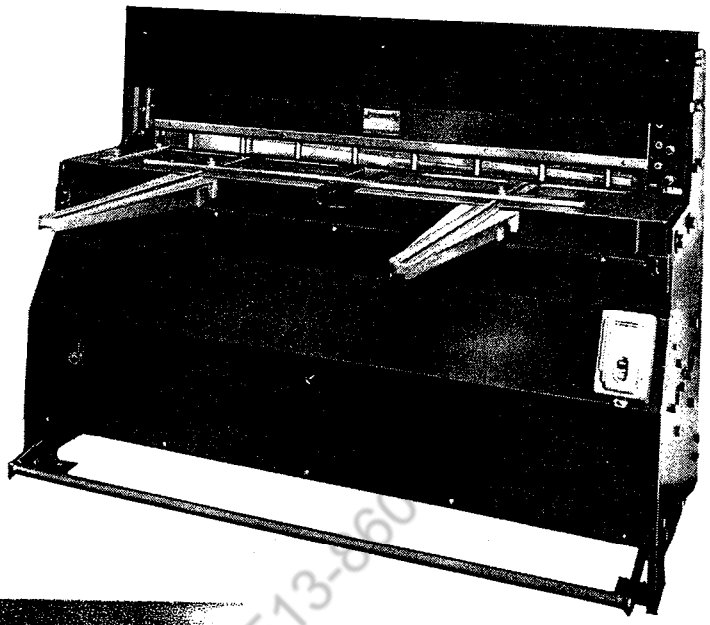
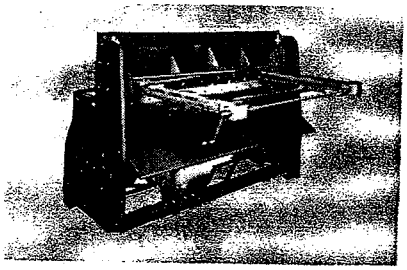
No. 72 Series POWER SQUARING SHEARS

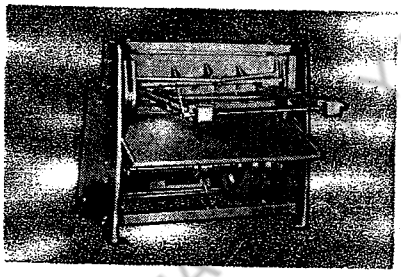
ALL SHAFTS ON SELF-ALIGNING BEARINGS
MOVING PARTS GUARDED
LIGHT BEAM DIRECTED ON SHEARING LINE
NON REPEAT CLUTCH—QUICK CHANGE TO REPEAT



FRONT VIEW OF 12 GA. SHEAR
3612 - 5212 - 7212

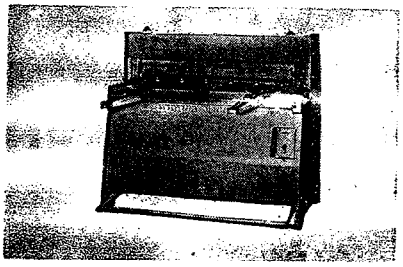


REAR VIEW OF 12 GA. SHEAR
3612 - 5212 - 7212



REAR VIEW OF 3616 SHEAR

HEAVY, RIGID, ACCURATE GAUGES
RAM-CLUTCH COUNTERBALANCED ON 12 GA. MODELS
4-EDGE BLADES (12 GA. MODELS ONLY)
IMPROVED DOUBLE-SPRING HOLD DOWNS



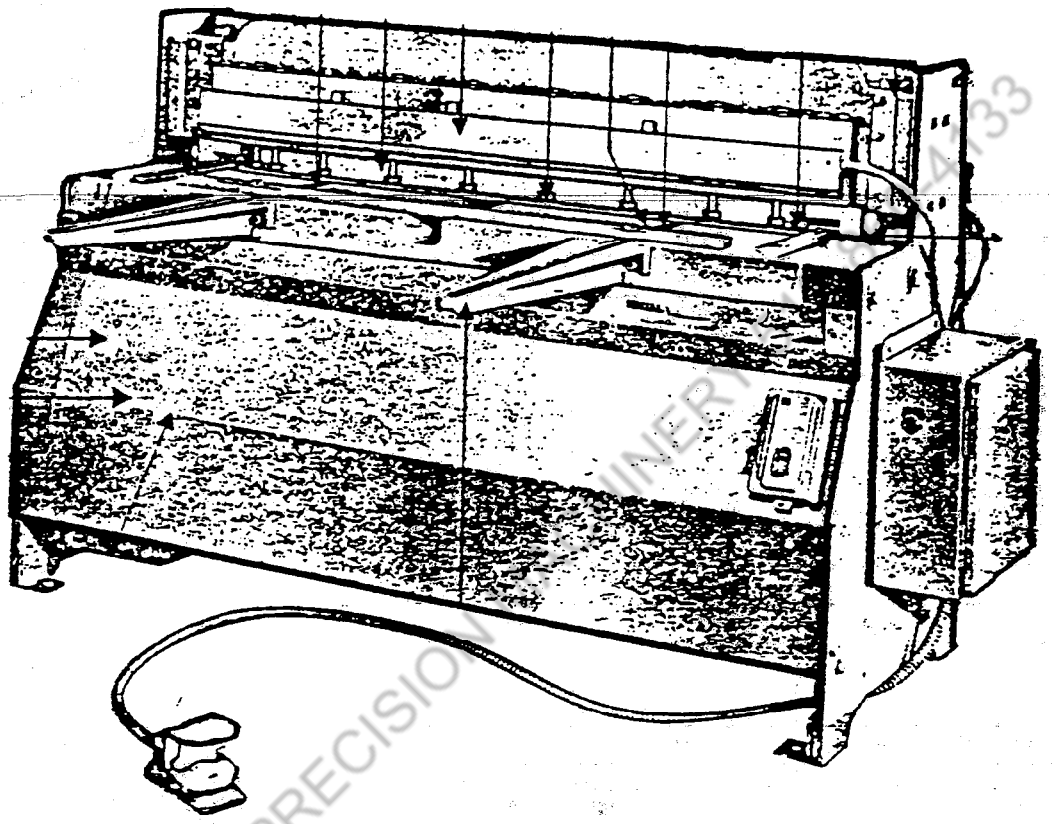
FRONT VIEW OF 3616 SHEAR

SPECIFICATIONS *and* NET PRICES — F. O. B. FACTORY

	No. 3616	No. 3612	No. 5212	No. 7212
Capacity — Mild Steel	16 Ga.	12 Ga.	12 Ga.	12 Ga.
Shearing Length Maximum	36"	36"	52"	72"
Strokes per Minute	180	76	76	76
Back Gauge Maximum Range	24"	24"	24"	24"
Front Gauge Maximum Range	38"	38"	38"	38"
Height Overall	48"	48"	48"	48"
Floor Space Required with Front and Back Gauges in Position	83" x 51"	83" x 51"	83" x 67"	88" x 79"
Motor	2 H.P. 3 Ph. 1200-220-440	2 H.P. 3 Phase 1800-220-440		
Rake Upper Shear Blade per Foot	$1\frac{1}{32}$"	$1\frac{1}{32}$"	$1\frac{1}{32}$"	$1\frac{1}{32}$"
Clutch	NON REPEAT WITH QUICK CHANGE TO REPEAT			
Domestic Shipping Weight of Shear	2200 lbs.	2800 lbs.	3160 lbs.	4020 lbs.
Domestic Shipping Weight of Shear Blades per Set	22 lbs.	50 lbs.	75 lbs.	100 lbs.
Net Price less Motor with Carbon Blades	$1370.00	$1735.00	$2460.00	$3670.00
Net Price with 3 Phase 220-440 2 HP Motor and Carbon Blades	1450.00	1815.00	2540.00	3750.00
Net Price with 3 Phase 550V 2 HP Motor and Carbon Blades	1450.00	1815.00	2540.00	3750.00
Net Price Carbon Blades—4 Edge per Set	Not Furnished	151.25	211.75	285.00
Net Price Durachrome Blades—4 Edge per Set	Not Furnished	272.25	393.25	485.00
Net Price Carbon Blades—Single Edge per Set	110.00			
Net Price High Speed Steel Blades—Single Edge per Set	220.00			

4 Edge Blades Not Furnished on No. 3616 Model Shear.
Machines purchased less motor will be equipped with the following—Switch (state phase desired), belts, motor mounting, guard (where applicable), motor shive.

POWER SQUARING SHEARS



CARE · OPERATION · PARTS LIST

ROPER WHITNEY, INC., ROCKFORD, ILL. 61101 U.S.A.

no. 72
series

POWER SQUARING SHEARS

We only ask you compare quality and cost with other shears on the market. Notice such standard items on the Roper-Whitney shears as remote control provided by guarded safety foot switch, 4 edge blades, neoprene inserts in the hold-downs, light on the work area, front sheet supports, accurate crank-operated back gauge and others.
These are not options; they are standard features on all Roper-Whitney 72 series shears. Remember these standard features when comparing price. Feature for Feature, dollar for dollar, your choice should be Roper-Whitney.

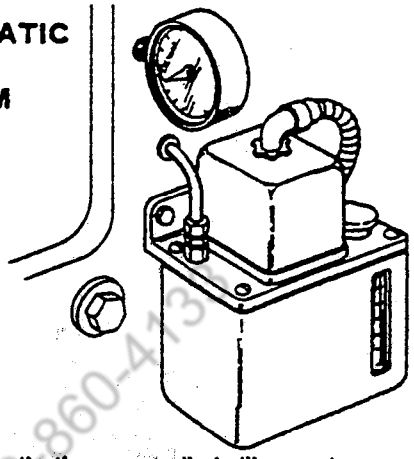
specifications

	5212	7212
Capacity, mild steel	12 ga.	12 ga.
Shearing length, maximum	52"	72"
Strokes per minute	76	76
Back Gauge, maximum range	24"	24"
Front Gauge, maximum range	38"	38"
Height overall	45"	45"
Floor space required, gauges in position	76" x 83"	88" x 88"
Length	68-3/4"	89-1/4"
Width	30"	34"
Work Table Height	32"	32"
Standard Motor	2 hp, 3 ph, 1800 rpm, 220-440V	
Rake of upper shear blade per foot	11/32"	11/32"
Clutch, pin-type	Non-Repeat with Quick Change to repeat	
Shipping weight, power squaring shear	3160 lbs.	4020 lbs.
Shipping weight of shear blades, per set	75 lbs.	100 lbs.

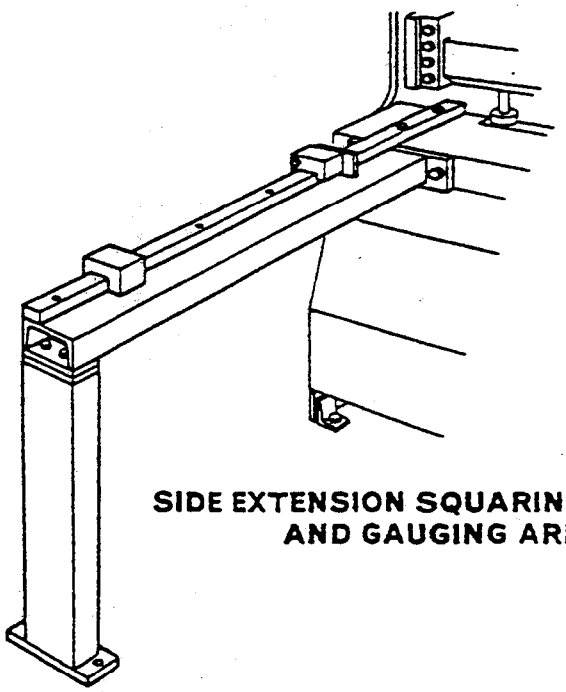
Capacity of shear is reduced 2 gauges on stainless steel.

optional equipment

AUTOMATIC OILING SYSTEM



Fully automatic, timer controlled oiling system available. Can be set to automatically lubricate from five minutes cycle time for heavy duty applications to lesser times for light duty applications.

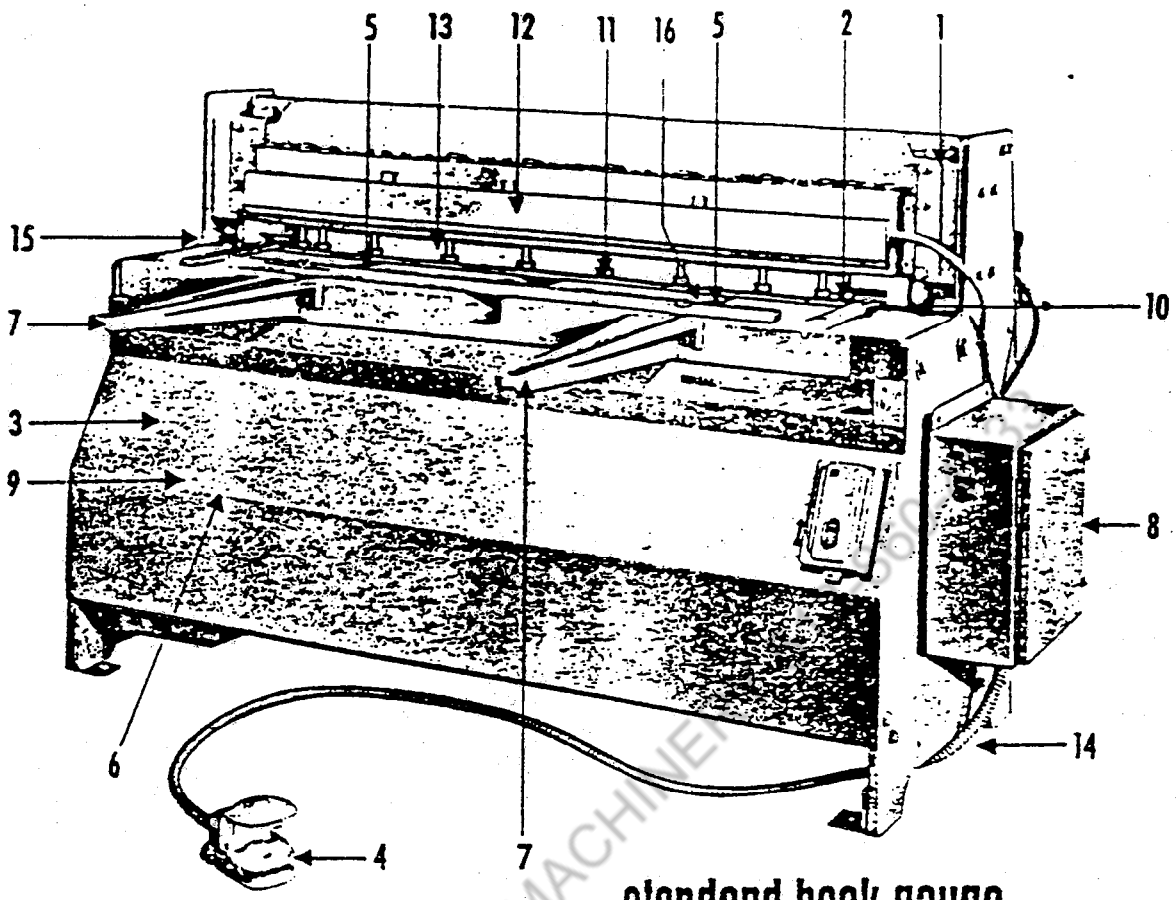


SIDE EXTENSION SQUARING AND GAUGING ARM

Furnished for right or left side of shear with one solid stop and one lift out arm for gauging. Additional stops available. Invaluable for large, thin sheet working where sheet curl will not allow back gauging.

POWER SQUARING SHEARS

no. 72 series



1 Nylon Gibs are non-scoring, accurate, long lasting

2 Four edge blades—each edge a cutting edge

3 All Gearing, drives, shafts under shear with heavy gauge guards

4 Remote control safety guarded foot trip switch on armored 12 foot cable

5 T Slots in table

6 All shafts on self-aligning sealed bearings

7 2 Front gauge extension arms furnished

8 Trip switch control for single or full repeat stroke

9 Electrically operated pin type clutch

10 Independently gibbed cam operated hold down ram—positive and accurate

11 Neoprene faced holddown pads

12 Light beam on shearing line

13 Clear plastic see through finger guard

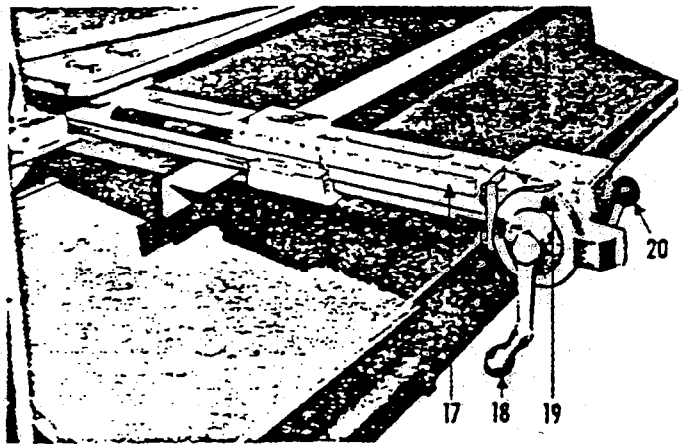
14 Minimum floor space required

15 More strokes per minute

16 Imbedded table scales

standard back gauge

STANDARD ON ALL NEW SHEARS



17 Side rule measure

18 Crank operated

19 Handwheel graduated in .001 for accuracy

20 Lock to prevent unwanted movement

ROPER WHITNEY, INC., ROCKFORD, ILL. 61101 U.S.A.

CARE • OPERATION • PARTS LIST

BLADE ADJUSTMENT: (See Fig. 1 and Fig. 2) To set blades for clearance, loosen frame and table bolts (37) (both sides) slightly. Loosen table locking screws (39) and also loosen pillow block bolts (57 and 58), and tighten table adjusting screws (38) to bring blades closer together. Run ram down and check clearance by using a thickness gauge at various points along blades. If blades are too close together reverse this procedure by loosening adjusting screws (38) and tightening locking screws (39). After the desired clearance has been obtained, tighten frame and table bolts (37), pillow block bolts (57 and 58). (Standard Clearance .002.)

GIB ADJUSTMENT OF RAM: (See Fig. 1) There are 8 adjusting screws (10) for taking up the wear of the gibs. Caution should be taken so as not to have the gibs too tight. These shears are equipped with nylon gibs.

When shear is in operation, drip oilers (7) should be filled and in operation.

ADJUSTMENT OF HOLD DOWN RAM: (See Fig. 1 and Fig. 4) The hold down ram furnished on the shear is set to a predetermined tension to insure complete rigidity of metal at time of cutting.

To remove the hold down ram, remove the flourescent light mounting strip (14). Remove hold down ram pull bolts (108), loosen hold down gib adjusting screws (11) slightly. Hold down ram can then be removed by lifting toward the top. This allows complete access to the upper blade.

To replace the hold down ram reverse this procedure.

Should the need arise to decrease the hold down tension, lighter hold down plunger springs (105) can be furnished. To replace these hold down plunger springs the hold down ram should be removed as instructed in the above paragraph.

Before removing hold down plungers, measure the distance between the bottom of the hold down plungers and the bottom of the hold down ram, so when replacing the hold down plungers this distance is maintained.

If at anytime the hold down ram has to be raised or lowered, this is done by tightening or loosening turnbuckle (114). At no time should the hold down ram be lowered to any great degree so that it would allow the plexiglass shield to strike the table.

If the hold down ram should fail to raise properly, first, check to see if the gib adjusting screws (11) are too tight. Second, more tension can be added to the hold down lift spring (122) by tightening hold down lift spring adjusting bolts (126).

CARE OF NON REPEAT CLUTCH: (See Fig. 4) The clutch is actuated by a solenoid. If at any time the clutch latch does not engage quick enough on the return cycle, more tension should be added to the clutch eyebolt spring by tightening the clutch eyebolt spring nut (147). The clutch latch (144) should never ride the bottom of the clutch hub (81, Figure 3). A clearance of 1/16" should be maintained between the clutch latch and the bottom of the clutch hub. To adjust clutch latch, loosen fulcrum arm adjusting block bolt (133) and tighten or loosen fulcrum arm adjusting screw (129). After correct adjustment is made, tighten fulcrum arm adjusting block bolt (133). Grease clutch latch side of clutch hub periodically.

CLUTCH SELECTOR CONTROL: (See Fig. 1) This shear is equipped with a Micro Switch Trip Control, with a conveniently located selector switch for continous or single stroke operation. If at anytime this control does not function properly it could be that the limit switch (35) has become loose and should be moved forward and the screws should be tightened.

When selector switch is set for single stroke it is impossible for the shear to repeat stroke until the foot switch has been released and depressed again. When the selector switch is set for continous operation the shear will run continously as long as the foot switch is held in the depressed position.

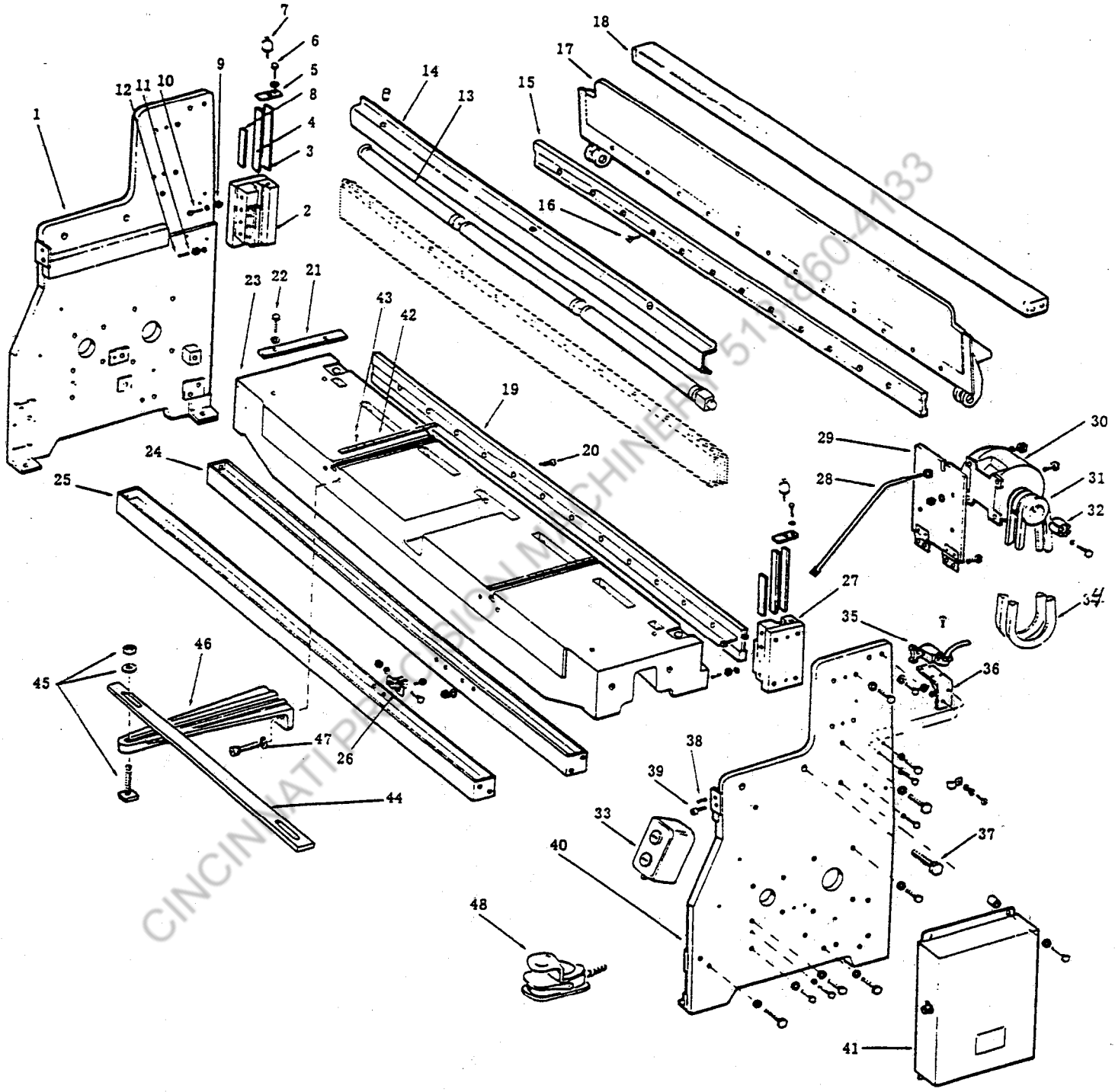
BRAKE ADJUSTMENT: (See Fig. 3) Brake tension can be adjusted as follows: For more brake tension turn nut located on brake tension stud (98) clockwise. To lessen brake tension turn nut counterclockwise.

BACK GAUGE ADJUSTMENT: (See Fig. 5) If the back gauge becomes out of square, loosen square head set screws (176) so that each side of gauge can be adjusted separately. Then adjust both ends of gauge bar (151) parallel with lower blade, and the opening between lower blade and gauge bar corresponds with the gauge pointer (162). Then tighten set screws (176).

If repeated cuts of the same depth are desired, set the gauge bar to the correct depth and tighten thumb screws (179). This will lock the back gauge slide (157) and insure accurate cutting for long production runs.

LUBRICATION: Any machine will last longer and run better if properly lubricated. Inspect drip oilers (7) periodically and fill as required. Texaco Regal C (R&O) or equal oil is recommended to be used in the drip oilers. All shears have self contained ball bearing units, bearings should be greased twice annually. Texaco Multifac #2 or equal is recommended in the ball bearing units. Keystone #122 X Heavy grease or equal is recommended to be used periodically on the primary and bull gear teeth. The connecting rod and bull gear should be greased daily with Texaco Multifac #2 or equal when shear is used continually.

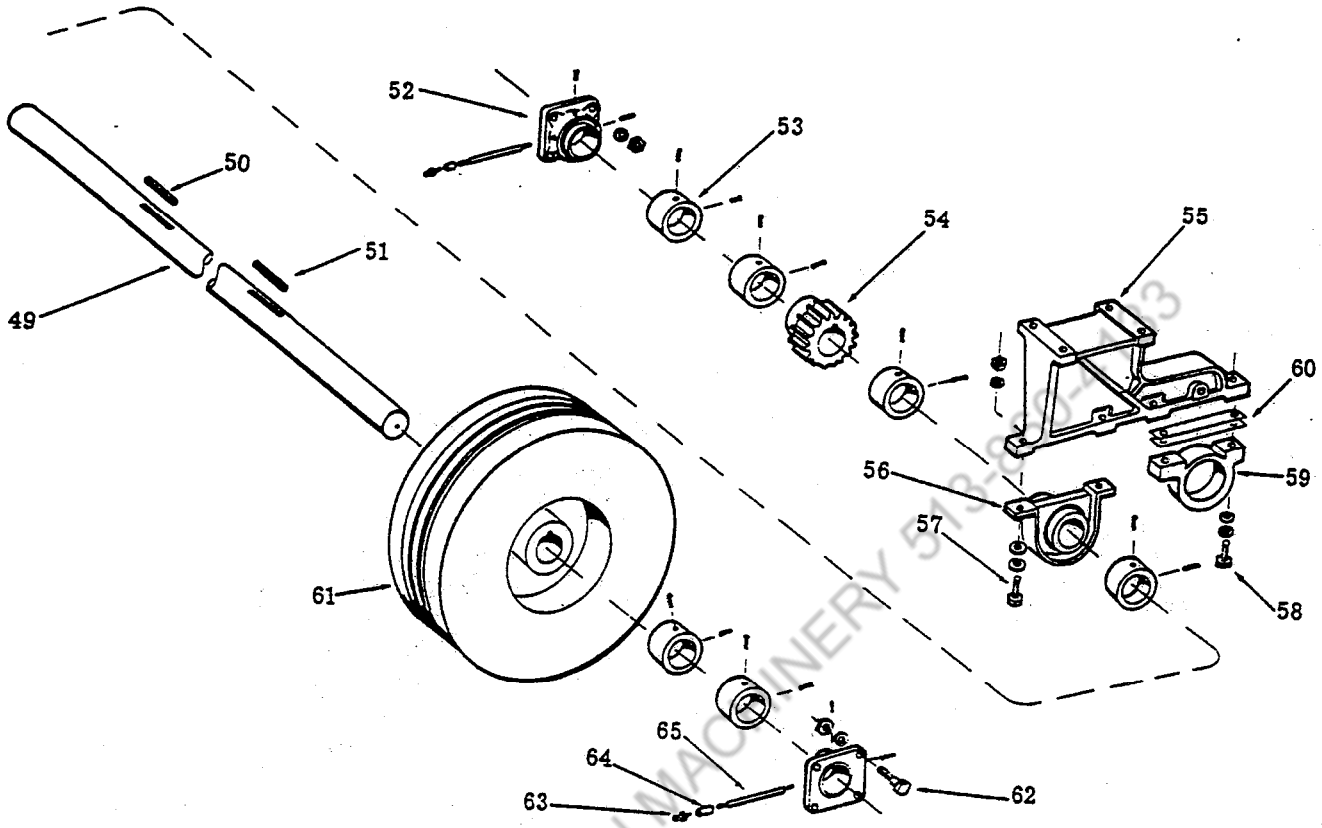
GENERAL SHEAR ASSEMBLY FIG. 1



WHITNEY No. 72 SERIES POWER SQUARING SHEARS JENSEN

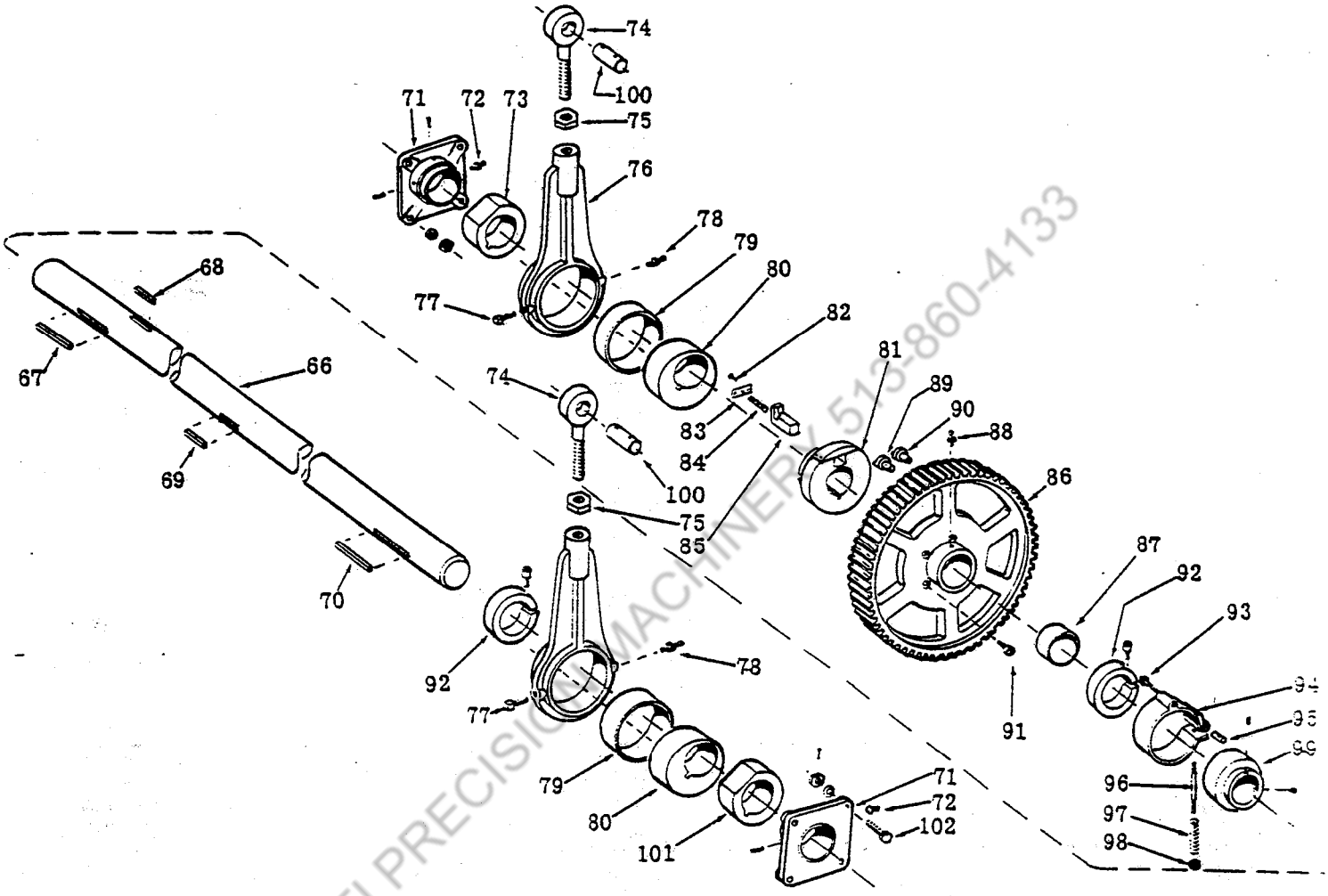
PART NO.	PART NAME	MODEL 3612 NO. REQ.	MODEL 5212 NO. REQ.	MODEL 7212 NO. REQ.
1	Left hand side frame	1	1	1
2	Left hand gib holder	1	1	1
3	Ram gib rear	2	2	2
4	Ram gib front	2	2	2
5	Gib oiler mount plate	2	2	2
6	Gib oiler mount plate bolt w/washer	2	2	2
7	Drip sight feed oiler	2	2	2
8	Hold down ram gib	2	2	2
9	Ram gib adjusting screw lock nut	8	8	8
10	Ram gib adjusting screw	8	8	8
11	Hold down ram gib adjusting screw nut	6	6	6
12	Hold down ram gib adjusting screw	6	6	6
13	Flourescent lamp	2	3	4
14	Flourescent lamp strip w/reflector	1	1	1
15	Upper shear blade (carbon)	1	1	1
15	Upper shear blade (durachrome)	1	1	1
16	Upper shear blade bolt, nut, washer	7	9	12
17	Ram	1	1	1
18	Upper spreader bar	1	1	1
19	Lower shear blade (carbon)	1	1	1
19	Lower shear blade (durachrome)	1	1	1
20	Lower shear blade bolt, nut, washer	7	9	12
21	Table side gauge	2	2	2
22	Table side gauge bolt, washer dowel pin	4	4	4
23	Shear table	1	1	1
24	Rear spreader bar	1	1	1
25	Front spreader bar	1	1	1
26	Motor plate adjusting rod anchor brkt.	2	2	2
27	Right hand gib holder	1	1	1
28	Motor plate adjusting rod	1	1	1
29	Motor plate	1	1	1
30	Motor	1	1	1
31A	Motor sheave w/bushing complete	1	1	1
	31A. Consists of:			
	31 - Motor sheave	1	1	1
	32 - Motor sheave bushing	1	1	1
33	Motor starter	1	1	1
34	V belt	3	3	3
35	Limit switch	1	1	1
36	Limit switch brkt.	1	1	1
37	Side frame & table bolt, washer	4	4	4
38	Table adjusting screw	2	2	2
39	Table locking screw	2	2	2
40	Right hand side frame	1	1	1
41	Micro switch trip control box	1	1	1
42	Graduated table scale	2	2	2
43	Graduated table scale screw	4	4	4
44	Table gauge bar	1	1	1
45	Table gauge bar bolt, nut, washer	2	2	2
46	Table extension arm	2	2	2
47	Table extension arm bolt, washer	4	4	4
48	Foot trip switch	1	1	1

FLYWHEEL SHAFT ASSEMBLY FIG. 2



PART NO.	PART NAME	MODEL 3612		MODEL 5212		MODEL 7212	
		NO. REQ.	PRICE EACH	NO. REQ.	PRICE EACH	NO. REQ.	PRICE EACH
49	Flywheel shaft	1		1		1	
50	Primary gear key	1		1		1	
51	Flywheel key	1		1		1	
52	Flywheel shaft end bearing	2		2		2	
53	Flywheel shaft collar	6		6		6	
54	Primary gear	1		1		1	
55	Shaft support	1		1		1	
56	Flywheel shaft center bearing	1		1		1	
57	Flywheel shaft center bearing bolt nut, washer	2		2		2	
58	Crankshaft center bearing bolt, nut washer	2		2		2	
59	Crankshaft center bearing	1		1		1	
60	Crankshaft center bearing shims	2		2		2	
61	Flywheel	1		1		1	
62	Flywheel shaft end bearing bolt, nut washer	8		8		8	
63	Grease fitting	2		2		2	
64	Grease fitting coupling	2		2		2	
65	Grease fitting pipe	2		2		2	

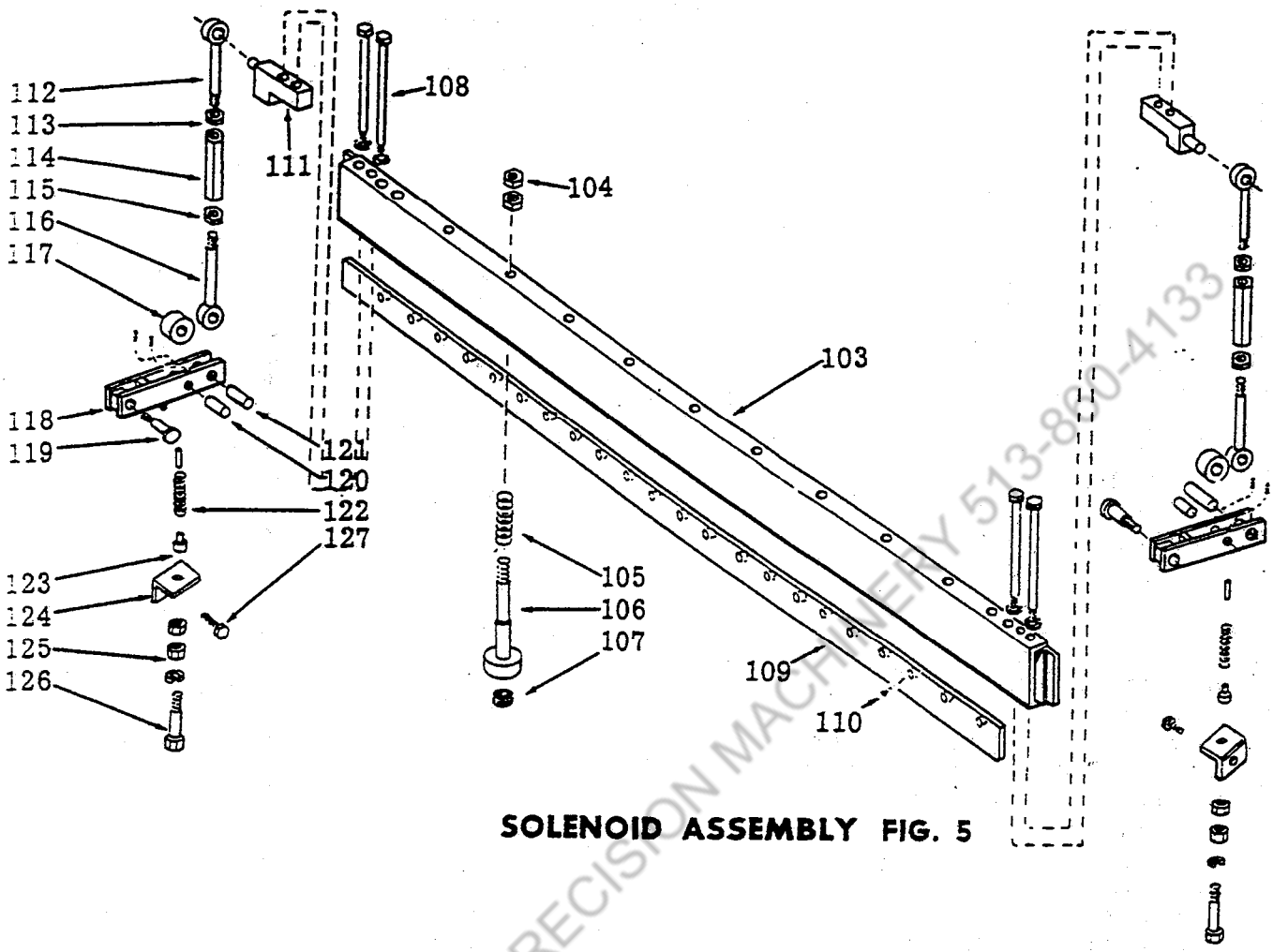
CRANK SHAFT ASSEMBLY FIG. 3



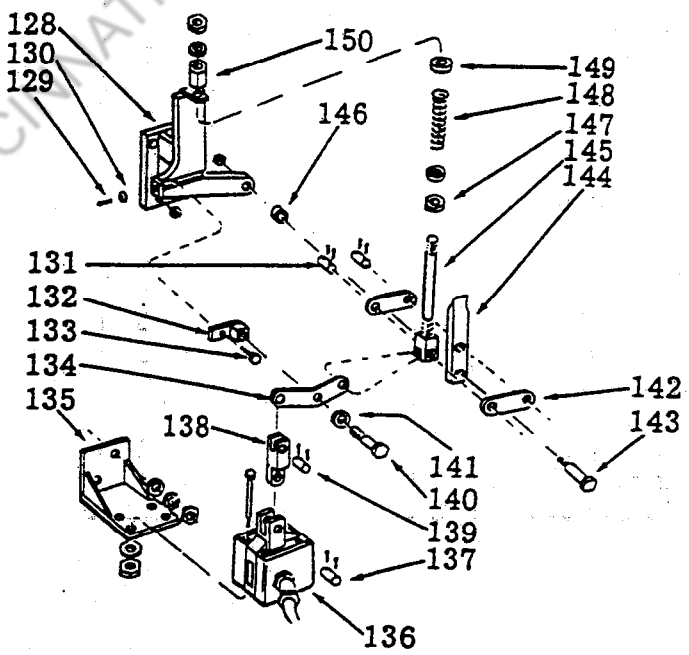
PART NO.	PART NAME	MODEL 3612 NO. REQ.	MODEL 5212 NO. REQ.	MODEL 7212 NO. REQ.
66	Crankshaft	1	1	1
67	Hold down cam key	2	2	2
68	Cam Key	2	2	2
69	Clutch hub key	1	1	1
70	Brake drum key	1	1	1
71	Crankshaft end bearing	2	2	2
72	Grease fitting	2	2	2
73	Left hand hold down cam	1	1	1
74	Connecting rod eyebolt	2	2	2
75	Connecting rod eyebolt nut	2	2	2
76A	Connecting Rod Assembly Complete	2	2	2
	76A-Consists of:			
	76-Connecting rod	2	2	2
	77-Connecting rod bearing lock screw	2	2	2
	78-Grease fitting	2	2	2
	79-Connecting rod bearing	2	2	2
80	Cam	2	2	2
81A	Clutch Hub Assembly Complete	1	1	1
	81A-Consists of:			
	81-Clutch hub	1	1	1
	82-Clutch pin retainer plate screw	2	2	2
	83-Clutch pin retainer plate	1	1	1
	84-Clutch pin spring	1	1	1
	85-Clutch pin	1	1	1

PART NO.	PART NAME	MODEL 3612 NO. REQ.	MODEL 5212 NO. REQ.	MODEL 7212 NO. REQ.
86A	Bull Gear Assembly Complete	1	1	1
	86A-Consists of:			
	86-Bull gear	1	1	1
	87-Bull gear bearing	1	1	1
	88-Grease fitting	1	1	1
	89-Contact pin	3	3	3
	90-Recoil pin	3	3	3
	91-Contact & recoil pin bolt	6	6	6
92	Crankshaft collar	2	2	2
93	Brake band anchor bolt	1	1	1
94A	Brake Band Assembly Complete	1	1	1
	94A-Consists of:			
	94-Brake band w/lining	1	1	1
	95-Brake hinge stud	1	1	1
	96-Brake band adjusting stud	1	1	1
	97-Brake band tension spring	1	1	1
	98-Brake band adjusting stud nut	1	1	1
99	Brake drum	1	1	1
100	Connecting rod pin	2	2	2
101	Right hand hold down cam	1	1	1
102	Crankshaft end bearing bolt, nut, washer	8	8	8

HOLD DOWN RAM ASSEMBLY FIG. 4

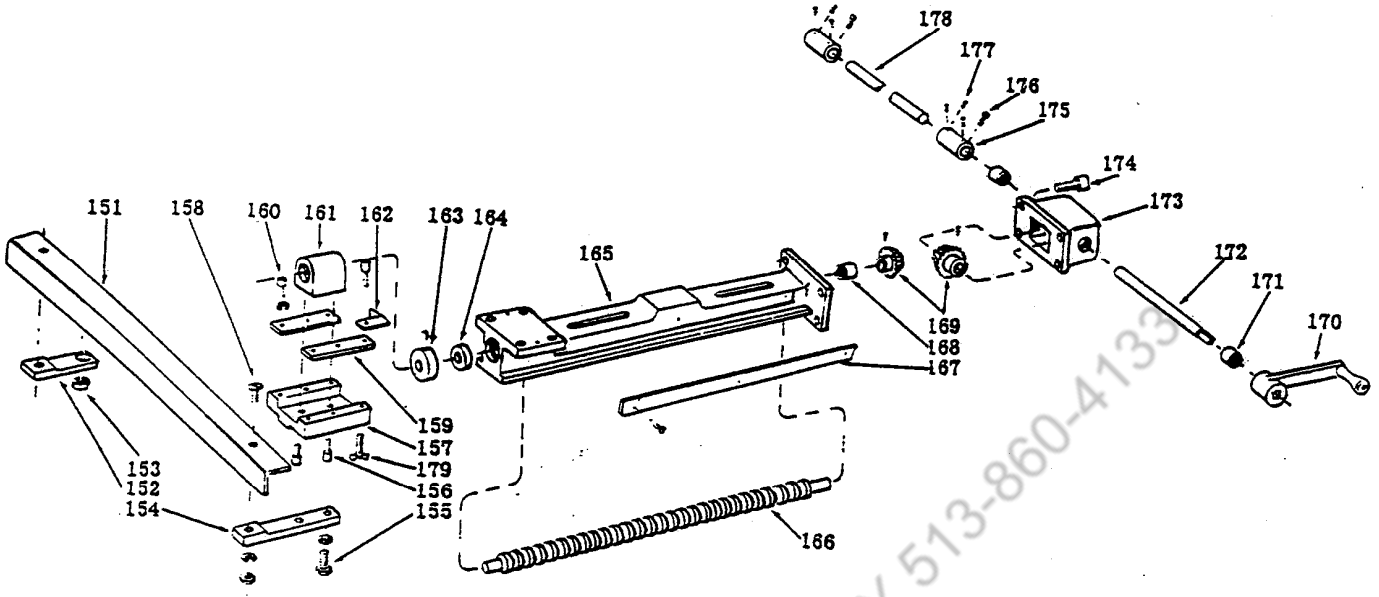


SOLENOID ASSEMBLY FIG. 5



PART NO.	PART NAME	MODEL 3612		MODEL 5212		MODEL 7212	
		NO. REQ.	PRICE EACH	NO. REQ.	PRICE EACH	NO. REQ.	PRICE EACH
103	Hold down ram	1		1		1	
104	Hold down plunger nut	16		20		26	
105	Hold down plunger spring	8		10		13	
106A	Hold down plunger assembly complete	8		10		13	
	106A-Consists of:						
	106-Hold down plunger	8		10		13	
	107-Hold down plunger neoprene insert	8		10		13	
108	Hold down ram pull bolt	4		4		4	
109	Plastic finger guard	1		1		1	
110	Plastic finger guard screw w/washer	10		12		15	
111	Upper eyebolt pivot brkt.	2		2		2	
112	Upper eyebolt	2		2		2	
113	Upper eyebolt lock nut	2		2		2	
114	Turnbuckle	2		2		2	
115	Lower eyebolt lock nut	2		2		2	
116	Lower eyebolt	2		2		2	
117	Hold down cam roller	2		2		2	
118	Hold down clamp arm	2		2		2	
119	Hold down clamp arm pivot bolt	2		2		2	
120	Hold down cam roller pin	2		2		2	
121	Lower eyebolt pin	2		2		2	
122	Hold down lift spring	2		2		2	
123	Hold down lift spring seat	2		2		2	
124	Hold down lift spring bracket	2		2		2	
125	Hold down lift spring adj. bolt lock nut	4		4		4	
126	Hold down lift spring adj. bolt	2		2		2	
127	Hold down lift spring bracket bolt	4		4		4	
128	Clutch bracket	1		1		1	
129	Fulcrum arm adjusting screw	1		1		1	
130	Fulcrum arm adjusting screw lock nut	1		1		1	
131	Clutch latch link pin	2		2		2	
132	Fulcrum arm adjusting block	1		1		1	
133	Fulcrum arm adjusting block bolt	1		1		1	
134	Fulcrum arm	1		1		1	
135	Solenoid bracket	1		1		1	
136	Solenoid	1		1		1	
137	Solenoid plunger pin	1		1		1	
138	Solenoid link	1		1		1	
139	Solenoid link pin	1		1		1	
140	Fulcrum arm hinge bolt	1		1		1	
141	Fulcrum arm hinge bolt bushing	1		1		1	
142	Clutch latch link	2		2		2	
143	Clutch latch bolt w/nut	1		1		1	
144	Clutch latch	1		1		1	
145	Clutch eyebolt	1		1		1	
146	Clutch latch spacer	1		1		1	
147	Clutch eyebolt lock nut	2		2		2	
148	Clutch eyebolt spring	1		1		1	
149	Clutch eyebolt spring seat	2		2		2	
150	Clutch eyebolt adjusting nut	1		1		1	

BACK GAUGE ASSEMBLY FIG. 6



PART NO.	PART NAME	MODEL 3612 NO. REQ.	MODEL 5212 NO. REQ.	MODEL 7212 NO. REQ.
151	Back gauge bar	1	1	1
152	Right hand extension arm	1	1	1
153	Right hand extension arm bushing	1	1	1
154	Left hand extension arm	1	1	1
155	Extension arm bolt	3	3	3
156	Gauge nut bolt	4	4	4
157	Back gauge slide	2	2	2
158	Gauge bar screw nut and washer	2	2	2
159	Slide clamp	4	4	4
160	Slide clamp screw	12	12	12
161	Gauge nut	2	2	2
162	Scale pointer	1	1	1
163	Gauge screw locking collar	2	2	2
164	Gauge screw bearing	2	2	2
165	Back gauge arm	2	2	2
166	Gauge screw	2	2	2
167	Graduated scale	1	1	1
168	Gauge arm bearing	2	2	2
169	Gauge mitre gear	4	4	4
170	Gauge crank	1	1	1
171	End cap bearing	4	4	4
172	End cap shaft	2	2	2
173	End cap	2	2	2
174	End cap mounting screw	8	8	8
175	Coupling sleeve	2	2	2
176	Coupling sleeve bolt	2	2	2
177	Coupling sleeve lock screw	6	6	6
178	Center shaft	1	1	1
179	Back gauge slide locking screw	2	2	2
180	Front skirt (not shown)	1	1	1
181	Back scrap chute (not shown)	1	1	1