

# **REPAIR PARTS**

**FOR THE**

**824, 1024, 1030, 1224 & 1236**

**MICROMASTER**

**SURFACE GRINDING MACHINES**

***Brown & Sharpe***

# REPAIR PARTS for the 824, 1024, 1030, 1224 & 1236 MICROMASTER 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.

**Boston, Massachusetts 02215**  
Chandler & Farquhar Co., Inc.  
900 Commonwealth Avenue  
Phone: LOnwood 6-7800

**Cleveland, Ohio 44113**  
Cleveland Tool & Supply Co.  
1427-37 W. Sixth Street  
Phone: 696-8400

**Elizabeth, N. J. 07201**  
Johnson-Mandeville  
595 Division Street  
Phone: 289-5800

**Rochester, New York 14504**  
Chapin-Owen Co., Inc.  
205 St. Paul Street  
Phone: 454-5100

**Chicago, Illinois 60639**  
Harry Lee & Sons  
4216 West North Avenue  
Phone: CApitol 7-5500

**Dayton, Ohio 45401**  
Dayton Supply & Tool Co.  
520 East First St.  
Phone: 461-4550

**Los Angeles, California 90058**  
Frey Industrial Supply Co.  
3828 Santa Fe Avenue  
Phone: LUdlow 8-4281

**Syosset, L. I., N. Y. 11791**  
Mid-Island Supply Co.  
233 Robbins Lane  
Phone: 433-0240

**Chicago, Illinois 60607**  
Screw Machine Supply Co.  
118 North Aberdeen Street  
Phone: CHesapeake 3-5000

**Detroit, Michigan 48220**  
B-H Tool & Supply Co.  
570 W. 8 Mile Road  
Phone: JOrdan 6-7943

**Philadelphia, Pa. 19107**  
Alden Supply Co., Inc.  
926 Arch Street  
Phone: WALnut 2-7910

**West Hartford, Conn. 06106**  
Ray H. Morris Co., Inc.  
69 Prospect Avenue  
Phone: ADams 2-4467

#### In Canada

**Montreal, Quebec**  
Robert Morse Corp., Ltd.  
Rudel Industrial Div.  
6695 St. James Street, West  
Phone: 861-9011

**Toronto, Ontario**  
Robert Morse Corp., Ltd.  
Rudel Industrial Division  
270 Evans Avenue  
Phone: 255-7331

**Brown & Sharpe Mfg. Co.**

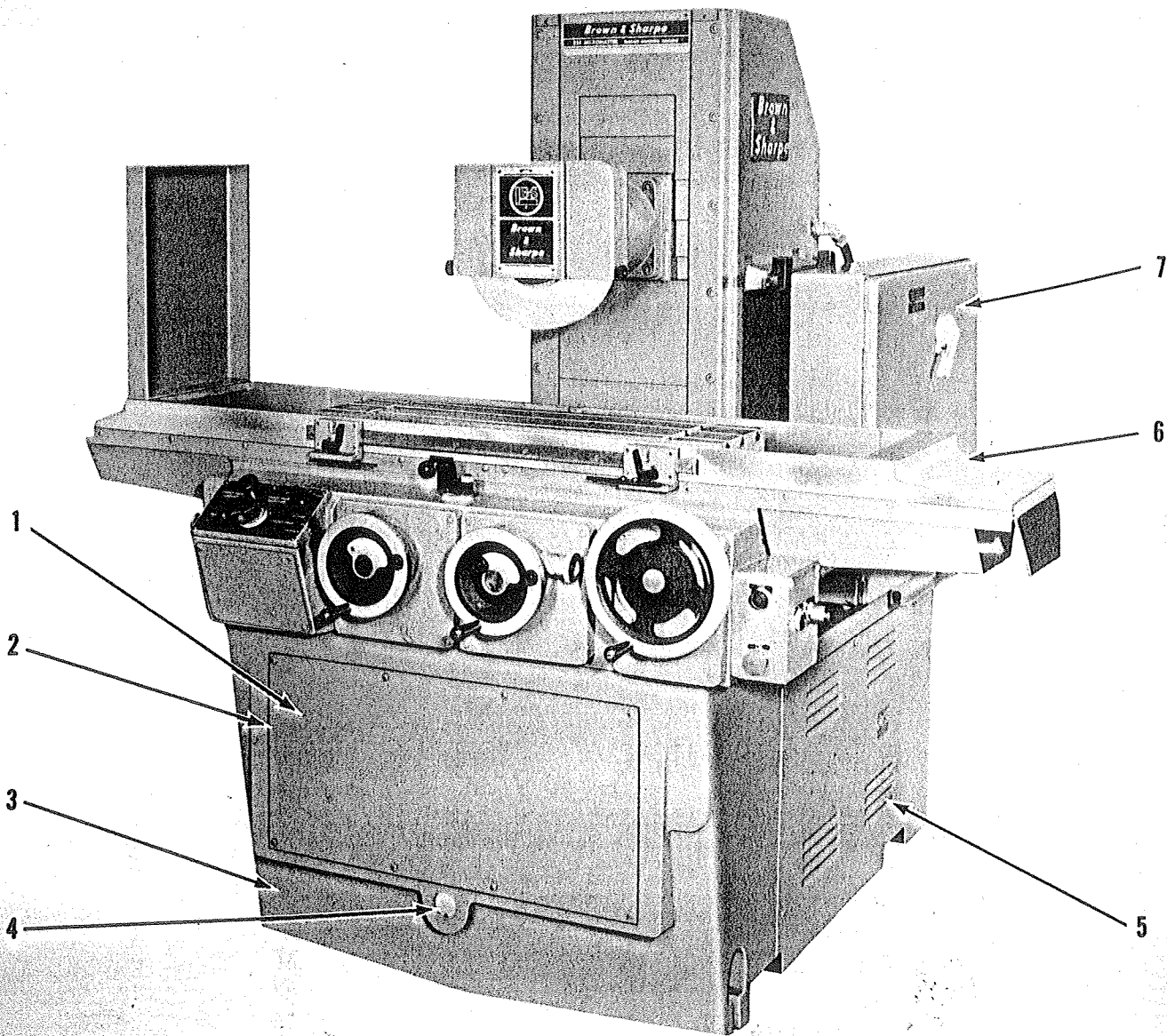
PRECISION PARK, NORTH KINGSTOWN, R. I. 02852

Phone 401-884-3000



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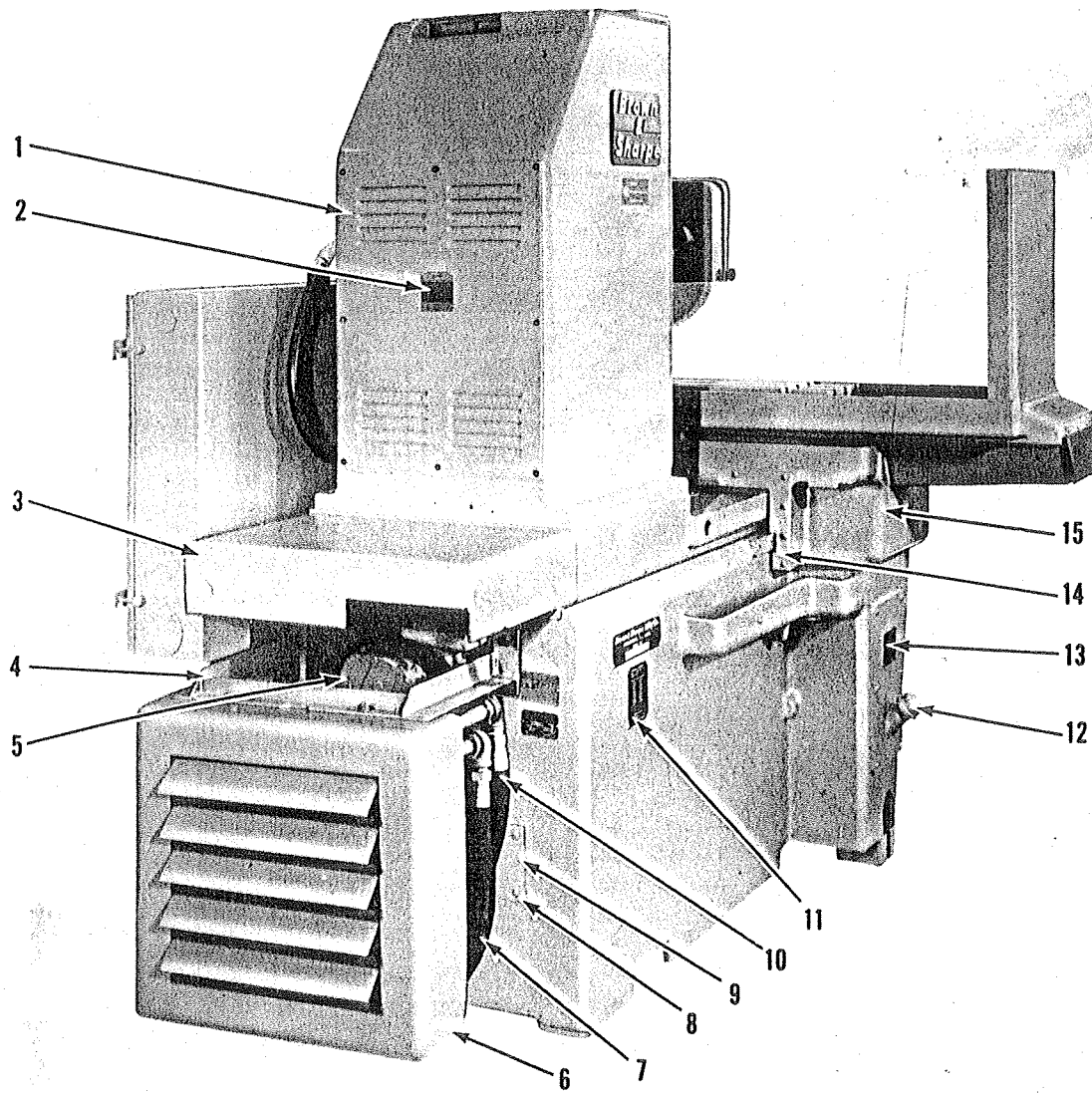
1024 MICROMASTER ILLUSTRATED

### FRONT VIEW

INDEX NO.	PART NO.	PART NAME
1	23-5283	Base Front Cover
2	23-5284	Base Front Cover Gasket
3	23-5280	Base
4	461-14	Hydraulic Reservoir Sight Gage
5	23-5285	Pump Compartment Cover
6	23-5366	Table (824)
	23-5429	Table (1024)
	23-5468	Table (1030)
	23-5498	Table (1224)
	23-5966	Table (1236)
7	23-5243	Electrical Control Cabinet

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

**Brown & Sharpe**

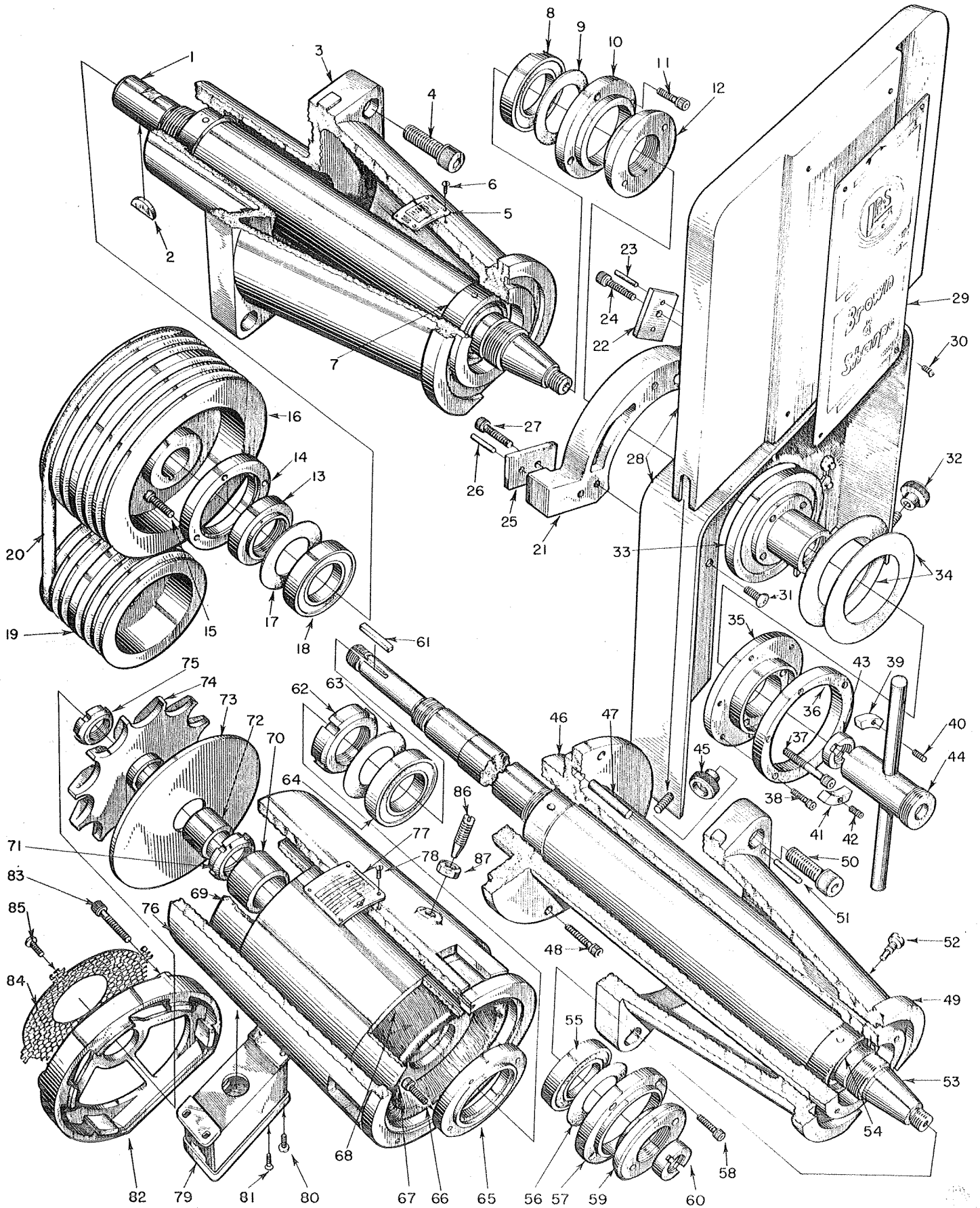


## REAR VIEW

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-5213	Upright Cover	10	463-315	Heat Exchanger Unit Hose Upper, 1" I.D. x 45" Long
2		Spindle Motor Specification Plate furnished by Mfg.	11	23-1648	Patent Plate
3	23-5278	Upright Base Rear Guard	12	23-5286	Hydraulic Reservoir Filler Plate
4	23-6020	Heat Exchanger Unit Bracket	13	23-5044	Hydraulic Oil Notice Plate
5	401-41	Vertical Rapid Positioning Motor	14	23-5403	Table Bed Guard, Rear
6	463-313	Heat Exchanger Unit	15	23-5365	Table Bed, 824, 1024, and 1224 Machines
7	463-314	Heat Exchanger Unit Hose-Lower, 1" I.D. x 36" Long		23-5469	Table Bed, 1030 Machines
8	23-5343	Base Cover, Rear		23-5967	Table Bed, 1236 Machines
9	23-5344	Base Cover Gasket	Not Shown	463-316	Two Hoses Inside Base, 1" I.D. x 53" Long

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



**ANTIFRICTION BEARING SPINDLE WITH ORIFLEX DRIVE;  
DIRECT DRIVE SPINDLE**

**Brown & Sharpe**

# ANTIFRICTION BEARING SPINDLE WITH ORIFLEX DRIVE; DIRECT DRIVE SPINDLE PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-5231	Antiffriction Spindle (824,1024,1030 Mach.Only) (Includes Item 7)	43	23-5238	Spindle Nut
	23-5817	Antiffriction Spindle (1224 Machine Only) (Includes Item 7)	44	26-573	Wheel Sleeve Puller and Wrench
2	92-980-1036	Spindle Key	45	92-6100-10	Wheel Guard Cover Nut
3	23-5230	Spindle Sleeve (824,1024,1030 Mach. Only)	46	23-5502	Spindle Motor Support (824,1024,1030 Mach.Only)
	23-5816	Spindle Sleeve (1224 Machine Only)		23-5820	Spindle Motor Support (1224 Machine Only)
4	92-5380-2040	Spindle Mounting Screw	47	92-900-1244	Motor Support Pin
5	21-4325	Spindle Notice Plate	48	92-5380-1032	Motor Support Screw
6	472-504	Spindle Notice Plate Screw	49	23-5501	Spindle Sleeve (824,1024,1030 Mach.Only)
7	23-5232	Ball Bearing Spacer (824,1024,1030 Mach.Only)		23-5819	Spindle Sleeve (1224 Machine Only)
	23-5818	Ball Bearing Spacer (1224 Machine Only)	50	92-5380-2040	Spindle Mounting Screw
8	431-1085	Antiffriction Spindle Ball Bearing (Items 8 and 18 are a matched pair)	51	92-900-840	Spindle Sleeve Dowel Pin
9	429-1146	Friction Seal Washer	52	92-5340-1224-12	Motor Support Locating Screw
10	23-5236	Spindle Bearing Dust Guard - Front	53	23-5504	Direct Drive Spindle (824,1024,1030 Mach.Only) (Incl.Item 54).
11	92-5380-824	Spindle Bearing Dust Guard Screw		23-5821	Direct Drive Spindle (1224 Machine Only) (Incl.Item 54)
12	23-5234	Ball Bearing Retaining Nut - Front	54	23-5503	Spindle Bearing Spacer (824,1024,1030 Mach.Only)
13	23-5235	Ball Bearing Retaining Nut - Rear		23-5822	Spindle Bearing Spacer (1224 Machine Only)
14	23-5237	Spindle Bearing Dust Guard - Rear	55	431-29	Direct Drive Spindle Ball Bearing
15	92-5380-832	Rear Dust Guard Screw	56	429-99	Friction Seal Washer
16	23-5246	Spindle Pulley	57	23-5505	Spindle Bearing Dust Guard - Front
17	429-1146	Friction Seal Washer	58	92-5380-824	Spindle Bearing Dust Guard Screw
18	431-1085	Antiffriction Spindle Ball Bearing (Items 8 and 18 are a matched pair)	59	23-5506	Ball Bearing Retaining Nut - Front
19	23-5247	Spindle Motor Pulley	60	23-5238	Spindle Nut
20	466-190	"O" Ring - 8 $\frac{3}{4}$ " I.D. x 9 $\frac{1}{2}$ " O.D. x $\frac{3}{8}$ "	61	92-970-848	Spindle Key
21	23-5228	Wheel Guard Mounting Plate	62	472-353	Ball Bearing Locknut - Rear
22	23-5229	Wheel Guard Mounting Lug	63	429-99	Friction Seal Washer
23	92-900-620	Mounting Lug Pin	64	431-29	Direct Drive Spindle Ball Bearing
24	92-5380-1036	Mounting Lug Screw	65	23-5507	Spindle Bearing Dust Guard - Rear
25	23-5229	Wheel Guard Mounting Lug	66	92-5380-824	Spindle Bearing Dust Guard Screw
26	92-900-620	Mounting Lug Pin	67	23-5610	Stator Spacer - Front
27	92-5380-1036	Mounting Lug Screw	68	402-26	5 H.P. Shell Type Motor (Incl.Item 77)
28	23-5226	Wheel Guard (Includes Items 32 and 45)	69	23-5609	Stator Spacer - Rear
29	23-5727	Wheel Guard Nameplate	70	23-5615	Rotor Clamp
30	472-503	Nameplate Screw	71	472-354	Rotor Clamp Locknut
31	92-5385-1020	Wheel Guard Screw	72	23-5616	Fan Spacer
32	92-6100-10	Wheel Guard Cover Nut	73	23-5509	Air Deflector
33	23-5250	Wheel Sleeve Complete (Incl.Items 33,35,36,37,38,39 and 41)	74	23-5607	Spindle Motor Fan
	23-5251	Wheel Sleeve	75	472-355	Spindle Motor Fan Locknut
34	92-2390-5672	Wheel Sleeve Rubber Disc	76	23-5508	Spindle Motor Housing
35	23-5252	Wheel Sleeve Flange	77	-----	Motor Mfr's Notice Plate (Furnished with Item 68)
36	23-5254	Wheel Sleeve Balancing Segment Retainer	78	472-504	Notice Plate Screw
37	92-5380-1048	Wheel Sleeve Screw - 1" Wide Wheels	79	23-5611	Oiltight Wiring Box (Incl.Item 81)
	92-5380-1050	Wheel Sleeve Screw - 1 $\frac{1}{2}$ " Wide Wheels	80	92-5385-612	Wiring Box Screw
38	92-5380-624	Segment Retainer Screw	81	-----	Wiring Box Cover Screw
39	23-5253	Balancing Segment (Includes Item 40)	82	23-5608	Motor End Shield
40	92-5391-816	Balancing Segment Screw	83	92-5380-1040	Motor End Shield Screw
41	23-5253	Balancing Segment (Includes Item 42)	84	23-5776	Motor End Shield Screen
42	92-5391-816	Balancing Segment Screw	85	92-5385-812	Motor End Shield Screen Screw
			86	92-5370-1640	Motor Stator Locking Screw
			87	92-6015-1620	Motor Stator Locking Nut

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

824, 1024, 1030, 1224 & 1236 MICROMASTERS.



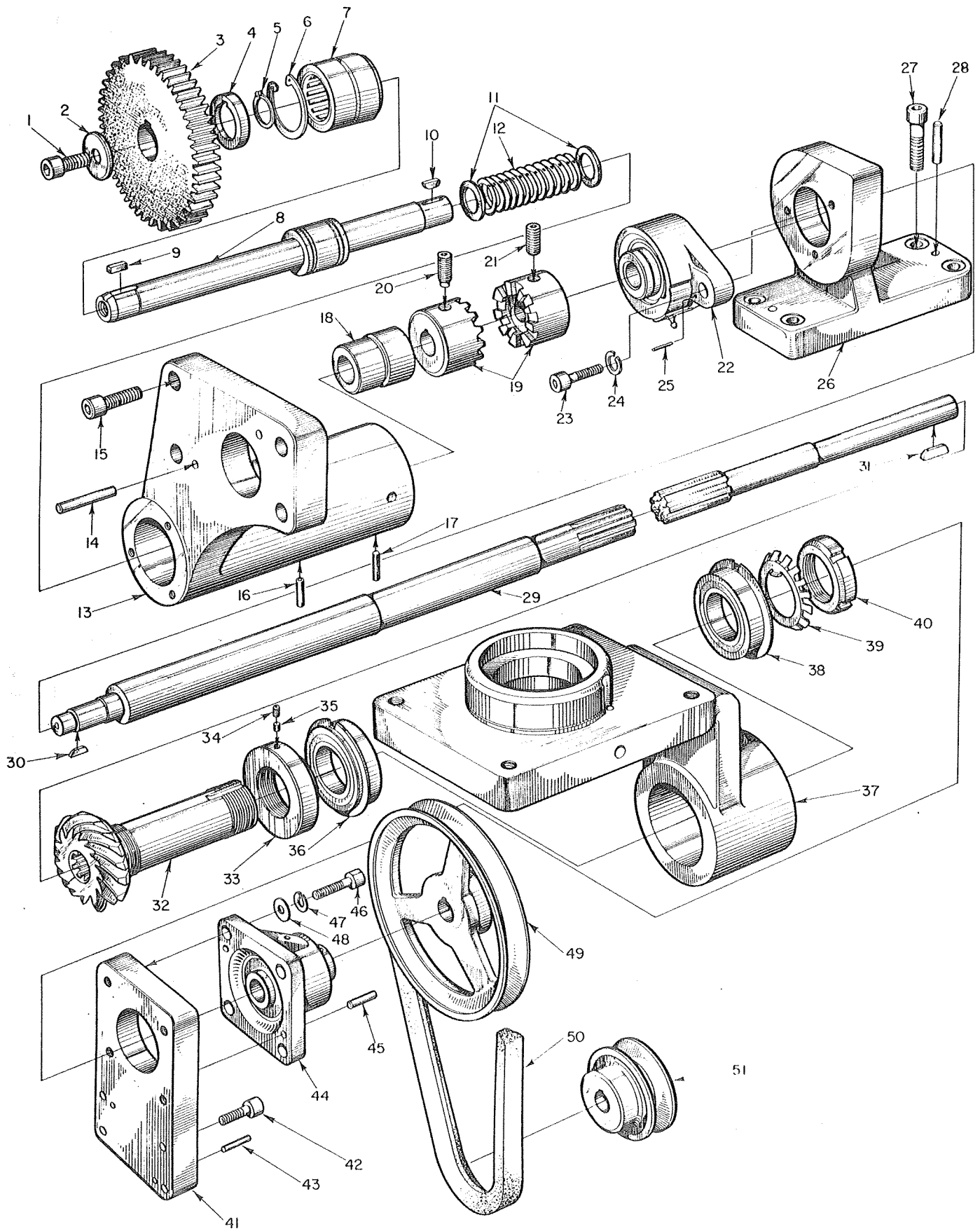


# ELEVATING HANDWHEEL COMPLETE PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	92-5380-1240	Elevating Handwheel Bracket Screw
2	92-900-1040	Elevating Handwheel Bracket Pin
3	23-5345	Handwheel Bracket
4	437-1471	Handwheel Bracket Ball Bearing
5	23-5257	Handwheel Bracket Bearing Retainer
6	23-5256	Handwheel Shaft Gear
7	92-2040-1604-36	Handwheel Shaft Washer
8	472-599	Handwheel Shaft Stop Nut
9	21-3965	Handwheel Handle Stud
10	92-5802-7	Handwheel Handle
11	92-2010-1204-24	Handwheel Handle Washer
12	479-189	Plug Button
13	92-6100-10	Handwheel Tee Bolt Knob
14	92-6015-1620	Handwheel Shaft Nut
15	92-6100-12	Handwheel Clamp Bolt Knob
16	92-2010-1602-32	Handwheel Shaft Washer
17	23-5008	Elevating Handwheel
18	92-5020-1032	Elevating Handwheel Tee Bolt
19	92-5385-812	Indicator Ring Screws
20	23-4845	Indicator Ring
21	23-5984	Handwheel Clamp Bolt
22	472-606	Handwheel Clamp Bolt Screw
23	92-2010-602-14	Handwheel Clamp Bolt Washer
24	23-5051	Elevating Worm Gear
25	92-5380-824	Handwheel Bracket Extension Screw
26	23-5010	Worm Gear Bushing
27	92-900-820	Handwheel Bracket Extension Pins
28	23-5346	Handwheel Bracket Extension
29	23-5349	Pointer
30	92-5385-816	Pointer Screw
31	92-900-612	Pointer Dowel Pin
32	472-3553	Handwheel Bracket Set Screw
33	429-1485	Handwheel Shaft Retaining Ring
34	437-1471	Handwheel Bracket Ball Bearing
35	23-5347	Handwheel Shaft
36	92-980-624	Handwheel Shaft Key
37	92-980-828	Handwheel Shaft Key
38	23-5350	Elevating Worm
39	92-980-416	Elevating Worm Key
40	92-2010-1404-28	Elevating Worm Washer
41	421-36	Elevating Worm Bearing
42	23-5351	Elevating Worm Bearing Spacer - (Incl. Items 41,43)
43	421-36	Elevating Worm Bearing
44	23-5352	Elevating Worm Dial
45	92-2010-1204-24	Elevating Worm Washer
46	472-589	Elevating Worm Stop Nut

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



**ELEVATING SHAFT & DRIVE**

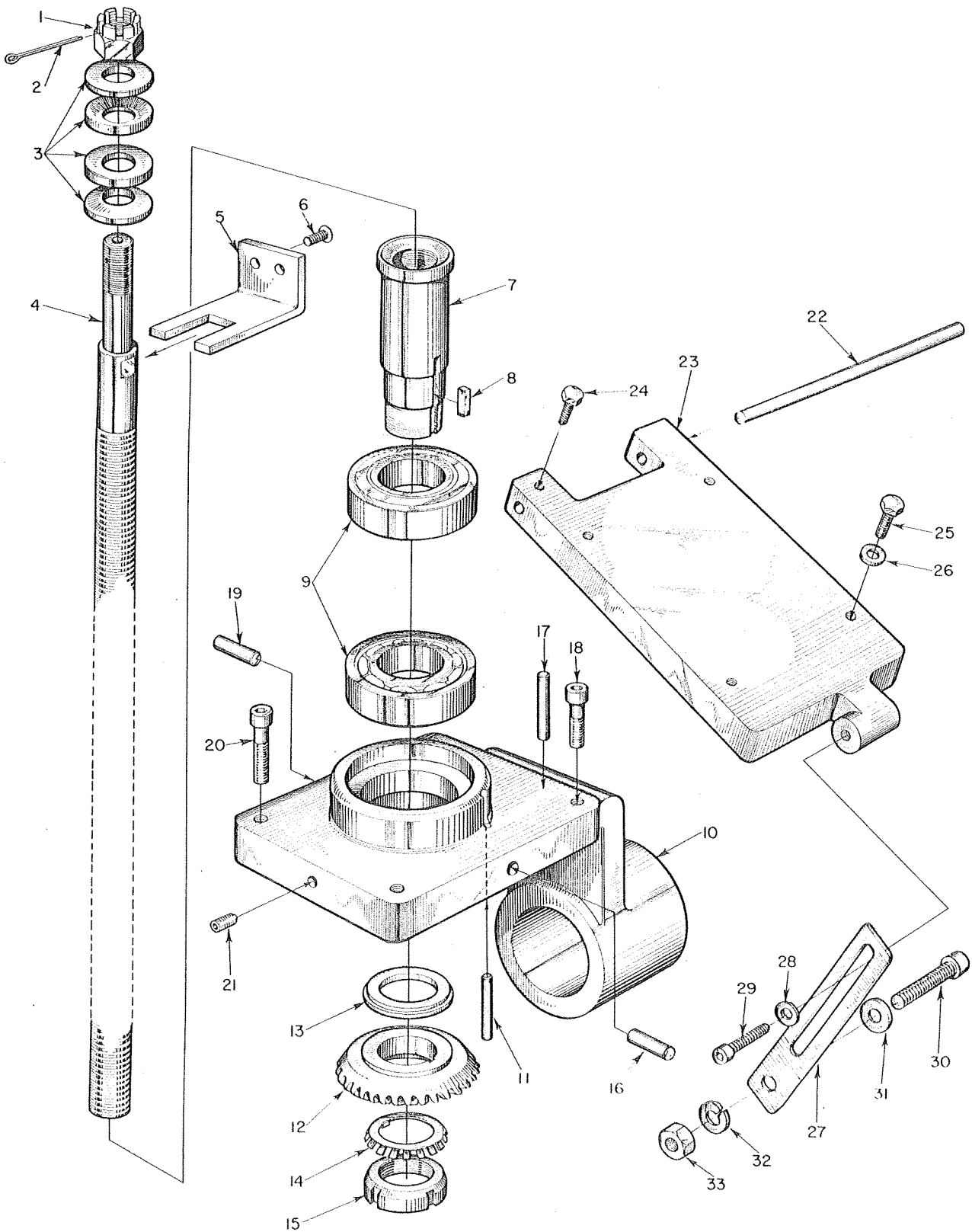
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# ELEVATING SHAFT & DRIVE PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	472-695	Clutch Shaft Screw
2	92-2040-1204-36	Clutch Shaft Washer
3	23-5333	Clutch Shaft Gear
4	23-5495	Clutch Shaft Gear Spacer
5	429-1491	Needle Bearing Retaining Ring
6	429-59	Elevating Clutch Shaft Retaining Ring
7	422-14	Clutch Shaft Needle Bearing
8	23-5331	Elevating Clutch Shaft
9	92-970-620	Clutch Shaft Key
10	92-980-420	Clutch Shaft Woodruff Key
11	23-5937	Nylon Washer
12	92-1000-3250-12	Piston Spring
13	23-5332	Clutch Shaft Bracket
14	92-900-1036	Clutch Shaft Bracket Dowel Pin
15	92-5380-1232	Clutch Shaft Bracket Screws
16	92-2450-620	Clutch Shaft Bracket Drain Tube
17	92-900-620	Clutch Shaft Bushing Pin
18	23-5337	Clutch Shaft Bushing
19	23-5338	Elevating Clutch
20	472-165	Elevating Clutch Screw
21	472-134	Elevating Clutch Screw
22	434-22	Ball Bearing Flanged Unit
23	472-451	Ball Bearing Flanged Unit Screw
24	92-2010-1002-24	Ball Bearing Flanged Unit Lockwasher
25	42-900-428	Ball Bearing Flanged Unit Pin
26	23-5496	Splined Shaft Bracket
27	92-5380-1236	Splined Shaft Bracket Screw
28	92-900-1032	Splined Shaft Bracket Pin
29	23-5330	Splined Shaft
30	92-980-416	Splined Shaft Key
31	92-980-624	Splined Shaft Key
32	23-4859	Elevating Screw Pinion
33	23-4860	Screw Pinion Adjusting Nut
34	92-5390-808	Adjusting Nut Set Screw
35	92-5930-606	Adjusting Nut Shoe
36	437-17	Screw Pinion Ball Bearing
37	23-5273	Elevating Screw Bracket
38	437-17	Screw Pinion Ball Bearing
39	92-2031-38	Screw Pinion Nut Lockwasher
40	92-6043-38	Screw Pinion Nut
41	23-5314	Splined Shaft Bearing Support Plate
42	92-5380-1232	Splined Shaft Bearing Support Plate Screw
43	92-900-1236	Splined Shaft Bearing Support Plate Pin
44	23-5697	Splined Shaft Ball Bearing Unit
45	92-900-824	Bearing Unit Pin
46	92-5380-1032	Bearing Unit Screw
47	92-2030-10	Bearing Unit Lockwasher
48	92-2010-1002-20	Bearing Unit Washer
49	473-19	Splined Shaft V-Pulley
50	441-21	V-Belt
51	473-20	Motor Shaft V-Pulley

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



**ELEVATING SCREW**

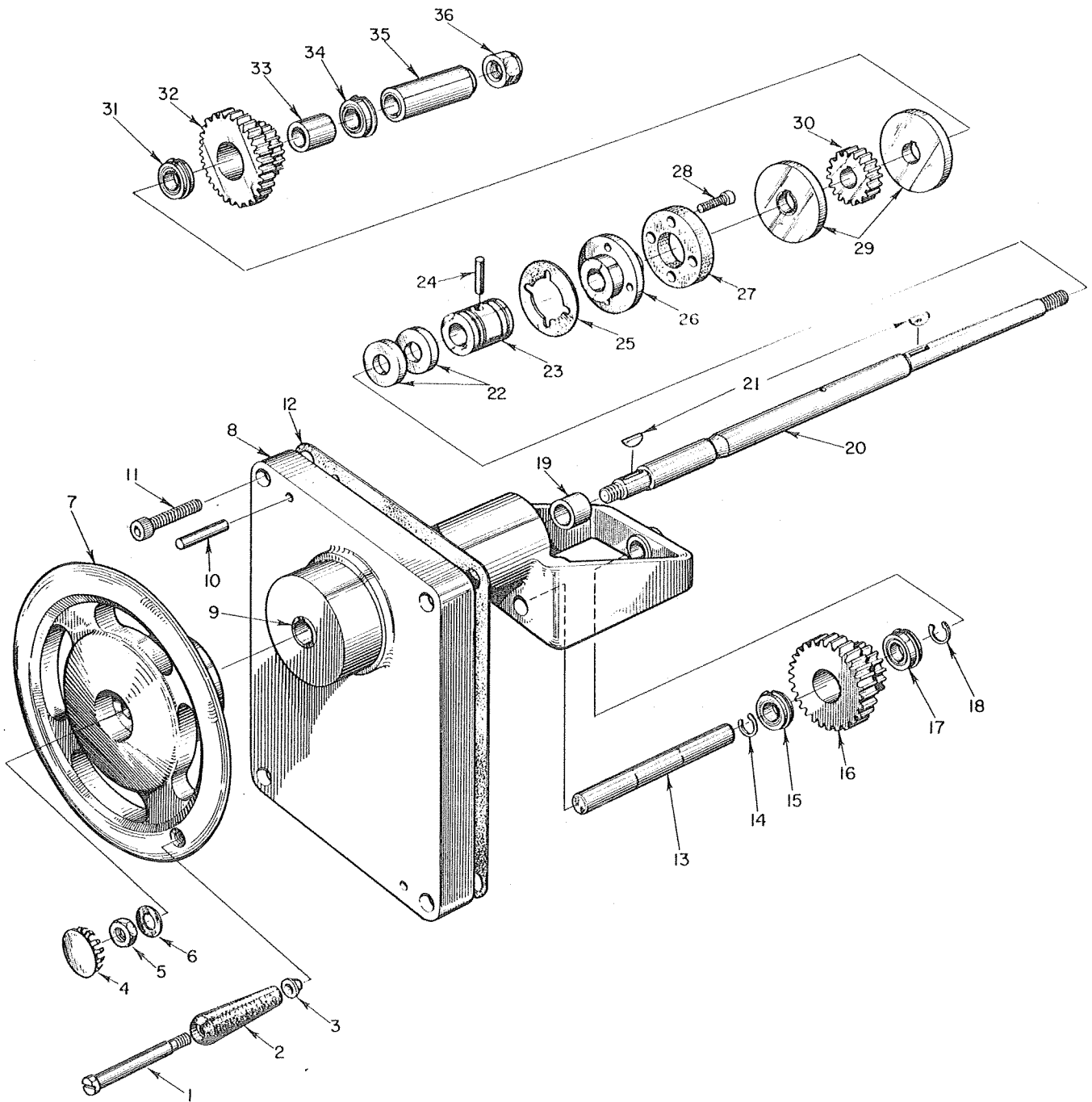
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# ELEVATING SCREW PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	472-447	Elevating Screw Stop Nut
2	92-5990-840	Elevating Screw Cotter Pin
3	472-163	Elevating Screw Spherical Washer
4	23-5270	Elevating Screw
5	23-5873	Elevating Screw Lock
6	92-5385-816	Elevating Screw Lock Screw
7	23-5271	Elevating Screw Nut (824, 1024 and 1030 Machs.)
	39-56	Elevating Screw Nut (1224 and 1236 Machs.)
8	92-970-624	Elevating Screw Gear Key
9	433-7	Screw Nut Ball Bearings
10	23-5273	Elevating Screw Bracket
11	92-2450-834	Screw Bracket Oil Tube
12	23-6040	Elevating Screw Gear
13	23-6039	Elevating Screw Gear Spacer
14	92-2031-38	Screw Gear Lockwasher
15	92-6043-38	Screw Gear Locknut
16	92-900-1232	Bearing Spacer Locating Pin
17	92-900-1040	Screw Bracket Dowel Pin
18	92-5380-1236	Screw Bracket Screw
19	92-900-1232	Bearing Spacer Locating Pin.
20	92-5380-1240	Screw Bracket Screw
21	92-5390-1012	Screw Bracket Set Screw
22	23-5311	Motor Plate Fulcrum
23	23-5310	Rapid Drive Motor Plate
24	472-160	Motor Plate Fulcrum Clamp Screw
25	92-5035-1020	Rapid Drive Motor Mounting Screw
26	92-2010-1002-20	Rapid Drive Motor Mounting Washer
27	23-5312	Motor Plate Support
28	92-2010-1002-24	Motor Plate Support Washer
29	92-5380-1024	Motor Plate Support Screw
30	92-5380-1240	Motor Plate Support Screw
31	92-2010-1202-24	Motor Plate Support Washer
32	92-2030-12	Motor Plate Support Lockwasher
33	92-6015-1214	Motor Plate Support Nut

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



**TABLE HANDWHEEL COMPLETE**

**Brown & Sharpe**

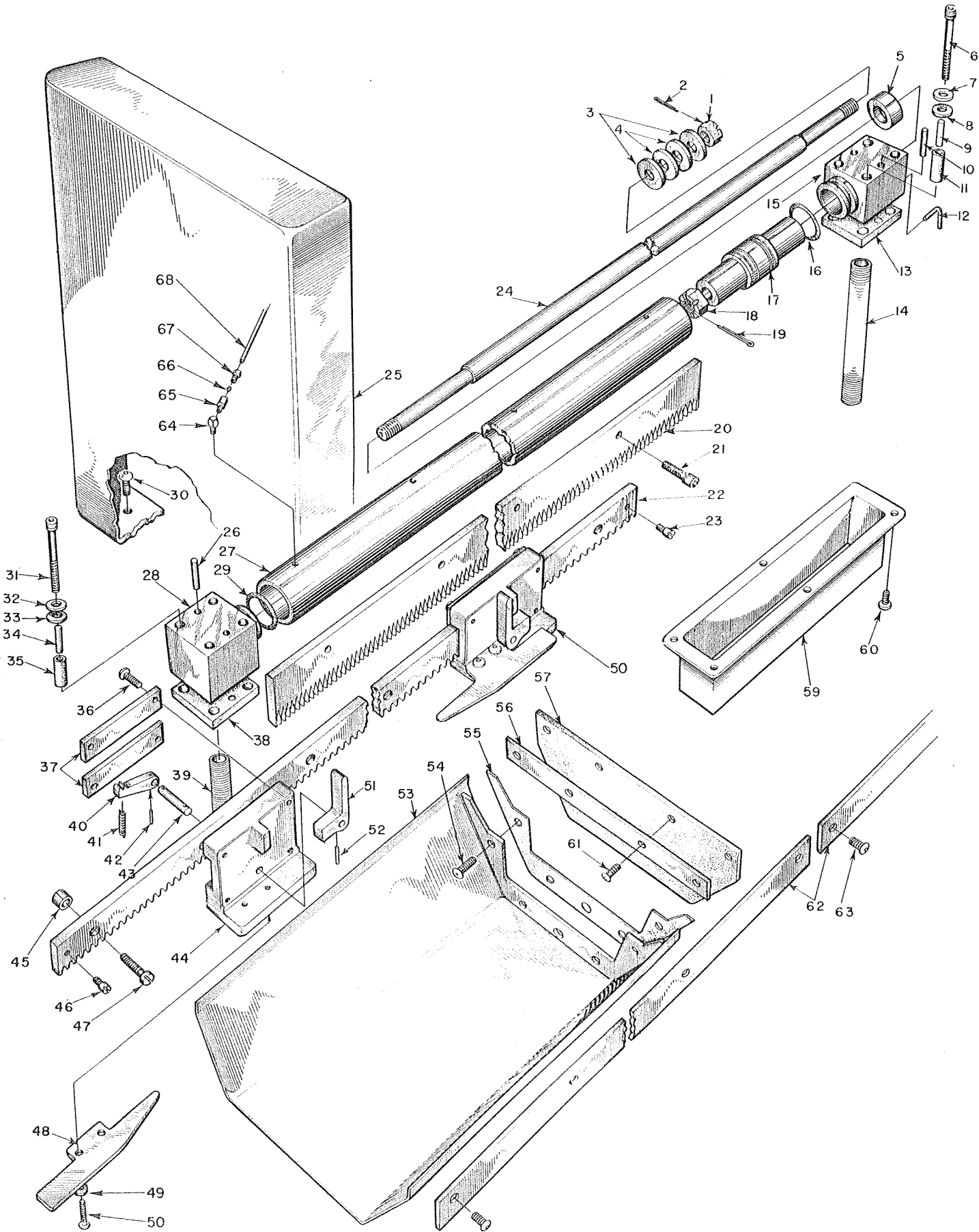
# TABLE HANDWHEEL COMPLETE PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	91-527-41	Handwheel Handle Stud
2	92-5802-7	Handwheel Handle
3	91-201-695	Handwheel Handle Washer
4	479-189	Handwheel Plug Button
5	92-6015-1620	Handwheel Shaft Nut
6	92-2010-1602-32	Handwheel Shaft Washer
7	23-5321	Table Handwheel
8	23-5315	Table Handwheel Bracket (Incl. Item 9)
9	421-37	Table Handwheel Bracket Bushing
10	92-900-1040	Handwheel Bracket Dowel Pin
11	92-5380-1240	Handwheel Bracket Screw
12	23-5328	Handwheel Bracket Gasket
13	23-5327	Intermediate Shaft
14	429-39	Intermediate Shaft Retaining Ring
15	437-8	Handwheel Ball Bearing
16	23-5324	Intermediate Gear
17	437-8	Handwheel Ball Bearing
18	429-39	Intermediate Shaft Retaining Ring
19	421-78	Table Handwheel Bracket Bushing
20	23-5316	Handwheel Shaft (Incl. Items 23 and 24)
21	92-980-624	Handwheel Shaft Keys
22	466-225	Handwheel Bracket Oil Seals
23	23-5317	Handwheel Shaft Piston
24	92-900-836	Handwheel Shaft Piston Pin
25	23-5319	Handwheel Bracket Cap Gasket
26	23-5318	Handwheel Bracket Cap
27	23-5320	Handwheel Shaft Cushion Stop
28	92-5380-824	Handwheel Bracket Cap Screw
29	23-5322	Shifting Disc
30	23-5323	Handwheel Shaft Gear
31	437-8	Handwheel Ball Bearing
32	23-5324	Intermediate Gear
33	23-5325	Handwheel Shaft Bearing Spacer
34	437-8	Handwheel Ball Bearing
35	23-5326	Handwheel Shaft Sleeve
36	472-161	Handwheel Shaft Stop Nut

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**





**TABLE CYLINDER, DOGS, RACKS & GUARDS**

**Brown & Sharpe**

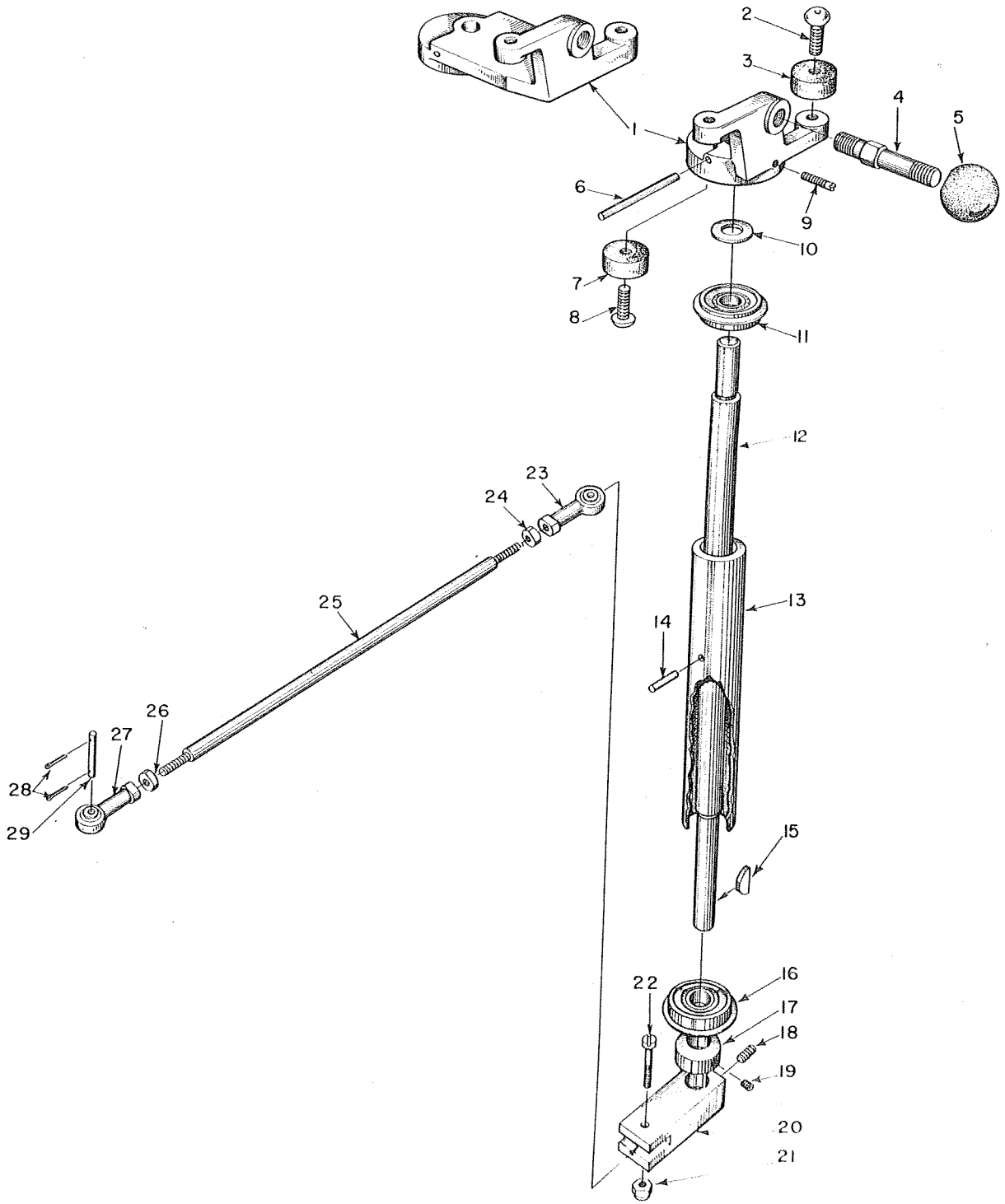
# TABLE CYLINDER, DOGS, RACKS & GUARDS

## PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	92-6012-16	Table Piston Rod Nut		466-3622	Cylinder Head "O" Ring (1236 Machine Only)
2	92-5990-624	Piston Rod Cotter Pin			
3	92-2010-1604-34	Piston Rod Washer	30	92-5380-1020	Table End Dust Guard Screw
4	472-398	Piston Rod Nylon Washer	31	472-150	Feed Cylinder Head Screw
5	466-98	Cylinder Head Right, Oil Seal	32	92-2010-1202-24	Feed Cylinder Head Screw Washer
6	472-150	Feed Cylinder Head Screw	33	92-2040-1002-20	Table Feed Cylinder Head Washer
7	92-2010-1202-24	Feed Cylinder Head Screw Washer	34	92-900-840	Table Feed Cylinder Head Pin
8	92-2040-1002-20	Table Feed Cylinder Head Washer	35	23-5889	Feed Cylinder Head Insulator Bushing
9	92-900-840	Table Feed Cylinder Head Pin	36	92-5385-824	Carrier Plate Screw
10	92-900-1032	Feed Cylinder Head Pin	37	23-5377	Table Dog Carrier Plate
11	23-5889	Feed Cylinder Head Insulator Bushing	38	23-5888	Table Feed Cylinder Head Insulator
12	464-125	Cylinder Head Drain Tube	39	92-2440-2456	Nipple 3/4" NPT x 3" Long
13	23-5888	Table Feed Cylinder Head Insulator	40	21-3263	Table Dog Pawl
14	92-2440-2472	Nipple 3/4" NPT x 5" Long	41	92-1000-828-20	Table Dog Pawl Trip Lever Spring
15	23-5400	Feed Cylinder Head - Right	42	92-900-416	Table Dog Pawl Pin
	23-5959	Feed Cylinder Head - Right (1236 Machine Only)	43	23-5376	Dog Carrier Pawl Fulcrum
16	466-90	Cylinder Head "O" Ring	44	23-5375	Table Dog Carrier
	466-3622	Cylinder Head "O" Ring (824, 1024 & 1224 Machines Only)	45	23-5381	Table Dog Rack Spacer
17	23-5401	Table Feed Piston	46	92-5310-808	Table Dog Rack Stop Screw
	23-5964	Table Feed Piston (1236 Machine Only)	47	92-5051-1036	Table Dog Rack Screw
18	92-6012-16	Table Feed Piston Rod Nut	48	23-4825	Dog (824, 1024 and 1030 Machines)
19	92-5990-624	Table Feed Piston Cotter Pin		23-5659	Dog (1224 and 1236 Machines)
20	23-5369	Table Rack (824, 1024 & 1224 Machines Only)	49	92-2010-802-16	Dog Screw Washer
	23-5470	Table Rack (1030 Machine Only)	50	92-5385-832	Left Hand Dog Screw (Furnished with Table Dog - Left Only)
	23-5958	Table Rack (1236 Machine Only)		92-5385-824	Right Hand Dog Screw (Furnished with Table Dog - Right Only)
21	92-5380-1032	Table Rack Screw	51	23-5379	Table Dog Pawl Trip Lever
22	23-5380	Table Dog Rack (824, 1024 & 1224 Machines Only)	52	92-900-420	Table Dog Pawl Trip Lever Pin
	23-5471	Table Dog Rack (1030 Machine Only)	53	23-5392	Table Drip Return Tray
	23-5961	Table Dog Rack (1236 Machine Only)	54	92-5385-1024	Table Drip Return Tray Screw
23	92-5310-808	Table Dog Rack Stop Screw	55	23-5746	Table Drip Return Tray Gasket
24	23-5402	Table Piston Rod (824, 1024 & 1224 Machines Only)	56	23-5374	Table Guard Shield Cleat
	23-5473	Table Piston Rod (1030 Machine Only)	57	23-5373	Table Guard Shield
	23-5963	Table Piston Rod (1236 Machine Only)	58	23-5736	Table Dog - Right (Incl. Items 35, 36, 39-43, 47, 48, 50 & 51)
25	23-5370	Table End Dust Guard (824, 1024 & 1030 Machines Only)		23-5737	Table Dog - Left (Incl. Items 35, 36, 39-43, 47, 48, 50 & 51)
	23-5528	Table End Dust Guard (1224 & 1236 Machines Only)	59	23-5371	Table Trough
26	92-900-1032	Feed Cylinder Head Pin	60	92-5385-816	Table Trough Screw
27	23-5398	Table Feed Cylinder (824, 1024, 1224 Machines Only) (Incl. Item 16)	61	92-5385-820	Table Guard Shield Cleat Screw
	23-5472	Table Feed Cylinder (1030 Machine Only)	62	23-5367	Table Front Guard (824, 1024, 1224 Machines Only)
	23-5965	Table Feed Cylinder (1236 Machine Only)		23-5485	Table Front Guard (1030 Machine Only)
28	23-5399	Feed Cylinder Head - Left		23-5962	Table Front Guard (1236 Machine Only)
	23-5960	Feed Cylinder Head - Left (1236 Machine Only)	63	92-5385-1016	Table Front Guard Screw
29	466-90	Cylinder Head "O" Ring (824, 1024, 1030, 1224 Machines Only)	64	461-67	Table Feed Cylinder 90° Elbow
			65	461-66	Straight Adaptor - 5/32" Tube
			66	461-951	Compression Sleeve - 5/32" Tube
			67	461-953	Compression Bushing - 5/32" Tube
			68	381-906-200	Tube - 5/32"

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



**TABLE REVERSING LEVER & CONNECTOR**

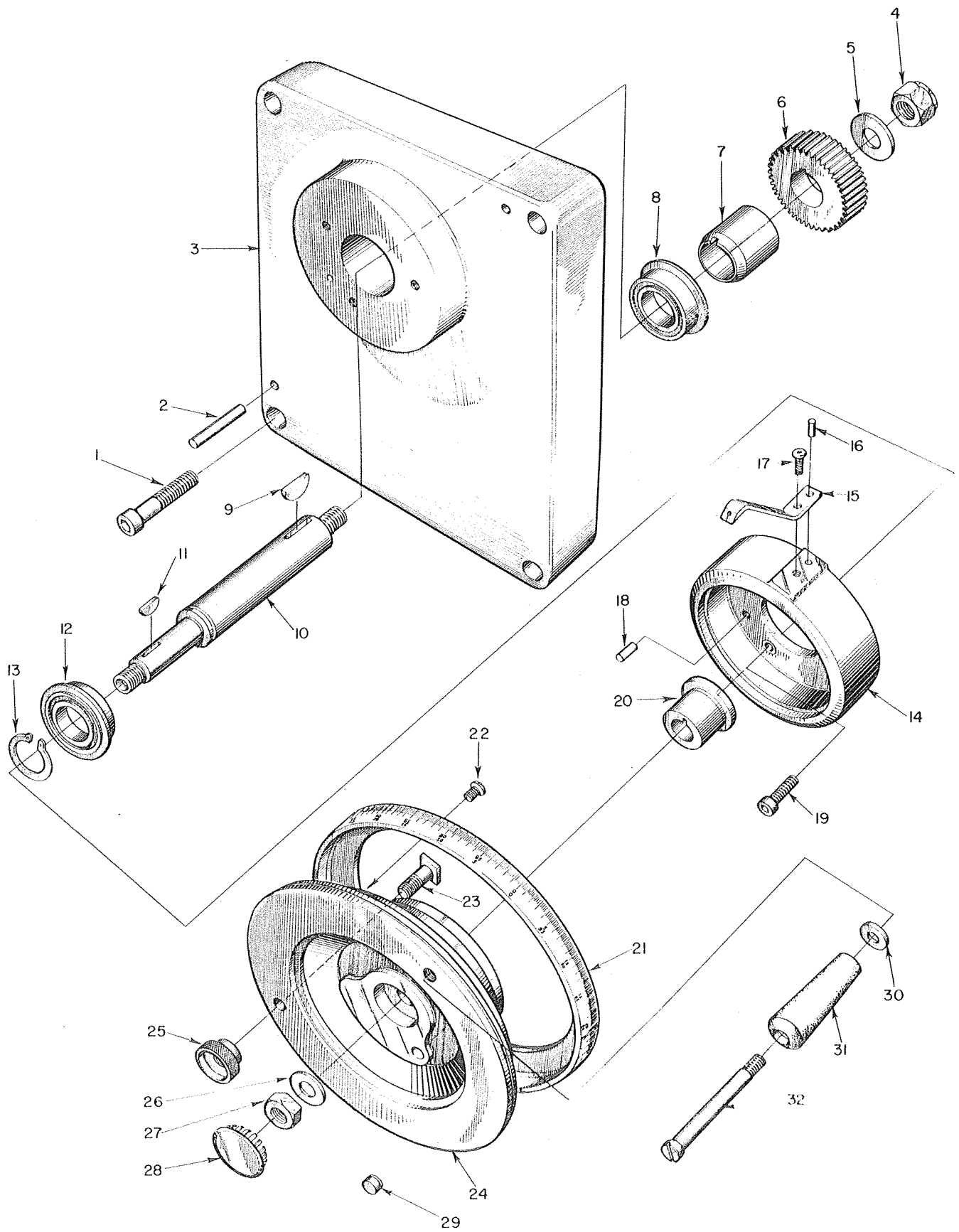
*Brown & Sharpe*

# TABLE REVERSING LEVER & CONNECTOR PARTS LIST

INDEX NO.	PART NO.	PART NAME	
1	23-5382	Table Reversing Lever (824, 1024, 1030 Mach. Only)	} Incl. Items 2, 3, 4, 5 & 9
	23-5527	Table Reversing Lever (1224 and 1236 Machines Only)	
2	92-5385-1024	Lever Contact Roller Screw	
3	23-5113	Lever Contact Roller	
4	23-3386	Reversing Lever Handle	
5	479-3124	Lever Handle Ball	
6	92-900-646	Reversing Lever Pin	
7	23-5113	Lever Contact Roller	} Furnished with Item 1
8	92-5385-1024	Lever Contact Roller Screw	
9	92-5071-624	Reversing Lever Set Screw	
10	91-201-1118	Reversing Lever Shaft Washer	
11	437-4	Reversing Lever Shaft Ball Bearing	
12	23-5384	Reversing Lever Shaft	
13	23-5387	Lower Bearing Retainer Cap Tube	
14	92-900-620	Retainer Cap Tube Pin	
15	92-980-420	Reversing Shaft Key	
16	437-4	Reversing Lever Shaft Ball Bearing	
17	23-5388	Lower Bearing Retaining Collar	
18	92-5390-812	Valve Control Lever Screw	
19	92-5390-808	Retaining Collar Set Screw	
20	23-5389	Reversing Valve Control Lever	
21	472-592	Valve Control Lever Stop Nut	
22	92-5050-636	Valve Control Lever Screw	
23	429-65	Reversing Valve Control Rod End	
24	92-6015-608	Control Rod End Nut	
25	23-5390	Reversing Valve Control Rod	
26	92-6015-608	Control Rod End Nut	
27	429-65	Reversing Valve Control Rod End	
28	92-5990-412	Control Rod End Cotter Pin	
29	23-5391	Control Rod End Pin	

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



**CROSS FEED HANDWHEEL COMPLETE**

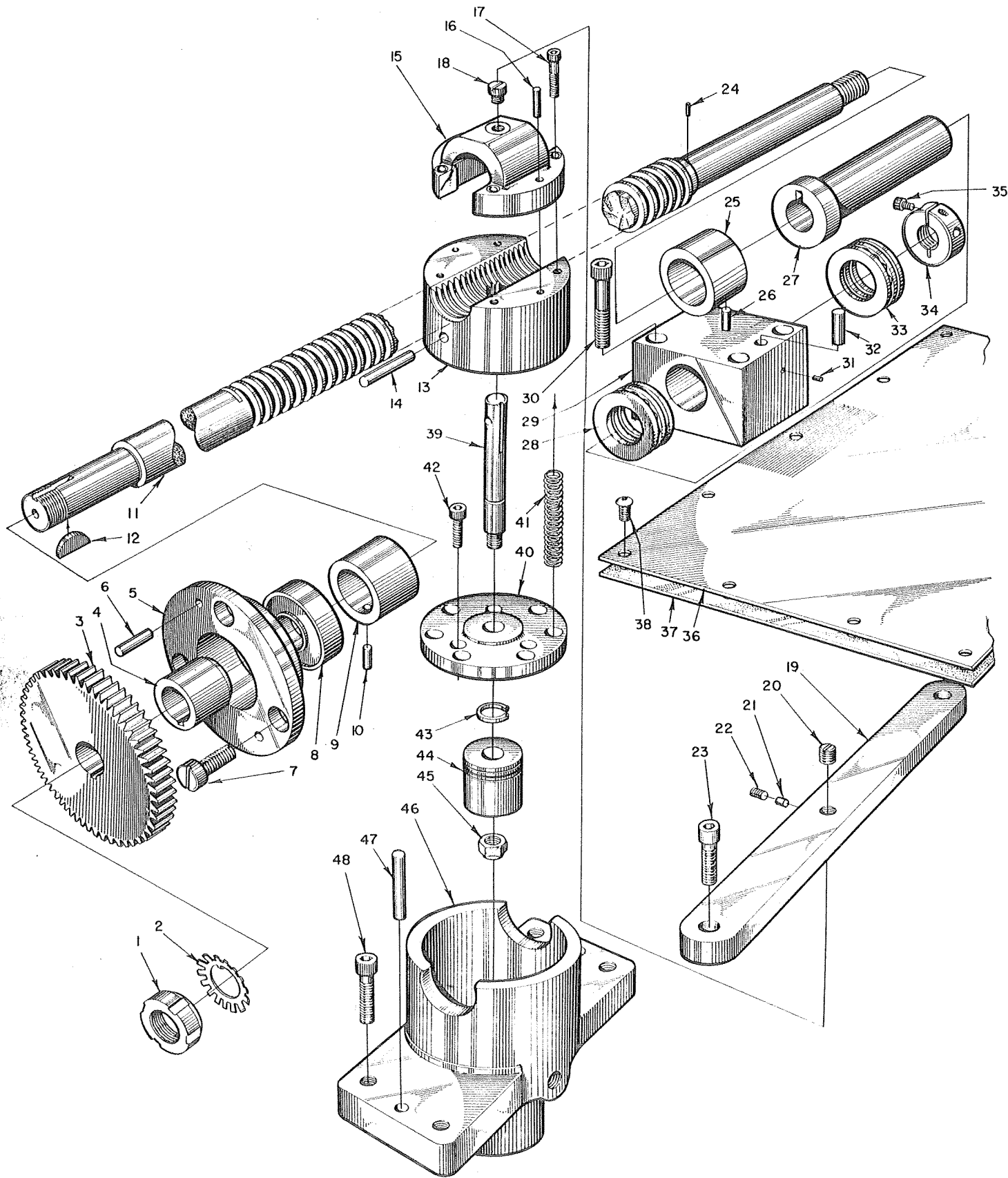
**Brown & Sharpe**

# CROSS FEED HANDWHEEL COMPLETE PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	92-5380-1240	Cross Feed Handwheel Bracket Screws
2	92-900-1040	Cross Feed Handwheel Bracket Dowel Pin
3	23-5345	Cross Feed Handwheel Bracket
4	472-599	Cross Feed Handwheel Shaft Stop Nut
5	92-2040-1604-36	Cross Feed Handwheel Shaft Washer
6	23-5397	Cross Feed Handwheel Shaft Gear
7	23-5257	Cross Feed Screw Bearing Retainer
8	437-1471	Cross Feed Handwheel Bracket Ball Bearing
9	92-980-828	Cross Feed Handwheel Shaft Key
10	23-5347	Cross Feed Handwheel Shaft
11	92-980-624	Cross Feed Handwheel Shaft Key
12	437-1471	Cross Feed Handwheel Bracket Ball Bearing
13	429-1485	Cross Feed Handwheel Shaft Retaining Ring
14	23-5396	Cross Feed Handwheel Bracket Extension
15	23-5349	Pointer
16	92-900-612	Pointer Dowel Pin
17	92-5385-816	Pointer Screw
18	92-900-820	Bracket Extension Dowel Pin
19	92-5380-824	Bracket Extension Screw
20	23-5010	Worm Gear Bushing
21	23-4706	Cross Feed Indicator Ring
22	92-5385-812	Cross Feed Indicator Ring Screw
23	92-5020-1032	Handwheel Tee Bolt
24	23-5008	Cross Feed Handwheel
25	92-6100-10	Handwheel Tee Bolt Knob
26	92-2010-1602-32	Cross Feed Handwheel Shaft Washer
27	92-6015-1620	Cross Feed Handwheel Shaft Nut
28	479-189	Plug Button
29	92-880-1208	Handwheel Plug - (Cast Iron)
30	92-2010-1204-24	Handwheel Handle Washer
31	92-5802-7	Handwheel Handle
32	21-3965	Handwheel Handle Stud

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



**CROSS FEED SCREW**

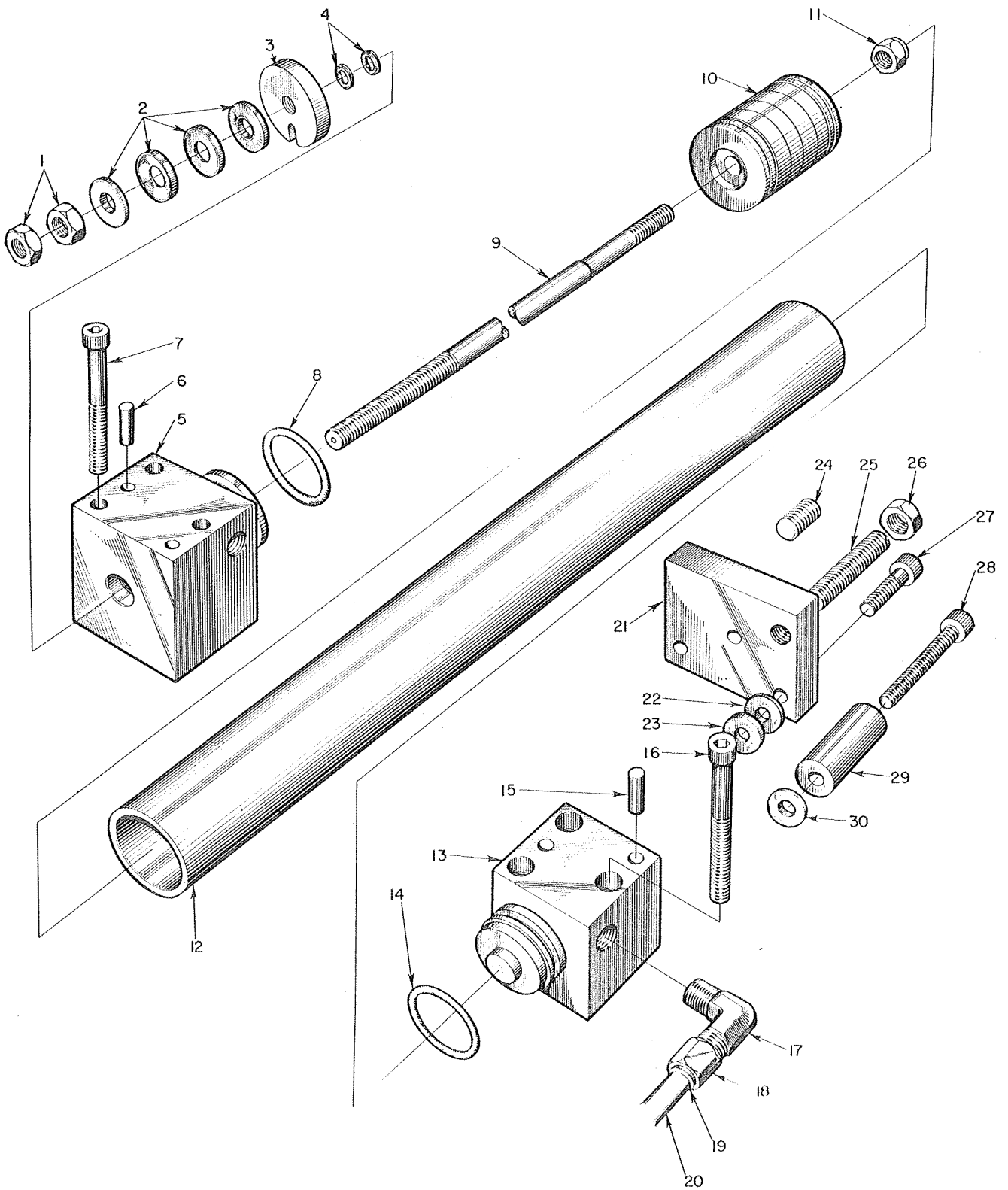
# CROSS FEED SCREW PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	92-6043-31	Cross Feed Screw Locknut
2	92-2031-31	Screw Lockwasher
3	23-5256	Screw Gear
4	23-5257	Screw Bearing Retainer
5	23-5258	Screw Housing - Front
6	92-900-828	Screw Housing Pins
7	92-5050-1232	Screw Housing Screws
8	434-1168	Screw Ball Bearing
9	23-5220	Screw Bearing - Front
10	92-900-620	Screw Bearing - Front Pin
11	23-5255	Cross Feed Screw (Includes Item 24)
12	92-980-828	Screw Woodruff Key
13	23-5260	Cross Feed Screw Nut (Includes Items 14 and 39)
14	92-900-840	Screw Nut Pin
15	23-5265	Screw Nut Locating Bracket
16	92-900-628	Locating Bracket Pins
17	92-5380-632	Locating Bracket Screws
18	91-505-69	Locating Bracket Support Screw
19	23-5266	Locating Bracket Stop
20	472-352	Locating Bracket Stop Screw
21	92-5930-604	Locating Bracket Stop Shoe
22	92-5391-812	Locating Bracket Stop Shoe Screw
23	92-5380-1024	Locating Bracket Screws
24	92-900-406	Cross Feed Screw Pin
25	23-5220	Screw Bearing - Rear
26	92-900-620	Screw Bearing - Rear Pins
27	23-5759	Screw Ball Thrust Bearing Sleeve
28	438-16	Screw Ball Thrust Bearing
29	23-5758	Screw Rear Support
30	92-5380-1254	Screw Rear Support Screws
31	461-928	Screw Rear Support Oil Tube Bushing
32	92-900-1236	Screw Rear Support Dowel Pin
33	438-16	Screw Ball Thrust Bearing
34	21-5774	Screw Bearing Nut (Includes Item 35)
35	92-5380-616	Screw Bearing Nut Clamp Screw
36	23-5218	Upright Base Cover
37	23-5219	Upright Base Cover Gasket
38	92-5385-816	Upright Base Cover Screws
39	23-5262	Screw Nut Piston Rod
40	23-5263	Screw Nut Piston Rod Gland
41	23-5276	Screw Nut Piston Rod Springs
42	92-5380-624	Gland Screws
43	429-1495	Screw Nut Piston Rod Retaining Ring
44	23-5261	Screw Nut Piston
45	472-594	Screw Nut Piston Rod Nut
46	23-5264	Screw Nut Housing
47	92-900-1040	Screw Nut Housing Pins
48	92-5380-1240	Screw Nut Housing Screws

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**





**CROSS FEED CYLINDER**

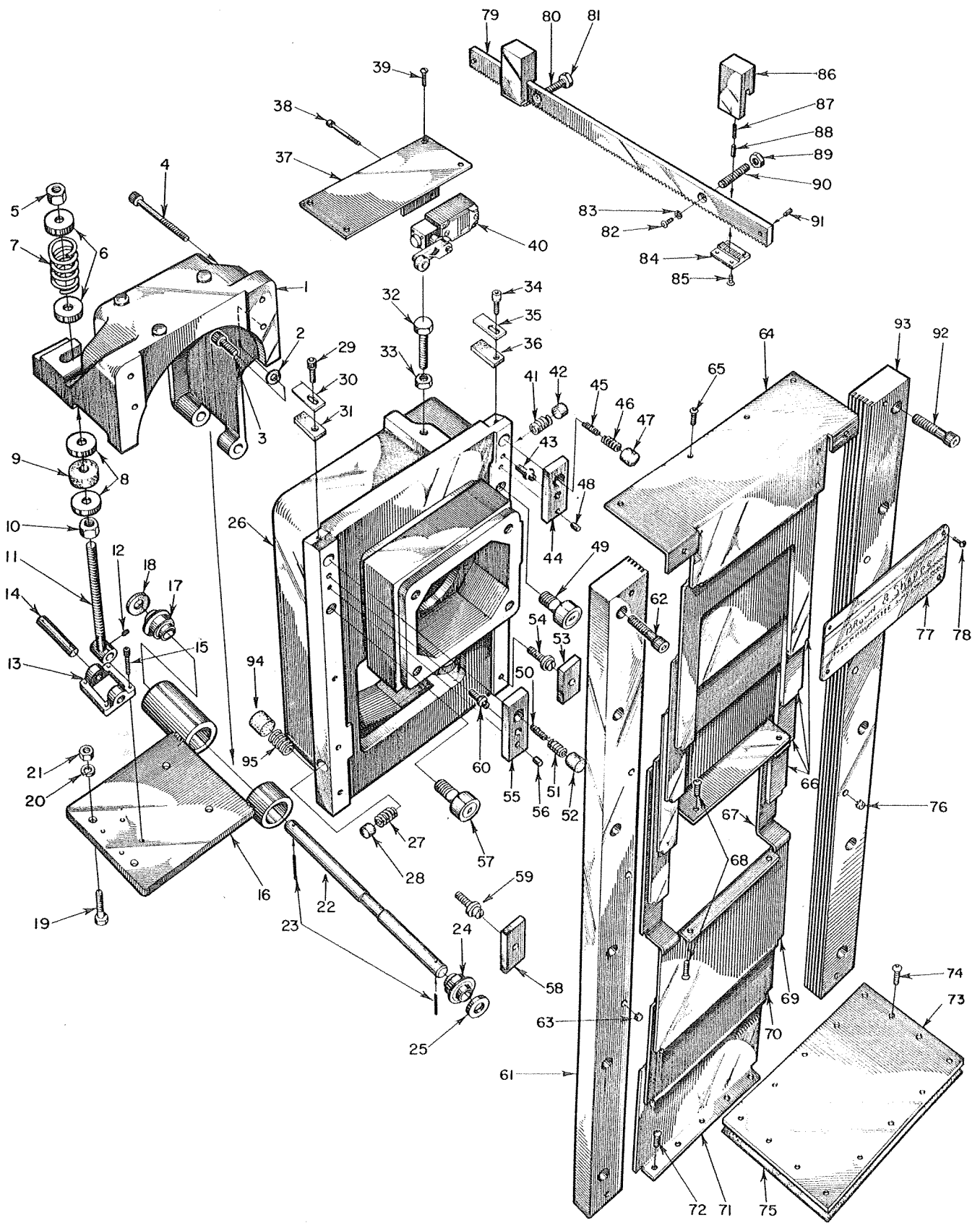
**Brown & Sharpe**

# CROSS FEED CYLINDER PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	472-599	Piston Rod Nut
2	472-159	Piston Rod Spherical Washers
3	23-5878	Piston Rod Nut
4	466-234	Piston Rod "X" Sealing Ring
5	23-5356	Cylinder Head - Front
6	92-900-1032	Cylinder Head Dowel Pin
7	92-5380-1260	Cylinder Head Front - Screw
8	466-95	Cylinder Head "O" Ring
9	23-5360	Piston Rod
10	23-5359	Cross Feed Piston
11	472-582	Piston Rod Stop Nut
12	23-5355	Cross Feed Cylinder (Incl. Item 10)
13	23-5357	Cylinder Head - Rear
14	466-95	Cylinder Head "O" Ring
15	92-900-1032	Cylinder Head Dowel Pin
16	92-5380-1258	Cylinder Head Rear - Screw
17	464-21	Cylinder Head Elbow
18	464-640	Cylinder Head Tubing Coupling Nut
19	464-636	Cylinder Head Tubing Steel Sleeve
20	464-127	Aluminum Tubing - $\frac{5}{16}$ " O.D.
21	23-5466	Cross Feed Stop Plate
22	92-2010-1204-32	Stop Plate Washer (824, 1024 and 1030 Machines Only)
23	472-412	Vellumoid Washer
24	92-5390-1636	Cross Feed Stop Screw (1024, 1030, 1224 and 1236 Machines Only)
25	23-5205	Cross Feed Stop Screw (824 Machine Only)
26	92-6015-1620	Cross Feed Stop Nut
27	92-5380-1240	Stop Plate Screw (824, 1024 and 1030 Machines Only)
28	92-5380-1258	Stop Plate Screw (1224 and 1236 Machines Only)
29	23-5493	Stop Plate Spacer (1224 and 1236 Machines Only)
30	472-412	Vellumoid Washer

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



UPRIGHT

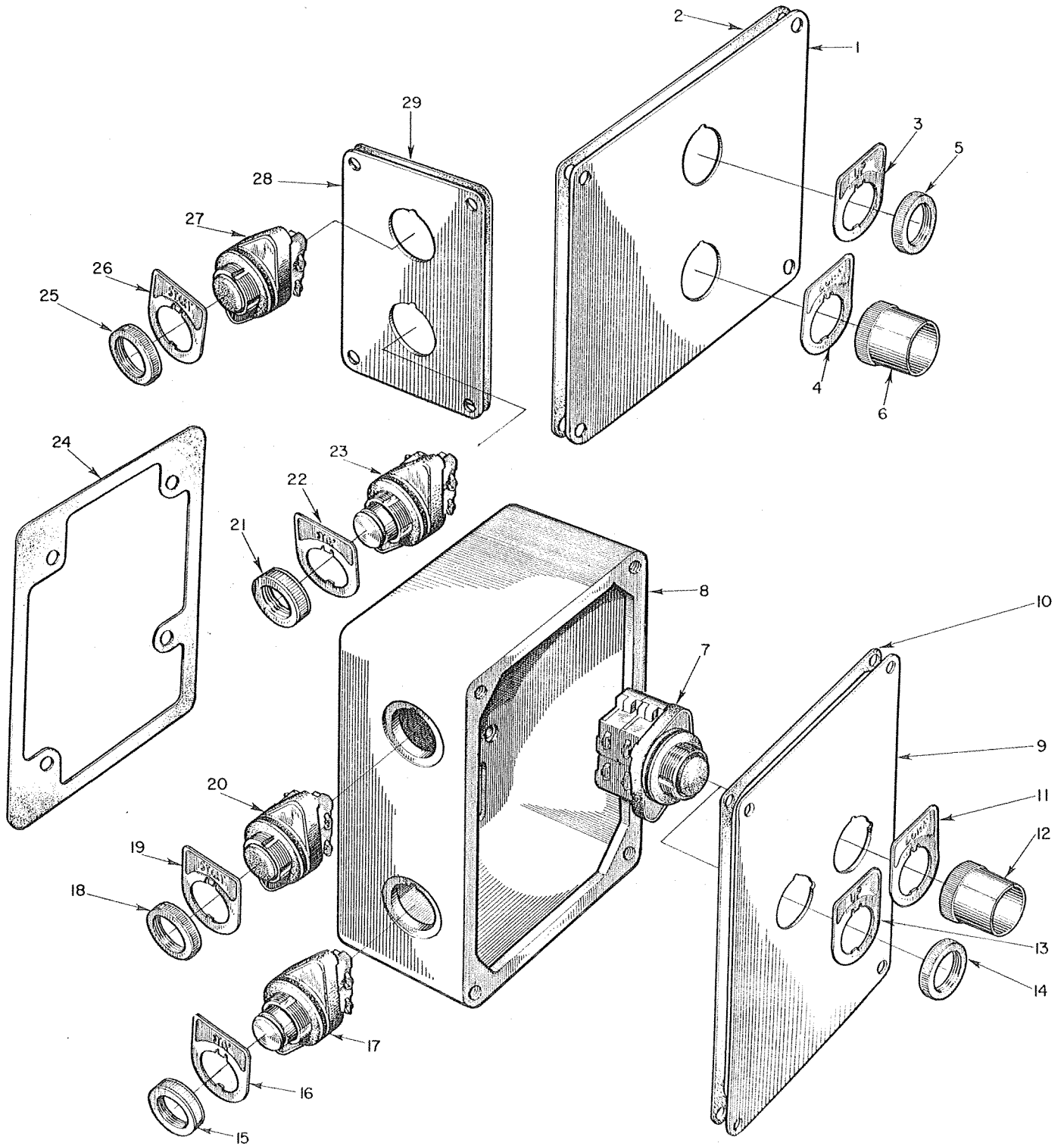
**Brown & Sharpe**

# UPRIGHT PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-5277	Wheel Slide Extension	48	92-900-1024	Wheel Slide Gib Pin
2	92-2010-1202-24	Wheel Slide Extension Washer	49	429-157	Cam Follower
3	92-5380-1240	Wheel Slide Extension Screw	50	23-5275	Gib Stabilizer Spring - Small
4	92-5380-1258	Wheel Slide Extension Screw	51	23-5274	Gib Stabilizer Spring - Large
5	92-6015-1628	Motor Bracket Support Nut	52	23-5223	Gib Stabilizer Button
6	92-2040-1604-40	Motor Bracket Support Washer	53	23-6033	Wheel Slide Gib - Short
7	91-100-603	Motor Bracket Support Spring	54	23-4724	Gib Adjusting Screw
8	92-2040-1604-40	Motor Bracket Support Washer	55	23-6034	Wheel Slide Gib - Long
9	23-5836	Motor Bracket Support Felt Washer	56	92-900-1024	Wheel Slide Gib Pin
10	92-6015-1628	Motor Bracket Support Nut	57	429-157	Cam Follower
11	23-5242	Motor Bracket Support	58	23-6033	Wheel Slide Gib - Short
12	92-5390-808	Motor Bracket Support Set Screw	59	23-5724	Gib Adjusting Screw
13	23-5239	Motor Bracket Support Fulcrum Bearing	60	23-4724	Gib Adjusting Screw
14	23-5244	Motor Bracket Support Fulcrum	61	23-5202	Upright Strap
15	92-5380-632	Motor Bracket Support Fulcrum Bearing Screw	62	92-5380-1648	Upright Strap Screw
16	23-5240	Motor Bracket	63	479-70	Upright Strap Plug Button
17	479-278	Motor Bracket Vibration Isolator	64	23-5206	Elevating Screw Guard - Upper
18	92-2010-2204-36	Motor Bracket Fulcrum Washer	65	92-5385-812	Upper Guard Screw
19	92-5035-1240	Motor Mounting Screw	66	23-5208	Upper Intermediate Screw Guard
20	92-2030-12	Motor Mounting Lockwasher	67	23-5209	Wheel Slide Guard - Upper
21	92-6015-1628	Motor Mounting Nut	68	92-5385-812	Elevating Screw Guard Screw
22	23-5241	Motor Bracket Fulcrum	69	23-5210	Wheel Slide Guard - Lower
23	92-5990-636	Fulcrum Cotter Pin	70	23-5211	Lower - Intermediate Screw Guard
24	479-278	Motor Bracket Vibration Isolator	71	23-5212	Elevating Screw Guard - Lower
25	92-2010-2204	Motor Bracket Fulcrum Washer	72	92-5385-812	Elevating Screw Guard Screw
26	23-5221	Wheel Slide	73	23-5218	Upright Base Cover
27	92-1000-2436-15	Wheel Slide Stabilizer Spring	74	92-5385-812	Upright Base Cover Screw
28	23-4956	Wheel Slide Stabilizer Button	75	23-5219	Upright Base Cover Gasket
29	92-5380-1016	Wiper Plate Screw	76	479-70	Upright Strap Plug Button
30	23-5225	Wheel Slide Wiper Plate	77	23-5233	824 Nameplate
31	23-5224	Wheel Slide Wiper		23-5489	1024 Nameplate
32	92-5041-1648	Wheel Slide Stop Screw		23-5490	1030 Nameplate
		824, 1024 and 1030 Mach.		23-5499	1224 Nameplate
	92-5041-1652	Wheel Slide Stop Screw,		23-5968	1236 Nameplate
		1224 and 1236 Mach.	78	472-517	Nameplate Screw
33	92-6015-1620	Wheel Slide Stop Nut	79	23-5482	Cross Feed Dog Rack
34	92-5380-1016	Wiper Plate Screw	80	23-5483	Cross Feed Dog Rack Support Screw
35	23-5225	Wheel Slide Wiper Plate	81	92-6015-1620	Cross Feed Dog Rack Support Nut
36	23-5224	Wheel Slide Wiper	82	92-5385-820	Cross Feed Dog Rack Screw
37	23-5204	Upright Limit Switch Bracket	83	92-2030-8	Cross Feed Dog Rack Lockwasher
38	92-5380-616	Upright Limit Switch Screw	84	23-5481	Cross Feed Trip Dog Cam
39	92-5385-816	Upright Limit Switch Bracket Screw	85	92-5385-612	Cross Feed Trip Dog Screw
40	412-60	Upright Limit Switch	86	23-5480	Cross Feed Trip Dog
41	92-1000-2436-15	Wheel Slide Stabilizer Spring	87	92-1000-624-20	Cross Feed Trip Dog Spring
42	23-4956	Wheel Slide Stabilizer Button	88	92-5930-616	Cross Feed Trip Dog Shoe
43	23-4724	Gib Adjusting Screw	89	92-6015-1620	Cross Feed Dog Rack Support Nut
44	23-6034	Wheel Slide Gib - Long	90	23-5483	Cross Feed Dog Rack Support Screw
45	23-5275	Gib Stabilizer Spring - Small	91	92-900-816	Cross Feed Dog Rack Pin
46	23-5274	Gib Stabilizer Spring - Large	92	92-5380-1648	Upright Strap Screw
47	23-5223	Gib Stabilizer Button	93	23-5202	Upright Strap
			94	23-5223	Gib Stabilizer Button
			95	23-5274	Gib Stabilizer Button Spring

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



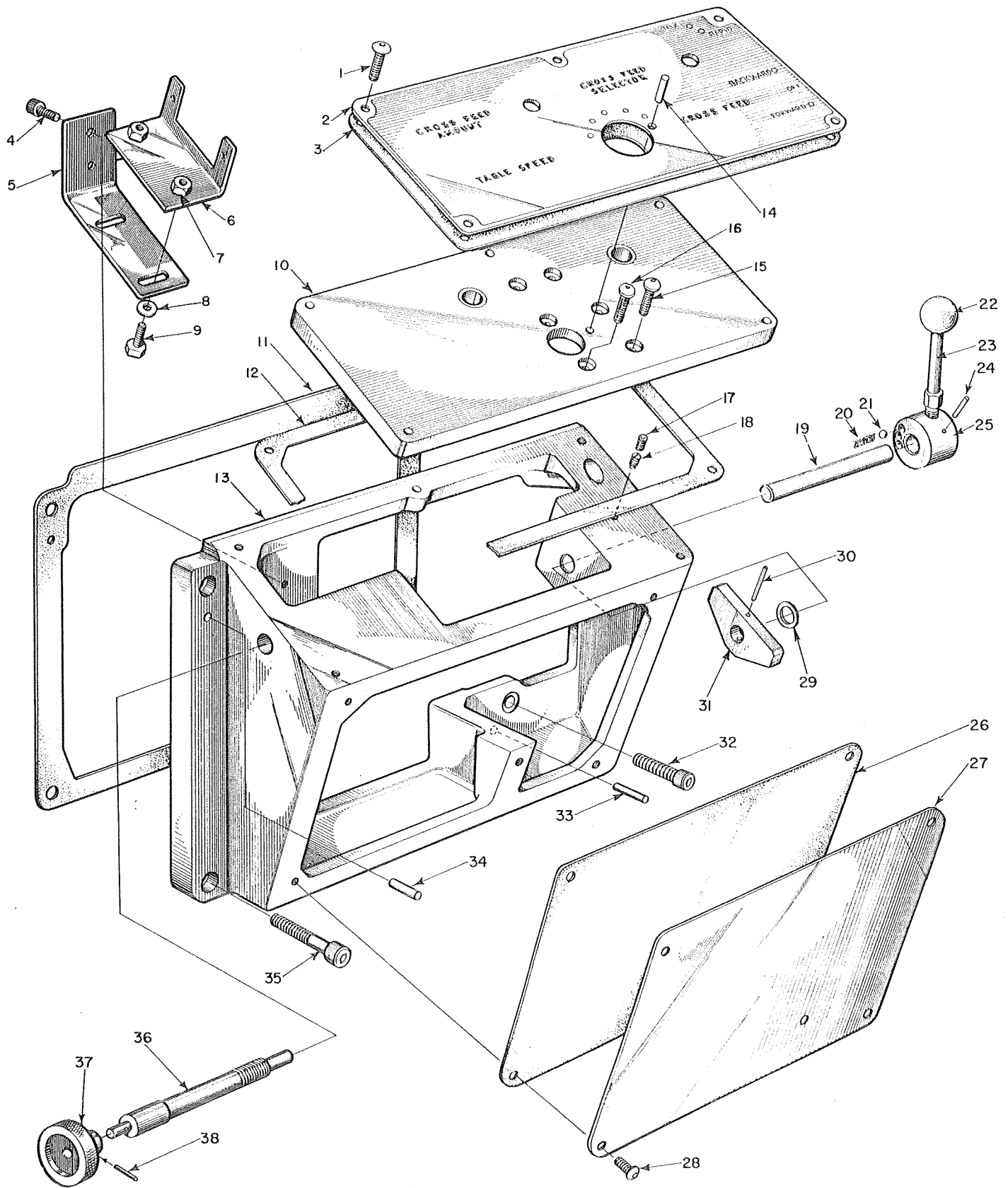
**START & STOP CONTROL BOX**

# START & STOP CONTROL BOX PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	23-5394	Control Box Cover (For Machines 1030 and 1236)
2	23-5395	Control Box Cover Gasket
3	-----	Nameplate - "UP" }
4	-----	Nameplate - "DOWN" } Furnished with Item 7
5	-----	Locknut }
6	415-100	Pushbutton Extended Ring
7	412-65	Pushbutton (Up) Pushbutton (Down)
8	23-5393	Start and Stop Control Box (824, 1024, 1224 Machines Only)
9	23-6100	Control Box Cover (For Machines 824, 1024 and 1224)
10	23-6101	Control Box Cover Gasket
11	-----	Nameplate - "DOWN" - Furnished with Item 7
12	415-100	Pushbutton Extended Ring
13	-----	Nameplate - "UP" - Furnished with Item 7
14	-----	Locknut - Furnished with Item 7
15	-----	Locknut - Furnished with Item 17
16	-----	Nameplate - "STOP" - Furnished with Item 17
17	412-63	Pushbutton (Black)
18	-----	Locknut - Furnished with Item 20
19	-----	Nameplate - "START" - Furnished with Item 20
20	412-64	Pushbutton (Red)
21	-----	Locknut - Furnished with Item 23
22	-----	Nameplate - "STOP" - Furnished with Item 23
23	412-63	Pushbutton (Black)
24	23-5775	Control Box Gasket (824, 1024, 1224 Machines Only)
25	-----	Locknut - Furnished with Item 27
26	412-71	Nameplate - "START" - Furnished with Item 27
27	412-64	Pushbutton (Red)
28	81-268	Pushbutton Plate }
29	81-269	Pushbutton Plate Gasket } 1030 and 1236 Machines Only

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



## HYDRAULIC & ELECTRICAL CONTROLS

**Brown & Sharpe**

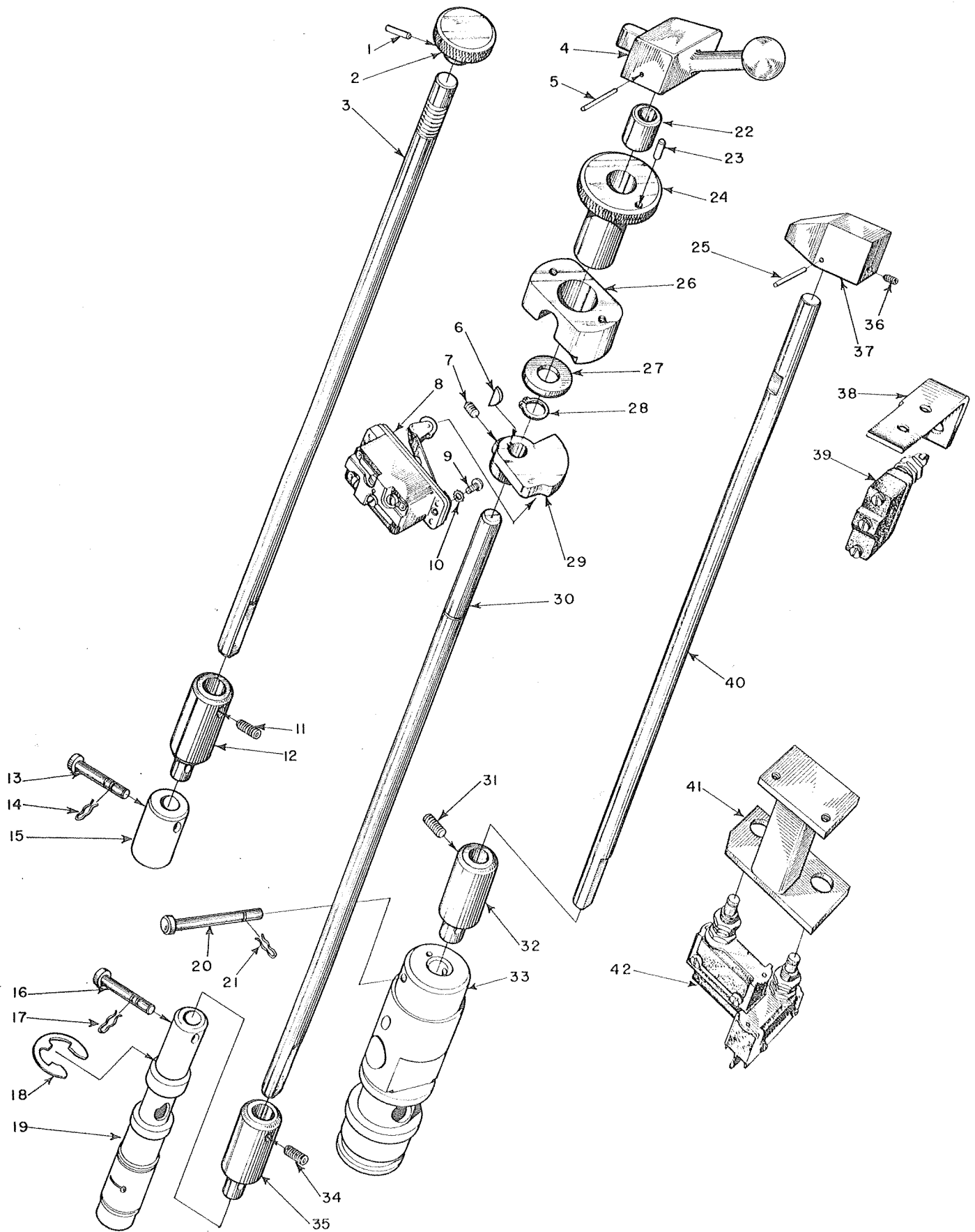
# HYDRAULIC & ELECTRICAL CONTROLS PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	92-5385-832	Control Instruction Plate Screw
2	23-5409	Control Instruction Plate
3	23-5408	Control Instruction Plate Gasket
4	92-5380-816	Control Switch Bracket Support Screw
5	23-5426	Table Switch Bracket Support
6	23-5419	Control Switch Bracket (Incl. Item 7)
7	472-57	Control Switch Bracket Nut
8	92-2010-802-16	Control Switch Bracket Washer
9	92-5030-816	Control Switch Bracket Screw
10	23-5407	Control Bracket Cover Top
11	23-5406	Control Bracket Gasket
12	23-5408	Control Bracket Cover Top Gasket
13	23-5405	Control Bracket
14	92-900-616	Control Bracket Top Cover Pin
15	92-5385-816	Control Switch Bracket Screw
16	92-5385-820	Upper Bearings Screw
17	92-5391-812	Locating Screw Set Screw
18	92-936-808-4	Cross Feed Valve Locating Screw
19	23-5880	Cross Feed Directional Valve
20	92-1000-836-19	Cross Feed Operating Lever Spring
21	429-1295	Steel Ball
22	479-87	Cross Feed Operating Lever Knob
23	23-5884	Cross Feed Operating Lever Handle
24	92-900-440	Cross Feed Operating Lever Pin
25	23-5879	Cross Feed Operating Lever Complete (Incl. Items 22 & 23)
26	23-5411	Control Bracket Gasket - Front
27	23-5410	Control Bracket Cover - Front
28	92-5385-816	Control Bracket Front Cover Screw
29	92-2010-1608-28	Operating Lever Shaft Washer
30	92-902-832	Cross Feed Switch Operating Lever Pin
31	23-5881	Cross Feed Switch Operating Lever
32	92-5380-1232	Control Bracket Screw - Right
33	92-900-1030	Control Bracket Pin - Right
34	92-900-1034	Control Bracket Pin - Left
35	92-5380-1236	Control Bracket Screw - Left
36	23-5425	Table Control Shaft Bushing Screw
37	92-720-10	Table Control Shaft Bushing Screw Knob
38	92-900-420	Table Control Shaft Bushing Screw Pin

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**





**HYDRAULIC & ELECTRICAL CONTROLS (cont'd)**

**Brown & Sharpe**

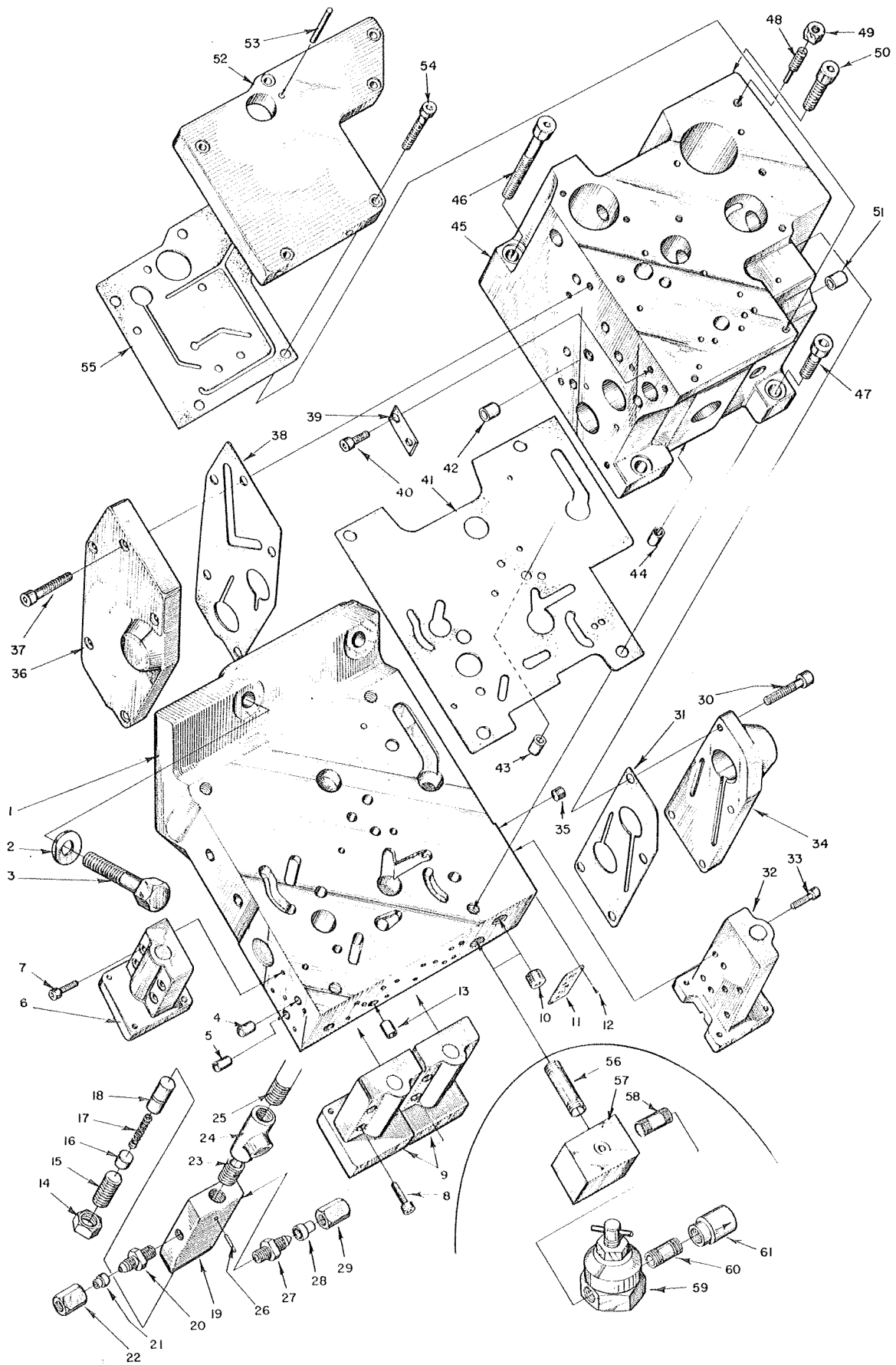
# HYDRAULIC & ELECTRICAL CONTROLS (cont'd)

## PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	92-900-424	Amount Control Shaft Knob Pin
2	23-5422	Amount Control Shaft Knob (Incl. Items 1 & 3)
3	23-5421	Amount Control Shaft
4	23-4814	Table and Throttle Lever
5	92-900-436	Table and Throttle Lever Pin
6	92-980-416	Control Shaft Key
7	92-5390-808	Control Switch Operating Cam Screw
8	412-51	Limit Switch
9	472-41	Limit Switch Screw
10	472-92	Limit Switch Lockwasher
11	92-5390-812	Control Shaft Coupling Screw
12	23-5418	Control Shaft Coupling
13	23-5448	Amount Coupling and Throttle Piston Pin
14	472-199	Piston Pin Hair Cotter Pin
15	23-5450	Control Shaft Coupling
16	23-5448	Table Throttle Piston Pin
17	472-199	Piston Pin Hair Cotter Pin
18	429-103	Table Throttle Piston Snap Ring
19	23-5443	Table Throttle Piston
20	23-5447	Selector Piston Pin
21	472-199	Piston Pin Hair Cotter Pin
22	421-3808	Table Control Shaft Bushing
23	92-900-620	Table Control Shaft Sleeve Pin
24	23-5424	Table Control Shaft Sleeve (Incl. Item 23)
25	92-900-420	Cross Feed Selector Knob Pin
26	23-5760	Table Control Shaft Bearing (Upper)
27	92-2040-1604-36	Table Control Shaft Washer
28	429-1495	Table Control Shaft Retaining Ring
29	23-5417	Control Switch Operating Cam
30	23-5423	Table Control Shaft
31	92-5390-812	Control Shaft Coupling Screw
32	23-5418	Control Shaft Coupling
33	23-5439	Cross Feed Selector Piston
34	92-5390-812	Control Shaft Coupling Screw
35	23-5418	Control Shaft Coupling
36	92-5390-808	Cross Feed Selector Lever Set Screw
37	23-5529	Cross Feed Selector Lever (Incl. Item 36)
38	23-5420	Control Switch Bracket Support
39	412-89	Micro-Switch
40	23-5415	Selector Control Shaft
41	23-5883	Control Switch Bracket
42	412-126	Limit Switch

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

824, 1024, 1030, 1224 & 1236 MICROMASTERS



**HYDRAULIC CONTROL PANEL & VALVE**

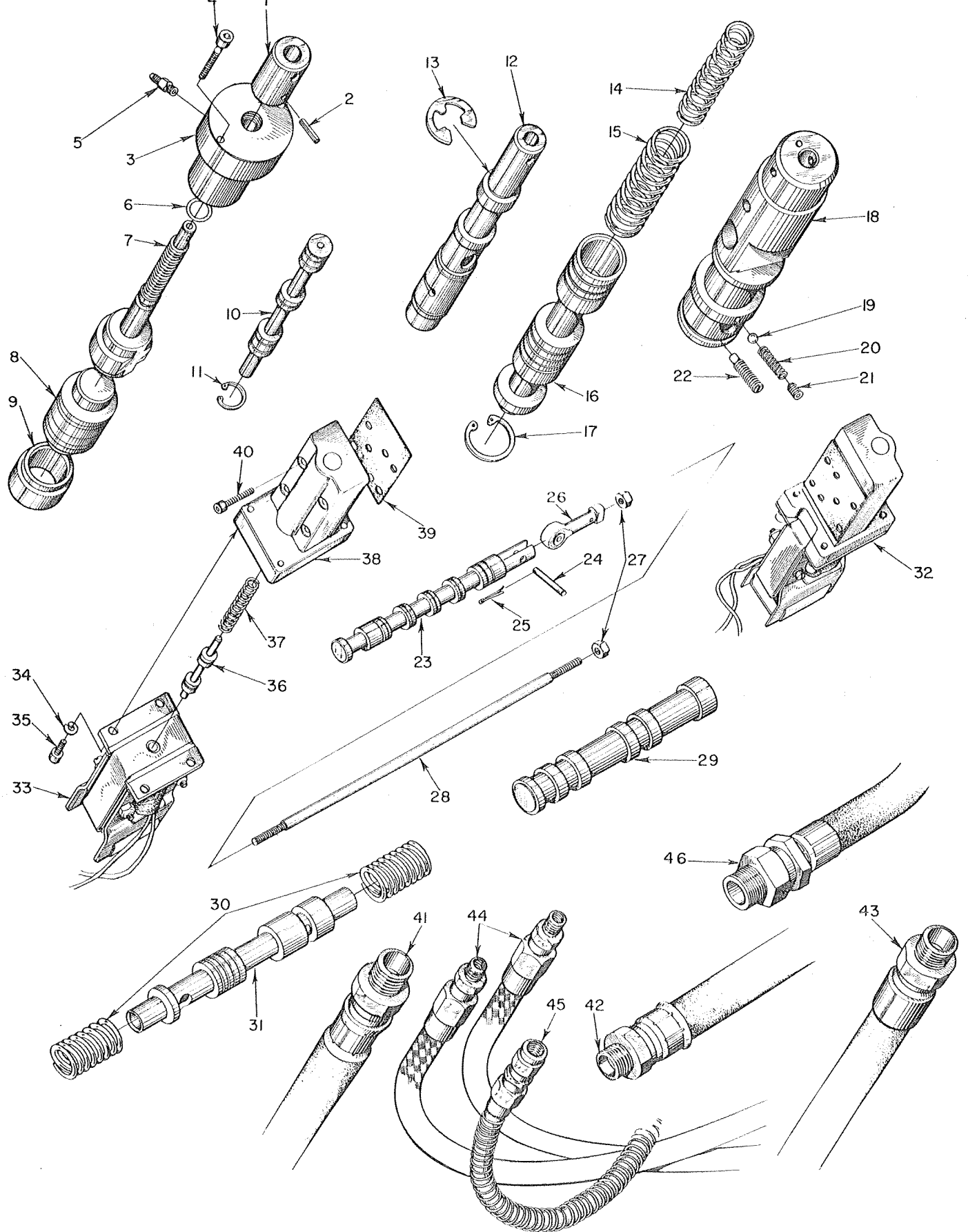
**Brown & Sharpe**

# HYDRAULIC CONTROL PANEL & VALVE PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-5430	Hydraulic Panel	32	23-5617	Solenoid Pilot Valve
2	92-2040-1602-32	Hydraulic Panel Washer	33	92-5380-632	Solenoid Pilot Valve Screw
3	92-5035-1644	Hydraulic Panel Screw	34	23-5437	Valve Body Cover - Right
4	23-6097	Orifice (.046/.047 Drill)	35	463-698	Panel Pipe Plug - 1/8"
5	23-5874	Orifice (.062/.063 Drill)	36	23-5435	Valve Body Cover
6	23-5617	Solenoid Pilot Valve	37	92-5380-832	Valve Body Cover Screw
7	92-5380-632	Solenoid Pilot Valve Screw	38	23-5436	Valve Body Cover Gasket - Left
8	32-5617	Solenoid Pilot Valve	39	23-5456	Table Pilot Piston Plate
9	92-5380-632	Solenoid Pilot Valve Screw	40	92-5380-816	Table Pilot Piston Plate Screw
10	463-696	Panel Pipe Plugs-1/4"	41	23-5432	Valve Body Gasket
11	23-5467	Relief Valve Data Plate	42	23-5459	Orifice (.093 Drill)
12	472-516	Relief Valve Data Plate Screw	43	23-5460	Orifice (.078 Drill)
13	23-5459	Orifice (.093 Drill)	44	23-5459	Orifice (.093 Drill)
14	92-6015-1620	Adjusting Screw Lock Nut	45	23-5431	Valve Body
15	92-5391-1632	Timing Valve Adjusting Screw	46	92-5380-1248	Valve Body Screw
16	92-900-1412	Adjusting Screw Plunger	47	92-5380-1236	Valve Body Screw
17	92-1000-832-19	Timing Valve Spring	48	23-5461	Adjustable Truing Speed Screw
18	22-6045	Timing Valve Piston	49	92-6015-1012	Adjustable Truing Speed Screw Nut
19	23-6044	Cross Feed Amount Timing Valve Body	50	92-5380-1232	Valve Body Screw
20	464-626	Male Connector-1/4" Tube x 1/8" N.P.T.	51	23-5457	Orifice (.031 Drill)
21	464-628	Steel Sleeve-1/4" Tube	52	23-5433	Valve Body Cover - Top
22	464-629	Coupling Nut-1/4" Tube	53	92-900-634	Valve Body Cover Top-Pin
23	92-2440-828	Nipple-1/4" x 7/8"	54	92-5380-832	Valve Body Cover Screw
24	463-764	Tee-1/4" x 1/4" x 1/4"	55	23-5434	Valve Body Cover Gasket - Top
25	92-2440-856	Nipple-1/4" x 3"	FOR USE WITH OVER THE WHEEL POWER TRUING ATT. ONLY		
26	92-900-424	Piston Stop Pin	56	92-2440-852	Nipple, 1/4" x 2 1/2" N.P.T.
27	464-626	Male Connector-1/4" Tube x 1/8" N.P.T.	57	23-6004	Block Connector
28	464-628	Steel Sleeve-1/4" Tube	58	92-2440-828	Nipple, 1/4" x 3/4"
29	464-629	Coupling Nut-1/4" Tube	59	461-108	Regulator
30	92-5380-832	Valve Body Cover Right - Screw	60	92-2440-828	Nipple, 1/4" x 3/4" N.P.T.
31	23-5438	Valve Body Cover Right - Gasket	61	463-113	Check Valve

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



**HYDRAULIC CONTROL PANEL & VALVE (cont'd)**

**Brown & Sharpe**

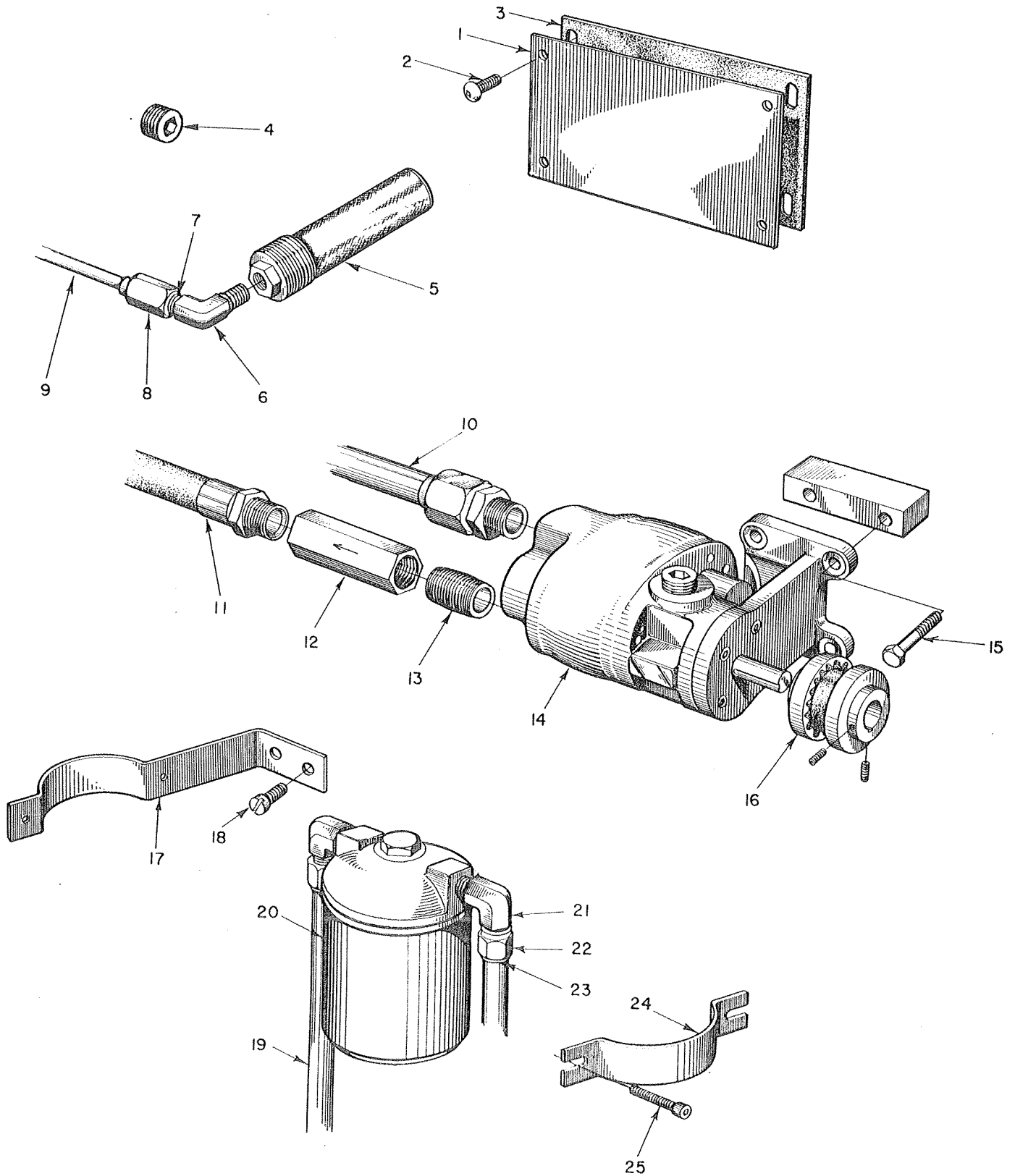
# HYDRAULIC CONTROL PANEL & VALVE (cont'd)

## PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	23-5450	Amount Piston Rod Coupling
2	92-902-832	Amount Piston Rod Coupling Pin
3	23-5451	Amount Piston Rod Gland
4	92-5380-632	Amount Piston Rod Gland Screw
5	461-98	Meter Unit
6	466-3602	Amount Piston Locating Rod "O" Ring
7	23-5449	Amount Piston Locating Rod
8	23-5440	Cross Feed Amount Piston
9	23-5452	Amount Piston Stop
10	23-5441	Cross Feed Control Piston
11	429-1488	Control Piston Spring Retaining Ring
12	23-5443	Table Throttle Piston
13	429-103	Table Throttle Piston Snap Ring
14	23-5770	Table Control Piston Spring - Inner
15	23-5455	Table Control Piston Spring - Outer
16	23-5444	Table Control Piston
17	429-59	Table Control Piston Retaining Ring
18	23-5439	Cross Feed Selector Piston
19	429-1295	Selector Piston Detent Ball
20	92-1000-828-20	Detent Ball Spring
21	92-5391-1012	Detent Spring Retaining Screw
22	92-5361-1020-8	Selector Piston Locating Screw
23	23-5445	Table Pilot Piston
24	23-5391	Table Pilot Piston Pin
25	92-5990-412	Table Pilot Piston Cotter Pin
26	429-65	Reversing Valve Control Rod Ends
27	92-6015-608	Control Rod Nuts
28	23-5390	Reversing Valve Control Rod
29	23-5446	Table Direction Piston
30	23-5454	Cross Feed Direction Piston Springs
31	23-5442	Cross Feed Direction Piston
32	23-5617	Solenoid Pilot Valve (Incl. Items 33 thru 38)
33	411-82	Solenoid
34	92-2030-6	Solenoid Lockwasher
35	92-5380-616	Solenoid Screw
36	23-5464	Pilot Valve Piston
37	23-5465	Pilot Valve Piston Spring
38	23-5462	Pilot Valve
39	23-5463	Pilot Valve Gasket
40	92-5380-632	Pilot Valve Screw
41	463-90	Hose Assembly - 19" Long
42	463-91	Hose Assembly - 41" Long
43	463-153	Hose Assembly - 9" Long
44	463-93	Hose Assembly - 50" Long
45	463-92	Hose Assembly - 48" Long
46	463-222	Hose Assembly - 28" Long

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



HYDRAULIC AND LUBRICATING PUMPS, PIPING, ETC.

*Brown & Sharpe*

# HYDRAULIC AND LUBRICATING PUMPS, PIPING, ETC.

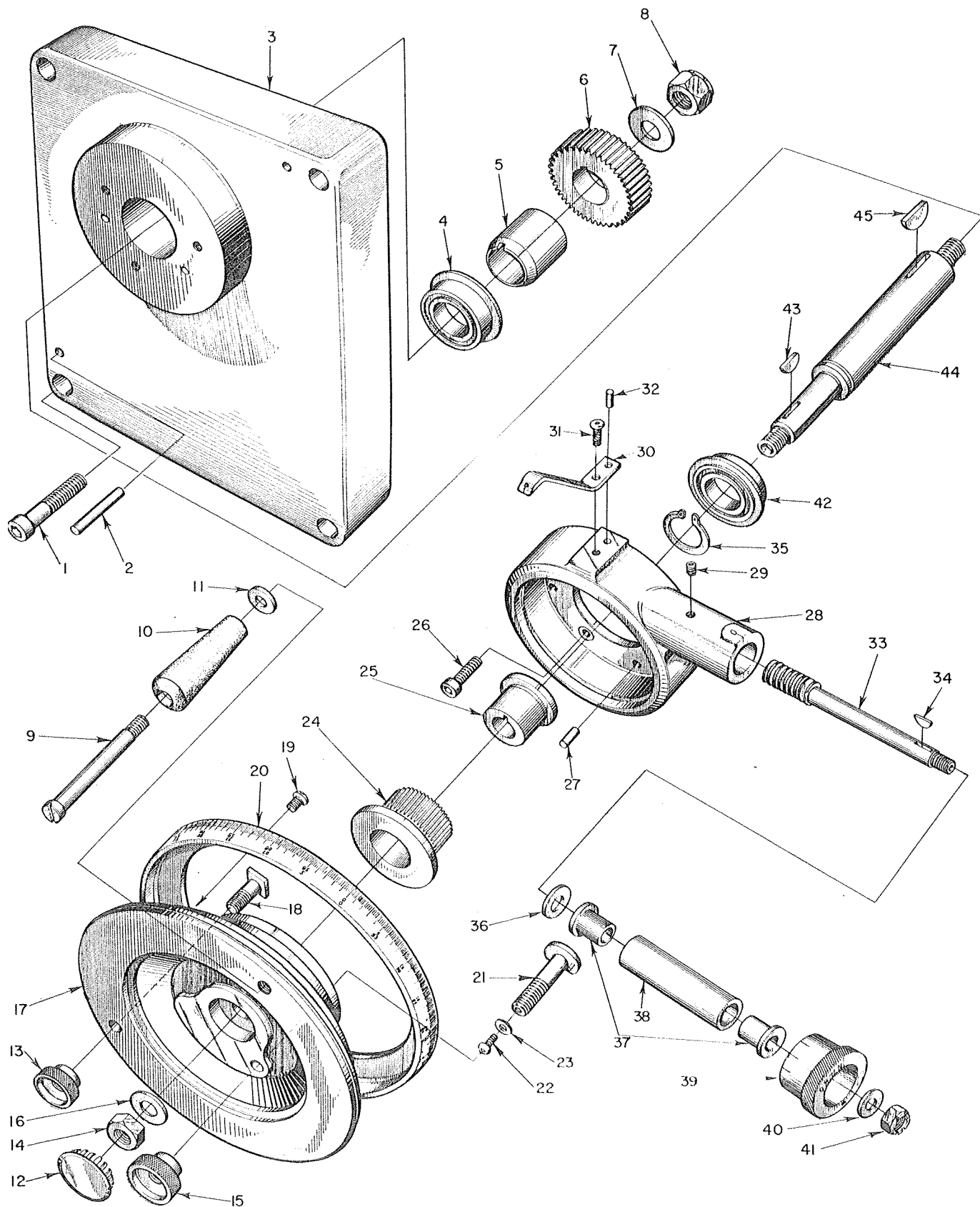
## PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	23-6013	Lubricating Pump Hole Cover
2	92-5385-1016	Lubricating Pump Hole Cover Screw
3	23-5297	Lubricating Pump Hole Cover Gasket
4	463-695	Pipe Plug
5	23-6021	Base Strainer
6	464-655	Elbow - $\frac{3}{8}$ " Tube x $1\frac{1}{4}$ " NPT 90°
7	464-653	Steel Sleeve - $\frac{3}{8}$ " O.D. Tube
8	464-654	Coupling Nut - $\frac{3}{8}$ " O.D. Tube
9	464-128	Tubing - $\frac{3}{8}$ " O.D.
10	23-5738	Discharge Tube Assembly
11	463-222	Hose Assembly - 28" Long
12	463-200	Check Valve
13	92-2440-2438	Hydraulic Panel & Relief Valve Nipple
14	123-824-500	Hydraulic Pump
15	92-5035-1232	Hydraulic Pump Raising Block Screw
16	473-22	Hydraulic Pump Coupling Housing
17	23-5299	Hydraulic Oil Filter Bracket
18	92-5050-1224	Hydraulic Oil Filter Bracket Screw
19	464-129	Aluminum Tubing - $\frac{1}{2}$ " O.D.
20	461-85	Hydraulic Oil Filter
	461-86	Hydraulic Oil Filter Cartridge (Not Shown)
21	464-669	Elbow - 90° $\frac{1}{2}$ " O.D. Tube x $\frac{3}{8}$ " NPTF
22	464-664	Coupling Nut - $\frac{1}{2}$ " O.D. Tube x $\frac{3}{4}$ "-16 NF
23	464-663	Steel Sleeve - $\frac{1}{2}$ " O.D. Tube
24	23-5299	Hydraulic Oil Filter Bracket
25	92-5380-824	Hydraulic Oil Filter Bracket Screw

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**





**.0001" CROSS FEED HANDWHEEL COMPLETE**  
**Optional Mechanism**

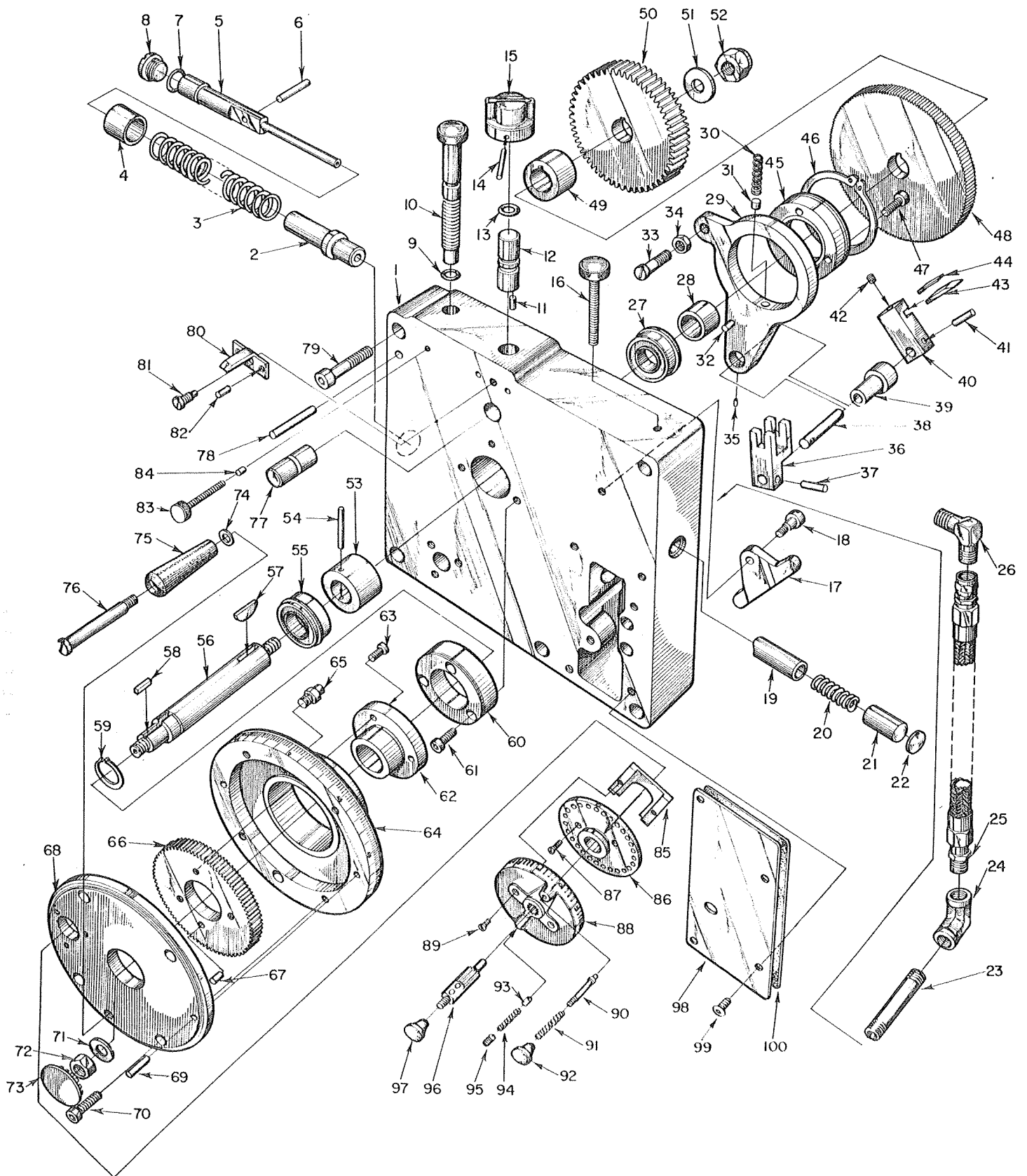
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# .0001" CROSS FEED HANDWHEEL COMPLETE PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	92-5380-1240	Cross Feed Handwheel Bracket Screws
2	92-900-1040	Cross Feed Handwheel Bracket Pins
3	23-5345	Handwheel Bracket
4	437-1471	Handwheel Bracket Ball Bearing
5	23-5257	Handwheel Bracket Bearing Retainer
6	23-5397	Handwheel Shaft Gear
7	92-2040-1604-36	Handwheel Shaft Washer
8	472-599	Handwheel Shaft Stop Nut
9	21-3965	Handwheel Handle Stud
10	92-5802-7	Handwheel Handle
11	92-2010-1204-24	Handwheel Handle Washer
12	479-189	Plug Button
13	92-6100-10	Handwheel Tee Bolt Knob
14	92-6015-1620	Handwheel Shaft Nut
15	92-6100-12	Handwheel Clamp Bolt Knob
16	92-2010-1602-32	Handwheel Shaft Washer
17	23-5008	Cross Feed Handwheel
18	92-5020-1032	Cross Feed Handwheel Tee Bolt
19	92-5385-812	Indicator Ring Screws
20	23-4706	Indicator Ring
21	23-5984	Handwheel Clamp Bolt
22	472-606	Handwheel Clamp Bolt Screw
23	92-2010-602-14	Handwheel Clamp Bolt Washer
24	23-5051	Worm Gear
25	23-5010	Worm Gear Bushing
26	92-5380-824	Handwheel Bracket Extension Screws
27	92-900-820	Handwheel Bracket Extension Pins
28	23-5346	Handwheel Bracket Extension
29	472-3553	Handwheel Bracket Set Screw
30	23-5349	Pointer
31	92-5385-816	Pointer Screw
32	92-900-612	Pointer Dowel Pin
33	23-5350	Cross Feed Worm
34	92-980-416	Cross Feed Worm Key
35	429-1485	Handwheel Shaft Retaining Ring
36	92-2010-1404-28	Cross Feed Worm Washer
37	421-36	Cross Feed Worm Bearings
38	23-5351	Cross Feed Worm Bearing Spacer (Includes Item 37)
39	23-5577	Cross Feed Worm Dial
40	92-2010-1204-24	Cross Feed Worm Washer
41	472-589	Cross Feed Worm Stop Nut
42	437-1471	Handwheel Shaft Ball Bearing
43	92-980-624	Handwheel Shaft Key
44	23-5347	Handwheel Shaft
45	92-980-828	Handwheel Shaft Key

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



**POWER DOWN FEED**  
**Optional Mechanism**

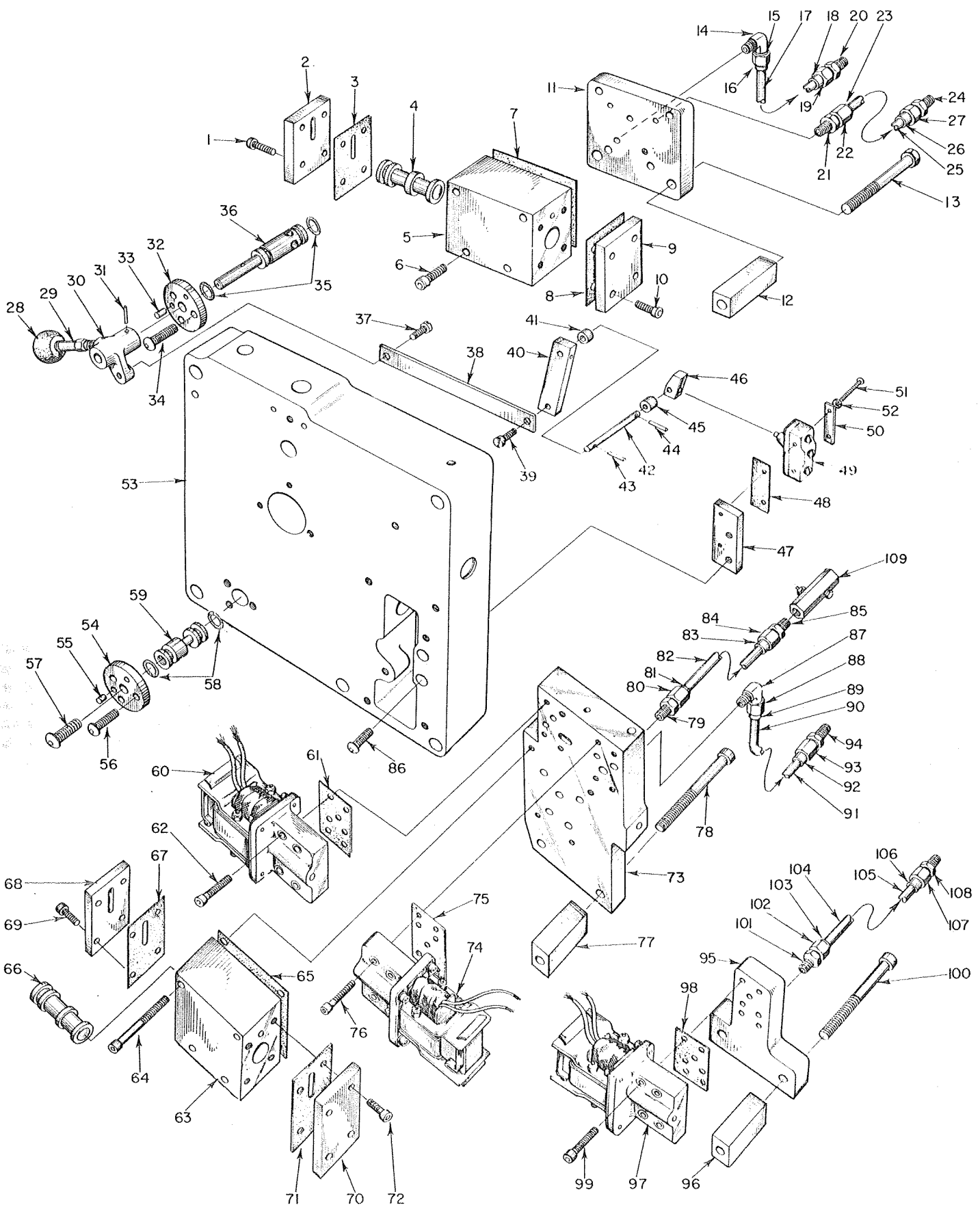
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# POWER DOWN FEED PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	23-5587	Down Feed Handwheel Bracket	51	92-2040-1604-36	Handwheel Shaft Washer
2	23-5592	Piston Spring Guide	52	472-599	Handwheel Shaft Stop Nut
3	23-5100	Piston Spring	53	23-4963	Handwheel Shaft Locking Collar
4	23-5027	Piston Spring Retainer	54	92-900-644	Handwheel Shaft Locking Collar Pin
5	23-5591	Down Feed Piston	55	437-1471	Handwheel Shaft Ball Bearing
6	92-900-832	Down Feed Piston Pin	56	23-5588	Down Feed Handwheel Shaft
7	466-3990	Piston Bore Plug Copper Ring Gasket	57	92-980-834	Handwheel Shaft Key
8	23-5020	Piston Bore Plug	58	92-970-620	Handwheel Shaft Key
9	466-3602	Adjusting Screw "O" Ring	59	429-1485	Front Bearing Retaining Ring
10	23-5596	Down Feed Adjusting Screw	60	23-5014	Handwheel Shaft Bearing Retainer
11	92-900-616	Selector Knob Shaft Pin	61	92-5380-824	Front Bearing Retainer Screw
12	23-5024	Feed Selector Knob Shaft	62	23-5039	Handwheel Driving Sleeve
13	466-609	Selector Knob Shaft "O" Ring	63	92-5380-616	Driving Sleeve Screw
14	92-900-644	Selector Knob Shaft Pin	64	23-5037	Handwheel - Rear Half
15	23-5026	Feed Selector Knob	65	23-5032	Handwheel Stop
16	92-5120-1252	Actuating Lever Screw	66	23-5040	Handwheel Gear
17	23-5595	Brake Shoe Actuating Lever	67	92-900-620	Handwheel Gear Pin
18	92-5270-1012	Actuating Lever Screw	68	23-5038	Handwheel - Front Half
19	23-5593	Handwheel Shaft Brake Shoe	69	92-900-624	Handwheel Front Half Pin
20	92-1000-4020-12	Brake Shoe Spring	70	92-5380-824	Handwheel Front Half Screw
21	23-5594	Brake Shoe Spring Plunger	71	92-2010-1602-32	Handwheel Shaft Washer
22	92-2301-28	Handwheel Bracket Plug	72	92-6015-1620	Handwheel Shaft Nut
23	92-2440-856	Handwheel Bracket Nipple	73	479-189	Handwheel Plug Button
24	464-35	Steel Elbow - 1/4" NPT	74	92-2010-1204-24	Handwheel Handle Washer
25	463-101	Hose Assembly - 20" Long	75	92-5802-7	Handwheel Handle
26	464-655	Steel 90° Elbow - 3/8" O.D. Tube x 1/4" NPT	76	21-3965	Handwheel Handle Stud
27	437-1471	Handwheel Shaft Ball Bearing	77	23-5025	Handwheel Adjustable Stop
28	421-10	Handwheel Shaft Bearing Spacer	78	92-900-1053	Handwheel Bracket Pin
29	23-5590	Down Feed Operating Lever	79	92-5380-1252	Handwheel Bracket Screw
30	92-1000-1628-15	Down Feed Brake Shoe Spring	80	23-4842	Pointer
31	23-5970	Down Feed Brake Shoe	81	92-5340-1020-8	Pointer Screw
32	92-900-628	Operating Lever Pin	82	92-900-612	Pointer Pin
33	92-5050-1244	Operating Lever Screw	83	92-5120-832	Adjusting Screw Locking Screw
34	92-6015-1214	Operating Lever Nut	84	92-5930-608	Adjusting Screw Locking Shoe
35	92-900-408	Operating Lever Fulcrum Pin	85	23-5522	Index Dial Clamp
36	23-5016	Down Feed Piston Lever	86	23-5034	Index Plate
37	92-900-624	Piston Lever Fulcrum Pin	87	92-5081-616	Index Plate Screw
38	92-900-1253	Piston Lever Fulcrum	88	23-5035	Index Dial
39	23-5971	Piston Lever Fulcrum Bearing	89	92-5080-612	Index Dial Clamp Screw
40	23-5015	Operating Lever Link	90	23-5523	Index Plunger
41	92-900-624	Operating Lever Link Pin	91	92-1000-824-23	Index Plunger Spring
42	92-5390-808	Operating Lever Link Set Screw	92	479-140	Index Plunger Knob
43	22-5050	Down Feed Pawl Tooth	93	92-920-612	Index Dial Pin
44	22-5049	Down Feed Pawl Tooth Side	94	92-1000-632-23	Index Dial Spring
45	23-5972	Handwheel Shaft Bearing Retainer	95	92-5390-808	Index Dial Screw
46	429-50	Rear Bearing Retainer Snap Ring	96	23-5036	Down Feed Adjusting Pinion
47	92-5380-836	Rear Bearing Retainer Screw	97	479-140	Adjusting Pin Knob
48	23-5028	Down Feed Ratchet	98	23-5599	Switch Opening Cover
49	23-5589	Down Feed Ratchet Spacer	99	92-5385-816	Switch Opening Cover Screw
50	23-5256	Handwheel Shaft Gear	100	23-5600	Switch Opening Cover Gasket

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



**AUTOMATIC SLOT, AUTOMATIC SURFACE &  
 AUTOMATIC SLOT AND SURFACE GRINDING ARRANGEMENTS**  
 Optional Mechanisms

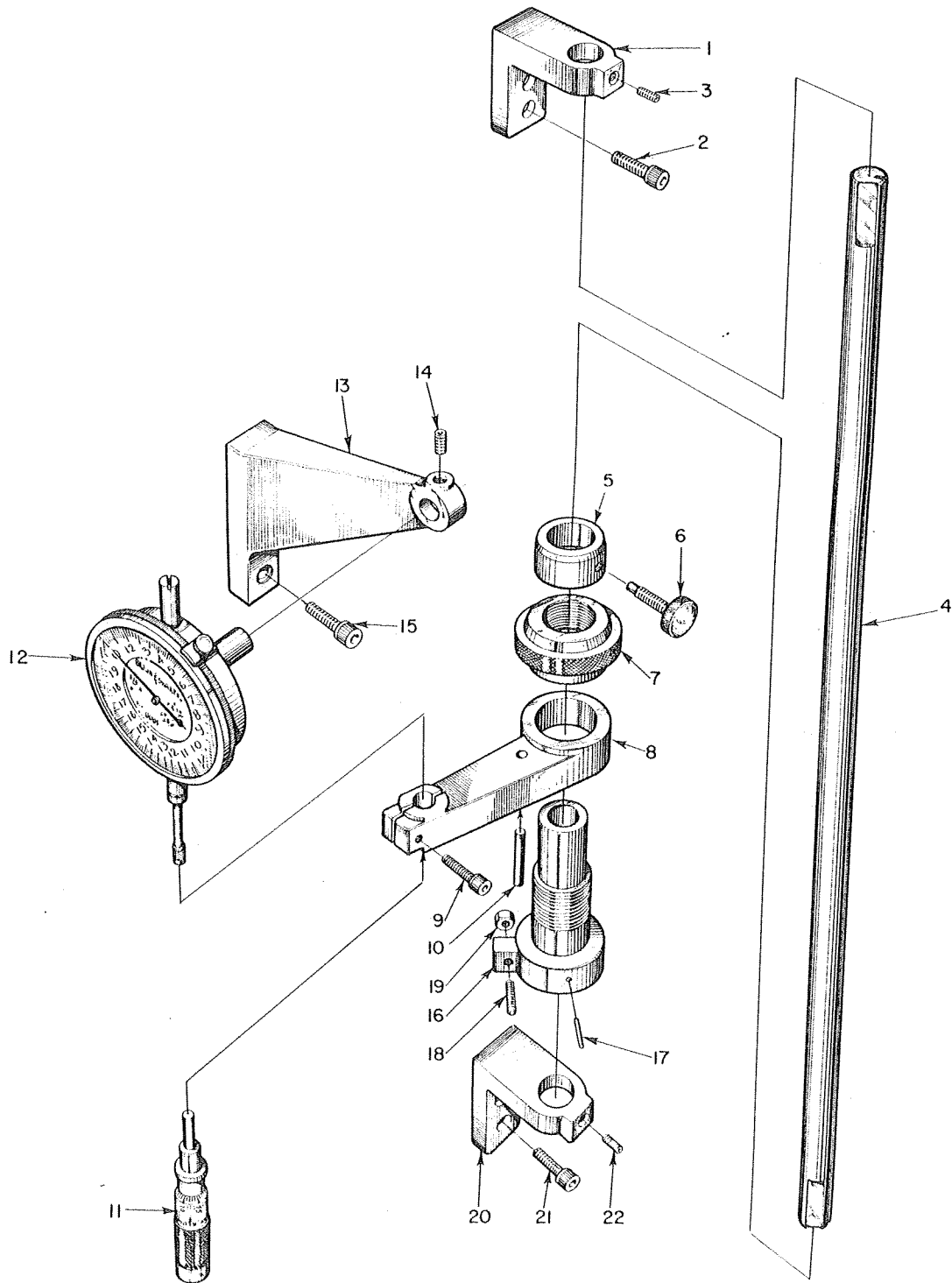
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# AUTOMATIC SLOT, AUTOMATIC SURFACE & AUTOMATIC SLOT AND SURFACE GRINDING ARRANGEMENTS PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	92-5380-824	Valve Body Cap Screw	56	92-5380-820	Valve Cover Screw
2	23-5623	Valve Body Cap	57	92-5385-1220	Valve Screw
3	23-5624	Valve Body Cap Gasket	58	466-609	Bypass Valve "O" Ring
4	23-5622	Valve Piston	59	23-5601	Bypass Valve
5	23-5620	Valve Body	60	23-5617	Solenoid Pilot Valve
6	92-5380-852	Valve Body Screw	61	23-5463	Pilot Valve Gasket
7	23-5621	Valve Mounting Plate Gasket	62	92-5380-632	Pilot Valve Screw
8	23-5624	Valve Body Cap Gasket	63	23-5620	Valve Body
9	23-5623	Valve Body Cap	64	92-5380-852	Valve Body Screw
10	92-5380-824	Valve Body Cap Screw	65	23-5621	Mounting Plate Gasket
11	23-5625	Valve Mounting Plate	66	23-5622	Valve Piston
12	23-5627	Mounting Plate Spacer	67	23-5624	Valve Cap Gasket
13	92-5050-1256	Valve Mounting Screw	68	23-5623	Valve Cap
14	464-3660	90° Elbow - 5/16" Tube x 1/8" NPT	69	92-5380-824	Valve Cap Screw
15	464-640	Coupling Nut - 5/16" Tube x 1/2" - 20 Th'd.	70	23-5623	Valve Cap
16	464-636	Steel Sleeve - 5/16" Tube	71	23-5624	Valve Cap Gasket
17	464-127	Aluminum Tubing - 5/16" O.D.	72	92-5380-824	Valve Cap Screw
18	464-636	Steel Sleeve - 5/16" Tube	73	23-5629	Valve Mounting Plate
19	464-629	Coupling Nut - 1/4" Tube x 1/2" - 20 Th'd.	74	23-5617	Solenoid Pilot Valve
20	464-3661	Male Connector - 5/16" Tube x 1/8" NPT	75	23-5463	Pilot Valve Gasket
21	464-626	Male Connector - 1/4" Tube x 1/8" NPT	76	92-5380-632	Pilot Valve Screw
22	464-629	Coupling Nut - 1/4" Tube x 1/2" - 20 Th'd.	77	23-5627	Mounting Plate Spacer
23	464-628	Steel Sleeve - 1/4" Tube	78	92-5380-1258	Mounting Plate Screw
24	464-626	Male Connector - 1/4" Tube x 1/8" NPT	79	464-626	Male Connector - 1/4" Tube x 1/8" NPT
25	464-126	Aluminum Tubing - 1/4" O.D.	80	464-629	Coupling Nut - 1/4" Tube x 1/2" - 20 Th'd.
26	464-628	Steel Sleeve - 1/4" Tube	81	464-628	Steel Sleeve - 1/4" Tube
27	464-629	Coupling Nut - 1/4" Tube x 1/2" - 20 Th'd.	82	464-126	Aluminum Tubing - 1/4" O.D.
28	479-3124	Lever Handle Gear Shift Ball	83	464-628	Steel Sleeve - 1/4" Tube
29	23-3386	Valve Lever Handle	84	464-629	Coupling Nut - 1/4" Tube x 1/2" - 20 Th'd.
30	23-5614	Feed Valve Lever (Incl. Items 28, 29)	85	464-626	Male Connector - 1/4" Tube x 1/8" NPT
31	92-900-436	Feed Valve Lever Pin	86	92-5385-820	Handwheel Bracket Screw
32	23-5602	Valve Cover	87	464-3660	90° Elbow - 5/16" Tube x 1/8" NPT
33	92-900-620	Valve Cover Pin	88	464-640	Coupling Nut - 5/16" Tube x 1/2" - 20 Th'd.
34	92-5385-820	Valve Cover Screw	89	464-636	Steel Sleeve - 5/16" Tube
35	466-609	Valve "O" Ring	90	464-127	Aluminum Tubing - 5/16" O.D.
36	23-5613	Feed Valve	91	464-127	Aluminum Tubing - 5/16" O.D.
37	92-5270-608	Valve Linkage Screw	92	464-636	Steel Sleeve - 5/16" Tube
38	23-5606	Valve Linkage - Long	93	464-640	Coupling Nut - 5/16" Tube x 1/2" - 20 Th'd.
39	92-5270-608	Valve Linkage Screw	94	464-3661	Male Connector - 5/16" Tube x 1/8" NPT
40	23-5605	Valve Linkage - Short	95	23-5628	Valve Mounting Plate
41	23-5604	Valve Linkage Spacer	96	23-5627	Mounting Plate Spacer
42	92-900-850	Linkage Fulcrum	97	23-5617	Solenoid Pilot Valve
43	92-900-420	Linkage Fulcrum Pin	98	23-5463	Pilot Valve Gasket
44	92-900-416	Switch Depressor Pin	99	92-5380-632	Pilot Valve Screw
45	23-5604	Valve Linkage Spacer	100	92-5380-1258	Mounting Plate Screw
46	23-5603	Micro Switch Depressor	101	464-3661	Male Connector - 5/16" Tube x 1/8" NPT
47	23-5598	Switch Bracket	102	464-640	Coupling Nut - 5/16" Tube x 1/2" - 20 Th'd.
48	81-306	Switch Insulating Plate	103	464-636	Steel Sleeve - 5/16" Tube
49	412-49	Micro Switch	104	464-127	Aluminum Tubing - 5/16" O.D.
50	81-305	Switch Clamp Plate	105	464-127	Aluminum Tubing - 5/16" O.D.
51	472-3504	Switch Mounting Screw	106	464-636	Steel Sleeve - 5/16" Tube
52	92-2030-4	Switch Lockwasher	107	464-640	Coupling Nut - 5/16" Tube x 1/2" - 20 Th'd.
53	23-5587	Down Feed Handwheel Bracket	108	464-3661	Male Connector - 5/16" Tube x 1/8" NPT
54	23-5602	Valve Cover	109	463-188	Flow Control Valve
55	92-900-608	Valve Cover Pin			

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



**VERTICAL POSITION INDICATOR**  
**Optional Mechanism**

*Brown & Sharpe*

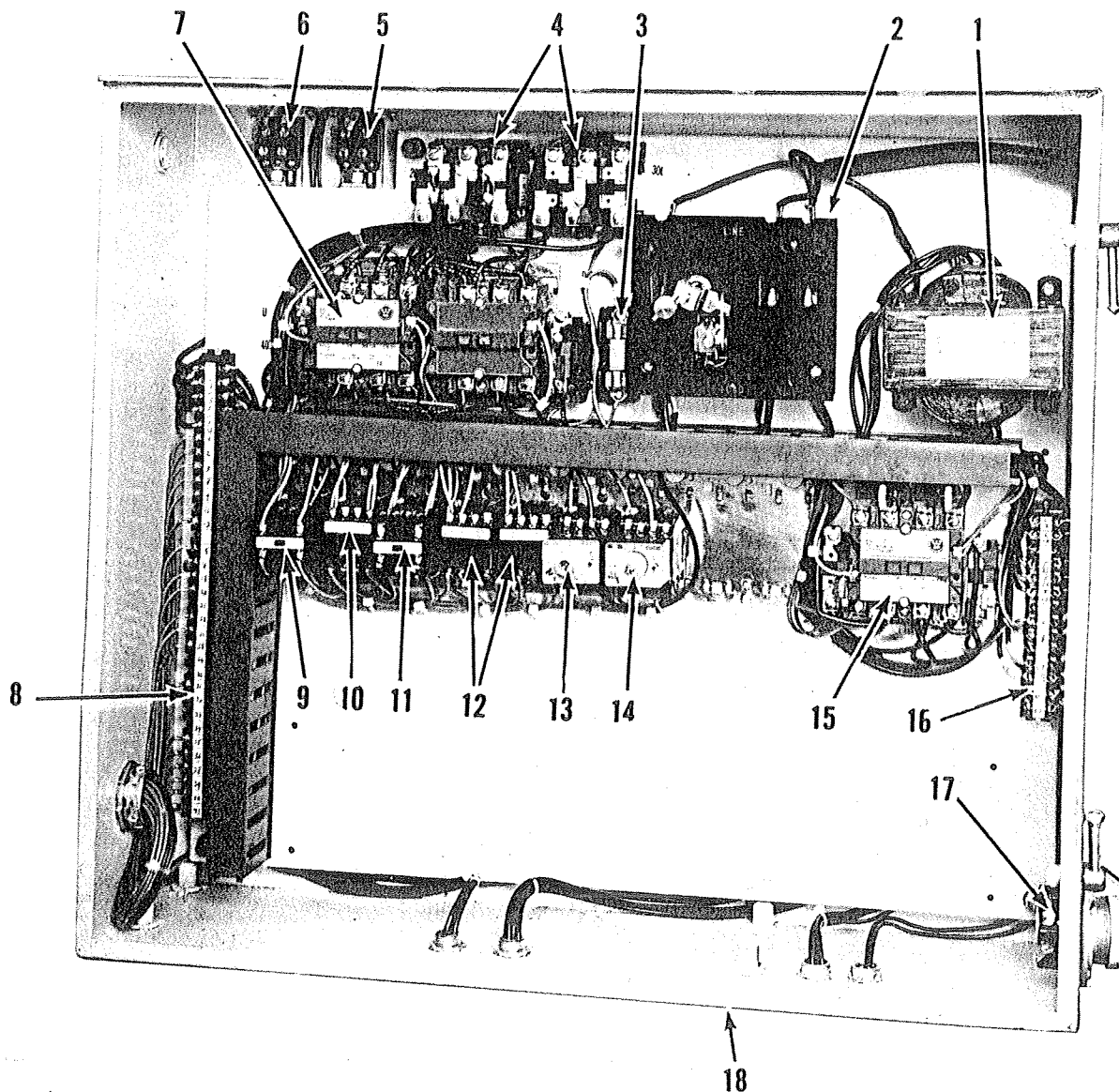
# VERTICAL POSITION INDICATOR PARTS LIST

INDEX NO.	PART NO.	PART NAME
1	23-5579	Indicator Shaft Bracket
2	92-5380-824	Shaft Bracket Mounting Screw
3	92-5390-812	Shaft Bracket Set Screw
4	23-5582	Indicator Shaft
5	23-5584	Clearance Adjusting Washer
6	23-5585	Swivel Stop Clamp Screw
7	23-5583	Swivel Stop Nut
8	23-5581	Micrometer Head Swivel
9	92-5380-624	Micrometer Head Swivel Screw
10	92-900-836	Micrometer Head Swivel Pin
11	599-298-100	Micrometer Head
12	479-199	Dial Indicator - #452
13	23-5578	Indicator Gage Bracket
14	92-5390-812	Gage Bracket Set Screw
15	92-5380-832	Gage Bracket Mounting Screw
16	23-5580	Micrometer Head Swivel Stop
17	92-900-816	Micrometer Head Swivel Stop Pin
18	92-5390-624	Swivel Stop Adjusting Screw
19	92-6015-608	Swivel Stop Adjusting Nut
20	23-5579	Indicator Shaft Bracket
21	92-5380-824	Shaft Bracket Mounting Screw
22	92-5390-812	Shaft Bracket Set Screw

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**





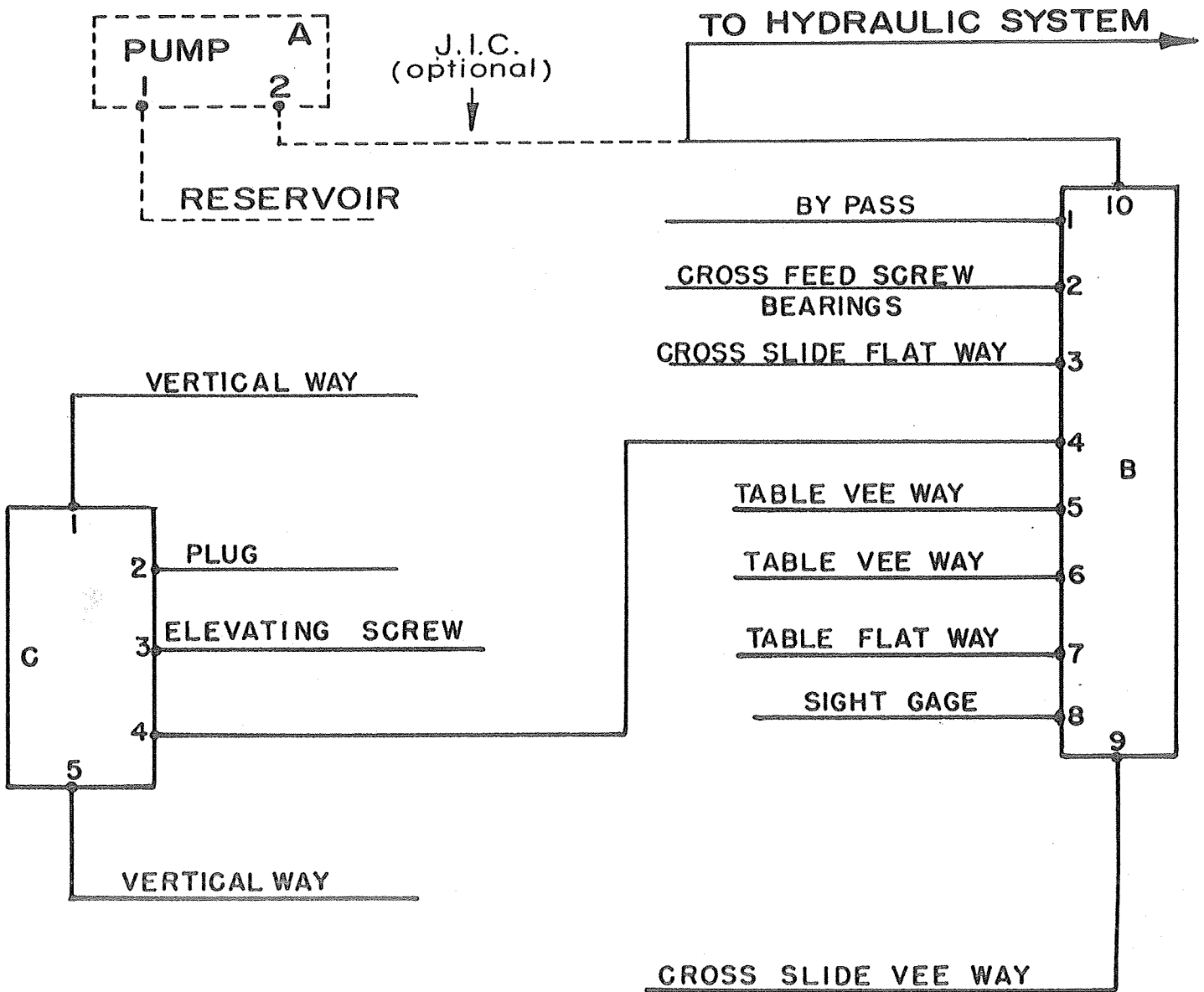
## ELECTRICAL CONTROL PANEL

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	403-47	Transformer	10	411-183	Relay, 4 N.O. Contacts
2	412-61	Disconnect Switch, 30 Amp., 3 Pole	11	411-271	Relay, 4 N.O. and 2 N.C. Contacts
3	404-149	Fuse, 250 Volt, 5 Amp.	12	411-124	Relay, 2 N.O. and 2 N.C. Contacts
4	404-206	Overload Relay, Size 1, 3 Pole	13	411-270	Time Delay, "Off" Relay
5	412-50	Forward Limit Switch	14	411-269	Time Delay, "On" Relay
6	412-50	Back Limit Switch	15	411-267	Starter, Size 1, 3 Pole
7	411-268	Reversing Starter, Size 0, 3 Pole and Interlock, 1 N.O. and 1 N.C. Contacts	16	414-26	Terminal Block
8	414-26	Terminal Block		414-25	Terminal Block (end section)
9	411-271	Relay, 4 N.O. and 2 N.C. Contacts	17	414-2320	Receptacle, 4 Pole
			18	123-824-150	Electrical Control Cabinet Complete, includes 1 through 17

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

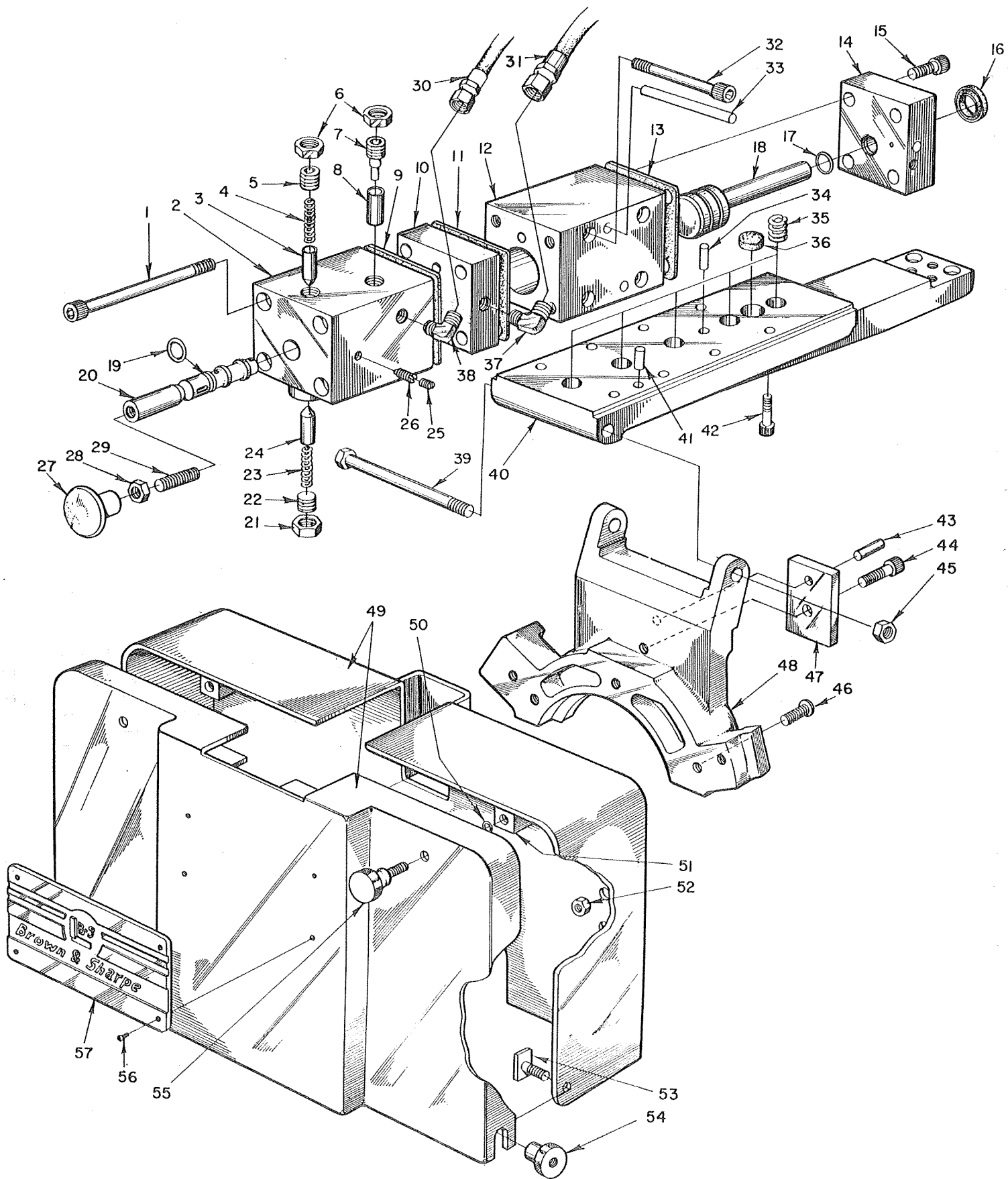
**Brown & Sharpe**

## LUBRICATION SCHEMATIC DIAGRAM



### HOW TO ORDER LUBRICATION FITTINGS

1. Give size, style and serial number of machine.
2. When ordering junction bar, specify letter.
3. When ordering fittings located at junction bars, specify the line by number and the junction bar by letter.  
*Example:* Fitting required for line 1, junction bar C.
4. Order fittings at lubricating points by specifying "lubrication point", the line by number, and the junction bar by letter. *Example:* Fitting required for lubrication point, line 8, junction bar C.
5. When ordering, specify whether or not the compression sleeve, nut or bushing to complete the fitting is desired.



**POWER TRUING ATTACHMENT**

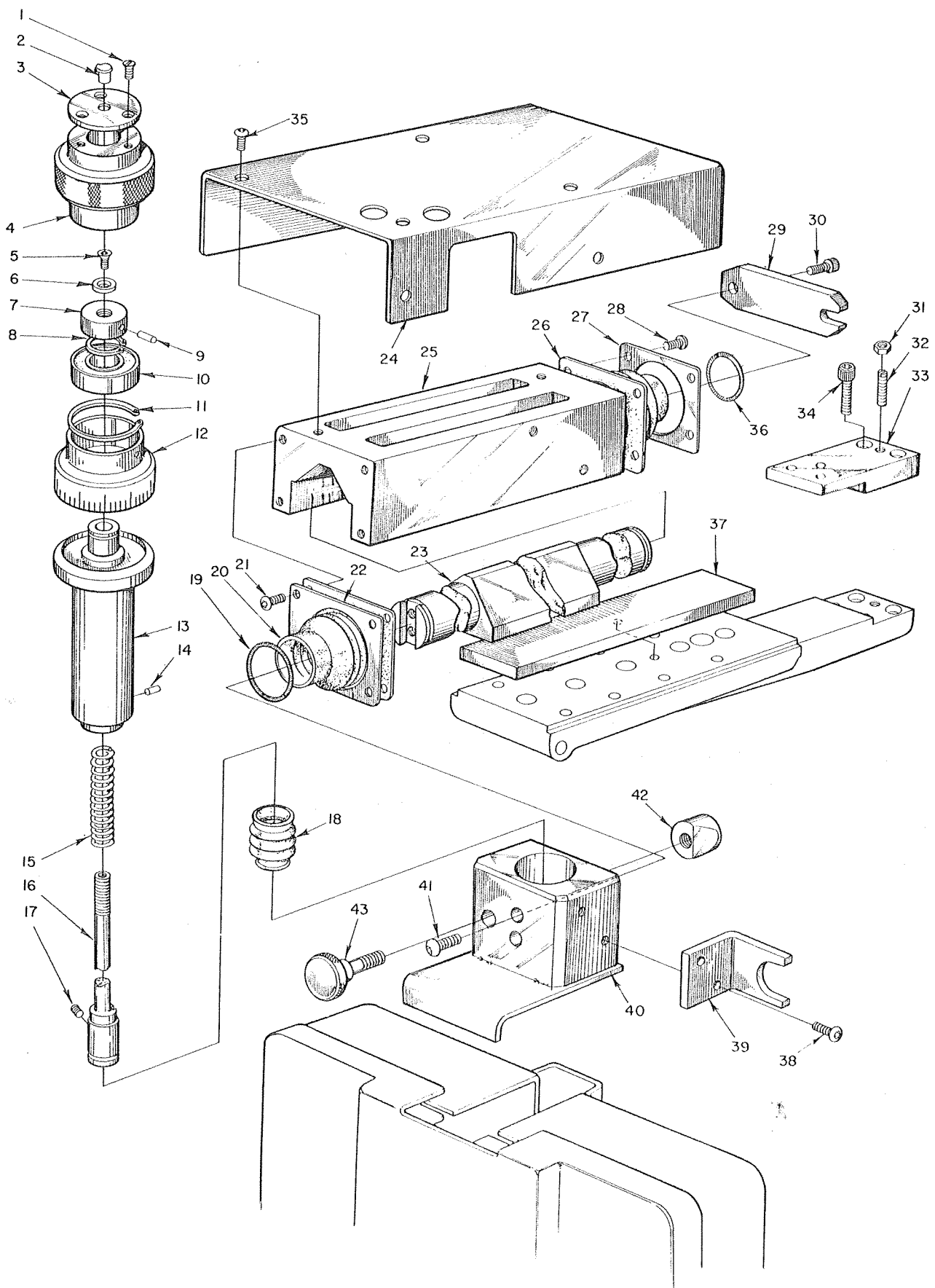
**Brown & Sharpe**

# POWER TRUING ATTACHMENT PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
	23-6069	Traverse Cylinder Complete, includes 1 through 26	32	92-5380-848	Socket Head Screw, 1/4"-20 x 2"
1	472-117	Socket Head Screw, 5/16"-18 x 4"	33	92-900-854	Pin
2	23-6059	Traverse Valve Body	34	92-900-820	Bearing Plate Pin
3	23-6061	Traverse Valve Lock Pin	35	92-1000-1628-15	Spring
4	92-1000-632-20	Spring	36	*	Urethane Sponge Gasketing
5	92-5390-1216	Set Screw, 3/8"-16 x 1/2"	37	464-10	90° Steel Elbow, 3/8" tube x 1/8" N.P.T.
6	92-6015-1214	Hex Nut, 3/8"-16	38	464-631	90° Steel Elbow, 1/4" tube x 1/8" N.P.T.
7	23-6062	Traverse Flow Valve	39	472-3526	Hex Head Bolt, 3/8"-16 x 4 3/4"
8	23-6089	Flow Valve Sleeve	40	23-6071	Diamond Tool Holder Mounting Bracket
9	23-6105	Gasket	41	92-900-836	Traverse Slide Body Pin
10	23-6064	Traverse Valve Exhaust Block	42	92-5380-832	Socket Head Screw, 1/4"-20 x 1"
11	23-6063	Gasket	43	92-900-620	Wheel Guard Mount Pin
12	23-6065	Traverse Cylinder Piston Block	44	92-5381-1024	Socket Head Screw, 5/16"-18 x 3/4"
13	23-6067	Gasket	45	92-6015-1221	Nut, 3/8"-16
14	23-6068	Traverse Cylinder End Cap	46	92-5385-1020	Round Head Screw, 5/16"-18 x 5/8"
15	92-5381-1024	Socket Head Screw, 5/16"-18 x 3/4"	47	23-5229	Wheel Guard Mount Lug
16	466-3945	Oil Seal, 1/2" x 1" x 1/4"	48	23-6070	Wheel Guard Mounting Plate
17	466-607	"O" Ring	49	23-6084	Wheel Guard, includes 49 through 56
18	23-6066	Traverse Cylinder Piston	50	466-610	"O" Ring
19	466-3601	"O" Ring	51	23-6085	Wheel Guard Block
20	23-6060	Traversing Valve	52	472-57	Weld Nut, 1/4"-20
21	92-6015-1214	Hex Nut, 3/8"-16	53	472-164	Weld Stud, 5/16"-18 x 1"
22	92-5390-1216	Set Screw, 3/8"-16 x 1/2"	54	92-6100-10	Thumb Nut
23	92-1000-632-20	Spring	55	92-5130-1024	Thumb Screw, 5/16"-18 x 3/4"
24	23-6061	Traverse Valve Lock Pin	56	472-502	Self Tapping Screw
25	92-5071-809	Set Screw	57	23-5491	Name Plate
26	92-5361-816-4	Traverse Valve Guide Screw		*	Gasketing is Sold Only in Sheets 3/16" Thick x 36" Wide x 24" Long (must be cut to size)
27	479-459	Knob			
28	92-6015-1012	Hex Nut, 5/16"-18			
29	23-6162	Valve Operating Stud			
30	463-396	Hose Assembly			
31	463-412	Hose Assembly			

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



**POWER TRUING ATTACHMENT (cont'd)**

**Brown & Sharpe**

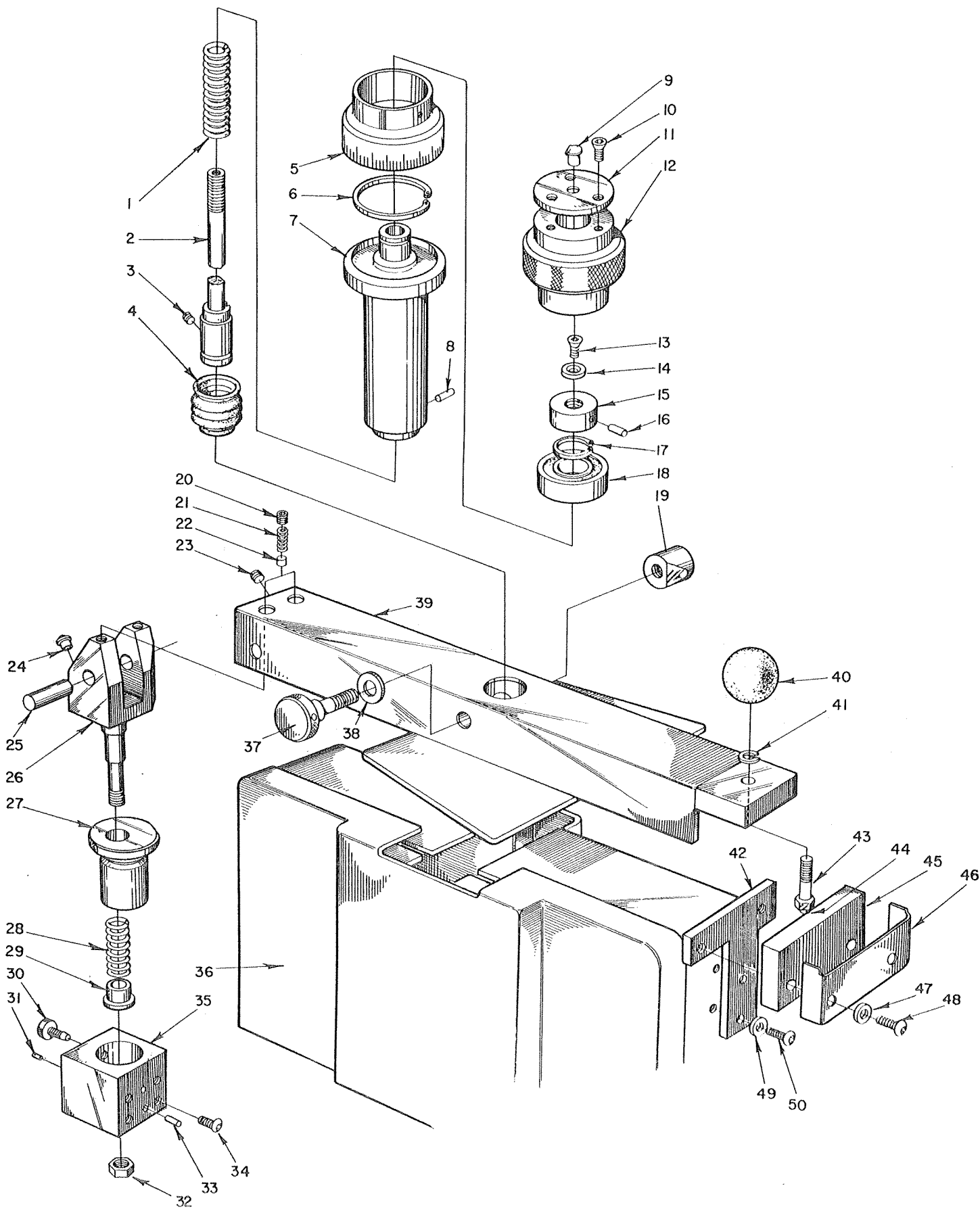
# POWER TRUING ATTACHMENT (cont'd)

## PARTS LIST

INDEX NO.	PART NO.	PART NAME	INDEX NO.	PART NO.	PART NAME
1	92-5080-612	Flat Head Screw, #10-32 x 3/8"	23	23-6075	Traversing Slide
2	92-5550-8	Oil Cup	24	23-6083	Traverse Cylinder Cover
3	23-3761	Adjusting Dial Cover	25	23-6074	Traverse Slide Body
4	23-5702	Adjusting Nut Holder	26	23-6076	Traverse Slide Boot
5	92-5080-612	Flat Head Screw, #10-32 x 3/8"	27	23-6077	Traverse Side Boot Retainer
6	92-2080-703-20	Washer	28	92-5385-816	Round Head Screw, 1/4"-20 x 1/2"
7	23-3758	Tool Holder Adjusting Nut	29	23-6078	Lever Link
8	429-4489	External Retaining Ring	30	92-5381-1032	Socket Head Screw, 5/16"-18 x 1"
9	92-900-412	Pin	31	92-6015-1012	Hex Head Nut, 5/16"-18
10	434-1173	Ball Bearing	32	92-5391-1032	Set Screw, 5/16"-18 x 1"
11	429-1479	Internal Snap Ring	33	23-6072	Mounting Bracket Extension, for 1224 and 1236 Machines
12	23-3756	Diamond Tool Holder Dial	34	92-5381-1052	Socket Head Screw, 5/16"-18 x 2 1/2"
13	23-3755	Diamond Tool Holder Sleeve	35	92-5385-812	Round Head Screw, 1/4"-20 x 3/8"
14	92-900-410	Pin	36	479-524	Garter Spring, 1 1/4" I.D.
15	91-100-783	Diamond Tool Holder Spring	37	23-6073	Traverse Slide Bearing Plate
16	23-3754	Diamond Tool Holder	38	92-5385-816	Round Head Screw, 1/4"-20 x 1/2"
17	92-5390-808	Set Screw, 1/4"-20 x 1/4"	39	23-6081	Traverse Valve Operating Lever Guard
18	23-5703	Diamond Tool Holder Boot	40	23-6086	Tool Holder
	23-3775	Diamond Tool Holder Complete, includes 1 through 18	41	92-5051-820	Round Head Screw, 1/4"-20 x 5/8"
19	479-524	Garter Spring, 1 1/4" I.D.	42	23-6080	Diamond Tool Clamp
20	23-6076	Traverse Slide Boot	43	23-5698	Diamond Tool Clamp Bushing Screw
21	92-5385-816	Round Head Screw, 1/4"-20 x 1/2"			
22	23-6077	Traverse Slide Boot Retainer			

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

**824, 1024, 1030, 1224 & 1236 MICROMASTERS**



**OVER THE WHEEL TRUING ATTACHMENT**

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