

Service Manual

and Parts List

BOICE-CRANE

930 W. CENTRAL • TOLEDO 6, OHIO

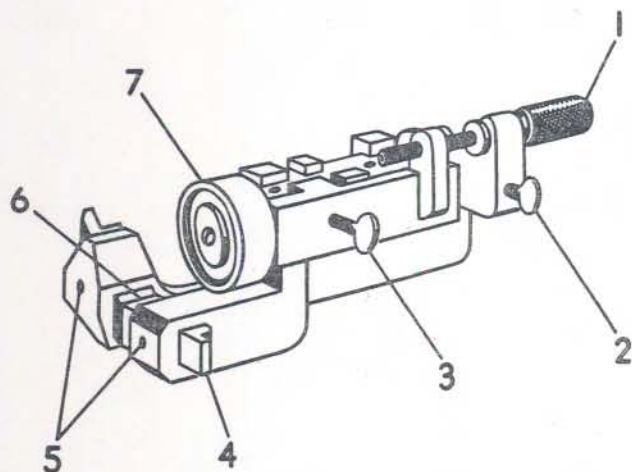
SINGLE SPEED BAND SAWS

Models 2300 - 2301 - 2304 - 2310

BAND SAW GUIDES.

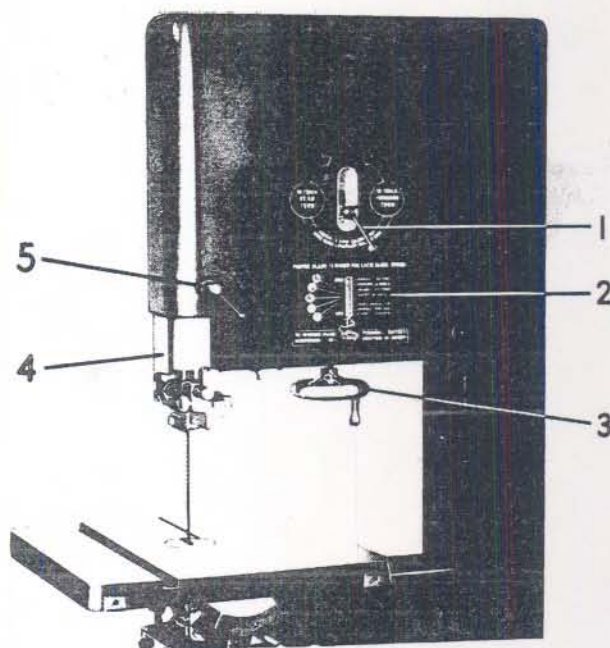
1-2 Saw Guide Installation. Simply slide the guide assemblies on to their respective tracks as far back as they will go. Upper guide has short adjusting screw.

1-3 Saw Guide Adjustment. Careful blade guide adjustment is necessary for top notch performance. Boice-Crane guides are specially designed for quicker and easier adjustments.



- | | |
|-----------------------|------------------|
| 1. Adjusting Screw | 5. Jaw Setscrews |
| 2. Jaw Thumb Screw | 6. Side Jaw |
| 3. Roller Thumb Screw | 7. Blade Roller |
| 4. Side Jaw | |

Figure 3-1 Band Sawing Guide



- | | |
|-------------------------|----------------------------|
| 1. Tracking screw | 4. Telescoping Blade Guard |
| 2. Tension Scale | 5. Telescoping Guard lock |
| 3. Tensioning Handwheel | |

Figure 3-2 Upper Rear view

1-4 Adjustments to both guides are necessary for each new blade.

1-5 SIDE GUIDE ADJUSTMENT. (See figure 3-1) Begin the guide adjust-

ment by setting the square side jaws (4 and 6) in proper "fore and aft" relation to the blade. The blades run well into the jaws--almost to the base of the teeth. Do this by loosening thumb screw (2) and tightening thumb screw (3) and setting the jaws with adjusting screw (1); then lock both thumb screws (2 and 3).

1-6 The side jaws should be set with just a hair of clearance for blades.

1-7 Use square end of jaws for 1/4" blades or wider.

1-8 Use machined ends of jaws for half-lap joint fit on narrow blades. This joint prevents the narrow blades from slipping out of engagement or over the edge of the roller.

1-9 **ROLLER ADJUSTMENT.** The blade roller (7) should always be set so that 1/32" gap exists between it and back of blade when idle. Adjust roller by loosening thumb screw (3) and move forward or back then lock (2 and 3).

1-10 **BAND SAW BLADE.** Slide the upper and lower guides as far back as they will travel on respective tracks. Grasp right-hand portion of blade in both hands, with hands spaced about 10" apart, and pass blade into table slot. Be sure blade teeth point toward you and downward. Blade must be tilted to pass table trunnion and then straight into table center hole.

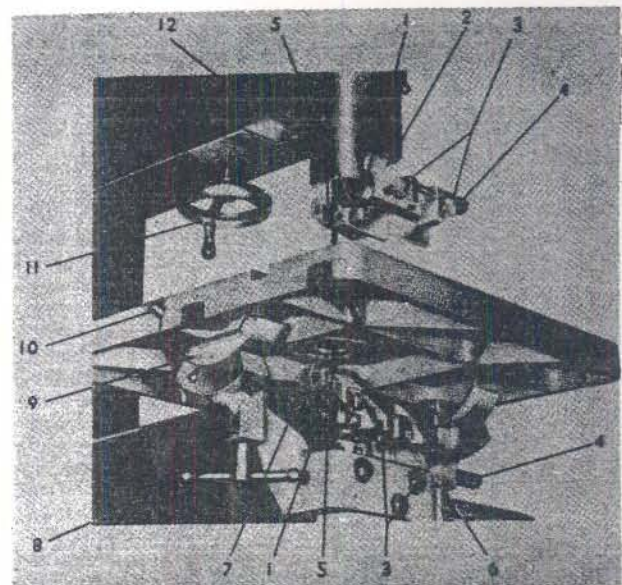
1-11 Thread the blade between upper wheel and telescoping guard, around upper wheel, and then around lower wheel. Holding blade in position on both wheels, increase blade tension by means of handwheel (see figure 3-2, reference 3.) See scale on back of machine for proper tension.

1-12 **BLADE TRACKING ADJUSTMENT.** Now stand at right side of machine so that blade tracking screw (1) can be reached with the right hand, and the upper wheel with the left hand for rotating the wheel, and also so you can watch the blade position on the upper wheel at all times. Rotate the upper wheel clockwise slowly and if blade changes position forward or or back, consult chart on rear of machine for correct adjustment. If blade starts to leave wheel rotate counterclockwise and re-adjust.

Continue rotating upper wheel clockwise at the same time adjusting tracking device until blade ceases to creep and runs steadily in center of wheel.

1-13 Narrow blades such as 1/8" are very difficult to track and high crown tires will increase your problem. Always run the narrower blades back against the machined ends of the steel jaws preventing it from running off rear of tires.

1-14 After you have correctly tracked the blade make the correct tension setting for proper cutting. (See the paragraph PROPER TENSION.)



- | | |
|----------------------|-----------------------------|
| 1. Blade roller | 8. Table locking screw |
| 2. Mounting block | 9. Table tilt scale |
| 3. Thumb screws | 10. Table slot pin |
| 4. Adjusting screw | 11. Tensioning handwheel |
| 5. Side Jaws | 12. Telescoping blade guard |
| 6. Lower guide track | |
| 7. Table insert | |

Figure 3-3. View of table & saw guides

1-15 **BELT TENSION.** The V-belt does not have to be drum tight to transmit all the power of the motor. With adjusting screw in stand of floor models (14), part of the motor weight can be taken off of the belt. Belt is too loose when it vibrates widely curving away from pulley on the loose side. A little more belt tension is needed. Keep wing nut (13) tight to keep screw from turning under vibration. Be sure to match an A-section belt to an A-section pulley, not a A-section belt to an A-section pulley and etc..

1-16 GENERAL OPERATING TECHNIQUE.

When straight cutting, use the widest blade possible. It will saw straighter while a narrower blade will weave in cut, especially under heavy feed pressure.

1-17 When sawing curves, use the widest saw blade adapted to the curve you are cutting. An experienced saw operator will be able to cut sharper radius than shown below (3-8).

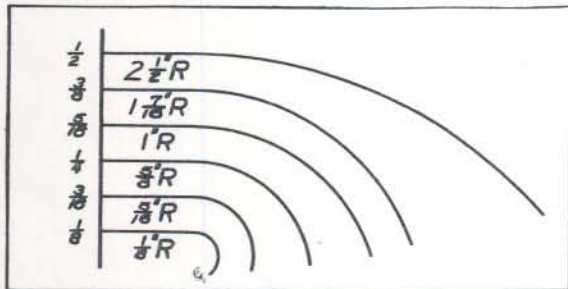


Figure 3-8. Sawing Radius chart

1-18 Select a blade with size such that three or more teeth are always in contact with the work. Sometimes when sawing thin stock this is not possible.

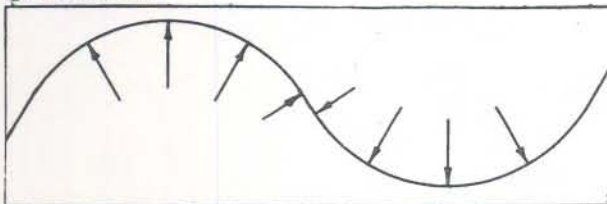


Figure 3-9. Sawing pressure chart

1-19 Small radius 1/4" or less should be drilled and not cut. Drill holes before sawing for greater accuracy and smoother finish. You can use saw for squaring up corners and when cutting curves, pressure should be exerted as in arrows of figure 3-9.

1-20 When saw cuts slow or not free, or teeth are bright on cutting edge, or difficult to follow a line, your blade is dull.

1-21 SAFETY PRECAUTION. When a cut is nearly complete on a small piece use a pusher which you can make yourself. (See figure 3-10)

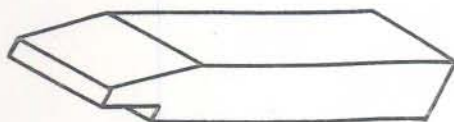


Figure 3-10. Drawing of "Pusher"

2-1 PERIODIC INSPECTION. Section II Inspect weekly or after eight hours use.

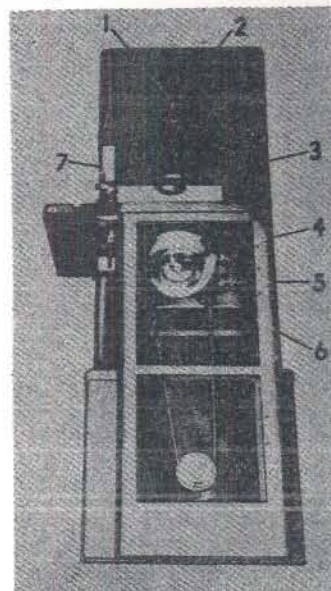
2-2 Open upper and lower wheel door to check interior of machine and check chute removing accumulation of saw dust.

2-3 Remove dirt and dust from wheel tires with stick or wire brush. If the tires have lost their crown, you can recrown them. Make a sanding tool by wrapping medium sand paper or emery cloth around a flat stick.

2-4 Open doors and hold sanding tool on face of tires until desired crown is obtained. Not too much pressure is required and be very careful not to lose hold of tool.

2-5 Check your steel jaws, both upper and lower for excessive wear. The blade surface on each jaw can be ground straight on an emery wheel.

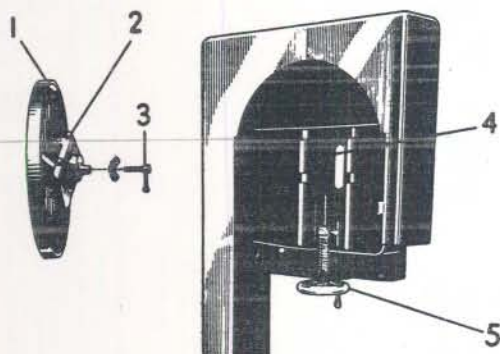
2-6 Check your motor belt for excessive wear and replace if frayed or separated.



- | | |
|--------------------------------|---------------------------|
| 1. Upper wheel and Slide plate | 4. Sliding Jaw clutch |
| 2. Blade tracking | 5. Backgear control lever |
| 3. Tensioning handwheel | 6. Gear box |
| | 7. Blade guard |

Figure 4-1. Points of lubrication

2-7 The telescoping blade guard (figure 4-1, reference 7) should be wiped clean and a thin coating of grease applied with brush or finger to all sliding surfaces both on the guard and the slide bar inside the guard. Slide guard down to the table to enable full coverage.



- | | |
|-------------------------|--------------------------|
| 1. Upper Wheel | 4. Slide plate guideways |
| 2. Slide plate assembly | 5. Tensioning handwheel |
| 3. Blade tracking screw | |

Figure 4-2. Upper wheel assembly

2-8 Apply a few drops of oil with an oil can to all accessible operating controls or locking screws.

2-9 All bearings are ball type, with sealed-in lubricant which requires no further attention unless seals are damaged and grease escapes. In latter case, replace bearing.

2-10 WHEEL AND SLIDE ASSEMBLY-UPPER (See figure 4-2.)

2-11 REMOVAL. Open guard doors and remove saw blade from wheels and let it hang over table. Remove Tracking screw (3). Rotate handwheel (figure 4-2, reference 5) to the left until slide plate (2) is completely off screw. The upper wheel assembly can then be lifted up and forward out of the guideways (4).

2-12 Always clean all parts before re-assembly and inspect bearings for looseness and wear. Inspect threads of screw (2) hole slide plate for wear and imminent stripping. If the threads are badly worn, replace the slide plate.

2-13 TABLE ASSEMBLY. (figure 3) In order to remove the table it is necessary to remove the blade as mentioned in paragraphs 1-10 and 1-11. Raise telescoping guard (Figure 3-2, item 4) and remove table locking nuts to lift off table.

2-14 Clean and re-install. Put blade on machine and adjust tracking (see paragraph 1-12). Using a square you can check table squariness to blade.

2-15 MOTOR STARTING SWITCH. To remove switch from machine, first remove two screws in cover plate and then two additional screws under cover can be removed so switch with wires attached can be pulled a few inches for inspection. As long as switch operates properly and connections are all tight it is best to leave it alone.

2-16 To replace with new switch, always mark or tag wires when disconnecting them so that it will be easier to reconnect the same way. Be careful that no loose wires stick out to contact the frame or cover, thus causing short circuit.

2-17 REPLACEMENT OF TIRES. When tires are damaged, cracked, or so badly concaved that they can no longer be recrowned always replace them.

Remove the wheels from the machines and then remove the tires.

Remove all old cement and rubber from the wheel face using naptha. Then apply an even coat of #2306 Rubber Cement to the wheel face. Wash the rough or inside face of the tire with naptha to remove finger prints, oil and soapstone. Then apply an even coat of cement to inside of tire. Allow to dry about two minutes before you place tire on wheel.

If cement becomes too dry it may be re-tacked by rubbing lightly with a naptha soaked rag. Place the wheel over a large pin held in vise to hold wheel in workable position. New tires require considerable stretching for mounting. Use a screw driver in mounting.

After tire is on, roll a pencil or rod between tire and wheel face to evenly distribute the cement and then roll the wheel on a flat surface to equalize the tension. Slide the tire sidewise even with one side of the wheel.

Allow to set for about 24 hours and then trim the excess rubber flush with the wheel. Place the wheel back on the band saw and check for run-out. If the tire does not run true or does not have the required crown, it should be recrowned according to paragraph 2-3.

2-18 GENERAL. There are no special tools required to operate or maintain this Band Saw. All operations and maintenance work can be performed with standard mechanics' tools.

2-19 OVERHAUL. Machine may be returned to the factory for overhaul if desired. Pack securely and ship prepaid.

SECTION III
GROUP ASSEMBLY PARTS LIST

Figure & Index No.	Part Number	Nomenclature								Units per Assy	Price
			1	2	3	4	5	6	7		
BAND SAW ASSEMBLY - BENCH MODEL											
-2	2300-65SA	Wheel Unit - Lower								1	19.20
		ATTACHING PART									
-3	XHC-207	Screw - Headless set, hex socket, cup point, 5/16-18 NC-2 x 1/2 in. long								2	.15 ea.
<hr/>											
-4	SP-66	Key - Square, 1/4 x 1/4 x 1-3/4 in. long								1	.10
-5	2305	Tire - Band saw wheel								1	2.25
-7	2300-55SA	Screw Assy - Blade tracking								1	1.85
-8	XNW-250	Nut - Wing, cadmium plated, 5/16-24 NF								1	.10
-9	2508	Handwheel - Complete, including setscrew								1	5.15
-10	2300-52	Screw - Blade tensioning								1	1.85
-11	XNJ-300	Nut - Jam, plain hex, steel, 3/8-16 NC-2								2	.05 ea.
-12	XWH-1115	Washer - Plain, hot-rolled steel, natural finish, 13/32 ID x 13/16 in. OD x 16 ga.								2	.10 ea.

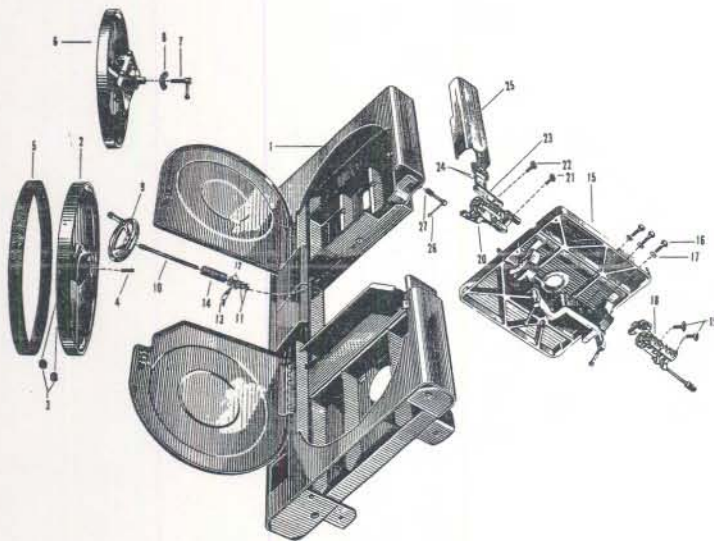


Figure 3. Band Saw Assembly - Bench Model

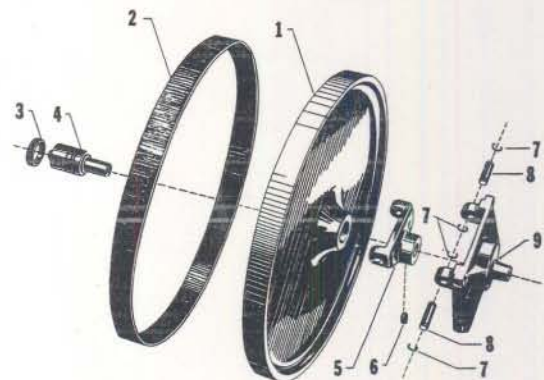


Figure 4. Wheel and Slide Assembly - Upper

Figure & Index No.	Part Number	Nomenclature	Units per Assy	Price
		1 2 3 4 5 6 7		

BAND SAW ASSEMBLY - BENCH MODEL (cont)

3-23	2300-99	Bar - Mounting, upper guide	1	1.20
-24	XCS-115	ATTACHING PART Screw - Cap, socket hd, steel, 1/4-20 NC x 1-1/2 in. long	2	.15 ea.
-25	2300-57SA	Guard Weldment - Telescoping	1	11.50
-26	2300-63SA	Screw Assy - Lock, telescoping guard	1	1.60
-27	2300-62	Spring - Friction, telescoping guard	1	.30

WHEEL AND SLIDE ASSEMBLY - UPPER

-1	2300-48SA	Wheel - Machined upper, with rubber tire	1	19.20
-2	2305	Tire - Rubber, band saw wheel	1	2.25
-3	2300-46	Ring - Bearing retaining	1	2.25
-4	2300-47	Bearing - Ball, upper wheel (altered from New Departure Mfg. Co. part No. 885154)	1	5.40
4-	2300-42SA	Clapper Box Assembly - Upper	1	7.95
-5	2300-45	Clapper Box - Upper wheel	1	2.60
-6	XHC-209	Screw - Headless set, hex socket, cup point, 5/16-18 NC- 2 x 5/8 in. long	1	.15
-7	XSO-219	Ring - Pivot pin retaining (National Lock Washer Co., Newark 5, N. J.)	4	.15 ea.
-8	2300-44	Pin - Pivot	2	.30 ea.
-9	2300-43	Plate - Slide, upper wheel	1	3.80

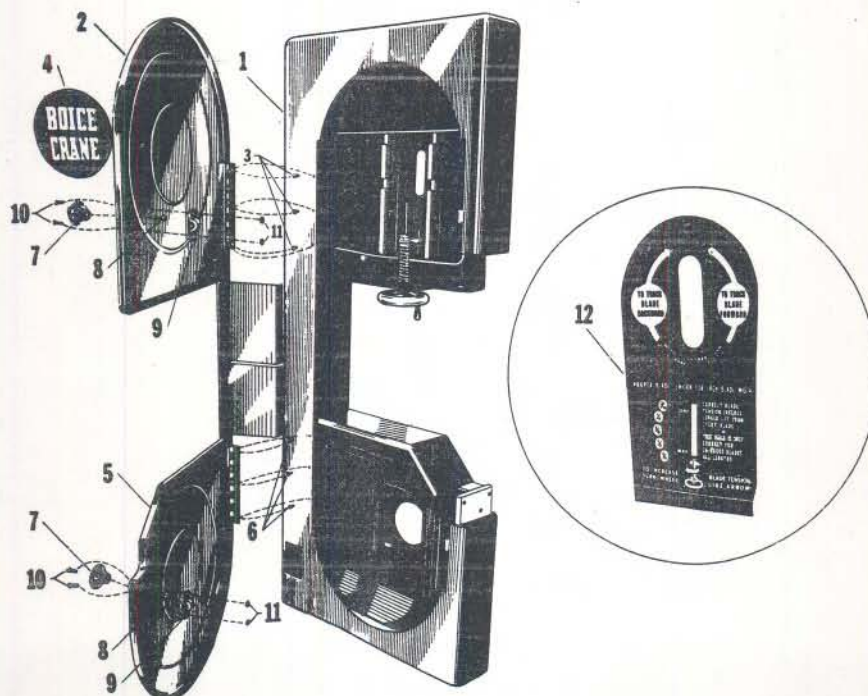


Figure 5. Frame and Door Assembly

Figure & Index No.	Part Number	Nomenclature								Units per Assy	Price
			1	2	3	4	5	6	7		

TABLE ASSEMBLY

6-	2300-69SA	Table Assembly (See figure 3-15 for next higher assy) . . .	Ref	47.00
-1	2300-70	. Table - Band saw	1	26.50
-2	2300-91	. Insert - Blade type table opening, removable	1	.75
-3	2300-90	. Pin - Dowel, table slot	1	.15
-4	XCS-215	. Screw - Cap, Socket head, 5/16 - 18 NC. - 2 x 1-1/2 in. lg.	1	.20
-5	XNJ-200	. Nut - Jam, plain hex, steel, 5/16-18 NC-2	1	.10
-6	2300-74	. Trunnion	1	13.50
-7	2300-75SA	. Nut Assembly - Lock, trunnion to table arc	2	2.40 ea.
-8	XCH-425	. Bolt - Hex hd, steel, 7/16-14 NC-2 x 4 in. long	2	.10 ea.
-9	2300-73	. Shoe - Clamp	2	.55 ea.
-10	2300-88	. Bar - Mounting, lower guide	1	1.40
-11	2300-89	. Spacer - Lower guide mounting bar	1	.60
		. ATTACHING PART		
-12	XCS-110	. Screw - Cap, socket hd, steel, 1/4-20 NC x 3/4 in. long	2	.15 ea.
		. ATTACHING PART		
-13	2500-54	. Pointer - Table tilt degree	1	.15
		. ATTACHING PART		
-14	XMR-57	. Screw - Mach, rd hd, steel, 10-24 NC-2 x 1/2 in. long	1	.05
		. ATTACHING PART		
-15	2300-71	. Arc - Table, front (has degree scale)	1	2.50
-16	2300-72	. Arc - Table, rear	1	1.80
		. ATTACHING PART		
-17	XCS-210	. Screw - Cap, socket hd, steel, 5/16-18 NC x 3/4 in. long	4	.15 ea.

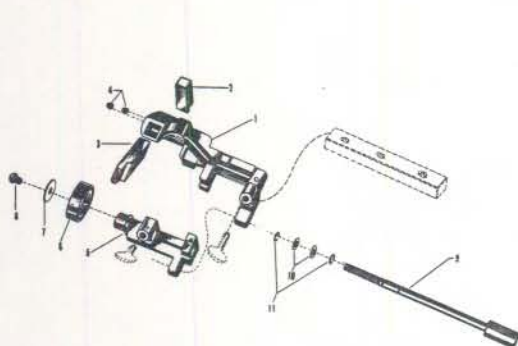


Figure 7. Blade Guide Assembly - Lower

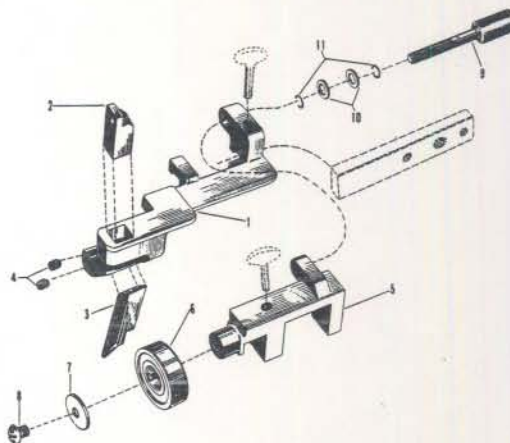


Figure 8. Blade Guide Assembly - Upper

BLADE GUIDE ASSEMBLY - LOWER

7-	2300-78SA	Guide Assembly - Blade, lower, complete (See figure 3-18 for next higher assy)	Ref	14.25
-1	2300-80	. Holder - Jaw, lower guide	1	3.95
-2	2300-81	. Jaw - Square end	1	.75
-3	2300-82	. Jaw - Beveled end	1	1.20
-4	XHC-103	. Screw - Headless set, hex socket, cup point, 1/4-20 NC-2 x 1/4 in. long	2	.15 ea.
-5	2300-84	. Holder - Roller, lower guide	1	2.95
-6	BR-77503	. Roller - Blade thrust, ball bearing (New Departure Mfg. Co., Bristol, Conn.)	1	2.95
-7	XWD-616	. Washer - Plain, steel, cadmium plated, 1/4 ID x 7/8 in. OD x 18 ga.	1	.10
-8	XMR-103	. Screw - Mach, rd hd, steel, 1/4-20 NC-2 x 1/4 in. long	1	.05
-9	2300-85SA	. Screw Assembly - Lower guide feed	1	2.00
-10	XWD-806	. Washer - Plain, steel, cadmium plated, 5/16 ID x 1/2 in. OD x 18 ga.	2	.10 ea.
-11	XSO-217	. Ring - Retaining, thrust washer (National Lock Washer Co., Newark 5, N. J.)	2	.15 ea.

Figure & Index No.	Part Number	Nomenclature	Units		Price
			per	Assy	
		1 2 3 4 5 6 7			

FRAME AND DOOR ASSEMBLY

-2	2300-28SA	Door Weldment - Upper wheel enclosure	1	11.00
		ATTACHING PART		
-3	XMR-55	Screw - Mach, rd hd, steel, 10-24 NC-2 x 3/8 in. long .	3	.05 ea.
-4	SP-32	Decalcomania - Trade name, six in. dia.	1	Gratis
-5	2300-37SA	Door Weldment - Lower wheel enclosure	1	12.30
		ATTACHING PART		
-6	XMR-55	Screw - Mach, rd hd, steel, 10-24 NC-2 x 3/8 in. long .	3	.05 ea.
-7	2300-36	Knob - Door pull (Kurz-Kasch Co., Dayton 1, Ohio) . . .	2	.60 ea.
		ATTACHING PART		
-8	XMR-57	Screw - Mach, rd hd, steel, 10-24 NC-2 x 1/2 in. long .	2	.05 ea.
-9	2300-33SA	Catch Weldment - Door	2	.60 ea.
		ATTACHING PARTS		
-10	XMR-55	Screw - Mach, rd hd, steel, 10-24 NC-2 x 3/8 in. long .	4	.05 ea.
-11	XNM-50	Nut - Light hex, steel, 10-24 NC-2	4	.10 ea.
-12	2300-40	Decalcomania - Blade tensioning and tracking instruction	1	1.75

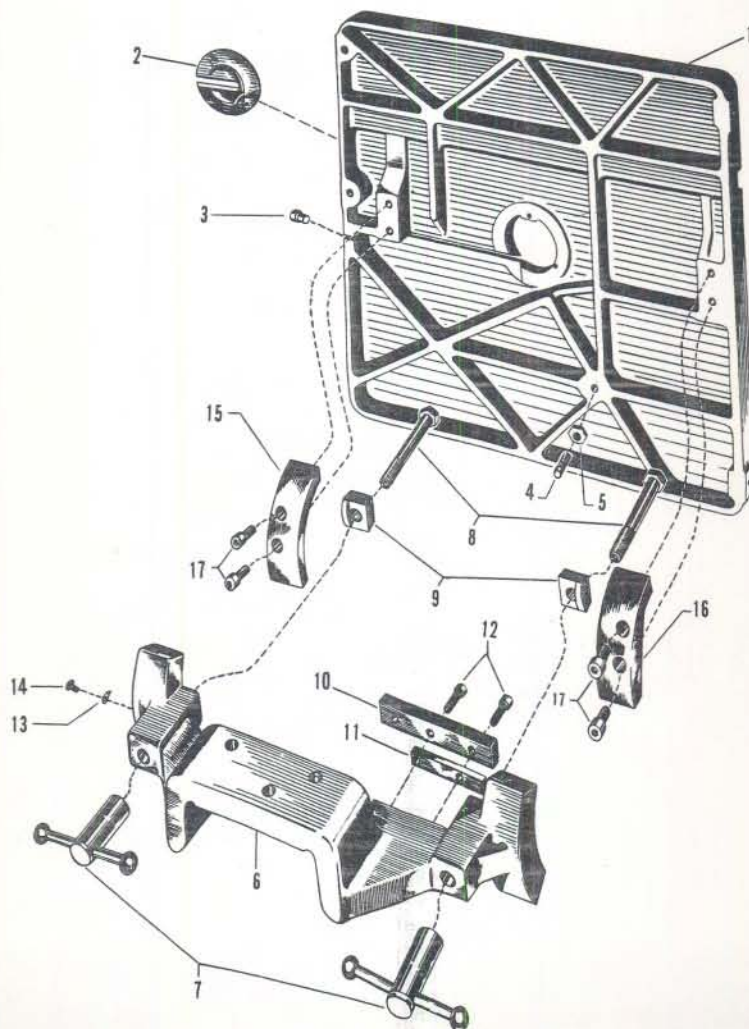


Figure 6. Table Assembly

Figure 8. Blade Guide Assembly - Upper

Figure & Index No.	Part Number	Nomenclature								Units per Assy	Price
			1	2	3	4	5	6	7		
BLADE GUIDE ASSEMBLY - UPPER											
8-	2300-92SA	Guide Assembly - Blade, upper, complete (See figure 3-20 for next higher assy)								Ref	17.15
-1	2300-94	. Holder - Jaw, upper guide								1	3.95
-2	2300-81	. Jaw - Square end								1	.75
-3	2300-82	. Jaw - Beveled end								1	1.20
-4	XHC-103	. Screw - Headless set, hex socket, cup point, 1/4-20 NC-2 x 1/4 in. long								2	.15 ea.
-5	2300-96	. Holder - Roller, upper guide								1	1.95
-6	BR-77503	. Roller - Blade thrust, ball bearing (New Departure Mfg. Co., Bristol, Conn.)								1	2.95
-7	XWD-616	. Washer - Plain, steel, cadmium plated, 1/4 ID x 7/8 in. OD x 16 ga.								1	.10
-8	XMR-103	. Screw - Mach, rd hd, steel, 1/4-20 NC-2 x 1/4 in. long								1	.05
-9	2300-97SA	. Screw Assembly - Upper guide feed								1	1.90
-10	XWD-806	. Washer - Plain, steel, cadmium plated, 5/16 ID x 1/2 in. OD x 18 ga.								2	.10 ea.
-11	XSO-217	. Ring - Retaining, thrust washer (National Lock Washer Co., Newark 5, N. J.)								2	.15 ea.

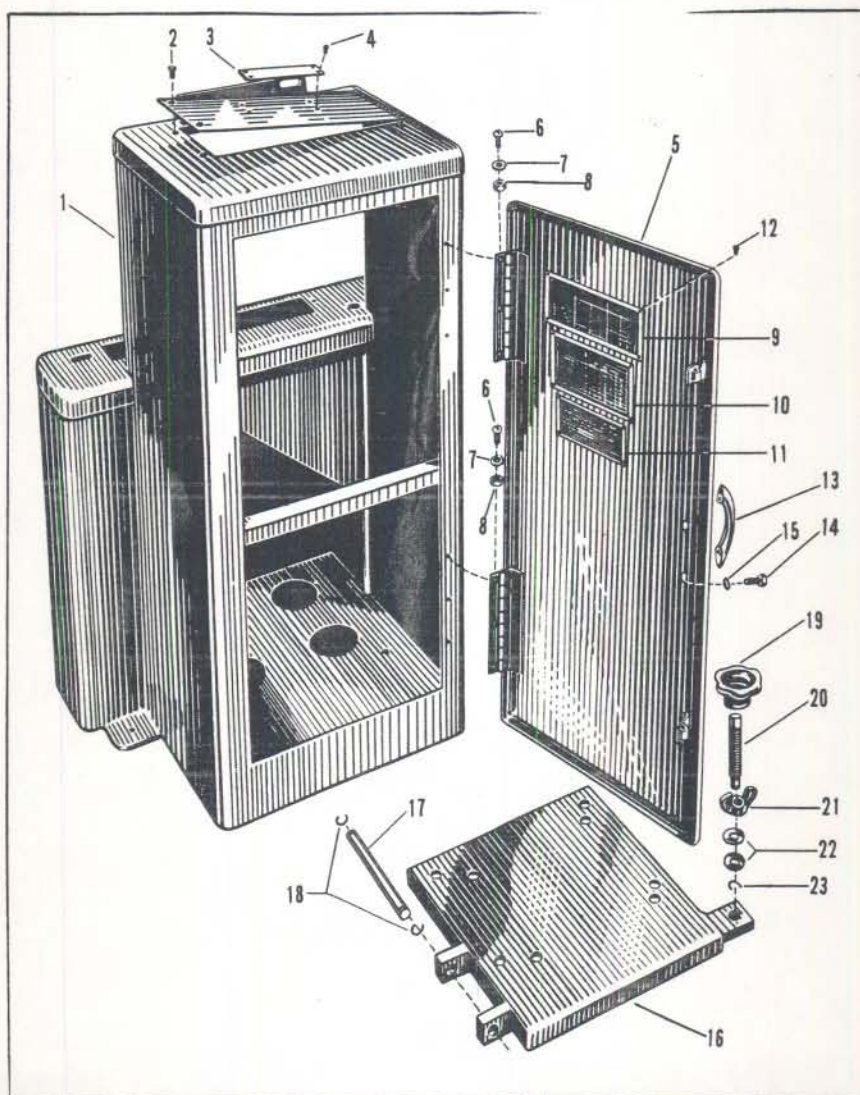


Figure 10. Floor Stand Assembly

Figure & Index No.	Part Number	Nomenclature							Units per Assy	Price
		1	2	3	4	5	6	7		
FLOOR STAND ASSEMBLY										
10-	2301-1SA	Stand Assembly - Floor (See figure 2-10 for next higher assembly)							Ref	85.00
-1	2301-2SA	Stand Weldment - Floor, complete							1	65.50
* Note: Fig. 10, items 2, 3, 4 illustrates special construction to military specifications. Listed below are the comparable commercial design items.										
-2	2301-31	Cover - Motor compartment hand access hole							1	.65
-3	XMR-104	Screw - Mach, rd hd, steel, 1/4-20 NC-2 x 5/16 in. long							4	.05 ea.
-4	XWE-100	Washer - Lock, ext teeth, steel, 1/4 in. screw size							4	.05 ea.
-5	2301-26SA	Door Weldment - Motor compartment							1	12.25
-6	XMR-57	Screw - Mach, rd hd, steel, 10-24 NC-2 x 1/2 in. long							6	.05 ea.
-7	XWE-50	Washer - Lock, ext teeth, steel, No. 10 screw size							6	.05 ea.
-8	XNM-50	Nut - Light hex, steel, 10-24 NC-2							6	.10 ea.
-9	2308-38	Decal - Instruction, speed change							1	1.00
-10	2324-25	Decal - Instruction, recommended wheel speed							1	1.00
-12	XDS-2	Screw - Drive, rd hd, Parker-Kalon, type U, No. 2 x 1/8 in. long							8	.05 ea.
-13	2301-29	Handle - Door (American Cabinet Hardware Co., Rockford, Ill.)							1	.55
-14	XMR-5	Screw - Mach, rd hd, steel, 8-32 NC-2 x 3/8 in. long							2	.05 ea.
-15	XWE-0	Washer - Lock, ext teeth, steel, No. 8 screw size							2	.05 ea.
-16	2309-2SA	Plate Weldment - Hinged motor mounting							1	11.10
-17	2309-7	Pin - Hinge, motor plate							1	.50
-18	XSO-223	Ring - Snap, hinge pin retainer (National Lock Washer Co., Newark 5, N. J.)							2	.15 ea.
-19	SP-8SA	Wheel - Star, including setscrew							1	1.25
-20	2309-6	Screw - Adjusting, motor plate							1	.95
-21	XNW-500	Nut - Wing, locking, steel, 1/2-13 NC thread							1	.10
-22	XWH-1016	Washer - Plain, hot-rolled steel, natural finish, 13/32 ID x 13/16 in. OD x 16 ga.							2	.10 ea.
-23	XSO-219	Ring - Snap, washer retainer (National Lock Washer Co., Newark 5, N. J.)							1	.15
24-	2309-10	Washer - Rubber, anti-rattle							2	.15 ea.

Minimum Order \$2.00

NOTE: Prices in this list apply only to parts ordered for repair or replacement. They are not to be used for "allowance" values when ordering machines "less" certain parts. Write for quotations on such special machines.

All prices are F.O.B. Toledo, Ohio, and subject to change without notice.

BOICE-CRANE COMPANY, 930 W. Central Avenue, Toledo 6, Ohio