

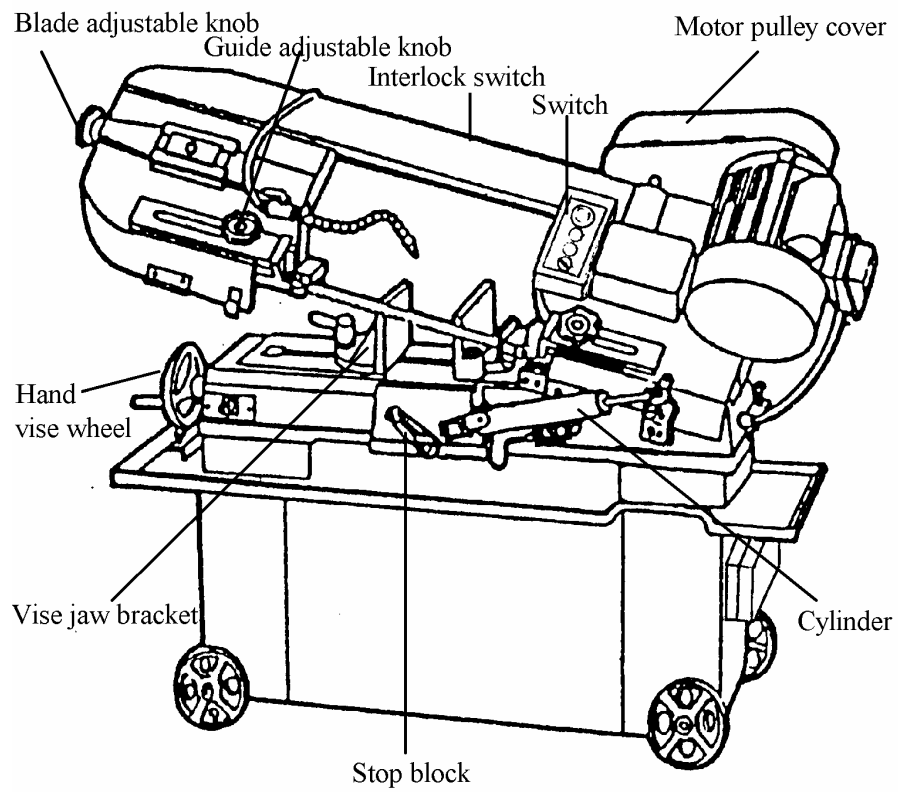


INSTRUCTION MANUAL MODEL SE-712 METAL CUTTING BANDSAW MACHINE



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**WARNING: FAILURE TO FOLLOW THESE RULES
MAY RESULT IN SERIOUS PERSONAL INJURY**

As with all machinery there are certain hazards involved with operation and use of the machine. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result.

This machine was designed for certain applications only. We strongly recommend that this machine NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application DO NOT use the machine until you contact with us and we have advised you.

Your machine might not come with a power socket or plug. Before using this machine, please

Do ask your local dealer to install the socket or plug on the power cable end.

SAFETY RULES FOR ALL TOOLS

A. USER:

(1). **WEAR PROPER APPAREL.** No loose clothing, gloves, rings, bracelets, or other jewelry to get caught in moving parts.

Non-slip foot wear is recommended. Wear protective hair covering to contain long hair.

(2). **ALWAYS WEAR EYE PROTECTION.** Refer to ANSLZ87.1 standard for appropriate recommendations.

Also use face or dust mask if cutting operation is dusty.

(3). **DON'T OVERREACH.** Keep proper footing and balance at all times.

(4). **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.

(5). **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.

(6). **DRUGS, ALCOHOL, MEDICATION.** Do not operate tool while under the influence of drug, alcohol or any medication.

(7). **MAKE SURE TOOL IS DISCONNECTED FROM POWER SUPPLY.** While motor is being mounted, connected or reconnected.

(8). **ALWAYS** keep hands and fingers away from the blade.

(9). **STOP** the machine before removing chips.

(10). **SHUT- OFF** power and clean the BAND SAW and work area before leaving the machine.

B. USE OF MACHINE:

- (1). **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it "on".
- (2). **DON'T FORCE TOOL.** It will do the job better and be safer at the rate for which it was designed.
- (3). **USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.
- (4). **SECURE WORK.** Use clamps or a vise to hold work when practical. It's safer than using your hand frees both hands to operate tool.
- (5). **MAINTAIN TOOLS IN TOP CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
- (6). **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause hazards.
- (7). **AVOID ACCIDENTAL STARTING.** Make sure switch is in "OFF" position before plugging in power cord.
- (8). **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
- (9). **ADJUST AND POSITION** the blade guide arm before starting the cut.
- (10). **KEEP BLADE GUIDE ARM TIGHT,** A loose blade guide arm will affect sawing accuracy .
- (11). **MAKE SURE** blade speed is set correctly for material being cut.
- (12). **CHECK** for proper blade size and type.
- (13). **STOP** the machine before putting material in the vise.
- (14). **ALWAYS** have stock firmly clamped in vise before starting cut.
- (15). **GROUND ALL TOOLS.** If tool is equipped with three-prong plug, it should be plugged into a three-hole electrical receptacle. If an adapter is used to accommodate a two prong receptacle, the adapter lug must be attached to a known ground. Never remove the third prong.

C. ADJUSTMENT :

MAKE all adjustments with the power off. In order to maintain the machine, precision and correct ways of adjustment while assembling, the user should read the detailed instruction in this manual.

D. WORKING ENVIRONMENT:

- (1). **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- (2). **DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well-lighted.

(3). **KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.

(4). **DON'T** install & use this machine in explosive, dangerous environment.

E. MAINTENANCE:

(1). **DISCONNECT** machine from power source when making repairs.

(2). **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended 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.

(3). **DISCONNECT TOOLS** before servicing and when changing accessories such as blades, bits, cutters, etc.

(4). **MAKE SURE** that blade tension and blade tacking are properly adjusted.

(5). **RE-CHECK** blade tension after initial cut with a new blade.

(6). **TO PROLONG BLADE LIFE ALWAYS** release blade tension at the end of each work day.

(7). **CHECK COOLANT DAILY** Low coolant level can cause foaming and high blade temperatures. Dirty or weak coolant can clog pump. Can cause, low cutting rate and permanent blade failure. Dirty coolant can cause the growth of bacteria with ensuing skin irritation.

(8). **WHEN CUTTING MAGNESIUM NEVER** use soluble oils or emulsions(oil-water mix) as water will greatly intensify any accidental magnesium chip fire. See your industrial coolant supplier for specific coolant recommendations when cutting magnesium.

(9). **TO PREVENT** corrosion of machined surfaces when a soluble one is used as coolant, pay particular attention to wiping dry the surfaces where fluid accumulates and does not evaporate quickly, such as between the machine bed and vise.

F. SPECIFIED USAGE:

This machine is used only for general metals cutting within the range of cutting capacity.

G. NOISE:

A weighted sound pressure level : 80 dB.

H. SAFETY DEVICE:

By the time the saw arm cover is opened, the interlock switch will function to stop the All movement. Do not remove this switch from machine for any reason, and check it's function frequently.

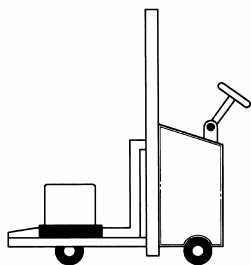
1. SPECIFICATION

MOTOR	0.55KW (3/4HP)				
Saw Blade Speed	60Hz	26	40	55	72 MPM
	50Hz	21	33	45	60 MPM
Blade Size	19.05x0.8x2362 (Carbon Blade)				
Dimension LxWxH (mm)	1229x432x965				
N.W / G.W (kgs)	125 / 150				
Working Capacity	90°	○(mm)	178		
		□(mm)	178x305		
	45°	○(mm)	115		
		□(mm)	115x180		
Packing Measurement (mm) LxWxH	1270 x 470 x 965 mm				
Overall height (w/o stand)	1092mm(43")				
Noise	80 dB MAX				

2. TRANSPORTATION OF MACHINE:

Unpacking

1. Transportation to desired location before unpacking, please use lifting jack.(Fig. B)
2. Transportation after unpacking, please use heavy duty fiber belt to lift up the



machine.

Fig. B

ALLWAYS KEEP PROPER FOOTING & BALANCE WHILE MOVING THIS MACHINE.

Installation:

As this machine weights 125 kg. It is recommended that the machine shall be transported, with help of lifting jack.

Transportation Recommendation:

- (1). Tighten all locks before operation.
- (2). **ALWAYS** Keep proper footing & balance while moving this 125kgs machine, and only use heavy duty fiber belt to lift the machine as Fig. A
- (3). **TURN OFF** the power before wiring, & be sure machine in proper grounding, Overload & circuit breaker is recommended for safety wiring.
- (4). **CHECK** carefully if the saw blade is running in Counter-clockwise direction if not , reverse the Wiring per circuit diagram then repeats the running Test.
- (5). **KEEP** machine always out from sun, dust, wet, raining area.

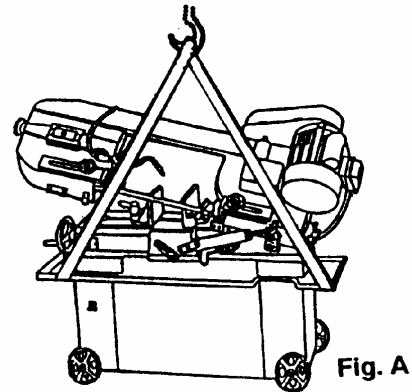
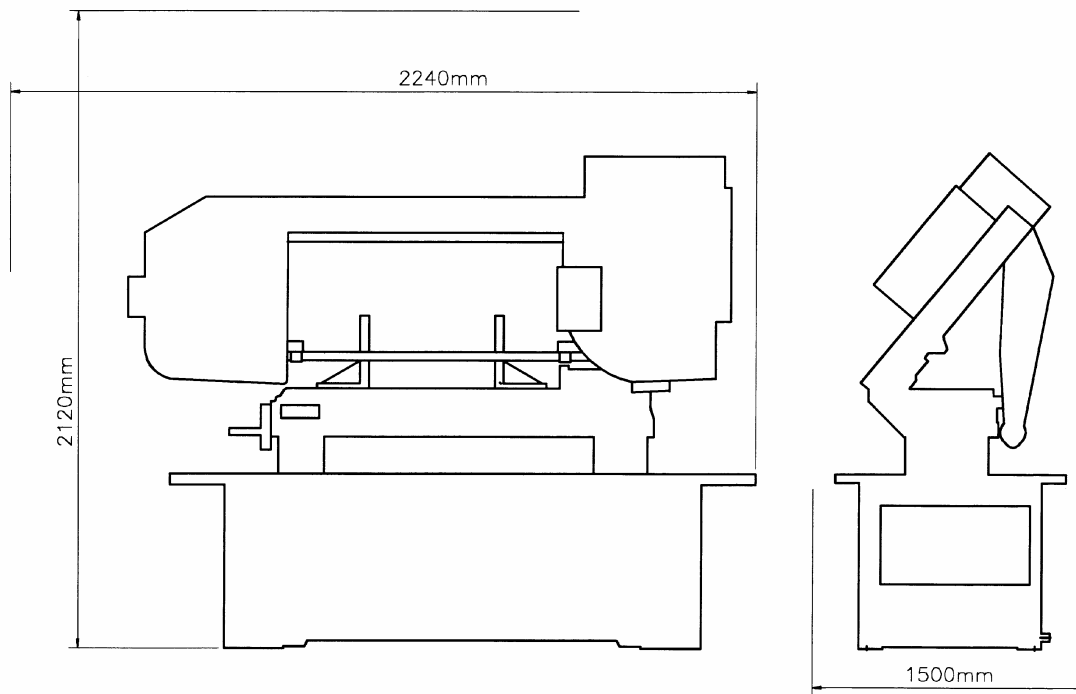


Fig. A

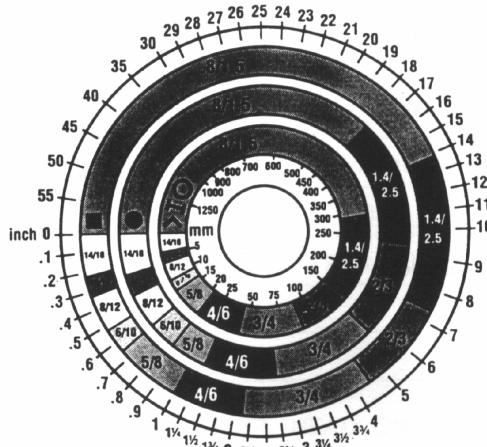
3. MINIMUM ROOM SPACE FOR MACHINE OPERATION



4. MAKE PROPER TOOTH SELECTION

For maximum cutting efficiency and lowest cost per cut, it is important to select the blade with the right number of teeth per inch (TPI) for the material being cut. The material size and shape dictate tooth selection.

TOOTH SELECTION



You need to consider:

1. The width of the cut. That is, the distance in the cut that each tooth must travel from the point it

Enter the work piece until it leaves the work piece, and

2. The shape of the work piece.

- **Squares, Rectangles, Flats (Symbol : ■)**

Locate the width of cut on the chart. (Inches on the outer circle and millimeters on the inner circle.) Select the tooth pitch on the ring marked with the square shape which aligns with the width of cut.

EXAMPLE: 6" (150mm) square, use a 2/3 Vari-Tooth.

- **Round Solids (Symbol : ●)**

Locate the diameter of your work piece on the chart. Select the tooth pitch on the ring marked with the round shape which aligns with the size of stock you are cutting.

EXAMPLE: 4" (100mm) round, use a 3/4 Vary-Tooth.

- **Tubing, Pipe, Structural's(Symbol : O H ^)**

Determine the average width of cut by dividing the area of the work piece by the distance the saw blade must travel to finish the cut. Locate the average width of cut on the chart. Select the tooth Ditch on the ring marked with the tubing and structural shape which aligns with the average width you are cutting.

EXAMPLE: 4"(100mm) outside diameter, 3"(75mm) inside diameter tubing.

$$\begin{array}{r} 4"(100\text{mm}) \text{ OD} = 12.5 \text{ sq.in. } (79\text{cm}^2) \\ 3"(75 \text{ mm}) \text{ ID} = 7.0 \text{ sq.in. } (44\text{cm}^2) \\ \hline \text{Area} = 5.5 \text{ sq.in. } (35\text{cm}^2) \end{array}$$

5.5 sq.in. (35cm²) / 4" (100mm) distance = 1.38(35mm) average width
1.38" (35mm), use a 4/6 Vary-Tooth

NOTE: The band speed and cutting rate recommendations presented on this chart are approximations and are to be used as a starting point for most applications. For exact sawing parameters' consult your saw blade supplier.

5. BI-METAL SPEEDS AND FEEDS

These figures are a guide to cutting 4"(100mm) material (with a 314 Vary-Tooth) when using a cutting fluid.

Increase Band Speed: 15% When cutting 1/4"(6.4mm) material (I0/I4 Vary-Tooth)
 12% When cutting 3/4"(19 mm) material (6/10 Vary-Tooth)
 10% When cutting 1-1/4"(32 mm) material(5/8 Vary-Tooth)
 5% When cutting 2-1/2" (64 mm) material(4/6 Vary-Tooth)

Decrease Band Speed: 12% When cutting 8"(200mm) material(2/3 Vary-Tooth)

MATERIAL	ALLOY ASTM NO.	BAND SPEED	
		FT./MIN	M/MIN
Copper Alloy	173,932	314	96
	330,365	284	87
	623,624	264	81
	230,260,272	244	74
	280,264,632,655	244	74
	101,102,110,122,172	234	71
	1751,182,220,510	234	71
	625,706,715,934	234	71
	630	229	70
	811	214	65
Carbon Steel	1117	339	103
	1137	289	88
	1141,1144	279	85
	1141 HI STRESS	279	85
	1030	329	100
	1008,1015,1020,1025	319	97
	1035	309	94
	1018,1021,1022	299	91
	1026,1513	299	91
	A36(SHAPES),1040	269	82
	1042,1541	249	76
	1044,1045	219	67
	1060	199	61
	1095	184	56
Ni-Cr-Mo Alloy Steel	8615,8620,8622	239	73
	4340,E4340,8630	219	67

Ni-Cr-Mo Alloy Steel	8640,	199	61
	E9310	174	53
Tool Steel	A-6	199	61
	A-2	179	55
	A-10	159	49
	D-2	90	27
	H-11,H-12,H-13	189	58
Stainless Steel	420	189	58
	430	149	46
	410,502	140	43
	414	115	35
	431	95	29
	440C	80	24
	304,324	120	36
	304L	115	35
	347	110	33
	316,316L	100	30
	416	189	58

TELLTALE 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.



6. ASSEMBLY

A 3/4 HP, motor, split phase or capacitor-start is recommended for best economical performance.

Counterclockwise rotation is required. Note that rotation can be reversed by following directions

On the terminal or nameplate.

- (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 for 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 bolts 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 of the two provided, to the protruding drive Shaft. Note the small diameter must be closest to the bearing.

Do not tighten the set screw.

- (7). Place the belt into one of the pulley grooves 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 rated amperage slightly greater than the full load amperage of the motor.

7. 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 the base.
- (3). Place work piece on saw bed. If the piece is long, support the end.
- (4). Clamp work pieced securely in vise.

WORK STOP ADJUSTMENT

- (1). Loosen the thumb screw 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 thumbscrew.
- (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 Shirt gives suggested settings for several materials.

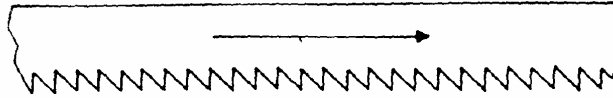
Material	Speed F.P.M				Belt Groove Used	
	60Hz		50Hz		Motor Pulley	Saw Pulley
	A	B	A	B		
Tool, Stainless Alloy Steels Bearing Bronze	85	98	70	81	Small	Largest
Medium to High Carbon Steels Hard Brass or Bronze	130	164	110	135	Medium	Large
Low to Medium Carbon Steel Soft Brass	180	246	150	203	Large	Medium
Aluminum Plastic	235	328	195	270	Largest	Small

- A: For 712N with carbon blade
- B: For 712R, 712DR, 712N with Bi-Metal blade.

BLADE DIRECTION OF TRAVEL

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

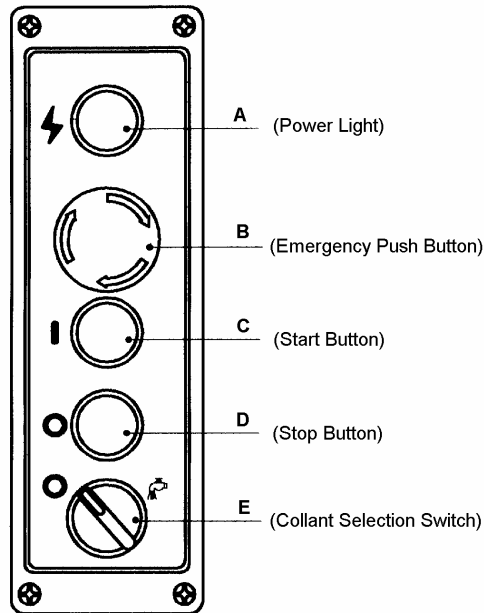
BLADE MOVEMENT



Blade Direction

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 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 the end of the cut.

BLADE SELECTION

An 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 blade pitch is governed by the thickness of the work to be cut: the thinner the work piece, the more teeth advised. A minimum of three (3) teeth should engage the work piece 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 work piece and to the Made 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 hand

Which is placed at the top of the Made.

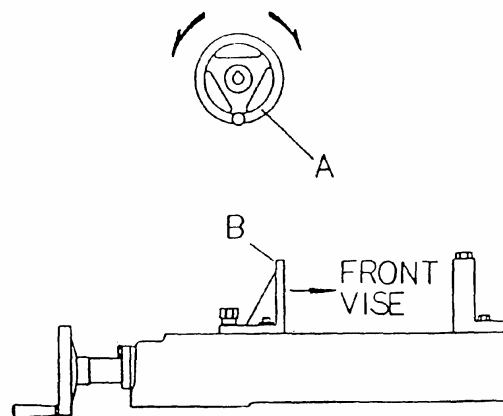
- (4). Remove left hand from the bottom pulley and place is at the top aide of the Made to continue the

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.

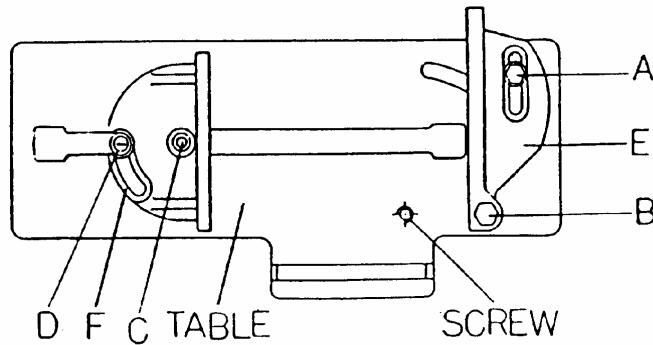
USAGE OF THE QUICK VISE

The workpiece is placed between the vise jaws with the amount to be cut-off extending out past the blade. Your machine is equipped with a "quick action" vise jaw which allows you to instantly position the moveable vise jaw (B). Simply turn handwheel (A) counterclockwise 1/2 turn and move the vise jaw (B) to the desired position. Then tighten the vise jaw (B) against the work-piece by turning hand-wheel clockwise.



QUICK VISE ADJUSTMENT FOR ANGLE CUT

- (1). Loosen the A. B. C. D. Screw.
- (2). Adjust rear vise to the threaded hole position. (E)
- (3). Set the scale to the desired angle.
- (4). Adjust the front vise (F) to parallel the rear vise(E)
- (5). Tighten the A. B. C. D. Screw.



8. BLADE GUIDE BEARING ADJUSTMENT

ATTENTION: This is the most important adjustment on your saw. It is impossible to get satisfactory work from your saw if the blade guides are not properly adjusted. The blade guide bearings 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 though, it is extremely important to readjust immediately. If improper adjustment is 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 guides for proper spacing.

NOTE: There should be from 000 (just touching) 001 clearance between the blade and guide bearings to obtain this clearance adjusts 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. Loosen the nut while holding the bolt with an Alien 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.

REMARK:

1. Adjust the tension of blade until the back of the blade(A) against the blade wheel (front) lightly.
2. Be sure the nut (E) is tightened.
3. Turn the eccentric shaft(B) counterclockwise, when the bearing(D) touches the saw blade properly, tighten the nut(E).
4. To adjust, loosen set screw(F) and move the blade adjustable up or down until it lightly Touches the back of the blade(A).
5. Repeat 1, 2, 3, and 4 steps to adjust the other side's blade guide bearings(G).
6. Correct the base and blade to be a vertical position with a scale. If necessary, loosen set screw(F).
7. Set down the blade frame, correct the jaw vise(H) and blade to be a vertical position with a scale then tighten the set screws (I).
8. Loosen set screw (K), move front jaw vise (J) to against rear jaw vise(H) tightly. Finish correcting by tightening the set screw(K).

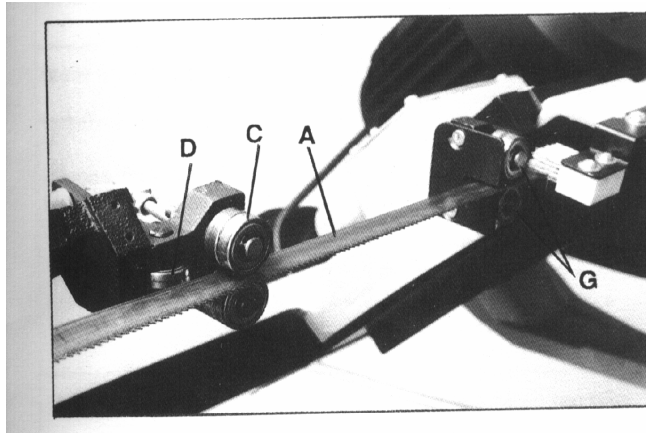


Fig. 1

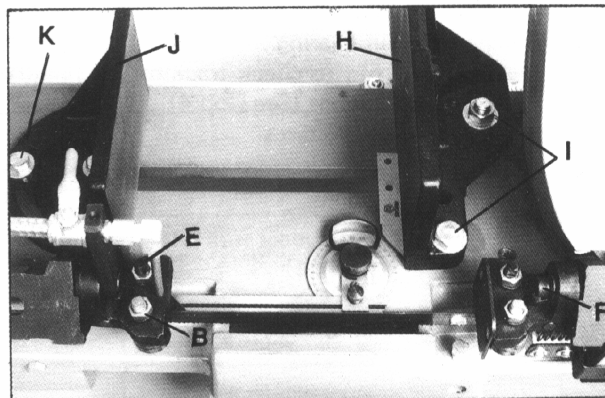


Fig. 2

9. BLADE TRACK ADJUSTMENT

- (1). Open the blade guard.
- (2). Remove the blade guide assemblies (top and bottom)
- (3). Loosen the hex head screw in the tilting mechanism to a point where it is loose but snug.
- (4). with the machine running, adjust both the set screw and blade tension knob simultaneously to keep constant tension on the blade. The set screw and blade tension knob are always turned in opposite directions, i.e., when one is turned clockwise the other is turned counterclockwise.
The blade is tracking properly when the back side just touches the shoulder of pulley or a slight gap appears near the center line of the pulley. Care should be taken not to over-tighten the saw blade since this will give a false adjustment and limit life of the blade.
- (5). Tighten the hex head screw in tilting mechanism. **IMPORTANT:** Sometimes in trying to make this critical adjustment it is possible to cause the basic setting to be misaligned. Should this occur, proceed as follows:
 - a. Loosen the set screw and back it out as far as it can go and still remain in the threaded hole.
 - b. Turn the hex head screw clockwise until it stops (do not tighten).
 - c. Turn the set screw clockwise until it bottoms, then continue for half a turn and check the tracking by turning on the machine.
 - d. If further adjustment is required, go back to step 4.
- (6). Turn off power to the machine.
- (7). Replace the blade guide assemblies--it may be necessary to loosen the blade tension lightly.
- (8). Adjust the vertical position of blade guide bearing assemblies so that the back side of the blade just touches the ball bearing.
- (9). Make a final run to check tracking. If required, touch up adjustment (See step 4)
- (10). Replace the blade guards.

10. MAINTENANCE

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

That's easier to keep machine in good condition or best performance by means of maintaining it at any time than remedy it after it is out of order.

- (1) Daily Maintenance (by operator)
 - (a) Fill the lubricant before starting machine everyday.
 - (b) If the temperature of spindle caused over-heating or strange noise, stop machine immediately to check it for keeping accurate performance.

(c) Keep work area clean; release vise, cutter, work-piece from table; switch off power source; take chip or dust away from machine and follow instructions lubrication or coating rust proof oil before leaving.

(2) Weekly Maintenance

(a) Clean and coat the leading screw with oil.

(b) Check to see if sliding surface and turning parts lack of lubricant. If the lubricant is insufficient, fill it.

(3) Monthly Maintenance

(a) Check if the fixed portion has been loose.

(b) Lubricate bearing, worm, and worm shaft to avoid the wearing.

(4) Yearly Maintenance

(a) Adjust table to horizontal position for maintenance of accuracy.

(b) Check electric cord, plugs, switches at least once a year to avoid loosening or wearing.

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 require 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 Optimums No. 6

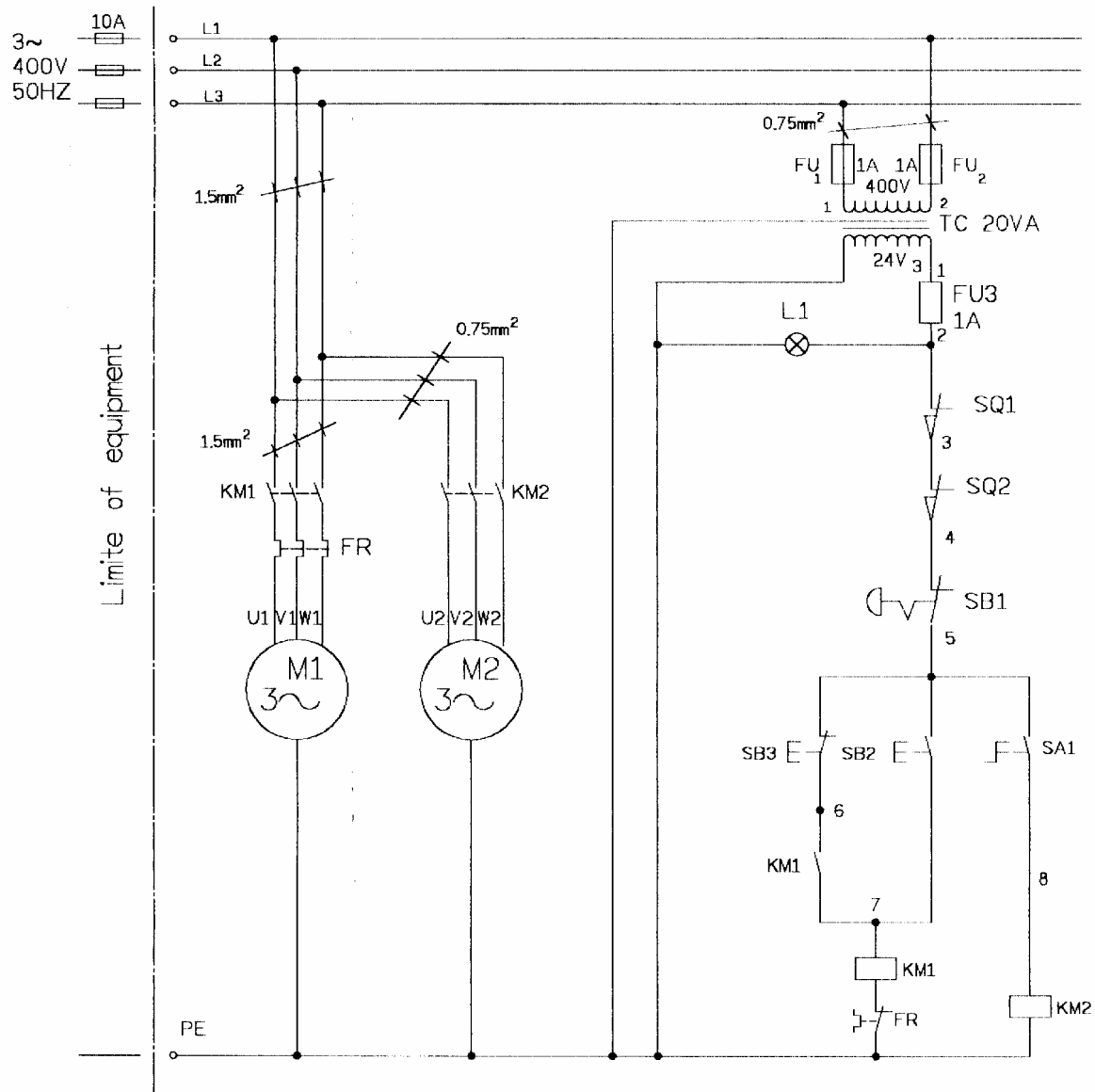
Gulf Refinery Co Medium Gear Oil

11. TROUBLE SHOOTING

Symptom	Possible Cause(s)	Corrective Action
Excessive Blade Breakage	<ol style="list-style-type: none"> 1. Materials loosen 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. Miss-aligned guide bearings 9. Blade too thick 10. Cracking at weld 	<ol style="list-style-type: none"> 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 to where blade just does not slip on wheel 6. Place blade in contact with work after motor is started 7. Adjust wheel alignment 8. Adjust guide bearings 9. Use thinner blade 10. Weld again, note the weld skill.
Premature Blade Dulling	<ol style="list-style-type: none"> 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 8. Blade slide 	<ol style="list-style-type: none"> 1. Use finer teeth 2. Decrease speed 3. Decrease spring tension on side of saw 4. Reduce speed, increase 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 8. Tighten blade tension
Unusual Wear on Side/Back of Blade	<ol style="list-style-type: none"> 1. Blade guides worn. 2. Blade guide bearings not adjust properly 3. Blade guide bearing bracket is loose 	<ol style="list-style-type: none"> 1. Replace. 2. Adjust as per operators manual 3. Tighten.
Teeth Ripping from	<ol style="list-style-type: none"> 1. Tooth too coarse for work 	<ol style="list-style-type: none"> 1. Use finer tooth blade.

Blade.	<ol style="list-style-type: none"> 2. Too heavy pressure; too slow speed. 3. Vibrating work-piece. 4. Gullets loading 	<ol style="list-style-type: none"> 2. Decrease pressure, increase speed 3. Clamp work piece securely 4. Use coarser tooth blade or brush to remove chips.
Motor running too hot	<ol style="list-style-type: none"> 1. Blade tension too high. 2. Drive belt tension too high. 3. Blade is too coarse for work 4. Blade is too fine for work 5. Gears aligned improperly 6. Gears need lubrication 7. Cut is binding blade 	<ol style="list-style-type: none"> 1. Reduce tension on blade. 2. Reduce tension on drive belt. 3. Use finer blade. 4. Use coarse blade. 5. Adjust gears so that worm is in center of gear. 6. Check oil path. 7. Decrease reed anti speed
Bad Cuts (Crooked)	<ol style="list-style-type: none"> 1. Feed pressure too great. 2. Guide bearings not adjusted properly 3. Inadequate blade tension. 4. Dull blade. 5. Speed incorrect. 6. Blade guides spaced out too much 7. Blade guide assembly loose 8. Blade truck too far away from wheel flanges 	<ol style="list-style-type: none"> 1. Reduce pressure by increasing spring tension on side of saw 2. Adjust guide bearing, the clearance can not greater than 0.001. 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)	<ol style="list-style-type: none"> 1. Too much speed or feed 2. Blade is too coarse 3. Blade tension loose 	<ol style="list-style-type: none"> 1. Decrease speed or feed. 2. Replace with finer blade. 3. Adjust blade tension.
Blade is twisting	<ol style="list-style-type: none"> 1. Cut is binding blade. 2. Too much blade tension. 	<ol style="list-style-type: none"> 1. Decrease reed pressure. 2. Decrease blade tension.

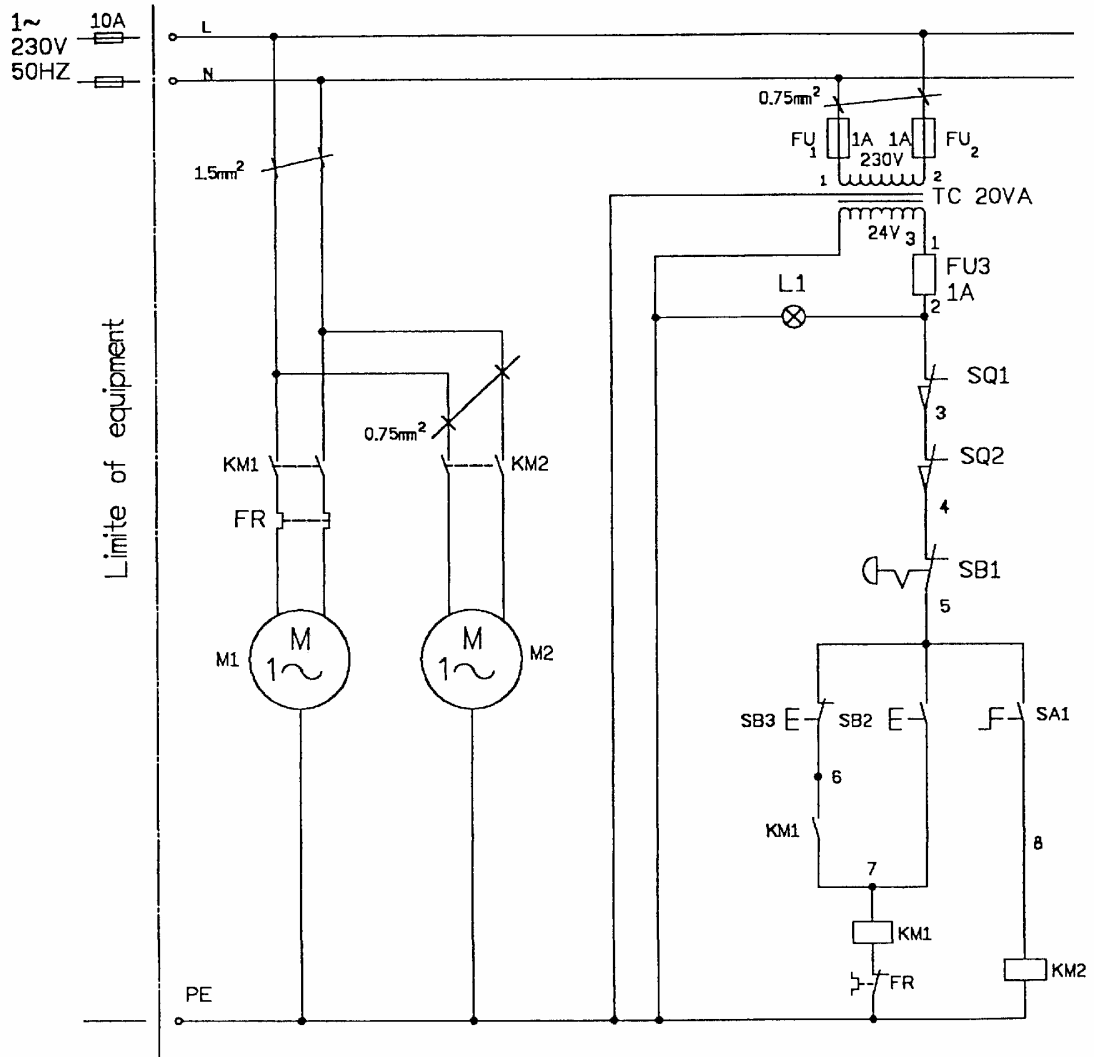
CIRCUIT DIAGRAM



ELECTRICAL SPECIFICATION

RONG FU INDUSTRIAL CO.,LTD.		SCHEDULE OF ELECTRICAL EQUIPMENT			Sheet:	
RF-712						
Item	Designation and function	Technical data	QTY	Supplier	Supplier reference	REMARK
BOX	BOX	210x140x100	1	AP	2114 IP65	
SQ1	LIMIT SWITCH	U _i =500V 3A	1	TELEMECA- NIQUE	XCK-P	IEC60947-5-1 EN60947-5-1 EN50047
SQ2		or U _i =400V 2A	1	or OMRON	or D4D-1562N D4D-1532N	
SB1	EMERGENCY STOP	AC 500V/6A	1	TELEMECA- NIQUE	XB2-ES542	EN-54079
SB2	POWER ON	AC 500V/6A	1	TELEMECA- NIQUE	XB2-EA145	CSAD150
SB3	POWER OFF		1		XB2-EA135	EN54075
SA1	PUMP POWER ON/OFF		1		XB2-ED21	
KM1	CONTACTOR	AC 400V 9A	1	TELEMECA- NIQUE	LC1-K0910B7	IEC947-4-1 VDE0660 BS5424
KM2	CONTACTOR		1			
FR1	OVERLOAD RELAY	$\frac{1.8 \sim 26}{1.8} A$	1	TELEMECA- NIQUE	LR-7K	IEC947-4-1 VDE0660 BS5424
FU1	FUSE AND BOX	800V 1A	1	WAGO	281-611 TT	
FU2	FUSE AND BOX		1			
FU3	FUSE AND BOX		1			
TC	TRANSFORMER	400V/24V 20VA	1	SUENN LIANG	SC-TRA	
M1	MOTOR	0.56KW 400V 1.8A 1420rpm	1	JIUH DAH	JEF-H	
M2	PUMP	93W 400V 0.24A 2840rpm	1	JIUH DAH	JEF-VPP	
HL1	LIGHT	AC/DC 30V	1	TELEMECA- NIQUE	XB2-EV167	CSAD150
	CABLE FOR MAIN MOTOR	H05VV-F 4x1.5mm ²	1	I-SHENG	H05VV-F	
	CABLE FOR COOLANT PUMP MOTOR	H05VV-F 4x0.75mm ²	1	I-SHENG	H05VV-F	
	CABLE FOR POWER	H05VV-F 4x1.5mm ²	1	I-SHENG	H05VV-F	

CIRCUIT DIAGRAM



ELECTRICAL SPECIFICATION

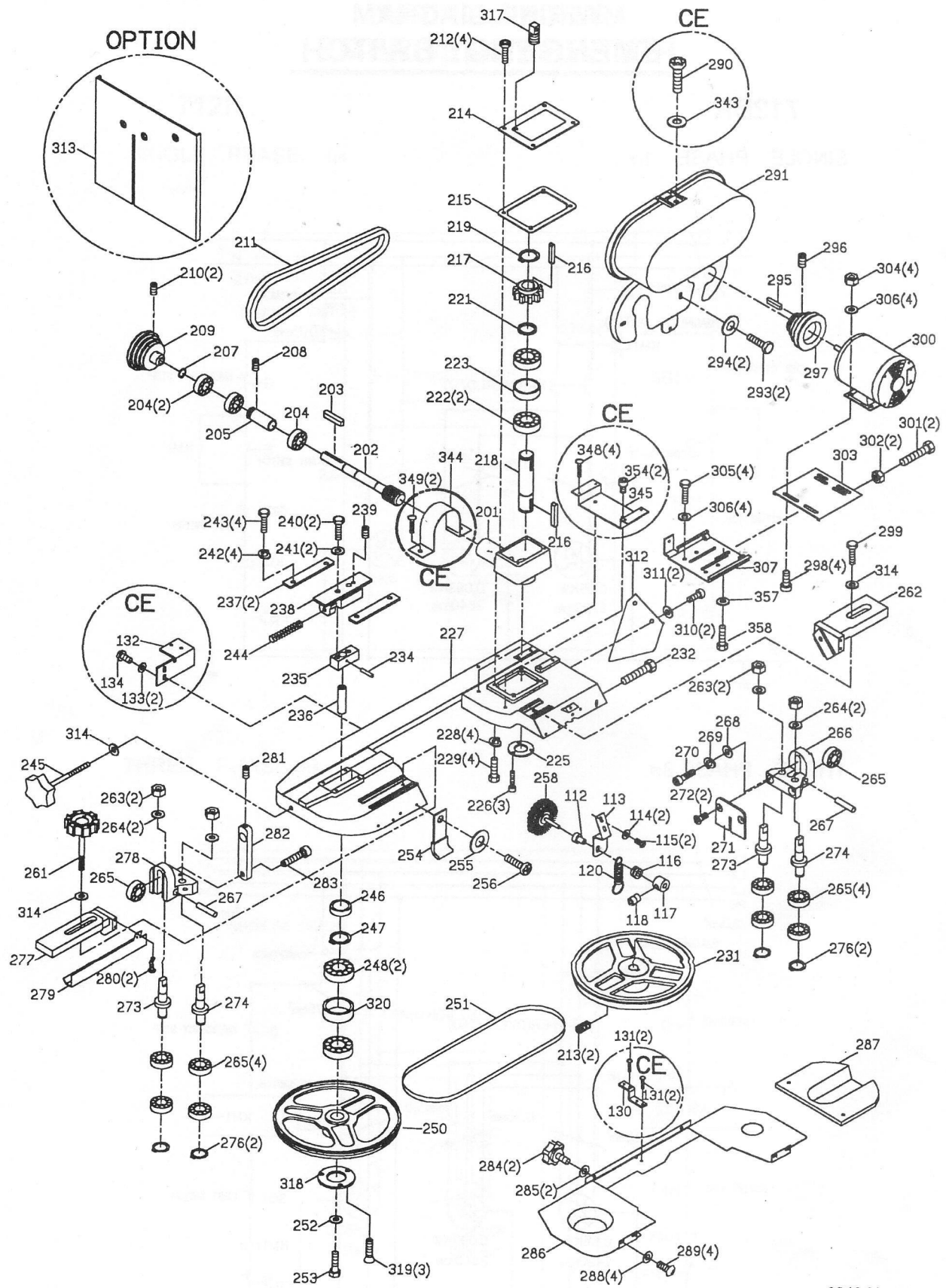
RONG FU INDUSTRIAL CO.,LTD. RF-712		SCHEDULE OF ELECTRICAL EQUIPMENT			Sheet:	
Item.	Designation and function	Technical data	QTY	Supplier	Supplier reference	REMARK
BOX	BOX	210x140x100	1	AP	2114 IP65	
SQ1	LIMIT SWITCH	U _i =500V 3A	1	TELEMECA- NIQUE	XCK-P	IEC60947-5-1 EN60947-5-1 EN50047
SQ2		or U _i =400V 2A	1	or OMRON	D4D-1562N D4D-1532N	
SB1	EMERGENCY STOP	AC 500V/6A	1	TELEMECA- NIQUE	XB2-ES542	EN-54079
SB2	POWER ON	AC 500V/6A	1	TELEMECA- NIQUE	XB2-EA145	CSAD150
SB3	POWER OFF		1		XB2-EA135	EN54075
SA1	PUMP POWER ON/OFF		1		XB2-ED21	
KM1	CONTACTOR	AC 440V 9A	1	LOVATO	LCEK1610 LC1K0910B7	IEC947-4-1 VDE0660 BS5424
KM2	CONTACTOR		1			
FR1	OVERLOAD RELAY (ON MOTOR)	$\frac{5.5 \sim 8}{6} A$	1	JIUH DAH		
FU1	FUSE AND BOX	800V 1A	1	WAGO	281-611 TT	
FU2	FUSE AND BOX		1			
FU3	FUSE AND BOX		1			
TC	TRANSFORMER	230V/24V 20VA	1	SUENN LIANG	SC-TRA	
M1	MOTOR	0.56KW 230V 6A 1420rpm	1	JIUH DAH	JEF-H	
M2	PUMP	93W 230V 0.8A 2840rpm	1	JIUH DAH	JEF-VPP	
HL1	LIGHT	AC/DC 30V	1	TELEMECA- NIQUE	XB2-EV167	CSAD150
	CABLE FOR MAIN MOTOR	H05VV-F 3x1.5mm ²	1	I-SHENG	H05VV-F	
	CABLE FOR COOLANT PUMP MOTOR	H05VV-F 3x0.75mm ²	1	I-SHENG	H05VV-F	
	CABLE FOR POWER	H05VV-F 3x1.5mm ²	1	I-SHENG	H05VV-F	

301461 Complete electrical box

301462 Contactor 24v coil

301795 Overload

300828 Relay, orange



712N(CE)

88.12.01
712NC.DWG

MODEL SE 712

ITEM	PART NO.	REF NO.	DESCRIPTION	SPECIFICATION
1	300935	181107-2	Swivel Base	
2	300757	181108A	Acme Screw	
3	300907	W002	Washer	1/2"x28xt2
4	300860	S601	Hex. Socket Headless Screw	1/4"x1/2"L
5	300758	181606	Wheel-hand	
6	300752	3027-1	Handle	
7	301269	181266	Fixed Bolt	
8	301270	W008	Flat washer	3/8"x25xt2
9	300936	181114	Vise Jaw Bracket(Front)	
10	300937	HP021	Pin	⌀ 5x34L
11	300938	181136A	Bracket	
12	300755	181604	Acme Nut	
13	300909	181605	Button	
14	300910	W203	Spring Washer	3/16" (2 each)
15	300911	191206	Retainer, Spring	
16	78833	HS519	Cross Round Head Screw	M5x10L
17	43331	S410	Hex. Socket Head Screw	3/8"x1-1/2"L
18	43916	N001	Hex. Nut	1/2"
19	300907	W002	Washer	1/2"x28xt2
20		S501	Carriage Screw	1/2"x2"L
21		S003	Hex. Head Screw	1/2"x2"L
22	300939	181113-1	Vise Jaw Bracket(Rear)	
23	300940	181121	Bushing	
24	300941	181122-1	Support Rod	
25	43314	S022	Hex. Head Screw	5/16"x3/4"L
26	300942	181123	Pivot Bracket	
27		181270	Washer	
28		S012	Hex. Head Screw	3/8"x1-1/2"L
29	301686	181133	Support Plate	
30		181134	Fixed Plate	
31	300943	181117-1	Spring or 301290	
32	301291	181118	Spring Adjusting Screw	
33	301687	181115	Spring Handle Bracket	
34	43314	S022	Hex. Head Screw	5/16"x3/4"L
35	43632	W016	Washer	5/16"x23xt2

MODEL SE 712

ITEM	PART NO.	REF NO.	DESCRIPTION	SPECIFICATION
36		N005	Hex. Nut	3/8"
37		W014	Washer	3/8"x23xt2
38	301688	181130	Thumb Screw	
39	43314	S022	Hex. Head Screw	5/16"x3/4"L
40	300944	3021	Stock Stop Rod or 301300	
41	300945	181125	Distance Set Bracket	
42		S019	Hex. Head Screw	5/16"x1-1/2"L
45		181112	Support Plate	
46		S014	Hex. Head Screw	3/8"x1-3/4"L
47		N005	Hex. Nut	3/8"
48	43314	S022	Hex. Head Screw	5/16"x3/4"L
49	43632	W017	Washer	5/16"x18xt1.5
50		S014	Hex. Head Screw	3/8"x1-3/4"L
51		N005	Hex. Nut	3/8"
52	43314	S022	Hex. Head Screw	5/16"x3/4"L
53	43632	W017	Washer	5/16"x18xt1.5
55	301689	181431A	Gear Box Gasket	
56	301690	181420B	Cover	
57	301285	3131	Switch Cover	
58		S708	Cross Round Head Screw	3/16"x3/8"L
59-1			Switch Instruction Plate	
59-2			Hex. Nut	
61	300733		Switch -limit	
62	301537	181106	Coolant Pan	
63		181989	Switch Bracket(For CE Only)	
64		S708	Cross Round Head Screw	3/16"x3/8"L
65	301404	191106	Filter	
67		S013	Hex. Socket Head Screw	3/8"x1-1/4"L
68	43632	W017	Washer	5/16"x18xt1.5
69		N005	Hex. Nut	3/8"
70	301691	181101-1	Leg(Left)	
71	301405	181102	Leg(Right)	
72	79147	S101	Hex. Head Screw	3/8"x1"L
73		W014	Washer	3/8"x23xt2
74		N005	Hex. Nut	3/8"

MODEL SE 712

ITEM	PART NO.	REF NO.	DESCRIPTION	SPECIFICATION
75		S708	Cross Round Head Screw	3/16"x3/8"L
77	301406	181103	Panel	
78	301454	181854	Hose	OD16mmxID13mmx260m
82	300962	181256	Coolant Tank	
82-1	300961		Filter	
84	300754		Pump	
85		S701	Cross Round Head Screw	1/4"x1/2"L
86		W004	Washer	1/4"x19xt1.5
88	301694	181852	Coupler	3/8"PT
89		181601	Hose Clip	ACC-4(φ 5)
90	301456	181981	Hose	OD12mmxID8mmx2000m
91	301455	181856	Valve	1/8"PT
94	301535	181128	Wheel Rod	
95	300742	181129	Wheel	
96	301536	HP210	Cotter Pin	φ 3x25L
97	300730	181304-2	Cylinder Complete Set OR 300750	RF-712N
99		W017	Washer	5/16"x18xt1.5
100		S017	Hex. Head Screw	5/16"x1"L
101		S412	Hex. Socket Head Screw	3/8"x2-1/4"L Threaded
102		W013	Washer	3/8"x20xt2
112		181241BS	Brush Assembly items 112-118, 120, 258	
113	300952	181242B	Brush Support	
114		W007	Washer	3/16"x12xt0.8
115		S708	Cross Round Head Screw	3/16"x3/8"L
116	301695	192029	Bearing Spacer	
117	301696	181307	Bushing	
118	78744	HS422	Hex. Socket Headless Screw	M6x10L
119	301620	181241BS	Brush assembly items 112-118,120,258	
120	300951	192030	Spring for brush	
130		181306	Bracket	For CE Only
131		HS508	Cross Round Head Screw	M4x5L , For CE Only
132		181305	Switch base	For CE Only
133		HW003	Washer	M5 , For CE Only
134		HW509	Cross Round Head Screw	M4x10L , For CE Only
201	300749	181216-1	Gear Box	
201	300749R		Rebuilt gear box	

MODEL SE 712

ITEM	PART NO.	REF NO.	DESCRIPTION	SPECIFICATION
202	301473	181223	Worm Shaft	
203	300957	K008	Key	5x5x30L
204	300853	CA6003LLU	Bearing	
205	301476	181224	Bearing Bushing	
207	300495	C002	C-Retainer ring	R17
208	300908	S607	Hex. Socket Headless Screw	5/16"x1/2"L
209	300958	181226	Spindle Pulley	
210		S604	Hex. Socket Headless Screw	1/4"x3/8"L
211	300747	181874	Belt	3Vx270
212			Cross Socket Hex. Head Screw	1/4"x5/8"L
213		S604	Hex. Socket Headless Screw	1/4"x3/8"L
214	301697	181222-1	Gear Box Cover	
215	301698	181221	Gear Box Gasket	
216	301468	HK025	Key	6x6x20L
217	301683	181220-1	Worm Gear	
218	301467	181219-1	Transmission Wheel Shaft	
219	43993	HCS13	C-Retainer Ring 76827	S25
221	301471	181218-1	Bushing	
222	300693	CA6205LU	Bearing	
223	301699	181217-1	Bushing	
225	301700	181246	Bearing Cover	
226	300905	S712	Cross Round Head Screw	5/32"x3/8"L
227	300946	181203-1	Body Frame	
228	43633	W204	Spring Washer	3/8"
229	43330	S013	Hex. Socket Head Screw	3/8"x1-1/4"L
230			C-Retainer ring	S26
231	300947	181214-2	Drive Wheel	
232	43314	S022	Hex. Head Screw	5/16"x3/4"L
234	301730	HP013	Pin	‡ 4x22L
235	301730	181208	Sliding Plate Draw Block	
236	301730	181209	Blade Wheel Shaft	
237	300934	181210	Sliding Plate OR 300737	
238	300933	181211	Blade Tension Sliding Block	
239		S608	Hex. Socket Headless Screw	5/16"x3/4"L
240		S019	Hex. Head Screw	5/16"x1-1/2"L
241		W015	Washer	5/16"x12xt2

MODEL SE 712

ITEM	PART NO.	REF NO.	DESCRIPTION	SPECIFICATION
242		W205	Spring Washer	5/16"
243		S020	Hex. Head Screw	5/16"×1"L
244	301703	181212	Spring	
245	301704	181213	Blade Adjustable Knob	
246	301705	181207-1	Bushing	
247		HCR04	C-Retainer ring	R35
248	300734	CA6202Z	Bearing	
250	300948	181205-2	Idler Wheel	
251	300732	181894	Blade	0.032"x3/4"x93"
252		W017	Washer	5/16"x18xt1.5
253	43314	S022	Hex. Head Screw	5/16"x3/4"L
254	301350	181240	Switch Cut Off Tip	
255		W005	Washer	1/4"x16xt1.5
256		S201	Cross Round Head Screw	1/4"x1/2"L
258	300736	181241A	Brush	
261	301685	3066-3	Blade Adjustable Knob	
262	300949	181228-1	Adjustable Bracket(Rear)	
263		N006	Hex. Nut	3/8"UNF
264		W208	Spring Washer	3/8"
265	10026-01	CA6000ZZ	Bearing for 10mm I.D. on current version	
265	300744		8mm I.D. old version	
266	300950	3064	Blade Adjustable (Rear)	Hole
267	301445	3063	Bearing Pin	
268	43632	W017	Washer	5/16"x18xt1.5
269		W205	Spring Washer	5/16"
270		S416	Hex. Socket Head Screw	5/16"x1-1/4"L
271	301602	3069	Deflector Plate	
272	43798	S301	Flat Cross Head Screw	1/4"x1/2"L
273	300746	181243	Bearing Shaft	
274	300745	181244	Guide Pivot (Right)	
276	301447	HCS01	C-Retainer Ring 301593	S10
277	300956	181230-1	Adjustable Bracket(Front)	
278	300954	3064-1	Blade Adjustable (Front)	Without Hole
279	300955	181231	Blade Cover(Front)	
280		S711	Cross Round Head Screw	5/32"x1/4"L
281		S604	Hex. Socket Headless Screw	1/4"x3/8"L

MODEL SE 712

ITEM	PART NO.	REF NO.	DESCRIPTION	SPECIFICATION
282	301706	0162	Nozzle Cock Support	
283		S416	Hex. Socket Head Screw	5/16"x1-1/4"L
284	301534	181202	Knob	
284		181202-1	Knob (For CE Only)	
285		W005	Washer	1/4"x16xt1.5
286	300739	181201	Blade Back Cover	
287	300737	181238	Wheel Cover	
288		W005	Washer	1/4"x16xt1.5
289		S701	Cross Round Head Screw	1/4"x1/2"L
290		S201	Cross Round Head Screw	1/4"x1/2"L , For CE Only
291	300960	181237	Motor Pulley Cover (Plastic)	
293		S006	Hex. Head Screw	1/4"x1/2"L
294		W004	Washer	1/4"x19xt1.5
295	300957	K008	Key	5x5x30L
296		S604	Hex. Socket Headless Screw	1/4"x3/8"L
297	300959	181235	Motor Pulley	
298		S503	Screw	5/16"x1"L
299		S013	Hex. Socket Head Screw	3/8"x1-1/4"L
300	300741	M301	Motor	3/4HP/110/60/1PH
	301374		Motor Fan	
	301375		Motor Cover	
301		S021	Hex. Head Screw	5/16"x2"L
302		N007	Hex. Nut	5/16"
303	301708	181234A	Motor Mount Plate	
304		N007	Hex. Nut	5/16"
305	43314	S022	Hex. Head Screw	5/16"x3/4"L
306		W016	Washer	5/16"x23xt2
307	301709	181233A	Motor Mount Bracket	
310		S201	Cross Round Head Screw	1/4"x1/2"L
311		W005	Washer	1/4"x16xt1.5
312		181232-1	Support Plate	Optional
313	301486	3055-3	Vertical Saw Table	Optional
314		W008	Flat washer	3/8"x25xt2
316	301289		Scale	
317		3149	Vent Plug	M8xP1
318		3072-2	Bearing Cover	

MODEL SE 712

ITEM	PART NO.	REF NO.	DESCRIPTION	SPECIFICATION
319	43881	S302	Flat Cross Head Screw	3/16"x3/8"L
320	301710	181245	Bushing	
326		S708	Cross Round Head Screw	3/16"x3/8"L
330		181980	Fitting	PET(3/8PT)x5/16"
330-1		181602	Pipe Joiner	∅ 6
330-2		181603	Pipe Nut	M10
333		W007	Washer	3/16"x12xt0.8
335			Wire Nipple	5/8"
339		181992	Bushing	
340		181993	Cylinder Protector	
341	301299	181301-2	Cylinder Lower Support	
342	301191	181302-2	Cylinder Upper Support	
343		W005	Washer (For CE Only)	1/4"x16xt1.5
344		181988	Gear Box Protector(For CE Only)	
345		181991	Emergency Switch Bracket(For CE Only)	
348		S727	Cross Round Head Screw	M6x12L
349		S726	Cross Round Head Screw	M6x10L
352		W016	Washer	5/16"x19xt1.5
353		S018	Hex. Head Screw	5/16"x1/2"L
355		N005	Hex. Nut	3/8"
356		181979	Hose Bib	
357		W018	Washer	5/16"x23xt3
358		S022	Hex. Head Screw	5/16"x3/4"L
371		ET1304	Wire Nipple	1/2"
375		S708	Cross Round Head Screw	3/16"x3/8"L
388	300733		Limit Switch	
389			Toggle Switch	
390	301286	181932	Toggle Switch Cover	
391	301461	181401	Electrical Box	
392		181402	Cover	
407	300953	192039	Knob W/Shaft	
408		N005	Hex. Nut	3/8"
409		W013	Washer	3/8"
410		S013	Hex. Socket Head Screw	3/8"x1-1/4"L
411		181308	Coaster of Stand	1/2"
412		N001	Hex. Nut	1/2"

