10-U-10

PEXTO PRECISION SHEAR

SPECIFICATIONS

Capacity - Mild Steel ............... 10 Gauge
- Stainless Steel ............... 12 Gauge

Nominal Cutting Length .............. 120 Inches

Motor - 1800 RPM .................... 7-1/2 HP

Back Gauge Range .................. 24 Inches
Front Gauge Range ............... 51 Inches

Speed ................................. 60 SPM

Weight (approximately) ............. 17,000 Lbs.

Roper Whitney, Inc., 2833 Huffman Blvd., Rockford, Illinois 61101
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THE PECK, STOW & WILCOX CO.

SOUTHTON, CONNECTICUT
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SET UP AND OPERATING INSTRUCTIONS
FOR PEXTO

#10-U-10 PRECISION POWER SQUARING SHEAR

(Reference 1 & 1-A)

I. This shear has been inspected and tested at the factory to cut full length stock of capacity gauge. DO NOT EXCEED SHEARING CAPACITY LIMITS ON ANY LENGTH OF STOCK!

II. To set up: (Refer to Foundation Drawing) - Remove shear from skids and place on level, solid foundation. Remove front and rear panels and gear housing. Level the shear by means of shims at "J" Fig. E as necessary. Bolt shear to foundation-recheck level. Place shims or spacers under the center bearing at "H" Fig. B to support the center bearing and main shaft. It is important that the tie brace be firmly bolted to the foundation and that there be no sag or hump in main shaft.

III. Shear is shipped with blades out of adjustment to prevent damage in transit. Upper set screws "E" are used to move bed (to which lower blade is fixed,) 'in', lower set screws "D" are used to move bed 'out'. Blade clearance is measured at the cutting edge between the upper and lower blades at point "I" Figure C.
VI. Standard equipment includes a "Bijur" one-shot type lubrication system. The reservoir (Gl) for this is located on the right hand leg of the Shear. Check to be sure there is an ample supply of oil (see Lubrication Plate on Shear) in the reservoir. The operating handle is located on top of the reservoir - pull handle to actuate the lubrication system. This should be done twice a day when using Shear. Grease fittings are provided on each back gauge holder and should be serviced daily with alemite chassis lubricant. Four grease fittings for Timken bearings on flywheel shaft and intermediate shaft are located on R.H. housing at gear cover. These four fittings should be serviced once every three months. At the same interval, Texaco "Crater #1" or equal, should be used to lubricate the face of the gear teeth located on the right hand end of the shear under the gear guard cover. Oil or grease counterbalance spring guide rods at top of crosshead under leg caps.

CAUTION: OPERATE ONLY WITH ALL SAFETY DEVICES, SHIELDS AND COVERS IN PLACE - SHUT OFF POWER TO MAKE ADJUSTMENTS.

VIII. OPERATING PROCEDURE

A. Move Clutch cycle control lever "F", Fig. A, to correct position "Back" position for single cycle operation or "Forward" position for continuous operation.

B. Set back gauge to desired width of cut.

C. Turn on power and allow time for flywheel to reach normal speed.

D. Position sheet - to insure a square cut, use care to locate sheet metal positively against back gauge and side gauge. Sheets narrower than full width of Shear should be cut on right side of Shear.

E. Depress treadle to shear stock. During long cutting runs, an occasional wiping of the blades with an oil soaked rag will serve to reduce wear and help prevent "build-up" when shearing aluminum, stainless or galvanized. CAUTION: Shut off power before oiling blades.

VIII. Brake, Fig. D, is located on left hand side of the main shaft and is accessible with the front panel removed. Brake should be tight enough to insure crosshead stopping
IV. It is extremely important that this measurement be made only at the exact point at which the blades cross! Blade clearance for 10 gauge mild steel is .005 at each end, decreasing to .004 at the center. Stainless steel requires a closer setting of blade clearance - .002 at the ends and .001 at the center. It will be necessary to turn the shear through a complete cycle by hand before applying power in order to check blade clearances. To do this, rotate the flywheel BY HAND in the direction of the arrow on the flywheel, with the treadle depressed to engage clutch. Blades must not touch! Check clearances at every 12 inches across full length of blades. Check only at point of passing between upper and lower blades. Compensation for "bow-in" or "bow-out" of the upper blade is obtained by adjusting the tie rod on the back of the crosshead. This adjustment can be made at each end and in the middle.

NOTE: This critical adjustment has been correctly made at the factory and further adjustment should be avoided unless absolutely necessary. When blades are set correctly, securely tighten all bed bolts, push down screws, and replace front panel and gear housing before applying power to shear.

V. Electrical connections must be made by a qualified electrician. To make electrical connections, remove rear apron from shear. Make sure available voltage is proper for motor as indicated on motor nameplate. When testing motor, check flywheel rotation as shown by arrow on flywheel. Check drive belts and tighten if necessary by turning wing nut on motor base. NOTE: Belts should be just tight enough to drive shear with no slip. Over tension on belts reduces their life.
at top of stroke and to prevent "Clicking" of clutch pin. Left hand end of main shaft and leg are marked (see Fig. E) to indicate correct position of main shaft when crosshead is at top of stroke. Misalignment of these marks indicate that brake adjustment is required. If the mark on the shaft stops to the left of the mark on the leg, loosening of the brake is indicated. If the mark on the shaft stops to the right of the mark on the leg, tightening is indicated. Brake will overheat if adjustment is too tight. Brake band must be kept dry and free of oil, grease, etc. Brake should be checked occasionally to maintain correct adjustment.

IX. Gibs are located inside of legs at top to provide adjustable bearing surfaces for crosshead ways and are adjusted by means of 3 set screws "G" Fig. A with locking nuts. Adjustment too loose will prevent accurate shearing of material. Adjustment too tight will cause crosshead to "freeze". For correct adjustment, bring all set screws "G" to snug tight, set clearance at .002" at top and bottom of crosshead bearing with feeler gauge.

X. Blades are four edge type. Turn end for end or rotate to provide new cutting edge. Return blades to factory for regrinding when all four cutting edges have been used. To rotate blades, turn power off. To remove upper blade first, dismount holddown (See holddown instruction sheet) Use blocks of wood between upper blade and bed blade (one piece at each end) to prevent blade from dropping. Remove all blade bolts (work from ends to center.) Rotate blade or turn end for end to get new edge into cutting position. CAUTION: Wear gloves when handling blades and use care to prevent damage to blades. Avoid contact with all other materials except wood when blades are removed from shear. With new cutting
edge in position, replace all bolts, (work from center out to ends), nuts and washers. Use wood pry bar to seat top of blade tight to crosshead. Tighten all nuts on blade bolts very securely, working from center out to ends. To remove lower blade, set back gauge to extreme "out" position. Remove blade bolts and set new cutting edge into position. CAUTION: Wear Gloves! (see note above) Shims are used under lower blade to position cutting edge exactly flush with surface of bed. After regrinding blades, shims must be added. Use wood pry bar to seat blade to shims on bed. Tighten nuts on all blade bolts very securely.

XI. TREADLE ADJUSTMENT (Refer to Figures I and IA) The treadle actuates the Shear through the movement of the Connecting Link in Clutch (Part G - Fig. 7) Set screws (89 - R.H. Side) and (94 - L.H. Side) limit treadle stroke. If clutch does not engage when treadle is depressed, adjust set screws to allow treadle to move upward. If clutch "clicks" when treadle is depressed, (indicating only partial release of clutch pin), adjust to allow treadle to move downward.

XII. For replacing holddown, see holddown instructions. Before applying power, check blade clearance (see para. 3). Turn through complete stroke by hand to be sure blades do not lap.

Adherence to these instructions will provide continuous trouble-free service. The shear is built to stand hard usage over extended periods of time. If replacement parts are ever required, contact your dealer or the factory and specify name of part required as well as the model or serial given on the Shear nameplate.
PARTS IDENTIFICATION CHART

REFER TO SECTIONS IV.A AND IV.B FOR PARTS LIST

FIGURE 1A
SECTION IVA

#10-U-8: GENERAL PARTS LIST

1. Bed
2R. Connection R.H.
2L. Connection L.H.
3. Eccentric
4. Flywheel
5. Brake Block
6. Pivot Pin (Conn.)
7. Conn. Plate
8. 3/8-16X3/4 Button Hd Soc. Cap Scr. (Conn. Plate)
9. 1-7/8 Std. Washer
10. Side Gauge
11. Front Arms
12. Leg Caps
13. Gibs
14. Treadle Springs
15. Mounting Brkt. (Rear Panel) (Not Shown)
16. Front Panel Guard (Not Shown)
17. 2"-4½ Hex Nuts
18. Rear Panel (Not Shown)
19. Gear Guard
20. Bed Scales
21. Main Shaft
22. Collar (Main Shaft)
23. Flywheel Shaft
24. Brg. Sleeve
25. Inner Ret. Collar (Flywheel Shaft)
26. Intermediate Shaft Sleeve
27. Outer Ret. Collar (Flywheel Shaft)
28. Inter. Shaft Collar
29. Inter. Shaft Cap
30. Pinion Washer (Flywheel Shaft)
31. Washer (Flywheel Shaft)
32. Washer (Inter. Shaft)
33. Pinion -
34. Intermediate Gear -
35. Intermediate Pinion
36. Intermediate Shaft
37. Clutch Pin Spring
38. Clutch Pin
39. Clutch Pin Spring Guide
40. Tie Brace
Crosshead End Caps
Spring Rods (C'Balance)
Spring Pipe (C'Balance)
Spring Rod Brg. (C'Balance)
Counterbalance Spring
Safety shield (not shown)
Special Washers (Bed to leg)
Std. & Edge Blades
#6 Taper Pin 2½ lg w/nuts (back ga. to crosshead) (Not Shown)
R.H. Bed Adj. Plate
L.H. Bed Adj. Plate
R.H. Holddown Lug
L.H. Holddown Lug
Long Clutch Rod
Bell Crank Lever
Spacer (Bell Crank Lever)
Short Clutch Rod
Clevis (Clutch Rod)
Clevis Pin
1/8 x 1 Cotter Pin (Clevis Pin)
3/16x2¼ Hex Cap Screw (Bell Crank)
3/16 x 13 Hex Nut
3/4-10x2½ Soc. Hd. Cap Scr. (Bed Adj. Plate)
Lock
Spring (lock)
Pin (Clutch Cont. Lever)
Pivot Stud
Nameplate (not shown)
1/2 Std. Washer
5/16-18 Hex Nuts (rear panel) (not shown)
Copper Tubing
3/32 x 3/4 Cotter Pin
Compr. Unions (¼" Tubing - 1/8 Male Pipe Thd.)
Compr. Elbows
Pivot Pin (treadle center brg.)
¼-13 Hex Check Nut
1/8 x 1½ Cotter Pin
R.H. Treadle Stop (Top)
R.H. Treadle Stop (Lower)
5/32 x 1 1/8 Roll Pins (Cycle Cont. Stop)
Lube Block
3/8 Lock Washer
R.H. Hinge Pivot (Treadle)
3/4 - 10 Hex Nut
5/8-11x1¼ Soc. Set Scr. (Main Shaft Key)
Spacer (L.H. Treadle Hinge Bolt)
½-13x2½ Hex Cap Scrs.
⅝-13x2⅛ Sq. Hd Set Scrs.
1/16 x 5/8 Spiral Pin (Lock)
3/16 Washer
½-13x3 Hex Cap Scr. (Treadle Spr. Stud)
½ Lock Washer (Treadle Pivot Stud)
½-13x1¼ Cup Pt. Soc. Set Scr. (L.H. Treadle Stop)

L.H. Treadle Stop
3/8-16x1½ Hex Cap Scr. (L.H. Treadle Stop)
Clutch Shift Plunger
1/4-20x5/8 Button Hd Cap Scr. (Soc. Type)
Grease Pipe
5/8 Heavy Washer (Blades)
B78 "V" Belts (Matched set of 5)
Motor Sheave (5 Groove "B" Sect.-6.4 P.D.-
1 3/8 Bore)

Motor Base (West. #213)
⅝-13x1-3/4 Stripper Bolts (Leg Cap)
Blade Bolts
End Blade Bolts (upper only)
Handle (gear guard)
5/8-11x2½ T Slot Bolts
Alemite Compressor
Eye Rod Spacers
1 x 4½ Feather Key (Clutch Block)
1 x 5½ Feather Key (Brake Block)
1 x 6 Gib Key (Eccentrics)
7/8-9X3 Soc. Set Scrs. (Bed Pull Down)
7/8-9X4½ Sq. Hd Set Special Screw (Gib)
7/8-9X4½ Half Dog Sq. Hd Set Scr (gib)
7/8-9 Hex Check Nut
5/8-11X1¼ Hex Cap Scr (Tie Brace)
5/8 Washers
5/8 Lock Washers
Flywheel Key
½ x 3-3/4 Feather Key (Pinion)
7/8x7-7/8 Key (Inter. Shaft Pinion & Gear)
5/8-11 Hex Nuts
½-13X1¼ Hex Cap Scrs (Side Gauge)
5/8-11X4 Hex Cap Scrs (Brake Strap)
Adj. Screw (Bed "out")
7/8X9X2½ Half Dog. Pt. Soc. Set Scrs. (Bed"in")
5/8-11X2½ Hex Cap Screw (Clutch)
1" Spring Type Lockwasher
3/8-16x2 Hex Cap Scr. (inter. Shaft Cap)
1/2-13x1 1/2 Soc. Type Flat Hd Cap Scr. (Ret. Collars)
1/2-20x1-3/4 Flat Hd. Cap Scr. soc. Type (crosshead end cap)
1"-8x11 1/2 Hex Cap Screw (Bed to leg)
1/2-13x1 Cone Pt. Soc. Set Scr. (Brake Block)
1/2-13x1/2 Oval Pt. Soc. Set Scr. (Brake Block)
3/4-10x3/4 Cup Pt. Soc. Set Scr. (Main Shaft Collar)
3/4-10x3/4 Oval Pt. Socket Set Scr. (Main Shaft Collar)
Hex Key Set
5/16-18x1/2 Bending Hd. Mach. Scr. (Front Panel) (Not Shown)
#6-32x1/2 Flat Hd. Mach. Scrss. (Gear Guard Handle
#6-32x3/8 Flat Hd. Mach. Scrss. (Bed Scales)
5/16-18x3/4 Rnd. Hd. Scrws. (Gear Guard)
(Not shown)
5/16 Std. Washers (finger guard) (not shown)
5/16 Lock Washers (finger guard) (not shown)
5/16-18x3/4 Fillister Hd. Mach. Scr. (finger guard) (not shown)
1/2-20x3/4 Rnd. Hd. Scrss. (starter) (not shown)
1/2-13x2 1/2 Hex Cap Scrss. (Center Brg)
7/8-9x3-3/4 Hex Cap Scr (holddown lug)
7/8-9/2-3/4 Hex Cap Scr (holddown lug)
7/8 Std. Washers
1/13-2-3/4 Hex Cap Scrs (holddown Adj.)
Timken Brg. (Flywheel Shaft)
Timken Brg. (Inside Inter. Shaft)
Timken Brg. (outside Inter. Shaft)
Timken Lock Nut TN10
Timken Washer TW110
Timken Shims (Flywheel Shaft) (not shown)
Special Hex Cap Screw (Inter. & Flywheel Shaft)
1/8 x 45 degree alemite fittings
Magnetic Starter
7-1/2 HP - 1800 RPM open dripproof Bell Brg. Motor
Timken Shims (Inter. Shaft) (not shown)
Lubrication Plate (not shown)
SECTION IV B

SUB-ASSEMBLY PARTS LIST

A  CROSSHEAD ASSEMBLY
   A1  Crosshead
   A2  Tie Rod
   A3  Adj. Screw
   A4  Hex Nuts 1-1/2 - 6 Thd.
   A5  Washers 1-1/2
   A6  Adj. Screw Washer
   A7  Adj. Screw Nut 1-1/8 - 7 Thd.

B  R.H. LEG ASSEMBLY
   B1  R.H. Leg
   B2  Bushings

C  L.H. LEG ASSEMBLY
   C1  L.H. Leg
   C2  Bushings

D  HOLDDOWN ASSEMBLY
   D1  Holddown beam
   D2  Plunger beam
   D3  Plunger springs
   D4  Plunger Rods
   D5  Plunger Feet
   D6  Support Springs
   D7  .156 X1-3/8 Roll Pins
   D8  5/8 - 11 Hex Nuts
   D9  5/8 - 11 Check Nuts
   D10 Name Plate
   D11 Studs - Support Spring
   D12 Brass Plugs
   D13 3/8 - 16 Half dog pt. Set Screw
   D14 3/4 - 10 Allen Set Screw Oval Pt.
   D15 1/4 - 20 Flat Hd. Screws
   D16 5/8 - 11X6 Hex Cap Screws
   D17 5/16 - 18 Hex Nuts
E  BRAKE ASSEMBLY

E1  Upper Strap
E2  Lower Strap
E3  Asb. Lining
E4  Copper Rivets
E5  Pins
E6  Cotter Pins
E7  7-5/8 Hex Cap Screw
E8  5/8 - 11 Hex Nut
E9  5/8 - 11 Hex Check Nut
E10 5/8 Washer
E11  Spring

F  BACK GAUGE ASSEMBLY (See Reverse Side of Figure 5)

G  BIJUR LUBRICATION SYSTEM

G1  Lubricator - Pump
G2  Meter Unit FSA-1 Clutch (3)
G3  Meter Unit FSA-4 L.H. Conn. (1)
G4  Meter Unit FSA-3 Crosshead Lower Front (2) R.H. Conn. (1) Legs (2) Main Shaft (11) Eye Rods (2)
G5  Meter Elbow Tee FTD-4 Front Upper Crosshead (2)
G6  Meter Tee FTA-4 Upper Rear Crosshead (2)
G7  Meter Tee FTA-3 Lower Rear Crosshead (2)
G8  1/4" Swivel Mainshaft (1)
G9  5/RX90° Elbow Conn. Clutch (1)
G10 5/8X45° Elbow Conn. Legs-Mainshaft (2) Connections (2)
G11 3 Way Junctions Eye Rods (2)
G12  Meter Tee FTD-2 Center Bkg. (1)
G13 6 Way Junction - Double Outside R.H. Leg (1)
G14 5 Way Junction - Single Inside R.H. Leg (1)
G15 4 Way Junction - Single Inside L.H. Leg (1)
G16 18" Hose Assy. 7/16 Type SS Connections (2)
G17 10" Hose Assy. 5/16 Type SS Eye Rods (2)
G18 5/32 OD X .020 Wall Steel Tubing 5-S-20
G19  Single Tubing Clips (18)
G20  Compression Nuts - Female Thd - (14)
G21  Compression Bushings - Male Thd (38)
G22  Compression Sleeves - Ferrule (53)
G23  5/16 - 18 x 1/2 Hex Cap Screws - Pump (2)
G24  5/16 Washers - Pump (2)
G25  1/4 - 20 X 1 Button Hd. Screws (8) Junctions
G27  Elbow Connections 1-1/4 X 90° Front Lower Crosshead (2)
G28  Elbow Connections 1-1/4 X 45° Eye Rods (2)
H  TREADLE ASSEMBLY

I  DISAPPEARING GAUGES

   I1  Base
   I2  Finger
   I3  Pivot Pin
   I4  Brass Plugs
   I5  1/2 - 13 X 3/4 Sock Set Screws

J  CLUTCH GEAR ASSY.

   J1  Gear
   J2  Bronze Bushing
   J3  Wheel Pins (3)
   J4  Backlash Pins (3)
   J5  Wheel Ring

K  CLUTCH BLOCK ASSEMBLY

   K1  Clutch Block
   K2  Ring
   K3  Plate
   K4  Cam Screw
   K5  3/8 - 16 X 7/8 Flat Hd. Screw

L  THROWOUT ASSEMBLY

M  CENTER BEARING ASSEMBLY

   M1  Center Brg.
   M2  Sleeve Brgs (2)
SECTION II

HOLDDOWN INSTRUCTIONS

READ CAREFULLY BEFORE MAKING ANY ADJUSTMENTS

Refer to Figure 3 - HOLDDOWN ADJUSTMENT

Key

A. Six holddown mounting bolts (Hex cap screws)
B. Holddown pressure adjustment (two hex head cap screws)
C. Holddown removal screws (Six 5/8" x 6" Hex head cap screws to be inserted only when removing holddown.)

I. GENERAL INSTRUCTIONS:

The holddown has been correctly installed and adjusted at the factory. Further adjustment is unnecessary and should be avoided.

Should it become necessary to remove or adjust the holddown, read carefully the complete instructions for removal, adjustment and replacement before proceeding.

II. HOLDDOWN REMOVAL:

IIa. Shut off power with crosshead at top of stroke.

IIb. Insert removal screws (C) in holes. Bring to snug tight, then tighten two more complete turns. (This relieves spring pressure on crosshead).

IIc. Remove two holddown pressure screws (B).

IID. Remove six holddown mounting bolts (A).

IIe. Force holddown away from crosshead and remove from shear. CAUTION: Place wood strips on bed to protect surface.

IIf. Lubricate all springs and holddown plunger feet bearings before replacing.

III. HOLDDOWN REPLACEMENT:

IIIa. Power must be off with crosshead at top of stroke.

IIIb. Remount holddown on shear and run up six mounting bolts (A) to snug position.
IIIC. Replace two holddown pressure adjustment screws (B).

IIId. Take out removal screws (C).

IIIE. Set holddown at "Normal" position with screws (B).

IIIf. Tighten 6 mounting bolts (A) securely and holddown is ready for operation.

IV. HOLDDOWN PRESSURE ADJUSTMENT:

Holddown and legs are marked at each end to indicate the correct setting for normal holddown pressure. This is maximum holddown pressure and cannot be increased. Holddown pressure can be decreased by means of adjusting screws (B).

IVA. Power must be off with crosshead at top of stroke.

IVB. Position holddown with adjusting screws (B) at "Normal"

IVC. Loosen mounting bolts (A) one full turn.

IVD. Back off adjusting screws (B) within range of holddown beam movement to obtain decreased pressure.

IVE. This adjustment will not exceed 3/8 inches. It is essential that an equal adjustment be made at each end when adjustment is completed. Holddown pads must engage sheet before blades start to cut.

IVF. Tighten mounting bolts (A) securely.

IVG. Safety shield is adjustable and must be repositioned whenever holddown pressure adjustment is changed from its original location. Screws in front of finger guard are movable in slotted holes to allow correct positioning of guard.

IVH. Holddown is ready for operation.
FOUNDATION PLAN

SET INTO A MINIMUM OF 12 THICK STEEL REINFORCED CONCRETE.

MOUNTING DIMENSIONS.

NOTE: PLACE FOUNDATION BOLTS IN 2\(\frac{3}{4}\) DIA. PIPE TO ALLOW FOR VARIATIONS IN
BED HEIGHT - 34\(\frac{1}{2}\) OVERALL HEIGHT - 60.

FRONT

1. DRILL 15 Holes

2. CORE 4 Holes

3. HOLE

INSTRUCTIONS REFER TO SHIM - 9\(\frac{3}{16}\) THICK BASE OF LEG

4. THICK

5. SHIM

6. 4 Holes
Figure 4

Owino Power Shear Lubrication Chart

A. Back gauge holders once every three months.
B. Lubrication block once every week.

Sun Oil C31 grease, or equal.
Service grease fittings with #42 graphite grease.

Every 4 hours operating time, actuate bluer oiler pump once.

Essoo “Unvas” #90 or equal.
Keep bluer reservoir filled with.

Every week.

Index 44) with SAE 30 oil once.
Oil, balance spring rod bushings.

Coat face of large or equal.
# B-18 AND B-24 BACK GAUGE

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<td>L22</td>
<td>Soc. Hd. Cap Screw .156 x 1¾</td>
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<td>Scale</td>
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<td>#2 x ¼ Long Drive Screw</td>
<td>L24</td>
<td>.156 x 7⁄8 Rollpin</td>
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<tr>
<td>162</td>
<td>¼ Std. Lock Washer</td>
<td>M</td>
<td>Complete L. H. Bracket Assembly</td>
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<tr>
<td>163</td>
<td>¼-20 NC x ½ Socket Hd. Cap Screw</td>
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<td>164</td>
<td>⅞ x 15/16 Key</td>
<td>M1</td>
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<td>165</td>
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<tr>
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<td>⅛ Std. Washer</td>
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<tr>
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<td>173</td>
<td>#5 x 2¼ Taper Pin</td>
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<td>L</td>
<td>Complete R. H. Bracket Assembly</td>
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<td>Shoulder Screw</td>
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<tr>
<td>L12</td>
<td>Special Washer</td>
<td>M24</td>
<td>.156 x 7⁄8 Rollpin</td>
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</tbody>
</table>

When ordering replacement parts always give Model No. and Serial No. of Shear and specify length of gauge, 18 inch or 24 inch.
FRONT OPERATED

, F-24 BACK GAUGE - INSTRUCTIONS

This back gauge has been adjusted and aligned at the factory and is shipped mounted on the Shear to save assembly time, as well as possible damage in transit.

Adjustment of this back gauge may have been disturbed slightly in shipping. To check and reset, after Shear has been adjusted:

1. Tighten all set screws between operating wheel and right-hand bracket, including those around ratchet assembly. Turn operating wheel until indicator shows a setting of one inch. Insert stock in machine, making sure it is squarely against back gauge bar for entire length of cut. Cut two pieces in this manner. Measure the second piece cut for width and parallelism.

2. If piece is not parallel, loosen split collar at right-hand end of connecting shaft between brackets, and by turning connecting shaft, move left-hand end of back gauge bar in or out as needed. Tighten split collar and take a cut. If still not parallel, repeat above.

3. If indicator does not show true width of piece as cut, adjust as follows after parallel setting is made: - With indicator set at one inch, cut a strip of stock and check with a micrometer. Dismount indicator gear cover by removing three screws holding cover to indicator. Loosen set screws in counter pinion and set indicator to correct width as measured. DO NOT MOVE BACK GAUGE. Adjust gears so no backlash exists, and tighten set screws. Check setting by cutting another strip and repeat if necessary. Grease indicator gears lightly and replace gear cover.

4. To adjust ratchet between flexible shaft and right-hand bracket, loosen check nut and move 5/8 set screw (near ratchet on bracket between right-hand gauge bracket and flexible shaft) in or out to increase or decrease ratchet holding power. Do not remove ratchet entirely as it holds gauge setting. Each notch of ratchet wheel = .006" movement of gauge bar.
5. Back gauge is now ready to give long, accurate service. Lubricate occasionally with automobile chassis lubricant all points provided with grease fittings, as well as ratchet and both back gauge lead screws (located inside back gauge brackets).
MOTOR OPERATED

BACK GAUGE - INSTRUCTIONS

This back gauge has been adjusted and aligned at the factory and is shipped mounted on the Shear to save assembly time, as well as possible damage in transit.

Adjustment of this back gauge may have been disturbed slightly in shipping. To check and reset, after Shear has been adjusted:

1. Remove chain guard between motor and connecting shaft. Tighten motor mounting bolts. Check and tighten set screws in both chain sprockets. Check chain lubrication and regrease if necessary. Replace chain guard. Check motor operation by pushing buttons marked "in" or "out", to move back gauge. Do not hold button down when setting near "0" or near maximum setting. Jog motor near these points to prevent damage to back gauge. If motor moves back gauge freely, set until counter reads one inch. Insert stock in machine, making sure it is squarely against back gauge bar for entire length of cut. Cut two pieces in this manner. Measure the second piece cut for width and parallelism.

2. If piece is not parallel, loosen split collar at right hand end of connecting shaft between brackets, and by turning connecting shaft, move left hand end of back gauge bar in or out as needed. Tighten split collar and take a cut. If still not parallel, repeat above.

3. If indicator does not show true width of piece as cut, adjust as follows after parallel setting is made:
   With indicator set at one inch, cut a strip of stock and check with a micrometer. Dismount indicator gear cover by removing three screws holding cover to indicator. Loosen set screws in counter pinion and set indicator to correct width as measured. DO NOT MOVE BACK GAUGE. Adjust gears so no back-lash exists, and tighten set screws. Check setting by cutting another strip and repeat if necessary. Grease indicator gears lightly and replace gear cover.

4. To adjust ratchet on right-hand bracket, loosen check nut and move 5/8 set screw in or out to increase or decrease ratchet holding power. Do not remove ratchet entirely as it holds gauge setting. Each notch of ratchet wheel = .006" movement of gauge bar.
5. Back gauge is now ready to give long, accurate service. Lubricate all points provided with grease fittings weekly with automobile chassis lubricant, as well as ratchet and both back gauge lead screws (located inside back gauge brackets).
SECTION III

B-24 BACK GAUGE - INSTRUCTIONS

A. Set up shear as per Shear Operating Instructions.

B. Loosen knurled lock screw on index plate next to handwheel. Turn handwheel until scale pointer (on R.H. bracket) reads 1" and index points to "0" on handwheel. Tighten lock screw to hold handwheel in position. Insert stock in machine, making sure it is squarely against gauge tee-bar for entire length of cut. Cut two pieces in this manner, and measure the second piece cut for width and parallelism.

C. If piece is not parallel, loosen split collar at right hand end of connecting shaft between brackets. By turning connecting shaft, move left hand end of back gauge bar in or out as needed. Tighten split collar and take a cut. If still not parallel, repeat above.

D. If scale and handwheel do not show true width of piece as cut, proceed as follows after parallel setting is made - with handwheel at "0" and pointer at "1", cut a strip of stock and measure with a micrometer. Loosen 2 Socket Head Cap Screws at face of handwheel, as well as lock screw in index plate. Without moving back gauge, move handwheel until proper setting as measured, is shown at index line. (Each division of the handwheel equals 1/128" or .008") When measurement and handwheel reading coincide, tighten Socket Head Cap Screws on face of handwheel. Move handwheel to reset back gauge for 1". Take another cut and check width of piece. Repeat above if necessary.

E. After width and parallel settings are made, adjust pointer by loosening screws holding it to R.H. gauge holder and sliding pointer until it is right on either a "full inch" mark of a "1/2 inch" - mark on the scale with handwheel at "zero". Tighten pointer screws.

F. Back gauge is now ready to give long accurate service. Lubricate weekly all points provided with grease fittings, with automobile chassis lubricant as well as oiling behind handwheel at frequent intervals.
XI. DISAPPEARING FRONT GAUGING STOPS:

INDEX TO DRAWING:

A - Socket Set Screws  
B - Pivot Pin  
C - Gauge Holder  
D - Disappearing Stop

D1 - Trim-cut Stop Surface  
D2 - Finish-cut Stop Surface

E - Brass Plug

GAUGE ADJUSTMENT:

The Disappearing Front Gauge Stops are used in lieu of a front gauge bar. The stops have two gauge surfaces, D1 and D2. D1 is used for trimming or squaring of sheets. Surface D2 is used for precise finish cuts. Distance between D1 and D2 is 1/4".

To set gauge, loosen socket set screws (A) and slide gauge in tee slot to desired position. Surface D1 will be 1/4" further from blade than desired width of finish cut. Tighten Screws (A)
### Parts Identification Chart

#### Parts List for B-F-M Back Gauge

- **B** - Standard Rear-Hand Operated
- **F** - Front-Hand Operated
- **M** - Motor Operated

#### Parts List (B-F-M-Back Gauges)

<table>
<thead>
<tr>
<th>INDEX</th>
<th>PART</th>
<th>INDEX</th>
<th>PART</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>R.H. Brkt.</td>
<td>35.</td>
<td>Lock Screw (B)</td>
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<td>2.</td>
<td>Gauge Holder Gib-R.L.</td>
<td>36.</td>
<td>Friction Screw (B)</td>
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<tr>
<td>3.</td>
<td>R.H. Adj. Screw (F&amp;M)</td>
<td>37.</td>
<td>Handwheel (B)</td>
</tr>
<tr>
<td>4.</td>
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<td>38.</td>
<td>Adj. Collar (B)</td>
</tr>
<tr>
<td>5.</td>
<td>Needle Bearing</td>
<td>39.</td>
<td>Key (B)</td>
</tr>
<tr>
<td>6.</td>
<td>Pin</td>
<td>40.</td>
<td>Handwheel Handle (B &amp; F)</td>
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<tr>
<td>7.</td>
<td>Lower Pinion (F&amp;M)</td>
<td>41.</td>
<td>Index Plate (B)</td>
</tr>
<tr>
<td>8.</td>
<td>Shoulder Screw</td>
<td>42.</td>
<td>Pin</td>
</tr>
<tr>
<td>9.</td>
<td>Lower Gear (F&amp;M)</td>
<td>43.</td>
<td>Pin</td>
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<tr>
<td>10.</td>
<td>Gauge Bar</td>
<td>44.</td>
<td>L.H. Gear Shaft</td>
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<td>11.</td>
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<td>45.</td>
<td>L.H. Bearing Retainer Cap</td>
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<td>12.</td>
<td>Lower Gear Shaft</td>
<td>46.</td>
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<td>13.</td>
<td>Bushing (F&amp;M)</td>
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<td>14.</td>
<td>Pin</td>
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<td>Ratchet Wheel (F&amp;M)</td>
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<td>49.</td>
<td>Flex Shaft Mtg. Brkt. (F)</td>
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<td>16.</td>
<td>Coupling Sleeve (F&amp;M)</td>
<td>50.</td>
<td>Flexible Shaft (F)</td>
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<td>Upper Gear Shaft (F&amp;M)</td>
<td>51.</td>
<td>R.H. Housing Cap (F)</td>
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<td>R.H. Gear Shaft (F)</td>
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<td>Lock Nut (F &amp; M)</td>
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<td>Pawl Spring (F&amp;M)</td>
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<td>Sprocket (M)</td>
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<td>Handwheel (F)</td>
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<td>Starter-Westinghouse-Magnetic Reversing, Class A210-SA</td>
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<td>103.</td>
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<td>Motor Plate (M)</td>
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<td>Dial Plate</td>
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<td>G.E. Right Angle Gear Mtr</td>
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<td>Frame #03271L, Fig. 2 Mtg.</td>
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Roper Whitney, Inc. Rockford, Ill. 61101
SECTION V

ACCESSORIES

EXTENSION SQUARING GAUGE
MOBILE CONTROL
MANUAL FRONT OPERATED BACK GAUGE
POWER OPERATED BACK GAUGE
LIGHT BEAM

The accessories detailed in this section are not standard equipment. They may be ordered as optional equipment for Shear.
EXTENSION SQUARING GAUGES

The Extension Squaring Gauge provides long length precision positioning surface for resquaring sheets and shearing blanks. Gauge is equipped with one fixed stop and one swing stop for two gauge settings. The fixed stop is used for settings farthest from blades. Additional swing stops are available for multiple settings. The gauge can be mounted on either side of the shear, (preferably on the right.)

To mount gauge, insert two tee bolts in T-slot in front of bed. Bring gauge up to shear, allowing tee bolts to pass through the mounting holes in the bracket of the gauge. Put on washers and nuts but do not tighten. Line up mounting holes in gauge bar with bed holes normally used for side gauge. Insert bed bolts but do not tighten. Check gauge to make sure it is level with top of bed, if not, shim up gauge outer support leg. Square up gauge with blades. Tighten all bolts securely. Secure gauge support leg to floor. Recheck squareness of gauge bar with blades and level of gauge. Check gauge on regular basis during use.
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<thead>
<tr>
<th>QUANTITY</th>
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<tr>
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<td>Upper Shaft Collar</td>
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<td>Clamp</td>
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<td>Lower Gear Shaft (Counter)</td>
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<td>Coupling Sleeve - upper - lower gear shaft</td>
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1
Right Angle, instantly reversible gear motor - 1/8 HP, 48 RPM mounting  
(Specify voltage - phase & frequency)
# ACCESSORY EQUIPMENT PARTS LIST

## SOLENOID OPERATED CLUTCH

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<td>Pivot Bar</td>
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<td>Connecting Rod</td>
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<td>Pivot for Clutch Lever</td>
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<td>14 Ga. - 3 Wire Portable Cord 600 Volt</td>
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(The following items are eliminated from Basic Machine Parts List - Sect. IVA, and Safety Clutch Parts Diagram).

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<td>Conn. Links</td>
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**SAFETY CLUTCH**

<table>
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<th>Part</th>
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</thead>
<tbody>
<tr>
<td>F</td>
<td>Bell Crank</td>
</tr>
</tbody>
</table>
LINE PRESSURE REGULATOR—
Use as low a pressure as possible but not less than 40 lbs.

OIL FLOW ADJUSTMENT

SPEED CONTROLS
For either direction of stroke

FOR SERVICE ON THIS UNIT—
CONTACT YOUR LOCAL BELLows FIELD OFFICE.

ELECTRO - AIR CLUTCH LUBRI-UNIT

FIGURE 9
PEPTO SAFETY CLUTCH

PARTS IDENTIFICATION CHART

2ND PIN "Y" 
USED ON 16A & 17 
CLUTCHES ONLY

LOCK WASHER
HEX. CAP SCREW

45° ALEMITE

SOC SET SCREW
LOCK WASHER
LOCK NUT

HEX. CAP SCREWS 
(MOUNTING BOLTS)

HEX. LOCK NUT

LOCK WASHER
PIPE PLUG

ALEMITE

OVAL HEAD 
PULLEY RIVET

When ordering Replacement Parts always give Model Number, Letter and Serial Number.

ROPER WHITNEY, INC. ROCKFORD, ILL. 61101
When ordering be sure to specify model & serial number of shears.

Parts:
- Clutch Shear
- Clutch Parts
- Flexure Spring Pin
- Throuboun Pin
- Cross Slide Spring Pin
- Backing Pin
- Clutch Pin spring set
- Bell Crank Pin
- Cross Slide B.
- Cross Slide C.
- Cam Screw
- Cross Slide D.
- Cross Slide E.
- Cross Slide F.
- Cross Slide G.
- Cross Slide H.
- Cross Slide I.
- Cross Slide J.
- Cross Slide K.
- Cross Slide L.
- Cross Slide M.
- Cross Slide N.
- Cross Slide O.
- Cross Slide P.
- Cross Slide Q.
- Cross Slide R.
- Cross Slide S.
- Cross Slide T.
- Cross Slide U.
- Cross Slide V.
- Cross Slide W.
- Cross Slide X.
- Cross Slide Y.
- Cross Slide Z.

Note: If this distance exceeds 1/16, shim underneath.
When ordering Replacement Parts always give Model Number, Letter and Serial Number.

THE PECK, STOW & WILCOX CO.
— Since 1785 —
Southington, Connecticut
When ordering be sure to specify model and serial number of Shear.

The Peck, Stow & Wilcox Co. — Since 1785 — Southington, Connecticut, U. S. A.
## 16½ - THROWOUT ASSY.

REFF FIG. 7

<table>
<thead>
<tr>
<th>ITEM</th>
<th>OLD NO.</th>
<th>NEW NO.</th>
<th>PART NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>13850</td>
<td>770590448</td>
<td>Pawl</td>
</tr>
<tr>
<td>B</td>
<td>A-51328</td>
<td>770730449</td>
<td>Cross Slide</td>
</tr>
<tr>
<td>C</td>
<td>13631</td>
<td>670184556</td>
<td>Conn. Link Spring</td>
</tr>
<tr>
<td>D</td>
<td>13608</td>
<td>770450206</td>
<td>Conn. Link Spring Cup</td>
</tr>
<tr>
<td>E</td>
<td>WS-67</td>
<td>601012279</td>
<td>Pivot Bolt, 1/2-13 X 2&quot;</td>
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<tr>
<td>F</td>
<td>B-57100</td>
<td>770030625</td>
<td>THROWOUT LEVER</td>
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<tr>
<td>G</td>
<td>711356</td>
<td>670184567</td>
<td>Backing Spring</td>
</tr>
<tr>
<td>H</td>
<td>13625</td>
<td>770160638</td>
<td>Backing Pin</td>
</tr>
<tr>
<td>I</td>
<td>13610</td>
<td>770160208</td>
<td>Pawl Pivot Stud</td>
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<td>J</td>
<td>A-5421</td>
<td>770570204</td>
<td>Cross Slide Spring Plug</td>
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<tr>
<td>K</td>
<td>13632</td>
<td>670184557</td>
<td>Cross Slide Spring</td>
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<td>L</td>
<td>A-5878</td>
<td>770240629</td>
<td>Connecting Link</td>
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<tr>
<td>M</td>
<td>A-51216</td>
<td>770160202</td>
<td>Bell Crank Pin</td>
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<td>N</td>
<td>A-5875</td>
<td>770250626</td>
<td>Throwout</td>
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<td>O</td>
<td>13982</td>
<td>670184569</td>
<td>Throwout Spring</td>
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<tr>
<td>P</td>
<td>D-5210</td>
<td>770200624</td>
<td>Clutch Bracket</td>
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<td>Q</td>
<td>A-51301</td>
<td>770160203</td>
<td>Throwout Pin</td>
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<td>R</td>
<td>14002</td>
<td>770160627</td>
<td>Throwout Spring Pin</td>
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<tr>
<td>S</td>
<td>A-6017</td>
<td>770080628</td>
<td>Plunger Bushing</td>
</tr>
<tr>
<td>T</td>
<td>WS-1991</td>
<td>600134001</td>
<td>Alemite Fitting, 1/8 Str.</td>
</tr>
<tr>
<td>U</td>
<td>WS-1990-1</td>
<td>600134003</td>
<td>Alemite Fitting, 45°</td>
</tr>
<tr>
<td>V</td>
<td>812425</td>
<td>600144121</td>
<td>Pipe Plug, 1/4&quot; Soc. Hd.</td>
</tr>
<tr>
<td>W</td>
<td>WS-1935</td>
<td>649023007</td>
<td>Check Nut, 1/2-13</td>
</tr>
<tr>
<td>X</td>
<td>812385</td>
<td>600000001</td>
<td>Pulley Rivet, 3/16 X 1-1/2</td>
</tr>
<tr>
<td>Y</td>
<td>WS-1526</td>
<td>600073514</td>
<td>Cotter Pin, 3/32 X 3/4</td>
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<tr>
<td>Z</td>
<td>WS-1729</td>
<td>679033105</td>
<td>Lock Washer, 3/8</td>
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<td></td>
<td>WS-1354</td>
<td>643023005</td>
<td>Hex. Nut, 3/8-16</td>
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<td>WS-1731</td>
<td>679033107</td>
<td>Lock Washer, 1/2</td>
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<td>810055</td>
<td>633012414</td>
<td>Hex. Cap Screw, 3/4-10 X 2&quot;</td>
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<td>WS-1735</td>
<td>679033110</td>
<td>Lock Washer, 3/4</td>
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<td>WS-837</td>
<td>621012128</td>
<td>Soc. Hd. Set Screw, 5/16 X 1/2</td>
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<td>812400</td>
<td>600144122</td>
<td>Pipe Plug, 1/8&quot;</td>
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<td>WS-1338</td>
<td>649023010</td>
<td>Nut, Hex Jam, 3/4-10</td>
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</table>

A57139 770250401  CLUTCH PIN (old)
711440 670184550  CLUTCH PIN SPRING

Complete

2/14/00  4876.00  5-3  SCREW PIN 770160632  6.3