

Wall thickness.

Solid sections call for blades with a coarse tooth pitch, while small cross-sections require blades with finer teeth.

When cutting walls of small cross-section 0.039" – 0.275" (1–7mm) profiles, it is important that the number of teeth actually making the cut should be at least 3 teeth. Otherwise, the effect obtained will be one of tearing rather than of chip removal, leading to a large increase in shearing stress.

When cutting thick materials or solid sections using an excessively fine-tooth pitch, the chip collects as a spiral inside the gullet, and since fine tooth pitches have small gullets, the accumulated chip will exceed the gullet capacity and press against the walls of the workpieces, resulting in poor cutting (same situation with soft materials), greater shearing stress and hence breakage of the blade.

A larger pitch should be chosen when the shape of the piece to be cut has a cross-section at any given point which exceeds the average cross-section.



Figure 10-1

Choice of tooth pitch T as a function of cross-section to be cut for light alloy solid pieces and profiles			
 S		 S	
S in mm.	Pitch T	S and sp in mm.	Pitch T
10	6	10 sp=0.5	3–4
30	8	30 sp=1.5	4–5
50	10	50 sp=2.5	6–7
70	12	70 sp=3.5	8–9
90	14	90 sp=4.5	8–9
130	18	130 sp=6.5	10

KEY:
 s = diameter or width of the solid piece to be cut in mm.
 sp = thickness of the wall to be cut in mm.
 T = tooth pitch in mm.

Figure 10-2

10.1.3 Cutting and Feeding Speed

The cutting speed and the head feeding speed are limited by the amount of heat generated near to the points of the teeth. If the head feeding speed is too high, the cut will not be straight in either the vertical or the horizontal plane.

The cutting speed depends on the strength (kg/mm²) and hardness (HRC) of the material and the dimensions of the thickest section.

The feeding speed depends on the cross-section of the material. Solid or thick-walled materials (thickness > 5mm) can therefore be cut at high-speed providing there is sufficient swarf removal by the blade, while thin-walled materials such as tubes or thin profiles must be cut with a low feeding speed.

10.1.4 Breaking in a Saw Blade

IMPORTANT: A new blade requires a break-in period, during which time about half the normal feeding speed should be used.

Sharp cutting edges with extremely small edge radii are required for high cutting capacity. To achieve the optimal tool life, we recommend breaking-in the blade accordingly. The correct cutting speed is determined by the material being cut and its dimensions. It is very important that the new blade is first used with only 50% of the determined feed rate. This will avoid micro-breakages of the blade because of too large chip thicknesses. New saw blades may tend toward vibrations and vibration sounds. In this case a slight reduction of the cutting speed (feed rate if the saw is a single rpm machine) is helpful. With small workpiece dimensions approximately 300cm² of the material should be cut for breaking-in. If large work piece dimensions are to be cut, we recommend a breaking-in period of about 15 minutes. After breaking-in you may slowly increase the feed rate up to the determined value.

10.1.5 Coolant

The cooling fluid ensures that the blade teeth and material in the area of the cut do not overheat. The fluid must be an excellent lubricant so as to prevent abrasion of the teeth and welding of the chips to the teeth (seizing).

10.1.6 Blade Structure

For non-ferrous metals, it is common to use circular saws with a brazed hard metal HM cutting edge, consisting of a disc made of alloy tool steel (71Cr1) on which the shape of the teeth and the seats for the cutting edges are made of Widia K10. These saws have shown excellent wear resistance but low resistance to impact, which is in any case a minor problem with non-ferrous materials.

CHEMICAL COMPOSITION:

Blade body	C	Cr	Mn	Mo	V	Co	HRC
steel type	0,71	0,20	0,40	-	-	-	
71Cr1	÷ 0,78	÷ 0,30	÷ 0,70	÷ -	÷ -	÷ -	43+/-1

KEY:

C = Carbon Co = Cobalt Cr = Chromium
 Mo = Molybdenum Mn = Manganese V = Vanadium
 The numbers in the columns indicate the % of the element present in the steel.

Figure 10-3

10.1.7 Types of Blades

In addition to the size and pitch of the teeth, the blades also have different geometric characteristics in accordance with their particular use:

tooth cutting angle – may be negative or positive

tooth sharpening – may be BW with an alternate raked tooth or C with a roughing tooth raked on both sides and a non-raked finishing tooth

tooth pitch – the distance between the crest of one tooth and the crest of the next tooth (tooth pitch = T)

10.1.8 Teeth Shape

“C” Type Sharpening (HZ)

Coarse toothing with roughing tooth raked on both sides and non-raked finishing tooth. The roughing tooth is about 0.3 mm higher.

Coarse toothing with roughing tooth and finishing tooth. Used in saws with pitch greater than or equal to 5 mm for cutting ferrous and non-ferrous materials with solid or solid-profiled sections.

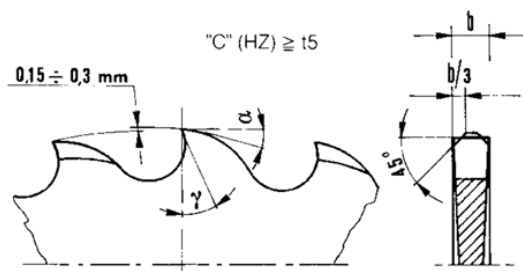


Figure 10-4

“BW” Type Sharpening DIN 1838--UNI 4014

Coarse toothing with teeth alternately raked to the right and left.

Toothing generally used on cut-off machines for cutting ferrous and alloy materials with tubular and profiled sections.

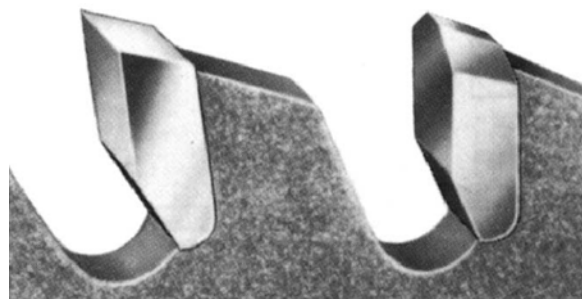


Figure 10-5

10.1.9 Positive and Negative Cutting Angles

The cutting angle may vary from positive to negative depending on the cutting speed, the profile and the type of material to be cut.

A positive angle determines better penetration of the tool and hence lower shear stress and greater ease of sliding for the swarf over the cutting edge. On the other hand, the cutting edge has lower mechanical resistance, so that as the breaking load of the material to be cut increases, the cutting angle

decreases from positive until it becomes negative, thus offering a cutting edge with a larger resistant section.

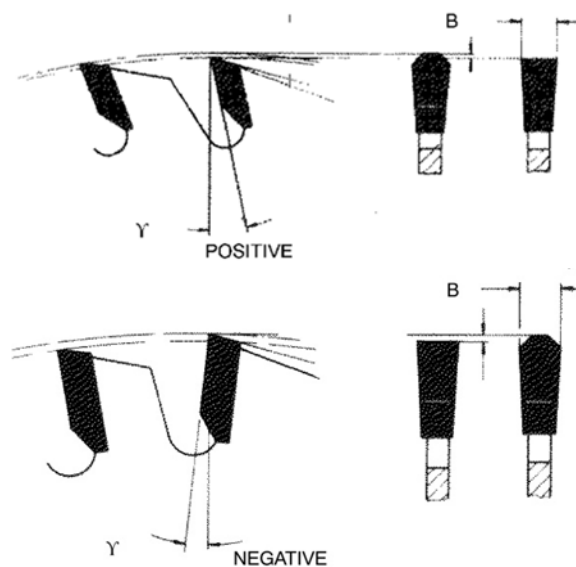


Figure 10-6

Short swarf material such as brass, bronze, aluminum and hard cast iron require smaller cutting angles because the swarf becomes crushed immediately and the rake angle has little effect during the cutting stage.

The cold saws use discs with positive cutting angles for cutting solid materials and with negative cutting angles for cutting hollow profiles. This is because, as a result of the high cutting speeds, even with non-ferrous materials the tool “strikes” against the wall of the profile to be cut several times, thus requiring a cutting edge with a larger resistant section.

Circular saws can also be characterized by other parameters such as the whine reduction feature, which cuts down noise at high speeds, or expansion, which compensates for the pushing of chips inside the cutting edge, thus reducing the thrust on the walls of the material to be cut.

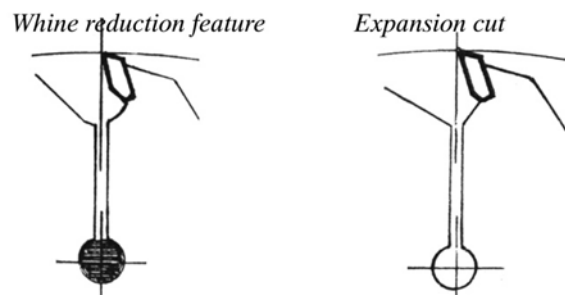


Figure 10-7

Use the chart on the following page to help select the saw blade suitable for your application.

Baileigh Industrial offers a wide selection of tooth styles for various cutting applications. Please phone Baileigh Industrial at (920.684.4990) to have one of our technicians assist you in selecting the proper cold saw blades for your cutting applications.

11.0 Blade Selection Chart

Tube Diameter	Wall Thickness	Blade Diameter- Metric (Normal Inch)						
		225 (9")	250 (10")	275 (10-3/4")	300 (12")	315 (12-1/2")	350 (14")	401.0 (16")
1/2"	.030"-.090"	220BW	240BW	280BW	300BW	300BW	320BW	340BW
1/2"	.090"-.150"	200BW	220BW	240BW	280BW	280BW	300BW	320BW
1"	.030"-.060"	220BW	240BW	280BW	300BW	300BW	320BW	340BW
1"	.060"-.090"	220BW	220BW	240BW	280BW	280BW	300BW	320BW
1"	.090"-.150"	180BW	220BW	220BW	240BW	240BW	280BW	300BW
1-1/2"	.030"-.060"	220BW	240BW	260BW	300BW	300BW	320BW	340BW
1-1/2"	.060"-.090"	200BW	220BW	240BW	280BW	280BW	300BW	320BW
1-1/2"	.090"-.150"	180BW	200BW	220BW	240BW	240BW	280BW	300BW
1-1/2"	.150"-.250"	140C	160C	180C	200C	220C	220C	240BW
2"	.030"-.060"	240BW	260BW	280BW	300BW	300BW	320BW	340BW
2"	.060"-.090"	180BW	200BW	220BW	240BW	240BW	280BW	320BW
2"	.090"-.180"	140C	160C	180C	220C	220C	220C	300BW
2"	.180"-.300"	120C	140C	160C	180C	180C	200C	240BW
2"	.300"-.500"	100C	110C	120C	140C	140C	160C	180C
2-1/2"	.030"-.060"	240BW	260BW	280BW	300BW	300BW	320BW	340BW
2-1/2"	.060"-.090"	200BW	220BW	240BW	260BW	260BW	280BW	300BW
2-1/2"	.090"-.150"	180BW	180C	180C	200C	200C	220C	240BW
2-1/2"	.150"-.250"	120C	140C	160C	180C	180C	200C	220C
2-1/2"	.250"-.400"	100C	110C	120C	140C	140C	160C	180C
2-1/2"	.400"-.500"	90C	100C	110C	120C	120C	140C	160C
3"	.030"-.060"			280BW	300BW	300BW	320BW	340BW
3"	.060"-.090"			240BW	260BW	260BW	280BW	300BW
3"	.090"-.150"			180C	200C	200C	220C	240BW
3"	.150"-.250"			160C	180C	180C	200C	220C
3"	.150"-.250"			120C	140C	140C	160C	180C
3"	.250"-.400"			100C	120C	120C	140C	160C
3-1/2"	.030"-.060"				300BW	300BW	320BW	340BW
3-1/2"	.060"-.090"				260BW	260BW	280BW	300BW
3-1/2"	.090"-.150"				200C	200C	220C	240BW
3-1/2"	.150"-.250"				180C	180C	200C	220C
3-1/2"	.150"-.250"				140C	140C	160C	180C
3-1/2"	.250"-.400"				120C	120C	140C	160C

For Stainless Steel: Recommended Teeth X 1.2 approx.

For Non-Ferrous Materials: Recommended Teeth X .75 Approx

SOLID Diameter	Blade Diameter- Metric (Normal Inch)						
	225 (9")	250 (10")	275 (10-3/4")	300 (12")	315 (12-1/2")	350 (14")	401.0 (16")
1/4"-3/4"	180BW	180C	200C	220BW	220BW	280BW	320BW
3/4"-1-1/4"	120C	120C	140C	180C	180C	220BW	240BW
1-1/4"-1-3/4"	100C	100C	120C	140C	140C	180C	200C
1-3/4"-2-1/4"	80C	80C	100C	120C	120C	120C	140C
2-1/4"-2-3/4"	60C	60C	70C	80C	80C	80C	90C
2-3/4"-3-1/2"				60C	60C	60C	80C

Figure 11-1

12.0 Maintenance

⚠ WARNING

Make sure the electrical disconnect is OFF before working on the machine.

⚠ WARNING

Maintenance should be performed on a regular basis by qualified personnel.

⚠ WARNING

Always follow proper safety precautions when working on or around any machinery.

12.1 Daily Maintenance

- Check daily for any unsafe conditions and fix immediately.
- Check that all nuts and bolts are properly tightened.
- Do a general cleaning by removing dust and metal chips from the machine.
- Top off the coolant tank. (80% of full tank capacity).
- Inspect the disk/saw blade for wear.
- Check that the blade guard, shields, and emergency stops are in good working order.
- When through using machine, raise the head to reduce stress on the return spring.

12.2 Weekly Maintenance

- Clean the machine including the coolant tank and the area around it.
- Lubricate threaded components and sliding devices.
- Clean and grease the vise screw and sliding surfaces.
- Clean the guard housing for the disk/saw blade.
- Apply rust inhibitive lubricant to all non-painted surfaces.
- Sharpen the saw teeth.

12.3 Monthly Maintenance

- Thoroughly clean the machine including the coolant tank.
- Check that all screws on the motor, the pump, the vise jaws, and the guard are tight and secure.
- Check that the saw guard is operating properly.
- Use an EP90 or similar oil to lubricate the saw head pivot and the saw miter pivot.

12.4 Yearly Maintenance

Change the oil in the gear case as follows:

1. Lower the saw head to the horizontal (down) position.
2. Disconnect the trigger cord from the electrical box and unscrew the feed handle (A) from the gear case.
3. Place a container under the drain hole (B) and remove the drain plug allowing the oil to drain.
4. Install the drain plug.
5. Raise the head to the up position.
6. Fill the gear case with oil through the feed handle mounting hole (C) to the top of the sight gauge (D).
7. Install the feed handle and connect the trigger cord to the electrical box connector.

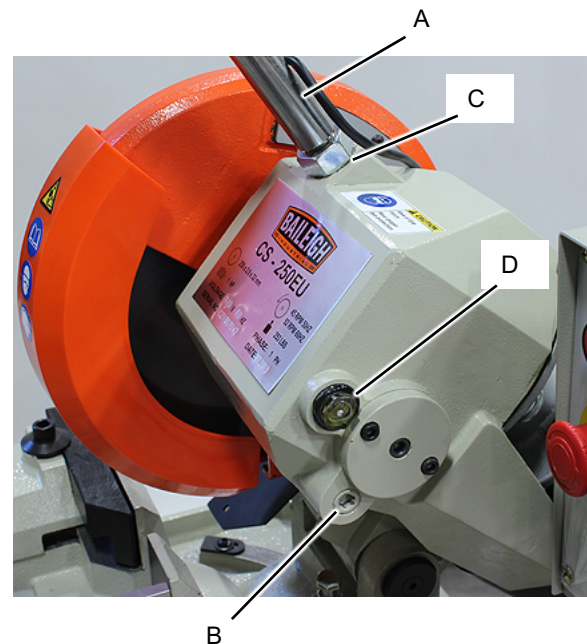


Figure 12-1

12.5 Oil Disposal

- Used oil products must be disposed of in a proper manner following local regulations.

12.6 Accessing and Cleaning the Coolant System

1. Remove the drain hose from the return screen.
2. Lift the tank and pump assembly off of the retaining tray and slide the assembly out of the stand.
3. Remove and clean the filter (A). Replace if needed.
4. Pour out the coolant from the tray.
5. Wash out the dirt and debris.

6. Replace the filter and install the pump and tank assembly so that the V-notch is over the retaining flange.
7. Fill the tank with coolant solution by pouring coolant through the chip strainer (A).

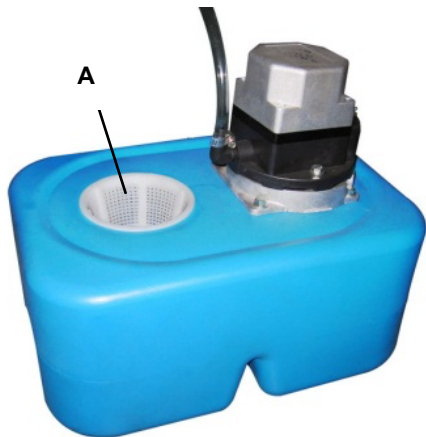


Figure 12-2

12.7 Oils for Lubricating Coolant

Any 10:1 (water to coolant) solution will work, however we recommend Baileigh B-Cool 20:1 (water to coolant) biodegradable metal cutting fluid. It has excellent cooling and heat transfer characteristics, is non-flammable, and extends blade and machine life. Each gallon of concentrate makes 21 gallons of coolant.

12.8 Storing Machine for Extended Period of Time

If the Cold Saw is to be inactive for a long period of time, prepare the machine as follows:

- Detach the plug from the electrical supply panel.
- Release the head return spring.
- Empty and clean the coolant tank.
- Clean and grease the machine.
- Cover the machine

Note: Proper maintenance can increase the life expectancy of your machine.

12.9 Cleaning Coolant Path

Once a year or if the coolant flow is reduced, remove the channel covers and clean the coolant flow paths.

1. Disconnect power to the saw.
2. To change the saw blade:
3. Release and pivot the mobile guard (A) by removing the hex socket screw (B).
4. Remove the screws, covers, and gaskets from each side of the saw guard.
5. Clean the coolant path (C) to remove all debris.

6. Install the gasket and cover and secure with the screws. If the gasket has been damaged, an RTV type seal may be used, however do not allow sealant to get into the coolant flow path.
7. When complete, connect the mobile guard pivot arm.

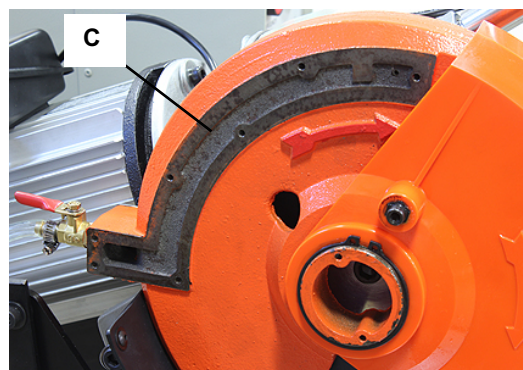
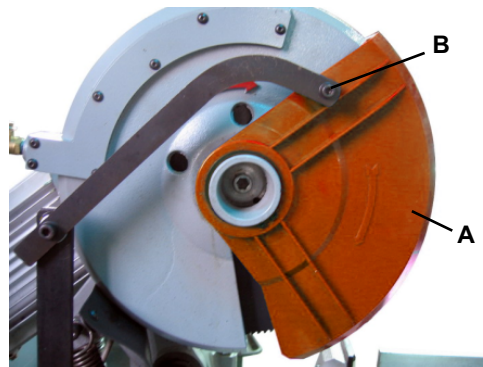


Figure 12-3

13.0 Lubrication Oil Table 1

Above 82°F (Select from the products listed below)

Table 13-1

Brand	Hydraulic Tank Oil	Gear Oil	Slideway Oil
Mobil	DTE XL 68, DTE 16M	Mobilgear 634, SHC 460	Mobil Vactra Oil No. 4
Shell	Shell Tellus Oil 68	Shell Omala Oil 460	Shell Tonna Oil T220
Exxon	Nuto H 68	Spartan EP 460	Febis K220

Table 13-2

Brand	Hydraulic Cylinder Oil	Air Lube System	Grease Fittings
Mobil	DTE 21	DTE 21	Mobil UX2 EPO
Shell	Shell Carnea Oil 10	Shell Carnea Oil 10	Aluania Greaser 1
Exxon	Spinesso 10	Spinesso 10	Ronex MP Beacon 2

14.0 Lubrication Oil Table 2

Below 82°F (Select from the products listed below)

Table 14-1

Brand	Hydraulic Tank Oil	Gear Oil	Slideway Oil
Mobil	DTE XL 46, SHC 525	Mobilgear 630, SHC 220	Mobil Vactra Oil No. 4
Shell	Shell Tellus Oil 46	Shell Omala Oil 220	Shell Tonna Oil T220
Exxon	Nuto H 46	Spartan EP 220	Febis K220

Table 14-2

Brand	Hydraulic Cylinder Oil	Air Lube System	Grease Fittings
Mobil	DTE 21	DTE 21	Mobil UX2 EPO
Shell	Shell Carnea Oil 10	Shell Carnea Oil 10	Aluania Greaser 1
Exxon	Spinesso 10	Spinesso 10	Ronex MP Beacon 2

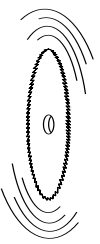
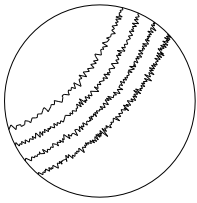
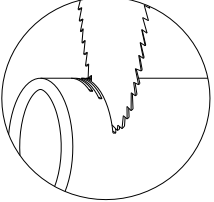
15.0 Troubleshooting

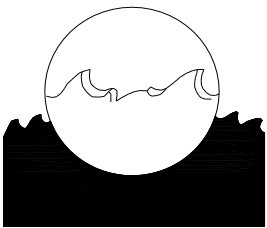
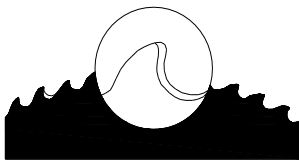
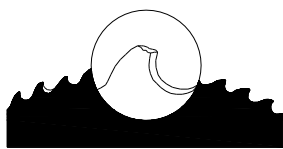
⚠ WARNING

Make sure the electrical disconnect is OFF before working on the machine.

15.1 Blade and Cut Diagnosis

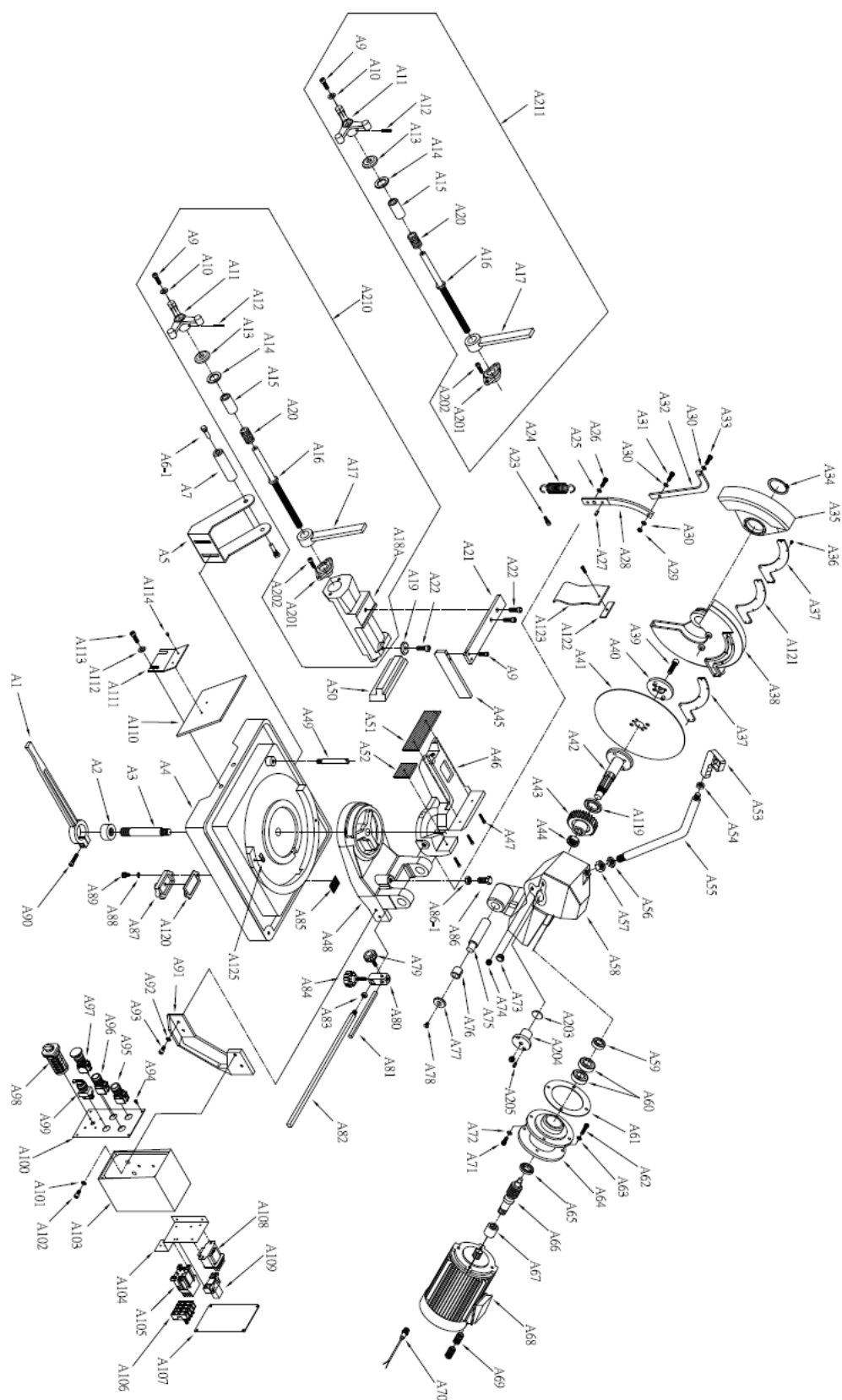
Table 15-1

Fault	Possible Cause	Remedy
DISK VIBRATION 	Wrong tooth pitch.	Choose a suitable disk.
	Unsuitable tooth profile.	Choose a suitable disk.
	Ineffective gripping of the part in the vise.	Check the gripping of the part.
	Dimensions of the solid section too large with respect to the maximum admissible cutting dimensions.	Abide by the instructions.
	Disk diameter incorrect and/or too large.	Decrease the disk diameter, adapting it to the dimensions of the part to be cut.
RIDGES ON THE CUTTING SURFACE 	Ineffective gripping of the part in the vise.	Check the gripping of the part.
	Too fast advance.	Decrease advance, exerting less cutting pressure.
	Disk teeth are worn.	Sharpen the tool.
	Insufficient lubricating coolant.	Check the level of the liquid in the tank. Increase the flow of lubricating coolant, checking that the hole and the liquid outlet pipe are not blocked
	Teeth do not unload shavings well.	Choose a blade with a larger tooth pitch that allows better unloading of shavings and that holds more lubricating coolant.
CUT OFF THE STRAIGHT 	Too fast advance.	Decrease advance, exerting less cutting pressure.
	Ineffective gripping of the part in the vise.	Check the gripping of the part which may be moving sideways.
	Disk head off the straight.	Adjust the head.
	Disk sides differently sharpened.	Choose proper tool quality, type, and construction characteristics.
	Dirt on the gripping device.	Carefully clean the laying and contact surfaces.
BLADE STICKS IN THE CUT 	Too fast advance.	Decrease advance, exerting less cutting pressure.
	Low cutting speed.	Increase speed.
	Wrong tooth pitch.	Choose a suitable disk.
	Sticky accumulation of material on the disk.	Check the blend of lubricating coolant and choose a better-quality disk.
	Insufficient lubricating refrigerant.	Check the level of the liquid in the tank. Increase the flow of lubricating coolant, checking that the hole and the liquid outlet pipe are not blocked.
TOOTH BREAKAGE	Too fast advance.	Decrease advance, exerting less cutting pressure.
	Wrong cutting speed.	Change disk speed and/or diameter.
	Wrong tooth pitch.	Choose a suitable disk.

Fault	Possible Cause	Remedy
	Low quality disk.	Use a better-quality disk.
	Ineffective gripping of the part in the vise.	Check the gripping of the part.
	Previously broken tooth left in the cut.	Accurately remove all the parts left in.
	Cutting resumed on a groove made previously.	Make the cut elsewhere, turning the part.
	Insufficient lubricating coolant or wrong coolant.	Check the level of the liquid in the tank. Increase the flow of lubricating coolant, checking that the hole and the liquid outlet pipe are not blocked.
	Sticky accumulation of material on the disk.	Check the blend of lubricating coolant and choose a better-quality disk.
PREMATURE DISK WEAR 	Wrong running in of the disk.	When cutting for the first time run in the tool, making a series of cuts at a low advance speed, spraying the cutting area with lubricating coolant.
	Wrong cutting speed.	Change disk speed and / or diameter.
	Unsuitable tooth profile.	Choose a suitable disk.
	Wrong tooth pitch.	Choose a suitable disk.
	Low quality disk.	Use a better-quality disk.
	Insufficient lubricating refrigerant.	Check the level of the liquid in the tank. Increase the flow of lubricating coolant, checking that the hole and the liquid outlet pipe are not blocked.
CHIPPED DISK 	Hardness, shape or flaws in the material	Reduce the cutting pressure and/or the advance.
	Wrong cutting speed.	Change disk speed and/or diameter.
	Wrong tooth pitch.	Choose a suitable disk.
	Vibrations.	Check gripping of the part.
	Disk incorrectly sharpened.	Replace the disk with one that is more suitable and correctly sharpened.
	Low quality disk.	Use a better-quality disk.
	Incorrect emulsion of the lubricating coolant.	Check the percentage of water and oil in the emulsion.

16.0 Replacement Parts

16.1.1 Manual Cold Saw Assembly – Exploded View A



16.1.2 Manual Cold Saw Assembly – Parts List A

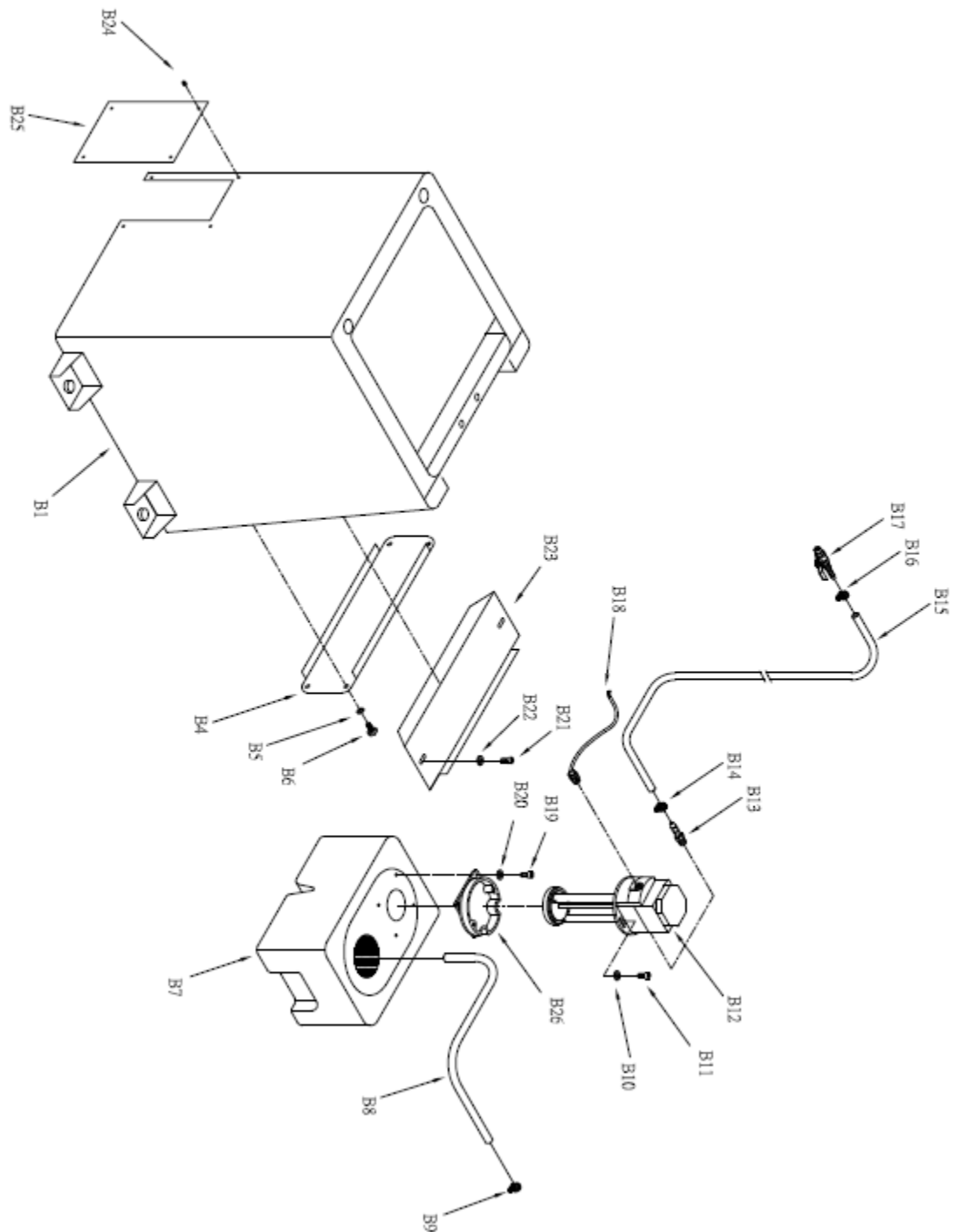
Index No	Part No	Description	Size	Qty
A1	**	Lock Handle		1
A2	**	Lock Nut		1
A3	BA9-1226204	Shaft		1
A4	**	Machine Base		1
A5	**	Roller Bracket		1
A6-1	JT9-TS-1492021	Hex Cap Screw	(M12x30)	2
A7	**	Roller		1
A9	BA9-1010364	Hex Socket Cap Screw		2
A10	BA9-1010365	Flat Washer	(5/16)	1
A11	BA9-1002460	Handle Wheel		1
A12	BA9-1010367	Pin		1
A13	BA9-1002438	Bearing Bushing		1
A14	BA9-1226205	Bearing		1
A15	BA9-1002440	Bushing		1
A16	BA9-1015364	Leading Screw		1
A17	BA9-1015365	Lock Handle		1
A18A	BA9-1015366	Sliding Vise		1
A19	BA9-1015367	Washer		1
A20	BA9-1015368	Spring		1
A21	**	Plate		1
A22	JT9-TS-1505031	Socket Head Cap Screw	(M12x25)	2
A23	**	Hex Screw	(M10x30)	2
A24	**	Spring		2
A25	JT9-TS-1550061	Flat Washer	(M8)	1
A26	JT9-TS-1504041	Hex Socket Cap Screw	(M8x20)	1
A27	**	Pin		1
A28	BA9-1224862	Switching plate		1
A29	**	Hex Nut	(M8)	1
A30	JT9-TS-1550061	Flat Washer	(M8)	1
A31	JT9-TS-1504051	Socket Head Cap Screw	(M8x25)	1
A32	**	Switching Handle		1
A33	JT9-TS-1503021	Socket Head Cap Screw		1
A34	**	Retaining		1
A35	BA9-1002441	Blade Shield		1
A36	JT9-TS-2245102	Button Head Socket Screw	(M5x10)	14
A37	**	Plate		2
A38	BA9-1231902	Blade Cover		1
A39	**	Hex Socket Cap Screw		1
A40	**	Blade Washer		1
A41	**	Saw Blade		1
A42	**	Spindle Shaft		1
A43	**	Worm Gear		1
A44	**	Lock Nut		1
A45	**	Stopper		1
A46	BA9-1017513	Vise Bench		1
A47	JT9-TS-1502061	Hex Socket Cap Screw	(M5x25)	3
A48	**	Swing Arm (Base)		1
	BA9-1002433	Degree Scale (Not Shown)		1
A49	**	Support Rod		1
A50	**	Vise Clamp		1
A51	**	Groove Jaw		1
A52	**	Small Groove Jaw		1
A53	BA9-1013430	Trigger Switch with Handle		1
A54	BA9-1013429	Nut		1
A55	BA9-1013431	Feed Handle Rod		1
	BA9-1013426	Trigger Handle Assembly(#A53-#A55, #A70)		1
A56	BA9-1013427	Nut		1
A57	BA9-1013428	Nut		1
A58	**	Machine Head		1

Index No	Part No	Description	Size	Qty
A59	**	Ball Bearing		1
A60	**	Ball Bearing		2
A61	**	Rubber Gasket		1
A62	JT9-TS-1490031	Hex Cap Screw	(M8x20)	4
A63	JT9-TS-0680031	Washer	(5/16)	4
A64	BA9-1014198	Flange		1
A65	**	Oil Seal		1
A66	**	Worm Shaft		1
A67	**	Coupling		1
A68	BA9-1017160	M1 Motor		1
	BA9-1230221	Motor Fan Cover (not shown)		1
	BA9-1230222	Fan for Motor (not shown)		1
	BA9-1002442	Centrifugal Switch (not shown)		1
A69	**	Wire Terminal Clamp (not shown)		4
A70	BA9-1013432	Control Wire		1
A71	JT9-TS-1490031	Hex Cap Screw	(M8x20)	4
A72	JT9-TS-0680031	Flat Washer	(5/16")	4
A73	**	Oil Pilot		1
A74	JT9-TS-0271031	Set Screw	(3/8-16x3/8)	2
A75	**	Shaft		1
A76	**	Bushing		1
A77	**	Retaining Cover Washer		1
A78	**	Screw		1
A79	**	Lock Bolt with Knob		1
A80	**	Length Setting Rods Bracket		1
A81	**	Upper Length Setting Rod		1
A82	BA9-CS275EU-A82	Lower Length Setting Rod		1
A83	JT9-TS-1540081	Nut	(M12)	1
A84	**	Lock Bolt with Knob		1
A85	**	Filter Plate		1
A86	CM9-TS-1491031	Hex Cap Screw	(M10x25)	1
A86-1	JT9-TS-1540071	Hex Nut	(M10)	1
A87	**	Drain Cover		1
A88	JT9-TS-0680031	Flat Washer	(5/16")	2
A89	JT9-TS-1504051	Socket Head Cap Screw	(M8x25)	2
A90	JT9-TS-1504071	Socket Head Cap Screw	(M8x35)	1
A91	BA9-1002427	Supporter		1
A92	JT9-TS-0680031	Washer		2
A93	JT9-TS-1504041	Socket Head Cap Screw	(M8x20)	2
A94	**	Pan Head Machine Screw	(M5x10)	4
A95	**	SB2 Stop Button		1
A96	**	SB3 Start Button, Illuminated		1
A97	BA9-1008451	SB1 Emergency Switch		1
A99	**	SB5 Pump Selection Switch, On/Off		1
A100	**	Control Box Panel		1
A101	JT9-TS-0680031	Washer	(5/16)	2
A102	JT9-TS-1490021	Hex Socket Cap Screw	(M8X16)	2
A103	**	Electric Control Box		1
A104	**	Control Box Button Plate		1
A105	**	K1 Magnetic Connector		1
A106	**	Fuse Set		1
A107	**	Cover Plate		1
A108	BA9-1010517	TC Transformer		1
A109	**	KR Relay		1
A110	BA9-1002435	Plate		1
A111	BA9-1002436	Support Plate		1
A112	JT9-TS-0680031	Washer	(5/16)	2
A113	CM9-TS-1504031	Hex Socket Cap Screw	(M8X16)	2
A114	**	Screw		2
A119	**	Oil seal		1
A120	**	Rubber Plate		1

Index No	Part No	Description	Size	Qty
A121	BA9-1010386	Rubber Plate		1
A122	BA9-1010387	Holder Plate		1
A123	BA1-1943	Anti-Dust Plate		1
A124	BA9-1002437	Plate		1
A125	**	Stopper		1
A201	**	Vise handle base		1
A202	**	Hex Cap Screw		1
A203	BA9-1231774	O-Ring		1
A204	BA9-1231775	Flange		1
A205	**	Hex Cap Screw		1
A210	BA9-1232796	Slide Vise Complete Assembly		1
A211	BA9-1232795	leadscrew with Flange Assembly		1
	BA9-1002442	Centrifugal Switch		1

** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

16.1.3 Manual Cold Saw Assembly – Exploded View B

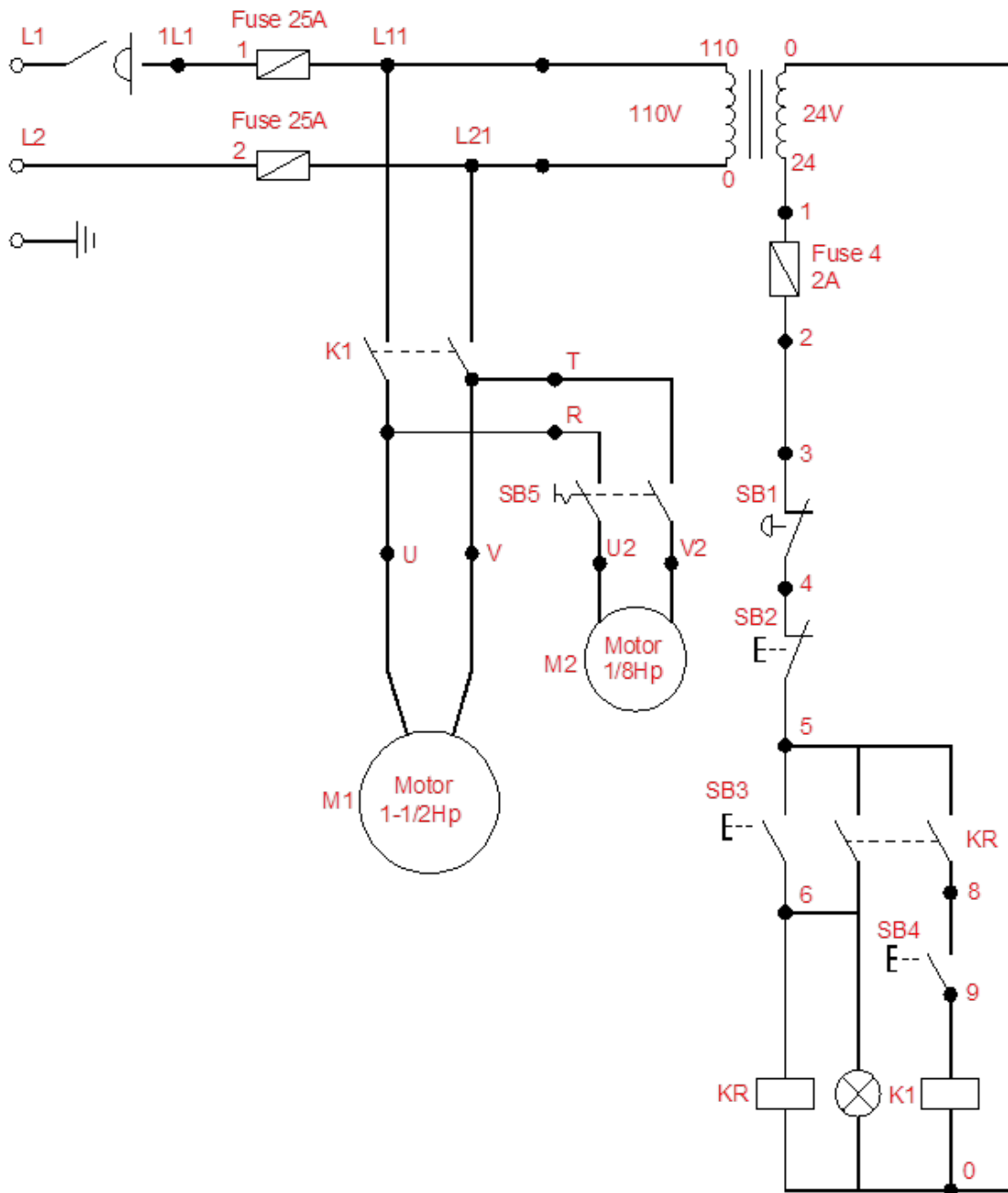


16.1.4 Manual Cold Saw Assembly – Parts List B

Index No	Part No	Description	Size	Qty
B1	**	Stand		1
B4	**	Support Plate		1
B5	**	Washer		4
B6	**	Hex Cap Screw		4
B7	**	Coolant Tank		1
B8	**	Hose		1
B9	**	Hose Clamp		1
B10	**	Washer		2
B11	**	Hex Socket Cap Screw		2
B12	BA9-1002443	M2 Coolant Pump	1/8hp, 110, 1ph, 60hz, L130, 2 Bolt, 3-13/16" w/4 Bolt Adapter	1
B13	**	Connecting Bolt		1
B14	**	Hose Clamp		1
B15	**	Hose		1
B16	**	Hose Clamp		1
B17	**	Valve		1
B18	**	Wire		1
B19	**	Hex Cap Screw		4
B20	**	Washer		4
B21	**	Hex Cap Screw		2
B22	**	Washer		2
B23	**	Support Plate		1
B24	**	Screw		4
B25	**	Cover Plate		1
B26	BA1-10666	Collar		1

** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

17.0 Wiring Diagram



KRLatching Relay

K1 Power Contactor Relay

SB1 Emergency Stop Button

SB2 Stop Button

SB3 Start Button

SB4 Trigger Switch

SB5 Coolant Pump Switch

17.1 Electrical Parts List

Item	Description and Function	Technical Data	Qty
FU1 FU2 FU4	Fuses	25A, 10x38 100KA 25A, 10x38 100KA 2A Gg 10.3x38	1 1 1
	Fuse Base	32A 10 x 38 2P 32A 10 x 38 1P	1 1
K1	Contactor	Coil 24V, It = 25A, 220V 2.2kw, 400V 4.0kw, NHD C-09D	1
KR	Relay	250 VAC, 5A, MY-2N AC 24V	1
TC	Transformer	35VA / 110 / 24V	1
SB1	Emergency Stop	250V 6A, KEDU HY57B	1
SB2 SB3	Off Button Start Button	250V 6A 2a ABF-22Φ1b ABLFS-22Φ1a 30V	1 1
SB4	Trigger Switch	15A 1/2HP 125/250VAC 0.6A 125VDC 0.3A 250VDC V-15-1A5	1
SB5	Pump Switch	250V GIKOKA OSS-22Φ	1
MB	Circuit Breaker	30A, 250V	1
M1	Motor	110V / 1.5 HP / 1Ø / 4Pole	1
M2	Coolant Pump	110V / 1/8HP / 1Ø / 4 Pole	1

18.0 Warranty and Service

Thank you for your purchase of a machine from Baileigh Industrial. We hope that you find it productive and useful to you for a long time to come.

Inspection & Acceptance. Buyer shall inspect all Goods within ten (10) days after receipt thereof. Buyer's payment shall constitute final acceptance of the Goods and shall act as a waiver of the Buyer's rights to inspect or reject the Goods unless otherwise agreed. If Buyer rejects any merchandise, Buyer must first obtain a Returned Goods Authorization ("RGA") number before returning any Goods to Seller. Goods returned without an RGA will be refused. Seller will not be responsible for any freight costs, damages to Goods, or any other costs or liabilities pertaining to Goods returned without an RGA. Seller shall have the right to substitute a conforming tender. Buyer will be responsible for all freight costs to and from Buyer and repackaging costs, if any, if Buyer refuses to accept shipment. If Goods are returned in unsalable condition, Buyer shall be responsible for full value of the Goods. Buyer may not return any special-order Goods. Any Goods returned hereunder shall be subject to a restocking fee equal to 30% of the invoice price.

Specifications. Seller may, at its option, make changes in the designs, **specifications**, or components of the Goods to improve the safety of such Goods, or if in Seller's judgment, such changes will be beneficial to their operation or use. Buyer may not make any changes in the specifications for the Goods unless Seller approves of such changes in writing, in which event Seller may impose additional charges to implement such changes.

Limited Warranty. Seller warrants to the original end-user that the Goods manufactured or provided by Seller under this Agreement shall be free of defects in material or workmanship for a period of twelve (12) months from the date of purchase, provided that the Goods are installed, used, and maintained in accordance with any instruction manual or technical guidelines provided by the Seller or supplied with the Goods, if applicable. The original end-user must give written notice to Seller of any suspected defect in the Goods prior to the expiration of the warranty period. The original end-user must also obtain an RGA from Seller prior to returning any Goods to Seller for warranty service under this paragraph. Seller will not accept any responsibility for Goods returned without an RGA. The original end-user shall be responsible for all costs and expenses associated with returning the Goods to Seller for warranty service. In the event of a defect, Seller, at its sole option, shall repair or replace the defective Goods or refund to the original end-user the purchase price for such defective Goods. Goods are not eligible for replacement or return after a period of 10 days from date of receipt. The foregoing warranty is Seller's sole obligation, and the original end-user's exclusive remedy, with regard to any defective Goods. This limited warranty does not apply to: (a) die sets, tooling, and saw blades; (b) periodic or routine maintenance and setup, (c) repair or replacement of the Goods due to normal wear and tear, (d) defects or damage to the Goods resulting from misuse, abuse, neglect, or accidents, (f) defects or damage to the Goods resulting from improper or unauthorized alterations, modifications, or changes; and (f) any Goods that has not been installed and/or maintained in accordance with the instruction manual or technical guidelines provided by Seller.

EXCLUSION OF OTHER WARRANTIES. THE FOREGOING LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. ANY AND ALL OTHER EXPRESS, STATUTORY, OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. NO WARRANTY IS MADE WHICH EXTENDS BEYOND THAT WHICH IS EXPRESSLY CONTAINED HEREIN.

Limitation of Liability. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER OR ANY OTHER PARTY FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR DOWN TIME) ARISING FROM OR IN MANNER CONNECTED WITH THE GOODS, ANY BREACH BY SELLER OR ITS AGENTS OF THIS AGREEMENT, OR ANY OTHER CAUSE WHATSOEVER, WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY OF LIABILITY. BUYER'S REMEDY WITH RESPECT TO ANY CLAIM ARISING UNDER THIS AGREEMENT IS STRICTLY LIMITED TO NO MORE THAN THE AMOUNT PAID BY THE BUYER FOR THE GOODS.

Force Majeure. Seller shall not be responsible for any delay in the delivery of, or failure to deliver, Goods due to causes beyond Seller's reasonable control including, without limitation, acts of God, acts of war or terrorism, enemy actions, hostilities, strikes, labor difficulties, embargoes, non-delivery or late delivery of materials, parts and equipment or transportation delays not caused by the fault of Seller, delays caused by civil authorities, governmental regulations or orders, fire, lightning, natural disasters or any other cause beyond Seller's reasonable control. In the event of any such delay, performance will be postponed by such length of time as may be reasonably necessary to compensate for the delay.

Installation. If Buyer purchases any Goods that require installation, Buyer shall, at its expense, make all arrangements and connections necessary to install and operate the Goods. Buyer shall install the Goods in accordance with any Seller instructions and shall indemnify Seller against any and all damages, demands, suits, causes of action, claims and expenses (including actual attorneys' fees and costs) arising directly or indirectly out of Buyer's failure to properly install the Goods.

Work By Others; Safety Devices. Unless agreed to in writing by Seller, Seller has no responsibility for labor or work performed by Buyer or others, of any nature, relating to design, manufacture, fabrication, use, installation, or provision of Goods. Buyer is solely responsible for furnishing and requiring its employees and customers to use all safety devices, guards and safe operating procedures required by law and/or as set forth in manuals and instruction sheets furnished by Seller. Buyer is responsible for consulting all operator manuals, ANSI or comparable safety standards, OSHA regulations and other sources of safety standards and regulations applicable to the use and operation of the Goods.

Remedies. Each of the rights and remedies of Seller under this Agreement is cumulative and in addition to any other or further remedies provided under this Agreement or at law or equity.

Attorney's Fees. In the event legal action is necessary to recover monies due from Buyer or to enforce any provision of this Agreement, Buyer shall be liable to Seller for all costs and expenses associated therewith, including Seller's actual attorney fees and costs.

Governing Law/Venue. This Agreement shall be construed and governed under the laws of the State of Wisconsin, without application of conflict of law principles. Each party agrees that all actions or proceedings arising out of or in connection with this Agreement shall be commenced, tried, and litigated only in the state courts sitting in Manitowoc County, Wisconsin or the U.S. Federal Court for the Eastern District of Wisconsin. Each party waives any right it may have to assert the doctrine of "forum non conveniens" or to object to venue to the extent that any proceeding is brought in accordance with this section. Each party consents to and waives any objection to the exercise of personal jurisdiction over it by courts described in this section. Each party waives to the fullest extent permitted by applicable law the right to a trial by jury.

Summary of Return Policy:

- 10 Day acceptance period from date of delivery. Damage claims and order discrepancies will not be accepted after this time.
- You must obtain a Baileigh Industrial issued RGA number PRIOR to returning any materials.
- Returned materials must be received at Baileigh Industrial in new condition and in original packaging.
- Altered items are not eligible for return.
- Buyer is responsible for all shipping charges.
- A 30% re-stocking fee applies to all returns.

Baileigh Industrial makes every effort to ensure that our posted specifications, images, pricing, and product availability are as correct and timely as possible. We apologize for any discrepancies that may occur. Baileigh Industrial reserves the right to make any and all changes deemed necessary in the course of business including but not limited to pricing, product specifications, quantities, and product availability.

For Customer Service & Technical Support:

Please contact one of our knowledgeable Sales and Service team members at:
(920) 684-4990 or e-mail us at Baileigh-Service@jpwindustries.com

19.0 Notes

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