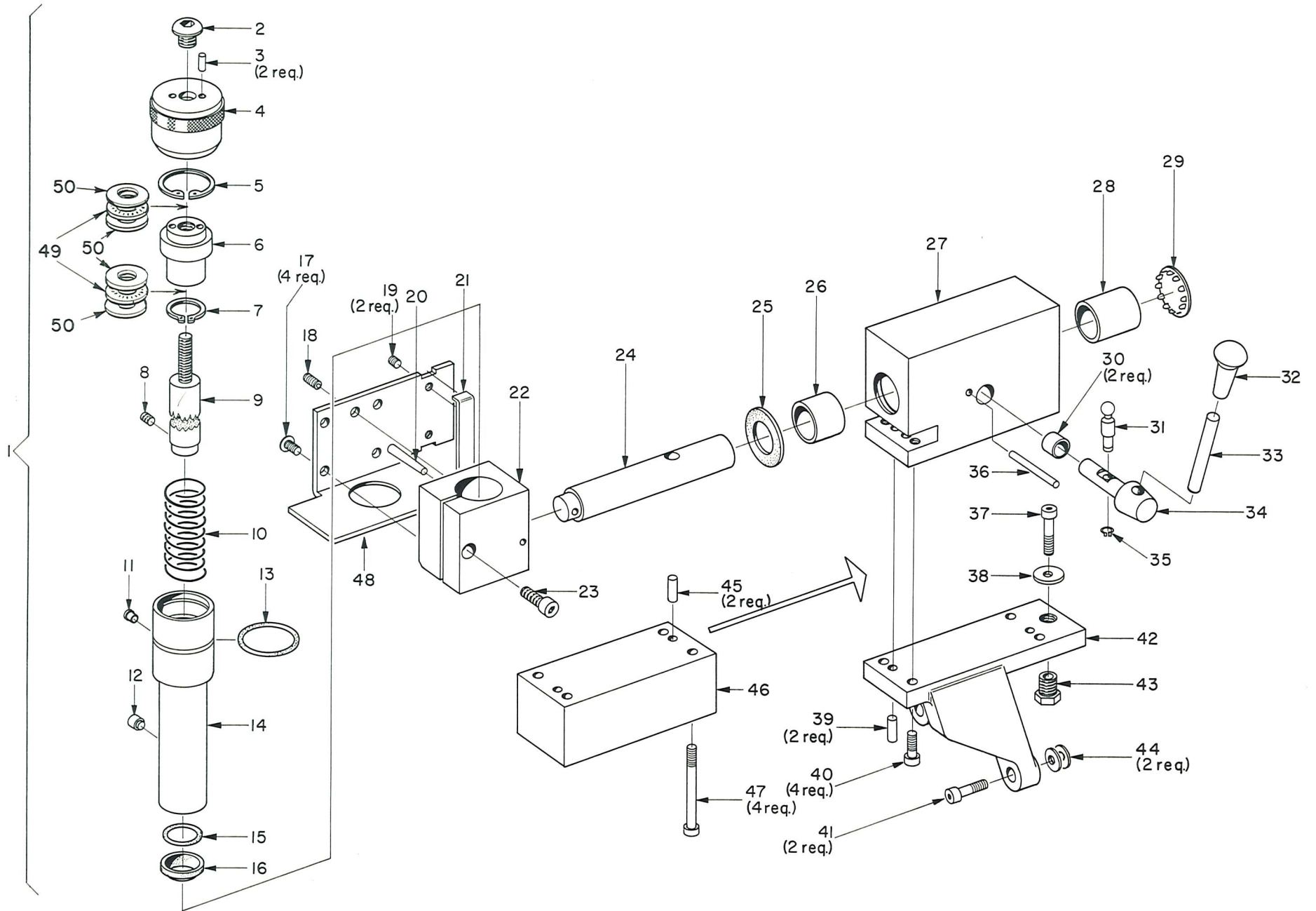


WET GRINDING ATTACHMENT

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	92-2440-3664	Hose Nipple	31	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"
2	463-817	Hose Clamp	32	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"
3	463-796	Hose	33	23-4916	Rear Splash Guard
4	713-2529	Pump		479-83	3/16 x 5/8 Gasket
5	23-2632	Pump Motor Cable	34	23-4835	Table Trough Guard
6	92-5385-824	Button Head Screw, 1/4"-20 x 3/4"	35	92-5385-812	Button Head Screw, 1/4"-20 x 3/8"
7	23-6721	Pump Mounting Bracket	36	92-5385-1224	Button Head Screw, 3/8-16
8	23-6197	Coolant Tank	37	92-2010-1202-24	Washer, 3/8"
9	463-437	Hose Nipple	38	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"
10	474-308	Hose Clamp	39	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"
11	464-234	Hose	40	23-4913	Right Splash Guard
12	464-165	Hose Clip	41	23-5192	Splash Guard Gasket
13	463-178	Diaphragm Valve (diaphragm 13 a obtainable separately)	42	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"
14	463-437	Hose Nipple	43	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"
15	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"	44	479-713	Grommet
16	92-2040-802-20	Washer	45	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"
17	23-6710	Nozzle Clamp Bracket	46	92-5385-820	Button Head Screw, 1/4"-20 x 5/8"
18	92-2040-1002-20	Washer	47	23-5004	Rear Bed Splash Guard (includes 60)
19	88-5746-1032	Clamp Screw	48	23-6693	Splash Guard Filler Plate (includes 61)
20	23-6098	Coolant Nozzle (for 8" grinding wheel)	49	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"
	23-6709	Coolant Nozzle (for 12" grinding wheel)	50	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"
21	23-4914	Splash Guard Extension	51	23-4998	Bed Splash Guard (includes 50)
22	23-6695	Splash Guard Gasket	52	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"
23	92-5385-820	Button Head Screw, 1/4"-20 x 5/8"	53	92-5385-820	Button Head Screw, 1/4"-20 x 5/8"
24	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"	54	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"
25	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"	55	92-6015-814	Nut, 1/4"-20
26	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16"	56	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"
27	23-6804	Splash Guard Gasket	57	92-2010-802-16	Washer, 1/4" I.D. x 1/2" O.D. x 1/16
28	23-4919	Front Splash Guard (includes 27)	58	23-7090	Gasket
	479-3177	1/16 x 5/8 Gasket	59	23-7089	Bracket
29	23-4918	Splash Guard Gate	60	23-5005	Gasket
30	23-6803	Splash Guard Gasket	61	23-6694	Gasket
			62	479-3177	Neoprene Sponge (.08 ft)

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT



MANUAL OVER-THE-WHEEL STRAIGHT LINE DRESSER

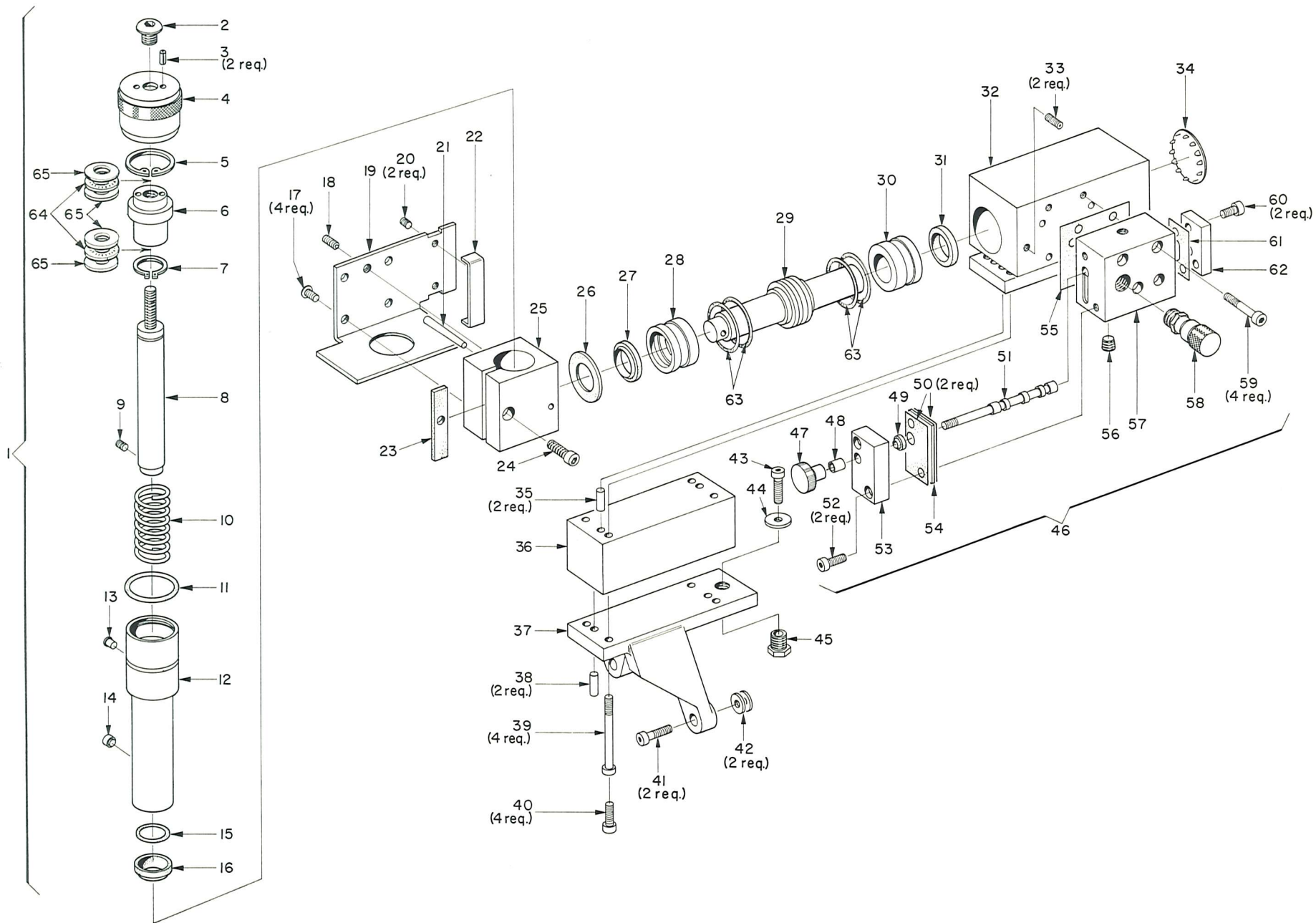
PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-3775	Diamond Tool Holder (includes 2 through 16)	26	421-10	Bearing
2	23-6732	Screw	27	23-6685	Dresser Block (includes 26,28, 30)
3	92-900-316	Pin	28	421-11	Bearing
4	99-299-150	Thimble	29	479-110	Plug Button
5	429-61	Retaining Ring	30	421-811	Bearing
6	23-3758	Tool Holder Nut	31	23-6739	Piston Drive Stud
7	429-4488	Retaining Ring	32	88-5855-12	Knob
8	92-5390-808	Cup Point Set Screw, 1/4"-20 x 1/4"	33	92-900-1256	Pin
9	23-3754	Tool Holder	34	23-6738	Dresser Piston Lever (includes 32, 33)
10	23-6731	Spring	35	429-14	Retaining Ring
11	92-5650-8	Oil Cup	36	92-900-648	Stop Pin
12	23-6411	Tool Holder Pin	37	92-5380-836	Socket Head Screw, 1/4"-20 x 1 1/4"
13	466-214	O-ring	38	92-2040-803-28	Washer
14	23-3755	Tool Holder Sleeve	39	92-900-824	Dowel
15	466-3603	O-ring	40	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4" (for 8" wheel only)
16	466-396	Seal Guard	41	92-5380-832	Socket Head Screw, 1/4"-20 x 1"
17	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"	42	23-6683	Mounting Bracket
18	479-414	Ball Plunger	43	23-6742	Aligning Screw
19	472-239	Screw	44	472-1056	Spherical Washer
20	92-890-443	Tapered Pin	45	92-900-824	Dowel (for 12" wheel only)
21	23-6743	Clamp Block Guide	46	23-6737	Riser Block (for 12" wheel only)
22	23-6733	Clamp Block	47	472-3522	Screw
23	92-5381-1032	Socket Head Cap Screw, 5/16"-18 x 1"	48	23-6734	Guide Bracket
24	23-6735	Piston	49	438-38	Thrust Bearing
25	23-6741	Spacer	50	438-50	Race

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ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT

Brown & Sharpe ————— **618/818 MICROMASTER SERIES II**

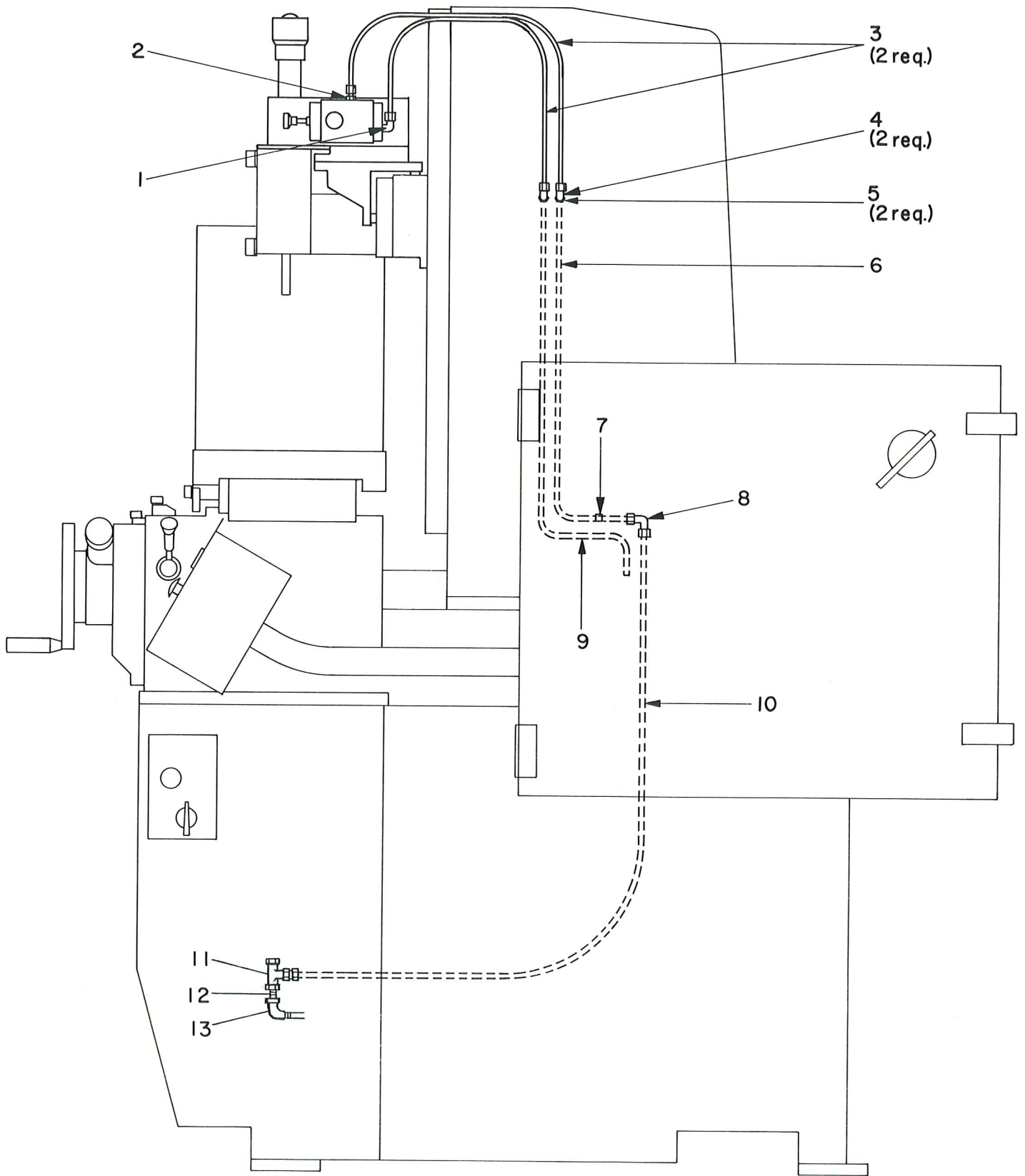


POWER OVER-THE-WHEEL STRAIGHT LINE DRESSER

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-3775	Diamond Tool Holder (includes 2 through 16)	26	23-6741	Spacer	46	23-6179	Control Valve (includes 47 through 54, 56 through 58, 60 through 62)
2	23-6732	Thimble Retaining Screw	27	466-397	Rod Wiper			
3	92-902-416	Roll Pin	28	23-6740	Rod Wiper Cartridge			
4	99-299-150	Thimble	29	23-6736	Piston	47	88-5715-8	Knob
5	429-61	Retaining Ring	30	23-6740	Rod Wiper Cartridge	48	421-33	Bushing
6	23-3758	Adjusting Nut	31	466-397	Rod Wiper	49	466-278	Rod Wiper
7	429-4488	Retaining Ring	32	23-6684	Power Feed Block	50	23-6715	Gasket
8	23-3754	Tool Holder	33	472-743	Set Screw	51	23-6689	Valve Piston
9	92-5390-808	Cup Point Set Screw	34	479-163	Plug Button	52	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"
10	23-6731	Spring	35	92-900-824	Dowel (for 12" grinding wheel only)	53	23-6714	Front End Cap
11	466-214	O-ring	36	23-6737	Riser Block (for 12" grinding wheel only)	54	23-6716	Retaining Plate
12	23-3755	Tool Holder Sleeve	37	23-6683	Mounting Bracket	55	23-6744	Gasket
13	92-5650-8	Oil Cup	38	92-900-824	Dowel	56	463-323	Flush Type Pipe Plug, 1/8" NPTF
14	23-6411	Tool Holder Pin	39	472-3522	Socket Head Screw (for 12" grinding wheel only)	57	23-6679	Valve Body
15	466-3603	O-ring	40	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4" (for 8" grinding wheel only)	58	467-39	Micrometer Regulator
16	466-396	Seal Guard				59	92-5380-844	Socket Head Screw, 1/4"-20 x 1 3/4"
17	92-5385-816	Button Head Screw, 1/4"-20 x 1/2"	41	92-5380-832	Socket Head Screw, 1/4"-20 x 1"	60	92-5380-816	Socket Head Screw, 1/4"-20 x 1/2"
18	479-553	Spring Plunger	42	472-1056	Spherical Washer	61	23-6718	Gasket
19	23-6734	Guide Bracket	43	92-5380-836	Socket Head Screw, 1/4"-20 x 1 1/4"	62	23-6717	Rear End Cap
20	472-239	Screw	44	92-2040-803-28	Washer	63	466-160	"O" Ring
21	92-890-443	Tapered Pin	45	23-6742	Aligning Screw	64	438-38	Thrust Bearing
22	23-6743	Clamp Block Guide				65	438-50	Race
23	479-123	Neoprene Shim						
24	92-5381-1032	Socket Head Screw, 5/16"-18 x 1"						
25	23-6733	Clamp Block						

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT



POWER OVER-THE-WHEEL
 STRAIGHT LINE DRESSER PIPING

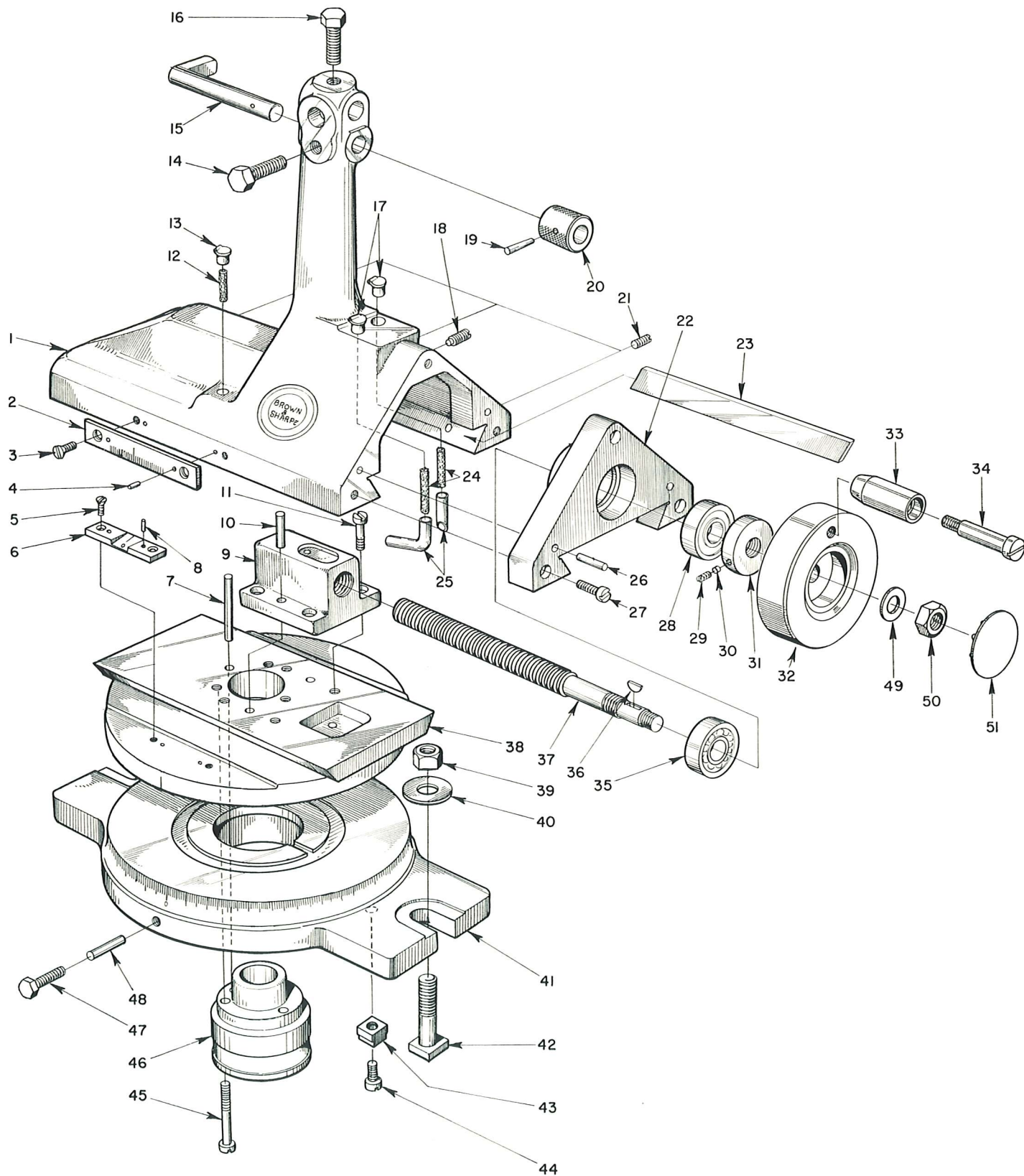
**POWER OVER-THE-WHEEL
STRAIGHT LINE DRESSER PIPING**

PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	464-631	Elbow
2	464-626	Connector
3	463-747	Hose Assembly
4	464-318	Swivel Nut Elbow
5	464-3662	Bulkhead Union
6	464-126	Tubing, 1/4" O.D. (order length in inches)
7	464-153	Tubing Clip
	92-5385-612	Button Head Screw, #6-32 x 3/8"
8	464-93	Connector
	464-628	Sleeve
	464-629	Nut
9	464-126	Tubing, 1/4" O.D. (order length in inches)
10	463-160	Hose Assembly
11	464-92	3/8 Outlet Tee
12	464-662	3/4-1/4 Tube Reducer
13	464-318	90° SW Nut EL 1/4 TU

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT

618/818 MICROMASTER SERIES II



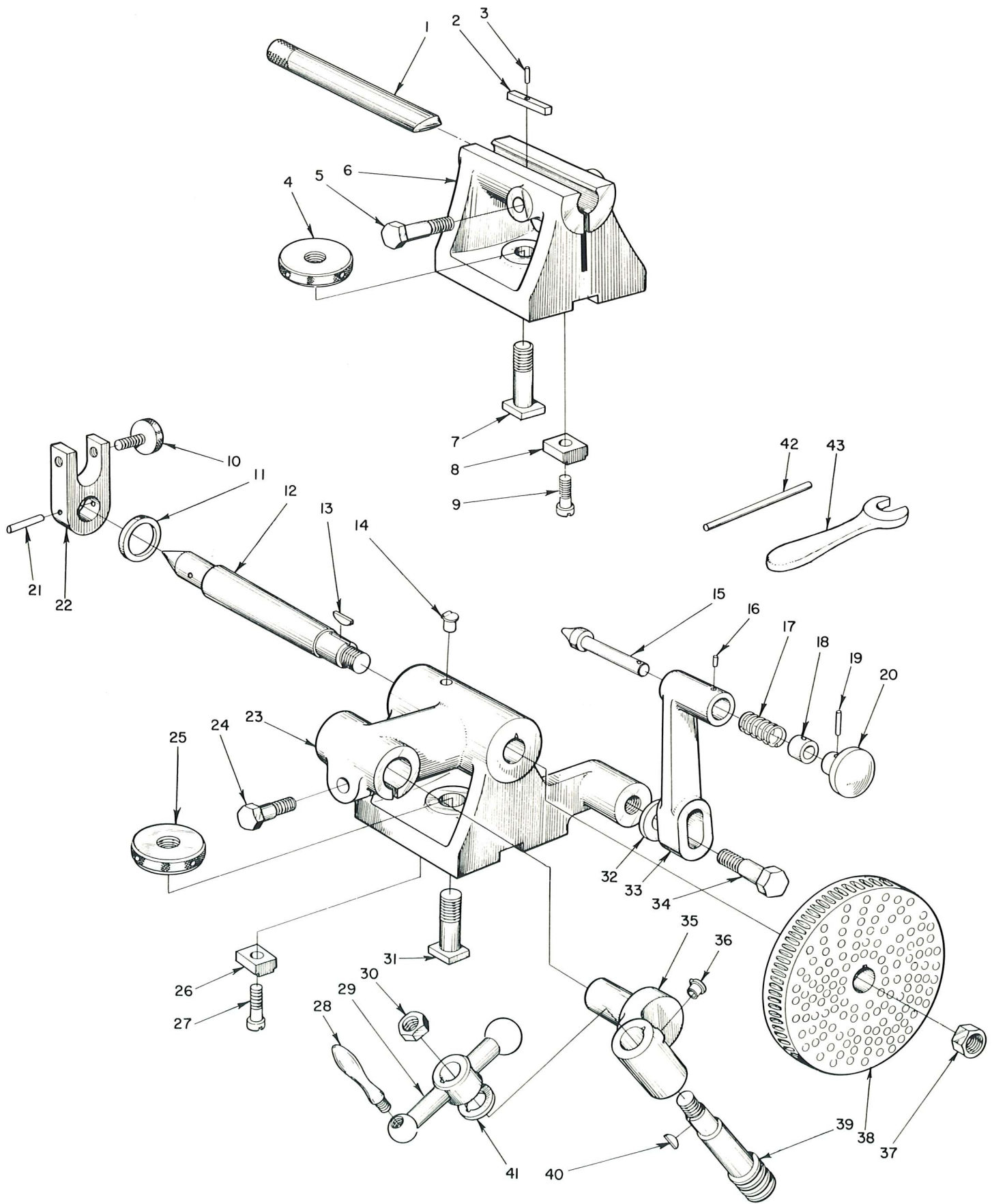
RADIUS AND ANGLE
WHEEL TRUING ATTACHMENT

RADIUS AND ANGLE WHEEL TRUING ATTACHMENT

PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-3184	Slide (includes 22, 26, 27)	27	92-50-724	Fillister Head Screw
2	23-494	Slide Scale	28	433-1114	Ball Bearing
3	92-81-612	Flat Head Screw	29	92-5391-608	Oval Point Set Screw, #10-32 x 1/4"
4	92-900-310	Dowel	30	92-5930-504	Shoe
5	92-81-508	Flat Head Screw	31	433-1114	Ball Bearing
6	23-495	Slide Plate	32	23-4535	Handwheel
7	92-900-840	Dowel	33	88-5805-10	Handle
8	92-900-310	Dowel	34	472-1050	Shoulder Screw
9	23-918	Adjusting Nut	35	433-1114	Ball Bearing
10	92-900-620	Dowel	36	30-980-316	Key
11	92-50-724	Fillister Head Screw	37	23-3187	Adjusting Screw
12	466-175	Felt Wick	38	23-521	Swivel
13	92-5550-6	Oil Cup	39	92-6015-1620	Nut, 1/2"-13
14	91-1-41	Clamp Screw	40	92-2040-1602	Washer
15	23-417	Diamond Setting Gage	41	23-482	Base
16	91-1-41	Clamp Screw	42	92-5020-1640	Clamping Bolt
17	92-5550-6	Oil Cup	43	23-3490	Base Tongue
18	92-360-1016-8	Teated Set Screw	44	92-5051-820	Fillister Head Screw, 1/4"-20 x 5/8"
19	92-890-240	Taper Pin	45	92-50-844	Fillister Head Screw
20	23-419	Diamond Setting Gage Knob	46	23-497	Swivel Pivot
21	92-70-620	Set Screw	47	92-5041-1024	Hex Head Screw
22	23-3185	Bearing Cap (includes 26, 27)	48	92-900-834	Shoe Pin
23	23-518	Slide Gib	49	92-2010-1202-24	Washer, 3/8" I.D. x 3/4" O.D. x 1/16"
24	466-169	Felt Wick	50	92-6015-1214	Nut, 3/8"-16
25	92-2450-638	Tubing	51	23-7056	Plug Button
26	92-900-620	Dowel			

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT



4 3/4 INCH INDEX CENTERS

Brown & Sharpe

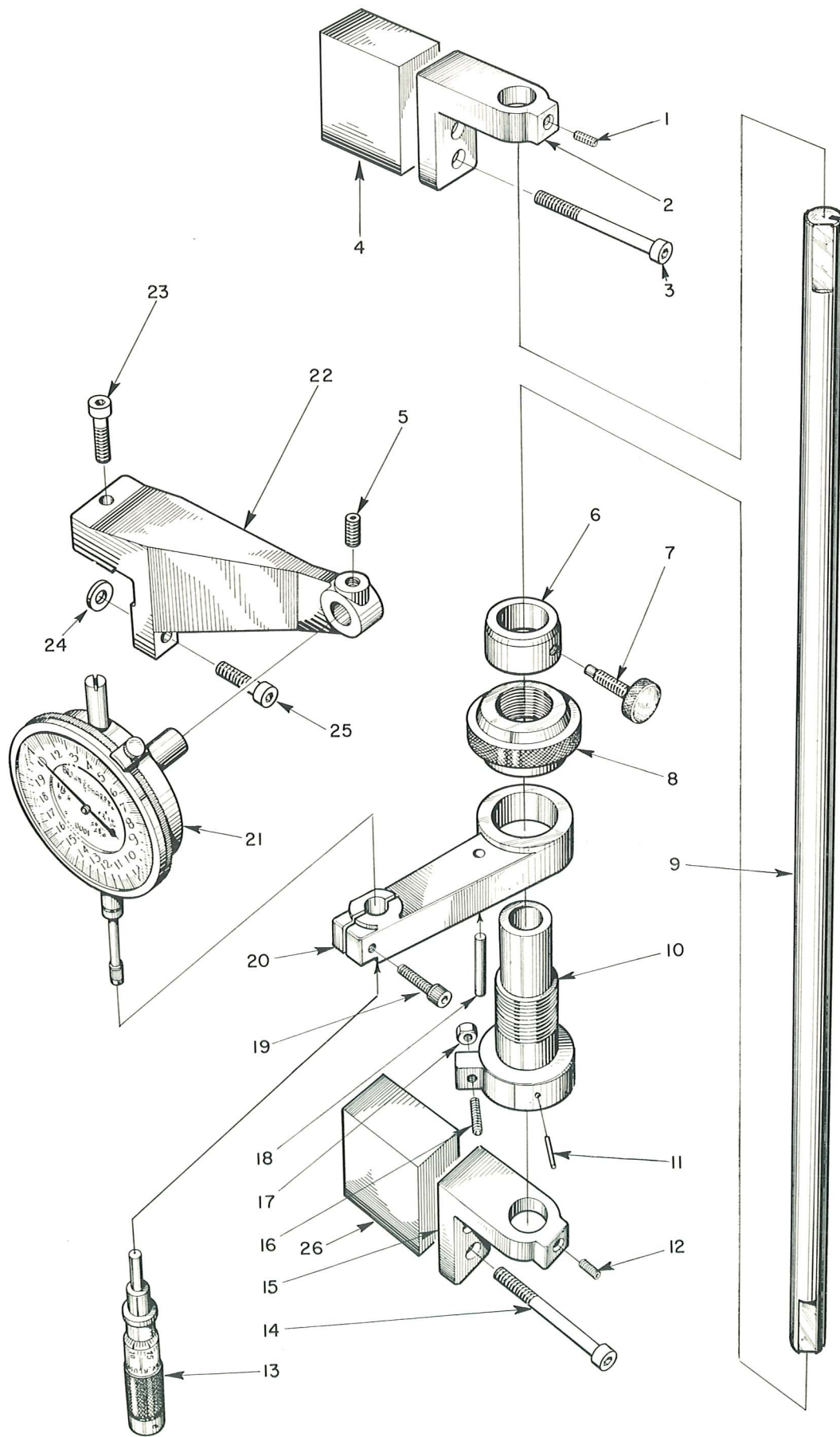
4³/₄-INCH INDEX CENTERS

PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	23-121	Footstock Center
2	92-970-628	Footstock Key
3	92-900-312	Footstock Key Pin
4	25-3797	T-Clamp Nut
5	92-5035-1248	Hex Head Screw, 3/8"-16 x 2"
6	23-1691	Footstock, includes 8 and 9 (two of each)
7	92-5020-1640	Footstock T-Clamp Bolt
8	91-95-28	Footstock Tongue
9	92-5051-824	Slot Head Screw, 1/4"-20 x 3/4"
10	92-5120-824	Headstock Center Driver Thumbscrew
11	91-201-211	Headstock Center Driver Washer
12	23-117	Headstock Center
13	92-980-420	Key
14	92-5550-6	Oil Cup
15	91-91-191	Index Pin
16	92-900-206	Pin
17	92-1000-1232-19	Index Spring
18	91-201-210	Stop Washer
19	92-900-316	Knob Pin
20	92-710-808	Knob
21	92-890-321	Taper Pin
22	23-120	Headstock Center Driver
23	23-1690	Headstock, includes 26 and 27 (two of each)
24	92-5035-1236	Hex Head Screw, 3/8"-16 x 1 1/4"
25	25-3797	T-Clamp Nut
26	91-95-28	Headstock Tongue
27	92-5051-824	Slot Head Screw, 1/4"-20 x 3/4"
28	92-780-812	Index Worm Handle Extension
29	92-820-10	Index Worm Handle
30	92-6015-1012	Hex Nut, 5/16"-18
31	92-5020-1640	Headstock T-Clamp Bolt
32	92-2040-1404-28	Washer, 7/16" I.D. x 7/8" O.D. x 1/8"
33	23-227	Index Finger, includes 16 and 18
34	92-5035-1240	Hex Head Screw, 3/8"-16 x 1 1/2"
35	23-118	Index Worm Bearing
36	92-5550-6	Oil Cup
37	92-6010-1216	Hex Nut, 3/8"-16
38	23-605	Index Worm Wheel
39	23-116	Index Worm
40	92-980-316	Key
41	92-2044-1002-24	Index Worm Washer
42	91-90-68	T-Clamp Nut Pin Wrench
43	92-2500-18	Open End Wrench

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT

618/818 MICROMASTER SERIES II



VERTICAL POSITION INDICATOR

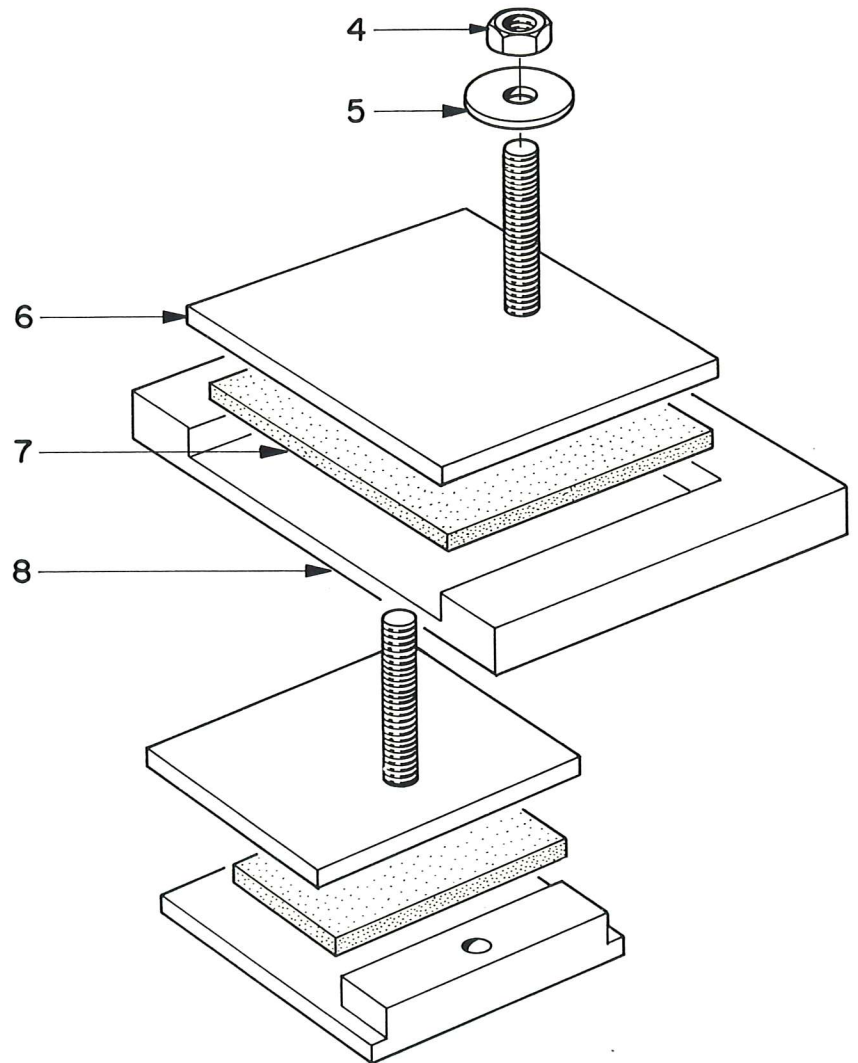
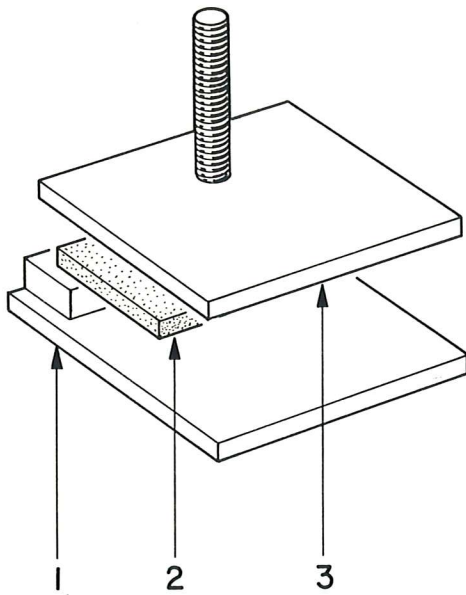
VERTICAL POSITION INDICATOR

PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	92-5390-812	Cup Point Set Screw, 1/4"-20 x 3/8"
2	23-5579	Shaft Bracket
3	92-5380-852	Socket Head Screw, 1/4"-20 x 2 1/2"
4	23-6817	Bracket Mounting Block
5	92-5390-812	Cup Point Set Screw, 1/4"-20 x 3/8"
6	23-5584	Clearance Adjusting Washer
7	23-5585	Swivel Stop Clamp Screw
8	23-5583	Swivel Stop Nut
9	23-5582	Indicator Shaft
10	23-5580	Micrometer Head Swivel Stop
11	92-900-816	Dowel Pin
12	92-5390-812	Cup Point Set Screw, 1/4"-20 x 3/8"
13	599-298	Micrometer Head
14	92-5380-824	Socket Head Screw, 1/4"-20 x 3/4"
15	23-5579	Shaft Bracket
16	92-5390-624	Cup Point Set Screw, #10-32 x 3/4"
17	92-6015-608	Nut, #10-32
18	92-900-836	Dowel Pin
19	92-5380-624	Socket Head Screw, #10-32 x 3/4"
20	23-5581	Micrometer Head Swivel
21	479-199	Dial Indicator, #452
22	23-5845	Indicator Gage Bracket
23	92-5380-836	Socket Head Screw, 1/4"-20 x 1 1/4"
24	92-2040-803-20	Washer
25	92-5380-836	Socket Head Screw, 1/4"-20 x 1 1/4"
26	23-6817	Bracket Mounting Block

ORDER BY PART NUMBER AND NAME, ALSO GIVE SIZE, STYLE AND SERIAL NUMBER OF MACHINE AND ATTACHMENT

618/818 MICROMASTER SERIES II



ISOLATION MOUNTINGS

PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	23-5174	Base Plate
2	23-5175	Isomode Pad
3	23-5176	Top Plate
4	92-6015-1620	Nut, 1/2"-13
5	92-2040-1604-42	Washer
6	23-6170	Top Plate
7	23-6169	Base Plate Cushion
8	23-6171	Base Plate

Printed in U.S.A.

Form 23-99990-69