INSTRUCTION MANUAL AND PARTS CATALOG

For Wells No. 5 and No. 8 Metal Saws
CROSS REFERENCE FOR MODEL 8M

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<td>M55500 Bearing</td>
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<td>M-181 Switch Rd. Post</td>
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<td>3102 Bearing</td>
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<td>8504 Bearing</td>
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<td>3972M Switch</td>
<td>101593</td>
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</tbody>
</table>
WELLS NO. 8
METAL CUTTING BAND SAW

SPECIFICATIONS

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 ............................................................... 1/2 h.p.

Swivel Vise ............................................................... to 45°

Blade Size ............................................................... 11.6" x ¾" x .032"

Height to top of bed .................................................. 25½"

Width of bed ............................................................ 10½"

Drive ................................................................. "V" Belt

Floor Space ............................................................. 24" x 72"

Shipping Weight — approximately ................................... 590 lbs.
With Coolant ......................................................... 640 lbs.

Blades are available for No. 8 Wells saw in 3, 6, 8, 10, 12, 14 or 18 teeth per inch, raker set; 8, 10, 14 or 18 teeth per inch, wavy set.
SECTION 1

INSTALLATION AND OPERATION OF THE

NO. 5 AND NO. 8 WELLS METAL CUTTING BAND SAW

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.
FRAMES 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

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

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 23  Ratchet Dog Arm
B 28  *Switch Cover  
      (Bryant)
B 35  *Wheel Axle, not 
      furnished (order 
      M 429)
B 40  Vise Ratchet Guide 
      Spool
B 46  Wheel Slide Block 
      Guide
B 54  *Switch Rod (Bryant)
B 57  Ratchet Lever
B 63  *Stock Stop Adjust- 
      ment Bolt and Nut
B 78  Vise Ratchet

B 79  Vise Ratchet Dog
B 83  *Stock Stop Sleeve 
      Collar
B 90  Roller Guide 
      Bracket
B 94  *Motor Pulley 
      (3 speed saw)
B 104  *Blade Brush 
      (inside frame)
B 106  Ratchet Rod Rear 
      Arm
B 113  *Motor Pivot Post 
      (3 speed saw)
B 116  Ratchet Dog with 
      B-115 Handle 
      assembled Unit
B 132  Vise Ratchet Dog 
      Hinge Pin
B 151  Clamp Nut Only
B 164  Guide Bracket 
      Thumb Screw
B 212  Dash Pot Bracket
2370  *V Belt
B 55500  Bearing for Sides 
       of Blade (Order 
       No. 55500)
B 174  Switch Rod for 
       C.H. No. 9115 
       Switch (not 
       shown)
M 429  Wheel Axle (not 
       shown)

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

*Refer to page 19 for replacement part number of later model saws.
Parts for No. 8 Wells Metal Band Saws

B 19

B 14

B 14WBed

B 15WSaw Frame
### Parts for No. 5 & No. 8 Wells Metal Band Saws

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<td>Vise Screw with M 177 Collar Assembled Unit</td>
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<td>Fixed Vise Jaw Locking Pin</td>
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<td>M 92</td>
<td>Roller Adjuster</td>
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<td>M 95</td>
<td>Driven Pulley (3 speed saw)</td>
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<td>M 105</td>
<td>Rod Ratchet Lever</td>
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<tr>
<td>M 110</td>
<td>Plastic Gear with M 165 Hub</td>
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<tr>
<td>M 111</td>
<td>Pulley Shaft and Pinion (325 dia.)</td>
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<tr>
<td>M 112</td>
<td>Drive Pinion Shaft</td>
<td></td>
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<tr>
<td>M 138</td>
<td>Cylinder for dash pot (inner)</td>
<td></td>
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<tr>
<td>M 153</td>
<td>Cylinder for dash pot (outer)</td>
<td></td>
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<tr>
<td>M 159</td>
<td>Thumb Screw and Wing Nut for</td>
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*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 29  Switch Trigger
M 34  Switch Trigger Axle
M 44  Short Roller Axle
M 52  Motor Plate Pivot Pin
M 53  Motor Plate Pivot Pin Holder
A 54  Switch Rod (see page 17)
M 61  Vise Screw Nut
M 61  ¾ by 9 L.H. Lock Nut for Vise
H 157  Screw Hand Wheel
M 100  Steel Sliding Weight (not furnished) order No. M 807 (cast)
M 102  Sliding Weight Post
M 107  Ratchet Rod Lever

Collar
Dash Pot Piston Rod with M 141
Piston, assembled unit
M 141
Dash Pot Piston Rod End
M 141
Dash Pot Lower Bolt
M 141
Dash Pot Spring
M 141
Dash Pot Upper Stud
M 141
Cable, Motor to Switch, No. 5 Saw
M 141
Cable, Motor to Switch, No. 8 Saw
M 141
Wheel Ball Bearing (not furnished)
M 141
Replaced by two N.D. No. 804
M 141
Bearings and one M-172 Spacer
M 141
Cable, Complete

Motor to Outlet (not furnished)
Thumb Screw for Sliding Weight, used with M 100
Dash Pot Cup Leather
Driven Pulley Spacer (not shown)
Blade Brush Bracket (not shown)
Blade Brush Angle (not shown)
Blade Brush (not shown)
Cast Iron Sliding Weight (not shown)
Sliding Weights Stop Spring (not shown)
PARTS FOR NO. 8 WELLS METAL BAND SAWs

B-12 Wheel Slide Block used on saws up to and including Serial No. 8M-13344. Later model saws order No. 101164.

B-22 Ratchet Arm used on saws prior to Serial No. 8M-7251. Later model saws order B-22W.

B-28 Switch Cover (Bryant) used on saws up to and including Serial No. 8M-2601. Later model saws use 9115 Cutler-Hammer Switch.

B-35 Wheel Axle replaced with M-429 for all model saws.

B-54 Switch Rod (Bryant) used on saws up to and including serial No. 8M-2601. Later model saws use B-174 Switch Rod.

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.

B-63 Stock Stop Adjustment Bolt and Nut used on saws up to and including Serial No. 8M-11155. Later model saws use one 5/8-11 Hex Hd. Cap Screw.

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.

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.

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.


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.

B-104 Blade Brush (inside frame) used on saws prior to Serial No. 8M-5798. Later model saws use M-426 Blade Brush.


B-125 Tension Spring for cast iron frame only. (Used on saws prior to Serial No. 8M-7251). Later model saws use B-292 Tension Spring.

B-160 Belt Guard for 3 speed saw. Order 101181 Belt Guard for 4 speed saw.

2370 V Belt used on 3 speed saws order No. 100066-7. For 4 speed saws order No. 100066-5.

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.

REPLACEMENT PARTS BLADE TENSIONING DEVICE

NO. 8 SAW ONLY

101162 Take Up Support
100410-1 Bearing
101170 Take Up Screw Assembly
101164 Slide Block
101401 Tension Gauge Nut Assembly
101198 Tension Spring
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.

OPERATING & MAINTENANCE
INSTRUCTIONS
MODEL 8

SPECIFICATIONS
SEPTEMBER, 1971

Capacity:
Rectangular........................................ 16" (w) x 9" (h)
Rounds.................................................. 9" dia.
45° Angle................................................. 8½" (w) x 9" (h)
With special guides............................... 23" (w) x 9" (h)
or 24" (w) x 8" (h)

Selective blade speeds,
R.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.............................. 29½"
Width of bed......................................... 10¼"
Floor space............................................. 24" x 72"
Approx, shipping weight........................ 550 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.

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.
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 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 beeswax 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 Marlex 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.

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**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. Burick
Kalamazoo, Michigan 49007, U.S.A.
Telephone: 616-345-1102  FAX: 616-345-0956