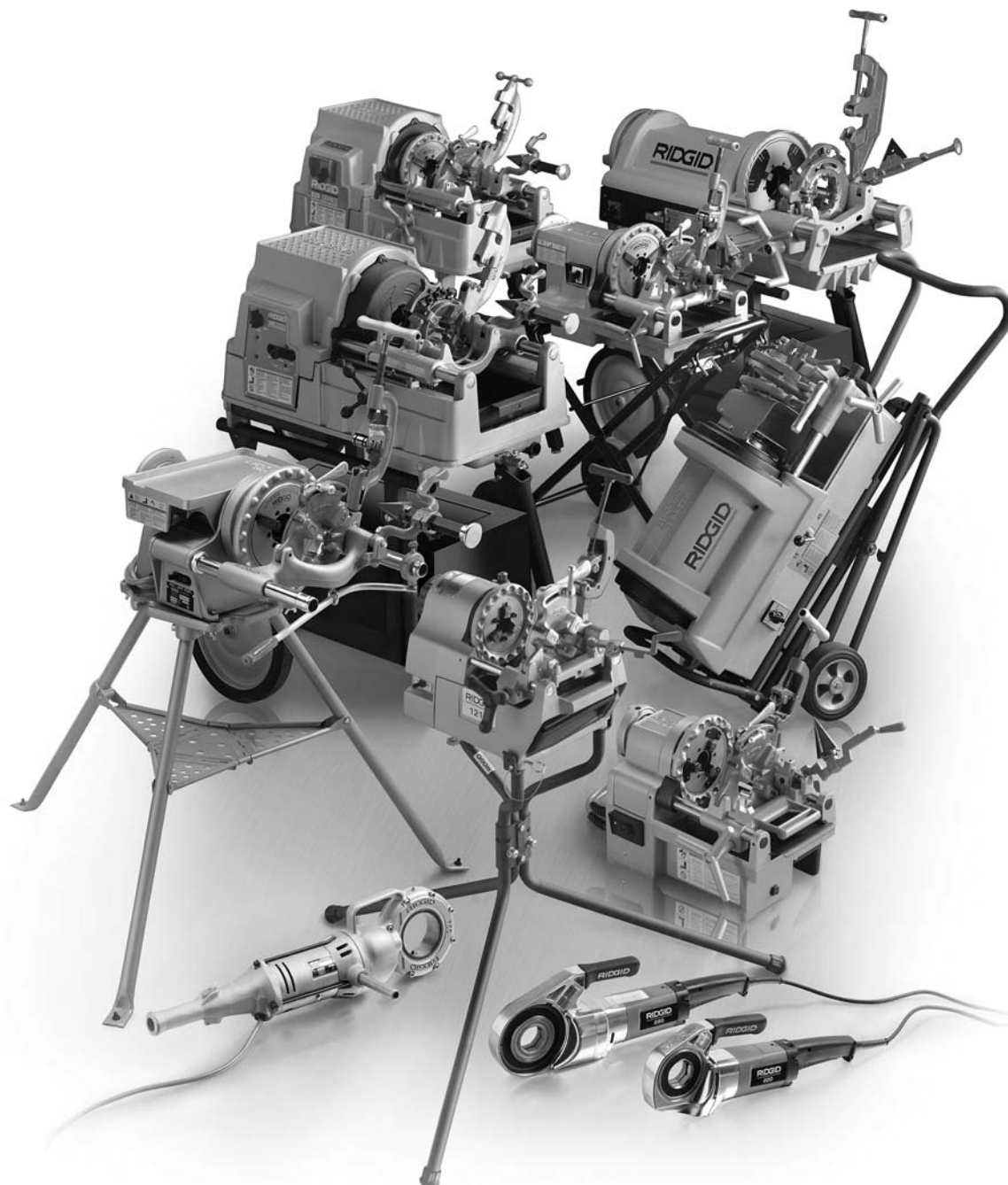


Parts Catalog

March 2007



Ridge Tool Company, 400 Clark St., Elyria, Ohio 44035-6001 U.S.A.

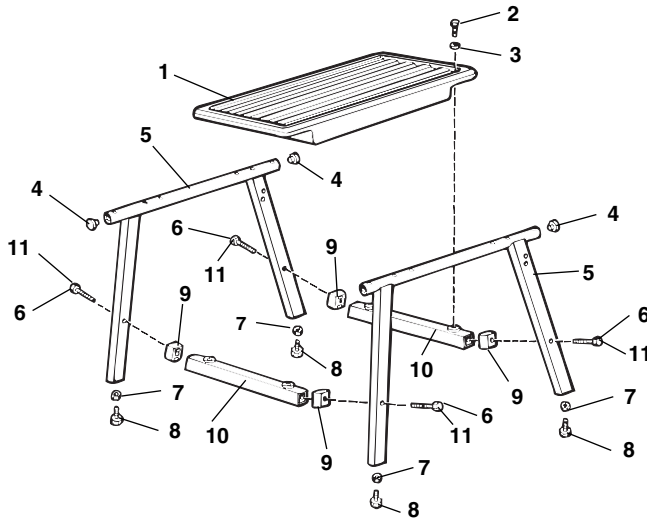
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541	Quick Opening Die Head	94	2302 CE	Motor	72
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590 L	Dry Cut Saw	86-88	2377	Motor	55
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For additional information contact the Ridge Tool Technical Service Department at 1-800-519-3456

See Drain Cleaning and Diagnostic Equipment Parts Catalog for Pipe and Drain Cleaning Equipment Parts

No. 100A Leg and Tray Stand

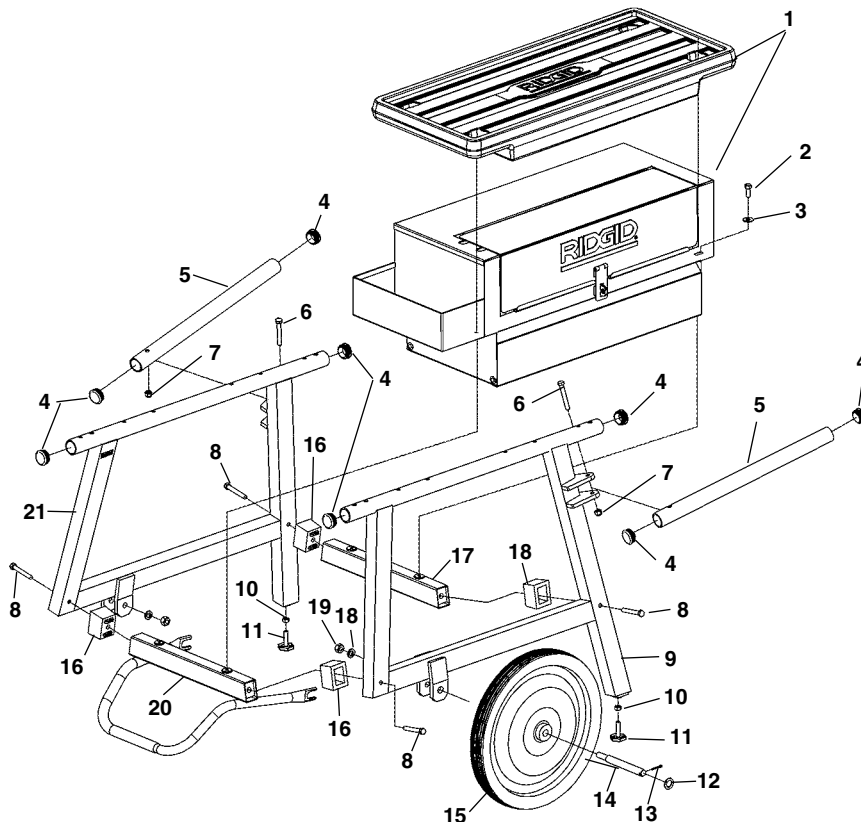


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	92457	Leg Stand Assembly
1	56872	Tray
2	80030	Hex Bolt $\frac{3}{8}$ " - 16 x 1" (4)
3	44230	Flat Washer $\frac{3}{8}$ " (4)
4	58037	End cap (4)
5	58022	Leg (2)
6	58052	Hex Bolt $\frac{3}{8}$ " - 16 x 2 $\frac{1}{2}$ " (4)
7	44225	Hex Nut $\frac{3}{8}$ " - 16 (4)
8	58027	Leveling Pad (4)
9	58042	Spacer (4) - (1224 Machine Only)
10	58032	Cross Member (2)
11	58047	Hex Bolt $\frac{3}{8}$ " - 16 x 4" (4) (1224 & 535 Auto Machine Only)

NOTE: $\frac{3}{8}$ " - 16 x 4" Bolts and spacers used when mounting 1224 & 535 Auto machines.

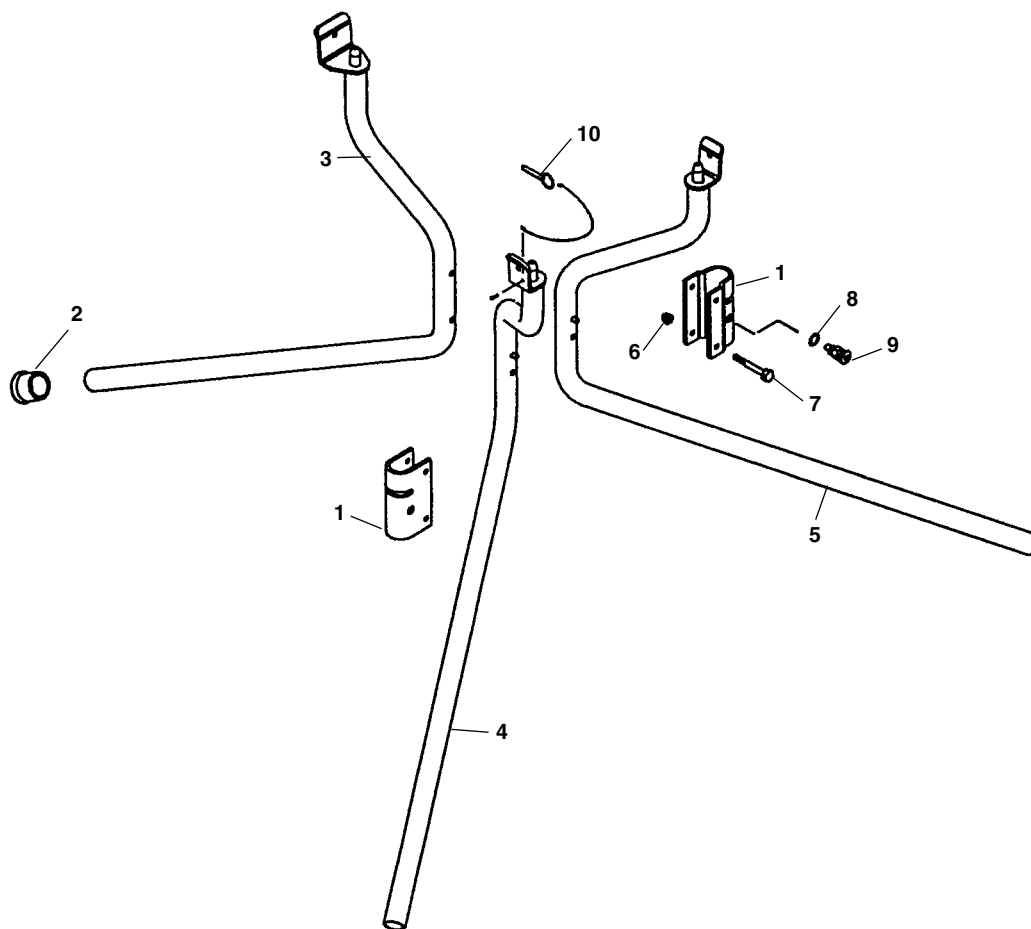
No. 150A/200A Wheel and Tray Stands



Ref. No.	Catalog No.	Description
—	92462	150A Wheel and Tray Assembly
—	92467	200A Wheel and Cabinet Assembly
1	56872	Tray
	22563	Cabinet
2	80030	Hex Bolt $\frac{3}{8}$ " - 16 x 1" (4)
3	44230	Flat Washer (4)
4	58037	End Cap (6)
5	58067	Handle (2) includes Ref. No. 6
6	46675	Hex Bolt $\frac{3}{8}$ " - 16 x 2 $\frac{3}{4}$ " (2)
7	79985	Locknut $\frac{3}{8}$ " - 16 (2)
8	58052	Hex Bolt $\frac{3}{8}$ " - 16 x 2 $\frac{1}{2}$ " (4)
	58047	Hex Bolt $\frac{3}{8}$ " - 16 x 4" (4) (1224 & 535 Automatic Machine Only)
9	26788	Front Leg
10	44225	Hex Nut $\frac{3}{8}$ " - 16 (4)
11	58027	Leveling Pad
12	47180	Washer (2)
13	47030	Cotter Pin (2)
14	58072	Axle (2)
15	27442	Wheel (2)
16	58042	Spacer (4) (1224 & 535 Automatic Machines Only)
17	58032	Front Cross Member
18	84150	Lock Washer $\frac{1}{2}$ " (2)
19	44745	Locknut $\frac{1}{2}$ " (2)
20	26798	Rear Cross Member w/Stand Stop Assembly
21	26793	Rear Leg

NOTE: $\frac{3}{8}$ " - 16 x 4" bolts and spacers used when mounting 1224 & 535 Auto machines.

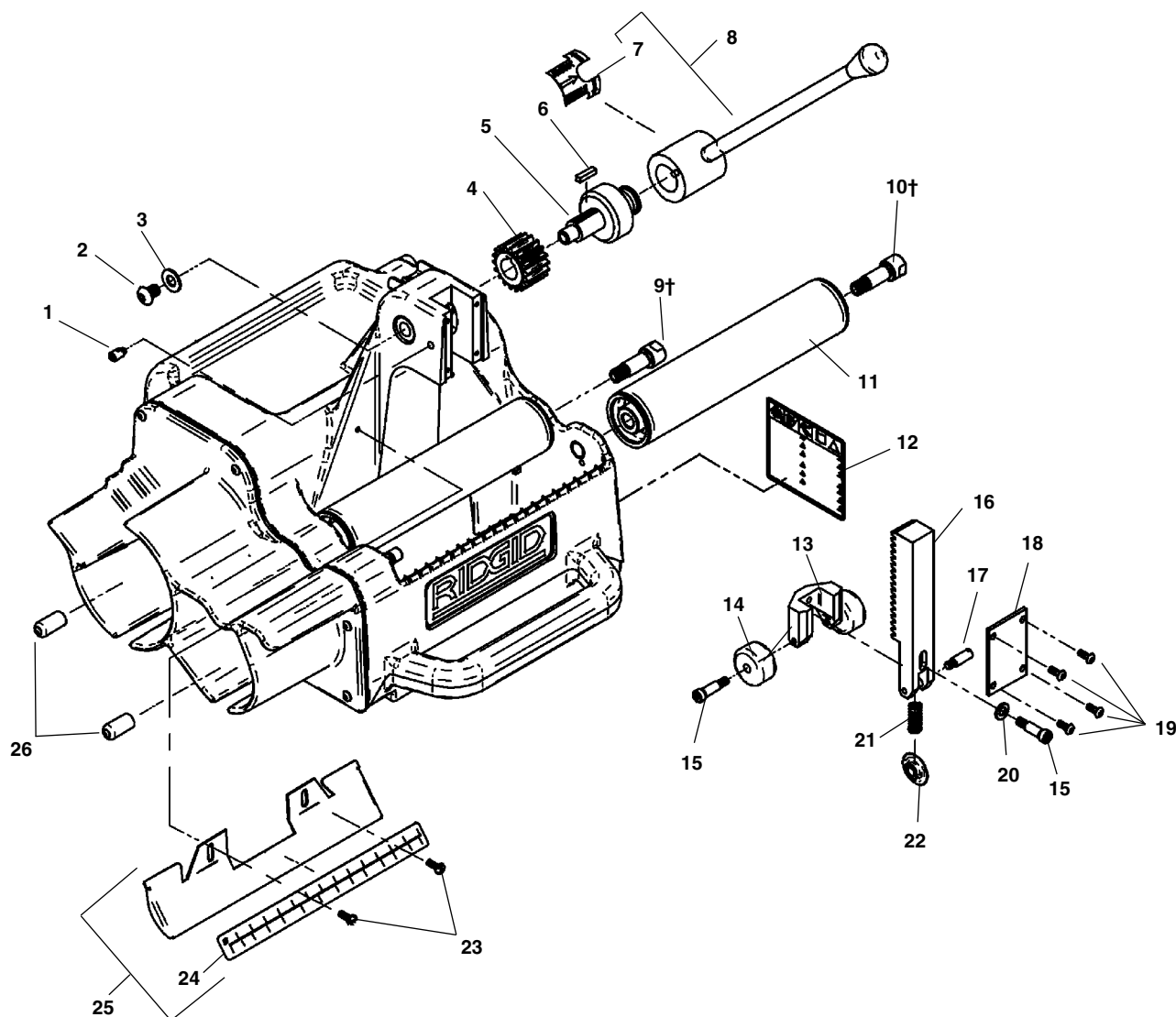
120 Stand



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	67822	120 Stand
1	69422	Pivot Bracket Set
2	37962	Rubber Foot (3)
3	72287	Rear Leg
4	72292	Left Front Leg
5	72297	Right Front Leg
6	83890	Lock Nut 1/4" - 20
7	44510	Screw 1/4" - 20 x 2" Socket Head
8	75695	Lock Washer 7/16" Internal
9	59510	Plunger Assembly (2)
10	51092	Hitch Pin

Cutting Components

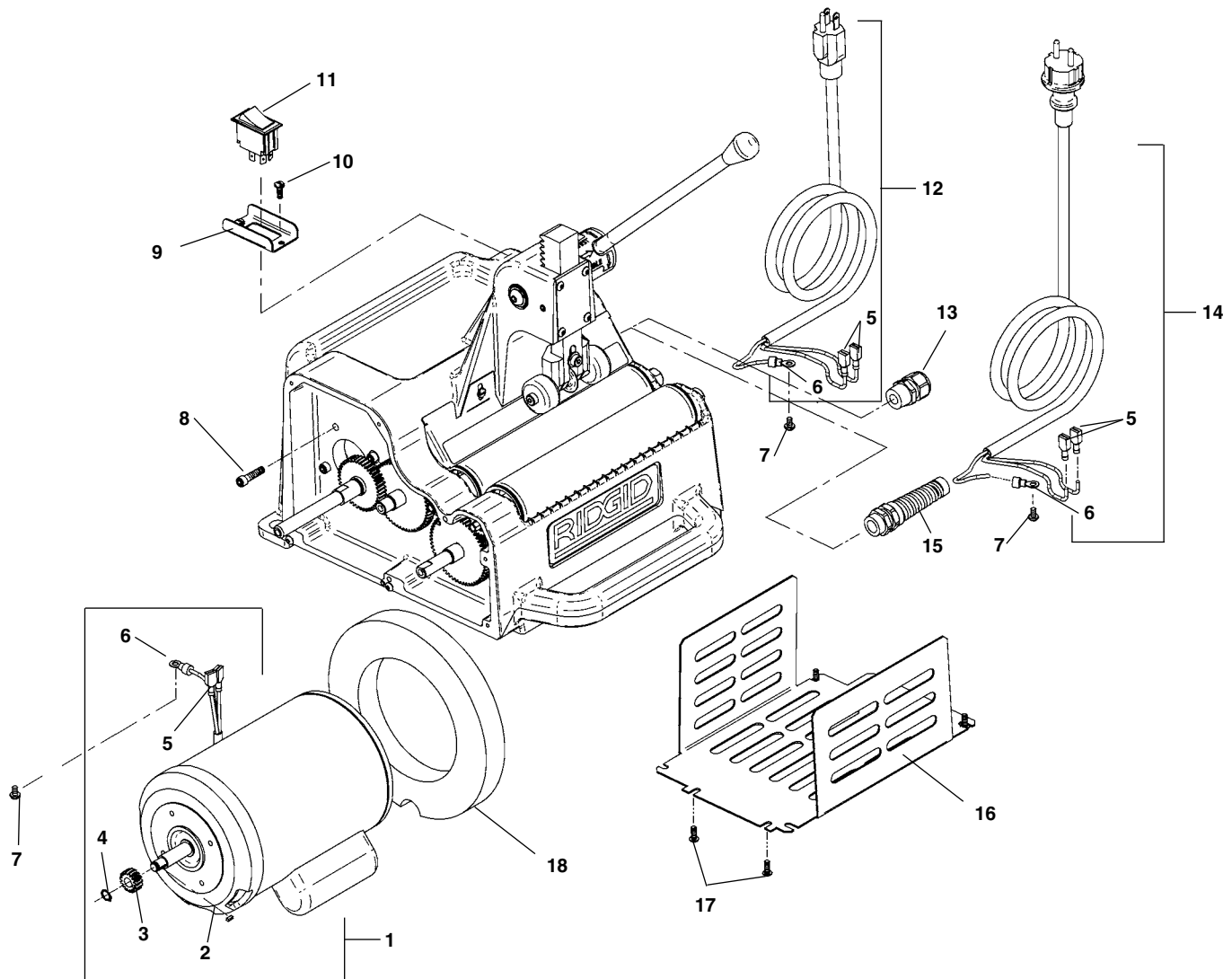


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	94877	Set Screw, Nylon $\frac{3}{16}$ " - 18 x $\frac{1}{2}$ "	15	94922	Screw, Shoulder $\frac{5}{16}$ " x $\frac{3}{4}$ " (3)
2	96915	Screw, Button Head $\frac{3}{8}$ " - 16 x $\frac{1}{2}$ "	16	94937	Arbor
3	26307	Washer	17	34360	Screw f/Cutter Wheel
4	94882	Gear, Arbor	10343		Screw f/Cutter Wheel (SS)
5	94887	Shaft, Arbor	18	94947	Cover
6	94892	Key, Square $\frac{3}{16}$ " x $\frac{3}{4}$ "	19	94752	Screw, Phillips #10 - 24 x $\frac{3}{4}$ " (4)
7	14393	Indexing Label	20	94952	Washer
8	94897	Handle, Feed	21	94942	Spring
9†	94907	Shaft, L.H. Thread	22	33175	Cutter Wheel, E-2191
10†	94912	Shaft, L.H. Thread	33551		Cutter Wheel (SS)
11	94902	Roller Assembly (2)	23	45275	Screw (2)
12	10398	Warning Label	24	10393	Scale
13	94932	Slide	25	10388	Roller Guard
14	94927	Roller (2)	26	10573	Plastic Cap (2) (Europe Only)

Service Note: † Left Hand Thread

Electrical



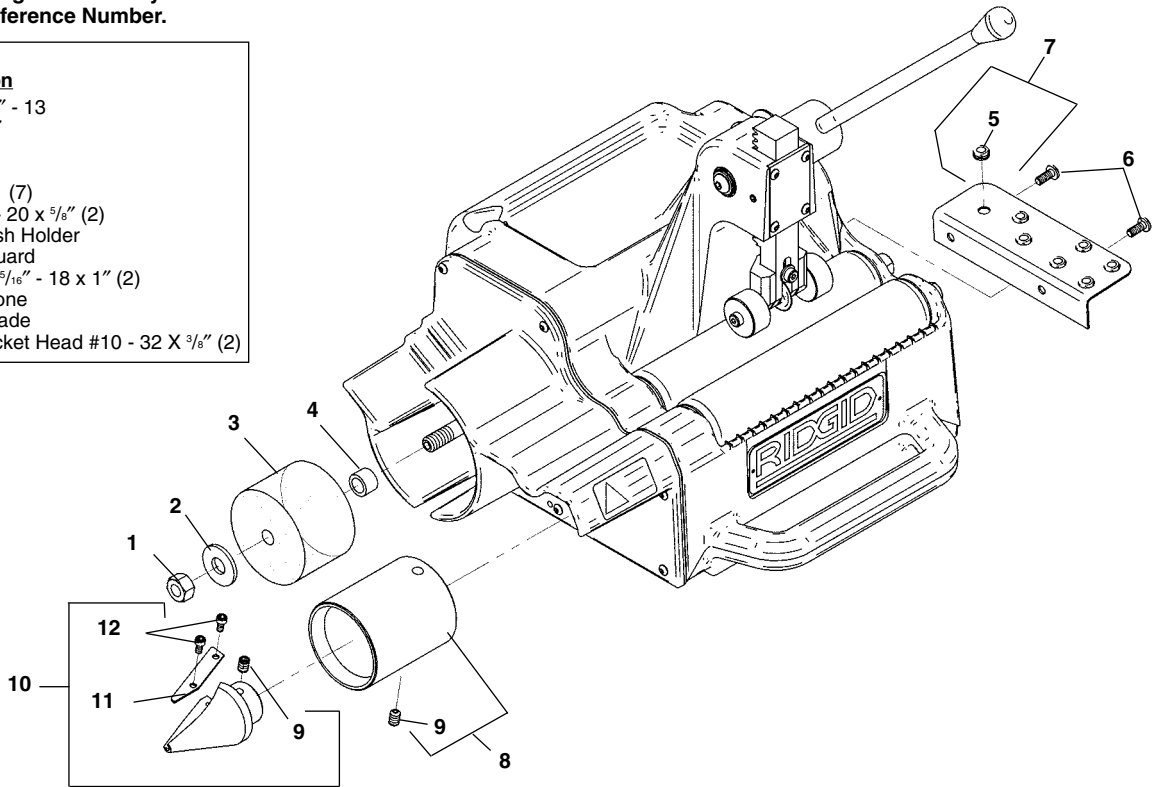
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	94842	Motor, 1/3 H.P. - 115V	10	45275	Screw (2)
	10403	Motor 220V 50Hz (Europe)	11	58597	Switch, DPST
2	94787	Key, Square $\frac{3}{32}$ " x $\frac{1}{4}$ "	12	69327	Line Cord 115V
3	94847	Gear	13	69107	Strain Relief
4	94822	Retaining Ring	14	39562	Line Cord 220V 50Hz (Europe)
5	89190	Female Disconnect (4)	15	27187	Strain Relief (Europe)
6	58587	Terminal Ring (2)	16	94862	Motor Cover
7	45420	Ground Screw #10 - 24 x $\frac{3}{8}$ " (2)	17	94752	Screw, Phillips #10 - 24 x $\frac{3}{4}$ " (4)
8	83685	Screw, Socket Head $\frac{1}{4}$ " - 20 (4)	18	94667	Motor Baffle
9	10408	Switch Guard			

Prep Components

NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

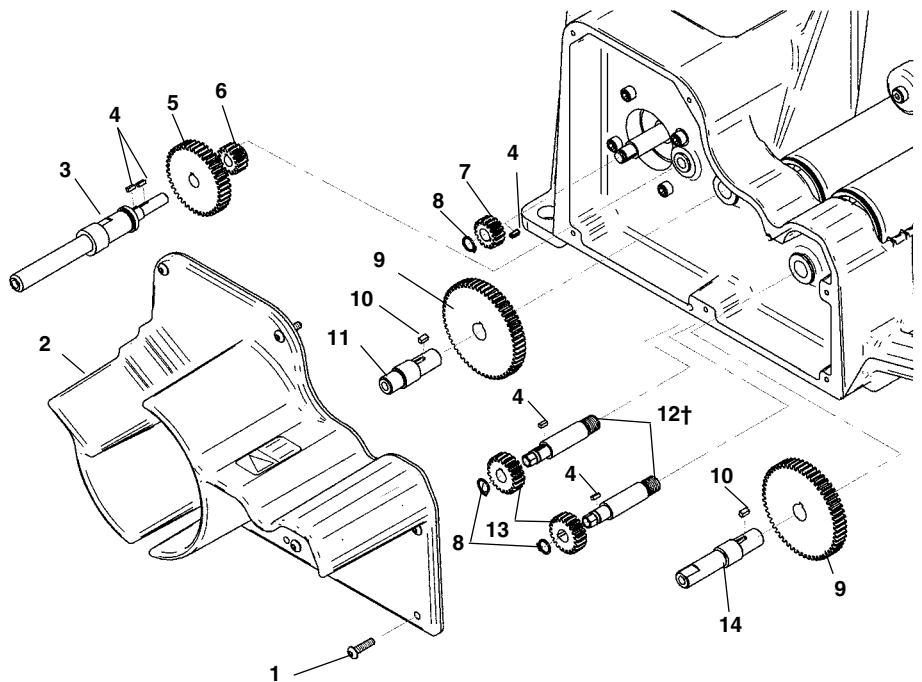
Ref. No.	Catalog No.	Description
1	94662	Hex Nut $\frac{1}{2}$ " - 13
2	94667	Washer $\frac{1}{2}$ "
3	94682	Brush
4	94672	Spacer
5	94957	Grommet (7)
6	38940	Screw $\frac{1}{4}$ " - 20 x $\frac{5}{8}$ " (2)
7	93712	Fitting Brush Holder
8	94747	Reamer Guard
9	46080	Set Screw $\frac{5}{16}$ " - 18 x 1" (2)
10	94687	Reamer Cone
11	94692	Reamer Blade
12	46180	Screw, Socket Head #10 - 32 X $\frac{3}{8}$ " (2)



Gearbox

Ref. No.	Catalog No.	Description
1	94752	Screw, Phillips #10-24 x $\frac{3}{4}$ " (10)
2	94647	Gear Cover
3	94782	Brush, Shaft
4	94787	Key, Square $\frac{3}{32}$ " x $\frac{1}{4}$ " (4)
5	94792	Gear, Brush
6	94797	Gear Reduction
7	94847	Gear, Motor
8	94822	Retaining Ring (3)
9	94812	Gear, Reamer (2)
10	94807	Key, Square $\frac{1}{8}$ " x $\frac{1}{4}$ "
11	94802	Shaft
12†	94832	Shaft, Stub, Driven L.H. Thread (2)
13	94827	Gear, Roller (2)
14	94817	Shaft, Reamer

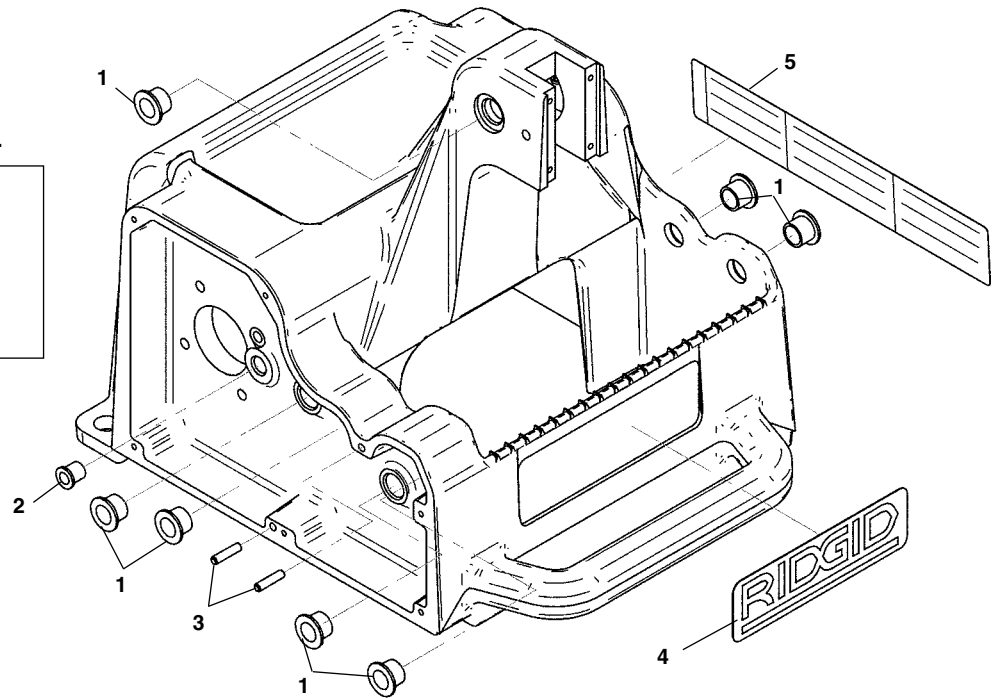
Service Note: † Left Hand Thread



Body

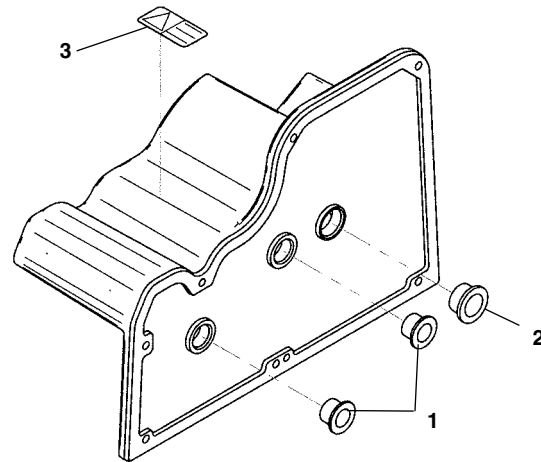
NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description
—	94637	Frame Assembly
1	94642	Bearing, Flange (7)
2	94657	Bearing, Flange
3	45165	Dowel Pin (2)
4	94917	Plate, RIDGID logo
5	95392	Label, Warning



Gear Cover

Ref. No.	Catalog No.	Description
—	94647	Gear Cover
1	94642	Bearing, Flange (2)
2	94657	Bearing, Flange
3	94867	Label, Warning

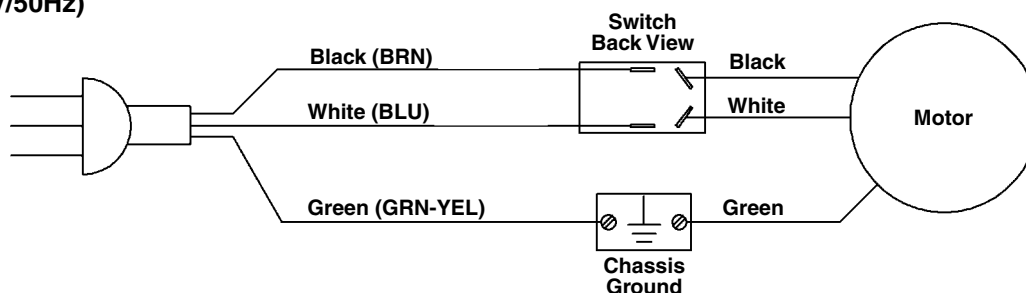


Wiring Diagram - Variations

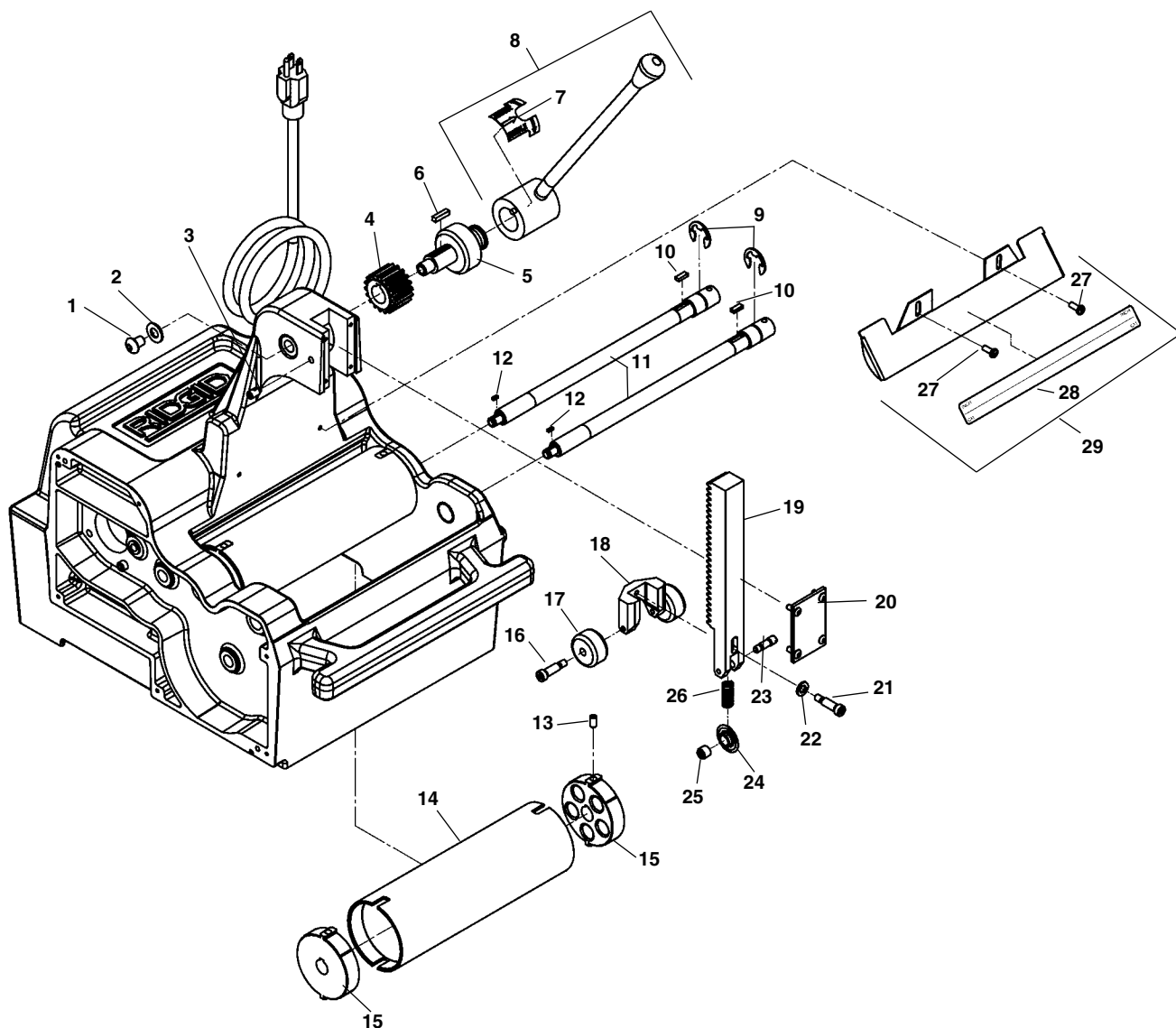
115V – 60Hz

100V – 50/60Hz

(220 – 240V/50Hz)



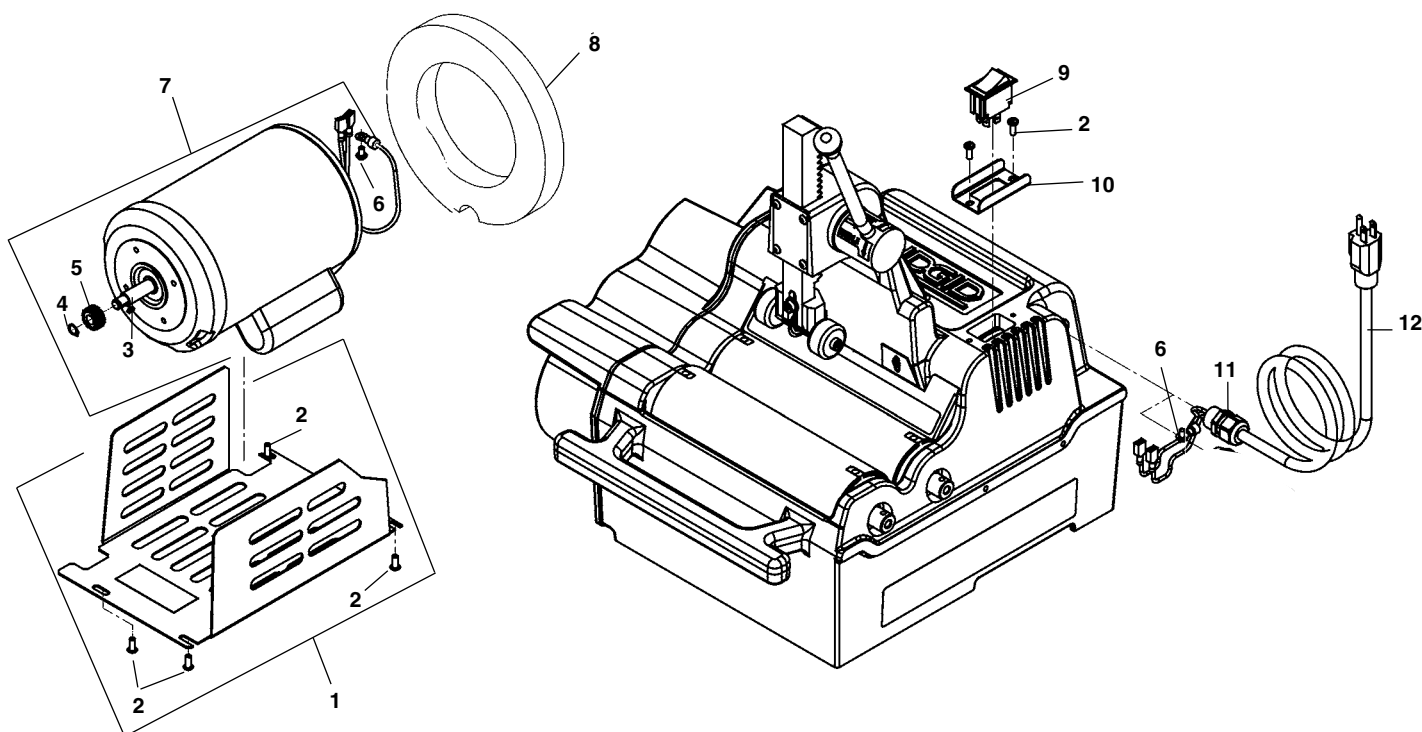
Main Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	94872	Screw, Button Head $\frac{3}{16}$ " - 16 x $\frac{1}{2}$ "	16	94922	Shoulder Screw $\frac{5}{16}$ " x $\frac{3}{4}$ "
2	26307	Washer	17	94927	Roller, Cutter Wheel
3	94877	Screw, Nylon $\frac{5}{16}$ " - 18 x $\frac{1}{2}$ "	18	94932	Slide
4	94882	Gear, Arbor	19	13163	Arbor
5	94887	Shaft, Arbor	20	94947	Cover
6	94892	Key, Square $\frac{3}{16}$ " x $\frac{3}{4}$ "	21	94922	Shoulder Screw $\frac{5}{16}$ " x $\frac{3}{4}$ "
7	14393	Indexing Handle Decal	22	94952	Washer
8	94897	Handle, Feed	23	10343	Stainless Steel Wheel Screw
9	58850	Retaining Ring	24	33551	Cutter Wheel
10	13153	Key $\frac{1}{8}$ " x $\frac{3}{16}$ " x $\frac{1}{2}$ "	25	13193	Bearing, Cutter Wheel
11	14208	Roller Shaft (2)	26	94942	Spring
12	94787	Key $\frac{3}{32}$ " x $\frac{1}{4}$ "	27	45275	Screw (2)
13	34892	Screw $\frac{1}{4}$ " - 20	28	10393	Scale
14	13143	Roller Tube 3" (2)	29	10388	Roller Guard
15	13148	Roller End Cap			

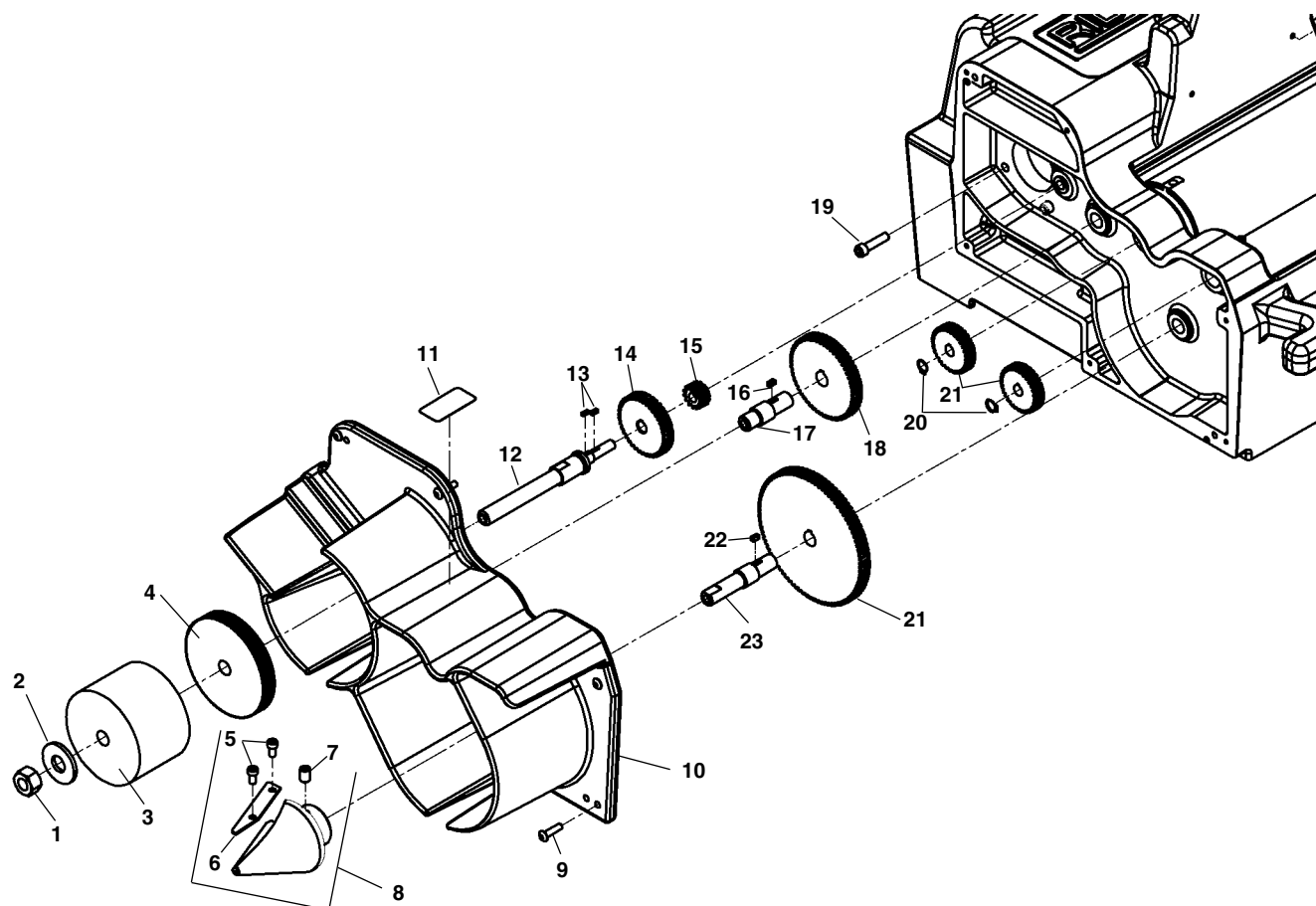
Electrical



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
1	13168	Motor Cover (Inc. Ref. 2)
2	94752	Screw 10 - 24
3	94787	Key $\frac{3}{32}$ " x $\frac{1}{4}$ "
4	94822	Retaining Ring
5	94847	Pinion Gear
6	94852	Screw w/Washer 10 - 24
7	94842	Motor 1/3 Hp 115V
8	94667	Motor Baffle
9	87402	Switch
10	10408	Switch Guard
11	69107	Strain Relief
12	69327	Power Cord 115V

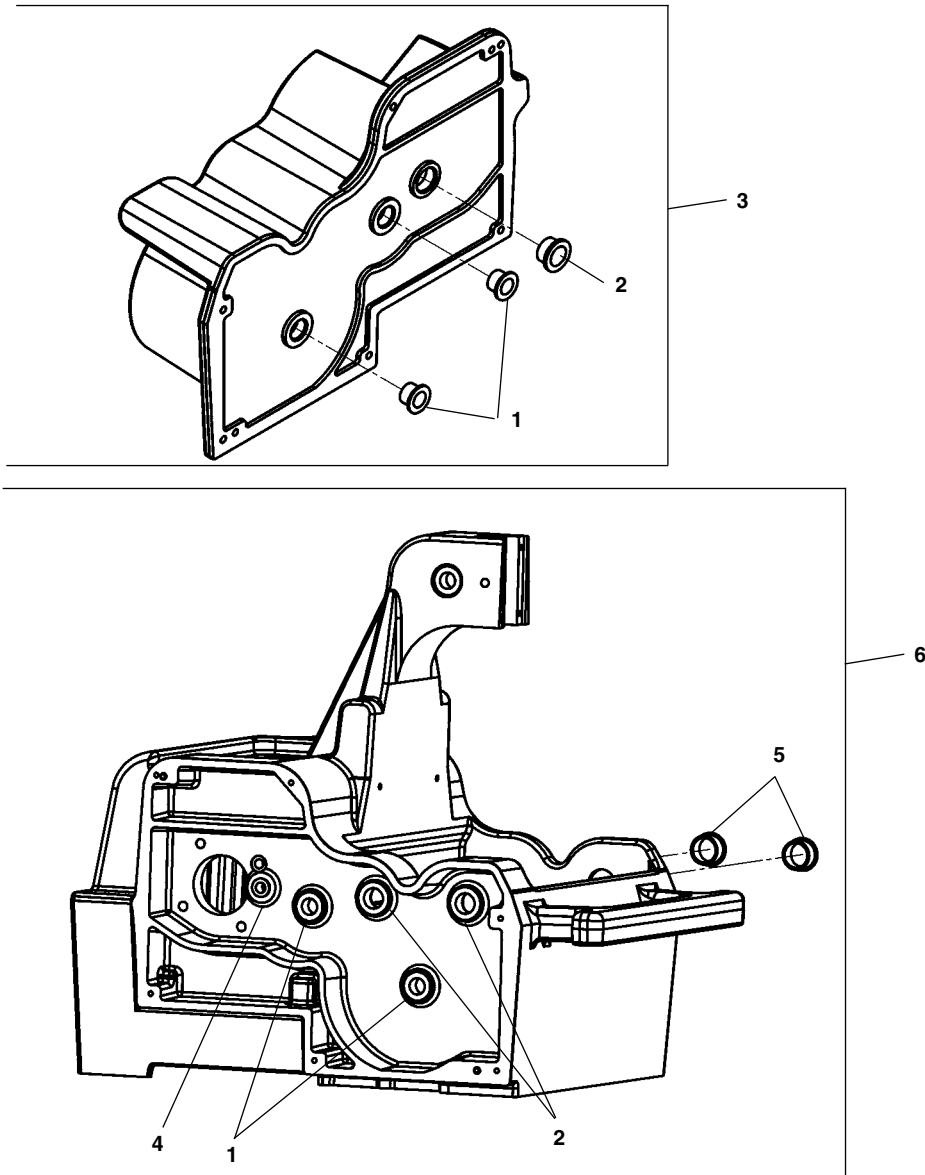
Gearbox



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	94662	Hex Nut	13	94787	Key $\frac{3}{32}$ " x $\frac{1}{4}$ " (4)
2	94667	Washer	14	94792	Gear Brush
3	42295	External Brush	15	94797	Gear Reduction
4	46105	Deburring Disc	16	94807	Key $\frac{1}{8}$ " x $\frac{1}{4}$ "
5	94697	Screw 10" - 32 x $\frac{3}{8}$ "	17	94802	Shaft
6	94692	Reamer Blade	18	94812	Gear, Reamer
7	94702	Set Screw $\frac{5}{16}$ " - 18 x 1"	19	94837	Screw $\frac{1}{4}$ " - 20 x 1
8	94687	Reamer Cone Assembly	20	94822	Retaining Ring (3)
9	94752	Screw 10" - 24 x $\frac{3}{4}$ "	21	13178	Reamer Gear 4"
10	13183	Gear Cover w/Shelf	22	94807	Key $\frac{1}{8}$ " x $\frac{1}{4}$ "
11	94867	Warning Decal Reamer	23	94817	Shaft Reamer
12	94782	Shaft, Brush			

Gear Cover

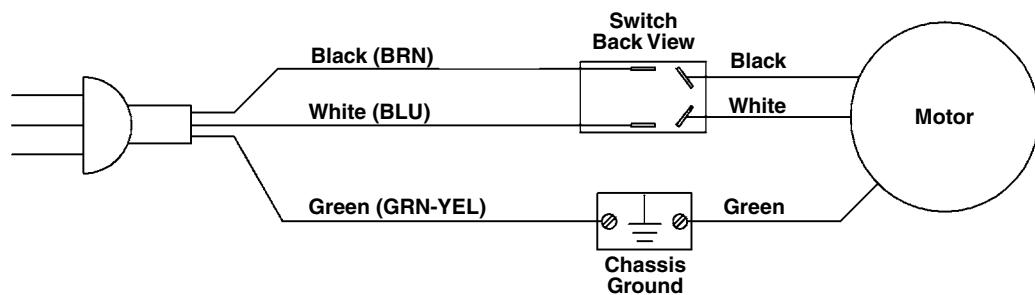


NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

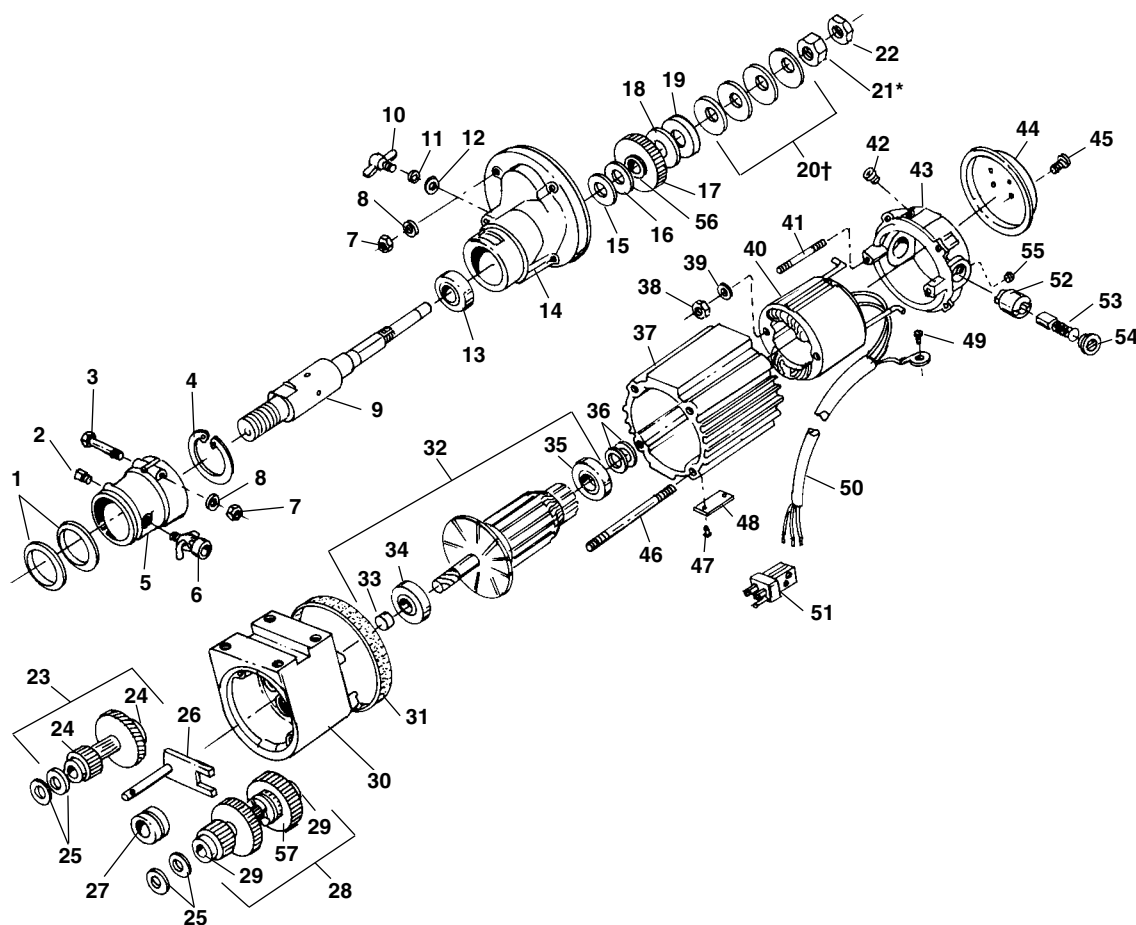
Ref. No.	Catalog No.	Description
1	94642	Flange $\frac{1}{2}'' \times \frac{5}{8}'' \times \frac{1}{2}''$ (7)
2	94657	Flange $\frac{5}{8}'' \times \frac{3}{4}'' \times \frac{1}{2}''$ (3)
3	13183	Gear Cover w/Shelf
4	94657	Flange $\frac{5}{16}'' \times \frac{7}{16}'' \times \frac{1}{2}''$
5	14143	Flange $\frac{3}{4}'' \times \frac{7}{8}'' \times \frac{1}{2}''$
6	13138	122XL Frame (Inc. Ref. 1,2,4,5)

Wiring Diagram

115V – 60Hz
100V – 50/60Hz
(220 – 240V/50Hz)



Motor Type 1



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

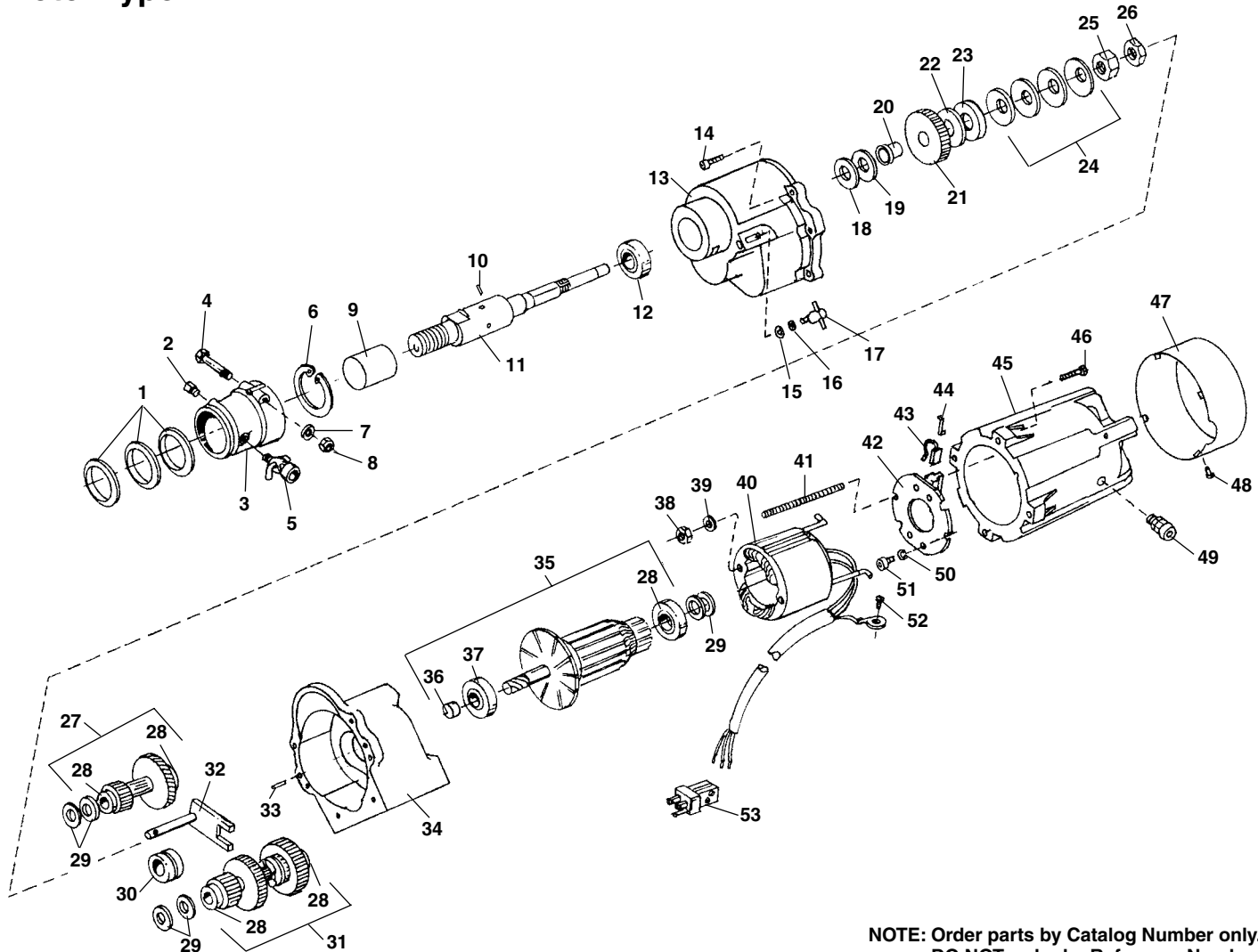
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	99215	Set of 2 Seals	22	99350	Lock Nut	41	99405	End Bell Stud (2)
2	—	1/4" Pipe Plug	23	99260	Gear Shaft Assembly	42	99305	Strain Relief
3	59915	Screw 1/4" - 28 x 2 1/4"	24	45060	Ball Bearing (2)	43	99200	Commutator End Bell (Includes Refs. 41, 52, 54)
4	99345	Snap Ring	25	99275	Conical Spring Washer [4]	44	99410	Commutator End Cover
5	99210	Waterjacket	26	99225	Shift Arm Assembly	45	99415	End Cover Screw (4)
6	99395	Water Petcock w/Hose Fitting	27	99285	Needle Bearing	46	99400	Field Housing Stud (4)
7	60410	Hex Nut 1/4" - 28 (5)	28	99230	Gear Shaft Assembly	47	46870	Drive Screw [5]
8	44740	Pkg. of 5 Washers	29	45060	Ball Bearing (2)	48	—	Name Plate
9	99340	Output Shaft	30	99250	Gear Housing	49	34715	Screw #10 - 32 x 3/8" [5]
10	99220	Shift Knob	31	99300	Fan Guard	50	99315	Line Cord Only
11	99265	Conical Spring Washer	32	99235	Armature Assembly (115V)	51	99320	Plug (115V)
12	99280	Washer	33	17402	Armature Assembly (230V)	17412	Plug (230V)	
13	45315	Bearing	34	99245	Slinger	52	99205	Brush Holder (2)
14	99335	End Plate	35	99240	Ball Bearing	53	99330	Set of Brushes [2]
15	99355	Clutch Plate	36	99270	Conical Spring Washer [2]	54	99325	Set of Brush Caps [2]
16	99360	Clutch Plate, Bronze	37	99255	Field Housing	55	99295	Screw #10 - 32 x 3/4" (4)
17	99370	Gear	38	79495	Hex Nut #10 - 32 (2)	56	99365	Bushing
18	99375	Clutch Plate, Bronze	39	99290	Lock Washer #10 (2)	57	44632	Large Gear
19	99380	Clutch Plate	40	99310	Field, 115V w/Line Cord			
†20	99385	Conical Spring Washer [4]		17407	Field, 230V w/Line Cord			
*21	99390	Stop Nut (Torque to 55-60 ft./lbs.)						

(3) = Total Quantity Required.

[2] = Quantity supplied per package when specified catalog number is ordered.

†Service Note: Ref. 20. Install with concave side toward gear.

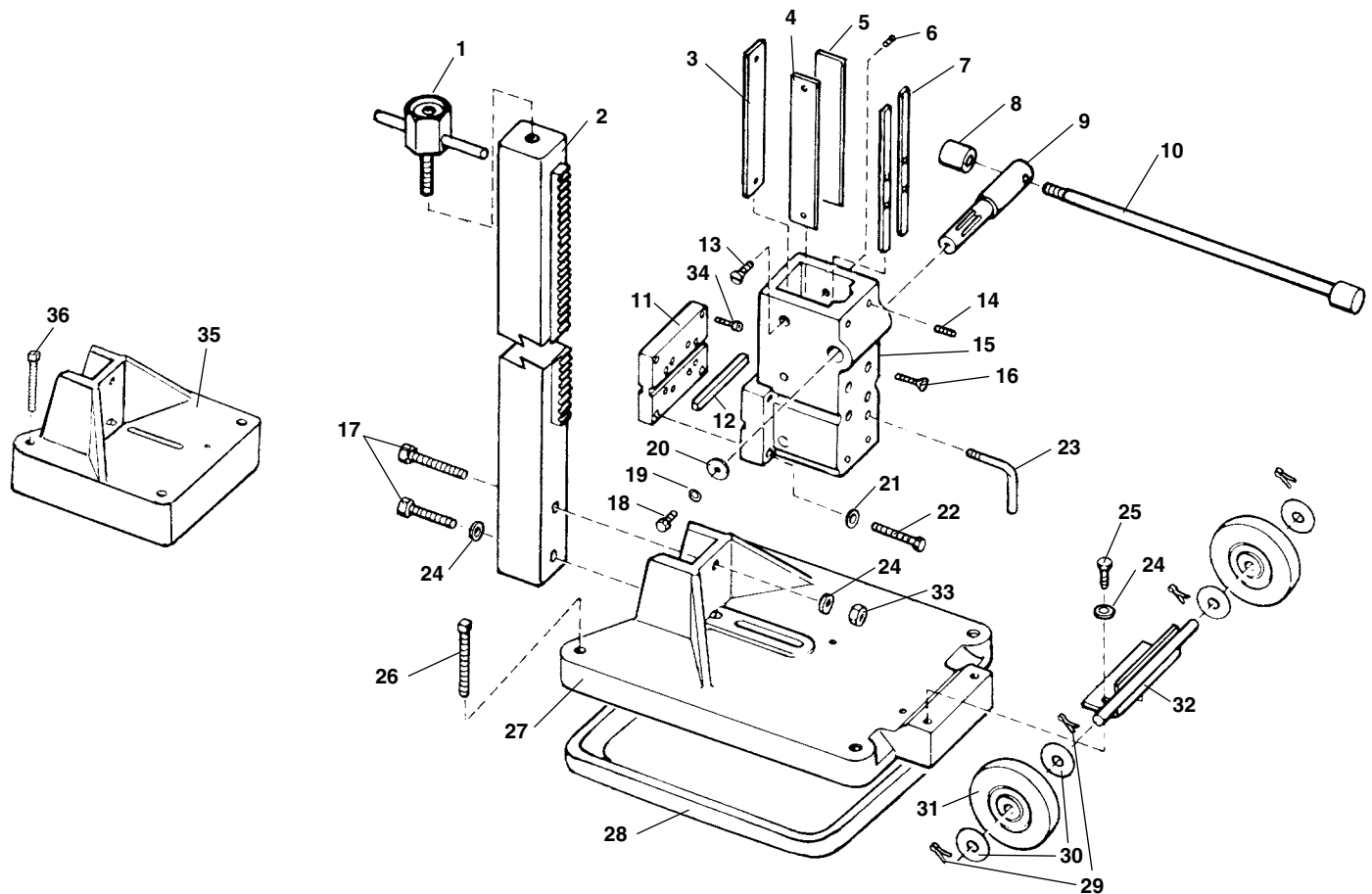
Motor Type 2



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	98125	Motor Complete, 115V	28	63202	Bearing
—	16382	Motor Complete, 230V	29	63207	Belvil Washers (6)
1	63117	Set of Seals	30	99285	Needle Bearing
2	—	1/4" Pipe Plug	31	63217	Gear Assembly 2nd Stage
3	63197	Water Jacket	32	63212	Shifter Arm Assembly
4	59915	Screw 1/4" - 28 x 2 1/4"	33	63227	Dowel Pin (2)
5	99395	Water Petcock w/Hose Fitting	34	63232	Gear Housing
6	64507	Snap Ring	35	63237	Armature Assembly 115V
7	44740	Lock Washer	—	63837	Armature Assembly 230V
8	60410	Hex Nut 1/4" - 28	36	99245	Slinger
9	63122	Wear Sleeve	37	63242	Bearing
10	63192	Spring Pin Set (2)	38	64517	Hex Nut 10-32 (2)
11	63127	Output Shaft	39	58542	Lock Washer (2)
12	63132	Bearing	40	63247	Field Assembly 115V
13	63832	Front Housing	—	63842	Field Assembly 230V
14	64512	Soc. Hd. Cap Screw 1/4" - 28 x 1" (6)	41	63252	Stud
15	99280	Washer	42	63257	Brush Card Assembly
16	99265	Conical Washer	43	63262	Brush Assembly (2)
17	99220	Shift Knob	44	63267	Brush Springs (2)
18	63137	Clutch Washer	45	63272	Field Housing
19	63142	Clutch Plate	46	64522	Soc. Cap. Screw 1/4"-28 x 1 1/4" (4)
20	63147	Bushing	47	63277	Housing Cover
21	63152	Output Gear	48	64527	Cap Screw #10-32 x 3/4" (4)
22	63162	Clutch Washer	49	63282	Strain Relief
23	63167	Clutch Plate	50	85945	#8 Ext. Washer
24	63172	Conical Washers (4)	51	64532	Cap Hd. Screw 8-32 x 3/4" (2)
25	63177	Stop Nut (Torque to 55-60 Ft./lbs.)	52	64537	Ft. Hd. Screw 10-32 x 1/4"
26	63182	Lock Nut	53	63157	Plug 115V
27	63187	Gear Assembly 1st Stage	—	63847	Plug 230V

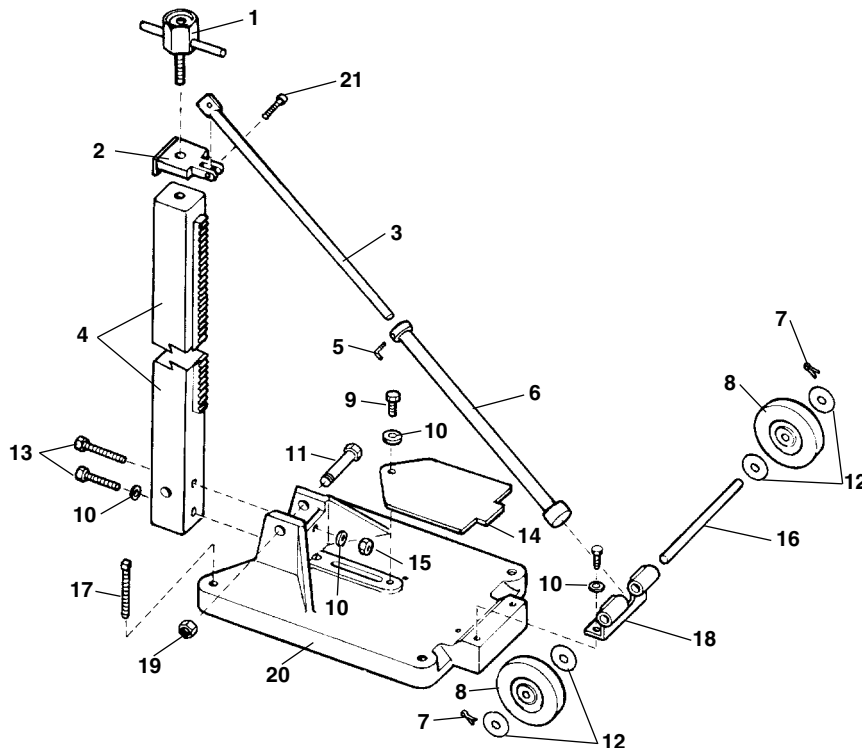
Anchor/Vacuum Drill Stand



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	98805	Ceiling Jack Screw	20	98830	Flat Washer 1/4" x 1 1/4" O.D.
2	98800	Mast w/Gear Rack	21	40930	3/8" Lock Washer (4)
3	98750	Non-Adjustable Shim	22	46670	Hex Cap Screw 3/8" - 16 x 2 (4)
4	98835	Non-Adjustable Shim	23	98775	Locking Handle
5	98770	Adjusting Shim	24	84150	1/2" Lock Washer (4)
6	33720	Cup Set Screw 1/4" - 20 x 3/8" (2)	25	45500	Hex Bolt 1/2" - 13 x 1 1/4" (2)
7	98765	Set of 2 Shims	26	98825	Sq. Head Set Screw 5/8"-11 x 4 (4) (RB-214)
8	98795	Handle Nut (2)	27	98815	Anchor Vacuum Base (RB-214)
9	98785	Pinion Gear	28	98820	Vacuum Seal (RB-214)
10	98790	Feed Handle	29	47030	Cotter Pin 1/8" x 1" (4)
11	98780	Motor Mount Plate	30	41220	Flat Washer 5/8" (4)
12	98760	3/8" Sq. x 4" Key	31	98845	Wheel (2)
13	98740	Brass FH Screw 1/4" - 20 x 5/8" (6)	32	98840	Axle Assembly
14	98755	Cup Set Screw 1/4" - 20 x 7/8" (4)	33	44745	Hex Nut 1/2" x 13 (4)
15	98810	Carriage	34	99515	Socket Head Screw 1/4" - 28 x 1" (4)
16	98745	Brass FH Screw 1/4" - 20 x 1" (4)	35	98850	Anchor Base (RB-215)
17	80265	Hex Cap Screw 1/2" - 13 x 3 1/2" (2)	36	98855	Sq. Head Bolt 1/2" - 13 x 4" (RB-215)
18	60005	Hex Cap Screw 1/4" - 20 x 3/4"	37	98120	2" Spacer Block (Not Shown-Required for bits over 10" diameter)
19	44740	1/4" Lock Washer			

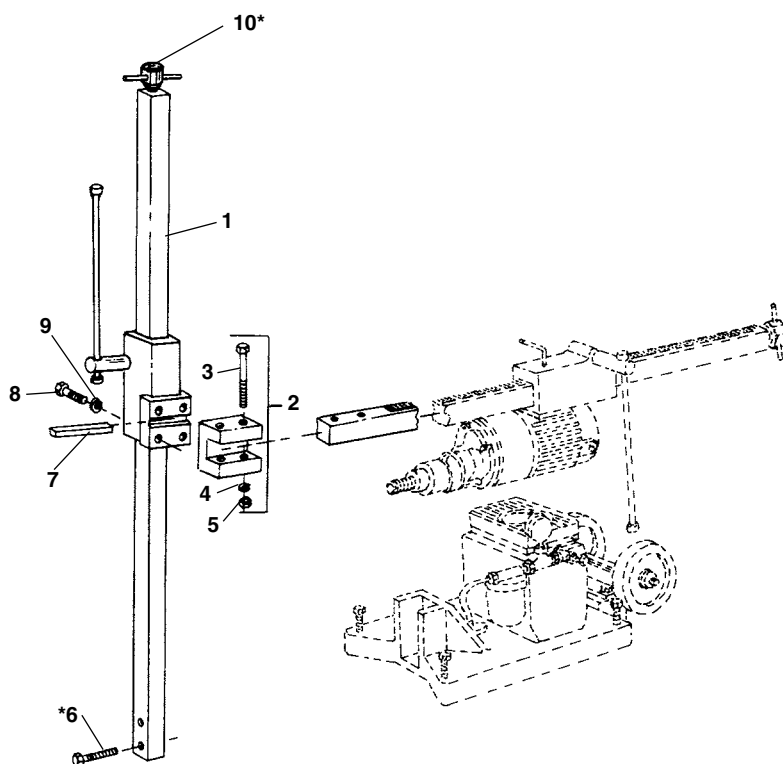
RB-214A Swivel Base and Mast



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
1	99805	Ceiling Jack Screw
2	29077	Mast Bracket
3	29082	Upper Brace
4	29087	Angle Mast 2 1/2" x 2 1/2"
5	29092	L-Bolt
6	29097	Lower Brace
7	47030	Cotter Pin, 1/8" x 1" (2)
8	98845	Wheel (2)
9	45500	Hex Bolt, 1/2" - 13 x 1 1/4" (2)
10	84150	Lock Washer 1/2" (4)
11	29102	Hex Head Bolt, 1/8" x 4 1/2"
12	41220	Flat Washer, 5/8" (4)
13	80265	Hex Cap Screw, 1/2" - 13 x 3 1/2" (2)
14	29107	Vacuum Pump Plate
15	44745	Hex Nut, 1/2" x 13
16	29112	Axle
17	98825	Sq. Hd. Set Screw, 5/16" - 11 x 4" (4)
18	29117	Axle Bracket
19	29122	Hex Nut, 1-8
20	29127	Anchor Vacuum Base
21	29132	Socket Cap Screw 5/16" - 18 x 1"
22	98120	2" Spacer Block (Not Shown- Required for bits over 10" diameter)

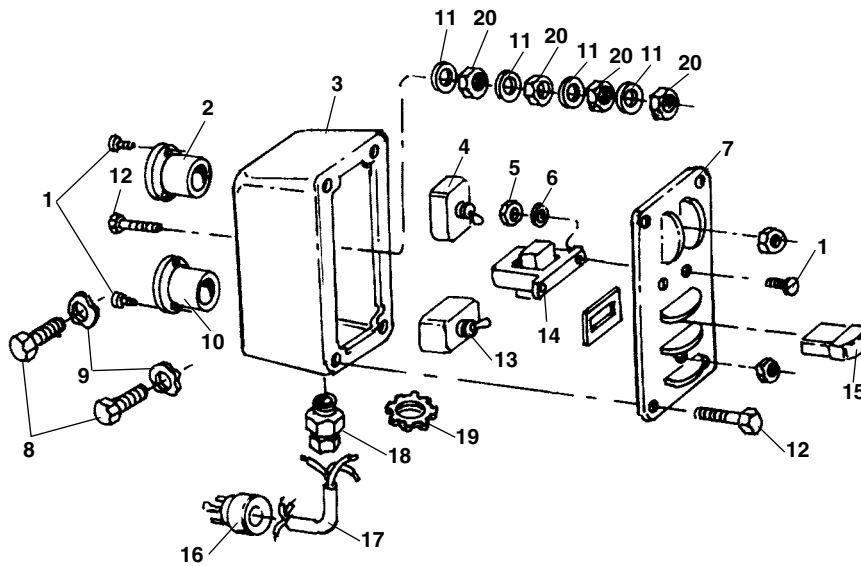
RB-90 90° Attachment



Ref. No.	Catalog No.	Description
—	32437	RB-90 90° Attachment
1	32447	82" Mast
2	32452	90° Adapter Assembly
3	16762	1/2" - 13 x 5" Hex Bolt (2)
4	84150	1/2" Lock Washer (2)
5	44745	1/2" - 13 Hex Nut (2)
*6	80265	1/2" - 13 x 3 1/2" Hex Cap Screw (2)
7	98760	3/8" Sq. x 4 Key
8	46670	3/8" - 16 x 2" Hex Cap Screw (4)
9	40930	3/8" Lock Washer (4)
*10	98805	Ceiling Jack Screw

*Transfer From Original Core Drill
Refer to Stand Assembly for Carriage Components

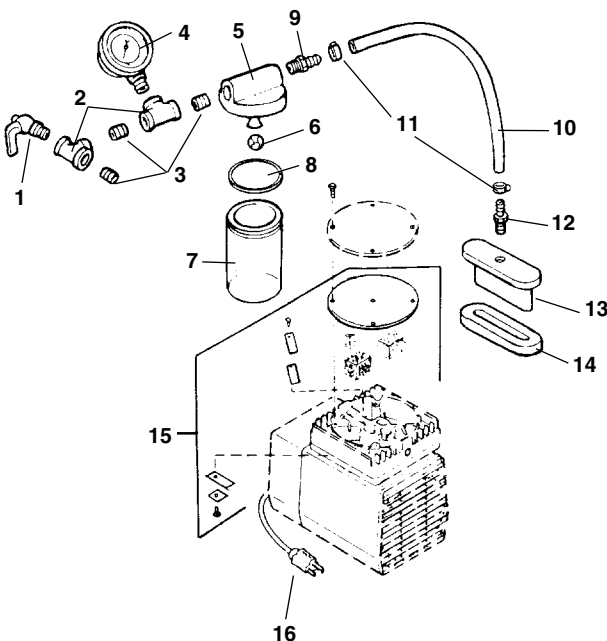
Control Panel



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

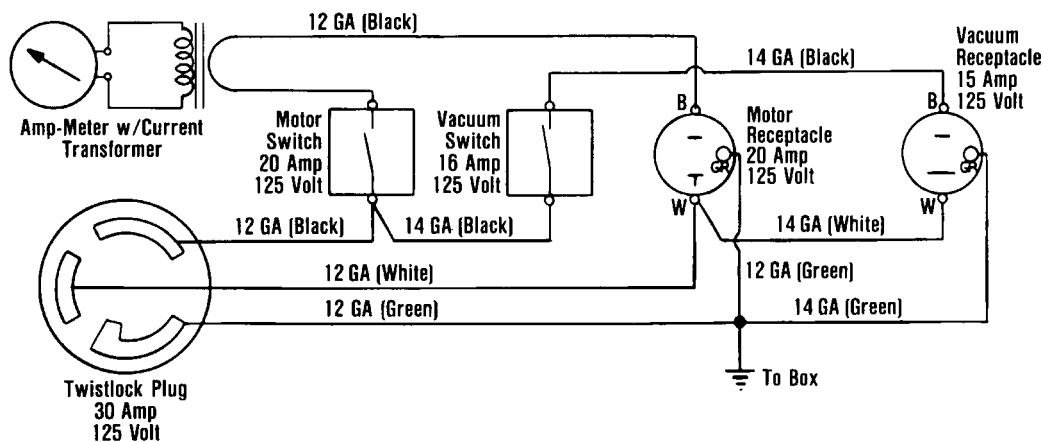
Ref. No.	Catalog No.	Description
1	99430	Screw #6 - 32 x 1/2" (6) (115V)
	17417	Screw #10 - 24 x 1" (6) (230V)
2	99435	Receptacle, 20 Amp, (115V)
	17422	Receptacle, 20 Amp, (230V)
3	99440	Control Box
4	99445	Toggle Switch, 16A, (115V)
	17427	Toggle Switch, 8A, (230V)
5	99450	Hex Nut #6 - 32 (2)
6	99455	Lock Washer #6 (2) (115V)
	45365	Flat washer #10 (2) (230V)
7	99460	Cover Plate (115V)
	17432	Cover Plate (230V)
8	99465	Hex Screw 1/4" - 20 x 1 1/4" (2)
9	44740	Lock Washer 1/4" (2)
10	99470	Receptacle, 15 Amp, (115V)
	17437	Receptacle, 15 Amp, (230V)
11	46985	Lock Washer #10 (5)
12	92455	Screw #10 - 24 x 3/4" (5)
13	99480	Toggle Switch, 20A, (115V)
	17442	Toggle Switch, (230V)
14	99485	Transformer
15	99490	Ammeter (115V)
	17447	Ammeter (230V)
16	99495	Plug, 30 Amp
17	99500	Line Cord (115V)
	17452	Line Cord (230V)
18	99505	Cord Connector
19	99510	Lock Nut
20	44695	Hex Nut #10-24 (5)
21	99170	Suppressor (230V) South Africa

RB-214 Vacuum Pump

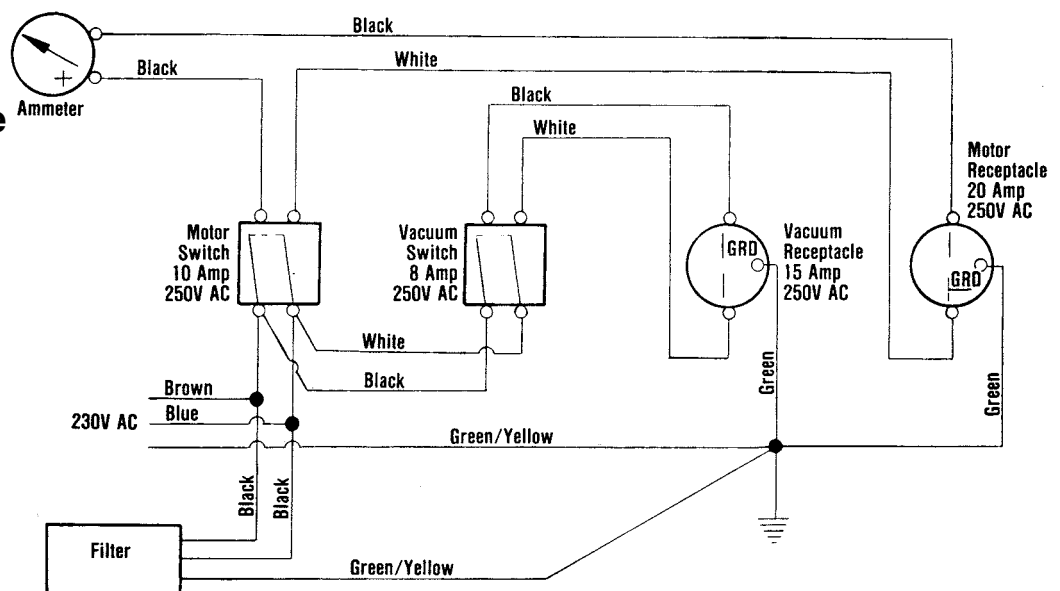


Ref. No.	Catalog No.	Description
—	98110	Pump Complete
1	98865	Air Petcock
2	—	1/4" Pipe Tee (2)
3	—	1/4" Close Nipple (3)
4	98870	Vacuum Gauge
5	98875	Water Trap Top
6	98890	Float Ball
7	98880	Water Trap Jar
8	98885	Water Jar Gasket
9	98910	1/4" Barb to 1/4" Male
10	98895	Hose, 9" x 1/4"
11	35142	1/2" Hose Clamp (2)
12	98915	1/4" Barb to 1/8" Male
13	98900	Slot Cap
14	98905	Slot Cap Gasket
15	98860	Vacuum Pump Service Kit
16	33556	Plug 115V
	33546	Plug 230V

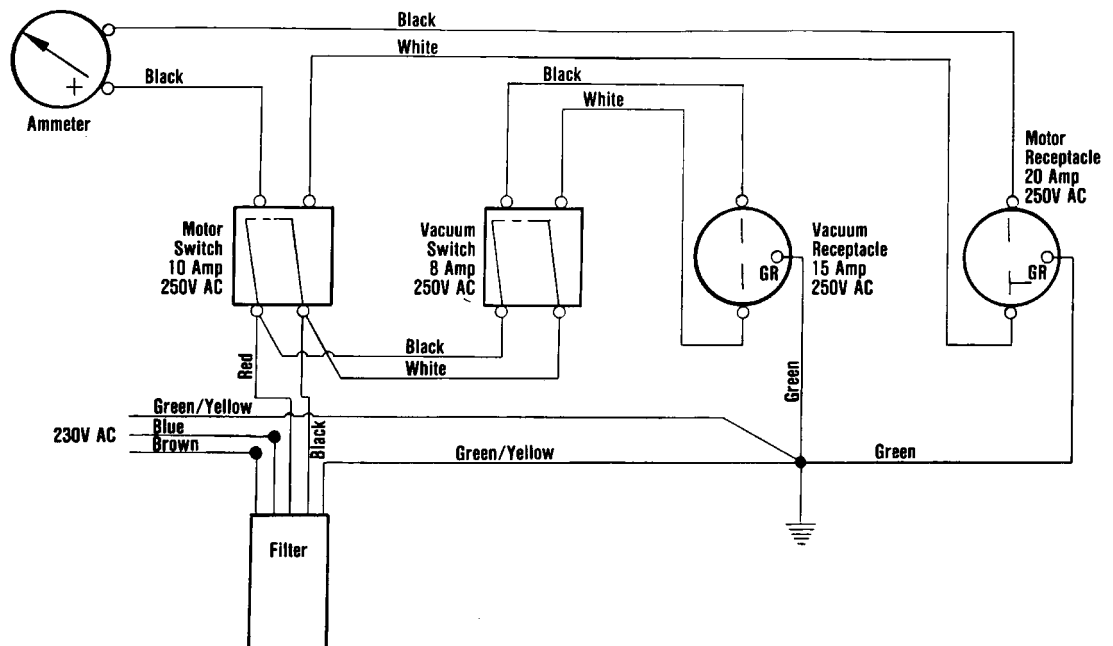
Wiring Diagram (115V, 60 Hz)

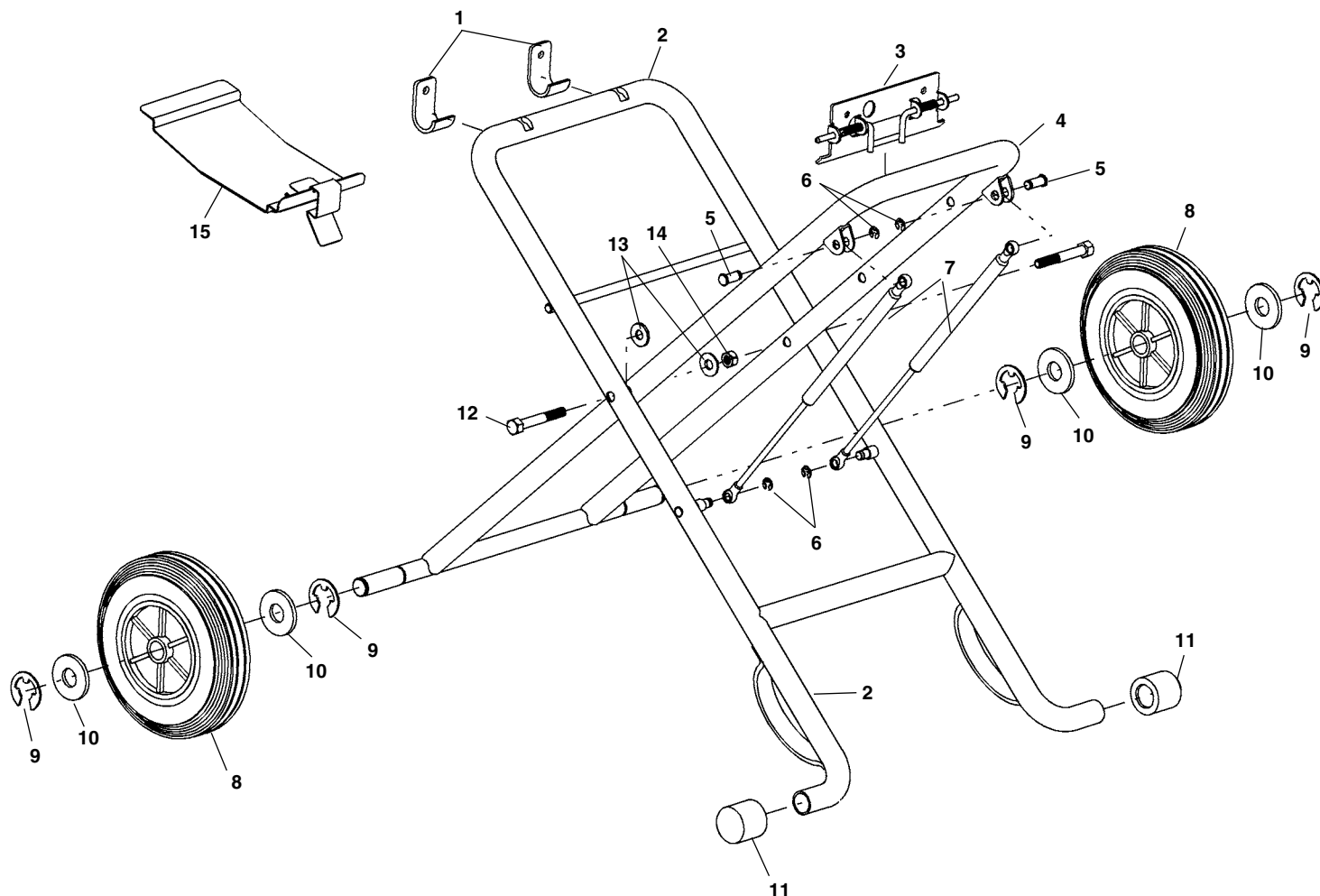


Wiring Diagram (230V, 50-60 Hz) Australia and Europe



Wiring Diagram (230V, 50-60 Hz) Cat. No. 16597

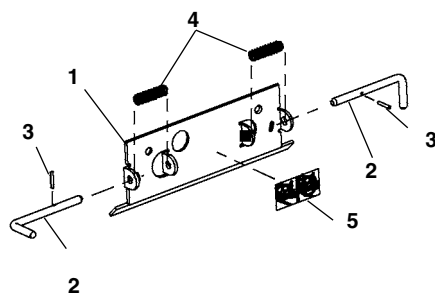




NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	58077	250 Folding Stand	7	48126	Gas Strut (2)
—	67657	250 Folding Stand (North America)	8	43846	Wheel (2)
1	43796	Rear Bracket (2)	9	43856	Retaining Ring (4)
2	43866	Outer Leg Assembly	10	43936	Washer (4)
	70812	Outer Leg Assembly (North America)	11	23607	End Cap (2)
3	70817	Front Bracket Assembly	12	43836	Bolt (2)
4	43906	Inner Leg Assembly	13	43886	Washer (4)
5	43946	Pin (2)	14	43896	Locking Nut M12 (2)
6	48146	Retaining Ring (4)	15	67787	Pressure Plate Assembly (North America)

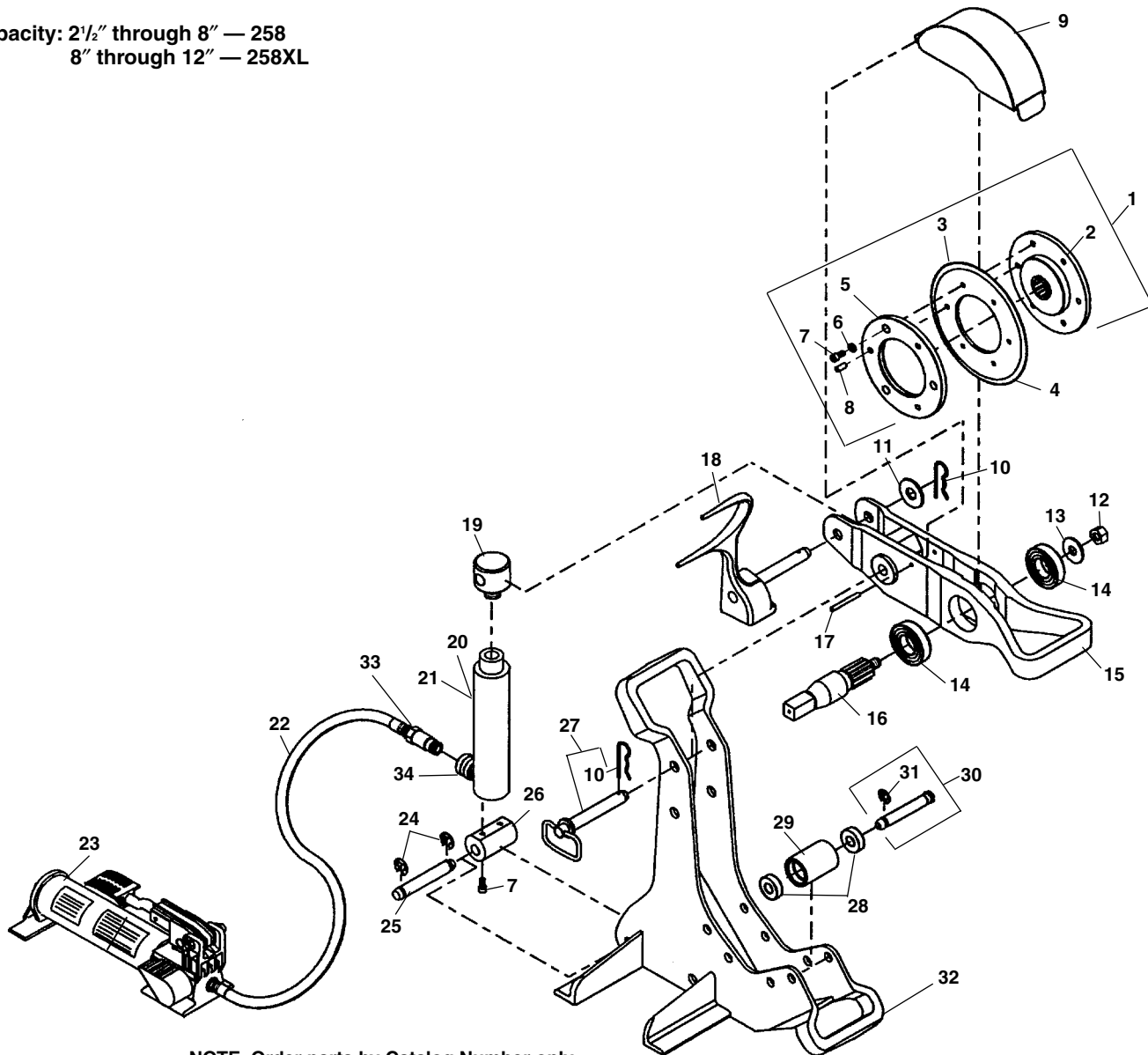
Front Bracket Assembly



Ref. No.	Catalog No.	Description
—	70817	Front Bracket Assembly
1	43806	Front Bracket
2	43816	Latch Handle (2)
3	43826	Roll Pin (2)
4	43926	Spring (2)
5	43916	Warning Decal

Frame

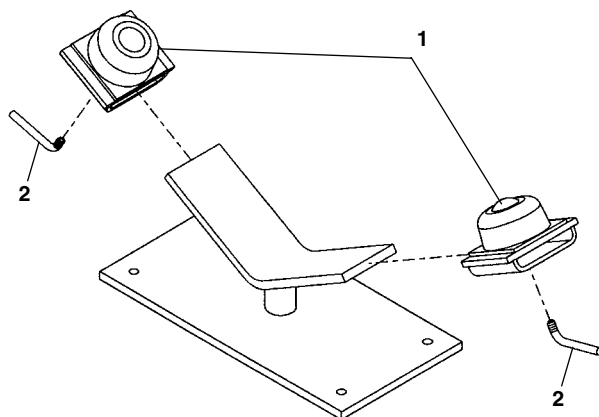
Capacity: 2½" through 8" — 258
8" through 12" — 258XL



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	50767	258 Pipe Cutter	18	50882	Reaction Arm (258)
—	58227	258XL Pipe Cutter		58887	Reaction Arm (258XL)
1	66687	Cutter Wheel Assy. Std. Includes Ref. Nos. 2,3,5,6,7,8	19	50877	Top Clevis
2	50782	Hub w/Pins	20	59517	10 Ton Hyd. Cylinder
3	50812	Cutter Wheel Std.	21	62557	Repair Kit f/Cylinder
4	58222	Cutter Wheel – Thin	22	59507	Hydraulic Hose
5	50792	Cover Plate	23	59512	HF-32 Foot Pump Incl. Ref. No. 22
6	40770	Lock Washer 5/16" (5)	24	58850	E-Clip (2)
7	50997	Screw 5/16" x 3/4" (5)	25	54327	Bottom Clevis Pin
8	50787	Pins (3)	26	50867	Bottom Clevis
9	50777	Guard	27	50847	Hitch Pin w/Hairpin (258 Only)
10	50852	Hairpin Cotter (2)	28	44565	Ball Bearing (8)
11	60995	Flat Washer 3/4" (258XL Only)	29	50837	Roller
12	50797	Locking Nut	30	54887	Roller Pin (4)
13	41220	Flat Washer 5/8"	31	42580	E-Clips (8)
14	50802	Ball Bearing (2)	32	50842	Frame (258)
15	50807	Pivot Arm		58882	Frame (258XL)
16	50827	Drive Shaft	33	62552	Hose Half Coupler
17	27052	Roll Pin 1/4" x 2 3/8"	34	62547	Ram Half Coupler

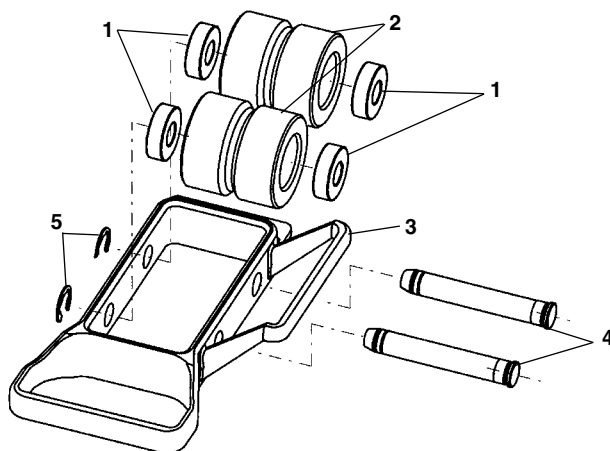
Pipe Support Assembly



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

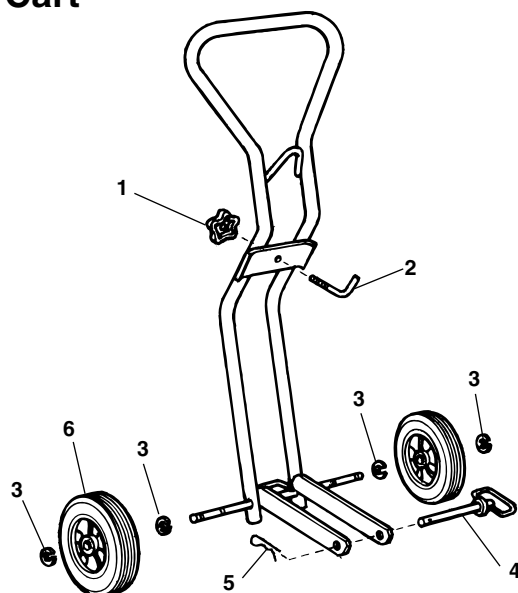
Ref. No.	Catalog No.	Description
—	60002	Pipe Support Assembly
1	60007	Ball Transfer Head Set (Includes Ref. No. 2)
2	60012	Locking Rod

Pipe Roller Attachment



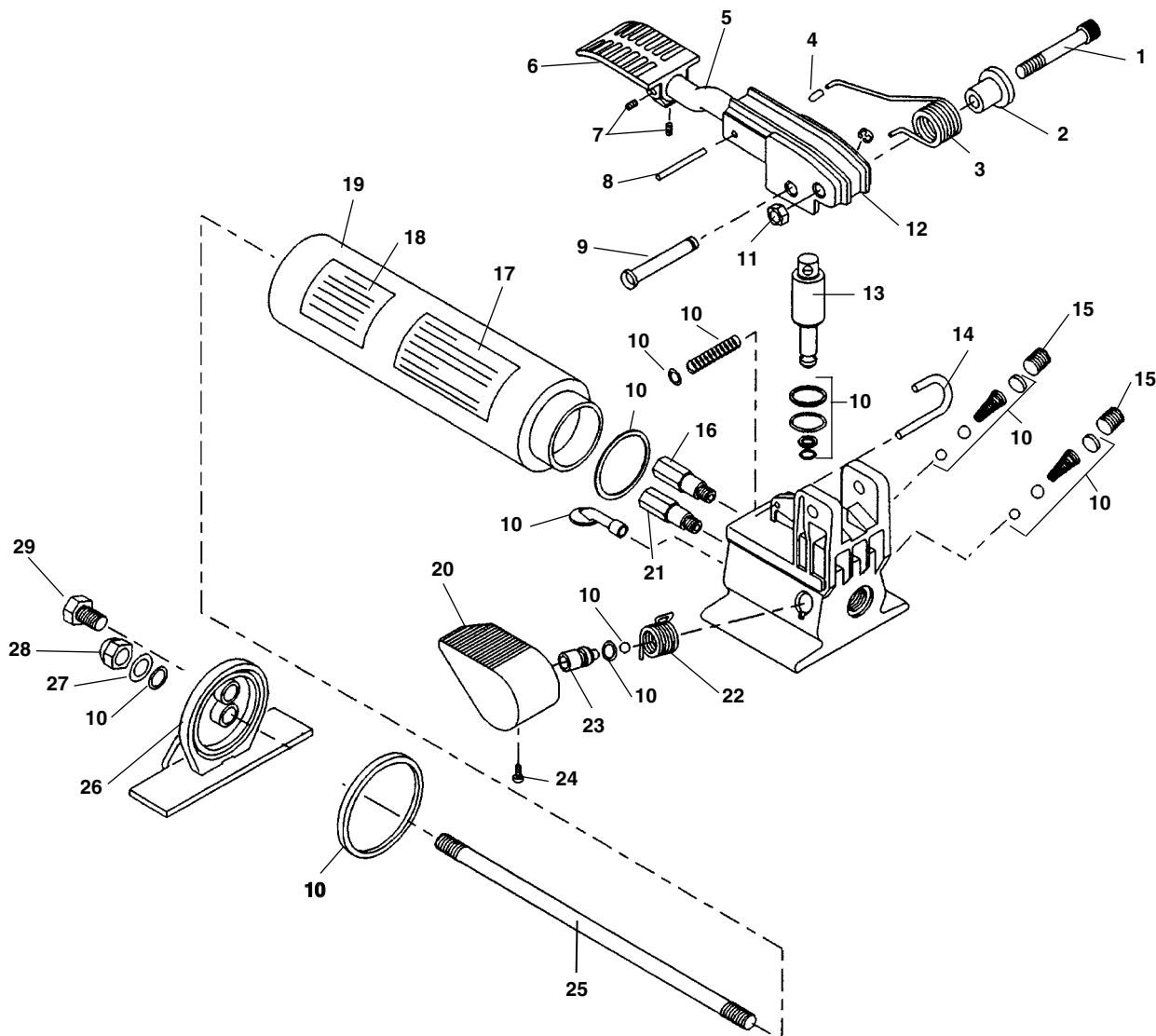
Ref. No.	Catalog No.	Description
—	61757	Pipe Roller Attachment
1	44565	Ball Bearing (4)
2	62447	Roller (2)
3	62452	Frame – Pipe Roller
4	54887	Roller Pin w/Clip (2)
5	42580	Pkg. of 5 E-Clips

Transport Cart



Ref. No.	Catalog No.	Description
—	54397	Transport Cart
1	54897	Knob
2	62642	Latch Bolt
3	42580	Pkg. of 5 E-Clips
4	50847	Hitch Pin w/Hairpin
5	50852	Hairpin Cotter
6	93325	Wheel (2)

Hydraulic Foot Pump, HF 32

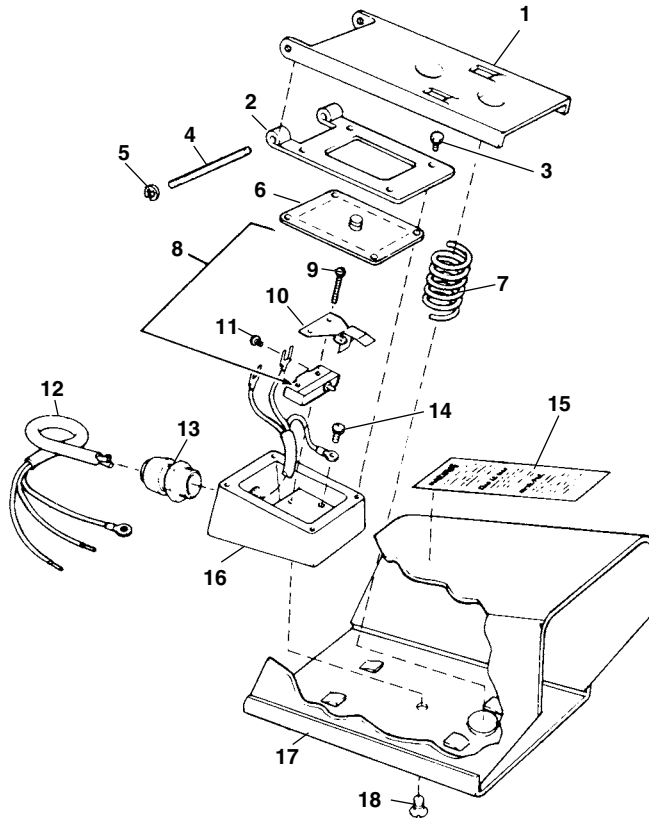


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	59512	HF32 Foot Pump	16	63752	By-Pass Valve
1	63767	Socket Head Capscrew	17	62572	Decal, HF32 Instruction
2	63777	Spacer	18	62567	Decal, HF32/Logo
3	63772	Torsion Spring	19	63687	Reservoir
4	63787	Cap	20	63727	Release Foot Pedal
5	63802	Foot Pedal Shaft	21	63757	Relief Valve Assembly
6	63792	Pedal	22	63722	Release Spring
7	63797	Pkg. of 2 Set Screw	23	63737	Valve Spindle
8	63807	Pin	24	63732	Screw
9	63762	Cross Pin w/Ret. Ring	25	63692	Tie Rod
10	63657	HF32 Repair Kit	26	63702	Reservoir Support
11	63782	Hex Nut	27	63717	Pkg. of 2 Washers
12	63812	Foot Pedal	28	63707	Acorn Nut
13	63817	Plunger Assembly	29	63712	Plug
14	63747	Locking Pin			
15	63742	Pipe Plug			

**B-293
B-436**

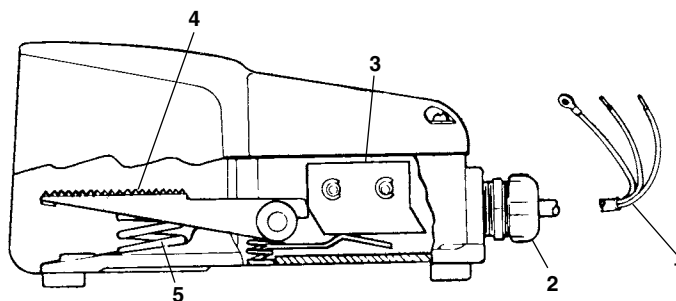
**B-293
B-436
E-2497
301**



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	83550	B-293 Foot Switch
—	83555	B-436 Foot Switch
1	83565	C-546 Foot Pedal
2	83570	C-569 Plate
3	83625	E-3084 Screw (4)
4	83580	E-3058 Pin
5	78780	E-3562 Ret. Ring (2)
6	83590	E-3050 Diaphragm w/Gasket
7	83615	E-3051 Spring
8	83585	E-2988X Micro Switch
9	83595	E-3060 Screw (2)
10	83575	E-3031 Actuator Assembly
11	46310	Screw #6 - 32 x 3/16" (2)
12	68880	D-620 Cord (B-293)
	83605	D-1297 Cord (B-436)
13	68885	E-1511 Cord Connector (B-293)
	36732	E-2668 Cord Connector (B-436)
14	45420	E-3467 Screw
15	85940	E-2220 Warning Label (B-293) E-3173 Warning Label (B-436)
16	85935	C-532 Housing
17	83560	B-345 Housing Cover
18	83610	E-3095 Screw

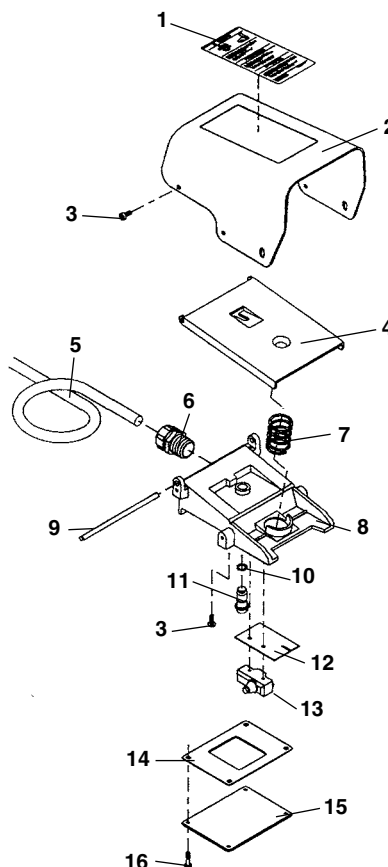
**E-2497
301**



Ref. No.	Catalog No.	Description
—	76095	E-2497 Foot Switch
—	68820	301 Foot Switch
1	68880	D-620 Cord (E-2497)
	83600	D-1221 Cord (301)
2	68885	E-1511 Connector (E-2497)
	85565	E-2668 Connector (301)
3	83940	E-2900 Micro Switch
4	83945	E-2901 Treadle
5	83950	E-3349 Spring

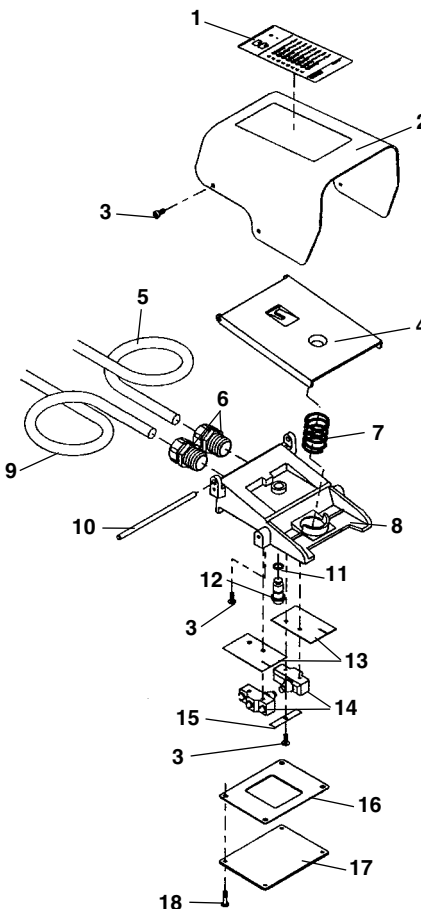
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	36642	B-294 Foot Switch
—	36647	B-295 Foot Switch
—	36662	301-A Foot Switch
—	75962	B-294 HD Foot Switch
1	36667	Warning Label (B-294)
	36672	Warning Label (B-295)
	36687	Warning Label (301-A)
	76352	Warning Label (B-294 HD)
2	36692	Cover
3	36787	Screw #10 Self-tapping (5)
4	36697	Foot Pedal
5	68880	Cord (B-294)
	36712	Cord (B-295)
	36727	Cord (301-A)
	75972	Cord (B-294 HD)
6	36732	Cord Connector
	75977	Cord Connector (B-294 HD)
7	36702	Spring
8	54347	Base
9	36747	Pivot Pin
10	36767	O-Ring
11	36772	Poppet
12	54367	Insulator
13	36762	Micro Switch
14	54372	Seal
15	54362	Bottom Cover
16	54357	Bottom Cover Screw (4)



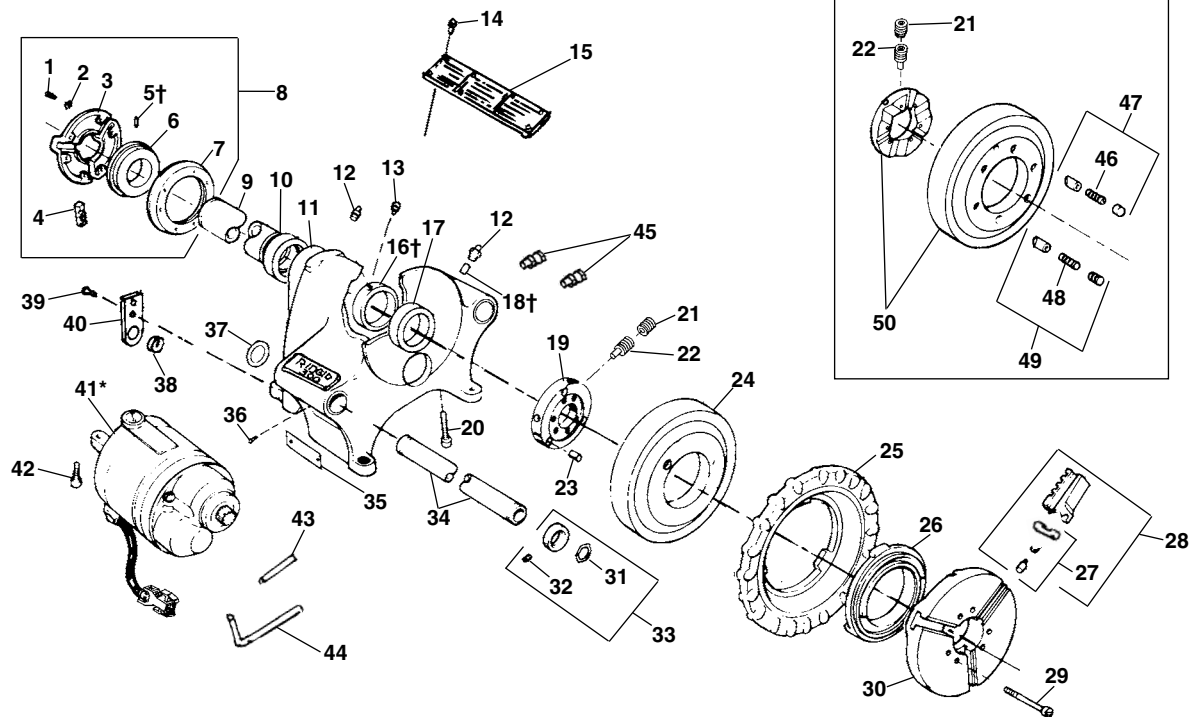
**B-294
B-295
301-A
B-294 HD**

Ref. No.	Catalog No.	Description
—	36652	B-296 Foot Switch
—	36657	B-297 Foot Switch
—	40017	B-298 Foot Switch (U.K.)
—	40022	B-299 Foot Switch (Australia)
1	36677	Warning Label (B-296)
	36682	Warning Label (B-297)
	54392	Warning Label (B-298)
	45017	Warning Label (B-299)
2	54382	Cover
3	36787	Screw #10 Self-tapping (6)
4	36697	Foot Pedal
5	36717	Cord (B-299)
	18906	Cord (B-296)
	36722	Cord (B-297)
	45027	Cord (B-298)
6	36732	Cord Connector (2)
7	36702	Spring
8	54352	Base
9	18916	Line Cord (B-296)
	36797	Line Cord (B-297)
	45022	Line Cord (B-298)
	93210	Line Cord (B-299)
10	36747	Pivot Pin
11	36767	O-Ring
12	36772	Poppet
13	54367	Insulator (2)
14	36762	Micro Switch (2)
15	54377	Switch Bracket
16	54372	Seal
17	54362	Bottom Cover
18	54357	Bottom Cover Screw (4)



**B-296
B-297
B-298
B-299**

Main Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

For Information on Cutters, Die Heads and Reamers SEE INDEX

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	46790	Screw, 12 - 24 x 3/4" (6)	27	44715	Jaw Insert Set
2	40270	Lock Washer (6)		97365	Jaw Insert Set F/Coated Pipe
3	43735	Centering Head	28	44090	Chuck Jaw Set
	19346	Centering Head (Europe)	29	45295	Screw 5/16" - 18 x 2 3/4" (6)
4	46500	Rear Jaw (3)	30	43525	Cap
5†	45260	Step Pin (3)	31	44720	Snap Ring (2)
6	44095	Scroll	32	46050	Set Screw 1/4" - 18 x 1/4" (2)
7	43740	Back Plate	33	44725	Ring Assembly (2)
	19356	Back Plate (Europe)	34	44425	Support Bar (Incl. Ref. No. 37)
8	44165	Rear Centering Assembly	35	90392	FOR/OFF/REV Label
9	44100	Drive Shaft	36	45280	Screw #8 - 32 x 5/8" (2)
10	45335	Rear Bearing-Bronze	37	44525	Spring Ring (2)
11	42845	300 Body Assembly (Incl. Ref. No. 10, 11, 12, 13, 14, 15, 17, 18, 38, 39, 40)	38	46735	Cord Grommet
	19056	300A Body Assy.- Europe (Incl. Ref. No. 10, 11, 12, 13, 14, 15, 17, 18, 38, 39, 40, 43, 44, 45)	39	44735	Screw 1/4" - 20 x 5/8" (2)
	96805	300A Body Assy. (Incl. Ref. No. 10, 11, 12, 13, 14, 15, 17, 18, 38, 39, 40, 43, 44, 45)	40	45825	Strain Relief Plate
12	46860	Grease Fitting	41*	87740	3177 Motor 115V (300)
13	33785	Set Screw 5/16" - 24 x 1/4" (2)		87780	3277 Motor 230V (300)
14	85920	Pop Rivet (10)		96910	3181 Motor 115V (300A)
15	88690	Warning Plate		96975	3281 Motor 230V (300A)
16†	45345	Thrust Ring		61202	3177-CE Motor 115V (300CE)
17	45270	Front Bearing-Bronze		61207	3277-CE Motor 230V (300CE)
18†	88230	Split Roll Pin		61192	3181-CE Motor 115V (300A CE)
19	30027	Drive Ring, Type II		61197	3281-CE Motor 230V (300A CE)
20	46035	Screw 5/16" - 18 x 1 3/4" (2)	42	46745	Screw 3/8" - 16 x 1 1/4" (2)
21	45300	Set Screw 5/16" - 24 x 1/4" (2)	43	96850	Tubing (300A)
22	45265	Set Screw 5/16" - 24 x 1/2" (3)	44	96855	Tubing (300A)
23	30022	Drive Pin, Type II (3)	45	96860	Bulkhead Union (2) (300A)
24	30017	Ring Gear, Type II	46	44310	Drive Spring (3)
25	89150	Hand Wheel	47	91552	Drive Wedge Kit
26	43540	Scroll	48	45285	Pressure Spring (3)
			49	91557	Plunger Kit
			50	91562	Conversion Kit (Includes Ref. Nos. 19-24)

* Refer to Motor Model No. for Component Parts

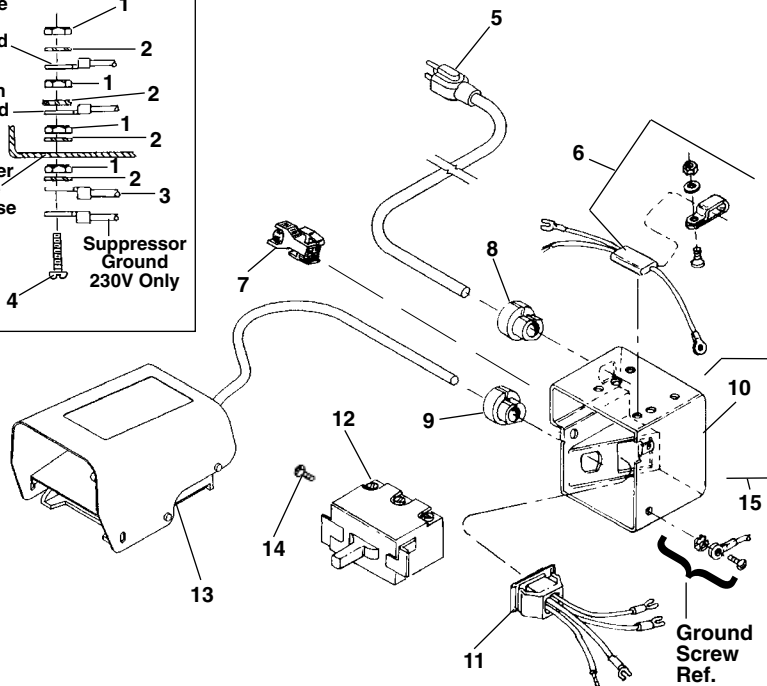
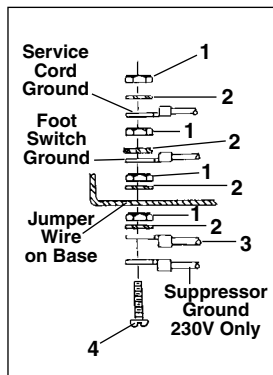
Service Notes:

†Ref. 5 Stop Pins are easily removed by pushing from inside to outside.

†Ref. 18 Before removing front bearing sleeve (Ref. No. 17), dowel pin and grease fitting must be pushed out from inside.

†Ref. 16 Position thrust ring so that offset screw holes are closer to chuck.

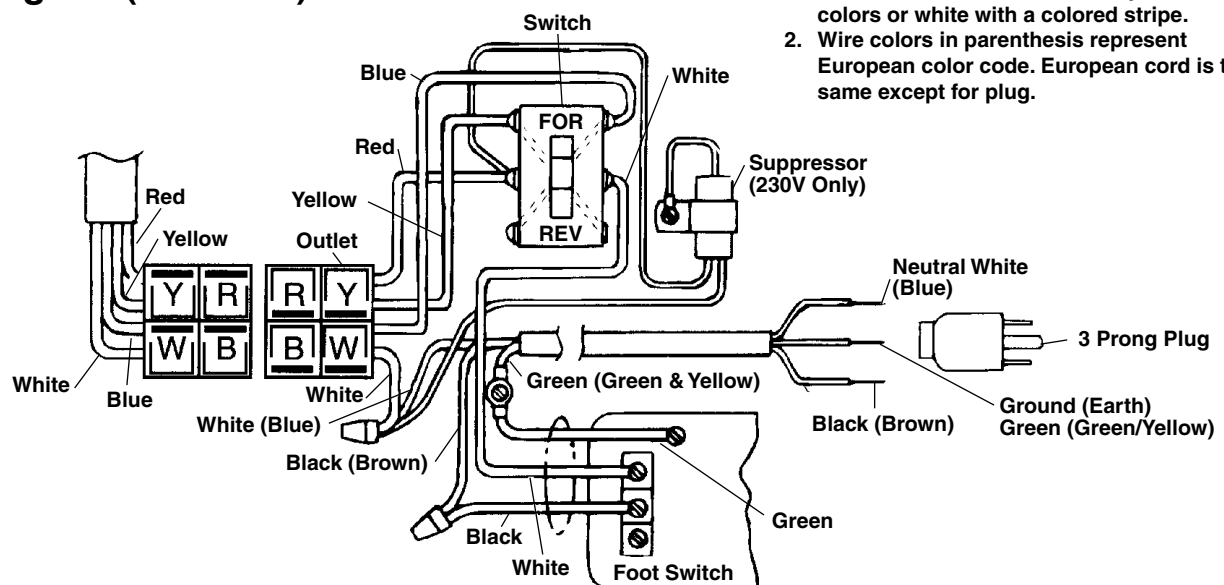
Electrical Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
1	44695	Hex Nut #10 - 24 (4)
2	46985	Ext. Tooth Washer #10 (4)
3	85925	Jumper Wire
4	92455	Screw #10 - 24 x 3/4"
5	46740	Power Cord w/Plug (115V)
	46410	Power Cord w/Plug (230V)
	75045	Power Cordless Plug (230V Europe/S. Africa)
6	46320	Suppressor Kit (230V Europe)
	99170	Suppressor (230V S. Africa)
7	50552	Plug
8	46735	Cord Grommet
	46730	Cord Grommet (230V Europe/S. Africa)
9	46735	Cord Grommet
10	50612	Switch Box
11	50617	Outlet Jumper Assembly
12	44505	Switch
13	36642	B-294 Foot Switch
14	44180	Screw
15	91187	Switch Box Kit (Includes Ref. Nos. 7-11)

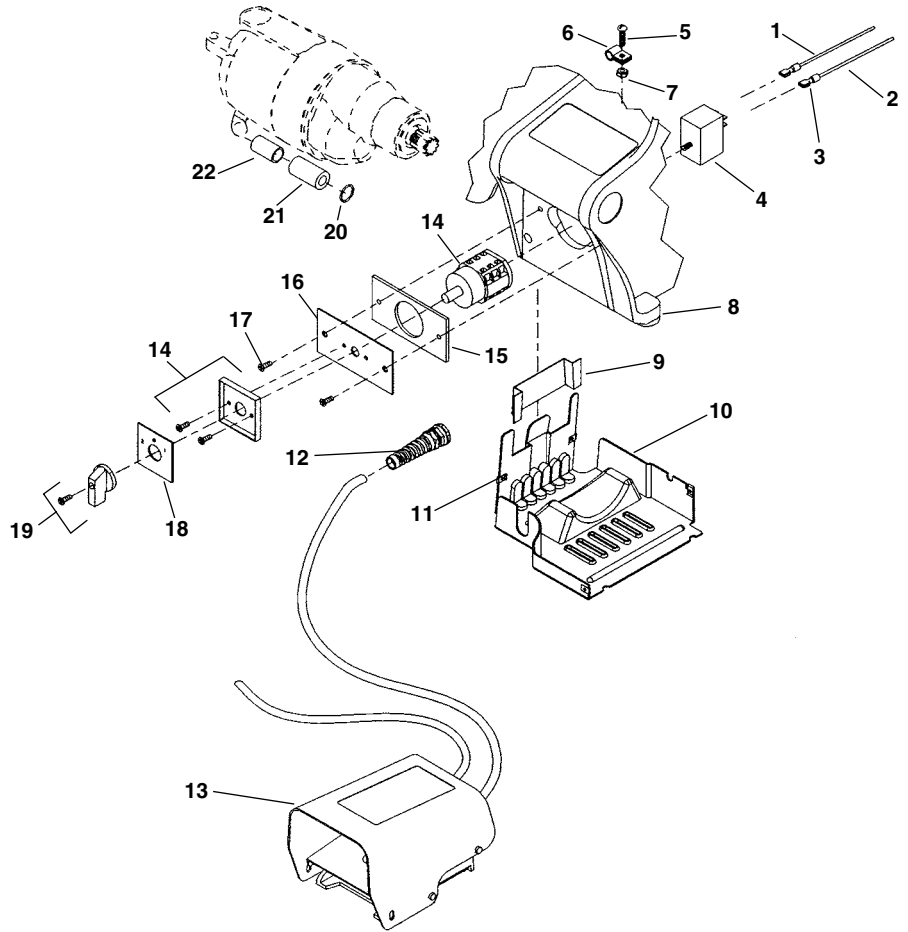
Wiring Diagram (115/230V)



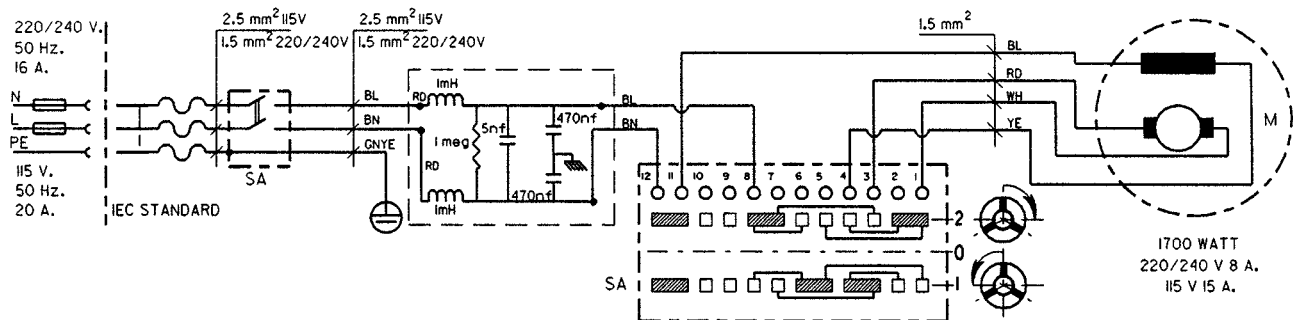
European Electrical Components

**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

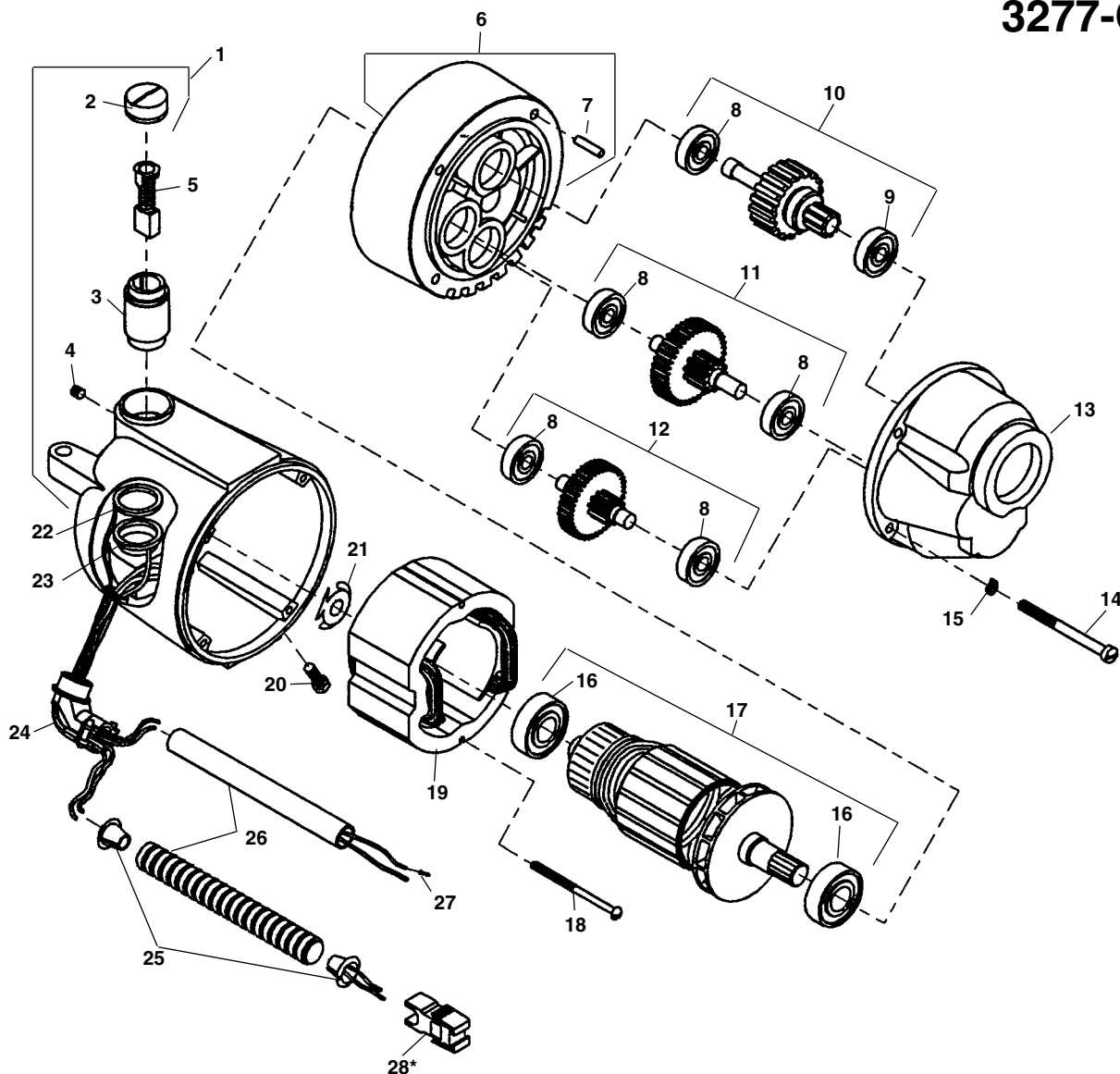
Ref. No.	Catalog No.	Description
1	63387	Brown Lead Wire
2	63392	Blue Lead Wire
3	62027	Quick Disconnect Terminal (4)
4	63372	Suppressor
5	92455	10 - 24 x 3/4" Screw
6	54222	Cord Clamp
7	44695	Nut
8	63417	Base
9	64067	Shield
10	64062	Bottom Cover
11	43362	"J" Clips (6)
12	54177	Strain Relief
13	36652	B- 296 Foot Switch Assembly
14	54157	Switch
15	64052	Switch Plate
16	64057	Switch Gasket
17	41597	12 - 24 x 3/4" Screw
18	57517	Switch Face Plate
19	61397	Switch Knob
20	64467	Cable Tie
21	46880	Plastic Tube
22	63377	Ferrite Bead



Wiring Diagram – Europe



3177
3277
3177-CE
3277-CE

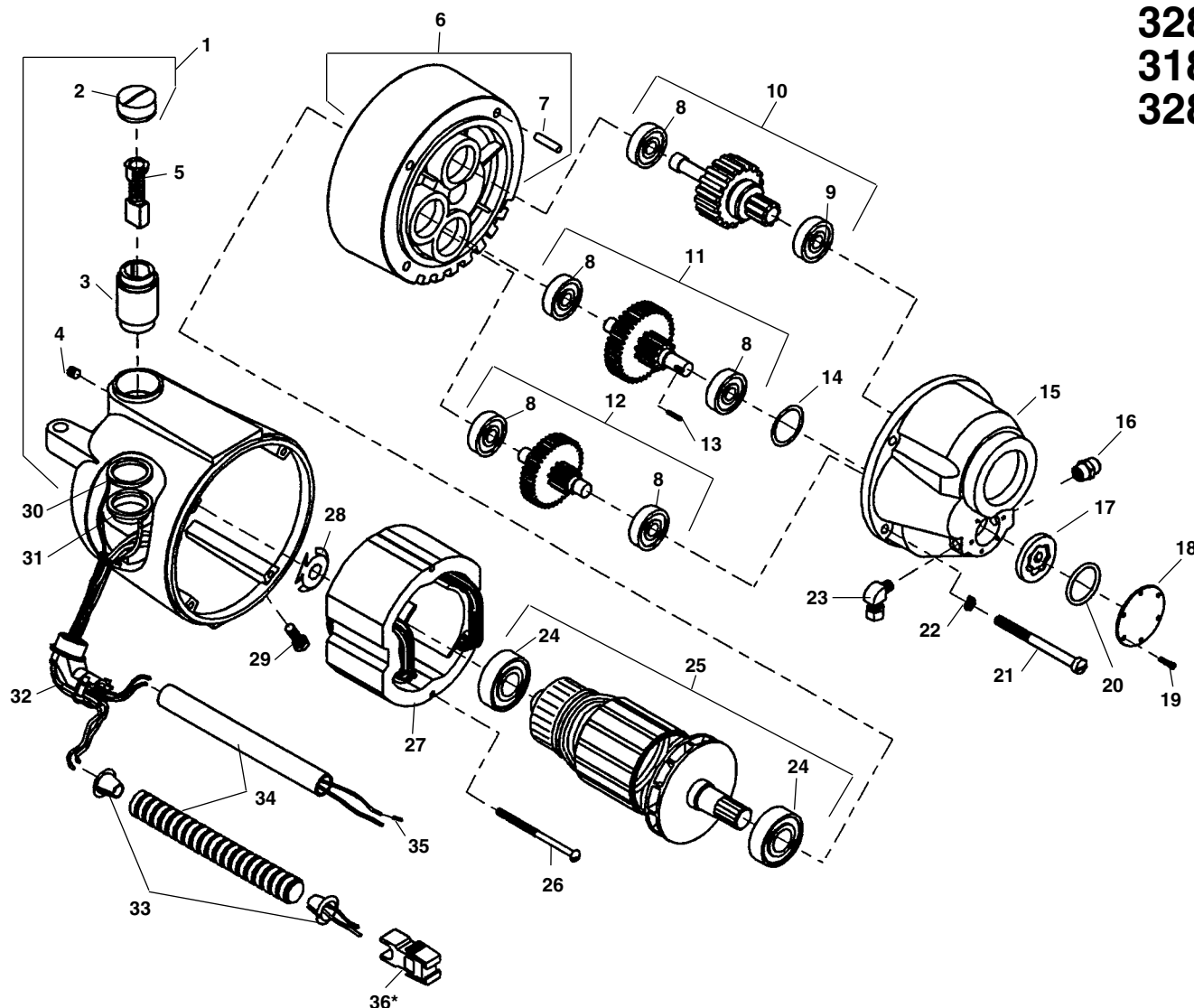


NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
†—	87740	3177 Motor 115V	10	45370	Drive Gear	20	83500	Locking Screw
†—	87780	3277 Motor 230V	11	44985	1st Gear Assembly	21	44580	Loading Spring
†—	61202	3177-CE Motor 115V	12	45005	2nd Gear Assembly	22	86680	White Upper Lead
†—	61207	3277-CE Motor 230V	13	42875	Gear Housing	23	86685	Red Lower lead
1	43160	Housing Assembly		19066	Gear Housing (Europe)	24	46900	Connector 90 Degree
2	44545	Brush Cap Set	14	45075	Screw (4)	25	46890	E-918 Insulator (2)
3	45025	Brush Holder Set	15	45150	Lock Washer	26	47407	Flexible Conduit
4	39770	Set Screw (2)	16	44565	Armature Bearing (2)		46880	Plastic Tube (CE Only)
5	44540	Brush Assembly Set	17	44010	Armature (115V)	27	88402	Wire Terminal (4) (CE Only)
6	43165	Fan Housing Assembly		44030	Armature (230V)	28*	50552	Plug (Included in Switch Box Assy. 91187)
7	45165	Dowel Pin	18	44555	Mounting Screw (2)			
8	45060	Gear Bearings (5)	19	44015	Field (115V)			
9	45315	Front Bearing		44035	Field (230V)			

† Refer to Speed Change Chart for Optional Speeds on Page 8

3181
3281
3181-CE
3281-CE



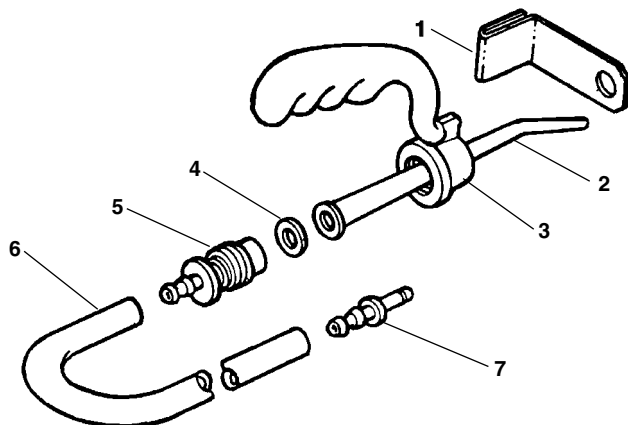
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
†	96810	3181 Motor 115V	12	45005	2nd Gear Assembly	26	44555	Mounting Screw (2)
†	96975	3281 Motor 230V	13	96885	Pin	27	44015	Field (115V)
†	61192	3181-CE Motor 115V	14	96880	Oil Seal		44035	Field (230V)
†	61197	3281-CE Motor 230V	15	96830	Gear Housing	28	44580	Loading Spring
1	43160	Housing Assembly	16	46830	Male Connector	29	83500	Locking Screw (2)
2	44545	Brush Cap Set	17	96870	Gerotor Set	30	86680	White Upper Lead
3	45025	Brush Holder Set	18	96840	Cover Plate	31	86685	Red Lower Lead
4	39770	Set Screw (2)	19	96890	Screw (6)	32	46900	Connector 90
5	44540	Brush Assembly Set	20	96875	O Ring	33	46890	E-918 Insulator (2)
6	43165	Fan Housing Assembly	21	45075	Screw (4)	34	47407	Flexible Conduit
7	45165	Dowel Pin	22	45150	Lock Washer		46880	Plastic Tube (CE Only)
8	45060	Gear Bearings (5)	23	96910	Male Elbow	35	88402	Wire Terminal (4) (CE Only)
9	45315	Front Bearing	24	44565	Armature Bearing (2)	36*	50552	Plug (Included in Switch Box Assy. 91187)
10	45370	Drive Gear	25	44010	Armature (115V)			
11	97000	1st Gear Assembly		44030	Armature (230V)			

† Refer to Speed Change Chart for Optional Speeds on Page 8

No. 309 Oil Spout (300A Power Drive)

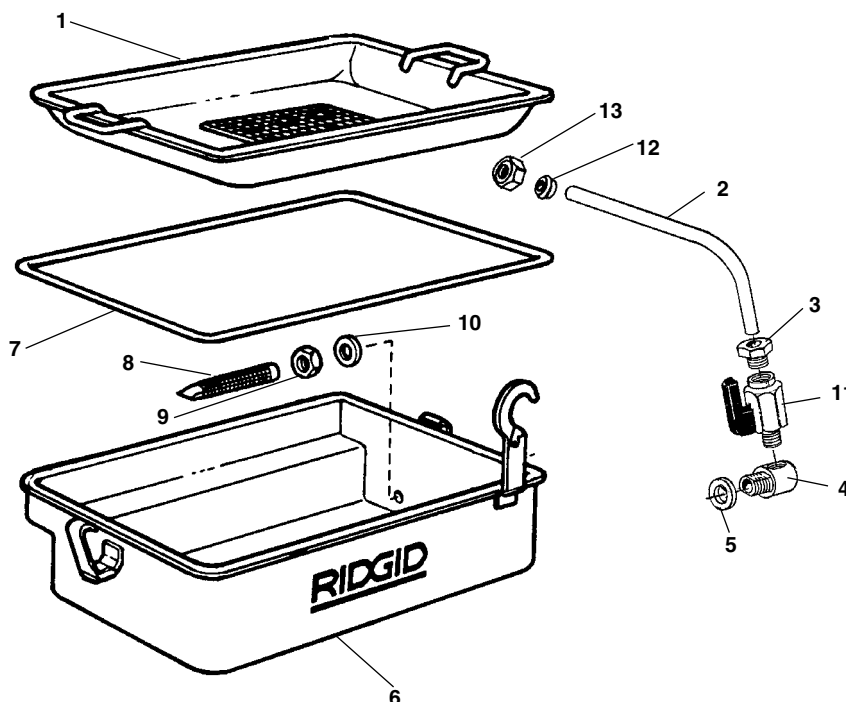
309
330
331



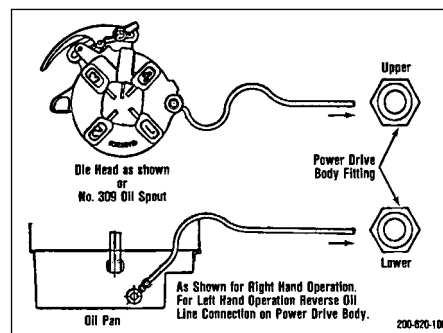
NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description
—	97090	309 Oil Spout
1	97110	Spout Bracket Assembly
2	97095	Oil Spout
3	41690	Handle
4	41715	Spout Washer
5	97100	Handle Adapter
6	97195	Hose
7	97105	Hose Adapter

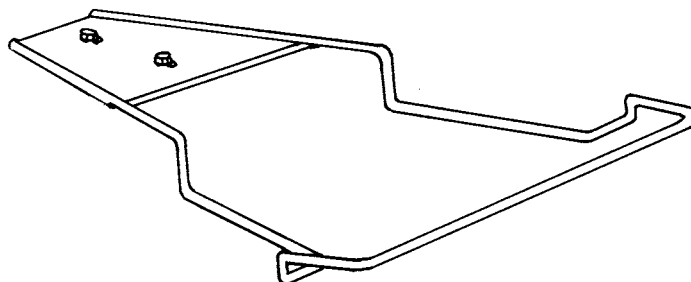
No. 330 Oil Pan (300A Power Drive)



Ref. No.	Catalog No.	Description
—	97245	330 Oil Pan and Chip Tray
1	96925	Chip Pan Assembly
2	19946	300 Oil Line
3	96930	Union
4	41705	Coupling
5	41780	Washer
6	96920	Oil Pan Assembly
7	96905	Gasket
8	41765	Strainer
9	40640	Hex Jam Nut
10	41790	Washer
11	19936	Valve (Europe)
—	26846	Bolt (Europe) (Not Shown)
12	19966	Ferrule
13	19956	Nut

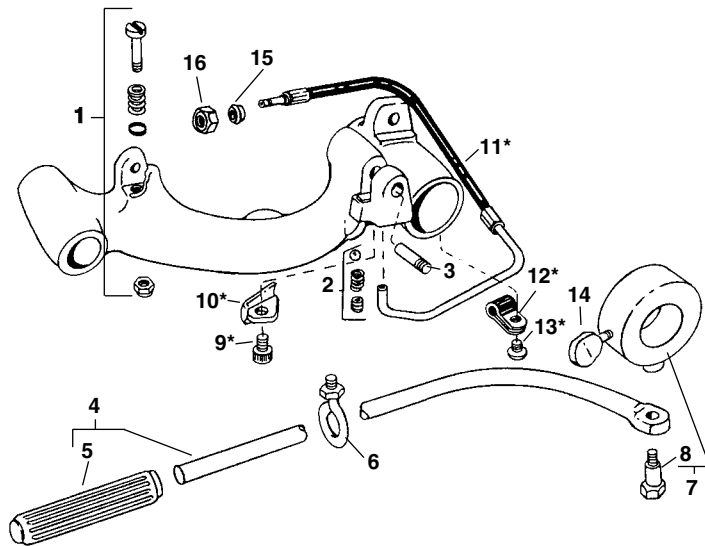


No. 331 Oil Pan Support Tray Catalog No. 97250 (300A Power Drive)



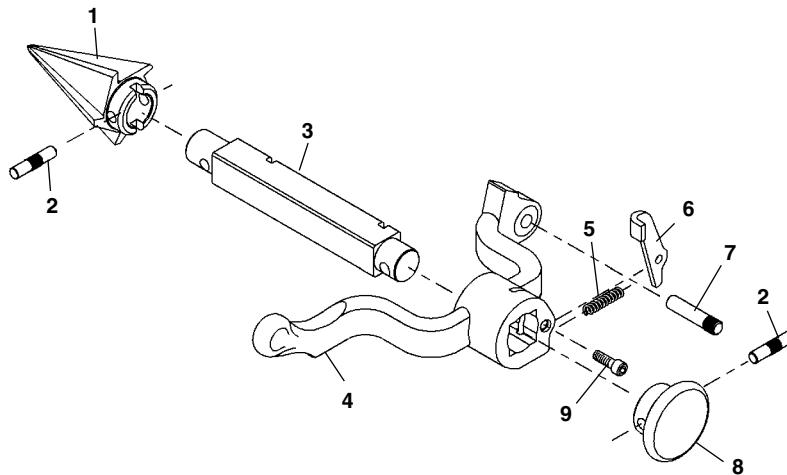
No. 311 Carriage w/Lever (200, 300 Power Drive)**No. 311A Carriage w/Lever** (300A, 304 Retrofit)

311
311A
341
360

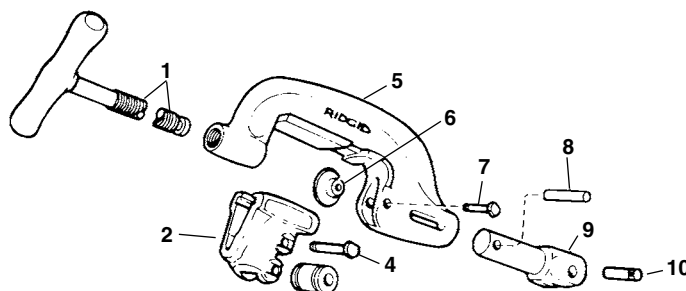


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	68815	311 Carriage w/Lever
—	96945	311A Carriage w/Lever
—	42385	312 Lever Kit (incl. Ref. No. 4, 6, 7, 14)
1	45515	Stop Bolt Assembly
2	46810	Detente Assembly
3	47065	Reamer Hinge Pin
4	43400	Lever Arm Assembly
5	46235	Handgrip
6	46205	Eye Bolt Assembly
7	46215	Collar Assembly
8	46210	Shoulder Bolt
9	96900	Screw
10	96970	Oil Line Cover
11	96965	Hose Assembly
	19336	Hose Assembly (Europe)
12	96895	Clamp
13	96915	Screw
14	46220	Thumbscrew
15	19966	Ferrule
16	19956	Nut

No. 341 Reamer

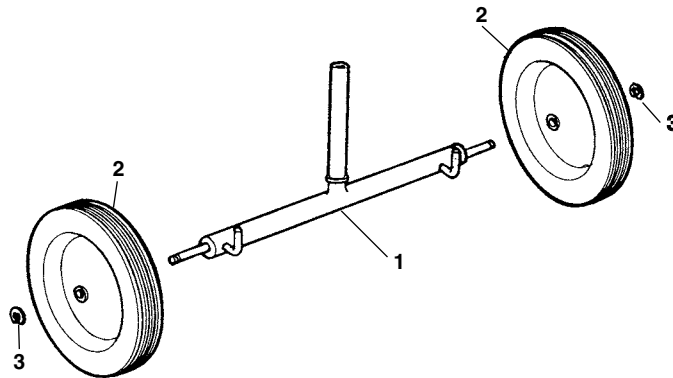
Ref. No.	Catalog No.	Description
—	42365	341 Reamer Complete
1	36277	Cone (R.H.)
	46660	E-863 Cone (L.H. & R.H.)
2	47155	F-693 Pin
3	43790	D-387 Reamer Bar
4	43230	C-144 Reamer Arm
5	44700	E-1664 Latch Spring
6	46665	E-865 Reamer Latch
7	47065	F-412 Hinge Pin
8	46585	E-762 Reamer Knob
9	46515	E-650 Screw 1/4" - 20 x 3/4"

No. 360 Cutter

Ref. No.	Catalog No.	Description
—	42370	360 Cutter Complete
1	43625	D-1024-X Screw Handle
2	33400	C-878-X Roll Housing Assembly
3	34305	E-1751 Roll (2)
4	34310	E-1752 Roll Pin (2)
5	43595	C-877 Cutter Frame
6	33100	F-514 Cutter Wheel Thin
	33105	F-3 Cutter Wheel H.D.
	44185	E-1032 Cutter Wheel Std.
7	34780	F-9 Wheel Pin
8	45435	E-3549 Retaining Pin
9	45505	E-3759 Support Arm
10	45520	E-3819 Pin

No. 32 Transporter

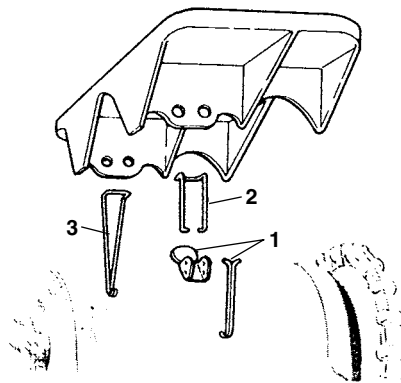
32
1452
1206



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

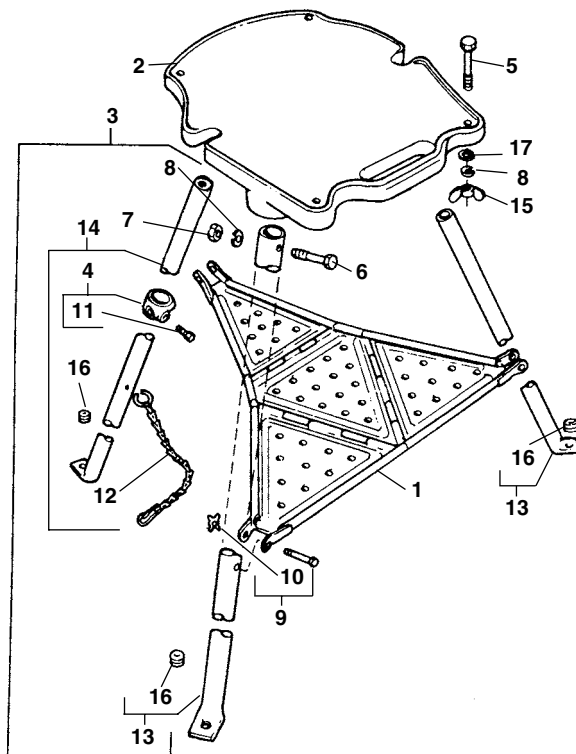
Ref. No.	Catalog No.	Description
—	42575	No. 32 Transporter
1	42590	Axle & Support Tube Assembly
2	42585	Wheel (2)
3	42580	Retaining Ring (2)

No. 1452 Clip-On Tool Tray



Ref. No.	Catalog No.	Description
—	42380	No. 1452 Tool Tray
1	45535	Hook & Lever Assembly
2	45540	Top Hook
3	45545	Side Hook

No. 1206 Stand



Ref. No.	Catalog No.	Description
—	42360	1206 Stand Complete
—	83540	1206 Stand Export
1	43475	B-547 Tool Tray
2	42870	B-1058 Base
3	42990	B-1983-X Tray & Leg Assembly
4	41235	D-488-X Tray Support
5	46670	E-867 Bolt $\frac{3}{8}$ " - 16 x 2" (4)
6	46675	E-868 Bolt $\frac{3}{8}$ " - 16 x 2 $\frac{3}{4}$ " (3)
7	44225	E-1094 Nut $\frac{3}{8}$ " - 16 (3)
8	40930	E-1095 Lock Washer $\frac{3}{8}$ " (7)
9	41265	E-1375-X Pin w/Washer (1 $\frac{7}{8}$ " Long)
10	89720	E-10396-X Pin w/Washer (1 $\frac{5}{8}$ " Long)
11	41270	E-1377 X-Washer (6)
12	41245	E-1380 Set Screw $\frac{3}{8}$ " - 16 x 1"
13	40945	E-1444-X Chain Assembly
14	45325	E-1336-X Front Leg (2)
15	45330	E-3237-X Rear Leg
16	45385	E-3328 Wing Nut $\frac{3}{8}$ " - 16 (4)
17	40940	F-532 Grommet (3)
18	44230	E-1096 Washer $\frac{3}{8}$ " (4)

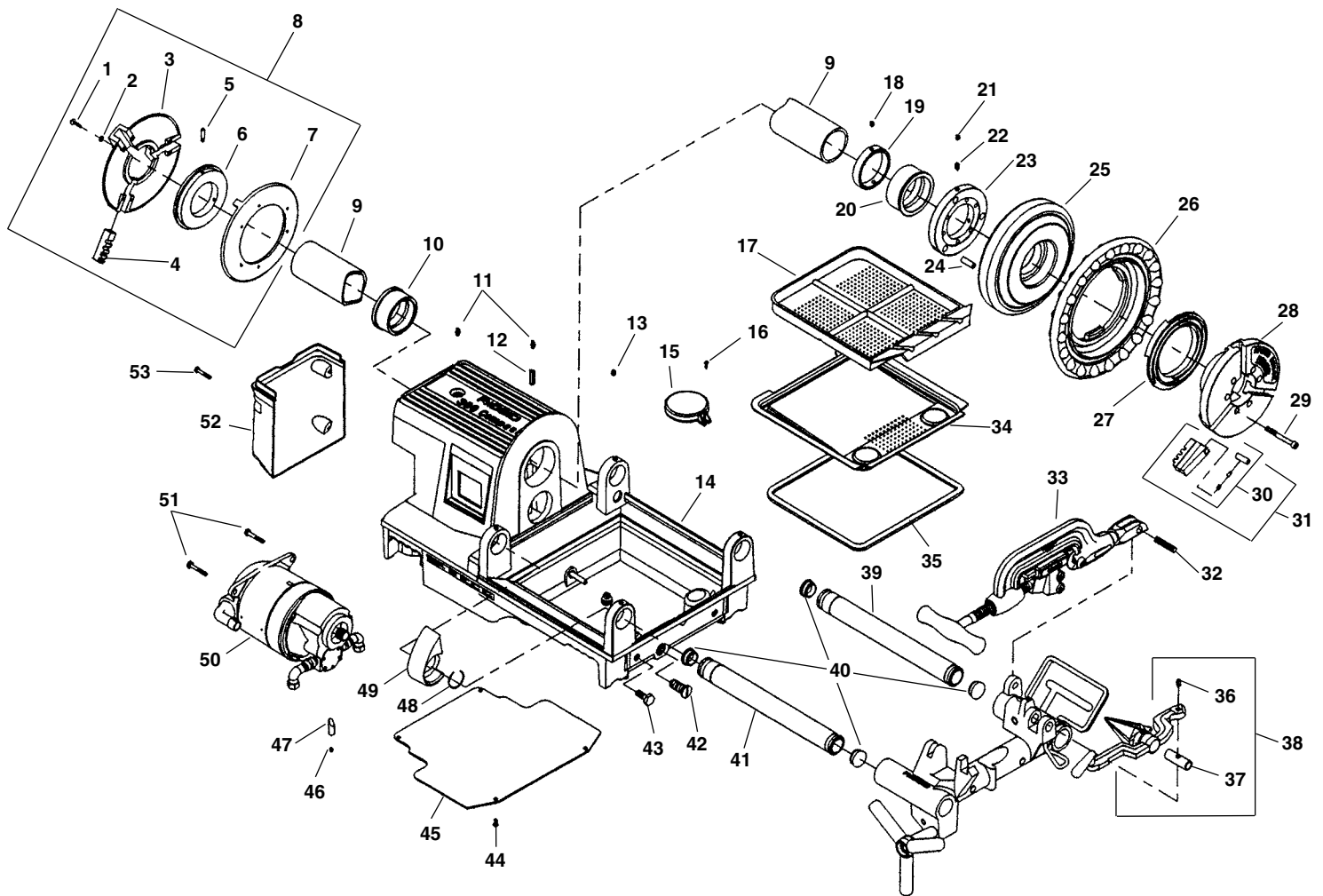
SPEED CHANGE GEAR CHART MACHINE MODEL NO. 300 MOTORS

Model No.	Volts	Spindle Speed	Ref. #17 Armature	Ref. No. 11 - 1st Intermediate Gear Assembly	Ref. No. 12 - 2nd Intermediate Gear Assembly	Ref. No. 10 Drive Gear
3177 3277 3177-CE 3277-CE	115V 230V 115V 230V	38 STD.	Pinion - 14 T.	CAT. NO. 44985 (E-2600-X) 51 T. GEAR 12 T. PINION	CAT. NO. 45005 (E-2601-X) 42 T. GEAR 13 T. PINION	CAT. NO. 45370 (E-3283-X) 48 T.
3177A 3277A	115V 230V	57 STD.		CAT. NO. 44985 (E-2600-X) 51 T. GEAR 12 T. PINION	CAT. NO. 44990 (E-2601-AX) 42 T. GEAR 18 T. PINION	CAT. NO. 45375 (E-3284-X) 43 T.
3177B 3277B	115V 230V	77		CAT. NO. 44975 (E-2600-BX) 51 T. GEAR 15 T. PINION	CAT. NO. 44995 (E-2601-BX) 39 T. GEAR 18 T. PINION	CAT. NO. 45375 (E-3284-X) 43 T.
3177C 3277C	115V 230V	108		CAT. NO. 44980 (E-2600-CX) 51 T. GEAR 19 T. PINION	CAT. NO. 45000 (E-2601-CX) 35 T. GEAR 18 T. PINION	CAT. NO. 45375 (E-3284-X) 43 T.

SPEED CHANGE GEAR CHART MACHINE MODEL NO. 300A MOTORS

Catalog No.	Model No.	Volts	Spindle Speed	Ref. #17 Armature	Ref. No. 11 - 1st Intermediate Gear Assembly	Ref. No. 12 - 2nd Intermediate Gear Assembly	Ref. No. 10 Drive Gear
96810 96975 61192 91197	3181 3281 3181-CE 3281-CE	115V 230V 115V 230V	38 STD.	Pinion - 14 T.	CAT. NO. 97000 (E-2600-X) 51 T. GEAR 12 T. PINION	CAT. NO. 45005 (E-2601-X) 42 T. GEAR 13 T. PINION	CAT. NO. 45370 (E-3283-X) 48 T.
96815 96980	3181A 3281A	115V 230V	57 STD.		CAT. NO. 97000 (E-2600-X) 51 T. GEAR 12 T. PINION	CAT. NO. 44990 (E-2601-AX) 42 T. GEAR 18 T. PINION	CAT. NO. 45375 (E-3284-X) 43 T.
96820 96985	3181B 3281B	115V 230V	77		CAT. NO. 97005 (E-2600-BX) 51 T. GEAR 15 T. PINION	CAT. NO. 44995 (E-2601-BX) 39 T. GEAR 18 T. PINION	CAT. NO. 45375 (E-3284-X) 43 T.

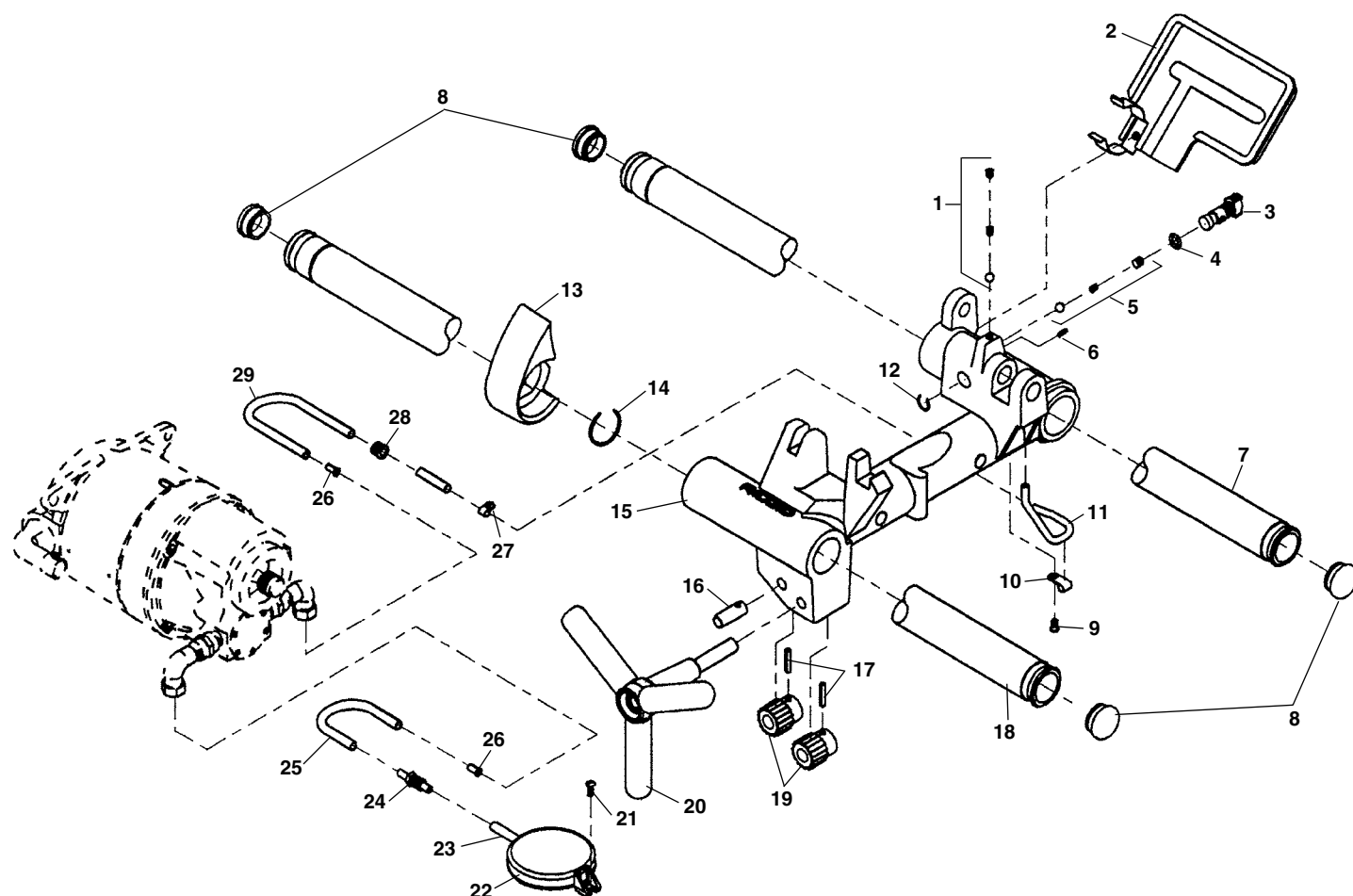
Main Drive Components



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	46790	Screw 12 - 24 x 3/4" (6)	29	45295	Screw 5/16" x 2 3/4" (6)
2	40270	Lock Washer (6)	30	44715	Jaw Insert Set (3)
3	43735	Rear Centering Head	31	97365	Jaw Insert Set f/Coated Pipe (3)
4	19346	Rear Centering Head (Europe)	32	44090	Chuck Jaw Set
5	46500	Rear Jaw	33	45520	Hinge Pin
6	45260	Step Pin	34	42370	360 Cutter Complete
7	44095	Scroll	35	54052	Oil Pan Liner
8	43740	Back Plate	36	75632	Oil Pan Liner Gasket
9	19356	Back Plate (Europe)	37	36262	Shoulder Screw
10	44165	Rear Centering Assembly	38	36267	Pivot Pin
11	44100	Drive Shaft	39	34612	344 Reamer
12	45335	Rear Bearing	40	54112	Rear Rail
13	46860	Grease Fitting (2)	41	35162	Rail Plug (4)
14	88230	Pin Split Roll	42	54117	Front Rail
15	60025	Set Screw 5/16"- 18 (4)	43	54302	Drain Plug
16	54522	Base	44	54042	M10-1.5 Hex Hd. Cap Screw
17	76342	Base N.A.	45	87730	Screw 1/4" x 3/8" (4)
18	58467	Filter Screen Assembly	46	61937	Bottom Cover
19	45420	Screw 10 - 24 x 5/8"	47	77905	Set Screw 5/16" x 1/4"
20	54047	Chip Tray	48	54037	Motor Wedge
21	33785	Set Screw 5/16" x 24 x 1/2" (3)	49	87620	Retaining Ring
22	45345	Thrust Ring	50	54507	Carriage Stop
23	54502	Front Bearing		72122	Model 2192, 115V
24	45300	Set Screw 5/16" x 24 x 1/4" (3)		72127	Model 2292, 230V
25	45265	Set Screw 5/16" x 24 x 1/2" (3)		54797	Model 2192, 115V
26	30027	Drive Ring		54802	Model 2292R, 230V
27	30022	Drive Pin (3)		75897	Model 2199R, 115V, 52 RPM
28	30017	Ring Gear	51	85915	Motor Mounting Bolt (2)
	89150	Hand Wheel	52	54527	Motor Cover
	43540	Chuck Scroll	53	54532	Motor Cover Screw (4)
	43525	Chuck Cap			

Carriage and Oil System

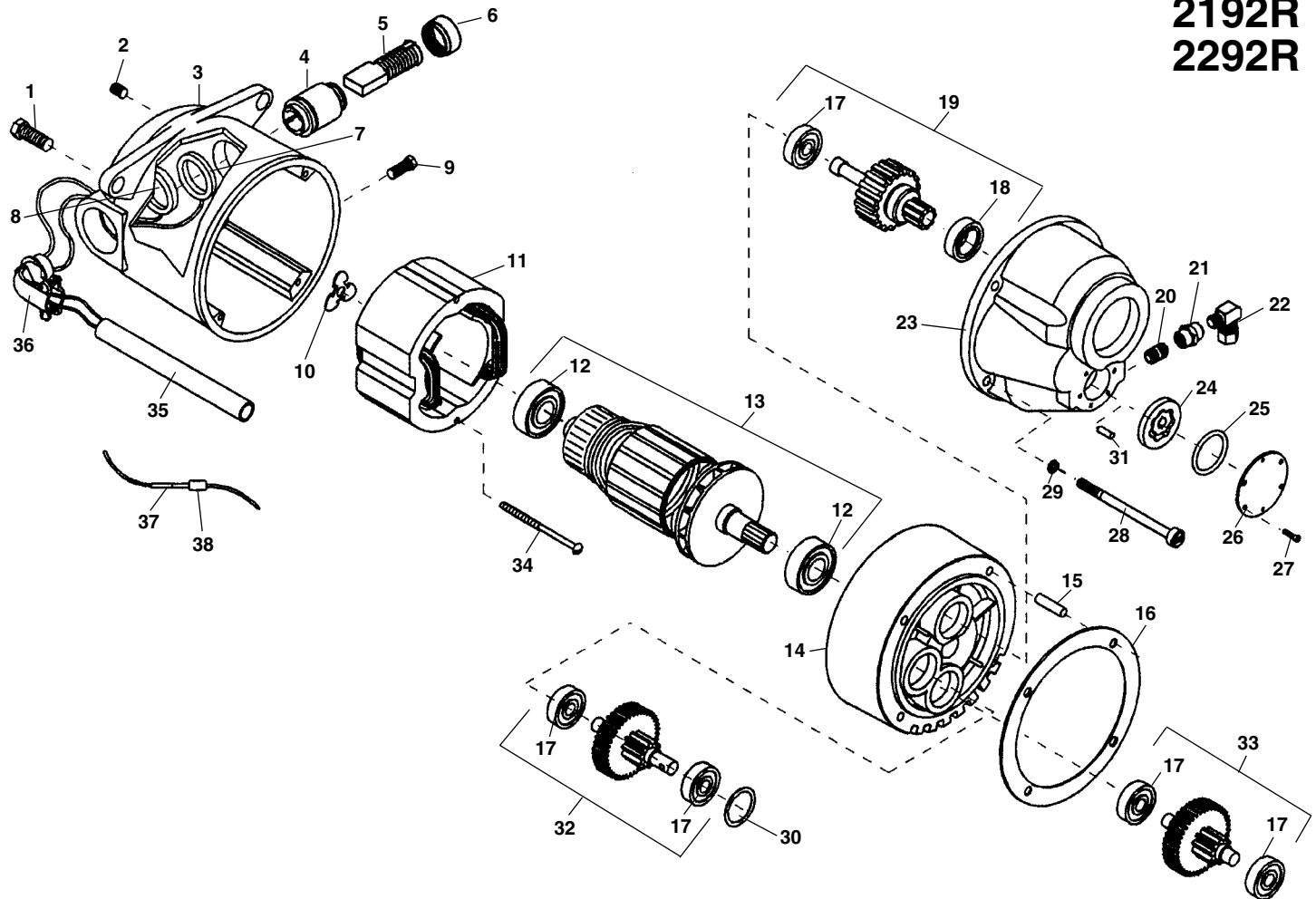


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
1	46810	Detente Assembly
2	54517	Drip Pan
3	54097	Spool Valve
4	54102	O-Ring
5	35307	Oil Pressure Relief Set
6	58417	Roll Pin $\frac{1}{8}$ " x $\frac{3}{8}$ "
7	54112	Rear Rail
8	35162	Rail Plug (4)
9	79965	Screw 10 - 32 x $\frac{1}{2}$ "
10	35062	Oil Line Clamp
11	35067	Oil Tube
12	54107	Retaining Ring
13	54507	Carriage Stop
14	87620	Retaining Ring
15	54512	Carriage
16	35187	Pinion Idler Shaft
	54122	Cap Plug (not shown)
17	34342	Roll Pin
18	54117	Front Rail
19	57097	Pinion
20	35182	Hand Wheel
21	45420	Screw 10 - 24 x $\frac{3}{8}$ "
22	58467	Filter Screen Assembly
23	61897	Oil Filter Tube
24	54142	Bulkhead Fitting
25	54152	Oil Intake Line
26	35117	Oil Line Insert
27	35142	Hose Clamp
28	47080	Oil Line Grommet
29	61282	Carriage Oil Line

Motor

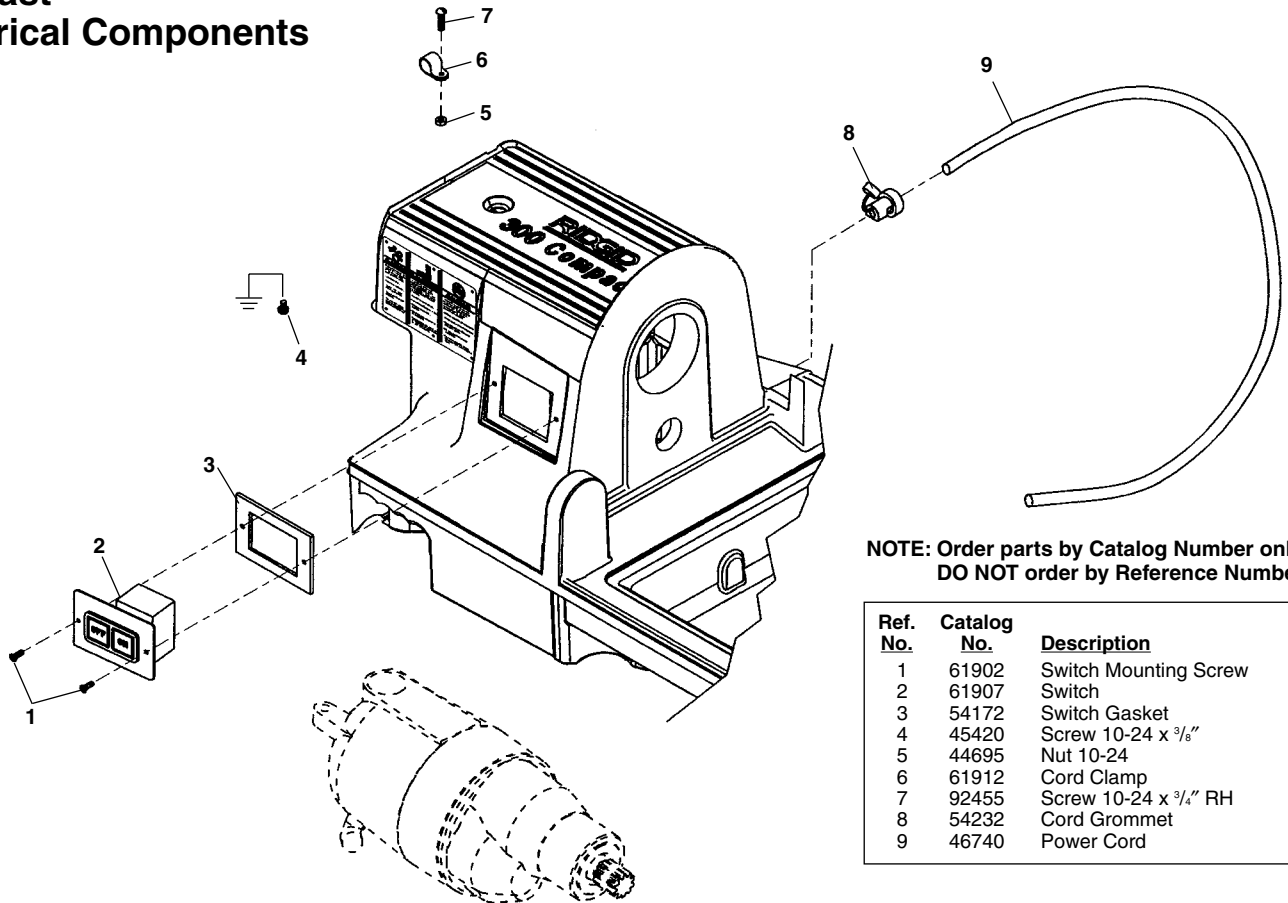
2192
2292
2192R
2292R



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

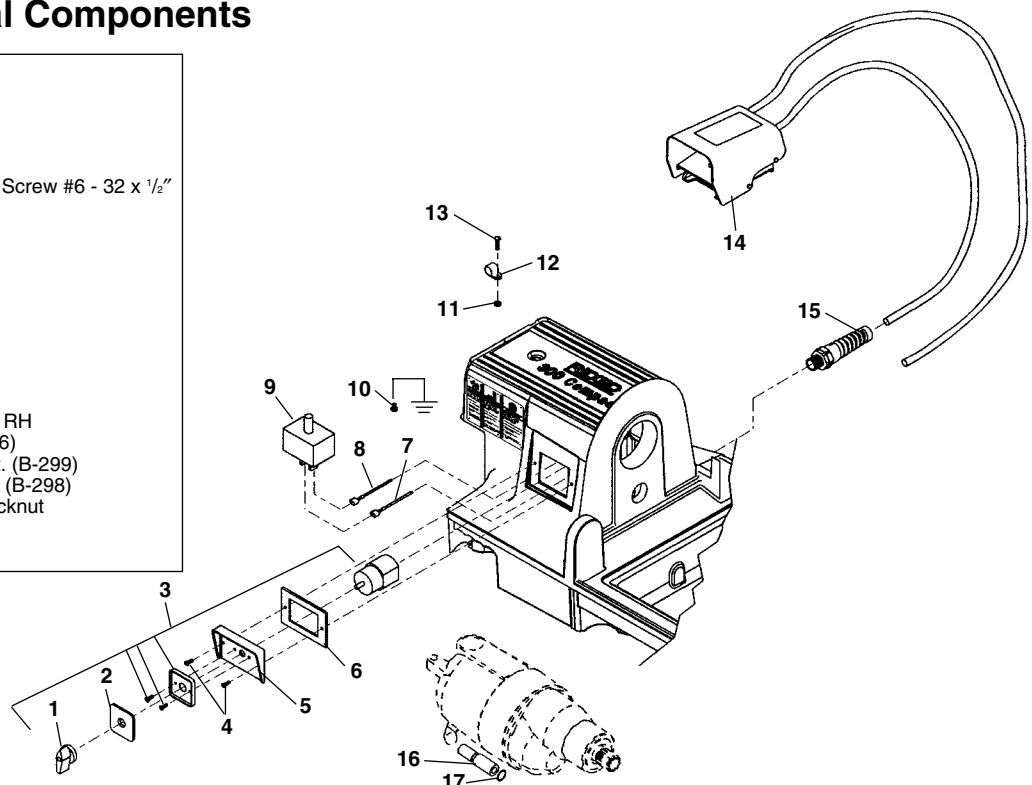
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	72122	Motor Model 2192, 115V	12	44565	Armature Bearing (2)	26	96840	Cover Plate
—	72127	Motor Model 2292, 230V	13	52497	115V Armature	27	96890	Screw #4 x 3/8" (6)
—	54797	Motor Model 2192, 115V	14	54542	230V Armature	28	45075	Screw 1/4" - 20
—	54802	Motor Model 2292R, 230V	15	54552	Fan Housing Assembly	29	45150	Lock Washer 1/4"
1	85915	Motor Mounting Bolt (2)	16	45165	Dowel Pin	30	96880	Oil Seal
2	39770	Set Screw 1/4" - 20 x 1/4" (2)	17	52502	Gasket	31	96885	Pin
3	52482	Motor Housing	18	44760	Gear Bearing	32	52522	1st Gear Assembly
4	45025	Brush Holder Set (2)	19	45315	Front Bearing	33	54547	2nd Gear Assembly
5	44540	Brush Assembly Set (2)	20	54537	Main Drive Gear Assembly	34	44555	Screw 10 - 24 x 3"
6	44545	Brush Cap Set (2)	21	52507	1/8" NPT Close Nipple (2)	35	63382	Plastic Tube
7	86685	Red Brush Lead	22	52512	1/8" Coupling (2)	36	46900	90 Connector
8	86680	White Brush Lead	23	52517	Elbow Compression Fitting (2)	—	47412	Male Wire Connector
9	83500	Field Locking Screw	24	96830	Gear Case	—	52537	Female Wire Connector
10	44580	Loading Spring	25	96870	Gerotor Set	37	16946	Male Connector
11	44015	Field 100/115V		96875	"O" Ring	38	16956	Female Connector
	44035	Field 230V						

Far East Electrical Components



European Electrical Components

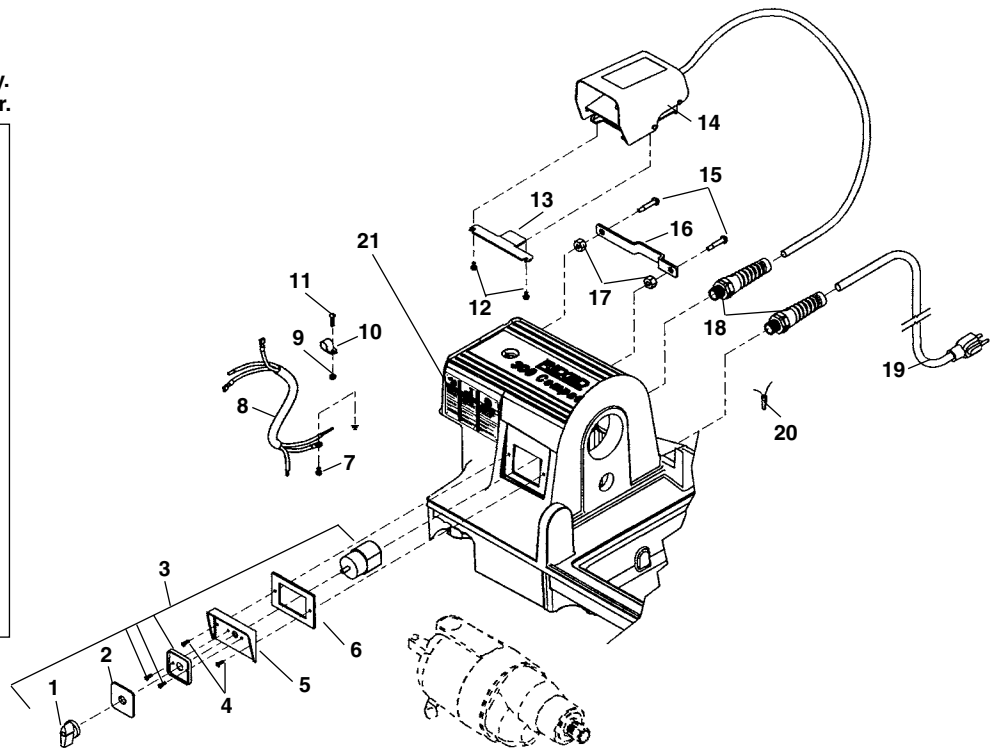
Ref. No.	Catalog No.	Description
1	61397	Switch Knob
2	54167	Switch Face Plate
3	54157	Switch & Screws
4	61902	Slotted Pan Head Screw #6 - 32 x $\frac{1}{2}$ "
5	61917	Switch Plate
6	54172	Switch Gasket
7	63387	Brown Wire
8	63392	Blue Wire
9	63372	Suppressor
—	63387	Brown Lead Wire
—	63392	Blue Lead Wire
10	45420	Screw 10-24 x $\frac{3}{8}$ "
11	44695	Nut 10-24
12	61912	Cord Clamp
13	92455	Screw 10-24 x $\frac{3}{4}$ " RH
14	36652	Foot Switch (B-296)
—	40022	Foot Switch f/Aust. (B-299)
—	40017	Foot Switch f/U.K. (B-298)
15	54177	Strain Relief w/Locknut
16	63377	Ferrite Bead
17	43552	Cable Tie



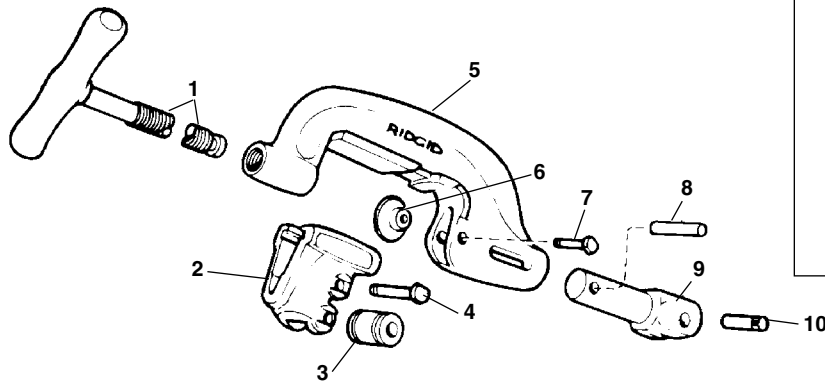
120V 60Hz Electrical

NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description
1	61397	Switch Knob
2	61967	Switch Face Plate
3	54157	Switch Assembly
4	54162	Screw (2)
5	61917	Switch Plate
6	54172	Gasket
7	45420	Screw #10 - 24 x 3/8"
8	72132	Connecting Cord
9	44695	Hex Nut #10 - 24
10	61912	Cord Retainer
11	92455	Screw #10 - 24 x 3/4"
12	54357	Screw 5/16" - 18 (2)
13	58602	Foot Switch Hook
14	36642	B-294 Foot Switch
15	54137	Screw (2)
16	58267	Foot Switch Hanger Bracket
17	96730	Hex Nut 3/16" - 18
18	72107	Strain Relief
19	46740	Power Cord
20	44635	End Splice Connector
21	78367	Warning Plate



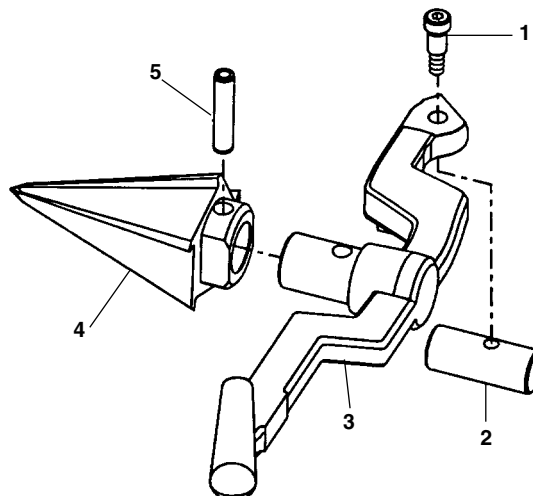
No. 360 Cutter



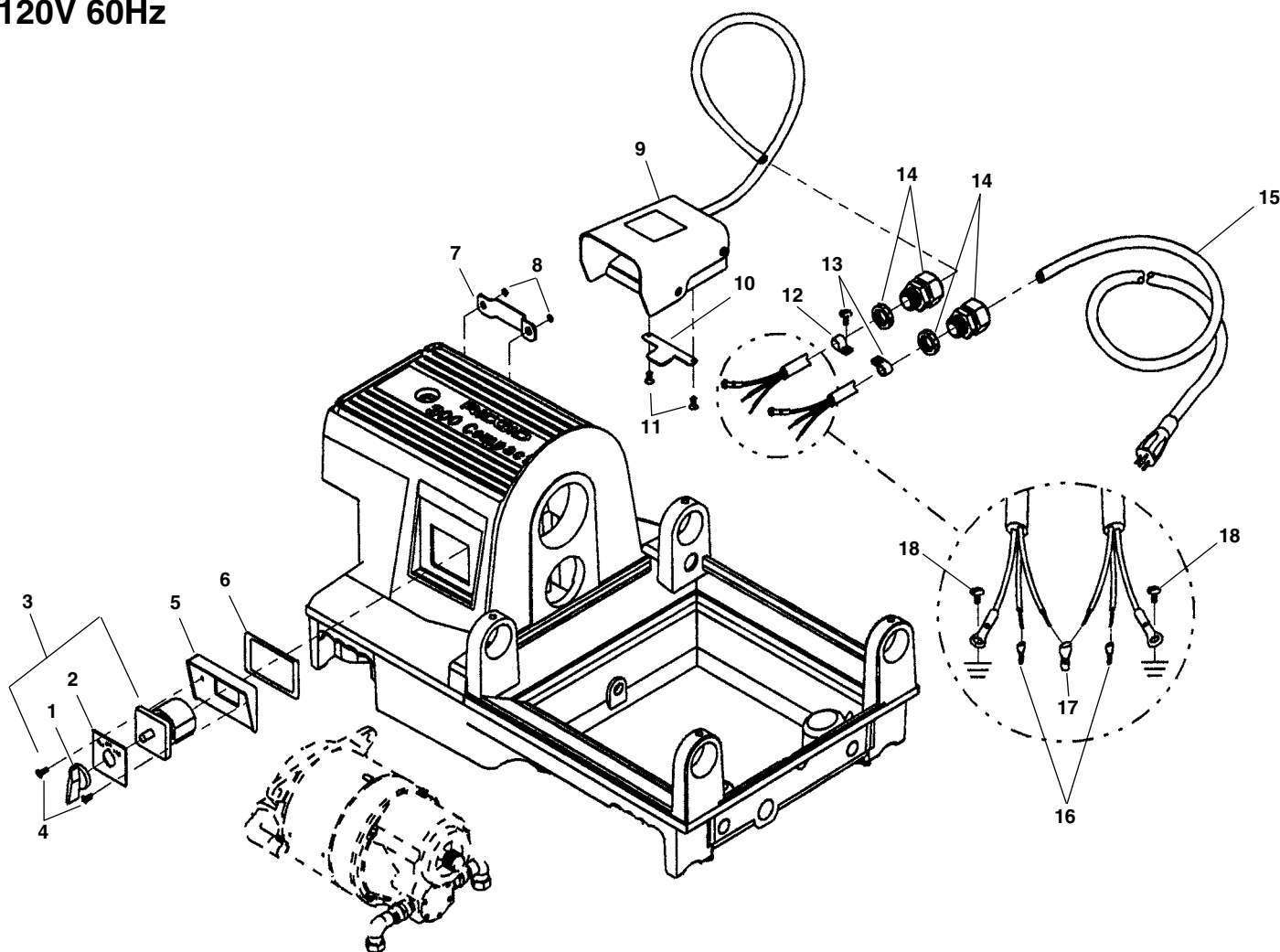
Ref. No.	Catalog No.	Description
—	42370	360 Cutter Complete
1	43625	D-1024-X Screw Handle
2	33400	C-878-X Roll Housing Assembly
3	34305	E-1751 Roll (2)
4	34310	E-1752 Roll Pin (2)
5	43595	C-877 Cutter Frame
6	33100	F-514 Cutter Wheel Thin
	33105	F-3 Cutter Wheel H.D.
	44185	E-1032 Cutter Wheel Std.
7	34780	F-9 Wheel Pin
8	45435	E-3549 Retaining Pin
9	45505	E-3759 Support Arm
10	45520	E-3819 Pin

No. 344 Reamer

Ref. No.	Catalog No.	Description
—	34612	344 Reamer Complete
1	36262	Shoulder Screw
2	36267	Pivot Pin
3	36272	Reamer Arm
4	36277	Reamer Cone
5	35355	Split Roll Pin



52 RPM Electrical
120V 60Hz

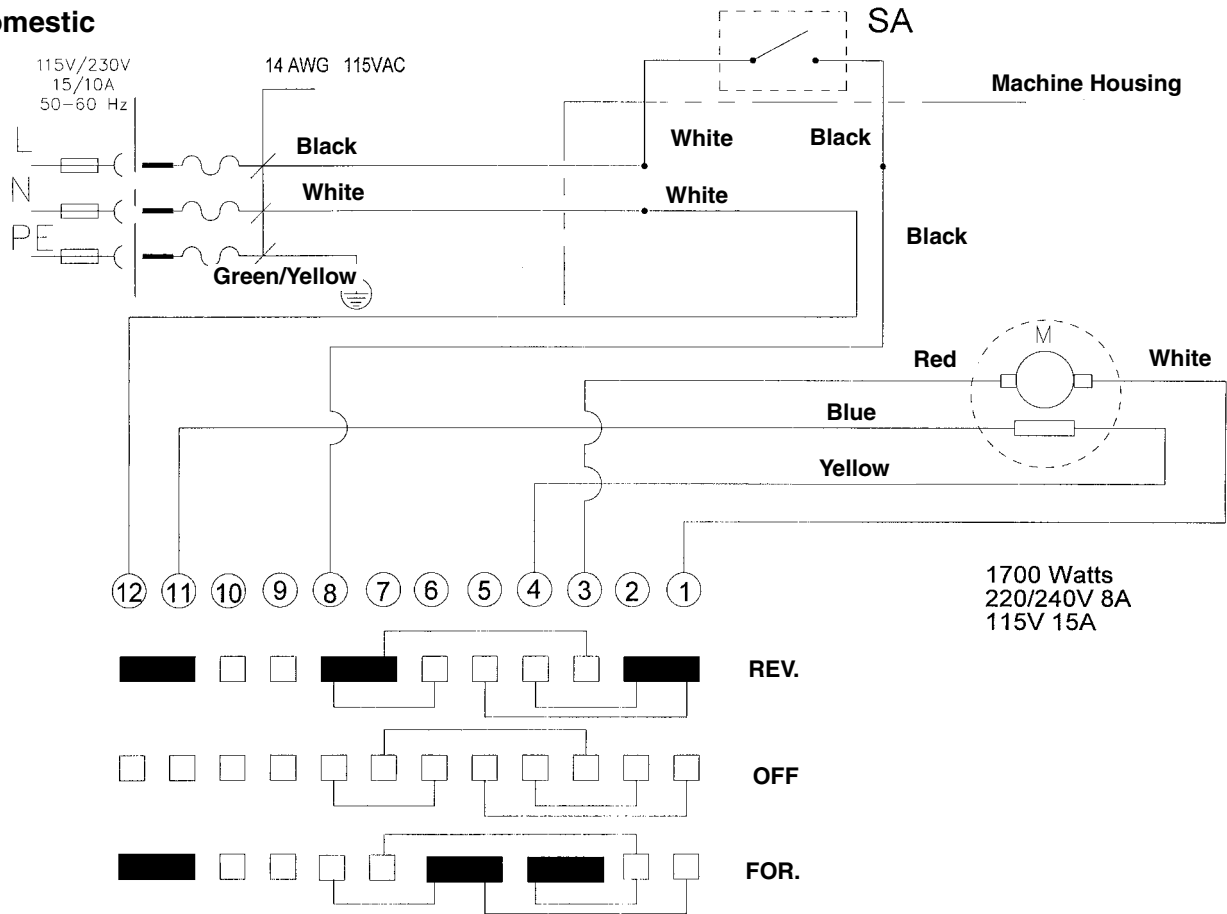


NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

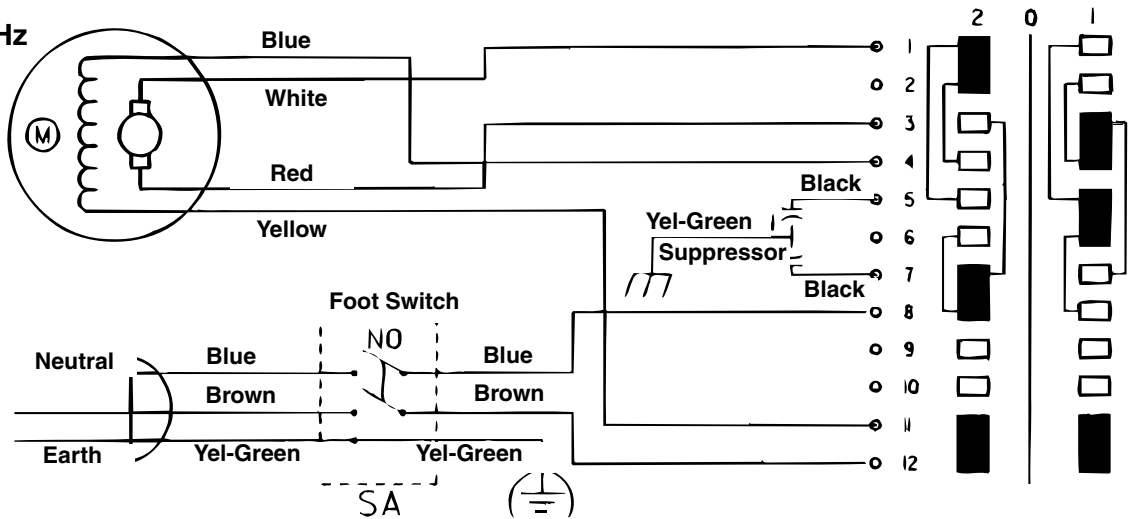
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	61397	Switch Knob	10	58602	Foot Switch Hook
2	61967	Switch Face Plate	11	54357	Screw $\frac{5}{16}$ " - 18 (2)
3	54157	Switch Assembly	12	75937	Cable Clamp (2)
4	54162	Screw (2)	13	92455	Screw #10-24 x $\frac{3}{4}$ "
5	61917	Switch Plate	14	75952	Strain Relief with Nut
6	54172	Gasket	15	75972	Power Cord
7	58267	Foot Switch Hanger Bracket	16	76347	Wire Terminals (6)
8	54137	Screw (2)	17	44635	Wire End Splice
9	75962	B294 HD Foot Switch	18	45420	Grand Screw #10-24 x $\frac{3}{8}$ " (2)

Wiring Diagrams

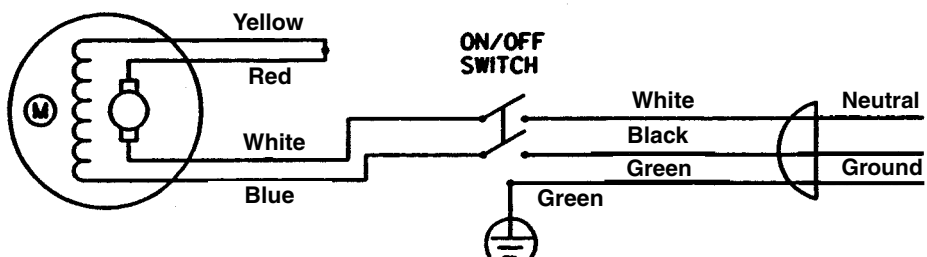
115V Domestic



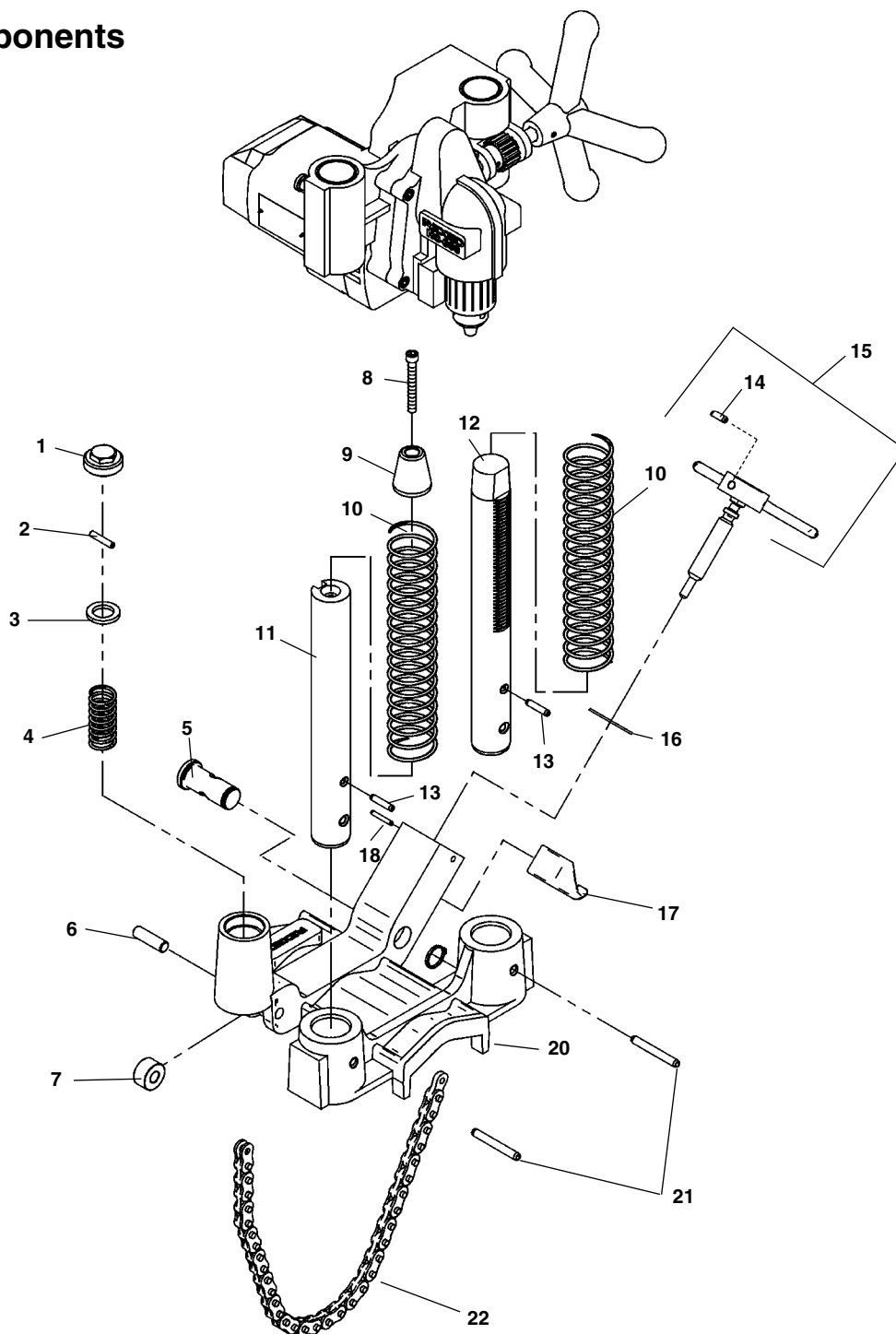
115V/230V 25-60 Hz



115/230V Far East



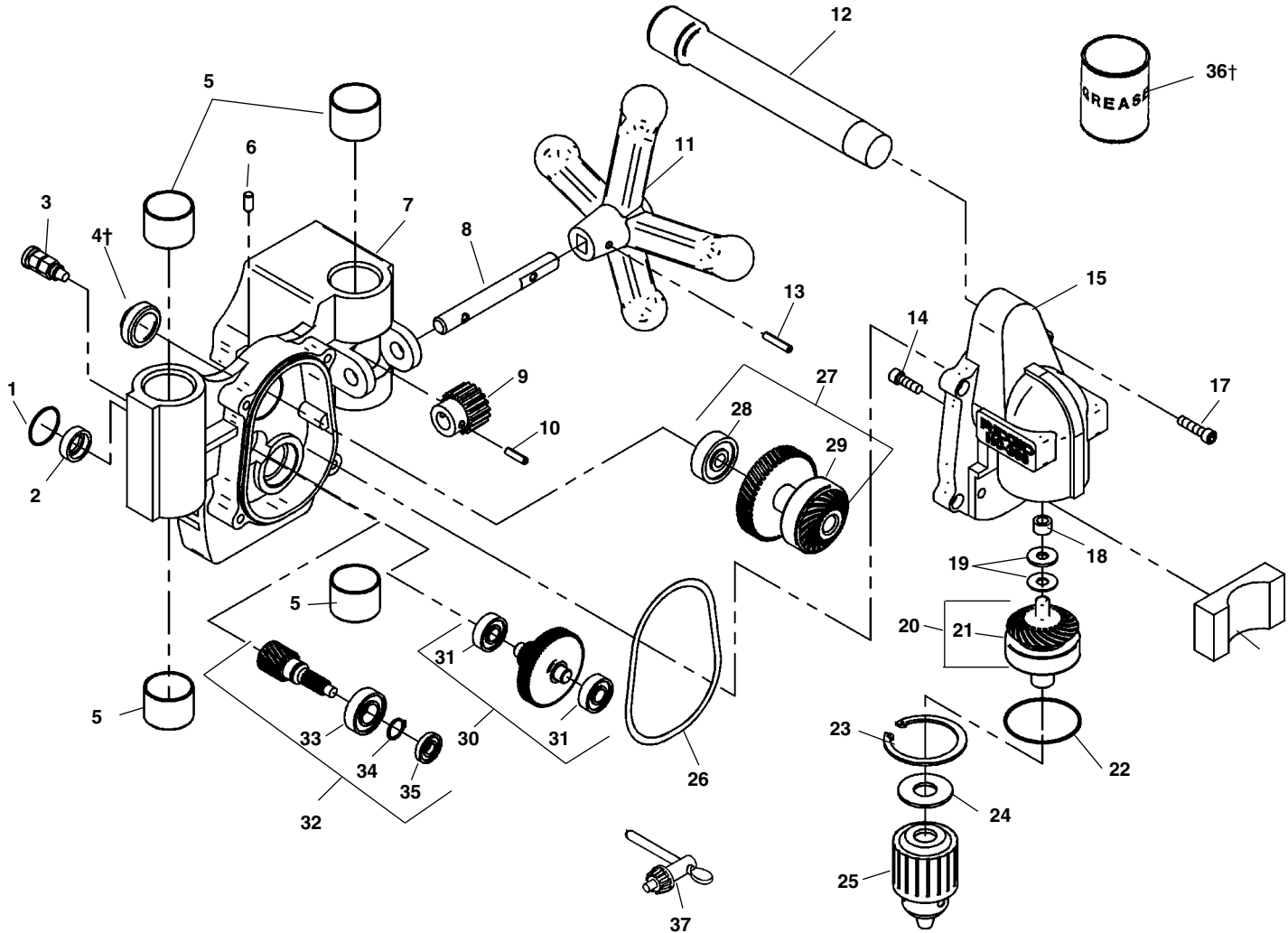
Main Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	77092	Cap	12	77052	Rack w/Pins (Incls. Refs. 13, 21)
2	77097	Pin	13	34342	Spring Pin (2)
3	77242	Washer	14	77067	Ball Detente
4	77087	Compression Spring	15	77077	Crank Screw Assembly
5	77257	Pivot Pin	16	77072	Friction Ring
6	41035	Roller Pin	17	77082	Chain Hook
7	40990	Roller	18	76735	Spring Pin
8	40657	Soc. Hd. Cap Screw, 1/4" - 20 x 1 1/2"	19	77252	Retaining Ring
9	77262	Plunger Stop	20	77042	Base w/Pins (Incls. Ref. 21)
10	77057	Compression Spring (2)	21	44850	Spring Pin (2)
11	77047	Post Assembly (Incls. Refs. 8, 9, 13, 21)	22	77247	Chain Assembly (Incls. Ref. 2, 3)

Transmission



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

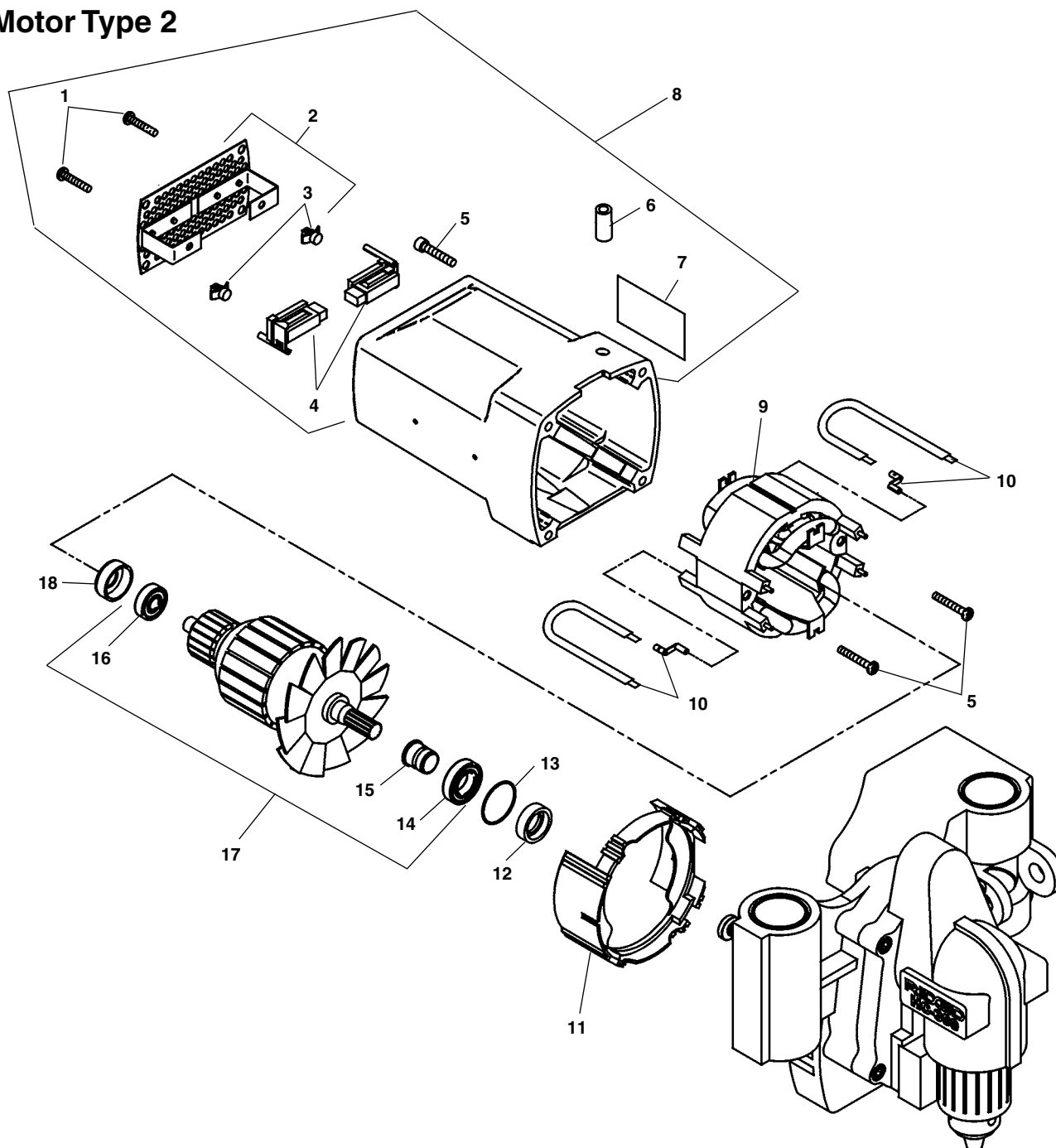
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	77202	O-Ring	14	40910	Screws (4)	26	77177	Gasket, Transmission
2	77207	Grease Seal	15	77142	Front Gear Case	27	77107	3rd Intermediate Gear Assembly
3	61567	Plunger Assembly	16	77172	Chuck Guard	28	77182	Ball Bearing
†4	77092	Adjusting Cap	17	83685	Screw (4)	29	45315	Ball Bearing
5	59027	Bearing (4)	18	77122	Needle Bearing	30	77112	2nd Intermediate Gear Assembly
6	77167	Set Screw, Nylon Tip	19	77127	Thrust Bearing Assembly	31	77187	Ball Bearing (2)
7	77147	Rear Gear Case	20	77102	Output Gear Assembly	32	77117	1st Intermediate Gear Assembly
8	77007	Feed Shaft	21	45315	Ball Bearing	33	77197	Ball Bearing
9	59092	Carriage Pinion	22	77157	O-Ring	34	83027	Retaining Ring
10	44662	Roll Pin	23	77132	Retaining Ring, Internal	35	77192	Ball Bearing
11	70792	Hand Wheel	24	46295	Spacer	†36	26707	Transmission Grease, 1 Lb.
12	77152	Carry Handle	25	77012	Chuck w/Key	37	77017	Chuck Key
13	36387	Roll Pin						

† Service Notes:

Ref. 4 Backlash Adjustment – Use 6" C-Clamp to lightly push chuck into housing. Apply thin coat of Loctite No. 545 Hydraulic/Pneumatic Thread Sealant (or equivalent) to threads on adjusting cap, Ref. 4. Tighten cap to 40 - 50 in-lbs then back off to eliminate torque. Re-tighten finger tight then back off 20° to 30°. Remove clamp and check by gripping chuck with fingertips and feeling for minimal rotational backlash in output gear. Tighten set screw, Ref. 6, to hold cap securely.

Ref. 36 Grease Fill – Use only recommended transmission grease (Molytex EPO). Fill bearing pockets with grease and apply coating to gear teeth. Fill two separate transmission cavities approximately 1/2 full of grease using about 1/4 of pound can

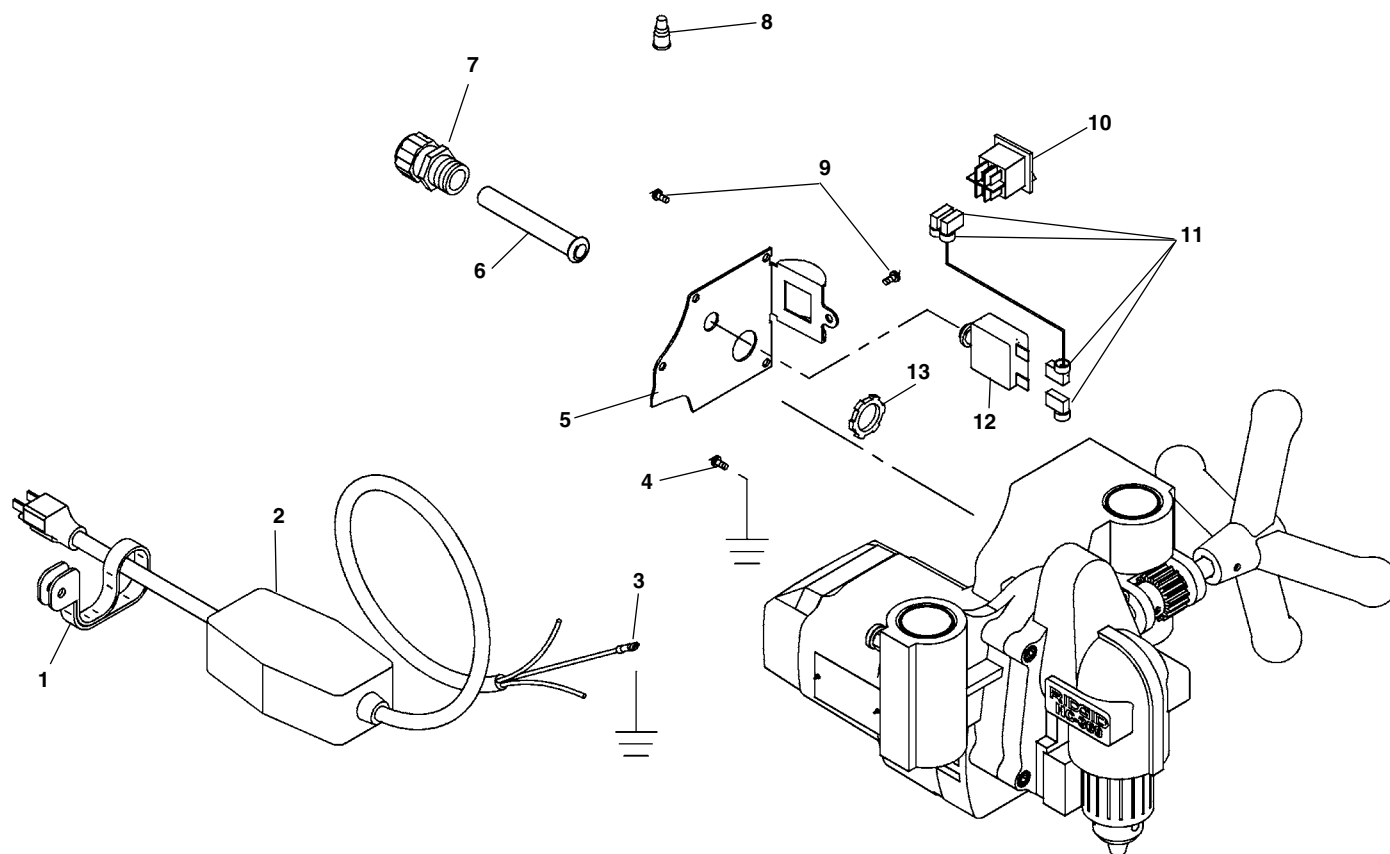
Motor Type 2



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	10908	Screw, Self Tapping (4)	10	77027	Motor Lead Set
2	10913	End Cap	11	58577	Fan Shroud
3	10918	Bumper (2)	12	77207	Seal
4	61287	Brush Assembly Set	13	77202	O-Ring
5	10923	Screw, #10-24 x 2" S.H.C.S. Cap (6)	14	77232	Bearing
6	10928	Insulator	15	77227	Armature Sleeve
7	77267	Warning Label Set	16	43017	Bearing
8	22038	Motor Housing	17	84087	Armature Assembly 115V
9	45897	Field 115V		84082	Armature Assembly 230V
	58567	Field 230V		84092	Armature Assembly 100V
	58572	Field 100V	18	42777	Rubber Sleeve

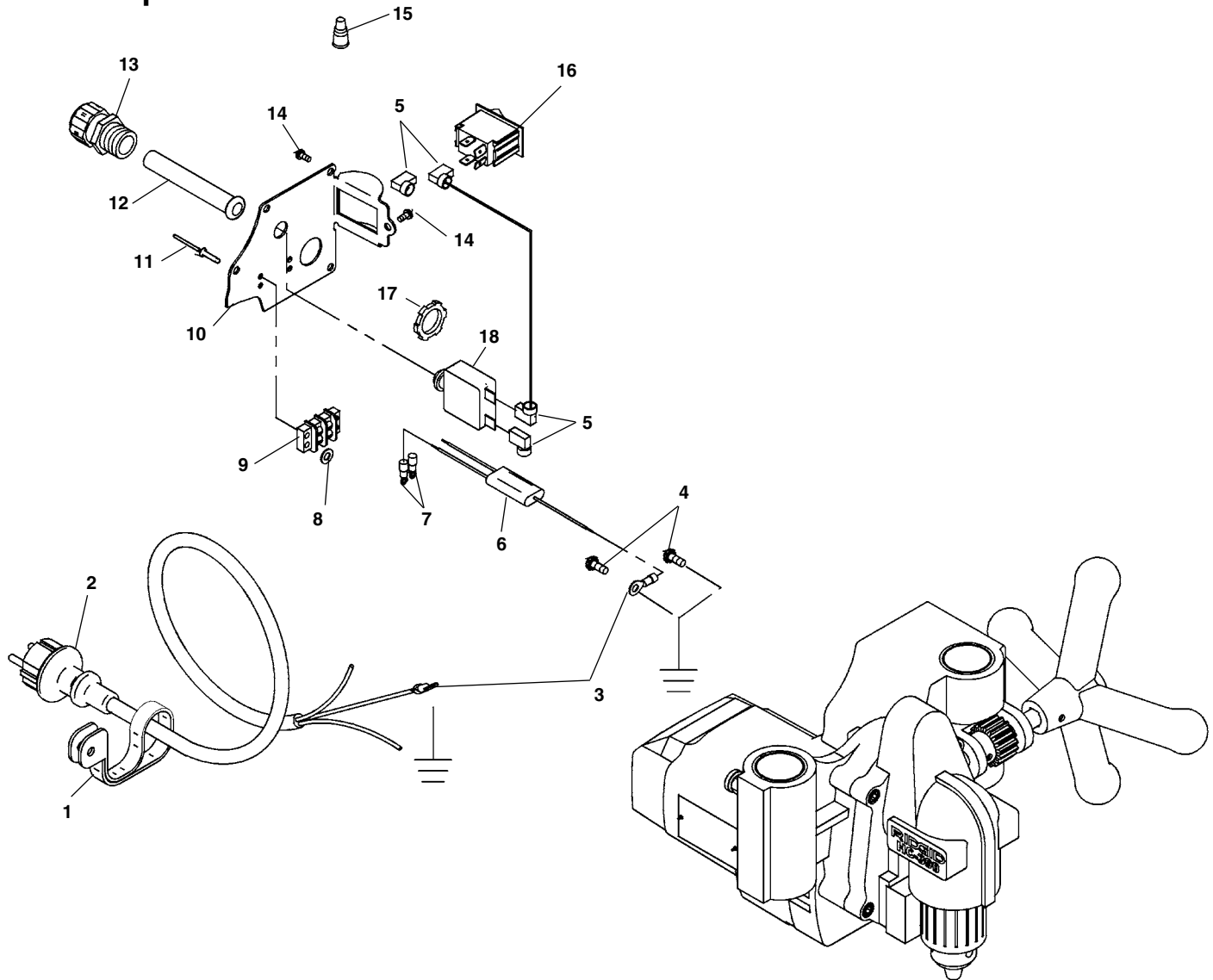
115V Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	59102	Key Retainer	8	65602	Strain Relief
2	50507	Line Cord w/GFI	9	46795	Screw #10 - 24 x 1/2" (5)
3	26292	Ring Terminal	10	44635	Wire Nut
4	45420	Screw w/Washer	11	87042	Switch
5	65642	Lock Nut, 1/2" NPT	12	76992	Quick Disconnect, Right Angle (4)
6	87047	Switch Box Cover	13	61302	Circuit Breaker, 12 Amp
7	77002	Cord Guard			

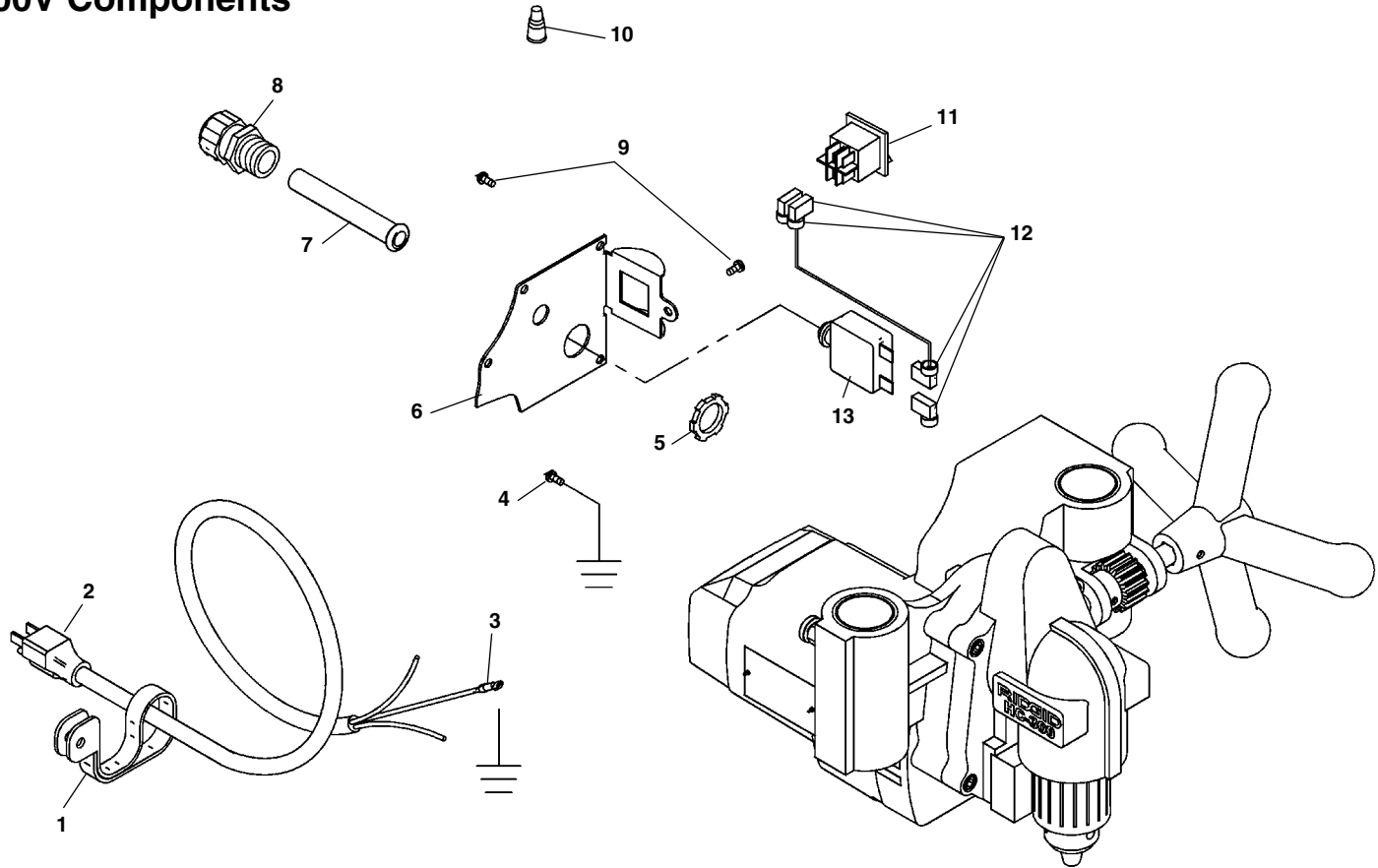
230V Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	59102	Key Retainer	10	87052	Switch Box Cover
2	39562	Line Cord	11	59112	Pop Rivet 5/32" (2)
3	26292	Ring Terminal	12	77002	Cord Guard
4	45420	Screw w/Washer (2)	13	65602	Strain Relief
5	76992	Quick Disconnect, Right Angle (4)	14	46795	Screw #10 - 24 x 1/2" (5)
6	36502	Suppressor	15	44635	Wire Nut
7	90807	Ring Terminal (2)	16	87042	Switch
8	90817	Washer	17	65642	Lock Nut, 1/2" NPT
9	59367	Terminal Block	18	59357	Circuit Breaker, 6 Amp

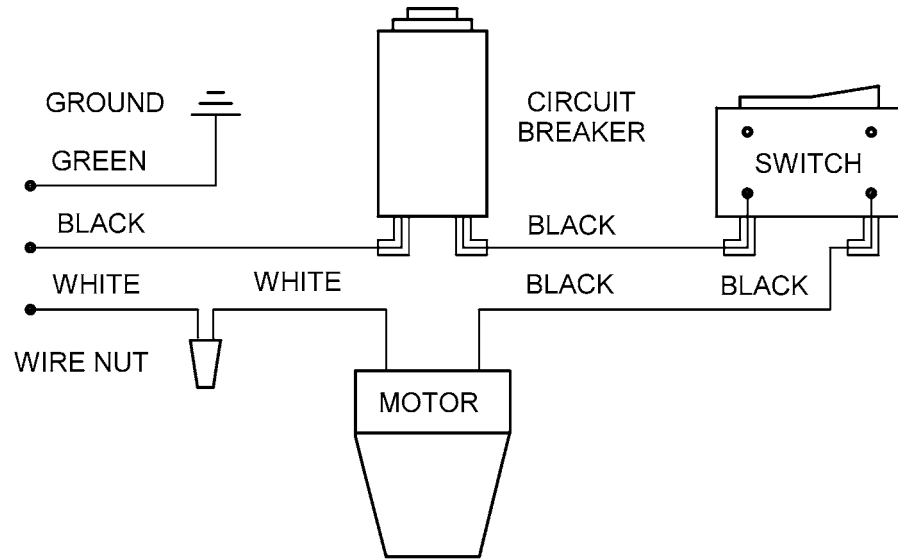
100V Components



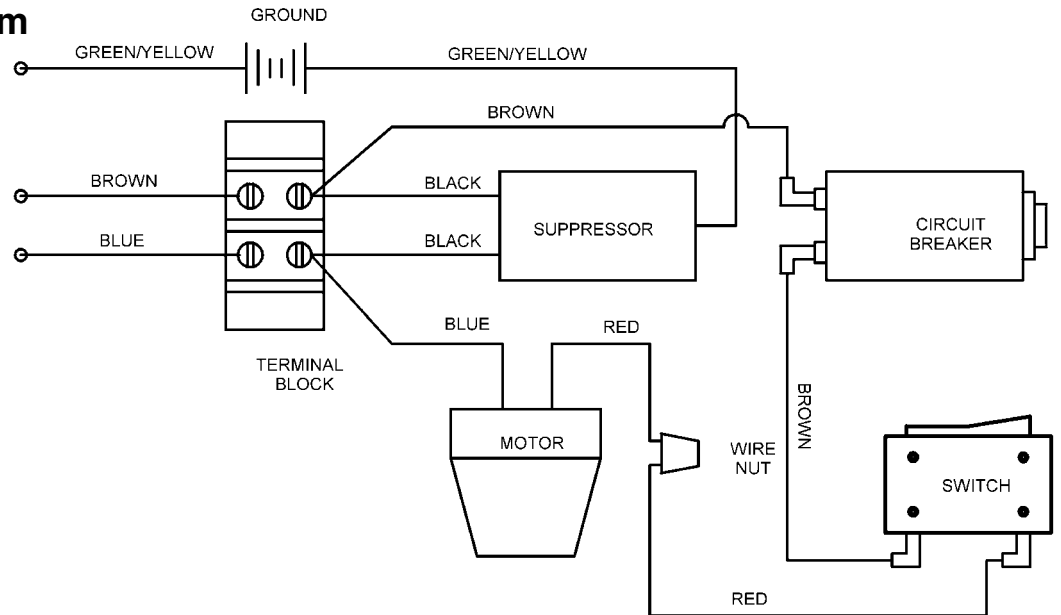
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	59102	Key Retainer	8	65602	Strain Relief
2	89155	Line Cord	9	46795	Screw #10 - 24 x 1/2" (5)
3	26292	Ring Terminal	10	44635	Wire Nut
4	45420	Screw w/Washer (2)	11	87042	Switch
5	65642	Lock Nut, 1/2" NPT	12	76992	Quick Disconnect, Right Angle (4)
6	87047	Switch Box Cover	13	58962	Circuit Breaker, 15 Amp
7	77002	Cord Guard			

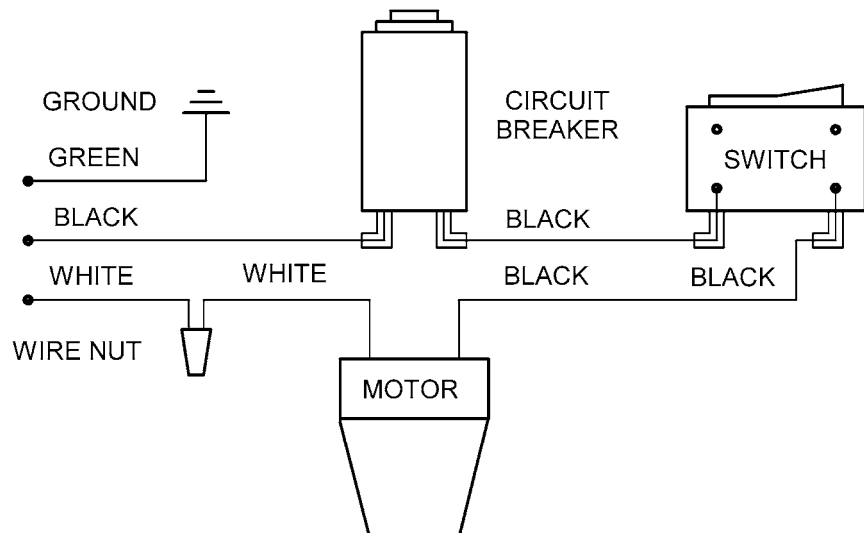
115V Wiring Diagram



230V Wiring Diagram



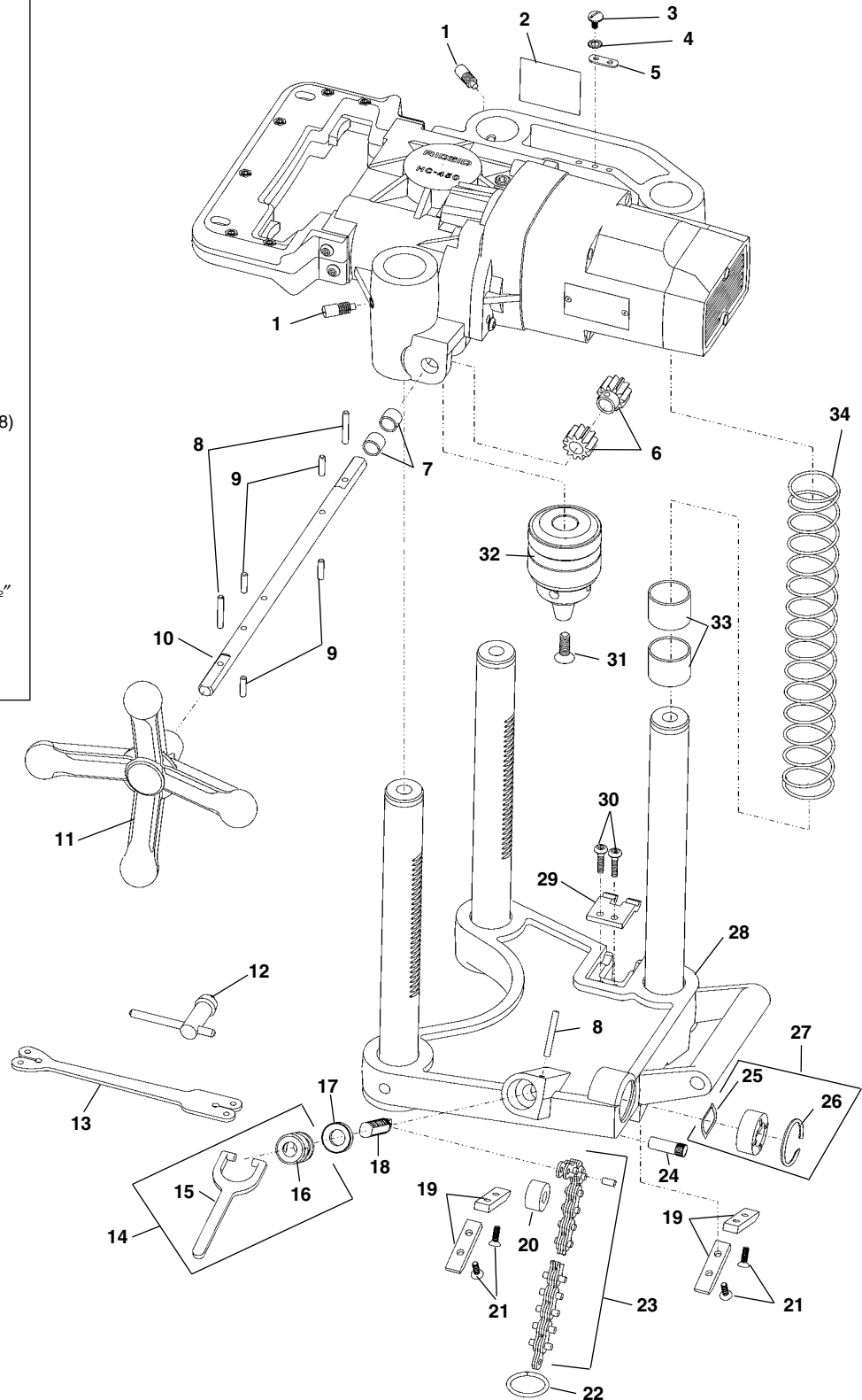
100V Wiring Diagram



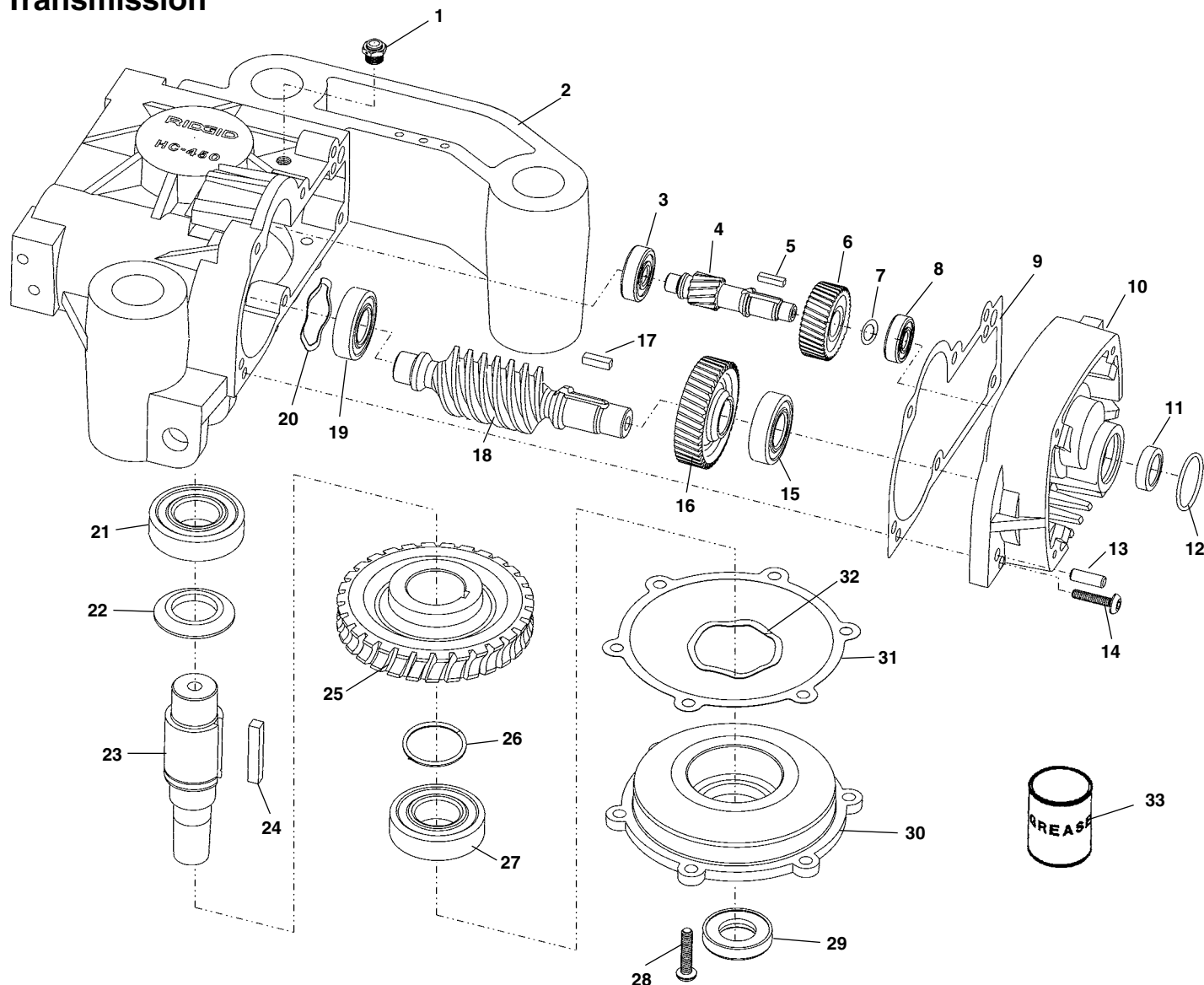
Main Components

**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
1	59382	Gib Screw (2)
2	59337	Warning Label
3	45420	Screw, #10-24 x 3/8"
4	46985	Lock Washer #10
5	59407	Ground Spacer
6	59092	Pinion (2)
7	53072	Bearing (3)
8	36387	Split Roll Pin 3/16" x 1" (3)
9	34342	Roll Pin, 3/16" x 15/16" (4)
10	70797	Feed Shaft, 120V/230V
	70802	Feed Shaft, 100V
11	58957	Handwheel
12	59132	Chuck Key – Jacobs Style
	59057	Chuck Key – JIS Style
13	59102	Key Keeper
14	32115	Handle Assembly w/Nut
15	32120	Handle
16	32130	Swivel Nut
17	58987	Friction Ring
18	32110	Chain Screw
19	59187	Wear Pad with Screws (4)
20	40990	Roll
21	59192	Soc. Flat Hd. Screw, #10-24 x 1/2" (8)
22	32555	Wire Ring
23	59012	Chain Assembly
24	41035	Knurl Pin
25	59017	Wave Washer
26	59182	Retaining Ring
27	58997	Level Vial Assembly
28	58977	Base Assembly w/Posts
29	58992	Wear Plate
30	40260	Soc Head Cap Screw, #10-24 x 1/2"
31	59377	Flat Head Screw, 5/16" - 18 x 1"
32	59247	Chuck with Key – Jacobs Style
	59022	Chuck with Key – JIS Style
33	59027	Bearing (6)
34	59177	Compression Spring (3)



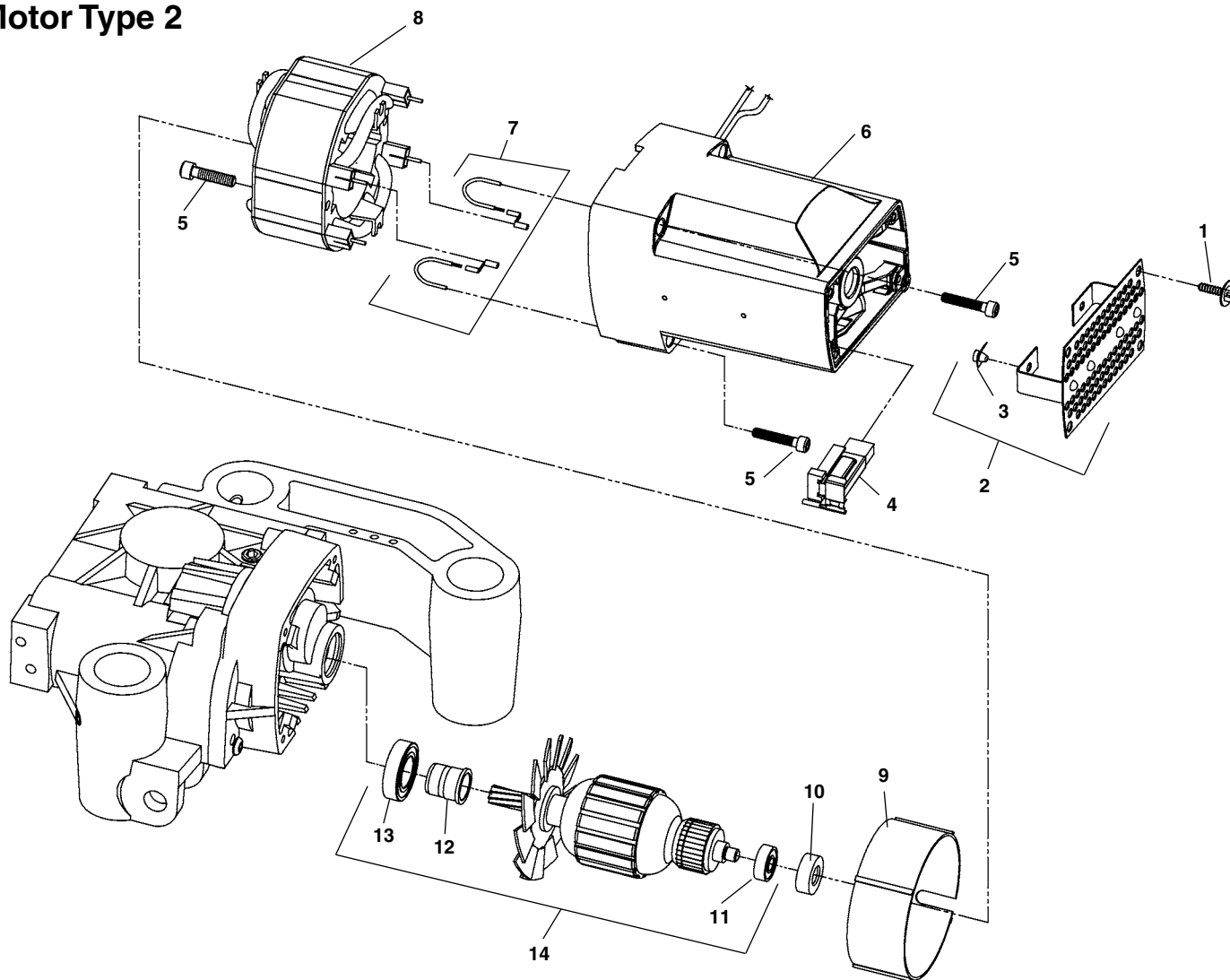
Transmission



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	59252	Breather Plug	15	59137	Angular Contact Bearing
2	59062	Transmission Housing	16	59052	Helical Gear
3	44760	Ball Bearing	17	26657	Key, $\frac{3}{16}$ " Sq. x $\frac{5}{8}$ " Lg.
4	77222	Intermediate Gear Shaft, T2	18	59047	Worm Shaft
5	59037	Intermediate Gear Shaft	19	44565	Ball Bearing
6	34472	Key	20	72267	Wave Washer
7	59042	Helical Gear	21	59152	Angular Contact Bearing
8	77237	Spacer, T2	22	59162	Spacer
9	77217	Ball Bearing, T2	23	59142	Output Spindle
10	59147	Ball Bearing	24	26457	Key, $\frac{1}{4}$ " Sq. X $1\frac{3}{16}$ "
11	72192	Gasket, T2	25	59167	Worm Gear
12	59077	Gasket	26	72217	Retaining Ring
13	77212	Motor Adapter, T2	27	45315	Ball Bearing
14	77207	Grease Seal, T2	29	59392	Oil Seal
	77202	O-Ring, T2	30	72202	Cover
	60227	O-Ring	31	72207	Gasket
	44640	Dowel Pin, $\frac{1}{4}$ " x $\frac{3}{4}$ " (2)	32	59082	Wave Washer
	72212	Hex Button Hd Scr w/Sealant (12)	33	61332	Grease

Motor Type 2

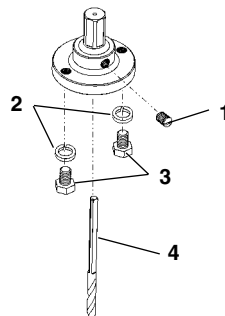


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

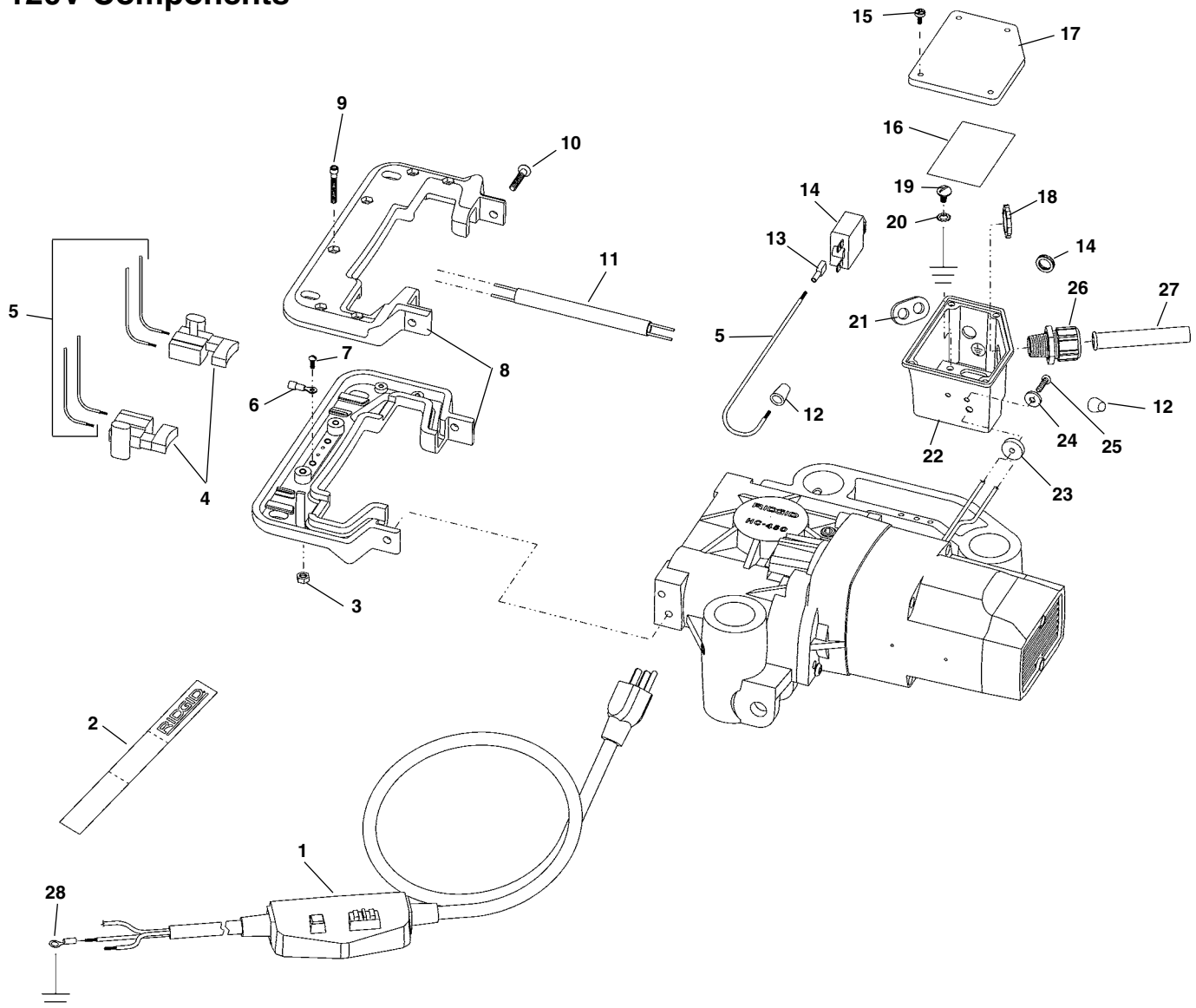
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	10908	Screw, Self Tapping (4)	9	58577	Fan Shroud
2	10913	End Cover	10	42777	Rubber Sleeve
3	10918	Bumper (2)	11	43017	Bearing
4	61287	Brush Assembly Set	12	77227	Armature Sleeve
5	10923	Screw, #10-24 x 2" Soc. Hd. Cap (6)	13	77232	Bearing
6	22038	Motor Housing	14	84087	Armature Assembly 120V
7	77027	Motor Lead Set		84082	Armature Assembly 230V
8	45897	Field 120V		84092	Armature Assembly 100V
	58567	Field 220V			
	58572	Field 100V			

R-4 Arbor Assembly

Ref. No.	Catalog No.	Description
—	59502	R-4 Arbor Assembly
1	59387	Set Screw, $\frac{5}{16}$ " - 24 x $\frac{1}{2}$ ", Cup Pt.
2	60080	Lock Washer, $\frac{5}{16}$ " (2)
3	60010	Hex Screw, $\frac{5}{16}$ " - 18 x $\frac{1}{2}$ " (2)
4	53085	Pilot Drill, $\frac{1}{4}$ "



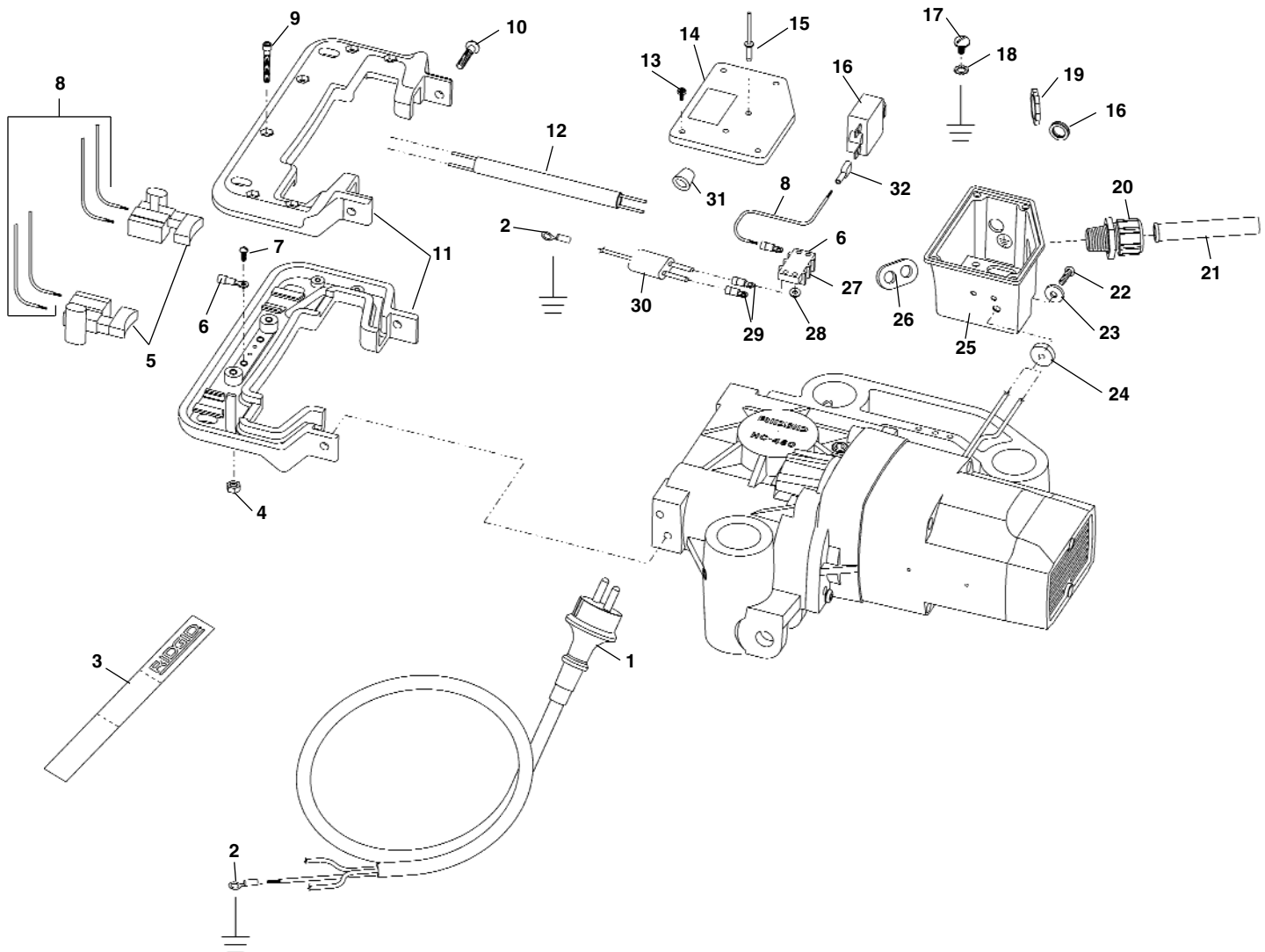
120V Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	50502	Power Cord w/GFCI	11	59342	Insulator Tube	20	46985	Lock Washer #10
2	59097	Cinch Strap	12	44635	Wire Nut (2)	21	59402	Seal
3	44695	Hex Nut, #10-24 (6)	13	59007	Terminal Set	22	59122	Junction Box
4	59317	Switch, 120V (2)	14	61302	Circuit Breaker, 15 Amp	23	59397	Gasket
5	77027	Wire Set	15	60575	Screw, #6-32 x 3/8" (4)	24	90812	Washer
6	83895	Ring Terminal #6 (2)	16	58982	Wiring Decal	25	93595	Screw, Self Tap (2)
7	46980	Screw, #6-32 x 3/16" (2)	17	72147	Cover Plate, 120V	26	65602	Strain Relief
8	59257	Handle Set	18	65642	Lock Nut 1/2" NPT	27	77002	Cord Guard
9	93680	Soc Hd Cap Screw, #10-24 x 1" (8)	19	59192	Screw, #10-24 x 1/2" FH Soc	28	26292	Ring Terminal
10	32205	Soc Hd Cap Screw, 1/4"-20 x 3/8" (4)						

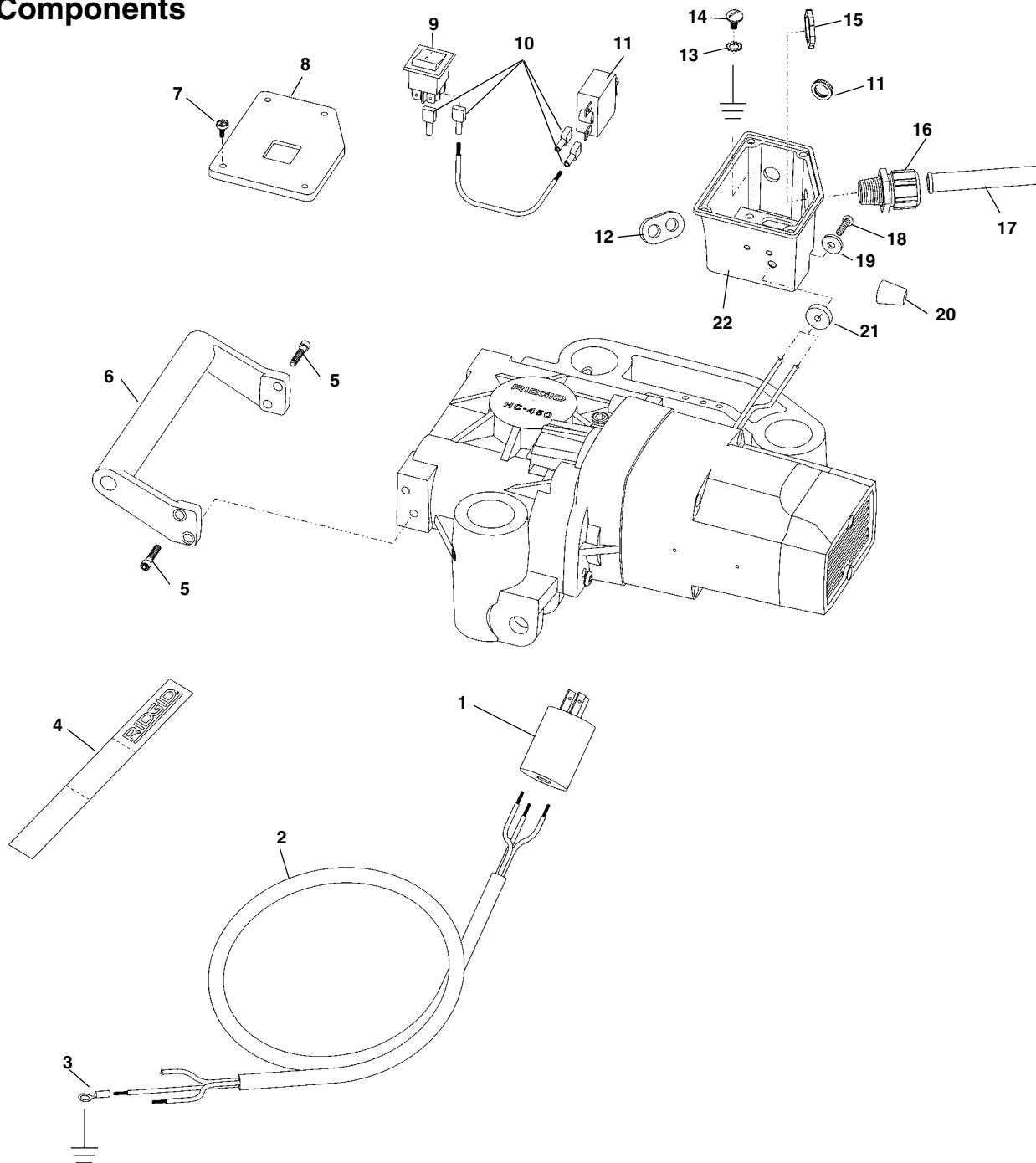
220V Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	39562	Power Cord w/Plug	12	59342	Insulator Tube	23	90812	Washer
2	26292	Ring Terminal	13	72167	Screw, #6-32 x 5/16" (4)	24	59397	Gasket
3	59097	Cinch Strap	14	59227	Cover Plate, 230V	25	59122	Junction Box
4	44695	Hex Nut #10-24 (6)	15	59112	Pop Rivet, 5/32" (4)	26	59402	Seal
5	59362	Switch, 230V (2)	16	59357	Circuit Breaker, 6 Amp	27	59367	Terminal Block
6	83895	Ring Terminal	17	59192	Screw, #10-24 x 1/2" FH Soc.	28	90817	Washer
7	46980	Screw, #6-32 x 5/16" (2)	18	46985	Washer	29	90807	Ring Terminal (2)
8	77027	Switch Wire Set	19	65642	Lock Nut 1/2" NPT	30	36502	Suppressor
9	93680	Soc. Hd. Cap Screw #10-24 x 1" (6)	20	65602	Strain Relief	31	44635	Wire Nut
10	32205	Soc. Hd. Cap Screw, 1/2" - 20 x 5/8" (4)	21	77002	Cord Guard	32	59007	Terminal Set
11	59257	Handle Set	22	93595	Screw Self Tap (2)			

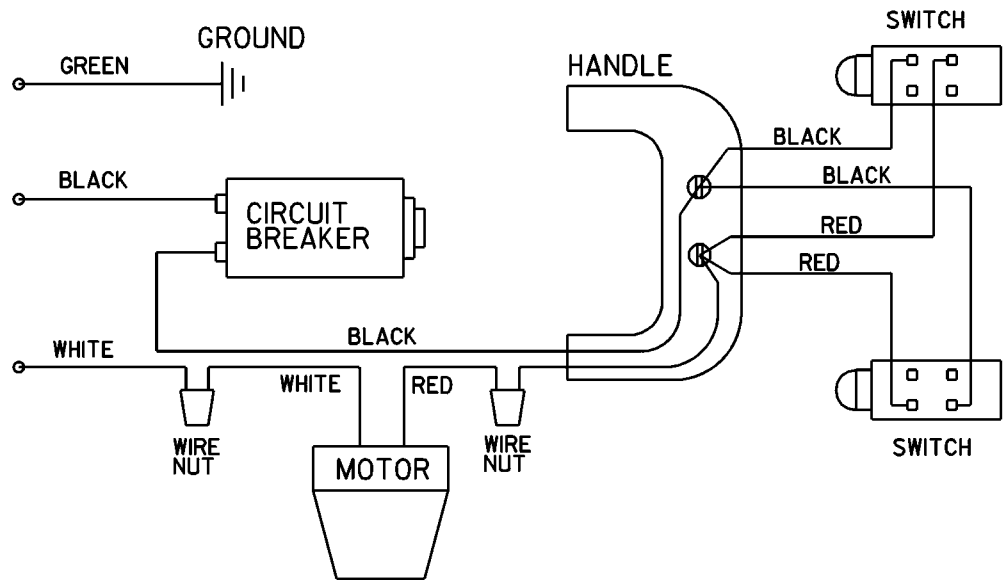
100V Components



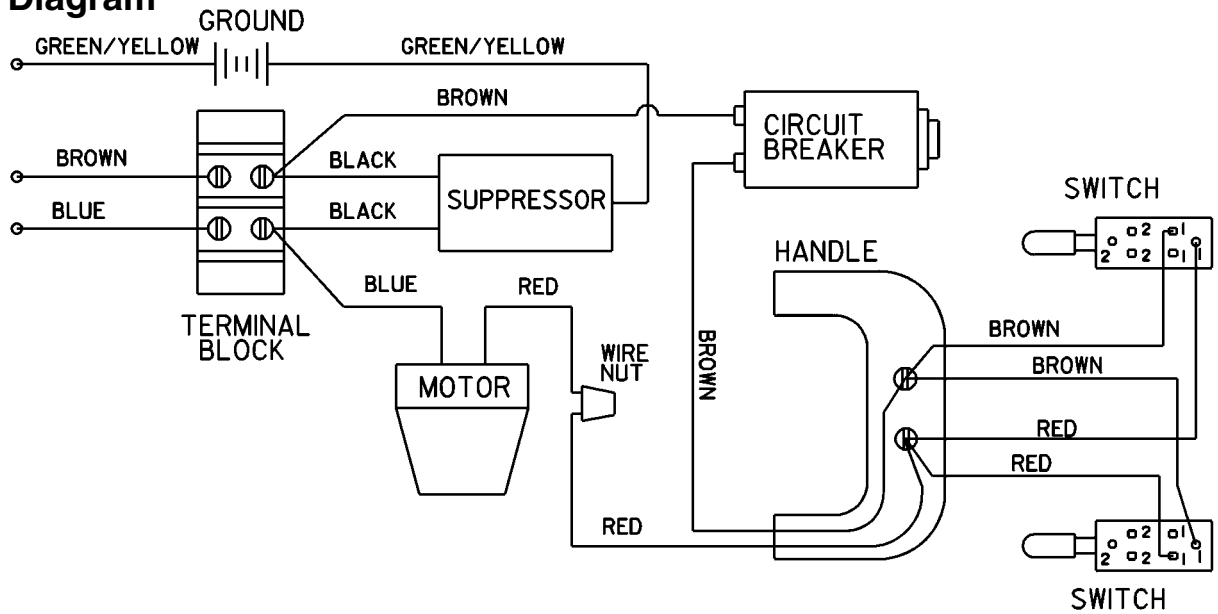
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	59332	Plug	9	59232	Rocker Switch	16	65602	Strain Relief
2	72172	Power Cord	10	59007	Terminal Set	17	77002	Cord Guard
3	26292	Ring Terminal	11	58962	Circuit Breaker, 15 Amp	18	93595	Screw, Self Tap (2)
4	59097	Cinch Strap	12	59402	Seal	19	90812	Washer
5	32205	Screw, 1/4" - 20 x 5/8" S.H.C.S (4)	13	49685	Washer	20	44635	Wire Nut
6	59117	Handle	14	59192	Flat Head Screw #10-24 x 1/2"	21	59397	Gasket
7	72167	Screw #6-32 x 5/16" (4)	15	65642	Lock Nut 1/2" NPT	22	59122	Junction Box
8	59227	Cover Plate						

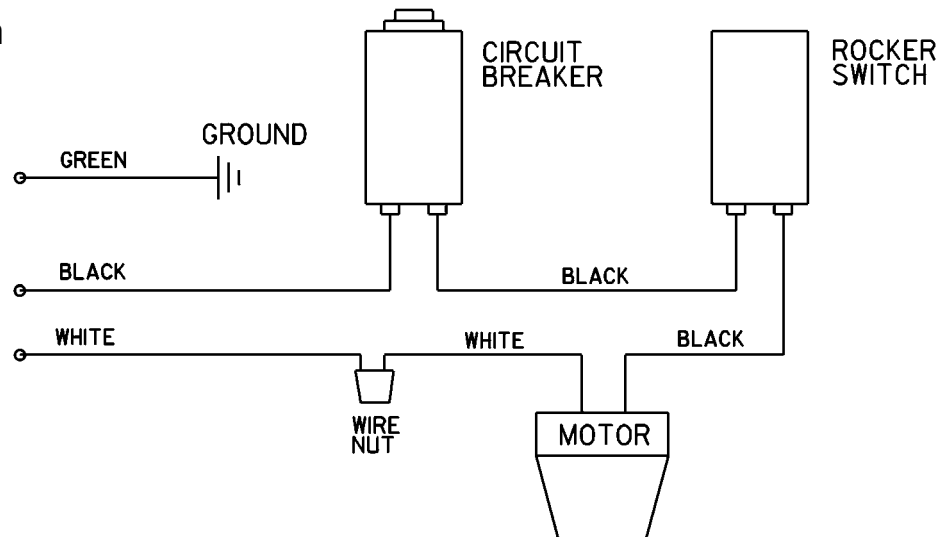
120V Wiring Diagram



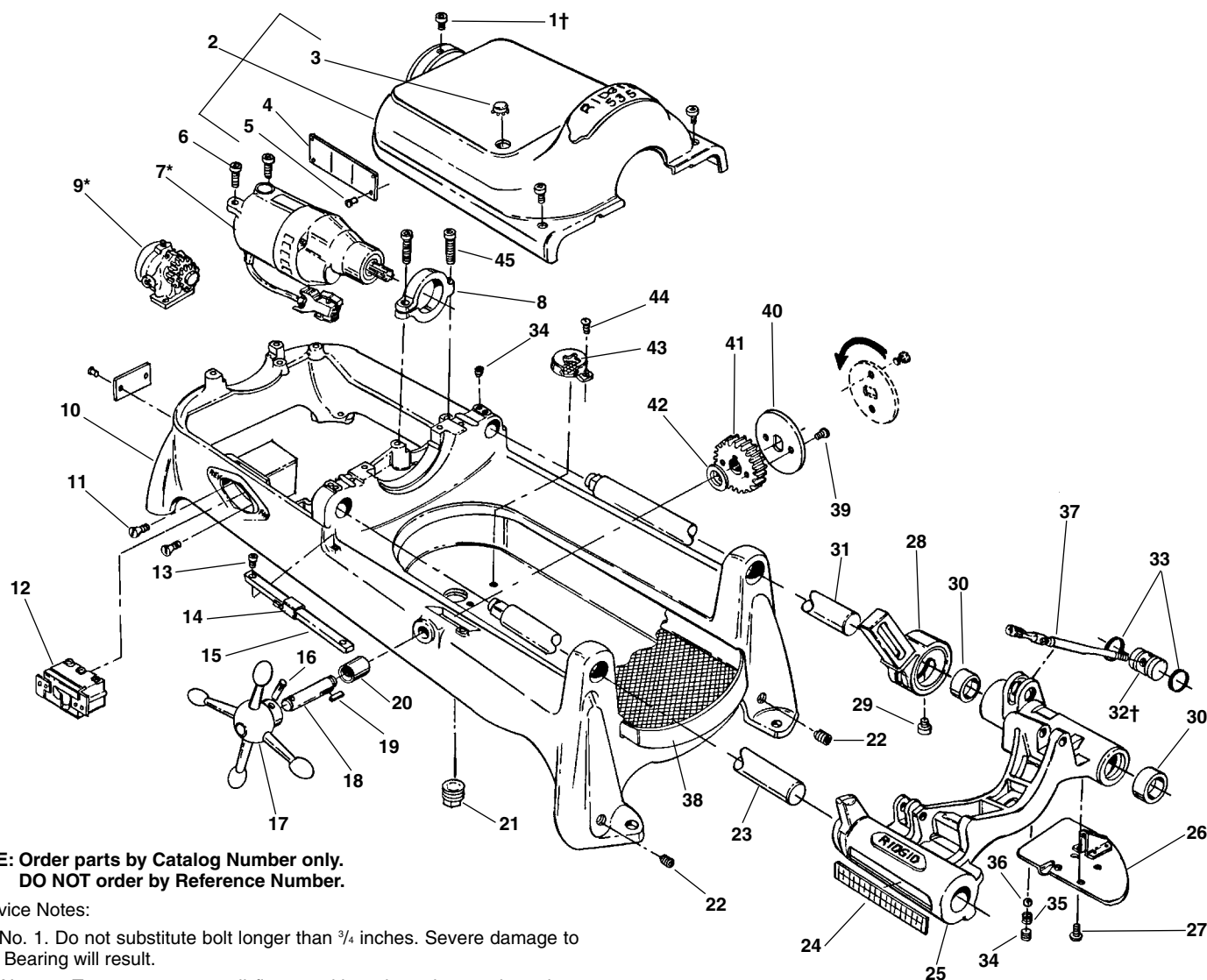
230V Wiring Diagram



100V Wiring Diagram



Main Components – Early Style



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

†Service Notes:

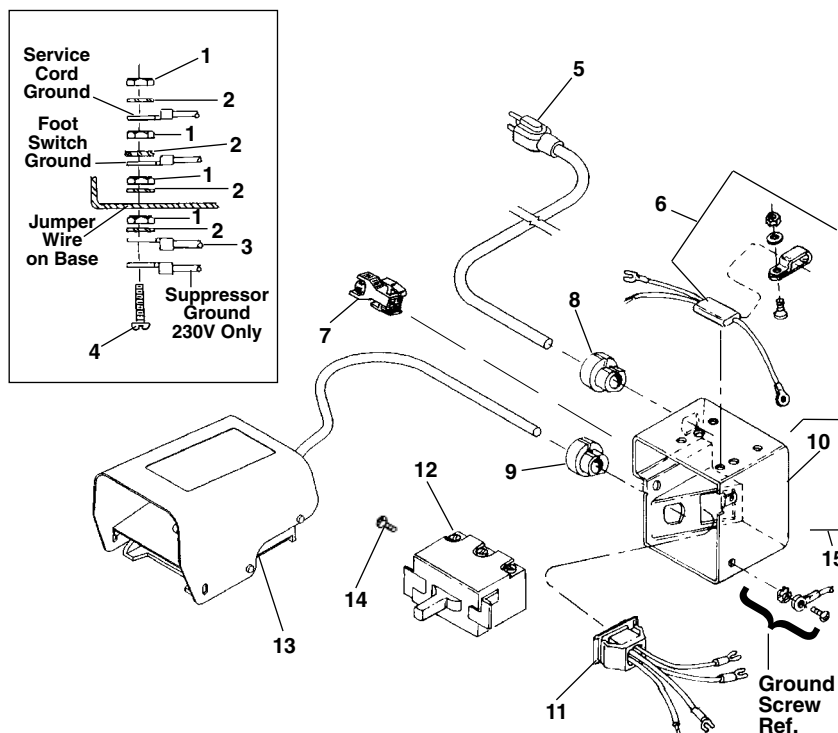
Ref. No. 1. Do not substitute bolt longer than $\frac{3}{4}$ inches. Severe damage to Rear Bearing will result.

Ref. No. 32. To assure proper oil flow, position pivot plug so that when spout is in up position, oil flow hole is visible in carriage slot below spout.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1†	46760	Screw $\frac{3}{8}$ " - 16 x $\frac{3}{4}$ " (3)	24	46370	Scale
2	43190	Cover (Incls. Ref. No. 3, 4, 5)	25	62057	Carriage Assy. (Includes Ref. Nos. 24, 26, 27, 28, 29, 30, 34, 35, 36)
3	89310	Plug Button	26	45195	Drip Plate
4	88690	Warning Plate	27	46270	Screw $\frac{1}{4}$ " - 20 x $\frac{1}{2}$ " Pan Head (4)
5	85920	Pop Rivet (8)	28	43690	Cutter Arm
6	46745	Screw $\frac{3}{8}$ " - 16 x $1\frac{1}{4}$ " (2)	29	44930	Screw, $\frac{5}{16}$ " x $\frac{9}{32}$ "
7*	88125	Motor Model 1177, 115V	30	46720	Oil Seal (2)
	88165	Motor Model 2377, 230V	31	45220	Support Bar - Rear
8	43795	Motor Bracket	32†	44340	Pivot Plug
9*	47195	Model A Oil Pump	33	44470	O-Ring (2)
10	43030	Base (Incls. Ref. No. 20, 21, 22, 44)	34	46800	Set Screw $\frac{3}{8}$ " - 16 x $\frac{3}{8}$ " (3)
11	45280	Screw #8-32 x $\frac{5}{8}$ " Flat Head (2)	35	46680	Spring
12	44505	Switch	36	46925	Ball
13	45615	Screw #10-32 x $\frac{1}{2}$ " Flat Head (2)	37	44495	Oil Spout Assembly
14	47110	Indicator Slide	38	43355	Chip Tray
15	47105	Indicator Bar	39	46785	Screw #10-32 x $\frac{3}{8}$ "
16	47165	Pin	40	47120	Lock Plate
17	46510	Handwheel	41	45430	Pinion
18	47115	Pinion Shaft	42	47145	Spacer
19	46930	Key $\frac{3}{16}$ " Square	43	46655	Filter
20	46540	Bushing	44	45420	Screw #10-24 x $\frac{3}{8}$ "
21	44485	Drain Plug	45	44220	Screw $\frac{3}{8}$ " - 16 x $1\frac{1}{2}$ "
22	42037	Set Screw $\frac{1}{2}$ " - 13 x $\frac{1}{2}$ " (4)			
23	45440	Support Bar - Front			

*Refer to Motor Model No./Refer to Model "A" Oil Pump for Component Parts

Electrical Components

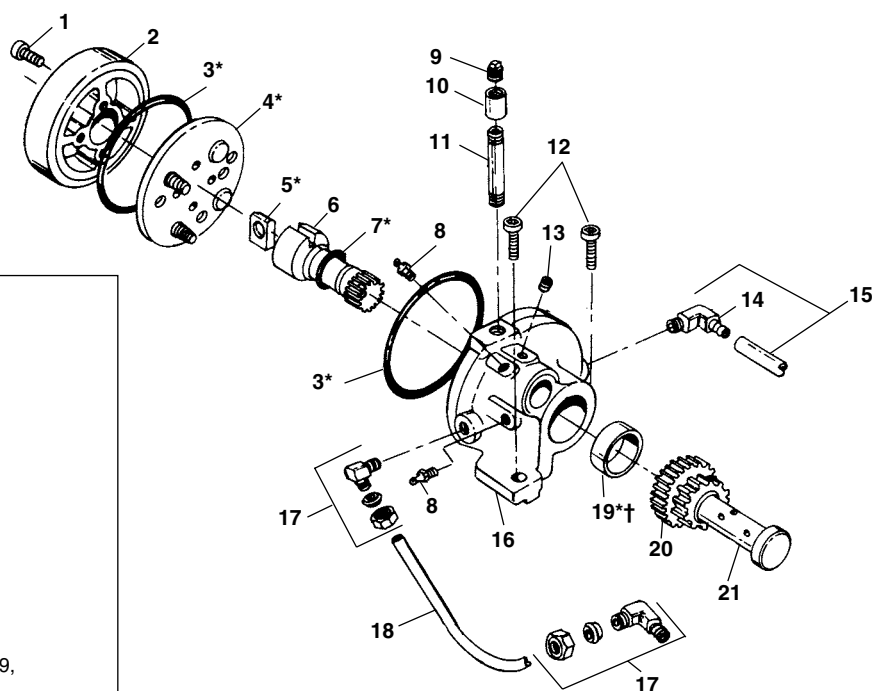


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
1	44695	Hex Nut #10 - 24 (4)
2	46985	Ext. Tooth Washer #10 (4)
3	85925	Jumper Wire
4	92455	Screw #10 - 24 x 3/4"
5	46740	Power Cord w/Plug (115V)
	46410	Power Cord w/Plug (230V)
	75045	Power Cordless Plug (230V Europe/S. Africa)
6	46320	Suppressor Kit (230V Europe)
	99170	Suppressor (230V S. Africa)
7	50552	Plug
8	46735	Cord Grommet
	46730	Cord Grommet (230V Europe/S. Africa)
9	46735	Cord Grommet
10	50612	Switch Box
11	50617	Outlet Jumper Assembly
12	44505	Switch
13	36642	B-294 Foot Switch
14	44180	Screw
15	91187	Switch Box Kit (Includes Ref. Nos. 7-11)

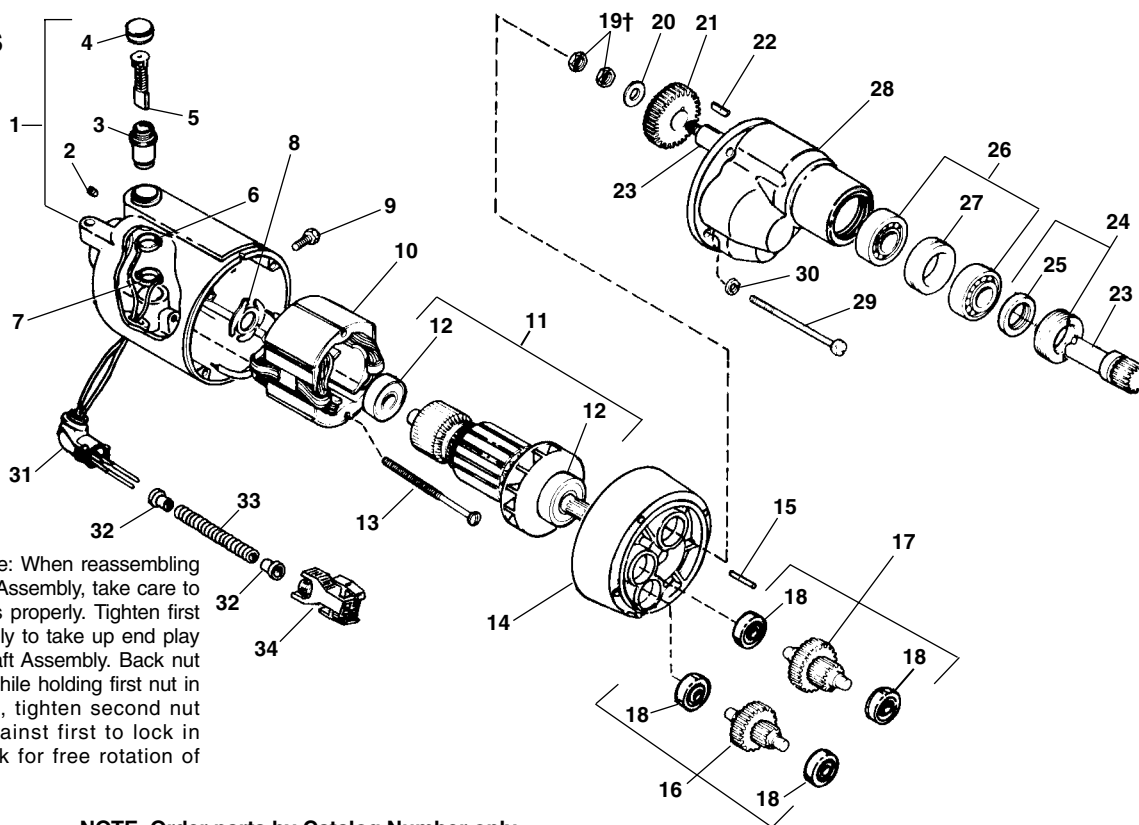
Model "A" Pump

Ref. No.	Catalog No.	Description
1	46770	Screw #10-32 x 1" SHCS (4)
2	46350	Cover
3*	44650	O-Ring (2)
4*	46645	Valve Assembly
5*	47100	Rotor Blade
6	46355	Pinion Shaft
7*	44645	O-Ring
8	46860	Grease Fitting
9	46815	Pipe Plug
10	89725	Coupling
11	89730	Nipple
12	46750	Screw 3/8"-16 x 1" SHCS (2)
13	44455	Set Screw 3/16" x 3/8"
14	87945	90° Fitting
15	75065	Intake Line
16	43470	Pump Body (Incls. Ref. Nos. 3, 8, 16, 19, Roller Bearing)
17	46840	90° Fitting (2)
18	44105	Feed Line
19*†	46715	Oil Seal
20	44350	Idler Gear
21	44345	Gear Shaft
—	91055	Repair Kit (Includes items marked with *)



†Service Note: When replacing Oil Seal, open side should face towards outside of Pump Body. Use care in installing Seal so that lip is not damaged.

Motors



†Service Note: When reassembling Drive Pinion Assembly, take care to set Jam Nuts properly. Tighten first nut moderately to take up end play in Pinion Shaft Assembly. Back nut off 1/2 turn. While holding first nut in this position, tighten second nut securely against first to lock in place. Check for free rotation of Drive Pinion.

**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

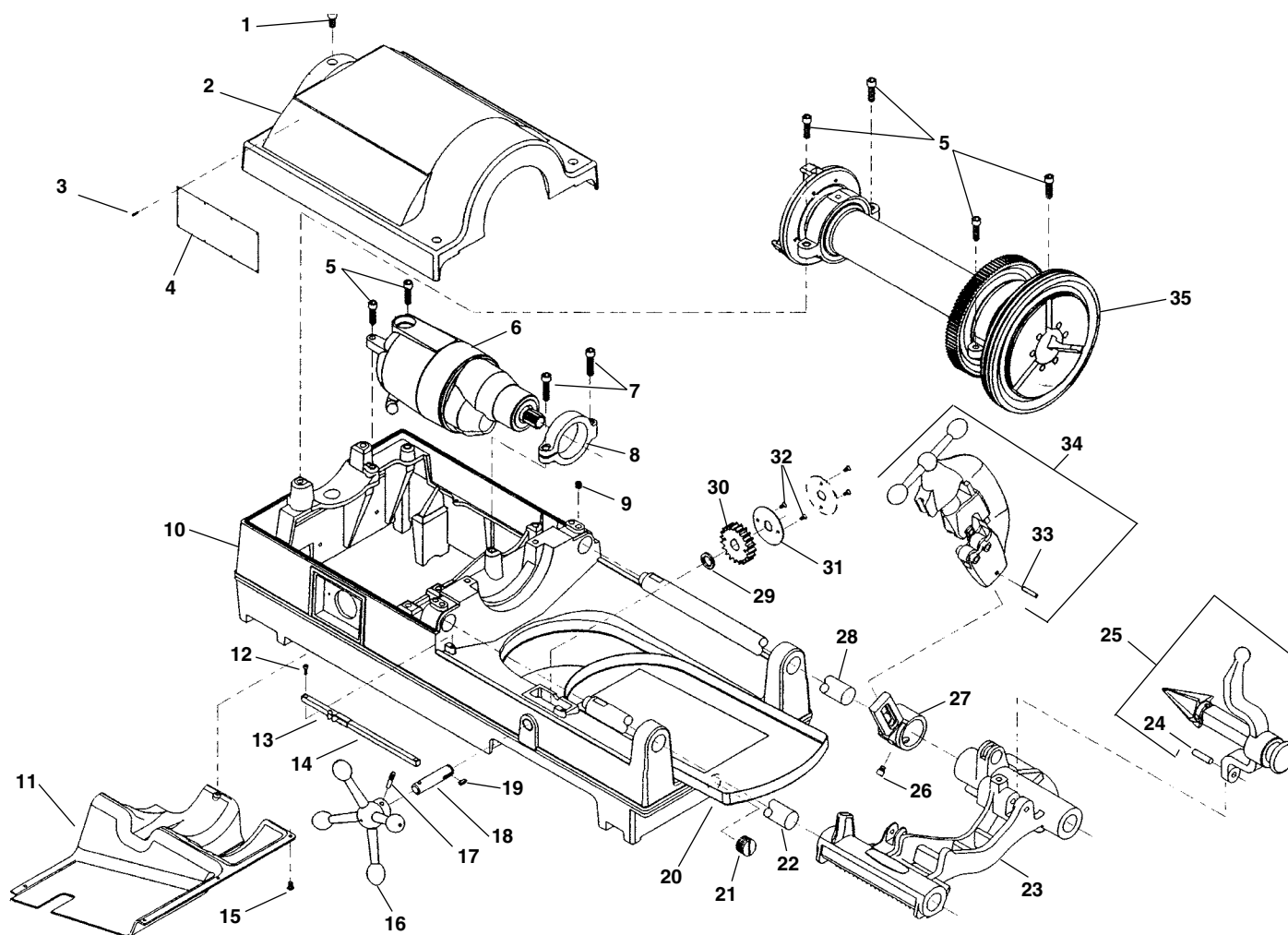
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	43160	Housing	18	45060	Gear Bearing (4)
2	39770	Set Screw 1/4" - 20 x 1/4" (2)	19†	40350	Lock Nut 3/8" - 24 (2)
3	45025	Brush Holder Set	20	45035	Washer
4	44545	Brush Cap Set	21	See Chart	Main Drive Gear
5	44540	Brush Set	22	45015	Key 5/32" Sq.
6	87865	White Upper Lead	23	44960	Drive Pinion
7	87870	Red Lower Lead	24	45010	Lock Nut w/Seal
8	44580	Loading Spring	25	45085	Seal
9	83500	Screw 1/4" - 20 x 3/4"	26	45040	Bearing Set w/Spacer
10	44015	Field - 115V	27	45045	Spacer
	44035	Field - 230V	28	43170	Housing
11	44010	Armature - 115V	29	45075	Screw 1/4" - 20 x 3"
	44030	Armature - 230V	30	45150	Lock Washer (4)
12	44565	Armature Bearing (2)	31	46900	Connector 90°
13	44555	Mounting Screw (2)		46905	Connector 45°
14	43165	Fan Housing Assembly	32	46890	Insulator (2)
15	45165	Dowel Pin	33	47412	Flexible Conduit
16	See Chart	1st Gear Assembly	34	50552	Plug
17	See Chart	2nd Gear Assembly			

SPEED CHANGE GEAR CHART MACHINE MODEL NO. 400A - 535 - 802

Model No.	Volts	Spindle Speed	Ref. #11	Ref. No. 16 - 1st Intermediate Gear Assembly	Ref. No. 17 - 2nd Intermediate Gear Assembly	Ref. No. 21 Drive Gear
1177 2377	115V 230V	36 STD.	Armature Pinion - 14 T.	PART NO. 44985 (E-2600-X) 51 T. GEAR 12 T. PINION	PART NO. 45005 (E-2601-X) 42 T. GEAR 13 T. PINION	PART NO. 44965 (E-2597) 48 T.
1177A 2377A	115V 230V	54 STD. ON 802		PART NO. 44985 (E-2600-X) 51 T. GEAR 12 T. PINION	PART NO. 44990 (E-2601-AX) 42 T. GEAR 18 T. PINION	PART NO. 44865 (E-1926) 43 T.
1177B	115V	72		PART NO. 44975 (E-2600-BX) 51 T. GEAR 15 T. PINION	PART NO. 44995 (E-2601-BX) 39 T. GEAR 18 T. PINION	PART NO. 44865 (E-1926) 43 T.
1177C 2377C	115V 230V	102		PART NO. 44980 (E-2600-CX) 51 T. GEAR 19 T. PINION	PART NO. 45000 (E-2601-CX) 35 T. GEAR 18 T. PINION	PART NO. 44865 (E-1926) 43 T.

*Supplied with Motor Complete

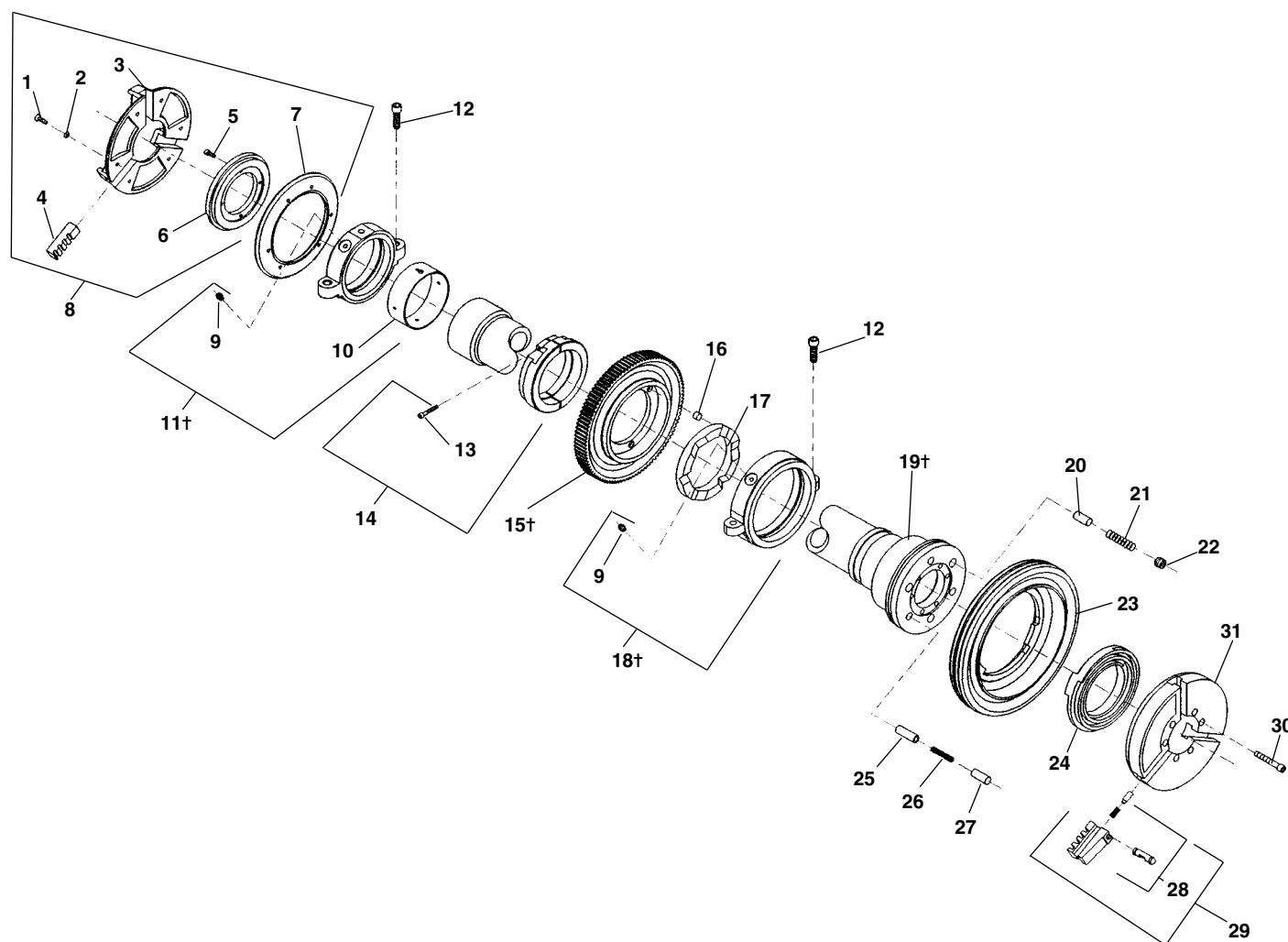
Main Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	46760	Screw (3)	18	47115	Pinion Shaft
2	62062	Top Cover	19	46930	Key $\frac{3}{16}$ " Sq. x $\frac{1}{2}$ "
3	85920	Pop Rivet (8)	20	43355	Chip Tray
4	88690	Warning Plate	21	48337	Drain Plug
5	46745	Screw	22	45440	Front Support Bar
6	64447	1194 Motor, 115V, 36 RPM	23	62057	Carriage Assembly
—	64452	1194 A Motor, 115V, 54 RPM	24	47065	Hinge Pin
—	64457	2394 Motor, 230V, 36 RPM	25	42365	341 Reamer Assembly
7	44220	Screw (2)	26	44930	Stop Screw
8	43795	Motor Bracket	27	43690	Cutter Arm
9	46800	Set Screw (2)	28	45220	Rear Support Bar
10	61952	Base	29	47145	Spacer
11	61947	Bottom Cover	30	45430	Pinion Gear
12	45615	Screw (2)	31	47120	Lock Plate
13	47110	Indicator Slide	32	46785	Screw 10 - 32 x $\frac{3}{8}$ " (2)
14	47105	Indicator Bar	33	47135	Stop Pin
15	45420	Screw (5)	34	42390	820 Cutter Assembly
16	46510	Handwheel	35	47585	Drive Shaft Assembly
17	47165	Pin			

Drive Shaft



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

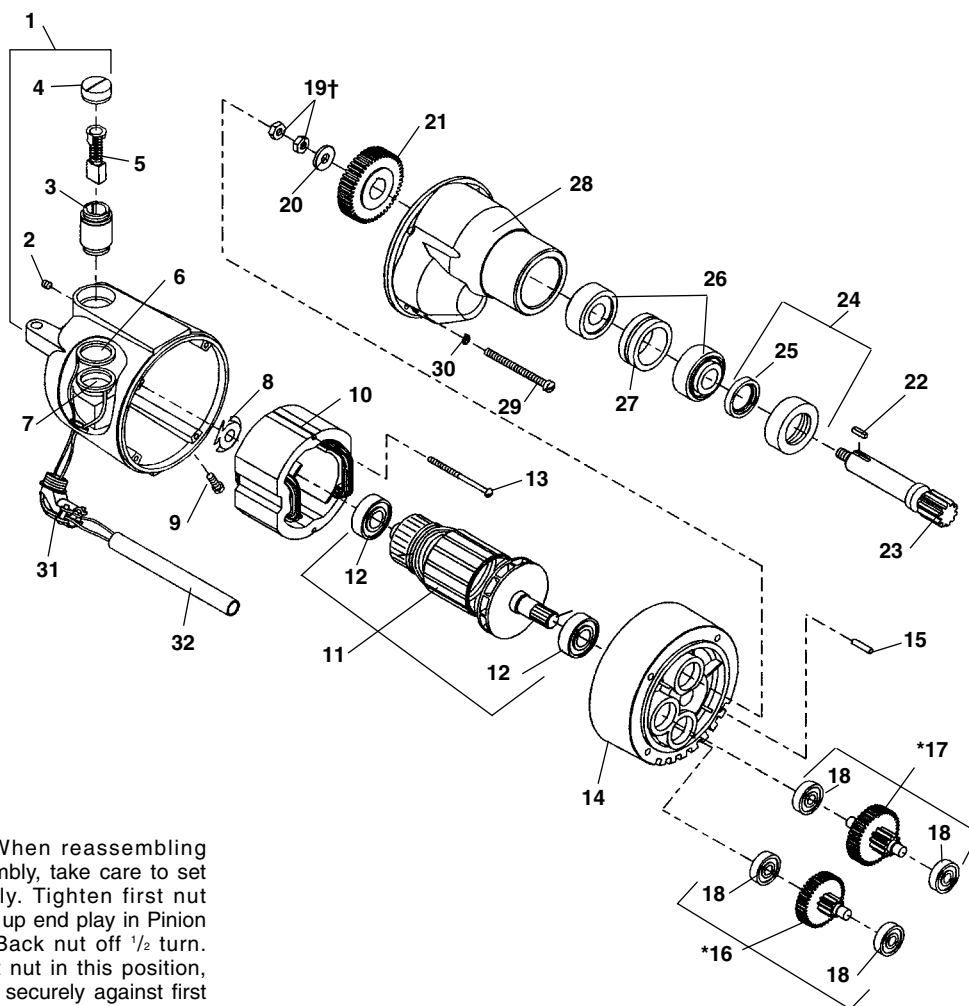
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	47585	Drive Shaft Assembly	16	44490	Drive Plug (3)
1	46790	Screw (6)	17	43895	Pressure Plate
2	40270	Lock Washer (6)	18†	43455	Front Bearing Assembly
3	43735	Centering Head	19†	43105	Drive Shaft
	19346	Centering Head (Europe)	20	44320	Pressure Plunger (3)
4	46500	Centering Jaw Set	21	44325	Pressure Spring (3)
5	46765	Screw 10 – 32 x 1/2"	22	44330	Pressure Set Screw (3)
6	43750	Scroll	23	43420	Handwheel
7	43740	Back Plate	24	43450	Scroll
	19356	Back Plate (Europe)	25	44315	Drive Wedge
8	47570	Centering Head Assembly	26	44310	Drive Spring
9	46860	Grease Fitting	27	44305	Drive Cap
10	46545	Bearing Sleeve	28	44715	Jaw Insert Set
11†	43730	Rear Bearing Assembly		97365	Jaw Insert Set f/Plas. Coated Pipe
12	46745	Screw 3/8" – 16 x 1 1/4" (4)	29	43900	Chuck Jaw Set
13	90255	Screw 10 – 32 x 1 1/4"	30	45160	Screw 5/16" – 18 x 2" (6)
14	83525	Split Ring Assembly	31	43440	Chuck Cap
15†	43460	Drive Gear			

† Service Notes: Ref. Nos. 15 & 19 - When installing gear on shaft, align "O" mark on front of gear with "O" mark on the rear of the drive shaft flange.

Ref. Nos. 11 & 18 - When replacing the front or rear bearing brackets, position grease fittings toward the operator's side of the machine.

Motor

1194
1194A
2394



†Service Note: When reassembling Drive Pinion Assembly, take care to set Jam Nuts properly. Tighten first nut moderately to take up end play in Pinion Shaft Assembly. Back nut off 1/2 turn. While holding first nut in this position, tighten second nut securely against first to lock in place. Check for free rotation of Drive Pinion.

**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

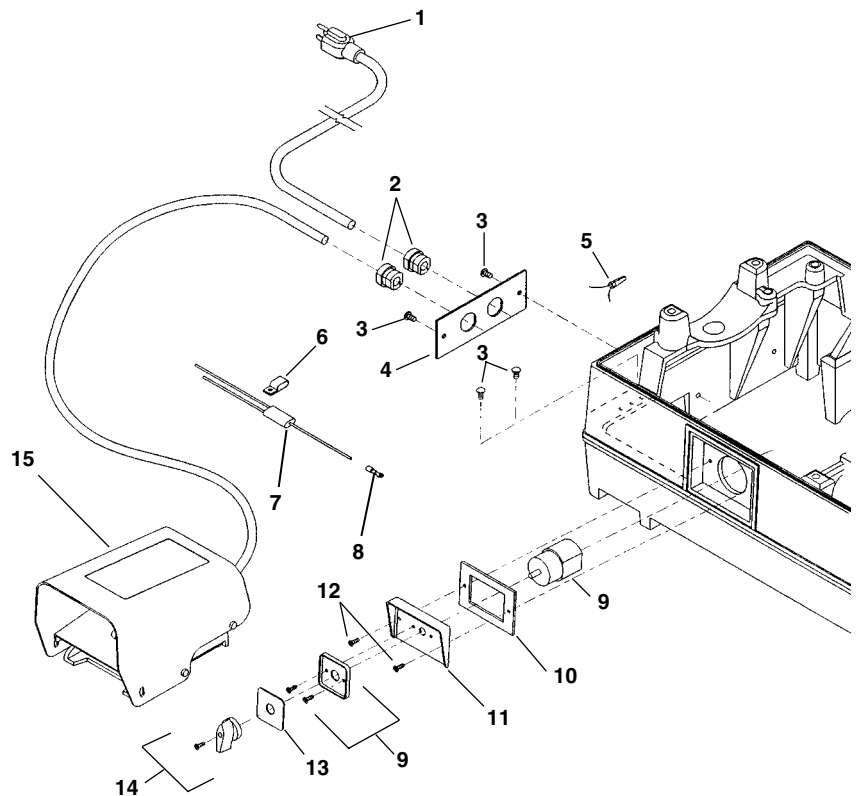
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	64447	1194 Motor, 115V, 36RPM	16*	62022	1st. Int. Gear Assy.— 36RPM
—	64452	1194A Motor, 115V, 54RPM	—	44985	1st. Int. Gear Assy.— 54RPM
—	64457	2394 Motor, 230V, 36RPM	17*	52527	2nd. Int. Gear Assy.— 36RPM
1	43160	Field Housing	—	44990	2nd. Int. Gear Assy.— 54RPM
2	39770	Set Screw 1/4" x 20 x 1/4" (2)	18	45060	Bearing (4)
3	45025	Brush Holder Set	19†	40350	Lock Nut 3/8" — 54
4	44545	Brush Cap Set	20	45035	Washer
5	44540	Brush Set	21	44965	Drive Gear — 36RPM
6	87865	White Upper Lead	—	44865	Drive Gear — 54RPM
7	87870	Red Lower Lead	22	45015	Key 5/32" Square
8	44580	Load Spring	23	44960	Drive Pinion
9	83500	Screw 1/4" x 20 x 3/4"	24	45010	Lock Nut w/Seal
10	44015	Field 115V	25	45085	Seal
—	44035	Field 230V	26	45040	Bearing Set w/Spacer
11*	52497	Armature — 115V - 36RPM	27	45045	Spacer
—	52492	Armature — 230V	28	43170	Gear Housing
—	44010	Armature — 115V - 54RPM	29	45075	Screw 1/4" - 20 x 3" (4)
12	44565	Armature Bearing (2)	30	45150	Lock Washer (4)
13	44555	Mounting Screw (2)	31	46900	Right Angle Connector
14	54552	Fan Housing Assembly	32	64462	PVC Tubing
15	45165	Dowel Pin			

Note: *Helical gear not interchangeable with old style 535 machines.

Electrical Components

NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description
1	46740	Power Cord 115V
—	46410	Power Cord 230V
—	75045	Power Cord 230V Export
2	46735	Grommet (2)
3	45420	Screw (4)
4	62037	Cord Mounting Plate
5	44635	End Splice Connector
6	61962	Clamp (230V)
7	36502	Suppressor (230V)
8	54192	Connector (230V)
9	54157	Switch Assy. (Includes Ref. No. 14)
10	54172	Gasket
11	61917	Switch Plate
12	54162	Screw (2)
13	61967	Switch Face Plate
14	61397	Switch Knob
15	36642	B-294 Foot Switch Assembly

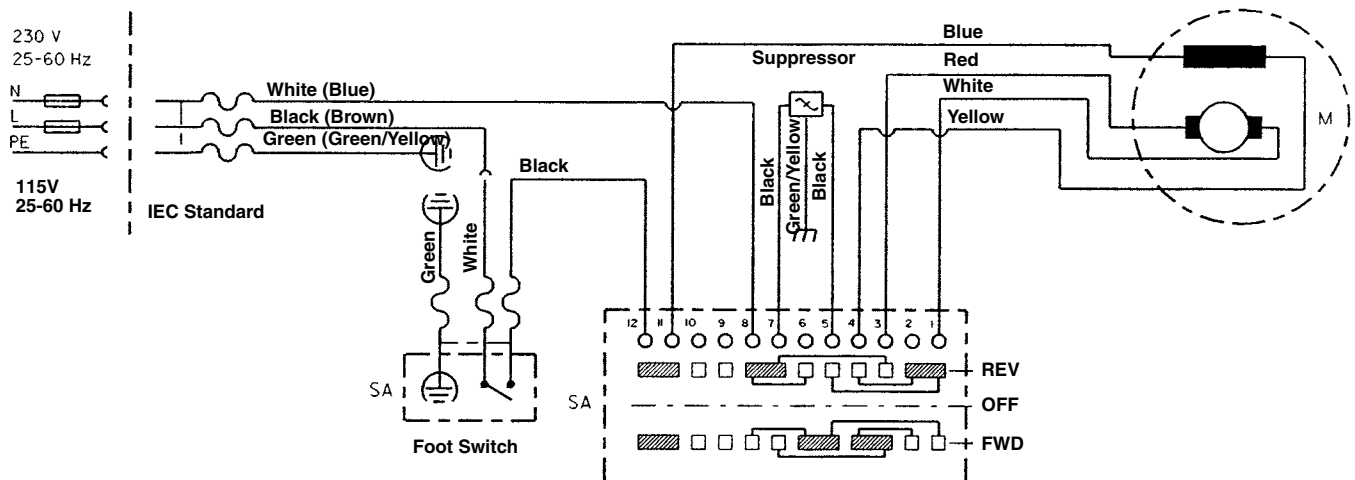


Wiring Diagram

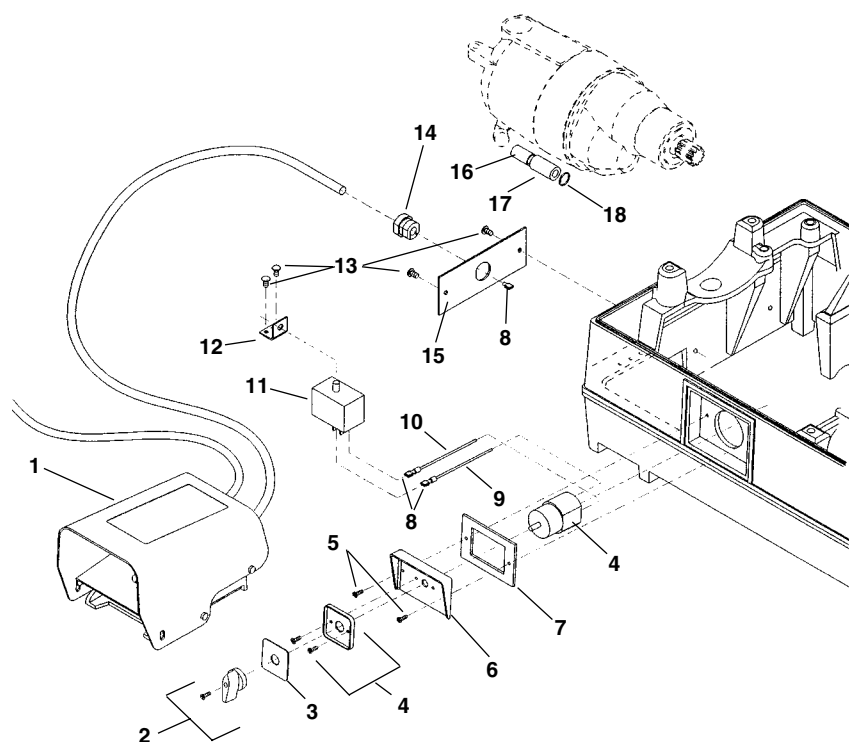
1194 Motor (115V)

2394 Motor (230V)

1194A Motor (115V)



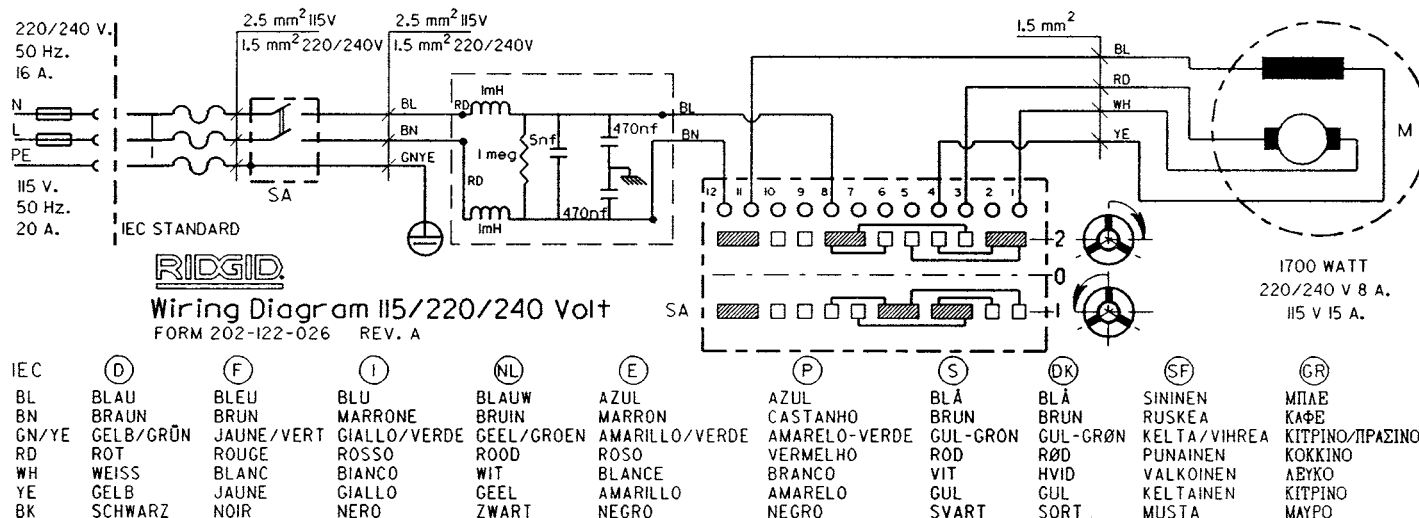
European Electrical Components



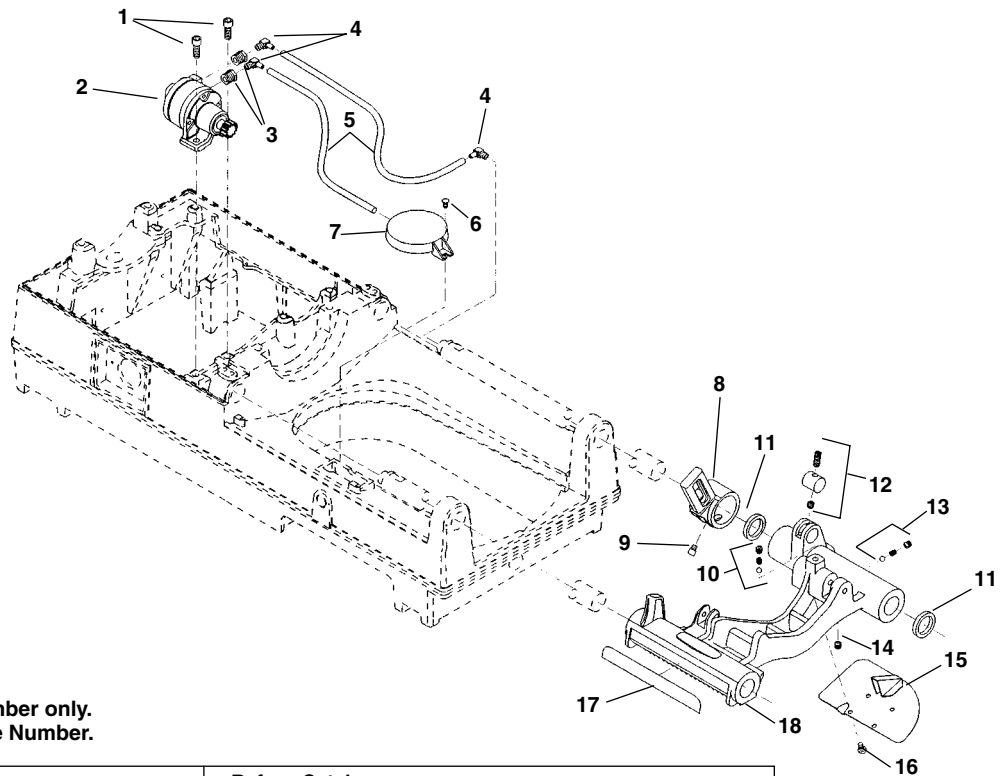
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
1	36652	B-296 Foot Switch
2	61397	Switch Knob
3	57517	Switch Face Plate
4	54157	Switch Assy. (includes Ref. No. 2)
5	54162	Screw (2)
6	61917	Switch Plate
7	54172	Gasket
8	89190	Quick Disconnect Terminal (4)
9	63392	Blue Wire
10	63387	Brown Wire
11	63372	Suppressor
12	61987	Mounting Bracket
13	45420	Screw (4)
14	54177	Grommet
15	62042	Cord Mounting Plate
16	64462	PVC Tubing
17	63377	Ferrite Bead
18	64467	Cable Tie

European Wiring Diagram



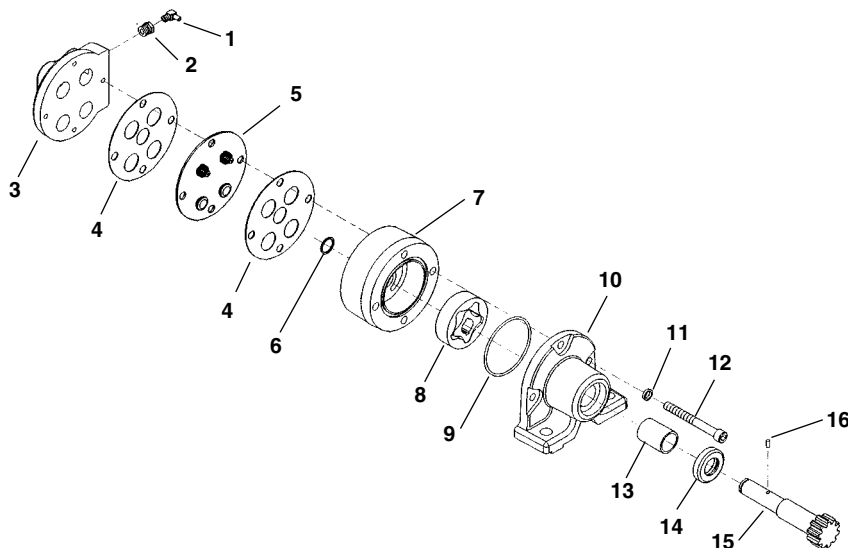
Carriage and Oiling System



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

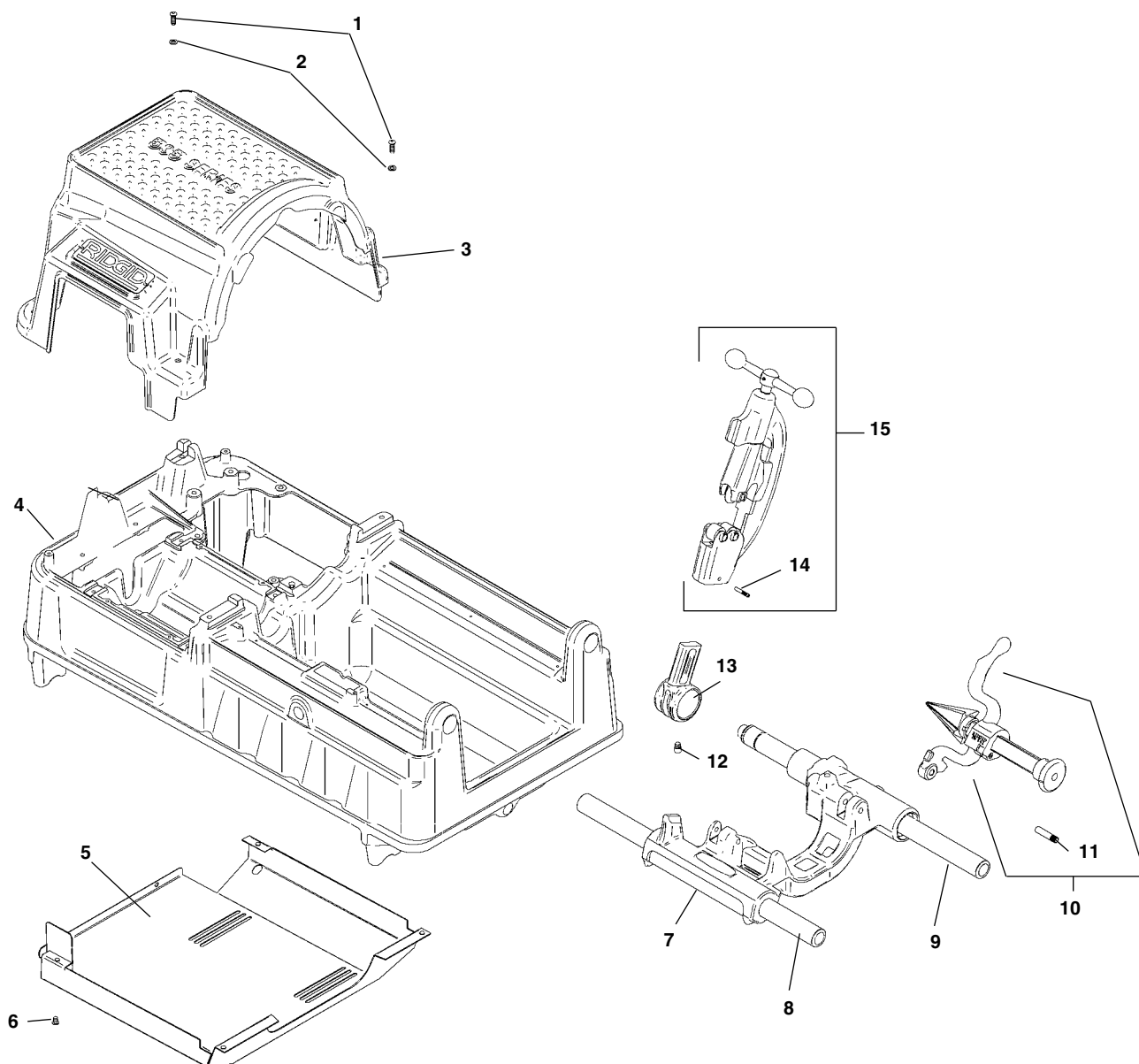
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	46750	Screw (2)	10	46810	Detente Assembly
2	62052	Model MJ Oil Pump	11	46720	Oil Seal (2)
3	62047	Reducing Bushing (2)	12	61957	Plug Assembly
4	87945	Right Angle Fitting (3)	13	35307	Pressure Relief Assembly
5	87950	Oil Line (2)	14	46815	Pipe Plug 1/8" NPT
6	45420	Screw	15	45195	Drip Plate
7	58467	Oil Filter Assembly	16	46270	Screw (4)
8	43690	Cutter Arm	17	46370	Scale
9	44930	Stop Screw	18	62057	Carriage Assy. (Includes Ref. No. 8-17)

Model MJ Oil Pump



Ref. No.	Catalog No.	Description
—	62052	Model MJ Oil Pump
1	87945	Right Angle Fitting (2)
2	62047	Reducing Bushing (2)
3	33442	Valve Body
4	33457	Gasket (2)
5	33452	Valve Body Assembly
6	61997	Retaining Ring
7	62002	Gerotor Housing
8	62007	Gerotor Set
9	33477	O-Ring
10	62012	Pump Body
11	45150	Lock Washer (3)
12	62017	Screw (3)
13	61972	Bushing
14	33472	Oil Seat
15	61982	Pump Shaft
16	26907	Drive Pin
17	61977	Pump Repair Kit (Includes Ref. No. 4-6, 9, 13, 14, and 16)

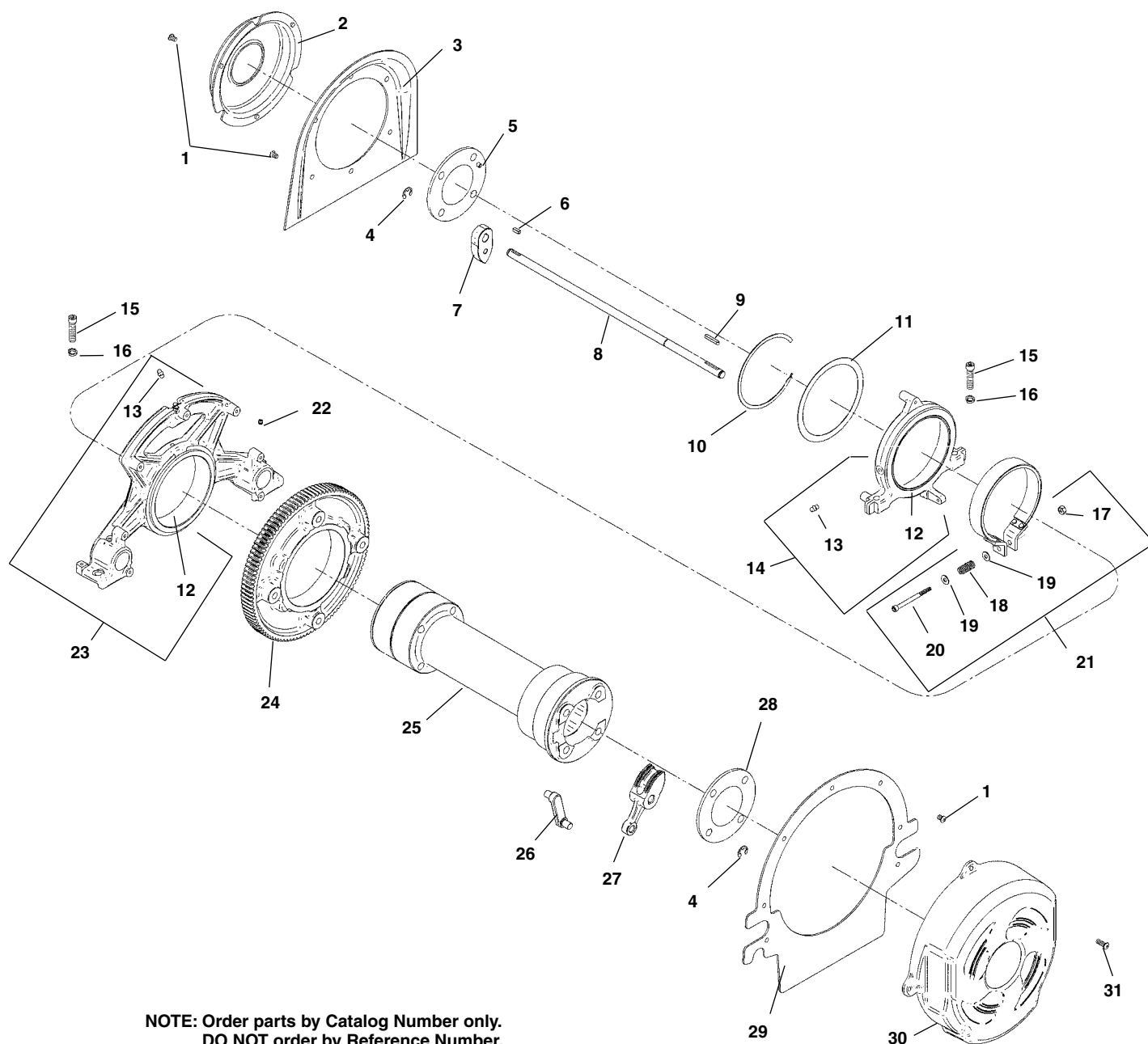
Main Components



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	94332	Screw, Button Head 1/4" - 20 x 3/4" (4)	9	45220	Rear Support Bar
2	94322	Washer, Flat 1/4" (4)	10	42365	341 Reamer Assembly
3	94432	Top Cover	11	47065	Pin
4	94042	Base	12	44930	Stop Screw
5	94147	Bottom Cover	13	43690	Cutter Arm
6	94312	Screw, Pan Head #6 - 32 x 2" (4)	14	47135	Stop Pin
7	94357	Carriage Assembly	15	42390	820 Cutter Assembly
8	45440	Front Support Bar			

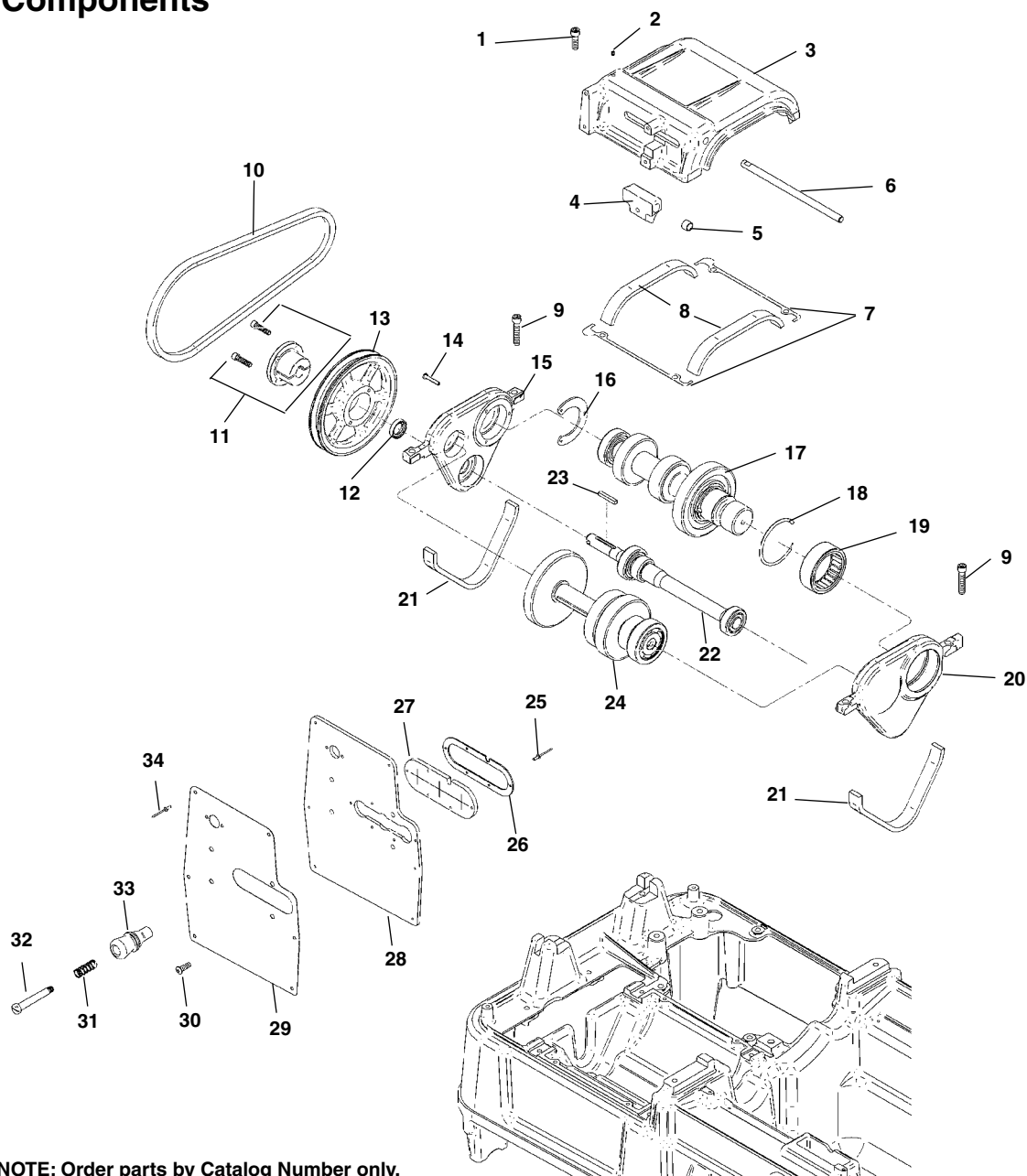
Drive Shaft Assembly



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	94337	Screw, Button Head 1/4" - 20 x 3/8" (7)	17	77710	Lock Nut 1/4" - 20
2	94082	Rear Cover	18	45895	Spring
3	94077	Rear Plate	19	27402	Washer, Flat 1/4" (2)
4	26937	Retaining Ring (8)	20	94327	Screw, Socket Head 1/4" - 20 x 2 1/2"
5	94022	Rear Pivot Rod Support	21	94002	Brake Assembly
6	94267	Key, 3/16" Square x 1/2" (4)	22	40910	Set Screw 1/4" - 20 x 3/4" (4)
7	93987	Rear Jaw (4)	23	94027	Front Bracket Assembly
8	93977	Pivot Rod (4)	24	94087	Drive Gear
9	94197	Key, 3/16" Square x 3/16" (4)	25	94032	Drive Shaft
10	94397	Retaining Ring	26	94047	Connecting Link (4)
11	94392	Thrust Washer	27	94017	Front Jaw (4)
12	93957	Spindle Bearing (2)	28	93992	Front Pivot Rod Support
13	46860	Grease Fitting (2)	29	94072	Front Plate
14	94037	Rear Bracket Assembly	30	94097	Front Cover
15	46745	Screw, 3/8" - 16 x 1 1/4" (4)	31	94332	Screw, Button Head 1/4" - 20 x 3/4" (9)
16	40930	Washer, Lock 3/8" (4)			

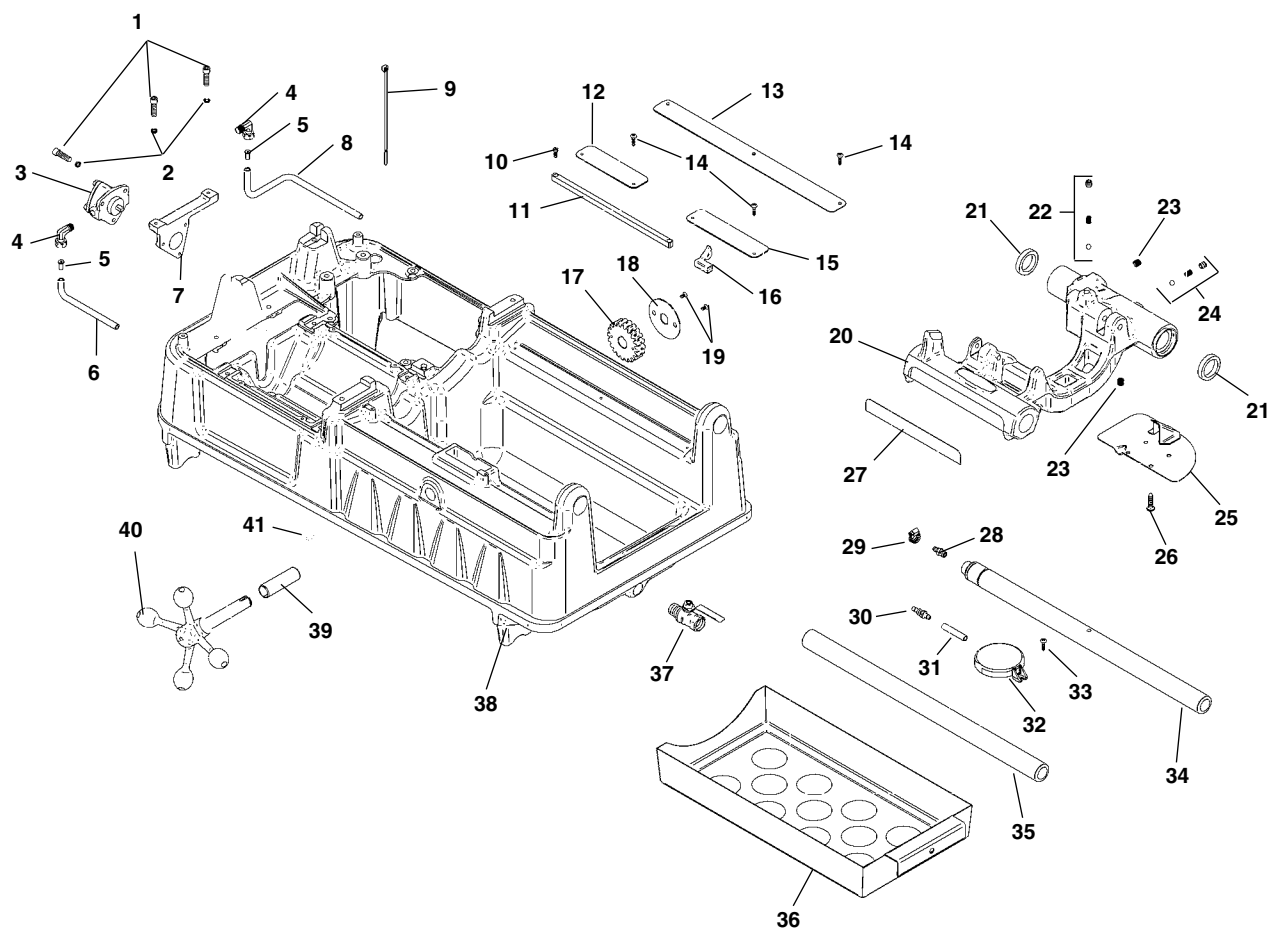
Gearbox Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	40910	Screw, Socket Head 1/4" - 20 x 3/4" (4)	18	94062	Retaining Ring
2	34892	Set Screw 1/4" - 20 x 1/2"	19	94052	Bearing
3	94107	Transmission Cover	20	94167	Front Transmission Bracket
4	94227	Shifter Fork	21	94247	Gasket (2)
5	26447	Bushing (2)	22	93967	Input Shaft Assembly
6	94132	Shifter Rod	23	94277	Key, 3/16" Square x 1/4"
7	94252	Gasket (2)	24	94182	Intermediate Shaft Assembly
8	94242	Gasket (2)	25	94387	Pop Rivet (5)
9	40367	Screw, Socket Head 5/16" - 18 x 1 1/4" (4)	26	94367	Gasket
10	94262	V Belt	27	94372	Gasket
11	94217	Bushing f/Input Pulley	28	94187	Control Panel
12	94202	Seal	29	94207	Control Panel Label
13	94102	Input Pulley	30	94332	Screw, Button Head 1/4" - 20 x 3/4" (4)
14	94317	Screw, Pan Head #8 - 32 x 1" (3)	31	94292	Spring
15	94172	Rear Transmission Bracket	32	94137	Shifter Shaft
16	94177	Bearing Retainer	33	94142	Shifter Knob
17	93972	Output Shaft Assembly	34	94427	Pop Rivet (6)

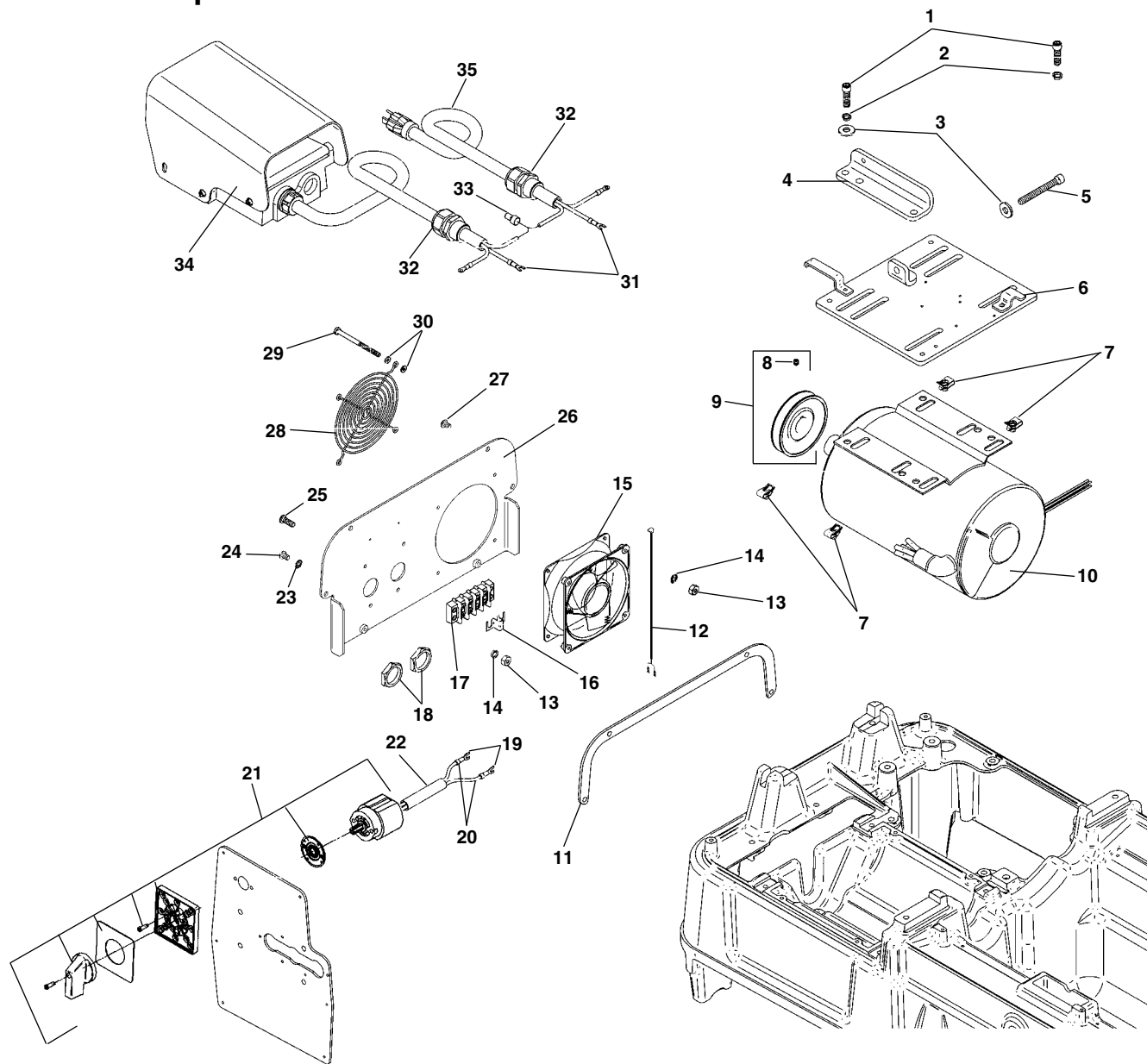
Carriage and Oiling Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	83685	Screw, Socket Head 1/4" - 20 x 1" (5)	22	46810	Die Head Détente
2	44740	Lock Washer, 1/4" (5)	23	46815	Pipe Plug, 1/8" NPT (2)
3	94092	Oil Pump	24	35307	Pressure Relief Set
4	35122	Fitting (2)	25	45195	Drip Tray
5	35117	Tube Insert	26	46270	Screw, 1/4" - 20 x 1/2" (4)
6	26822	Oil Hose	27	46370	Length Gauge
7	94067	Oil Pump Bracket	28	69167	Barbed Fitting
8	94362	Oil Hose	29	35142	Hose Clamp
9	94407	Cable Tie	30	54142	Bulkhead Fitting
10	45615	Screw, Flat Head #10 - 32 x 1/2" (2)	31	87950	Hose
11	47105	Length Indicator Bar	32	58467	Filter Screen Assembly
12	94122	Drip Edge	33	45420	Screw, #10 - 32 x 3/8"
13	94127	Drip Edge	34	45220	Support Bar, Rear
14	43367	Screw, #8 x 3/4"	35	45440	Support Bar, Front
15	94117	Drip Edge	36	94112	Chip Tray
16	47110	Indicator Slide	37	94347	Valve, Oil Drain
17	45430	Pinion	38	94042	Base
18	47120	Pinion Lock Ring	39	94222	Bushing
19	46785	Screw, Flat Head #10 - 32 x 3/8" (2)	40	94012	Handwheel
20	94357	Carriage Assembly (Includes Ref. Nos. 21 - 27)	41	94267	Key, 3/16" Square x 1/2"
21	46720	Oil Seal (2)			

Electrical Components



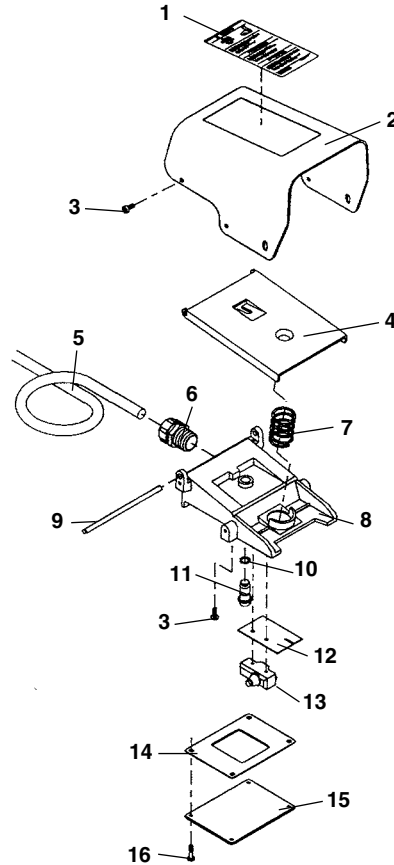
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	40367	Screw, Socket Head $\frac{5}{16}$ " - 18 x $1\frac{1}{4}$ " (8)	19	46875	Spade Terminal (2)
2	40770	Washer, Split Lock $\frac{5}{16}$ " (12)	20	93947	Wire Set
3	96740	Washer, Flat $\frac{5}{16}$ " (5)	21	94257	Switch Assembly
4	94162	Adjuster Bracket	22	59342	Insulator Sleeve
5	94402	Screw, Socket Head $\frac{5}{16}$ " - 18 x $\frac{3}{4}$ "	23	46985	Washer, Lock Ext. Tooth #10 (2)
6	94192	Motor Table	24	47147	Screw, Button Head #10 - 32 x $\frac{3}{8}$ " (2)
7	96367	Tinnerman Nut (4)	25	34667	Screw, Button Head #10 - 32 x $\frac{3}{4}$ " (2)
8	35307	Set Screw $\frac{5}{16}$ " - 18 x $\frac{1}{4}$ "	26	94152	Back Cover
9	94237	Pulley	27	94337	Screw, Button Head $\frac{1}{4}$ " - 20 x $\frac{3}{8}$ " (4)
10	94007	Motor 120V 60 Hz	28	94232	Fan Guard
11	94422	Gasket	29	94312	Screw, Pan Head #6 - 32 x 2" (4)
12	94447	Fan Cord	30	94302	Washer, Flat #6 (8)
13	34722	Nut, Hex #10 - 32 (4)	31	93952	Spade Terminal (2)
14	58542	Washer, Lock #10 (4)	32	75952	Strain Relief (2)
15	94212	Fan	33	44635	End Splice
16	94377	Jumper	34	74272	Foot Switch, B-294HD
17	94382	Terminal Block	35	75902	Power Cord 115V
18	93962	Lock Nut (2)			

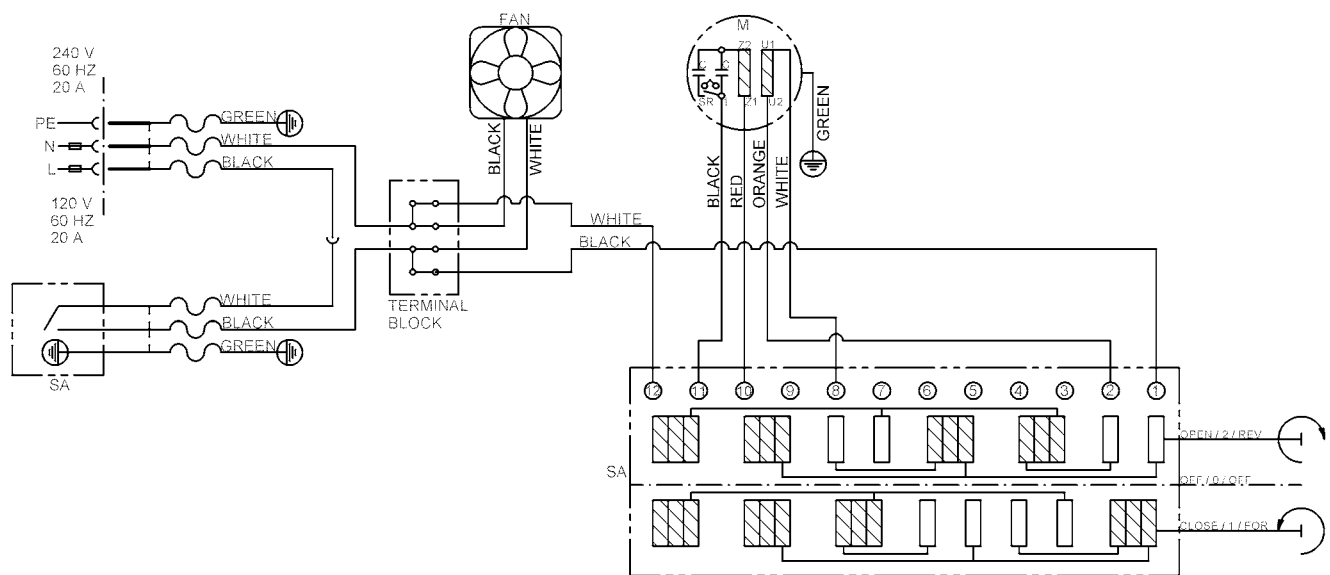
B-294 HD Foot Switch

**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

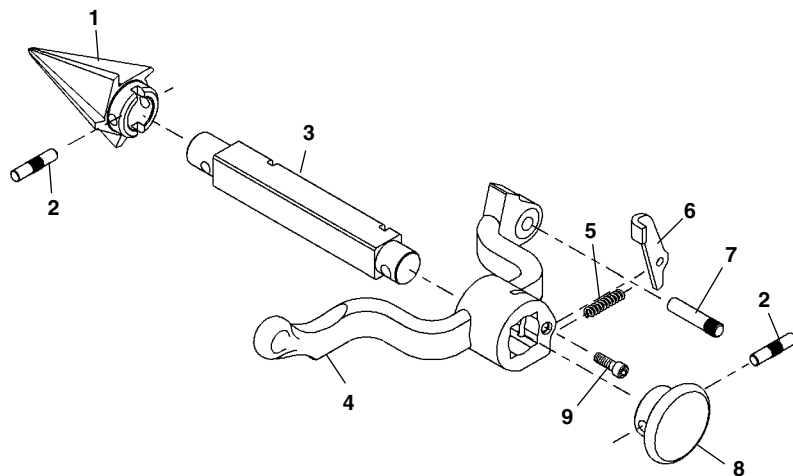
Ref. No.	Catalog No.	Description
—	36642	B-294 Foot Switch
—	36647	B-295 Foot Switch
—	36662	301-A Foot Switch
—	75962	B-294 HD Foot Switch
1	36667	Warning Label (B-294)
	36672	Warning Label (B-295)
	36687	Warning Label (301-A)
	76352	Warning Label (B-294 HD)
2	36692	Cover
3	36787	Screw #10 Self-tapping (5)
4	36697	Foot Pedal
5	68880	Cord (B-294)
	36712	Cord (B-295)
	36727	Cord (301-A)
	75972	Cord (B-294 HD)
6	36732	Cord Connector
	75977	Cord Connector (B-294 HD)
7	36702	Spring
8	54347	Base
9	36747	Pivot Pin
10	36767	O-Ring
11	36772	Poppet
12	54367	Insulator
13	36762	Micro Switch
14	54372	Seal
15	54362	Bottom Cover
16	54357	Bottom Cover Screw (4)



Wiring Diagram



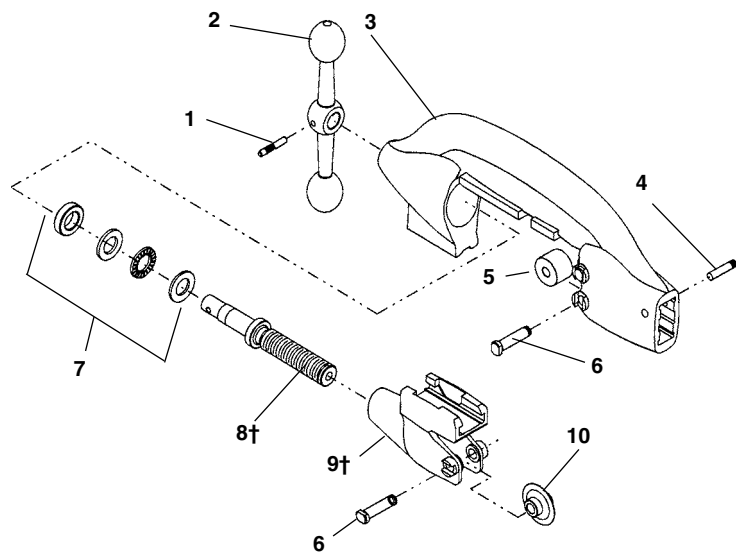
No. 341 Reamer



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	42365	341 Reamer Complete
1	36277	Cone (R.H.)
	46660	Cone (L.H. & R.H.)
2	47155	Pin
3	43790	Reamer Bar
4	43230	Reamer Arm
5	44700	Latch Spring
6	46665	Reamer Latch
7	47065	Hinge Pin
8	46585	Reamer Knob
9	46515	Screw 1/4" x 20 x 3/4"

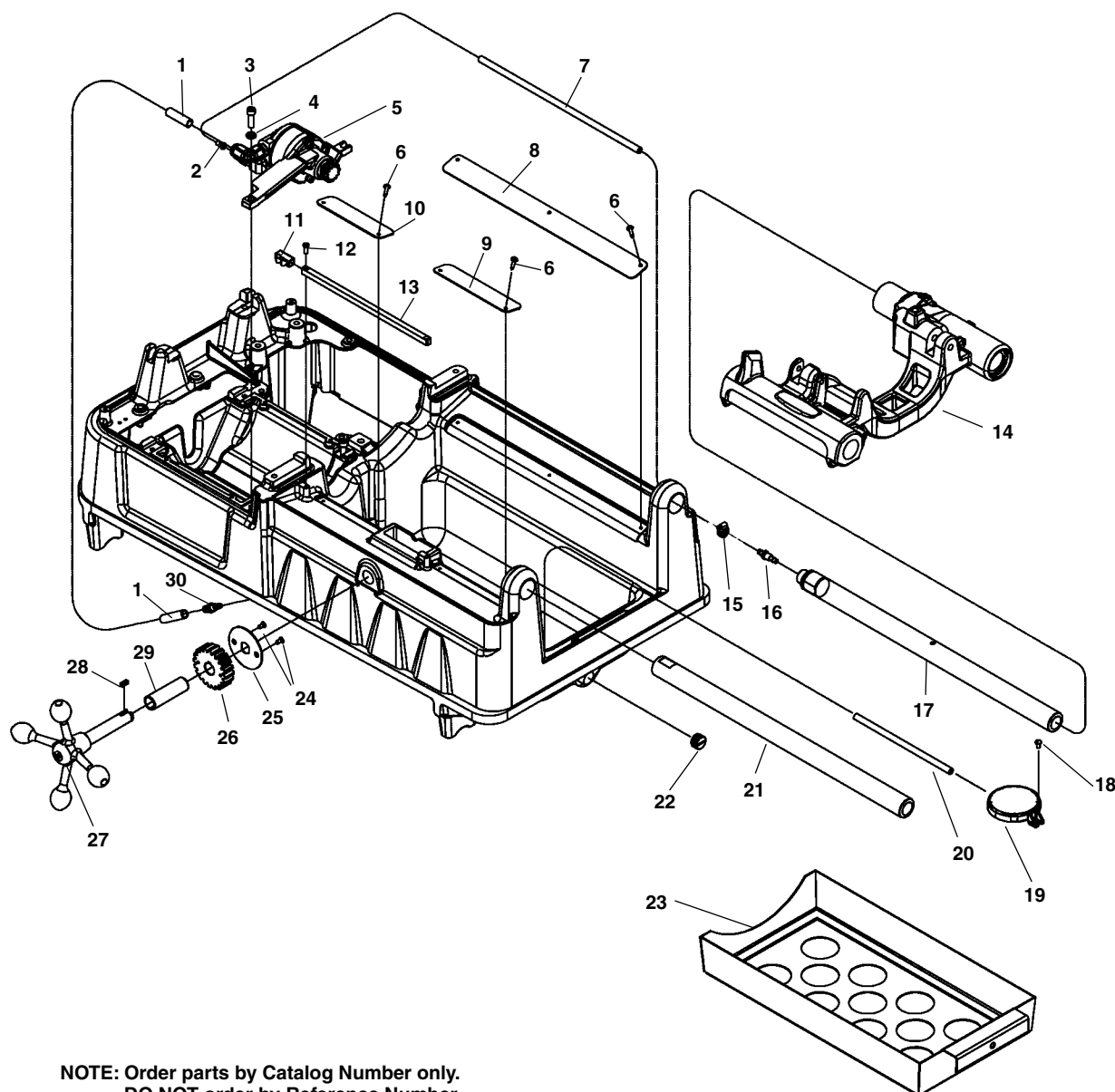
No. 820 Cutter



Ref. No.	Catalog No.	Description
—	42390	820 Cutter Complete
1	47160	Crank Pin
2	45765	Feed Screw Crank
3	43040	Cutter Frame
4	47135	Stop Pin
5	34775	Cutter Roll (2)
6	34780	Cutter & Roll Pin (3)
7	46725	Thrust Bearing Assembly
8†	45780	Feed Screw
9†	43245	Wheel Housing
10	44185	Cutter Wheel
	44190	Cutter Wheel f/Stainless

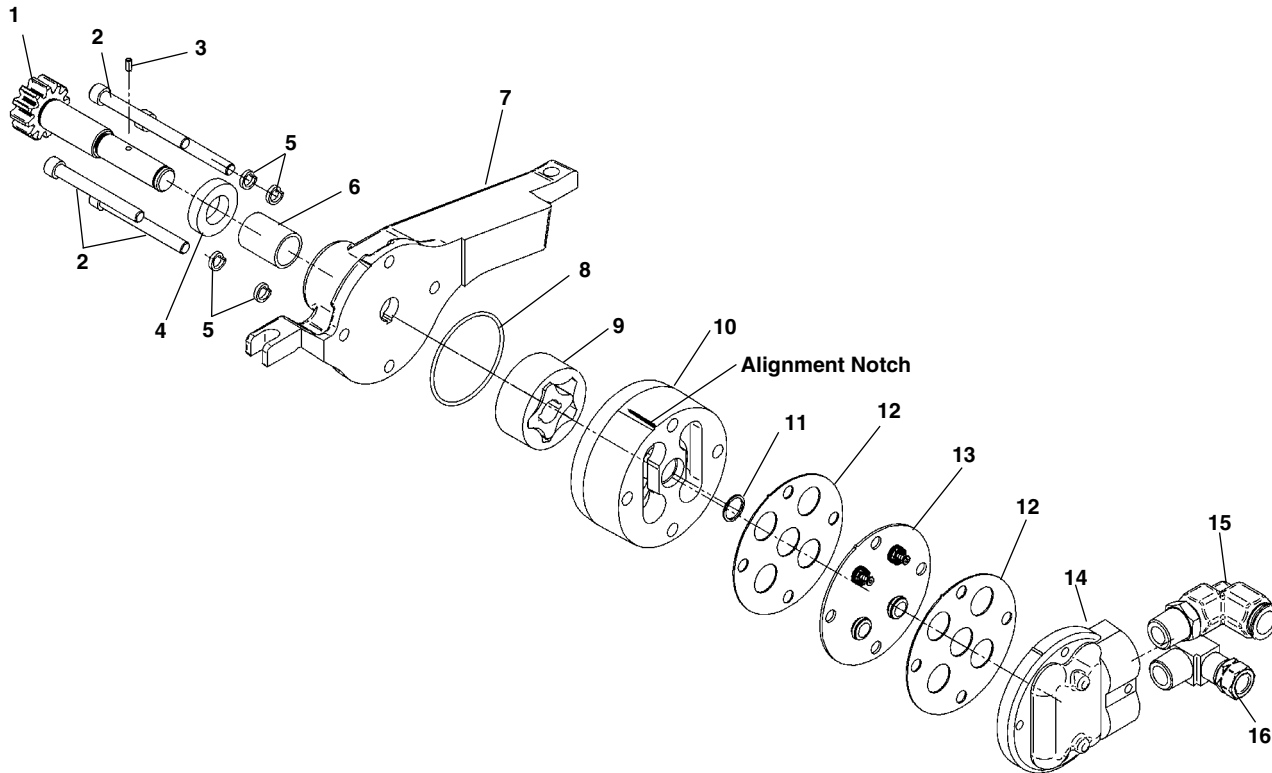
† Service Note: When replacing parts on early style (fine thread) cutters, both feed screw and wheel housing must be replaced.

Carriage and Oiling Components – Universal Motor Machines



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

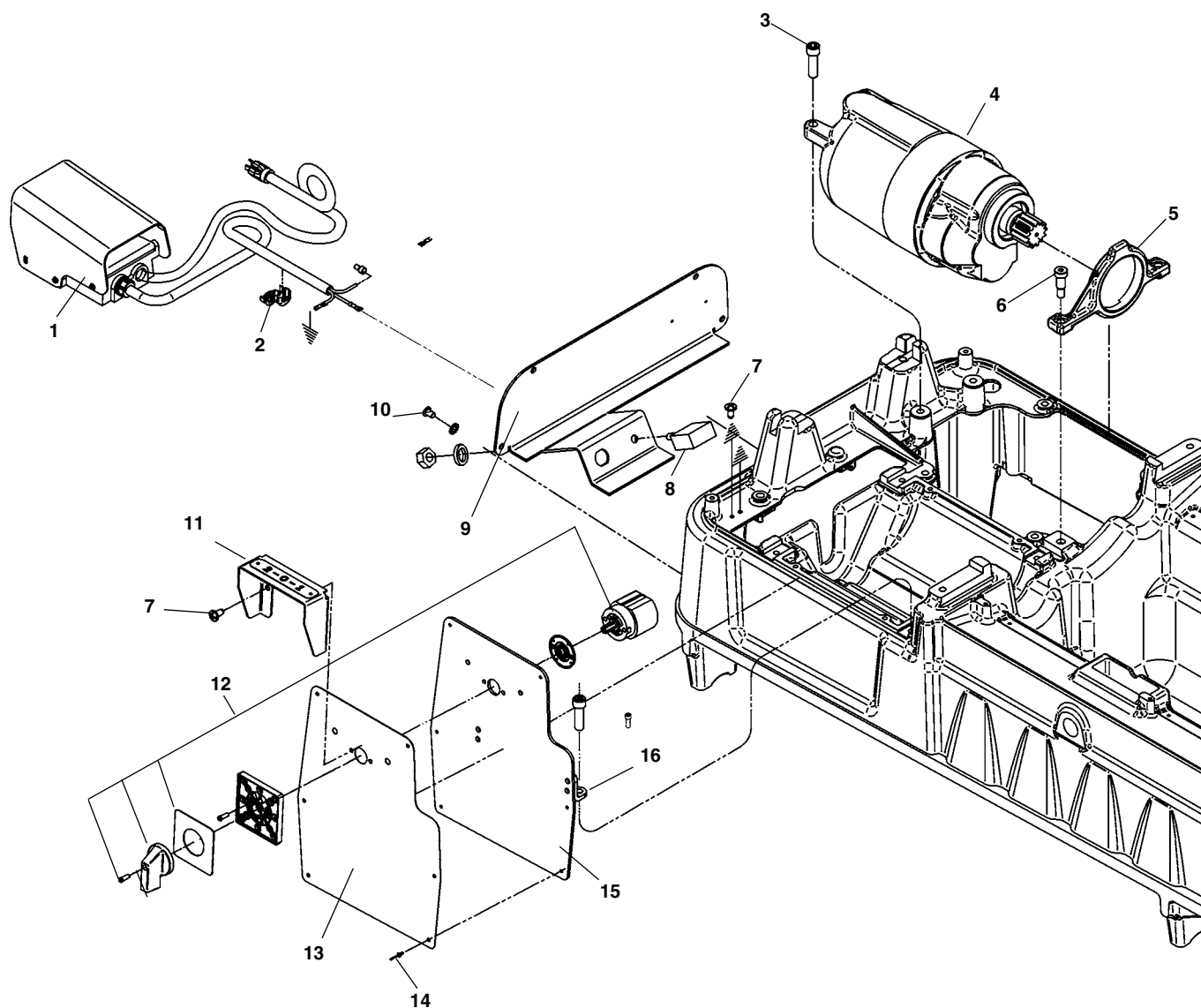
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	26822	Oil Hose, Input 21"	16	69167	Barbed Fitting
2	35117	Tube Insert	17	45220	Support Bar, Rear
3	44590	Screw, $\frac{5}{16}$ " - 18 x 1" S.H.C.S.	18	45420	Screw, #10 - 32 x $\frac{3}{8}$ "
4	40770	$\frac{5}{16}$ " Lock Washer	19	58467	Filter Screen Assembly
5	96517	Oil Pump	20	87950	Oil Hose, Filter
6	43367	Screw, #8 x $\frac{3}{4}$ "	21	45440	Support Bar, Front
7	94362	Oil Hose, Output	22	96447	Drain Plug $\frac{1}{2}$ " NPT
8	94127	Drip Edge	23	94112	Chip Tray
9	94117	Drip Edge	24	46785	Screw, Flat Head #10 - 32 x $\frac{3}{8}$ " (2)
10	94122	Drip Edge	25	47120	Pinion Lock Ring
11	47110	Indicator Slide	26	45430	Pinion
12	45615	Screw, Flat Head #10 - 32 x $\frac{1}{2}$ " (2)	27	94012	Handwheel
13	47105	Length Indicator Bar	28	94267	Key, $\frac{3}{16}$ " Square x $\frac{1}{2}$ "
14	94357	Carriage Assembly	29	94222	Bushing
15	35142	Hose Clamp	30	54142	Bulkhead Fitting



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	96517	535M Left Hand Threading Kit
1	21813	Pinion Shaft
2	62017	Screw, Soc. Hd. Cap 1/4" - 20 x 2 1/4" (4)
3	26907	Roll Pin 3/32" x 1/4"
4	33472	Oil Seal
5	45150	Lockwasher (4)
6	61972	Bronze Bearing
7	21818	Pump Body
8	33477	O-Ring
9	62007	Gerotor
10	62002	Gerotor Housing
11	61997	Retaining Ring
12	33457	Valve Gasket (2)
13	33452	Valve Retainer
14	33442	Valve Body
15	21823	Elbow Fitting, Swivel
16	21828	Elbow Fitting, Compression

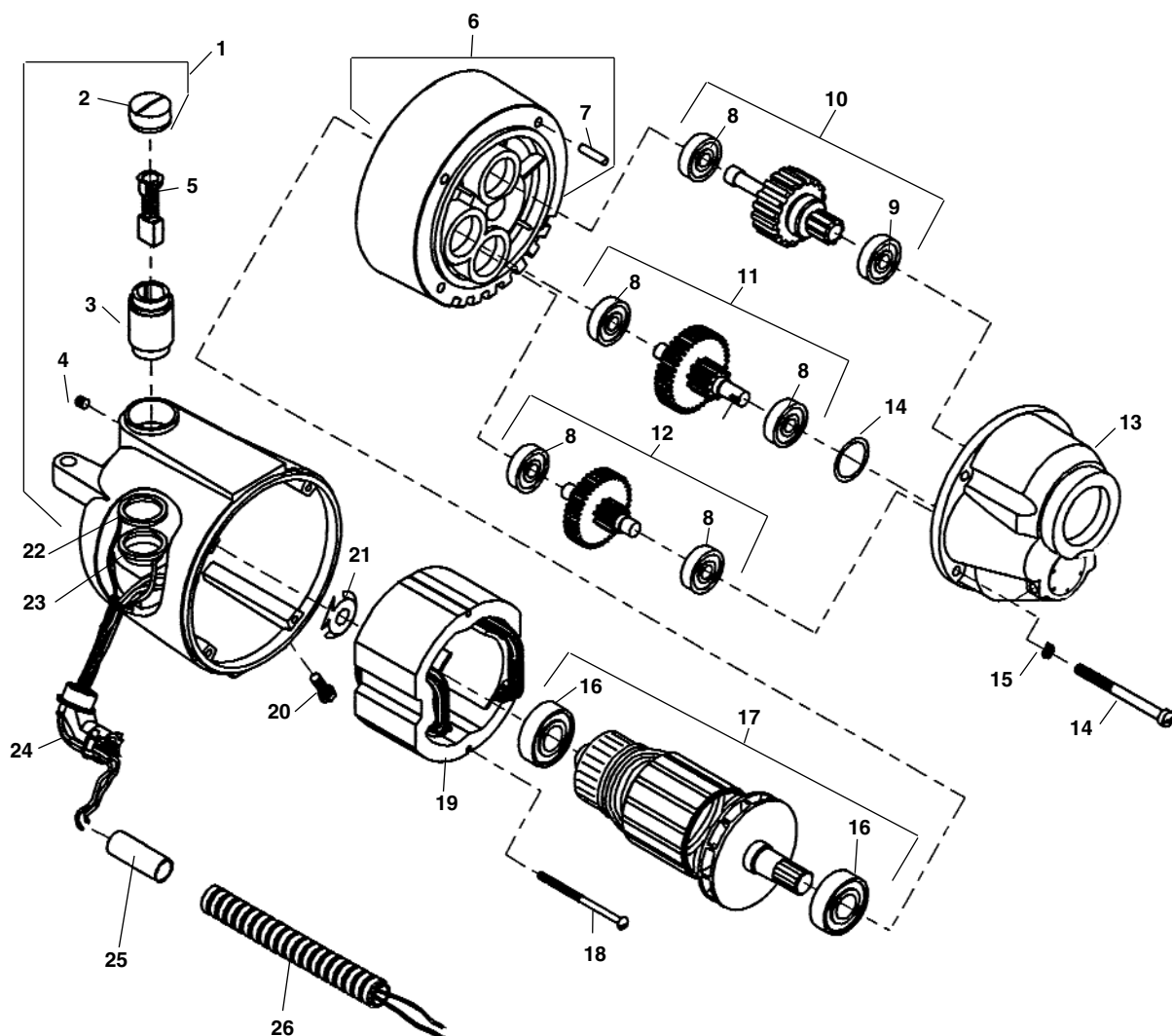
Electrical Components – Universal Motor Machine



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	36652	Foot Switch, B-296	9	63372	Suppressor
2	40017	Foot Switch, B-298	10	47147	Screw, Button Head #10 - 32 x 3/8" (2)
3	75952	Strain Relief (2)	11	96452	Switch Cover
4	46745	Screw (2)	12	26983	Switch Assembly
5	36262	Shoulder Bolt (2)	13	26978	Control Panel Label
6	96402	Motor Bracket	14	94427	Pop Rivet (6)
7	75815	Washer, Lock (2)	15	96457	Control Panel
8	45420	Screw (4)	16	40910	Screw
	26973	Back Cover			

1102-CE
1103-CE
2302-CE
2303-CE

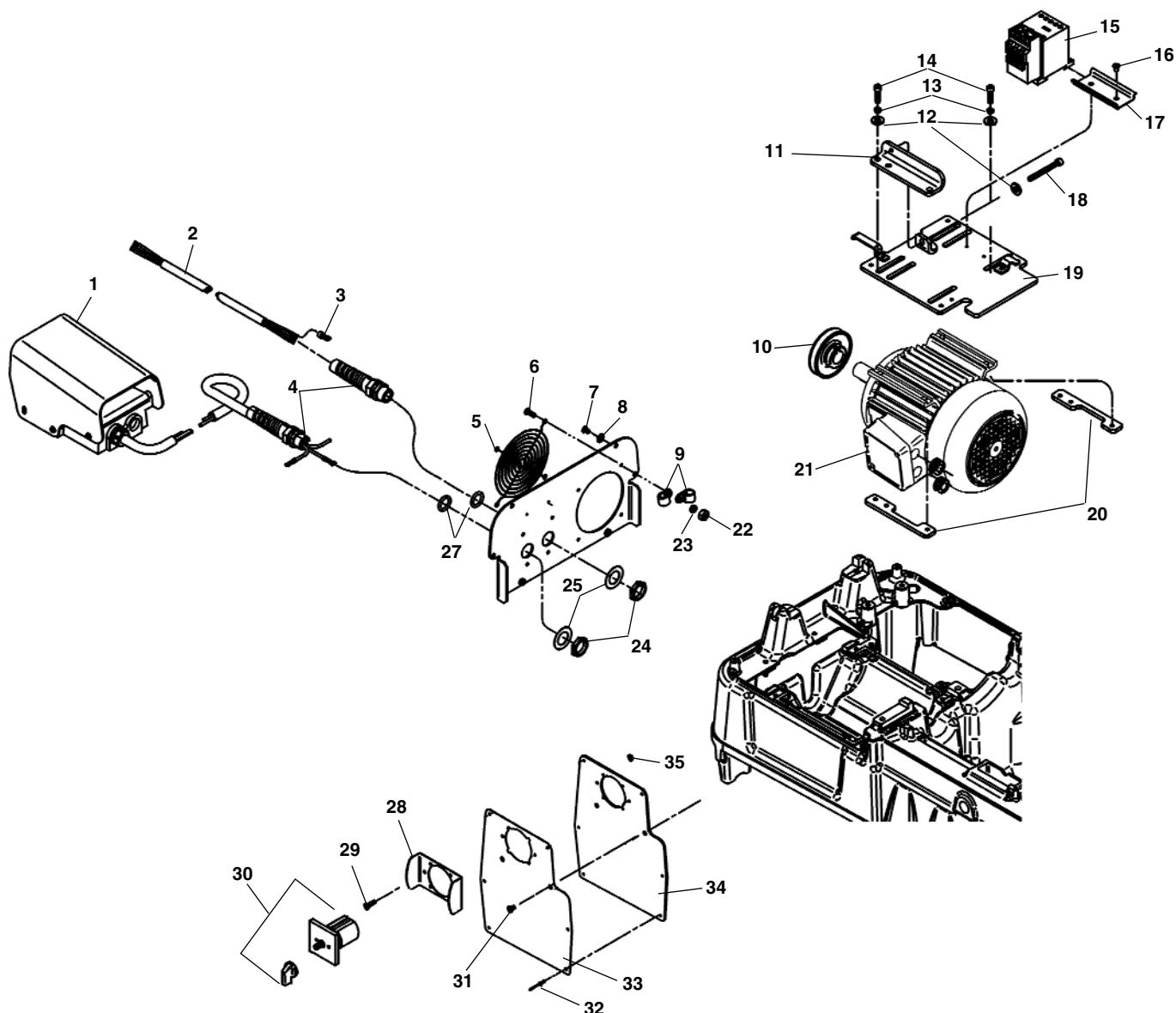


NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	43160	Housing Assembly	11	44985	1st Gear Assembly	17	44010	Armature 1103-CE (115V)
2	44545	Brush Cap Set			1103-CE and 2303-CE		44030	Armature 2303-CE (230V)
3	45025	Brush Holder Set		62022	1st Gear Assembly		52497	Armature 1102-CE (115V)
4	39770	Set Screw (2)			1102-CE and 2302-CE		52492	Armature 2302-CE (230V)
5	44540	Brush Assembly Set	12	45005	2nd Gear Assembly	18	44555	Mounting Screw (2)
6	43165	Fan Housing Assembly			1103-CE and 2303-CE	19	44015	Field (115V)
	54552	Fan Housing Assembly		52527	2nd Gear Assembly		44038	Field (230V)
		1102-CE and 2302-CE	13	42875	Gear Housing	20	83500	Locking Screw (2)
7	45165	Dowel Pin	14	45075	Screw (4)	21	44580	Loading Spring
8	45060	Gear Bearings (5)	15	45150	Lock Washer	22	86680	White Upper Lead
9	45315	Front Bearing	16	44565	Armature Bearing (2)	23	86685	Red Lower lead
10	45370	Drive Gear				24	46900	Connector 90 Degree
						25	63377	Ferrite Bead
						26	95690	Flexible Conduit

† Refer to Speed Change Chart for Optional Speeds on Page 8

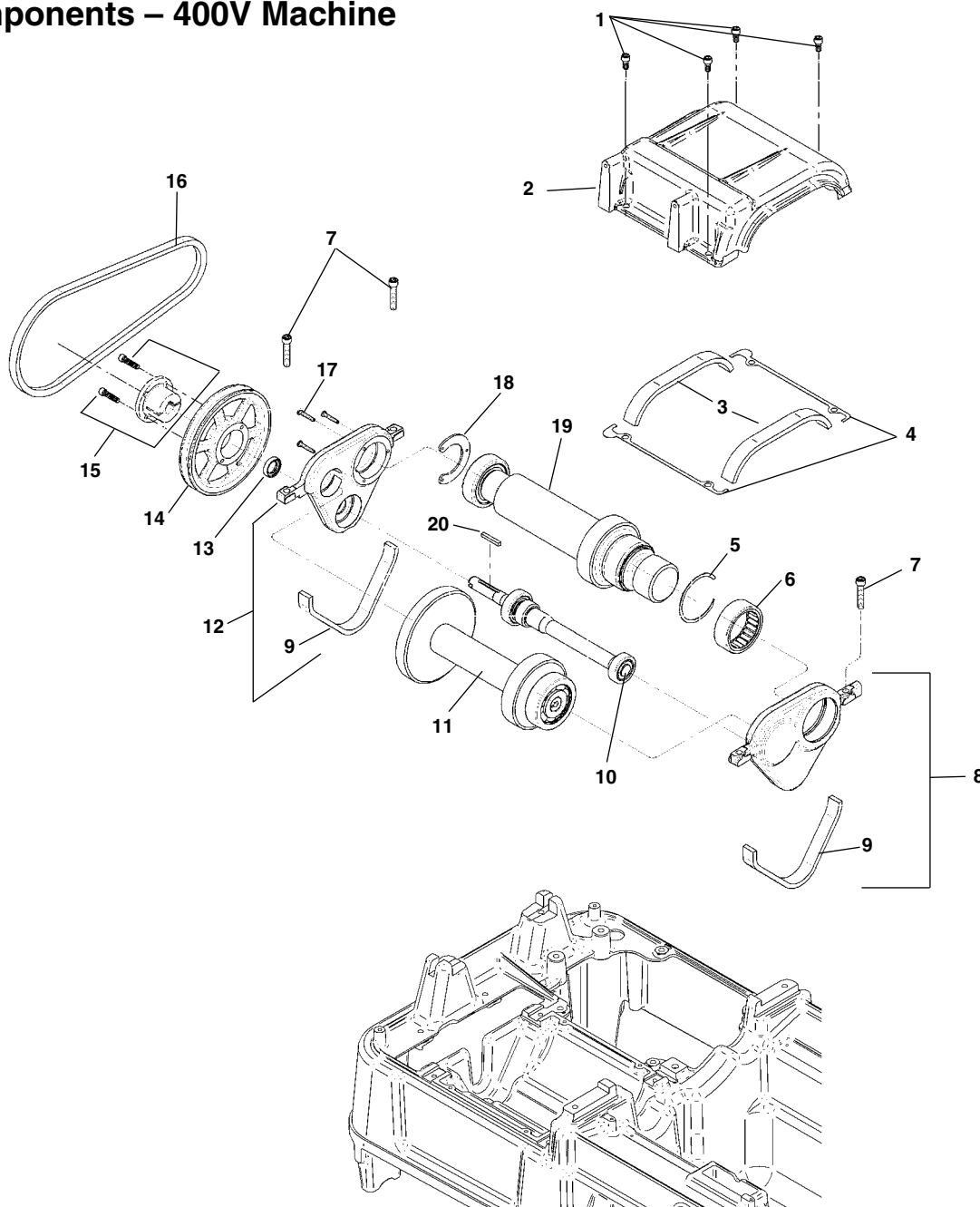
400V Electrical



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	27063	Foot Switch	19	94192	Motor Table
2	75902	Power Cord 115V	20	94157	Motor Mounting Brackets
3	44635	End Splice	21	27078	Motor
4	27187	Strain Relief w/Lock Nut (2)	22	34722	Nut, Hex #10 - 32 (4)
5	94232	Fan Guard	23	58542	Washer, Lock #10 (4)
6	27118	Screw, Pan Head #6 - 32 x 3/4" (4)	24	93962	Lock Nut (2)
7	94337	Screw, Button Head 1/4" - 20 x 3/8"	25	36247	Hole Adapter
8	40270	Lock Washer, 1/4" External Tooth	26	94152	Back Cover
9	61912	1/2" Clamp	27	47147	Screw, Button Head #10 - 32 x 3/8" (2)
10	27073	Pulley	28	27103	Switch Guard
11	94162	Adjuster Bracket	29	45405	Screw, Slotted Round Hd. #8 - 32 x 7/16"
12	96740	Washer, Flat 5/16" (5)	30	27108	Switch Assembly
13	40770	Washer, Split Lock 5/16" (12)	31	94332	Screw, Socket Head 5/16" - 18 x 3/4"
14	36652	Screw, Socket Head 5/16" - 18 x 1 1/4" (8)	32	94427	Pop Rivet (6)
15	27093	Contactor	33	27083	Control Panel Label
16	94332	Screw, Button Head 1/4" - 20 x 3/4"	34	27088	Control Panel
17	90517	in Rail	35	76190	Hex Nut, #8-32
18	27113	Screw, Socket Head 5/16" - 18 x 3 1/2"			

Gearbox Components – 400V Machine



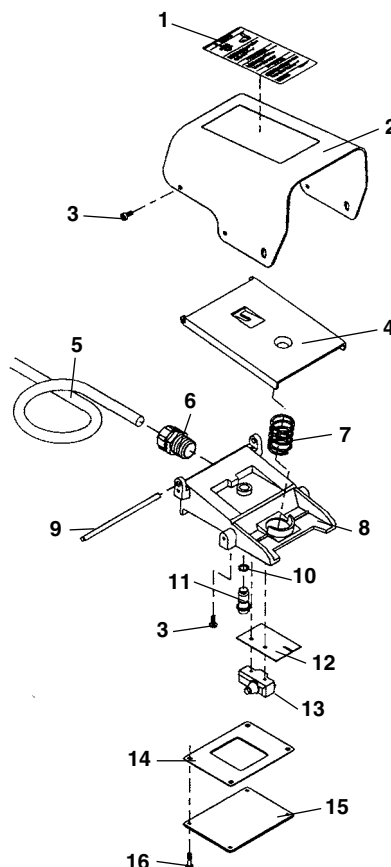
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	36652	Screw, Socket Head $\frac{1}{4}$ " - 20 x $\frac{3}{4}$ " (4)	12	94172	Rear Transmission Bracket
2	26968	Transmission Cover	13	94202	Seal
3	94252	Gasket (2)	14	26948	Input Pulley
4	94242	Gasket (2)	15	94217	Bushing f/ Input Pulley
5	94062	Retaining Ring	16	94262	V Belt
6	94052	Bearing	17	94317	Screw, Pan Head #8 - 32 x 1" (3)
7	40367	Screw, Socket Head $\frac{5}{16}$ " - 18 x $1\frac{1}{4}$ " (4)	18	94177	Bearing Retainer
8	94167	Front Transmission	19	26958	Output Shaft Assembly
9	94247	Gasket (2)	20	94277	Key, $\frac{3}{16}$ " Square
10	26963	Input Shaft Assembly			
11	26953	Intermediate Shaft			

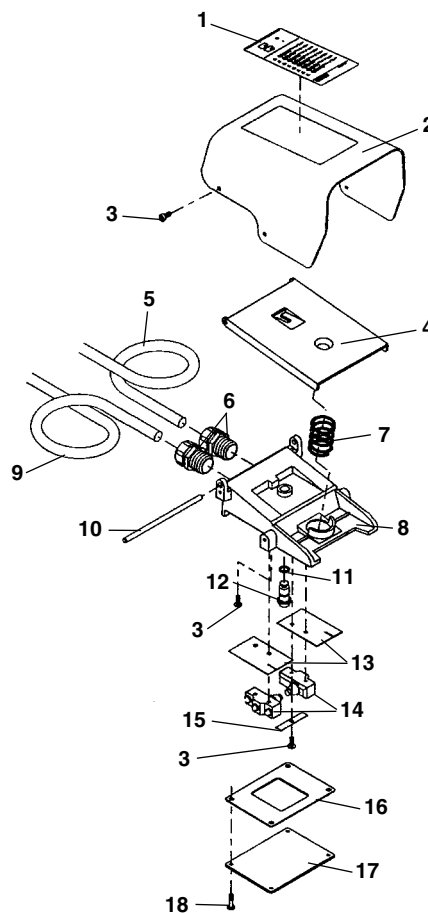
400V Machine

NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description
1	26938	Warning Label
2	36692	Cover
3	36787	Screw #10 Self-tapping (5)
4	36697	Foot Pedal
5	36717	Cord
6	36732	Cord Connector
7	36702	Spring
8	54347	Base
9	36747	Pivot Pin
10	36767	O-Ring
11	36772	Poppet
12	54367	Insulator
13	26943	Micro Switch
14	54372	Seal
15	54362	Bottom Cover
16	54357	Bottom Cover Screw (4)

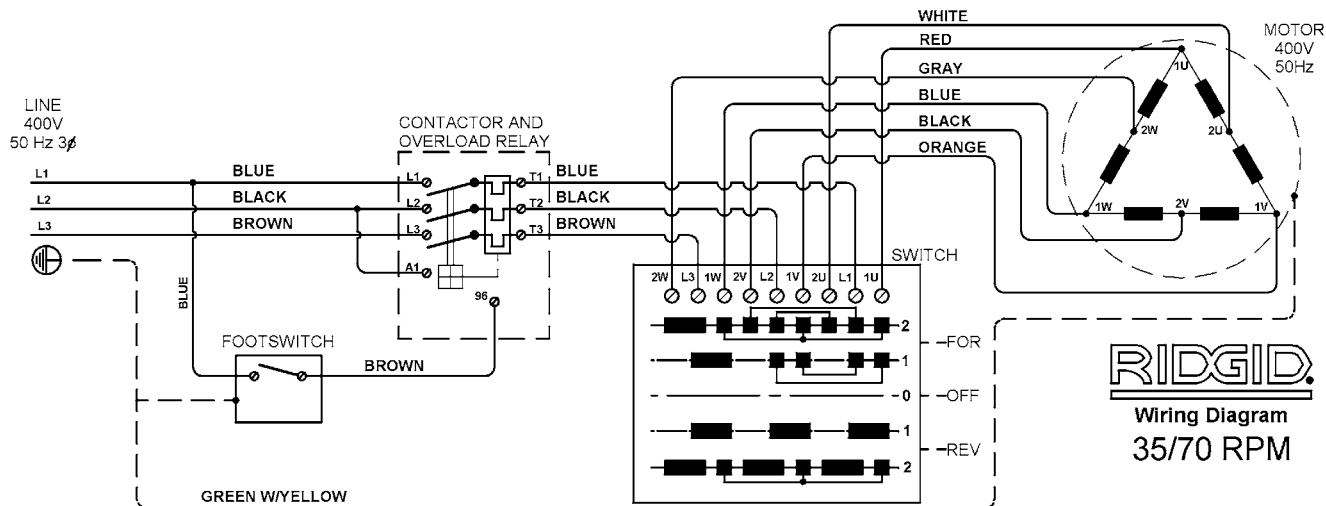


Ref. No.	Catalog No.	Description
—	36652	B-296 Foot Switch
—	36657	B-297 Foot Switch
—	40017	B-298 Foot Switch (U.K.)
—	40022	B-299 Foot Switch (Australia)
1	36677	Warning Label (B-296)
	36682	Warning Label (B-297)
	54392	Warning Label (B-298)
	45017	Warning Label (B-299)
2	54382	Cover
3	36787	Screw #10 Self-tapping (6)
4	36697	Foot Pedal
5	36717	Cord (B-299)
	18906	Cord (B-296)
	36722	Cord (B-297)
	45027	Cord (B-298)
6	36732	Cord Connector (2)
7	36702	Spring
8	54352	Base
9	18916	Line Cord (B-296)
	36797	Line Cord (B-297)
	45022	Line Cord (B-298)
	93210	Line Cord (B-299)
10	36747	Pivot Pin
11	36767	O-Ring
12	36772	Poppet
13	54367	Insulator (2)
14	36762	Micro Switch (2)
15	54377	Switch Bracket
16	54372	Seal
17	54362	Bottom Cover
18	54357	Bottom Cover Screw (4)

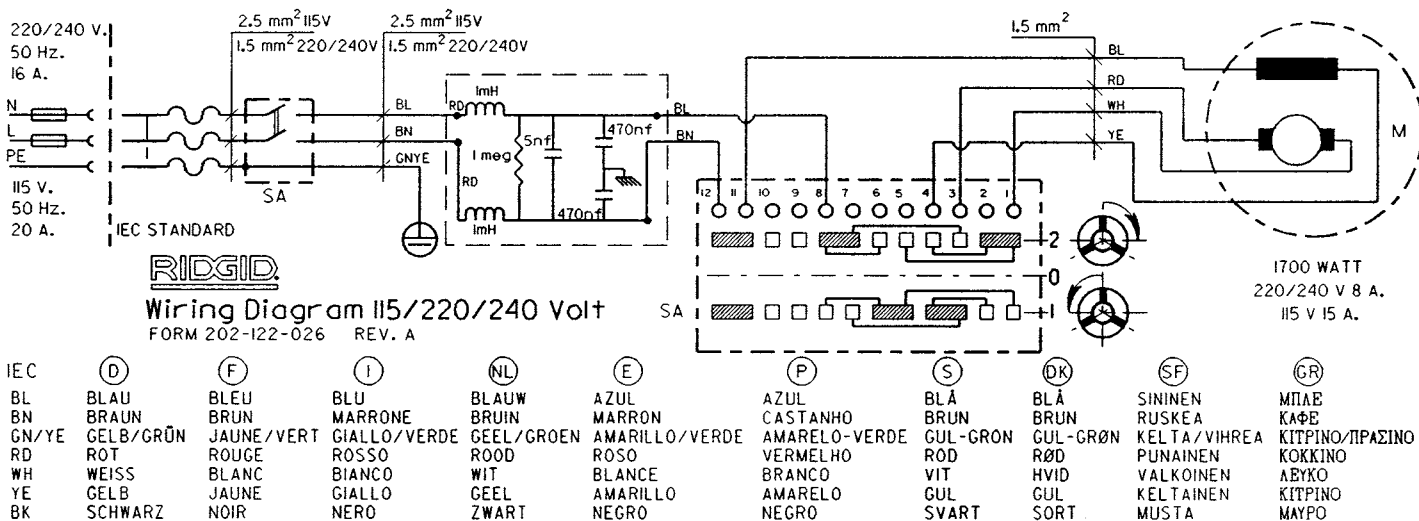


B-296
B-297
B-298
B-299

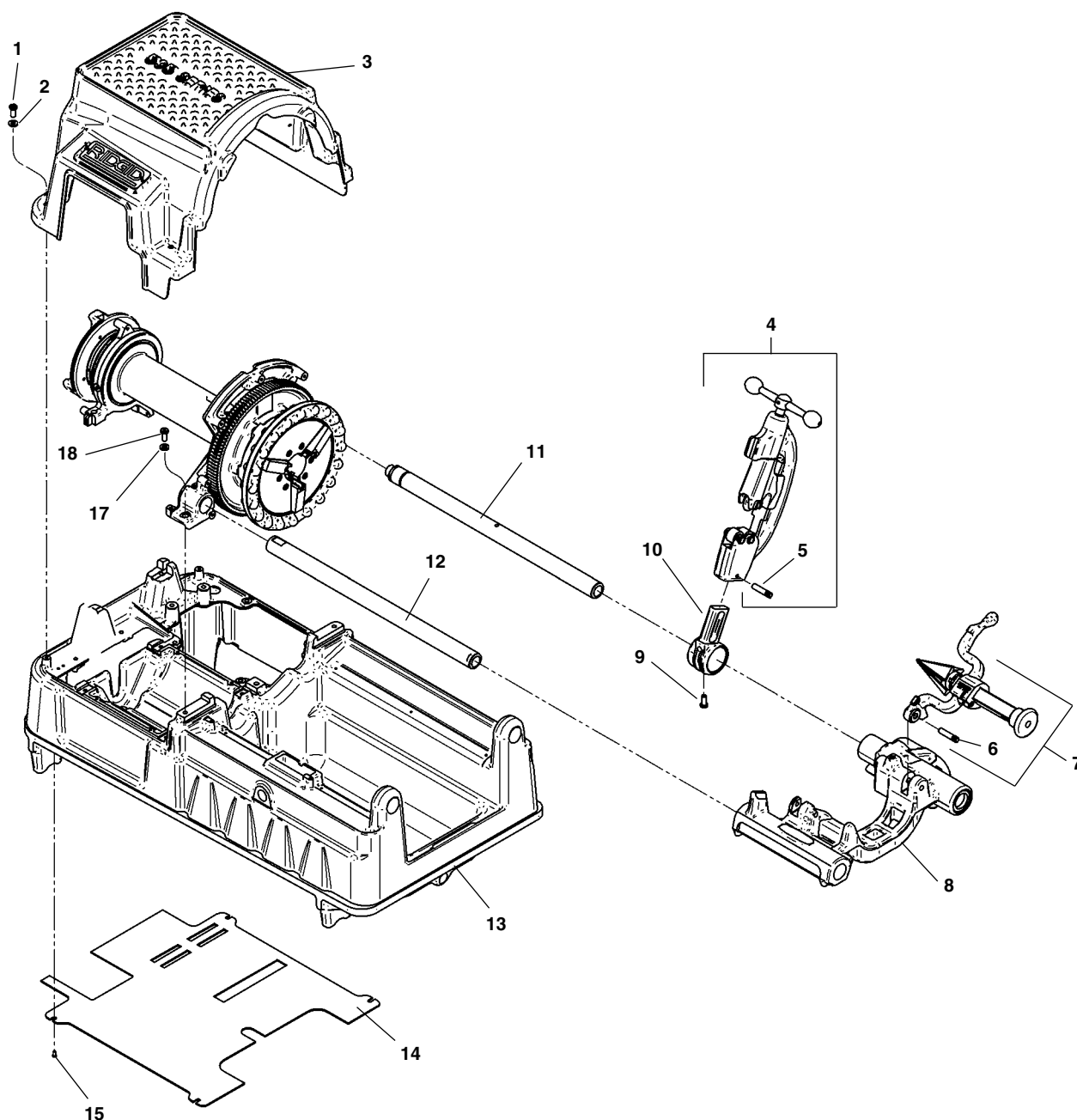
400V Wiring



European Wiring Diagram - Universal Machines



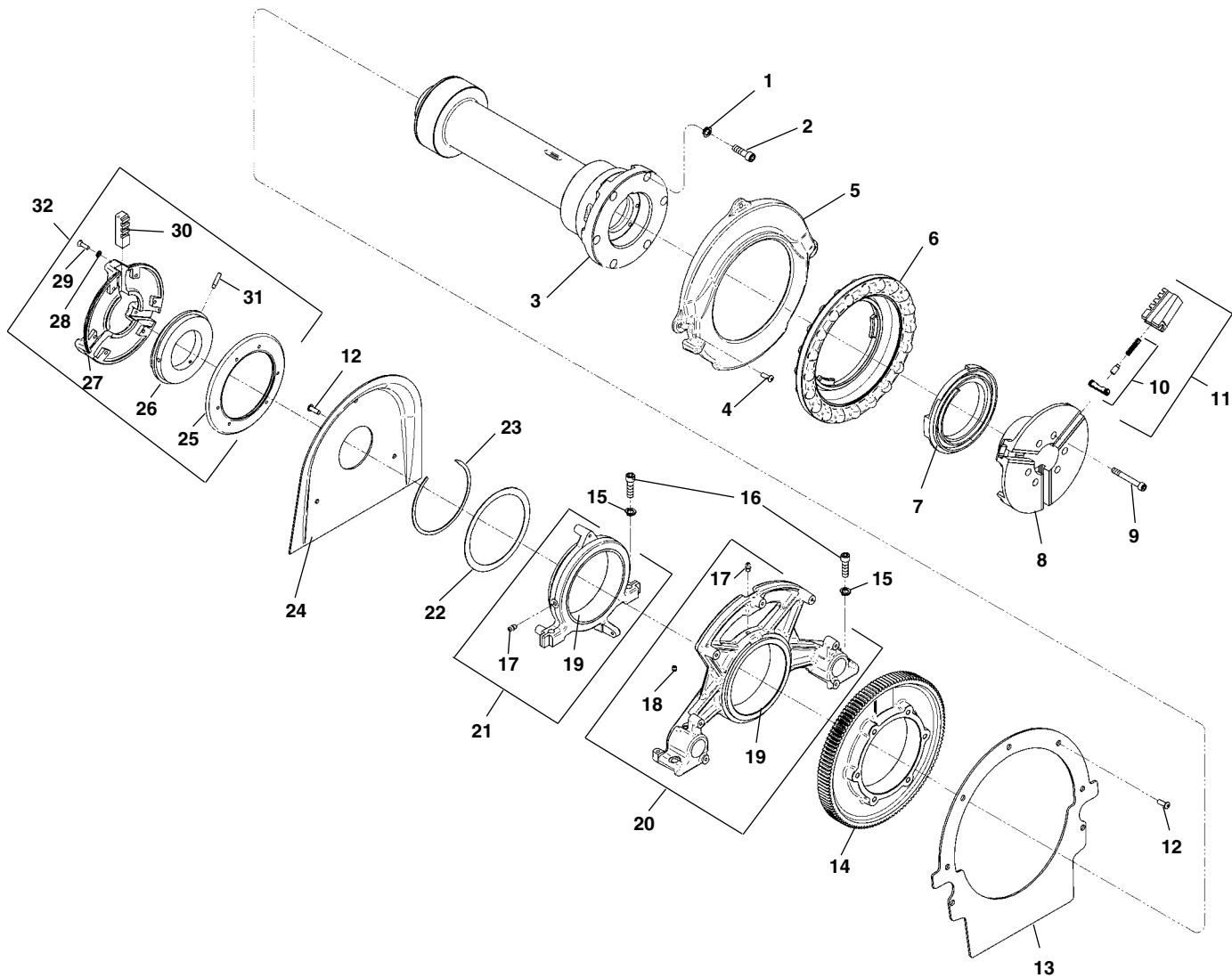
Main Components



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

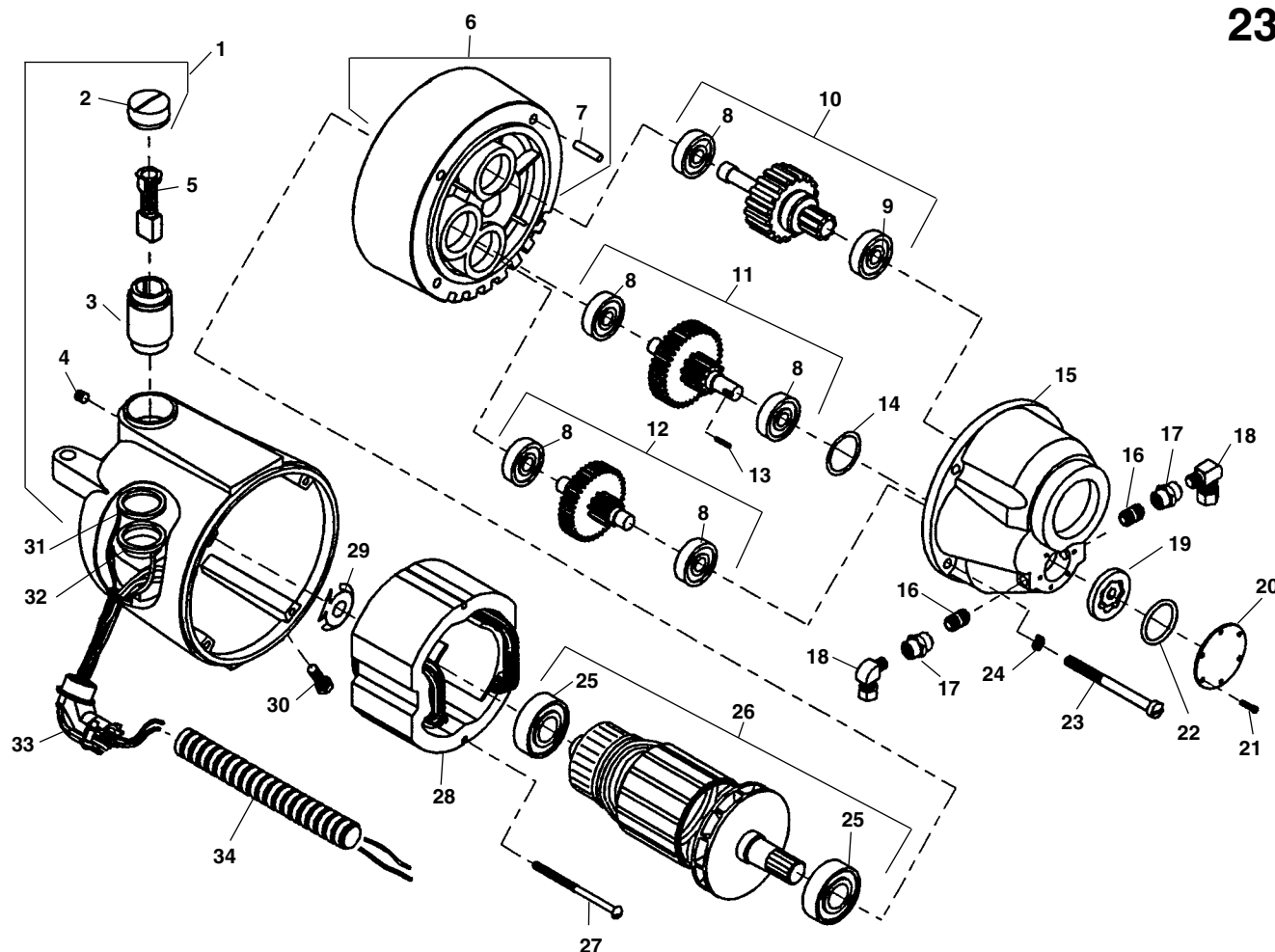
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	94332	Screw, Button Head $\frac{1}{4}$ " - 20 x $\frac{3}{4}$ " (4)	9	44930	Stop Screw
2	94322	Washer, Flat $\frac{1}{4}$ " (4)	10	43690	Cutter Arm
3	94432	Top Cover	11	45220	Rear Support Bar
4	42390	820 Cutter Assembly	12	45440	Front Support Bar
5	47135	Stop Pin	13	94042	Base
6	47065	Pin	14	96432	Bottom Cover
7	42365	341 Reamer Assembly	15	94312	Screw, Pan Head #6 - 32 x 2" (4)
8	94357	Carriage Assembly			

Drive Shaft Assembly



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

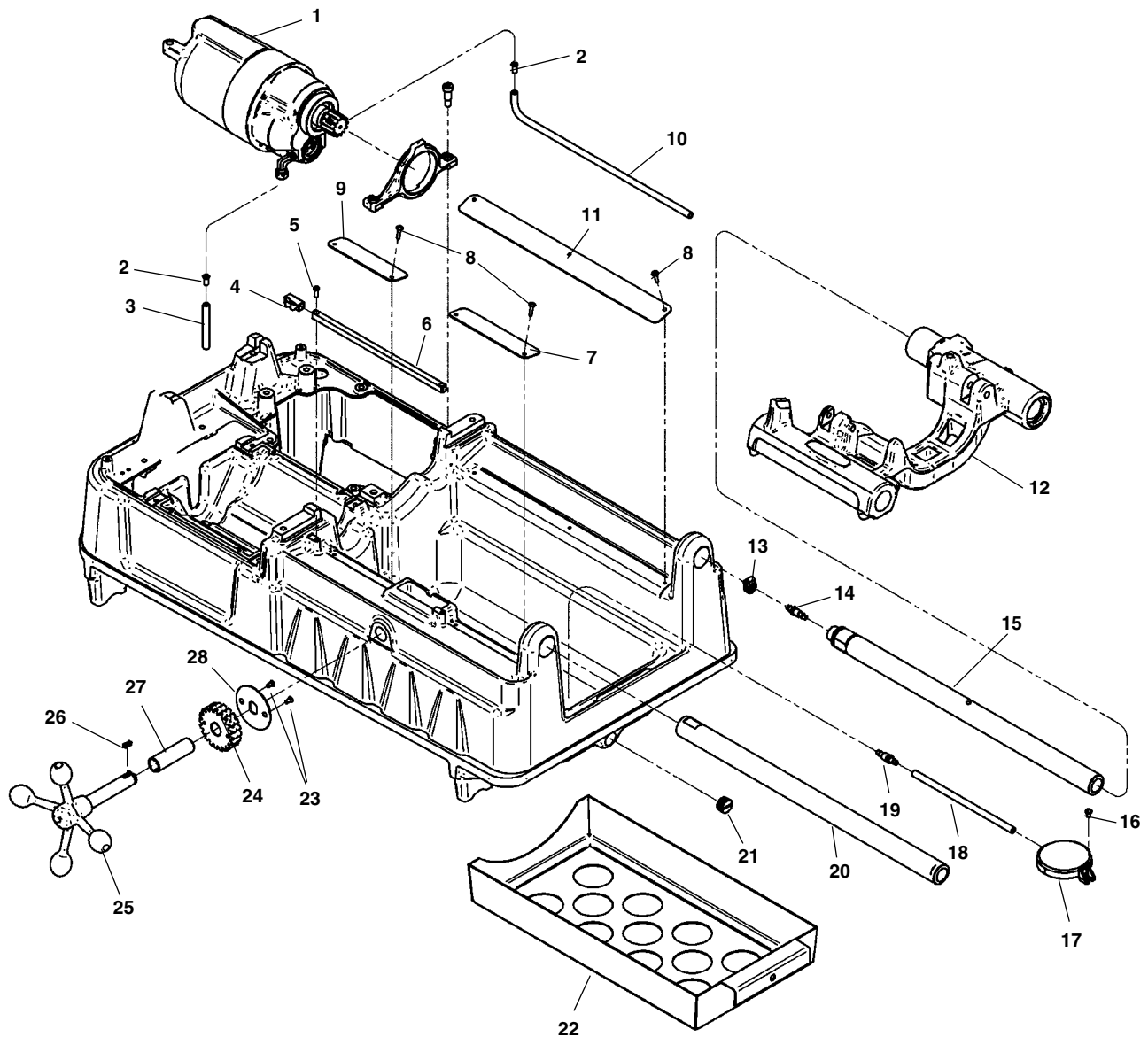
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	40930	Washer, Lock $\frac{3}{8}$ "	18	40910	Set Screw $\frac{1}{4}$ " - 20 x $\frac{3}{4}$ " (4)
2	46475	Screw, Soc. Hd. $\frac{3}{8}$ " - 16 x $1\frac{1}{4}$ "	19	93957	Spindle Bearing (2)
3	96427	Drive Shaft	20	94027	Front Bracket Assembly
4	94332	Screw, Button Head $\frac{1}{4}$ " - 20 x $\frac{3}{4}$ " (9)	21	94037	Rear Bracket Assembly
5	96407	Front Cover	22	94392	Thrust Washer
6	96422	Handwheel	23	94397	Retaining Ring
7	43450	Scroll	24	96487	Rear Cover
8	43525	Chuck Cap	25	43740	Back Plate
9	45295	Screw, $\frac{5}{16}$ " - 18 x $2\frac{3}{4}$ " (6)		19356	Back Plate - Europe
10	44715	Insert Set	26	44095	Scroll
11	44090	Front Jaw (4)	27	43735	Centering Head
12	94337	Screw, Button Head $\frac{1}{4}$ " - 20 x $\frac{3}{8}$ " (7)		19346	Centering Head - Europe
13	94072	Front Plate	28	40270	Lock Washer (6)
14	96417	Drive Gear	29	46790	Screw, #12-24 x $\frac{3}{4}$ " (6)
15	40930	Washer, Lock $\frac{3}{8}$ " (4)	30	46500	Centering Jaw (3)
16	46745	Screw, $\frac{3}{8}$ " - 16 x $1\frac{1}{4}$ " (4)	31	45260	Step Pin (3)
17	46860	Grease Fitting (2)	32	44165	Centering Head Assembly

Motor**1101
2301**

**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	96442	1101 Motor 115V	12	52527	2nd Gear Assembly	25	52517	Male Elbow
—	21208	2301 Motor 230V	13	96885	Pin	26	44565	Armature Bearing (2)
1	43160	Housing Assembly	14	96880	Oil Seal	27	52497	Armature (115V)
2	44545	Brush Cap Set	15	96830	Gear Housing		52492	Armature (230V)
3	45025	Brush Holder Set	16	52507	Pipe Nipple 1/8" NPT (2)	27	44555	Mounting Screw (2)
4	39770	Set Screw (2)	17	52512	Coupling 1/8" NPT (2)	28	44015	Field (115V)
5	44540	Brush Assembly Set	18	52517	90° Elbow Fitting (2)		44035	Field (230V)
6	54552	Fan Housing Assembly	19	96870	Gerotor Set	29	44580	Loading Spring
7	45165	Dowel Pin	20	96840	Cover Plate	30	83500	Locking Screw (2)
8	45060	Gear Bearings (5)	21	96890	Screw (6)	31	96942	White Upper Lead
9	45315	Front Bearing	22	96875	O Ring	32	96492	Red Lower lead
10	96437	Drive Gear	23	45075	Screw (4)	33	46900	Connector 90
11	52522	1st Gear Assembly	24	45150	Lock Washer	34	96482	Flexible Conduit

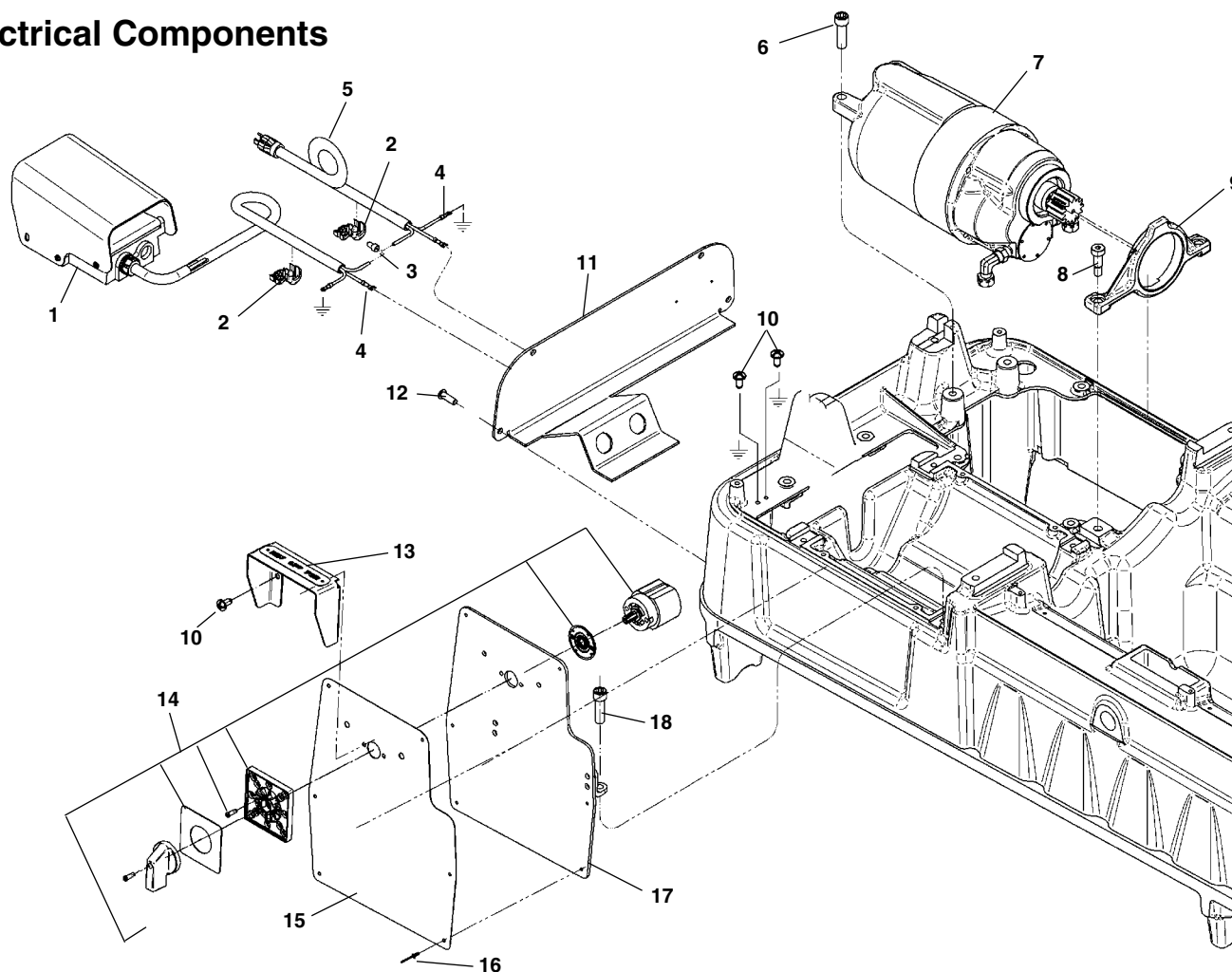
Oiling Components



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	96442	1101 Motor Assembly 115V	15	45220	Support Bar, Rear
	21208	2301 Motor Assembly 230V	16	45420	Screw, #10 - 32 x 3/8"
2	35117	Tube Insert	17	58467	Filter Screen Assembly
3	96477	Oil Hose, Input 13"	18	87950	Oil Hose, Filter
4	47110	Indicator Slide	19	54142	Bulkhead Fitting
5	45615	Screw, Flat Head #10 - 32 x 1/2" (2)	20	45440	Support Bar, Front
6	47105	Length Indicator Bar	21	96447	Drain Plug 1/2" NPT
7	94117	Drip Edge	22	94112	Chip Tray
8	43367	Screw, #8 x 3/4"	23	46785	Screw, Flat Head #10 - 32 x 3/8" (2)
9	94122	Drip Edge	24	45430	Pinion
10	58482	Oil Hose, Input 25"	25	94012	Handwheel
11	94127	Drip Edge	26	94267	Key, 3/16" Square x 1/2"
12	94357	Carriage Assembly	27	94222	Bushing
13	35142	Hose Clamp	28	47120	Pinion Lock Ring
14	69167	Barbed Fitting			

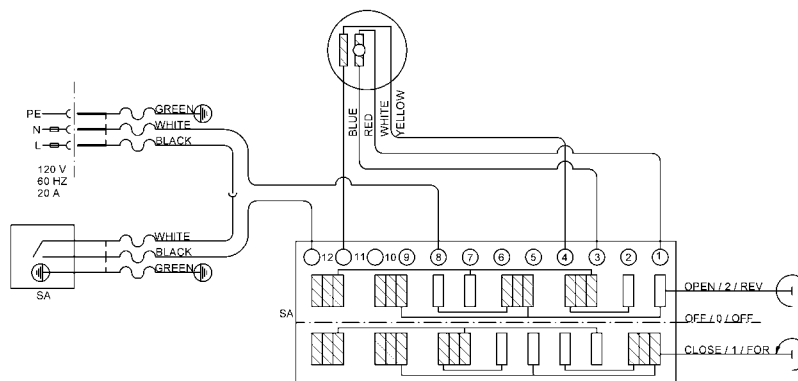
Electrical Components



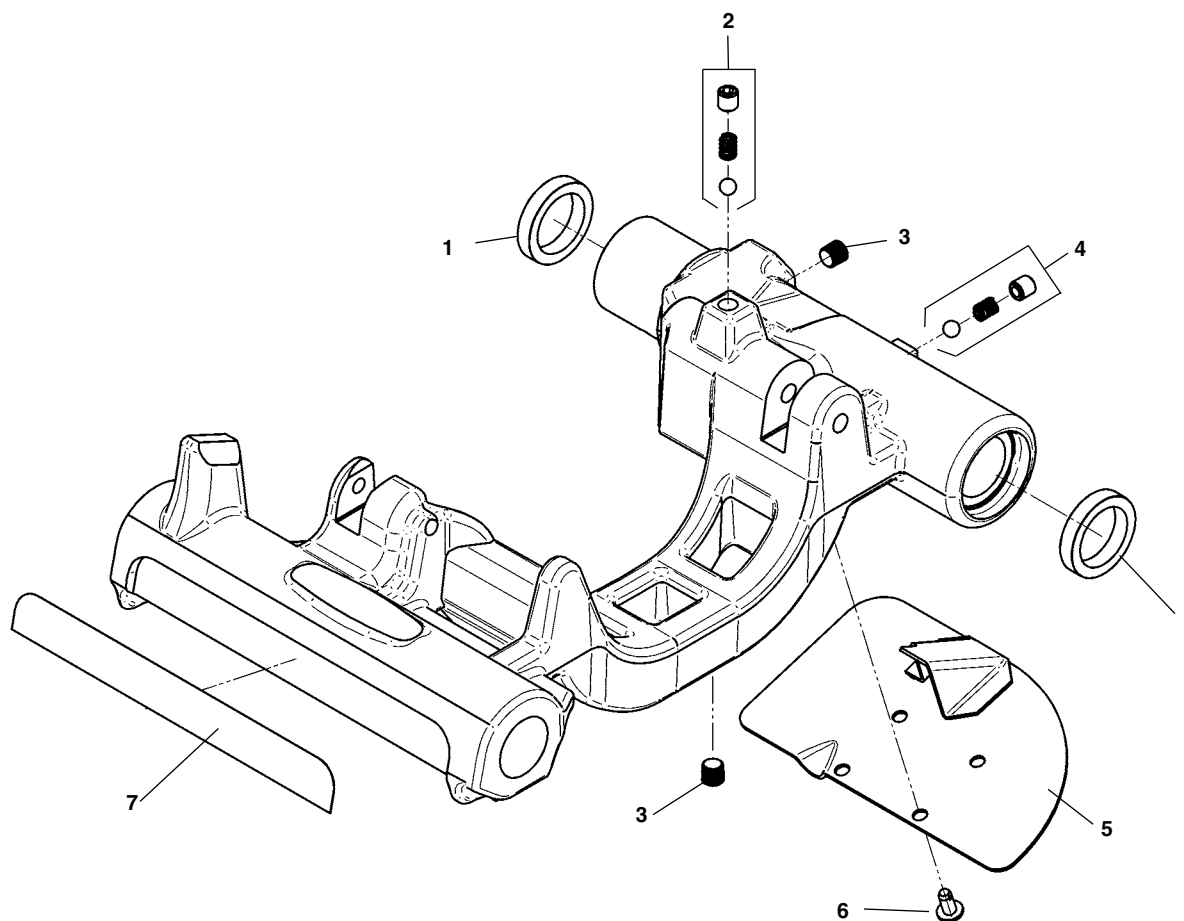
NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	36642	Foot Switch, B-294	11	94152	Back Cover
2	75952	Strain Relief (2)	12	94337	Screw, Button Head 1/4" x 20 x 3/8" B.H.C.S. (4)
3	44635	End Splice	13	96452	Switch Cover
4	46875	Spade Terminal (2)	14	20123	Switch Assembly
5	75902	Power Cord 115V	15	96472	Warning Label
6	46745	Screw (2)	16	94427	Pop Rivet (6)
7	96442	Motor	17	96457	Control Panel
8	36262	Shoulder Bolt (2)	18	40910	Screw
9	96402	Motor Bracket			
10	45420	Screw (4)			

Wiring Diagram



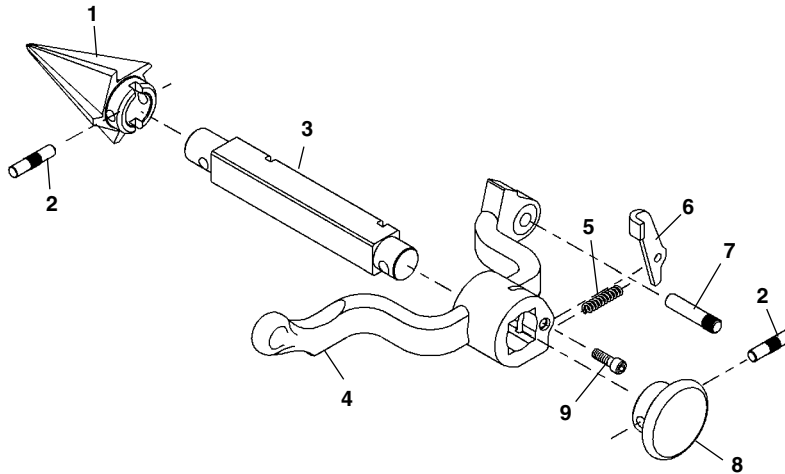
Carriage



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	94357	Carriage Assembly
1	46720	Oil Seal
2	46810	Die Head Detente
3	46815	Pipe Plug, 1/8" NPT (2)
4	35307	Pressure Relief Set
5	45195	Drip Tray
6	46270	Screw, 1/4" - 20 x 1/2" (4)
7	46370	Length Gauge

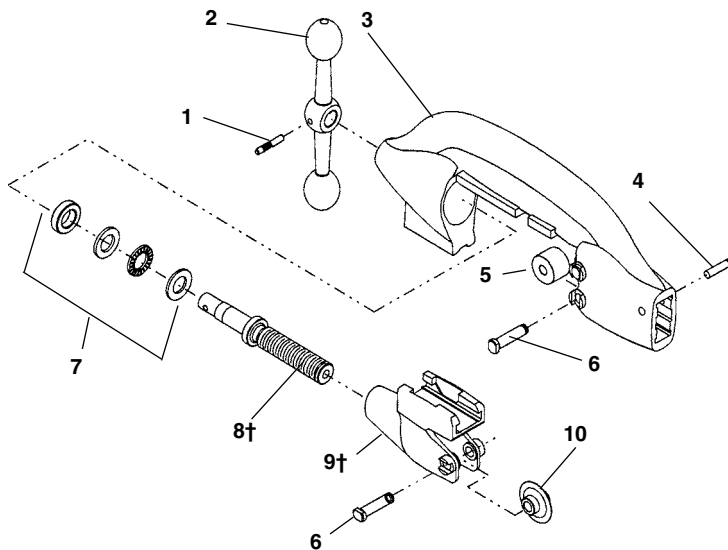
No. 341 Reamer



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

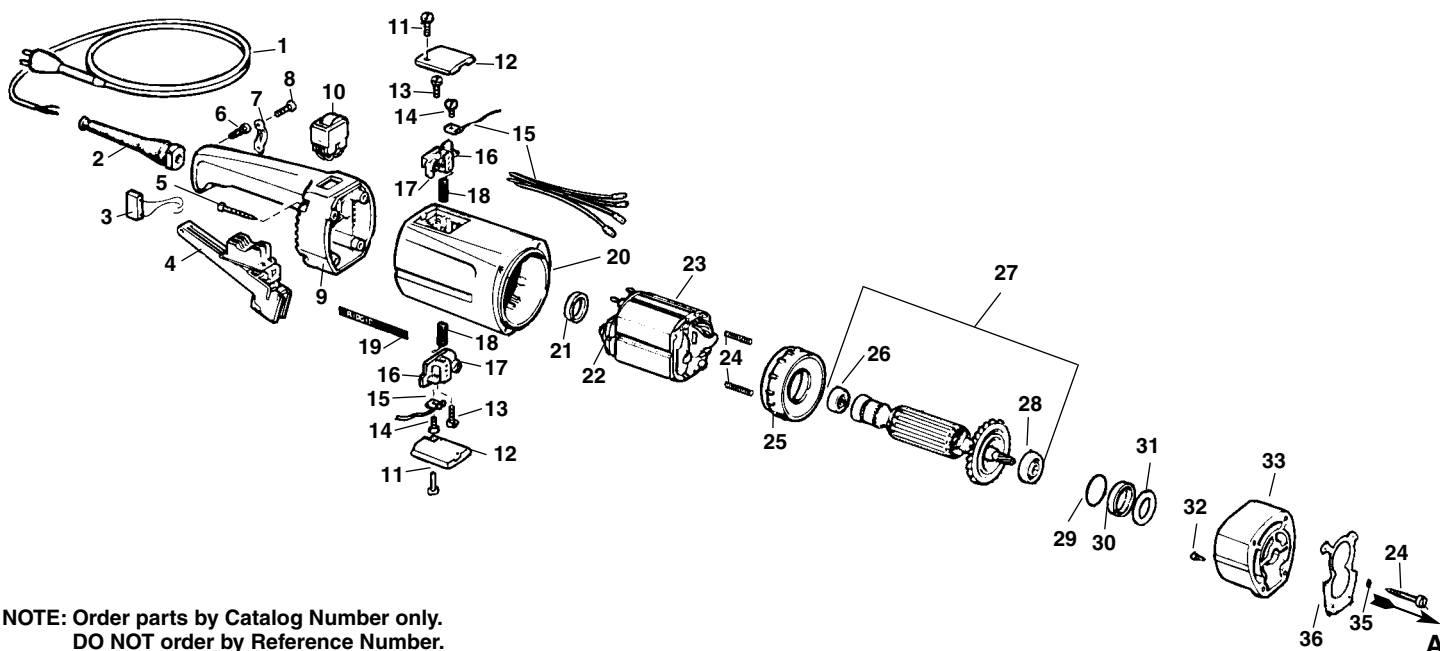
Ref. No.	Catalog No.	Description
—	42365	341 Reamer Complete
1	36277	Cone (R.H.)
	46660	Cone (L.H. & R.H.)
2	47155	Pin
3	43790	Reamer Bar
4	43230	Reamer Arm
5	44700	Latch Spring
6	46665	Reamer Latch
7	47065	Hinge Pin
8	46585	Reamer Knob
9	46515	Screw 1/4" - 20 x 3/4"

No. 820 Cutter



Ref. No.	Catalog No.	Description
—	42390	820 Cutter Complete
1	47160	Crank Pin
2	45765	Feed Screw Crank
3	43040	Cutter Frame
4	47135	Stop Pin
5	34775	Cutter Roll (2)
6	34780	Cutter & Roll Pin (3)
7	46725	Thrust Bearing Assembly
8†	45780	Feed Screw
9†	43245	Wheel Housing
10	44185	Cutter Wheel
	44190	Cutter Wheel f/Stainless

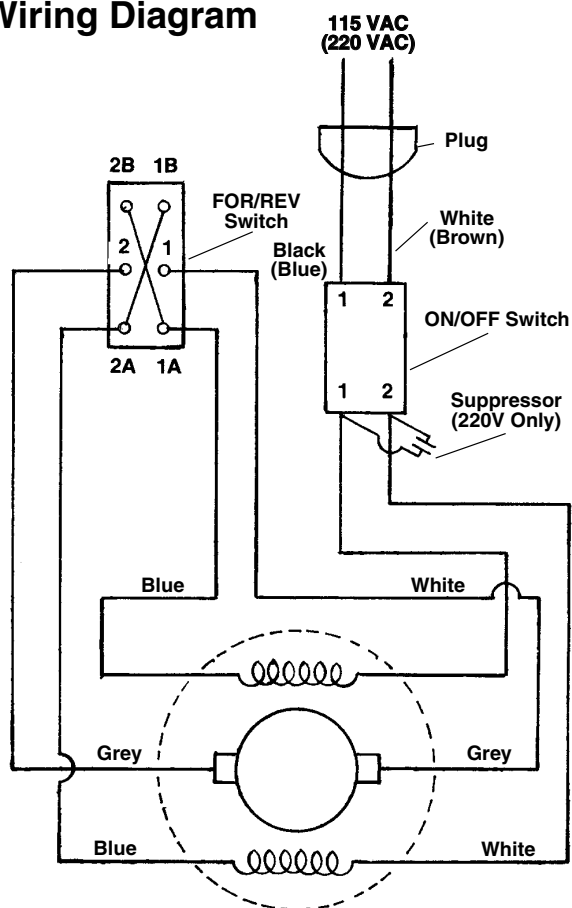
† Service Note: When replacing parts on early style (fine thread) cutters, both feed screw and wheel housing must be replaced.

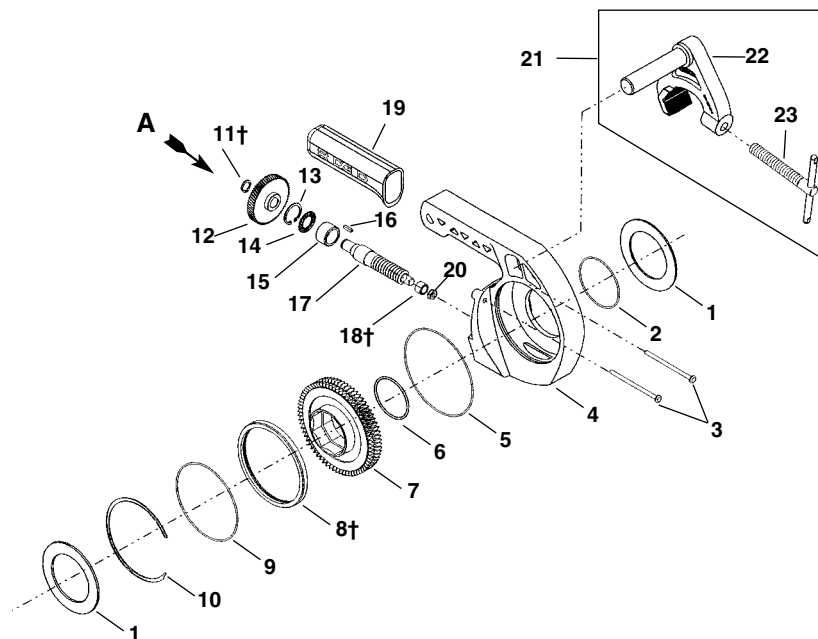


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
1	20746	Cord w/Plug (115V)
2	20276	Cord w/Plug (230V - Europe)
3	20286	Sleeve
4	20326	Suppressor
5	20266	ON/OFF Switch
6	20586	Screw (4)
7	20576	Screw (3)
8	20296	Cable Clamp
9	20566	Screw (2)
10	20526	Handle
11	21796	Switch (115V)
12	20516	Switch (230V)
13	20546	Screw (2)
14	20496	Cap (2)
15	20556	Screw (2)
16	20406	Screw (2)
17	20396	P.V.C. Wire (2)
18	20356	Brush Holder (2)
19	20316	Coil Spring (2)
20	20306	Set of 2 Brushes
21	34382	Name Plate
22	20236	Motor Housing
23	20506	Spacer
24	20386	Lead Wire Plate
25	21716	Field (115V)
26	20246	Field (230V)
27	20486	Pressure Spring (2)
28	20476	Fan Housing
29	20336	Bearing
30	21736	Armature (115V)
31	20256	Armature (230V)
32	47477	Bearing
33	20466	Spring Ring
34	20456	Spacer
35	20446	Washer
36	34387	Screw (2)
	34392	Fan Housing
	34397	Screw (2)
	34517	Brass Washer (2)
	34512	Gasket

Wiring Diagram





**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

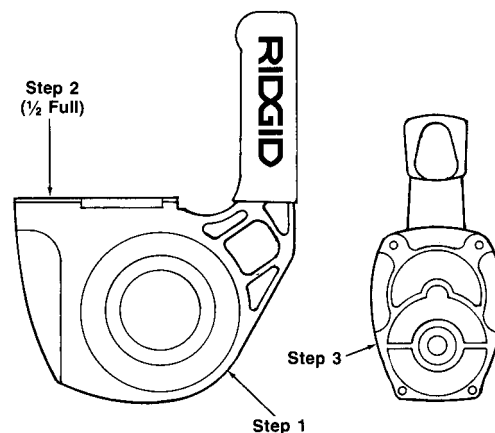
Ref. No.	Catalog No.	Description
1	34402	Cap (2)
2	34437	O-Ring, 2 1/2" x 2 5/8" x 1/16" Buna N
3	34412	Screw (2)
4	34417	Gear Housing
5	34422	O-Ring, 4 1/2" x 4 5/8" x 1/16" Buna N
6	38830	Spring Ring
7	34427	Worm Gear
8†	34432	Ring Bearing
9	34407	O-Ring, 4" x 4 1/8" x 1/16" Buna N
10	34442	Spiral Ring
11†	34447	Retaining Ring
12	34452	Helical Gear
13	34457	Retaining Ring
14	34462	Thrust Bearing
15	34467	Needle Bearing
16	34472	Key
17	34477	Worm
18†	34482	Needle Bearing
19	34487	Hand Grip
20	77710	Hex Nut
21	34497	Support Arm Assembly
22	34502	Arm
23	34507	Screw Assembly
	34522	Worm Gear Lubricant (2 oz.)
	20826	Carrying Case w/Insert
	34527	Insert (only)

Service Notes

Gear Head Assembly

Proper Oil Fill Procedure: Capacity 2 ozs.

- Step 1: Wipe Gear Cavity with oil and assemble Gear Head.
 Step 2: Fill Worm Cavity 1/2 full of oil - install Worm.
 Step 3: Pour remaining oil in Helical Gear Cavity - install Helical Gear.
 Step 4: Install new Gasket and attach motor Assembly with Gear Head upright.



†Ref. No. 18

Hex Nut has been inserted behind Needle Bearing (Ref. No. 18) in the Gear Housing Assembly (Ref. No. 4). To replace Needle Bearing, thread 6 mm or 1/4 - 20 rod into nut and pull Bearing.

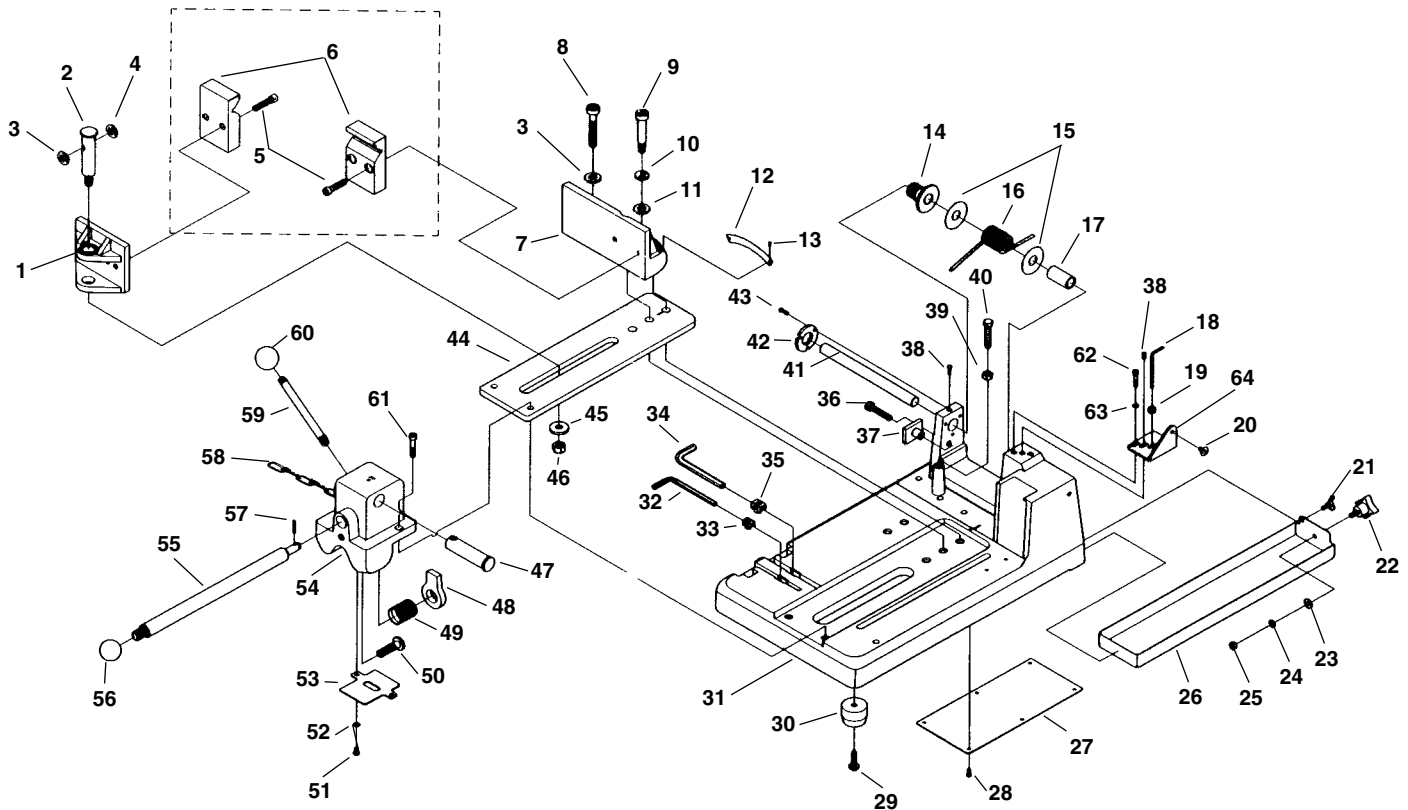
†Ref. No. 8

Chamfered edge of Ring Bearing must be installed (down) into Worm Gear.

†Ref. No. 11

Chamfered edge of Retaining Ring must be installed facing Gear.

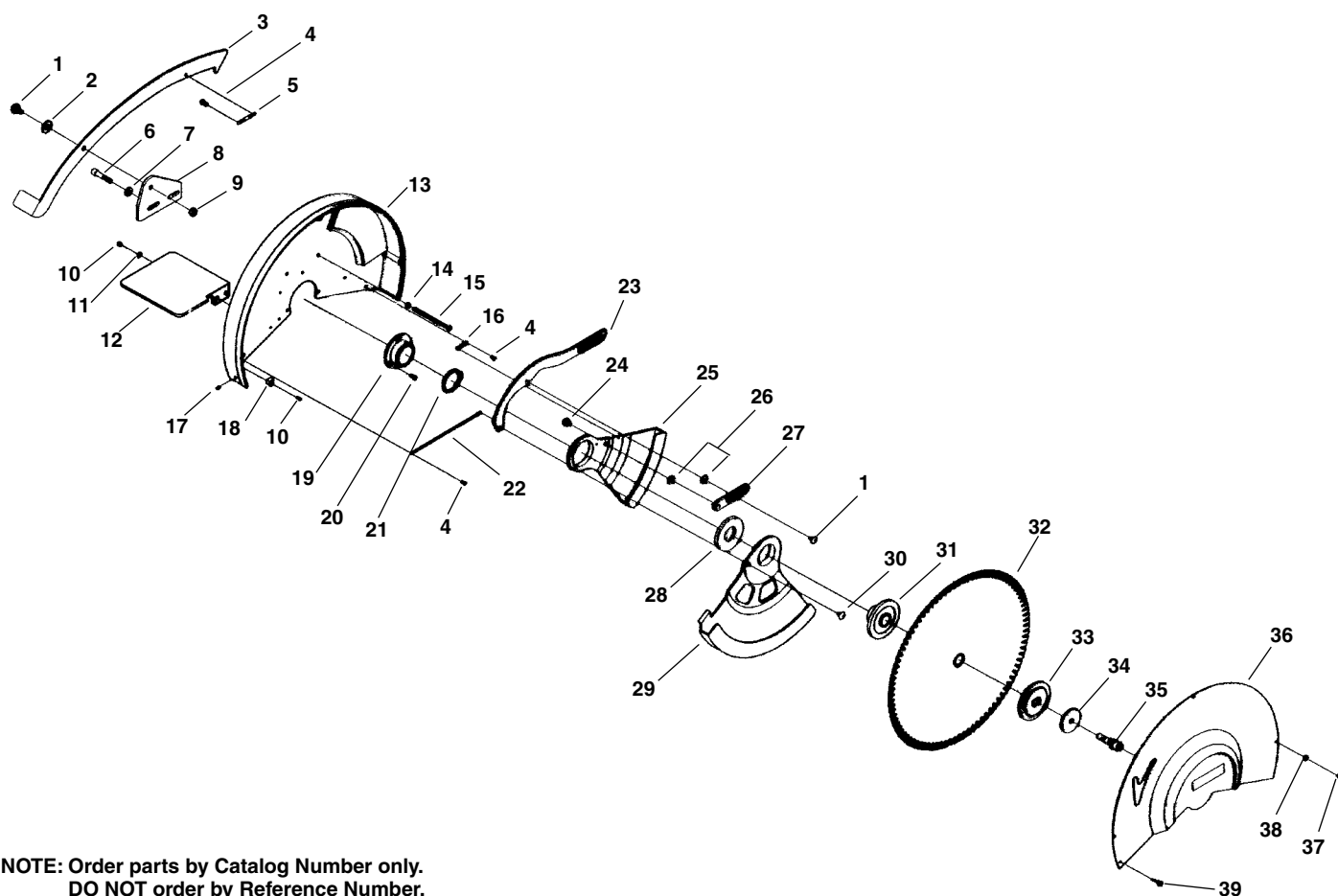
Base Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

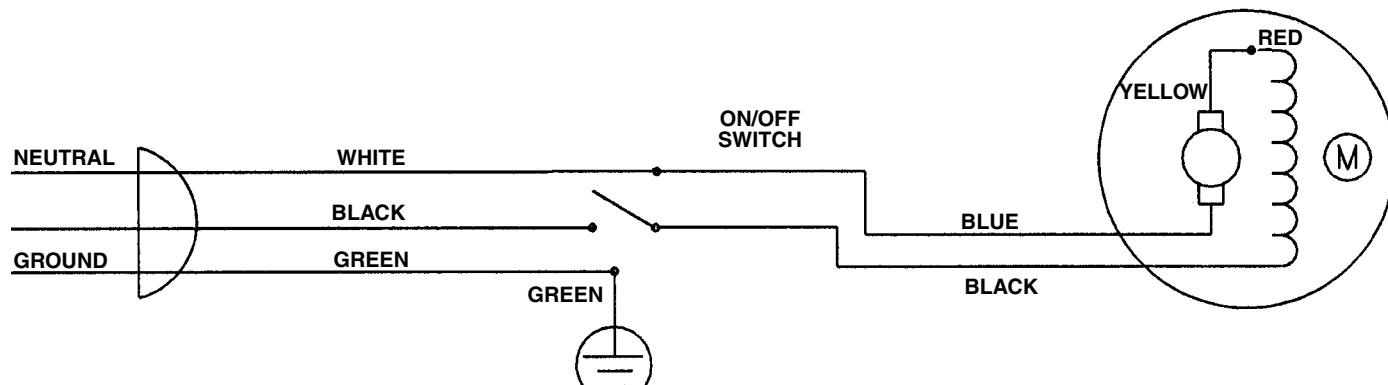
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	75142	Vise Jaw	23	74932	1/4" Flat Washer	45	75237	Washer
2	75137	Pin	24	74952	1/4" Lock Washer	46	75242	M10 Hex Nut
3	75132	M10 Flat Washer	25	74797	1/4" x 20 UNC Hex Nut	47	75497	Pivot Pin
4	75147	M10 Flat Washer	26	75377	Chip Box	48	75502	Locking Ring
5	75447	Pan Head Screw M4 x 8MM	27	75372	Support Plate	49	75507	Spring
6	75452	Positioning Plate	28	74767	M4 x 12MM Pan Hd. Screw	50	75512	Locating Screw
7	75187	Vise Back Plate	29	75357	M6 x 20MM Pan Hd. Screw	51	75517	#10 x 24 Pan Hd. Screw
8	75207	M10 x 45MM Hex Screw	30	75352	Pad	52	75772	M5 Ext. Tooth Washer
9	75202	Bolt	31	75362	Base	53	75522	Cover Plate
10	75197	M12 Lock Washer	32	75342	Hex Wrench 6MM	54	75162	Vise Grip Housing
11	75192	M12 Flat Washer	33	75347	Wrench Holder	55	75152	Push Rod
12	75227	Scale	34	75332	Hex Wrench 8MM	56	75527	Handle Knob, Push
13	75232	Rivet	35	75337	Wrench Holder	57	75157	Pin
14	75247	Adjusting Bushing	36	75327	MB x 45MM Hex Hd. Screw	58	75167	Chain
15	75252	Flat Washer	37	75322	Special Nut	59	75492	Pivot Arm
16	75257	Spring	38	75297	Hex Soc Sat Screw	60	75487	Handle Knob, Pivot
17	75262	Axle Sleeve	39	75302	MB Hex Nut	61	75172	M8 x 40MM Hex Screw
18	75097	2.5MM Hex Wrench	40	75327	MB x 45MM Hex Hd. Screw	62	75267	M5 x 16MM Hex Screw
19	75107	Wrench Holder	41	75317	Swinging Shaft	63	75272	M5 Flat Washer
20	75422	Shoulder Bolt	42	75312	Setting Nut	64	75282	Brace Bracket
21	75382	M5 x 10MM Wing Screw	43	74767	M4 x 12MM Pan Hd. Screw			
22	75042	Tilt Lock Washer	44	75177	Setting Up Piece			

Blade and Guard Components

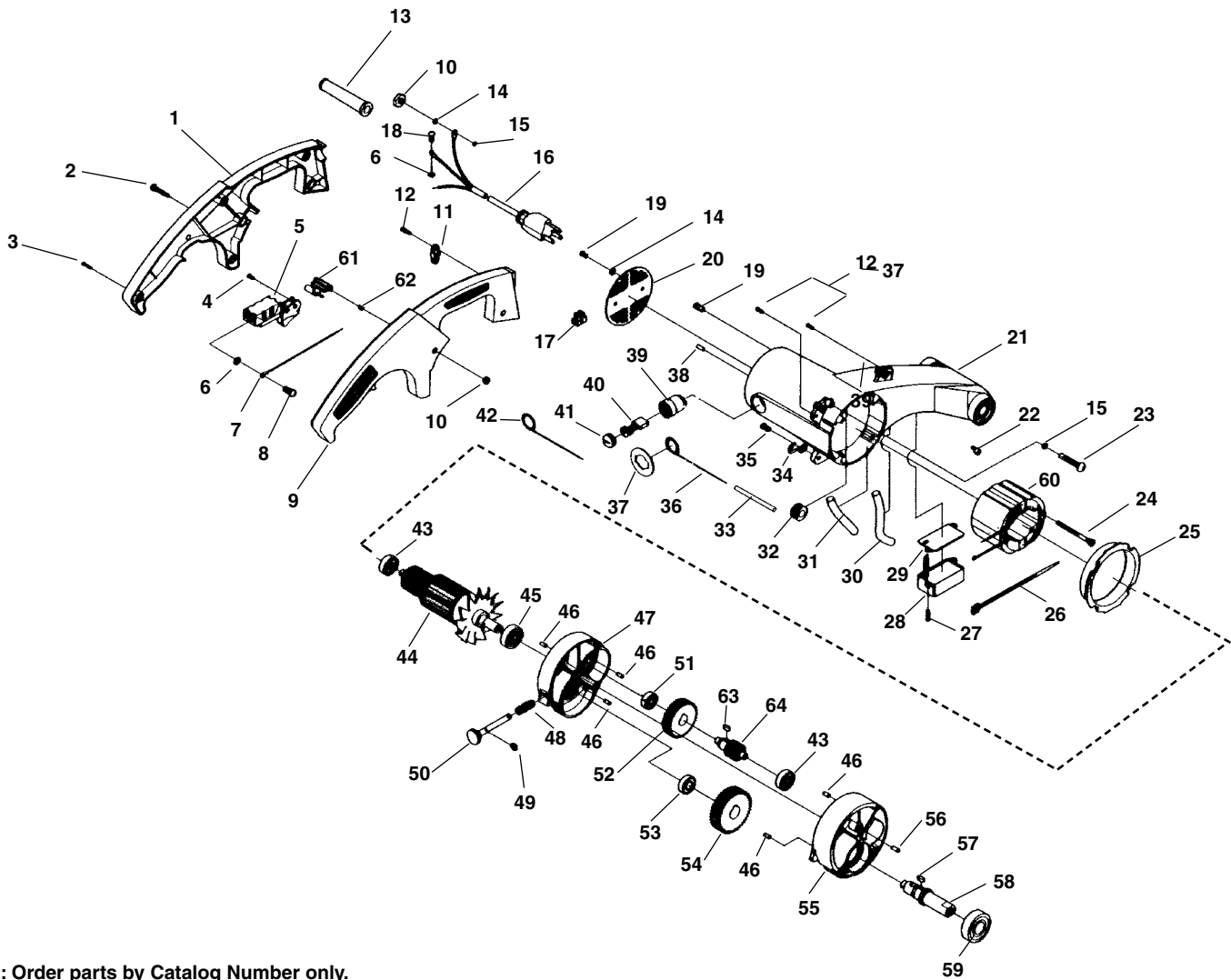


NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	75417	Shoulder Screw (230V Only)	13	74712	Safety Cover	26	74762	Spacer
2	75732	M8 Flat Washer (230V Only)	14	74717	M5 Tooth Washer	27	74757	Lever
3	75727	Lever (230V Only)	15	74722	M5 x 85MM Flat Head Screw	28	74807	Spacer
4	74732	M4 x 8MM Shoulder Screw (230V Only)	16	74727	Spring	29	74802	Big Blade Guard
5	75697	Spring (230V Only)	17	75477	M4 x 4MM Set Screw (115V Only)	30	75427	Shoulder Screw
6	75267	M5 x 16MM Hex Screw (230V Only)	18	74857	Stop	31	74812	Flange
7	75717	M5 Flat Washer (230V Only)	19	74777	Bearing Cover	32	71692	Blade
8	75712	Brace Bracket (230V Only)	20	74782	M4 x 10MM Flat Hd. Screw	33	74822	Flange
9	75707	M5 Hex Nut (230V Only)	21	74787	Retaining Ring	34	74832	M10 Flat Washer
10	74767	M4 x 12MM Pan Hd Screw	22	74792	Spring	35	74827	M10 x 25MM Hex Screw
11	75472	M4 Flat Washer	23	74737	Lever	36	74837	Cover
12	74772	Protection Plate	24	74747	Shoulder Screw	37	74842	M4 x 12MM Button Screw
			25	74752	Small Blade Guard	38	75687	M4 Lock Washer
						39	75692	Lock Pin (115V Only)

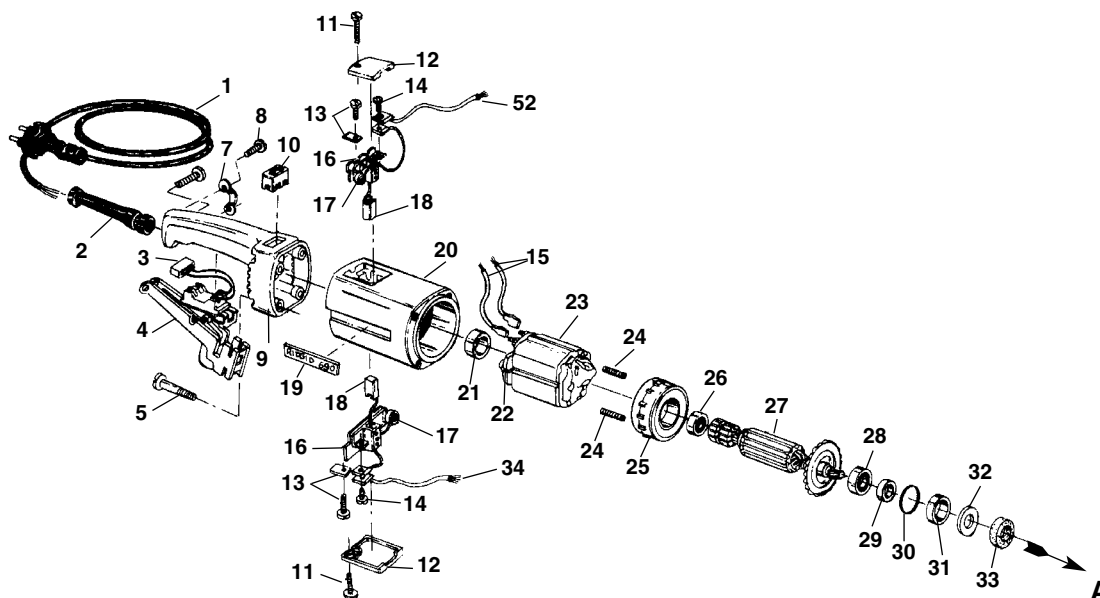


Electrical Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

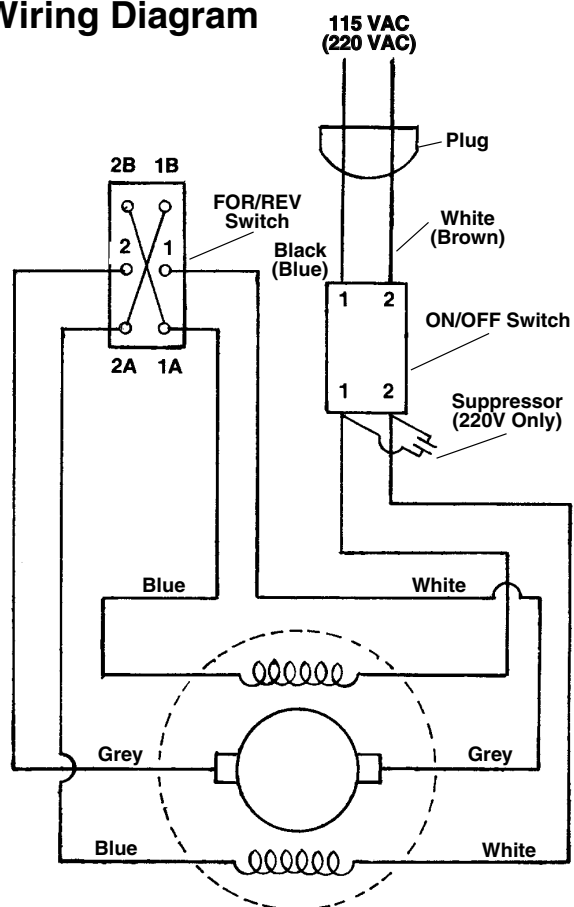
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	74892	Handle Left Hand	24	75007	M5 x 70MM Pan Hd. Screw	46	75032	Rubber Pin
2	74882	M5 x 27MM Pan Hd Screw	25	75012	Baffle	47	75037	Gear Housing - Inward
3	74887	1/8" x 5/8" Self Tap Screw	26	75442	Locking Cable Ties	48	75052	Spring
4	74897	4M4 x 10MM Self Tap Screw	27	75412	M5 x 12MM Pan Hd. Screw	49	75062	Retaining Ring
5	74902	Switch	28	75407	Filter	50	75057	Lock Pin
6	74852	M 3.5 Ext. Tooth Washer	29	75402	Cover	51	75047	Ball Bearing
7	74987	Jumper Wire	30	75437	Sleeving	52	75072	Gear
8	74847	#6 x 6.8MM Pan Hd. Screw	31	75432	Sleeving	53	75087	Ball Bearing
9	74917	Handle Right Hand	32	75767	Sleeve	54	75092	Gear
10	74922	M5 Hex Nut	33	75392	Sleeving	55	75112	Gear Housing-Inner
11	74912	Clamp	34	74992	Chain Hook	56	75117	Pin
12	74907	M4 x 16MM Self Tap Screw	35	74997	1/4" x 5/8" Shoulder Screw	57	75077	Square Key
13	74867	Cord Guard	36	74987	Jumper Wire	58	75127	Spindle
14	74932	M5 Lock Washer	37	75212	Fiberplate	59	75217	Ball Bearing
15	74877	M5 Ext. Tooth Washer	38	74962	Rubber Pin	60	75002	Field 115V
16	75542	Power Cord	39	74967	Brush Holder		75577	Field 230V
17	75387	Terminal block	40	74972	Brush	61	75532	Lock Button
18	74847	#6 x 6.8MM Pan Hd. Screw	41	74977	Brush Cap	62	75537	Spring
19	75412	M5 x 12MM Pan Hd. Screw	42	75182	Jumper Wire	63	75077	Square Key
20	74937	End Cover	43	75017	Ball Bearing	64	75082	Gear Shaft
21	74957	Motor Housing	44	75022	Armature 115V			
22	75287	Wire Nut		75582	Armature 230V			
23	75762	M5 x 20MM Pan Hd. Screw	45	75027	Ball Bearing			

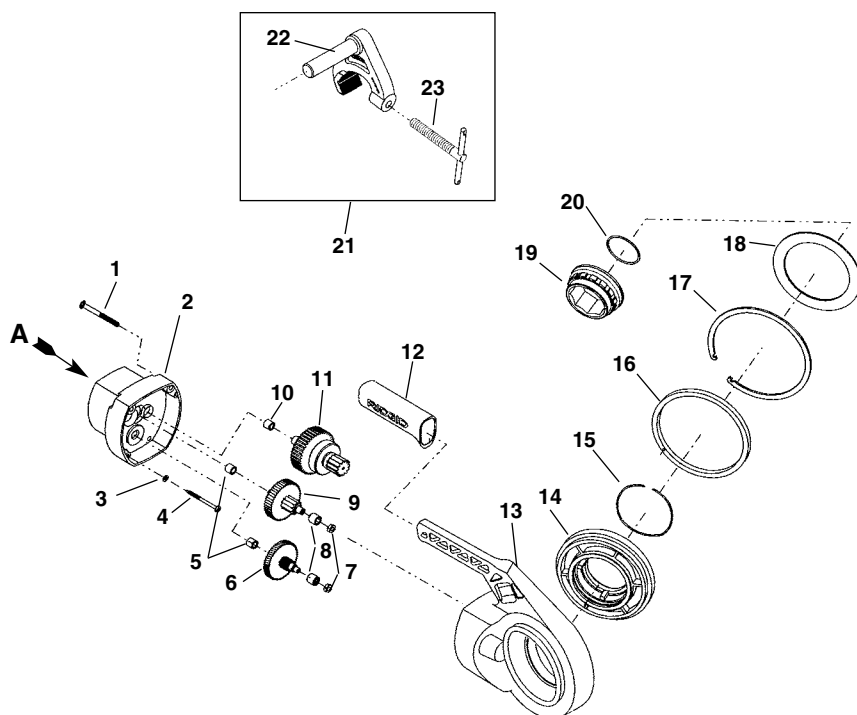


NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description
1	20746	Cord w/Plug (115V)
	20276	Cord w/Plug (230V - Eur)
2	20256	Sleeve
3	20326	Suppressor
4	20266	ON/OFF Switch
5	20586	Screw (4)
6	20576	Screw (3)
7	20296	Cable Clamp
8	20566	Screw (2)
9	20526	Handle
10	21796	Switch (115V)
	20516	Switch (230V)
11	20546	Screw (2)
12	20496	Cap (2)
13	20556	Screw (2)
14	20406	Screw (2)
15	20396	P.V.C. Wire (2)
16	20356	Brush Holder (2)
17	20316	Coil Spring (2)
18	20306	Set of 2 Brushes
19	43307	Name Plate
20	20236	Motor Housing
21	20506	Spacer
22	20386	Lead Wire Plate
23	21716	Field (115V)
	20246	Field (230V)
24	20486	Pressure Spring (2)
25	20476	Fan Housing
26	20336	Bearing
27	21736	Armature (115V)
	20256	Armature (230V)
28	20346	Bearing
29	20426	Spacer
30	20466	Spring Ring
31	20456	Spacer
32	20446	Washer
33	20436	Felt Seal
34	43316	Gray Brush Lead (2)

Wiring Diagram



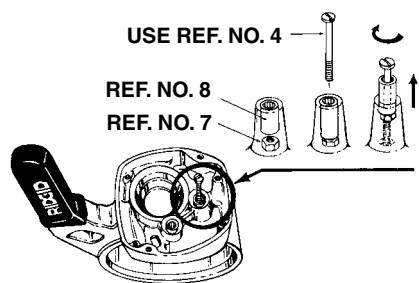


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

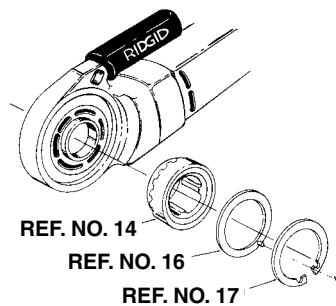
Ref. No.	Catalog No.	Description
1	43227	1/4" - 20 x 2 1/2" Screw (4)
2	43232	Fan Housing
3	34517	Brass Washer (4)
4	34397	4.8 x 65mm Screw (4)
5	43247	Needle Bearing (2)
6	43237	1st Intermediate Gear
7	77710	1/4" - 20 Hex Nut
8	43242	Needle Bearing (2)
9	43252	2nd Intermediate Gear
10	43257	Needle Bearing
11	43262	Main Drive Pinion
12	34487	Hand Grip
13	43267	Gear Housing
14	43272	Face Gear w/Cap
15	39172	Spring Ring
16	43277	Ring Bearing w/Pin
17	43282	Retaining Ring
18	43287	Cap
19	39187	Ratchet Ring Adapter
20	38830	Ratchet Ring Spring
21	43292	Support Arm Assembly
22	43297	Arm
23	43302	Screw Assembly

Service Notes

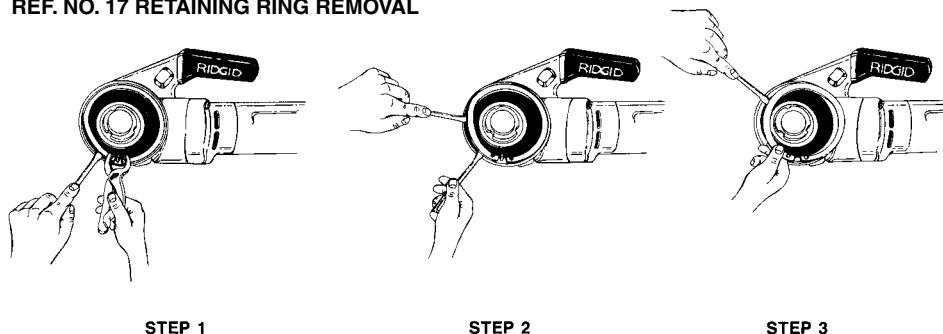
REF. NO. 8 BEARING REMOVAL

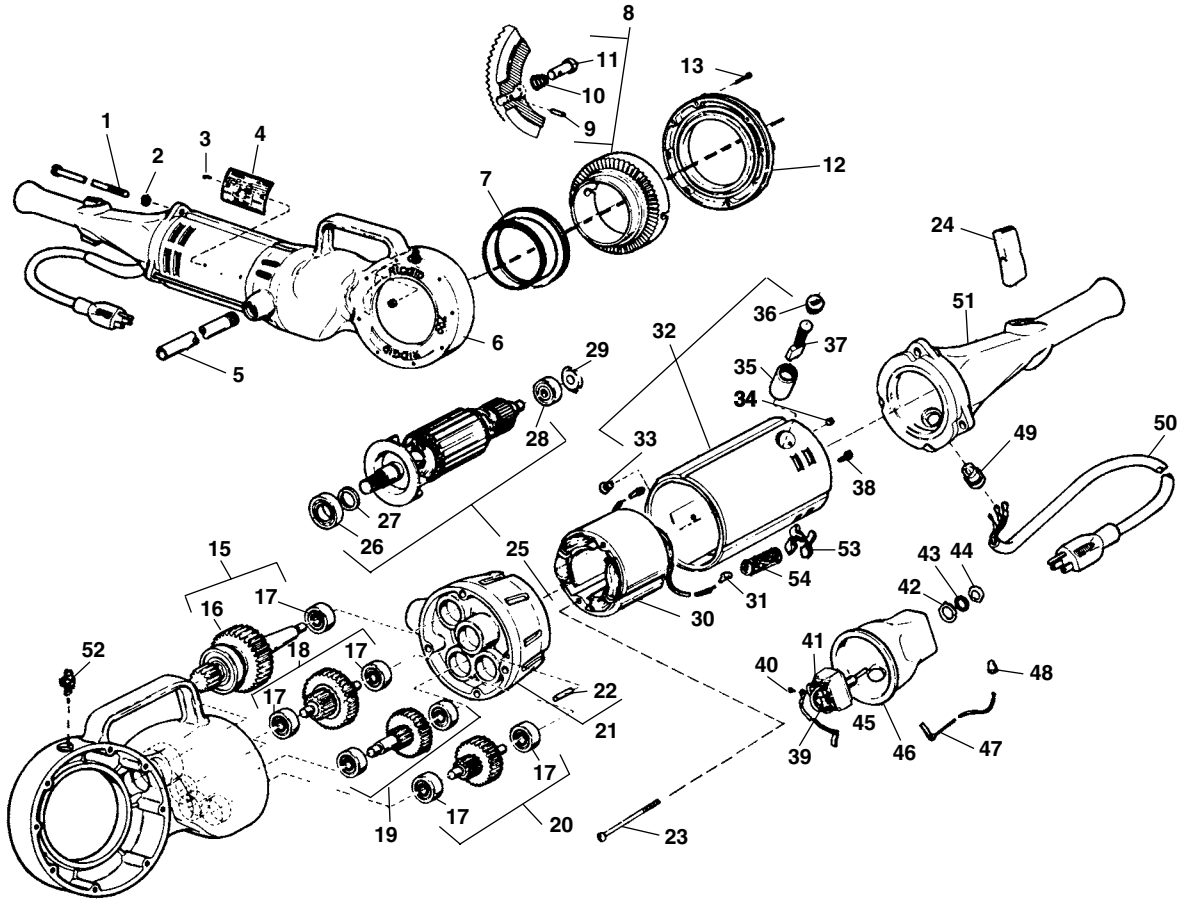


REF. NO. 16 RING BEARING (PIN) ORIENTATION



REF. NO. 17 RETAINING RING REMOVAL

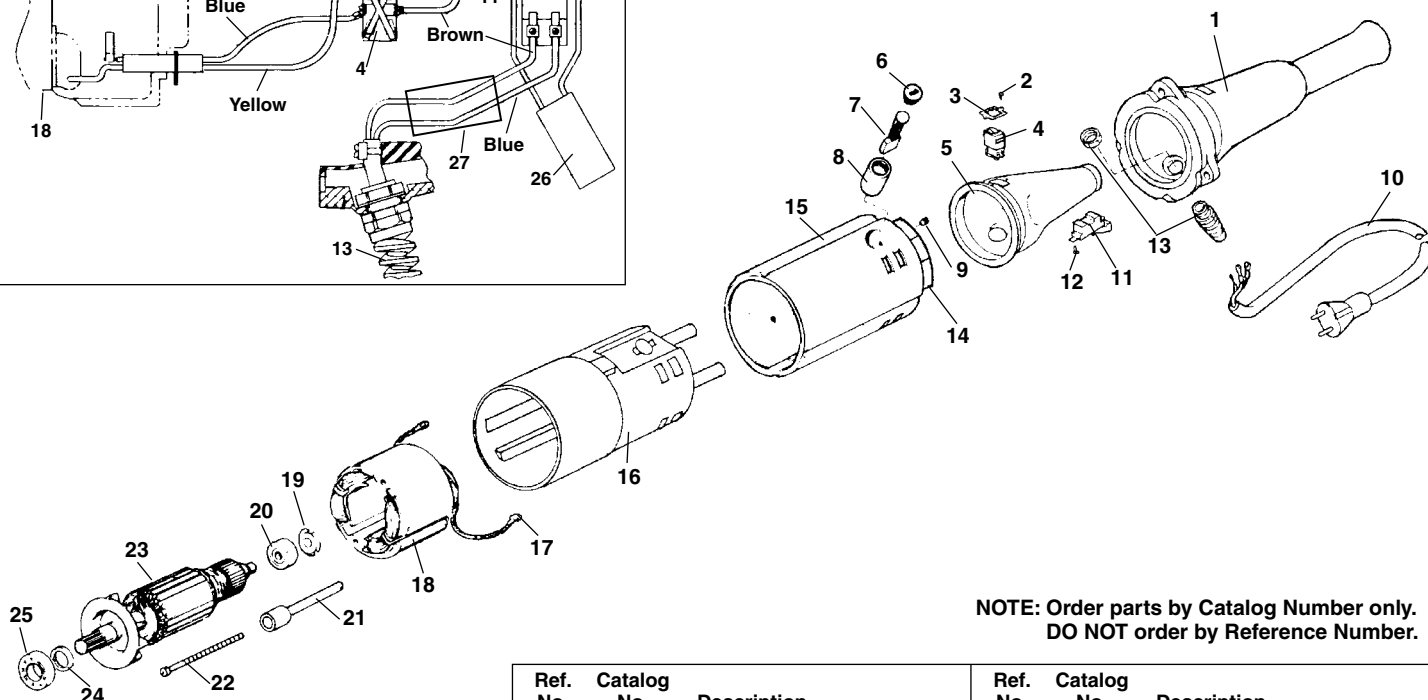
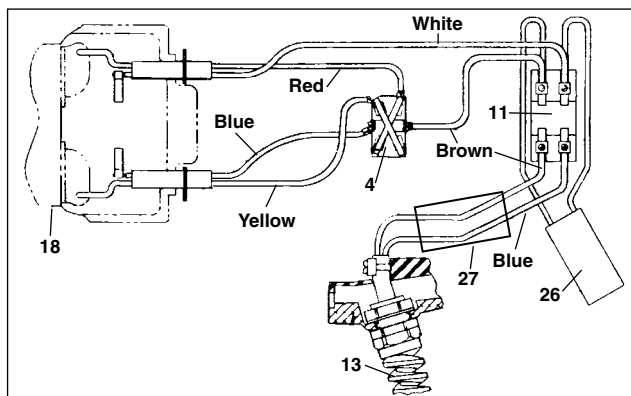




**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	44785	E-1893 Tie Bolt (4)	28	44760	E-1880 Bearing
2	40770	E-1719 Lock Washer (4)	29	44790	E-1894 Load Spring
3	85920	E-10006 Pop Rivet (2)	30	44070	D-755 Field (115V) (Incl. Ref. No. 31)
4		Name Plate (115V) Name Plate (230V)		28922	D-2364 Field (230V) (Incl. Ref. No. 31)
5	46615	E-833 Torque Arm	31	83895	E-1068 Ring Tongue Terminal (2)
6	42970	B-190-X Gear Case Assembly (Includes Ref. 7, 13, 14, 52)	32	42975	B-191-X Motor Housing Assembly
7	44060	D-751 Bearing	33	44765	E-1882 Lock Screw
8	43395	C-375-X Face Gear Assembly	34	39770	E-3145 Set Screw (2)
9	32475	E-6085 Spring Pin (2)	35	44795	E-1895 Brush Holder (2)
10	44915	E-1967 Spring (2)	36	45660	E-4404 Brush Cap (2)
11	44910	E-1966 Adapter Pawl (2)	37	44815	E-1900-X Brush Assembly (2)
12	43345	C-306 Cover	38	45420	E-3467 Ground Screw
13	46775	E-897 Screw (8)	39	44905	E-1964 Switch
14	83890	E-2870 Lock Nut (8)	40	46310	E-5367 Screw (5)
15	44900	E-1960-X 4th Gear Assembly	41	44890	E-1957 Jumper (2)
16	45315	E-3215 Bearing	42	75700	E-1953 Lock Ring
17	45060	E-2630 Bearing (7)	43	75695	E-1961 Lock Washer (Internal Tooth)
18	44830	E-1903-X 3rd Gear Assembly	44	46590	E-799 Lock Nut
19	44820	E-1901-X 1st Gear Assembly	45	44880	E-1954 Brush Lead (Blue)
20	44825	E-1902-X 2nd Gear Assembly	46	43390	C-370 Switch Insulator
21	43335	C-305-X Fan Housing Assembly	47	44885	E-1956 Brush Lead (White)
22	45165	E-2893 Dowel Pin	48	44635	E-1517 Wire Nut
23	44555	E-1495 Field Mtg. Screw (2)	49	46730	E-889 Cord Retainer
24	97260	E-10649 Switch Button	50	89155	D-1298 Service Cord (115V)
25	44055	D-750-X Armature & Fan Assy. (115V)		44045	D-747 Service Cord (230V)
26	44075	D-758-X Armature & Fan Assy. (230V)	51	97255	Handle
27	44430	E-1340 Retaining Ring	52	46860	E-912 Grease Fitting
			53	41270	"X" Washer
			54	44755	Insulator Tube
			55	41620	Grease

No. 700 Power Drive-w/Dual Switch (Europe only)



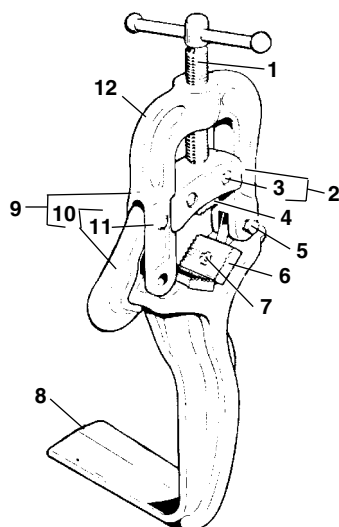
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Service Note:

For service parts used in early style machines, refer to the model 700 with a single control switch.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	32116	Handle	15	18676	Motor Housing
2	32176	Screw	16	18506	Sleeve f/Field
3	32166	Clip	17	12456	Terminal (2)
4	32126	Reversing Switch	18	18606	Field
5	32106	Switch Liner		32306	Field 48 Volts
6	30906	Brush Cap	19	44790	Load Spring
7	44815	Brush Assembly	20	44760	Bearing
8	30916	Brush Holder	21	18566	Sleeve f/Screw
9	39770	Set Screw (2)	22	18486	Field Mounting Screw (2)
10	18666	Line Cord (Eur. Di.)	23	18596	Armature and Fan Assembly (Eur. Di.)
	32236	Line Cord 48 Volt		32316	Armature and Fan Assembly
11	32136	ON/OFF Switch	24	44430	Retaining Ring
12	32156	Screw	25	44565	Bearing
13	66537	Strain Relief (48 Volt)	26	18406	Suppressor
	32246	Strain Relief w/Cable Sleeve	27	63377	Ferrite Bead
14	32096	Insulating Cap			

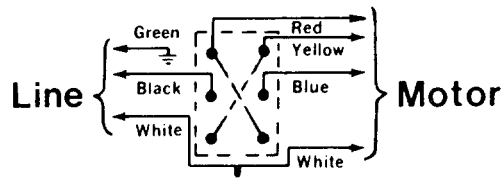
No. 775 Support Arm



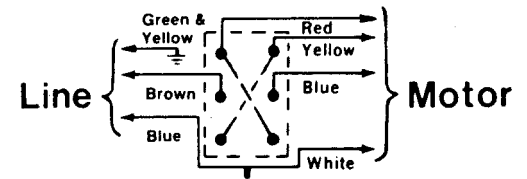
Ref. No.	Catalog No.	Description
1	40355	Feed Screw
2	40360	Jaw Clamp (Incl. Ref. No. 3)
3	40345	Screw and Washer (2)
4	40335	Upper Jaw
5	40325	Hinge Bolt, Washer and Nut
6	32100	Lower Jaws (1 set) (2 per set)
7	32205	Lower Jaw Screw (2)
8	42945	Base
9	40310	Yoke and Hook Assembly (Incl. Ref. No. 10)
10	40320	Hook (Incl. Ref. No. 11)
11	40340	Hinge Pin
12	40315	Yoke Assembly Complete (Incl. Ref. Nos. 1, 2, 4, 5 & 9)

Wiring Diagram (115/230V)

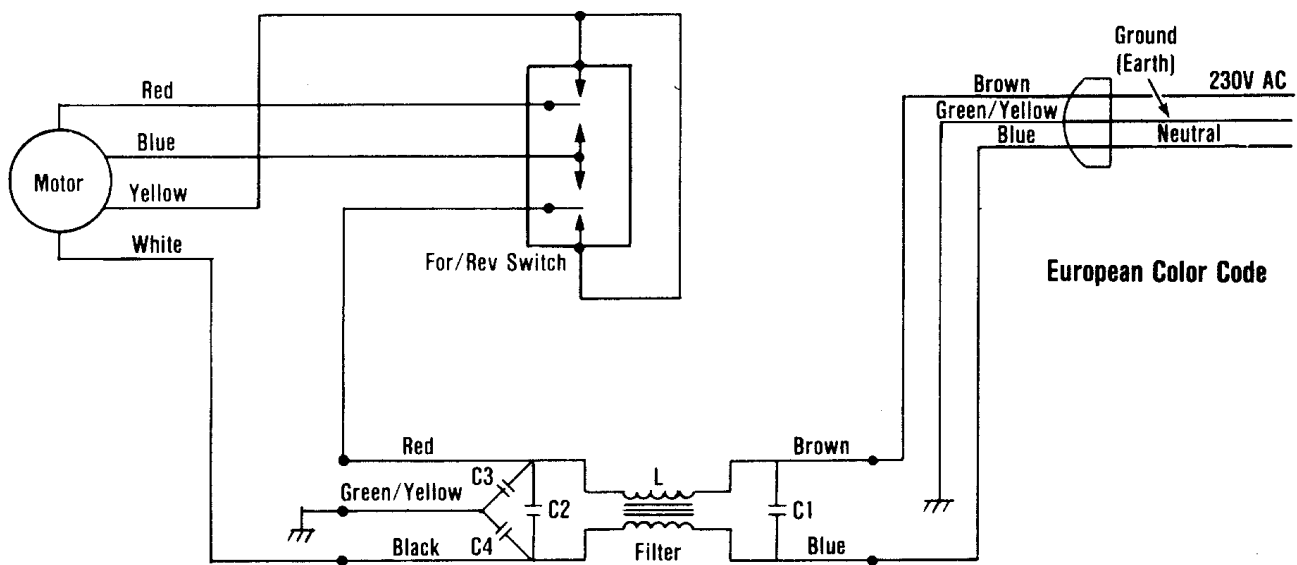
Standard Color Code



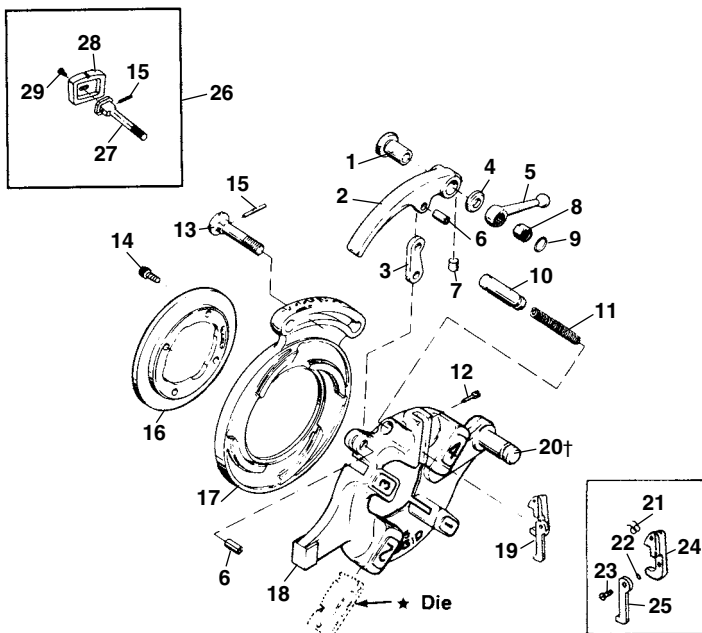
European Color Code



Wiring Schematic (230V) - with Line Filter



Nos. 711 & 911 Self-Opening Die Heads

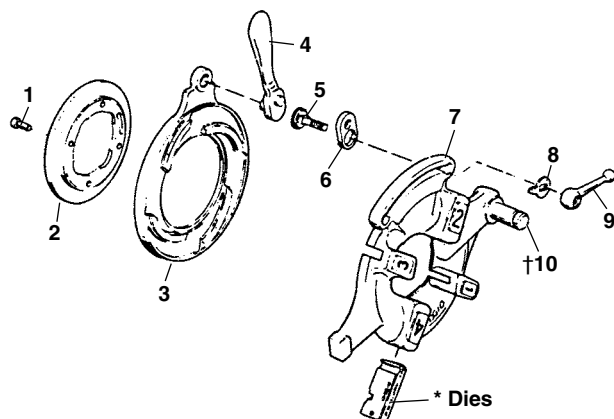


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	26132	711 Self-Opening Die Head (NPT)
—	26137	911 Self-Opening Die Head (BSPT)
—	41382	911 Self-Opening Die Head f/Japan (BSPT)
—	46862	911 Self-Opening Die Head f/Europe
1	44240	Bushing
2	43830	Throw-out Lever
3	44265	Throw-out Link
4	44245	Thrust Washer
5	44260	Clamp Lever
6	44270	Spiral Pin
7	45055	Insert
8	44250	Nut
9	44255	Retaining Ring
10	44275	Throw-out Plunger
11	11565	Spring
12	44290	Trigger Screw
13	44235	Lock Screw
14	32205	Screw 1/4" - 20 x 5/8"
15	45050	Pin
16	97020	Retaining Ring
17	40942	Cam Plate (NPT)
18	97040	Cam Plate (BSPT)
18	26717	Head w/Post
19	44285	Trigger Assy.
19	32982	Adjustable Trigger Assy. (Europe)
19	44687	Stepped Trigger Assy. (Japan)
†20	59827	Post
21	39982	Spring
22	44460	O-Ring
23	39967	Screw (Left Hand)
24	39977	Trigger Pivot
25	39972	Adjustable Trigger (Europe)
25	44672	Stepped Trigger (Japan)
25	45327	Stepped Trigger (Europe)
26	45332	Adj. Gage Plate Assy.
27	46722	Adj. Lock Screw
28	46717	Adj. Gage Plate
29	47147	Button Head Screw

† - See Service Notes

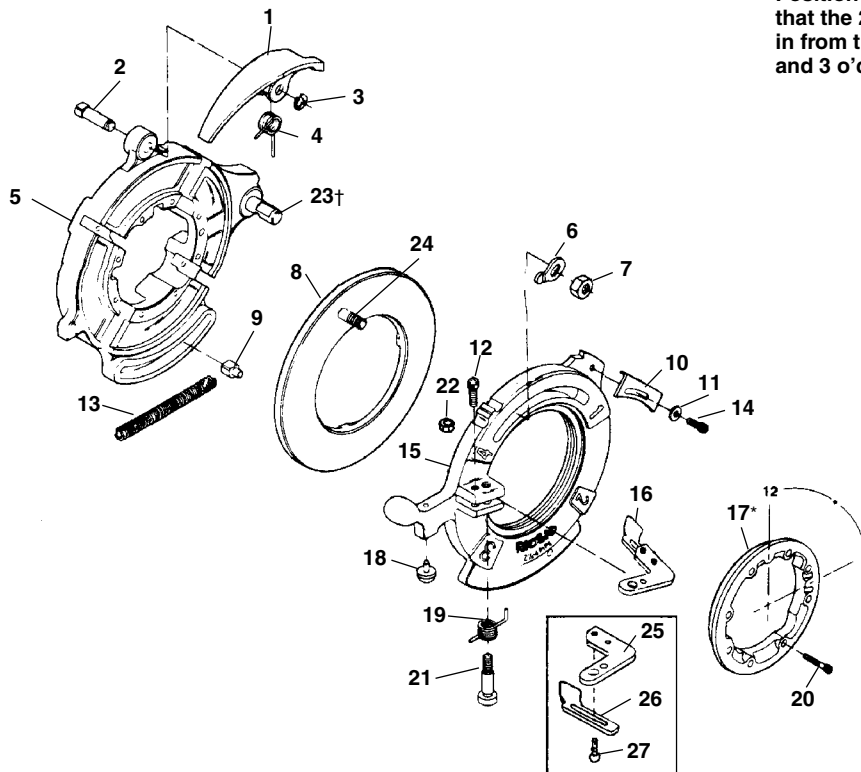
Nos. 541, 542, 713 & 913 Quick-Opening Die Heads



Ref. No.	Catalog No.	Description
—	26162	541 Quick-Opening Bolt Die Head 1/4" - 1"
—	26167	542 Quick-Opening Bolt Die Head 1/8" - 2"
—	26142	713 Quick-Opening Die Head (NPT) 1/4" - 2"
—	26147	913 Quick-Opening Die Head (BSPT) 1/4" - 2"
1	32205	Screw 1/4" - 20 x 5/8" (4)
2	23292	Retaining Ring L.H. (713, 913)
2	46620	Retaining Ring (541)
2	46625	Retaining Ring (542)
3	43360	Cam Plate L.H. (713, 913)
3	43405	Cam Plate (541)
3	43410	Cam Plate (542)
4	46520	Throw-out Lever (713, 913)
4	46555	Throw-out Lever (541, 542)
5	39860	Lock Screw (713, 913)
5	39955	Lock Screw (541, 542)
6	39950	Link
7	26897	Head w/Post & Latch Assembly (913)
7	26982	Head w/Post (541)
7	26987	Head w/Post (542)
7	27267	Head w/Post & Latch Assembly (713)
8	39460	Lever Washer
9	39970	Clamp Lever
†10	59827	Post

† - See Service Notes

Nos. 714 & 914 Self-Opening Receding Die Heads



*Position Retaining Ring so that the 2 blind holes coming in from the rear are in the 12 and 3 o'clock positions.

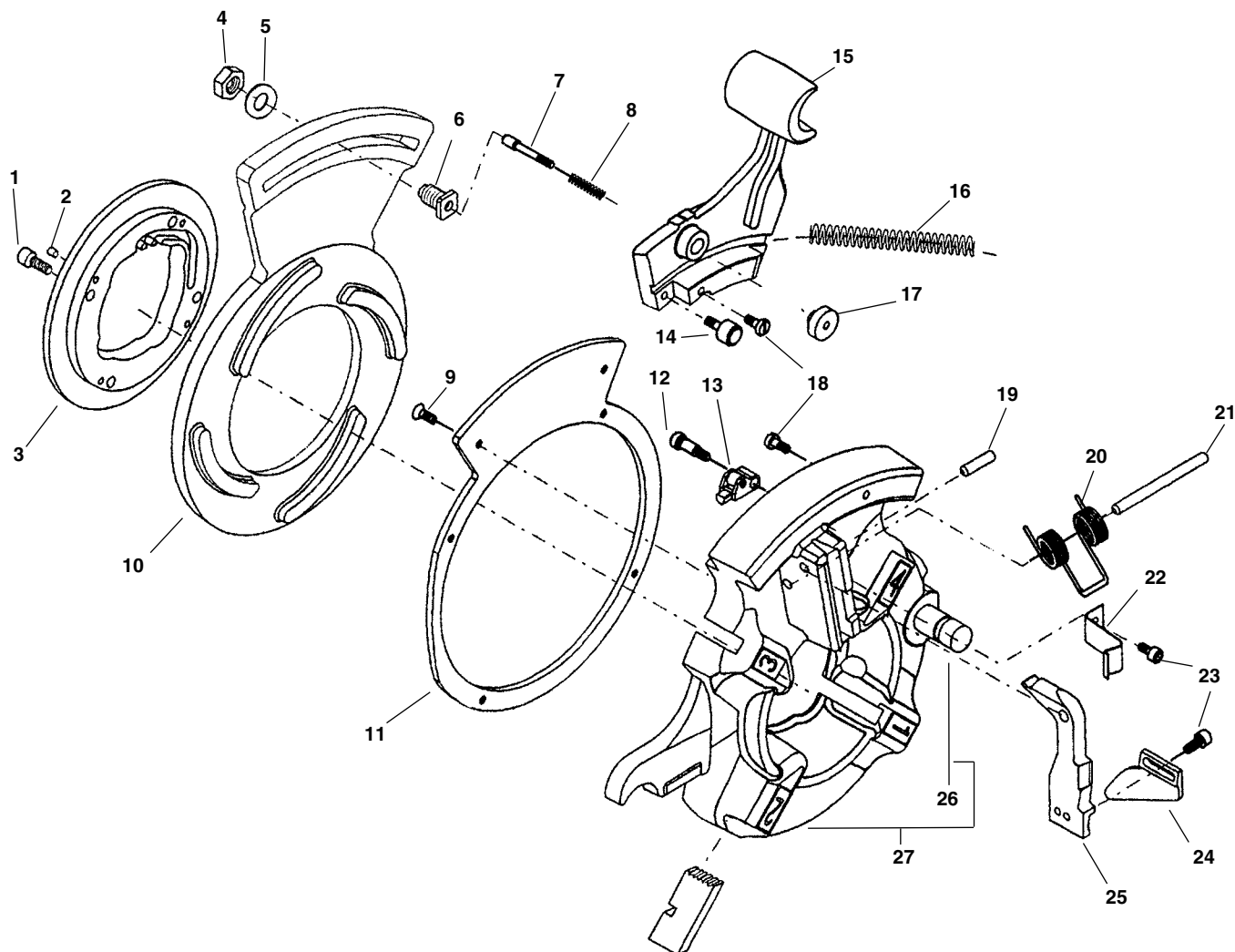
NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	26152	714 Self-Opening Receding Die Head (NPT)	12	27357	Screw $\frac{1}{4}$ " - 20 x $\frac{7}{16}$ "
—	26157	914 Self-Opening Receding Die Head (BSPT)	13	26612	Drive Block Spring
—	41387	914 Self-Opening Receding Die Head (BSPT) w/Adjustable Trigger	14	32145	Screw $\frac{1}{4}$ " - 20 x $\frac{1}{2}$ "
1	26877	Release Lever	15	26882	Cam Locking Plate
2	26932	Groove Pin	16	26617	Release Foot (NPT)
3	26937	Retaining Ring		32507	Release Foot (BSPT)
4	26872	Spring		32977	Adjustable Release Foot (BSPT)
5	26712	Die Head w/Post	*17	26637	Retaining Ring
6	26957	Lever Washer	18	26962	Sine Bar Ball
7	26887	Hex Nut $\frac{7}{16}$ " - 20	19	26622	Torsion Spring
8	26952	Cam Assy. (NPT)	20	26642	Screw #10 - 32 x $1\frac{3}{8}$ " (8)
	27277	Cam Assy. (BSPT)	21	26627	Shoulder Bolt
9	26632	Drive Block	22	77710	Hex Nut $\frac{1}{4}$ " - 20
10	26867	Lockout Plate	†23	59827	Post
11	27097	Washer $\frac{9}{32}$ "	24	33227	Cam Bolt
			25	39992	Release Foot Pivot
			26	39987	Release Foot (BSPT)
			27	32205	Screw
			28	10673	Ball Detente Assy. (4) (Not Shown)

† - See Service Notes

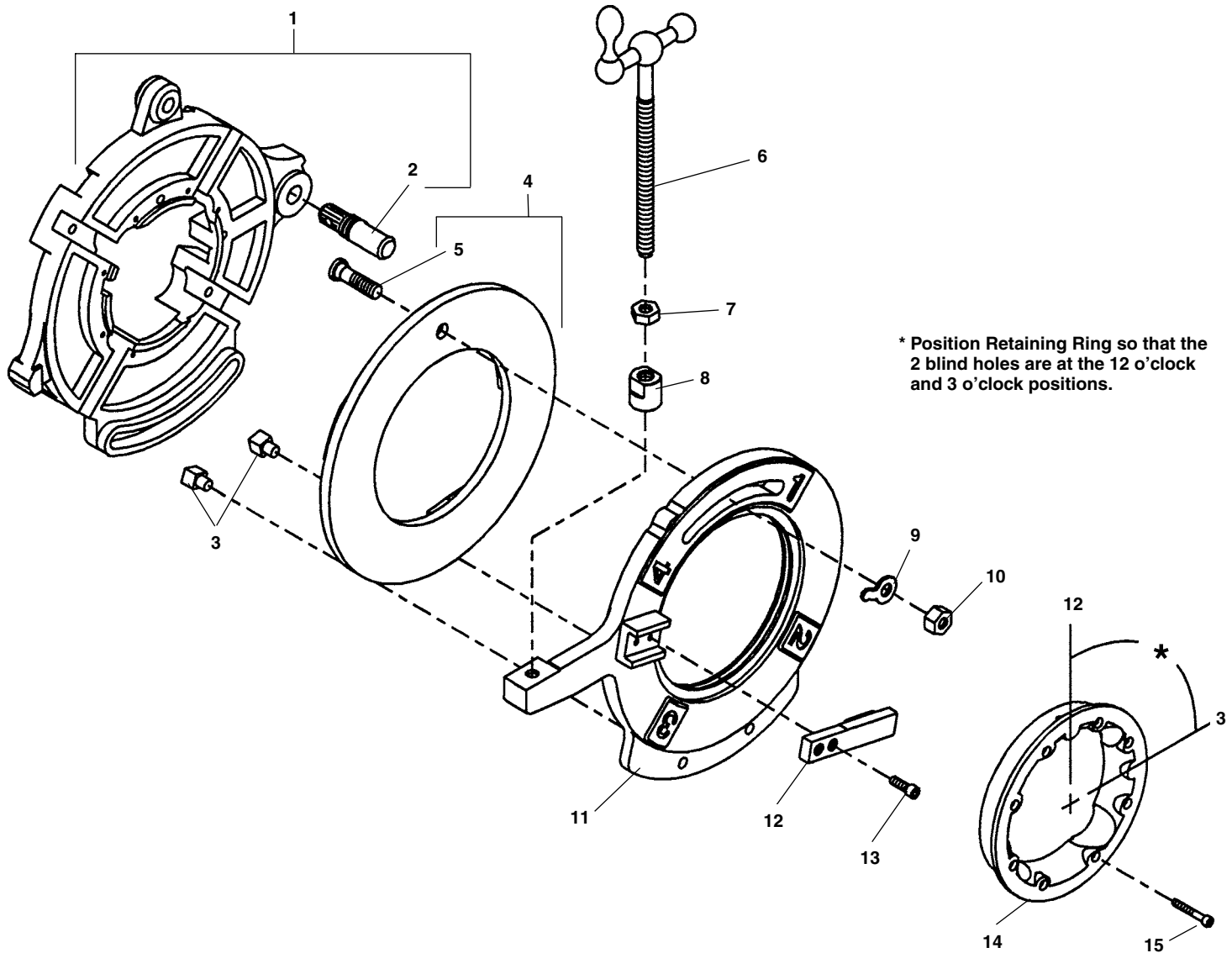
No. 724 NPT & 924 BSPT 1/2" - 3/4" Die Heads

No. 726 NPT & 926 BSPT 1" - 2" Die Heads



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

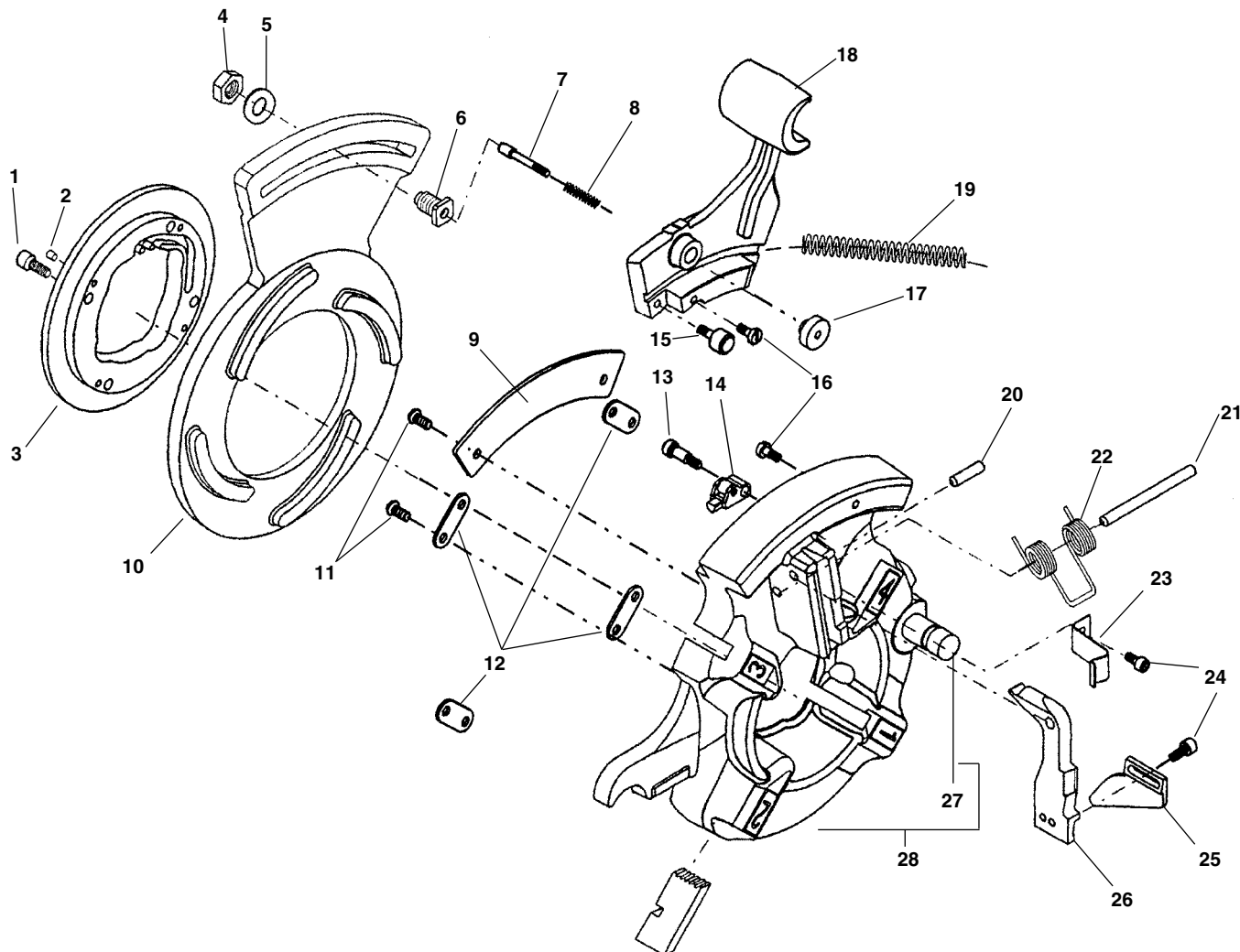
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	50317	924 1/2" - 3/4" BSPT Die Head	11	52442	Support Ring
—	50322	926 1" - 2" BSPT Die Head	12	34877	Soc. Hd. Shoulder Bolt 1/4" x 1/2"
—	54447	724 1/2" - 3/4" NPT Die Head	13	61617	Rocker Release Assembly
—	54442	726 1" - 2" NPT Die Head	14	52377	Slide Roller Bearing (2)
1	32205	Screw 1/4" - 20 x 5/8" SHCS (4)	15	58667	Adjuster Slide
2	60097	Detente Plunger (4)	16	61612	Release Spring
3	52292	Retaining Ring 1/2" - 3/4", 1" - 2"	17	61597	Adjuster Knob
4	61587	Jam Nut 3/8"	18	52372	Spring Retainer (2)
5	61592	Flat Washer 3/8"	19	87940	Roll Pin 1/4" x 7/8"
6	61607	Adjuster Bolt	20	52387	Trigger Spring
7	61602	Adjuster Plunger	21	52397	Spring Mounting Pin
8	52342	Adjuster Spring	22	60092	Trigger Spring
9	52447	Screw #10-24 x 1/2" FHCS (6)	23	45750	Screw #10-24 x 3/8" SHCS (2)
10	52312	Cam Plate BSPT 924, 1/2" - 3/4"	24	52417	Adjustable Trigger
	52317	Cam Plate BSPT 926, 1" - 2"	25	52422	Trigger Pivot
	56067	Cam Plate NPT 724, 1/2" - 3/4"	26	59832	Die Head Post
	56072	Cam Plate NPT 726, 1" - 2"	27	52432	Die Head w/Post



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	55447	725 Grooving Die Head
1	58687	Die Head With Post
2	59827	Die Head post
3	26632	Drive Block
4	26952	Cam Assembly
5	33227	Cam Bolt
6	58692	Feed Screw Assembly
7	44745	Jam Nut
8	58697	Adjusting Nut
9	26957	Lever Washer
10	26887	Hex Nut $\frac{7}{16}$ " - 20
11	58702	Cam Locking Plate
12	58707	Stop
13	40910	Screw $\frac{1}{2}$ - 20 x $\frac{3}{4}$ " (2)
14	26637	Retaining Ring
15	26642	Screw #10 - 32 x $1\frac{3}{8}$ " (8)

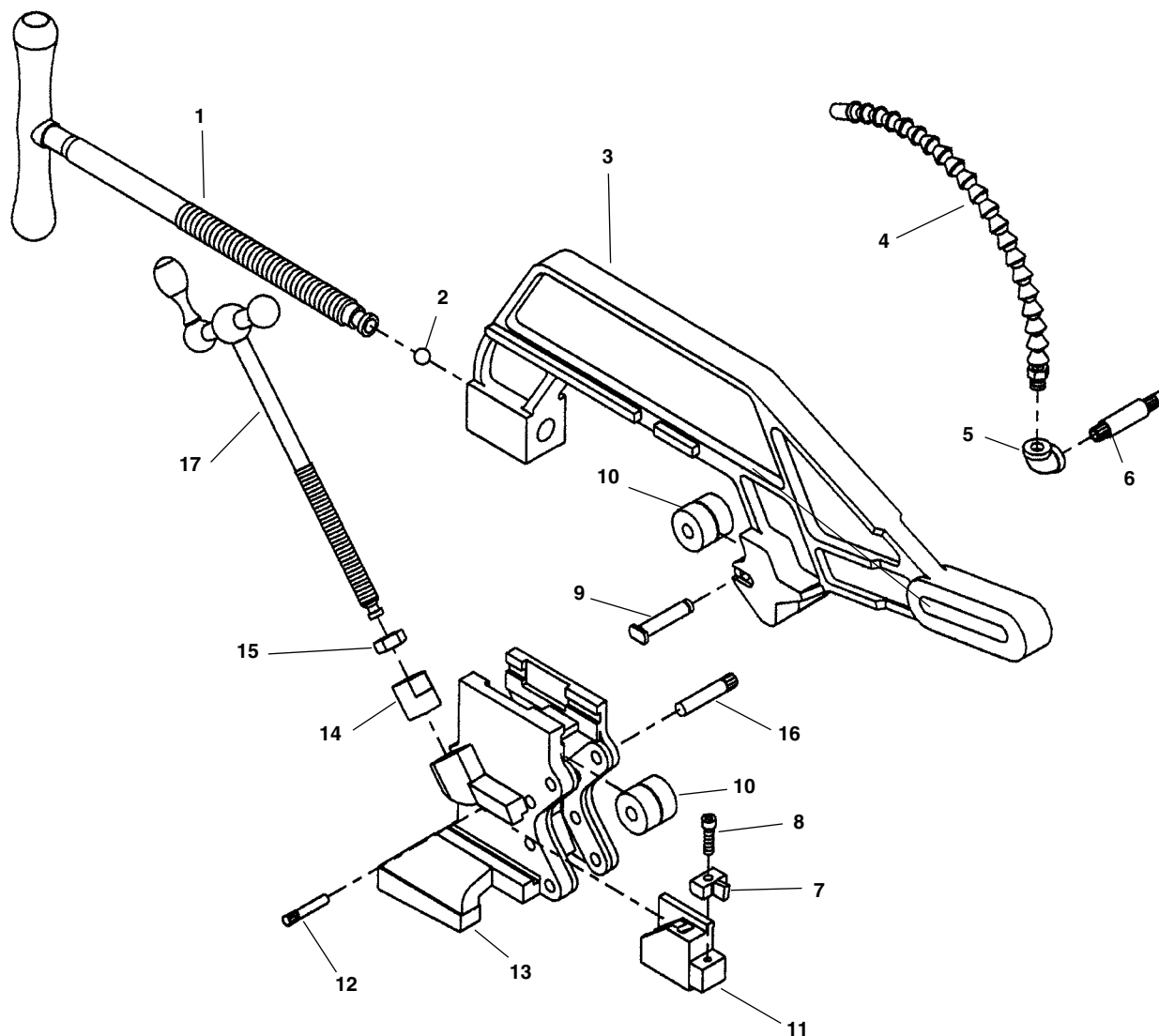
No. 728 NPT & 928 BSPT 2½" - 3" Die Heads



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

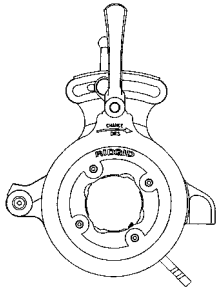
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	54437	728 2½" - 3" NPT Die Head	13	34877	Soc. Hd. Shoulder Bolt ¼" x ½"
—	50327	928 2½" - 3" BSPT Die Head	14	61617	Rocker Release Assembly
—	59522	928 2½" - 3" BSPT Die Head - Taiwan	15	52377	Slide Roller Bearing (2)
1	32205	Screw ¼" - 20 x ⅝" SHCS (4)	16	52372	Spring Retainer (2)
2	60097	Detente Plunger (4)	17	61597	Adjuster Knob
3	52287	Retaining Ring	18	58667	Adjuster Slide
4	61587	Jam Nut ⅜"-16 (2)	19	61612	Release Spring
5	61592	Flat Washer ⅜"	20	87940	Roll Pin ¼" x ⅛"
6	61607	Adjuster Bolt	21	52397	Spring Mounting Pin
7	59527	Adjuster Bolt - Taiwan	22	52387	Trigger Spring
8	61602	Adjuster Plunger	23	60092	Trigger Spring
9	52342	Adjuster Spring	24	45750	Screw #10-24 x ⅜" SHCS (2)
10	75802	Rocker Cover	25	52412	Adjustable Trigger
11	56077	Cam Plate NPT - 728 Die head	26	52422	Trigger Pivot
12	52307	Cam Plate BSPT - 928 Die head	27	59832	Die Head Post
	39542	Screw #10-24 x ½" BHCS (10)	28	72272	Die Head w/Post
	75797	Retaining Plate (4)			

No. 766 Saran Cut-Off Tool

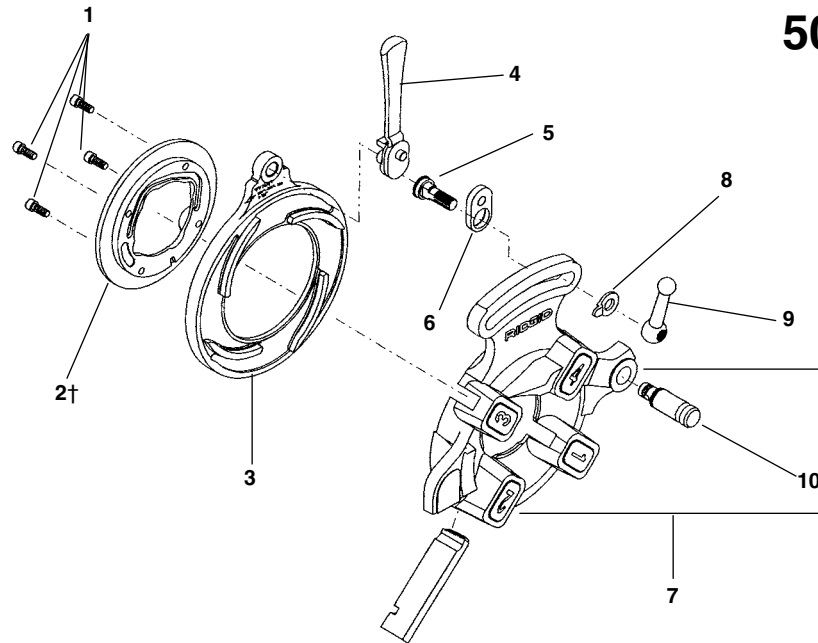


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	55452	766 Saran Cut-Off Tool
1	26752	Feed Screw Handle
2	41730	Steel Ball
3	26742	Cutter Frame
4	39845	Coolant Nozzle
5	39855	90° Elbow
6	57522	Carriage Bypass Pin
7	58712	Tool Bit
8	27357	Screw 1/4" - 20 x 7/8"
9	56932	Pin
10	34785	Rolls (5)
11	58717	Tool Holder Slide
12	26757	Groove Pin
13	58722	Roll Housing
14	58697	Adjustment Nut
15	44745	Jam Nut
16	26762	Groove Pin (4)
17	40027	Feed Screw Assembly
—	46190	1/4" Hex Key
—	49737	Lockout Plate F/Die Head

Service Note


†2 Retaining Ring must be oriented as shown for proper oil flow.



**811A
842
555
531B
532B
500A MONO**

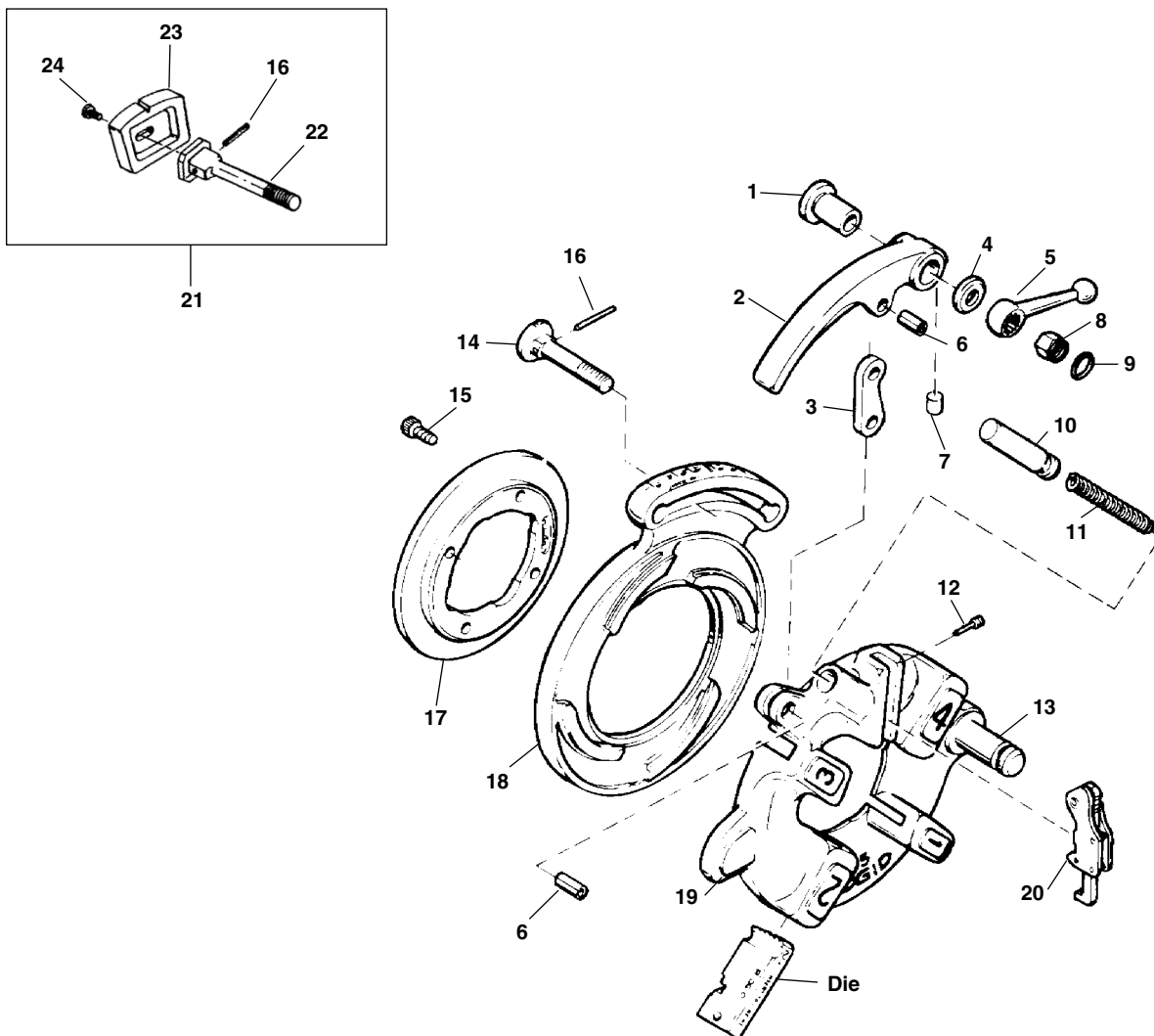
QUICK OPENING DIE HEADS

**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	1	2†	3	4	5	6	7	8	9	10
Die Head & Catalog No.	Screw	Retaining Ring	Cam Plate	Throw-Out Lever	Lock Screw	Link	Head/w Post	Lever Washer	Clamp Lever	Post
811A (97065) 1/8"-2" RH NPT	32205	97020	43360	46520	39860	39950	40922	26957	39970	59832
842 (23282) 1/8"-2" LH NPT	32205	23292	43360	46520	39860	39950	23287	26957	39970	59832
555 (10491) 1/8"-3/4"	32205	24256	43365	46555	39860	39950	24006	26957	39970	59832
531B (97045) 1/4"-1" RH/LH	32205	46620	43405	46555	39955	39950	97055	26957	39970	59832
532B (97050) 1 1/8"-2" RH/LH	32205	46625	43410	46555	39955	39950	97060	26957	39970	59832
811A (97070) 1/8"-2" BSPT	32205	97020	43360	46520	39860	39950	40957	26957	39970	59832
842 (23297) 1/8"-2" LH (BSPT)	32205	23292	43360	46520	39860	39950	23202	26957	39970	59832
500A Mono (1/8"-3/8") RH 1/8" (41032) 1/4" (41037) 3/8" (41042)	32205	1/8"-41862 1/4"-41867 3/8"-41872	43305	46555	47140	39950	41907	26957	46820*	59832
500A Mono (1/2"-3/4") RH 1/2" (41047) 3/4" (41062)	32205	1/2"-41877 3/4"-41882	43300	46555	47140	39950	41912	26957	46820*	59832
500A Mono (1"-1 1/4") RH 1" (41057) 1 1/4" (41062)	32205	1"-41887 1 1/4"-41892	43295	46555	47140	39950	41917	26957	46820*	59832
500A Mono (1 1/2"-2") RH 1 1/2" (41067) 2" (41072)	32205	1 1/2"-41897 2"-41902	43290	46555	47140	39950	41922	26957	46820*	59832

*Hex Nut For Mono Die Heads

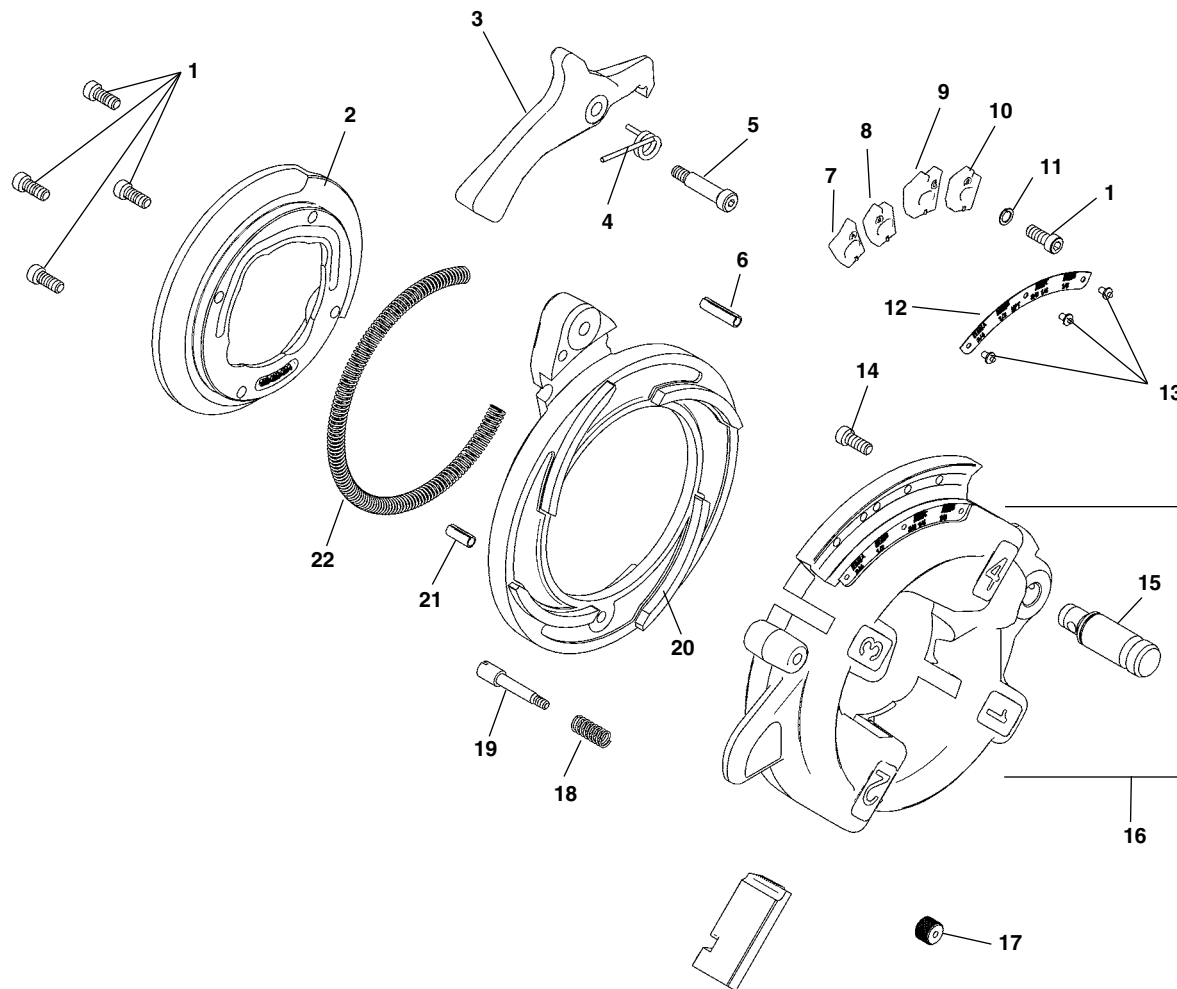
815A Self-Opening Through-Head Oiling Die Head



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	97075	815A Self-Opening (Through-Head-Oiling) Die Head (NPT)	13	59832	Post
	97080	815A Self-Opening (Through-Head-Oiling) Die Head (BSPT)	14	44235	Lock Screw
1	44240	Bushing	15	32205	Screw (4)
2	43830	Throw-Out Lever	16	45050	Pin
3	44265	Throw-Out Link	17	97020	Retaining Ring
4	44245	Washer	18	40942	Cam Plate (815A NPT)
5	44260	Clamp Lever		97040	Cam Plate (815A BSPT)
6	44270	Roll Pin (2)	19	40932	Head w/Post
7	45055	Insert	20	44285	Trigger Assembly
8	44250	Nut		32982	Adj. Trigger Assy. (Europe)
9	44255	Retaining Ring		45327	Trigger Assy. (Europe)
10	44275	Throw-Out Plunger	21	45332	Gauge Plate Assy.
11	11565	Spring	22	46722	Adj. Lock Screw
12	44290	Trigger Screw	23	46717	Gauge Plate
			24	47147	Buttonhead Screw

NOTE: Early Style 815/845 parts interchangeable with 815A NPT
Early Style 855 parts interchangeable with 815A BSPT



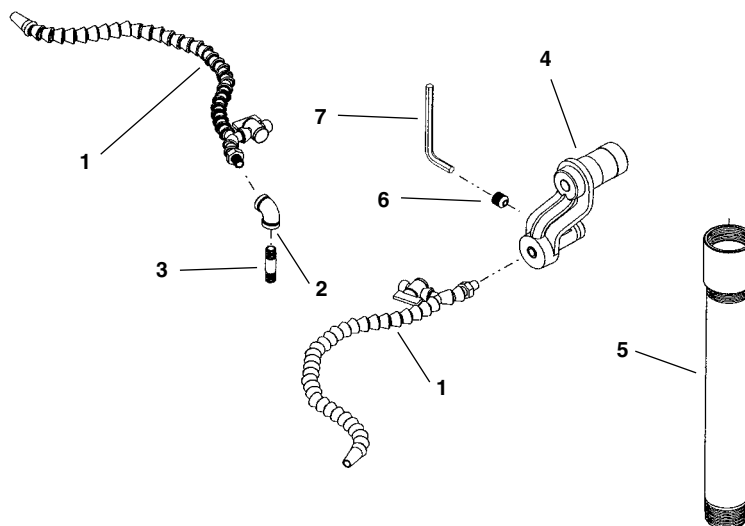
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	84537	816 Die Head $\frac{1}{8}$ " - $\frac{3}{4}$ "	11	44740	Split Lock Washer, $\frac{1}{4}$ " (4)
—	84532	817 Die Head 1" - 2"	12	92772	Size Plate 816 $\frac{1}{8}$ " - $\frac{3}{4}$ "
1	40910	Screw, $\frac{1}{4}$ " - 20 x $\frac{3}{4}$ " S.H.C.S. (8)	13	92777	Size Plate 817 1" - 2"
2	92767	Retaining Ring	14	85920	Pop Rivet $\frac{3}{32}$ " (3)
3	92822	Handle	15	32145	Screw, $\frac{1}{4}$ " - 20 x $\frac{1}{2}$ " S.H.C.S.
4	92817	Spring	16	59832	Die Head Post
5	92812	Shoulder Bolt	17	92757	Die Head Body w/Post
6	92832	Roll Pin $\frac{1}{4}$ " x $\frac{5}{16}$ "	18	92802	Plunger Knob
7	92782	Adjusting Block 816/817 $\frac{3}{4}$ ", 2" Type A	19	92807	Plunger Spring
8	92787	Adjusting Block 816 $\frac{1}{2}$ " Type B	20	92797	Plunger Shaft
9	92782	Adjusting Block 817 $1\frac{1}{2}$ " Type A	21	92762	Cam Plate
10	92792	Adjusting Block 816 $\frac{1}{4}$ ", $\frac{3}{8}$ " Type C	22	58090	Roll Pin $\frac{1}{4}$ " x 1"
	92787	Adjusting Block 817 $1\frac{1}{4}$ " Type B		92827	Spring
	92787	Adjusting Block 816/817 $\frac{1}{8}$ ", 1" Type B			

No. 768 Drive Link Assembly

NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description
—	42415	768 Drive Link Assy.
1	39845	Coolant Nozzle
2	39850	Nipple
3	39855	Elbow
4	36182	Drive Link Assembly
5	39515	Pipe Extension Assembly
6	39755	Set Screw
7	46190	1/4" Hex Wrench



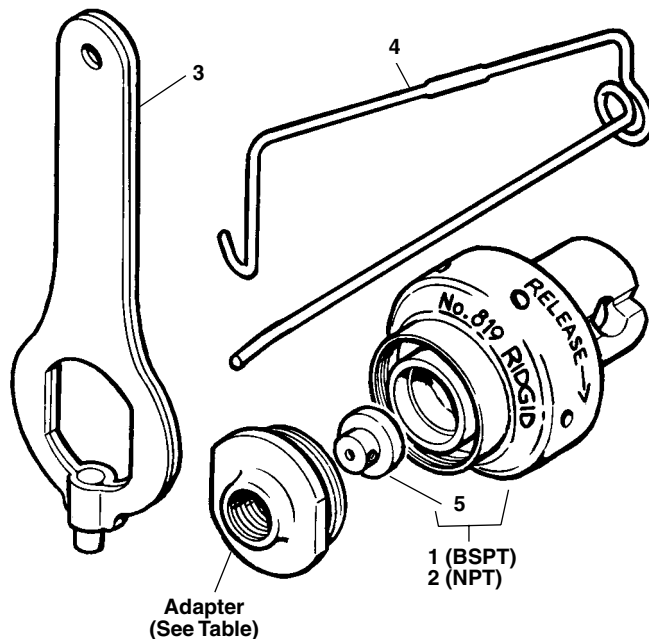
No. 819 Nipple Chuck and Adapters

Standard Pipe (NPT) Capacity: 1/8" – 2"

Ref. No.	Catalog No.	Description
1	68285	Nipple Chuck Body with Insert (BSPT)
2	51025	Nipple Chuck with Insert (NPT)
3	51020	Nipple Chuck Wrench
4	51010	Carrier
5	51035	Insert

Pipe Adapters

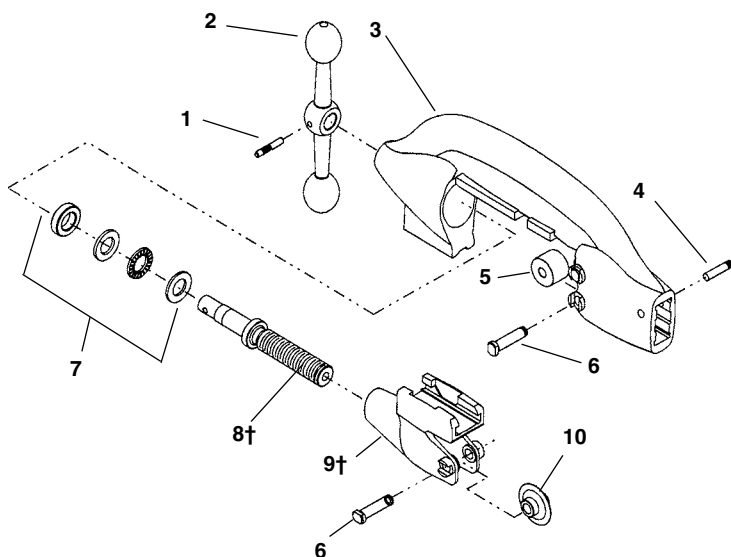
Size (in.)	NPT Standard		BSPT Standard		Weight	
	Catalog No.	Model No.	Catalog No.	Model No.	lb.	kg.
1/8	51040	E-729	68190	E-729-B	1/2	0,23
1/4	51045	E-730	68195	E-730-B	1/2	0,23
3/8	51050	E-731	68200	E-731-B	1/2	0,23
1/2	51055	E-732	68165	E-732-B	1/2	0,23
3/4	51060	E-733	68170	E-733-B	1/2	0,23
1	51065	E-734	68175	E-734-B	1/2	0,23
1 1/4	51070	E-735	68180	E-735-B	1/2	0,23
1 1/2	51075	E-736	68185	E-736-B	1/2	0,23



Bolts and Studs Adapters

UNC Catalog No.	UNF Catalog No.	Description	UNC Catalog No.	UNF Catalog No.	Description
51080	51160	Stud Adapter 1/4"	51120	51200	Stud Adapter 7/8"
51085	51165	Stud Adapter 5/16"	51125	51205	Stud Adapter 1"
51090	51170	Stud Adapter 3/8"	51130	51210	Stud Adapter 1 1/8"
51095	51175	Stud Adapter 7/16"	51135	51215	Stud Adapter 1 1/4"
51100	51180	Stud Adapter 1/2"	51140	51220	Stud Adapter 1 3/8"
51105	51185	Stud Adapter 9/16"	51145	51225	Stud Adapter 1 1/2"
51110	51190	Stud Adapter 5/8"	51150	—	Stud Adapter 1 3/4"
51115	51195	Stud Adapter 3/4"	51155	—	Stud Adapter 2"

No. 820 Cutter

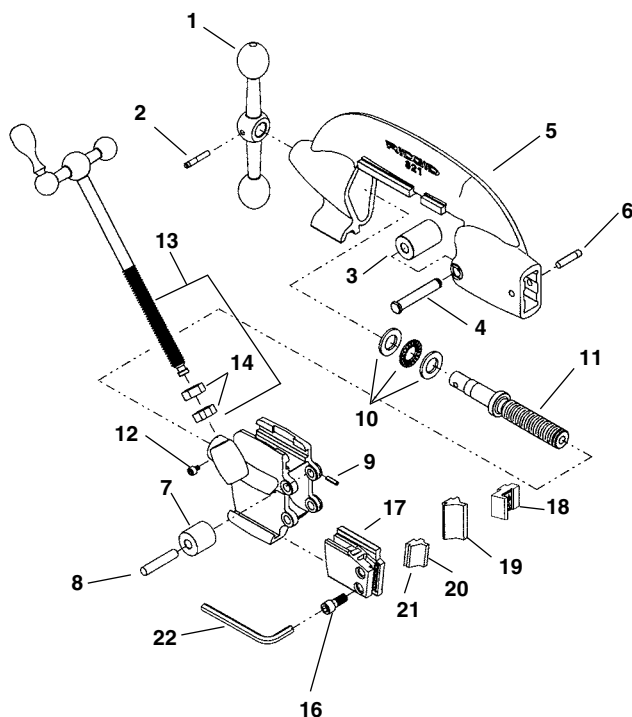


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	42390	820 Cutter Complete
1	47160	Crank Pin
2	45765	Feed Screw Crank
3	43040	Cutter Frame
4	47135	Stop Pin
5	34775	Cutter Roll (2)
6	34780	Cutter & Roll Pin (3)
7	46725	Thrust Bearing Assembly
8†	45780	Feed Screw
9†	43245	Wheel Housing
10	44185	Cutter Wheel
	44190	Cutter Wheel f/Stainless

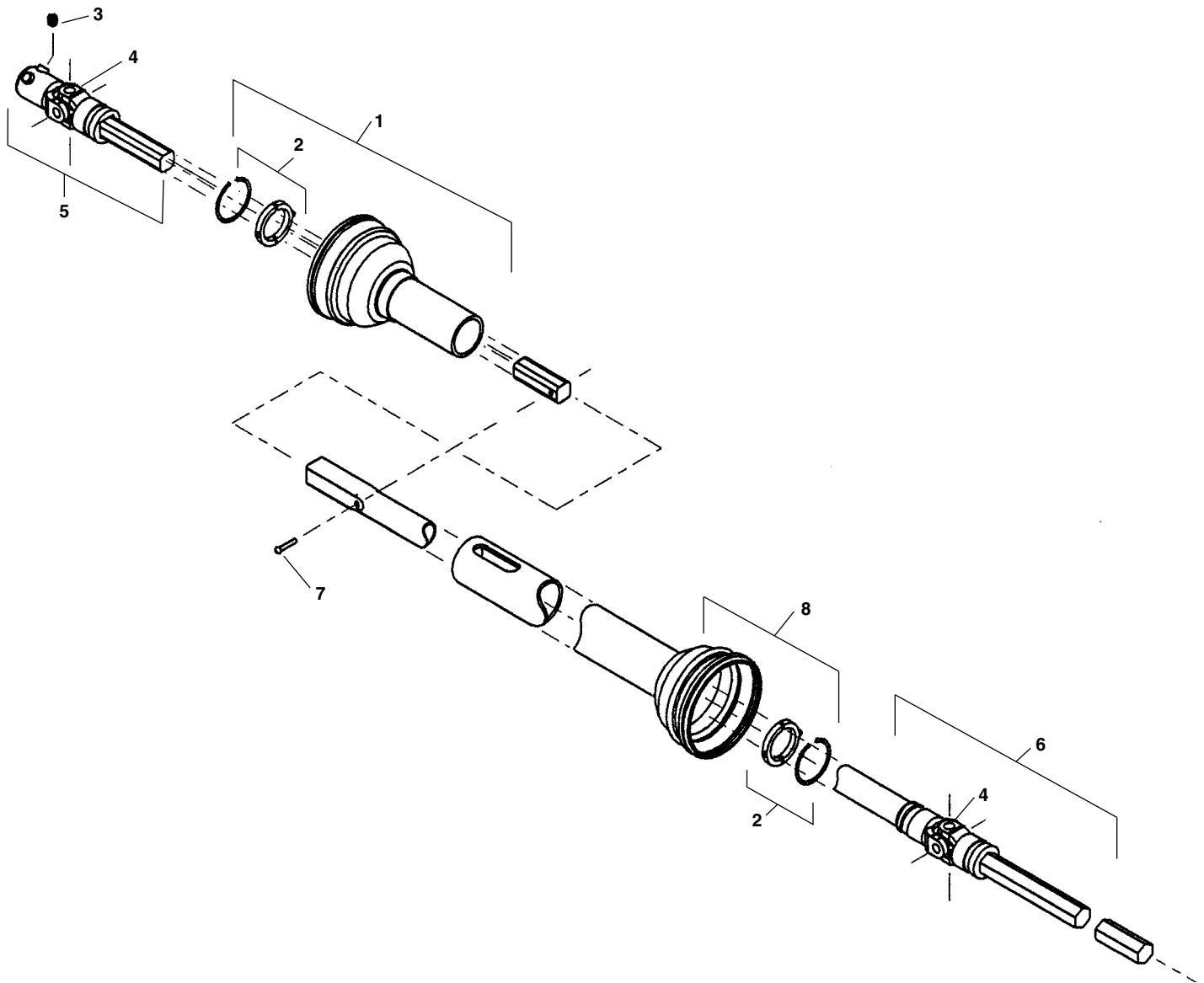
†Service Note: When replacing parts on early style (fine thread) cutters, both feed screw and wheel housing must be replaced.

No. 821 Blade-Type Cutter



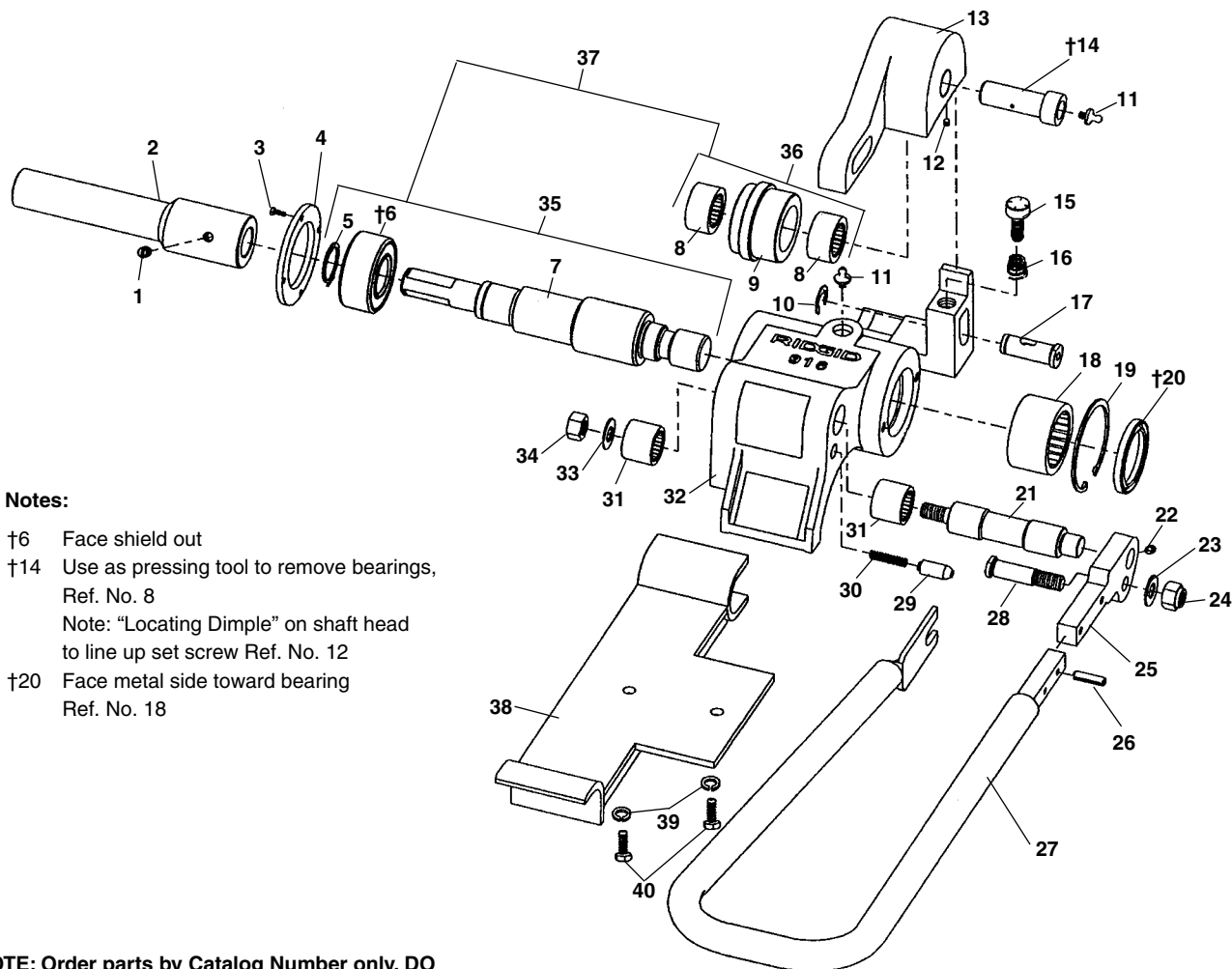
Ref. No.	Catalog No.	Description
1	45765	Feed Screw Crank
2	47160	Crank Pin
3	46965	Wide Roll
4	34310	Wide Roll Pin
5	42910	Cutter Frame
6	47135	Stop Pin
7	46960	Narrow Roll (2)
8	46970	Narrow Roll Pin (2)
9	39820	Spring Pin (2)
10	44920	Bearing Assembly
11†	45780	Feed Screw
12	46920	Screw #10 - 24 x 1/4"
13	43825	Cutter Screw Assembly
14	44745	Stop Nut (2)
15†	42915	Roll Housing
16	32270	Screw 5/16" - 18 x 3/4" (2)
17	43820	Tool Holder Slide
18	34217	Grooving Tool
19	44200	Saran Tool
20	43890	Cut-Off Tool, 45° Bevel
21	34212	Cut-Off Tool, 37 1/2° Bevel
22	46190	Hex Wrench, 1/4"

†Service Note: When replacing parts on early style (fine thread) cutters, both feed screw and roll housing must be replaced.



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
1	62332	Outer Bell
2	62327	Nylon Bearing w/Retainer
3	40050	Screw (2)
4	62342	Cross w/Pins (2)
5	62317	Sliding Shank Assy.
6	62312	Chuck Shank & Shaft Assy.
7	62322	Roll Pin
8	62337	Inner Bell


Service Notes:

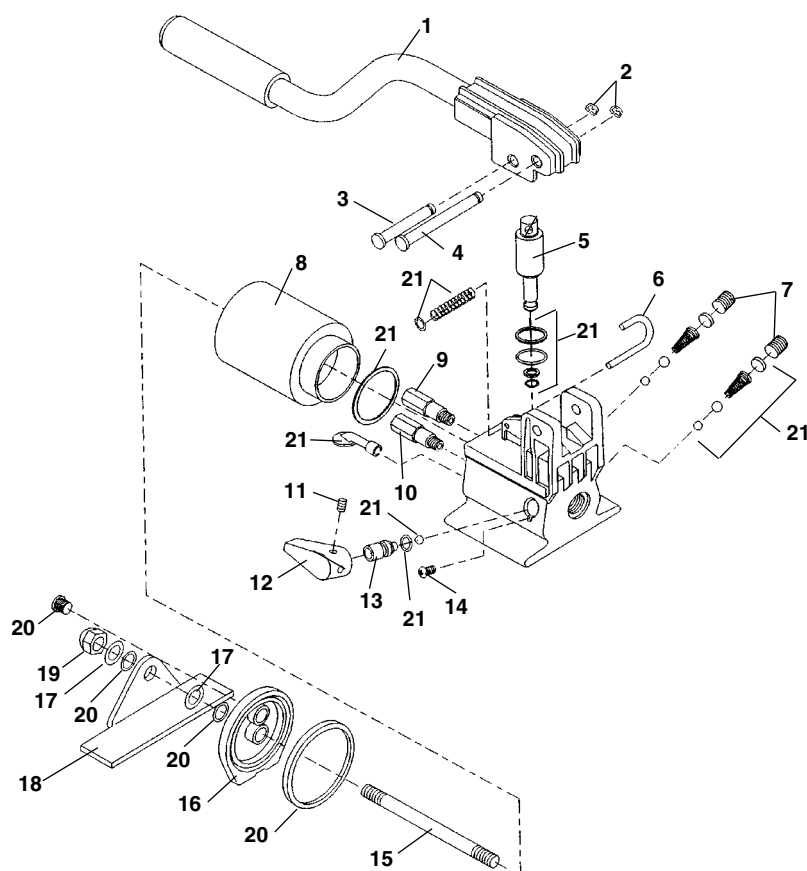
- Ref. No. †6 Face shield out
 Ref. No. †14 Use as pressing tool to remove bearings,
 Ref. No. 8
 Note: "Locating Dimple" on shaft head
 to line up set screw Ref. No. 12
 Ref. No. †20 Face metal side toward bearing
 Ref. No. 18

**NOTE: Order parts by Catalog Number only. DO
 NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	48497	Screw 3/16" - 16 x 1/2" (2)	23	77720	Washer
2	48442	Coupling - Short	24	78005	Hex Stop Nut 1/2" - 13 (2)
3	66547	Coupling - Long	25	47037	Drive Link
4	45207	Hex Hd Screw 10 - 32 x 1/2" (4)	26	87940	Roll Pin (2)
5	45202	Retaining Plate	27	45137	Handle
6	45152	Retaining Ring	28	45182	Drive Pin
†6	45147	Double Roll Ball Bearing	29	47027	Detente Pin
7	45122	Drive Shaft	30	47032	Detente Spring
	45652	Drive Shaft f/Copper Tubing	31	45172	Drive Link Bearing (2)
	45662	Drive Shaft f/1" Pipe	32	48437	Lower Roll Housing f/1822 Includes Ref. No. 11
	69647	Drive Shaft 1 1/4 to 1 1/2 (AWWA)		48507	Lower Roll Housing f/300 Includes Ref. No. 11
	69672	Drive Shaft 2 to 6 (AWWA)	33	83420	Flat Washer
8	45167	Hd Caged Roller Bearing (2)	34	78005	Hex Stop Nut 1/2" - 13 (2)
9	45127	Grooving Roll	35	45397	Drive Shaft Assembly
	45657	Grooving Roll f/Copper Tubing		45557	Drive Shaft Assembly f/Copper Tubing
	45667	Grooving Roll f/1" Pipe		45572	Drive Shaft Assembly f/1" Pipe
	69652	Grooving Roll 1 1/4 to 1 1/2 (AWWA)		69657	Drive Shaft Assembly 1 1/4 to 1 1/2 (AWWA)
	69677	Grooving Roll 2 to 6 (AWWA)		69682	Drive Shaft Assembly 2 to 6 (AWWA)
10	42580	Retaining Ring	36	45587	Grooving Roll Assembly w/Bearing
11	46860	Grease Fitting		45562	Grooving Roll Assembly w/Bearing f/Copper Tubing
†14	45187	Cone Pt. Screw 10 - 32 x 1/4"		45577	Grooving Roll Assembly w/Bearing f/1" Pipe
13	45112	Upper Roll Housing		69662	Grooving Roll Assembly 1 1/4 to 1 1/2 (AWWA)
	45132	Groove Roll Shaft includes Ref. No. 11		69687	Grooving Roll Assembly 2 to 6 (AWWA)
15	48447	Adjusting Screw	37	45352	Roll Set f/Copper Tubing incl. Ref. No. 35 & 36
16	45402	Adjusting Screw Spring		45347	Roll Set f/1" incl. Ref. No. 35 & 36
17	48452	Pivot Pin		69667	Roll Set 1 1/4 to 1 1/2 (AWWA)
18	45142	Caged Roller Bearing		69692	Roll Set 2 to 6 (AWWA)
19	45162	Retaining Ring		47492	Warning & Depth Adjusting Label
†20	45157	Front Seal	38	61242	Base - 535
21	45117	Drive Link Shaft	39	40930	3/8" Locker Washer
22	45192	Cone Pt. Screw 1/4" - 20 x 1/2"	40	46675	3/8" x 3/4" Bolt

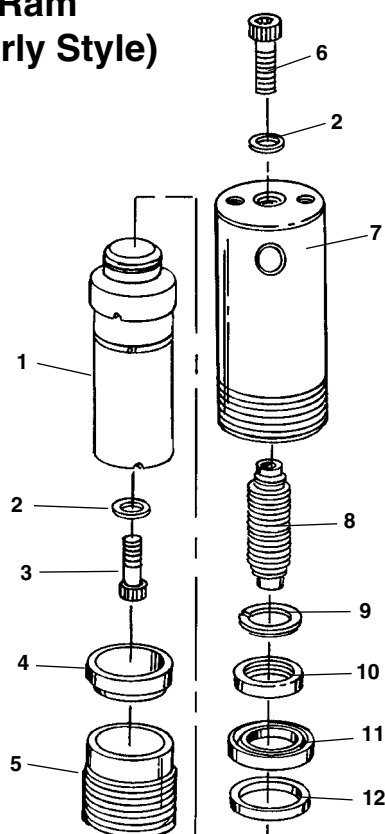
Hydraulic Pump, P392

**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**



Ref. No.	Catalog No.	Description
—	61132	Pump Assembly, P392
1	64427	Handle Assembly
2	34245	Retaining Rings Set of 5
3	63762	Wrist Pin
4	64442	Pivot Pin
5	63817	Plunger Assembly
6	63747	Locking Pin
7	63742	Pipe Plug (2)
8	64412	Reservoir
9	63752	Low Pressure Relief
10	63757	High Pressure Relief
11	58720	Set Screws Set of 2
12	64437	Release Knob
13	63737	Valve Stem
14	64432	Stop Screw
15	64417	Tie Rod
16	63697	End Cap
17	63717	Washers Pack of 2
18	64422	Rear Foot
19	63707	Acorn Plug
20	63712	Fill Plug
21	63657	Repair Kit

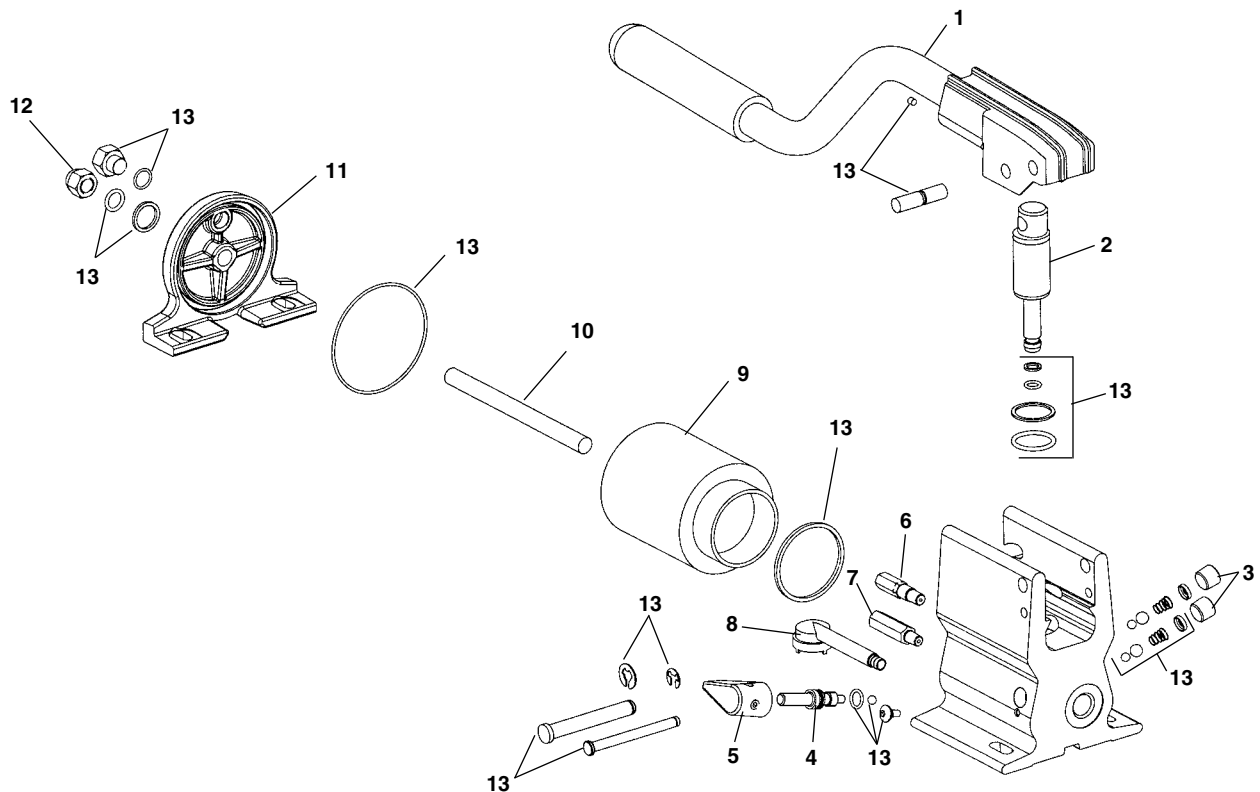
Hydraulic Ram C151C (Early Style)



Ref. No.	Catalog No.	Description
1	48622	Piston Rod
2*	48617	Copper Washer (2)
3*	48612	Cap Screw 1/4" - 20 x 1 1/4" (Torque to 100 lbs.)
4*	48607	Rod Wiper
5	48602	Retainer Nut (Torque to 100 lbs.)
6	48672	Cap Screw, 1/4" - 20 x 7/8" (Torque to 100 lbs.)
7	48667	Cylinder Body
8	48662	Extension Spring
9*	48652	Retaining Spring
10	48647	Slip Retainer
11*	48642	U-Cup Seal
12	48637	Backup Washer
—	48677	Repair Kit

* Note: Items marked with an asterisk (*) are included in repair kit No. 48677

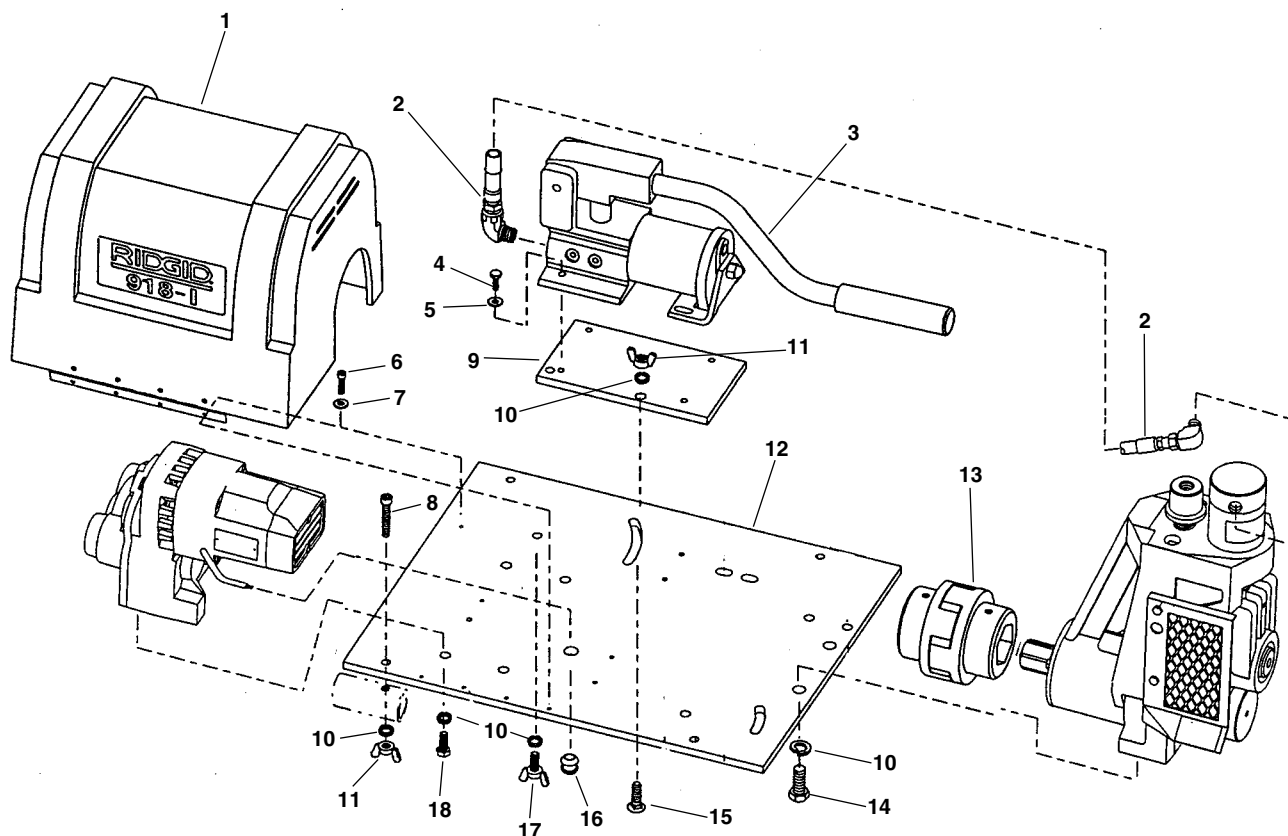
Hydraulic Pump, P392U001



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

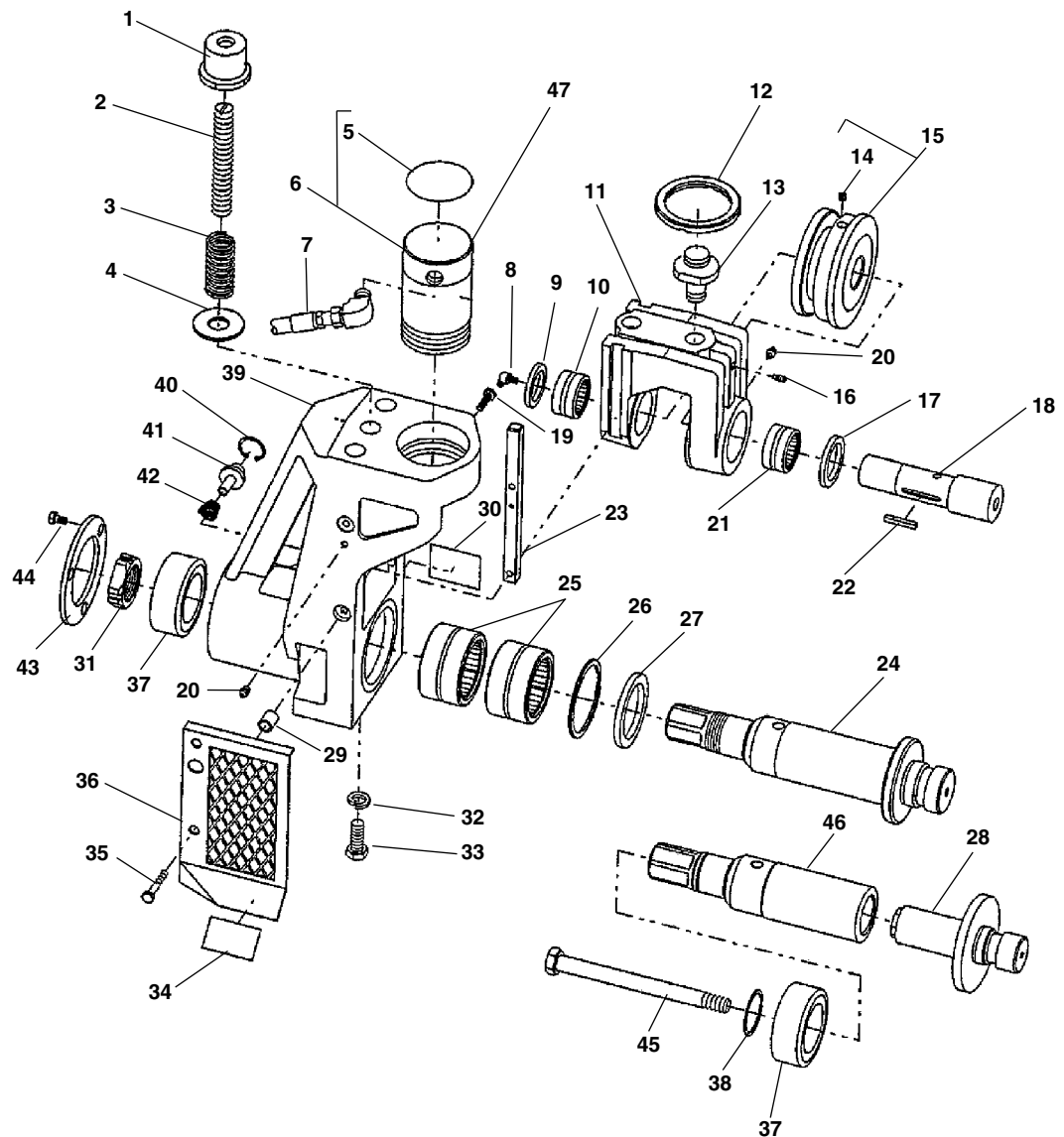
Ref. No.	Catalog No.	Description
1	64427	Handle Assembly
2	97757	Plunger Assembly
3	63742	Pipe Plug (2)
4	97762	Valve Stem
5	64437	Release Knob
6	63752	Low Pressure Bypass
7	63757	High Pressure Relief
8	97782	Oil Filter
9	64412	Reservoir
10	64417	Tie Rod
11	97767	End Cap
12	63707	Acorn Nut
13	97772	Repair Kit

Base Assembly



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DO NOT order by Reference Number.**

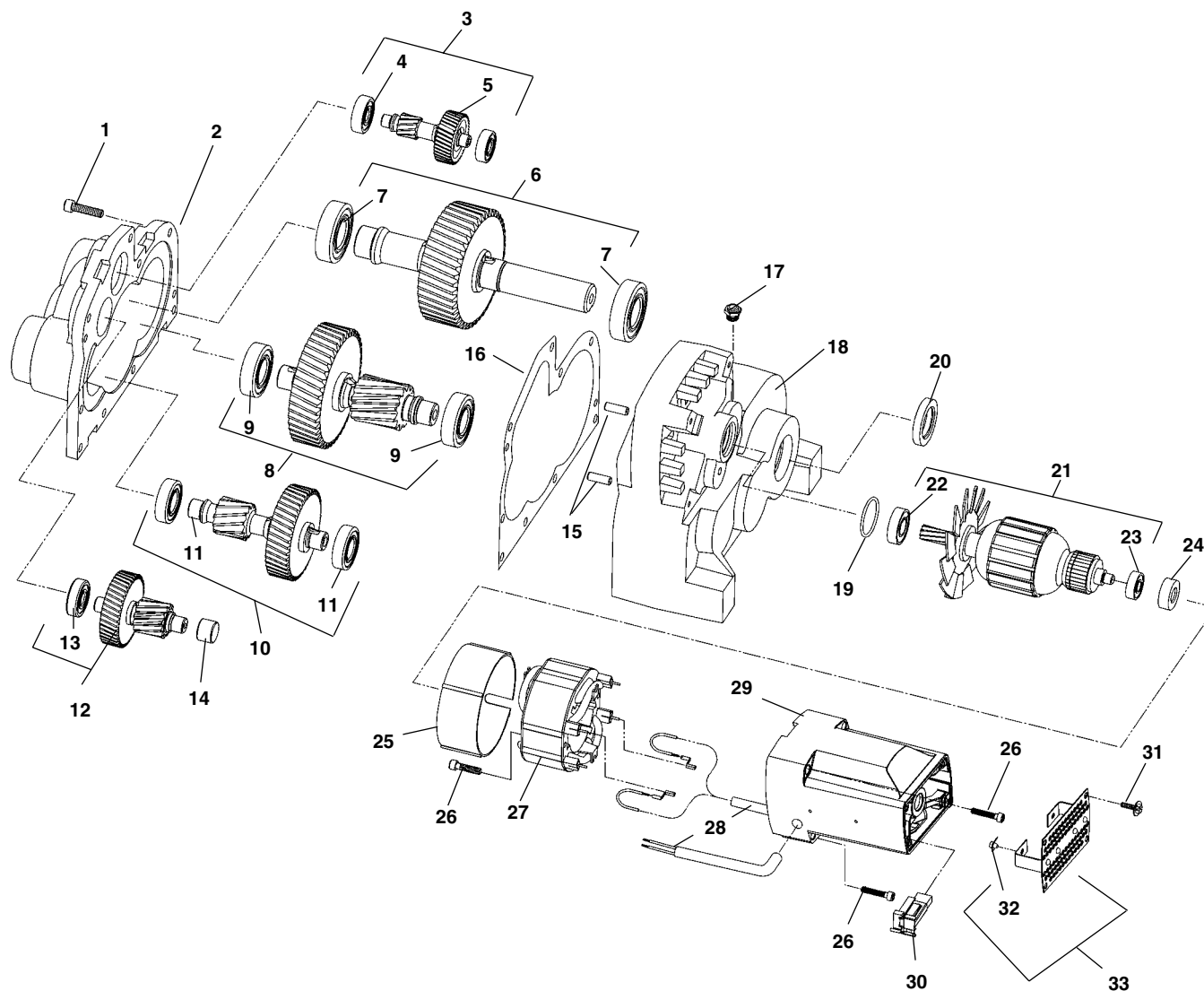
Ref. No.	Catalog No.	Description
1	65557	Motor Shroud
2	49142	Hydraulic Hose Assembly – 115V, 230V
	61372	Hydraulic Hose Assembly – 100V
3	61132	Hydraulic Pump Complete
4	60005	Hex Screw, 1/4" - 20 x 3/4" (4)
5	44740	Lock Washer 1/4" (4)
6	40260	Screws #10 - 24 x 1/2" S.H.C.S. (5)
7	45365	Flat Washer, #10 (5)
8	58052	Hex Screw, 3/8" - 16 x 2 1/2" (4)
9	87527	Pump Mount Plate, 115V, 230V
	65552	Pump Mount Plate, 100V
10	40930	Lock Washer 3/8" (5)
11	45385	Wing Nut, 3/8" - 16" (5)
12	65577	Base Plate
13	65567	Drive Coupling
14	45500	Hex Screw, 1/2" - 13 x 1 1/4" (2)
15	61367	Plow Bolt
16	65112	Rubber Grommet
17	61362	Wing Screw, 3/8" - 16 x 3/4"
18	45470	Hex Screw 3/8" - 16 x 1"



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Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	49117	Depth Adjustment Nut	18	49102	Upper Roll Shaft (Incls. Ref. 8, 22)	34	49257	Label, Warning
2	49112	Depth Rod	19	49252	Hex Screw, 1/4" - 20 x 1" (2)	35	49212	Hex Screw, 1/4" - 20 x 1 3/4" (2)
3	49122	Spring	20	46860	Grease Fitting (4)	36	49197	Guard (Incls. Ref. 29)
4	60995	Flat Washer, 3/4"	21	87610	Roller Bearing	37	49127	Bearing
5	49262	Label, Depth Adjustment	22	27002	Key, 3/16" Sq. x 1 5/16"	38	49192	Spiral Retaining Ring
6	49147	Hydraulic Cylinder	23	49107	Set of 2 Slide Keys	39	49057	Lower Roll Housing (Incls. Ref. 20)
7	49142	Hydraulic Hose Assembly - 115V/230V	24	51427	Drive Shaft, 2" - 6" Sch 10 & 40	40	49177	Retaining Ring
8	46915	Grease Fitting - 65 Deg.	25	51432	Drive Shaft Assy. - same as above and includes Ref. 31, 37	41	49172	Lock Pin
9	87695	Seal	26	51817	Drive Shaft, 8" - 12" Sch. 10, 8" Sch 40	42	44915	Spring
10	87710	Roller Bearing	27	51812	Drive Shaft Assy. - same as above and includes Ref. 31, 37	43	49132	Retaining Plate
11	49062	Upper Roll Housing (Incls. Ref. 9, 10, 16, 17, 20, 21)	28	87600	Roller Bearing (2)	44	60265	Hex Screw, 1/4" - 20 x 1/2" (3)
12	49152	Lock Ring	29	49202	Set of 2 Spacers	45	49667	Hex Bolt 5/8" - 11 x 7"
13	49082	Piston Rod Coupling	30	49207	Label, Warning	46	49067	Drive Shaft - for 1", 1 1/4", 1 1/2" Rolls and Copper Roll 2" - 6"
14	45192	Cone Pt. Screw, 1/4" - 20 x 3/8"	31	49607	Bearing Retaining Nut	47	48677	Drive Shaft Assy. - same as above and includes Ref. 37, 38, 45
15	49162	Groove Roll, 1"	32	84150	Lock Washer, 1/2" (2)			Following Items Not Shown:
	49097	Groove Roll, 1 1/4" - 1 1/2"	33	45500	Hex Screw, 1/2" x 1 1/4" (2)			49087 T-Handle Hex Key, 1/8"
	49217	Groove Roll 2" - 6" SC 10/40						53987 Roll Storage Case
	51822	Groove Roll, 8" - 12" Sch. 10, 8" Sch 40						54317 Box Wrench
	50127	Groove Roll, Copper 2" - 6"						67192 Spanner Wrench
16	45265	Set Screw, 1/4" - 20 x 1/2"						67197 Hex Key 3/8"
17	87690	Seal						

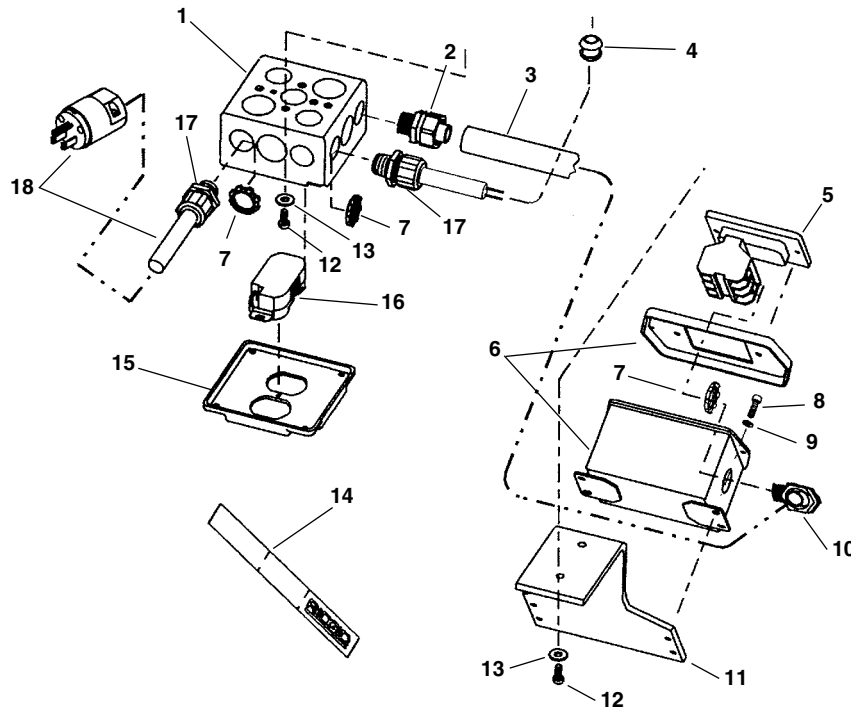
Motor Transmission Type 2



**NOTE: Order parts by Catalog Number only.
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Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	83685	Screws	14	65492	Needle Bearing	25	58577	Fan Shroud
2	65452	Transmission Housing Cover	15	65497	Dowel Pin (2)	26	10923	Screw #10-24 x 2" (6)
3	65457	1st Intermediate Gear Assembly	16	65502	Gasket	27	58572	Field Assembly – 100V
4	44760	Ball Bearing	17	59252	Breather Plug		45897	Field Assembly – 115V
5	59147	Ball Bearing	18	65507	Transmission Housing		58567	Field Assembly – 230V
6	65462	Output Shaft Assembly	19	60227	O-Ring Seal	28	58562	Wiring Harness
7	45315	Ball Bearing (2)	20	65512	Grease Seal	29	22043	Motor Housing
8	65467	4th Intermediate Gear Assembly	21	58557	Armature Assembly – 100V	30	45882	Brush/Holder Set – 100V, 115V
9	44565	Ball Bearing (2)		45907	Armature Assembly – 115V		61287	Brush/Holder Set – 230V
10	65472	3rd Intermediate Gear Assembly		58552	Armature Assembly – 230V	31	10908	Screw (4)
11	65477	Ball Bearing (2)	22	43017	Ball Bearing	32	10918	Bumper (2)
12	65482	2nd Intermediate Gear Assembly	23	45912	Ball Bearing	33	10913	Motor Housing Cover
13	65487	Ball Bearing	24	42777	Bearing Mount			

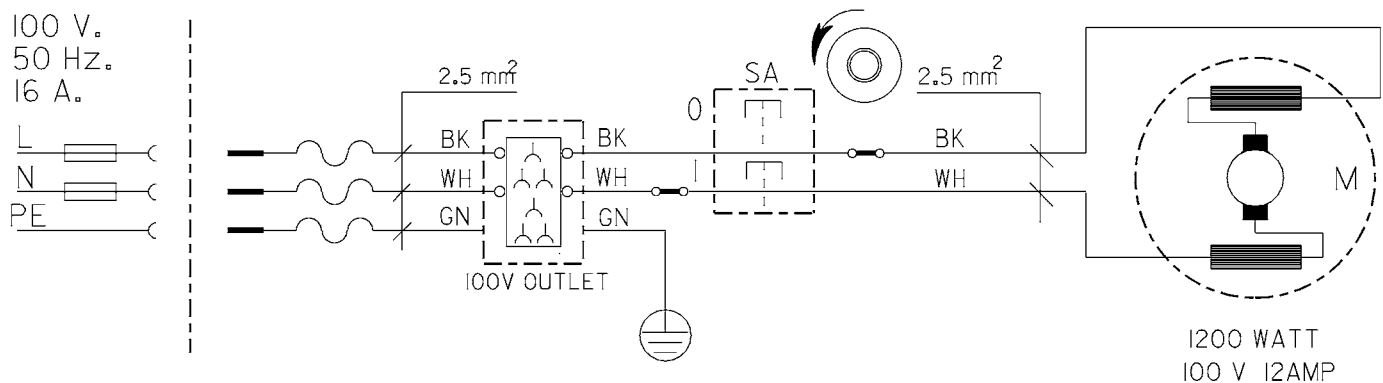
Electrical, 100V



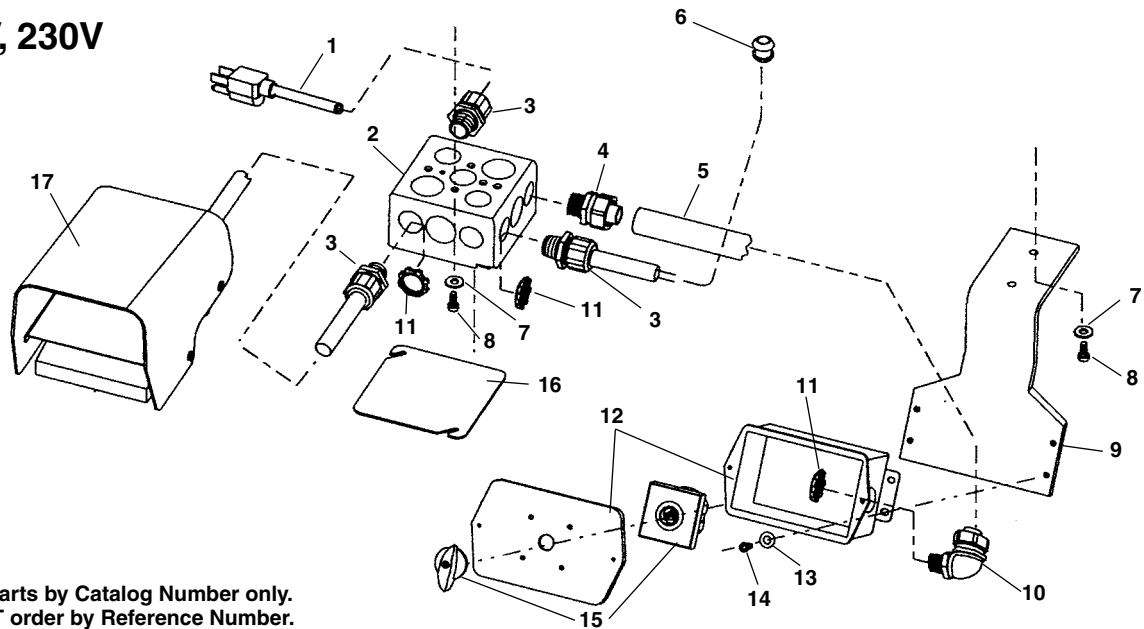
NOTE: Order parts by Catalog Number only.
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Ref. No.	Catalog No.	Description
1	65587	Junction Box
2	65607	Conduit Fitting, 1/2" Straight
3	65612	Flexible Conduit, 1/2"
4	65112	Rubber Grommet
5	54227	Switch, Push Button
6	65637	Switch Box w/Cover
7	65642	Locknut, 1/2" NPT (4)
8	45750	Screw #10 - 24 x 3/8" S.H.C.S (4)
9	45365	Flat Washer, #10 (2)
10	65647	Fitting, 90 Deg, 1/2"
11	61337	Switch Bracket
12	60005	Hex Screw, 1/4" - 20 x 3/4" (2)
13	44740	Lock Washer 1/4" (2)
14	65582	Lanyard
15	95597	Junction Box Cover
16	65592	Outlet
17	65602	Strain Relief (2)
18	46740	Power Cord w/Plug

Wiring Diagram



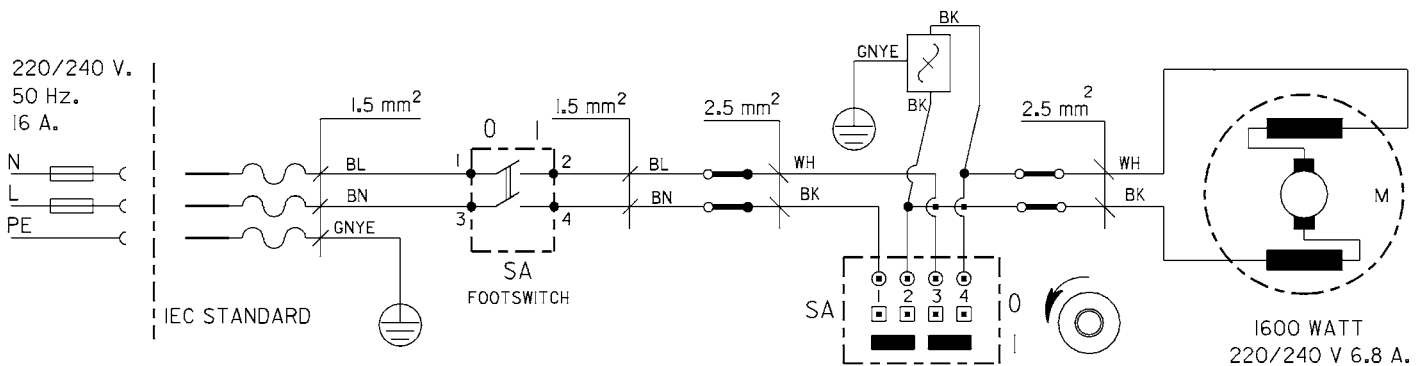
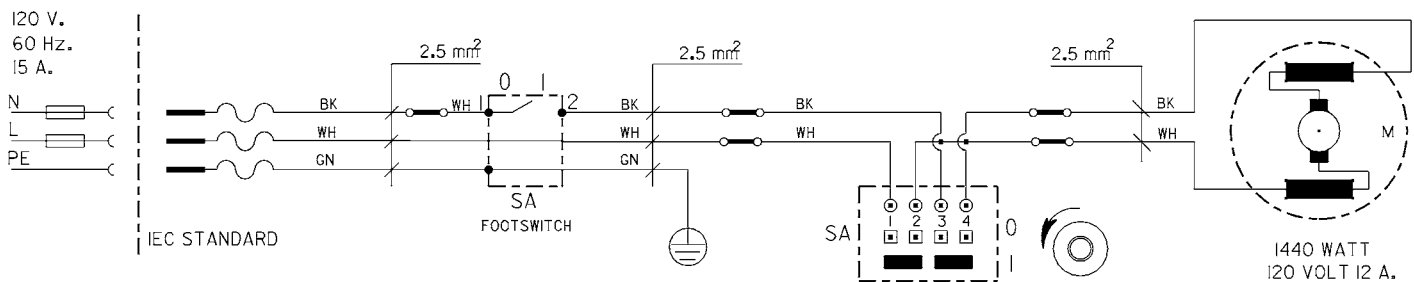
Electrical, 115V, 230V



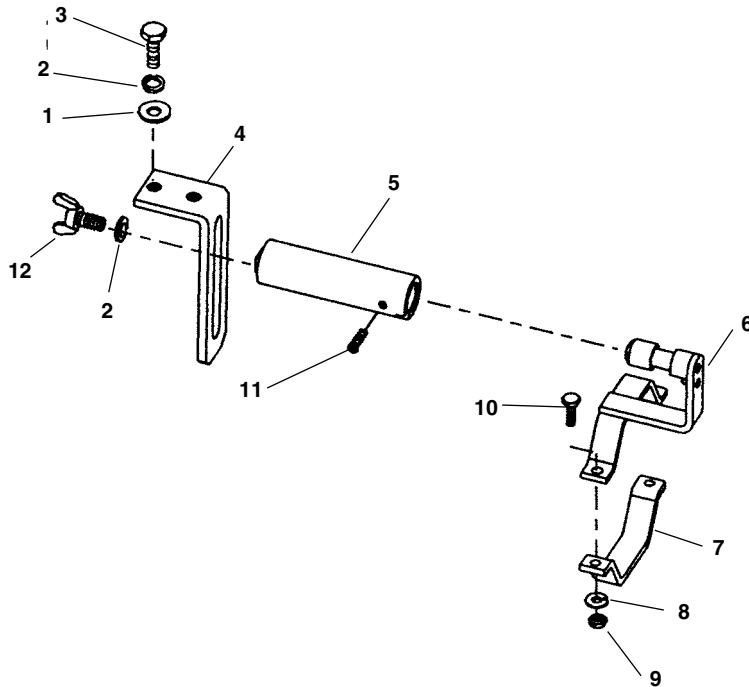
**NOTE: Order parts by Catalog Number only.
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Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	46740	Power Cord w/Plug	11	65642	Locknut, 1/2" NPT (5)
2	65587	Junction Box	12	65962	Switch Box w/Cover
3	65602	Strain Relief (3)	13	45365	Flat Washer, #10 (4)
4	65607	Conduit Fitting, 1/2" Straight	14	45750	Screw #10 - 24 x 3/8" S.H.C.S. (4)
5	65612	Flexible Conduit, 1/2"	15	20108	Switch w/Knob
6	65112	Rubber Grommet	16	65977	Junction Box Cover
7	44740	Lock Washer 1/4" (4)	17	36642	Foot Switch, B-294, 115V Model
8	60005	Hex Screw, 1/4" - 20 x 3/4" (4)		40017	Foot Switch, B-298, 230V Model
9	61337	Switch Bracket			
10	65647	Fitting, 90 Deg, 1/2"			

Wiring Diagram



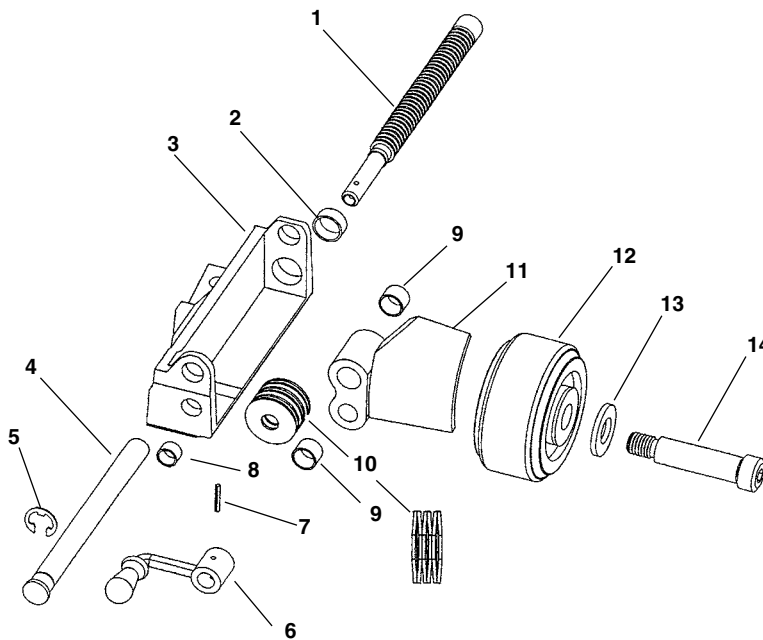
Sander Bracket



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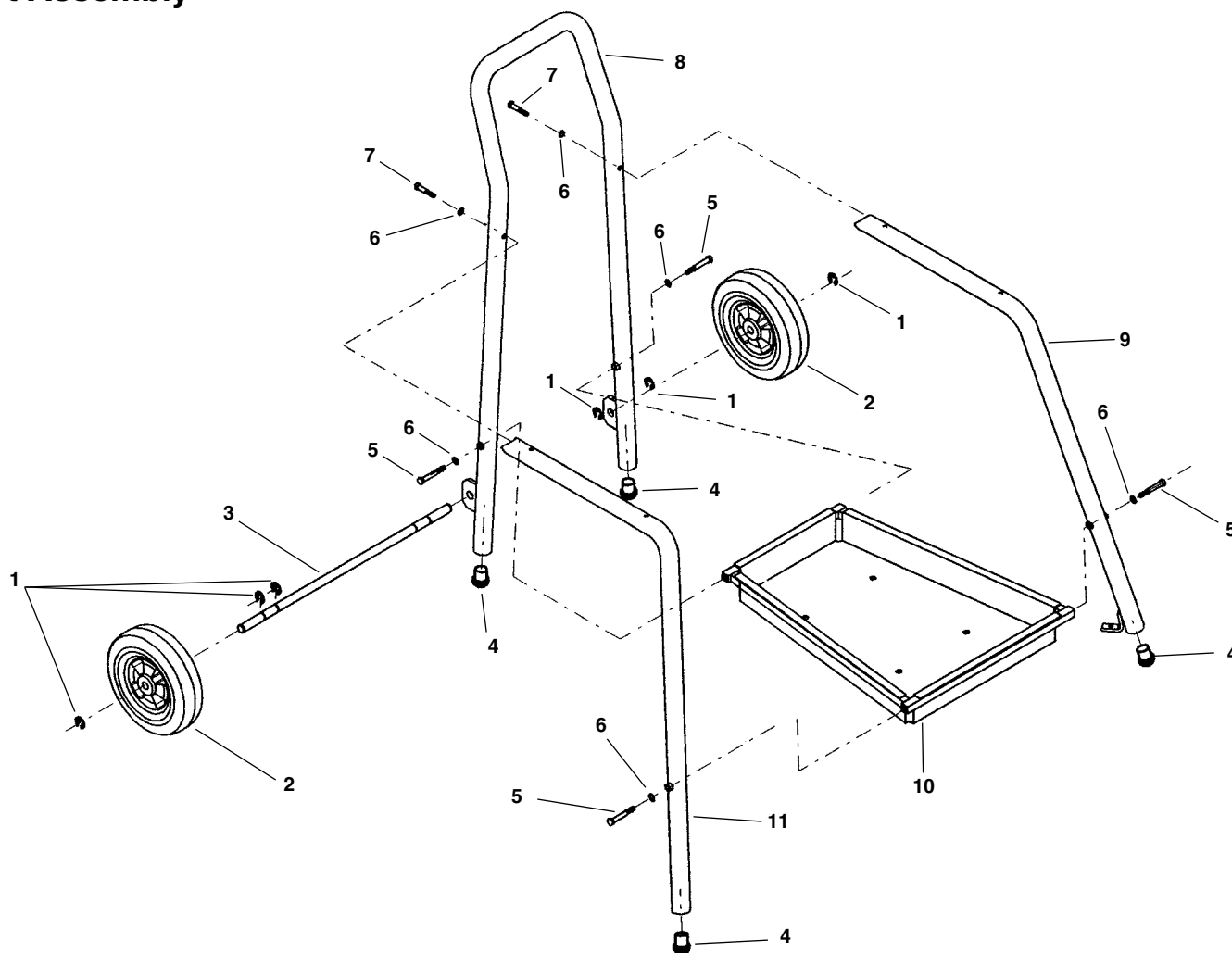
Ref. No.	Catalog No.	Description
1	61592	Flat Washer $\frac{3}{8}$ "
2	40930	Lock Washer, $\frac{3}{8}$ " (3)
3	45590	Hex Screw $\frac{3}{8}$ " - 16 x 1 $\frac{1}{2}$ "
4	65112	Sander Bracket
5	65627	Sander Pivot Tube
6	65057	Sander Attachment
7	65632	Sander Clamp
8	44740	Lock Washer, $\frac{1}{4}$ "
9	80370	Hex Nut, $\frac{1}{4}$ "
10	49252	Hex Screw, $\frac{1}{4}$ " - 20 x 1" (2)
11	54322	Set Screw, Half Dog Point, $\frac{1}{4}$ " - 20 x $\frac{3}{8}$ "
12	61362	Wing Screw, $\frac{3}{8}$ " - 16 x $\frac{3}{4}$ "

Stabilizer



Ref. No.	Catalog No.	Description
—	59992	Stabilizer Kit, Non-Operator Side
—	59997	Stabilizer Kit, Operator Side
1	61802	Feed Screw
2	61817	Bearing, $\frac{3}{4}$ " x $\frac{3}{8}$ "
3	61797	Slide Box, Operator Side
4	61792	Slide Box, Non-Operator Side
5	61832	Guide Shaft
6	42580	E-Ring
7	53087	Crank Handle
8	55222	Pin
9	53072	Bearing, $\frac{1}{2}$ " x $\frac{3}{8}$ "
10	61822	Set of 2 Bearing, $\frac{5}{8}$ " x $\frac{1}{2}$ "
11	61827	Set of 6 Bellville Washers
12	61812	Slide, Operator Side
13	61807	Slide, Non-Operator Side
14	53052	Wheel
14	60995	Washer
14	53097	Shoulder Bolt

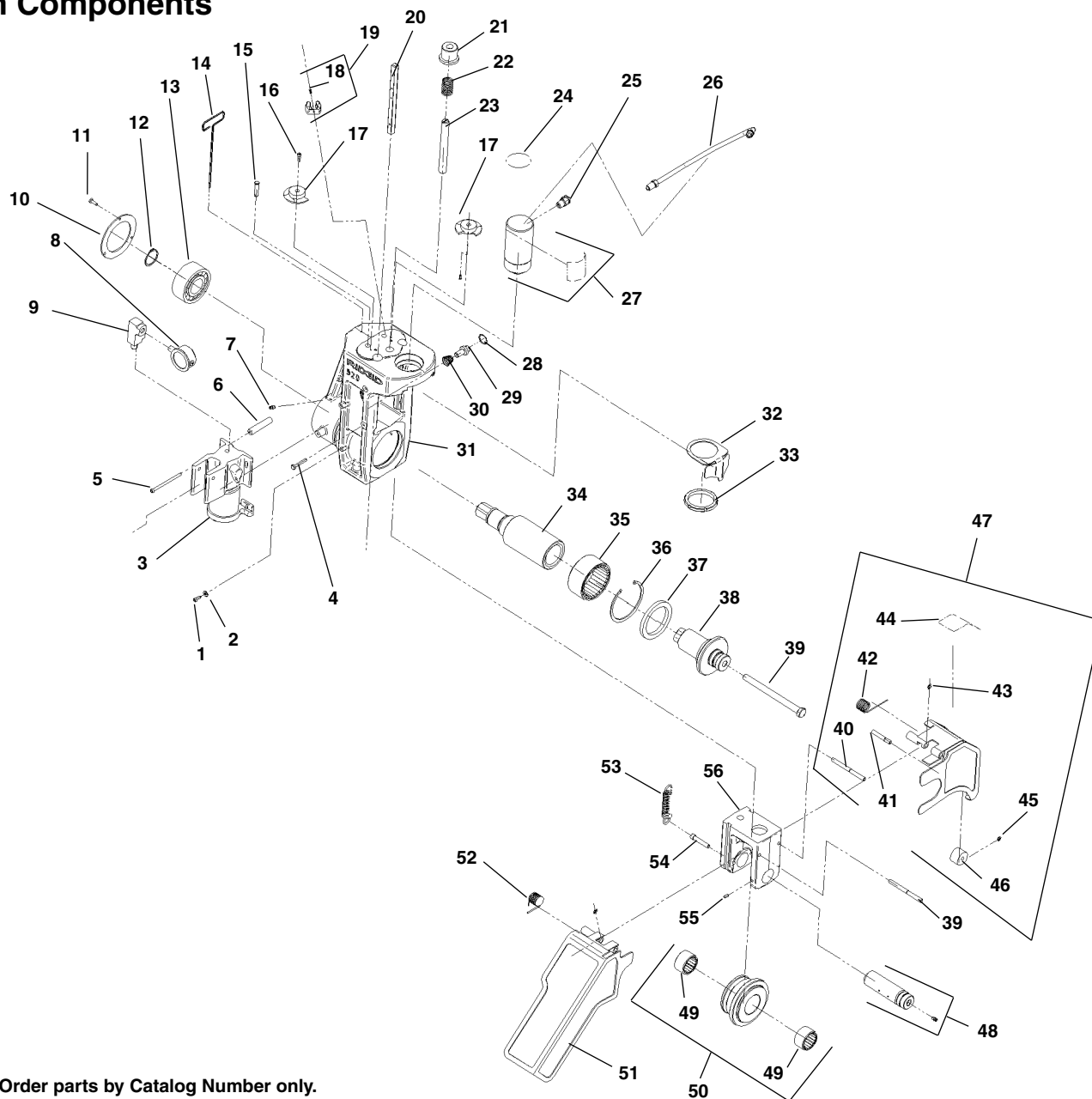
Cart Assembly



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
	64192	Stand Complete
1	58850	Retaining Ring (6)
2	23602	Wheel, 10" Dia. (2)
3	65522	Wheel Axle
4	61470	Rubber Foot (4)
5	46675	Hex Screw $\frac{3}{8}$ " - 16 x $2\frac{3}{4}$ " (4)
6	40930	Lock Washer $\frac{3}{8}$ " (6)
7	58052	Hex Screw, $\frac{3}{8}$ " - 16 x $2\frac{1}{2}$ " (2)
8	65527	Rear Leg Support/Handle - U.S.
	61342	Rear Leg Support/Handle - Export
9	65537	Leg, Right Front - U.S.
	61347	Leg, Right Front - Export
10	65542	Tool Tray Assembly
11	65547	Leg, Left Front - U.S.
	61352	Leg, Left Front - Export

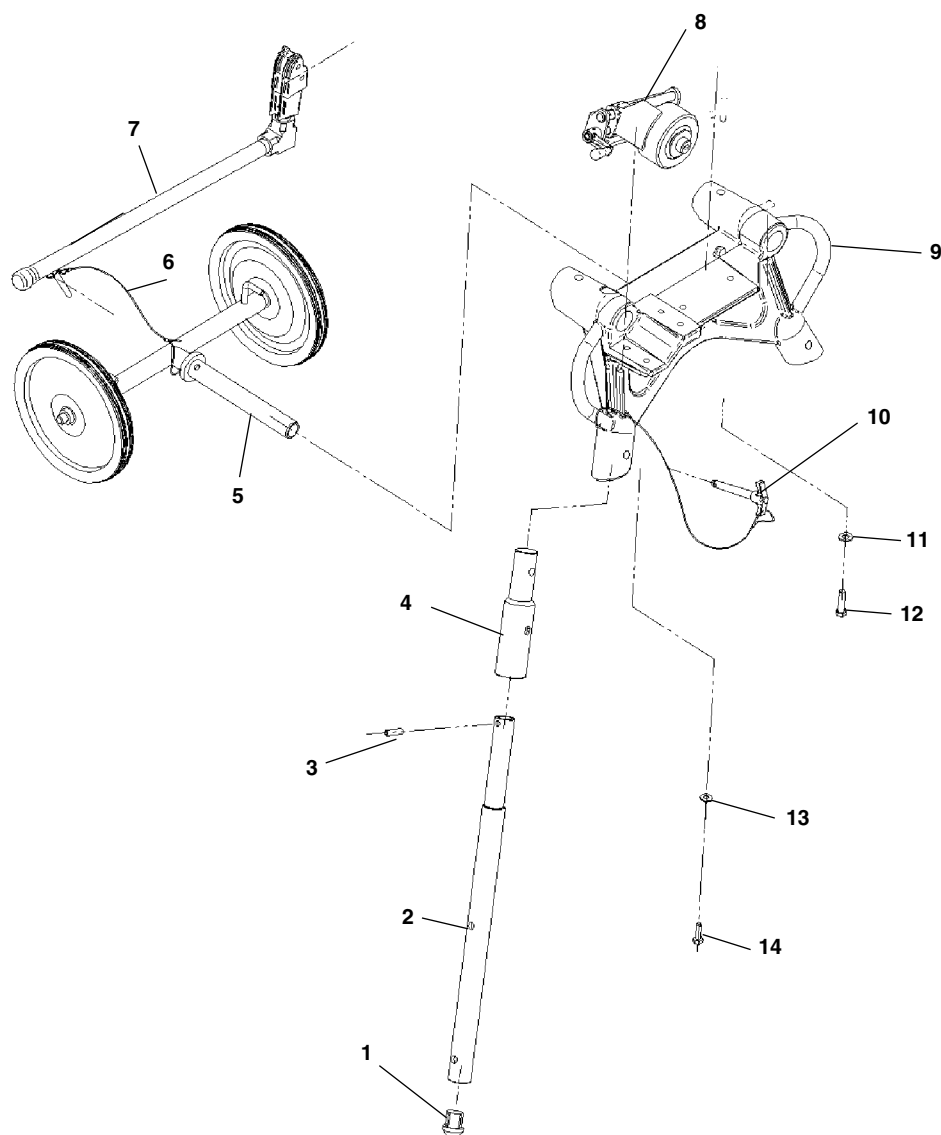
Main Components



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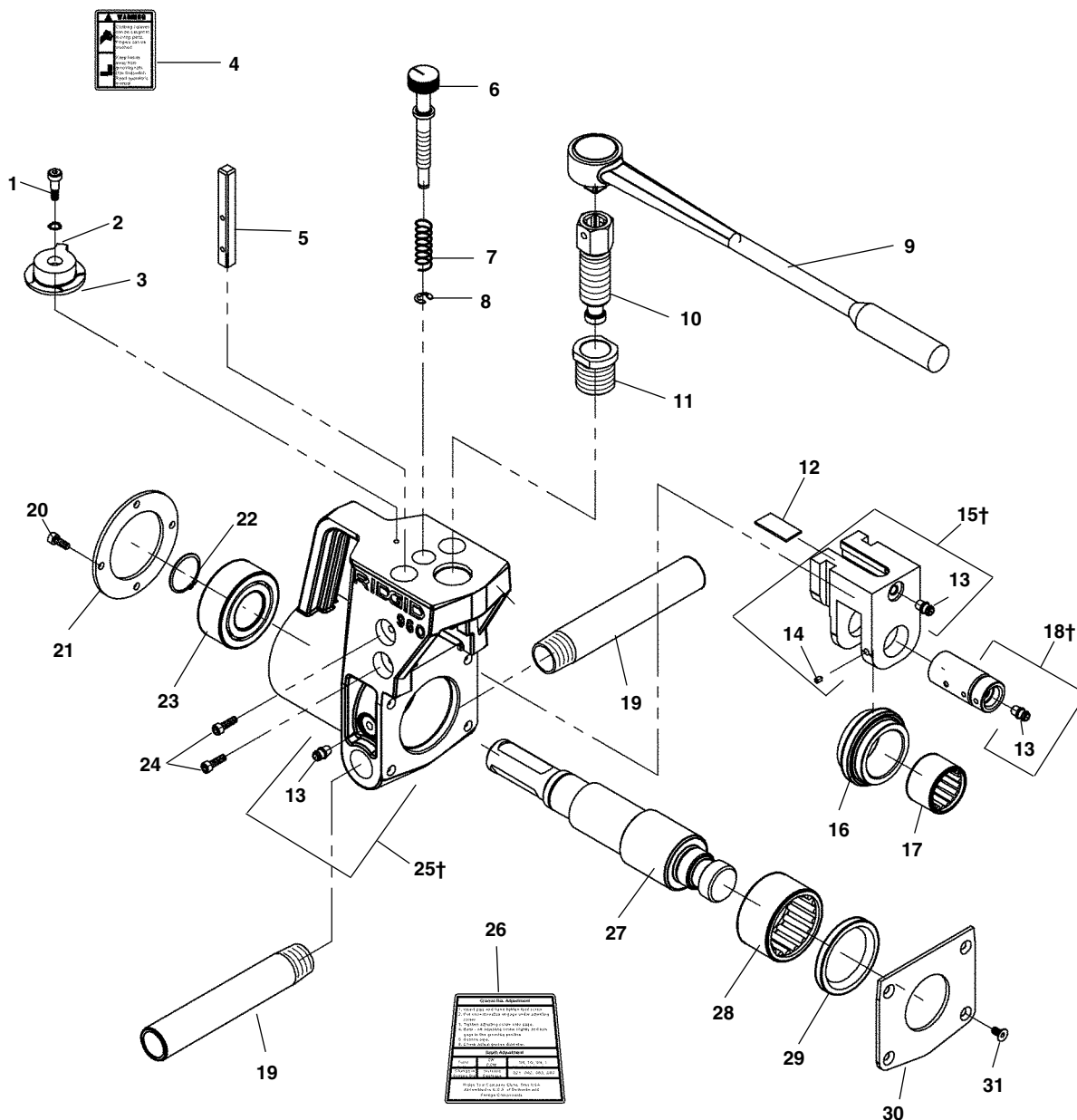
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	40910	1/4" - 20 x 3/4" Cap Screw (3)	20	11068	Key Slide (2)	39	11113	5/8" - 11 x 7 1/4" HX HD Bolt
2	27402	1/4" Flat Washer (4)	21	49117	Depth Adj. Nut	40	11158	Pivot Shaft (2)
3	11173	Hand Pump	22	49122	Compression Spring	41	11223	Shaft Roller
4	64877	1/4" - 20 x 1 3/4" Screw (4)	23	11123	Depth Adj. Rod	42	11153	Torsion Spring RH
5	11203	1/4" - 20 x 5 1/2" Screw	24	49262	Depth Setting Decal	43	61042	Ret. Ring (3)
6	11198	Pump Standoff	25	11208	3/8" Swivel Connector	44	13198	Warning Decal Guard
7	46860	Grease Fitting (4)	26	11213	Hydraulic Hose	45	61042	Ret. Ring (3)
8	11058	Pressure Gauge	27	11818	Cylinder (Inc. Decals)	46	11218	Guard Roller
9	11093	Hydraulic Tee	28	49177	Retaining Ring	47	11143	Right Guard
10	11128	Bearing Retaining Plate	29	11118	Stop Pin	48	11078	Roller Shaft
11	11283	1/4" - 20 x 1 1/2" Screw (3)	30	11168	Stop Pin Spring	49	11108	Needle Bearing (6)
12	11088	Retaining Ring	31	11003	920 Main Housing	50	11018	2" - 6" Upper Groove Roll
13	11163	Angular Contact Bearing	32	11248	Actuator	51	11138	Left Guard
14	49087	1/8" Tee Handle Hex Wrench	33	49152	Lock Ring	52	11148	Torsion Spring LH
15	11233	Clevis Pin	34	11073	Drive Shaft	53	11238	Return Spring
16	11268	Shoulder Screw	35	11063	Roller Bearing (2)	54	46745	3/8" - 16 x 1 1/4" Screw (2)
17	11048	Depth Adj. Gauge LT	36	11083	Internal Ret. Ring	55	34892	Set Srew 1/4" - 20
18	54307	Drive Screw	37	11133	Grease Seal	56	11008	Upper Roll Housing
19	11263	Spring Clip (Inc. Ref. 18)	38	11013	2" - 6" Drive Roll			

Base



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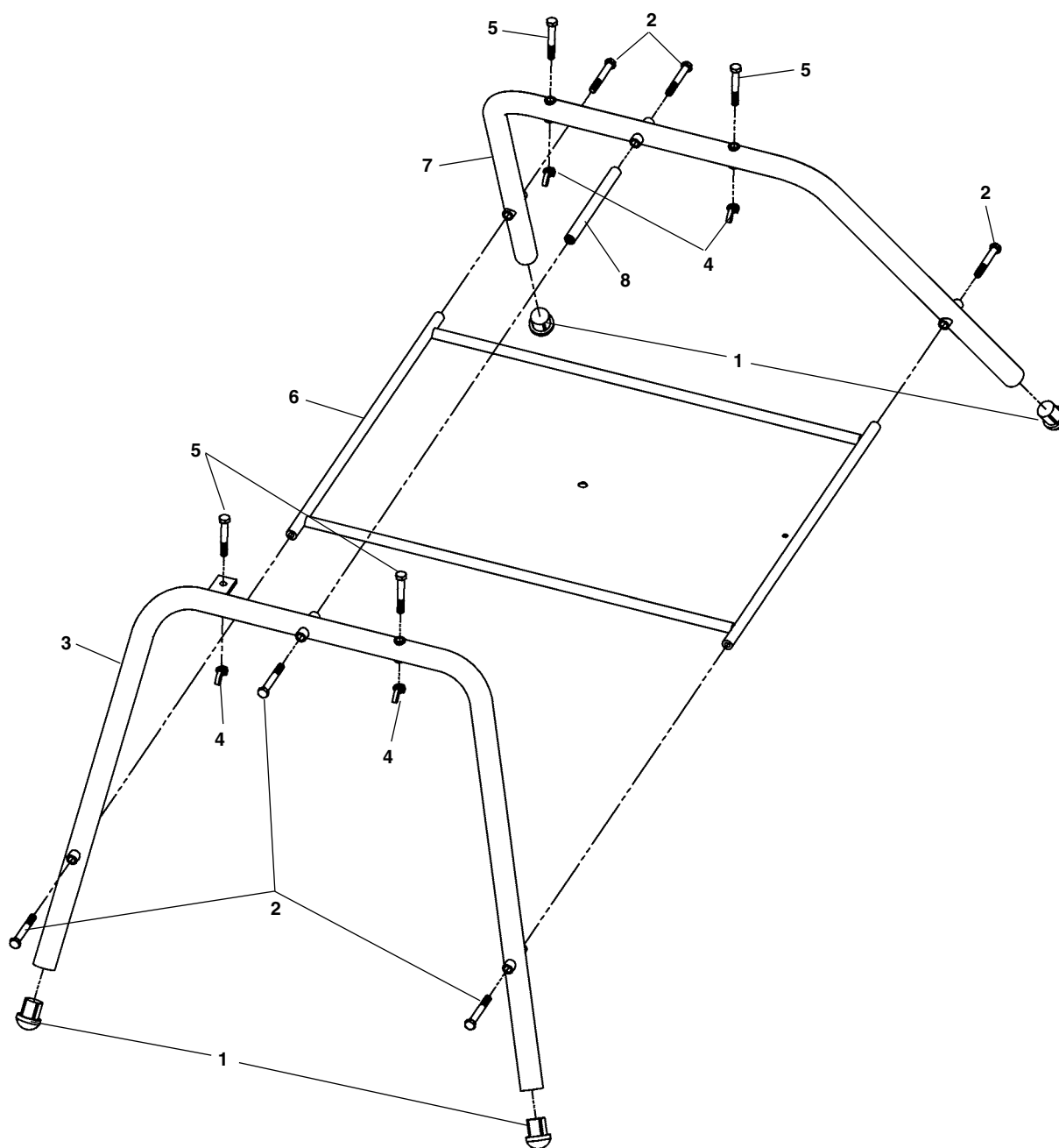
Ref. No.	Catalog No.	Description
1	61470	Rubber Button
2	11183	Lower Leg
3	50307	Spiral Pin
4	11178	Upper Leg
5	42575	#32 Transport Cart
6	11328	Hitch Pin, Transporter
7	11243	Pump Handle Assembly
8	59997	Stabilizer
9	11228	Base
10	11193	Hitch Pin
11	41735	Flat Washer $\frac{7}{16}$ "
12	11188	$\frac{7}{16}$ " - 14 x 1" HX HD Bolt
13	11293	$\frac{3}{8}$ " Flat Washer
14	82915	$\frac{3}{8}$ " - 16 x $\frac{3}{4}$ " HX HD Screw



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Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	91207	960 Roll Groover	16	87927	Groove Roll 1 1/4" - 6"
1	87947	Shoulder Screw	17	87922	Needle Bearing
2	87972	Wave Spring	18†	87917	Groove Roll Shaft
3	87932	Groove Setting Gauge	19	87682	Support Bar (2)
4	87957	Warning Label	20	40260	#10-32 Hex Head Screw (4)
5	93307	Slide Key	21	45202	Retaining Plate
6	87687	Adjustment Screw	22	45152	Retaining Ring
7	87912	Spring	23	45147	Bearing
8	87937	Retaining Ring	24	93302	10-24 x 1/2" Soc. Hd. Screw (4)
9	70437	Ratchet Wrench	25†	93292	Main Housing
10	93322	Feed Screw	26	93297	Depth Adjustment Label
11	93327	Bushing, Feed Screw	27	45122	Drive Shaft
12	87977	Wear Plate	28	45142	Needle Bearing
13	46860	Grease Fitting (3)	29	45157	Front Seal
14	45187	Set Screw	30	93312	Cover Plate
15†	93317	Slide Block	31	91107	Flat Head Screw (4)

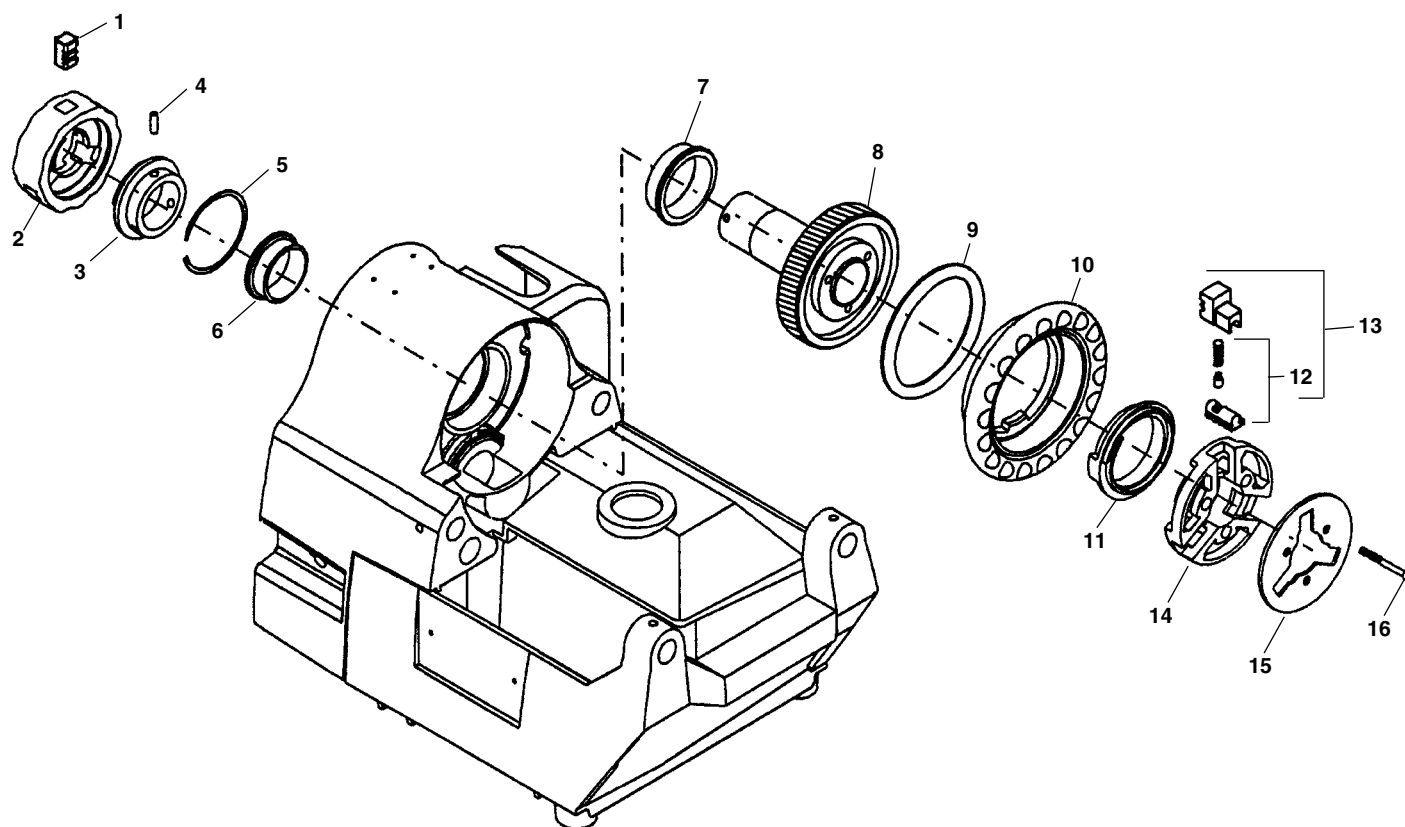
† Service Note: - Grease components monthly, more often during heavy usage.



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Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	52002	1205 Stand F/300 Pd	5	58052	Screw, $\frac{3}{8}$ " - 16 X $2\frac{1}{2}$ " Hex Head (4)
1	61470	Button, Rubber (4)	6	96917	Tray
2	46675	Bolt, $\frac{3}{8}$ " x $2\frac{3}{4}$ " Hex Head (6)	7	96912	Leg, Right
3	96907	Leg, Left	8	96922	Brace
4	45385	Nut, Wing $\frac{3}{8}$ " - 16 (4)			

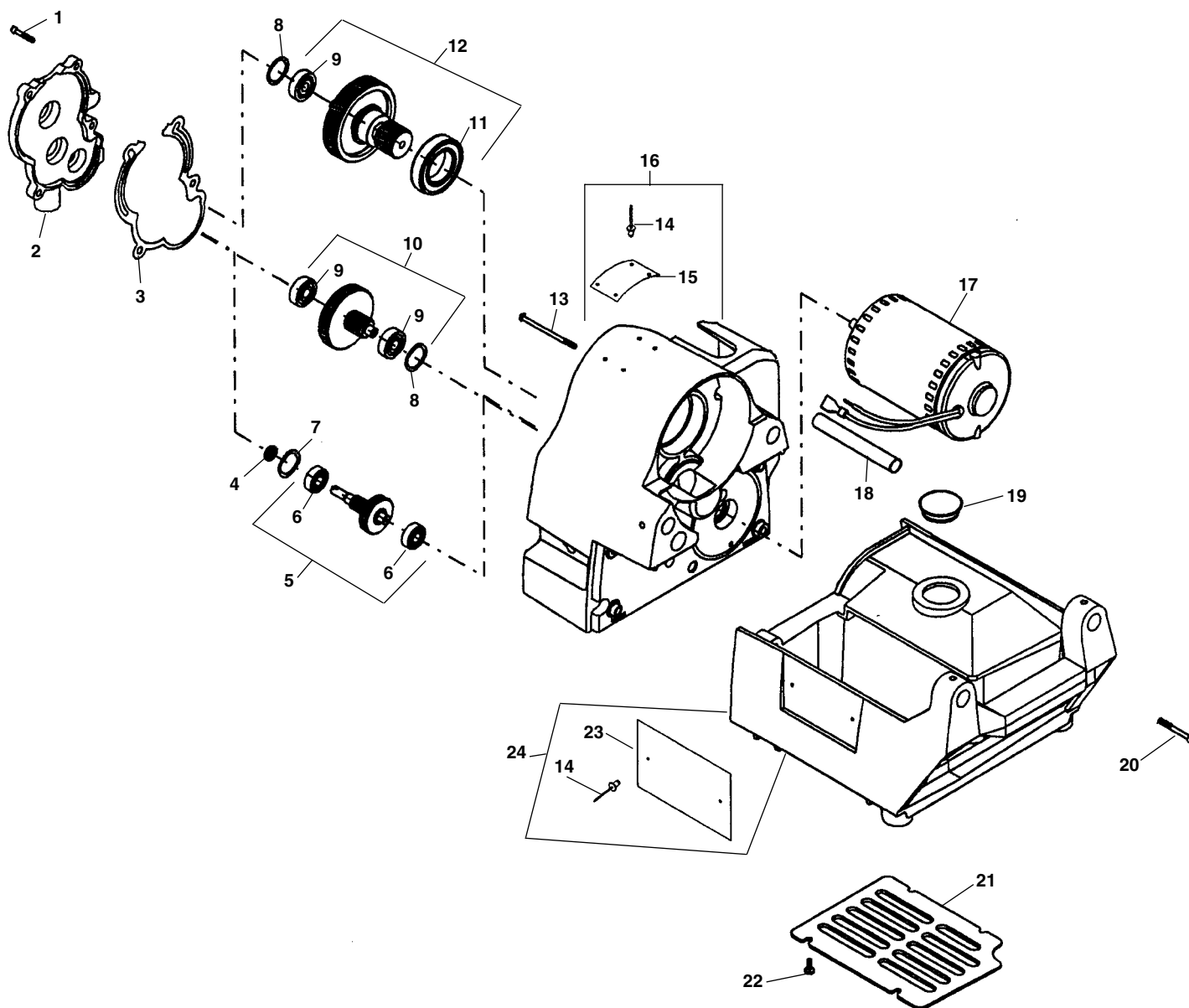
Spindle Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	69447	Centering Jaw Set	9	69297	Spacer Ring
2	69307	Centering Head	10	69202	Hand Wheel
3	69312	Centering Scroll	11	69197	Scroll
4	54007	Roll Pin $\frac{1}{4}$ " x $\frac{3}{8}$ " (3)	12	69412	Jaw Insert Set
5	69317	Retaining Ring	13	69237	Chuck Jaw Set
6	10968	Rear Spindle Bearing	14	69262	Chuck Cap
7	10963	Front Spindle Bearing	15	69267	Chip Plate
8	69272	Drive Shaft	16	46035	Screw $\frac{5}{16}$ " - 18 x $1\frac{3}{4}$ " Soc. Hd. (3)

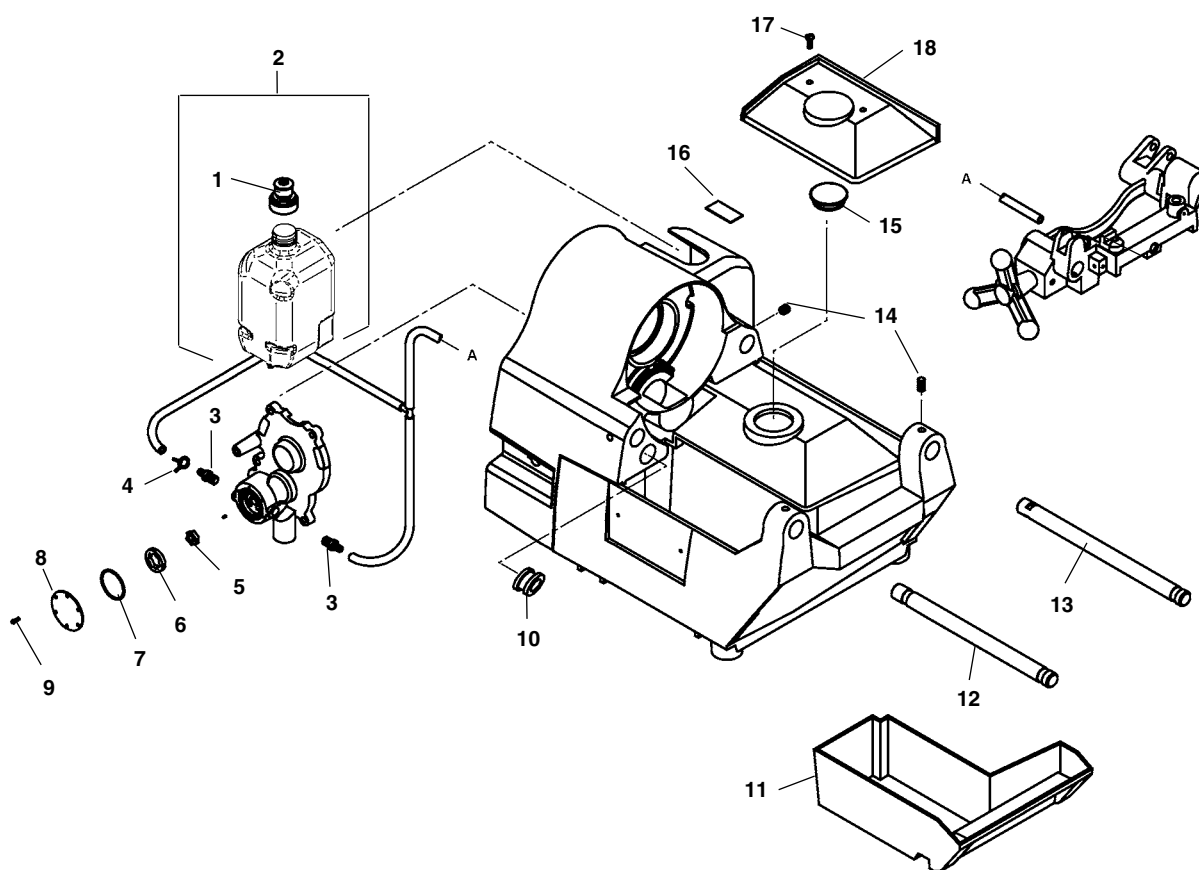
Drive Components



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	40910	Screw 1/4" - 20 x 1/2" Soc. Hd. (4)	14	85920	Pop Rivet 3/32" (6)
2	69362	Gear Case Cover	15	69347	Warning Plate
3	69332	Gear Case Gasket	16	69227	Spindle Housing w/Spindle Bearings
4	96880	Seal	17	69222	Motor 115V
5	69207	1st Intermediate Gear Assembly		72362	Motor 230V
6	59147	Ball Bearing (2)		72402	Motor 100V
7	35365	Wave Spring	18	59342	Insulator Sleeve
8	68037	Wave Spring	19	69367	Brush Cover Plastic Plug
9	44760	Ball Bearing (3)	20	40657	Screw 1/4" - 20 x 1 1/2" Soc. Hd. (4)
10	69212	2nd Intermediate Gear Assembly	21	69252	Motor Cover
11	69277	Ball Bearing	22	79965	Screw #10 - 32 x 1/2" Pan Head (4)
12	69217	Main Drive Gear Assembly	23	69387	Name Plate
13	69402	Screw #10 - 32 x 4" Pan Head (2)	24	69242	Base

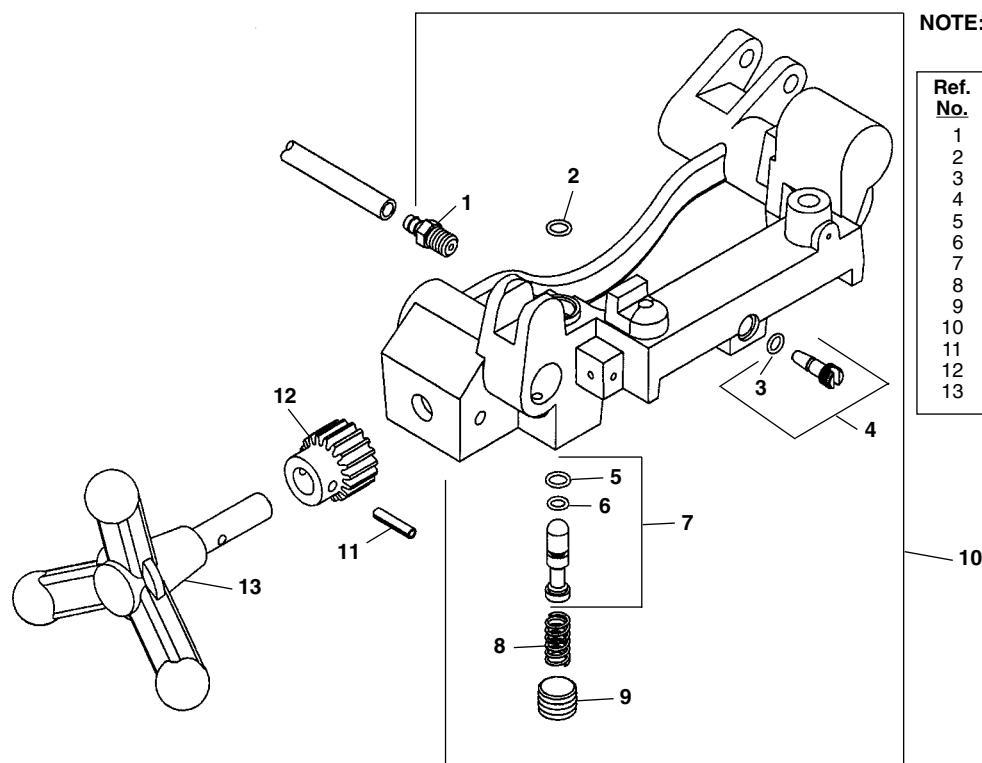
Coolant System Components



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	69452	Reservoir Cap	11	69257	Chip Tray
2	94707	Coolant Reservoir Assy w/Hoses	12	69322	Front Rail
3	69157	Hose Fitting 1/8" NPT x 1/4" Barb (2)	13	69247	Rear Rail
4	72457	Hose Clamp	14	69397	Set Screw 1/4" - 20 x 5/16" (4)
5	96885	Gerotor Pin	15	69367	Brush Cover Plastic Plug
6	96870	Gerotor Set	16	72387	Vent Cap Decal
7	96875	O-Ring		72392	Vent Cap Decal (Europe, Japan)
8	96840	Cover Plate	17	79965	Screw #10 - 32 x 1/2" (2)
9	46130	Screw #4-28 Self Forming (6)	18	72027	Drip Cover
10	47080	Grommet			

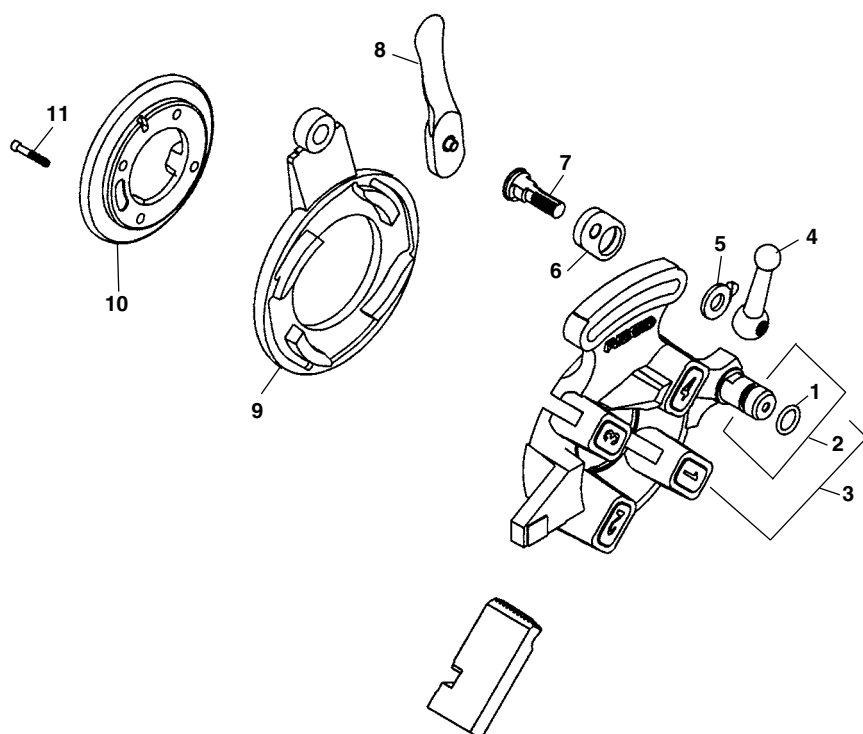
Carriage Components



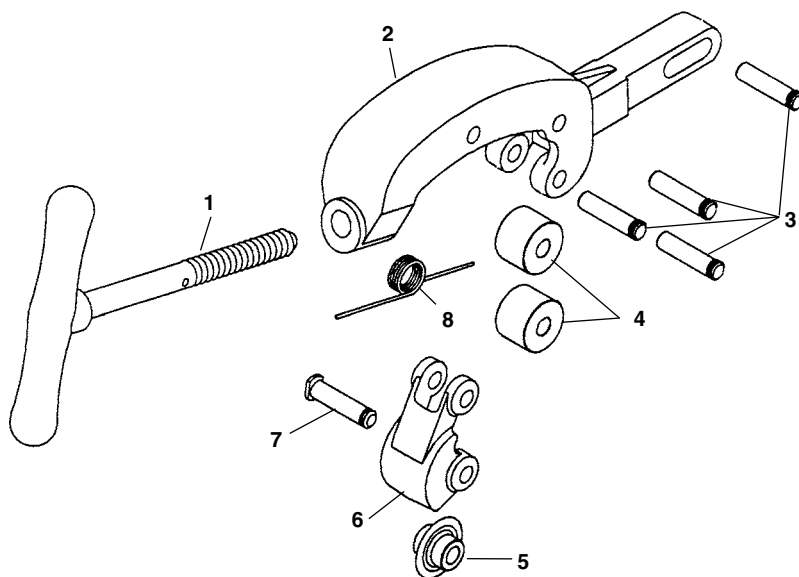
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
1	69157	Hose Fitting 1/8" NPT x 1/4" Barb
2	36767	O-Ring
3	69182	O-Ring
4	69177	Needle Pin
5	69167	O-Ring
6	69162	O-Ring
7	69152	Poppet Valve
8	69172	Spring
9	69187	Pipe Plug 3/8" NPT
10	69142	Carriage Assembly
11	34342	Roll Pin 3/16" x 15/16"
12	59092	Pinion
13	69147	Hand Wheel

610 Die Head

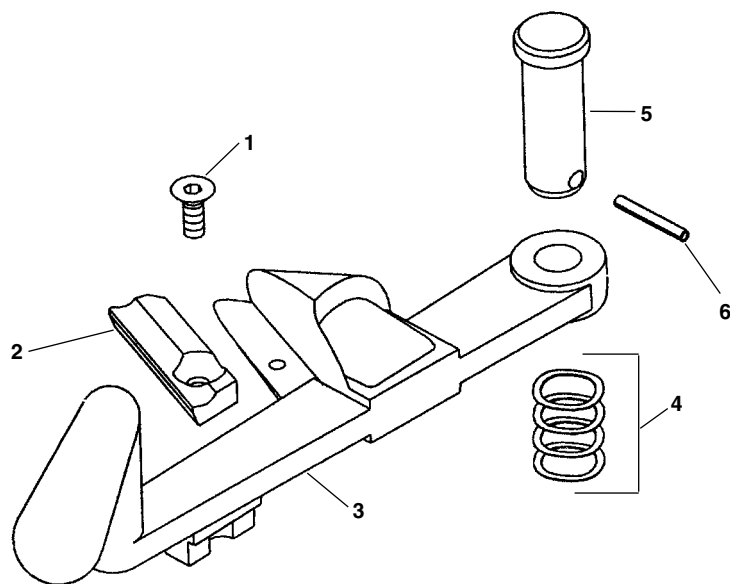


Ref. No.	Catalog No.	Description
—	67817	610 Die Head
1	69392	O-Ring
2	69292	Post
3	69302	Die Head Body w/Post & O-Ring
4	39970	Clamp Lever
5	26957	Washer
6	39950	Throwout Link
7	39860	Lock Screw
8	46555	Throwout Lever
9	69442	Cam Plate
10	69352	Retaining Ring
11	32205	Screw 1/4" - 20 x 5/8" Socket Head (4)

354 Cutter

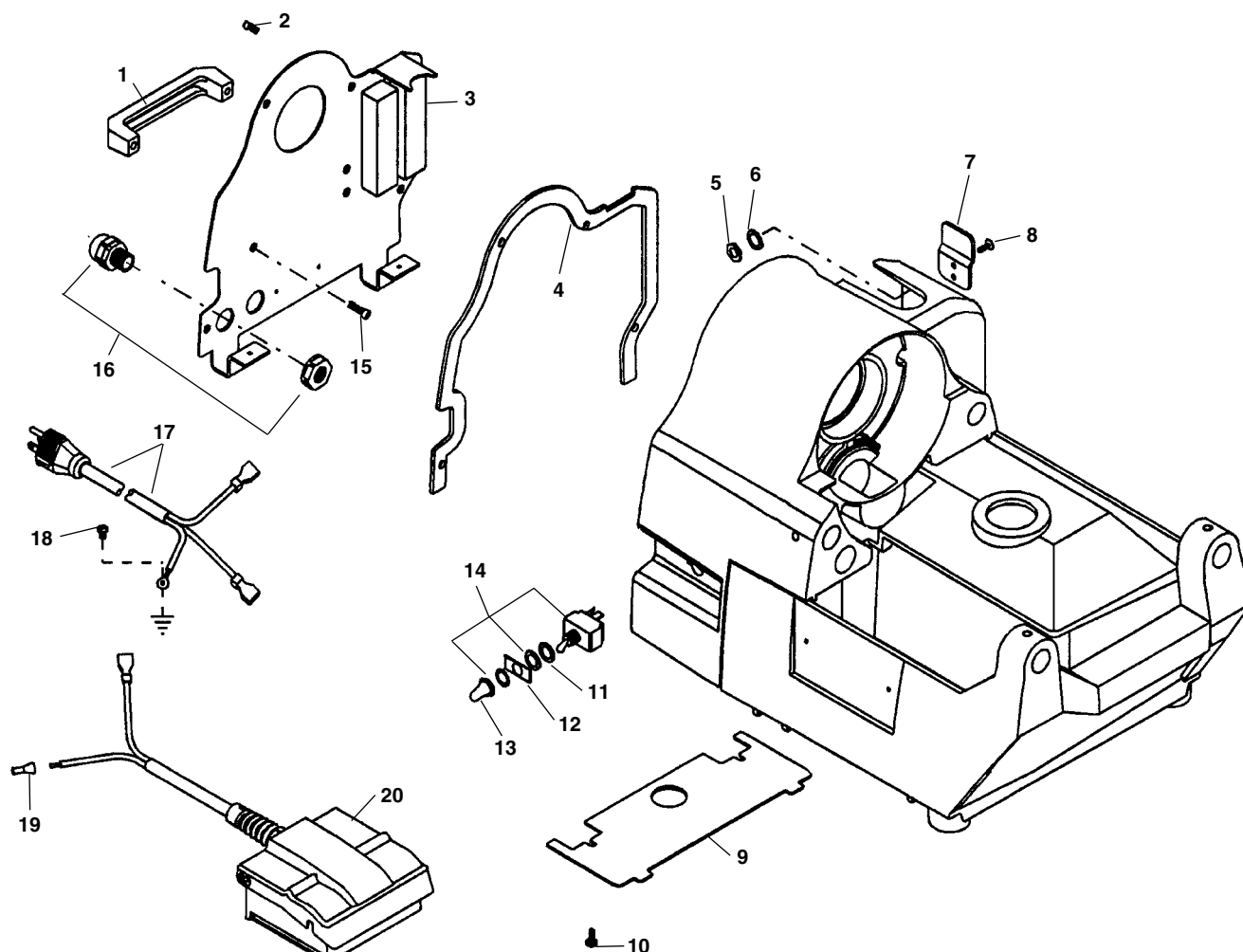
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	68877	354 Cutter Assembly
1	69007	Feedscrew & Handle
2	69017	Cutter Frame
3	46662	Roller Pin (4)
4	34775	Roll (2)
5	33105	F3 Cutter Wheel
6	69012	Wheel Housing
7	34780	Pin & Clip
8	58617	Torsion Spring

334 Reamer

Ref. No.	Catalog No.	Description
—	68872	334 Reamer Assembly
1	68997	Screw #8-32 x 7/16" Flat Head
2	68977	Reamer Blade
3	68992	Reamer Arm w/Cone
4	39885	Wave Washer
5	68987	Clevis Pin
6	69002	3/32" x 3/4" Roll Pin

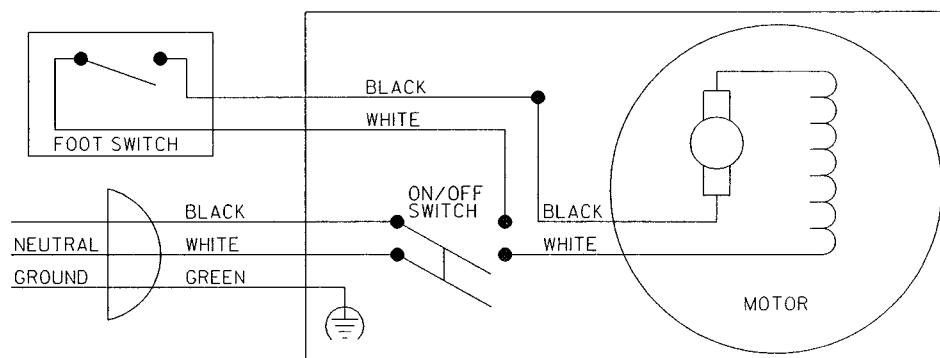
Electrical Components - 120V 60Hz



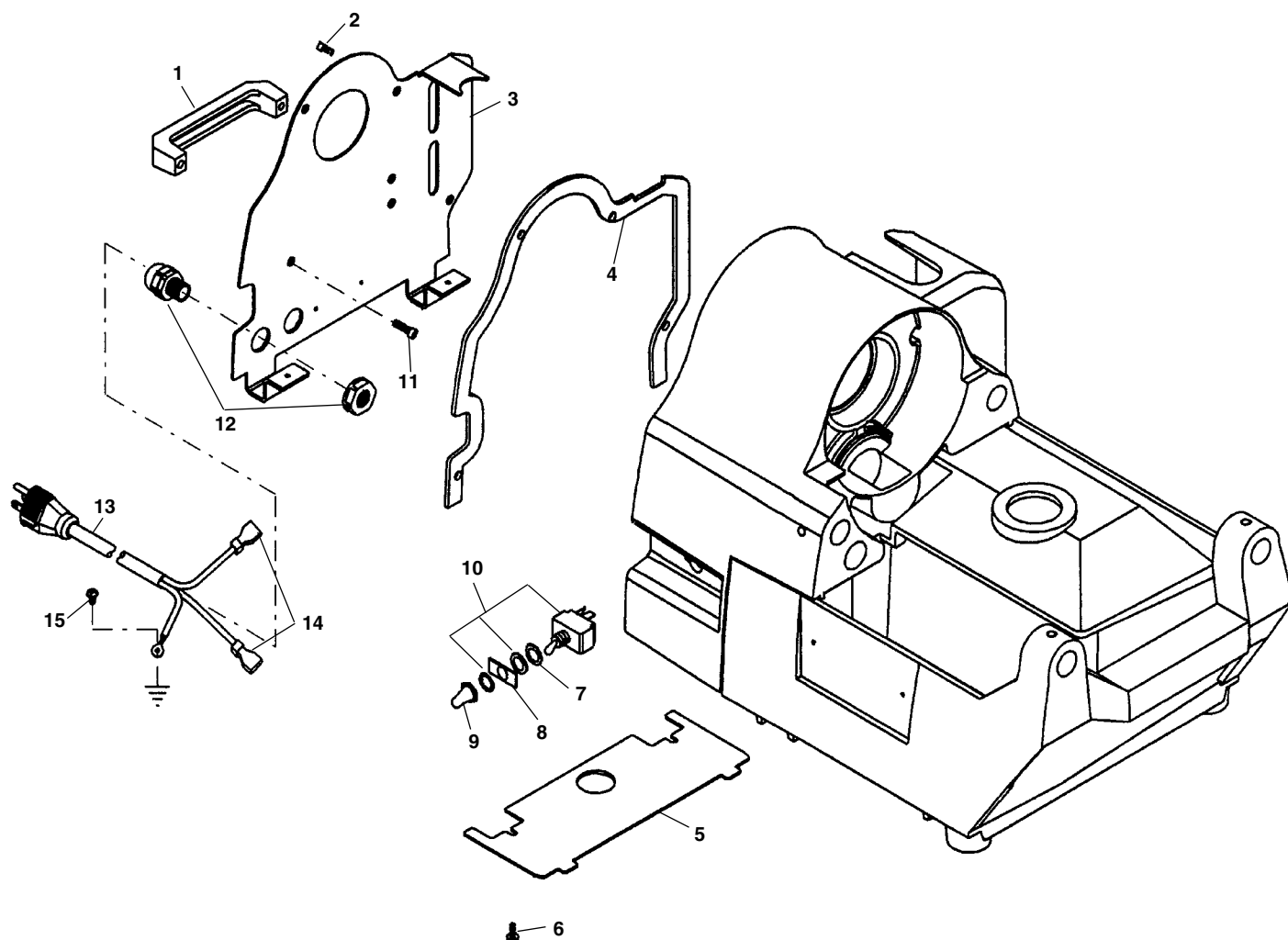
NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	69342	Handle	11	23512	Rubber Washer
2	69192	Screw 1/4" - 20 x 1/2" Button Head (5)	12	69457	Switch Plate
3	69357	Rear Cover	13	23507	Switch Boot
4	69372	Rear Cover Gasket	14	69382	Switch
5	34722	Lock Nut #10-32 (2)	15	32145	Screw 1/4" - 20 x 1 1/2" Soc. Head (2)
6	58542	Lock Washer #10 (2)	16	69107	Strain Relief (2)
7	69377	Foot Switch Hook	17	69327	Power Cord 115V
8	35217	Screw #10-32 x 1/2" Button Head (2)	18	45420	Ground Screw
9	69287	Bottom Cover	19	44635	Wire Nut
10	45420	Screw #10-24 x 3/8" Pan Head (2)	20	69087	B-292 Foot Switch Assembly

120V 60 Hz



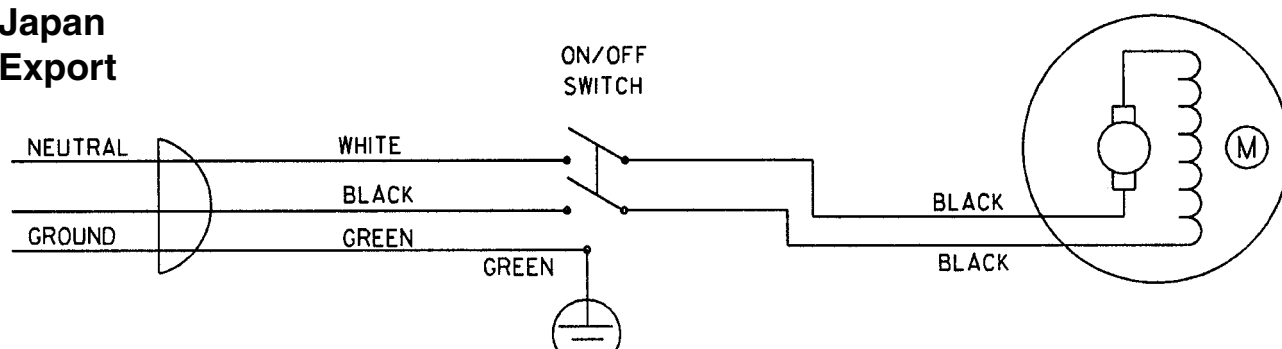
Electrical Components - 100V 50/60 Hz Japan 220V 50 Hz Export



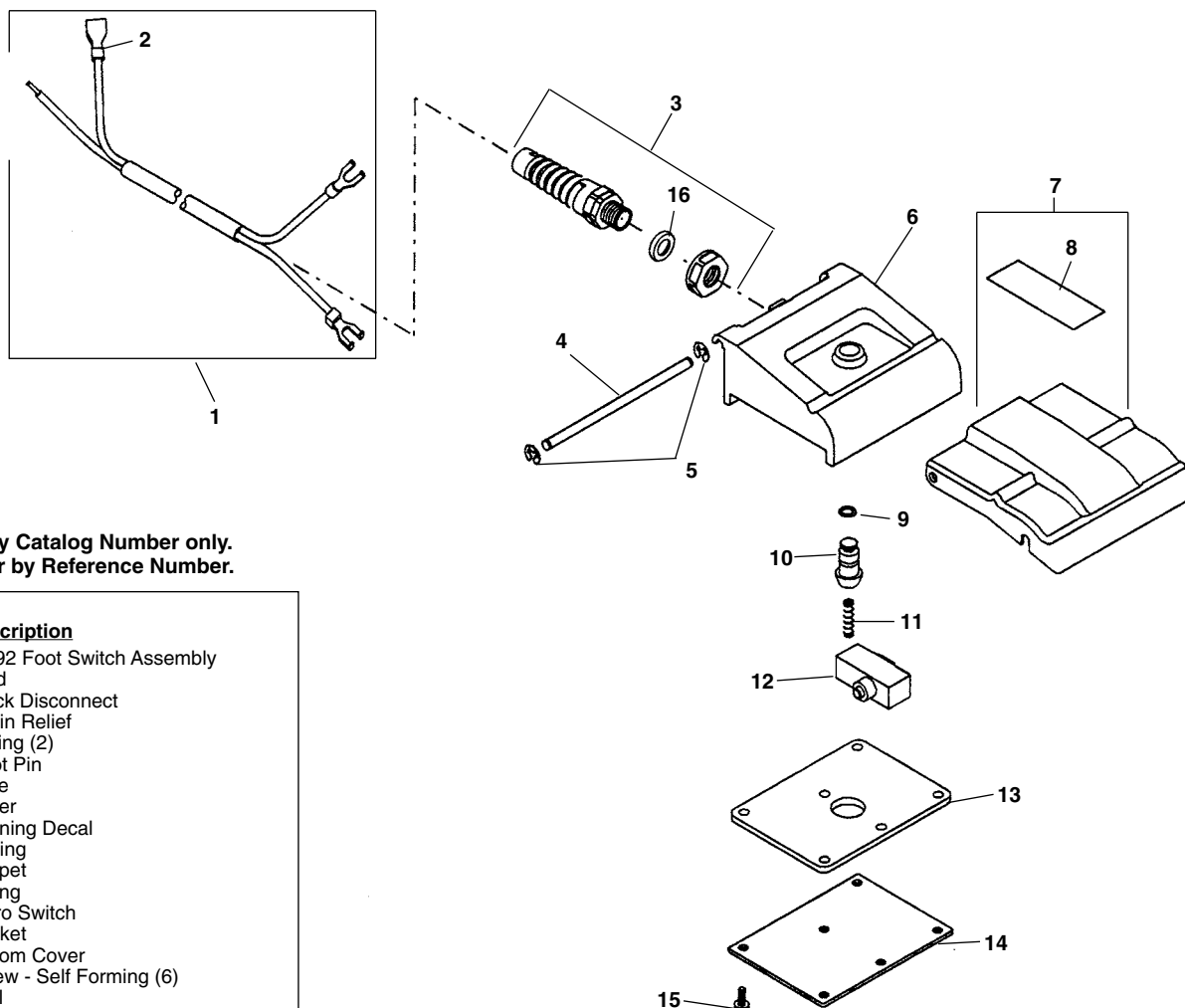
NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	69342	Handle	9	23507	Switch Boot
2	69192	Screw 1/4" - 20 x 1/2" Button Head (5)	10	69382	Switch
3	69357	Rear Cover	11	32145	Screw 1/4"-20 x 1 1/2" Soc. Head (2)
4	69372	Rear Cover Gasket	12	69107	Strain Relief (2)
5	69287	Bottom Cover	13	69327	Power Cord 115V
6	79965	Screw #10-32 x 1/2" Pan Head (2)	14	89190	Quick Disconnect (2)
7	23512	Rubber Washer	15	45420	Ground Screw
8	69457	Switch Plate			

100V Japan 230V Export



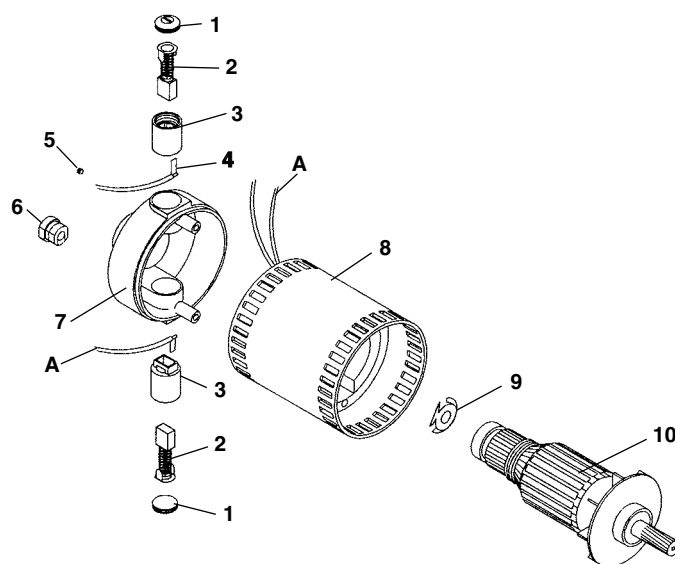
B-292 Foot Switch



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

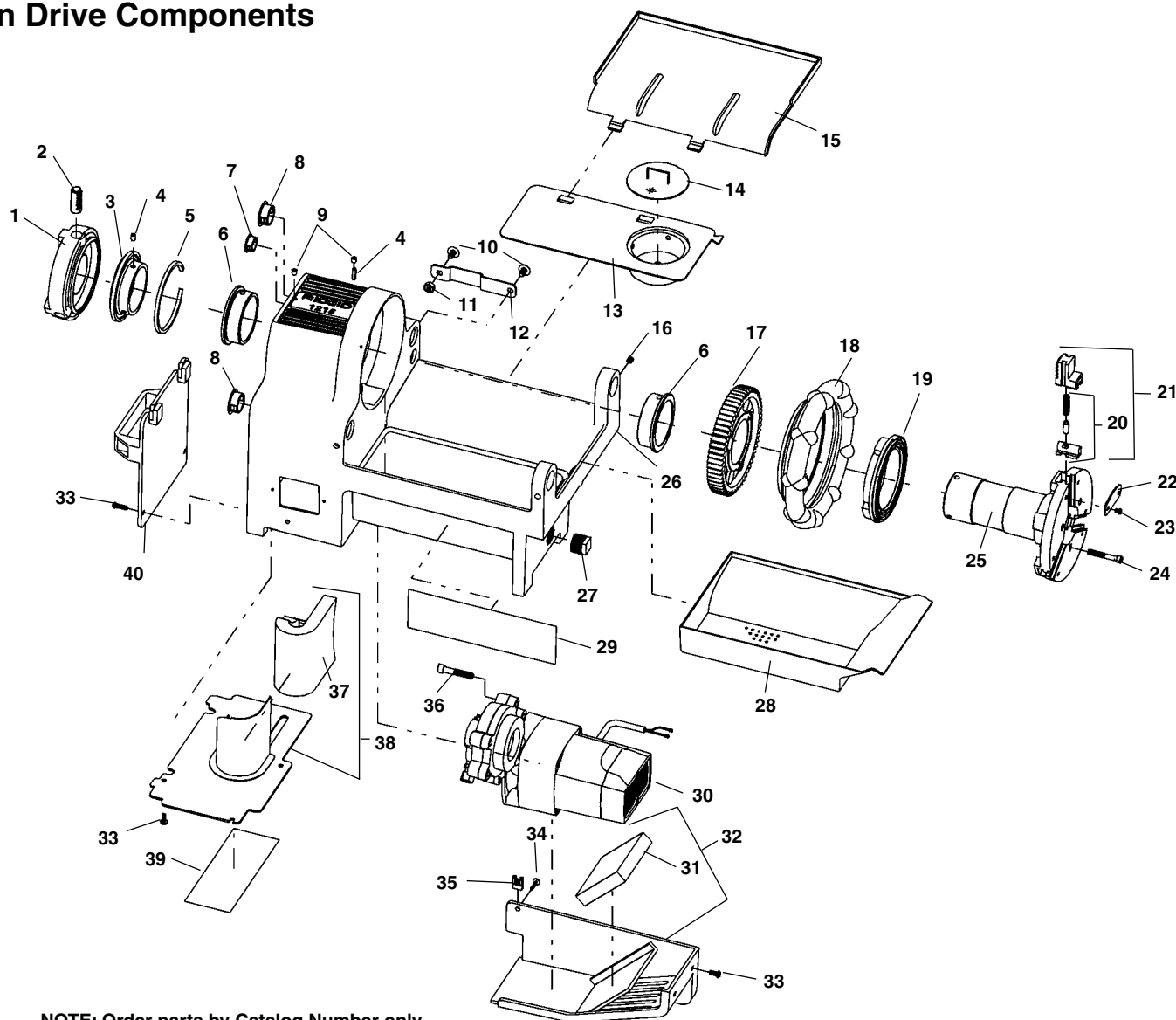
Ref. No.	Catalog No.	Description
—	69087	B-292 Foot Switch Assembly
1	69112	Cord
2	89190	Quick Disconnect
3	90402	Strain Relief
4	78780	E-Ring (2)
5	69117	Pivot Pin
6	69092	Base
7	69097	Cover
8	72432	Warning Decal
9	36767	O-Ring
10	69102	Poppet
11	69127	Spring
12	36762	Micro Switch
13	69137	Gasket
14	69122	Bottom Cover
15	69132	Screw - Self Forming (6)
16	90397	Seal

Motor



Ref. No.	Catalog No.	Description
—	69222	Motor 115V
—	72362	Motor 230V
—	72402	Motor 100V
1	60467	Brush Cap (2)
2	60472	Brush (2)
3	60482	Brush Holder (2)
4	69462	Brush Lead - Black
5	60492	Set Screw
6	69467	Cord Retainer
7	60522	End Bell
8	69467	Brush Lead - Red
9	69472	Field Assembly 115V
	72447	Field Assembly 230V
	72452	Field Assembly 100V
10	60512	Load Spring
11	69477	Armature 115V
	72437	Armature 230V
	72442	Armature 100V

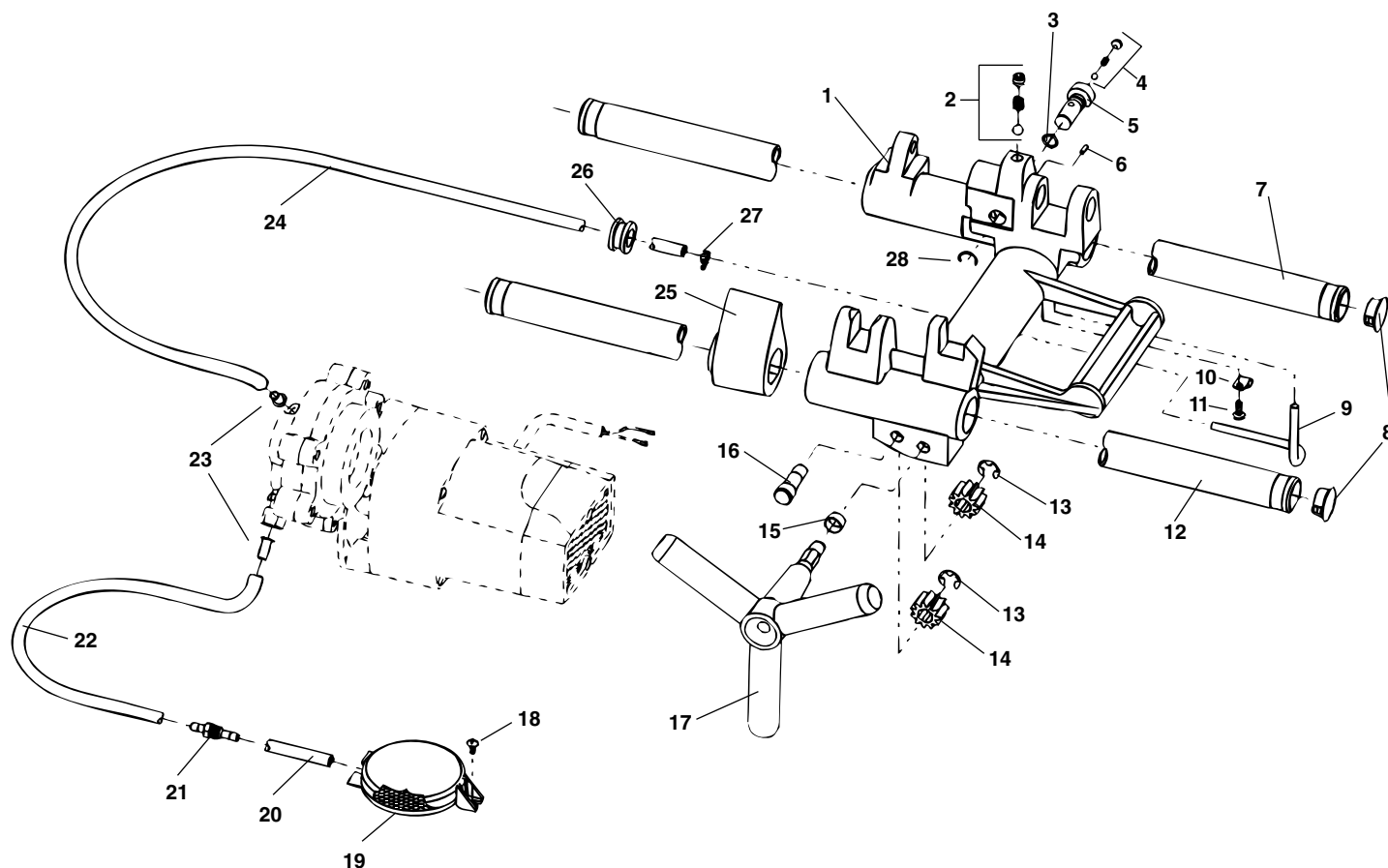
Main Drive Components



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	58232	Centering Head	21	58312	Chuck Jaw Set
2	58237	Centering Jaw Set	22	58317	Chip Guard
3	58242	Centering Scroll	23	58322	Screw #6-32 Button HD C.S. (6)
4	54007	Roll Pin (4)	24	46775	Screw 1/4" - 20 S.H.C.S. (6)
5	58247	Internal Spiral Ring	25	58327	Chuck Cap and Spindle Assembly
6	58252	Spindle Bearing (2)	26	58332	Base Assembly (includes Ref. #6, 9 & 10)
7	58257	Plug 13/16"	27	54302	Pipe Plug
8	58262	Plug 1 3/16" (2)	28	58337	Chip Tray
9	54022	Ball Valve Oiler (2)	29	58342	Warning Plate
10	54137	Screw 5/16" - 18	30	58352	4194 Motor Assembly - 115V
11	96730	Hex Nut 5/16" - 18	31	58362	Motor Cover Foam
12	62767	Foot Switch Bracket	32	58367	Motor Cover
13	58272	Oil Pan Liner	33	79965	Pan Head Screw #10 - 32 x 1/2" (6)
14	58277	Baffle Screen Assembly	34	43367	Self Tapping Screw
15	58282	Drip Tray	35	43362	J-Clip
16	45420	Set Screw 5/16" - 18 x 1/4" (3)	36	46035	Screw 5/16" x 1 3/4" S.H.C.S. (4)
17	58287	Drive Gear	37	58372	Foam Baffle
18	58292	Hand Wheel	38	58377	Bottom Cover
19	58297	Chuck Scroll	39	58382	Wiring Diagram
20	58307	Jaw Insert Set		58387	Wiring Diagram (Europe)
	58302	Jaw Insert Set (Optional for Stainless Steel and Plastic Coated Pipe)	40	58392	Rear Cover

Carriage and Oil System

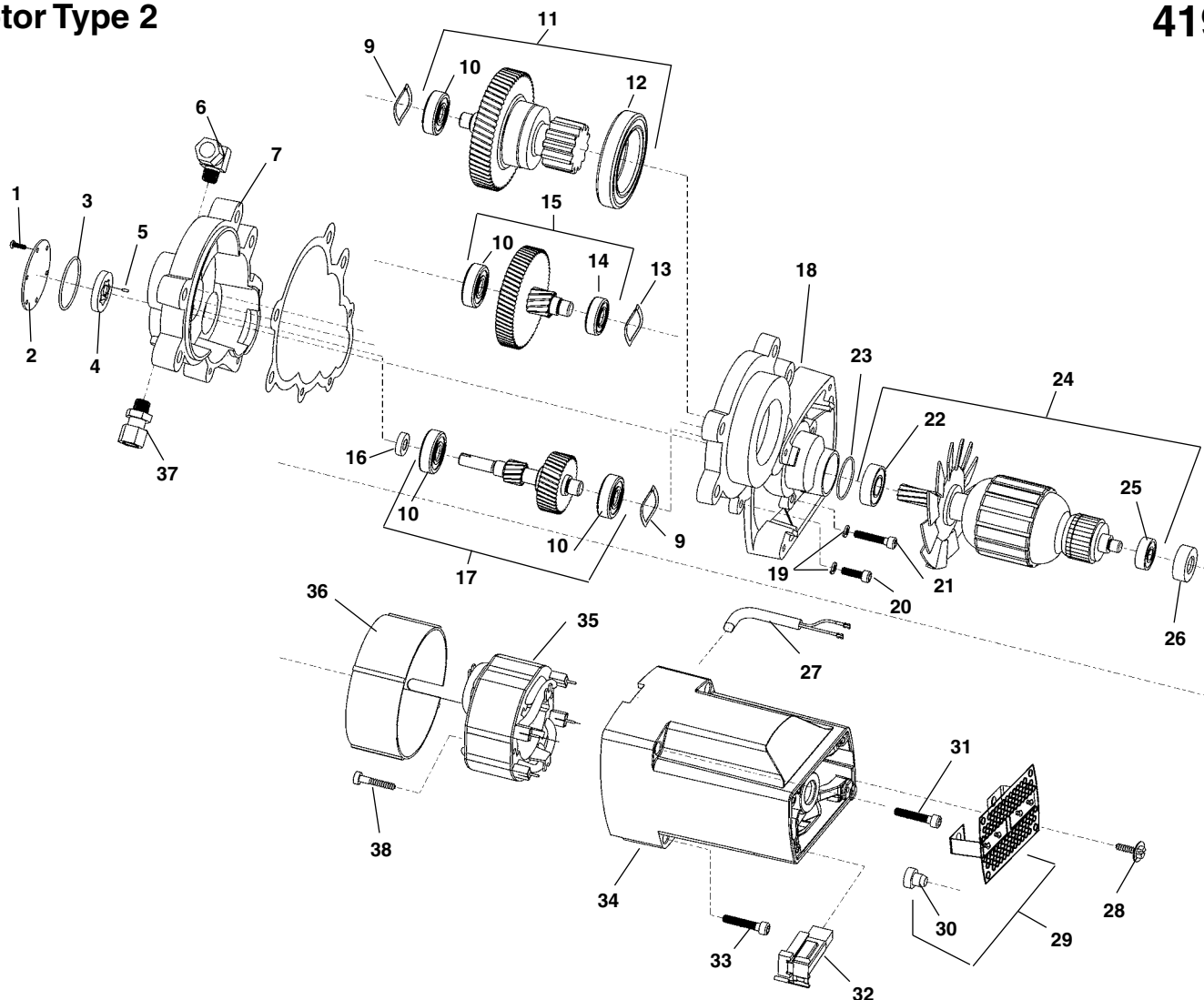


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	58407	Carriage (Includes Ref. #2)	16	58457	Idler Shaft
2	46810	Die Head Detente	17	58427	Plastic Plug (not shown)
3	54102	O-Ring	18	45420	Screw
4	35307	Oil Pressure Relief	19	58467	Filter Screen Assembly
5	54097	Bypass Valve	20	61897	Oil Tube
6	58417	Roll Pin	21	54142	Bulkhead Fitting
7	58422	Rear Rail	22	58477	Intake Oil Line
8	58257	Plug (2)	23	35117	Tube Insert
9	58432	Oil Line	24	58482	Output Oil Line
10	35062	Clamp	25	58487	Carriage Stop
11	79965	Screw 10-32 x 1/2"	26	47080	Grommet
12	58437	Front Rail	27	35142	Hose Clamp
13	58442	Retaining Ring	28	54107	Retaining Ring
14	58447	Carriage Pinion Gear			
15	58452	Bushing			

Motor Type 2

4194



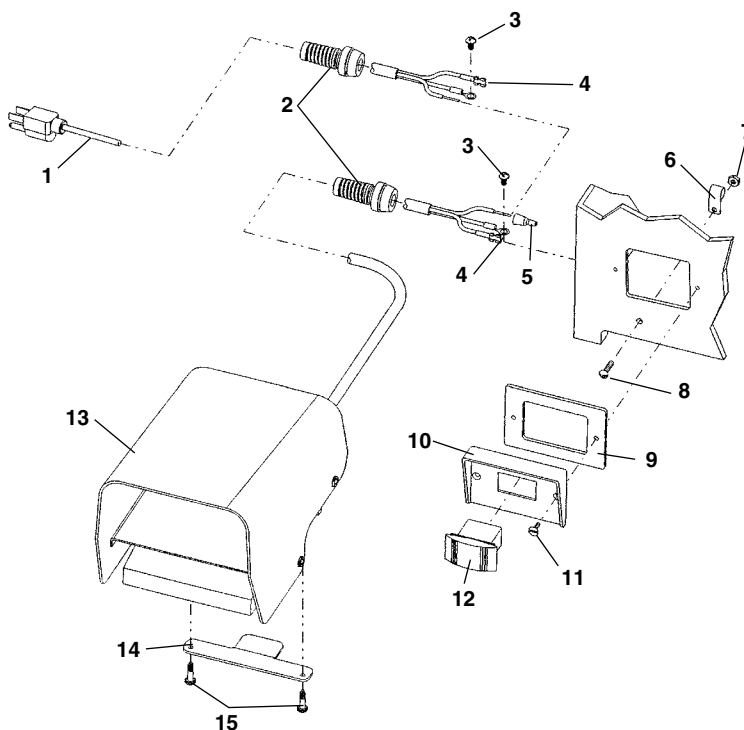
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	58352	4194 Motor Assembly - 115V	20	58547	Screw 10-32 x 3/4" S.H.C.S.
1	96890	Screw 4-40 x 3/8"	21	26642	Screw 10-32 x 1 3/4" S.H.C.S.
2	96840	Geroter Cover	22	60227	O-Ring
3	96875	O-Ring	23	45912	Bearing
4	96870	Geroter Set	24	45907	Armature Assembly - 115V
5	96885	Geroter Pin	25	43017	Bearing
6	52517	90 degree fitting	26	42777	Rubber Bearing Mount
7	58492	Rear Gear Case	27	58562	Wiring Harness
8	58497	Gasket	28	10908	Screw Self Tapping (4)
9	58502	Wave Spring (2)	29	10913	End Cover
10	44760	Bearing (4)	30	10918	Bumper
11	58507	Drive Gear Assembly	31	10933	Screw #10-32 x 1 5/8" S.H.C.S.
12	58512	Bearing	32	45882	Brush Holder Assembly (2) 115V
13	35365	Wave Spring	33	10938	Screw #10-32 x 2" S.H.C.S. (5)
14	58522	Bearing	34	22048	Motor Housing
15	58527	2nd Gear Assembly	35	45897	Field Assembly 115V
16	96880	Oil Seal	36	58577	Fan Shroud
17	58532	1st Gear Assembly	37	58582	Straight Fitting
18	58537	Front Gear Case	38	10923	Screw #10-24 x 2" S.H.C.S. (2)
19	58542	#10 Lock Washer (3)			

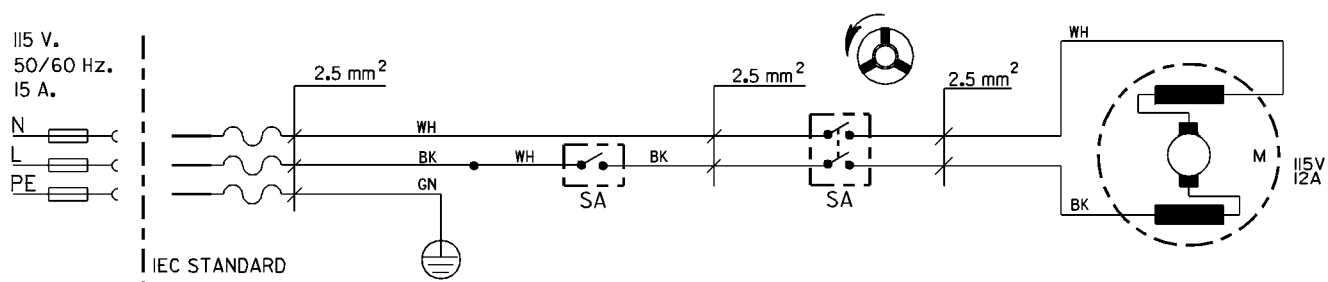
Electrical Components – 115V/60Hz

NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description
1	46740	Power Cord
2	72107	Strain Relief (2)
3	45420	Ground Screw (2)
4	58587	Quick Disconnect (2)
5	44635	Wire Nut
6	54222	Cable Clamp (2)
7	44695	Hex Nut #10-24
8	92455	Screw #10-24 x 3/4" Round Head
9	54172	Switch Gasket
10	58592	Switch Plate
11	54162	Screw 6-32 x 2" Flat Head (2)
12	58597	Switch
13	36642	B-294 Foot Switch
14	58602	Foot Switch Hanger Bracket
15	54357	Screw



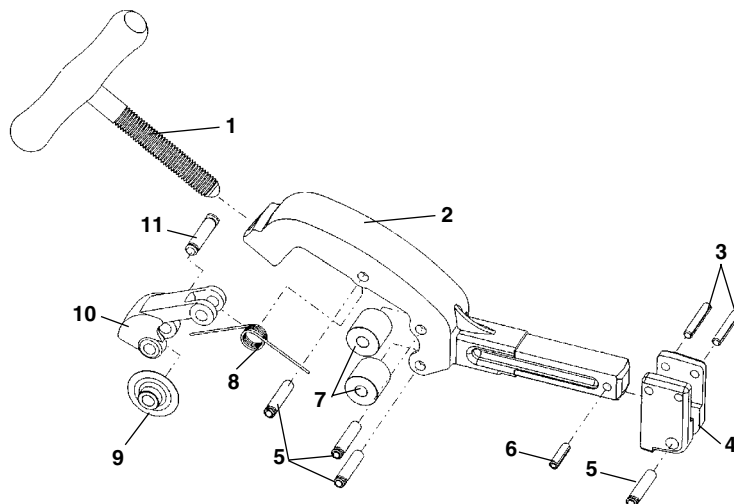
Wiring Diagram – 115V



No. 732 Pipe Cutter

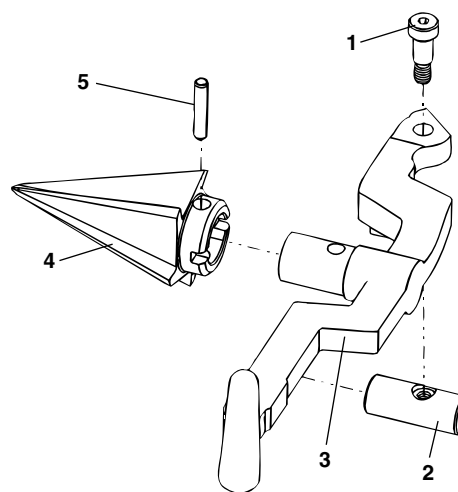
NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description
—	58657	732 Cutter Assembly
1	58607	Handle Assembly
2	58612	Cutter Frame
3	54300	Roll Pin $\frac{1}{4}$ " x $1\frac{1}{2}$ " (2)
4	58627	Support Arm Bracket
5	46662	Roller Pin (4)
6	58090	Roll Pin $\frac{1}{4}$ " x 1"
7	46960	Roll (2)
8	58617	Torsion Spring
9	44185	Cutter Wheel
10	58622	Wheel Housing
11	34780	Wheel Pin



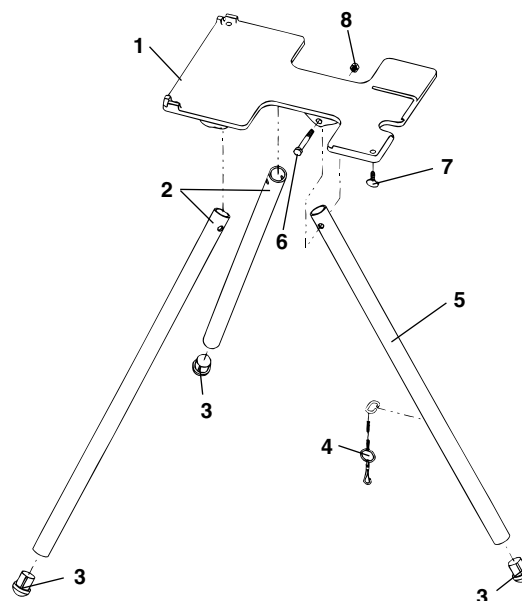
No. 344 Reamer

Ref. No.	Catalog No.	Description
—	34612	344 Reamer Complete
1	36262	Shoulder Screw
2	36267	Pivot Pin
3	36272	Reamer Arm
4	36277	Reamer Core (R.H.)
	46660	Reamer Core (L.H. & R.H.)
5	35355	Split Roll Pin

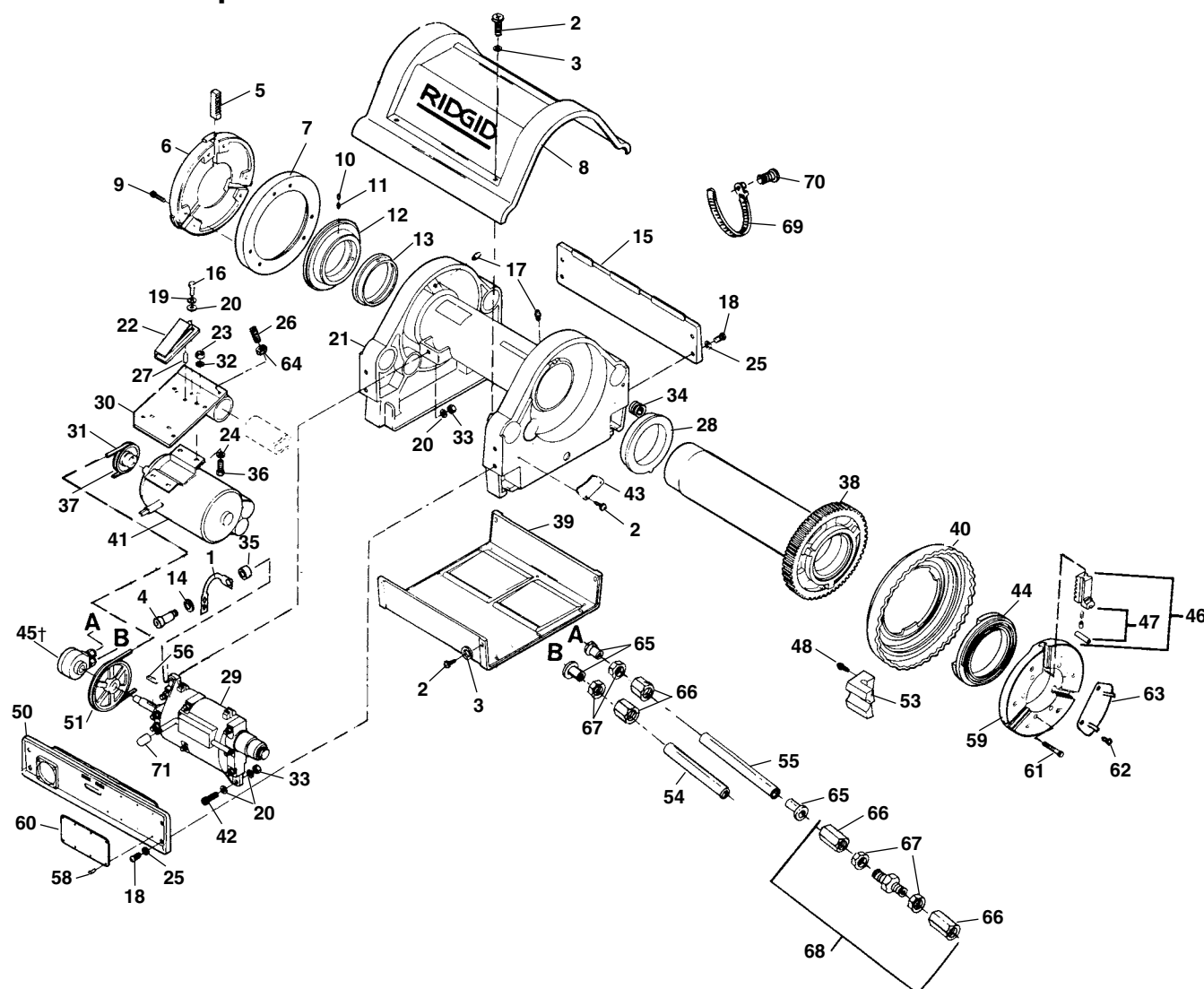


No. 1203 Stand

Ref. No.	Catalog No.	Description
—	61187	1203 Stand
1	61182	Base
2	58637	Front Leg (2)
3	61470	Leg Rest (3)
4	40945	Chain Assembly
5	58412	Rear Leg
6	80045	Screw $\frac{3}{8}$ " - 16 x $3\frac{1}{4}$ " (3)
7	46220	Thumb Screw (3)
8	79985	Lock Nut $\frac{3}{8}$ " - 16 (3)



Main Drive Components

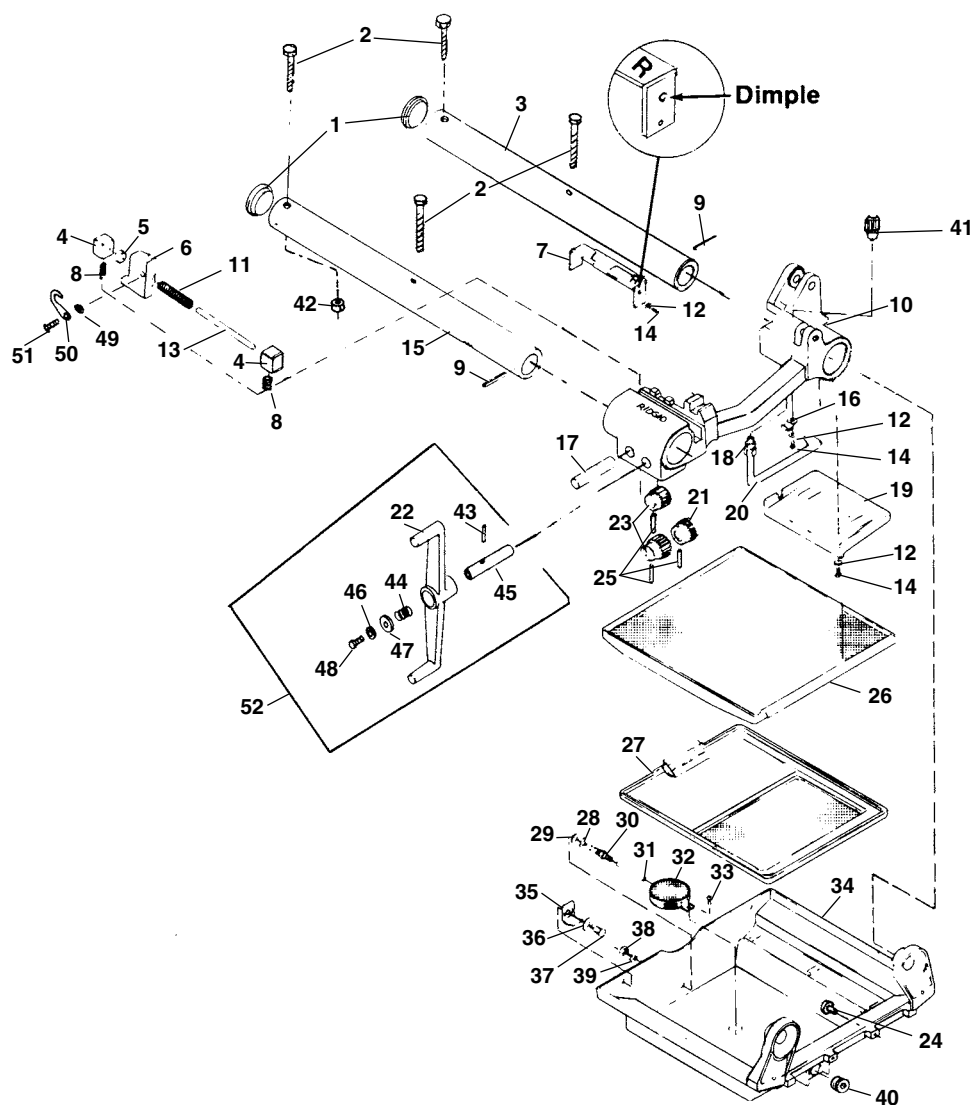


NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	33622	Pump Bracket	25	40930	Lock Washer 3/8" (8)	45†	27307	Oil Pump
2	41597	Screw (12)	26	88265	Set Screw 3/8" - 16 x 1"	46	40087	Chuck Jaw Set
3	41592	Washer (10)	27	88230	Roll Pin 1/4" x 3/16"	47	26242	Jaw Insert Set
4	33627	Screw	28	26767	Front Bearing		26247	Jaw Insert Set F/Coated Pipe
5	32412	Centering Jaw Set	29	26362	Gear Box Assy.	48	27067	Self-Tapping Screw (2 Req. f/G.S.)
6	26537	Centering Head	30	27062	Motor Bracket	50	59722	Front Side Plate
7	26542	Back Plate	31	26832	V-Belt	51	26852	Gear Box Pulley
8	26477	Top Cover	32	40770	Lock Washer 5/16" (4)	53	26507	Pinch Point Boss (2 Req. f/G.S.)
	46867	Die Head Decal (Not Shown)	33	27517	Lock Nut 3/16" - 18	54	27007	Inlet Hose
9	40910	Screw 1/4" - 20 x 3/4" (6)	34	47080	Grommet	55	26822	Output Hose
10	45300	Set Screw 5/16" - 24 x 1/4" (3)	35	33617	Spacer	56	27002	Key
11	45265	Set Screw 5/16" - 24 x 1/2" (3)	36	85910	Bolt 5/16" - 18 x 1 1/4"	58	85920	Rivets (8)
12	32407	Scroll	37	26857	Motor Pulley (60 Hz)	59	26332	Chuck Cap
13	26352	Rear Bearing		27082	Motor Pulley (50 Hz)	60	88690	Safety Plate
14	26307	Washer	38	26347	Drive Gear/Spindle Assy.	61	26522	Screw 3/16" - 24 x 2 1/4" (6)
15	26487	Rear Side Plate	39	26482	Bottom Cover	62	27242	Screw 10 - 32 (6)
16	32145	Screw 1/4" - 20 x 1/2"	40	26337	Handwheel	63	33612	Set of 3 Cover Plates
17	46860	Grease Fitting (2)	41	26237	Motor w/Capacitor 120V, 60 Hz	64	83545	Jam Nut 3/8" - 16
18	26997	Screw 3/8" - 16 x 3/4" (8)		27287	Motor w/Capacitor 110V, 50 Hz	65	35117	Tube Insert (3)
19	44740	Lock Washer 1/4"		26232	Motor w/Capacitor 240V, 60 Hz	66	40602	Compression Nut
20	96740	Washer 3/16"		27282	Motor w/Capacitor 220/240V, 50 Hz	67	40607	Ferrule
21	26357	Base		28052	Motor w/Capacitor 220V, 50 Hz GS	68	26972	Union
22	26492	Belt Tensioner	42	27037	Shoulder Bolt	69	43552	Tie Down Strap
23	96730	Nut 3/16" - 18 (4)	43	27012	Pinion Guard	70	45275	Screw 10 - 24 x 1/2"
24	27402	Washer 5/16" (4)	44	26517	Scroll	71	27032	Shifter Knob

†See Service Notes

Carriage and Chip Pan



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	49992	Carriage Assembly (Includes Ref. #4-8, 10-14, 17, 21, 23, 25, 41, 49-52)	17	26777	Sine Bar/Pinion Shaft (2)	36	40930	Lock Washer $\frac{3}{8}$ " (2)
1	26502	Rail Plug (2)	18	26562	Supply Line Fitting	37	26997	Screw $\frac{3}{8}$ " - 16 x $\frac{3}{4}$ " (2)
2	40167	Bolt $\frac{5}{16}$ " - 18 x 3 $\frac{1}{2}$ " (4)	19	26772	Drip Plate	38	83545	Hex Nut $\frac{3}{8}$ " - 16
3	49982	Rear Rail	20	26812	Die Lubrication Tube	39	26307	Washer
4	26787	Guide Block (2)	21	26587	Sine Bar Pinion	40	48337	Drain Plug
5	26792	Sine Bar Spacer	22	40147	Carriage Handwheel	41	28462	Ball Detente
6	40242	Sine Bar	23	26572	Carriage Pinion (2)	42	27517	Lock Nut $\frac{5}{16}$ " - 18 (4)
7	26912	Sine Bar Cover Assembly	24	26837	Stud (2)	43	74965	Pin
8	26582	Guide Block Spring (2)	25	74965	Roll Pin $\frac{1}{4}$ " x 1 $\frac{1}{4}$ " (3)	44	89530	Spring
9	27052	Roll Pin (2)	26	26802	Draw Tray Assembly	45	40157	Handwheel Shaft
10	49987	Carriage (Includes Ref. #41)	27	26807	Insert Assembly	46	41582	Lock Washer
11	26592	Sine Bar Return Spring	28	27252	Washer	47	40152	Washer
12	41592	Washer #10 (2)	29	41715	Seal Washer	48	26997	Screw
13	26577	Guide Bar	30	26697	Bulk Head Fitting	49	40227	Spring Washer
14	79965	Screw #10 - 32 x $\frac{1}{2}$ " (5)	31	26927	Tubing	50	40237	Latch
15	49977	Front Rail	32	27262	Screen Assembly	51	49472	Spiral Pin
16	26652	Oil Supply Clamp	33	26797	Screw #10 - 32 x $\frac{5}{16}$ "	52	42027	Handwheel Kit
			34	26847	Chip Pan Hanger Assembly			
			35	26817	Chip Pan Bracket (2)			

“ML” Oil Pump

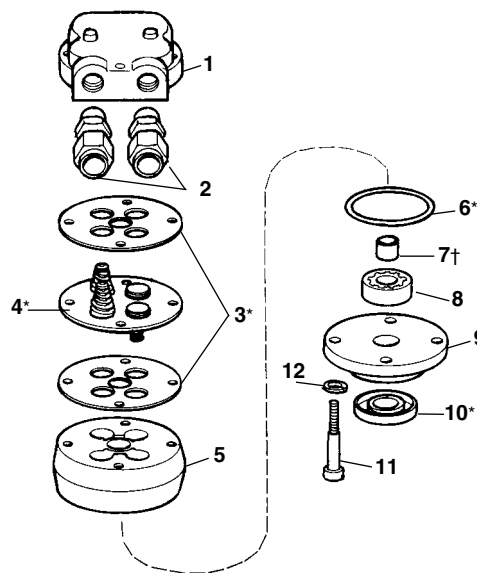
NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description
—†	27307	“ML” Oil Pump
1	33442	Pump Valve Body
2	33432	Compression Fitting (2)
3*	33457	Gasket (Set of 2)
4*	33452	Valve Retainer Assy.
5	33482	Gerotor Housing w/Bearing
6*	33477	O-Ring
7†	33462	Sleeve Bearing
8	33467	Gerotor Set
9	33447	Pump Cap w/Seal
10*	33472	Oil Seal
11	44510	Soc. Hd. Cap Screw 1/4" - 20 x 2"
12	45150	Lock Washer 1/4"
*	33422	“ML” Service Kit

Note: Ref. 7 Sleeve Bearing used on older Gerotor Housings, not required on new pumps.

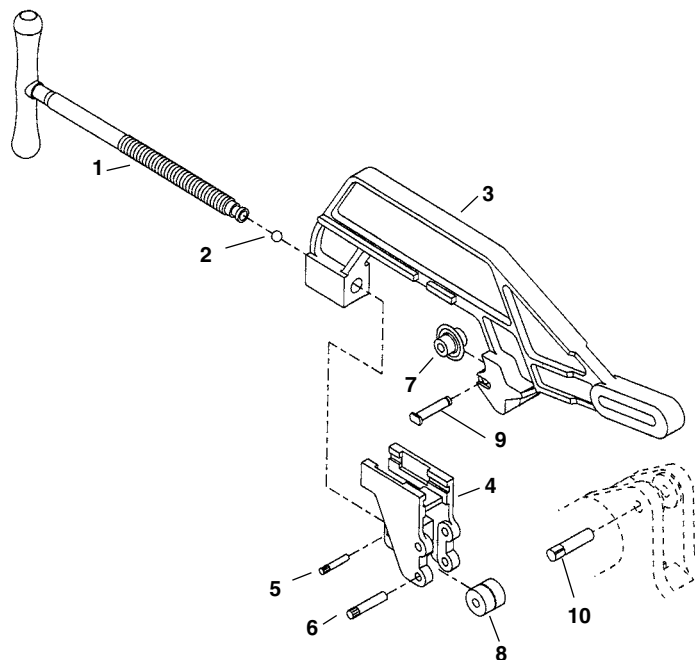
* Indicates Part is Included in Service Kit.

† See Service Note



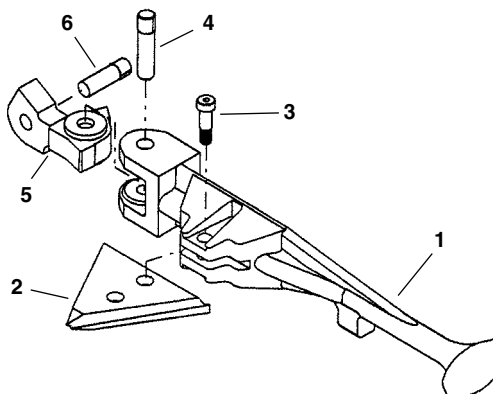
No. 764 Pipe Cutter

Ref. No.	Catalog No.	Description
—	26212	764 Pipe Cutter
1	26752	Screw Handle
2	41730	Ball Bearing
3	26742	Cutter Frame
4	26747	Roll Housing
5	26757	Groove Pin
6	26762	Groove Pin (2)
7	33125	Cutter Wheel
8	34785	Roll (2)
	26252	Roll F/Coated Pipe (2 per set)
9	34790	Wheel Pin
10	27072	Groove Pin



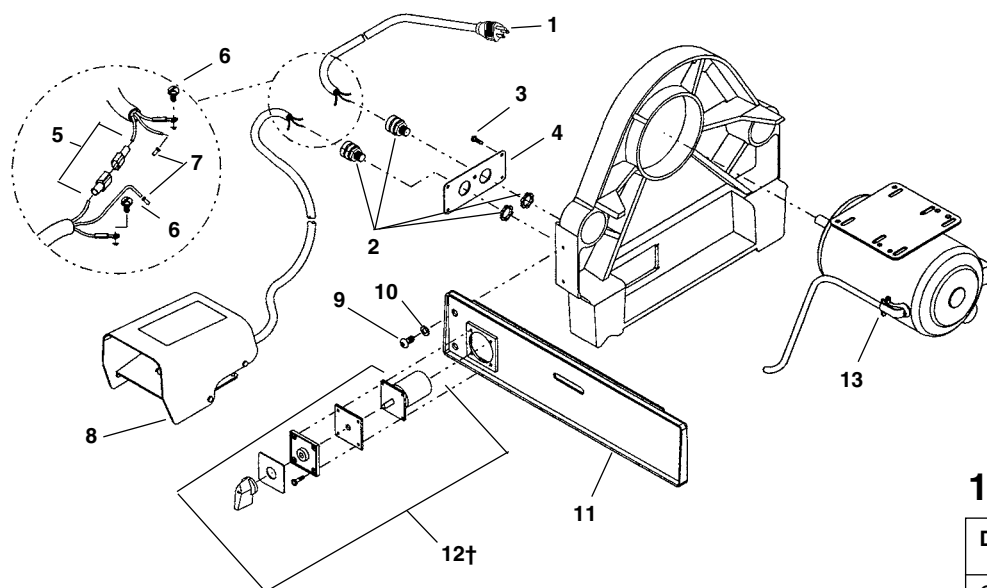
No. 744 Reamer Assembly

Ref. No.	Catalog No.	Description
—	26217	744 Reamer Assembly
1	26602	Reamer Arm
2	34577	Reamer Blade 1/4" - 4"
3	27037	Shoulder Bolt
4	27072	Groove Pin
5	26607	Pivot Block
6	26727	Groove Pin (2)



60 Hz Electrical Components

NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

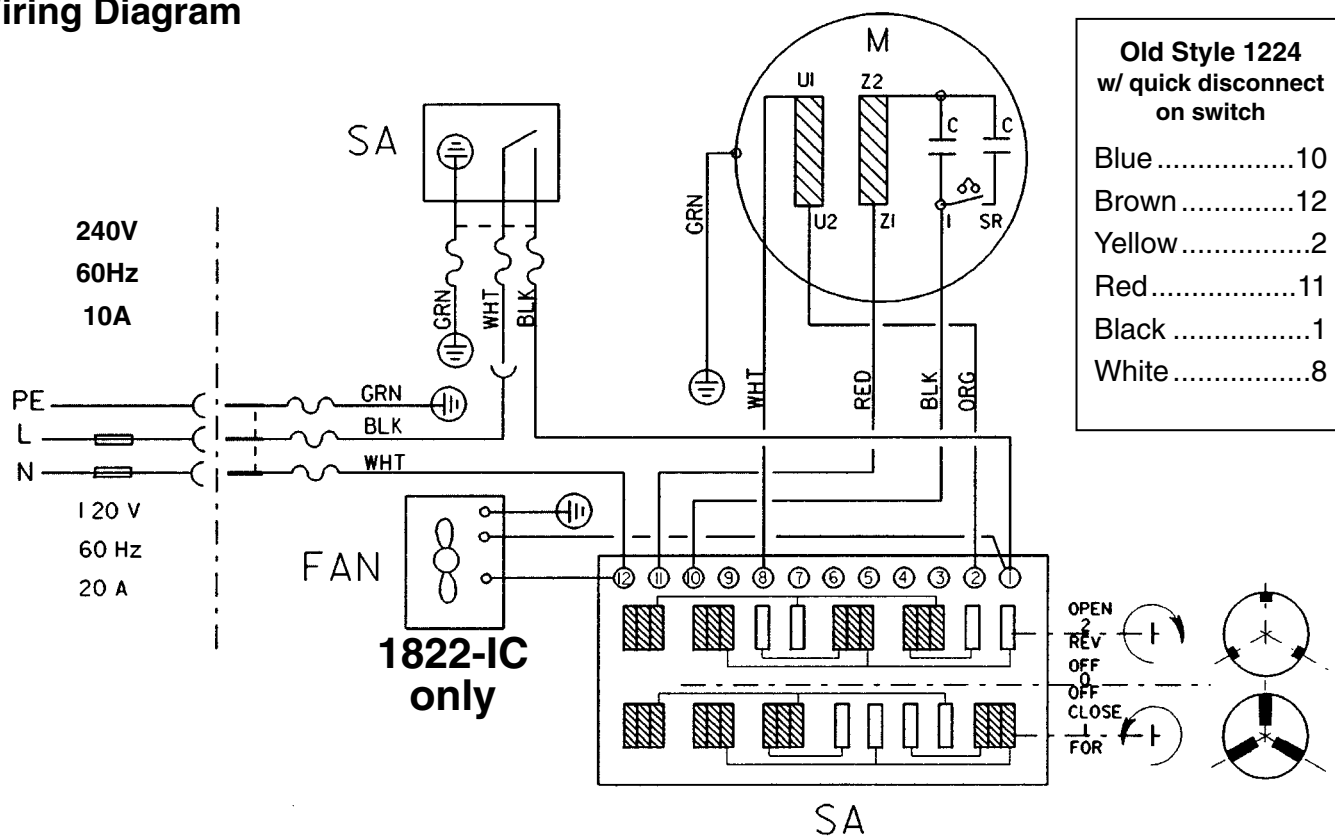


Ref. No.	Catalog No.	Description
1	46740	Power Cord
	46410	Power Cord
2	75977	Strain Relief (2)
3	41597	Self Tapping Screw (4)
4	27162	Strain Relief Bracket
5	56407	Quick Disconnect Set
6	45420	Ground Screw
7	36222	Wire Terminal
8	36642	B-294 Foot Switch
9	26997	Screw 3/8" - 16 x 3/4" (8)
10	40930	Lock Washer 3/8" (8)
11	59722	Front Side Plate
12†	20113	Switch Assembly
13	26237	Motor 120V 60 Hz
	26232	Motor 240V 60 Hz

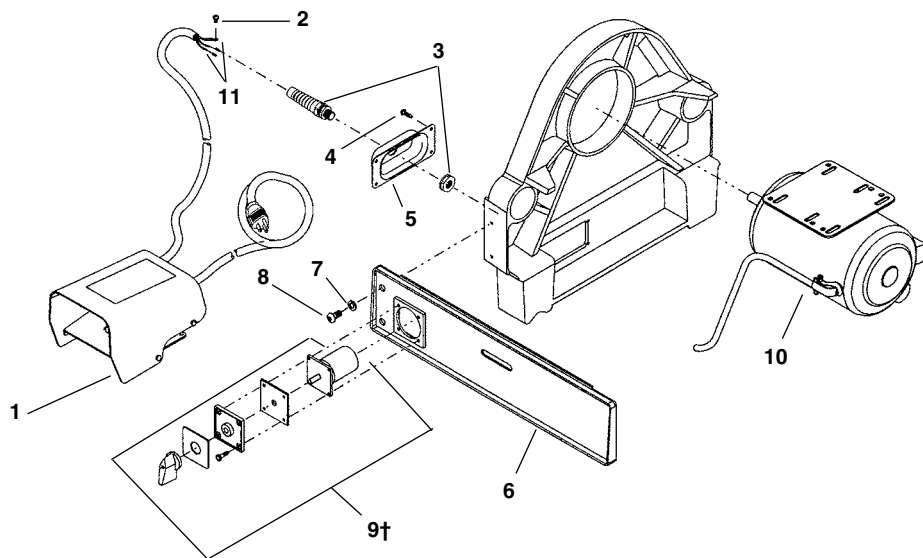
1224 Motor Parts

Description	120V 60Hz	240V 60Hz
Contact Start Switch	21148	—
Start Capacitor	54332	—
Run Capacitor	46807	46807

1224 & 1822-I Replacement Switch Wiring Diagram



50 Hz Electrical Components



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

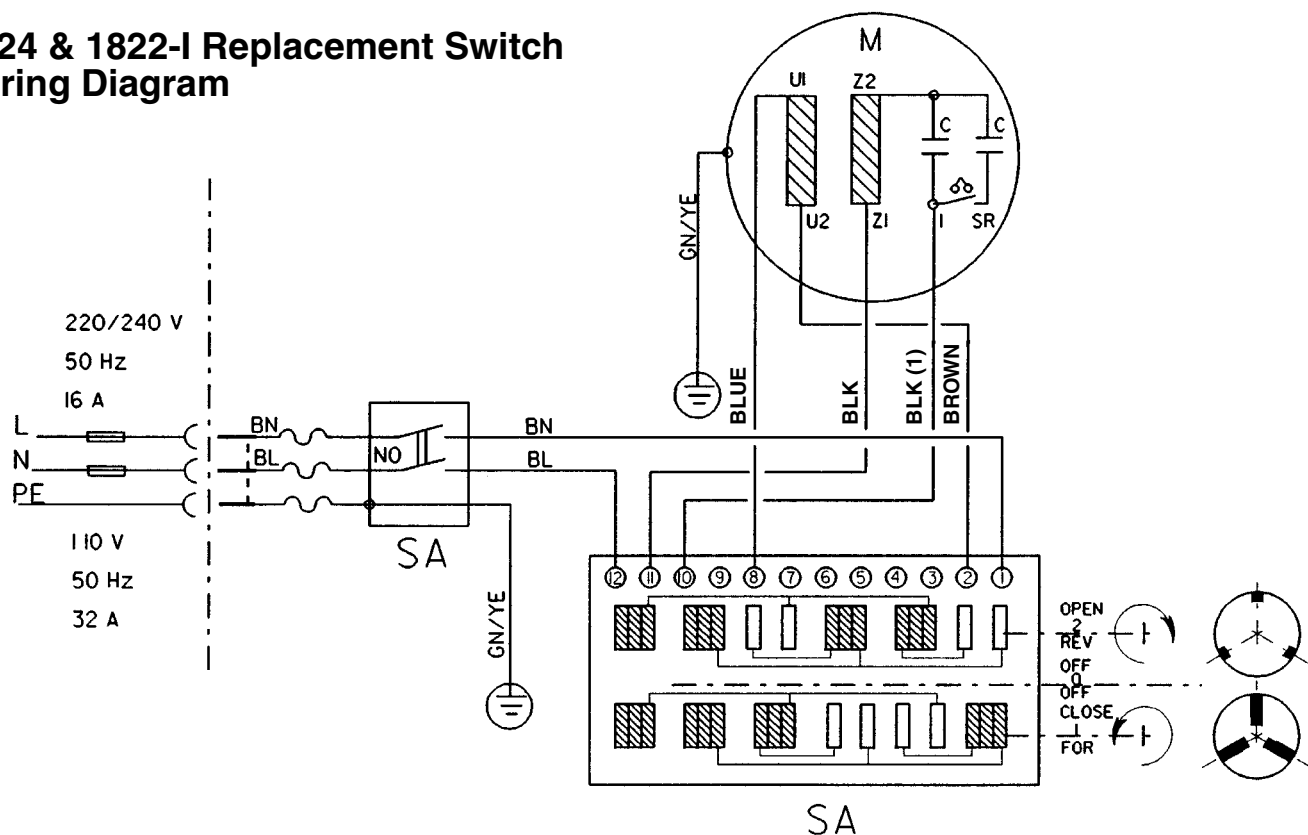
Ref. No.	Catalog No.	Description
1	36652	B-296 Foot Switch
	36657	B-297 Foot Switch
2	45420	Ground Screw
3	27187	Strain Relief
4	41597	Self Tapping Screw (4)
5	27197	Strain Relief Bracket
6	59722	Front Side Plate
7	40930	Lock Washer $\frac{3}{8}$ " (8)
8	26997	Screw $\frac{3}{8}$ " - 16 x $\frac{3}{4}$ " (8)
9†	20113	Switch Assembly
10	27282	Motor 220/240V 50 Hz
	27287	Motor 110V 50 Hz
11	36222	Wire Terminal

1224 Motor Parts

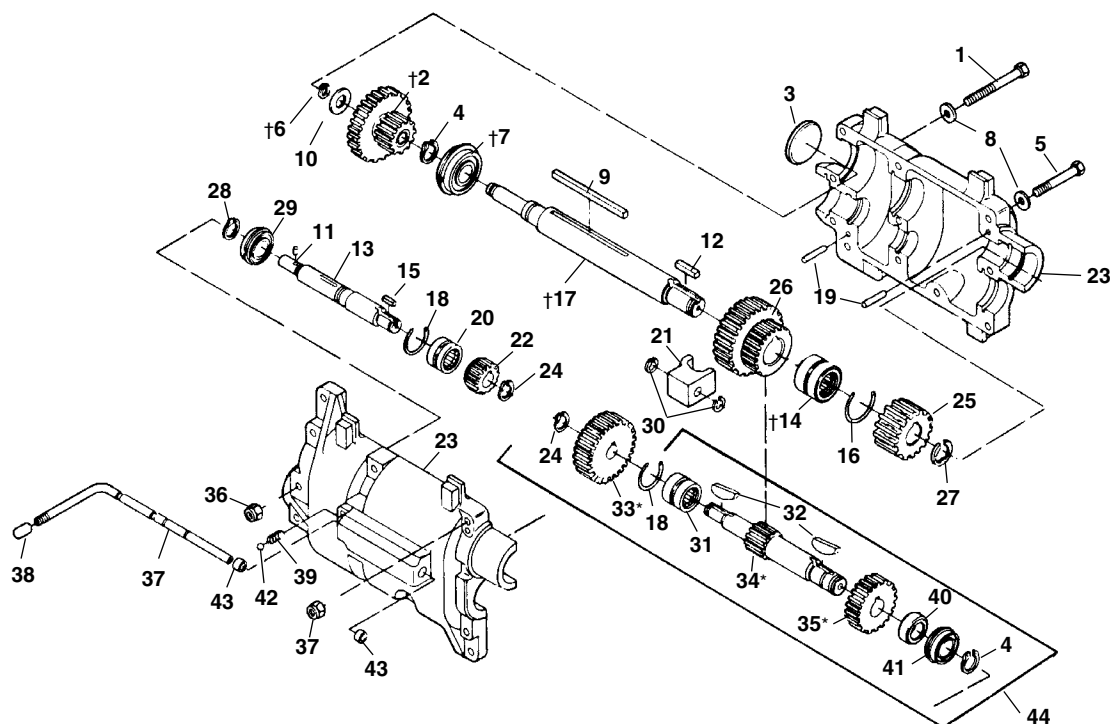
Description	220V/240V 50Hz	110V 50Hz
Dual Contact Start Switch	46772	46772
Start Capacitor	46792	—
Run Capacitor	46807	—

† Ref. No. 12 – When replacing early style switches, which have a black body, order Switch Kit, Catalog No. 59762. Kit includes 59757 Switch Assembly and 59742 Switch Adapter Plate

1224 & 1822-I Replacement Switch Wiring Diagram



Gear Box



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

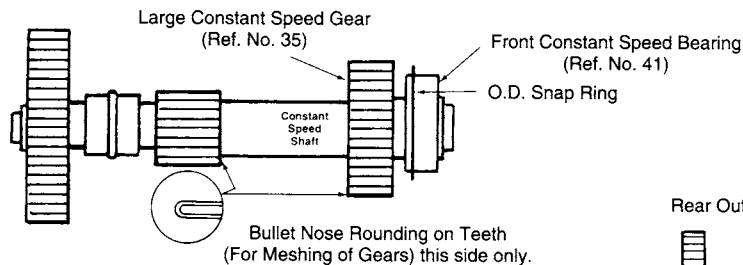
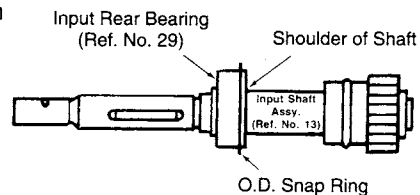
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	26362	Gear Box Assembly	16	26922	Wire Ring	32	33982	Woodruff Key (2)
1	27102	Screw $\frac{5}{16}$ " - 18 x $3\frac{1}{4}$ " (2)	†17	26382	Output Shaft	33*	33992	1st Gear Constant Speed
†2	26702	Fixed Gear Cluster Assembly	18	26917	Wire Ring (2)	34*	33987	Constant Speed Shaft
3	26667	Freeze Plug	19	26662	Dowel Pin (2)	†35*	33997	Large Constant Speed Gear
4	26412	Snap Ring (2)	20	26367	Front Input Bearing	36	75110	Stop Nut $\frac{5}{16}$ " - 18 (11)
5	27107	Screw $\frac{5}{16}$ " - 18 x $2\frac{1}{2}$ " (9)	21	26437	Shifting Fork	37	26442	Shift Slide
†6	27117	Snap Ring	22	26377	1st Input Gear	38	27032	Shifter Knob
†7	26417	Rear Output Bearing	23	26647	Gear Box	39	26692	Shifter Detente Spring
8	96740	Washer $\frac{5}{16}$ " (11)	24	26677	Snap Ring	40	26452	Spacer
9	26552	Shift Cluster Key	†25	26432	Output Pinion Gear	41	26407	Front Constant Speed Bearing
10	26672	Thrust Washer	26	26422	Cluster Shift Gear	42	46925	Steel Ball
11	26907	Spiral Pin	27	26557	Snap Ring	43	26447	Shift Slide Sleeve Bearing
12	26457	Output Pinion Key	28	44430	Retaining Ring		26707	Grease (1 lb. can)
13	26902	Input Shaft Assembly	†29	26372	Input Rear Bearing	44	28047	Constant Speed Assembly
†14	26427	Front Output Bearing	30	34245	Rings Set of 5			
15	26657	Input Pinion Key	31	26397	Rear Bearing			

†See Service Notes

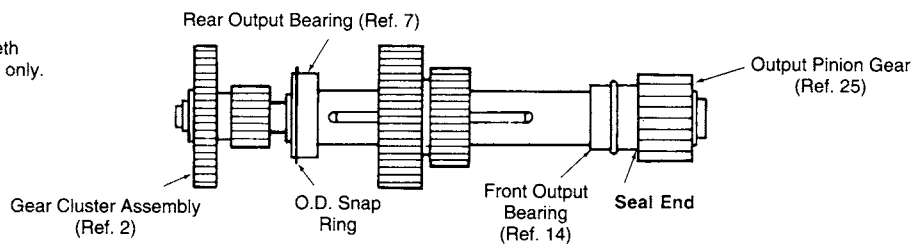
*When replacing early style parts, using square keys, a complete shaft assembly (Ref. No. 44) should be used.

Service Notes Transmission

Position Bearing (Ref. No. 29) with O.D. Snap Ring towards shoulder of Input Shaft.



Position Large Constant Speed Gear Ref. No. 35 so that bullet nose side of gear teeth are facing toward center of shaft. Position O.D. Snap Ring towards Large Constant Speed Gear.



Position Bearing (Ref. No. 7) with O.D. Snap Ring towards Gear Cluster (Ref. No. 2)

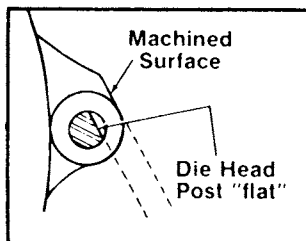
Position Seal End of Front Output Bearing (Ref. No. 14) towards Output Pinion Gear (Ref. No. 25)

Replacement Instructions for Die Head Post

All 1224 Die Heads— 541, 542, 711, 713, 714, 911, 913, 914

—IMPORTANT—

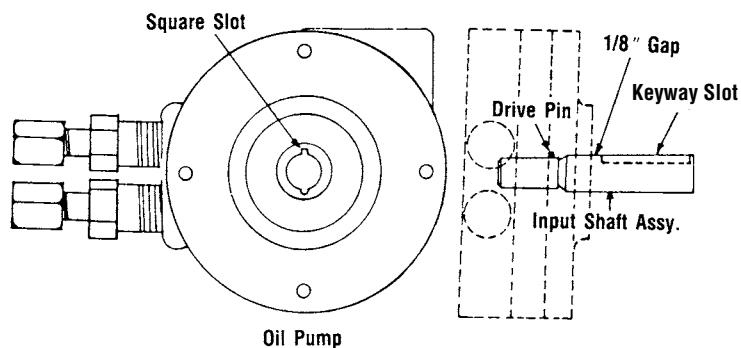
Post must be properly oriented to insure oil flow through head. Insert illustrates proper relationship (parallel) of "flat" on die head post to flat "machined surface" of die head casting.



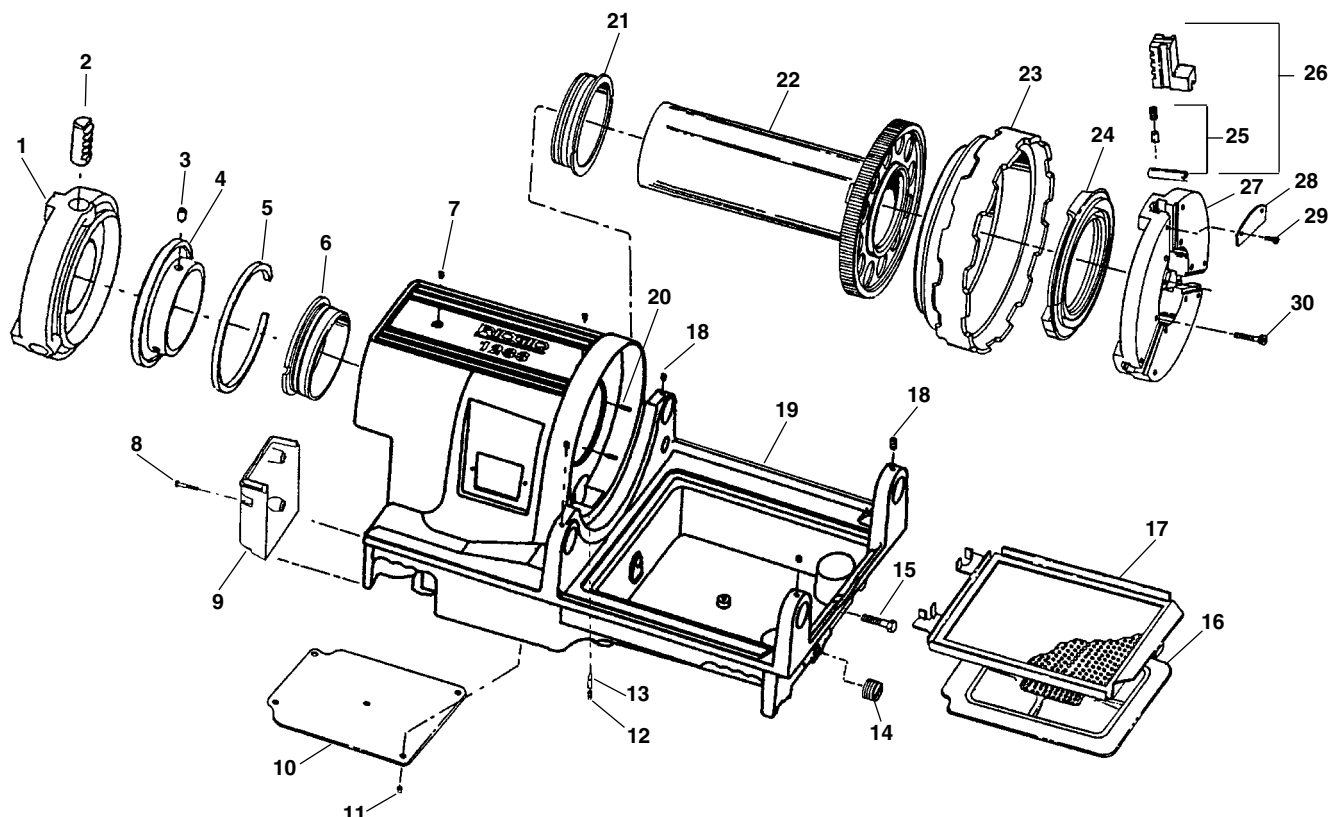
Oil Pump

Installing Oil Pump Onto Input Shaft Assembly

1. Align Square Slot (behind seal) in the No. 27307 Oil Pump with the Drive Pin in the No. 26902 Gear Box Input Shaft Assembly.
2. Slide Oil Pump onto Input Shaft Assembly.
3. When Pump is properly engaged onto Shaft, the distance between Pump body and Keyway Slot should not exceed 1/8 inch.



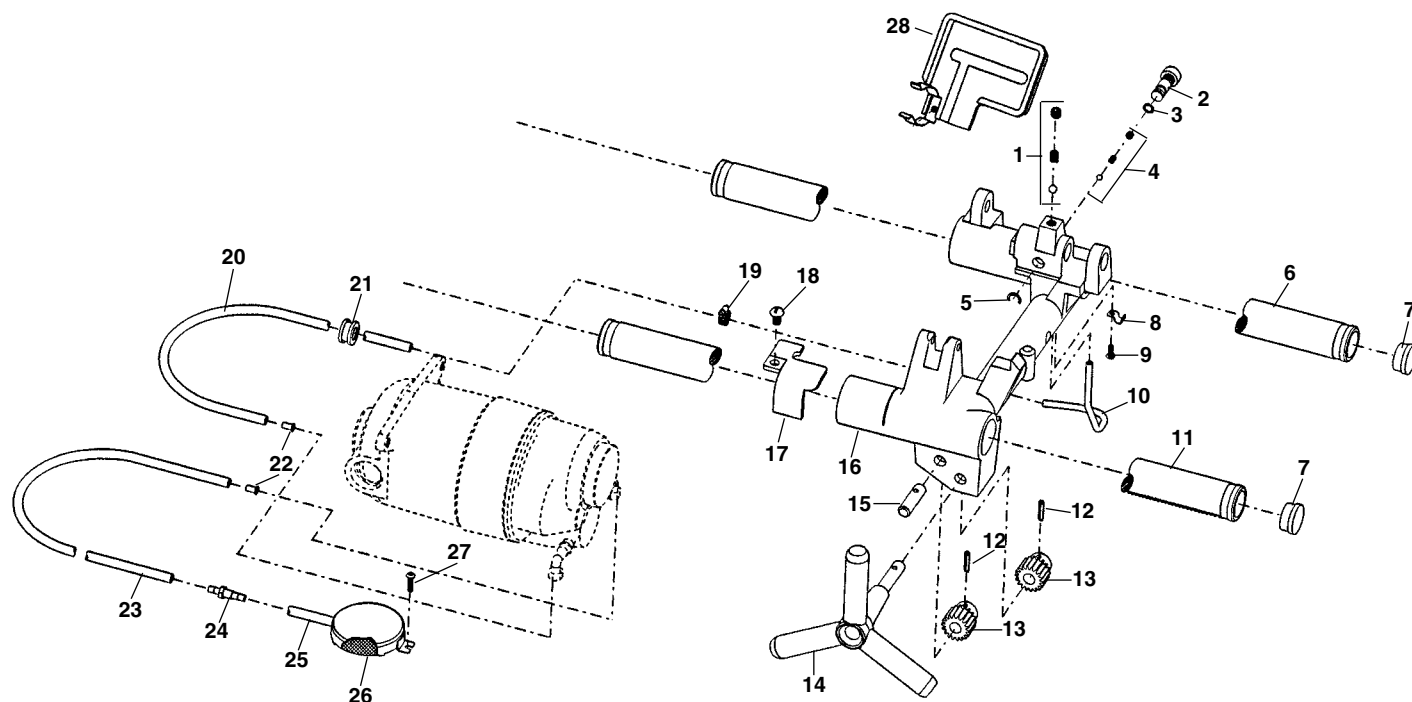
Main Drive Components



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	61882	Rear Centering Head	17	54047	Chip Tray
2	61922	Centering Jaw Set	18	60025	$\frac{5}{16}$ " - 18 Set Screw (4)
3	61247	Spiral Pins (3)	19	61887	Base (Incl. Ref. 9,10,11)
4	54002	Centering Scroll	20	45475	Bearing Retaining Pins (4)
5	61927	Retaining Ring	21	54062	Front Bearing
6	54017	Rear Bearing	22	54067	Spindle Assembly
7	54022	Oil Ball Valve (2)	23	54072	Hammer Wheel
8	92455	#10 - 24 x $\frac{3}{4}$ " Screw	24	54077	Chuck Scroll
9	61932	Motor Cover	25	54212	Jaw Insert Set
10	61937	Bottom Cover	—	54217	Jaw Insert f/Coated Pipe
11	87730	$\frac{1}{4}$ " x $\frac{3}{8}$ " Screw (4)	—	59612	Jaw Insert f/SS Pipe
12	77905	$\frac{5}{16}$ " x $\frac{1}{4}$ " Screw	26	54087	Chuck Jaw Set
13	54037	Motor Wedge	27	54082	Chuck Cap
14	54302	Drain Plug	28	54092	Chip Guard
15	54042	M-10 1.5 Hex Screw	29	58322	Screws 6 - 32 x $\frac{1}{2}$ " Pkg. of 6
16	54052	Oil Pan Liner	30	46775	$\frac{1}{4}$ " x $1\frac{3}{4}$ " Soc. Head Screw (6)

Carriage and Oil System

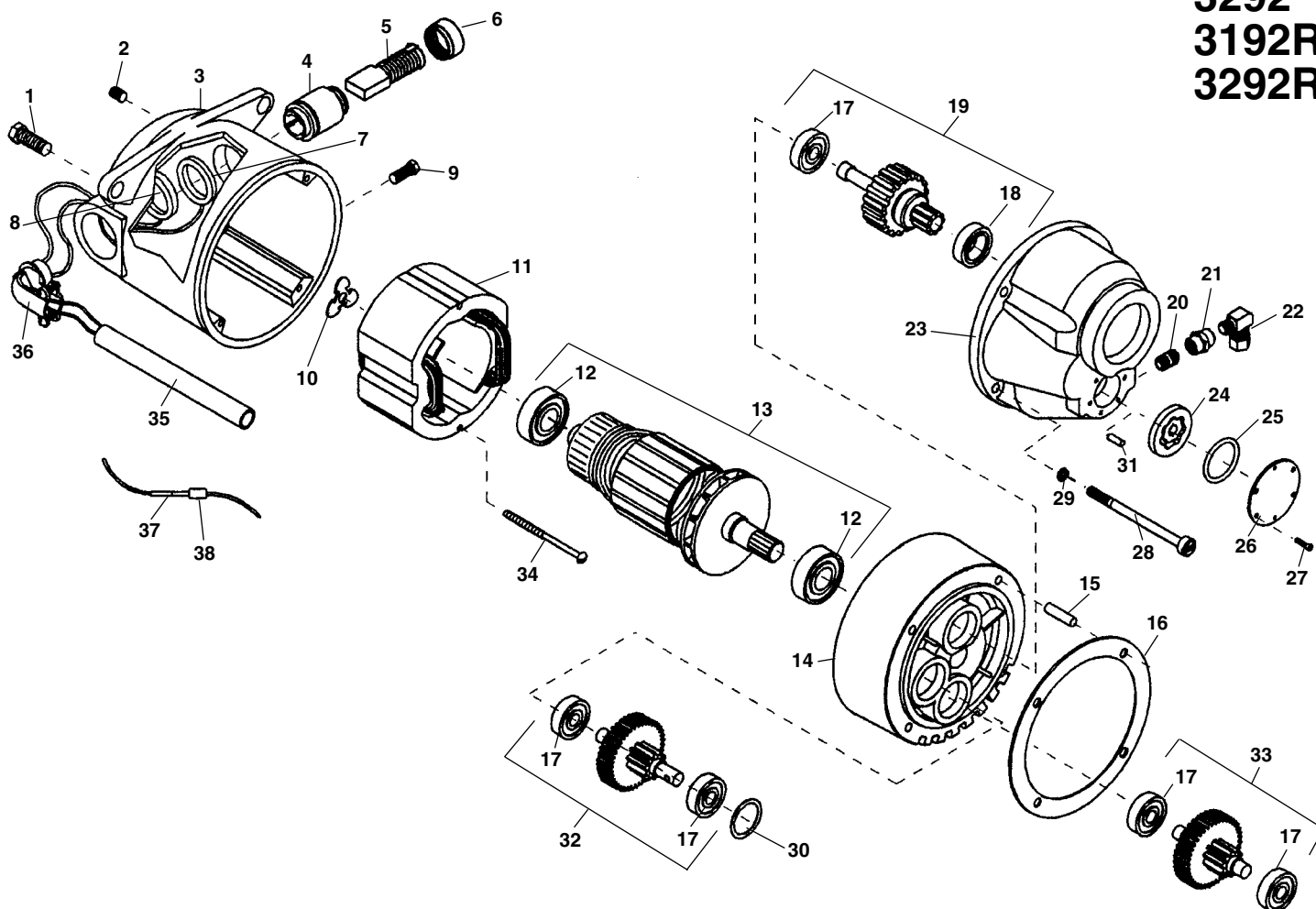


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
1	46810	Detente Assembly
2	54097	Spool Valve
3	54102	O-Ring
4	35307	Oil Pressure Relief Set
5	54107	Crescent Ring
6	54112	Rear Rail
7	35162	Rail Plug (4)
8	35062	Oil Line Clamp
9	79965	10-32 x 1/2" Screw
10	35067	Oil Tube
11	54117	Front Rail
12	34342	Roll Pin
13	57097	Pinion
14	35182	Hand Wheel
15	35187	Pinion Idler Shaft
	54122	Cap Plug (not shown)
16	54127	Carriage
17	54132	Carriage Stop
18	54137	5/16" - 18 x 1/2" Screw
19	35142	Hose Clamp
20	61282	Carriage Oil Line
21	47080	Oil Line Grommet
22	35117	Oil Line Insert
23	54152	Oil Intake Line
24	54142	Bulkhead Fitting
25	61897	Oil Filter Tube
26	58467	Filter Screen Assembly
27	45420	10-24 x 3/8" Screw
28	54517	Drip Pan

Motor

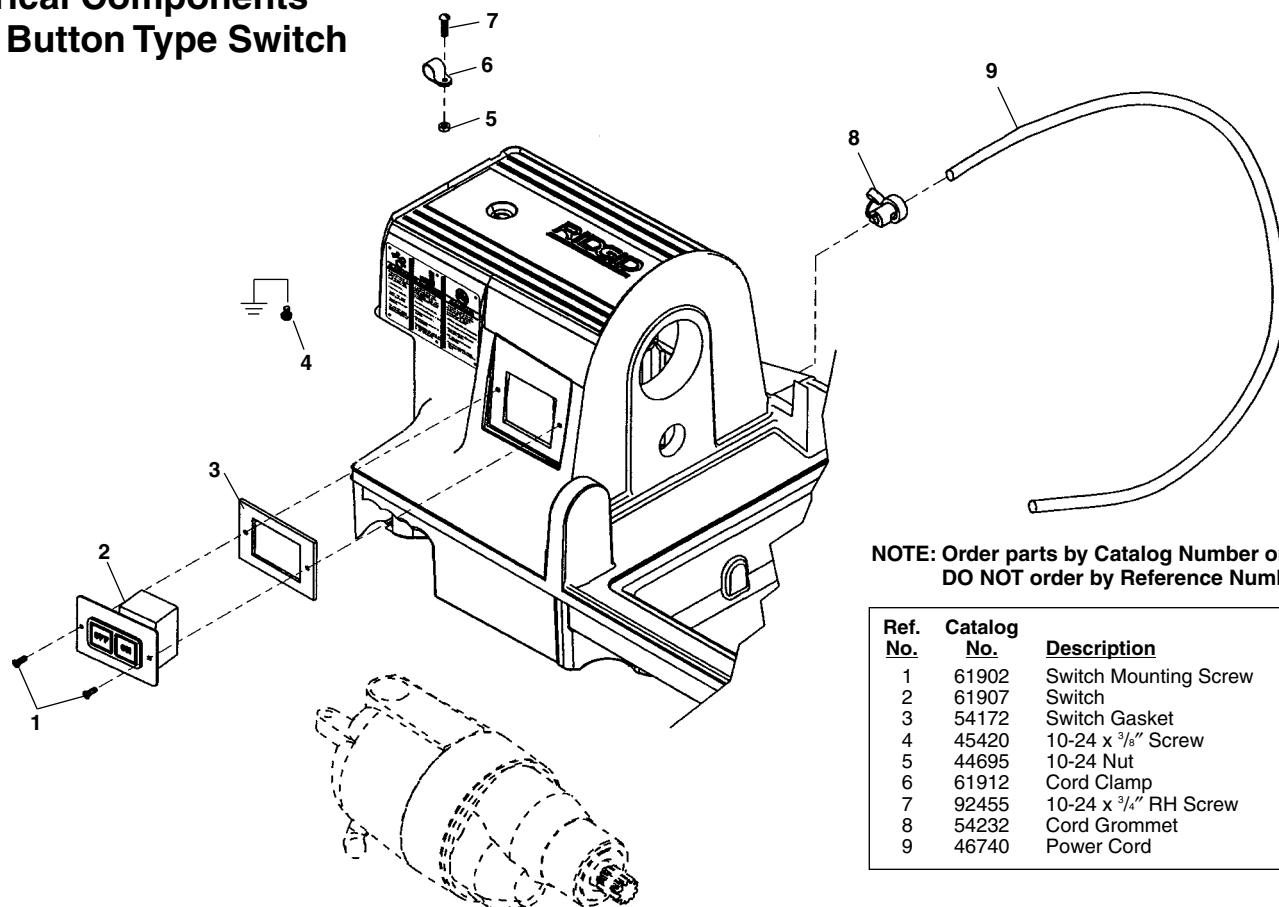
3092
3192
3292
3192R
3292R



**NOTE: Order parts by Catalog Number only.
 DO NOT order by Reference Number.**

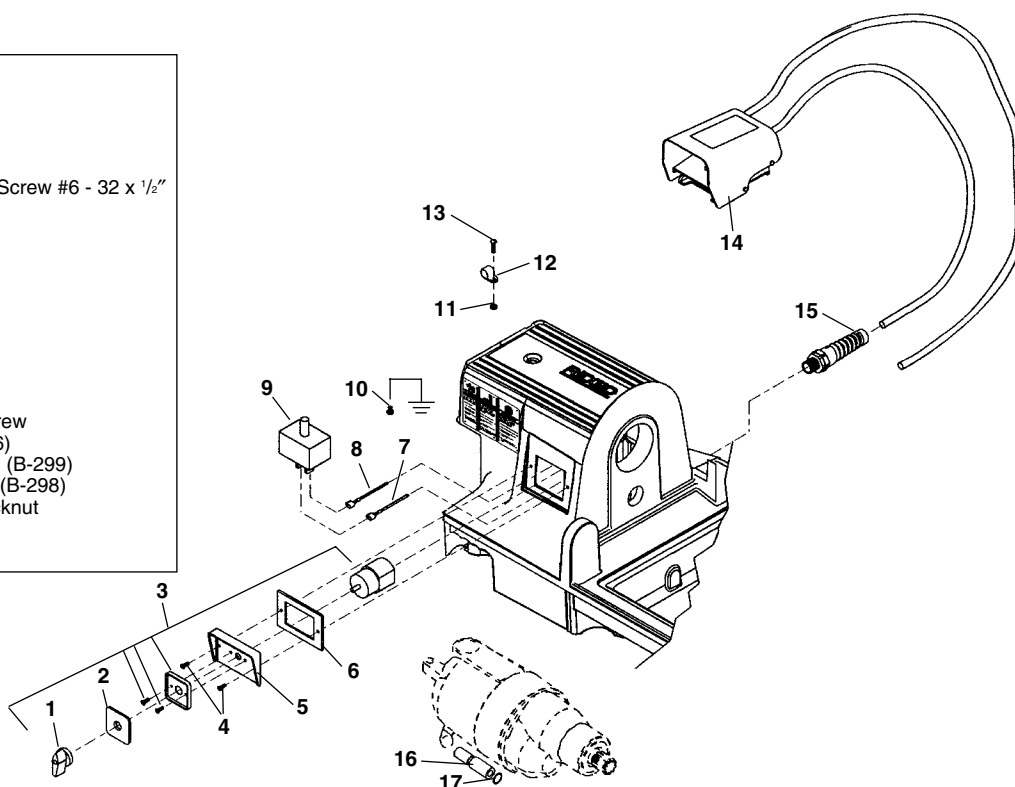
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	52457	Motor Model 3092, 100V	12	44035	Field 230V	25	96875	O-Ring
—	52462	Motor Model 3192, 115V	13	44565	Armature Bearing (2)	26	96840	Cover Plate
—	52467	Motor Model 3292, 230V	14	52487	100V Armature	27	96890	Screw #4 x 3/8" (6)
—	52472	Motor Model 3192R, 115V Rev.	15	52497	115V Armature	28	45075	Screw 1/4" - 20
—	52477	Motor Model 3292R, 230V Rev.	16	52492	230V Armature	29	45150	Lockwasher 1/4"
1	85915	Motor Mounting Bolt (2)	17	54552	Fan Housing Assembly	30	96880	Oil Seal
2	39770	Set Screw 1/4" - 20 x 1/4" (2)	18	45165	Dowel Pin	31	96885	Pin
3	52482	Motor Housing	19	52502	Gasket	32	52522	1st Gear Assembly
4	45025	Brush Holder Set (2)	20	44760	Gear Bearing	33	52527	2nd Gear Assembly
5	44540	Brush Assembly Set (2)	21	45315	Front Bearing	34	44555	Screw 10-24 x 3"
6	44545	Brush Cap Set (2)	22	45370	Main Drive Gear Assembly	35	63382	Plastic Tube
7	86685	Red Brush Lead	23	52507	1/8" NPT Close Nipple (2)	36	46900	90 Connector
8	86680	White Brush Lead	24	52512	1/8" Coupling (2)	37	16946	Male Wire Connector
9	83500	Field Locking Screw	25	52517	Elbow Compression Fitting (2)	38	16956	Female Wire Connector
10	44580	Loading Spring	26	96830	Gear Case			
11	44015	Field 100/115V	27	96870	Gerotor Set			

Electrical Components Push Button Type Switch



Lever Type Switch

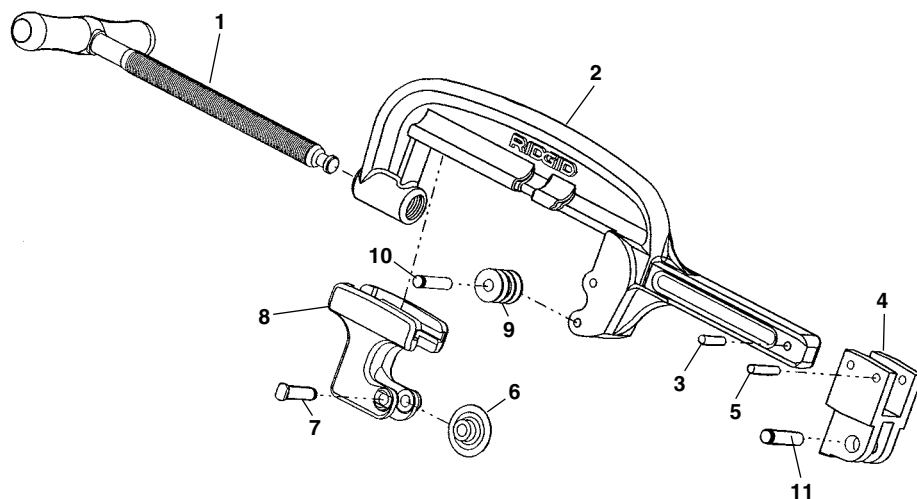
Ref. No.	Catalog No.	Description
1	61397	Switch Knob
2	54167	Switch Face Plate
3	54157	Switch & Screws
4	61902	Slotted Pan Head Screw #6 - 32 x 1/2"
5	61917	Switch Plate
6	54172	Switch Gasket
7	63387	Brown Wire
8	63392	Blue Wire
9	63372	Suppressor
—	63387	Brown Lead Wire
—	63392	Blue Lead Wire
10	45420	10-24 x 3/8" Screw
11	44695	10-24 Nut
12	61912	Cord Clamp
13	92455	10-24 x 3/4" RH Screw
14	36652	Foot Switch (B-296)
	40022	Foot Switch f/Aust. (B-299)
	40017	Foot Switch f/U.K. (B-298)
15	54177	Strain Relief w/Locknut
16	63377	Ferrite Bead
17	43552	Cable Tie



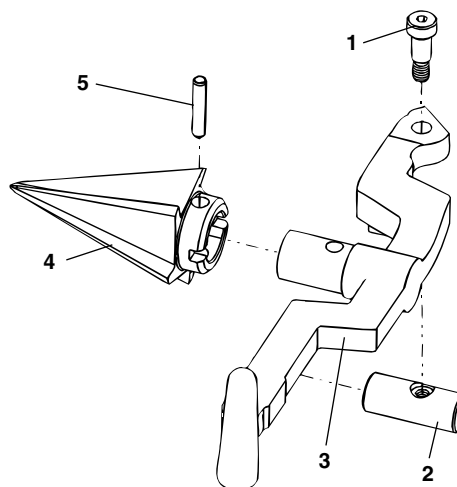
No. 763 Pipe Cutter

**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	52452	763 Cutter Complete
1	54197	Feed Screw Handle
2	61872	Cutter Frame
3	58090	1/4" x 1" Roll Pin
4	61877	Bracket
5	54300	Roll Pin
6	44185	E1032 Cutter Wheel
7	34780	Pin & Clip
8	52247	Wheel Housing
9	46960	Rolls f/Steel Pipe (2)
—	43682	Rolls f/Coated Pipe (2)
10	46662	Roll Pin (2)
11	45520	Hinge Pin

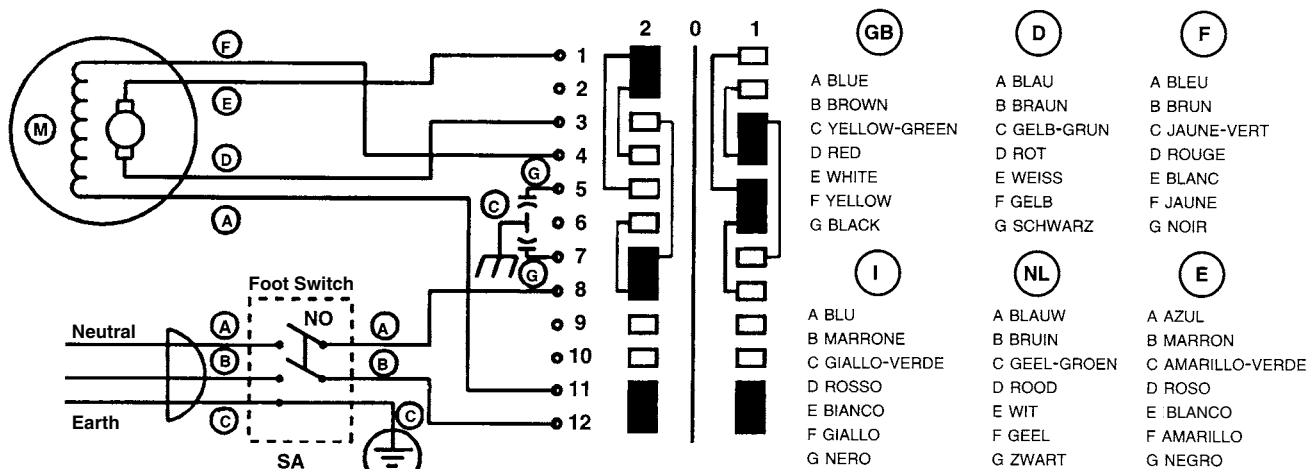
**No. 743 Reamer**

Ref. No.	Catalog No.	Description
—	52272	743 Reamer Complete
1	36262	Shoulder Screw
2	36267	Pivot Pin
3	36272	Reamer Arm
4	52277	Reamer Cone
5	35355	Split Roll Pin

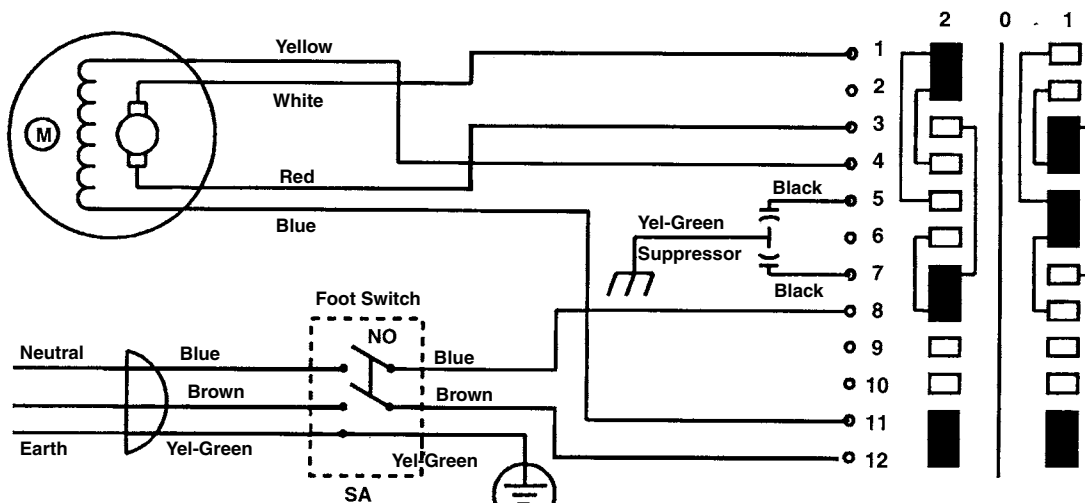


Wiring Diagram

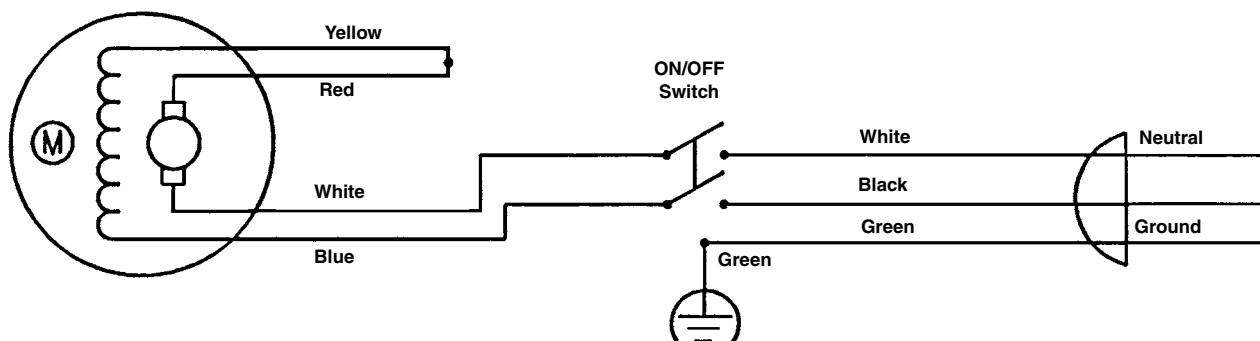
100V-115V-230V, 26-60 Hz



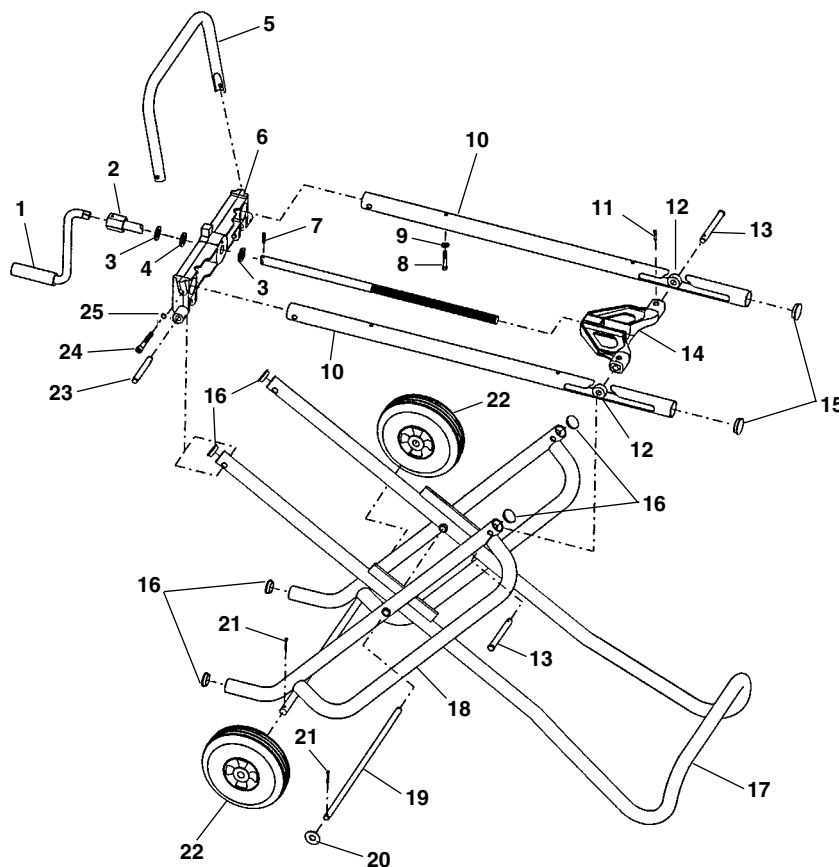
Wiring Diagram 115V (European Model)



Wiring Diagram 230V (European Model)

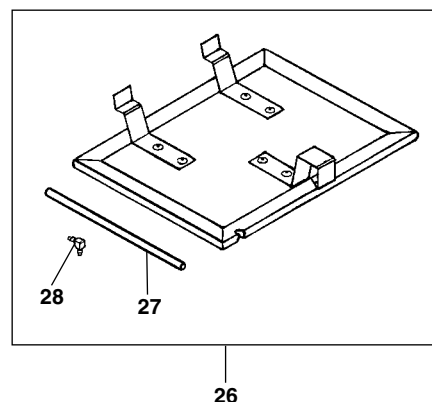


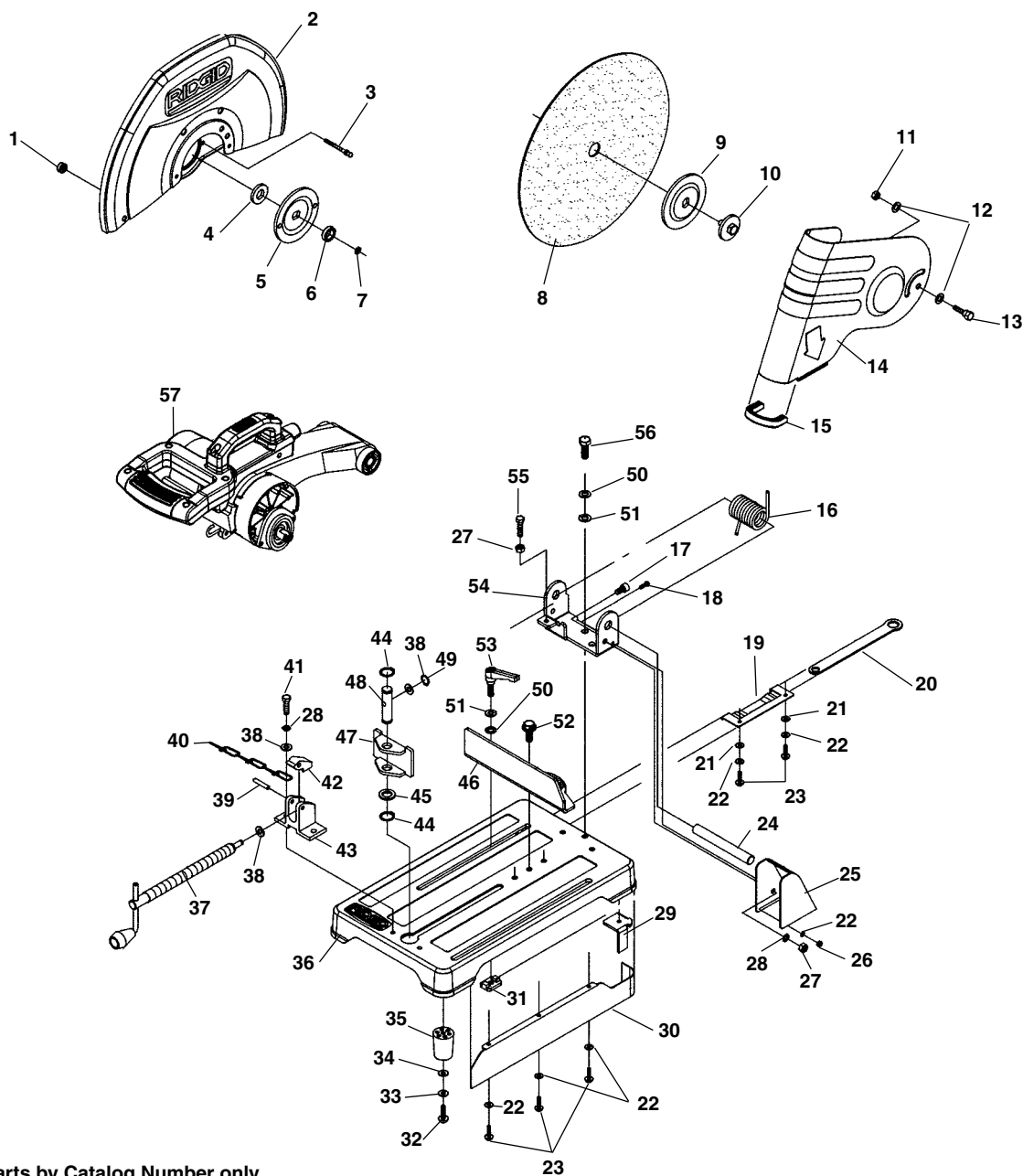
1406 Folding Wheel Stand



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
—	20105	1406 Folding Wheel Stand
1	51777	Crank Handle
2	51782	Screw Shaft
3	54312	Flat Washer (2)
4	36347	Nylon Bearing
5	36352	Rear Handle
6	45337	Brace
7	54300	Roll Pin $\frac{1}{4}$ " x $1\frac{1}{2}$ "
8	46775	Screw $\frac{1}{4}$ " - 20 x $1\frac{3}{4}$ " (4)
9	26947	Flat Washer $\frac{1}{4}$ " (4)
10	36367	Mounting Rail (2)
11	83325	Roll Pin $\frac{3}{16}$ " x $1\frac{3}{8}$ " (2)
12	36377	Roller (2)
13	36382	Yoke Pin (2)
14	51787	Traverse Yoke
15	36312	Mounting Rail Cap (2)
16	36417	Pivot Assembly Cap (4)
17	51792	Leg Handle
18	51797	Pivot Assembly
19	36412	Pivot Shaft
20	83420	Flat Washer $\frac{1}{2}$ " (2)
21	47030	Cotter Pin $\frac{1}{8}$ x 1" (4)
22	93325	Wheel (2)
23	45342	Groove Pin (2)
24	80045	Hex Bolt $\frac{3}{8}$ " - 16 x $3\frac{1}{4}$ " (2)
25	41582	Washer-Int. Tooth (2)
26	35882	1460 Oil Pan Cover
27	36447	Tubing
28	36442	Elbow Fitting

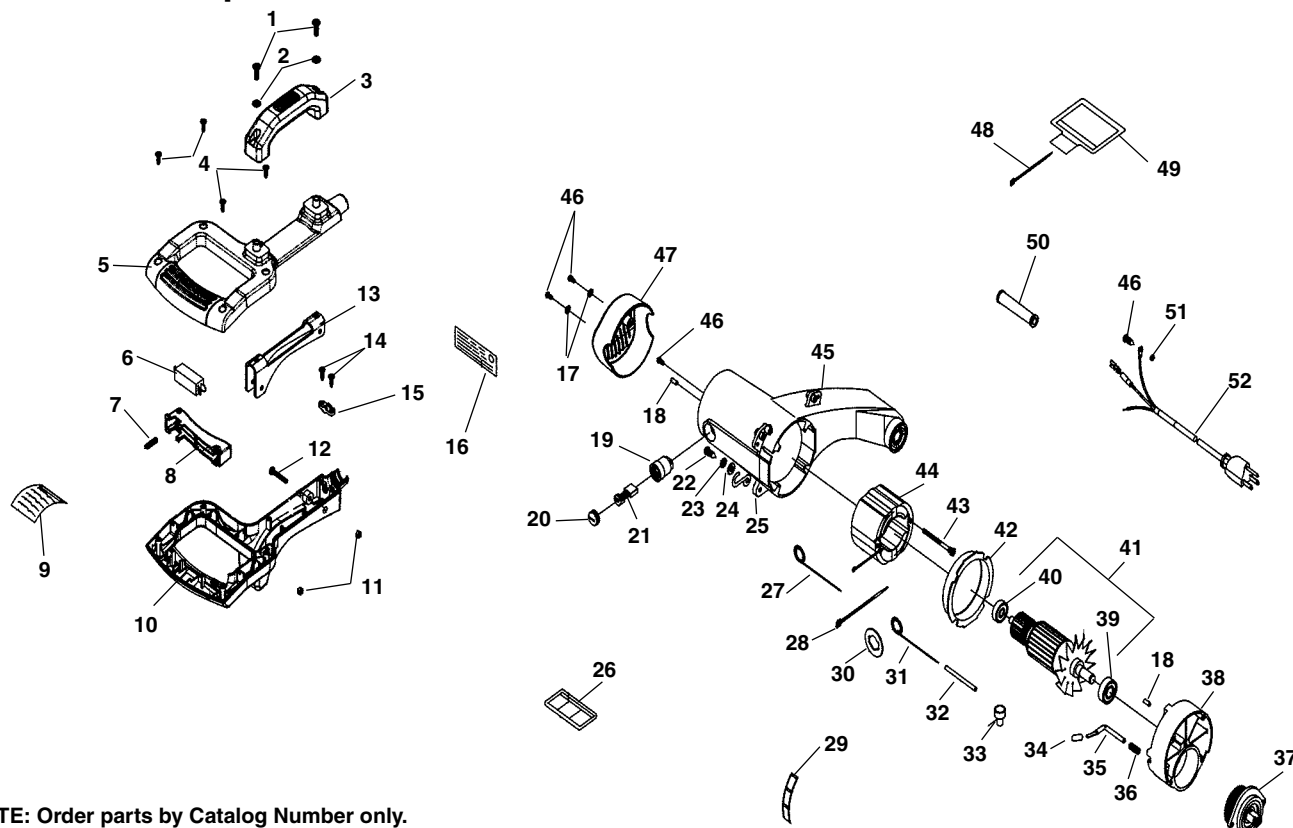




**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	96122	Pad-Guard Lower Guard	20	96312	Wrench	39	86147	Pin Spring M6 x 32
2	96082	Guard Upper	21	96157	Washer	40	75167	Chain
3	96107	Screw Pan M5 x 60	22	96172	Lockwasher M5	41	87372	Screw Hex Hd.
4	82077	Spacer	23	79132	Screw Pan Hd. M5 x 0.8 - 12	42	82147	Nut Thread
5	82082	Flange Inner	24	82132	Shaft	43	82177	Support
6	82087	Outer Spacer	25	82162	Cover	44	78632	Ring Retaining
7	96232	O-Ring	26	96177	Nut Hex M5	45	96132	Washer M16.5
8	85232	Abrasive Wheel	27	96192	Nut Hex M8 x 1.25	46	96147	Fence Pivot Plate
9	82092	Flange Outer	28	96247	Lockwasher Helical M8	47	82127	Jaw Vice
10	96222	Screw Arbor	29	96202	Blade Guard	48	82122	Pin
11	96112	Locknut M6 x 1	30	96207	Pad Support	49	78642	Ring
12	96087	Washer Fiber	31	96162	Nut-Tee	50	96112	Lockwasher M10
13	96097	Shoulder Bolt	32	85337	Screw Pan Hd. M6 x 1 x 25	51	86142	Washer M10
14	96092	Lower Guard	33	96217	Lockwasher M6	52	96137	Screw Vise Pivot M10 x 1.5 - 65
15	96127	Protector	34	96212	Washer Flat M6	53	96152	Handle Assembly
16	82097	Spring	35	82137	Foot	54	96167	Support
17	85297	Screw	36	96197	Base	55	96187	Screw Hex Hd. M8 x 30 x 1.25
18	96182	Screw Soc. Hd. M8 x 1.25 - 15	37	78627	Screw w/Handle	56	86157	Hex Hd Screw M10 x 25 x 1.5
19	96242	Holder Tool	38	85377	Washer M8 x 16 x 0.5	57	96102	Motor Assembly

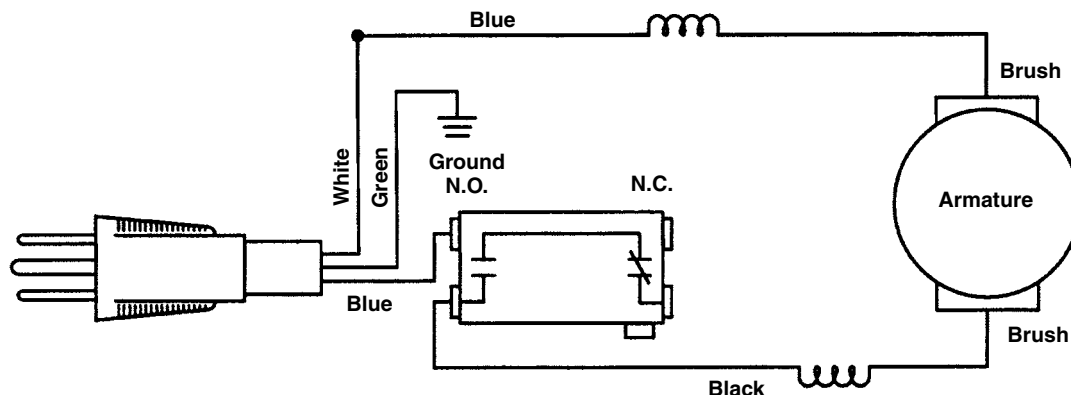
Electrical Components



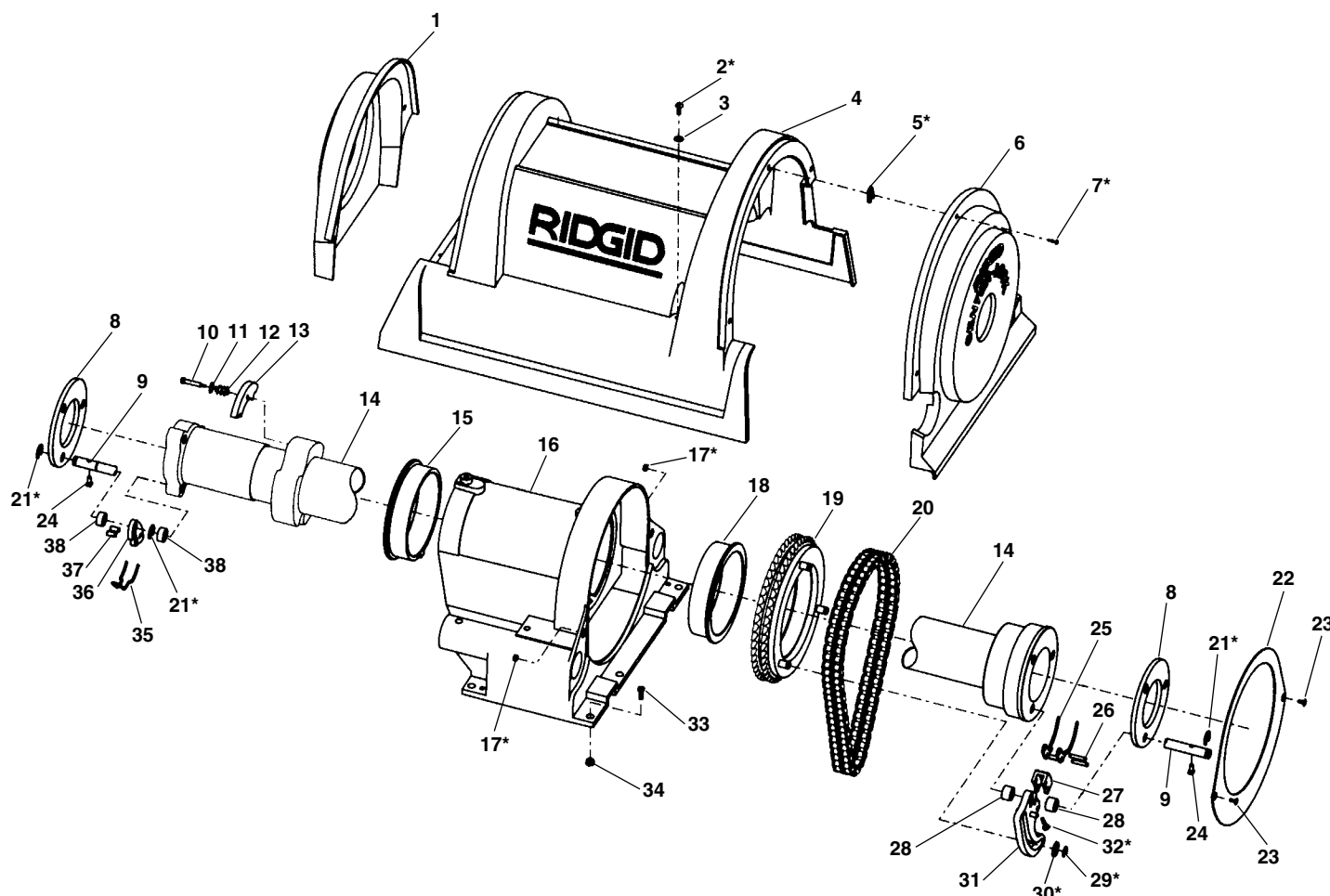
NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	96297	Screw Pan Hd. M6 x 1 - 30	19	26868	Brush Holder	36	26863	Spring
2	96217	Lockwasher M6	20	82107	Brush Cap	37	26858	Shaft Assembly
3	96267	Carrying Handle	21	82102	Brush	38	26853	Gear Housing
4	96292	Screw Pan Hd. M4 x 1.4 - 16	22	89952	Screw Pan Hd 1/4" - 20 x 1"	39	26838	Bearing
5	96257	Handle Upper	23	96232	Lockwasher 1/4"	40	26833	Bearing
6	81167	Switch Spdt	24	11398	Washer 1/4" x 9/16" x 1/16"	41	26828	Armature Assembly
7	81137	Spring	25	82152	Chain Hook	42	26823	Baffle
8	96282	Switch Actuator	26	26923	Warning Label	43	26818	Field Screw
9	26933	Warning Label	27	26873	Jumper Wire	44	26813	Field
10	96262	Handle Lower	28	26883	Cable Tie	45	26808	Motor Housing
11	96277	Nut Hex M5 x 0.8	29	26908	Warning Label	46	96302	End Cover
12	96287	Screw Pan Hd. M5 x 0.8 - 37	30	26888	Fiber Plate	47	87442	Screw Pan Hd. M5 x 0.8 - 12
13	96272	Handle Hanger	31	26893	Jumper Wire	48	26928	Cable Tie
14	74907	Screw	32	26898	Sleeve	49	26913	Warning Label
15	78622	Cord Clamp	33	26903	Wire Nut	50	82112	Cord Guard
16	26918	Warning Label	34	26878	Knob	51	96252	Lockwasher Ext M5
17	96307	Lockwasher 5MM	35	26843	Plunger	52	82117	Cord w/Plug
18	26848	Rubber Pin						

Wiring



Spindle Assembly

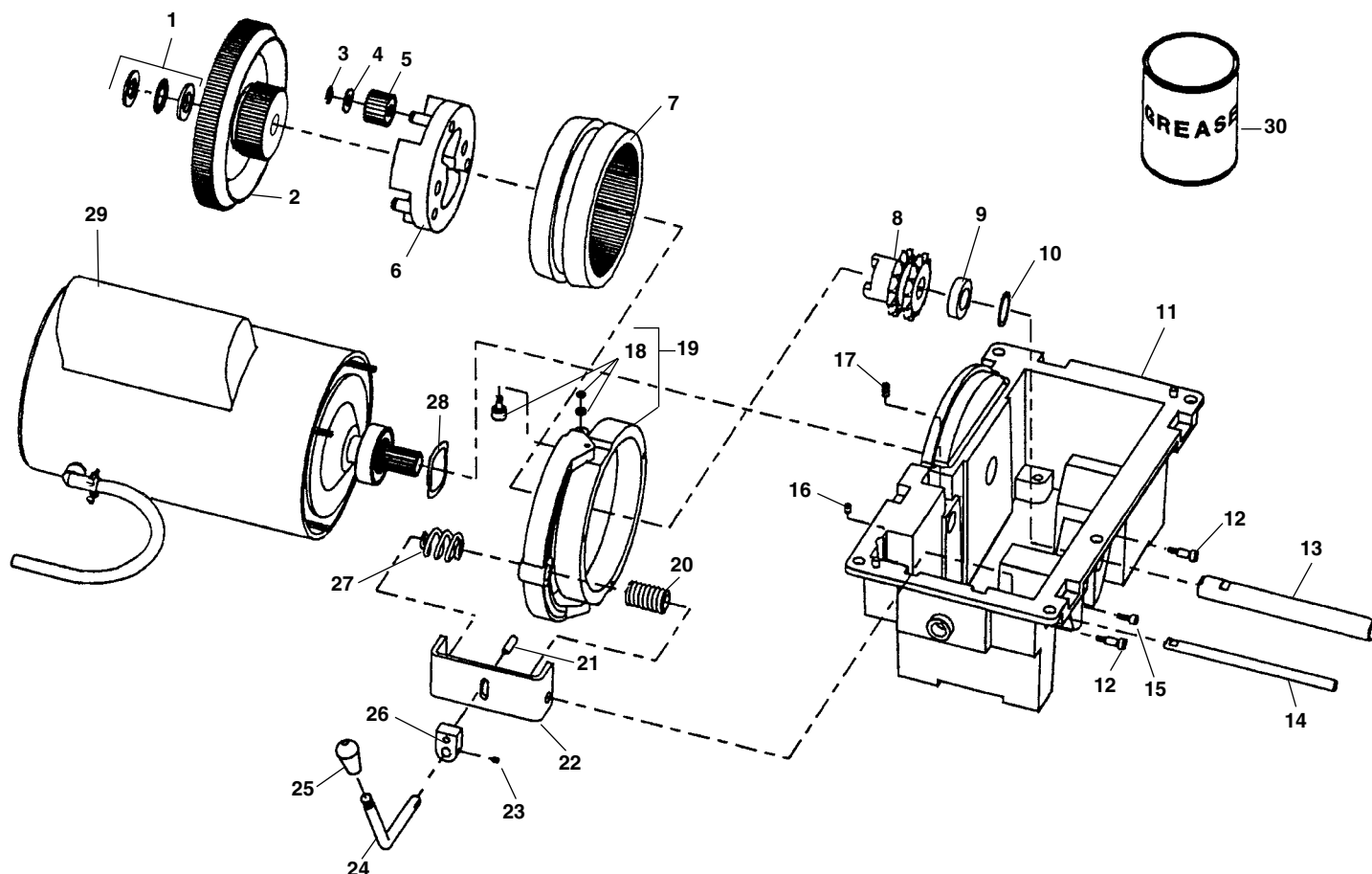


**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	34652	Rear Cover	21*	26937	Retaining Ring (9)
2*	43352	Screw (3)	22	34757	Splash Guard
3*	43357	Washer (3)	23*	46785	Screw 10-32 x 3/8" (2)
4	34657	Top Cover w/Clips (Includes 4, 5, 7)	24	34762	Pivot Rod Pin (6)
5*	43362	"J" Clip (6)	25	34772	Front Pick-up Springs (3)
6	34662	Front Cover	26	34777	Roll Pin (6)
7*	43367	Screw (6)	27	34782	Jaw Insert (3) (Includes Ref.# 25, 26)
8	47497	Pivot Rod Support (2)	28	34787	Front Jaw Spacer (6)
9	34767	Pivot Rod (3)	29*	34245	Retaining Ring (3)
10	39567	Shoulder Screw 1/4" - 20 x 1 1/2" (3)	30*	34792	Washer (3)
11	54290	Flat Washer (3)	31	40847	Front Jaw (Includes Ref.# 25, 26, 27, 32)
12	35362	Spring (3)	32*	44557	Jaw Insert Screw (3)
13	34702	Brake Shoe (3)	33	45470	Bolt 3/8" - 16 x 1" (5)
14	44552	Spindle Tube	34	44225	Nut 3/8" - 16 (5)
15	34712	Rear Bearing	35	34807	Rear Pick-up Spring (3)
16	34717	Spindle Housing	36	41347	Rear Jaw Set (Includes Ref.# 35, 37)
17*	34722	Nut #10 (2)	37	34817	Pick-up Spring Pin (6)
18	34727	Front Bearing	38	34802	Rear Jaw Spacer (6)
19	34732	Drive Sprocket w/Pins	—	46727	Hardware package (Includes items marked with *)
20	34742	Drive Chain w/Master Link			
	34747	Master Link			

†See Service Notes

Transmission and Motor – Induction



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

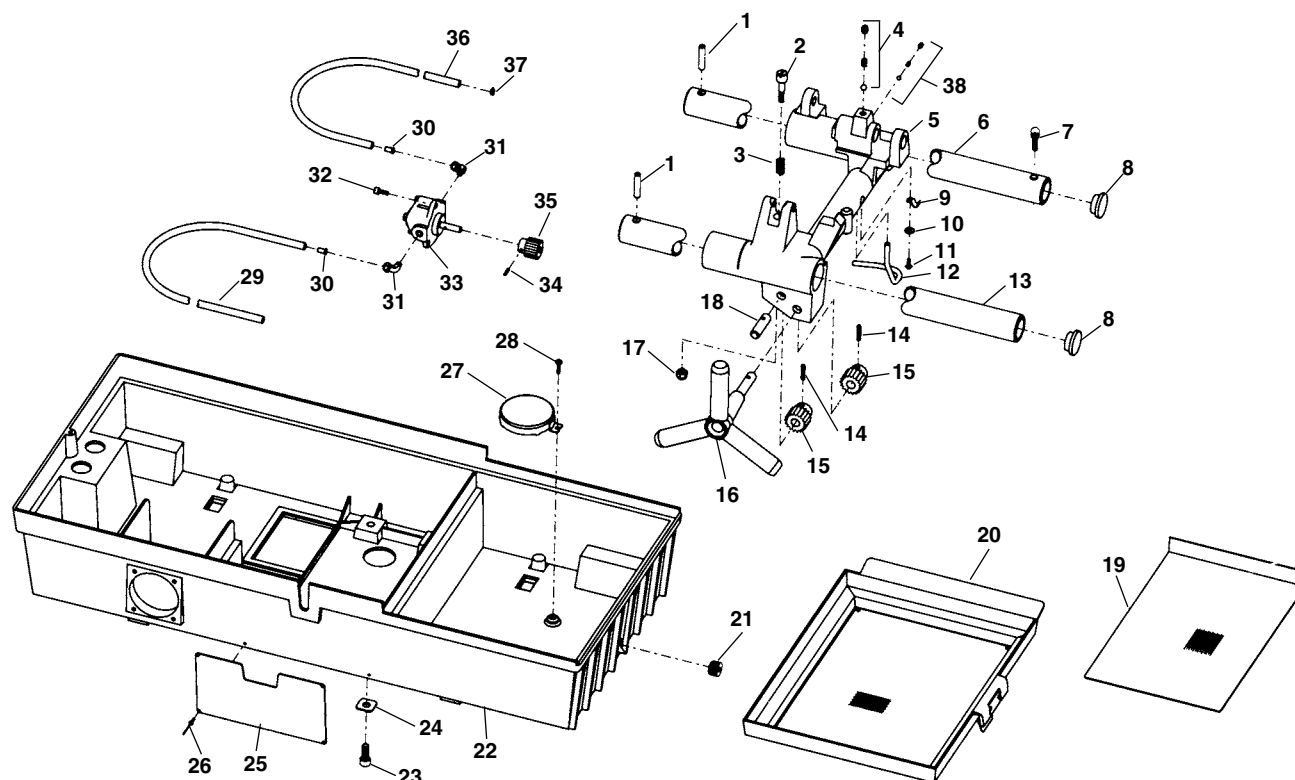
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	41425	Thrust Bearing w/Washer	11	34872	Transmission Housing	21	44640	Dowel Pin
2	44537	Input Gear 60 Hz	12	34877	Shoulder Screw $\frac{1}{4}$ " - 20 x $\frac{1}{2}$ " (2)	22	34912	Yoke Slide
3	34245	Retaining Ring (3)	13	34882	Transmission Shaft	23	34917	Set Screw 10 - 32 x $\frac{1}{4}$ "
4	34792	Washer (3)	14	34887	Shifter Shaft	24	34927	Shifter Lever
5	34837	Planet Gear (3)	15	40260	Screw 10 - 24 x $\frac{1}{2}$ "	25	34932	Knob
6	56822	Planet Gear Spider w/Pins	16	34897	Set Screw 10 - 32 x $\frac{1}{4}$ "	26	34922	Pivot Block
7	44527	Internal Ring Gear	17	34892	Set Screw $\frac{1}{4}$ " - 20 x $\frac{1}{2}$ "	27	35362	Barrel Spring
8	34862	Output Sprocket	18	44547	$\frac{5}{8}$ " Cam Roller (2)	28	34942	Wave Washer
9	34867	Thrust Spacer	19	44542	Stationary Cup Assembly	29	34947	Motor 120V 60 Hz
10	68037	Wave Washer	20	34907	Large Spring	30	26707	Transmission Grease 1 lb. (2)

1822-I Motor Parts

Description	120V 60Hz
Dual Contact Start Switch	46772
Start Capacitor	46782
Run Capacitor	46802
Motor Bolts	46812

See 1822 Service Notes

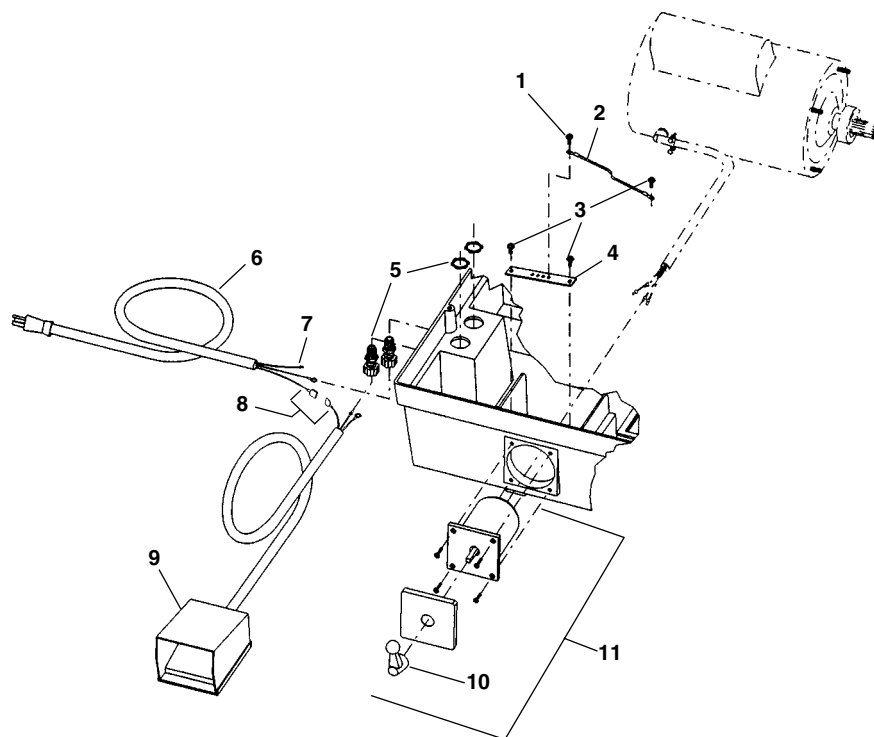
Carriage and Oil System - Induction



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	34375	Rail Pin (2)	21	48337	Drain Plug $\frac{3}{4}$ " NPT
2	35042	Stop Bolt	26842		Drain Plug (Rubber-Early Style)
3	35047	Stop Bolt Spring	22	59747	Base
4	46810	Detente Assembly	59752		Base (1822-IC)
5	35147	Carriage (Includes 2, 3, 4, 5, 38)	23	46755	Bolt $\frac{3}{8}$ " -16 x $\frac{7}{8}$ " (4)
6	35057	Rear Rail	24	35107	Square Washer (4)
7	34425	Screw $\frac{5}{16}$ " -18 x $\frac{3}{8}$ "	25	36612	Warning Plate 60Hz
8	35162	Rail Plug (2)	26	35222	Pop Rivet (2)
9	35062	Oil Line Clamp	27	58467	Oil Screen Assembly
10	45365	Washer #10	28	26797	Oil Screen Screw 10-32 x $\frac{5}{16}$ "
11	79965	Screw 10-32 x $\frac{1}{2}$	29	35112	Oil Intake Line 30"
12	35067	Oil Tube	30	35117	Oil Line Insert (2)
13	35167	Front Rail	31	35122	90 Degree Fitting (2)
14	34342	Roll Pin $\frac{3}{16}$ " x $\frac{15}{16}$ " (2)	32	32145	Bolt $\frac{1}{4}$ " - 20 x $\frac{1}{2}$ " (3)
15	35177	Carriage Pinion (2)	33	39162	Oil Pump
16	35182	Handwheel	34	39820	Pin
17	75110	Stop Nut $\frac{5}{16}$ " -18	35	35197	24 T Pump Gear - 60 Hz
18	35187	Pinion Idler Shaft	36	35137	Oil Supply Line 40"
19	35192	Lower Screen	37	35142	Hose Clamp
20	35097	Draw Tray Assembly	38	35307	Oil Pressure Relief

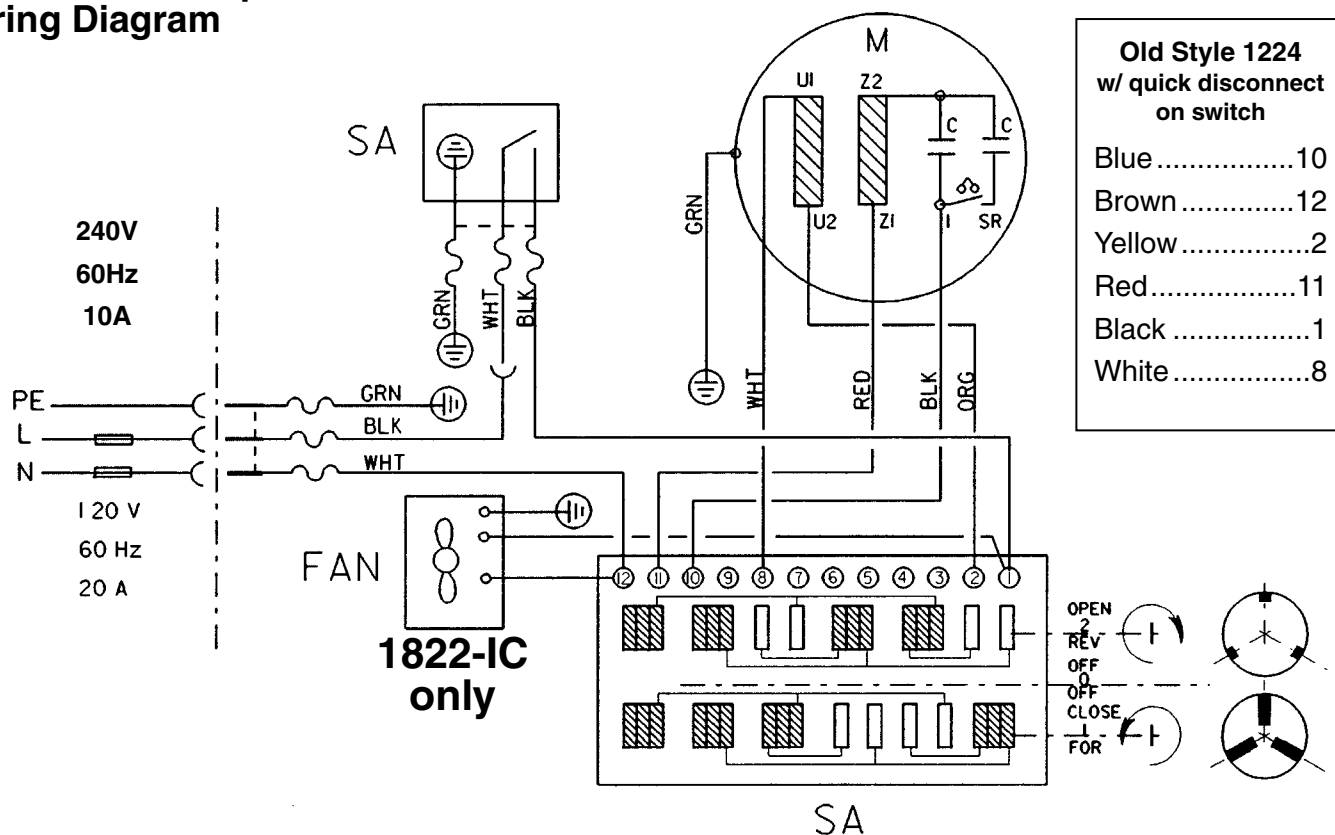
60 Hz Electrical Components



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

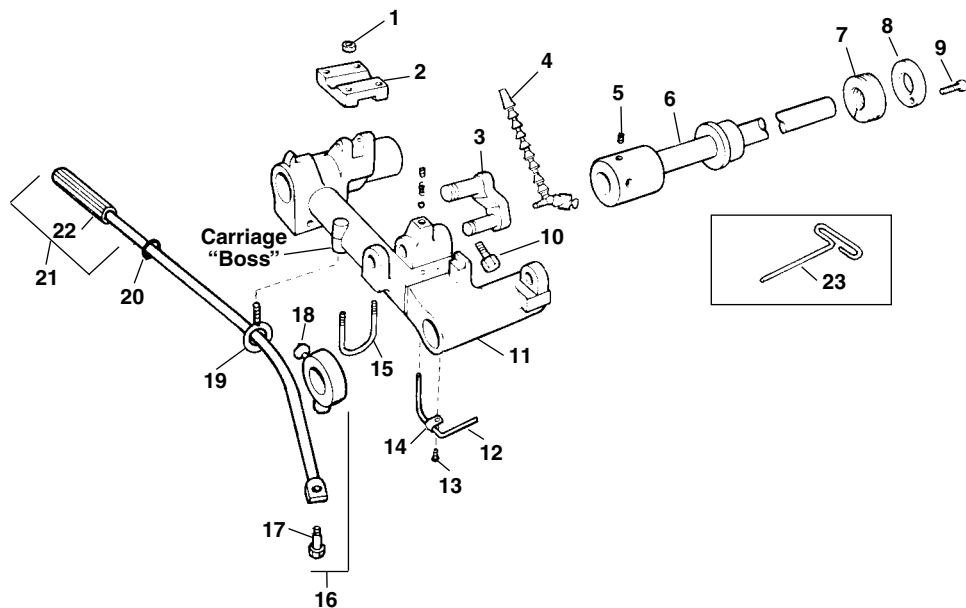
Ref. No.	Catalog No.	Description
1	34715	Screw 10-32 x 3/8" (3)
2	33607	Ground Wire
3	45420	Screw 10-24 (4)
4	59732	Ground Strap
5	68885	Strain Relief (2)
6	46740	Power Cord 120V
	46410	Power Cord 240V
7	36222	Wire Terminal
8	56407	Quick Disconnect Set
9	36642	B-294 Foot Switch
10	22188	Switch Knob
11	20133	Switch Assembly

1224 & 1822-I Replacement Switch Wiring Diagram



No. 241 Carriage Mount Kit Parts

**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

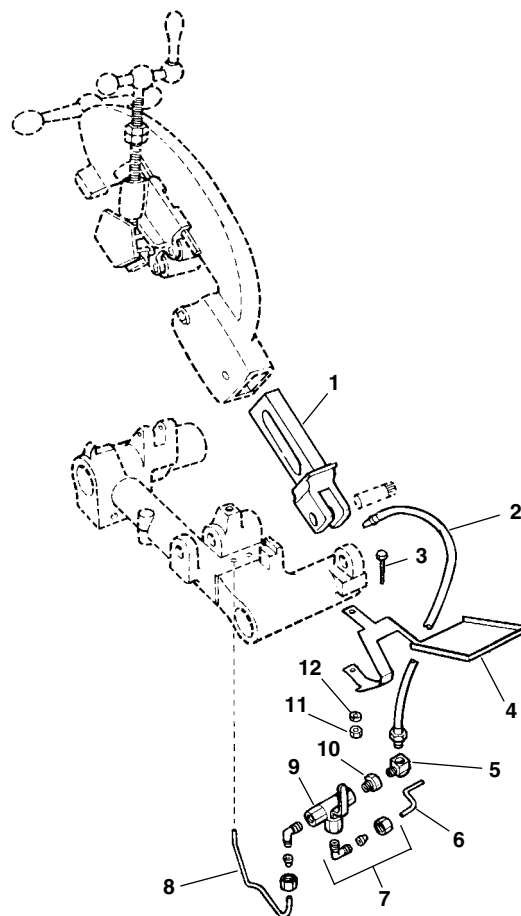


Ref. No.	Catalog No.	Description
—	35877	241 Carriage Mount Kit
1	96730	Hex Nut, $\frac{5}{16}$ " - 18
2	36177	Saddle
3	36182	Connecting Link
4	35277	Coolant Nozzle
5	39775	Set Screw, $\frac{5}{16}$ " - 11
6	36187	Drive Bar
7	36192	Spring
8	36197	End Cap
9	27357	Cap Screw, $\frac{1}{4}$ " - 20 x $\frac{3}{4}$ "
10	35202	Sq. Hd. Set Screw, $\frac{1}{2}$ " - 13
11	35052	Carriage
12	35067	Oil Supply Line
13	79965	Screw, 10-32 x $\frac{1}{2}$ "
14	35062	Oil Line Clamp
15	35207	U-Bolt
16	35282	Collar Assembly
17	46210	Shoulder Bolt
18	46220	Thumb Screw
19	35082	Eye Bolt
20	35092	O-Ring
21	43400	Lever Arm Assembly
22	46235	Hand Grip
23	35212	Hex Wrench
24	46810	Detente Assembly

No. 822 Blade Cutter Adapter Kit Parts

307 Oil Spout Assembly

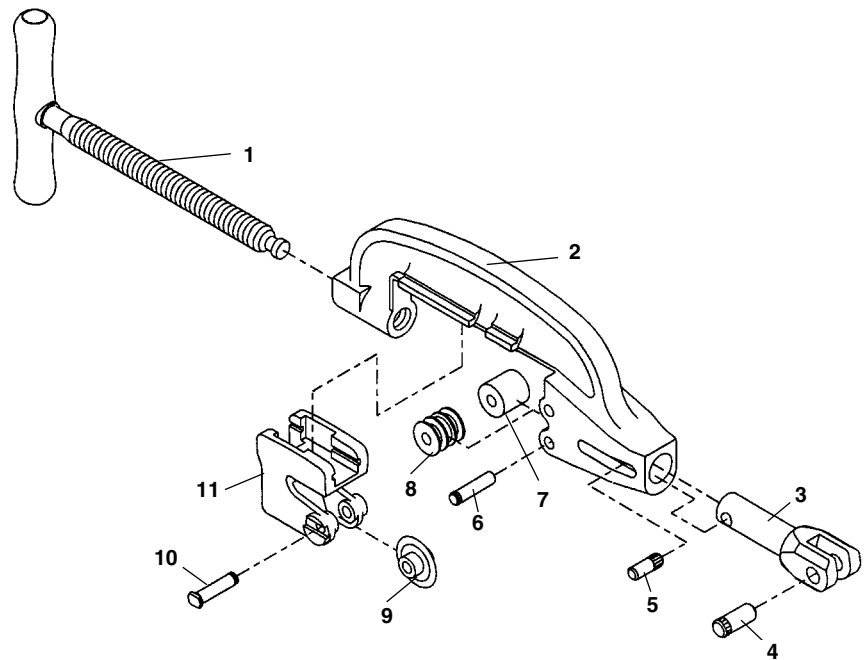
Ref. No.	Catalog No.	Description
—	35872	822 Adapter Kit
—	36602	307 Manifold Kit
1	36137	Cutter Arm (822 Kit Only) (1)
2	39845	Coolant Nozzle (1)
3	44510	Cap Screw $\frac{1}{4}$ " - 20 x 2" (1)
4	36142	Drip Guard (1)
5	36147	90° Street Elbow (1)
6	36152	Oil Line (3.3 in.) (1)
7	36157	90° Comp. Fitting (2)
8	36162	Oil Line (7.4 in.) (1)
9	36167	3-Way Valve (1)
10	36172	Reducer Bushing (1)
11	83890	Hex Nut, $\frac{1}{4}$ " - 20 (1)
12	27097	Flat Washer, $\frac{1}{4}$ " (1)



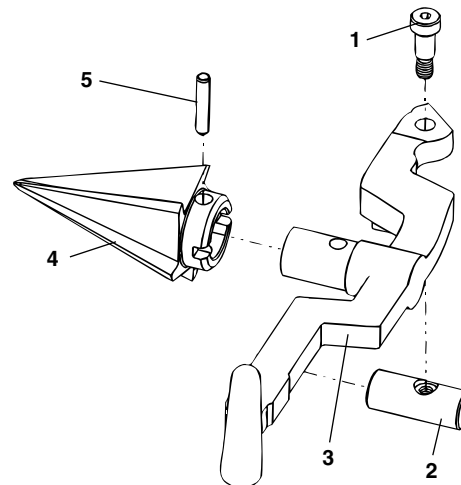
No. 364 Cutter

**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

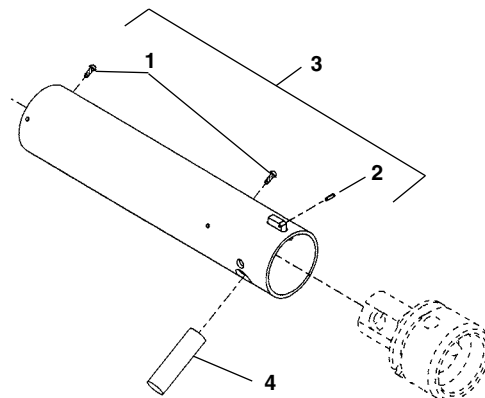
Ref. No.	Catalog No.	Description
—	34617	364 Cutter Complete
1	36287	Feed Screw Handle
2	36292	Cutter Frame
3	45505	Support Arm
4	45520	Hinge Pin
5	35317	Retaining Pin
6	46662	Roll Pin (2)
7	46960	Roll (Steel) (2)
8	43682	Roll Pl. Coated Pipe (2)
9	44185	Cutter Wheel E-1032
10	34780	Wheel Pin
11	36282	Wheel Housing

**No. 344 Reamer**

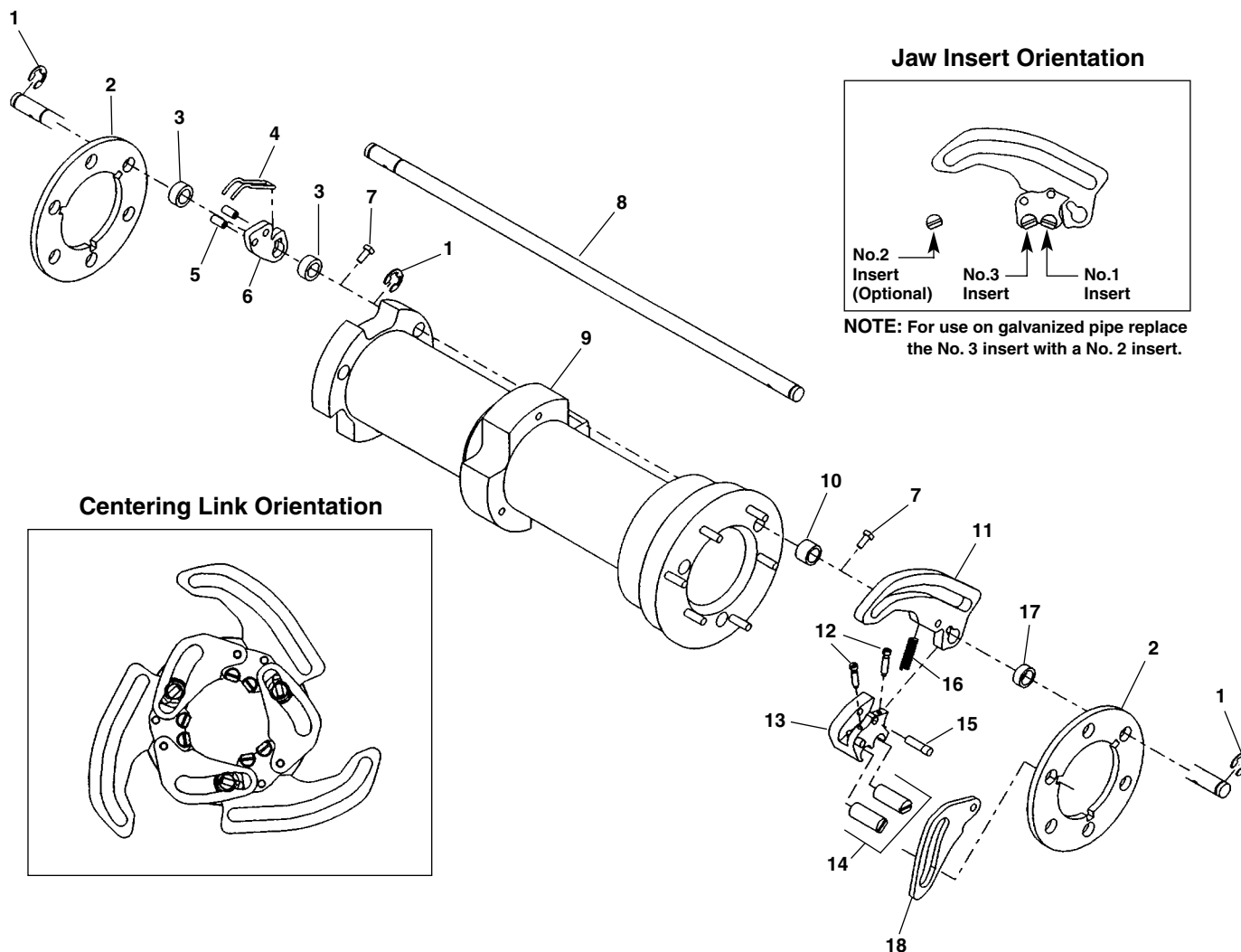
Ref. No.	Catalog No.	Description
—	34612	344 Reamer Complete
1	36262	Shoulder Screw
2	36267	Pivot Pin
3	36272	Reamer Arm
4	36277	Reamer Cone (R.H.)
	46660	Reamer Cone (L.H. & R.H.)
5	35355	Split Roll Pin

**No. 839 Nipple Chuck**

Ref. No.	Catalog No.	Description
—	35867	No. 839 Adapter Kit
1	54307	Drive Screw (6)
2	47502	Roll Pin
3	47507	Tube Assembly
4	47512	Pin, $\frac{3}{4}$ " x $2\frac{3}{4}$ "



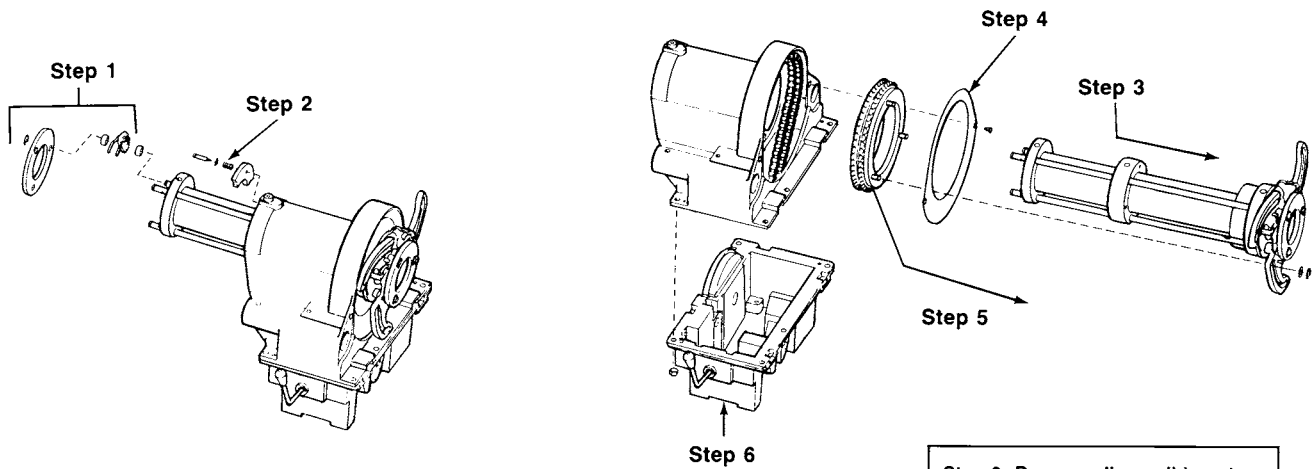
Spindle Assembly For Plastic Coated Pipe



NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	50107	Plastic Coated Pipe Spindle Assembly	10	34787	Large Front Spacer
1	26937	Retaining Clip (9)	11	52977	Jaw (3) (Includes Ref. No.12-16)
2	47497	Pivot Rod Support (2)	12	46642	Jaw Insert Screw (6)
3	34802	Rear Spacer (6)	13	52982	Insert Holder (3)
4	43407	Rear Pick-up Spring (3)	14	43377	Jaw Insert Set (Includes 3 each No.1 & 3 Inserts)
5	34817	Rear Pick-up Spring Pin (6)		46647	Jaw Insert Set (No. 2 - Optional f/Galv. Pipe)
6	43412	Rear Jaw (3) (Includes Ref. No. 4 & 5)	15	43402	Insert Holder Pin (3)
7	34762	Pivot Rod Pin (6)	16	52987	Insert Holder Spring (3)
8	34767	Pivot Rod (3)	17	43392	Small Front Spacer (3)
9	61127	Spindle Tube f/P.C.P.	18	43387	Centering Link (3)

Power Assembly/Drive Assembly Separation Procedure



Step 1: Remove Rear Centering Device.

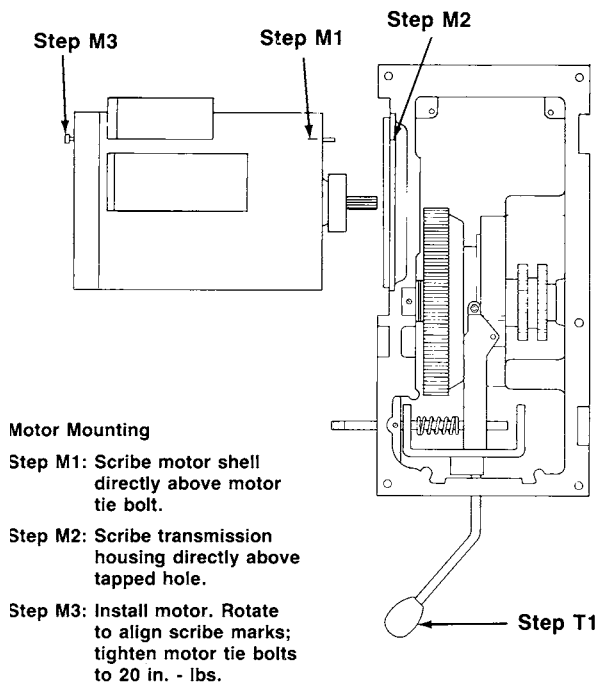
Step 2: Remove Brake Shoes (3).

Step 3: Remove clips - slide out Spindle Assembly.

Step 4/5: Remove Splash Guard and Sprocket.

Step 6: Separate housings.

Motor Mounting and Transmission Shifter Assembly (Induction Only)

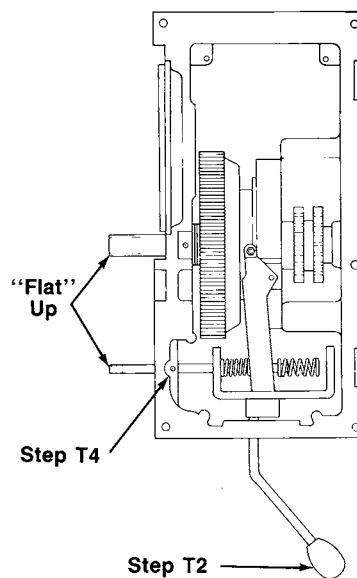


Motor Mounting

Step M1: Scribe motor shell directly above motor tie bolt.

Step M2: Scribe transmission housing directly above tapped hole.

Step M3: Install motor. Rotate to align scribe marks; tighten motor tie bolts to 20 in. - lbs.



Transmission Shifter Assembly

Step T1: Rotate shift lever to left and install small (short) spring over shifting shaft.

Step T2: Rotate shift lever to right and install large (long) spring.

Step T3: (Not shown) Rotate shift lever to center (upright) position and finish installing shaft.

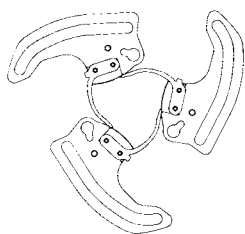
Step T4: Tighten set screw.

Note: Install "flat" on shafts UP.

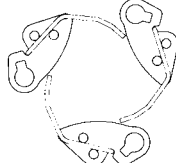
Right Hand

Jaw Orientation

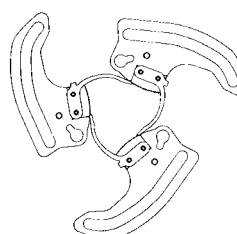
Left Hand



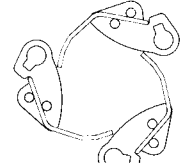
Front



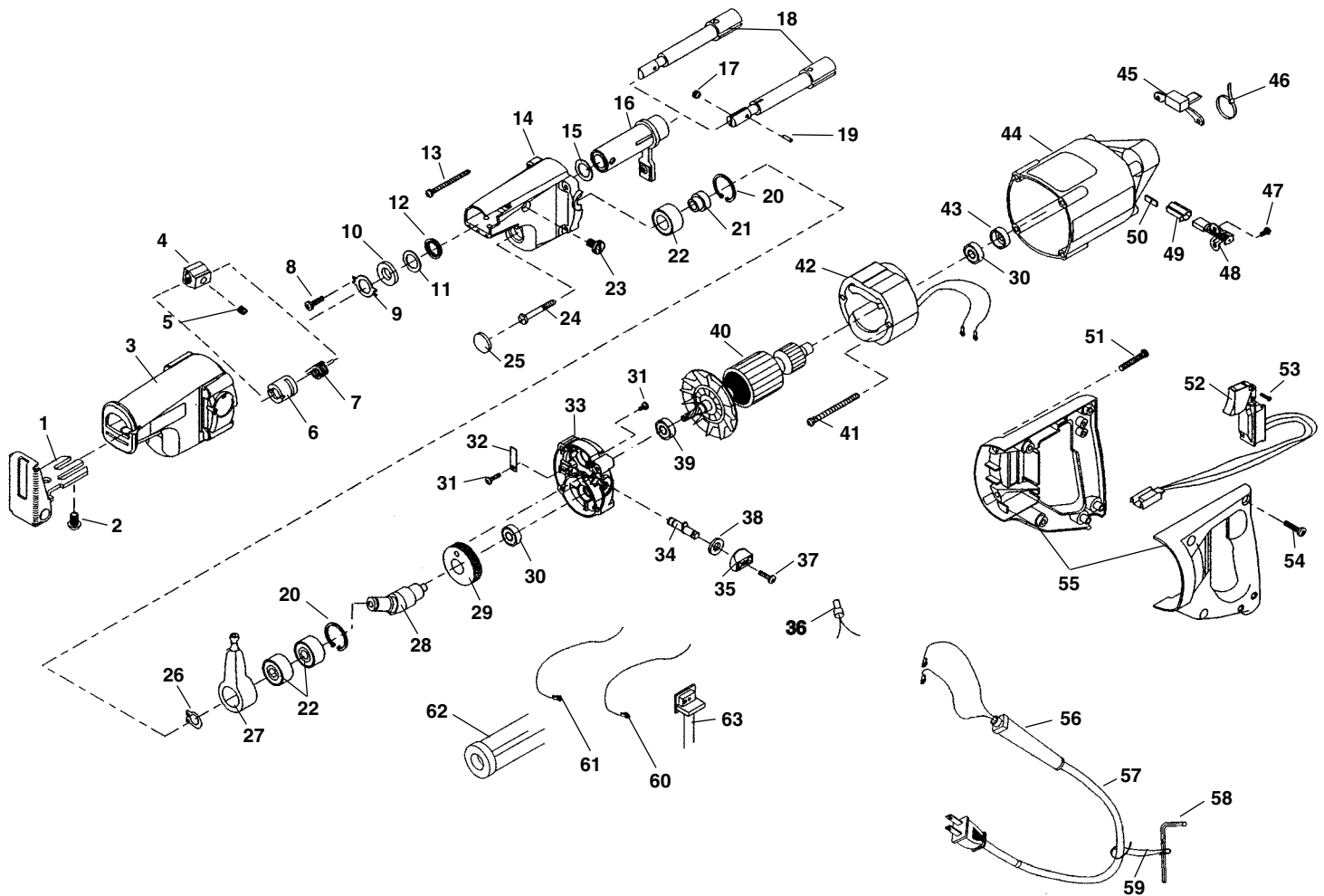
Rear



Front

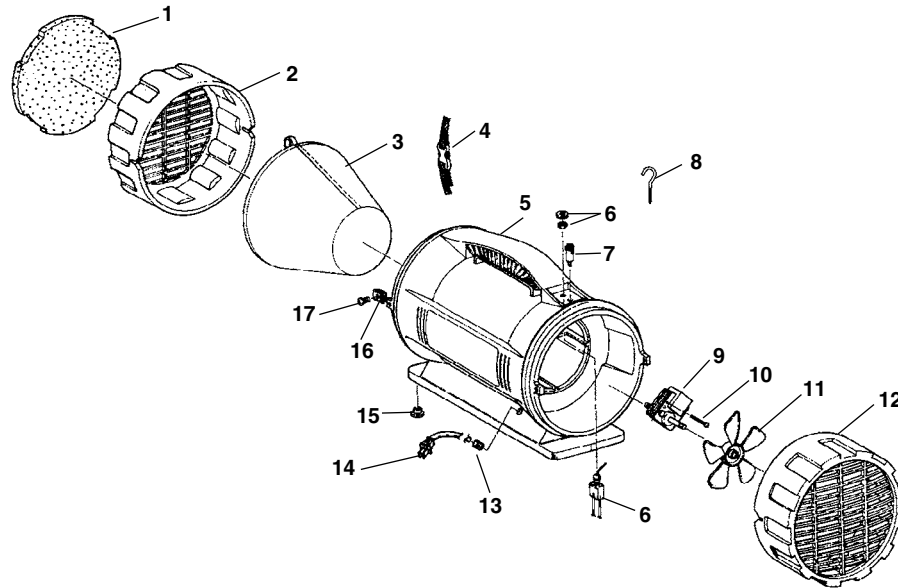


Rear



**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

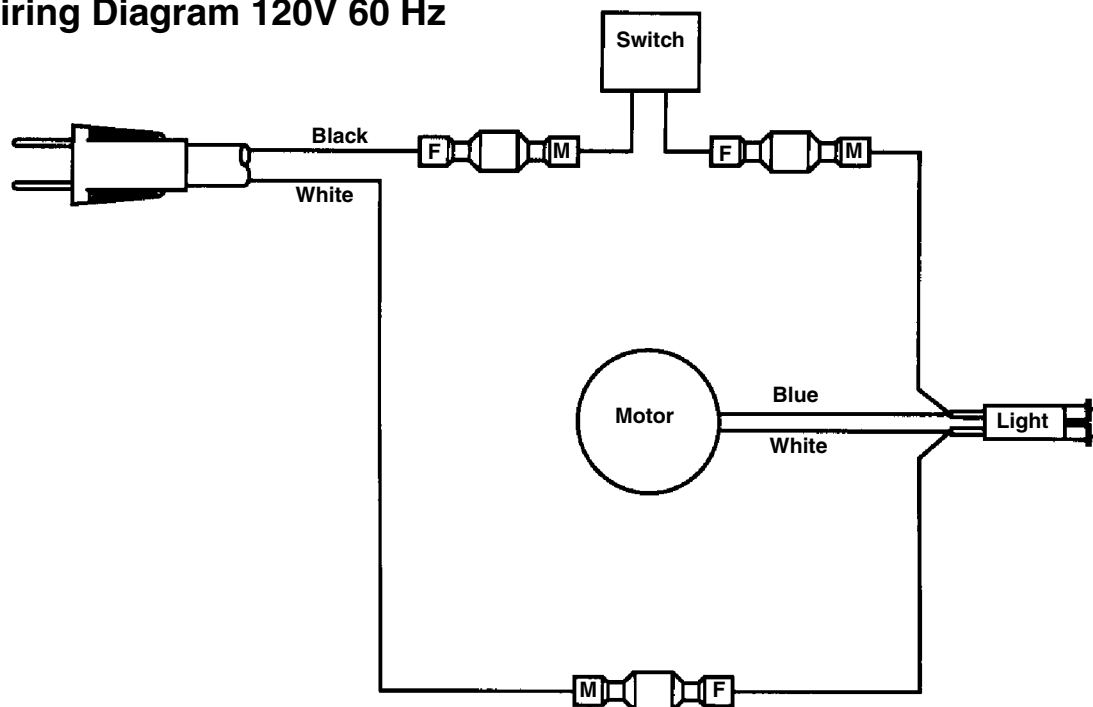
Ref. No.	Catalog No.	Description	Ref. No.	Ref. No.	Catalog Description	Ref. No.	Ref. No.	Catalog Description
1	18867	Shoe & Bracket Assembly	23	63497	Screw	44	63587	Motor Housing
2	18872	Screw	24	63502	Screw	45	63592	Mounting Bracket
3	63422	Insulator Boot	25	63507	Plug	46	63597	Wire Tie
4	63427	Blade Clamp Sleeve	26	63512	Retaining Ring	47	63602	Screw
5	63432	Blade Screw	27	63517	Wobble Plate	48	50017	Brush & Spring
6	71892	Clamp Sleeve (Type 2)	28	63522	Drive Shaft	49	18437	Brush Holder
7	71912	Spring (Type 2)	29	63527	Gear	50	18442	Brush Insulator
8	63437	Screw	30	63532	Bearing	51	63607	Screw
9	63442	Plate	31	63537	Screw	52	63612	Switch Assembly (115V)
10	63447	Felt Seal	32	63542	Spring		64917	Switch Assembly (230V)
11	63452	Flat Washer	33	63547	Int. Plate	53	63617	Screw
12	63457	Oil Seal	34	63552	Selector Shaft	54	63622	Screw
13	63462	Screw	35	63557	Knob	55	63627	Handle Set
14	63467	Front Housing	36	63562	Connector	56	63632	Strain Relief
15	63472	Felt Seal	37	63567	Screw	57	63637	Power Cord (115V)
16	63477	Carrier Tube Assembly	38	63572	Felt Seal		64922	Power Cord (230V)
17	71907	Clamp Pin (Type 2)	39	18467	Bearing	58	63642	Hex Wrench
18	63482	Recip. Shaft	40	63577	Armature (115V)	59	63647	Wrench Holder
	71897	Recip. Shaft (Type 2)		64907	Armature (230V)	60	64927	Black Lead Assembly (230V)
19	71902	Roll Pin (Type 2)	41	63682	Screw	61	64932	White Lead Assembly (230V)
20	45527	Retaining Ring	42	63582	Field (115V)	62	64937	Coil (230V)
21	63487	Spacer		64912	Field (230V)	63	64942	Circuit Board (230V)
22	63492	Bearing	43	50022	Bearing Mount			

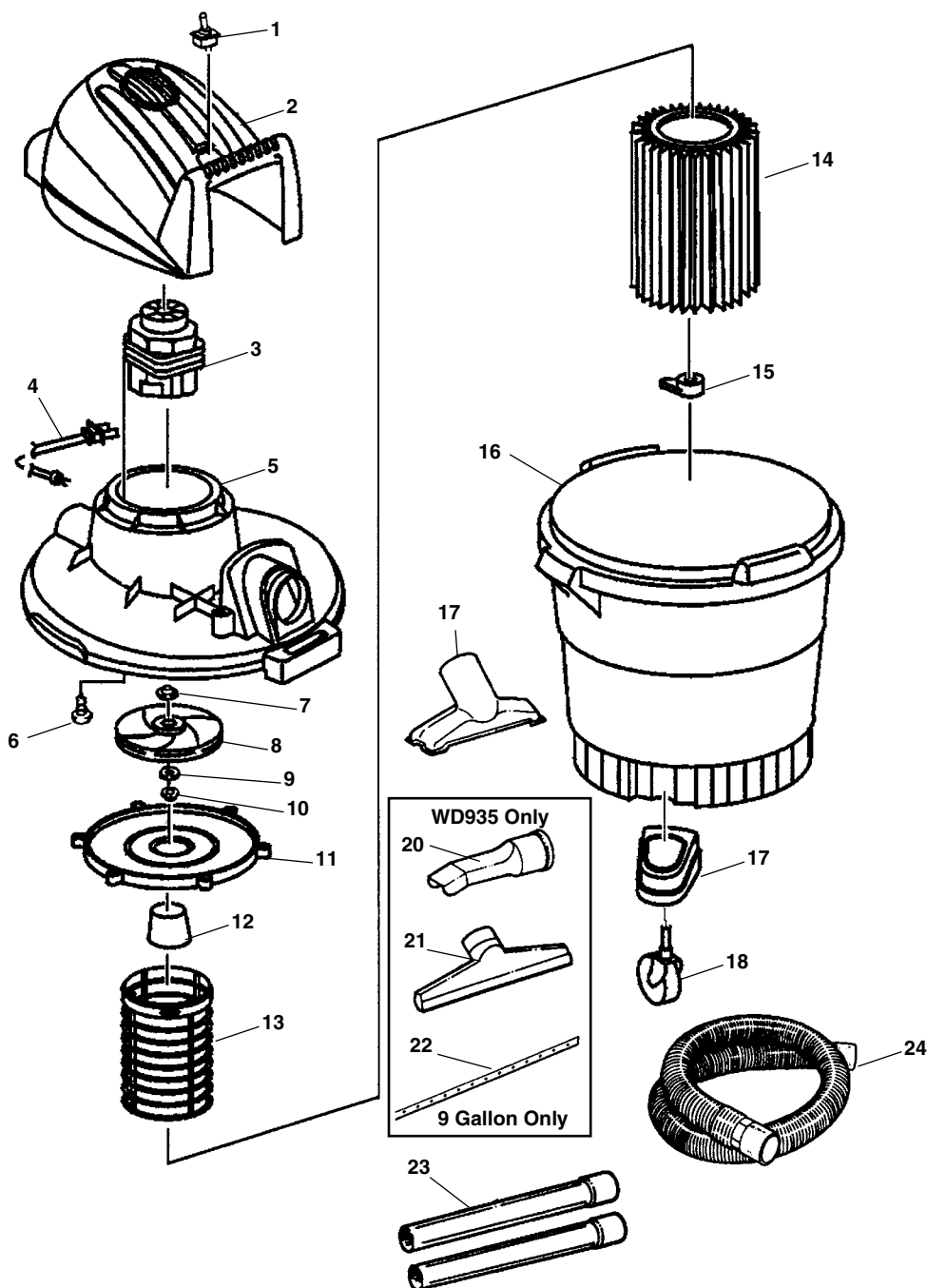


NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
—	72957	AF2000 Air Filter	10	73492	Screw Pan Head Type "AB" #6 x 1 3/4"
1	72962	Filter Foam	11	73727	Fan Blade
2	73712	Inlet Cover	12	73717	Exhaust Cover
3	72967	Filter Bag	13	73777	Strain Relief
4	73702	Strap	14	73762	Power Cord
5	73707	Housing	15	73767	Foot
6	73692	Switch	16	73732	Clip, Nut
7	73697	Pilot Light	17	73797	Screw Truss Head #10 - 24 x 3/4"
8	73792	Screw Hook			
9	73722	Motor			

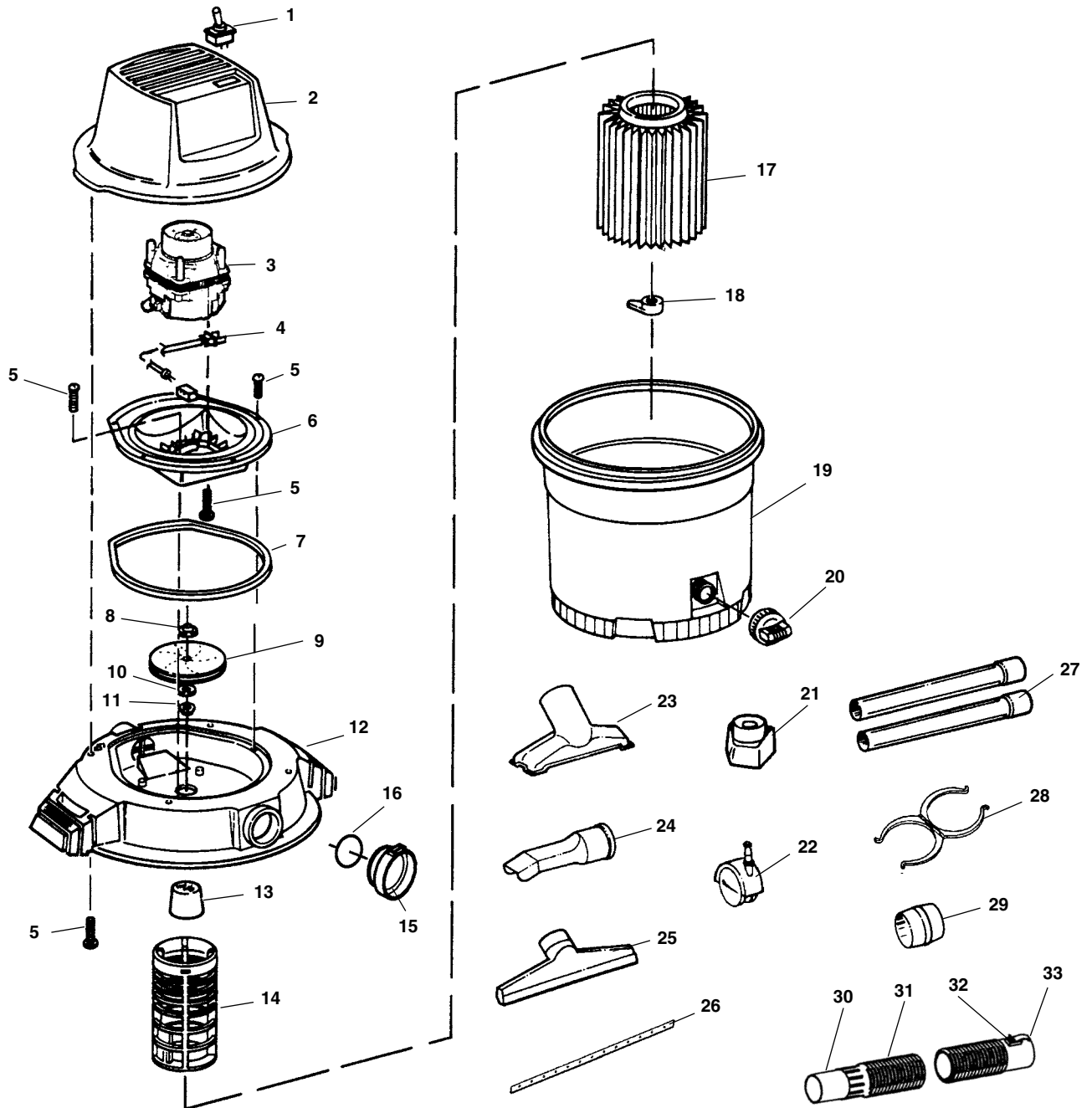
Wiring Diagram 120V 60 Hz





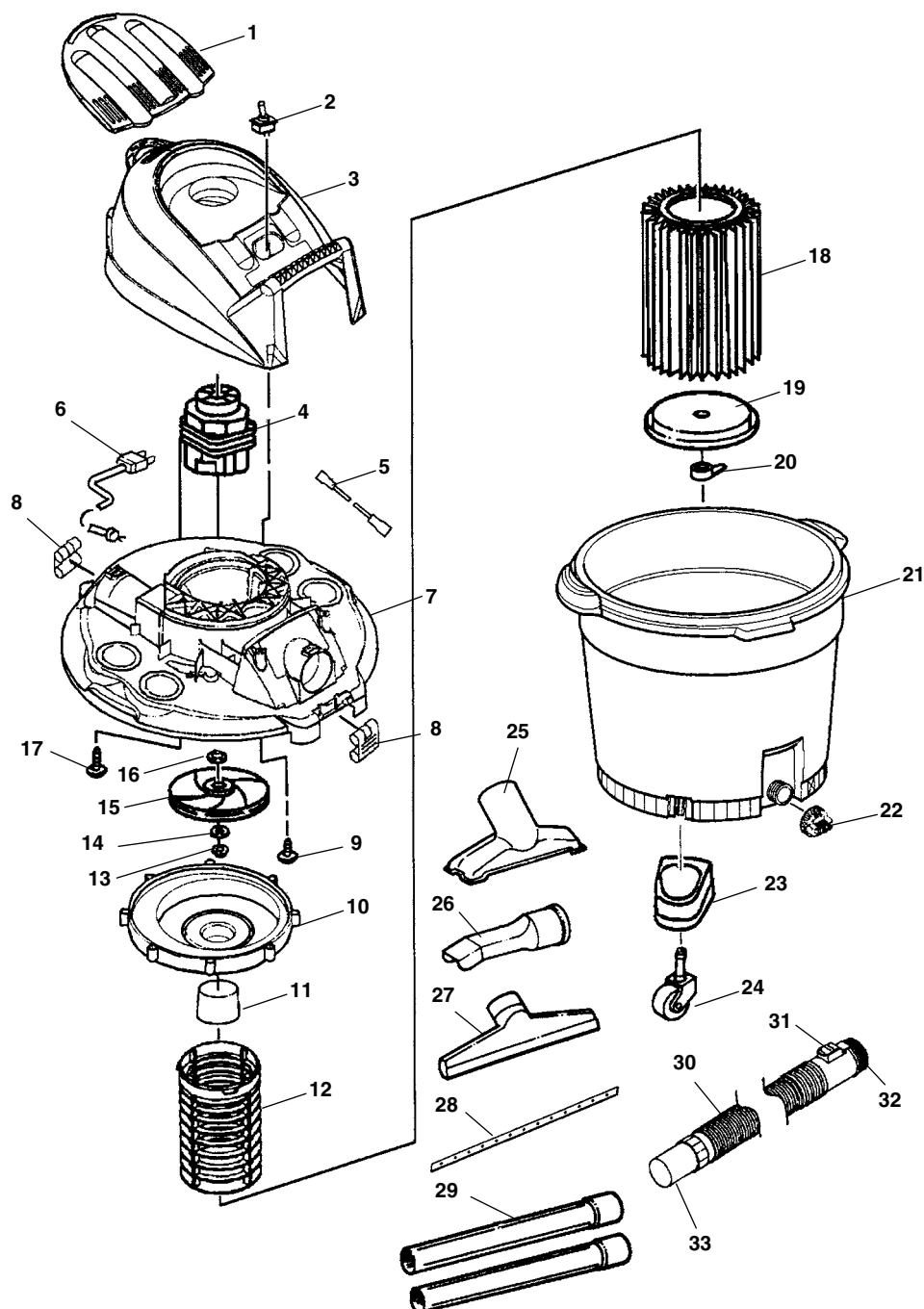
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	12313	Toggle Switch	9	47872	Washer	17	12388	Foot Caster
2	12398	Cover Motor	10	12353	Nut Hex Flange 5/16" - 18	18	12298	Caster
3	12283	Motor Assembly (WD620)	11	12408	Plate Collector	19	72907	Utility Nozzle
	12288	Motor Assembly (WD935)	12	73472	Float	20	72937	Car Nozzle (WD935)
4	12483	Cord Assembly	13	73637	Filter Cage	21	72912	Wet/Squeegee Nozzle (WD935)
5	12403	Lid (WD620)	14	72947	Pleated Paper Filter	22	73562	Squeegee (WD935)
	12413	Lid (WD935)	15	47907	Filter Nut	23	72902	Extension Wand
6	73482	Screw Pan Head #10 x 3/4"	16	12448	Drum Assembly (WD620)	24	72897	7 Foot Hose
7	47862	Spacer		12453	Drum Assembly (WD935)			
8	12278	Blower Wheel (WD620)						
	12273	Blower Wheel (WD935)						



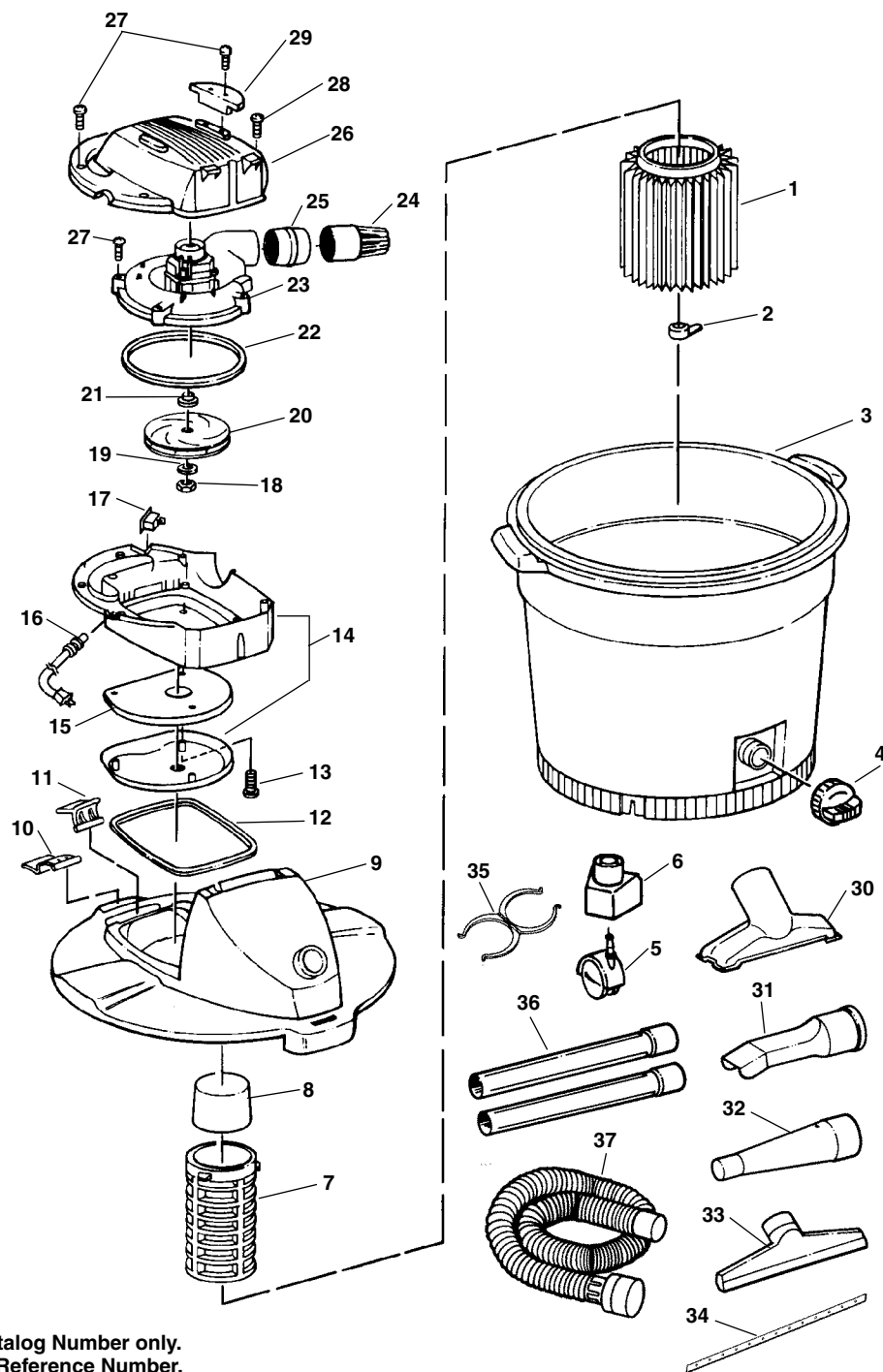
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	47832	Toggle Switch	13	73472	Float	23	72907	VT 2509 Utility Nozzle
2	73652	Motor Cover	14	73637	Filter Cage	24	72937	VT 2503 Car Nozzle
3	73687	Motor	15	83732	Adapter Hoselock	25	72912	VT 2510 Wet Nozzle
4	73592	Cord w/Plug	16	83737	O-Ring	26	73562	Squeegee
5	73482	Screw 10 x 3/4"	17	72947	VT 4000 Filter	27	72902	VT 2508 Ext. Wand
6	73667	Collector	18	47907	Filter Nut	28	73502	Hose Lock
7	47857	Lid Gasket	19	73742	Dust Drum (WD1200)	29	83707	Male-Male Adapter
8	47862	Spacer		73747	Dust Drum	30	83712	Adapter Hose
9	73507	Blower Wheel	20	73737	Drain Cap	31	83727	Locking Hose
10	47872	Washer	21	83742	Caster w/Storage	32	83717	Spring Tab
11	47297	Nut Hex 1/4" - 20	22	73627	Twin Wheel Caster	33	83722	End Hose Int. Lock
12	73672	Lid						



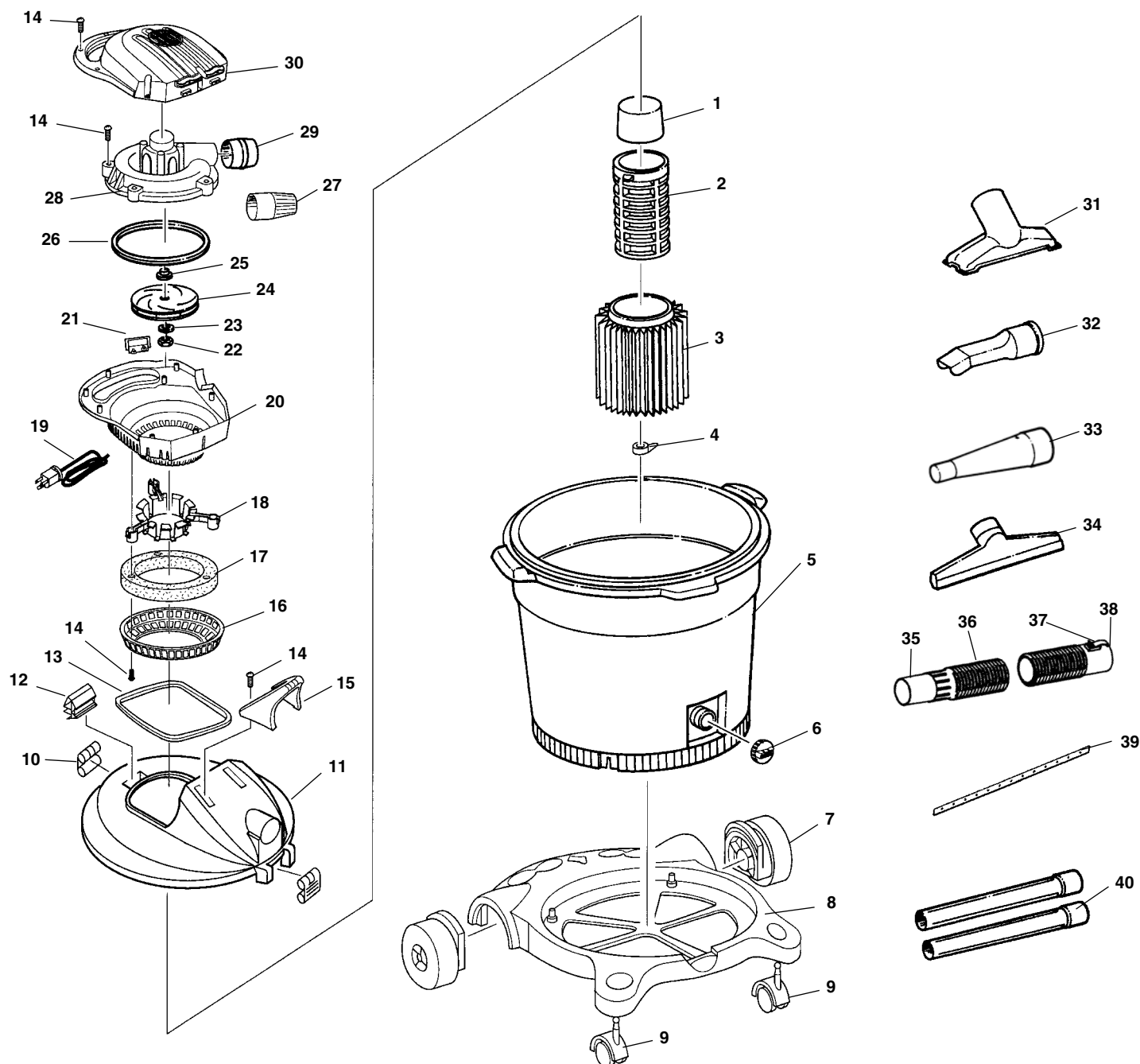
NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	12373	Cap Trim	12	73637	Filter Cage	23	12388	Foot Caster
2	47832	Toggle Switch	13	12353	Nut Hex Flange 5/16" - 18	24	12293	Caster
3	12363	Cover Motor	14	47872	Washer	25	72907	Utility Nozzle
4	12463	Motor Assembly	15	96537	Blower Wheel	26	72937	Car Nozzle
5	12328	Lead Assembly	16	47862	Spacer	27	72912	Wet/Squeegee Nozzle
6	12488	Cord Assembly	17	12338	Screw 10 x 1 1/4"	28	73562	Squeegee
7	12393	Lid 12 Gal (WD1245)	18	72947	Pleated Paper Filter	29	72902	Extension Wand
8	12378	Lid 16 Gal (WD1635)	19	12303	Plate Filter	30	96577	Hose 2 1/2" x 7' Locking
9	83742	Latch Drum (WD1635)	20	47907	Filter Nut	31	96572	Spring Tab
10	12333	Screw 10 x 3/4"	21	12433	Drum w/Graphics (WD1245)	32	83722	End Hose Interlock
11	12458	Collector Assembly	22	12348	Drum w/Graphics (WD1635)	33	83712	Adapter Hose
	73472	Float		73737	Drain Cap			



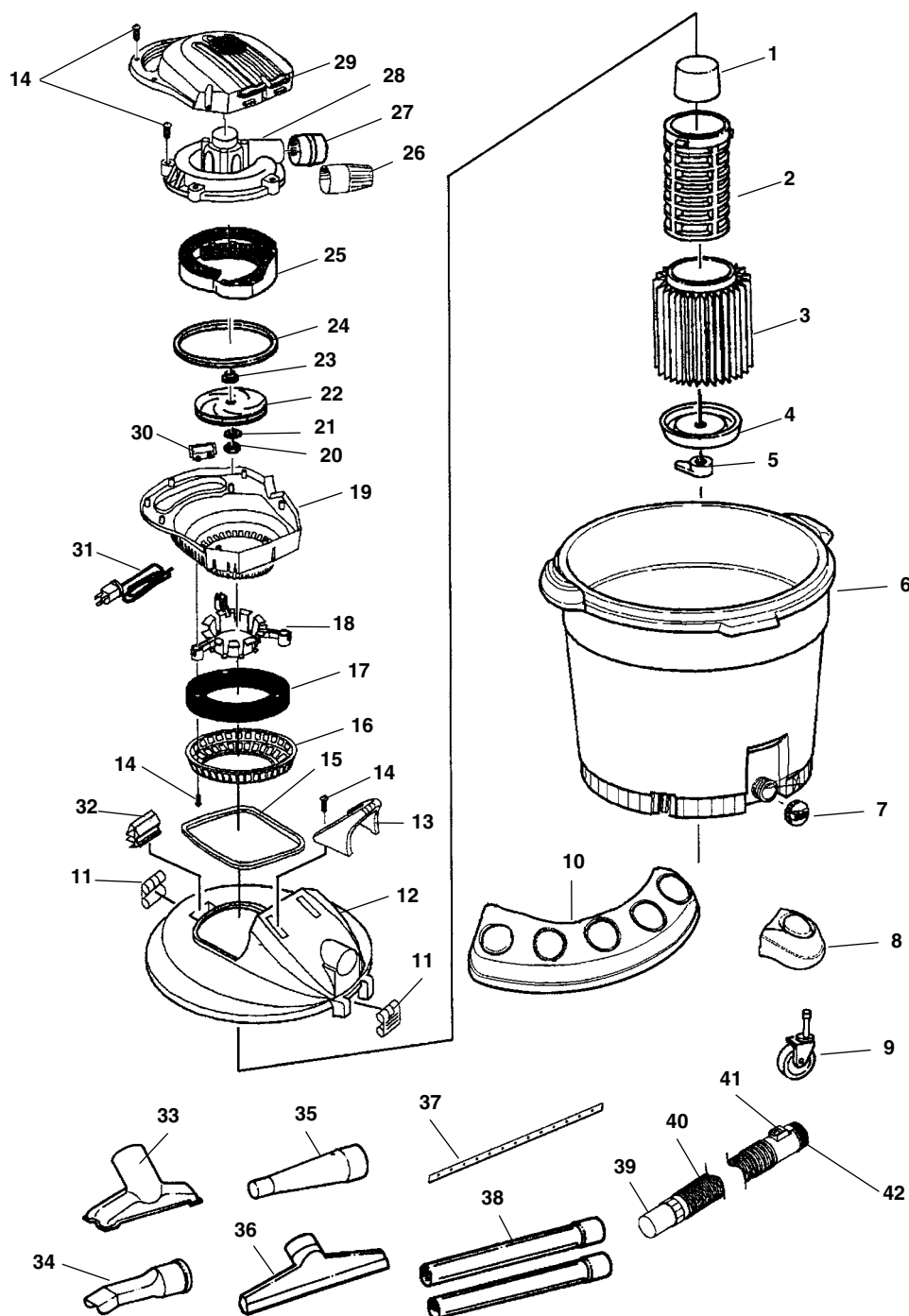
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	72947	Filter	14	73577	Intake Shield/Lid	26	73607	Motor Cover
2	47907	Filter Nut	15	73572	Foam Pad	27	73482	Screw #10 x 3/4"
3	73752	Drum	16	73597	Power Cord	28	73787	Screw #8 x 1/2"
4	73737	Drain Cap	17	73682	Switch	29	73772	Cord Wrap
5	73627	Twin Wheel Caster	18	47297	Nut-Hex Flange 1/4" - 20	30	72907	Utility Nozzle
6	73782	Caster Foot	19	47872	Washer	31	72937	Car Nozzle
7	73637	Filter Cage	20	73507	Blower Wheel	32	72892	Blower Nozzle
8	73472	Float	21	47862	Spacer	33	72912	Wet Nozzle
9	73467	Lid	22	73582	Collector Gasket	34	73562	Squeegee
10	73612	Drum Latch	23	73587	Motor/Collector	35	73497	Hose Lock
11	73617	Power Head Latch	24	73622	Diffuser	36	72902	Extension Wands
12	73657	Lid Gasket	25	73632	Male-Male Adapter	37	72897	Hose 2 1/2" x 7'
13	73482	Screw #10 x 3/4"						



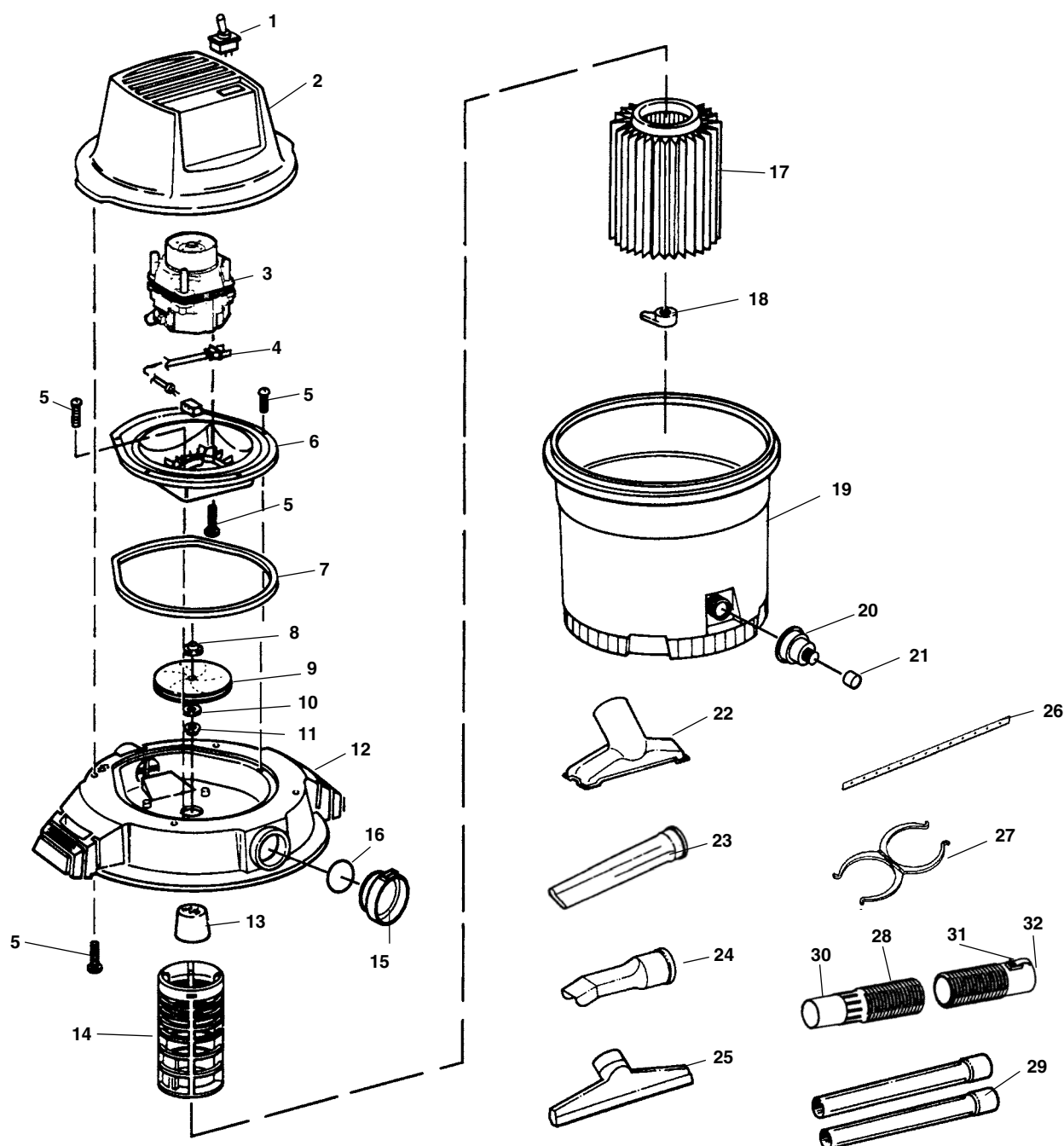
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	73472	Float	15	83767	Pull Handle	29	83707	Male-Male Adapter
2	73637	Filter Cage	16	83772	Intake Shield	30	83812	Motor Cover
3	72947	VT 4000 Filter	17	83777	Foam Pad	31	72907	VT 2509 Utility Nozzle
4	47907	Filter Nut	18	83782	Foam Pad Holder	32	72937	VT 2503 Car Nozzle
5	73752	Drum w/Handles	19	83787	20 Ft. Cord Assembly	33	72892	VT 2506 Blower Nozzle
6	73737	Drain Cap	20	83792	Detachable Lid	34	72912	VT 2510 Wet Nozzle
7	87357	All Terrain Wheel	21	83797	Switch	35	83712	Adapter Hose
8	89012	Base Drum	22	47297	Hex Nut Flange 1/4" - 20	36	83727	Loc Hose 2 1/2" x 7'
9	73627	Twin Wh. Caste	23	47872	Washer	37	83717	Spring Tab
10	83747	Drum Latch	24	73507	Blower Wheel	38	83722	End Hose Inter
11	83752	Lid	25	47862	Spacer	39	73562	Squeegee
12	83757	Power Hd. Latch	26	73582	Collector Gasket	40	72902	VT 2508 Ext. Wand
13	83762	Gasket Lid	27	83802	Blowing Difuser			
14	73482	Screw 10 x 3/4"	28	83807	Motor & Collector			



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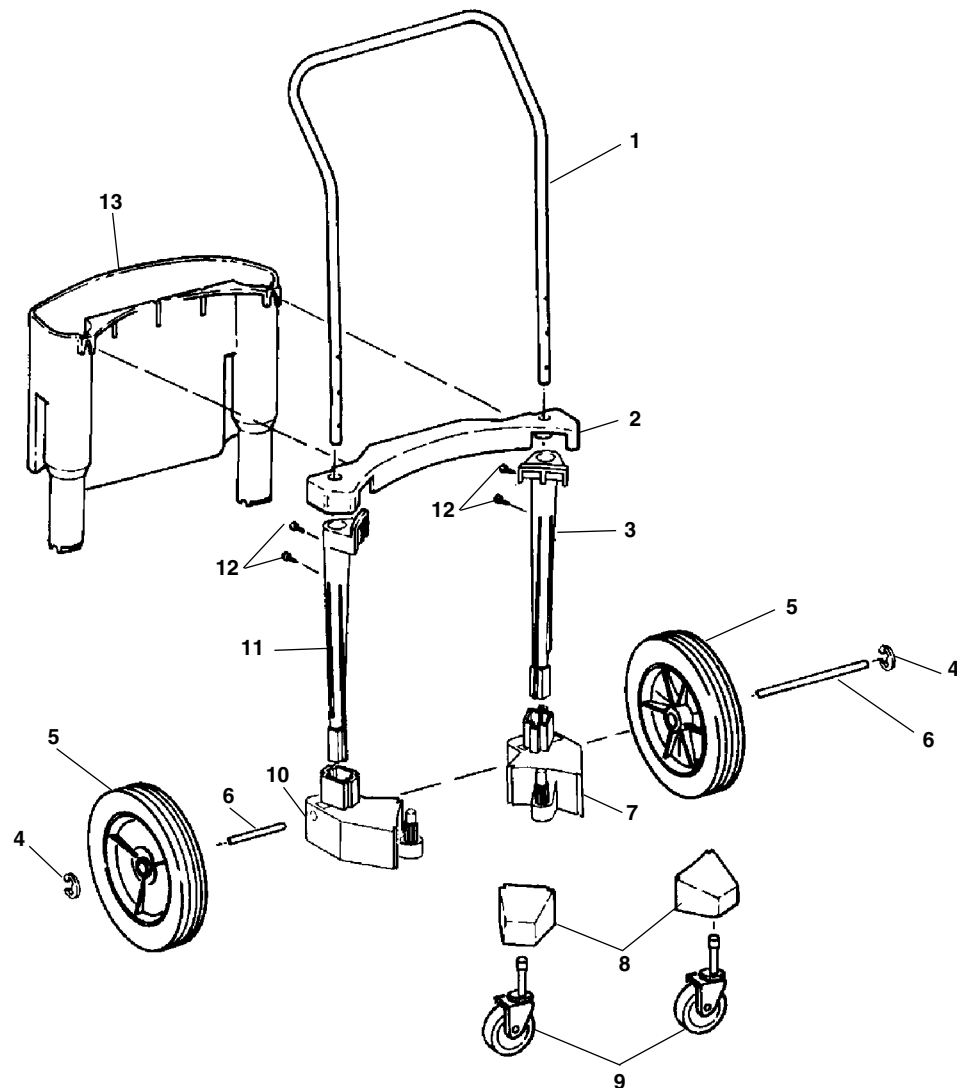
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	73472	Float	15	83762	Gasket Lid	29	83812	Cover Motor
2	73637	Filter Cage	16	83772	Shield Intake	30	73682	Switch
3	72947	Pleated Paper Filter	17	83777	Pad Foam	31	12473	Cord Power
4	12303	Plate Filter	18	83782	Holder Foam Pad	32	83757	Latch Powerhead
5	47907	Filter Nut	19	12358	Lid Assembly Small	33	72907	Utility Nozzle
6	12348	Drum w/Graphics	20	86327	Nut Hex Flange 1/4" - 20	34	72937	Car Nozzle
7	73737	Drain Cap	21	47872	Washer	35	72892	Blower Nozzle
8	12388	Foot Caster	22	73507	Blower Wheel	36	72912	Wet/Squeegee Nozzle
9	12293	Caster	23	47862	Spacer	37	73562	Squeegee
10	12418	Caddy Accessory	24	96552	Gasket Collector	38	72902	Extension Wand
11	83742	Latch Drum	25	12438	Foam Holder Assembly	39	83712	Adapter Hose
12	83752	Lid	26	83802	Diffuser Blowing	40	96577	Hose 2 1/2" x 7' Locking
13	83767	Handle Pull	27	73632	Male-Male Adapter	41	96572	Spring Tab
14	96542	Screw 10 x 3/4"	28	83807	Motor & Collector w/Blower Wheel	42	83722	End Hose Interlock



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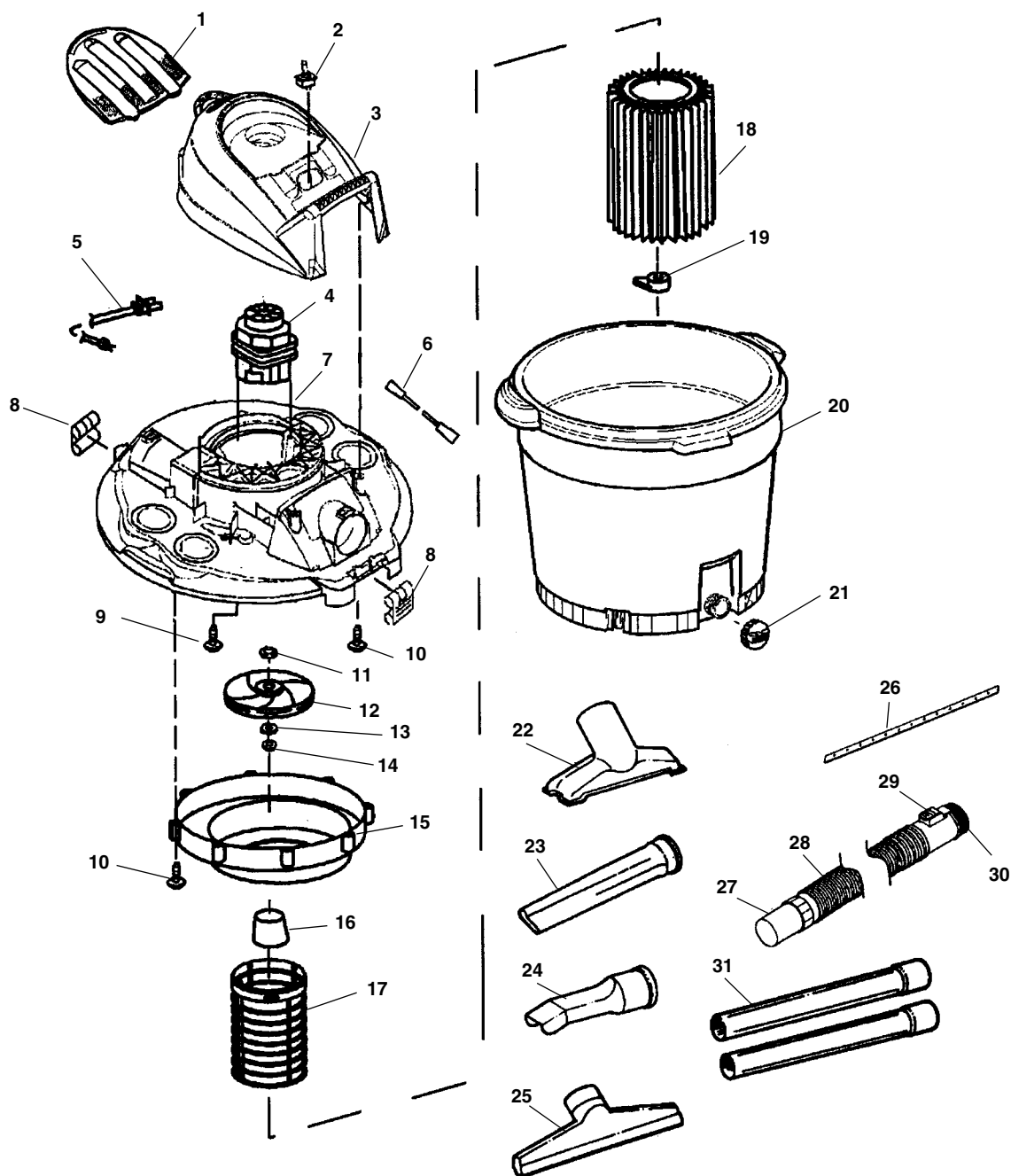
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	47832	Toggle Switch	12	73677	Lid	23	72932	VT 2502 Crevice Nozzle
2	73652	Motor Cover	13	73472	Float	24	72937	VT 2503 Car Nozzle
3	73757	Motor	14	73637	Filter Cage	25	72912	VT 2510 Wet Nozzle
4	73602	Cord w/Plug	15	83732	Adapter Hose Lock (WD1730)	26	73562	Squeegee
5	73487	Pan Hd. 10 x 3/4"	16	83737	O-Ring (WD1730)	27	73502	Hose Lock
6	73662	Collector	17	72952	Stage 2 Filter VF 5000	28	83727	Loc Hose 2 1/2" x 7' (WD1730)
7	47857	Gasket Lid	18	47907	Filter Nut	29	72902	VT 2508 Wands
8	47862	Spacer	19	73747	Dust Drum	30	83712	Adapter Hose
9	73507	Blower Wheel	20	83817	Adapter Hose to Dr.	31	83717	Spring Tab
10	47872	Washer	21	83822	Cap	32	83722	End Hose Interloc
11	47297	Hex Nut 1/4" - 20	22	72907	VT 2509 Utility Hose			

Cart



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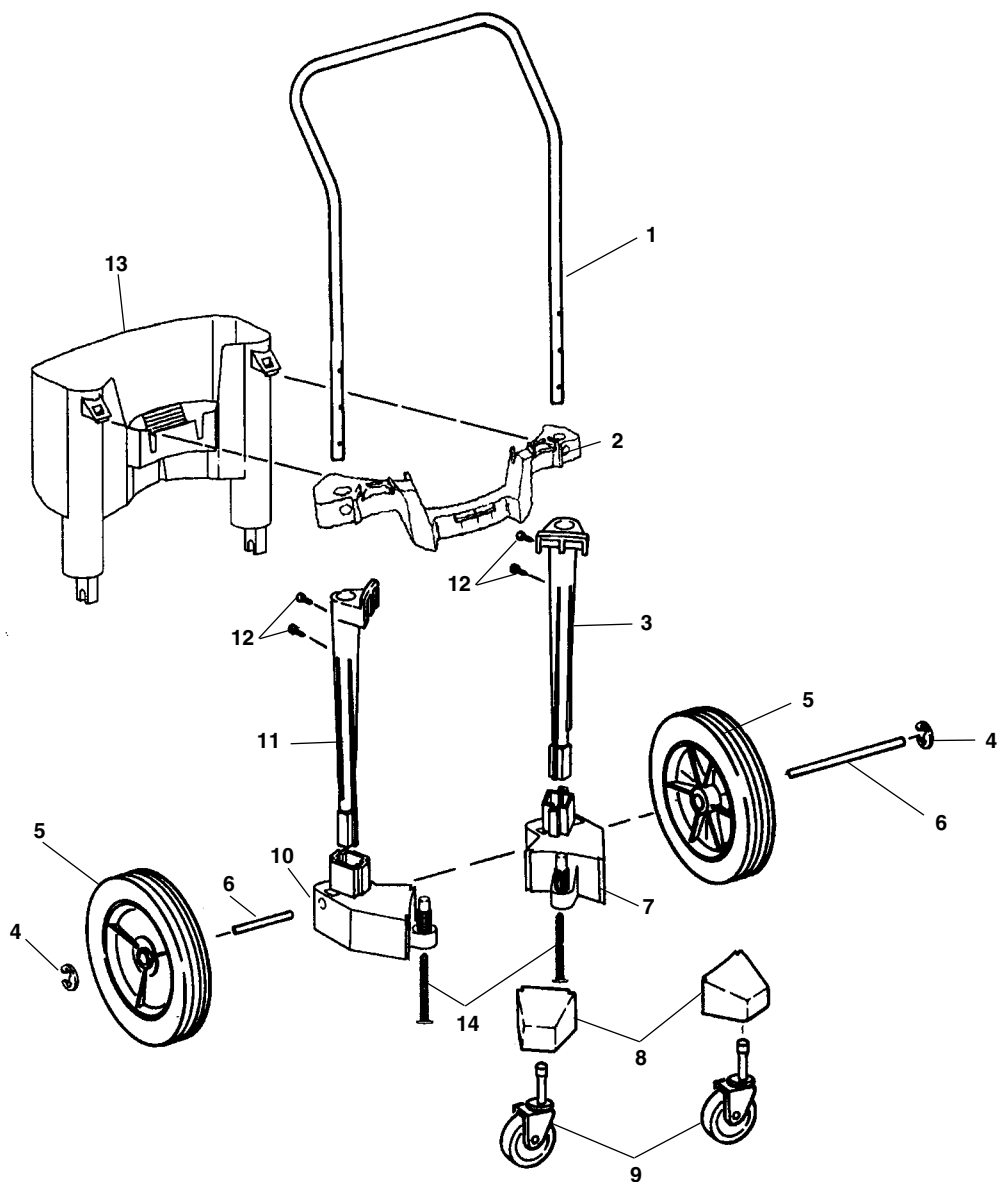
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	73547	Handle	8	73552	Caster Foot
2	73542	Handle Bracket	9	73557	Caster
3	73532	Left Leg	10	73527	Cradle, Right
4	34245	Retaining Ring 1/2"	11	73537	Right Leg
5	73487	10" Wheel	12	73482	Screw #10 x 3/4"
6	73517	Axle	13	73452	Tote
7	73522	Cradle, Left	14	73462	Hardware Kit (Not Shown)



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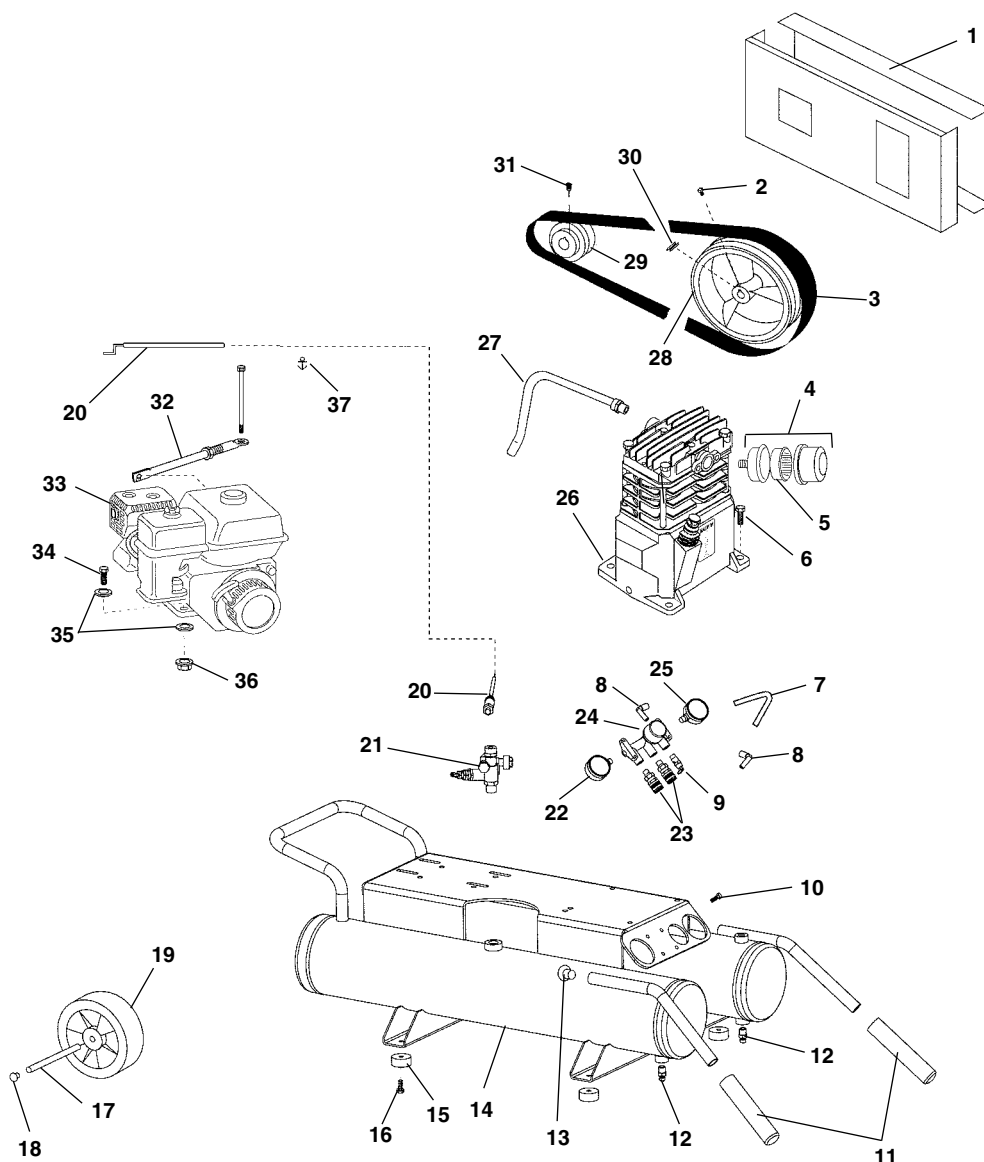
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	12373	Cap Trim	12	73507	Blower Wheel	23	72932	Crevice Tool
2	12313	Toggle Switch	13	47872	Washer	24	72937	Car Nozzle
3	12368	Motor Cover	14	12353	Nut Hex Flange 5/16" - 18	25	72912	Wet/Squeegee Nozzle
4	12443	Motor Assembly	15	12458	Collector Assembly	26	73562	Squeegee
5	12478	Cord Assembly	16	73472	Float	27	83712	Adapter Hose
6	12328	Lead Assembly	17	73637	Filter Cage	28	96577	Hose 2 1/2" x 7' Locking
7	12383	Lid	18	72952	2-Stage Fine Dust Filter	29	96572	Spring Tab
8	83742	Latch Drum	19	47907	Filter Nut	30	83722	End Hose Interlock
9	12338	Screw 10 x 1 1/4"	20	12348	Drum w/Graphics	31	72902	Extension Wand
10	12333	Screw 10 x 3/4"	21	73737	Drain Cap			
11	47862	Spacer	22	72907	Utility Nozzle			

Cart



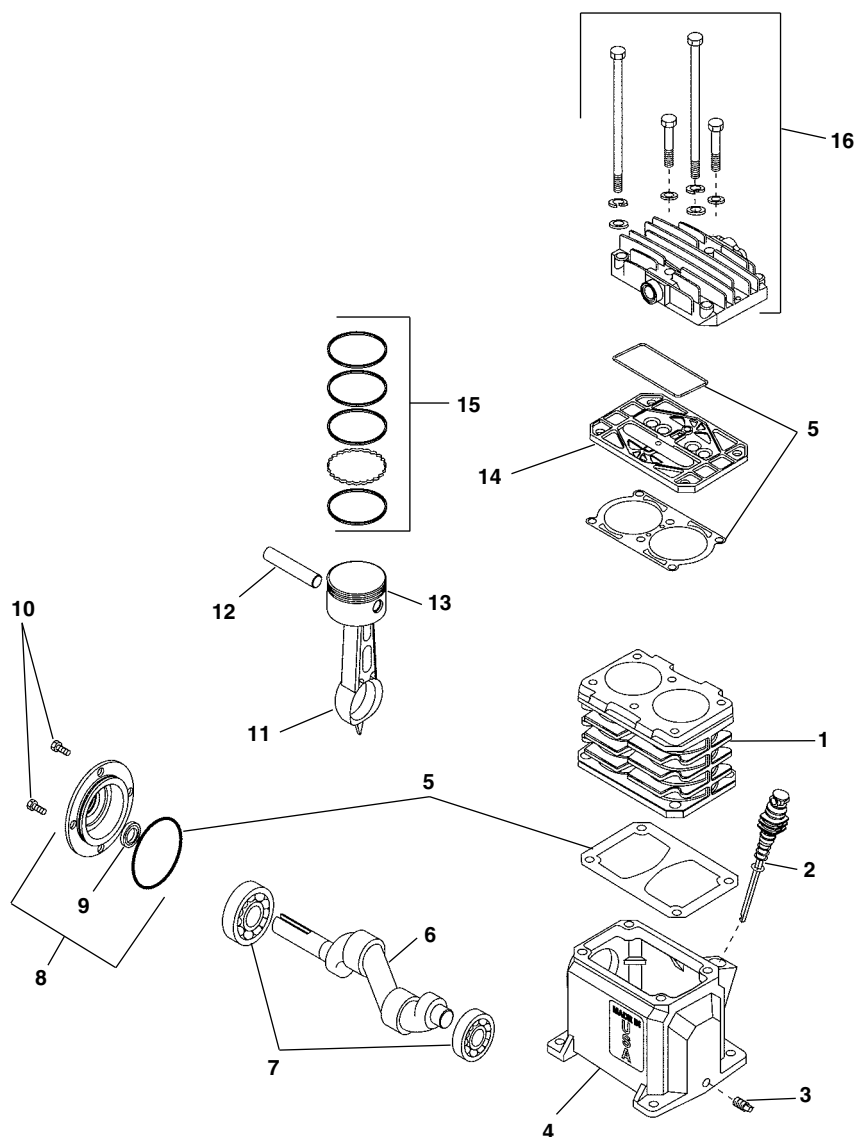
NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	12323	Handle	9	73557	Caster
2	12423	Handle Bracket	10	73527	Cradle, Right
3	73532	Left Leg	11	73537	Right Leg
4	86642	Retaining Ring	12	73482	Screw #10 x 3/4"
5	12308	10" Wheel Gray	13	12428	Tote
6	12318	Axle	14	12343	Screw #10 x 2 1/4"
7	73522	Cradle, Left	15	73462	Bag Loose Parts
8	73552	Caster Foot			



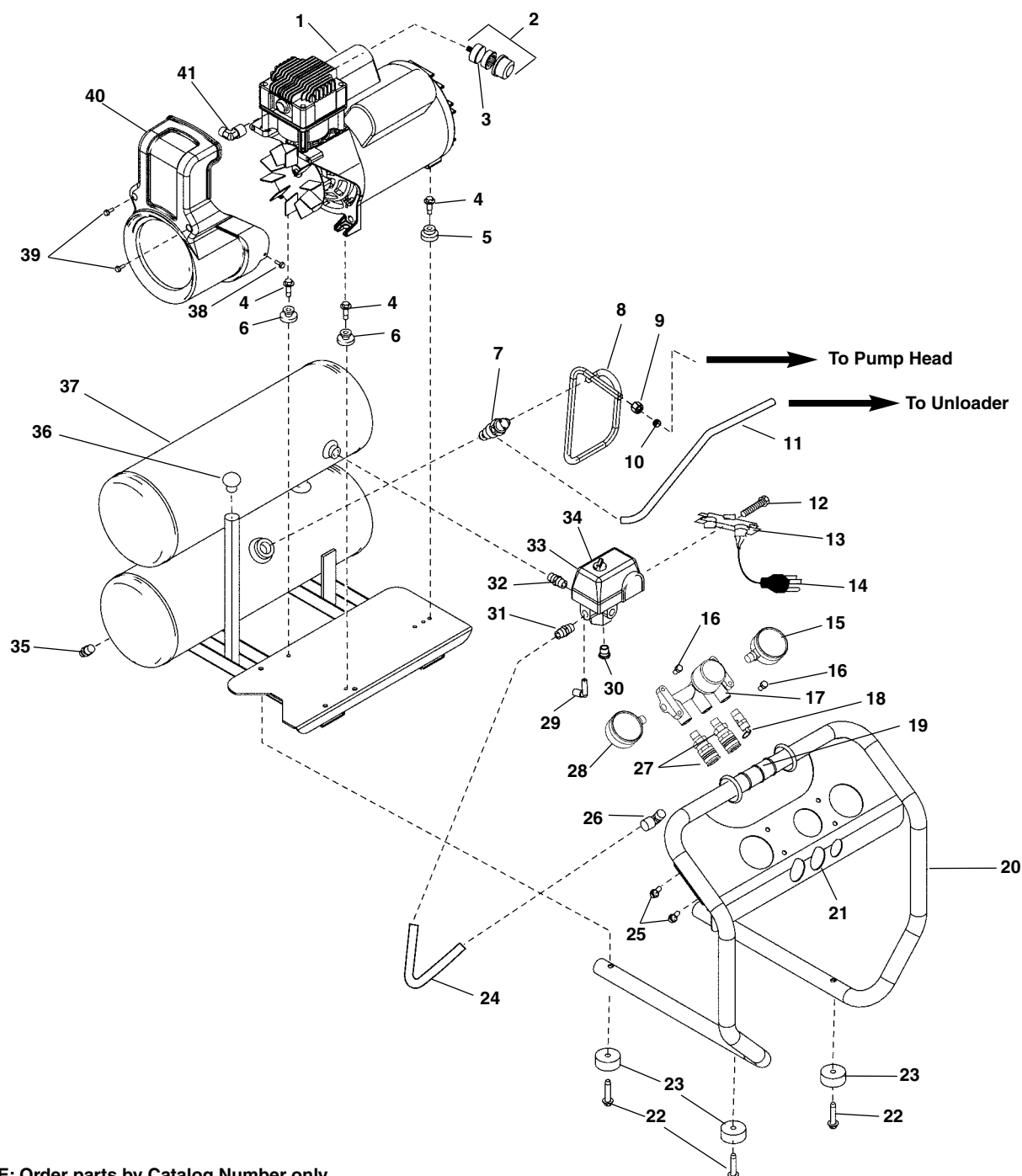
NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.

Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	17993	Belt Guard Assembly	20	18058	Throttle Control
2	17998	Set Screw	21	18063	Throttle Unloader
3	18003	Belt	22	17878	Gauge, Left
4	18008	Filter Assembly	23	17873	Coupler
5	18013	Filter Element	24	17793	Regulator
6	18018	Screw	25	17773	Gauge, Right
7	18023	3/8" Nylon Tube	26	18068	Pump
8	17868	Elbow Fitting	27	18073	Discharge Tube
9	17798	Safety Valve	28	18078	Flywheel
10	17783	Screw, Torx	29	18083	Pulley
11	18028	Handle Grip	30	18088	Key, 3/16"
12	17913	Drain Valve	31	18093	Set Screw, Square Head
13	17918	Plug	32	18098	Brace Assembly
14	18033	Tank	33	18103	Engine Complete
15	17853	Rubber Foot	34	18108	Screw, Hex Head
16	18038	Screw	35	18113	Washer
17	18043	Axle rod	36	18118	Locknut
18	18048	Plug	37	18123	Wire Retainer
19	18053	Wheel, 10"			



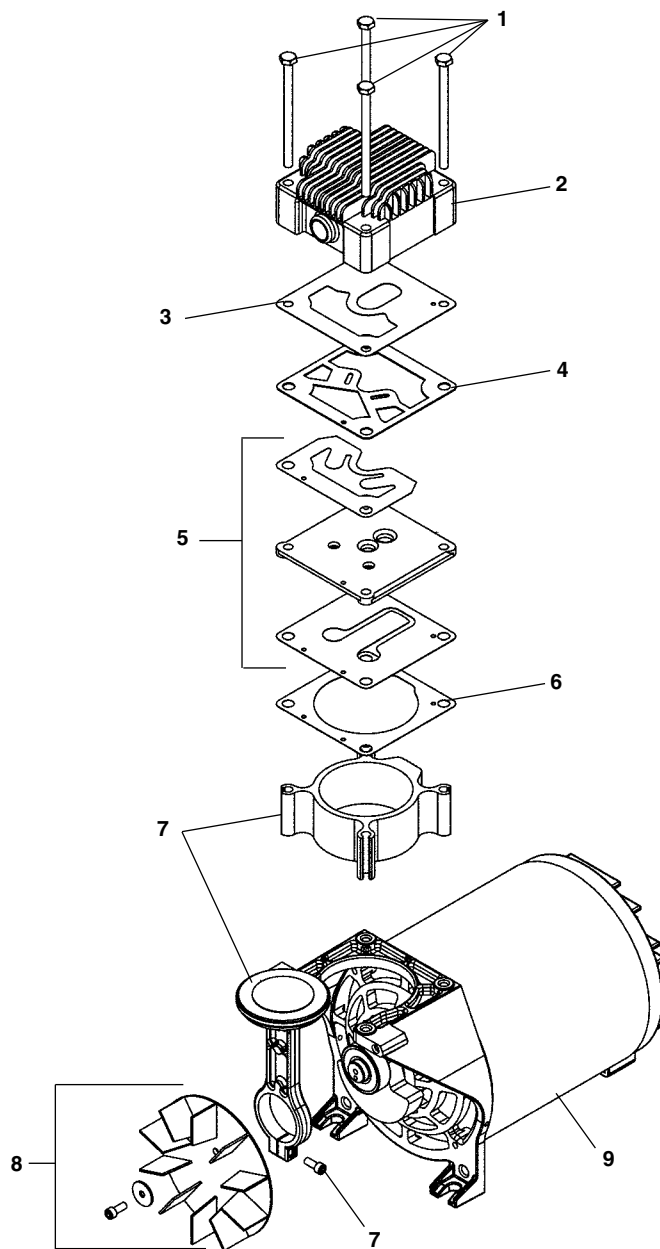
**NOTE: Order parts by Catalog Number only.
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Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	18128	Cylinder	9	18178	Oil Seal
2	18133	Dipstick Breather	10	18183	Cap Screw
3	18138	Oil Drain Plug	11	18158	Connecting Rod
4	18143	Crankcase	12	18163	Piston Pin
5	18198	Gasket Kit	13	18168	Piston
6	18153	Crankshaft	14	18188	Valve Plate
7	18148	Ball Bearing	15	18203	Piston Ring Set
8	18173	Bearing Cap	16	18193	Cylinder Head w/bolts



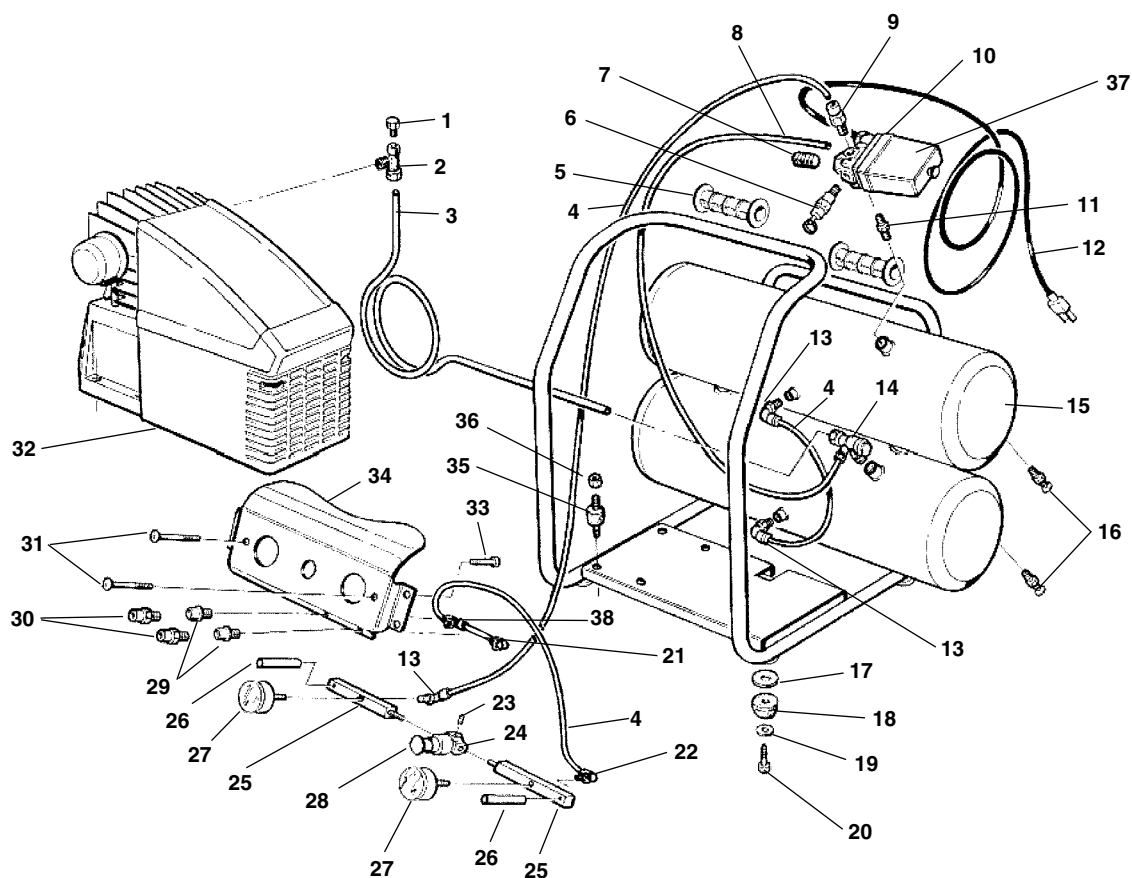
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Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	17698	Pump/Motor Assembly	15	17773	Tank Gauge	29	17883	Unloader
2	17703	Filter	16	17783	Screw, 1/4" - 20 x 1/2"	30	17888	Plug
3	17708	Filter Element	17	17793	Regulator	31	17893	3/8" Push To Connect
4	17713	Shoulder Bolt	18	17798	Safety Valve, 150 PSI	32	17898	Nipple
5	17718	Rubber Bushing-Rear	19	17808	Grip	33	17903	Pressure Switch Cover
6	17723	Rubber Bushing-Front	20	17813	Roll Bar	34	17908	Pressure Switch
7	17728	Check Valve	21	17838	Control Panel Bracket	35	17913	Tank Drain Valve
8	17733	Exhaust Tube	22	17848	Foot Screw	36	17918	Plug
9	17738	Nut	23	17853	Molded Rubber Bumper	37	17923	4.5 Gal. Twin Tank
10	17743	Ferrule	24	17858	3/8" Nylon Tube	38	17928	Shroud Screw
11	17748	1/4" Flexible Tube	25	17863	1/4" - 20 x 1/2" Self Tap Screw	39	17933	Shroud Screw
12	17753	Strain Relief screw	26	17868	3/8" 90 Degree Push to Connect	40	17938	Shroud
13	17758	Strain Relief	27	17873	Coupler	41	17943	Exhaust Fitting
14	17763	Cord	28	17878	Outlet Gauge			



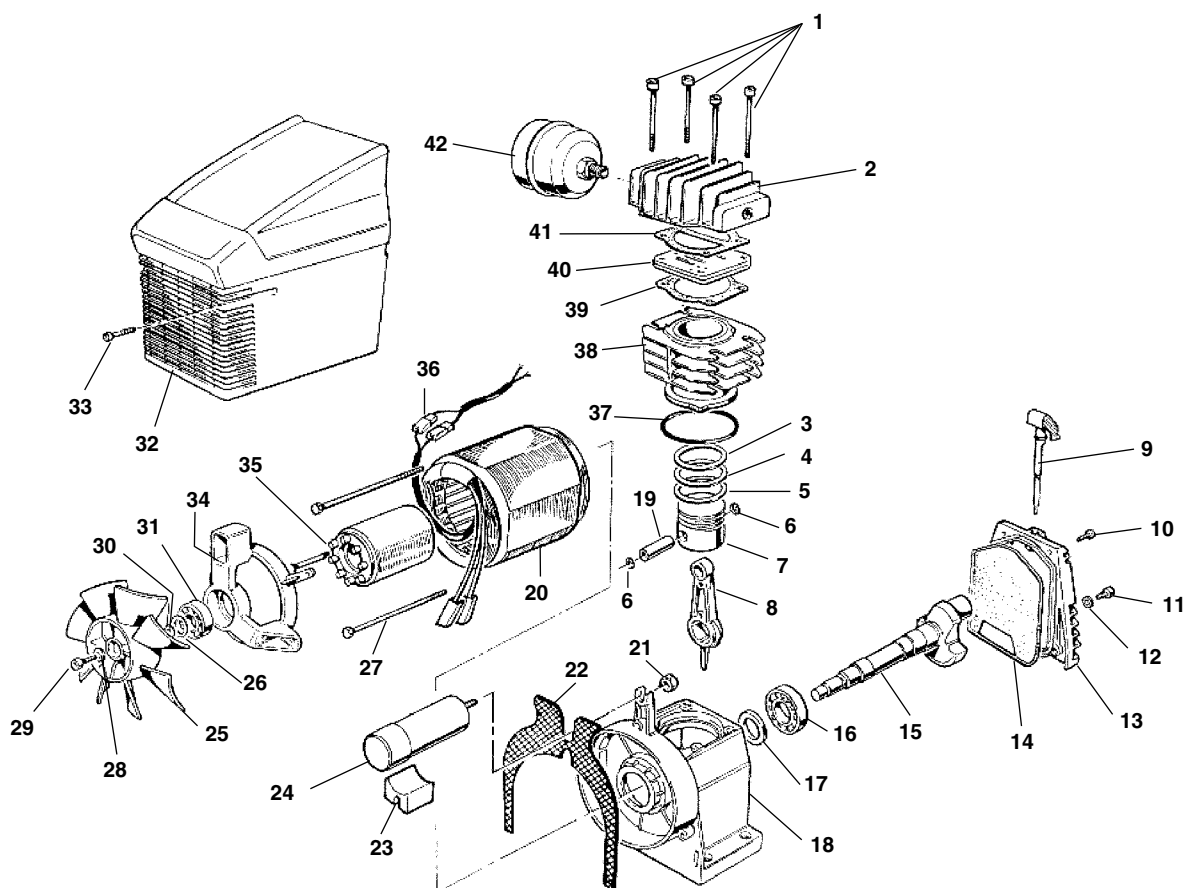
**NOTE: Order parts by Catalog Number only.
DO NOT order by Reference Number.**

Ref. No.	Catalog No.	Description
1	17953	Head Bolt Kit
2	17948	Head
3	17978	Discharge Valve Gasket
4	17973	Head Gasket
5	17983	Valve Plate Kit
6	17958	Cylinder Gasket
7	17968	Piston Assembly w/Screw
8	17988	Fan Kit
9	17963	Motor Assembly



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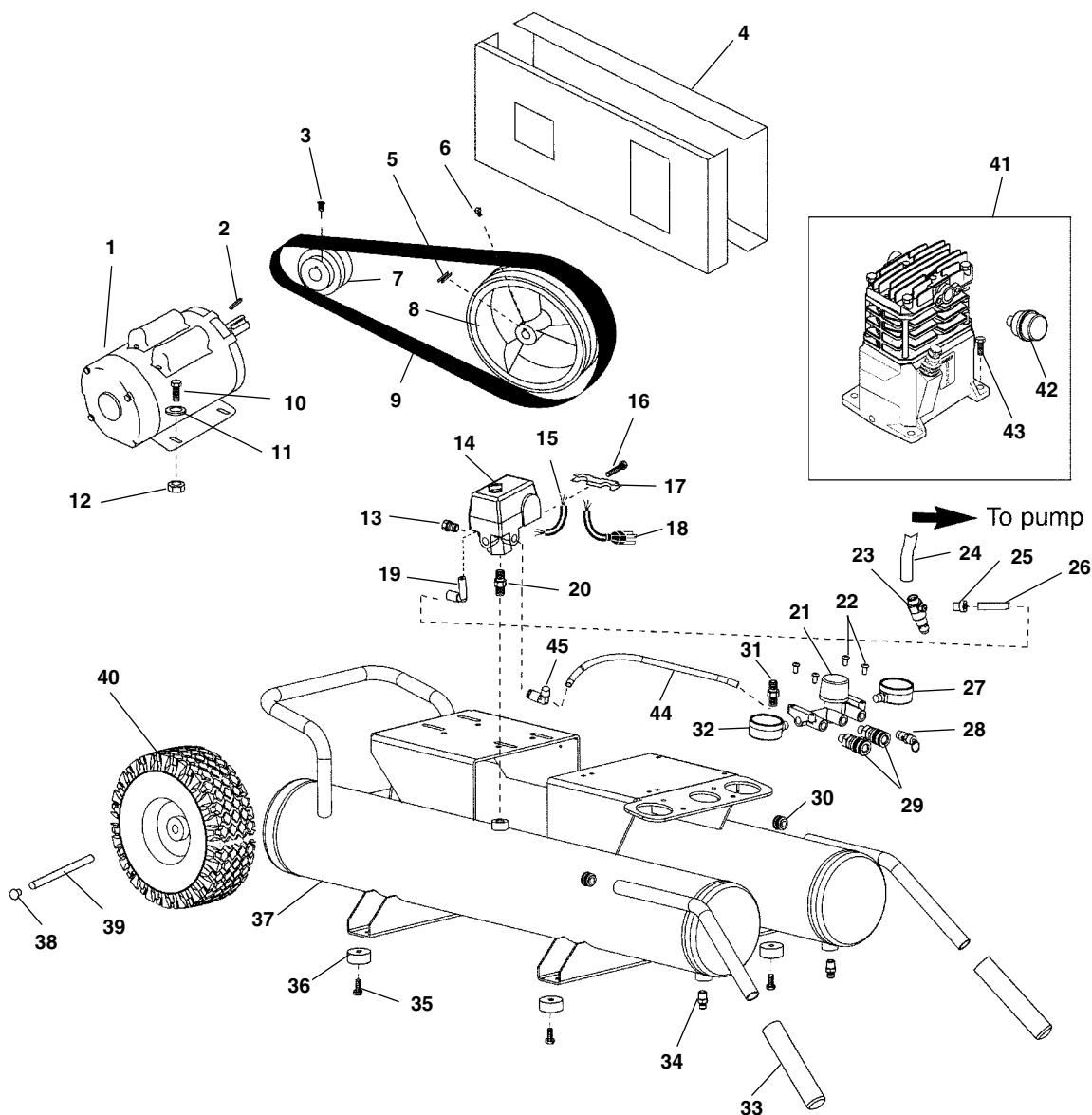
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	17353	Valve Start Relief	20	17448	Screw
2	17358	Tee Connector, Discharge	21	17453	Elbow Connection
3	17363	Delivery Pipe	22	17458	Tee Connector, Manifold
4	17368	Outlet Tube, Plastic	23	17463	Plug, 1/8"
5	17373	Rubber Handle	24	17468	Pressure Regulator
6	17378	Safety Valve	25	17473	Gauge Manifold
7	17383	Plug, 3/8"	26	17478	Nut, M6
8	17388	Discharge Tube, Alum.	27	17483	Pressure Gauge
9	17393	Quick Coupling, Pressure Switch	28	17488	Pressure Reducer Knob
10	17398	Pressure Switch	29	17493	Reducer
11	17403	Double Screw, 1/4"	30	17498	Coupling 3/8"
12	17408	Cord w/Plug	31	17503	Bolt, control panel
13	17413	Elbow Connection	32	17508	Pump, Complete
14	17418	Non Return Valve	33	17513	Screw
15	17423	Air Tank	34	17518	Control Panel
16	17428	Drain Tap 1/4 NPT	35	17523	Anti-vibration Pads
17	17433	Washer	36	17528	Nut, M8
18	17438	Anti-vibration Pads	37	21243	Cover, Switch
19	17443	Washer	38	20493	Tee, Connector



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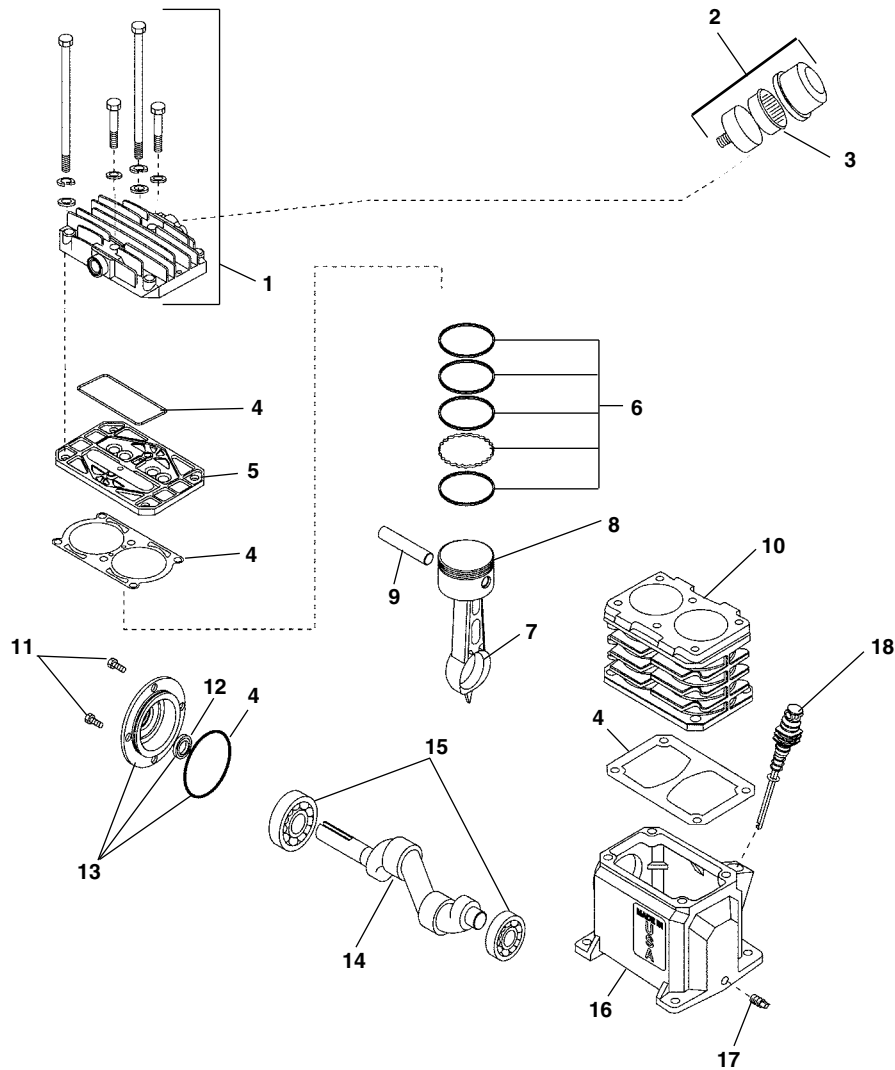
Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	17143	Bolt, Head	15	17213	Crankshaft	29	17283	Bolt, Fan
2	17148	Pump Head	16	17218	Bearing	30	17288	Washer, Toothed
3	17153	Piston ring, Upper	17	17223	Oil Seal	31	17293	Bearing
4	17158	Piston ring, Center	18	17228	Crankcase	32	17298	Cover
5	17163	Piston ring, Lower	19	17233	Pin	33	17303	Screw, Cover
6	17168	Circlip	20	17238	Stator	34	17308	Motor Cover
7	17173	Piston	21	17243	Nut, M8	35	17313	Rotor
8	17178	Connecting Rod	22	17248	Protection Grid	36	17318	Motor Cable
9	17183	Oil Fill Plug/Dipstick	23	17253	Support, Capacitor	37	17323	O-Ring
10	17188	Screw, Crankcase Cover	24	17258	Capacitor	38	17328	Cylinder
11	17193	Plug, Oil Drain	25	17263	Fan	39	17333	Cylinder Plate Gasket
12	17198	Washer	26	17268	Circlip	40	17338	Valve Plate Assembly
13	17203	Crankcase Cover	27	17273	Motor Bolts	41	17343	Plate Head Gasket
14	17208	Crankcase Cover Gasket	28	17278	Washer, Fan	42	17348	Filter

Unit



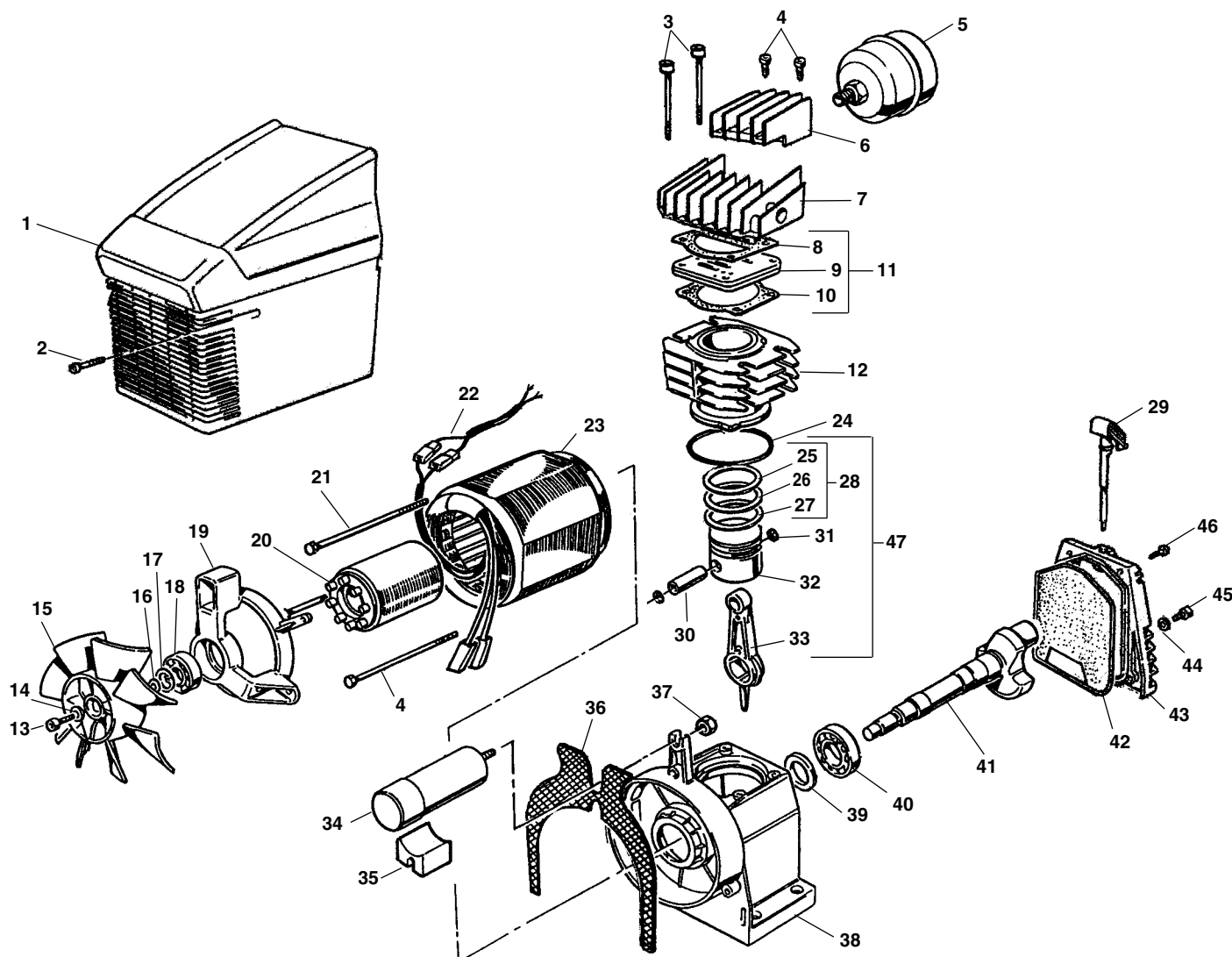
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Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	20433	Motor	16	17753	Strain Relief Screw	31	17893	3/8 Push To Connect
2	20418	Key	17	20393	Strain Relief	32	17878	Outlet Gauge
3	18093	Screw Set 1/4"	18	20388	Power Cord	33	20363	Handle Grip (2)
4	20403	Belt Guard	19	17883	Unloader	34	20358	Drain Valve (2)
5	18088	Key, 3/16"	20	17898	Nipple	35	18038	Screw (4)
6	17998	3/8" Set Screw	21	17793	Regulator	36	17853	Rubber Foot (4)
7	20408	Pulley	22	20458	Screw, Torx 1/4" x 20 x 1/2	37	20353	Tank
8	18078	Flywheel	23	20368	Check Valve	38	18048	Plug, Axle (2)
9	20413	Belt	24	20373	Exhaust Tube	39	18043	Axle Rod
10	20423	Motor Bolt (4)	25	20378	Push in Fitting	40	18053	Wheel
11	18113	Washer 5/16" (4)	26	20383	Unloader Tube	41	20443	Pump
12	20428	Nut, 5/16" (4)	27	17773	Tank Gauge	42	20448	Filter
13	17888	1/4" Plug	28	17798	Safety Valve	43	20438	Screw, Tapping
14	17908	Pressure Switch	29	17873	Coupler (2)	44	20788	Tube
15	20398	Motor Cord	30	20453	Plug, Handle (2)	45	17868	Elbow

Pump

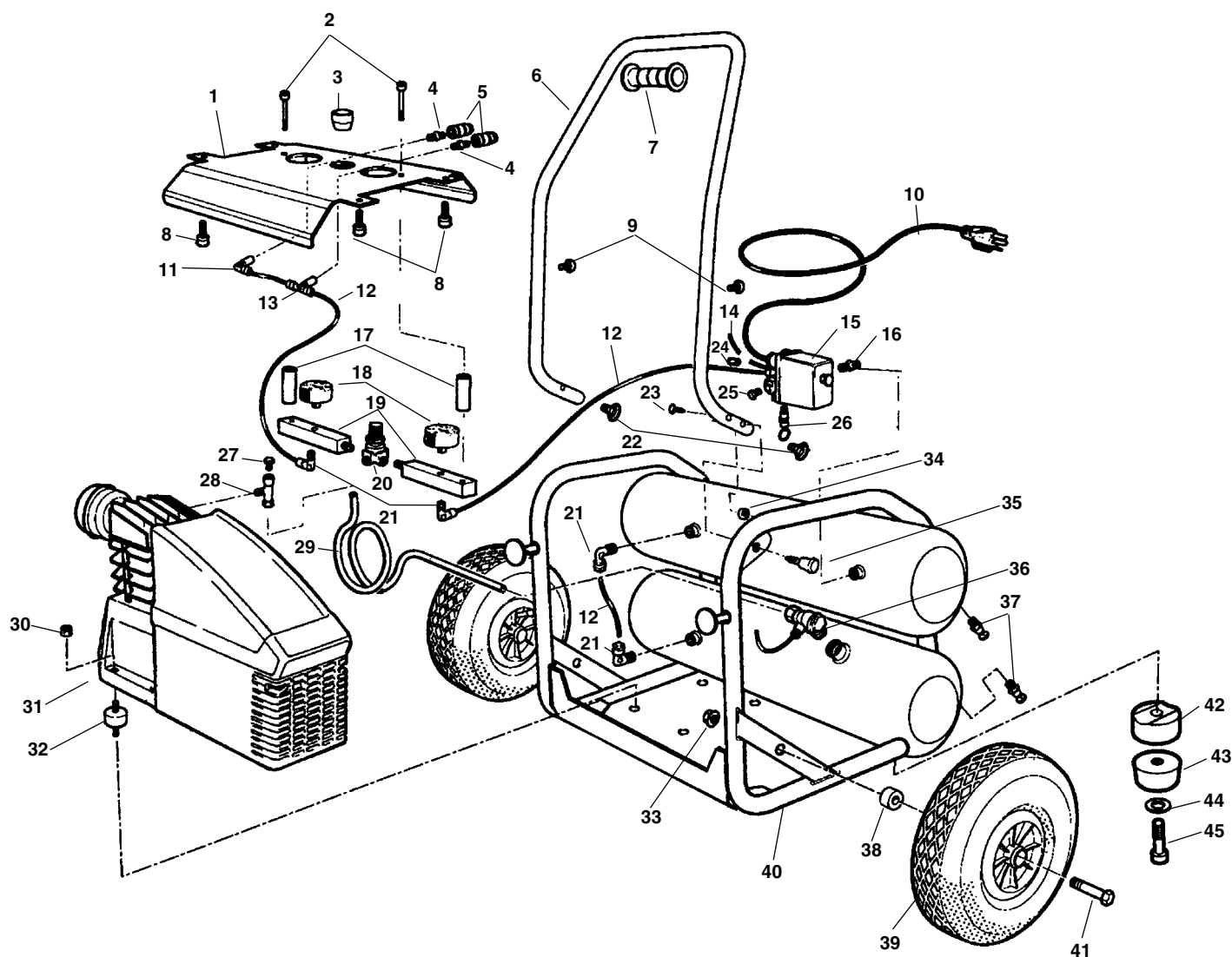
**NOTE: Order parts by Catalog Number Only
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Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	18193	Cylinder Head w/Bolts	10	18128	Cylinder
2	20448	Air Filter	11	18183	Cap Screw
3	20488	Filter Element	12	18178	Oil Seal
4	18198	Gasket Kit	13	18173	Bearing Cap
5	18188	Valve Plate	14	18153	Crankshaft
6	18203	Piston Ring Set	15	18148	Ball Bearing
7	18158	Connecting Rod	16	18143	Crankcase
8	18168	Piston	17	18138	Oil Drain Plug
9	18163	Piston Pin	18	18133	Dip Stick Breather



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Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	17298	Cover	17	17268	Cir Clip	33	17178	Connecting Rod
2	17303	Cover Screw (2)	18	17293	Bearing	34	17258	Capacitor
3	17143	Bolt (4)	19	17308	Motor Cover	35	17253	Capacitor Support
4	22998	Screw (2)	20	17313	Rotor	36	17248	Protector
5	17348	Filter	21	17273	Motor Bolt (2)	37	17243	Nut
6	23013	Filter Adapter	22	17318	Motor Cable	38	17228	Crankcase
7	23008	Pump Head	23	17238	Stator	39	17223	Oil Seal
8	23003	Head Gasket Plate	24	17223	Oil Seal	40	17218	Bearing
9	17338	Valve Plate	25	17153	Upper Piston Ring	41	17213	Crankshaft
10	17333	Cylinder Plate Gasket	26	17158	Center Piston Ring	42	17208	Crankcase Cover Gasket
11	23158	Valve Kit	27	17163	Lower Piston Ring	43	17203	Crankcase Cover
12	17228	Cylinder	28	23163	Piston Ring Kit	44	17198	Washer
13	17283	Fan Bolt	29	17183	Dipstick	45	17193	Drain Plug
14	17278	Fan Washer	30	17233	Pin	46	17188	Crankcase Cover Screw (4)
15	17263	Fan	31	17168	Cir Clip (2)			
16	17288	Washer	32	17173	Piston			



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Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description	Ref. No.	Catalog No.	Description
1	23113	Control Panel	16	23023	Screw Double	31	23153	Pump, Complete
2	17503	Screw M6 x 60 (2)	17	23033	Control Panel Spacer (2)	32	17523	Anti Vibration Mount (4)
3	17488	Regulator Knob	18	23103	Pressure Gauge (2)	33	23073	Nut M12 (2)
4	17493	Reducer 3/8" (2)	19	17473	Gauge Manifold (2)	34	23088	Spacer (2)
5	17498	Coupling (2)	20	17468	Regulator	35	23093	Piston f/Handle
6	23108	Handle	21	17413	Elbow (4)	36	17418	Non-Return Valve
7	23018	Hand Grip	22	23098	Plug (2)	37	23028	Drain Tap (2)
8	23058	Screw M6 x 16 (2)	23	23063	Screw (2)	38	23138	Wheel Spacer (2)
9	23143	Anti Vibration Pad (2)	24	23133	Connector	39	23118	Wheel (2)
10	23053	Power Cord	25	23043	Plug, 1/4"	40	23148	Air Tank
11	17453	Elbow	26	17378	Safety Valve	41	23123	Wheel Pin (2)
12	17368	Tube, Outlet	27	17353	Relief Valve	42	23083	Spacer (2)
13	23038	Connection T	28	17358	Discharge T	43	17438	Anti Vibration Pad (2)
14	17388	Tube, Discharge	29	23128	Discharge Tube	44	35055	Washer (2)
15	23048	Pressure Switch	30	17528	Nut M8 (4)	45	23078	Screw (2)

ALABAMA

- BIRMINGHAM**, Alabama Jack
1140 5th Ave. N., **35203**
(205) 251-8156
- ⊕ **BIRMINGHAM**, Electronic Repair Co.
8518 First Ave. N., **35206**
(205) 836-0454
- † **CALERA**, Quality Tool Repair
6180 Hwy 31, **35040**
(205) 668-3131

ARIZONA

- † **PHOENIX**, Boerner Company
2435 E. Indian School Rd., **85016**
(602) 957-9710
- † **PHOENIX**, Glenn's Tool Service
2149 E. Indian School Rd., **85016**
(602) 264-6203
- PHOENIX**, Unicoia Industrial
2224 N. 23rd Ave., **85009**
(602) 254-4666
- TUCSON**, Precision Tool & Construction
4857 East 29th St., **85711**
(520) 745-1100
- TUCSON**, Western Tool, Inc.
702 S. Campbell Ave., **85719**
(520) 884-0504

ARKANSAS

- LITTLE ROCK**, Clark Hydraulic Service
2901 Confederate Blvd., **72206**
(501) 375-1252 (800) 264-1252

CALIFORNIA

- † **ANAHEIM**, Drain Cleaner Service
J. M. McKinney Co.
2911 East Miraloma Ave. Unit 4, **92806**
(800) 821-7275
- ANAHEIM**, Westside Building Material
1111 East Howell Ave., **92815**
(714) 385-1644
- BAKERSFIELD**, Bakersfield Tool Repair
424 1/2 - 24th St., **93301**
(661) 327-2820
- CORONA**, We-do Equipment Repair
299 East Harrison, **92879**
(909) 808-9167
- † **HAYWARD**, California Service Tool,
26250-F Corporate Ave., **94545**
(510) 782-1000
- LOS ANGELES**, Minit Tool Repair,
4170 E. Washington Blvd., **90023**
(323) 264-7006
- † **(LOS ANGELES) HAWTHORNE**,
Drain Cleaner Service, J. M. McKinney Co.
12710 Yukon Ave., **90250**
(800) 821-7275
- (LOS ANGELES) N. HOLLYWOOD**,
Bucknall Power Tool Service
11910 Vose St., **91605**
(818) 765-0228
- † **PANORAMA CITY**, Drain Cleaner Service,
J.M. McKinney Co.
14624 Titus St., **91402**
(818) 786-2527
- SACRAMENTO**, Valley Tool Repair
4131-B Power Inn Road, **95826**
(916) 737-6300
- SAN DIEGO**, Tool Depot of San Diego
3799 Gaines Street, **92110**
(619) 220-7111
- † **SO. SAN FRANCISCO**, C. H. Bull Company
229 Utah Ave., **94080**
(650) 871-8440

COLORADO

- † **DENVER**, Aviation Industrial
3900 Ulster Street, **80207**
(303) 355-2391
- † **DENVER**, Runge Tool Company
1330 South Inca Street, **80223**
(303) 744-1224

CONNECTICUT

- EAST HARTFORD**, Jossam Tool Repair
411 Burnham St., **06108**
(860) 289-4064
- HARTFORD**, Utility Electric Service
53 Main St. (South End), **06106**
(860) 246-7271
- NEW HAVEN**, Colony Hardware Supply
15 Stiles Street, **06512**
(203) 466-5252
- STRATFORD**, Electric Enterprise
1410 Stratford Ave., **06497**
(203) 378-7311

⊕ SeeSnake ONLY

† Authorized SeeSnake Repair Center

FLORIDA

- HOLLYWOOD**, National Tool Supply
5725 W. Hallandale Beach Blvd., **33023**
(800) 432-5078
- † **(MIAMI) HIALEAH**, Creation Tool Co.
3865 E. Fourth Ave., **33013**
(305) 836-7488
- ORLANDO**, Contractors Tool Service
5409 Edgewater Drive, **32810**
(407) 292-2808
- PENNSACOLA**,
Escambia Electric Motor Service
1101 W. Main, **32501**
(850) 432-1577
- † **RIVIERA BEACH**, Action Bolt & Tool Co.
2051 Blue Heron Blvd., **33404**
(561) 845-8800 (800) 423-0700

GEORGIA

- † **ATLANTA**, Power Tool Service Co.
1939 Hills Ave. N.W., **30318-2814**
(404) 605-0101

HAWAII

- † **HONOLULU**, Lynch Co., Inc.
841 Pohukaina Street, B-1, **96813**
(808) 956-8870

IDAHO

- BOISE**, K.C. Supply Company
5103 Irving St., **83706**
(208) 375-1313 (800) 446-9004

ILLINOIS

- ADDISON**, Hugo Equipment Repair
415 W. Kay Ave., **60101**
(630) 628-7977
- † **CHICAGO**, Allan J. Coleman Co.
5725 N. Ravenswood Ave., **60660**
(773) 728-2400
- † **(CHICAGO) BERWYN**, Jacks' Inc.
6642 W. 26th St., **60402**
(708) 788-4300 (800) 773-6899
- (CHICAGO) ELK GROVE VILLAGE**,
Brock Tool Company
1475 Louis Ave., **60007**
(847) 956-7200 (800) 332-7625
- (CHICAGO) MCCOOK**, Recco Tool
8805 Joliet, **60525**
(708) 442-7850
- INDIANA**
- EAST CHICAGO**,
Calumet Contractors Supply Co., Inc.
2120 E. Columbus Dr., **46312**
(219) 398-0017
- EVANSVILLE**, Bailey Tool & Supply
5716 East Morgan Ave., **47715**
(502) 635-6470
- EVANSVILLE**, Tri State Repair Service
1327 N. Fares Ave.
(Bus., Hiway 41 N.), **47711**
(812) 464-9341 (800) 457-3749
- FORT WAYNE**, Mill Supplies, Inc.
5105 Industrial Rd., **46825**
(260) 484-8566 (800) 589-5353
- FORT WAYNE**,
Wagner Electric of Fort Wayne, Inc.
3610 N. Clinton St., **46805**
(260) 484-5532
- † **INDIANAPOLIS**, Anderson Brothers Tool Co.
3531 Southeastern Ave., **46203**
(317) 356-6381

IOWA

- DES MOINES**, Tool Hospital
1523 Second Ave., **50314**
(515) 282-3323 (800) 753-3323
- DES MOINES**, Tool House, Inc.
1415 Second Ave., **50314**
(515) 244-1516

KANSAS

- KANSAS CITY**, Acme Hydraulics, Inc.
815 Kansas Ave., **66105**
(913) 321-6385

KENTUCKY

- LEXINGTON**, City Electric Motor Co.
631 Kennedy Rd., **40511**
(859) 254-5581
- LEXINGTON**, Jiffy Tool Repair
2433 Fortune Drive, **40509**
(859) 252-1849
- LOUISVILLE**, Bailey Tools & Supply
1418 S. Shelby, **40217**
(502) 635-6348 (800) 999-4533

LOUISIANA

- BATON ROUGE**, Tool Shed, Inc.
7835 Tom Dr., Suite A, **70806**
(225) 926-6500 (800) 349-6501
- † **(NEW ORLEANS) HARVEY**,
Industrial Welding Supply
1452 Fourth Street, **70058**
(504) 362-9395
- NEW ORLEANS**, Beerman Precision, Inc.
4206 Howard Ave., **70125**
(504) 486-9391

MAINE

- BANGOR**, N.H. Bragg & Sons
92 Perry Road, **04401**
(207) 947-8611

MARYLAND

- † **BALTIMORE**, Tool Hospital #211
1200 66th St., **21237**
(410) 483-4300 (800) 275-2379
- † **UPPER MARLBORO**, Diamond Tool
8051 Penn Randall Place, **20772**
(301) 967-2844

MASSACHUSETTS

- EVERETT**, Panda Electrical Service, Inc.
165 Main St., **02149**
(617) 389-1442
- HOLYOKE**, Reliance Electric Service Co.,
573 South Canal Street, **01040**
(413) 533-3557

⊕ **PLAINVILLE**, Utilitronics

- 2 High Street, **02762**
(800) 245-8850

MICHIGAN

- ANN ARBOR**, McCally Tool & Supply
2451 S. Industrial Pkwy.; Suite B, **48104**
(734) 747-8332 (800) 535-6434
- † **(DETROIT) LIVONIA**, Brock Tool
31090 Industrial Rd., **48150**
(734) 261-9333
- GRAND RAPIDS**,
Hoeksema Tool Service, Inc.
2499 28th St., S.W., **49509**
(616) 538-1870
- KALAMAZOO**,
Kalamazoo Electric Motor Inc.
414 Mills Street, **49001**
(269) 345-7802
- KINGSFORD**, IDG
1021 Pyle Drive, **49802**
(906) 774-3991

MINNESOTA

- † **ST. PAUL**, Total Tool Supply Company
315 N. Pierce St., **55104**
(651) 646-4055 (800) 444-4899

MISSISSIPPI

- JACKSON**, Flannigan Electric Co., Inc.
1820 South West St., **39201**
(601) 354-2756 (800) 962-7638

MISSOURI

- † **KANSAS CITY**,
Construction & Ind., Sup., Co. (CISCO)
1901 McGee St., **64108-1827**
(816) 842-7777 (800) 444-0453
- † **ST. LOUIS**,
Cable Center, Drain Cleaner Service
8318 Olive Blvd., **63132**
(314) 993-3099 (800) 257-7209
- ST. LOUIS**, PM Electric Co., Inc.
5280 Fyler Ave., **63139**
(314) 351-4550

MONTANA

- BILLINGS**, Ted's Electric Service
102 11th Street West, **59102**
(406) 259-6418

NEBRASKA

- † **LINCOLN**,
The Tool House of Henkle & Joyce
800 Q Street, **68501**
(402) 474-4638 (800) 279-2658
- OMAHA**, Thacker Electric
8507 I St., **68127-1615**
(402) 592-9433 (800) 678-7604

NEVADA

- † **LAS VEGAS**, Sewer Cable Equipment Co.
6230 Greyhound Blvd. A, **89122**
(702) 433-5401
(Kollmann Only)
- LAS VEGAS**, Tool Service, Inc.
3239 Industrial Rd., **89109**
(702) 734-9161

- (RENO) SPARKS**, Industrial Equipment Co.
310 Kresge Lane, **89431**
(775) 331-1032

NEW JERSEY

- (NEWARK) CLIFTON**, The Tool Box
119 Lakeview Ave., **07011**
(973) 340-7652
- (ELIZABETH) ROSELLE**,
Air & Electric Tool Service
130 West 3rd. Ave., **07203**
(908) 241-6930

NEW MEXICO

- ALBUQUERQUE**, Martin Saw & Tool
3423 Vassar Avenue, N.E. **87107**
(505) 888-1675

NEW YORK

- (ALBANY) RENSSELAER**,
Albany Hydraulic & Lube Serv. Inc.
98A Columbia Turnpike, **12144**
(518) 462-5425
- BUFFALO**, S.S. Electric Repair Shop, Inc.
2470 Seneca St., **14210**
(716) 823-1232
- (LONG ISLAND) HUNTINGTON STATION**,
A&T Power Tools
515 East Jericho Turnpike, **11746**
(631) 271-2141
- (LONG ISLAND) WANTAGH**,
Ace Tool Repair, Inc.
2201 Wantagh Ave., **11793**
(516) 783-8899
- (N.Y.C.) BRONX**, Modern Suppliers, Inc.
1090 Leggett Ave., **10474**
(718) 328-8000
- † **(N.Y.C.) BROOKLYN**, J & A Repair Shop
6206 20th Ave., **11204**
(718) 232-5746 / (718) 232-8409
- (N.Y.C.) BROOKLYN**,
The White Tool & Supply, Inc.
3047 Atlantic Ave., **11208**
(718) 277-8844
- † **(N.Y.C.) MASPEETH**, Davis & Warshow
57-22 49th Street, **11378-0039**
(718) 937-9500 (888) 937-9500
- † **ROCHESTER**, Hanes Supply Co.
10 Cairn Street, **14611**
(585) 235-0160
- SYRACUSE**, Syracuse Armature
1622 Burnet Ave., **13206**
(315) 476-2576 / 476-2596

NORTH CAROLINA

- BELMONT**, ENSCO
2100 The Oaks Pkwy, **28012**
(704) 398-5600

OHIO

- (CINCINNATI) HARRISON**, F & M Mafco
9149 Dry Fork Road, **45030**
(513) 367-2151
- CLEVELAND**, A & A Hydraulic Repair Co.
5301 W. 161 St., **44142**
(216) 362-4000
- † **(CLEVELAND) ELYRIA**,
RIDGID Factory Service Center
321 Summer St., **44036-2023**
(440) 323-5581
- † **COLUMBUS**, Central Ohio Power Tool, Inc.
1042 Dublin Rd., **43215**
(614) 481-2111 (800) 242-4424
- DAYTON**, M&R Electric Motor Service
1516 East Fifth St., **45403**
(937) 222-6282 (800) 242-4424 (Ohio Only)
- (TOLEDO) NORTHWOOD**,
A&C Tool & Equipment Repair
6949 Wales Rd., Suite 5, **43619**
(419) 662-6560
- YOUNGSTOWN**, Pennsylvania Tool Sales
625 Bev Road, **44512**
(330) 758-0845

OKLAHOMA

- † **OKLAHOMA CITY**,
Central Oklahoma Winnelson
5037 N. 10th Street, **73127**
(405) 947-8761
- OKLAHOMA CITY**, Whitton Supply Co.
1419 West Reno, **73106**
(405) 236-5561

OREGON

- BEAVERTON**, Karn Repair Service
1800 NW 169th Place, **97006**
(503) 228-8313

EUGENE, Eugene Power Tool
245 Van Buren St., **97404**
(541) 232-5081

PORTLAND, General Tool & Supply
2705 NW Nicolai St., **97210**
(503) 226-3411

† **PORTLAND**, Trade Tool & Supply Co.
2364 NW York St., **97210**
(503) 221-8665

PENNSYLVANIA

† (**HARRISBURG**) **MECHANICSBURG**,
Power Tool Service Company
101 Westley Drive, **17055**
(717) 766-7636 (800) 382-1311

† **PHILADELPHIA**,
Regent Hydraulic & Machine Works, Inc.
4051 Cresson Street, **19127**
(215) 482-2050

(**PHILADELPHIA**) **CHESTER**,
Jekk Tools & Fasteners
729 West 2nd Street, **19013**
(610) 874-6200

PITTSBURGH, CTS Incorporated
3500 Liberty Ave., **15201**
(412) 681-6673

† **PITTSBURGH**, H K McJunkin Inc.
7724 Edgewood Ave., **15218**
(412) 271-5400
(Kollmann Only)

PITTSBURGH, Scott Electric Co.
39th & Butler Street, **15201**
(412) 687-5005

(**PITTSBURGH**) **NEVILLE ISLAND**,
Construction Rental & Supply
5601 Grand Ave., **15225**
(412) 269-9109

PUERTO RICO

RIO PIEDRAS, Isla Supply Corp.
Carretera 181 KM1.8,
Expreso Trujillo Alto, **00929**
(787) 761-7355

RIO PIEDRAS, Ferretaria Abraham Inc.
Calle 16 S.O. 1534
Caparra Terrace, **00922**
(787) 782-6033

RHODE ISLAND

(**PROVIDENCE**) **WARWICK**,
Electric Motor Service, Inc.
3070 Post Rd., **02886**
(401) 737-2534

SOUTH CAROLINA

WEST COLUMBIA, Mann Tool & Supply
802 Chris Drive, **29169**
(803) 252-7777 (800) 356-6266

GREENVILLE, Ameco
2106 Anderson Road, **29611**
(864) 295-7800

Ⓢ **SUMTER**, Jet Vac Sewer Equipment
5746 Broad Street, **29154**
(803) 494-4430

TENNESSEE

KNOXVILLE,
Tennessee Armature & Electric Co., Inc.
3101 Galway St. **37917-6155**
(423) 524-3681

MEMPHIS, Jones Tool Service
1314 Madison Ave., **38104**
(901) 726-0191/0195

NASHVILLE, Hermitage Tool, Inc.
1034 4th Ave., S., **37210**
(615) 254-0820

NASHVILLE, Reeves Power Tools & Repair
108 Lafayette St., **37210**
(615) 256-8817

TEXAS

† **AUSTIN**, Austin Tool, Inc.
210 Industrial Blvd., **78745**
(512) 447-4905

CORPUS CHRISTI, Corpus Christi Power
Tool & Repair
3701 Agnes Street, **78405**
(361) 883-1117

CORPUS CHRISTI, Bush Hydraulics
2012 N. Lexington Blvd., **78409**
(316) 289-0441 (800) 580-2874

† **DALLAS**, Big D Tool Center, Inc.
2535 Irving Blvd., **75207**
(214) 631-3731

HOUSTON, Hydraulic Equipment Service Co.
1021 N. San Jacinto St., **77002**
(713) 228-9601

† **HOUSTON**, Tool Mart, Inc.
2412 Texas Ave., **77003**
(713) 222-8665

LUBBOCK, Lubbock Electric Company, Inc.
1108 34th St., **79405**
(806) 744-2336

MCALLEN, Rio Grande Plumbing Supply
1010 East Pecan, **78502**
(956) 686-9557

ODESSA, Ace Specialties Inc.
302 Industrial, **79763**
(915) 332-0691

ODESSA, Engine Service & Supply Co.
1902 N. Andrews Highway, **79761**
(915) 337-2386 (800) 441-0636

Ⓢ **ROCKWALL**, Utility Equ. Tech. Inc.
382 Stevens Road, **75032**
(972) 771-8958

SAN ANTONIO,
Electric Motor Service & Sales
1514 E. Commerce, **78205**
(210) 226-3462

† **SAN ANTONIO**, Tool Mart Inc.
10568 Sentinal Street, **78217**
(210) 655-6116

UTAH

SALT LAKE CITY,
Diamond Electric Motor Repair
1465 South 300 West, **84115**
(801) 484-4325 (888) 485-4325

VERMONT

SOUTH BARRE, Reynolds & Sons Inc.
Bridge Street, **05670**
(802) 479-0101

VIRGINIA

NORFOLK, Bryan Electric Company, Inc.
424 W. 25th St., **23517**
(757) 625-2525

† **RICHMOND**, Brock Tool & Supply
2500 Glen Center St., **23223**
(804) 648-7004

RICHMOND, Roy's Electric Motor Service
3201 Norfolk St., **23230**
(804) 355-5713

ROANOKE, Magic City Supply, INC.
1603 Granby St. NE, **24012**
(540) 985-0822

WASHINGTON

SPOKANE, Safway Repair Company
1507 E. Riverside, **99220**
(509) 535-9841 (800) 348-4808

TACOMA, Center Electric Co.
1212 S. 30th St., **98409**
(253) 383-4416

† **SEATTLE**,
Poppleton Electric & Machinery Co., Inc.
969 South Nebraska St., **98108**
(206) 762-9160

WEST VIRGINIA

(**CHARLESTON**) **POCA**,
Ohio Tool Systems, Inc.
305 Jacobson Drive, **25159**
(304) 755-5030

HUNTINGTON, Lawter Electric Motor Co.
202 Adams Ave, **25701**
(304) 522-8297

WISCONSIN

GREEN BAY, Power Tool Service
300 N. Webster Ave., **54301**
(920) 437-2594

† **PEWAUKEE**, Jensen Equipment Co., Inc.
N.27 W23015 Roundy Dr., **53072**
(262) 547-5548 (800) 875-8875

CANADA

ALBERTA

CALGARY, Power Tool Clinic LTD.
2520 - 23rd St. NE Bay 6, **T2E 8L2**
(403) 276-4633

EDMONTON, Century Vallen
4810 - 92 Ave., **T6B 2X4**
(780) 468-3366

† **EDMONTON**, Celtic Industrial Tools Ltd.
5736 - 103A St., **T6H 2J5**
(780) 431-0970

BRITISH COLUMBIA

LANGLEY, AC Power Tool Clinic Ltd.
105 19835 56th Ave., **V3A 3Y1**
(604) 530-3550

† **VANCOUVER**, Armature Electric Ltd.
275 West 4th Ave., **V5Y 1G8**
(604) 879-6141

MANITOBA

† **WINNIPEG**, Wolseley Industrial Products
1300 St. Matthews Ave., **R3G 3K4**
(204) 786-7861

NOVA SCOTIA

DARTMOUTH, K&D Pratt Ltd.
617 Windmill Road, **B2Y 3Y3**
(902) 468-1955

ONTARIO

LONDON, A. C. Jenkins Electric Repair Ltd.
1188 Frances St., **N5W 2M1**
(519) 451-4020

OTTAWA, Mytek Power Tools Service
2535 Blackwell St. Unit 110, **K1B 4E4**
(613) 749-7294

(**HAMILTON**) **STONE CREEK**,
Charles Jones Industrial Ltd.,
237 Arvin Ave., **L8E 5S6**
(905) 664-8448

SARNIA, Serv-A-Tool & Repairs
866 Philip St., Unit F, **N7T 1Z6**
(519) 344-8837

† (**TORONTO**) **WESTON**,
Pipe Tools Repair & Service Centre Ltd.
114 Rivalda Rd., **M9M 2M8**
(416) 749-5830

PRINCE EDWARD ISLAND

CHARLOTTETOWN, CTF Supply
3 Macausland Road, **C1A 8C1**
(902) 368-1132

QUEBEC

QUEBEC CITY, Clinique D'Outilage MP, Inc.
3075 Boulevard Hamel, Apt. 107, **G1P 4C6**
(418) 877-3371

MONTREAL, Leger Hoist Equipment, Inc.
7995 17th Ave., **H1Z 3R2**
(514) 376-3050

† (**MONTREAL**) **LAVAL**,
Centre de Reparations Hydrauliques
Uptown Ltee
1213 Rue Tellier, **H7C 2H1**
(450) 664-1111 or 1-800-363-7956
SHERBROOKE, Do-Mar Electric Inc.
1136 Rue King Est, **J1G 1E4**
(819) 563-2234

Ⓢ SeeSnake ONLY

† Authorized SeeSnake Repair Center

What is covered

RIDGID® tools are warranted to be free of defects in workmanship and material.

How long coverage lasts

This warranty lasts for the lifetime of the RIDGID® tool. Warranty coverage ends when the product becomes unusable for reasons other than defects in workmanship or material.

How you can get service

To obtain the benefit of this warranty, deliver via prepaid transportation the complete product to RIDGE TOOL COMPANY, Elyria, Ohio, or any authorized RIDGID® INDEPENDENT SERVICE CENTER. Pipe wrenches and other hand tools should be returned to the place of purchase.

What we will do to correct problems

Warranted products will be repaired or replaced, at RIDGE TOOL'S option, and returned at no charge; or, if after three attempts to repair or replace during the warranty period the product is still defective, you can elect to receive a full refund of your purchase price.

What is not covered

Failures due to misuse, abuse or normal wear and tear are not covered by this warranty. RIDGE TOOL shall not be responsible for any incidental or consequential damages.

How local law relates to the warranty

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights, and you may also have other rights, which vary, from state to state, province to province, or country to country.

No other express warranty applies

This FULL LIFETIME WARRANTY is the sole and exclusive warranty for RIDGID® products. No employee, agent, dealer, or other person is authorized to alter this warranty or make any other warranty on behalf of the RIDGE TOOL COMPANY.



Technical Service: 800-519-3456

(Product Application Assistance)

**Visit our web sites: www.ridgid.com
and www.ridgidparts.com**

Ridge Tool Company

400 Clark Street
Elyria, Ohio 44035-6001

**Ce qui est couvert**

Les outils RIDGE® sont garantis contre tous vices de matériaux et de main d'œuvre.

Durée de couverture

Cette garantie est applicable durant la vie entière de l'outil RIDGE®. La couverture cesse dès lors que le produit devient inutilisable pour raisons autres que des vices de matériaux ou de main d'œuvre.

Pour invoquer la garantie

Pour toutes réparations au titre de la garantie, il convient d'expédier le produit complet en port payé à la RIDGE TOOL COMPANY, Elyria, Ohio, ou bien le remettre à un réparateur RIDGID® agréé. Les clés à pipe et autres outils à main doivent être ramenés au lieu d'achat.

Ce que nous ferons pour résoudre le problème

Les produits sous garantie seront à la discrétion de RIDGE TOOL, soit réparés ou remplacés, puis réexpédiés gratuitement ; ou si, après trois tentatives de réparation ou de remplacement durant la période de validité de la garantie le produit s'avère toujours défectueux, vous aurez l'option de demander le remboursement intégral de son prix d'achat.

Ce qui n'est pas couvert

Les défaillances dues au mauvais emploi, à l'abus ou à l'usure normale ne sont pas couvertes par cette garantie. RIDGE TOOL ne sera tenue responsable d'aucuns dommages directs ou indirects.

L'influence de la législation locale sur la garantie

Puisque certaines législations locales interdisent l'exclusion des dommages directs ou indirects, il se peut que la limitation ou exclusion ci-dessus ne vous soit pas applicable. Cette garantie vous donne des droits spécifiques qui peuvent être éventuellement complétés par d'autres droits prévus par votre législation locale.

Il n'existe aucune autre garantie expresse

Cette GARANTIE PERPETUELLE INTEGRALE est la seule et unique garantie couvrant les produits RIDGID®. Aucun employé, agent, distributeur ou tiers n'est autorisé à modifier cette garantie ou à offrir une garantie supplémentaire au nom de la RIDGE TOOL COMPANY.

Qué cubre

Las herramientas RIDGID están garantizadas contra defectos de la mano de obra y de los materiales empleados en su fabricación.

Duración de la cobertura

Esta garantía cubre a la herramienta RIDGID durante toda su vida útil. La cobertura de la garantía caduca cuando el producto se torna inservible por razones distintas a las de defectos en la mano de obra o en los materiales.

Cómo obtener servicio

Para obtener los beneficios de esta garantía, envíe mediante porte pagado, la totalidad del producto a RIDGE TOOL COMPANY, en Elyria, Ohio, o a cualquier Servicentro Independiente RIDGID. Las llaves para tubos y demás herramientas de mano deben devolverse a la tienda donde se adquirieron.

Lo que hacemos para corregir el problema

El producto bajo garantía será reparado o reemplazado por otro, a discreción de RIDGE TOOL, y devuelto sin costo; o, si aún resulta defectuoso después de haber sido reparado o sustituido tres veces durante el período de su garantía, Ud. puede optar por recibir un reembolso por el valor total de su compra.

Lo que no está cubierto

Esta garantía no cubre fallas debido al mal uso, abuso o desgaste normal. RIDGE TOOL no se hace responsable de daño incidental o consiguiente alguno.

Relación entre la garantía y las leyes locales

Algunos estados de los EE.UU. no permiten la exclusión o restricción referente a daños incidentales o consiguientes. Por lo tanto, puede que la limitación o restricción mencionada anteriormente no rija para Ud. Esta garantía le otorga derechos específicos, y puede que, además, Ud tenga otros derechos, los cuales varían de estado a estado, provincia a provincia o país a país.

No rige ninguna otra garantía expresa

Esta GARANTIA VITALICIA es la única y exclusiva garantía para los productos RIDGID. Ningún empleado, agente, distribuidor u otra persona está autorizado para modificar esta garantía u ofrecer cualquier otra garantía en nombre de RIDGE TOOL COMPANY.



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