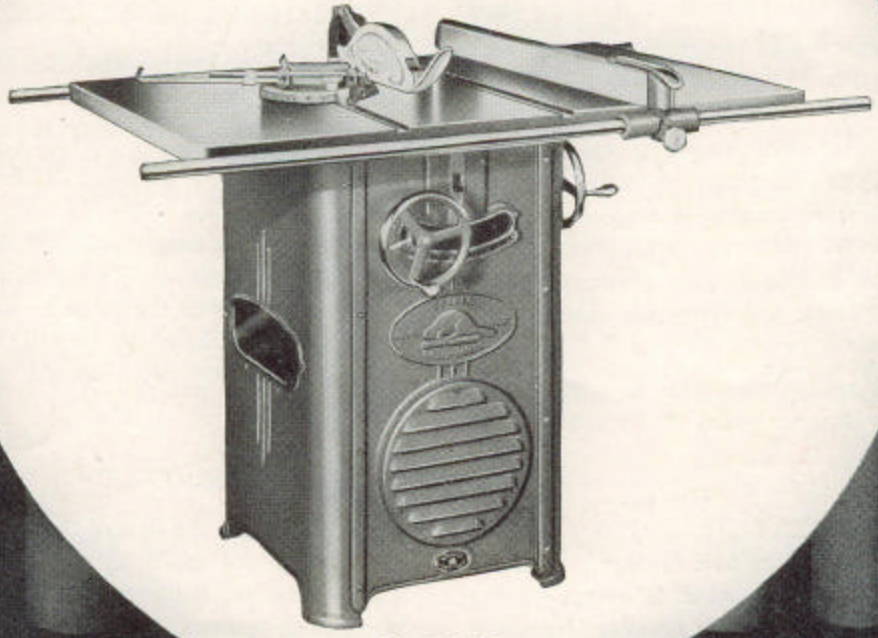
Beaver Power Tools

SERVICE MANUAL

10" TILTING ARBOR CIRCULAR SAW



CS-4200

Designed and Manufactured by

The CALLANDER FOUNDRY & Mfg. Co. Ltd.

GUELPH CANADA

Beaver



HELPFUL HINTS ON THE SET-UP AND OPERATION OF YOUR BEAVER

10″ TILTING ARBOR CIRCULAR SAW

GENERAL

Your BEAVER 10″ Saw, composed of the following main parts, has been designed to give the skilled craftsman an accurate, rugged floor model machine with all the latest features for ease and accuracy of operation.

THE BASE

Is built up entirely of cast iron panels which form a rigid heavy base built to take plenty of punishment and still maintain a pleasing appearance. A large easy-to-read angle scale and an on-off switch are conveniently located in the front panel. A built-in sawdust chute carries the sawdust out a side opening and completely seals off the motor from the danger of sawdust.

The rear panel is readily removable to permit access to the motor and two large air grilles are located on front and rear panels.

THE TABLE

Is built up of two large semi-steel castings ground top and bottom for accuracy, and is offset to permit ripping to the centre of a 48″ panel. The table assembly is mounted on a sub-base which permits adjustment for line-up without interference with any other working parts of the machine. There are two slots milled for use of a mitre gauge on either side of the saw.

THE RIP FENCE

Of cast construction, is ground on both sides for use on either side of the blade and slides smoothly and easily on the support rails. It is readily clamped in position by means of a lever arm on one end which actuates a link clamping bar, thereby locking both ends simultaneously. Adjustment for re-alignment can easily be accomplished by loosening two cap screws in the top of the fence and adjusting two set-screws in the sides.

A rack and pinion arrangement permits fine adjustments and an accurate adjustable scale is conveniently located on the table for width-of-cut-settings.

THE MANDREL BRACKET AND SAW ARBOR

Are supported on two machined trunnions which in turn are supported by a sub-base. The arbor runs on two grease sealed ball bearings and may be raised and lowered or tilted to any angle up to 45° by means of two large conveniently located hand wheels.

The power is transmitted from the motor by a B belt through right angle drive mounted on Timken journalled shaft and thence to the arbor by means of 2 Fractional Horse Power A belts. A specially designed split pulley permits positive adjustment to take up any variation in the tandem belts.

THE MOTOR BRACKET

Is mounted in the base of the saw and is readily adjustable to take any motor up to 2 Horse power in rating. There is an adjustable spring counter weight to permit varying belt tensions.

THE MITRE GAUGE

May be used on either side of the blade and is graduated from 0° to 60° both ways. It features an accurate easy-to-read scale, a screw locating pin for accurate automatic setting at 10°, 22½° and 45° intervals, and is equipped with gauge rods.

THE BLADE GUARD AND SPLITTER ASSEMBLY

Is mounted on the arbor bracket and is equipped with anti-kick back strips which automatically adjust themselves for various wood thicknesses. The assembly is readily removable to permit the use of a dado or moulding head.

PACKING LIST

The two crates in which you receive your Beaver 10" saw contains the following:

1. Base assembly including motor mount, mandrel assembly, saw blade belt, motor pulley, rip fence, mitre gauge and guard and splitter assembly.
2. Table assembly including table, fence guide rods and rack for fence micro adjustment.

INSTALLATION

After uncrating the two assemblies, place the base in desired position. Remove rear panel by removing the screws at back of machine and bolt the base to floor through leg holes if desired. Mount the motor in position. This can best be accomplished by blocking the motor up to approximately the height of the motor mounting bracket and sliding into place. Fasten motor in place with bolts provided and adjust spring mounting to give desired belt tension. Do required wiring through motor and 10 amp. 110-220 Volt double pole switch provided. Remove plug from top of right angle gear housing to provide a breather hole for this assembly. Locate table assembly in position, and line up mitre gauge slots so that they are parallel to the saw blade. Tighten the assembly in place with six screws provided. Place fence and guide rails and check alignment so that the fence body is parallel to the mitre guage slots. If adjustment is required, it may be accomplished by loosening the two socket head set screws at top of fence body under lock handle and adjusting the two set screws at side of fence body. Check adjustment of width-of-cut scale so that indicator line on fence from T slide is at zero when fence is against the blade. Replace rear panel and set guard and splitter assembly in position and lock by means of bolts in guard support bracket. Set mitre gauge in either right or left hand table slot and your Beaver 10" Saw is ready to operate and produce accurate work.

POWER REQUIREMENTS

The BEAVER Saw is designed for use with up to a 2 H.P. motor. The following speeds are attainable: 25 cycle, 2,750 R.P.M.; 60 cycle, 3,200 R.P.M.

MAINTENANCE

The mandrel runs on two grease sealed bearings and should require little or no attention for some time. The right angle drive housing is filled with a hypoid fibre lubricant grade 00. When it becomes necessary to change this lubricant it can be accomplished by draining through plug in the bottom of the housing and refilling through the breather hole.

ACCESSORIES

Your BEAVER Saw is equipped with a fine quality 10" combination saw blade for either ripping or cross-cutting operations. Single duty saw blades are available if desired; i.e., a rip saw, for cutting through the length of the wood with the grain and a cross-cut saw for cutting across the grain of the wood.

The aluminum throat plate in the table can be removed and an accessory plate is available to permit the use of a dado head or moulding head.

A dado head consists of two saw blades, usually 1/8" thick and a set of inner cutters which may be set up in different combinations to cut varying widths of grooves. The dado head is mounted on the mandrel in the same manner as the saw blade. Care must be taken to see that the thick or swaged portions of the inside cutters are opposite the gullet of the teeth on the outside cutters. The outside cutters are very similar to a combination saw and the dado head may be used for either cross or rip grooving.

The moulding head consists of a cutter-head to fit the mandrel, equipped with slots and locking screws to take flat, shaped knives. These knives are available in various shapes and can be used to cut any type of moulding. The moulding head is mounted on the arbor in the same manner as a saw blade.

HOW TO ORDER REPAIR PARTS FROM YOUR DEALER

To have your order filled promptly and correctly please furnish all the following information:

1. Model and serial number shown on name plate.
2. Part number and name and description. (See list repair parts.)

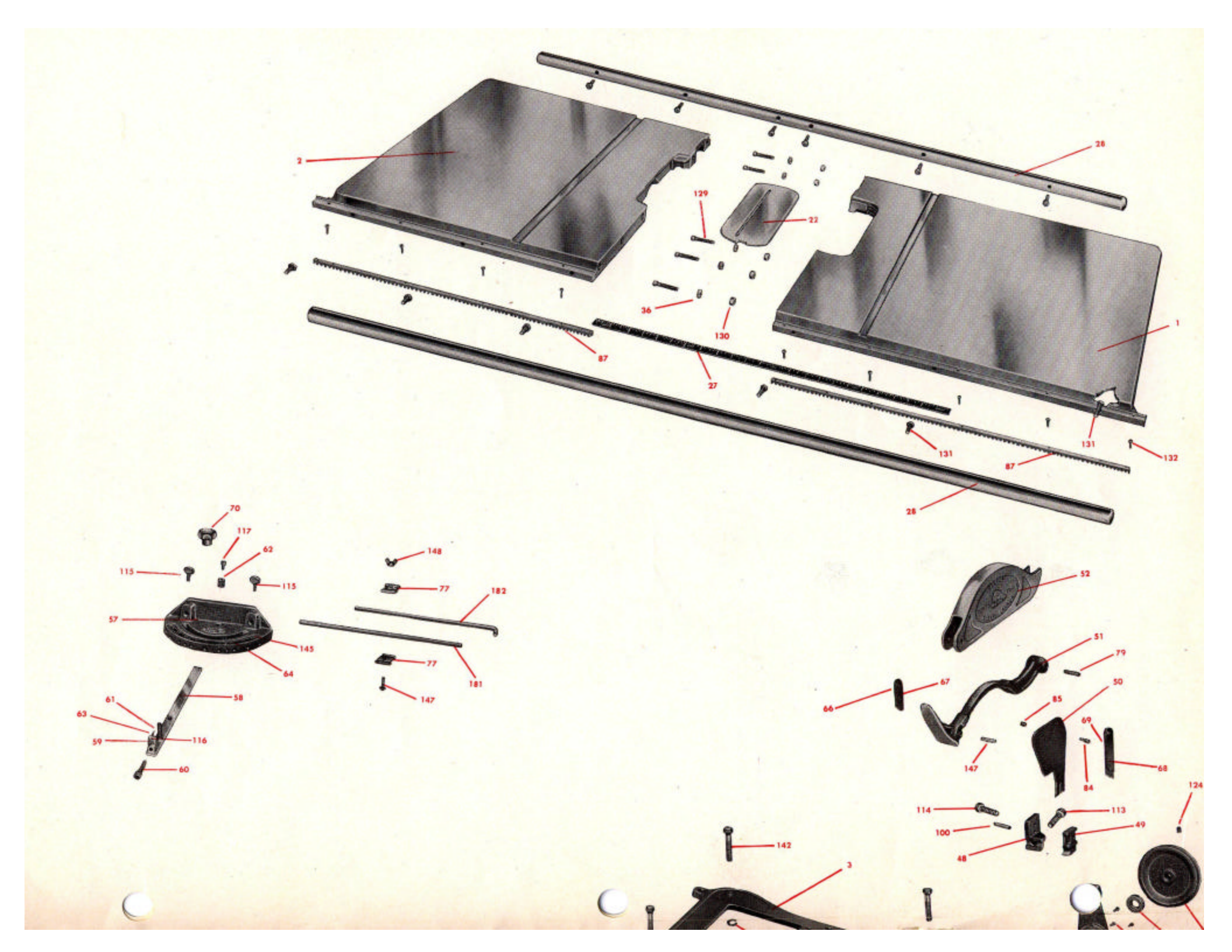
You pay shipping charges from factory based on size and total weight of order. One of the following shipping methods will be used.

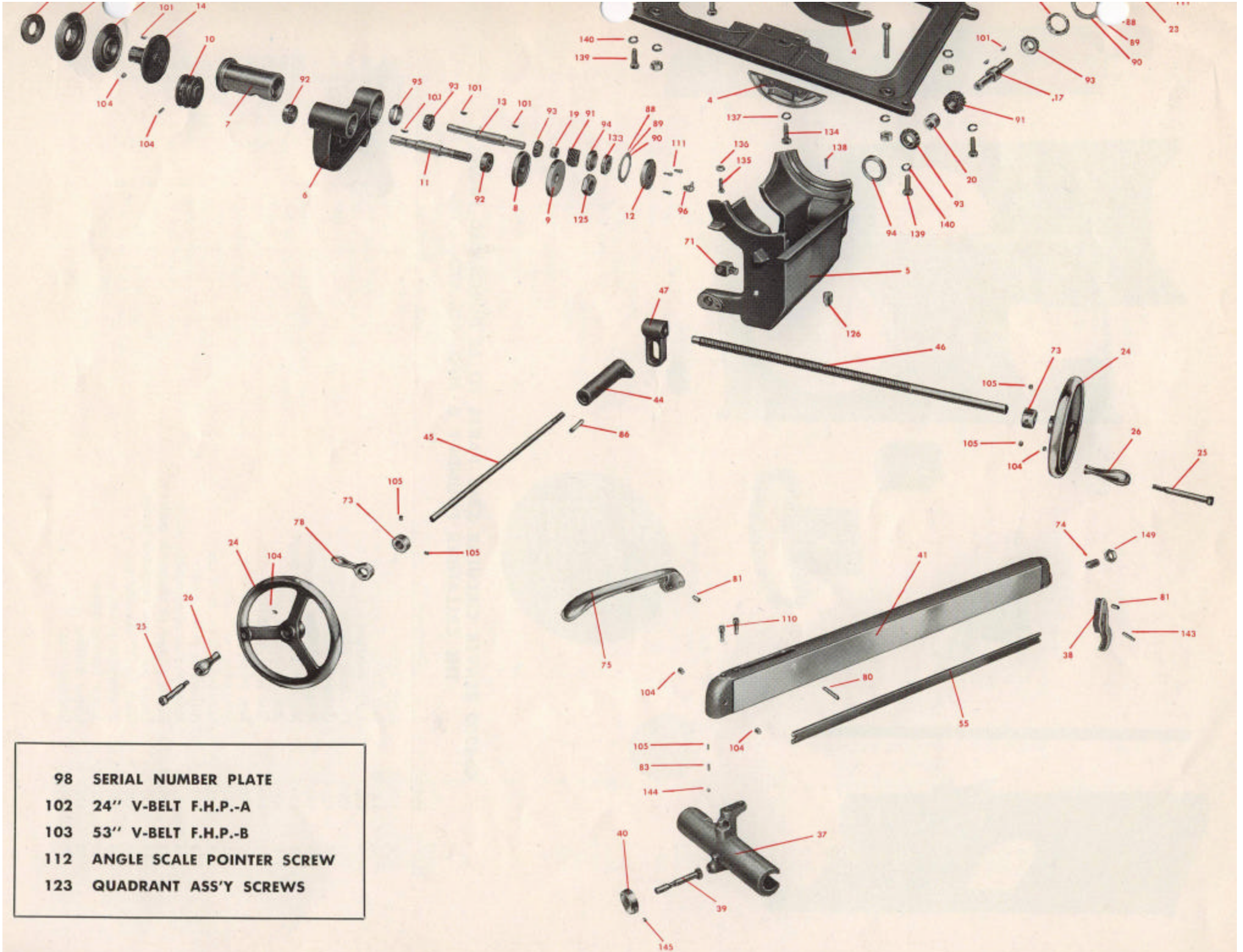
1. Parcel Post — for small packages add postage to remittance.
2. Express — for fast service on larger items.
3. Freight — cheapest way on larger items.

All nuts, bolts, screws, washers, etc., are standard in size and may be obtained from local sources.

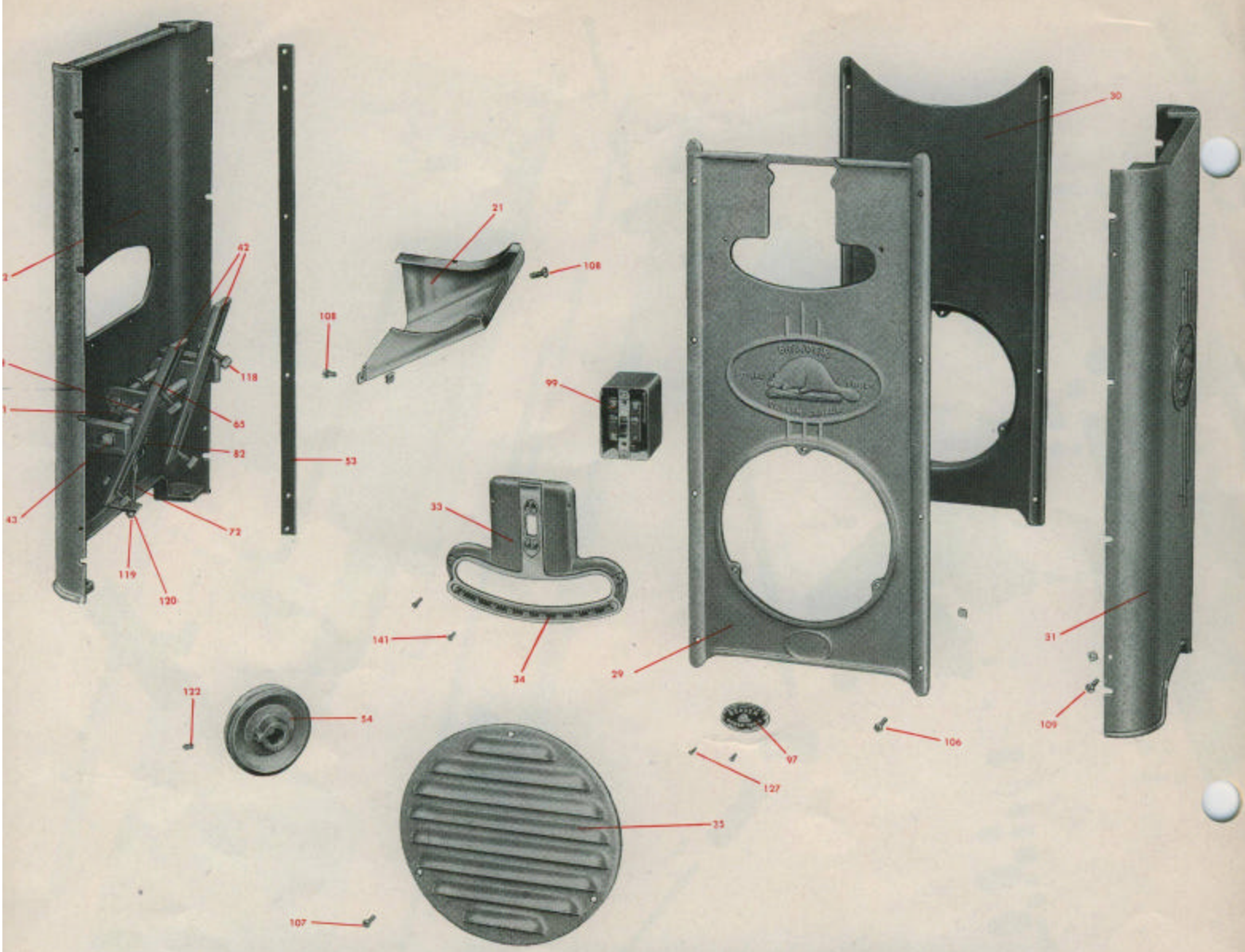
IMPORTANT

The parts shown and listed may include accessories not necessarily a part of this tool. All prices are subject to change without notice and are subject to an additional charge to cover any applicable sales tax, use, occupation, or other tax affecting our purchase or sale of merchandise.


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98	SERIAL NUMBER PLATE
102	24" V-BELT F.H.P.-A
103	53" V-BELT F.H.P.-B
112	ANGLE SCALE POINTER SCREW
123	QUADRANT ASS'Y SCREWS



CS4200 BEAVER CIRCULAR SAW PARTS TO BE PURCHASED FROM THE CALLANDER FOUNDRY & MFG. CO. LTD.

Key Number	Part Number	Description	No. Req'd	Shipping Wt. Lbs.	Shipping Wt. Oz.	Price Each
1	4201A	Right Table	1	60		45.00
2	4201B	Left Table	1	66		40.00
3	4202	Table Sub-base	1	21		10.00
4	4203	Quadrant Bracket	2	1	6	6.00
5	4204	Quadrant	1	21		18.00
6	4205	Mandrel Bracket	1	7		8.00
7	4206	Mandrel Bracket Pivot Shaft	1	3		6.00
8	4207	Saw arbor tight collar	1		10	.80
9	4208	Saw arbor loose collar	1		3	.25
10	4209	Saw arbor pulley	1		14	3.20
11	4210	Saw arbor	1		14	4.50
12	4211	Mandrel bracket shaft cap	1		7	2.75
13	4212	Adjustable pulley shaft	1	1		4.00
14	4213A	Inner portion of adjustable pulley	1	1	6	4.00
15	4213B	Centre portion of adjustable pulley	1	1	5	3.50
16	4213C	Outer portion of adjustable pulley	1	1	4	3.00
17	4214	Shaft for 5" diameter pulley	1		10	4.00
18	4215	5" diameter pulley	1	2	5	4.00
19	4216	Lower bearing spacer	1		2	.40
20	4217	Upper bearing spacer	1		2	.40
21	4218	Sawdust chute	1	8		12.00

Key Number	Part Number	Description	No. Req'd	Shipping Wt. Lbs.	Oz.	Price Each
22	4219	Table throat plate	1	1	4	2.50
23	4220	Splitter bracket support	1	1	5	3.50
24	4221	Handwheel	2	2	8	5.00
25	4222A	Handwheel handle shaft	2		3	1.50
26	4222B	Handwheel handle	2		6	1.75
27	4223	Fence scale	1		2	1.00
28	4224	Fence guide, bars	2	15		12,50
29	4225A	Front base frame	1	19		8.00
30	4225B	Rear base frame	1	20		8.00
31	4225C	Right base frame	1	50		20.00
32	4225D	Left base frame	1	50		21.00
33	4226	Angle scale and Switch box bracket	1	1		4.00
34	4227	Angle scale	1		2	.75
35	4228	Base inspection hole cover	2	5		5.00
36	4229	Table dowel bushings	5		2	1.00
37	4230	Fence front slide	1	3	6	4.50
38	4231	Rip fence clamp	1		10	1.25
39	4232	Fence Pinion gear shaft	1		3	.75
40	4233	Fence Pinion hand knob	1		5	1.25
41	4234	Fence body	1	10		9.75
42	4235	Motor mounting bracket	2	3	4	3.50
43	4236	Motor bracket rod	1	2		1.10
44	4237	Clamping sleeve	1		14	1.25
45	4238	Elevation screw	1	2		3.50
46	4239	Angle adjustment screw	1	1	12	3.50
47	4240	Angle screw link	1		12	1.00
48	4241	Splitter bracket	1		13	1.75
49	4242	Splitter clamp	1		6	.45
50	4243	Splitter	1		14	1.00
51	4244A	Saw guard back-bone	1	1	2	4.00
52	4244B	Saw guard shell	1	1	8	4.00
53	4245	Base screw strips	4	1	4	2.50
54	4246	Motor pulley	1	3	8	3.50
55	4247	Rip fence bar	1	1	8	1.25
56	4248	Lock ring for adjustable pulley	1		8	1.00
57	4249	Mitre gauge body	1	3	3	4.50
58	4250A	Mitre gauge bar	1	1	3	1.25
59	4250B	Mitre gauge indexing block	1			
60	4251	Mitre gauge indexing screw	1		2	.75
61	4252	Mitre gauge stud	1		2	.25
62	4253	Mitre gauge bushing	1		2	.50
63	4254	Mitre gauge angle pointer	1		2	.25
64	4255	Mitre gauge angle scale	1		2	.75
65	4256	Motor balance spring rod	1		14	1.00
66	4257A	Anti-kick back strip	1		5	.10
67	4257B	Anti-kick back strip	1		5	.10
68	4257C	Anti-kick back strip	1		4	.10
69	4257D	Anti-kick back strip	1		3	.10
70	4258	Mitre gauge hand knob	1		6	.25
71	4259	Mandrel bracket elevating nut	1		7	.65
72	4260	Motor balance eye bolt	1		6	.50
73	4261	Elevation and angle screw collars	2		5	.60
74	4262	Rip fence clamp adjusting screw	1		3	.25
75	4263	Fence clamp handle	1		8	.85
77	4264A	Trammel bar clamp	2		2	.05
78	4265	Elevation screw cam lock	1		5	.35
79	4266	Guard anti-kick back pin	1		2	.30
80	4267	Fence clamp lever pin	1		2	.10
81	4268	Fence clamp bar pin	1		2	.15
82	4269	Motor balance spring	1		12	.50
83	4270	Fence pinion shaft spring	1		2	.10
84	4271A	Anti-kick back stop rivet	1		2	.25
85	4271B	Anti-kick back stop bushing	1		2	.25
86	4272	Clamping sleeve pin	1		2	.15
87	4273	Table rack	2		12	7.00
88	4274A	Bearing shim .010	1		2	.10
89	4274B	Bearing shim .007	2		2	.10

Key Number	Part Number	Description	No. Req'd	Shipping Wt. Lbs.	Shipping Wt. Oz.	Price Each
90	4274C	Bearing shim .005	3		2	.10
91	4275	Helix gear	2		6	3.40
92	24–003	Ball bearing	2		5	1.50
93	24–014	Roller bearing cone	4		5	1.50
94	24–009	Roller bearing cup	2		4	1.00
95	24–013	Roller bearing cup	2		4	1.00
96	42111	Zerck grease fitting 1/8 x 90°	1		2	.15
97	34–001	Name plate	1		2	.10
98	34–002	Serial number plate	1		2	.10
99	42117	Motor switch	1	1	3	7.00
100	42118	Splitter bracket pin	1		2	.10
181	42141	Trammel bar straight	1		10	.05
182	42142	Trammel bar hooked	1		10	.10

CS4200 BEAVER CIRCULAR SAW PARTS WHICH MAY BE PURCHASED LOCALLY

101	22–001	No. 5 Woodruff Key	6		2	.05
102	32–012	24" V-Belt F.H.P.-A.	2		5	.60
103	32–013	53" V-Belt F.H.P.-B.	1		10	.70
104	16–404	Handwheel, pulley and Rip fence screws. 5/16-18x5/16 Sock. Set	6		2	.10
105	16–400	Pinion gear and screw collar screws 1/4-20x1/4 Sock. Set	3		2	.10
106	10–416	Base frame screws 1/4-20x1 Rd. Hd. stove	16		2	.05
107	10–412	Inspection cover screws 1/4-20x1/2 Rd. Hd. stove	6		2	.05
108	10–404	Sawdust chute screws 1/4-20x3/4 Rd. Hd. stove	5		2	.05
109	10–407	Base strip bolts and nuts 10-24x3/4 Rd. Hd.	8		2	.05
110	10–201	Rip fence ass'y screws 5/16-18x3/4 Sock. Hd. cap	2		2	.10
111	10–207	Shaft cap and splitter bracket screws 10-32x1/2 Sock. Hd. cap	6		2	.10
112	10–400	Angle scale pointer screw 6-32x3/16 Rd. Hd.	1		2	.05
113	10–027	Splitter bracket screw 5/16-18x1 3/4 Hex. Hd. cap	1		2	.10
114	10–030	Splitter bracket clamp 5/16-18x1 1/4 Hex. Hd. cap	1		2	.10
115	10–601	Mitre gauge thumb screw 1/4-20x1/2	2		2	.05
116	16–415	Mitre gauge pointer screw 10-32x1/4 Sock. Set	1		2	.10
117	10–206	Mitre gauge ass'y screw 1/4-20x1/2 Sock. Hd. cap	1		2	.10
118	10–1401	Motor Bracket bolts and nuts 1/2-13x2 mach.	4		4	.10
119	12–006	Spring hook nut 3/8-16 St'd.	1		3	.05
120	14–212	Spring hook washer 13/32 St'd. flat	1		2	.05
121	38–002	Motor cotter pins 1/8x1	4		2	.05
122	16–402	Motor pulley screw 5/16-18x1/2 Sock. Set	1		2	.10
123	16–405	Quadrant ass'y screws 3/8-16x3/8 Sock. Set	1		2	.10
124	16–401	5" diam. pulley screw 1/4-20x1/2 Sock. Set	1		2	.10
125	12–009	Arbor nut 5/8-18 Hex.	1		3	.10
126	18–001	Quadrant pipe plug St'd. 1/8"	1		3	.10
127	16–1002	Drive screws 2x1/4	4		2	.05
128	16–417	Motor bracket screw 1/4-20x5/16 Sock. Set	2		2	.10
129	10–212	Table clamp ass'y screws 5/16-24x1 1/2 Sock. Hd. cap	5		3	.10
130	12–011	Table clamp ass'y nuts 5/16-24 Hex.	5		2	.05
131	10–027	Guide ass'y screws 5/16-24x1 1/4 Hex. Hd. cap	10		2	.05
132	10–415	Rack ass'y screws 6-32x3/8 Rd. Hd. mach.	10		2	.05
133	26–001	Oil Seal	2		3	.50
134	10–004	Quadrant to Sub-base screws 3/8-16x3/4 Hex. Hd. cap	4		3	.10
135	16–001	Angle stop screws 1/4-20x3/4 Sq. Hd. set	2		2	.10
136	12–200	Angle stop screws nuts 1/4-20 Hex.	2		2	.05
137	14–401	Shakeproof washers 3/8	4		2	.05
138	10–417	Air vent screw 1/4-20x1/4 Rd. Hd. Mach.	1		2	.05
139	10–013	Table to base screws 3/8-16x1 Hex. Hd. cap	6		3	.10
140	14–003	Table to base washers 3/8 lock	6		2	.05
141	10–418	Angle scale bracket screws 10-32x3/4 Rd. Hd. Mach.	4		2	.05
142	10–028	Base to sub-base screws 3/8-16x1 1/2 Hex. Hd. cap	4		3	.10
143	48–008	Fence ass'y pin Driv. Lok. type "C" 1/4x1 1/4	1		2	.10
144	42137	Pinion Lock ball 9/64	1		2	.05
145	16–013	Pinion shaft set screw 10-24x3/16 Sock. Set	1		2	.10
146	16–002	Mitre gauge drive screws	5		2	.05
147	10–1000	Trammel clamp screw	1		2	.05
148	12–400	Trammel clamp wing nut	1		2	.05
149	42143	Fence adjustment lock nut 5/8 18	1		3	.10
150	12–144	Guard hinge pin	1		2	.05