

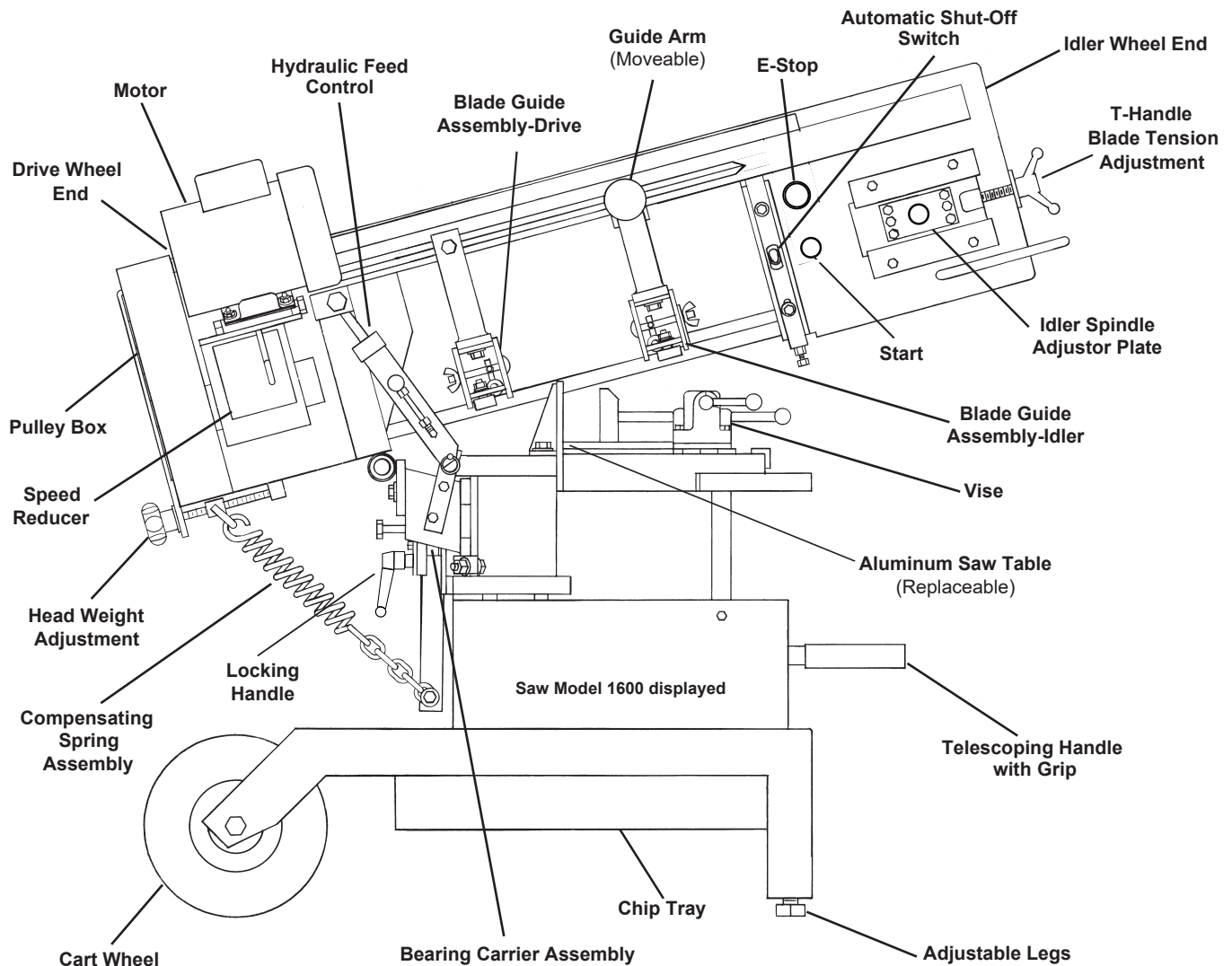


MFG. COMPANY, INC.

Mitre Band Saw

Installation and Operating Instructions

Note: Not all saw parts are shown in this booklet. Product changes are made and improved overtime and therefore not all images displayed may reflect the actual product shipped.

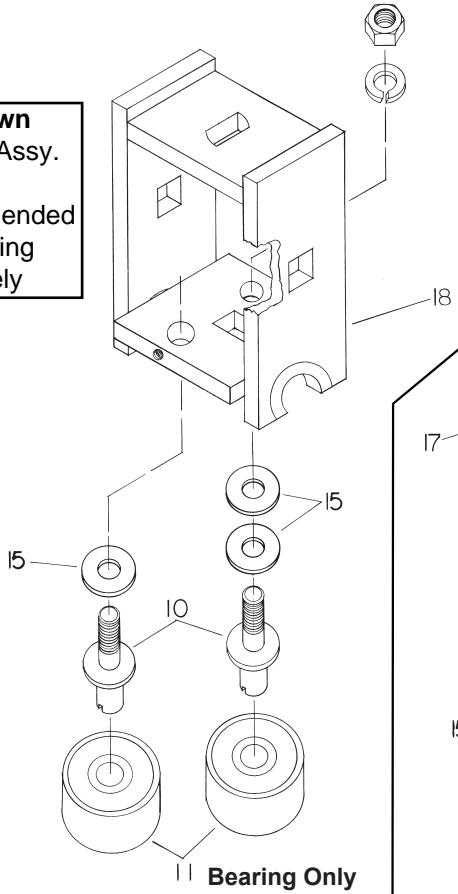


1-800-383-5547

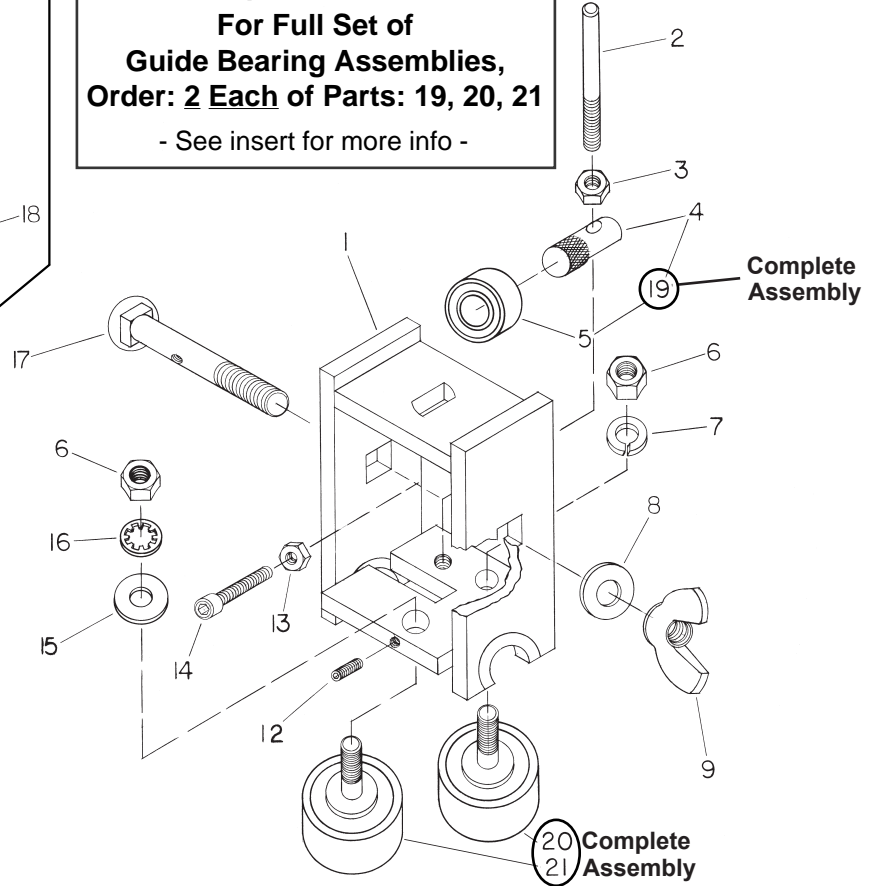
107 W. Railroad Street • P.O. Box 930219 • Verona, WI 53593-0219
Phone: (608) 845-6472 • Fax: (608) 845-5199 • www.EllisSaw.com

BLADE GUIDE

**Breakdown
of Bearing Assy.
(only)
Not Recommended
For Ordering
Separately**



***** Important Note *****
**For Full Set of
Guide Bearing Assemblies,
Order: 2 Each of Parts: 19, 20, 21**
- See insert for more info -



For ordering, see assemblies! *

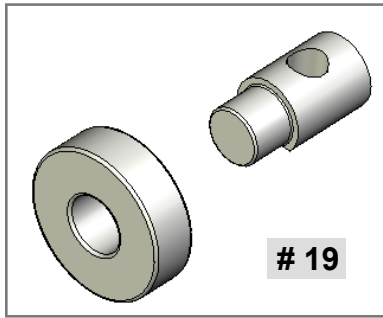
Blade Guide Assembly

Part Number For Models

Item No.	90H 1100	900 1000 1200	1440 1500	1600 1800 2000 3000	4000	Description
Complete Assy.	9016DC	5370	5539	5720	5732	Blade Guide Assembly, Drive End
Complete Assy.	9016IC	5371	5519	5721	5733	Blade Guide Assembly, Idler End
1	5391	5391	5588	5588	5981	Housing Assembly, Idler
2	4181	4181	4181	4181	4137	Adjustment Stud, Bearing Plate
3	4260	4260	4260	4260	4260	1/4-20 Hex. Nut
4	6066	6066	6066	6066	5999	Spindle, Pressure Bearing
5	4499	4499	4499	4499	4522	Ball Bearing, Pressure
6	4260	4260	4266	4266	4279	Nut, Hex.
7	4336	4336	4337	4337	4343	Lock Washer, Spring
8	4310	4310	4310	4310	4311	Flat Washer, SAE
9	4271	4271	4271	4271	4272	Wing Nut or Stop Nut
10	5389	5389	5587	6074	6073	Spindle, Guide Bearing
11	4522	4522	4502	4502	4515	Ball Bearing, Guide
12	4140	4140	4140	4140		8-32 x 3/8 Set Screw
13	4258	4258	4258	4258	4260	Hex. Nut
14	4155	4155	4155	4155	4137	Socket Head Cap Screw
15		4304				Flat Washer, 3/16 or 1/4 Std.
16	4355	4355	4356	4356	4343	Lock Washer
17	5374	5374	5542	5542	6056	Guide Clamping Bolt
18	5390	5390	5540	5540	5982	Housing Assembly, Drive
* 19	9012	9012	9012	9012	5996	Pressure Bearing Assembly
* 20	5406	5406	6730	6742	6747	Stationary Guide Bearing Kit
* 21	5407	5407	6732	6743	6747	Adjustable Guide Bearing Kit

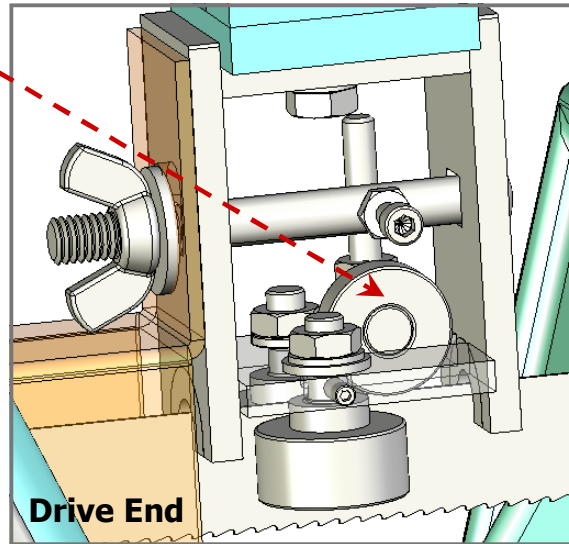
*On all saws, except for the Model 4000, the stationary and adjustable kits are the same except for items 6, 16, and 15 which are included with the adjustable kits. On the Model 4000 there is no adjustable kit. Therefore, use part number 6747 for both bearing kits on the Model 4000.

Pressure Bearing Assembly

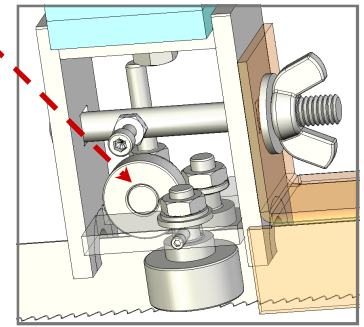


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Saw Models	Part #
1600, 1800, 2000, 3000	9012
4000	5996



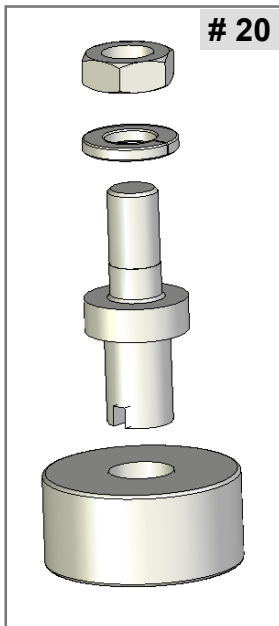
Drive End



Idler End

For other models, See page 2

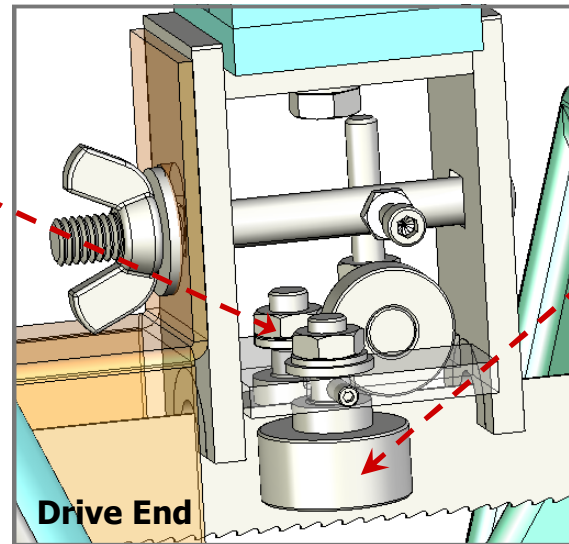
Stationary and Adjustable Guide Bearing Assemblies



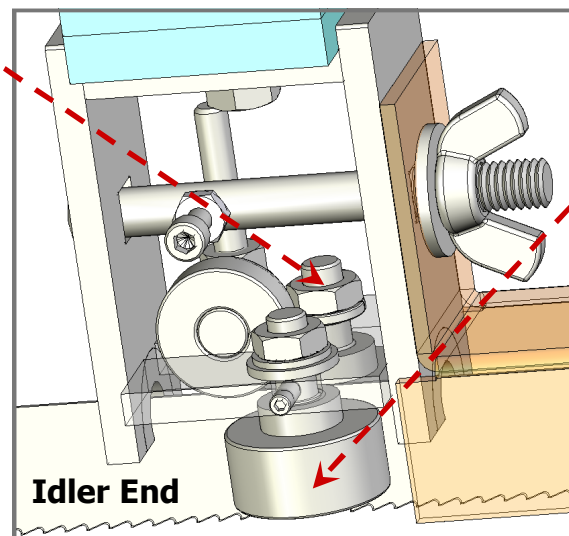
20

Stationary Bearing Assy.

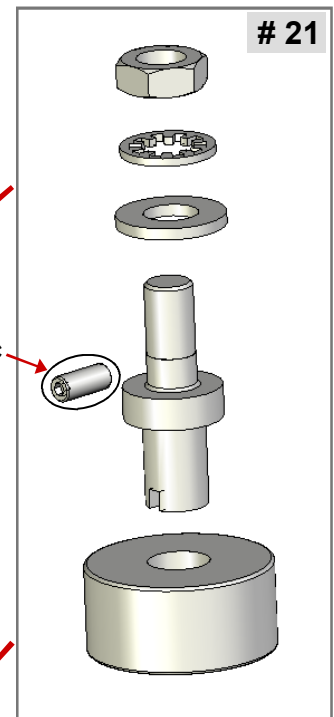
Saw Models	Part #
1600, 1800, 2000, 3000	6742
4000	6747



Drive End



Idler End

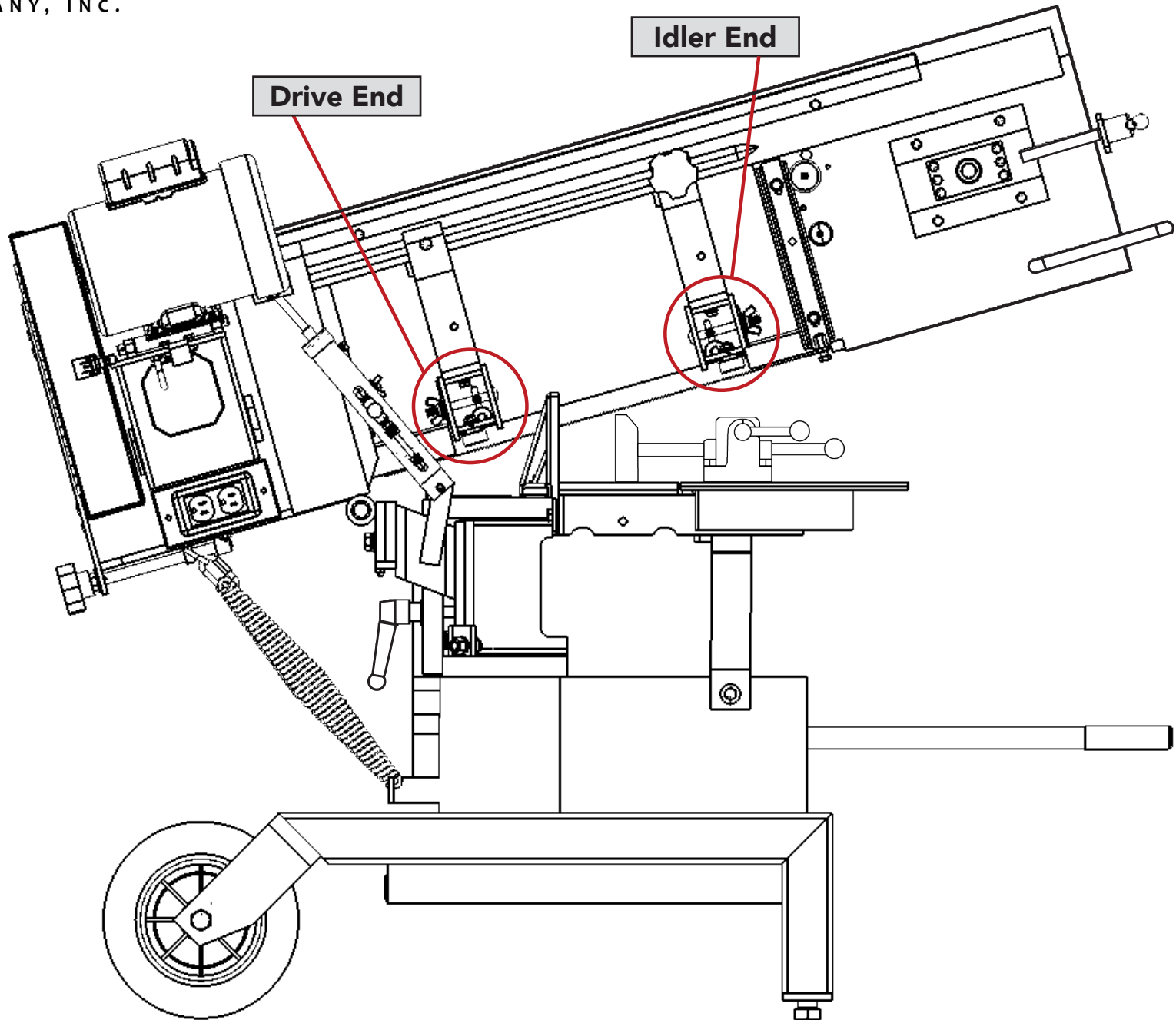


21

Adjustable Bearing Assy.

Saw Models	Part #
1600, 1800, 2000, 3000	6743
4000	6747

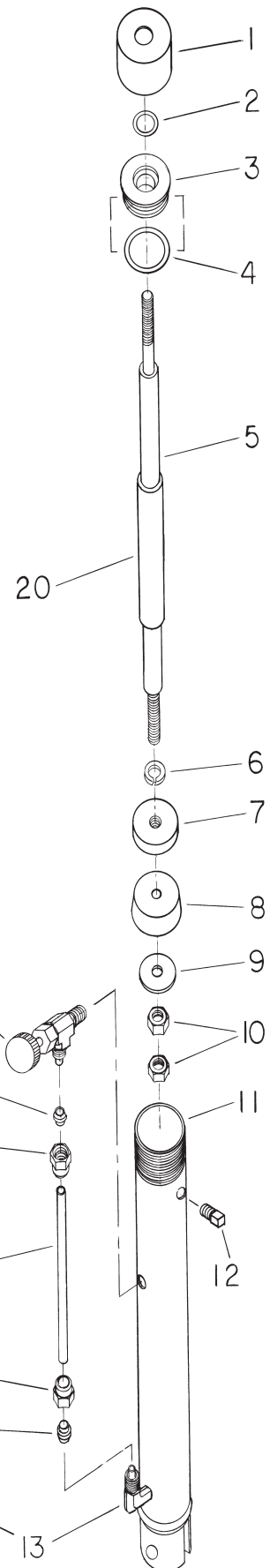
*Not part of Assy. kit



Hydraulic Feed Control Assembly

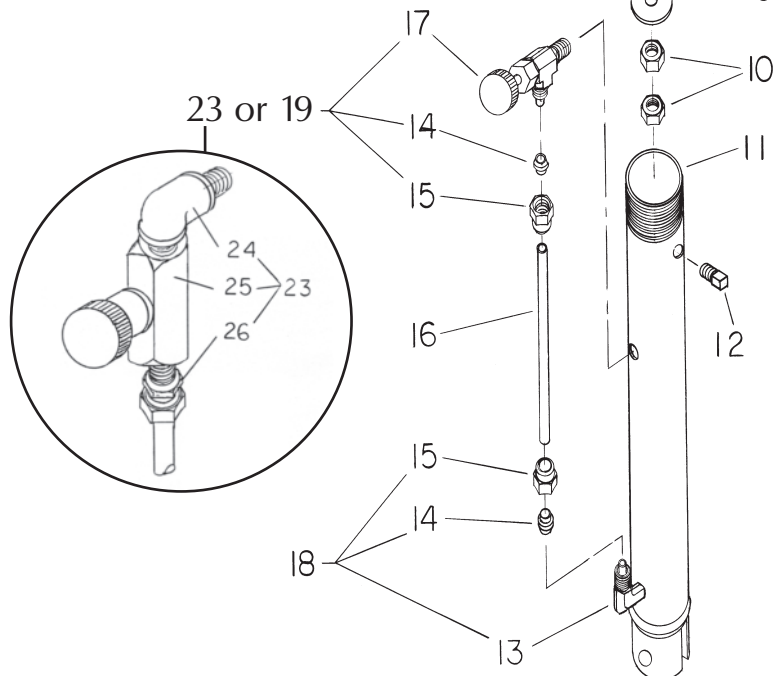
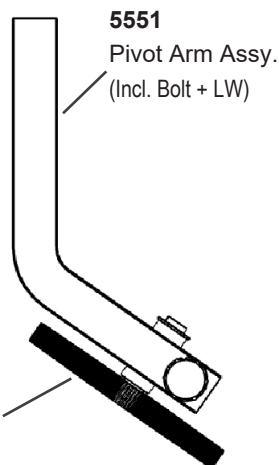
Part Number For Models

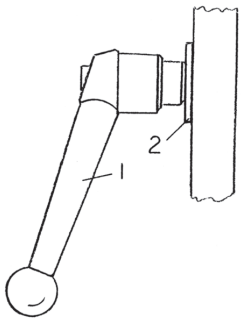
Item No.	90H	1500	1440	3000	Hydraulic Feed Control Assy.
	900	1600	2000	4000	
Assy.	5355	5506	5708	5777	
1	5529	5529	5529	5529	Cap
2	4950	4950	4950	4950	O-Ring-Shaft
3	5532	5532	5532	5532	Sealing Washer, Top
4	4951	4951	4951	4951	O-Ring-Cylinder
5	5361	5530	5530	5766	Shaft
6	4305	4305	4305	4305	Flat Washer, 5/16
7	5531	5531	5531	5531	Sealing Washer, Bottom
8	5533	5533	5533	5533	Leather Cup
9	5534	5534	5534	5534	Washer-Special
10	4266	4266	4266	4266	Nut, Hex. Jam, 5/16-24
11	5362	5528	5528	5767	Cylinder
12	4743	4743	4743	4743	Plug, Oil Fill
13	4730	4730	4730	4730	Male Elbow - Tube Fitting
14	4732	4732	4732	4732	Sleeve
15	4729	4729	4729	4729	Nut
16	5363	5590	5711	5706	Tube, 1/4 Dia. Plastic
17	4727				Needle Valve-Tube Fitting
18	4728	4728	4728	4728	Male Elbow Assembly
19	4727				Needle Valve Assembly
20	5356	5749	5749	5748	Travel Stop Tube
21	6702	6702	6702	6702	Rebuilding Kit (2,4,8,16)
22			4798	4798	Remote Needle Valve Assembly
23		4808			Flow Needle Valve Assembly
24		4735			Elbow, Male to Male
25		4734			Flow Needle Valve
26		4736			Straight Fitting



Chip Brush & Pivot Arm Assy.

Part No. 5484

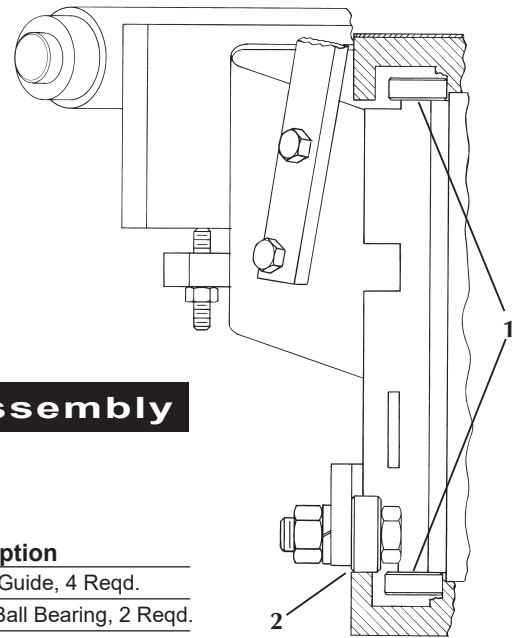




**Mitre Head Locking Handle
ALL MODEL SAWS**

Item No.	Part No.	Description
1	4966	Mitre Head Locking Handle
2	4311	Flat Washer

Press center button and pull back to reset ratchet in Handle.

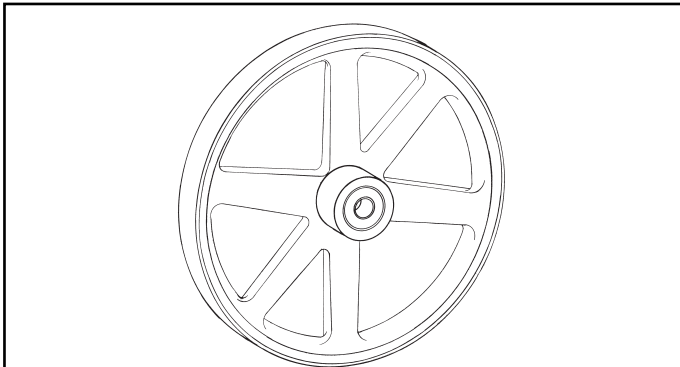


Bearing Carrier Assembly

Part Number For Models

Item No.	Part Number For Models			Description
	90H 1000	1100 1200 1500 1600	1800 2000 3000 4000	
1	4500	4510	4514	Carrier Guide, 4 Reqd.
2	4499	4522	4522	Thrust Ball Bearing, 2 Reqd.

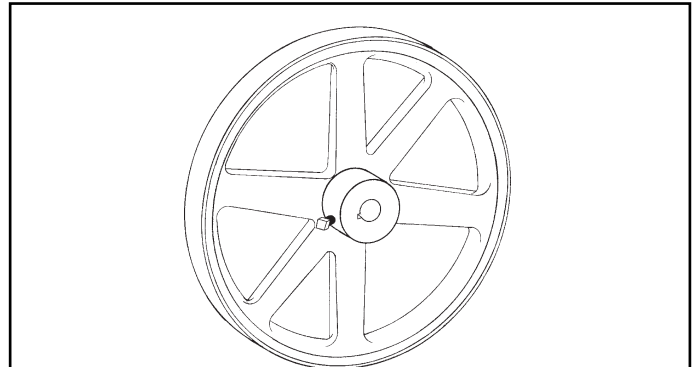
Note: Serial No. required when ordering



**Idler Wheel and Bearing Assy.
With Vulcanized Rubber**

Part Number For Models

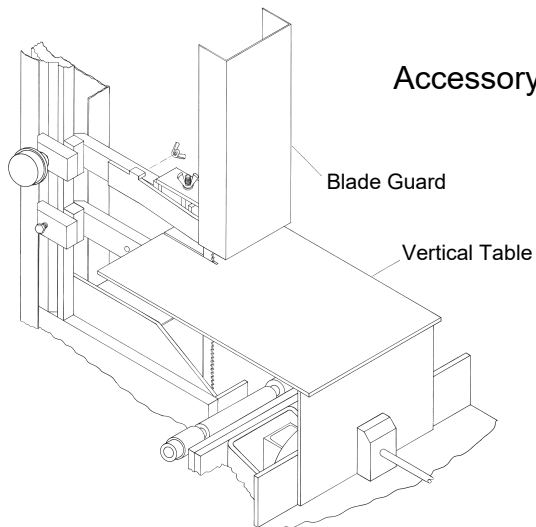
90H 900 1000 1100 1200	1440 1500 1600 1800 2000	3000 4000	Description
5365	5788	5849	Idler Wheel & Bearing Assy.



**Drive Wheel With
Vulcanized Rubber**

Part Number For Models

90H 900 1000 1100 1200	1440 1500 1600 1800 2000	3000 4000	Description
5367	5740	5775	Drive Wheel With Rubber



Accessory

Blade Guard

Vertical Table

**Vertical Table and
Blade Guards**

Order by Saw Model Number.
Table sold with blade guard.

Part Number For Models

Description/Item	90H 900 1100 1200	1500	1600	1800
Vertical Table #9374	✓	✓	✓	
Vertical Table #6040				✓
Blade Guard #6041	✓	✓	✓	✓
T-Nut #6021*				✓
Vertical Support Bar #6022				✓

* Replace Head Weight Adjustment Handwheel with 6021 T-Nut

CAUTION: Disconnect power supply cord from power source before changing the blade or making any other repair or adjustment to the saw.

Installation Instructions

1. Visually inspect machine for hidden shipping damage.
2. As part of the receiving inspection, check for broken ball bearings on the bearing carrier assembly. This is the assem-

bly that the saw swivels on for miter cuts. CHECK ALL SIX BEARINGS. Two are located in the groove under the degree plate. See illustration on page 4.

IMPORTANT Model 2000, 3000 and 4000 owners note: The shut off rail was removed for shipping. You must mount the rail on the machine table before using the saw.

Vertical Sawing Position

NOTE: Model 1800 only – before raising the head on the Model 1800, remove the head weight adjustment hand-wheel and install the 6021 T-Nut. Attach the threaded vertical support bar (6022) tightly to the rear of the drive housing. See the chart on page 4. Adjust, if needed, to square blade with the vertical table.

1. Pull hydraulic pin at bottom of hydraulic. Disengage compensating spring assembly. Head is now free to raise to vertical position. Raise head up and over center. Hold head and gently let it move up to vertical position. DON'T LET THE HEAD DROP! See illustration on page 4.

2. Slide the vertical saw table into the blade and against the back of the horizontal table. Secure with the screwless vise or C-clamps. Adjust the drive end of the blade guide assembly, if necessary, to provide support for that end of the vertical table.
3. Attach the vertical blade guard on the moveable guide arm and secure with wing nut supplied.
4. Position moveable arm as close to work as possible.

Removing and Replacing Blade

Call 1-800-383-5547 for experienced help in selecting the proper saw blades for your application.

1. Disconnect power supply cord from power source.
2. Raise saw head assembly until blade clears the back of the table. Close hydraulic valve to lock in position.
3. Open the covers of the idler and drive wheels.
4. Pivot the chip brush to horizontal position and lock in place.
5. Loosen blade tension T-handle sufficient to release the blade around the wheels. Pull blade out of the blade guide bearings.
6. Brush chips from blade guide bearings and housings. Wipe bearing surfaces clean. Check that all bearings are running free.
7. Check that the guide bearings are set correctly for the new blade thickness. Use a feeler gauge that is one thousandth of an inch thicker than the blade. This is the best method because it does not rely on judgement.

A saw blade can also be used as a gauge, but it must be new. After the blade has been installed and under proper tension, check for proper spacing. Twist the blade at the idler and drive wheel side of the respective guide bearing housings. There should not be any noticeable motion of the blade on the other side of the guide bearings. Reset the gap to correct fit.

8. Place the new blade over the idler and drive wheels with the teeth facing toward you. The blade should run under the guides. The teeth should point out toward you and the tips of the teeth should point toward the motor end of the saw.

A fast check is to compare the blade (as you place it over the idler wheel) with the decal on the top of the saw head. Check to make sure the blade is on both orange wheels.

9. By turning the T-Handle, apply tension to the blade until all slack is removed from the blade or the blade is pulled in a straight line across the top of the saw from wheel to wheel. Grasp the blade on each side of the guides and twist the blade. Push down on the teeth with your thumbs and roll the back of the blade between the guide bearings. Proper tension is 1-1/2 to 2 full turns (360) of the T-Handle.
10. Proper blade tension is reached by grasping the T-Handle and applying one full turn (360) on the tension handle. You can use the casting number on the handle as a reference point. Reconnect the power supply. Turn the saw on for a couple of revolutions to square the blade on the wheels. Turn the saw off. Now put the second full turn of tension on the T-Handle. Turn the saw on again for a few revolutions. Turn the saw off. Check the tracking of the blade on the wheels. On saws with a 9" wheel the blade runs centered on the wheels. On saws with 12" and 14" wheels the teeth of the blade should be sticking out past the edge of the wheel. The teeth should not be on the rubber of the idler or drive wheels. If the blade is not tracking properly then the idle wheel needs to be adjusted. If you think the idle wheel needs to be adjusted, call the factory at 1-800-383-5547 for assistance.
11. Check the blade tension by setting the guide housings about 8" apart then grasp the blade between the fingers and thumb halfway between the guide housings. With a rotating or twisting motion of the hand the blade should deflect no more than 1/8".

See our website at www.EllisSaw.com and explore our videos and links for additional troubleshooting and maintenance information.

Troubleshooting Crooked Cuts

1. Check blade for worn or broken teeth and replace if needed.
2. Check to make sure that the number of teeth per inch on the blade fit the application. As a rule, only 6 to 12 teeth should be in contact with the workpiece.
3. Check the head pressure on the saw. The compensating spring tension should be 8 pounds with the blade 1" above the table, coming down with the hydraulic valve open.
4. Check the blade tension. Review the proper blade tension procedure under "Removing and Replacing Blade" on page 5, item 10.
5. Check the space between bearings of both guide bearing assemblies. It should be only .001" over the thickness of a new blade. As an example, a .033" feeler gauge would be used to set the guides for a .032" thick blade.
6. Check the blade tracking on the idler and drive wheels.
 - 9" solid wheels:** blade in center of wheels
 - 12" spoked wheels:** 3/4" wide blade should have teeth protruding from the side of the wheel about 1/8", and the 1" wide blade about 1/4".
 - 14" spoked wheels:** 1" and 1-1/4" wide blades should have teeth protruding 1/4" to 5/16" from side of wheel.
7. Check to make sure that the blade guide assemblies are not too far apart. Set the idler blade guide closer to the work to provide greater support for the blade.

Saw Adjustments

(If above steps did not eliminate crooked cuts)

1. Squaring blade with back of saw table.

Raise the head up 1/8" and hold in place with the hydraulic valve. Place a 6" square against the table back and move the head until the blade is exactly 90 degrees from the table back. Lock the head in position. Check that the POINTER points to zero (0 degrees) on the degree plate. If the pointer does not point to zero, bend the pointer so that it lines up to 0 degrees. The saw is now adjusted to cut from front to back accurately at 90 degrees and at all angles.
2. Square blade with top of saw table.

Use a blade aligning tool of the "clip on" or magnetic type to attach to the blade. Set a 6" square on the table top with the blade vertical and touching the aligning tool. These test measurements should be made with the tools kept as close as possible to the guide bodies. If the blade is not square with the table, the guide bearing plate needs to be adjusted to bring the blade into alignment. **See illustration of Blade Guide Assembly on page 2.**

First the wing nut, Item 9 in the illustration, must be loosened. Next, loosen nut, Item 13. The adjustment to the bearing plate is set using the cap screw, Item 14. If the adjustment requires that the cap screw be backed out, the adjustment stud, Item 2, must be manually pushed so it is in contact with the cap screw. When the blade is aligned parallel with the square, tighten the wing nut to lock the bearing plate in position. Hold the cap screw from turning and lock nut, Item 13, against the guide clamping bolt.

Blade Speeds

The V-belt must be changed on the pulleys to change speeds. For HIGH speed, place the belt in the largest pulley on the motor shaft and the smallest on the reducer shaft.

For MEDIUM speed, the middle pulley is used on both shafts. For LOW speed, the smallest pulley on the motor shaft is used with the largest on the reducer.

Replacement of Hydraulic Oil

The hydraulic cylinder can be filled on the saw or in a bench vise.

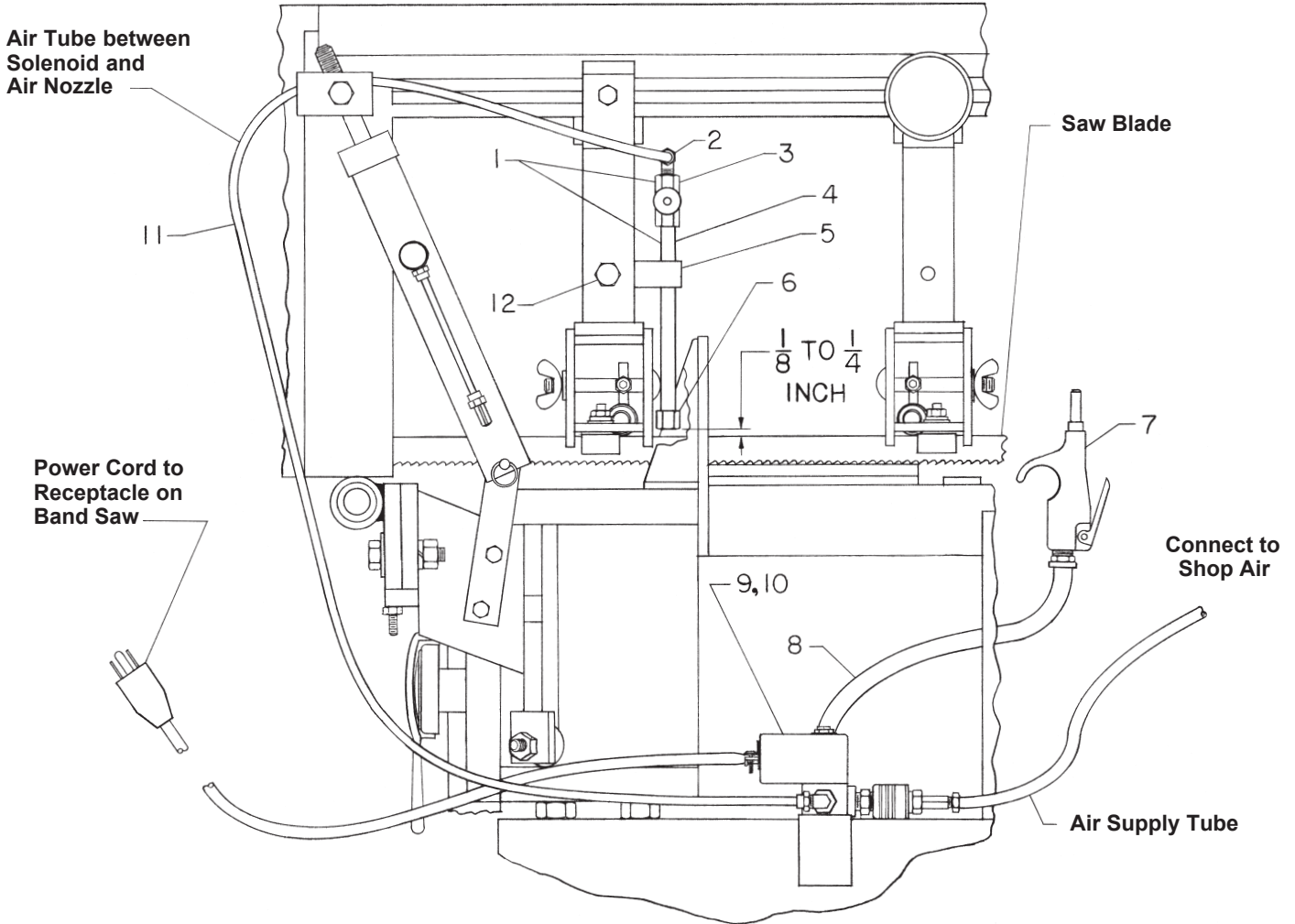
THE SHAFT MUST BE FULLY PUSHED IN BEFORE STARTING TO FILL.

1. Remove pipe plug from near top of cylinder.
2. Fill with light weight hydraulic oil until oil flows back out of hole. Replace pipe plug.

Maintenance

A good clean machine is easy to operate and promotes safety.

1. Keep areas clean by brushing chips from table grooves, guide bodies, idler and drive wheels, pivot shaft hinge area and turntable grooves.
2. Oilite bushings in pivot shaft should be oiled annually.
3. Check oil level in hydraulic. Proper level is at pipe plug hole.
4. Oil in wormgear should be checked every 90 days. **FILL TO PROPER LEVEL AT PLUG, BELOW THE BREATHER VENT,** using 80 to 140 weight gear oil.

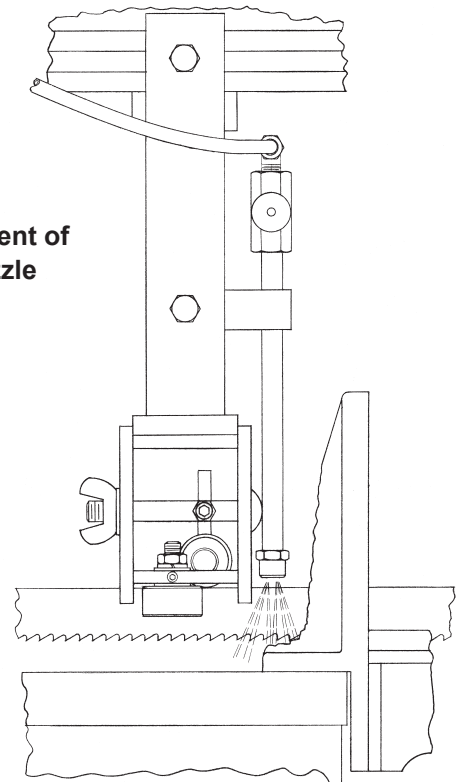


Air Cooling System

Item No.	Part Number For Voltage Rating		Description
	120V	230V	
Sys.	5922	5932	Air Cooling System-Complete
1	5925	5925	Valve and Nozzle Assembly
2	4728	4728	Elbow Fitting
3	4734	4734	Flow Needle Valve
4	4744	4744	Nipple
5	5923	5923	Mounting Bar*
6	5924	5924	Nozzle Cap
7	4970	4970	Blow Gun
8	4969	4969	Air Hose Assembly
9	5903	5912	Solenoid Valve Assembly-Complete
10	5001	5002	Solenoid and Cord Assembly <i>Only</i>
11	5926	5926	Tubing, .25 OD, 5 Feet
12	4015	4015	Bolt, Hex. Head 5/16-18 x 1-1/4

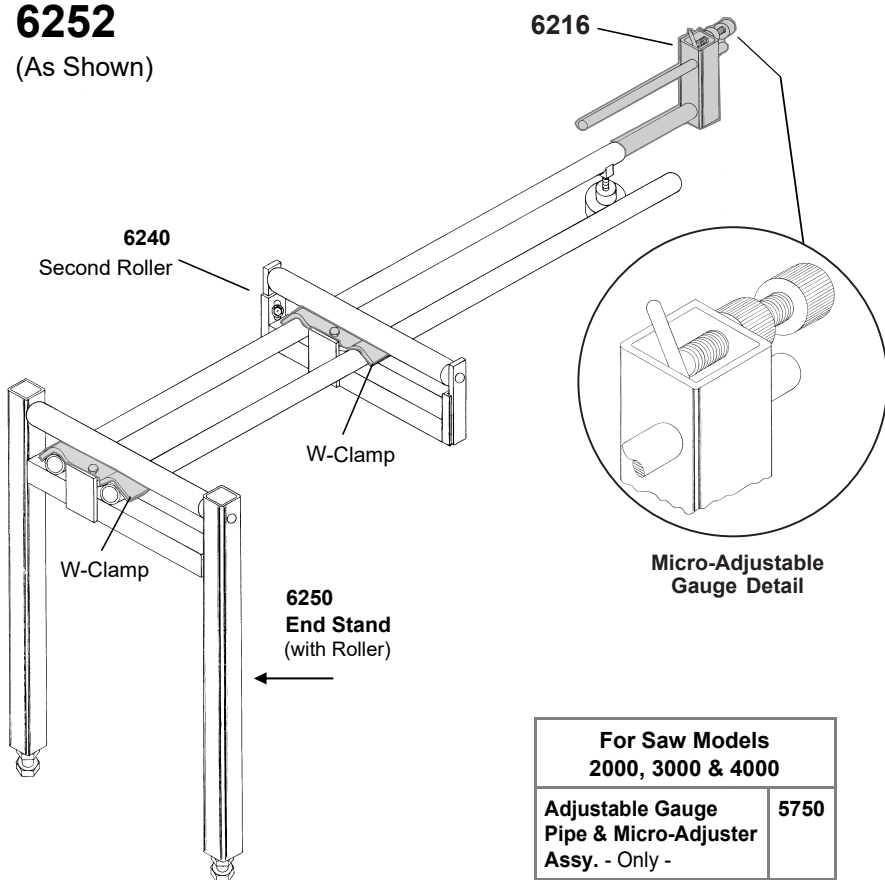
* For saw Model 4000 use mounting bar 5928

Enlargement of
Air Nozzle



ACCESSORIES

6252 (As Shown)



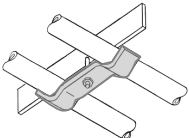
For Saw Models 2000, 3000 & 4000	
Adjustable Gauge Pipe & Micro-Adjuster Assy. - Only -	5750

2 Roller Stock Stand Assy. Part No. 6252

Includes: Stock Stand with 2 Rollers, Adjustable Gauge Pipe & Micro-Adjuster Assy. (+ W-Clamps, Hardware and Handwheel)

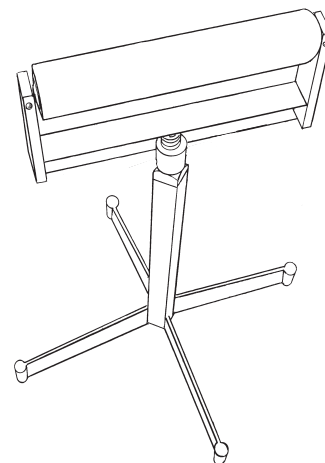
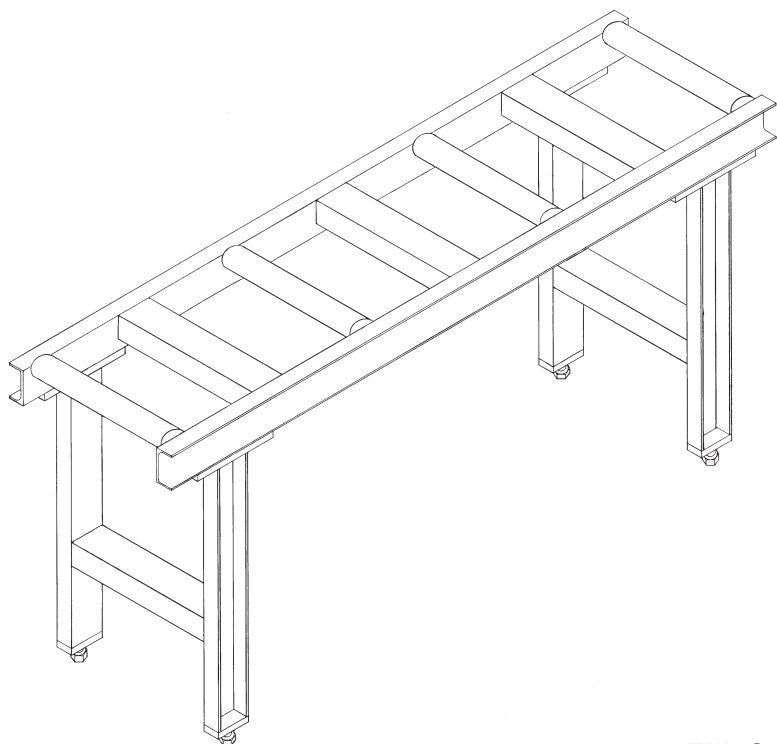
For Saw Models 1800, 1600 and Smaller

6252 - Sub-Assemblies - Options

Description	Part #'s
Stock Stand - 1 Roller Assy. Includes: Everything <u>except</u> Second Roller Assy. (6240) (+ W-Clamps and Bolts)	6200
Adjustable Gauge Pipe & Micro-Adjuster Assy. *Sold with 6252*	6216 *
Stock Gauge Assy. Includes: 6216, 2 Pipes, 2 W-Clamps with Bolts and Handwheel	6222
Micro-Adjuster Screw Assy. T-Rod, Nut and Knob *Sold with (6216) 6252*	6210 *
End Stock Stand Assy. End Stand with Roller (+ W-Clamp + Bolt)	6250
Second Roller Assy. (+ W-Clamp + Bolt)	6240
W-Clamp (Under Saw Table) 2 Req., includes J-Bolts Used with Part No's: 6252, 6200, 6222	

Heavy Duty Stock Stands (4 Rollers)

Saw Model	Part No.	Roller & Shaft	Length	Width	Roller Dia.	Height
3000 - 4000	6227	6198	5ft	20"	2.38"	24"
1600 - 2000	6228	6198	5ft.	20"	2.38"	22.5"
1600 - 2000	6229	6193	5ft.	12"	2.38"	22.5"



Single Stock Stand

Description	Part No.
Single Stock Stand Self Supporting, Adjustable	6185
Roller and Shaft (Only)	6193