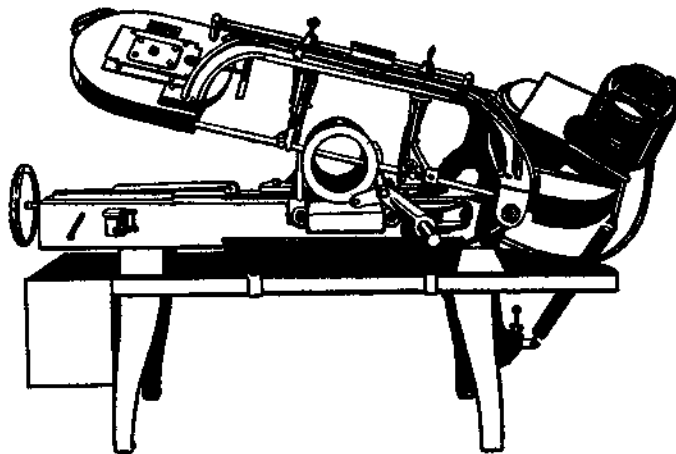


To Serial Number 14040



INSTRUCTION MANUAL AND PARTS CATALOG

For Wells No. 5 and No. 8 Metal Saws

Wellsaw®

2829 N. Burdick, Kalamazoo, MI 49004
Telephone: 616-345-1132
FAX: 616-345-0095

AS OF AUGUST 1 2002
NEW AREA CODE
269

CROSS REFERENCE FOR MODEL 8M

<u>Old Part Number</u>	<u>New Part Number</u>
B-164 Thumb Screw	100042-7
B-174 Switch Rod	990103
M-027 Cover	101291
M-30 Frame Spring Arm	101510
M-068 Drive Pinion	101645
M-112 Drive Shaft	101644 101643
M-110 Drive Gear	
M-165 Hub	101286
M-327	101286
M-111 Pulley Shaft/Pin	M-171
M-138 Inner Cyl.	101523
M-153 Outer Cyl.	101524
M-163 Piston Rod Assy.	101526
M-168 Dash Pot Washer	100070
M55500 Bearing	100416-1
M77500 Bearing	100406-1
M-181 Switch Rd. Post	990102
3102 Bearing	100405-1
3202 Bearing	100405-1
8504 Bearing	990150 Band Wheel
8504 Bearing	990151 Gear Box
8115 Bearing	100404-1
3972M Switch	101593

Standard Capacity: Rectangular	8" x 16"
Rounds	8" dia.
Extra Capacities: (with Special Guides) ..	20" x 7"—22" x 6"—24" x 5"
Speeds: Three Speed Saw — FPM	60, 90, 130
Four Speed Saw — FPM	50, 100, 175, 275
Motor Size	½ h.p.
Swivel Vise	to 45°
Blade Size	11'6" x ¾" x .032"
Height to top of bed	25½"
Width of bed	10¼"
Drive	"V" Belt
Floor Space	24" x 72"
Shipping Weight — approximately	590 lbs.
With Coolant	640 lbs.

1

SECTION I

INSTALLATION AND OPERATION OF THE NO. 5 AND NO. 8 WELLS METAL CUTTING BAND SAWS

The No. 5 and No. 8 WELLS METAL CUTTING BAND SAW was designed for efficient performance, and with proper care will give you many years of dependable service.

Each saw is completely assembled, checked thoroughly and subjected to a test run; no further adjustments should be necessary.

This manual has been prepared to assist you in the proper installation, operation and maintenance of your new Wells Metal Cutting Band Saw. If you should desire additional information or assistance, we suggest you contact your dealer's service representative.

Read this manual carefully. It was prepared to help you.

INSTALLATION

Upon receipt of machine, uncrate and check all parts. Report to your carrier any damage to machine and file Proof of Loss Claim with same.

Place motor in position on motor pivot post and install V-Belt.

Be sure motor specifications correspond with your power line.

Place machine so that each leg is carrying its share of the load.

Read instructions carefully.

OPERATION

Do not apply too much feed at first on new blade.

Start cut carefully and the blade will last much longer.

Make sure all four legs are in solid contact with the floor.

Keep blade guides as close to both Vise Jaws as possible.

PLACING BLADE ON SAW

Raise frame to extreme height.

Remove blade guard on high side of frame.

Turn idler band wheel tension screw until the blade will slide on wheels easily. With blade uncoiled, place in roller guides and between brushes, then over band wheels.

Grasp blade on frame side and push toward guide bracket beam to hold in position, then turn tension screw until the blade is taut.

Start motor and tighten blade to proper operating tension.

Make certain that the blade teeth point same way blade is running; if not, this can be accomplished by turning the blade inside out.

If blade slips while cutting, increase the tension.

AUTOMATIC STOP

When the saw blade has completed the cut through the material, the saw frame drops on a trigger to which a rod is attached. This rod passes through the frame of the machine to the switch on the opposite side, and opens the contacts, thereby stopping the saw.

It will be necessary to raise saw frame clear of the trigger before machine can be started.

FIXED VISE JAW

The two pins in the fixed vise jaw should be kept in place in order to insure square cuts. When cutting angles, these pins must be removed and the vise jaws turned to desired position and tightened with clamp bolts. These pins enable operators to quickly relocate fixed vise jaw for 90° cutting. **For final adjustment, the vise jaw should be squared with the blade.**

The sliding vise jaw should be loosened and pushed against fixed vise jaw and then tightened.

NEW BLADE TENSIONING DEVICE

On saws equipped with blade tensioning device, tighten hand wheel tension screw until gauge bar is flush with end of casting.

SLIDING VISE JAW

The sliding vise jaw is equipped with a ratchet and ratchet dog for quick action and with a hand wheel for tightening work in vise. **Excessive pressure is not required** to hold material securely in the vise.

MAXIMUM CAPACITY

To obtain maximum vise capacity remove vise jaw pins and move fixed vise jaw toward motor end. Make sure stock in vise will not strike the ratchet arm.

DASH POT

Machines are equipped with a dash pot (frame check) for the purpose of stabilizing the downward travel of the saw frame, thereby protecting saw blade from damage. The action is hydraulic and controlled by flow of fluid being bypassed through an orifice in the piston on the downward stroke. **Only light hydraulic oil should be used in the cylinder.**

SWITCH

A "STOP-START" switch is installed across the line to protect the wiring and brushes of the motor. A thermal coil is provided which breaks the circuit should an overload occur in the line. The operator should allow time for coil to cool before trying to start after the circuit has been broken.

Automatic shut-off operates when saw frame contacts the switch trigger, which is attached to the frame rest.

BELT

Usually the weight of the motor holds the belt tight enough, but in case it does not, the clamp on the swivel post should be tightened.

SPEED SELECTION

Saws are equipped with step pulleys, which provide a selection of speed ranges. Use the fast speed to cut thin-wall metal, tubing, thin channels, aluminum, thin brass, or any metal that will not burn the teeth. Use the medium speeds on general cutting such as cold rolled, machine steels, heavy channels, etc. Use the slow speed for cutting nickel steels or any metals which require a slow speed on a lathe. Use beeswax when cutting brass. Brass should always be cut with a blade which has not previously cut other metal. If teeth wear off unusually fast, use slower speed. **Always keep the blade at proper blade tension when cutting.**

SECTION II

MAINTENANCE

BLADE GUIDES

The blade guides are arranged to hold the blade in alignment both vertically and horizontally.

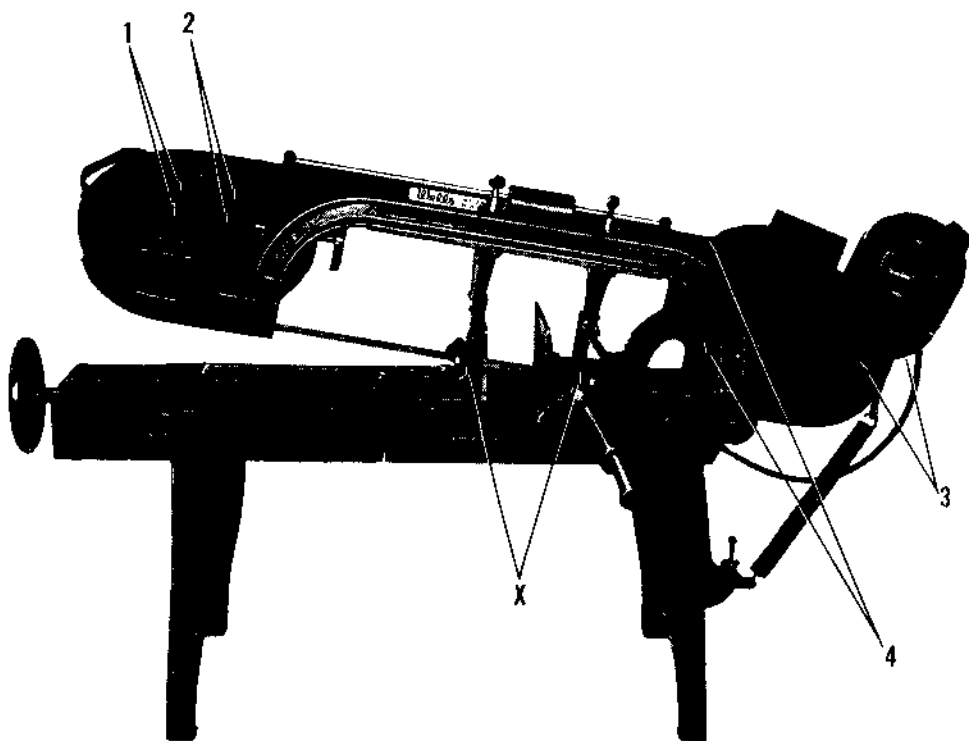
Before making any adjustments, always try a new blade to be sure that the old blade was not causing the difficulty.

To align the blade horizontally, be sure fixed vise is square with bed, then square blade with vise. If out of alignment, loosen one **upper** set screw in "Roller Adjuster" (M-92) and tighten opposite set screw, moving blade in desired direction.

For the vertical alignment, raise frame until blade just clears bed, then place edge of square on bed with end against blade being careful not to contact tooth set. Use feeler gauge not to exceed .002", adjusting blade so that feeler gauge will not enter at top or bottom between end of square and blade. If out of alignment, loosen one **lower** set screw in "Roller Adjuster" (M-92) and tighten opposite set screw, moving blade in desired direction. For this vertical alignment, check blade at both front and rear guides.

Adjust the side roller guides (#55500 on No. 8 saw, and #77500 on No. 5 saw) with the eccentric axle until both rollers contact blade. When this adjustment is made, the rollers should be adjusted so that the **path** of the **blade** is **straight** and blade is not forced to curve around the rollers. The back edge of the blade should be even with the top surface of the side rollers. The top roller guide #77500 on No. 8 should be free and not in contact with back of blade except during cutting. On No. 5, the top roller guide (#77500) should be in contact with back of blade at all times.

Always keep set screws and thumb screws tight.



WHEEL PITCH ADJUSTMENT

No. 5 and No. 8 Saws

Loosen Blade Before Making These Adjustments!

In case the blade runs too low, or off the idler wheel, adjust the wheel block to which the wheel is mounted. To do this, **loosen** the two cap screws marked "1" one-half turn and **tighten** two cap screws marked "2" an equal amount.

To make similar adjustment on drive wheel at motor end, it is necessary to **loosen** the two cap screws at "3", then make pitch adjustment by **loosening** two hollow head set screws at "4" and **tighten** two hollow head set screws at "3". The four cap screws should then be **tightened** to hold motor plate in a rigid and fast position.

If there is too much pitch on the wheel the blade will run too high. This will cause the blade to become distorted and the back of the blade will be rolled over, also the wheel rim flange will show excessive wear. To correct this condition, **loosen** two cap screws at "2", **tighten** two cap screws at "1". **Loosen** two cap screws at "4", then make pitch adjustment by **loosening** two hollow head set screws at "3" and **tightening** two hollow head set screws at "4". The four cap screws should then be **tightened** to hold motor plate in a rigid and fast position.

FRAME WEIGHT ADJUSTMENT

Place weight on slide bar at **motor end** of slide and remove dash pot, before adjusting frame spring under motor end. The frame spring should be adjusted for approximately **12 lbs.** weight at frame handle on **No. 8** and **10 lbs.** on **No. 5** saw. Use slide weight to make final feed adjustment. The cutting pressure, which determines the feed, should not be increased to a point where the blade starts to run sidewise while cutting. Large stock will stand a heavier feed than small stock.

BLADE BRUSHES

Brushes should be **cleaned frequently** in kerosene and reversed to take advantage of both rows of bristles.

For best results, replace worn, filled or sticky brushes with new ones. In bolting brushes to angles, be sure wire bristles are bent in same direction blade travels.

LUBRICATION

The **correct and adequate lubrication** is a very **important** factor in determining the life and service to be obtained. It is imperative that all dust and dirt should be removed before lubricating.

Keep vise **adjusting screw well lubricated** with a medium type of grease.

The **gears** in the **gear case** are lubricated with a metal penetrating type of grease that will not channel. A small quantity of this lubricant can be added through hole in side of gear case when required.

The **electric motor** has sealed-type ball bearings and should be oiled at regular intervals according to standard practices. When repacking, a high grade medium type of grease should be used.

Keep **internal ring gear** and **pinion** well greased with a good quality fiber type grease (medium grade). These gears can be greased on a No. 8 saw without removing the drive wheel. For proper inspection and for greasing these gears on a No. 5, it is necessary to remove the drive wheel.

Lubricate the motor pivot post with a few drops of machine oil. If properly lubricated, the weight of the motor will keep the belt tight, and allow easy speed changes.

Wheel ball bearings are lubricated by pressing out the bearings and repacking them with a good quality of ball bearing grease.

Keep machine clean and be sure no cuttings are allowed to mix with lubricants, as this forms an abrasive which is detrimental to the operation of the machine.

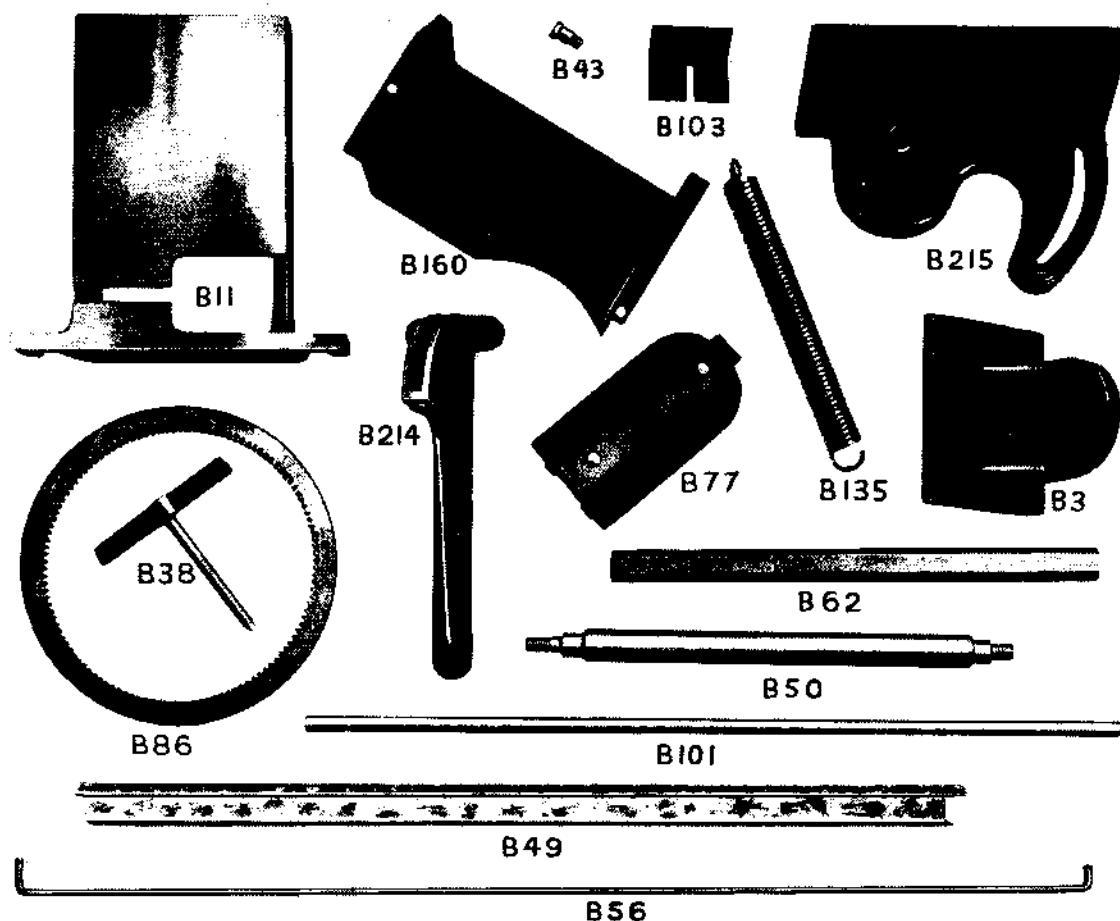
Use only hydraulic oil for dash pot.

For Greater Service and Efficiency Careful Operation—Blade Consideration

DIFFICULTY	REASON	REMEDY
Cutting out of line.	Too heavy a feed, or worn blade.	Reduce feed or replace the blade. Replace worn guide bearings when they begin showing excessive wear.
	Guides in wrong position.	Set as close to work as possible.
	Guides out of alignment.	Follow adjustment instructions.
	Set worn on one side of blade.	Keep brushes clean.—Avoid teeth rubbing in cut by applying enough weight so that each tooth is cutting a good chip.
	Starting cut on odd shapes where blade does not contact flat surface.	Retard feed until blade has a good start in the material.
Stripping Teeth	Blade teeth too coarse.	Be sure that two or three teeth are in contact with the material being cut.
	Hard spots in material being cut.	Rotate stock if possible. Do not put new blade in cut at same angle.
Breaking	Guides out of alignment.	Follow adjustment instructions.
	Blade twisting.	Adjust guides as close to work as possible. Be sure material to be cut is held firmly at all times.
	Lack of blade tension.	Always keep blade tight.
Excessive Wear	Blade speed too fast.	Follow recommended cutting speeds.

Always Use a Light Feed on New Blades

Parts for No. 8 Wells Metal Band Saws



B 3 Sliding Vise Jaw

B 11 Tip-off Block

B 38 Take Up Screw
(complete unit)

B 43 Long Roller Axle

B 49 Blade Guard

B 50 Frame Pivot Bar

B 56 Ratchet Rod

B 62 *Stock Stop Bar

B 77 Vise Slide Block with B 45
Vise Slide Block Guide
for assembled unit order
both parts.

B 86 Internal Ring Gear

B 101 Rod for Sliding Weight

B 103 *Blade Brush Angle
(inside frame)

B 109 Long Eccentric Roller
Axle (not shown)

B 135 *Coil Spring

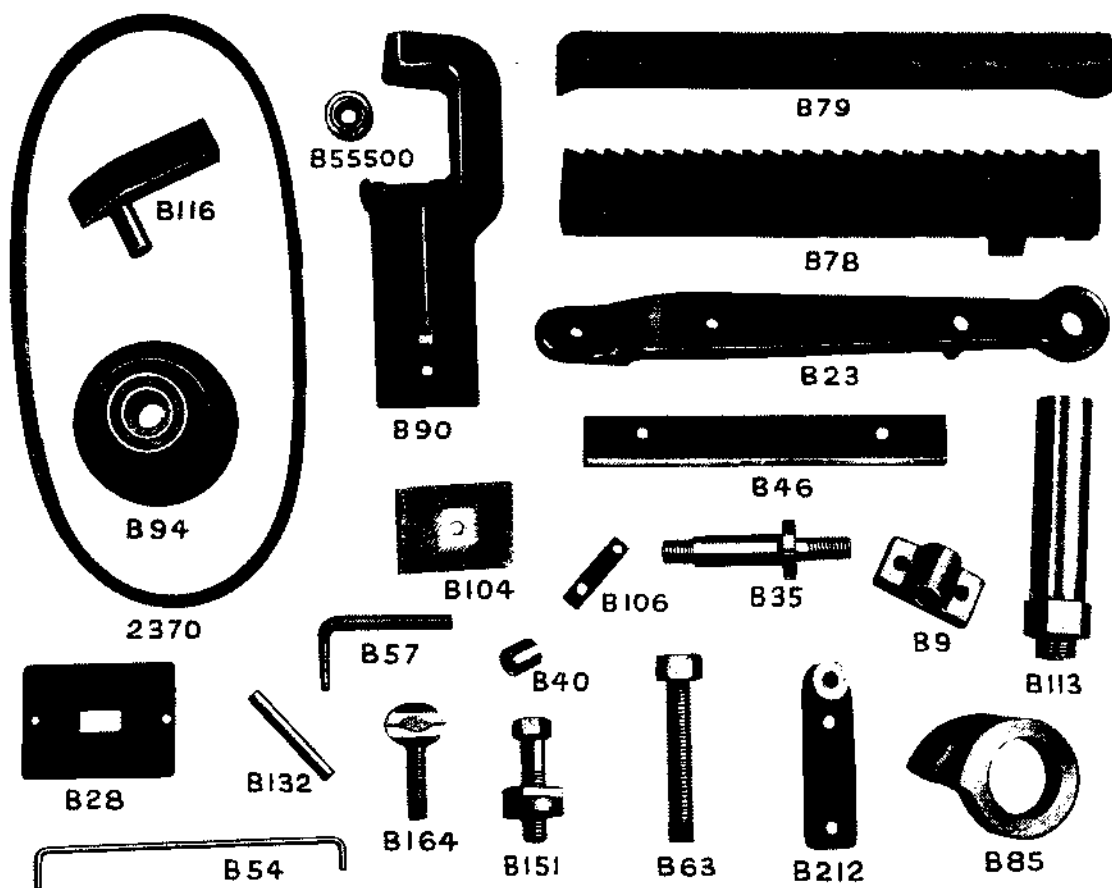
B 160 *Belt Guard (3 speed saw)

B 214 Spring Adjuster Housing

B 215 Fixed Vise Jaw

*Refer to page 19 for replacement part number of later model saws.

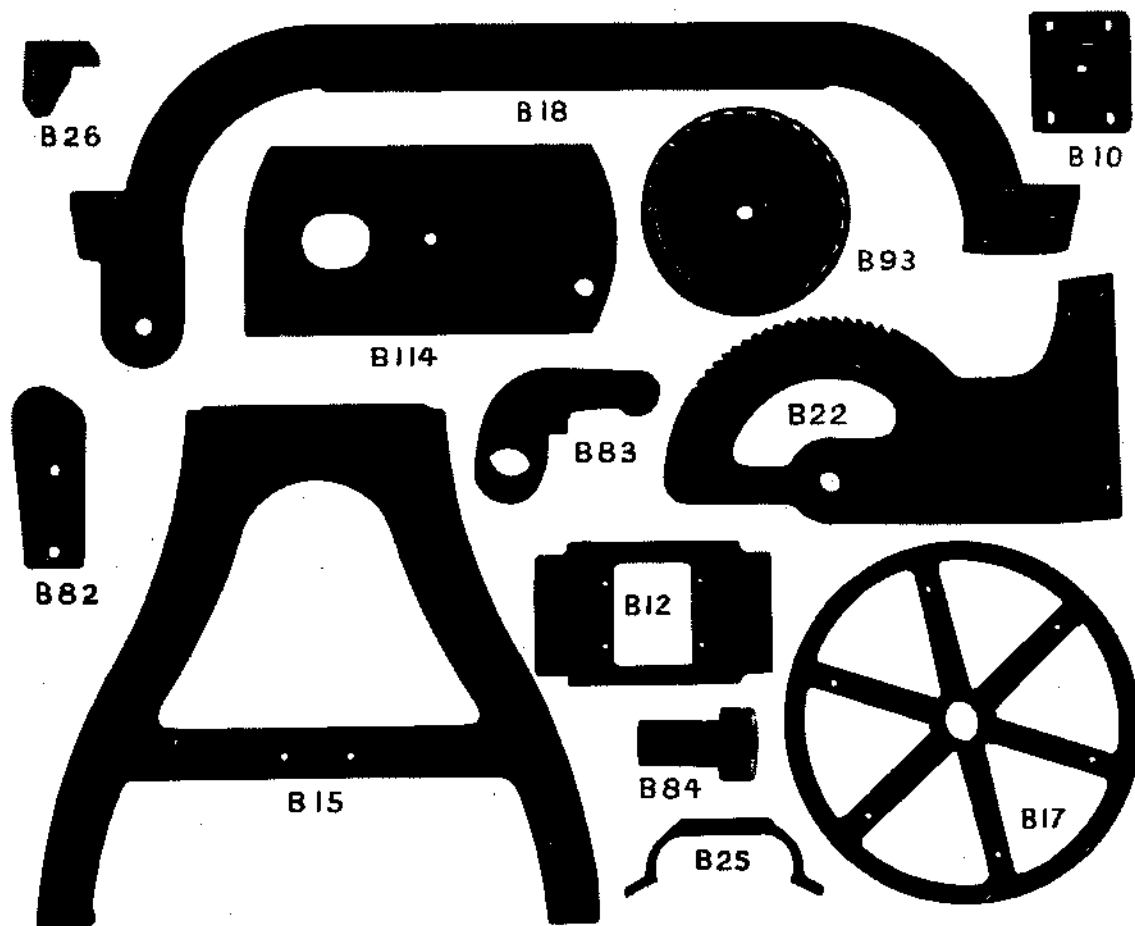
Parts for No. 8 Wells Metal Band Saws



B 9	Wing Screw Block	B 79	Vise Ratchet Dog	B 132	Vise Ratchet Dog Hinge Pin
B 23	Ratchet Dog Arm	B 85	*Stock Stop Sleeve Collar	B 151	Clamp Nut Only
B 28	*Switch Cover (Bryant)	B 90	Roller Guide Bracket	B 164	Guide Bracket Thumb Screw
B 35	*Wheel Axle, not furnished (order M 429)	B 94	*Motor Pulley (3 speed saw)	B 212	Dash Pot Bracket
B 40	Vise Ratchet Guide Spool	B 104	*Blade Brush (inside frame)	2370	*V Belt
B 46	Wheel Slide Block Guide	B 106	Ratchet Rod Rear Arm	B 55500	Bearing for Sides of Blade (Order No. 55500)
B 54	*Switch Rod (Bryant)	B 113	*Motor Pivot Post (3 speed saw)	B 174	Switch Rod for C.H. No. 9115 Switch (not shown)
B 57	Ratchet Lever	B 116	Ratchet Dog with B-115 Handle assembled Unit	M 429	Wheel Axle (not shown)
B 63	*Stock Stop Adjustment Bolt and Nut				
B 78	Vise Ratchet				

*Refer to page 19 for replacement part number of later model saws.

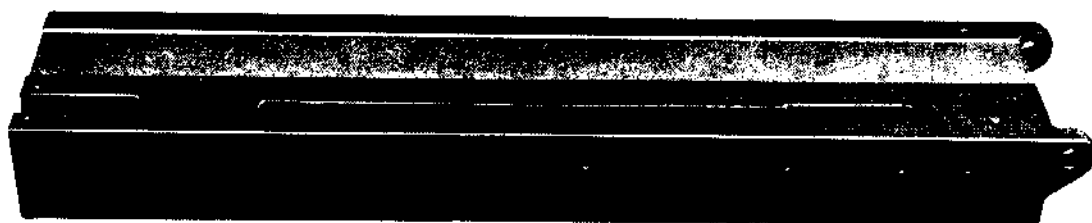
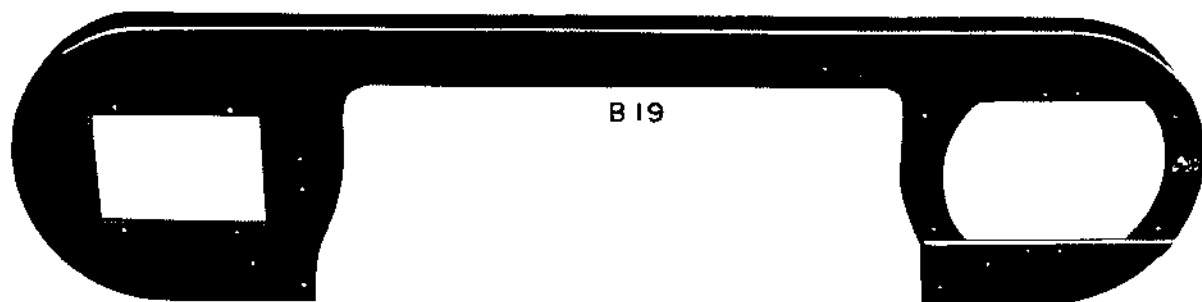
Parts for No. 8 Wells Metal Band Saws



B 10	Wheel Adjusting Block	B 26	Frame Rest
B 12	*Wheel Slide Block (3 speed saw)	B 82	Stock Stop Bar Bracket
B 15A	Leg (Motor End)	B 83	*Stock Stop Arm
B 15B	Leg (Handle End)	B 84	*Stock Stop Arm Sleeve
B 17A	Band Wheel, Drive, (shown as B 17)	B 93	Hand Wheel
B 17B	Band Wheel, Idler, (not shown)	B 114	Motor Plate
B 18	Guide Bracket Beam	B 157	Cable, Motor to Switch (see page 15)
B 22	*Ratchet Arm		
B 25	Frame Handle		

*Refer to page 19 for replacement part number of later model saws.

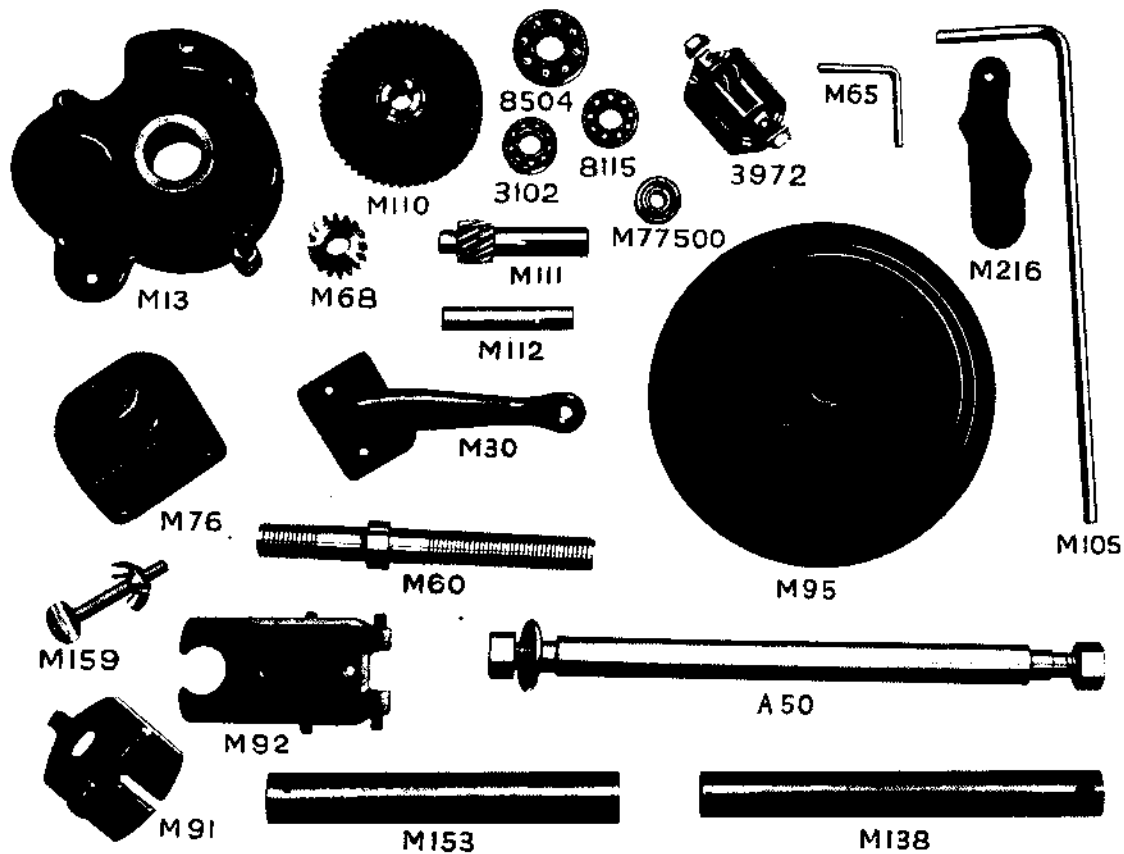
Parts for No. 8 Wells Metal Band Saws



B 14W Bed

B 19W Saw Frame

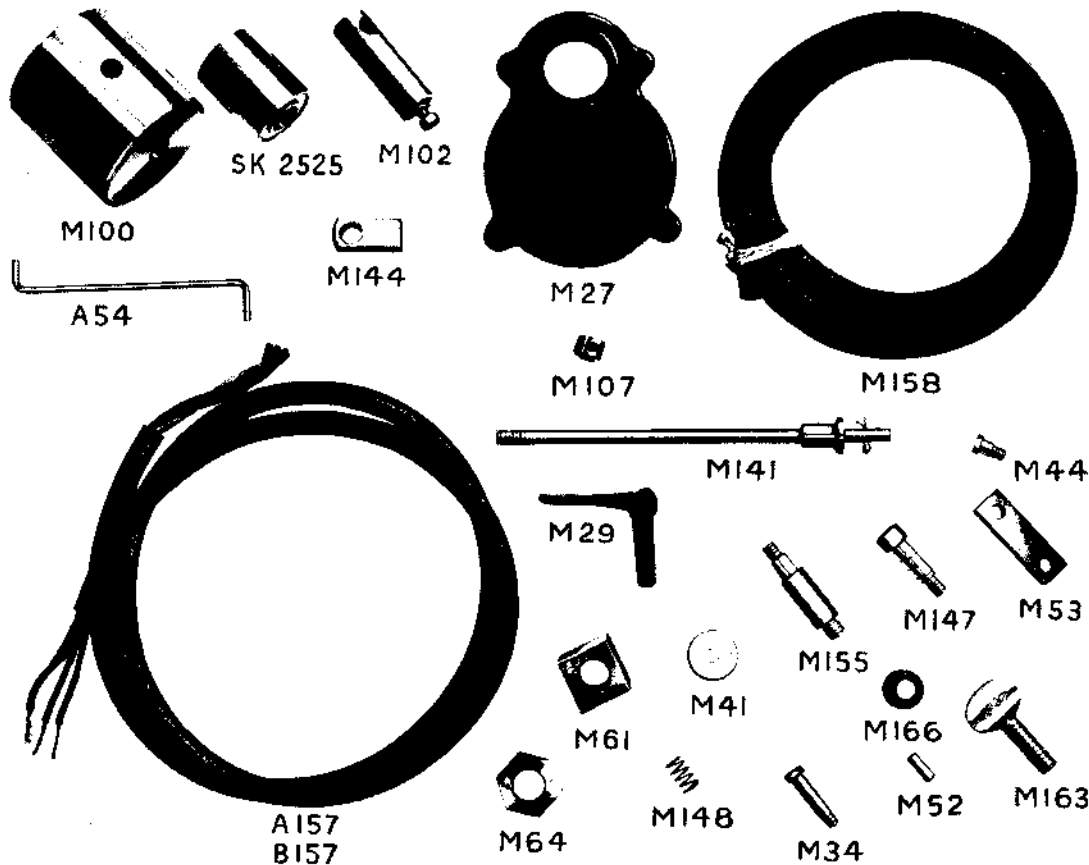
Parts for No. 5 & No. 8 Wells Metal Band Saws



M 13	Gear Case				
M 30	Frame Spring Arm				
A 50	Frame Pivot Bar				
M 60	*Vise Screw with M 177 Collar As- sembled Unit				
M 65	Fixed Vise Jaw Locking Pin				
M 68	*Drive Pinion				
M 76	Vise Screw Bracket				
M 91	Roller Support				
M 92	Roller Adjuster				
M 95	*Driven Pulley (3 speed saw)				
M 105	Rod Ratchet Lever				
M 110	*Plastic Gear with M 165 Hub				
M 111	*Pulley Shaft and Pinion (.625 dia.)				
M 112	*Drive Pinion Shaft				
M 138	Cylinder for dash pot (inner)				
M 153	Cylinder for dash pot (outer)				
M 159	Thumb Screw and Wing Nut for				
		3102	spring adjuster Ball Bearing for Lower End M 111	M 171	Pulley Shaft and Pinion .590 dia. (not shown)
		3972	Bryant Switch	M 172	Spacer for A 35 and B 835 Axles (not shown)
		8115	Ball bearing for pinion shaft	M 181	Switch Rod Post (C.H. No. 9115) (not shown)
		8504	Ball Bearing for Upper End M 111 or M 171 Pulley Shaft; also for Band Wheels.	M 189	*Driven Pulley Key (not shown)
		M 77500	Bearing for Back of Blade on No. 8; also for back and sides of blade on No. 5. Order No. 77500	M 190	Plastic Gear Key (not shown)
		M 156	5/16 x 7/8 Thin Head Cap Screw (not shown)	M 216	Spring Adjuster
		M 167	3/4 Nut with Set Screw for Frame Pivot Bar (not shown)	3202	Ball Bearings for Lower End M 171 Pulley Shaft (not shown)
		M 168	Washer for Dash	9115	*H 35 C.H. Switch, single phase (not shown)
				9115	H 36 C.H. Switch, three phase (not shown)

*Refer to pages 19 and 20 for replacement part number of later model saws.

Parts for No. 5 & No. 8 Wells Metal Band Saws



M 27	Gear Case Cover	M 141	Collar	M 163	Motor to Outlet (not furnished)
M 29	Switch Trigger		Dash Pot Piston Rod with M 142		Thumb Screw for Sliding Weight, used with M 100
M 34	Switch Trigger Axle		Piston, assembled unit		Dash Pot Cup Leather
M 44	Short Roller Axle	M 144	Dash Pot Piston Rod End	M 166	Driven Pulley Spacer (not shown)
M 52	Motor Plate Pivot Pin	M 147	Dash Pot Lower Bolt	M 188	Blade Brush Bracket (not shown)
M 53	Motor Plate Pivot Pin Holder	M 148	Dash Pot Spring	M 198	Blade Brush Angle (not shown)
A 54	Switch Rod (see page 17)	M 155	Dash Pot Upper Stud	M 425	Blade Brush (not shown)
M 61	Vise Screw Nut	A 157	Cable, Motor to Switch, No. 5 Saw	M 426	Cast Iron Sliding Weight (not shown)
M 64	7/8 by 9 L.H. Lock Nut for Vise Screw Hand Wheel	B 157	Cable, Motor to Switch, No. 8 Saw	M 807	Sliding Weights (not shown)
M 100	Steel Sliding Weight (not furnished) order No. M 807 (cast)	SK 2525	Wheel Ball Bearing (not furnished) Replaced by two N.D. No. 8504 Bearings and one M-172 Spacer	M 857	Stop Spring (not shown)
M 102	Sliding Weight Post	M 158	Cable, Complete,		
M 107	Ratchet Rod Lever				

PARTS FOR NO. 8 WELLS METAL BAND SAWS

- | | |
|---|---|
| <p>B-12 Wheel Slide Block used on saws up to and including Serial No. 8M-13344. Later model saws order No. 101164.</p> <p>B-22 Ratchet Arm used on saws prior to Serial No. 8M-7251. Later model saws order B-22W.</p> <p>B-28 Switch Cover (Bryant) used on saws up to and including Serial No. 8M-2601. Later model saws use 9115 Cutler-Hammer Switch.</p> <p>B-35 Wheel Axle replaced with M-429 for all model saws.</p> <p>B-54 Switch Rod (Bryant) used on saws up to and including serial No. 8M-2601. Later model saws use B-174 Switch Rod.</p> <p>B-62 Stock Stop Bar used on saws up to and including serial No. 8M-11155. Later model saws use B-460 Stock Stop Bar.</p> <p>B-63 Stock Stop Adjustment Bolt and Nut used on saws up to and including Serial No. 8M-11155. Later model saws use one $\frac{3}{8}$-11 Hex Hd. Cap Screw.</p> <p>B-83 Stock Stop Arm used on saws up to and including Serial No. 8M-11155. Later model saws use M-451 and M-452 Stock Stop Arm.</p> <p>B-84 Stock Stop Arm Sleeve used on saws up to and including Serial No. 8M-11155. Later Model saws use M-451 and M-452 Stock Stop Arm.</p> | <p>B-85 Stock Stop Sleeve Collar used on saws up to and including Serial No. 8M-11155. Later model saws use M-451 and M-452 Stock Stop Arm.</p> <p>B-94 Motor Pulley for 3 speed saw. Order 101172-2 motor pulley for 4 speed saw.</p> <p>B-103 Blade Brush Angle (inside frame) used on saws prior to Serial No. 8M-5798. Later model saws use M-425 Blade Brush Angle.</p> <p>B-104 Blade Brush (inside frame) used on saws prior to Serial No. 8M-5798. Later model saws use M-426 Blade Brush.</p> <p>B-113 Motor Pivot Post for 3 speed saw. Order 101158 Motor Pivot Post for 4 speed saw.</p> <p>B-135 Tension Spring for cast iron frame only. (Used on saws prior to Serial No. 8M-7251). Later model saws use B-292 Tension Spring.</p> <p>B-160 Belt Guard for 3 speed saw. Order 101181 Belt Guard for 4 speed saw.</p> <p>2370 V Belt used on 3 speed saws order No. 100066-7. For 4 speed saws order No. 100066-5.</p> <p>9115H35 Single phase switch used on No. 8 single phase saws up to and including Serial No. 8M-14286. Later model saws use 101593 single phase switch.</p> |
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REPLACEMENT PARTS BLADE TENSIONING DEVICE NO. 8 SAW ONLY

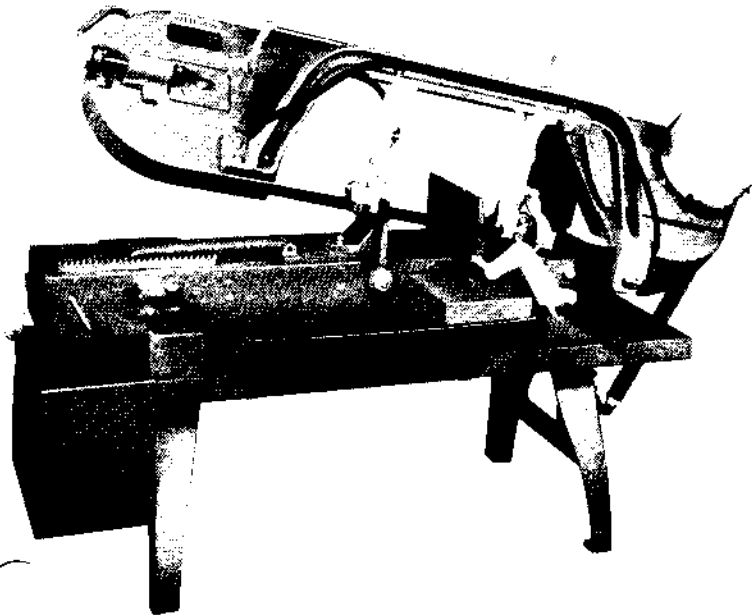
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| <p>101162 Take Up Support</p> <p>100410-1 Bearing</p> <p>101170 Take Up Screw Assembly</p> | <p>101401 Tension Gauge Nut Assembly</p> <p>101198 Tension Spring</p> <p>101164 Slide Block</p> |
|--|---|

PARTS FOR NO. 5 & NO. 8 WELLS METAL BAND SAWS

- M-60 Vise Screw with M-177 Collar Assembled Unit replaced with M-307 for all model saws.
- M-68 Drive Pinion used on No. 5 saws up to and including Serial No. 5M-7302 and No. 8 saws up to and including Serial No. 8M-14040. Order a 101643 Drive Pinion Shaft Assembly (includes drive pinion, drive pinion shaft and roll pin). Later model saws use 101645 Drive Pinion drilled for roll pin.
- M-95 Driven Pulley used on 3 speed saws. For 4 speed saws order 101156 Driven Pulley.
- M-110 Plastic Gear with M-165 Hub replaced with M-327 for all model saws.
- M-111 Pulley Shaft and Pinion (.625 dia.) replaced with 1 M-171 Pulley Shaft & Pinion and 1 3202 Ball Bearing for 3 speed saw. Order 101187 Pulley Shaft & Pinion for 4 speed saw.
- M-112 Drive Pinion Shaft used on No. 5 saws up to and including Serial No. 5M-7302 and No. 8 saws up to and including Serial No. 8M-14040. Order a 101643 Drive Pinion Shaft Assembly (includes drive pinion, drive pinion shaft and roll pin). Later model saws use 101644 Drive Pinion Shaft.
- M-189 Driven Pulley Key for 3 speed saw. Order No. 100056-15 for 4 speed saw.

Wellsaw®

OPERATING & MAINTENANCE INSTRUCTIONS MODEL 8



**PLEASE READ THIS MANUAL CAREFULLY
IT WAS PREPARED TO HELP YOU**

The Model 8 WELLS METAL CUTTING BAND SAW was designed for efficient performance, and with proper care will give you many years of dependable service.

After final assembly, each saw is inspected and subjected to a test run; no adjustment should be necessary.

This manual has been prepared to assist you in the proper operation and maintenance of your new WELLS Metal Cutting Band Saw. If you should desire additional information or assistance, we suggest you contact your dealer's service representative.

INSTALLATION

Upon receipt of machine, uncrate and check all parts. Report to your carrier any damage to machine and file Proof of Loss Claim with same.

Be sure motor specifications correspond with your power line.

Place machine so that each leg is carrying its share of the load.

Each machine is shipped with one all-purpose blade installed and ready for use.

SPECIFICATIONS

SEPTEMBER, 1971

Capacity:

Rectangular.....	16" (w) x 9" (h)
Rounds.....	9" dia.
45° Angle.....	8¾" (w) x 9" (h)
With special guides.....	23" (w) x 9" (h) or 24" (w) x 8" (h)

Selective blade speeds,

f.p.m.....	50, 100, 175, 275
Motor.....	1 H.P.
Drive.....	"V" belt
Blade size.....	11' 6" x ¾" x .032"
Swivel vise.....	to 45°
Height to top of bed.....	25½"
Width of bed.....	10¼"
Floor space.....	24" x 72"
Approx. shipping weight.....	590 lbs.
with cutting system.....	650 lbs.

SECTION I - OPERATING INSTRUCTIONS CUTTING TIPS

1. For longer blade life, start each cut carefully.
2. For new blades, reduce feeding pressure on first two cuts.
3. Keep blade guides as close to vise jaws as possible.
4. Make sure all four legs are in solid contact with floor.

PLACING BLADE ON SAW

1. Raise frame to extreme height.
2. Remove idle wheel guard.
3. Remove blade guard on high side of frame.
4. Loosen blade take up screw and remove old blade.
5. Uncoil new blade. Make certain that the blade teeth point in direction of blade travel, which is toward the motor. If not, turn the blade inside out to have proper tooth direction.
6. Place new blade between the bearings of the roller guides and on band wheels.

7. Grasp blade on frame side and push toward guide bracket beam to hold it in position on wheels while turning hand wheel tension screw until blade is taut.
8. Start motor and tighten blade to proper operating tension. If blade slips while cutting, increase the tension.

AUTOMATIC STOP

When the saw blade has completed the cut through the material, the saw frame drops on a trigger. This operates a rod which opens the contacts in the switch and automatically stops the motor.

It will be necessary to raise saw frame clear of the trigger before machine can be started.

FIXED VISE JAW

The two pins in the fixed vise jaw should be kept in place in order to insure square cuts. For cutting angles, the pins must be removed and the vise jaws turned to desired position and tightened with clamp bolts. These pins enable operators to quickly relocate fixed vise jaw for approximate 90° cutting. For final and accurate adjustment, the vise jaw should be squared with the blade.

The sliding vise jaw should be loosened and pushed against fixed vise jaw, then tighten cap screw, leaving vise parallel.

SLIDING VISE JAW

The sliding vise jaw is equipped with a ratchet and ratchet dog for quick action and with a hand wheel for tightening work in vise. Excessive pressure is not required to hold material secure.

MAXIMUM CAPACITY

To obtain maximum vise capacity, remove vise jaw pins and move fixed vise jaw toward motor end to the last holes. Make sure stock in vise will not strike the ratchet arm.

DASH POT

Machines are equipped with a dash pot (frame check) for the purpose of stabilizing the downward travel of the saw frame, thereby protecting saw blade from damage. The action is hydraulic and controlled by flow of fluid being by-passed through an orifice in the piston on the downward stroke.

Fill to within 1 inch of top of the bottom cylinder with Cities Services "Amplex 05" Hydraulic Oil or equivalent.

FRAME WEIGHT ADJUSTMENT

Before adjusting frame spring at motor end, remove the hydraulic dash pot and move sliding weight to rear position (motor end). The frame spring should be adjusted for approximately 12 pounds weight at frame handle.

SWITCH

A "STOP-START" switch is installed across the line to protect wiring and the motor. A heater coil breaks the circuit if an overload occurs. The operator should allow time for the coil to cool before trying to restart.

Automatic shut-off operates when saw frame contacts the switch trigger.

BELT

Pivoted mounting provides quick belt change. With the belt in pulley grooves for the desired speed, swing motor to put proper tension on belt. Tighten thumb screw to hold motor in operating position.

FEEDING PRESSURE

Variations in feeding pressure are made by moving weight on bar at top side of frame. Pressure on blade increases as weight is moved to forward end. The size and type of material governs the amount of feeding pressure required on the blade. Excessive pressure may cause a run-out of the blade.

SPEED SELECTION

Saws are equipped with step pulleys providing speed selection of 50, 100, 175 and 275 feet per minute. High speeds are suggested for cutting thin-wall tubing, channels, aluminum, brass, or any metal that will not burn the teeth; medium speed for general cutting such as cold rolled, machine steels, heavy channels, etc. Run in low speed for cutting nickel steels, or metal which requires a slow speed on a lathe. When cutting brass, use a blade which has not previously cut other metal, and apply bees-wax to the teeth.

If teeth wear off unusually fast, use a lower speed.

BLADE BRUSHES

Brushes should be cleaned frequently in kerosene and reversed to take advantage of both rows of bristles.

For efficient cutting and blade life, replace blade brushes when worn.

In bolting brushes to angles, be sure wire bristles are bent in the same direction the blade travels.

SECTION II - MAINTENANCE INSTRUCTIONS

BLADE GUIDES

The blade guides are arranged to hold the blade in alignment both vertically and horizontally.

Before making any adjustments, always try a new blade to be sure that the old blade was not causing the difficulty.

To align the blade horizontally, be sure fixed vise is square with the slot in top of bed, then square blade with vise.

For the vertical alignment, raise frame until blade just clears bed, then place edge of square on bed with end against blade, being careful not to contact tooth set. Use feeler gauge not to exceed .002", adjust blade so that feeler gauge will not enter at top or bottom between end of square and blade at both front and rear guides.

Adjust the side roller guides (100416-1) with the eccentric axle until both rollers contact blade. When this adjustment is made, the roller should be adjusted so that the PATH of the BLADE IS STRAIGHT and blade is not forced to curve around the rollers. The top roller guide (100406-1) should be in contact with top edge of blade at all times. When running idle, this contact pressure should be very light.

WHEEL PITCH ADJUSTMENT

LOOSEN BLADE BEFORE MAKING THESE ADJUSTMENTS!

If the blade runs too low or off the idler wheel, adjust the idler wheel block. Loosen, by one-half turn, the two cap screws in the block at the hand wheel end, and tighten by an equal amount the two cap screws in the opposite end of the block.

To make similar adjustment on drive wheel, loosen, by one-half turn, the two cap screws at motor end of the wheel plate. Then make pitch adjustment: loosen by one-half turn, the two hollow head set screws at the opposite end of plate, and tighten the two hex head cap screws at motor end of wheel plate. After final adjustment, make certain that all hollow head cap screws and set screws are tight.

If there is too much pitch on the wheel, the blade will run too high. This will cause the blade to become distorted, the top edge will be rolled over and the wheel rim flange will show excessive wear.

To correct this condition, loosen two cap screws at the end of idler wheel block farthest from hand wheel,

then tighten two cap screws at opposite end of idler wheel block. To reduce pitch on drive wheel, loosen two cap screws in drive wheel plate at the end opposite the motor, then match pitch adjustment by tightening two hollow head set screws at the same end of the wheel plate. The four cap screws should then be tightened to hold motor plate in a rigid and fast position.

LUBRICATION

Correct and adequate lubrication is a very important factor in determining the life and service to be obtained. It is imperative that all dust and dirt be removed before lubricating.

Texaco Marfax grade "O" grease, or equivalent, is used in the gear case. Other parts to be greased are as follows:

1. Vise adjusting screw. Use a heavy oil or light grease.
2. Keep internal ring gear and pinion well greased with a good quality fibrous type grease. (Medium grade).
3. Wheel ball bearings are lubricated with a good quality ball bearing grease.
4. Apply a few drops of machine oil to the frame pivot bar periodically.
5. For proper motor lubrication, follow motor manufacturers instructions as stated on the motor.

HELPFUL SUGGESTIONS

1. To select the proper blade, consideration must be given to the type of material, as well as size and shape of stock to be cut. The WELLS-SELECT-O-CHART is a handy reference guide.
2. Use correct blade speed and pressure for each type of material.
3. Always keep blade at proper tension.
4. Lower saw frame carefully so that the blade will start cutting before full frame feed pressure is applied to the blade.
5. Reduce feeding pressure for the first 2 or 3 cuts with a new blade.
6. Keep adjustable blade guide as close as possible to the material.
7. Keep blade brushes in contact with blade teeth at all times.

HOW TO ORDER REPAIR PARTS

Please provide following information:

- Model Number
- Serial Number (If any)
- Part Description and Number as shown in Parts List.

Address order to:

WELSAW

2829 N. Burdick
Kalamazoo, Michigan 49007, U.S.A.
Telephone: 616-345-1132 FAX: 616-345-0095