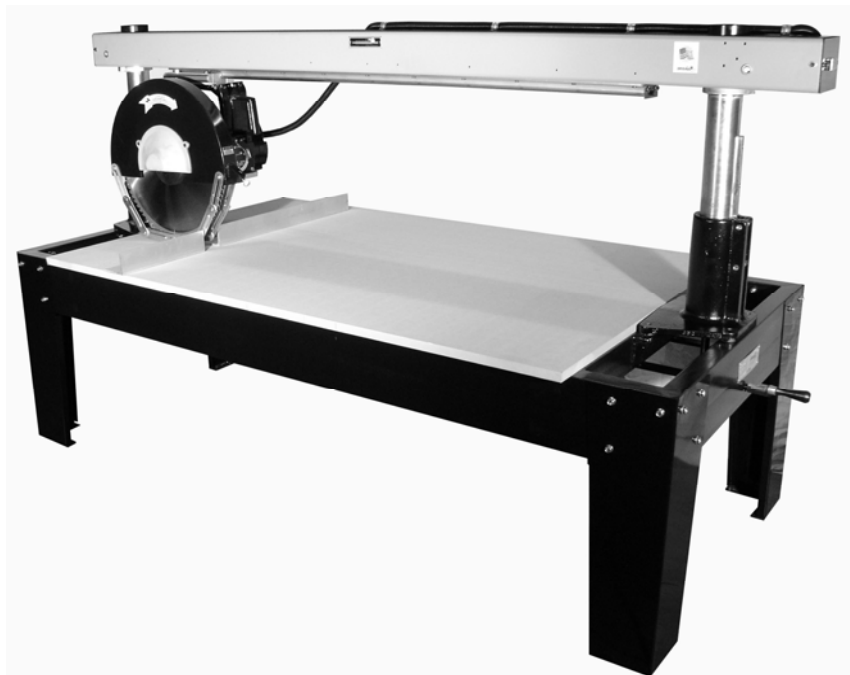


Operations & Maintenance Manual and Parts Bulletin



WARNING: FOR YOUR SAFETY READ AND UNDERSTAND THIS MANUAL PRIOR TO USING THE SAW. REVIEW ALL SAFETY RULES AND OPERATING INSTRUCTIONS FREQUENTLY.

This booklet is provided for your convenience in the use and care of your new saw. These instructions include operation, usage, precautions, preventative maintenance, maintenance, and other pertinent data to assist you in assuring long life and dependable service from your saw.

**16/20 Horizontal
Panel Saw
Model #3691-01
Type II
Made in The USA**

SPECIFICATIONS:

Model	Blade Size	Crosscut	HP	PH	Voltage
3690-01	16"	64"	5HP	3PH	208/230/460 Volt
3691-01	16"/20"	64"	7.5HP	3PH	208/230/460 Volt

Maintenance and Operation

1. Do- Connect to power supply with not less than number 12 size wire.
2. Do- Protect motors with 30 amp fuse in line.
3. Do- Be sure blade rotates clockwise when facing arbor.
4. Do- Be sure all clamp handles are tight before starting any operation, Push back to tighten, pull to loosen.
5. Do- Be sure blade and arbor collars are clean and recessed side of collars are against blade. Tighten arbor nut securely, using both wrenches provided.
6. Do- Keep saw blade sharp and properly set.
7. Do- Use anti-kickback attachment on guard
8. Do- Keep arm tracks and bearing surfaces clean and dry. Periodic cleaning with dry cleaner is recommended.
9. Do- Periodically re-check alignment.
1. Don't-Attempt to operate on anything but designated voltage.
2. Don't Operate unless all clamp handles are tight.
3. Don't-Use blades of larger diameter than recommended (330mm).
4. Don't-Remove Anti-kick back attachment from guard.
5. Don't-Rip from wrong direction-observe caution tag on guard.
6. Don't-Oil or grease arm tracks or motor.
7. Don't-Wedge anything against fan to hold motor shaft.
8. Don't-Subject table top to variable humidity conditions (keep away from damp place).
9. Don't-Force cutting action. Stalling or partial stalling of motor can cause major damage to motor winding.

WARNING !! - NEVER OPERATE MACHINE WITH GUARDS REMOVED

Wiring Instructions

You have purchased an Original Saw Dual Post Beam Saw. The unit utilizes our standard, time tested 5 or 7.5 horsepower 3 phase 230/460 volt TEFC motor. It is connected to an IEC magnetic starter, to power up the machine simply run power into the L1, L2, L3 on the top of the contactor, the electronic brake system is already wired into this magnetic starter. **(Note: pay special attention to the other wires already connected o L1, L2, & L3, these will be connections for the control circuit and the electronic brake)** If the machine has a electronic power cross feed system simply plug the power cord into a standard 110 volt outlet. This will power up the machine and the power feed system.

Parts List and Ordering Instructions

Order only genuine replacement parts from your Original Saw Company Dealer.

When ordering parts be sure to include:

- Name of manufacturer—Original Saw Company
- Complete machine identification data found on name plate on front of frame
- Complete motor identification from motor name plate
- Quantity, part number and description of parts required
- Complete shipping and billing instructions

Because of the importance of tightening critical bolts and set screws to an established torque, each of the following parts lists pages contains torque tightening requirements for certain fasteners. These fasteners have their part numbers highlighted and torque requirements specified.

Information is supplied on these parts lists showing where lubrication is desired. Such areas are marked and a general purpose grease should be used.

Beam/Roller head Assembly

Over Arm Beam Assembly

DESCRIPTION	PART #	QTY
Track Assembly (complete) 72" rail	1001101-00	1
Track Assembly (complete) 82" rail	1001101-01	1
Tracks—replacement 72" length	1001105-00	1 set
Tracks—replacement 82" length	1001105-01	1 set
Over arm Beam-no track either length	1001107-00	1
Top Cap	1001109-00	2
Elevating Connector Shaft (lower elev)	1001113-00	1
Bevel Gear cross pinned (crank end)	1001147-00	1
Bevel Gear slip pinned	1001149-00	3
Roll Pin	0123615-19	3
Elevating Nut (lower elevation)	1001139-00	2
Elevating Screw (crank end)	1001139-00	1
Elevating Screw (rear end)	0068641-00	1
Elevating Bracket (lower elevation)	1001145-00	2
Chain Assembly	1001123-00	1
Turnbuckle	0068259-00	1
Chain Guard	1001127-00	1
Chain Feed Shaft-rear manual	1001129-00	1
Chain Feed Shaft-front manual	1001131-00	1
Beam end plate-end cap	1001135-00	1
Beam end plate -switch cap	1001135-01	1
Flanged bushing (arm & frame)	0070258-00	4
Post	0088166-00	2
Base Casting	0122332-00	2

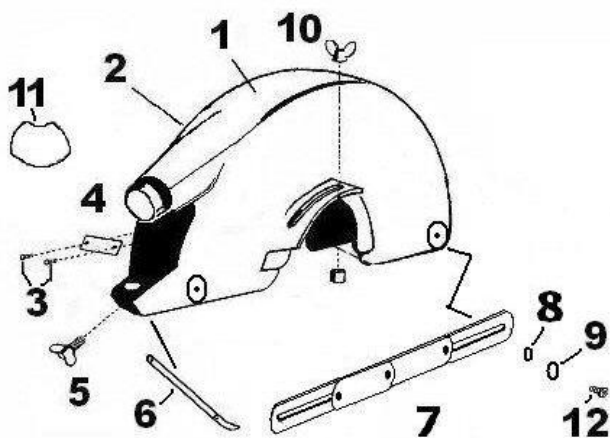
Roller Head Assembly

DESCRIPTION	PART #	QTY
Roller Head Assm (complete w/brgs)	1001200-00	1
Roller Head Plate	1001201-00	1
Bearing dual vee	1001203-00	4
Eccentric Bushing	1001205-00	2
Concentric Bushing	1001207-00	2
Bearing Pin (bolt)	1001209-00	4
Bolt-attaches yoke to Roller head	1001211-00	4

Woodcutting Style Guard Assy 16" 20

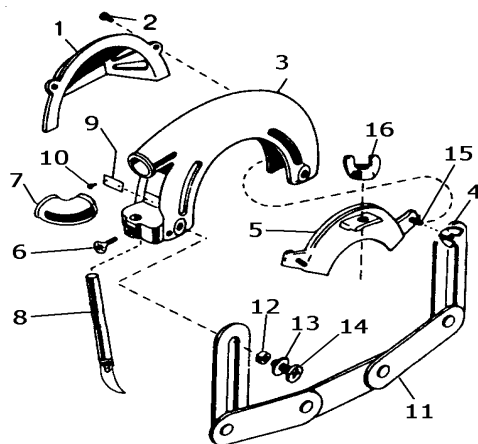
Assembly Part # 035016

Item	Part No	Description	Qty
1	123499-02	16" Upper Guard	1
2	123451-01	Warning Label	1
3	003041	5/16 x 4 Drive Screw	2
4	103805	Warning Plate	1
5	080666	5/16 x 8 x 1" Thumb Screw	1
6	083328-00	16" Anti-Kickback	1
7	096805	16" Link Set (1 Side)	2
8	096803	Busing	4
9	080457	Flat Washer	4
10	067717	1/4-13 Wing Nut ZP	1
11	201026	Dust Spout	1
12	052511	1/4-20 x 5/8 Screw	4



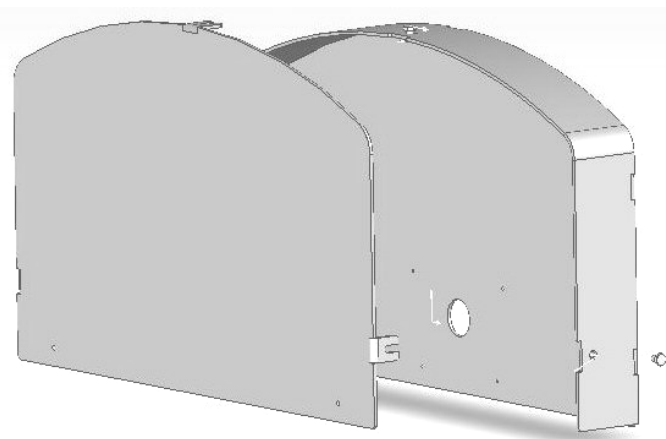
20" Standard Guard (035020)

Index No.	Part No.	Description	Qty
1	096693-01	Arbor Cover	1
2	099502-08	1/4-20 x 1/2 Flt Head Screw	2
3	121329	Guard (incl 9,10)	1
4	082007	Wing Nut	1
5	096694	Guard Bracket	1
6	080666	Thumb Screw	1
7	201026	Dust Spout	1
8	083328-01	Anti-Kickback Assy	1
9	103805	Caution Plate	1
10	003041	Drive Screw	2
11	096676	20" Lower Guard Assy	1
12	096803	Bushing	4
13	080457	Washer	4
14	052511	1/4-20 x 5/8 Tri Round Screw	4
15	539007	Stud 5/16-18	2
16	067717	Guard Wing Nut	1

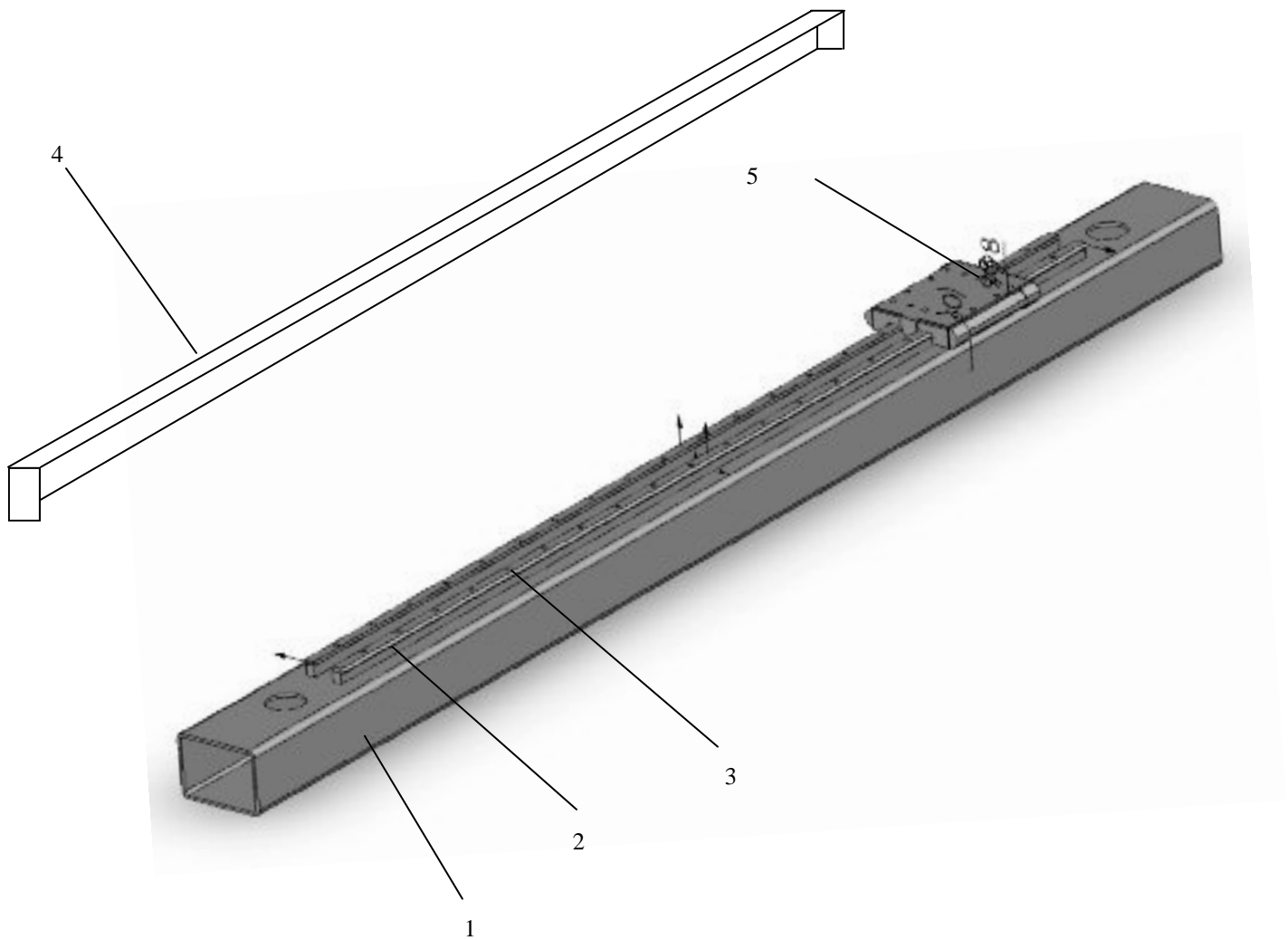


Metal Cutter Style Guard Assy 16" 20

16" Metal Cutter Style 090531-02
20" Metal Cutter Style 090533-03

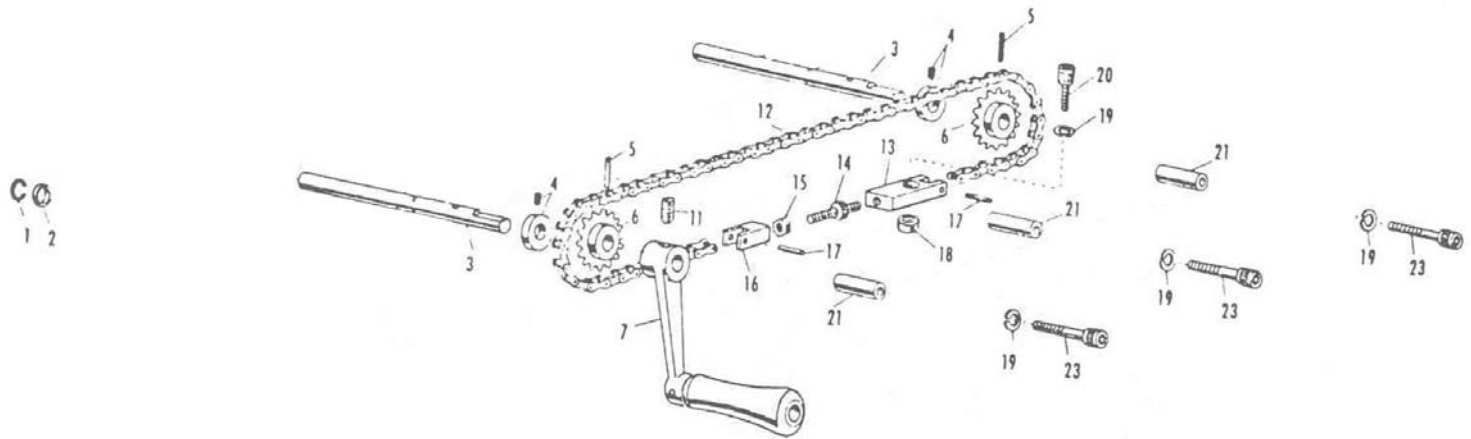


Beam and Roller head Assembly



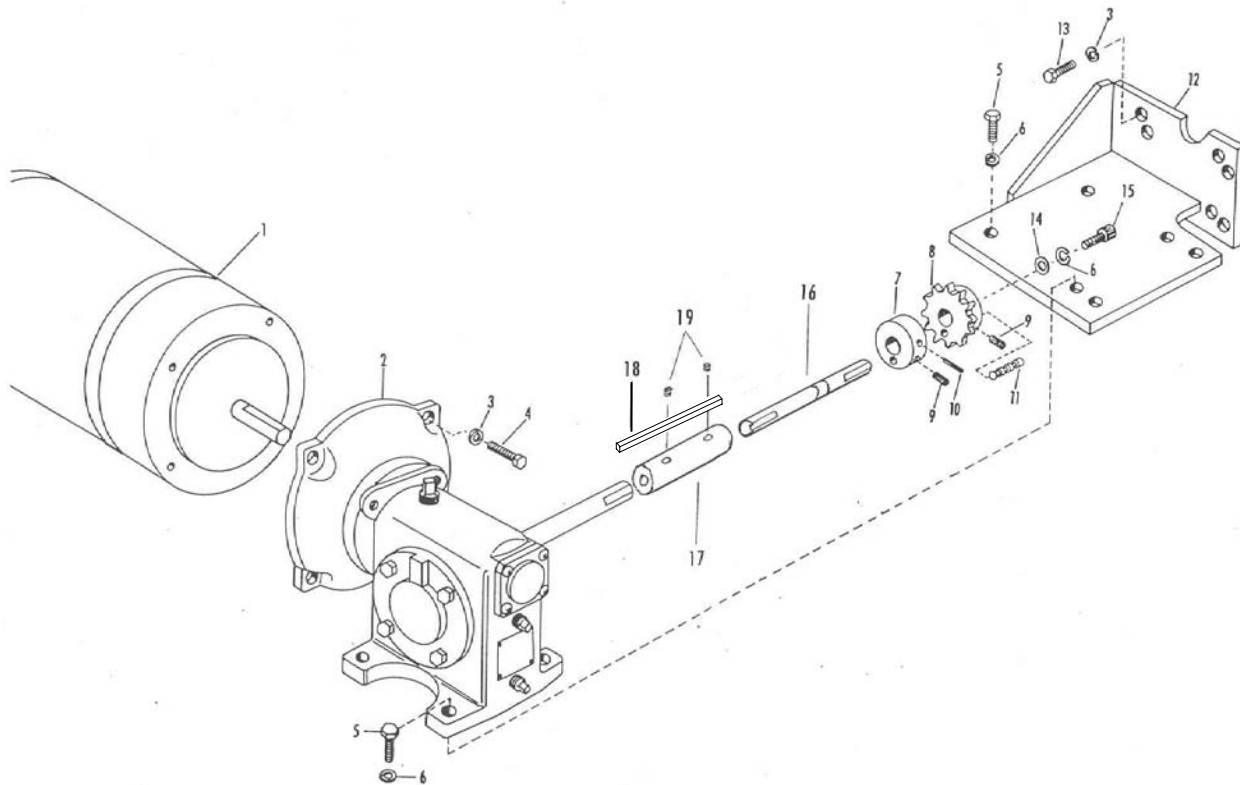
Ind No.	Part Number	Description	Qty
1	1001107	Beam Only	1
2	1001102	Track, hardened	2
3	00000	tapered head soc hd cap screw	32
4	1001127	Chain Guard	1
5	1001200	Roller Plate	1
Parts not Shown			
	1001203	V-guide bearing	4
	1001205	Eccentric Bushing	2
	1001207	Concentric Bushing	2

Chain Feed Assembly—Manual



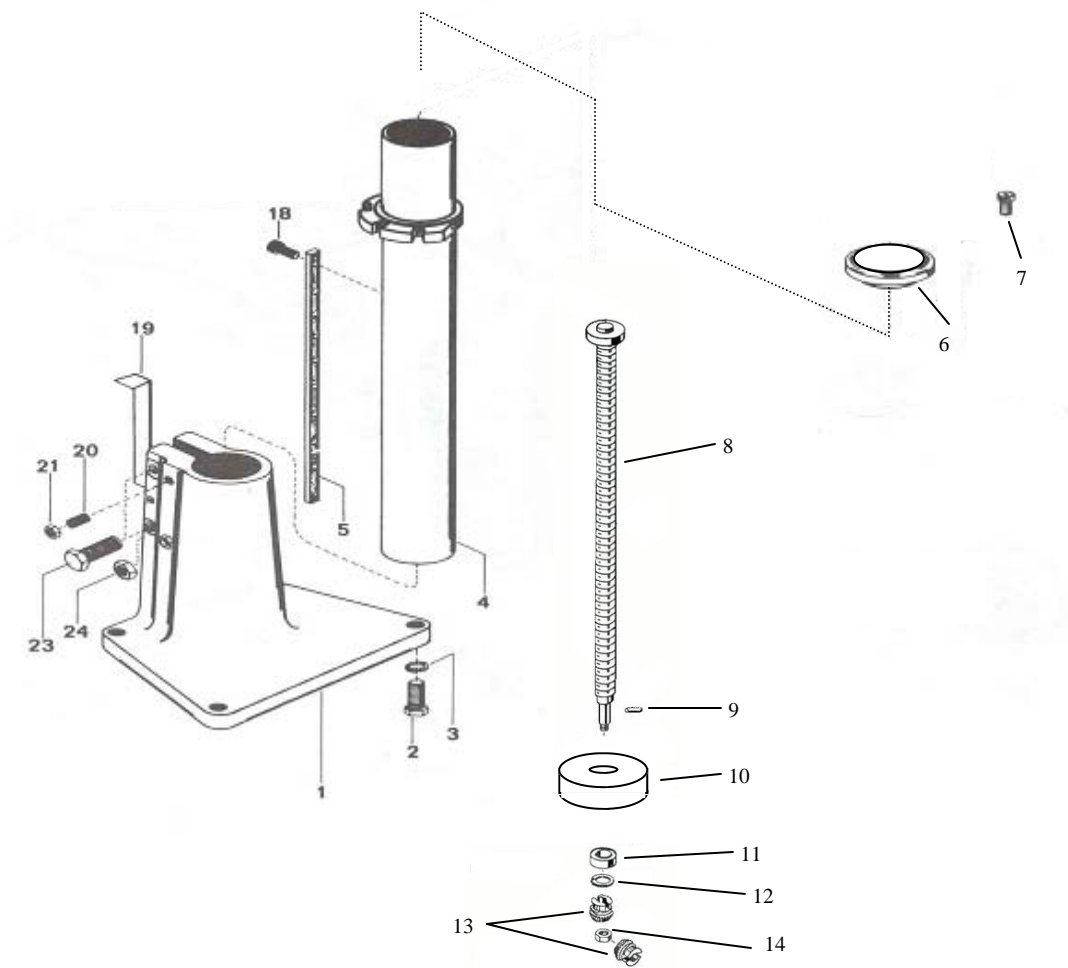
Ind No.	Part Number	Description	Qty	Ind No.	Part Number	Description	Qty
1	071252	Retaining Ring	1	14	068259	Turnbuckle	1
2	068955	Spacer Bushing	1	15	099364-04	5/16-18 hex nut	1
3	085182	Crank Shaft	2	16	068256	Left Hand Clevis	1
4	084145	Collar	2	17	123615	13/64 Roll Pin	2
5	099219-24	3/16 x 1 1/2 roll pin	2	18	068625	Spacer	1
6	084139	Sprocket	2	19	099384-07	5/16 Lockwasher	4
7	070964	Crank Handle Assy	1	20	099155-24	5/16-18 x 1 1/3 Soc Hd Cap Screw	1
11	082392	3/8-16 x 3/8 cup pt screw	2	21	070955	Spacer	3
12	1001123	Chain assy	1	23	082181	5/16-18 x 2 1/2 soc hd cap screw	3
13	068257	Right Hand Clevis	1				

Gear Reducer Drive Assembly *power feed models onlu*



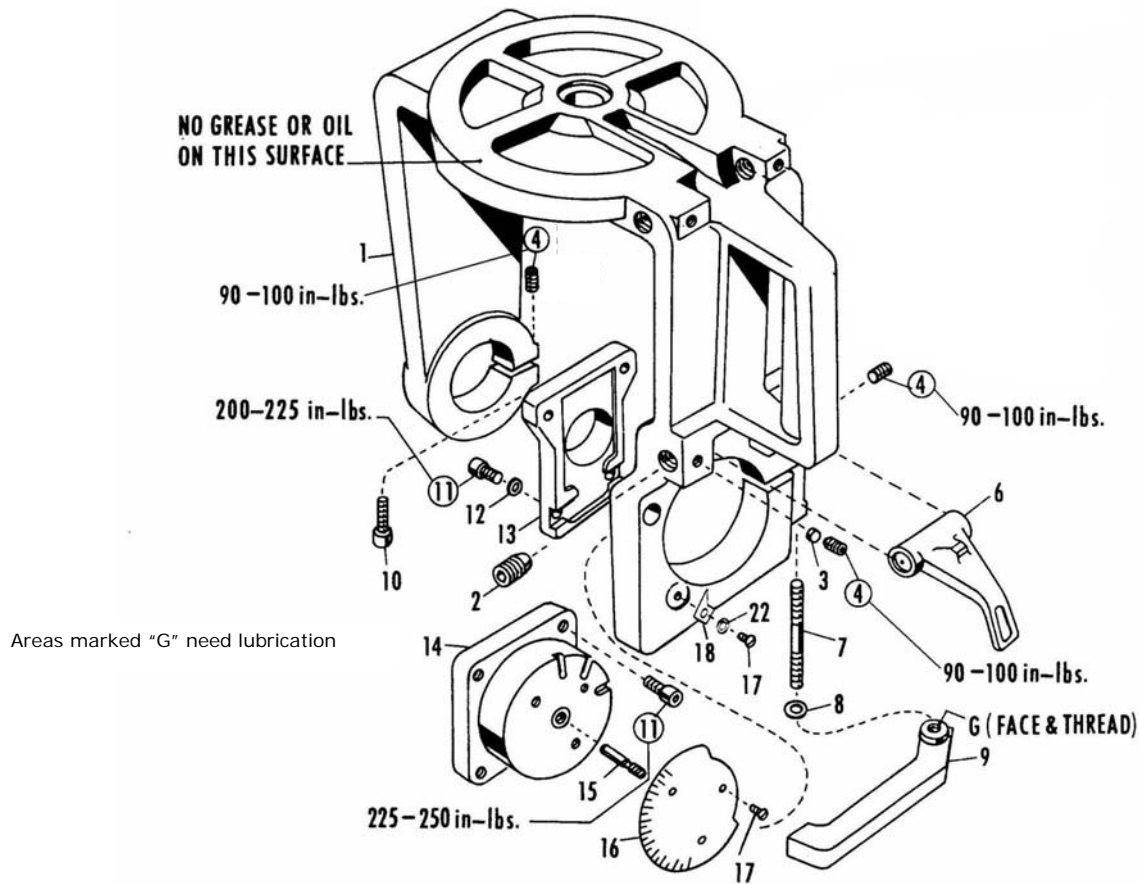
Ind No.	Part Number	Description	Qty	Ind No.	Part Number	Description	Qty
1	086511-01	DC Drive Motor	1	10	099210-24	3/16 x 1 1/2 Roll Pin	1
2	088153-05	Gear Reducer 20:1	1	11	070586	Shear Pin	1
	088153-06	Gear Reducer 40:1	1	12	088154-01	Mounting Bracket	1
3	000415	3/8 Lockwasher	7	13	082098	3/8 - 16 x 3/4 Hex Hd Cap Screw	3
4	082105	3/8-16 x 1 1/4 Hex Hd Cap Screw	4	14	084318	5/16 Flat Washer	1
5	082097	5/16-18 x 1 3/4 Hex Hd Cap Screw	4	15	082205	5/16-18 x 5/8 Soc Hd Cap Screw	1
6	084319	5/16 Lockwasher	5	16	085183	Rear Power Feed Shaft	1
7	070585	Drive Collar	1	17	085184-01	Coupler (includes #19)	1
8	067662	Sprocket	1	18	085186	Woodruf Key	1
9	036886	1/4-28 x 3/8 Set Screw	4	19	n-p-n	See Index #17	1

Base & Column Assembly



Index No.	Part No.	Description	Qty	Index No.	Part No.	Description	Qty
1	122332	Base (Std) (3531)	1	19	121616	Gib	1
	122332-01	Base (Med) (3536)	1	20	096897	1/4-20 x 1 3/4 CupSet Screw	2
2	099174-01 *	5/8-11 x 1 1/4 Hex Hd Bolt	4	21	099374-05	1/4-20 Hex Jam Nut	2
3	080682 *	5/8 Helical Lock washer	4	23	096722-01	5/8-11 x 2 1/4 Hex Hd Bolt	1
4	088166-00	Column	1	24	081988-00	5/8-11 Hex Jam Nut	2
5	088171	Column Key	1				
6	121267-01	Top Cap	1				
7	082173	3/8-16x1 1/4 soc hd cap scr	1				
8	068641	Elevating Screw	1				
9	123615-19	3/16 x 1 1/2 Roll Pin	2				
10	1001139-00	Elevating Nut	1				
11	080501	Thrust Bearing	1				
12	068647	Thrust Washer	AR				
13	061382	Bevel Gear Set (incl #9, 12)	1				
14	032492	Nut, Elastic Stop 1/2	1				
18	088171	Column Key	1				

Yoke and Trunion Assembly

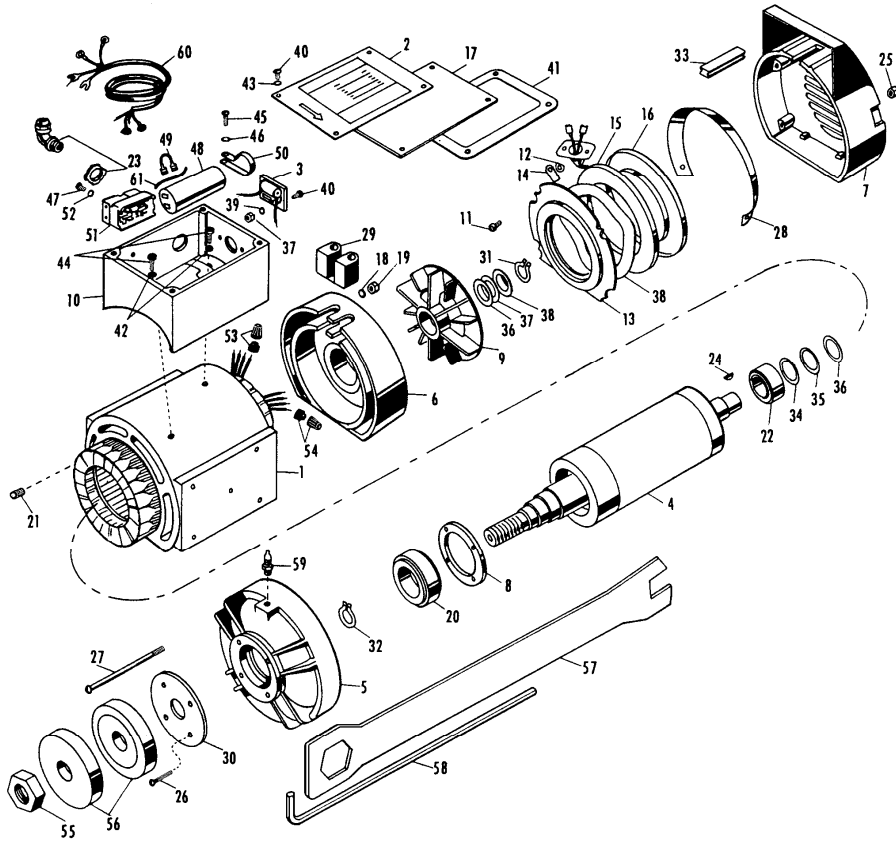


Important:

1. Bevel clamp #7 should be adjusted flush to 1/8" inside bottom of Bevel Clamp Handle #9
2. Turn front trunion #14 counterclockwise as far as it will go before tightening screws #11.

Index No.	Part No.	Description	Qty	Index No.	Part No.	Description	Qty
1	068622	Yoke	1	12	203085	special washer	4
2	068626	Adjusting Screw	4	13	068624	Rear Trunion	1
3	083412	Set Screw Slug	4	14	068623	Front Trunion	1
4	068703	5/16-18 x 1/2 Set Screw	4	15	068631	Dowel Screw	1
				16	073872	Bevel Scale	2
6	068628-01	Bevel Latch Handle	1	17	099264-06	1/4-20 x 3/8 Panhd Screw	4
7	068625	Stud	1	18	203588-01	Bevel Pointer	1
8	114720	1/2 Flat Washer	1				
9	068629-01	Bevel Clamp Handle	1				
10	082172	5/16-18 x 1 1/4 Sochd Cap Screw	1				
11	082168	5/16-18 x 1 Sochd Cap Screw	8	22	084173	1/4 Lockwasher	1

Motor Assembly



Each motor assembly includes items 1 through 61 depending on the phase of the motor.

5 HP 1 PHASE 230 V - 123504

7.5 HP 3 PHASE 230/460 V - 123505-00

7.5 HP 3 PHASE 575 V - 123505-01

7.5 HP 3 PHASE 208 V - 123505-03

Motor Assembly

5 HP 1 PHASE 230 V - 123504

7.5 HP 3 PHASE 230/460 V - 123505-00

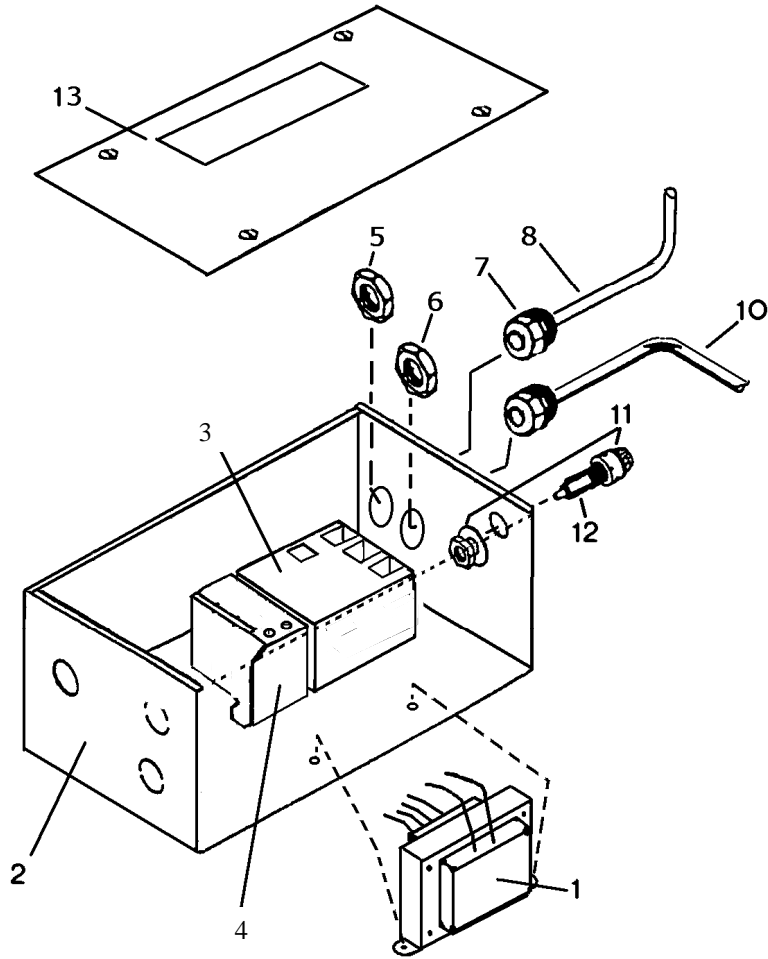
7.5 HP 3 PHASE 575 V - 123505-01

7.5 HP 3 PHASE 208 V - 123505-03

In-dex	5 HP 1 PH	7.5 HP 3 PH	Description	Qty	In-dex	5 HP 1 PH	7.5 HP 3 PH	Description	Qty
1	068554-56		Stators:		34	542004	542004	Shim Washer	AR
			230 v 60 cycle	1	35	542252	542252	Shim Washer	AR
		068556-90			36	083799	083799	Shim Washer	AR
		068556-93			37	000407	000407	#8-32 Hex Nut	2
		068556-96			38	083399	083399	Brake Spring	1
2	070266-00	070266-20	Motor Nameplate	1	39	000418	000418	#8 Lock washer	2
3	072222	072222	Brake Module	1	40	099262-10	099262-10	8-32 x 5/8 Screw	4/2
4	123503-01	123503-01	Rotor & Shaft	1	41	067687	067687	Gasket	1
5	083384	083384	Arbor End Bell	1	42	000417	000417	#10 Lock Washer	2
6	072227-01	072227-01	Fan End Bell	1	43	000418	000418	# 8 Lock Washer	4
7	083387	083387	Fan Housing	1	44	096994	096994	10-24 x 2 Phil Panhd	2
8	083419	083419	Bearing Cap	1	45	99249-05		10-24 x 3/8 Panhd Mach	1
9	096603	096603	SD Motor Fan & Liner	1	46	099384-07		5/16 Lock Washer	1
10	068293-02	068293-01	Conduit Box		47	099262-10		8-32 x 5/8 Screw	2
11	697162	697162	10-24x3/8 Sochd Cap Scrw	4	48	083382-01		Capacitor	1
12	000417	000417	10-24 Lock Washer	4	49	123484		Capacitor Lead	1
13	083396	083396	Brake Disk	1	50	068873		Capacitor Clamp	1
14	068532	068532	Retainer	4	51	068595-01		Relay	1
15	068593	068593-01	Brake Coil	1	52	000418		# 8 Lock Washer	2
16	070081	070081	Coil Housing	1	53	081733	081733	Wire Connector	4
17	067686	067686	Conduit Box Cover	1	54		081730	Wire Conn Brake Lead	6
18	084173	084173	1/4" Lockwasher	4	55	081433	081433	Arbor Nut	1
19	038738	038738	1/4-20 Hex Nut	4	56	081401	081401	Arbor Collar	2
20	123413	123413	Ball Bearing	1	57	301020-02	301020-02	Arbor Wrench	1
21	068703	068703	5/16-18 x 1/2 Soc Set Scrw	2	58	203511	203511	Wrench	1
22	123506	123506	Ball Bearing	1	59	103859	103859	Guard Stud	1
23	068820-07	068820-07	3/4 NPT Nut	1	60			Motor Cables:	
24	026587	026587	Woodruff Key	1		096725		208/230V 1 Ph 60 Hz	1
25	066966	066966	1/4-20 Hex Cap Nut—Brass	4			096780	208-575V 3 Ph 50/60 Hz	1
26	082323	082323	10-24 x 1 3/8 Flathead Scr	4	61	123485		Capacitor Jumper	1
27	083388	083388	Tie Rod	4					
28	083932	083932	Air Baffle	1					
29	072701	072701	Lead Grommet	1					
30	070786	070786	Cover Plate	1					
31	542253	542253	Retaining Ring	1					
32	541351	541351	Retaining Ring	1					
33	083898	083898	Slot Bushing—Rubber	1					

Magnetic Starter Assembly

(Telemecanique Starter)

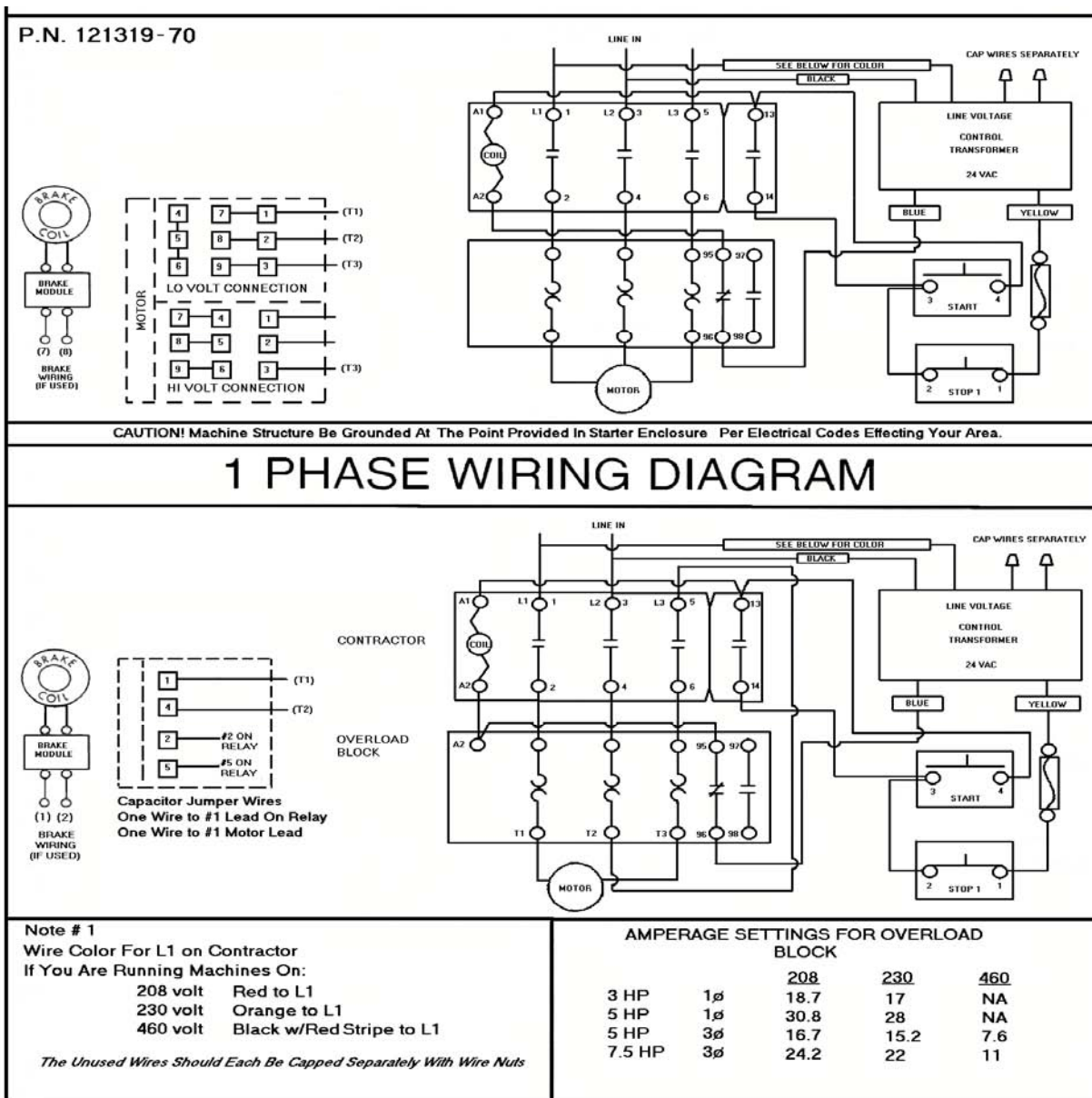


Index No.	Description	Qty		5 HP 3 PH	
1	Transformer 208/230/460 volt 380/575 volt	4	1	122105-50 122105-51	
2	Enclosure	1		096759-03	
3	Magnetic Starter	1		122108-84	
4	Overload Block 208v 1ph 230v 1ph 208v 3ph 230v 3ph 460v 3ph	1		122110-86 122110-86 122110-85 122110-85 122110-83	set 18.5 amp set 18 amp set 16.7 amp set 15.2 amp set 7.6 amp
5	Nylon nut 3/4	1		068820-02	
6	Nylon nut 1/2	1		068820-03	
7	Liquid Tight Fitting 3/4	1		081724-01	
8	Motor Cable	1		096780-00	
9	Liquid Tight Fitting 1/2	1		066425-01	
10	Control Cable 44" arm 52" arm	1		068710-00 068710-01	
11	Fuse Holder	1		068723	
12	Fuse	1		081554	
13	(see #11)				
14	(see #11)				
15	Seal	2		066045-01	
16	Seal	2		066045-03	
17	Warning Label	1		123540	

Changing the Motor Voltage

WARNING—DISCONNECT AND LOCKOUT POWER BEFORE SERVICING

If your machine requires a different voltage, follow the instructions below. The motor will need to be rewired according to the diagrams below. The thermal overloads must be reset or replaced with the proper pieces to maintain thermal motor protection.



Instructions for Changing the Motor Voltage

- 1) **Disconnect and lockout power**– Electrical shock could occur if this is not done.
- 2) Reconnect motor and transformer leads as shown in the chart above to match your required voltage.
- 3) Reset the dial for the proper amperage setting shown in the chart above. If your overload block does not have the proper settings, the block will have to be replaced with one appropriate for your voltage.
- 4) Recheck all connections and replace lids on the motor box and magnetic starter enclosure before restoring power.

ELECTRICAL TROUBLE-SHOOTING GUIDE

CAUTION—HIGH VOLTAGES ARE DANGEROUS—BE SURE POWER IS OFF AND LOCKED OUT WHEN INSPECTING OR REPAIRING MOTOR OR CONTROLS

TROUBLE	POSSIBLE CAUSE	SUGGESTED REMEDY
Saw motor will neither start nor hum	Power line not connected to cable.	Correct power wiring. See wiring diagram inside magnetic starter box.
	Thermal overload relays may have tripped.	Allow time for overload relays to cool.
	Faulty (blown) line fuse, line circuit breaker tripped.	Check for presence of proper voltage at motor.
	Defective control transformer.	Check circuit with continuity meter. Ensure power is off.
	Start and stop switches at end of arm may be defective.	
	Faulty starter.	
Saw motor hums but will not start (Shut off power immediately)	Open circuit in a thermal relay heater.	Remove heaters. If defective, heater may be completely burned up. Install new heater if required.
	Open circuit in motor cable or cable lugs.	Use a continuity meter and check each wire between control unit and motor. Check lug connections.
	Wiring error.	Check connections in starter box and conduit box, refer to motor and starter connection diagrams.
	Mechanical binding—shaft should turn freely by hand.	Tap end of shaft with mallet to seat bearings in end bells. Check bearings and bell etc. Replace as needed.
	Low voltage—voltage should be measured at the motor while it is starting and blade attached. Voltage should not drop lower than 185 volts for 208, 220 and 230 volt systems.	Check for loose or high resistance connections— make sure lines are of ample capacity and other equipment is not pulling down the voltage.
	Burned out stator	If motor smells or has been smoking each phase winding should be checked with a test lamp or continuity meter.
	Bad capacitor (single phase only).	Turn off power, remove motor nameplate. Discharge capacitor by short circuiting terminals; remove motor from circuit. Test with ohm meter. Needle should jump when leads are touched to capacitor terminals and fall back to a high resistance as capacitor charges.
	Bad starting relay (single phase only).	If contacts are excessively burned, pitted or welded together the relay must be replaced. Check for open relay coil using continuity meter.
Motor trips overload relay or blows line fuse.	Wrong heater or fuse.	Replace with proper heater, fuse or circuit breaker.
	Excessive currents.	Check for grounds or shorts.
	Low voltage.	Check voltage while starting as outlined above.
	Loose or faulty connection.	Locate and repair.

ACCESSORIES

Roller Table Extension— 20" wide and 8' long. Mounting brackets and support legs included.

040030-01 Roller table extension 12" centers (8 Rollers)

040030-02 Roller table extension 6" centers (15 Rollers)

Blades — Wood

T2009 14" x 40 tooth x 1" arbor (Carbide) *

T2009-01 14" x 80 tooth x 1" arbor (Carbide) *

T2009-02 14" x 60 tooth x 1" arbor (Carbide) *

T2010 16" x 40 tooth x 1" arbor (Carbide)

T2010-01 16" x 60 tooth x 1" arbor (Carbide)

T2010-02 16" x 8 tooth x 1" arbor (Carbide)

T2010-03 16" x 100 tooth x 1" arbor (Carbide)

PREVENTIVE MAINTENANCE

Original Saw Company machines are designed to provide you with precision cutting with a minimal amount of maintenance. The frequency of the maintenance depends on the amount of use and the desired cutting quality.

Always disconnect and lockout power supply before performing maintenance.

After every 10–20 hours of use the column should be wiped down with a clean dry rag. Wipe the tracks of the arm with a clean rag and either denatured alcohol or paint thinner. Move the carriage back and forth several times and clean it again. **DO NOT** lubricate the arm tracks; doing so may cause excessive arm wear due to dust attracting to the arm tracks. Keep the tracks clean and dry; periodically wipe or vacuum sawdust from all exposed surfaces. Check for loose or broken parts and replace if necessary with genuine Original Saw Parts. Check the blade to see if it is sharp and free of wobble.

Adjustment and alignment of saw is necessary only when cutting results in unacceptable accuracy.

After many years of use your saw may need replacement parts. If any of the following wears out all others listed should be checked also.

Roller head bearings: Check for free, smooth rotation. Do not attempt to lubricate.

Arm Tracks: If the saw is used primarily for short cut-offs, the tracks may wear making it difficult to adjust the roller head bearing for full length arm travel. Arms can generally be remachined—contact Original Saw for pricing and shipping instructions.

Motor bearings: Check for free, smooth rotation. Do not attempt to lubricate.

Elevating mechanism: Remove, clean and lubricate with type EP grease. Check for wear between nut and jack screw. Replace assembly if loose.

Industrial Use Warranty Information

Your new Original Radial Arm Saw is precision manufactured under strict quality standards. In the unlikely event there is trouble with your machine, the Original Saw Company warrants the machine for the period of one year from the date of purchase. The warranty covers defects in materials and workmanship. We will cover the cost of the defective part and ground shipping. If a replacement part is sent under warranty the defective part must be returned to Original Saw Company or you will be charged for the replacement. The part must also be accompanied by a return goods authorization number. This number can be obtained by calling customer service at 1-800-733-4063. When the part is returned it may be repaired or replaced at our discretion. The part must be shipped prepaid to: The Original Saw Company, Attn. Warranty Replacement Counter, 465 Third Avenue SE, Britt, Iowa 50423.

IMPORTANT

IMPORTANT

IMPORTANT

To assure product reliability, repairs, maintenance and adjustments should be performed by Authorized Service Centers, always using genuine replacement parts.



465 3rd Avenue SE
Britt, Iowa 50423

Phone 641-843-3868 or 800-733-4063
Fax 641-843-3869

For parts or service please contact the manufacturer for the dealer nearest you.

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