Horizontal and Vertical
Metal Cutting Band Saw

OPERATION MANUAL

MODEL: BS-128DR

BS-128HDR

SAFETY

1. Know your bandsaw. Read the operator's Manual carefully. Learn the operations, applications and limitation as well as the specific potential hazards peculiar to this band saw.
2. This unit is equipped with a three-prong (grounded) plug for your protection against shock hazards and should be plugged directly into a property grounded three-prong receptacle. Where a two-prong wall receptacle is encountered. It must be replaced with a properly grounded three prong receptacle in accordance with the
3. Use only 3-wire extension cords, which have 3-prong grounding type plugs.
4. Replace or repair damage or worn cord immediately.
5. Keep guards in place and in working order.
6. Be especially careful when using bank saw in vertical position to keep fingers and hands out of path of path of blade.
7. Wear ear protection if exposed to long periods of very noisy shop operations.
8. Use safety goggles, hard hat and safety shoes. Also use face or dust mask if cutting operation is dusty.
9. Wear proper apparel. No loose clothing or jewelry to get caught in moving parts. Do not wear a tie or gloves.
10. Don't overreach. Keep your proper footing and balance at all times.
11. Secure work. Always use the vise to hold work. Clamp securely. Never hand-hold the work with saw in horizontal position.
12. Keep work area clean. Cluttered areas and benches invite accidents.
13. Avoid dangerous environment. Don not use the band saw in damp or wet location. Keep work area well illuminated.
14. Don't force tool. It will do the job better and safer at in the rate for which it was designed.
15. Disconnect power cord before adjusting and servicing and before changing blade.
16. Safety is combination of operator common sense and alertness at all times when the saw is being used.
17. Never stand on tool. Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.
18. Check damaged parts. Before further use of the tools, a guard or other parts that it will operate to assure that it will operate properly
19. and perform its intend function-check for alignment of moving parts; binding of moving parts, breakage of parts, mounting and any other

conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

20. When moving the saw, ALWAYS have the head lowered to the horizontal position.

SPECIFICATION:

Model		BS-128DR	BS-128HDR
Motor		1/3 OR 1/2HP	
Blade size		12.7x0.64x1638mm	
Blade speed	60Hz(MPM)	24, 47, 61	
	50Hz(MPM)	20, 29, 50	
60°	○ (mm)	44	
	□ (mm)	44x56	
45°	○ (mm)	95	
	□ (mm)	75x95	
0°	○ (mm)	128	
	□ (mm)	128x150	
Dimension (mm)		980x385x1060	
N.W./G.W. (kg)		110/140	
Packing size (mm)		980x750x640	

FEATURES

1. Special designed horizontal and vertical band saw.
2. Offers three speeds for cutting metal plastic or wood.
3. Shuts off automatically when material is cut.
4. With scale for the mitering vise.
5. No noise while operating.
6. Casters (optional) quick and easy moving.
7. Quick positioning vise provides easy clamping on work piece.
8. Built-in shelf for storing tools.
9. Both floor & bench have wheels for easy movement.

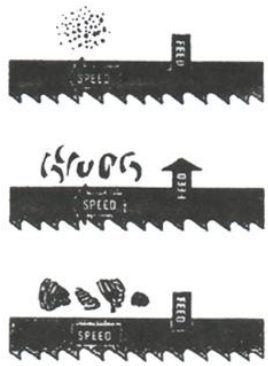
TELL TALE CHIPS

Chips are the best indicator of correct feed force. Monitor chip information and adjust feed accordingly. Thin or powdered chips- increase feed rate or reduce band speed.

Burned heavy

Chips-reduce feed rate and/or band speed.

Curly silvery and warm chips-optimum
Feed rate and band speed.



ASSEMBLY

A 1/3 or 1/2 HP motor split phase or capacitor start is recommended for best economical performance. Counter clockwise is required. Note that rotation can be reversed by following directions given on terminal or name plate.

1. Assemble the motor Mounting plate to the head using the long bolt. Note that the flat side of the plate faces up.
2. Assemble the guard plate to the head using the screw and lock washer and the carriage bolt. Washer and wing nut are used to secure the motor mounting plate to the guard plate through the slotted hole in the guard plate. These components also serve to position and lock the motor in place or proper speed/belt adjustment.
3. Place the spacer over the long bolt and secure it with the nut.
4. Secure the motor to the motor mounting plate with the four volts and nuts. Note that the motor shaft is placed through the large opening in the guard plate and must be parallel with the drive shaft.
5. Assemble the motor pulley, the smaller of the two provided to the motor shaft. Note the larger diameter must be closest to the motor. Do not tighten the set screw.
6. Assemble the driven pulley, the larger off the two provided to the protruding drive shaft. Note the smaller diameter must be closest to the bearing. Do not tighten the set screw.
7. Place the belt into one of the pulley groove and the other end into the respective grooves of the second pulley.
8. Line up the belt and both pulleys such that the belt is running parallel in the pulley grooves.
9. Tighten the set screws of both pulleys in this position.
10. Place the belt into proper pulley combination for proper blade speed. See material cutting chart.
11. Adjust the position of the motor to obtain approximately 1/2”

depression in the belt when applying pressure with your thumb.

12. Tighten the head screw holding the motor mounting plate to the guard plate.
13. Connect the electrical harness to the motor terminal box. The motor should be protected with a time delay fuse or circuit breaker with a rated amperage slightly greater than the full-load amperage of the motor.

OPERATION

WORK SET UP

1. Raise the saw head to vertical position.
2. Open vise to accept the piece to be cut by rotating the wheel at the end of the base.
3. Place workpiece on saw bed. If the piece is long support the end.
4. Clamp workpiece securely in vise

WORK STOP ADJUSTMENT

1. Loose the thumb holding the work stop casting to the shaft.
2. Adjust the work stop casting to the desired length position.
3. Rotate the work stop to as close to the bottom of the cut as possible.
4. Tighten thumb screw.
5. Do not allow the blade to rest on the work while the motor is shut off.

BLADE SPEEDS

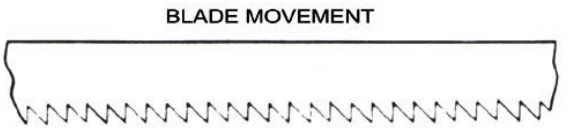
When using your band saw always change the blade speed to best suit the material being cut. The material cutting shaft givers suggested settings for several materials.

4 SPEED MATERIAL CUTTING CHART

Material	Speed MPM		Belt Groove Used	
	60Hz	50Hz	Motor pulley	Saw pulley
Tool, Stainless alloy Steels, bearing bronze	24	19	Small	Large

Mild steel, hard brass or bronze	36	28	Medium	Medium
Aluminum plastic	60	50	Large	Small

BLADE DIRECTION OF TRAVEL



Be sure the blade is assembled to the pulleys such that the vertical edge engages the work piece first.

STARTING SAW

Switch button function description (FOR CE ONLY)

CAUTION: NEVER OPERATE SAW WITHOUT BLADE GUARDS IN PLACE.

Be sure the blade is not in contact with the work when the motor is started. Start the motor, allow the saw to come to full speed, then begin the cut by left the head down slowly onto the work. DO NOT DROP OR FOR. Let the weight of the saw head provide the cutting force. The saw automatically shuts off the end of the cut.

BLADE SELECTION

A 8-tooth per inch, general-use blade is furnished with this metal cutting band saw. Additional blades in 4,6,8 and 10 tooth sizes are available. The choice of the blade pitch is governed by the thickness of the work to be cut; the thinner the workpiece, the more teeth advised. A minimum of three teeth should engage the workpiece at all times for proper cutting. If the teeth of the blade are so far apart that they straddle the work, severe damage to the workpiece and to the blade can result.

CHANGING BLADE

Raise saw head to vertical position and open the blade guards. Loosen tension screw knob sufficiently to allow the saw blade to slip off the wheels. Install the new blade with teeth slanting toward the motor as follows:

1. Place the blade in between each of the guide bearings.
2. Slip the blade around the motor pulley (bottom) with the left hand and hold in position.
3. Hold the blade taut against the motor pulley by pulling the blade upward with the right hang which is placed at the top of the blade.

4. Remove left hand from bottom pulley and place it at the top aide of the blade to continue the application on the upward pull on the blade.
5. Remove right hand from blade and adjust the position of the top pulley to permit left hand to slip the blade around the pulley using the thumb index and little finger as guides.
6. Adjust the blade tension knob clockwise until it is just right enough so no blade slippage occurs. Do not tighten excessively.
7. Replace the blade guards.
8. Place 2-3 drops of oil on the blade.

BLADE GUIDE BEARING ADJUSTMENT

ATTENTION: This is the most important adjustment on your saw. It is impossible to get satisfactory work form your saw if the blade guides are not properly adjusted. The blade guide is daring on your metal. Cutting Band Saw are adjusted and power tested with several test cuts before leaving the factory to insure proper setting. The need for adjustment should rarely occur when the saw is used properly. If the guides do get out of adjustment, it is extremely important to read just immediately. If improper adjustment in maintained, the blade will not cut straight, and if the situation is not corrected it will cause serious blade damage.

Because guide adjustment is a critical factor in the performance of your saw, it is always best to try a new blade to see if this will correct poor cutting before beginning to adjust. If a blade becomes dull on one side sooner than the other, for example, it will begin cutting crooked. A blade change will correct this problem the guide adjustment will not. If a new blade does not correct the problem, check the blade and guides for proper spacing.

NOTE: There should be from 000 (just touching) 001 clearance between the blade and guide bearings, to obtain this clearance adjust as follows.

1. The inner guide bearing is fixed and cannot be adjusted.
2. The outer guide bearing is mounted to an eccentric bushing and can be adjusted.
3. Loose the nut while holding the bolt with an Allen wrench.
4. Position the eccentric by turning the bolt to the desired position of clearance.
5. Tighten the nut.
6. Adjust the second blade guide bearing in the same manner.

ADJUSTING BLADE TENSION

1. Make sure the motor is shut off.
2. Press the blade lightly with left hand, make the rear blade against the flange of blade wheel and test the blade tension.

Adjusting Blade Tension

3. Adjust the blade tension adjustable knob with the right hand until the blade obtain the proper tension.

ADJUSTING THE BLADE TRACKING

This adjusting has been completed and power-tested at the factory. The need for adjusting should rarely occur when the saw is used properly. If the tracking goes out of adjusting is listed below:

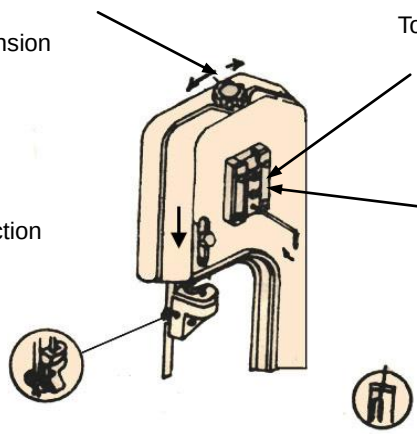
Step 1: Turn simultaneously with adjusting set screw to make the blade track against the shoulder of the pulley.

To relieve blade tension

Step 5: Adjust the blade adjustable seat according to the material size.

The arrow indicates the moving direction

Step 6: Adjust guide assembly to where the blade just touches the back-up bearing.



To increase blade tension

Step 2: Loosen this hex. Head screw-before turning the adjusting set screw.

Step 4: Tighten after adjusting

Step 3: Turn simultaneously with blade tension knob to make blade track against shoulder of pulley

CUTTING

Close switch, letting the head down slowly onto the work, Do not drop or force. Let the weight of the saw head provide the cutting force. The saw automatically shuts off at end of the cut.

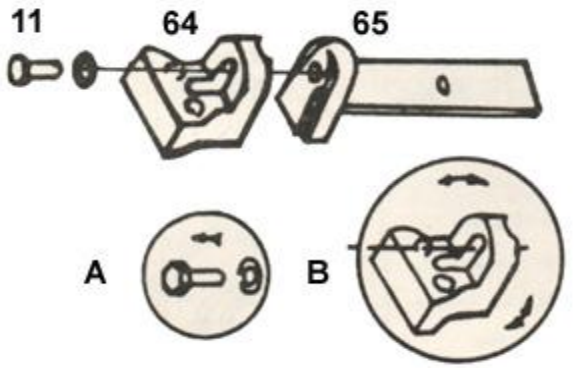
Method of adjusting blade:

A. Loosen the screw #11.

B. Adjust the blade adjustable seat #64 to make the blade vertical to bed.

C. Place the square on the bed to check if the blade is vertical, if not, repeat the process A to C.

D. Tighten the screw #11.



Adjusting the blade

MAINTENANCE

CAUTION: MAKE CERTAIN THAT THE UNIT IS DISCONNECTED FROM THE POWER SOURCE BEFORE ATTEMTING TO SERVICE OR REMOVE ANY COMPONENT!

LUBRICATION

Lubricate the following components using SAE-30 oil as noted.

1. Ball-bearing none.
2. Driven pulley bearing 6-8 drops a week.
3. Vise lead screw as needed.
4. The drive gears run in an oil bath and will not required a lubricant change more often than once a year, unless the lubricant is accidentally contaminated or a leak occurs because of improper replacement of the gear box cover. During the first few days of operation, the worm gear drive will run hot. Unless the temperature exceeds 200F, there is no cause for alarm.

The following lubricants may be used for the gear box:
Atlantic Refinery Co., Mogul Cyl. Oil
Cities Service Optimus No.6
Gulf Refinery Co Medium Gear Oil
Pure Oil co. Park Clipper

TROUBLE SHOOTING CHART

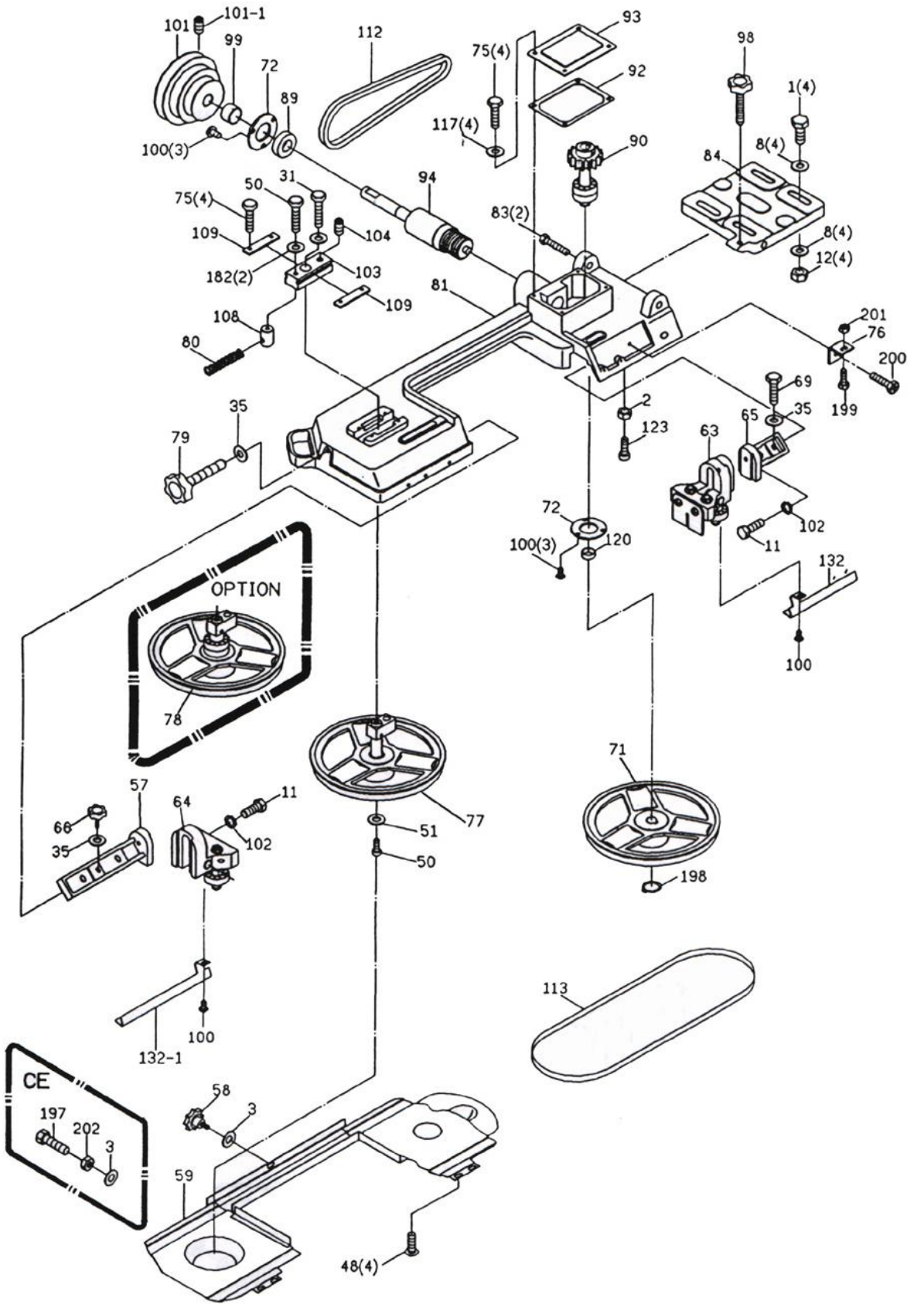
Symptom	Possible Cause (s)	Corrective Action
Excessive Blade Breakage	1. Material loose in vise 2. Incorrect speed or feed 3. Blade teeth spacing too large 4. Material too coarse 5. Incorrect blade tension 6. Teeth in contact with material before saw is started 7. Blade rubs on wheel flange 8. Misaligned guide bearings 9. Cracking at weld	1. Clamp work securely 2. Adjust speed or feed 3. Replace with a small teeth spacing blade 4. Use a blade of slow speed and small teeth spacing 5. Adjust where blade just does not slip on wheel 6. Place blade in correct with work after motor is started 7. Adjust wheel alignment 8. Adjust guide bearings 9. Weld again, note the weld skill
Premature Blade Dulling	1. Teeth too coarse 2. Too much speed 3. Inadequate feed pressure 4. Hard spots or scale on material 5. Work hardening of material 6. Blade twist 7. Insufficient blade	1. Use finer teeth 2. Decrease speed 3. Decrease spring tension on side of saw 4. Reduce speed, in crease feed pressure 5. Increase feed pressure by reducing spring tension 6. Replace with a new blade, and adjust blade tension 7. Tighten blade tension adjustable knob
Unusual Wear on Side/Back of Blade	1. Blade guides worn 2. Blade guide bearings not adjusted properly 3. Blade guide bearing bracket is loose	1. Replace 2. Adjust as per operators manual 3. Tighten

Symptom	Possible Cause (s)	Corrective Action
Teeth Ripping from Blade	1. Tooth too coarse for work 2. Too heavy pressure, too slow speed 3. Vibrating work piece 4. Gullets loading	1. Use finer tooth blade 2. Decrease pressure, increase speed 3. Clamp work piece securely 4. Use coarse tooth blade or brush to remove chips
Motor running too hot	1. Blade tension too high 2. Drive belt tension too high 3. Gears need lubrication 4. Cut is binding blade 5. Gears aligned improperly	1. Reduce tension on blade 2. Reduce tension on drive belt 3. Check oil bath 4. Decrease feed and speed 5. Adjust gears so that worm is in center of gear
Bad Cuts	1. Feed pressure too great 2. Guide bearing not adjusted properly 3. Inadequate blade tension 4. Dull blade 5. Speed incorrect 6. Blade guide spaced out too much 7. Blade guide assembly loose 8. Blade truck too far away from wheel flanges	1. Reduce pressure by increasing spring tension on side of saw 2. Adjust guide bearing, the clearance can not be greater than 0.001mm 3. Increase blade tension by adjust blade tension 4. Replace blade 5. Adjust speed 6. Adjust guides space 7. Tighten 8. Re-track blade according to operating instructions
Bad Cuts (Rough)	1. Too much speed or feed 2. Blade is too coarse 3. Blade tension loose	1. Decrease speed or feed 2. Replace with finer blade 3. Adjust blade tension
Blade is twisting	1. Cut is binding blade 2. Too much blade tension	1. Decrease feed pressure 2. Decrease blade tension

PARTS LIST

Part No.	Description	Qty.	Part No.	Description	Qty.
1	Hex. Head screw	4	84	Motor mount plate	1
2	Hex. nut	1	85	Motor	1
3	Spring washer	3	86	Motor pulley	1
8	Washer	8	89	Oil seal	1
9	Wheel (option)	2	90	Worm gear assembly	1
11	Hex. Head screw	2	92	Gear box gasket	1
12	Hex. nut	4	93	Gear box cover	1
16	Motor cable	1	94	Worm gear shaft assembly	1
17	Pivoting rod	1	98	Plum screw	1
19	Distance set bracket	1	100	Flat cross head screw	18
20	Hex. Socket headless screw	2	101	Worm gear pulley	1
21	Stock stop rod	1	101-1	Headless hexagon socket screw	1
28	Hand wheel assembly	1	102	Spring washer	1
31	Hex. Head screw	1	103	Blade tension sliding plate	1
35	Flat washer	2	104	Headless hexagon socket screw	2
44	Power cable	1	108	Shaft block	1
48	Cross round head screw	4	109	Blade tension sliding guide	2
50	Hex. Head screw	3	110	Motor pulley cover	1
51	Washer	3	110-1	Motor pulley cover	1
54	Pivot	1	111	Motor pulley cover assy.	1
55	Vertical saw table	1	112	Belt	1
56	Table supporting plate	1	113	Blade	1
57	Adjustable bracket (left)	1	117	Spring washer	4
58	Plum screw	1	120	Bushing	1
59	Blade back safety cover	4	123	Hex. Head screw	1
59	Blade back safety cover	1	124	Fixed plate	1
63	Blade adjustable assembly (rear)	1	125	Hex. Head screw	1
64	Blade adjustable assembly (front)	1	126	Hex. Head screw	1
65	Adjustable bracket (right)	1	132	Safety guard (right)	1
66	Lock knob	1	132-1	Safety guard (left)	1
68	Flat cross head screw	1	182	Washer	2
71	Blade wheel assembly (front)	1	183	Hex. Nut	1
72	Bearing cover	1	194	Washer	1
74	Key	1	196	Hex. Head screw	1
75	Hex. Head screw	10	197	Hex. Head screw	1
76	Switch cut off tip	1	198	C-retaining ring	1
77	Blade wheel assembly (rear)	1	199	Hex. Head screw	1
78	Blade wheel assembly (rear)	1	200	Hex. Head screw	1
79	Blade tension adjustable knob	1	201	Hex. Nut	1
80	Spring	1	202	Hex. Nut	1
81	Body fame	1	254	Support rod	1
83	Hex. Head screw	2	255	Headless hex. Screw	1
			256	Spring washer	1

257	Hex. Head screw	1	341	Hex. Nut	6
258	Cylinder assembly	1	342	Balancing bracket	1
259	Cylinder upper support	1	343	Flat washer	2
261	Hex. Socket headless screw	1	344	Hexagon head screw	2
262	Hex. Head screw	2	345	Flat briquette	1
263	Spring washer	2	346	Screw rod	1
300	Hex. Socket head screw	1	347	Balancing spring	1
301	Vise jaw bracket (rear)	1	348	Leg	4
302	Vise jaw bracket (front)	1	349	Built-in shelf (option)	1
303	Wall plate	1	350	Front plate	1
304	Swivel base (upper)	1	351	Hex. Head screw	14
305	Bracket	1	352	Flat screw	14
306	Acme nut	1	353	Hex. Nut	14
307	Acme screw	1	354	Hex. Nut	4
308	Bushing	2	355	Flat washer	4
309	Flat washer	2	356	Hexagon head screw	4
310	Hexagon screw	2	357	Walking wheel set	2
311	Hex. Head screw	3	359	Stand complete assy.	1
312	Flat screw	5	360	Wheel setting bracket	2
313	Hexagon screw	2	361	Wheel rod	1
314	Hex. Socket headless screw	2	362	Hex. Head screw	4
315	Positioning ring	1	363	Spring washer	8
316	Hex. Nut	1	364	Hex. Nut	4
317	Flat washer	1	365	Hex. Head screw	4
318	Hexagon screw	1	366	Rubber head screw	4
319	Hex. Nut	1	367	Spring washer	16
320	Hex. Head screw	1	368	Cross round head screw	16
321	Position pin	1	369	Knob w/shaft	1
322	Plum handle	1	370	Knob	1
323	Screw	2	371	Cotter pin	1
324	Handle	1	372	Handle shaft stopper	1
325	Carriage screw	1	373	Screw plate	1
326	Screw	1	374	Pivot pin	1
327	Electrical box	1	375	Ball	1
328	Switch base	1	376	Ring	1
329	Cross round head screw	2	377	Cross round head screw	2
330	On-off switch	1	378	Chain	1
331	Screw	2			
332	Cable connector	2			
333	Cotter pin	2			
334	Protect plate	1			
338	Scale	1			
339	Hex. Head screw	6			
340	Flat washer	6			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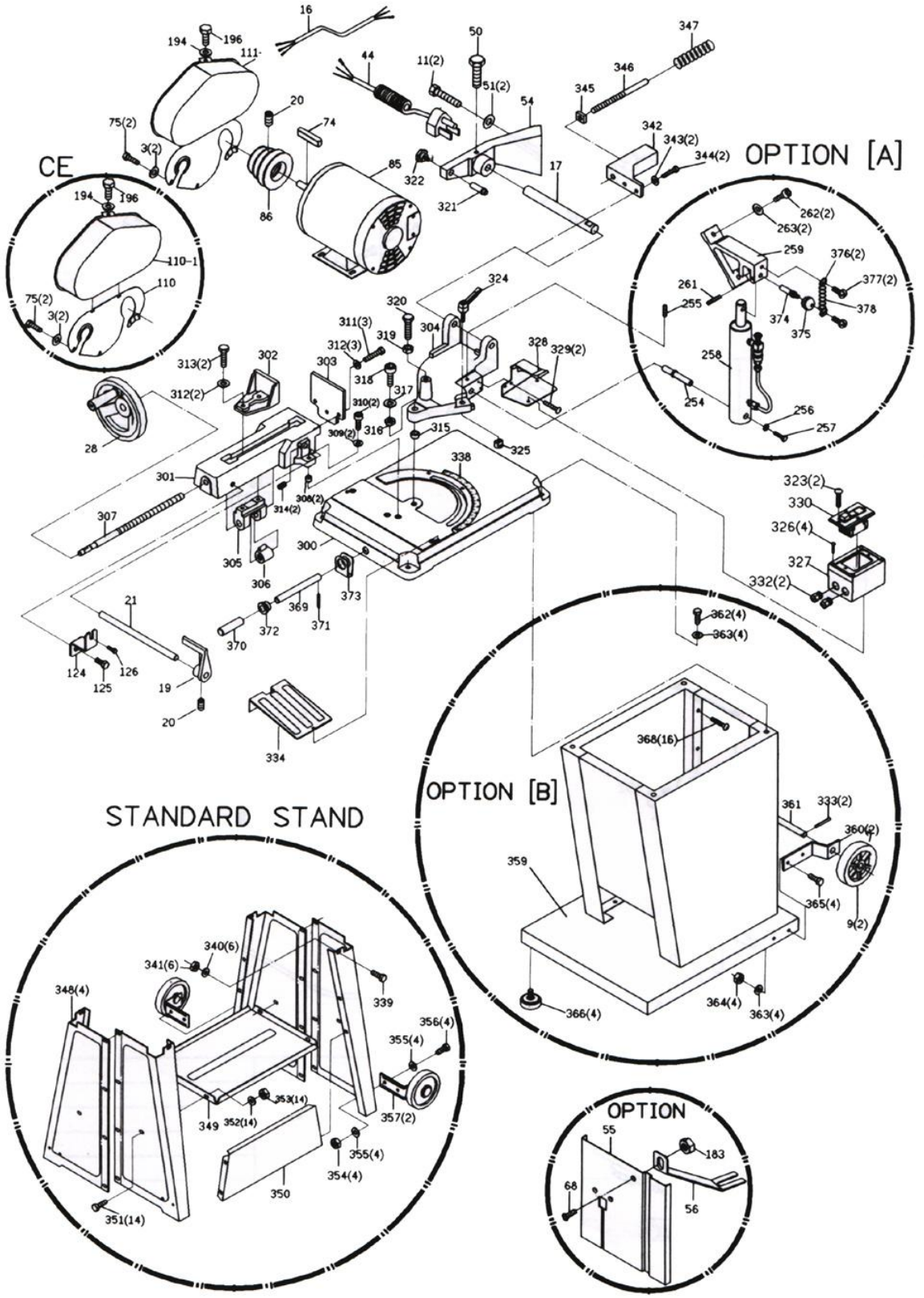
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