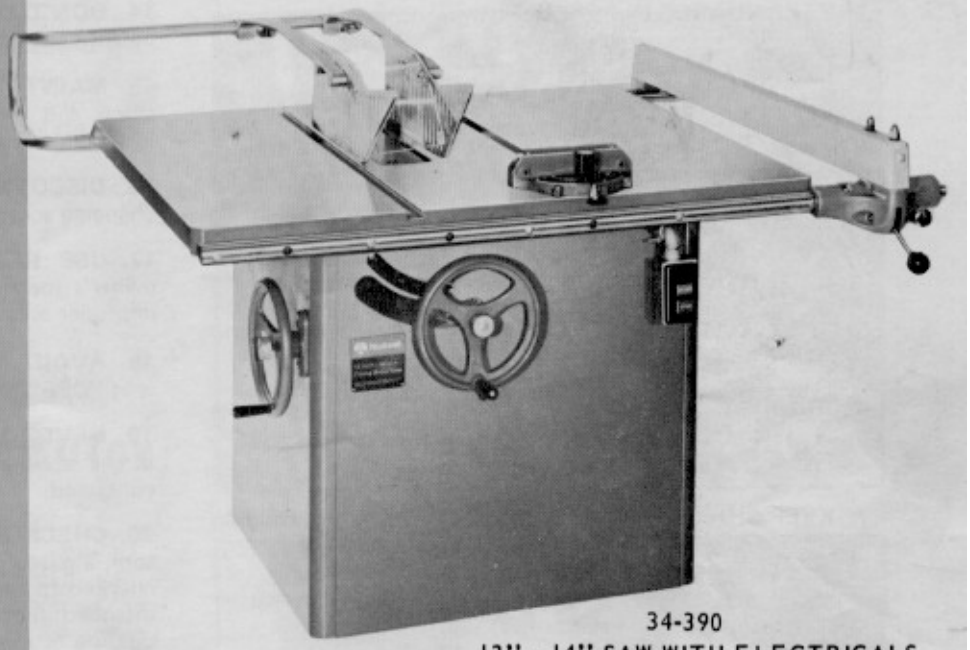
Instruction manual

12" and 14" Tilting Arbor Saws



34-390
12" - 14" SAW WITH ELECTRICALS

34-395
12" - 14" SAW WITH ELECTRICALS

Rockwell

Part No. 422-06-651-5001

Dated 12-1-77

SAFETY RULES FOR ALL TOOLS

As with all power tools there is a certain amount of hazard involved with the operator and his use of the tool. Using the tool with the respect and caution demanded as far as safety precautions are concerned will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or completely ignored, personal injury to the operator can develop.

There are also certain applications for which this tool was designed. Rockwell strongly recommends that this tool NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application DO NOT use the tool until you have written Rockwell and we have advised you.

ROCKWELL INTERNATIONAL
MANAGER OF PRODUCT SAFETY
POWER TOOL DIVISION
400 NORTH LEXINGTON AVENUE
PITTSBURGH, PENNSYLVANIA 15208

1. **KNOW YOUR POWER TOOL.** Read the owner's manual carefully. Learn the tools applications and limitations, as well as the specific potential hazards peculiar to it.

2. **KEEP GUARDS IN PLACE** and in working order.

3. **GROUND ALL TOOLS.** If tool is equipped with three-prong plug, it should be plugged into a three-hole electrical receptacle. If an adapter is used to accommodate a two-prong receptacle, the adapter lug must be attached to a known ground. Never remove the third prong.

4. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

5. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.

6. **AVOID DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.

7. **KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.

8. **MAKE WORKSHOP KIDPROOF** - with padlocks, master switches, or by removing starter keys.

9. **DON'T FORCE TOOL.** It will do the job better and be safer at the rate for which it was designed.

10. **USE RIGHT TOOL.** Don't force tool or attachment to do a job it was not designed for.

11. **WEAR PROPER APPAREL.** No loose clothing, gloves, neckties, or jewelry to get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.

12. **USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty.

13. **SECURE WORK.** Use clamps or a vise to hold work, when practical. It's safer than using your hand and frees both hands to operate tool.

14. **DON'T OVERREACH.** Keep your proper footing and balance at all times.

15. **MAINTAIN TOOLS IN TOP CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

16. **DISCONNECT TOOLS** before servicing and when changing accessories such as blades, bits, cutters.

17. **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause hazards.

18. **AVOID ACCIDENTAL STARTING.** Make sure switch is in "OFF" position before plugging in cord.

19. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.

20. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function — check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

21. **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

22. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.

23. **DRUGS, ALCOHOL, MEDICATION.** Do not operate tool while under the influence of drugs, alcohol or any medication.

ADDITIONAL SAFETY RULES FOR CIRCULAR SAWS

1. **ALWAYS** use guard, splitter and anti-kickback fingers on all "thru-sawing" operations. Thru-sawing operations are those when the blade cuts completely through the work piece as in ripping or cross cutting.

2. **ALWAYS** hold the work firmly against the miter gage or fence.

3. **ALWAYS** use a push stick for ripping narrow stock. Refer to ripping applications in instruction manual where push stick is covered in detail.

4. **NEVER** perform any operation "free-hand" which means using your hands to support or guide the work piece. Always use either the fence or the miter gage to position and guide the work.

5. **NEVER** stand or have any part of your body in line with the path of the saw blade.

6. **NEVER** reach behind or over the cutting tool with either hand for any reason.

7. **MOVE** the rip fence out of the way when cross cutting.

8. **WHEN** cutting mouldings, NEVER run the stock between the fence and the moulding cutterhead. Refer to moulding applications in Instruction Manual for details.

9. **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction or rotation of the blade or cutter only.

10. **NEVER** use the fence as a cut-off gage when cross cutting.

11. **NEVER** attempt to free a stalled saw blade without first turning the saw OFF.

12. **PROVIDE** adequate support to the rear and sides of the saw table for wide or long workpieces.

13. **AVOID KICKBACKS** (work thrown back toward you) by keeping blade sharp, keeping rip fence parallel to the saw blade, keeping splitter and antikickback fingers and guard in place and operating, by not releasing work before it is pushed all the way past the saw blade, and by not ripping work that is twisted or warped or does not have a straight edge to guide along the fence.

14. **AVOID** awkward operations and hand positions where a sudden slip could cause your hand to move into the cutting tool.

15. **NEVER** use solvents to clean plastic parts. Solvents could possibly dissolve or otherwise damage the material. Only a soft damp cloth should be used to clean plastic parts.

CLEANING THE SAW

Remove the protective coating from the machined surfaces of the saw. This coating may be removed with kerosene (do not use acetone, gasoline or lacquer thinner for this purpose). After cleaning, cover all unpainted surfaces with a good quality paste wax.

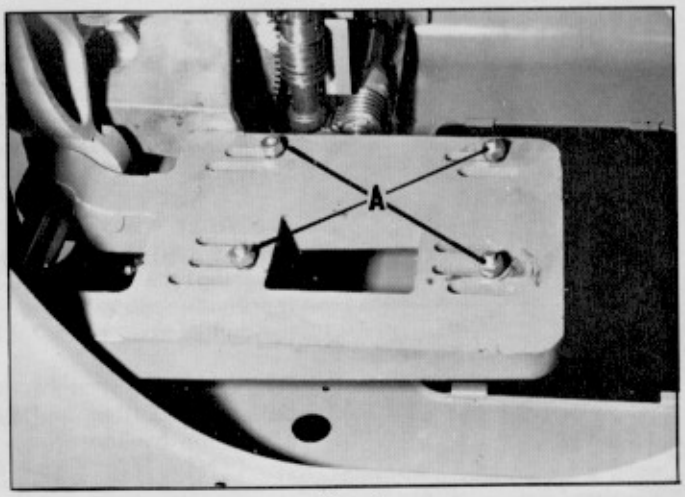


Fig. 2

ASSEMBLING AND ALIGNING MOTOR, MOTOR PULLEY AND BELT

If you purchased your machine factory mounted and wired, the motor, motor pulley and belt were assembled and aligned to the saw.

If you purchased your machine without the motor and controls factory mounted and wired, the motor plate accommodates NEMA frame motors 182T, 184T and 213T, and the motor pulley supplied has a 1-1/8" bore. **To assemble and align the motor, motor pulley and belt, it is very important that you proceed as follows:**

1. Using blocks of wood for support, tilt the saw forward so that the front of the saw is laying flat on the wood. NOTE: For clarity some of the following photographs were taken with the table removed and the saw in the upright position, however, for ease in installing the motor, we suggest that the saw be tilted to the front.

2. Assemble the motor pulley to the motor shaft and tighten the two screws in the motor pulley against the key in the motor shaft. NOTE: We suggest that a ¼ X ¼ X 2½" key be used in the motor shaft.

3. The hardware (A) required to mount the motor to the motor plate will be found assembled to the motor plate, as shown in Fig. 2, and should be removed.

4. Assemble the motor to the motor mounting plate, as shown in Fig. 3. NOTE: It is very important that the motor be mounted to motor plate using the mounting hardware shown in Fig. 4.

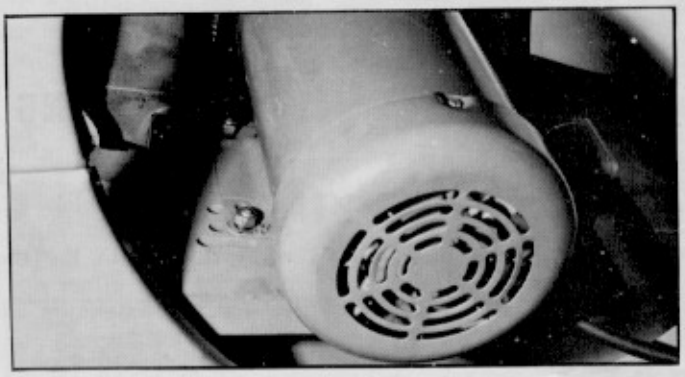


Fig. 3

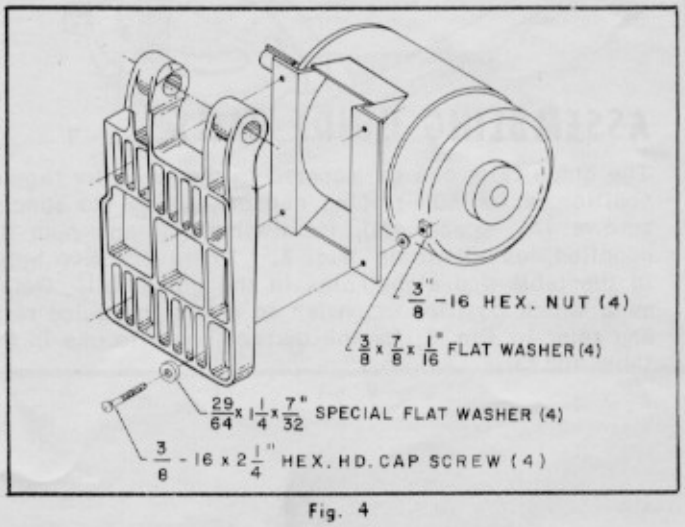


Fig. 4

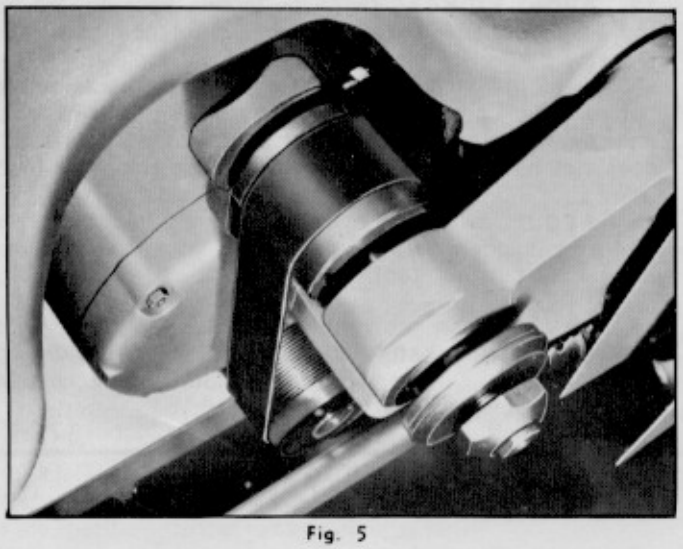


Fig. 5

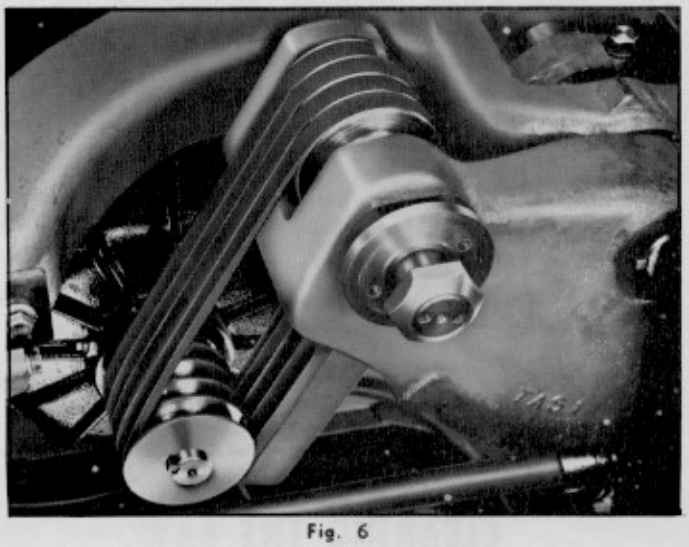


Fig. 6

5. Fig. 5 illustrates the Poly V-Belt assembled to the two pulleys when the machine is equipped with the Poly V-Belt Drive System and Fig. 6 illustrates the matched set of four Belts assembled to the two pulleys when the machine is equipped with the Four Belt Drive System.

6. After the belt or belts are assembled to the two pulleys adjust for proper belt tension by raising or lowering the motor. Correct tension is obtained when there is approximately 1/4" deflection of the belt at the center span of the pulleys using light finger pressure.

7. Using a straight edge, align the motor and arbor pulleys. Either pulley can be moved to bring into alignment by loosening the set screws in the pulleys.

ASSEMBLING EXTENSION WINGS

Your machine is shipped with one extension wing assembled to the saw table. Assemble the other extension wing to the table using the four cap screws, lockwashers and nuts supplied. Set the extension wing flush with the table and tighten the two center nuts first. If either end is not flush, tighten nut slightly and tap extension wing up or down with mallet and tighten nut.

ASSEMBLING GUIDE RAILS

The guide rails can be mounted to the table for regular position or for 50" ripping capacity using the special screws (A), spacer (B), lockwasher (C) and nuts (D) supplied, as shown in Fig. 7. There are five holes in the table and eight holes in the guide rail. Determine which position you wish to mount the guide rails and refer to Fig. 8, for the correct holes to use in the table and rails.

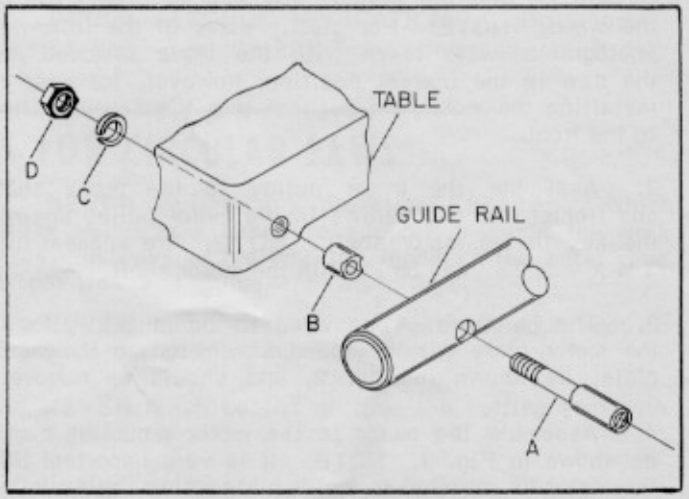


Fig. 7

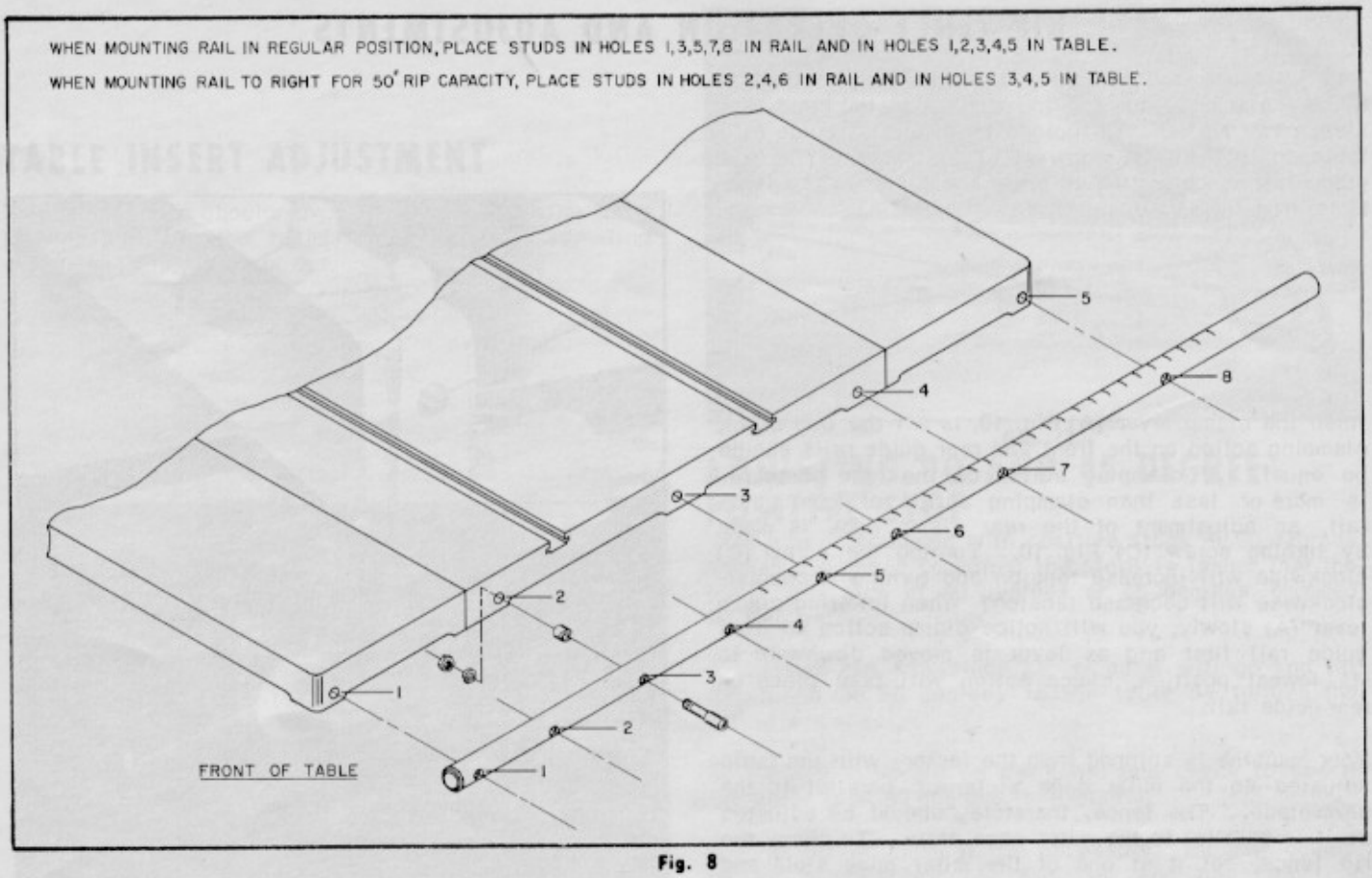


Fig. 8

ASSEMBLING BLADE GUARD

Assemble the 34-936 Super-Safe splitter-mounted guard or the 34-937 Uniguard to your saw by following the instructions that were supplied with the guard.

MITER GAGE OPERATION AND ADJUSTMENTS

The miter gage supplied with your saw is accurately constructed and equipped with individually adjustable index stops at 90 degrees and 45 degrees right and left. Adjustment to the index stops can be made by loosening locking screws (E) and tightening or loosening the three adjusting screws (F) Fig. 9.

To operate the miter gage, simply loosen the lock knob (C) Fig. 9, and move the miter gage body to the desired angle. The miter gage body will stop at 90 degrees and 45 degrees both right and left. To rotate the miter gage body past these points simply push down the lever (D) Fig. 9.

The head of the miter gage pivots on a special tapered screw that fastens the head of the miter gage to the bar. If the miter gage head does not pivot freely or after long usage pivots too freely, it can be adjusted by loosening set screw (A) Fig. 9, and turning the tapered screw (B) in or out. Be sure to tighten set screw (A) after adjustment is made.

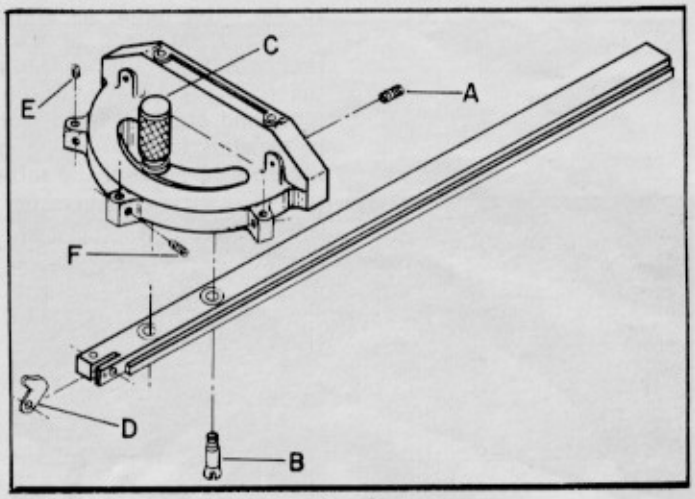


Fig. 9

RIP FENCE OPERATION AND ADJUSTMENTS

The rip fence can be used on either side of the saw blade. The most common location is on the right hand side. The rip fence is guided by means of guide rails fastened to the front and rear of the table. The front guide rail is calibrated to show the distance the fence is set from the saw blade.

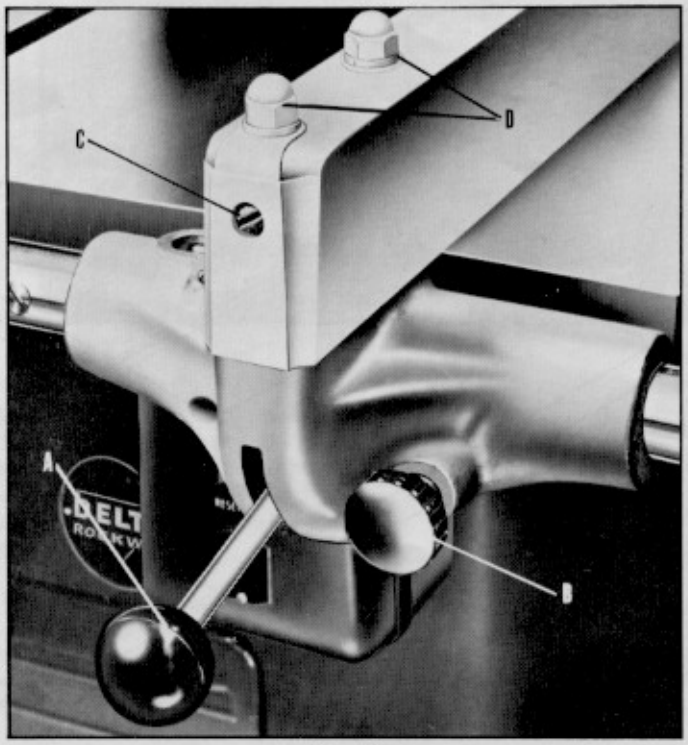


Fig. 10

When the clamp lever (A) Fig. 10, is all the way down, clamping action on the front and rear guide rails should be equal. If clamping action on the rear guide rail is more or less than clamping action of front guide rail, an adjustment of the rear clamp hook is made by turning screw (C) Fig. 10. Turning the screw (C) clockwise will increase tension and turning it counter-clockwise will decrease tension. When lowering clamp lever (A) slowly, you will notice clamp action on front guide rail first and as lever is moved downward to its lowest position, clamp action will take place on rear guide rail.

Your machine is shipped from the factory with the table adjusted so the miter gage slots are parallel to the saw blade. The fence, therefore, should be adjusted so it is parallel to the miter gage slots. To check the rip fence, set it at one of the miter gage slots and tighten the clamp lever (A) Fig. 10. If an adjustment is necessary, loosen the two front cap screws (D) Fig. 10, and raise the clamp lever (A). Move the rear end of the fence body to one side or the other until it is parallel with the miter gage slot. Then lock the clamp lever (A), by pushing it down, and tighten the two clamp screws (D).

ADJUSTING MITER GAGE SLOTS PARALLEL TO SAW BLADE

While all saws are shipped from the factory with the table adjusted so the miter gage slots are parallel to the saw blade, we suggest this adjustment be checked before operating, in order to obtain the best results from the saw.

Figures 11 and 12, illustrate a simple method of checking the alignment. Clamp a dowel rod or similiar object to the miter gage, as shown. Be sure to make the test on the same tooth of the saw blade in both front and rear position. If an adjustment is necessary, loosen the four cap screws which fasten the table to the cabinet, and shift table at front or rear until the saw blade is parallel to the miter gage slots. Tighten the screws securely to prevent the table from shifting.

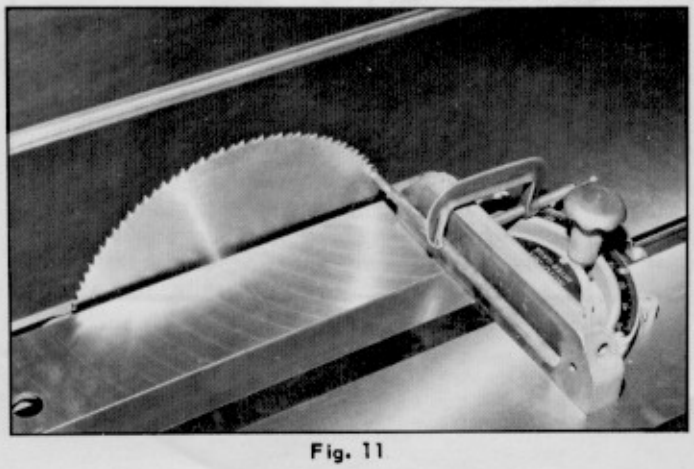


Fig. 11

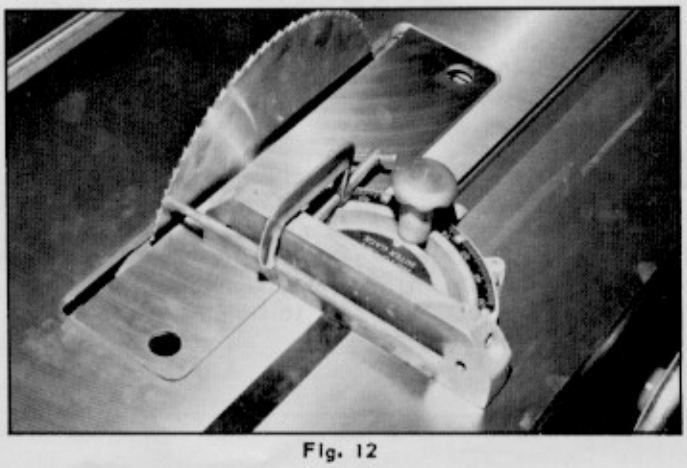


Fig. 12

TABLE INSERT ADJUSTMENT

The table insert should always be flush with the table top. To adjust the table insert, turn the adjusting screws (A) Fig. 13, in or out.

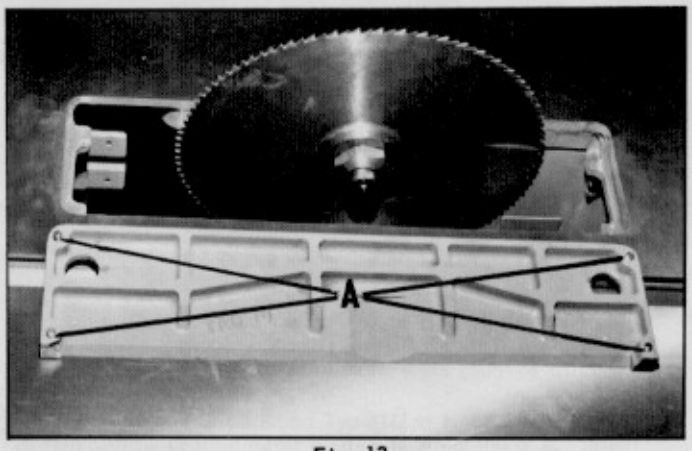


Fig. 13

ADJUSTING 90 AND 45 DEGREE POSITIVE STOP

Your saw is equipped with positive stops at 90 degrees and 45 degrees. To adjust the stops to insure that the blade will stop at 90 degrees or 45 degrees, proceed as follows:

1. Raise the saw blade as far as it will go and set the blade at 90 degrees to the table by turning the tilting handwheel.

2. Place a square on the table and check to see if the blade is at 90 degrees to the table.

3. If an adjustment is necessary, loosen locknut on adjusting screw (A) Fig. 14, and turn adjusting screw (A) clockwise. Rotate the tilting handwheel until you are certain the blade is at 90 degrees to the table. Then turn adjusting screw (A) against the lug (B) on the front trunnion and tighten locknut.

4. Check tilt indicator pointer. If necessary adjust the pointer so it points to the 0 degrees mark on the scale.

5. Tilt the saw blade to 45 degrees and check to see if the blade is at 45 degrees to the table using a combination square. Adjustment to the 45 degree stop is made in the same manner as the 90 degree adjustment except the adjusting screw is on the other end of the rack (C) Fig. 14.

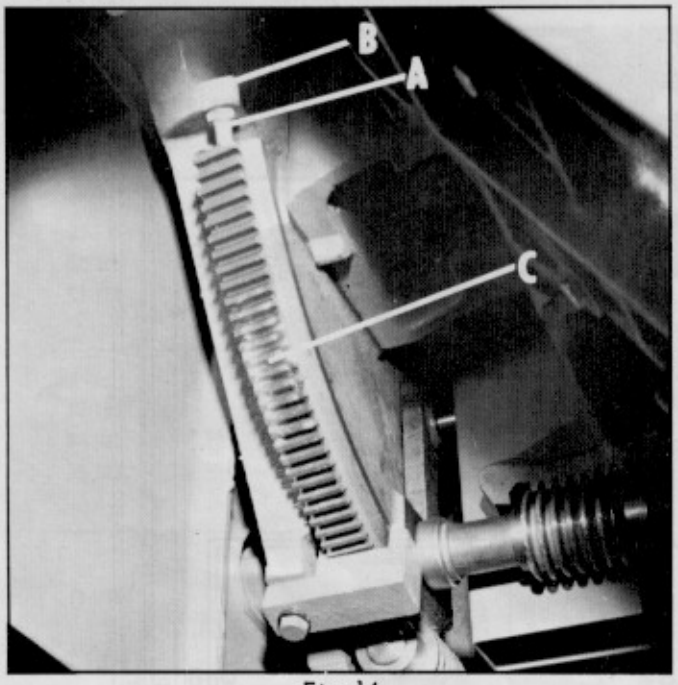


Fig. 14

CHANGING ARBOR EXTENSIONS

A wide selection of arbor extensions are available for use with your saw to permit the use of many saw accessories. For example, you can use dado heads up to 2" wide, accomodate saw blades with different size arbor holes, and do many other operations. To remove and install arbor extensions, proceed as follows:

1. Disconnect machine from power source.

2. Remove table insert and saw blade.

3. Place spanner wrench (A) on the inside blade flange with the two prongs on the spanner wrench inserted into the two holes in the flange, as shown in Fig. 15.

4. Place an open end or adjustable wrench on the flats on the end of the arbor (B) Fig. 15 and unscrew and remove the arbor while holding the flange with the spanner wrench (A).

5. Wipe clean the taper on the inside of the flange and use a dry lubricant, such as powered graphite, on the taper end of the arbor extension you are installing.

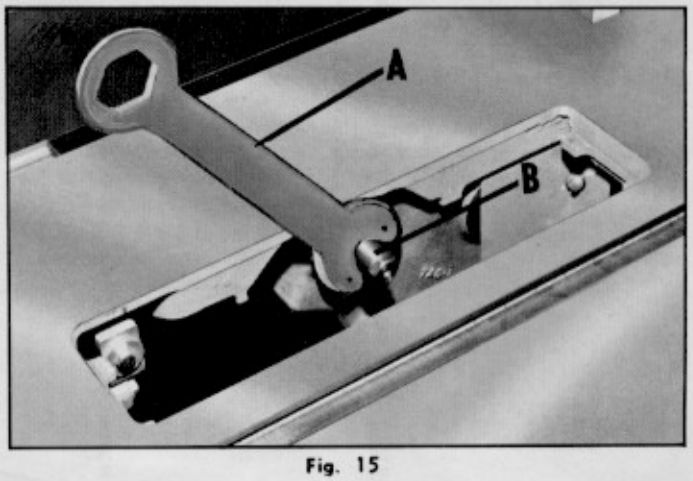
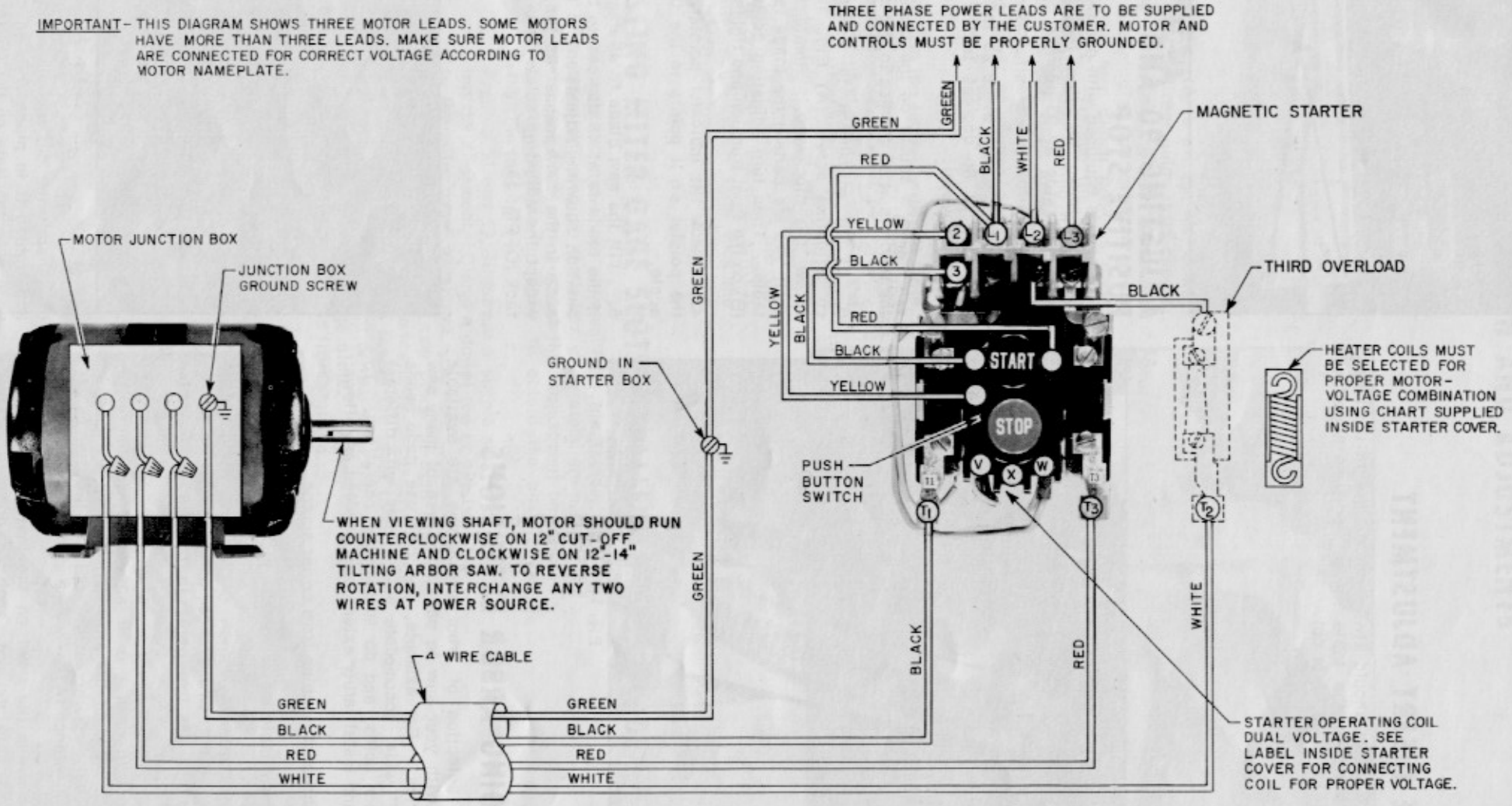


Fig. 15

6. Install the desired arbor extension into the arbor and tighten it in place with an open-end or adjustable wrench on the flats on the end of the arbor while holding the flange with the spanner wrench.

PUSH BUTTON SWITCH AND MAGNETIC STARTER
WITH FULL VOLTAGE CONTROL FOR THREE PHASE MOTORS

IMPORTANT- THIS DIAGRAM SHOWS THREE MOTOR LEADS. SOME MOTORS HAVE MORE THAN THREE LEADS. MAKE SURE MOTOR LEADS ARE CONNECTED FOR CORRECT VOLTAGE ACCORDING TO MOTOR NAMEPLATE.



No. 34-925 Auto-Set Miter Gage; less Stop Rods,..... 13 lbs.

No. 34-832 Stop Rods for Miter Gage. 2 lbs.

No. 34-937 UNIGUARD, for all Rockwell Delta 12"-14" Saws. Includes table mounting bracket, support arm, two bracket arms, two guards, plastic shield, splitter assembly with anti-kickback fingers and instructions for mounting. 20 lbs.

No. 34-936 Super-Safe Saw Guard, splitter-mounted, swing type. For 12" or 14" diameter saw blades. 16 lbs.

COMPLETE SELECTION OF SAW BLADES

Catalog Number	Type of Blade		Diameter	Arbor Hole
33-197 34-930 33-179	COMBINATION SAW BLADES (Flat Ground)		12" 12" 14"	1" 1⅛" 1"
33-199 34-931 33-180	RIP SAW BLADES (Flat Ground)		12" 12" 14"	1" 1⅛" 1"
33-246 34-932	CROSSCUT BLADE (Flat Ground)		12" 12"	1" 1⅛"
33-202 33-203	NOVELTY TOOTH COMBINATION SAW BLADES (Flat Ground)		12" 14"	1" 1"
33-228 34-933 33-182	MITRE SAW BLADES (Hollow-Ground) (4 cutting teeth) (1 raker tooth)		12" 12" 14"	1" 1⅛" 1"
34-842	CARBIDE-TIPPED COMBINATION BLADE (24 Teeth With Alternate Top Bevel Grind)		*12"	1" or 1⅛"

Contains removable bushing.

DADO HEAD SETS

Heavy duty production type. Sets are made of high quality steel, carefully hardened and tempered. Blades and chippers are matched to assure clean, even cuts with or across the grain.

No. 33-174 No. 3 Production Type Dado Head Set. Consists of two hollow ground outer blades (10" diameter x ⅝" thick) and four inside cutters (one ¼" thick; two ⅜" thick; one 1/16" thick). With 1" arbor hole. Cuts grooves from ⅛" to 1 5/16" wide. 10 lbs.

No. 34-940 No. 4 Production Type Dado Head Set. Consists of two hollow ground outer blades (8" diameter x ⅝" thick) and four inside cutters (two ¾" thick; two ⅛" thick; one 1/16" thick). With 1⅛" arbor hole. Cuts grooves from ⅛" to 1 1/16" wide. 8 lbs.

No. 34-941 Moulding Cutterhead, heavy duty, solid steel, 6" diameter, to fit 1" or 1⅛" saw arbors. Without wrench or knives. 10 lbs.

No. 34-521 (old 1521) Allen Key Wrench for use with 34-941 Moulding Cutterhead. ⅛ lb.

No. 34-945 Dado Head and Moulding Cutter Table Insert for 12"-14" Tilting Arbor Saw. 2 lbs.

ARBOR EXTENSIONS

No. 34-942 Arbor Extension, 1⅛" diameter, to accommodate dado and moulding cutterheads 1 1/16" wide. 2 lbs.

No. 34-943 Arbor Extension, 1⅛" diameter, to accommodate dado or moulding cutterheads 2" wide. 2 lbs.

No. 34-947 Arbor Extension, 1" diameter, with collar, to accommodate saws with 1" arbor hole. 3 lbs.

No. 34-938 Arbor Extension, 1⅛" diameter, with collar, to accommodate saws with 1⅛" arbor hole. 3 lbs.

No. 34-948 Arbor Extension, 1¼" diameter, with collar, to accommodate saws with 1¼" arbor hole. 3 lbs.

No. 34-949 Arbor Extension, 1" diameter, to accommodate 2" wide dado head, 1" bore. 4 lbs.

No. 34-950 Arbor Extension, 1¼" diameter, to accommodate 2" wide dado head, 1¼" bore. 4 lbs.

ROCKWELL makes more tools for more jobs for more industries than anyone in the world!

Rockwell manufactures the world's most complete line of power tools and machinery for use in industry, the building and construction trades, schools and home workshop. For complete information on each of these product lines, see your Rockwell Distributor or Dealer for a catalog. If he should be temporarily out, write us. We will be happy to receive your request. The following is a list of our catalogs:

Rockwell Stationary And Portable Electric Power Tools For The Home Workshop, Lawn And Garden.

Rockwell Delta Industrial Metalworking And Woodworking Machinery For Industry, The Construction and Building Trades And School Shops.

Rockwell Portable Electric Power Tools For Industry, Construction And The Building Trades.

Rockwell Machine Tools.

Rockwell Air Tools.

HOW TO ORDER REPLACEMENT PARTS

Even quality built tools such as the Rockwell power tool you have purchased, might need occasional replacement parts to maintain it in good working condition over the years. To order replacement parts, contact or write your nearest Rockwell Service Center listed on the back page of this manual.

Please give the following information:

1. Model No. and Serial No. and all specifications shown on the Model No./Serial No. plate.
2. Part number or numbers as shown in the Replacement Parts list supplied with your power tool.
3. A brief description of the trouble with the power tool.