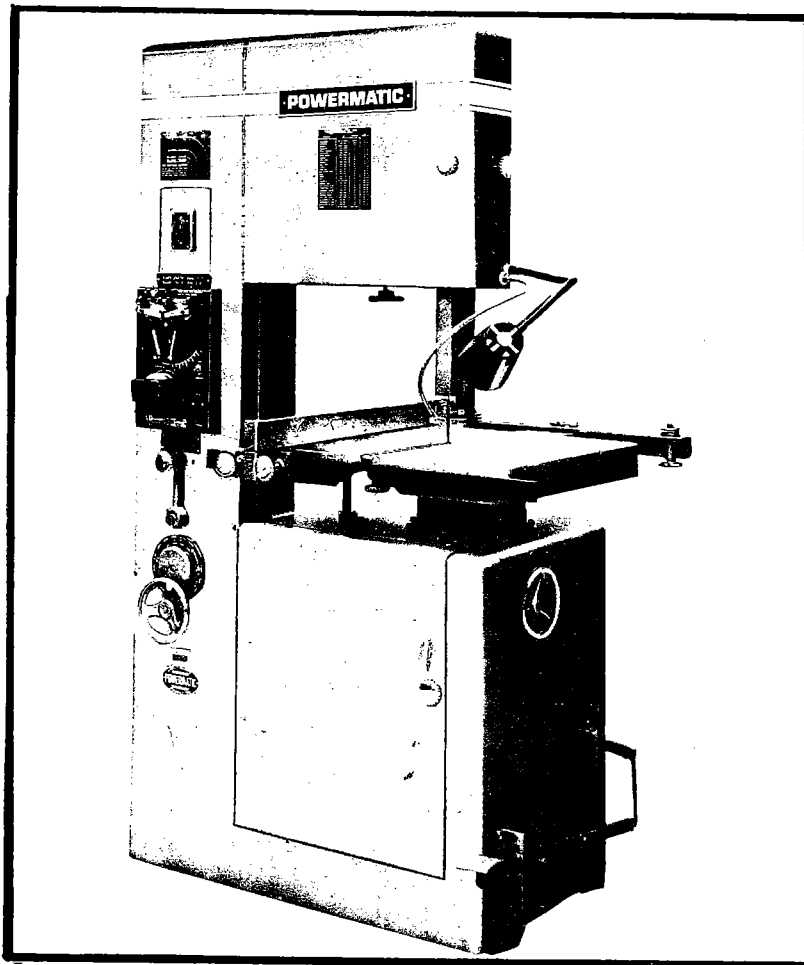


Model 87
20" (508mm) Band Saw

MAINTENANCE INSTRUCTIONS AND PARTS LIST



POWERMATIC®

Strength and performance right down the line.

POWERMATIC  HOUDAILLE, INC.
McMinnville, Tennessee 37110

FOREWORD

SAFETY FIRST!

This manual has been prepared for the owner and those responsible for the maintenance of a Powermatic Model 87 Band Saw. Its purpose, aside from machine operations is to promote safety through the use of accepted operating practices. Read the safety and operating instructions thoroughly before operating the machine.

In order to obtain the maximum efficiency from your Powermatic Band Saw, follow all instructions in the operating and maintenance manuals carefully.

The specifications put forth in this manual were in effect at the time of publication. However, owing to Powermatic's policy of continuous improvement, changes to these specifications may be made at any time without obligation on the part of Powermatic Houdaille, Inc.

WARRANTY

This machine and its component parts have been carefully inspected and performance tested at various stages of production and each finished machine is subjected to a final inspection before shipment. We agree that for a period of eighteen (18) months or 3000 hours of use, whichever occurs first from date of delivery from our authorized dealer, to repair or replace, at our option, any machine (or component part thereof) proving defective within the above period, F.O.B. our plant, providing such machine (or component part) is returned prepaid to our plant, or to a designated service center of the undersigned, for our examination. This warranty does not include repair or replacement required because of misuse, abuse, or because of normal wear and tear. Nor does it include electrical motors and electrical components which are warranted by their manufacturer and which should be taken to their local authorized repair station for service. Cost of removal, shipment and reinstallation are not covered hereby. Further, we cannot be responsible for the cost of repairs made or attempted outside of our factory or designated service center without our authorization. No claims will be honored if Serial No. plate has been removed. **THIS WARRANTY IS MADE EXPRESSLY IN PLACE OF ALL OTHER WARRANTIES OR GUARANTEES, EXPRESS OR IMPLIED, WITH RESPECT TO FITNESS, MERCHANTABILITY, QUALITY OR OPERATIVENESS. THIS WARRANTY IS MADE ONLY TO THE ORIGINAL PURCHASER, AND BECOMES EFFECTIVE ONLY WHEN THE ACCOMPANYING CARD IS FULLY AND PROPERLY FILLED OUT AND RETURNED TO THE FACTORY WITHIN TEN (10) DAYS FROM DATE OF DELIVERY.**

POWERMATIC  **HOUDAILLE, INC.**
McMinnville, Tennessee 37110

BAND SAW SAFETY INSTRUCTIONS

1. **Read, Understand, and Follow** the safety and operating instructions found in this manual. **Know** the limitations and hazards associated with this band saw. A safety rules decal is installed on each machine to serve as a reminder of basic safety practice.
2. **Grounding the Band Saw:** Make certain that the machine frame is electrically grounded and that a grounding lead is included in the incoming electrical service. In cases where a cord and plug are used, make certain that the grounding lug connects to a suitable ground. Follow the grounding procedure indicated by the National Electric Code.
3. **Eye Safety:** Wear an approved safety shield, goggles, or glasses to protect the eyes when operating the band saw.
4. **Personal Protection:** Before operating the machine, remove tie, rings, watch and other jewelry and roll up sleeves above the elbow. Remove all loose outer clothing and confine long hair. Protective-type footwear should be worn. Hearing protectors should be used where noise exceeds the level of exposure allowed in Section 1910.95 of the OSHA regulations. Do not wear gloves.
5. **Work Area:** Keep the floor around the machine clean and free of scrap material, chips, oil, grease, coolant, tools or accessories to minimize the danger of slipping or tripping. Be sure the table is free of all scrap, foreign material and tools before starting a cut. Powermatic recommends the use of anti-skid floor strips on the floor area where the operator normally stands and that each machine work area be marked off. Make certain the work area is well lighted and ventilated. Where dust or fumes present a hazard, provide a proper exhaust system. Provide for adequate work space around the machine.
6. **Guards:** Keep the machine guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards on completion of the maintenance task before using the band saw.
7. **Do Not Overreach:** Maintain a balanced stance and keep your body under control at all times. Do not overreach.
8. **Use Blades That Are In Good Condition:** Blades that are not sharp or have missing teeth can require excessive force or could break. Examine the backs of the blades. If it is rolled over, do not use the blade. Do not exceed 500 Surface Feet per Minute (2.54m/s) using high speed steel blades.
9. **Hand Safety:** Keep hands away from blade while it is in motion. Always adjust the guide bar to be as close to the top of the workpiece or fixture as possible to minimize blade exposure. Do not open upper or lower band saw door while machine is under power. Do not position hands on stock in line with the band saw blade.
10. **Wheel Rotation:** Be sure the band saw wheels rotate clockwise when under power.
11. **Machine Adjustments:** Make all adjustments with power off except wheel speed and feed rate.
12. **Machine Capacity:** Do not make any cuts requiring more power than is available on the machine. Do not exceed table carrying capacity of 500 lbs. (226.8kg) evenly distributed.
13. **Avoid Accidental Starts:** Make certain the motor switch is in the "off" position before connecting power to the band saw.
14. **Careless Acts:** Give the work you are doing your undivided attention. Looking around, carrying on a conversation and "horseplay" are careless acts that can result in serious injury.
15. **Job Completion:** If the operator leaves the machine area for any reason, the band saw should be turned off and come to a complete stop before his departure. In addition, if the operation is complete, he should clean the band saw and work area. Never clean the machine with the power "on" and never use the hands to clear chips or sawdust; use a brush.
16. **Disconnect the Machine:** Before performing any service or maintenance and when changing blades.
17. **Replacement Parts:** Use only Powermatic or factory authorized replacement parts and accessories; otherwise, the warranty will be null and void.

BAND SAW SAFETY INSTRUCTIONS (continued)

18. **Misuse:** Do not use this Powermatic band saw for other than its intended purpose. If used for other purposes, Powermatic disclaims any real or implied warranty and holds itself harmless for any injury which may result from such use.

Do not equip your Powermatic band saw with a motor larger than 3hp (2.137kw) at 1800rpm. Doing so voids the warranty and Powermatic holds itself harmless from any injury that may result.

MACHINE SPECIFICATIONS

Table Size	-----	24" (609mm) x 24" (609mm)
Table Tilt	-----	45° R. – 15° L.
Throat, Blade to Column Guard	-----	19-3/4" (501mm)
Maximum Work Thickness	-----	12" (305mm)
Table Feed Force (optional)	-----	0 – 60 lbs. (0 – 27.2kg)
Speed Range:		
Low (infinitely variable)	-----	47 – 470 rpm
High (infinitely variable)	-----	520 – 5200 rpm
Blade Width Capacity	-----	1/8" – 1" (3 – 25mm)
Blade Length	-----	149" – 152" (3785 – 3861mm)
Upper Wheel Adjustment	-----	1-1/2" (38mm)
Band Saw Wheel Diameter	-----	20" (508mm)
Main Drive Motor	-----	2 or 3 hp (1.5 or 2.24kw)
Weight, Domestic Crated	-----	1300 lbs. (590kg)

BELTS

LOCATION	POWERMATIC NO.	INDUSTRY NO.	NO. REQ.
Between Variable Pulleys—	6077143	1922V426	1
Between Countershaft and Transmission—	6077141	7M1180	3
Between Compressor and Motor (optional)—	6077076	7M710	1

FOUNDATION LAYOUT

NOTE:
MTG. HOLES ARE
 $\frac{7}{16}$ (11.1MM) DIA.

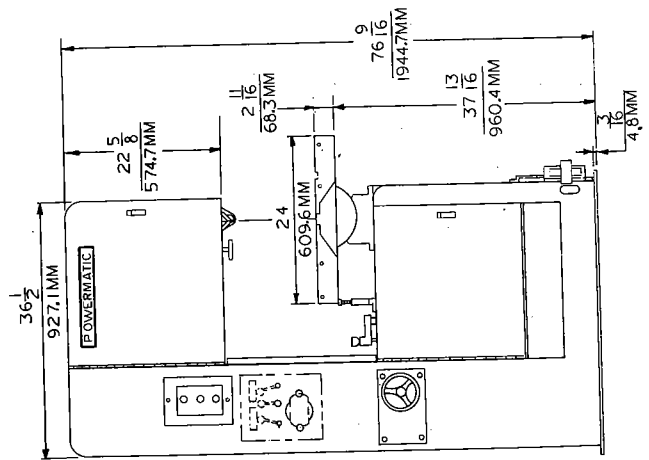
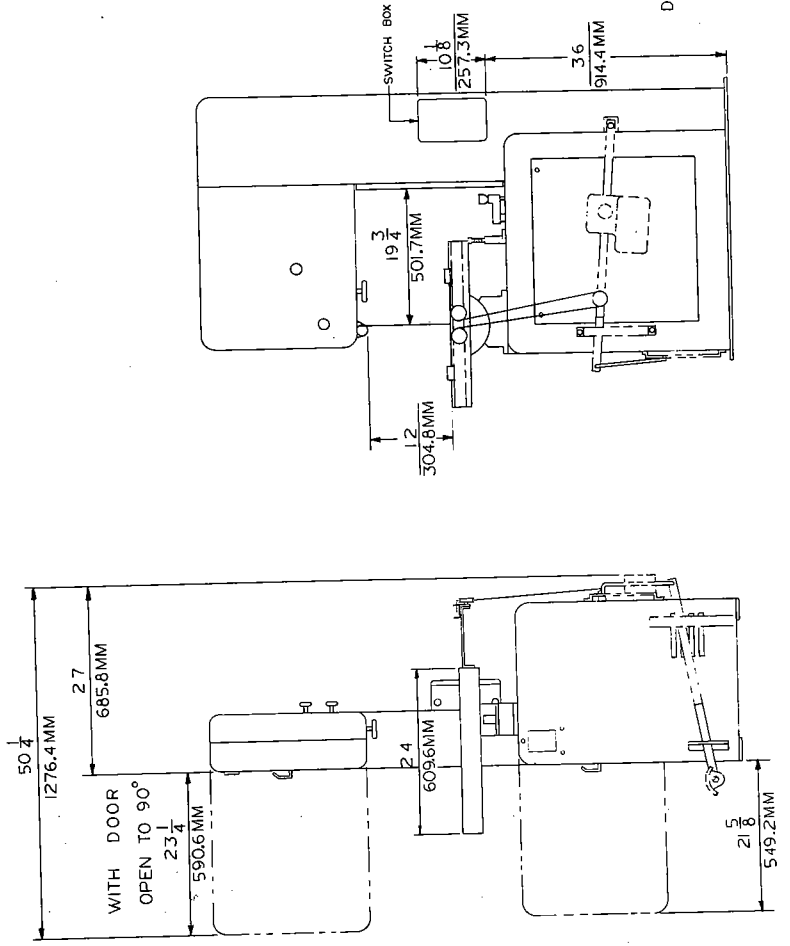
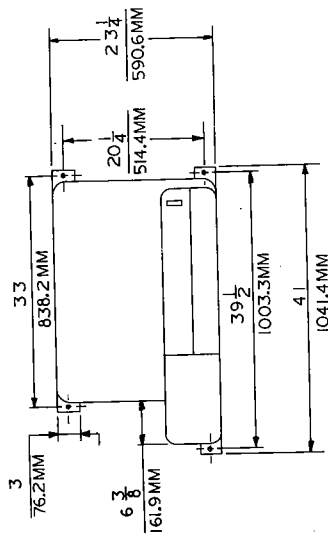


Fig. 1

87 B.S.
DIMENSIONAL DWG.
0340091

LUBRICATION CHART

ITEM NO.	INTERVAL	ITEM & INSTRUCTIONS	RECOMMENDED LUBRICANT
1	Weekly	Variable Speed Sheaves – oil male hubs	SAE No. 10
2	Weekly	Air Compressor – on side	SAE No. 10
3	Monthly	Variable Speed Adjusting Screw	Fiske Co., Lubriplate No. 630A
4	Monthly	Band Tensioning Screw	Fiske Co., Lubriplate No. 630A
5	Monthly	Upper Wheel Slide	Fiske Co., Lubriplate No. 630A
6	Monthly	Variable Speed Adjusting Linkage Pivot Points	SAE No. 10
7	Monthly	Transmission. Fill Through Filler Plug (Drain and Flush every six months)	Mobil Vactra No. 1
8	Monthly	Upper Wheel Tilt Bracket Pivot Screws and adjusting screw	SAE No. 10
9	Monthly	Table Trunnion Surfaces, clean & regrease	Fiske Co., Lubriplate No. 630A
10	Monthly	Gearbox Shifter Detent Plunger	SAE No. 10
11	Monthly	Guide Post & Guide Post Clamp Screw	SAE No. 10
12	6 Months	Speed Dial Gears	Fiske Co., Lubriplate No. 630A

LOCATION PLANNING

Caution: Lift machine with fork lift truck under base. Do not lift through the throat opening. Net weight is 1100 lbs. (498.96kg), approximately. The machine should be located so that space is allowed for easy feeding and removal of material. Clearance should also be allowed behind the machine for servicing and in front for the opening of doors.

RECEIVING

Remove all protective coverings, crating, etc. carefully. Inspect the machine for broken or damaged parts. Any evidence of damage in transit should be reported to the trucking company which delivered the machine immediately. Four (4) holes are provided in the base for anchoring the machine to the floor.

Level the table and check to see that post is square to the table. Connect the leads of the line circuit into the starter on the back of the machine and check for proper direction of rotation as follows:

1. Shift machine into low range on transmission. To do this, manually rotate the bottom wheel, at the same time move shift lever to the left detent position.
2. Depress start button to start main drive motor and check rotation. The lower wheels should rotate clockwise. If not, disconnect machine from power source and change any two incoming leads in the starter usually mounted on the rear of the column of machine. Install a saw band and check to see that the band touches upper and lower backup bearings in saw guide and is centered on both top and bottom wheels. If it is not centered, see section on band saw lineup for proper alignment.

MODEL 87 FEATURES

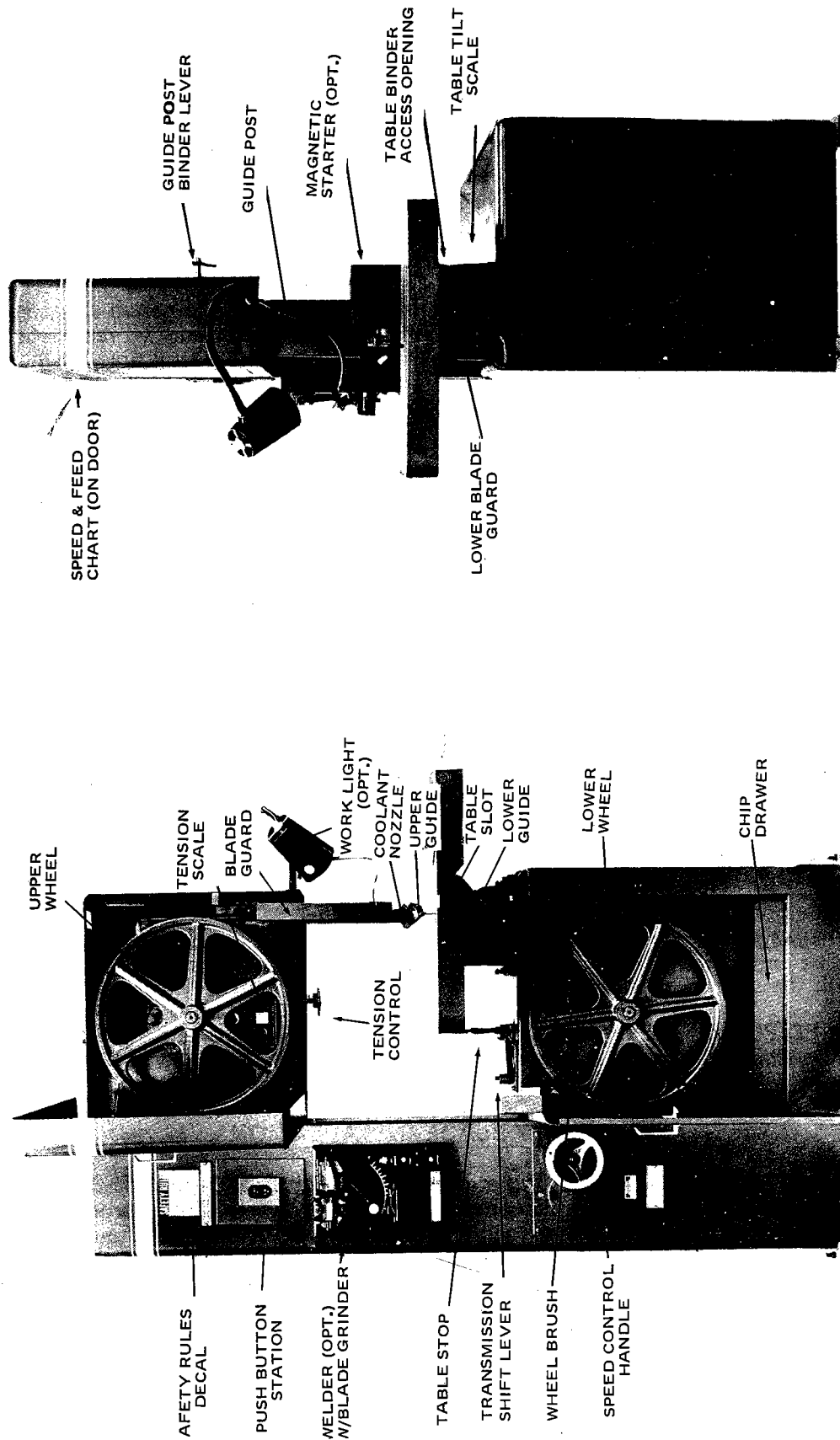


Fig. 2

MODEL 87 FEATURES AND CONTROLS

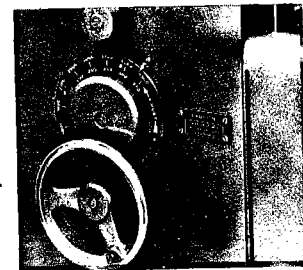
SPEED AND FEED CHART: The speed and feed chart mounted on the upper door of the saw enables the operator to quickly select the correct saw band, speed and feed rate on the chart for basic materials.

TABLE: A heavy duty table and trunnion assembly will hold 200 lbs (91.72kg) at any point or 500 lbs (226.8kg) evenly distributed. The table can be tilted 15° left or 45° right. Pointer and degree scale are attached directly to the trunnion and cradle to indicate the angle at which the table is set.



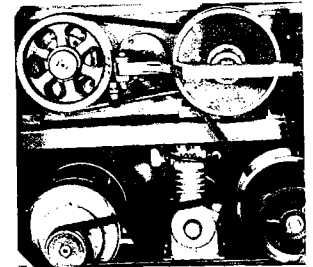
SAW WHEELS: The wheels are cast iron, dynamically balanced, centered and aligned so that the band will run at all times against backup bearings and centered on wheels. Tires are vulcanized to the wheels assuring no slippage and long wear. Should the tires become worn, Powermatic has an exchange policy where the wheels are returned for credit after the replacement wheels are received. To remove a wheel, loosen both setscrews and pull straight out. If the wheel has been in place for a long time, a wheel puller may be necessary. On replacement be sure to oil the shaft and hole to avoid rusting.

SPEED CONTROL: Variable speeds are selected through a column-mounted control wheel. An easy to change, easy to set shift lever is mounted on the cross member near the table. In low range, speeds are from 47 to 470 SFM (14.33 to 143.3 mpm) and in high range, from 520 to 5200 SFM (158.5 to 1585mpm). A speed dial is mounted on the column of the machine for direct reading of surface feet per minute (meters per minute). If the shift lever will not go into the detent position when changing range, rotate the lower wheel manually until teeth engage.



WHEEL BRUSHES: Check the wheel brushes occasionally. If they are worn so that they no longer contact the wheel face, loosen the adjusting screws and move the brush up to the wheel. Replace as required.

TRANSMISSION: Drain, flush, and refill after first month and thereafter at least every six months. Capacity is 3 quarts. Fill to the top of fill pipe, but do not over fill. Use Mobil No. 1 Vactra oil. Check for seal leaks around the shafts. Any rough operation, vibration, loud or unusual noises should be investigated immediately. It is recommended that the transmission be returned to the factory for repairs, or that repairs be made by a factory serviceman.



WARNING: Difficulties in shifting may be caused by wear or incorrect adjustment in the shifting linkage and this should be considered before repairing the transmission. It may be necessary to jog the band drive motor until the shift lever is fully engaged, Do not attempt to force the shift lever into position.

VARIABLE SPEED PULLEY: Every six months remove the pulley unit, and wash and clean with solvent. Re-oil and install. Check the variable pulley faces for scoring which could damage the belts.

MODEL 87 BLADE INSTALLATION

NOTE CAREFULLY: If the blade width to be installed is less than 1/2", use the 3/16" thick shim back of the upper guide and turn the step in the bar support for the lower guide towards the trunnion. Check the inserts for the correct width. The insert width should be slightly less than the distance from the back of the band to the bottom of the gullet. Change them if required and leave them pulled away from the band. Lower the upper wheel housing. Loosen both the insert clamp screws and remove the insert. Open both doors and post-mounted band guard. Loop the band over the upper wheel, feed it into the blade guard on the column and under the lower wheel. Using the band tension handwheel, put tension on the blade. Rotate the wheels by hand and watch how the band tracks on the wheels. Tilt the wheel if necessary to cause the band to run centered on the wheel. Check to see if the blade is against the upper and lower guide backup bearing. For proper operation the blade should be in firm contact with lower backup bearing and be in light contact or slightly clearing the upper backup bearing. If it is not, see section on band saw alignment and realign the machine.

MODEL 87 BLADE INSTALLATION (continued)

Increase tension to the setting for the blade width to be used. Slide one insert on each guide to be lightly against the blade and lock in position. Slide the other insert against the blade to give a slight drag and lock in position. Check this by pulling out on the band and checking the feel of the slight drag. Close the guide bar mounted blade guard and both doors before starting the band saw.

MODEL 87 TABLE AND BELT ADJUSTMENTS

TABLE STOP ADJUSTMENT: The table stop is factory set to position the table square with the blade and should not need adjustment. However, if the band saw is realigned for any reason, it will be necessary to reset the stop. Unlock the jam nut and screw the jackscrew a few turns down into the bracket so as to allow the table to go past the 0° point. Adjust the guide bar to be close to the table with the trunnion unlocked and with a combination square, or similar gauge set on the table with the blade against the post, adjust the table to be square with the post using the jackscrew in the stop bracket. Relock the jam nut, swing the table away from and then back to the stop. Tighten the trunnion lock. Recheck to see if the table is still square with the guide post. Readjust if necessary. Check the position of the scale pointer and reposition if necessary. (See Fig. 3)

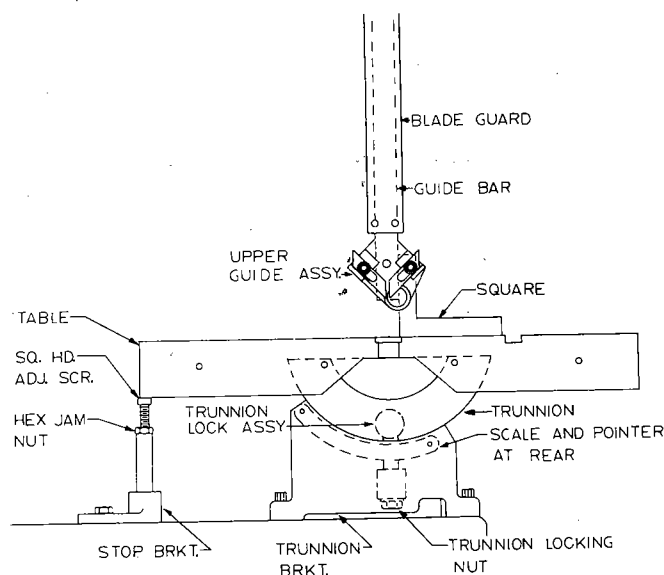
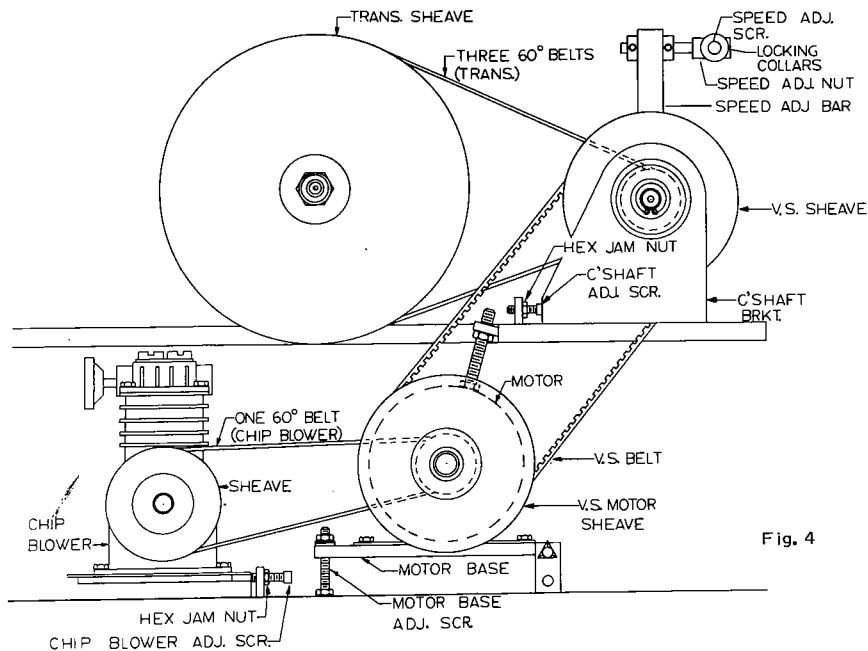


Fig. 3

BELT ADJUSTMENT: Shift the transmission into its neutral position. Remove the rear cover. The belts from the transmission to the countershaft can be tightened by means of a jackscrew in a lug welded to the upper shelf. With the four mounting screws snug but not tight, jack the countershaft bracket until the three belts between the transmission and the countershaft are properly adjusted. The type of belt used must be guitar string tight to operate properly. (See Fig. 4)

BELT ADJUSTMENTS, cont'd

The variable speed belt must be adjusted after the above belts are and must be readjusted whenever the above belts are readjusted. Loosen the stops on the speed control screw and move them away from the operating nut. Turn saw motor on and adjust speed control handle until the variable speed belt either bottoms out in the motor pulley or is flush with the outside diameter of the countershaft pulley. If the belt bottoms out before becoming flush with the outside diameter, raise the motor by adjusting the motor base with the jackscrew nuts. Continue raising the motor base and adjusting the speed control until the belt is flush with the outside diameter of the countershaft pulley and just slightly before bottoming out on the motor pulley. If the belt is flush with the countershaft pulley outside diameter and has not bottomed out, squeeze the belt halves together or pull out on the belt to cause the spring loaded side of the motor pulley to move back and lower the motor base until the belt is close to bottoming out on the motor pulley hub. Set the low speed stop on the speed adjusting nut and lock in place. Check the position of the information on the dial to see if the low speeds 47 and 520 line up with the pointer. If it does not, loosen the nut on the speed control handwheel shaft and push the shaft forward until the gearing disengages and the speed dial spins free. Adjust dial so that the low speeds 47 and 520 line up with the pointer. Retighten nut on the end of the speed control shaft making certain by rocking the dial that it is lined up to the nearest tooth and that the gears re-engage.

If the saw is equipped with an optional chip blower, belt tension is achieved by use of a jackscrew and jam nut working through an ear welded to the lower shelf. Back off on the jackscrew to install the belt and use it to tension the belt once it is installed. The type of belt used requires that it be guitar string tight for proper drive.

CAUTION: Make all adjustments except changing speed with the motor off. Adjust speed control handle to increase the speed until the variable speed belt is flush with the outside diameter of the motor pulley. Set the variable speed stop against the adjusting nut and lock in place. Put the rear cover back on.

MODEL 87 BAND SAW ALIGNMENT

One of the most important keys to successful band sawing is the lineup of the saw. Your machine as received should be properly lined up ready to do your sawing operations. However, if it is not lined up or because of wheel wear or wheel replacement alignment has been disturbed, listed below are the steps to go through to realign the saw.

1. Check the distance from the column face to the lower wheel centerline. It should be 10-5/8".

MODEL 87 BAND SAW ALIGNMENT, cont'd

1. If it is not, loosen the four mounting screws bolting the transmission to the shelf and reposition it to the above deminsion. Snug the screws down.
2. Check the parallelism of the lower wheel to the cross member with a combination square. It should be parallel within 1/32". Make sure also that the lower wheel is not all the way back against the shoulder on the transmission shaft. Allow approximately 1/8" for the final adjustments. Check also that the wheel clears the chip brush bracket.
3. Check the location of the guide bar in the upper wheel housing. It should be 20-1/8" from the column over its entire length. If it is not, the guide bar will have to be relocated. Back off the two setscrews at the right hand side of the bracket and then loosen four mounting screws bolting the bracket to the upper frame. The two jackscrews in the welded ears below the bracket can be used to tip the bracket into parallelism with the column. If the guide bar is parallel but out of location, simply slide it over to get the 20-1/8" location for the full length of the bar. Snug down the three bracket mounting screws nearest to the adjusting jacks.
4. Check the location of the upper wheel centerline. It should be 10-5/8" from the column face. Readjust if necessary by using the opposing jackscrews in the upper wheel slide on each side of the wheel bracket. Leave enough clearance between the screws so that the bracket can pivot freely. Remove the table from the trunnion. Note any shims used and put the shims under the same screws when the table is reinstalled.
5. Install a 3/8" width blade. Check the upper guide. It should be mounted to the guide bar with a 3/16" shim. Check the lower guide bracket. The step should face away from the front side of the machine. With a long straight edge, check for parallelism of the wheels tilting the upper wheel and moving it on its shaft to check for parallelism. Note lower wheel may not be properly tilted causing the upper wheel to be too far back or forward. Adjust the lower wheel is required using the setscrews in the transmission mounting feet to tilt the lower wheel. If one side of the wheels is parallel and the other is not parallel, pivot the upper wheel housing with the jacking studs provided. Be careful not to lose the position of the wheel centerline and post location. After paralleling the wheels, spin the wheels clockwise and adjust the tilt to track the band in the center of both wheels. If the band can be centered on the upper wheel but is off center on the lower wheel, make sure the guides are not holding the band from centering. If they are, temporarily remove them. Spin the wheels counter-clockwise. The band should track the same in both directions if the wheels are parallel. If it does not track the same in both directions, parallelism of the wheels must be corrected.
6. Reinstall the upper guide if it was removed. Note the position of the blade relative to the wheel. If it is against the guide backup bearing and will not allow the blade to center, the upper wheel must be moved out. If it clears the backup bearing, the wheel will have to be moved back. Adjust the guide bar up and down and note whether the backup bearing and guide bar are parallel to the back of the band. If it is not, the bracket will have to be adjusted with the jackscrews to bring the post into line with the band. Check also on the side parallelism of the side of the guide bar to the band. With one of the inserts slightly clearing the band and the other well clear of the band, raise the guide post up and down to see if it moves parallel with the band. If it is not parallel, the bracket must be pivoted into alignment using the bottom jackscrews. Use care in adjusting all jackscrews so that proper locations are maintained and the wheels remain parallel. Note the back of the band should lightly contact or slightly clear (.015") the backup bearing, over the full travel of the guide post.
7. Lock the transmission and upper wheel bracket in place. Note prior to locking the extreme right hand screw of the upper wheel bracket, adjust the two set screws above and below it to be in light contact with the backup plate.

MODEL 87 BAND SAW ALIGNMENT, cont'd

8. Loosen the four mounting screws holding the trunnion to the frame cross member. Reinstall the lower guide and table. Locate the trunnion so that the band overlaps the backup by approximately .093" and is centered in the insert slot. Using a combination square, check the squareness of the table to the back of the guide bar and square the table to the back of the guide post using the jackscrews provided in the trunnion support bracket. Position the trunnion so that there is good contact between the back of the band and the backup bearing. Lock the trunnion bracket to the cross member.
9. Using the combination square on the table and against the side of the guide post, using the table stop at the left hand side of the table, square the table sidewise to the post. Lock the stop screw with the jam nut provided.
10. Tilt the table at 45° to the right and check to be sure that the band clears the insert. If it does not clear, loosen the four screws that mount the table to the trunnion and readjust the table. Retighten the mounting screws and recheck both the 0° and 45° points for band clearance.

TROUBLE-SHOOTING AND SAWING HINTS

TROUBLE	POSSIBLE CAUSE	REMEDY
Table Tilt Does Not Hold Position Under Load	<ol style="list-style-type: none"> 1. Tilt lock is not tightened. 2. Tilt lock mechanism is broken or worn. 	<ol style="list-style-type: none"> 1. Tighten tilt lock. 2. Replace.
Table Will Not Tilt.	<ol style="list-style-type: none"> 1. Trunnion was not lubricated. 2. Trunnion is jammed. 	<ol style="list-style-type: none"> 1. Lubricate. 2. Disassemble and replace jammed parts.
Table Vibration (while sawing).	<ol style="list-style-type: none"> 1. Incorrect band speed. 2. Incorrect choice of saw band pitch. 3. Worn or improperly adjusted saw guide inserts. 4. Worn saw guide back-up bearing. 	<ol style="list-style-type: none"> 1. Check speed and feed chart and correct speed for material. 2. Check speed and feed chart and change to correct blade. 3. Adjust or replace worn parts. 4. Replace worn parts.
Transmission Will Not Stay In Mesh	<ol style="list-style-type: none"> 1. Broken roll pins in shift linkage. 2. Shift mechanism in transmission is jammed. 3. Sliding clutch jaws in transmission are jammed or damaged. 	<ol style="list-style-type: none"> 1. Replace roll pins. 2. Consult factory. 3. Consult factory.
Surface Finish On Work Tool Rough	<ol style="list-style-type: none"> 1. Saw guide inserts are worn. 2. Saw band speed is too low. 3. Saw band pitch is too coarse. 	<ol style="list-style-type: none"> 1. Replace inserts. 2. Increase speed. 3. Change to finer pitch blade.
Saw Band Cutting Inaccurately.	<ol style="list-style-type: none"> 1. Worn blade teeth. 2. Scale on work piece was not removed. 3. Work piece hardened by grinding to remove scale. 4. Incorrect saw band or insert alignment. 5. Post not square to table. 6. Incorrect band speed used. 7. Incorrect feed force used. 8. Saw guide on upper post not located close enough to work piece. 9. Incorrect choice of saw band. 10. Incorrect saw band tension. 	<ol style="list-style-type: none"> 1. Replace blade. 2. Remove scale. 3. Scrap work piece. 4. Realign saw. 5. Square post to table. 6. Use table and correct band speed. 7. Reduce feed force. 8. Relocate post as close to top of work piece or fixture as possible. 9. Use table and change to correct band. 10. Readjust tension.
Saw Band Teeth Stripping (usually caused by chip welding)	<ol style="list-style-type: none"> 1. Saw band pitch too coarse for thin work section. 2. Work not held firmly. 3. Band speed too low. 	<ol style="list-style-type: none"> 1. Change band to finer pitch. 2. Change method of holding work. 3. Increase band speed.

TROUBLE-SHOOTING AND SAWING HINTS (continued)

TROUBLE	POSSIBLE CAUSE	REMEDY
<p>Premature Saw Band Breakage (usually caused by teeth stripping.)</p>	<ol style="list-style-type: none"> 1. Saw band speed too low. 2. Feeding force too high. 3. Pitch of saw band too coarse. 4. Saw guide inserts and backup bearings not properly guiding band. 5. Band tension too high. 6. Defective weld. 	<ol style="list-style-type: none"> 1. Increase speed. 2. Decrease feed force. 3. Change band to finer pitch. 4. Check for worn inserts and backup ring and replace if required. 5. Reduce band tension. 6. See Welder Manual for instructions.
<p>Premature Dulling of Saw Band</p>	<ol style="list-style-type: none"> 1. Not breaking in saw band on first few cuts. 2. Band speed too high, causing abrasion. 3. Saw band pitch too coarse. 4. Feed pressure too light. 5. Cutting rate too high. 6. Faulty material analysis. 7. Faulty material such as heavy scale, inclusions, hard spots, etc. 8. Saw band vibration. 9. Chipped tooth lodged in cut. 10. Chip welding. 	<ol style="list-style-type: none"> 1. Reduce feed pressure and speed on first cuts. 2. Reduce speed. 3. Change to finer pitch blade. 4. Increase pressure. 5. Reduce feed pressure. 6. Determine material and correct speed feed or blade as required. 7. Replace material. 8. Check for unbalance due to worn belt or parts. 9. Stop cut and remove lodged tooth. 10. Reduce speed.

MODEL 87 TABLE STOP ADJUSTMENTS

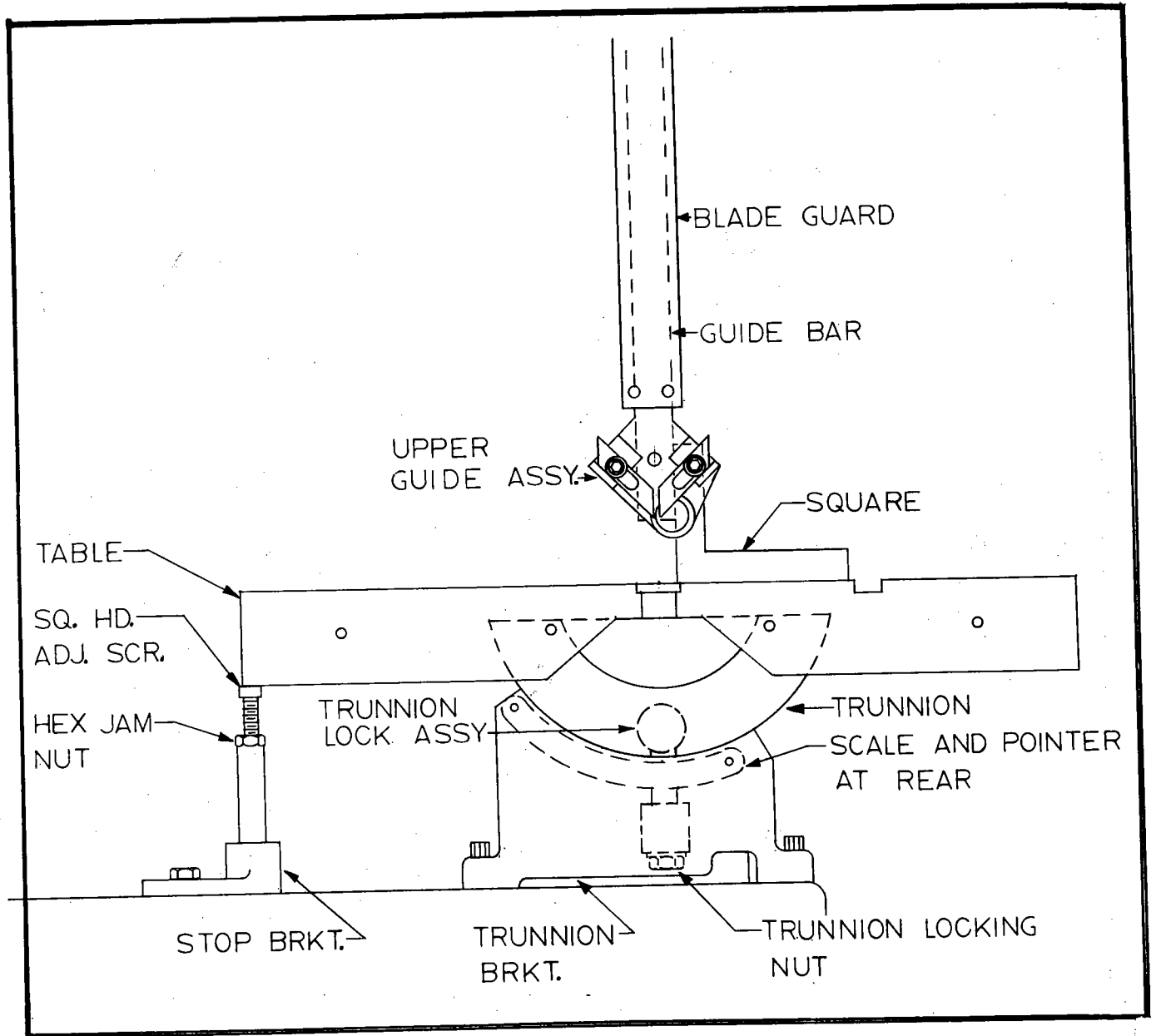


Fig. 5

MODEL 87 DRIVE BELT ADJUSTMENTS

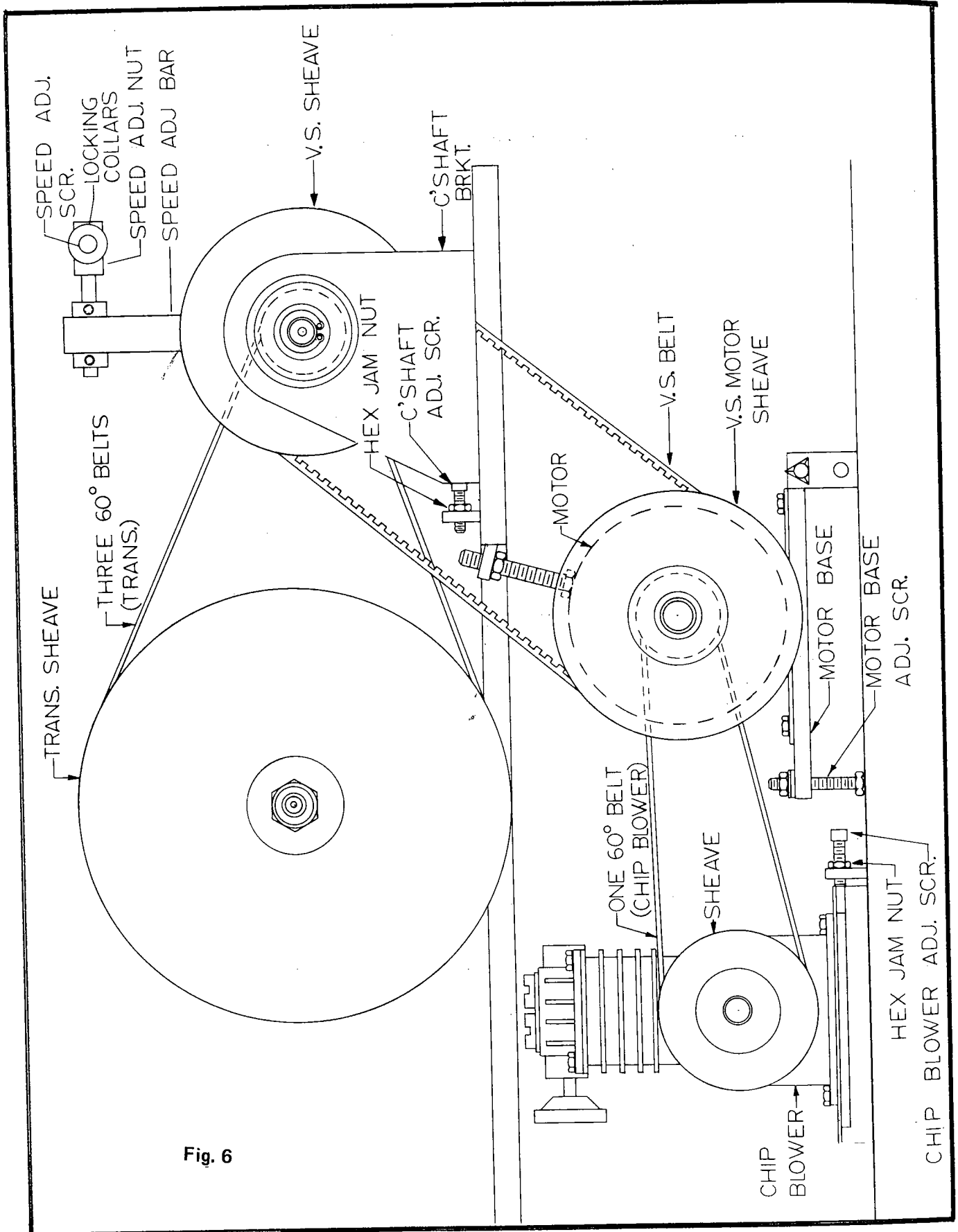


Fig. 6

MODEL 87 TRANSMISSION SHIFT LEVER ASSEMBLY

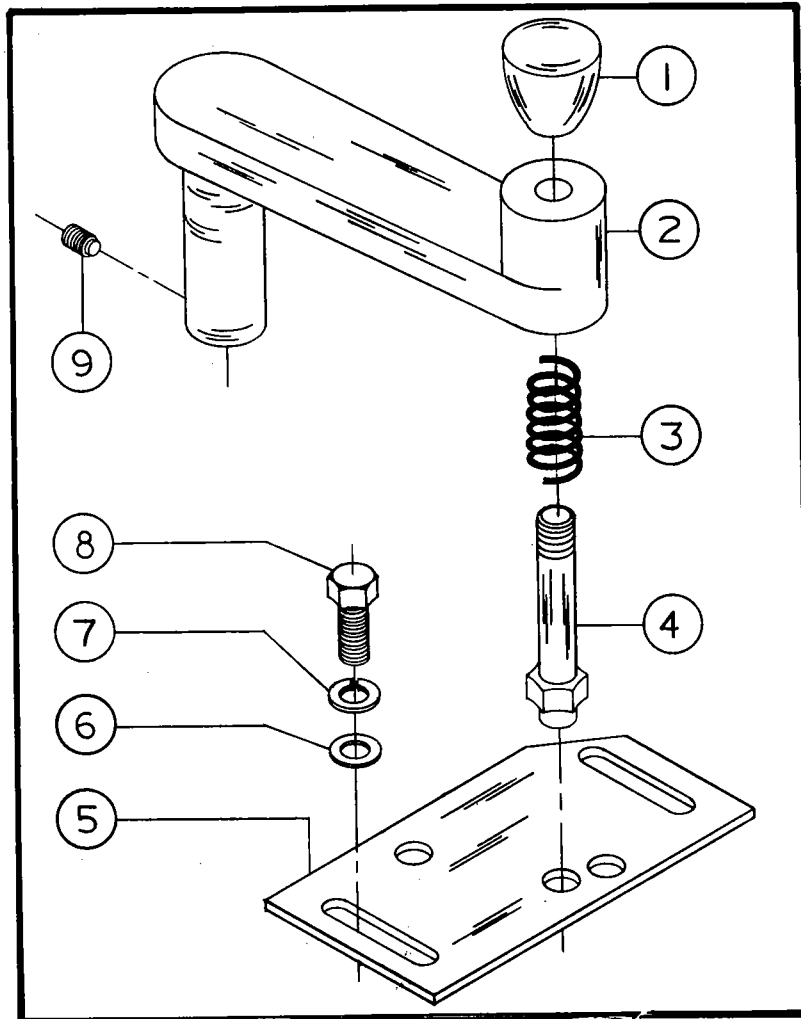


Fig. 7

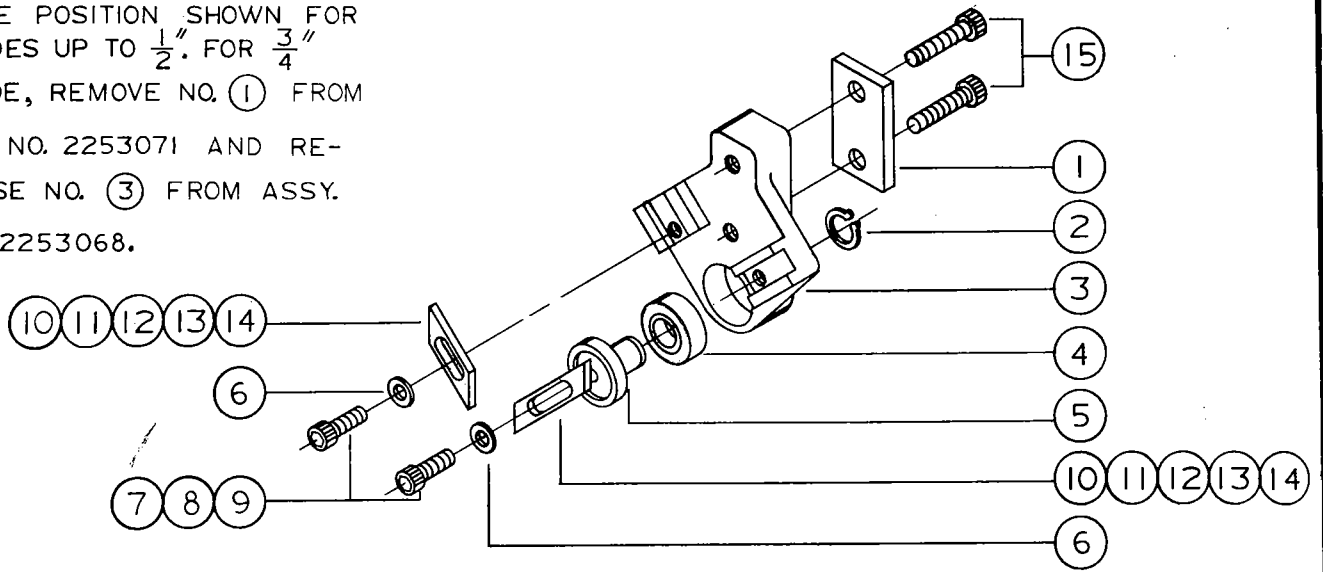
**MODEL 87 TRANSMISSION SHIFT LEVER ASSEMBLY
PARTS LIST**

ITEM NO.	PART NO.	DESCRIPTION	QTY.
	2426014	LEVER, SHIFT ASSEMBLY (ITEMS 1 THRU 4)	
1	3406201	KNOB	1
2	3426052	LEVER, SHIFT	1
3	6813087	SPRING, COMPRESSION	1
4	3582093	PIN, SHIFT LOCKING	1
5	3595338	PLATE, SHIFT DETENT	1
6	6861101	WASHER, 1/4" FLAT	2
7	6861100	WASHER, 1/4" LOCK	2
8	6714127	SCR., HEX HD. CAP, 1/4-20 X 1/2"	2
9	6714004	SCR., SOC. HD. SET, 1/4-20 X 1/4"	2

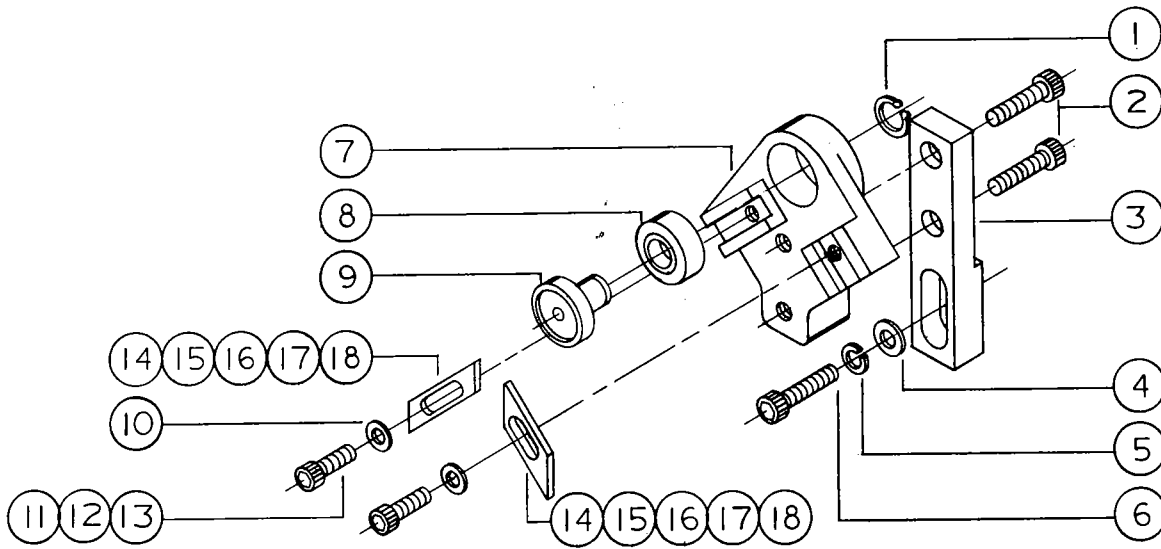
MODEL 87 UPPER & LOWER GUIDE ASSEMBLIES

NOTE:

GUIDE POSITION SHOWN FOR
BLADES UP TO $\frac{1}{2}$ ". FOR $\frac{3}{4}$ "
BLADE, REMOVE NO. ① FROM
ASSY NO. 2253071 AND RE-
VERSE NO. ③ FROM ASSY.
NO. 2253068.



UPPER GUIDE ASSY.
2253071



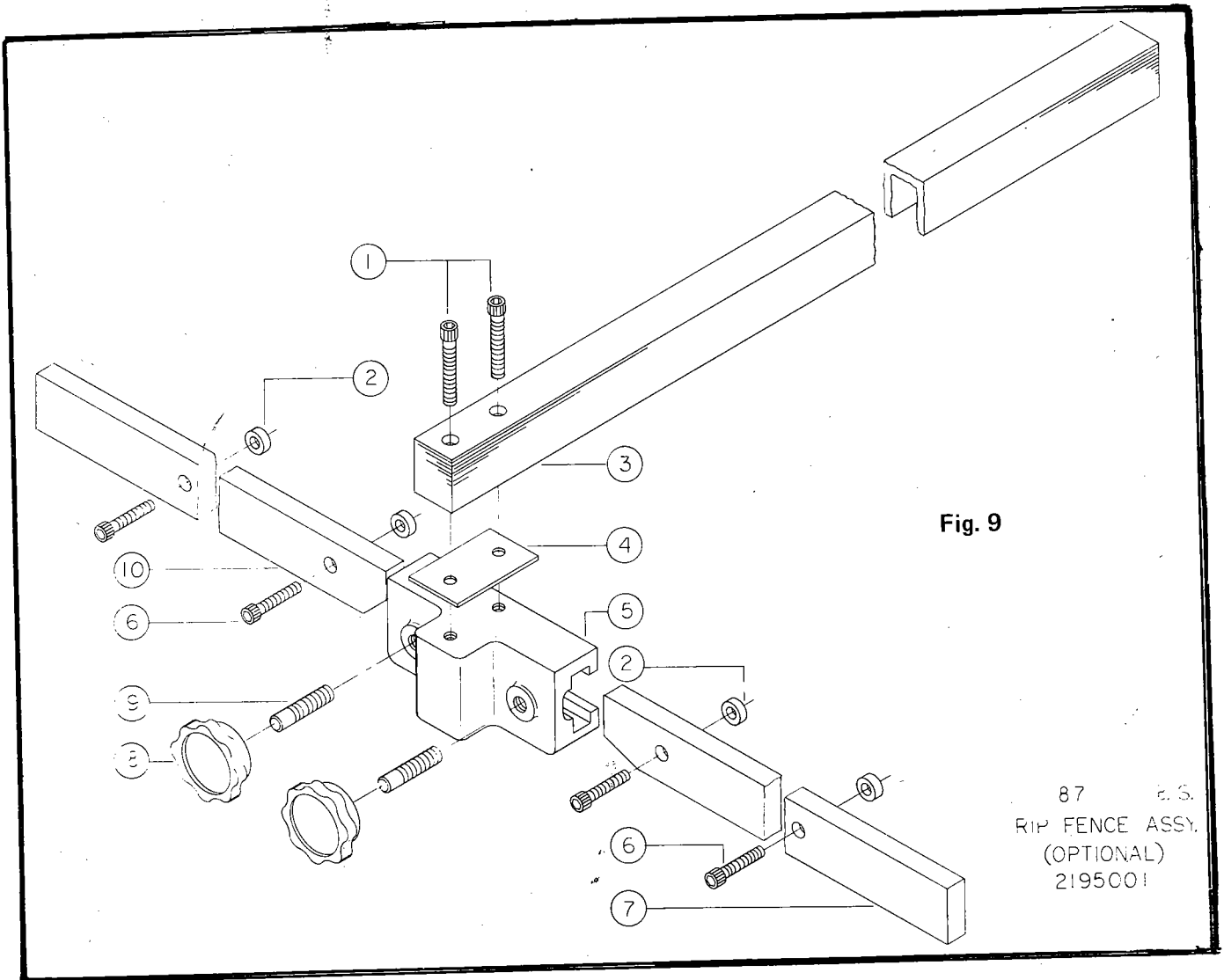
LOWER GUIDE ASSY.
2253068

Fig. 8

MODEL 87 UPPER & LOWER GUIDE ASSEMBLY PARTS LIST
(STANDARD)

ITEM NO.	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
	2253071	GUIDE ASSY., 45° UPPER ((ITEMS 1 thru 9)		14	3328216	INSERT, 45°, 1/8" BLADE	2
1	3735049	SPACER, GUIDE BAR	1	15	3328217	INSERT, 45°, 1/4" BLADE	2
2	6670016	RING, RETAINING, TRUARC No. 5100-39	1	16	3328218	INSERT, 45°, 3/8" BLADE	2
3	3253040	GUIDE, 45°	1	17	3328219	INSERT, 45°, 1/2" BLADE	2
4	6061017	BEARING, BALL, MRC 5200-SBK OR EQUIVALENT	1	18	3328220	INSERT, 45°, 3/4" BLADE	2
5	3700045	SHAFT, BLADE GUIDE BACKUP	1				
6	6813095	SPRING, BELLVILLE ASSOC. No. BO500-038, .255" I.D. X .500" O.D.	2				
7	6714015	SCR., SOC. HD. CAP, 1/4- 20 X 1/2" (W/INSERTS 3328216 & 7)	2				
8	6714016	SCR., SOC, HD, CAP, 1/4- 20 X 1, (W/INSERT 338220)	2				
9	6714018	SCR., SOC., HD. CAP, 1/4-20 X 3/4" (W/ INSERTS 3328218 & 9)	2				
10	3328216	INSERT, 45°, 1/8" BLADE	2				
11	3328217	INSERT, 45°, 1/4" BLADE	2				
12	3328218	INSERT, 45°, 3/8" BLADE	2				
13	3328219	INSERT 45°, 1/2" BLADE	2				
14	3328220	INSERT 45°, 3/4" BLADE	2				
15	6716013	SCR., SOC. HD. CAP, 3/8- 16 X 1-3/4"	2				
	2253068	GUIDE ASSY., 45° LOWER (ITEMS 1 thru 13)					
1	6670016	RING, RETAINING, TRUARC No. 5100-39	1				
2	6716016	SCR., SOC. HD. CAP, 3/8- 16 X 7/8"	2				
3	3044203	BAR, LOWER GUIDE MOUNTING	1				
4	6861301	WASHER, 3/8" FLAT	1				
5	6861300	WASHER, 3/8" LOCK	1				
6	6716013	SCR., SOC. HD. CAP, 3/8- 16 X 1-3/4"	1				
7	3253040	GUIDE, 45°	1				
8	6061017	BEARING, BALL, MCR No. 5200-SBZZ, oe EQUIV.	1				
9	3700045	SHAFT, BLADE GUIDE BACKUP	1				
10	6813095	SPRING, BELLVILLE ASSOC. No. BO500-038, .225" I.D. X .500" O.D.	2				
11	6714015	SCR., SOC. HD. CAP, 1/4-20 1/2" (W/INSERTS 3328216 & 7)	2				
12	6714016	SCR., SOC. HD. CAP, 1/4- 20 X 1" (W/INSERT 3328220)	2				
13	6714018	SCR., SOC. HD. CAP, 1/4- 20 X 3/4" (W/INSERTS 3328218 & 9)	2				

MODEL 87 RIP FENCE ASSEMBLY



87 U.S.
RIP FENCE ASSY.
(OPTIONAL)
2195001

MODEL 87 RIP FENCE ASSEMBLY PARTS LIST

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	6716014	SCR., SOC. HD. CAP, 3/8-16 X 2-1/2"	2
2	3735001	SPACER, FENCE BAR	4
3	3195002	FENCE, RIP	1
4	3722004	SHIM, RIP FENCE	1
5	3063046	BRACKET, RIP FENCE MOUNTING	1
6	6715020	SCR., SOC. HD. CAP, 5/16-18 X 1"	4
7	3044041	BAR, RIGHT HAND FENCE	1
8	3406017	KNOB	2
9	3695032	SCREW, LOCK	1
10	3044040	BAR, LEFT HAND FENCE	1

