

Sears

owners manual



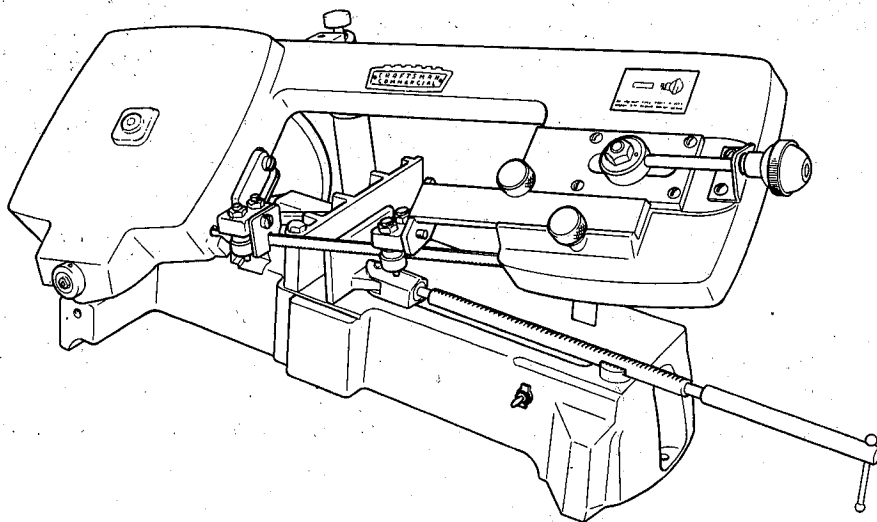
METAL CUTTING BAND SAW

**MODEL NO.
101.2290**

CAUTION:

**Read Rules for
Safe Operation
and Instructions
Carefully**

- Assembly
- Operating
- Repair Parts



SEARS, ROEBUCK AND CO. U.S.A.
SIMPSON-SEARS LIMITED, CANADA



SAFETY RULES FOR POWER TOOLS

1. KNOW YOUR POWER TOOL

Read the owner's manual carefully. Learn its application and limitations as well as the specific potential hazards peculiar to this tool.

2. GROUND ALL TOOLS

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

3. KEEP GUARDS IN PLACE

and in working order.

4. REMOVE ADJUSTING KEYS AND WRENCHES

Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning on tool.

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. Keep work area well illuminated.

7. KEEP CHILDREN AWAY

All visitors should be kept a safe distance from work area.

8. MAKE WORKSHOP KID PROOF

— 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 or jewelry to get caught in moving parts.

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, 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. AVOID ACCIDENTAL STARTING

Make sure switch is "OFF" before plugging in cord.

18. USE RECOMMENDED ACCESSORIES

Consult the owner's manual. Use of improper accessories may be hazardous.



The operation of any power tool can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields before commencing power tool operation. We recommend **Wide Vision Safety Mask** for use over spectacles, or standard safety glasses . . . available at Sears retail or catalog stores.

OPERATION AND MAINTENANCE INSTRUCTIONS

METAL CUTTING BAND SAW — MODEL NUMBER 101.2290

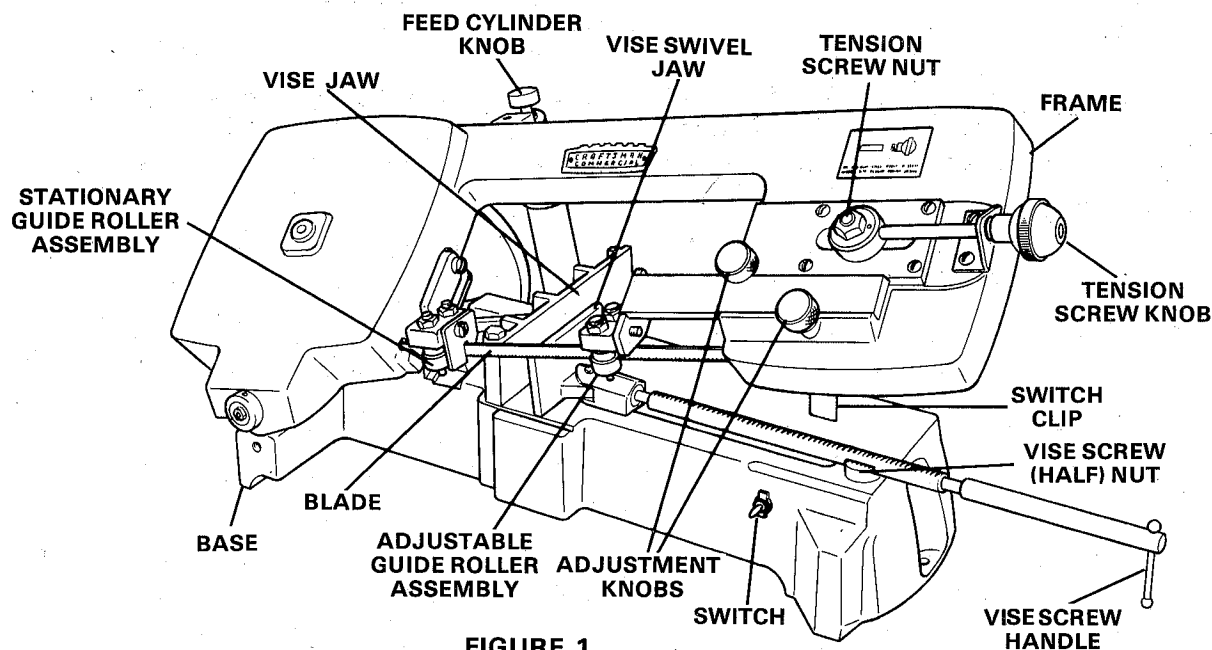


FIGURE 1

SETTING UP THE METAL CUTTING BAND SAW

The Metal Cutting Band Saw is packaged completely assembled - a motor pulley and drive belt are separately wrapped.

Remove rust preventive from all surfaces by wiping with a cloth moistened with mineral spirits.

For stationary use, bolt the saw to a workbench in a position which will provide room for handling long stock. For portable use, bolt saw to a suitable board (1 to 2 inches thick) on which the motor can also be mounted. If necessary, shim under the feet to prevent twisting of the saw base when the bolts are tightened.

Design speed for the saw is 135 feet per minute. This speed is obtained only by using a 1725 rpm motor with the 1-1/2 inch OD motor pulley furnished with the saw. A 1/2 hp motor is recommended.

Slide the pulley on motor shaft and mount the motor in a position which will align the motor pulley with the saw drive pulley - so that the drive belt will run straight. Install the belt and adjust belt tension so that finger pressure at its mid point will depress the belt approximately 1/4 inch. Proper tension is important, if the belt is too loose, it will slip and wear out; if too tight, it will damage the motor and the saw bearings. The use of motor rails or a swivel mount is recommended for maintaining correct belt tension.

WIRING SWITCH TO MOTOR

If the recommended Sears 1/2 HP 115V 1725RPM motor is used follow these wiring instructions. For other motors follow manufacturers instructions.

1. Remove terminal box cover (A Fig. 2) and round knock out plug (B).

2. Install cable connector (C) in round opening. Sharp lugs on connector nut must go against inside of terminal box. Tighten nut securely.
3. Remove line cord lead from "slip on lug" (D) - just pull it off.
4. Carefully remove slip-on terminal from end of wire - it will be reused.
5. Attach slip-on terminal to white wire of switch cable.

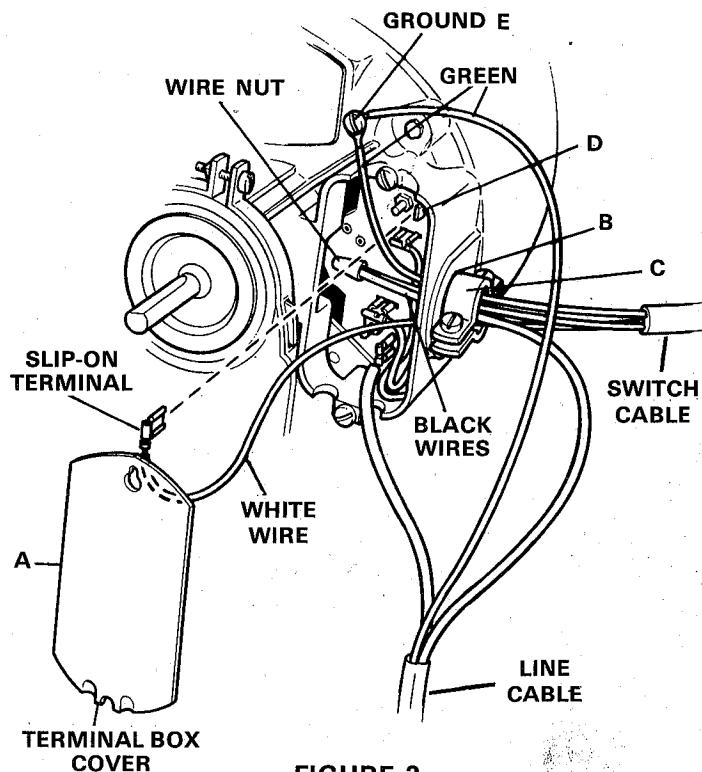


FIGURE 2

6. Pass switch cable through connector and into terminal box.
7. Slide terminal on white wire over lug (D).
8. Connect black switch wire to loose end of line wire with wire nut supplied.
9. Connect green switch cable wire and green line cord wire to ground screw (E). Tighten connector clamp screws to hold switch cable.
10. Tuck wires into terminal box and replace cover.
11. Turn switch on saw to off position. Plug motor cord into electrical outlet.
12. Turn on switch to check motor for proper rotation. Saw blade should turn in a direction toward the stationary saw guide roller assembly.

If incorrect: (THIS IS IMPORTANT) turn off motor and disconnect motor cord plug.

13. Remove terminal box cover from motor - interchange blue and yellow leads in terminal box - replace cover.

OPERATING PRINCIPLES

The saw is designed to cut through material which will fit under the blade, with saw frame elevated, when clamped between the vise jaws.

The vise jaw can be positioned straight (for a 90° cut), or at any angle to 45°. Loosening of a socket head cap screw permits setting the jaw at the desired position. The vise swivel jaw adjusts automatically to any position of the vise jaw and is mounted on a slider permitting it to be moved for opening or closing of the vise jaws. It can be moved freely when the vise screw engages a vise screw nut and the jaws can be tightened to hold any workpiece firmly.

Cutting is accomplished by the continuous blade traveling around a drive wheel and an idler wheel mounted in the saw frame. The blade is driven by the drive wheel which meshes with a bevel gear mounted on the same shaft as the saw drive pulley. Blade tension is maintained by a tension screw which moves the idler wheel in its slide at the top of the saw frame.

The blade is held in a vertical position at the front of the frame and is supported at each side of the workpiece by two guide roller assemblies - one stationary and one adjustable. The adjustable guide roller assembly can be moved to accommodate various width workpieces.

Weight of the saw frame provides feed pressure for the cutting operation. This pressure is controlled by a feed cylinder linked between the frame and the saw base. The cylinder contains a valve which meters hydraulic fluid from one chamber to another. A knob on top of the cylinder controls the metering rate. When the knob is turned clock-

wise until the valve is closed, the frame will be held stationary at any position to which it has been elevated. As the knob is turned counterclockwise the amount of feed pressure is increased until, with the valve fully open, the whole weight of the frame is used. Markings on the knob indicate each quarter turn, as a guide for setting feed pressure.

OPERATING PROCEDURE

NOTE

The 14 tooth blade furnished with the saw is suitable for most jobs, including aluminum. A 10 tooth blade will cut heavy sections faster and a 24 tooth blade is preferable for cutting tubing. Refer to the parts list for ordering information on blades.

1. Elevate frame and close feed cylinder valve to hold frame stationary above work.
2. Adjust vise jaw for desired angle and tighten socket head screw that secures the jaw.

NOTE

A protractor can be used for setting close angles other than 45° and 90° (which are at the respective ends of the slot).

3. Raise the vise screw handle and open the vise jaws. Place work in vise and slide the vise swivel jaw against the workpiece. Lower the screw into the vise screw nut and tighten the screw to clamp work securely.

CAUTION

Be certain that the work to be cut is securely clamped in the vise. Loose work will cause blade breakage.

4. Slowly open the feed cylinder valve and lower the frame until blade **almost** touches workpiece.

CAUTION

If blade should rest upon the work before the motor is started blade teeth can be damaged . . . if blade is dropped onto work the blade might be broken.

5. Move the adjustable guide roller assembly as close as possible to the workpiece to provide maximum blade rigidity; but leave it at least 4 inches from the stationary roller assembly so it will clear the base of the saw.

IMPORTANT

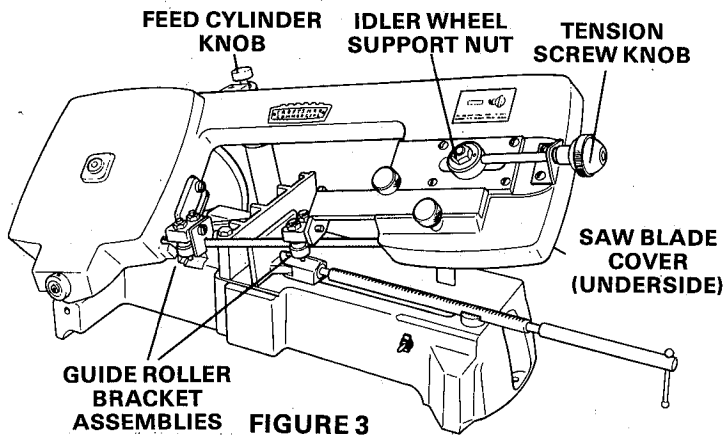
The guide roller assemblies must hold the blade perpendicular to the work and guide the blade straight, without bending or allowing it to sag between the rollers. It is impossible to get satisfactory work or to avoid blade damage, unless these assemblies are kept correctly adjusted at all times. Refer to ADJUSTMENTS, page 3.

6. Check the blade tension. Refer to CHANGING BLADES.

NOTE

Do not use lubrication on the blade, lubricants will cause the blade to slip on the drive wheels.

7. Start the motor.
8. Open the feed cylinder valve to the proper setting for this operation. "Proper" setting depends upon the type of material, the type of cross-section (amount of material), and the straightness of cut desired. Soft materials (aluminum, brass, fiber) require less feed than hard material (steel or iron). Cross-sections having little material (thin-wall tubing) require less feed than solid cross-sections. Generally, reduced feed pressure will result in a straighter, more accurate cut. Experience is the best guide; the 1/4 - turn markings provided will help duplicate settings found to be desirable. Never overfeed, as this causes blade breakage and poor quality cuts. Never underfeed, as this causes premature dulling of blade teeth. If in doubt watch the cutting action, proper feed is when the chips are curled, without being burned.
9. When the cut is finished, turn off the motor.



CHANGING BLADES (See Figure 3)

1. Elevate frame and close the feed cylinder valve to hold it stationary.
2. Wrap the feed cylinder stem with a cloth or provide similar means of protection so that the stem will not be scratched when changing saw blades.
3. Loosen screws (A, B & D, Fig. 4) swing guard (C) out of way. Tighten screw A to hold guard. Slide guard E off screws D.

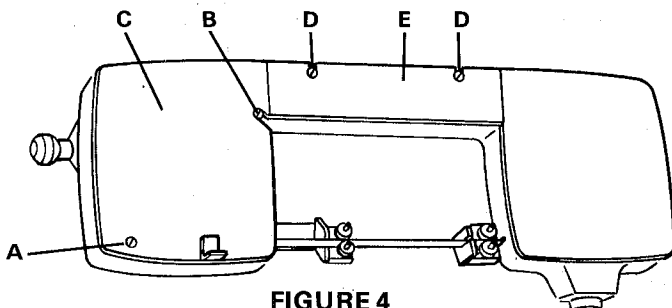


FIGURE 4

4. Loosen the idler wheel support nut just enough to allow movement of the idler wheel support when the tension screw knob is turned. Turn tension screw knob counterclockwise until blade is free.
5. Carefully remove the blade and install new blade, with teeth at bottom and aimed toward the drive wheel.
6. Tighten blade by turning tension screw knob clockwise. Blade tension is properly adjusted when tension screw knob is 1/4 inch from boss on saw frame. Tighten idler wheel support nut securely.
7. Replace the saw blade guards and tighten holding screws.
8. Re-adjust the guide roller assemblies, if necessary.

CUTTING PROBLEMS AND CAUSES

NOTE

Blade life will average between 5 and 10 hours of cutting, depending on material being cut.

BLADE BREAKAGE AND/OR TEETH RIPPING OUT:

1. Workpiece not clamped securely in saw vise.
2. Blade is too coarse. A minimum of two teeth should always be in contact with the work at the same time.
3. Wrong blade thickness. Many commercial blades are not of the correct thickness and will soon break under the strain of turning around the pulleys - use only blades which are designed for the use with the Craftsman saw.
4. Excessive blade tension.
5. Excessive feed rate.
6. Improper guide roller adjustment.
7. Guide roller assemblies not holding blade perpendicular.

PREMATURE BLADE DULLING:

1. Blade is too coarse.
2. Insufficient feed pressure.

BLADE RUNNING OFF PULLEYS:

1. Insufficient blade tension.
2. Improper guide roller adjustment.
3. Guide roller assemblies not properly adjusted.
4. Adjustable guide roller assembly too far from work-piece.

UNEVEN CUTS:

1. Workpiece not clamped securely in saw vise.
2. Improper guide roller adjustment.
3. Adjustable guide roller assembly too far from work-piece.
4. Insufficient blade tension.
5. Excessive feed rate.

ADJUSTMENTS

FEED CYLINDER: If oil level is low, an erratic feed rate will result. To add oil, turn feed cylinder knob ccw and remove by pulling upward. Fill tube with Shell Tellus 29 or equivalent (automotive SAE #10 may be substituted) oil to top. Reinsert knob and stem assembly; excess oil will spill out as this is done. Turn knob cw until solidly seated; then back off a couple of turns. Now raise and lower saw frame a few times to expel air from lower part of cylinder.

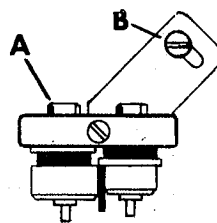
ADJUSTING SWITCH CLIP (See Fig. 1)

Switch clip should turn off motor as soon as cutting edge of saw blade is slightly below surface of saw base.

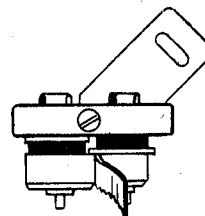
Switch clip is held to frame with 2 screws. If necessary to adjust - loosen screws - move clip as necessary. Re-tighten screws.

GUIDE ROLLERS: Adjustment is made by loosening the nut (A, Figure 5) and moving the outside roller toward or away from the flanged roller. Rollers are correctly positioned when the blade barely touches both rollers and the blade remains straight as it passes between the rollers.

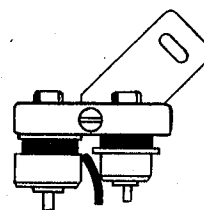
GUIDE ROLLER ASSEMBLIES: If either guide assembly holds the blade so that it is not perpendicular to its cut, loosen the screw (B, Figure 5) that holds the bracket and tap the bracket to straighten the assembly. Retighten the screw securely.



Correct adjustment - no sag or bend.



If rollers are too close, blade will bend.



If rollers are too far, blade will sag.

FIGURE 5

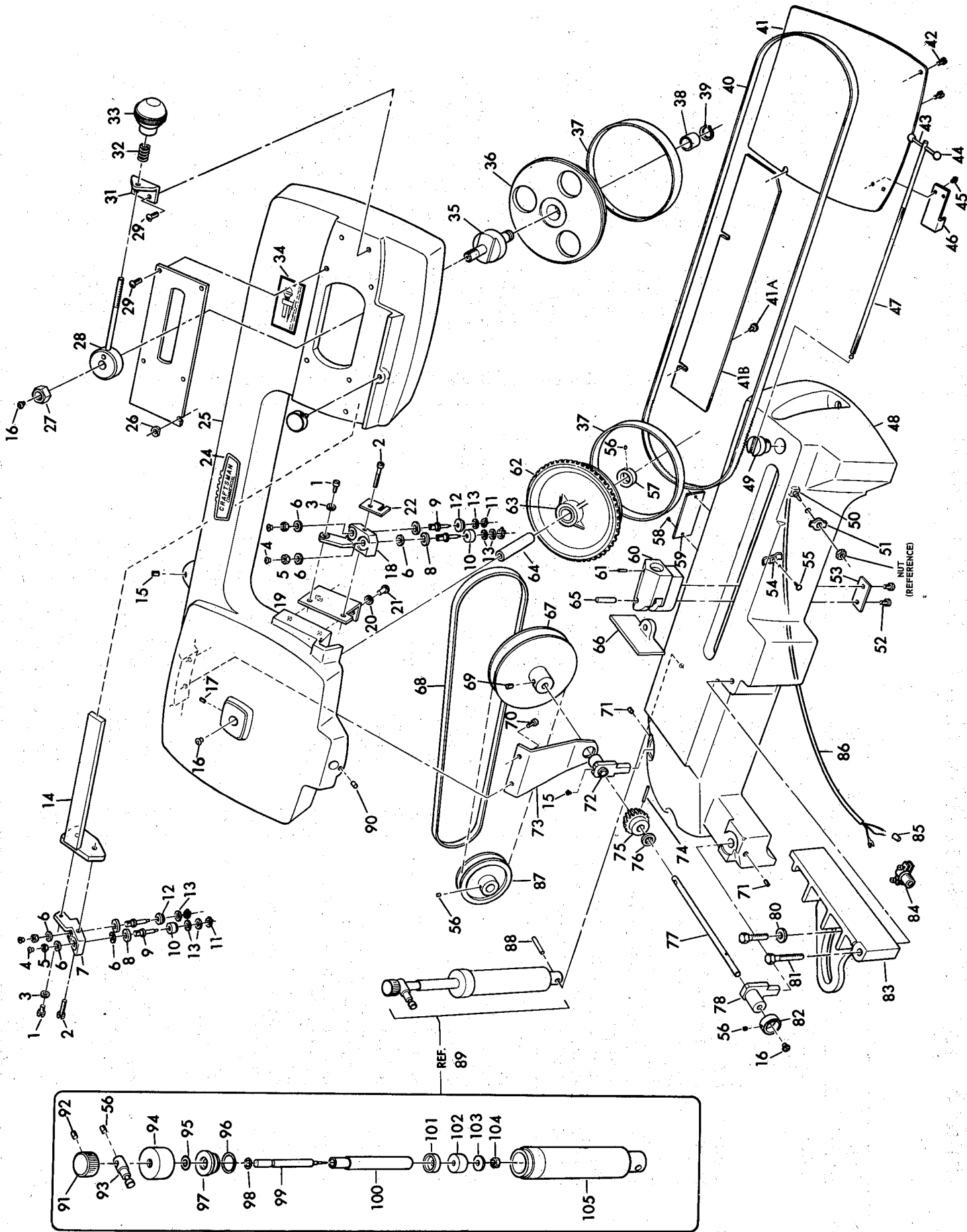
BEVEL GEARS: Should play develop between the wheel and bevel gear (62 and 75, Page 5) remove the collar (82) at pivot point of frame. While exerting force against the frame, turn set screw (90) ccw until play is removed. Then, replace collar (82) snugly against frame and tighten in place.

LUBRICATION

Lubricate regularly by putting 3 to 4 drops of Shell Tellus 29 or equivalent (automotive SAE #10 may be substituted) oil into each of the eight oil holes. The holes have fitted covers (Parts 4 and 16, Page 5). Locations are:

- At the top of the drive and idler wheel shafts;
- At the end of the pivot shaft;
- At the top of each guide roller shaft.

CRAFTSMAN METAL CUTTING BAND SAW-MODEL NUMBER 101.2290



PARTS LIST FOR CRAFTSMAN METAL CUTTING BAND SAW MODEL NO. 101 2290

| KEY NO. | PART NO. | DESCRIPTION | KEY NO. | PART NO. | DESCRIPTION | KEY NO. | PART NO. | DESCRIPTION |
|---------|----------|---|---------|----------|---|---------|----------|---|
| 1 | 114354 | Screw Fil. Hd. Slotted, 1/4-20 x 5/8 (2 Req'd) | 36 | 4352-24 | Idler Wheel Assembly (Includes item 38) | 67 | 560-166 | Pulley, Drive (Includes Item 63) |
| 2 | | Screw, Fil. Hd., Slotted, Mach. 1/4-20 x 1-1/2 (2 Req'd) | 37 | 061-003 | Band, Saw Friction (2 Req'd) | 68 | 051-056 | Belt, "V" Size 37 x 3/8 |
| 3 | | Washer, 1/4 Plain (2 Req'd) | 38 | 049-146 | Bushing, Idler Wheel | 69 | 139063 | Set Screw, Soc., 3/8-16 x 3/8 |
| 4 | W30-16 | Oilier (4 Req'd) | 39 | 641-005 | Retainer, Ring | 70 | 216277 | Screw, Soc. Hd. 1/4-20 x 3/8 (2 Req'd) |
| 5 | 114494 | Hex, Jam Nut 3/8-24 | 40 | 042-033 | Saw Blade (14 Teeth per In.) | 71 | 102593 | Set Screw, Soc. 3/8-16 x 1/2 |
| 6 | 59-2102 | Washer, 3/8 x 5/8 x 1/32 (6 Req'd) | | 042-034 | Saw Blade (10 Teeth per In.) | 72 | 4352-20 | Hanger Bearing Assembly |
| 7 | 041-360 | Bracket, R.H. Saw Guide | | 042-035 | Saw Blade (24 Teeth per In.) | 73 | 041-446 | Bracket, Pivot Shaft |
| 8 | 720-035 | Shield, Guide Roller Dust (4 Req'd) | 41 | 556-286 | Plate, Cover | 74 | 455277 | Roll Pin 1/8 x 1-3/8 |
| 9 | 700-284 | Shaft, Guide Roller (4 Req'd) | 41A | | Screw, Pan Hd. Mach. 1/4-20 x 1/4 (2 Req'd) | 75 | 341-299 | Gear, Bevel |
| 10 | 642-022 | Roller, Lower Guide (2 Req'd) | 41B | 122-235 | Cover, Blade | 76 | 043-043 | Bearing, Thrust |
| 11 | 641-145 | Retainer, Ring (4 Req'd) | 42 | 436570 | Screw, Rd. Hd. Mach. #10-24 x 3/8 (2 Req'd) | 77 | 700-324 | Shaft, Drive |
| 12 | 642-021 | Roller, Upper Guide (2 Req'd) | 43 | L2-29B | Handle (2 Req'd) | 78 | 4352-21 | Hanger Bearing Assembly |
| 13 | 59-2106 | Washer, 1/4 x 1/2 x 1/32 (6 Req'd) | 44 | L2-41A | Ball (2 Req'd) | 79 | 138242 | Screw, Soc. Hd., 3/8-16 x 1 |
| 14 | 705-060 | Support, Guide Bracket | 45 | | Screw, Pan Hd. Sht. 4352-25 | 80 | 9-93 | Washer |
| 15 | 53-2105 | Set Screw, Soc., 1/4-20 x 1/4 | 46 | 128-028 | Metal, #6 x 3/8 | 81 | 100140 | Screw, Hex. Hd., 3/8-16 x 3 |
| 16 | DB4-35 | Cup Pt. Nylon Lock | 47 | 696-226 | (2 Req'd) | 82 | 123-138 | Collar |
| 17 | | Oilier (3 Req'd) | 48 | 050-110 | Clip, Switch | 83 | 431-013 | Jaw, Vise |
| 18 | 041-361 | Bracket, L.H. Saw Guide | 49 | 537-159 | Screw, Vise | 84 | 9-424C | Connector, Straight |
| 19 | 041-445 | Bracket, Blade Guide | 50 | 41-44A | Base, Band Saw | 85 | 135-041 | Connector, Screw on |
| 20 | | 3/16 Washer (2 Req'd) | 51 | 556-308 | Nut, Vise Screw | 86 | 136-043 | Cable, Conductor |
| 21 | 216277 | Hex. Hd. Cap Screw, 1/4-20 x 1/2 (2 Req'd) | 52 | 106324 | Switch, Toggle | 87 | 560-167 | Pulley, Motor Drive (Includes Item 56) |
| 22 | 938-010 | Wiper Saw Blade | 53 | 556-287 | Plate, Switch | 88 | | Roll Pin 1/4 x 1-1/4 |
| 23 | 126-100 | Clamp, Adjustment (2 Req'd) | 54 | 126-037 | Screw, Hex. Hd. 5/16-18 x 5/8 (2 Req'd) | 89 | 4352-23 | Feed Cylinder Assembly |
| 24 | 536-041 | Nameplate, Craftsman | 55 | | Plate, Vise Slide | 90 | | Screw, Soc., Set Nyloc, Oval Pt., 5/16-18 x 1/2 |
| 25 | 291-006 | Frame | 56 | | Clamp, Cable | 91 | 441-098 | Knob, Feed Cylinder |
| 26 | 699-218 | Spacer | 57 | 102569 | Screw, Pan Hd. Mach., #10-24 x 1/2 | 92 | | Screw, Soc. Set., Cup Pt. #10-24 x 5/16 |
| 27 | 114496 | Hex. Jam Nut, 1/2 x 20 | 58 | 123-122 | Set Screw, Soc. 1/4-20 x 1/4 | 93 | 573-004 | Pivot, Feed Cylinder |
| 28 | 4352-18 | Collar & Screw Assembly | 59 | 10F-176 | Cup Pt. (4 Req'd) | 94 | 387-035 | Head, Feed Cylinder |
| 29 | 113955 | Screw, Rd. Hd., Mach. 1/4-20 x 1/2 (6 Req'd) | 60 | 704-058 | Collar, Hinge Pin | 95 | 567-075 | Packing, "O" Ring |
| 30 | 556-333 | Plate, Idler Wheel | 61 | 455862 | P.K. Drive Screw #2 x 3/16 | 96 | 567-040 | Packing, "O" Ring |
| 31 | 041-444 | Bracket, Tension Screw | 62 | 4352-14 | Type "U" (2 Req'd) | 97 | 122-224 | Cover, Feed Cylinder Seal |
| 32 | 697-097 | Spring, Blade Tension | 59 | 10F-176 | Plate, Model Number | 98 | 567-038 | Packing, "O" Ring |
| 33 | 441-097 | Knob, Tension Screw | 60 | 704-058 | Slide, Vise | 99 | 911-037 | Valve, Feed Cylinder |
| 34 | 231-025 | Decal, Blade Tension | 61 | 455862 | Roll Pin 1/8 x 7/8 | 100 | 4352-12 | Feed Cylinder Stem Assembly |
| 35 | 4352-33 | Idler Wheel Shaft & Oilier Assy. (Includes W30-16-Oilier) | 62 | 4352-14 | Drive Wheel Assembly (Includes Item 57) | 101 | 705-037 | Support, Feed Cylinder Seal |
| | | | 63 | 049-149 | Bushing, Drive Wheel | 102 | 708-022 | Seal, Feed Cylinder |
| | | | 64 | 700-285 | Shaft, Drive Wheel | 103 | 9420759 | Washer, 5/16 x 7/8 x 5/64 |
| | | | 65 | 981-051 | Roll Pin 1/8 x 7/8 | 104 | 114502 | Hex. Jam Nut, 5/16 - 18 |
| | | | 66 | 431-014 | Jaw, Swivel | 105 | 4352-19 | End Cap & Cylinder Assembly |
| | | | | | | | 421-116 | Owners Manual |



CRAFTSMAN METAL CUTTING BAND SAW

**MODEL NO.
101.2290**

HOW TO ORDER REPAIR PARTS

**SEARS SERVICE
IS AT YOUR SERVICE
WHEREVER YOU LIVE
OR MOVE IN THE U.S.A.**

The Model Number will be found on a plate attached to your saw, at the rear of the base. Always mention the Model Number when requesting service or repair parts for your METAL CUTTING BAND SAW.

All parts listed herein may be ordered through SEARS, ROEBUCK AND CO. or SIMPSONS-SEARS LIMITED. When ordering parts by mail, selling prices will be furnished on request or parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN IN THIS LIST.

- | | |
|---------------------------------|--|
| 1. The PART NUMBER | 2. The PART DESCRIPTION |
| 3. The MODEL NUMBER 101.2290 | 4. The NAME of ITEM - METAL CUTTING BAND SAW. |

Your Sears merchandise takes on added value when you discover that Sears has over 2,000 Service Units throughout the country. Each is staffed by Sears-trained, professional technicians using Sears approved parts and methods.

SEARS, ROEBUCK AND CO. U.S.A.
SIMPSONS-SEARS LIMITED, CANADA

