INSTRUCTION BULLETIN & MAINTENANCE MANUAL FOR CTD MODEL DMC70 "MITRE MAX"

CID MODEL NO:

CID SERIAL NO:_____

MANUFACTURE DATE:

DISTRIBUTOR PURCHASED THROUGH:

(FANY)____



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Machine Requirements:

MODEL NO: _____ SERIAL NO: _____

Cutting Capacities:

13" (330mm) Blade Capacity Height Width 4"(102mm) 8"(203mm)

Electrical Requirements: Based on two motors per machine

Required Amperage	Breaker Needed
20 amps	30 amp
9.2 amps	15 amp
4.6 amps	15 amp
5.7 amps	20 amp
25 amps	40 amp
10.8 amps	20 amp
5.4 amps	15 amp
	Required Amperage 20 amps 9.2 amps 4.6 amps 5.7 amps 25 amps 10.8 amps 5.4 amps

Pneumatic Requirements:

1 CFM per 10 strokes at 75 PSI (.043 cubic meters at 5.4 kg/cm2)

Dust Collection Requirements:

1200 CFM at two 4" outlets

Cutting Tool Requirements:

Heavy, rigid plate blades 13" blades: .120 to .130 plate

Installation and Set Up:

CTD 13"(330mm) Models DMC70A Automatic & DMC70M Manual Double Mitre Cross-Cut Saws: The CTD saw you have purchased is designed to cut wood, aluminum, and plastic, with of course, the proper blade and conditions. For the material you are cutting, please refer to the cutting instructions for each material type. The DMC70 uses a NEMA 56 Frame 1-1/2 H.P., 3450 RPM, 60 HZ TEFC motor. CTD uses a speed-up drive so that the blade will run at approximately 12,000 SFPM on a 13" (330mm) blade. The DMC70A and the DMC70M are exactly the same machine with the exception of the Air Pneumatic System. All instructions will pertain to both machines unless specifically excluded.

IMPORTANT: Before operating saw, please be sure to read the "SAFETY INSTRUCTIONS TO THE OPERATOR" (on Page No. 10).

Note: The floor stand must be leveled to the floor to eliminate vibration. Adjustable leveling feet are provided. Adjust leveling feet as necessary by loosening lock nut. All machines have been completely assembled at the factory, then disassembled for shipment.



Assembly of Tables to Floor Stand:

- 1. Assemble leg to table with 3/8-16 bolts and nuts provided. Turn table upside down and attach leg to table with leg rising vertically. Note: The hole in the table (when mounted properly) should be toward the front of the table and far away from the blade to attach Fence Support Bar, P/N 20M82 (see Diagram "A"). If you have purchased a Vision Gage Assembly, be careful to protect lined measuring gage.
- 2. Attach Table, P/N BF17 to machine floor stand on Angle Bracket, P/N BF05A. Use 3/8-16 bolts and nuts provided on angle bracket.



Blade Installation:

Before setting blades on spindle, always shut off or disconnect air supply. With motor **OFF** and power disconnected, loosen front blade guard bolts. The main blade guard will hinge up and open, exposing blade and spindle. Loosening the bolts automatically shuts down machine, due to an interlock switch located on hinged blade guard.

- 1. Remove Spindle Nut, P/N 9B1P36 or 37 and Outer Flange, P/N 8M02. If necessary, hold blade in hand with a rag. Push down with a 1-7/16" wrench provided.
- Place blade on spindle with tips pointing down. Make sure Slinger (inner flange P/N 8M03) and blade surface are **clean** before putting blade on spindle. This is a critical surface and is ground within .0005 flatness. Any debris or dust will wear this surface. Wipe both surfaces (blade and slinger) with a clean rag.
 - A. The blade must **ALWAYS** rotate to the rear of the machine on the underside of the blade (see Diagram "D" on page No. 4).

Always check rotation before cutting a piece of material.

 Replace Outer Flange, P/N 8M03 and nut as before and tighten (refer to Diagram "B"). Pull up with wrench. Do not over-tighten; snugging the blade is all that is necessary.



ROTATION

Diagram"D"

Attaching Measuring System to Machine: Vision Gage Assembly:

The vision gage has been completely installed on your machine before shipment. It is then disassembled for shipment.

- 1. Attach leg to table with 3/8-16 bolts and nuts provided.
- 2. Attach Table, P/N BF17D to machine floor stand on Angle Bracket, P/N BF05A. Use 3/8-16 bolts and nuts provided on angle bracket.
- Butt Vision Gage and table as close as possible to the edge of the base plate P/N 70M01.
 A. With a scale or ruler touching the side of the tips of the blade, measure a distance away from the blade. Be sure ruler and vision gage markings read the same. Adjust Left to Right as necessary.
- 4. Put outside Fence Gage, P/N 70M223-6' on top of lined Vision Gage so that lines terminate at fence. Attach outside measuring gage with 3/8-16 bolts provided to Right Front Fence Angle, P/N 70M35R. Adjust gage so measurement rule is correct. Follow instructions under No. 3A above. Attach Fence Support Bar, P/N 20M82 with bolt and nuts provided to the table front. See Diagram "A" on page 3.





Electrical Installation:

The CTD DMC70's use two 1-1/2 H.P. single or three phase 3450 RPM, 60 HZ TEFC (totally enclosed fan cooled) motors on a NEMA 56Z Frame. CTD uses a speed up drive so that the blade will run at approximately 3700 RPM.

Electrical installation should be performed by a qualified and certified electrician. A lock-out or disconnect switch is located in front of the machine. It is a rotary switch to the left front of the machines. This disconnect switch is used to shut off power to the machine and should be used whenever the blades are changed or at any time the machine is serviced and the blades are exposed. A Dual Magnetic Starter, located inside the left side panel of the machine protects the motor from overheating and will not allow the motor to restart itself after power outages or undervoltage situations. The START button turns the motors "ON". The STOP button turns the motors "OFF". Note: The STOP button must be pulled out before the START button will activate the motors.

The hinged front blade guard must be tightened down in place properly. An interlock switch, located on the blade guard must be contacted or the motors will not start.

Electrical Installation of Power to Starter by a Qualified Electrician:

All wiring from the motors to the starter has been completed and tested at the factory several times. The voltage has been clearly tagged. DO NOT CONNECT ANY VOLTAGE THAT IS DIFFERENT THAN THE TAGGED VOLTAGE, AS THIS MAY CAUSE SEVERE DAMAGE AND DANGER.. CONSULT FACTORY IF ANY CHANGES ARE NEEDED.

Bring incoming power lines to the left side using hard wire and dust proof connectors. Attach incoming power lines through Floor Stand to the rotary disconnect switch. Connect to terminals 2 & 4 for single phase motors, and to terminals 2, 4 & 6 for three phase motors. Always ground the green wire. (See wiring diagram on Page 6.)

Single Phase Motor Replacement:

Connect motor leads to T1 and T3 of overload relay for single phase motors. (See wiring diagram for single phase motors on following page) Green ground wire must be grounded to enclosure. If using type "SO" wire and plug, use a dust tight connector through Floor Stand and a grounded plug. *Be sure to check* rotation. If a change is necessary, open the motor box located on the motor, and switch the #8 and the #5 wires. This reverses the rotation of a single phase motor. The blade must rotate down and to the rear on the underside of the blade (see Diagram "D" on Page No. 4).

Three Phase Motor Replacement:

Connect motor line leads to T1, T2, & T3 of the overload relays. (See wiring diagram for three phase motors.) Green ground wire must be grounded to enclosure. *Be sure to check rotation* as polarities may be different. The blade must rotate down and to the rear on the underside of the blade (see Diagram "D" on Page No. 4). If a change in rotation is necessary, reverse any two of the incoming power wires. *Example: If the blades are running backwards and incoming wires are connected White L1,Black L2,Red L3, switch the Black wire with the Red so that Black is connected to L3 and Red is connected to L2. This will change the blades to rotate properly.*

Motor Load Amperes Per Motor

MOTOR SIZE	110 VOLT	220 VOLT	440 VOLT
1-1/2 H.P., 1 Phase	20 amps	10 amps	N/A
1-1/2 H.P., 3 Phase	N/A	4.6 amps	2.3 amps
2 H.P., 1 Phase	25 amps	12.5 amps	N/A
2 H.P., 3 Phase	N/A	5.4 amps	2.7 amps



Single Phase Wiring Diagram



DMC70 Air/Pneumatic Wiring Diagram

WIRING DIAGRAM FOR PNEUMATIC SYSTEM



DMC70 Air/Pneumatic System:

The air pneumatic system on the DMC70 is simple to use and understand, and easy to operate. The main components of the air system are shown below in the Air Circuit Piping Diagram. The system operates by depressing the foot switch to actuate clamps. Pushing the foot switch again releases clamps. Once the clamps are clamped, the operator depresses the two-hand control buttons simultaneously, P/N 70B5P79. This gives a signal to the main 4-Way Control Valves for the left saw to change direction—allowing air to pass to the main drive Cylinder on the left, P/N 70B3P75. This pushes the saw forward to a limit switch. The speed of the stroke is controlled by the Speed Control Valve, P/N70B3P60. The left saw reverses and returns to the rest position, then the right saw moves forward to the limit switch and then reverses and returns to the rest position. The vertical clamps then release. If the two-hand control buttons are released anytime during the cycle, then the cycle is terminated and the saws will return to the rear or rest position. The cycle will have to be restarted by clamping and then pushing the two-hand buttons simultaneously.



Diagram "I" Air Circuit Piping for Model DMC70A

Air Supply—The air supply must be turned off and all electrics disconnected before making adjustment on the power feed. A working pressure of 75 PSI (5.4kg/cm2) is required. An industrial-type compressor of at least 3 CFM (.085 cubic meters) is recommended. An additional 3 CFM (.085 cubic meters is required for Sawblade Lubrication System. A conveniently located valve is supplied by the user to shut off the air line. Saws should be moved by hand when setting up machine.

FR—An Air Filter/Regulator is installed ahead of the air inlet to the machine. This system helps prevent foreign matter from entering the system. The FR is comprised of two different components.

1. The Air Filter Bowl is located on the left side and is provided with an automatic drain. This collects and then releases foreign matter and condensation collected by the air filter.

2. The Pressure Regulator, which is located on top of the air filter, controls the amount of air pressure allowed into the system. An operating pressure of 75 PSI is required. (This is set at the factory.)

Air Filter/Regulator



Two Hand Control and Selector Switch:

The saw movement is controlled by depressing the two-hand anti-tie down control buttons. Once the clamps are actuated via the foot switch, the two-hand buttons are depressed. The buttons must be held down throughout the saw cutting cycle. The stroke of the saw heads can be reversed at any time by releasing the two-hand buttons. The selector switch can be used to operate only the left saw, only the right saw, or both. The selector switch "left" will only allow the two-hand buttons to operate the left saw. The selector switch "right" will only allow the two-hand buttons to operate the right saw. Selector switch "both" allows the two-hand control to operate the left saw and then the right saw, to complete a cycle.

Speed Control of Blades Movement:

The forward speed of the left blade is controlled by the left Speed Control Valve, P/N 70 B3P60. The forward speed of the right blade is controlled by the right Speed Control Valve, P/N 70B3P60. Both are located in the two-hand button enclosure, located in the front of the machine. An easy way to remember is the *left* valve controls the *left* saw, and the *right* valve controls the *right* saw.

Air Hold Down Clamps for the Material:

Horizontal manual clamps are supplied standard on the hand operated DMC70M and two Vertical Air Clamps are supplied standard on the pneumatic version, the DMC70A. These clamps help hold the material in place when the saw blades are cutting the material. If clamps are not used, the operator *MUST HAND HOLD THE MATERIAL*. For the hand operated DMC70M, the horizontal clamp pad or shoe needs to be adjusted so that it sits about 1/8" away from the inside or rabbet of the material. When pulling the saw forward, the clamp will move forward to contact material and push it towrds the front fences. The vertical clamps, on the DMC70A are controlled by two 4-Way Valves located in the control panel on the lower right front side of the machine. The clamps are actuated by a foot switch when the two-hand control buttons are depressed. A manual shut-off switch for the vertical air clamps is provided.

Trouble Shooting the Pneumatic System for the DMC70 Cross-Cut Saw:

If there is no control over the speed of the cylinder stroke:

A. Replace either Left or Right Flow Control Valve (see exploded view on page 22, item #23). Another possible cause are bad seals in the air cylinder. Listen for any air leakage.

B. If machine cycle will not start, or will not reverse, check the two-hand control buttons. Also, check for any mechanical binding. Disconnect electricity and air supply from the machine. Manually move saws forward and back to check for binding of the saw or feed mechanism. If machine is bound up, clear the blockage. *Remember, there is an Interlock switch located under the hinged blade guard. The blade guard must be solidly in place and the bolts tightened for the machine to operate.*

Safety Instructions to the Operator:

- 1. *KNOW YOUR CTD SAW*. Read this instruction manual carefully. Learn the operation, application, and limitations, as well as the specific potential hazards peculiar to this machine.
- 2. Avoid accidental starting. Make sure switch is **OFF** before plugging in power cord. A Dual Magnetic Starter is provided to give the operator added protection.
- 3. Always use a plug equipped with a ground.
- 4. Always keep blade guard in place. Do not wire-up or chain-up, so that blade is exposed.
- 5. Be sure all unnecessary tools are removed from machine before turning on power.
- 6. Use safety goggles. Also use a face or dust mask if operation is dusty.
- 7. Support work. To maintain control of work at all times, it is necessary that material be level with cutting surface.
- 8. Wear proper apparel. Do not wear loose clothing or jewelry. Do not wear a tie or gloves. These items can get caught in the moving parts of the machine.
- 9. Do not over-reach. Keep your proper footing and balance at all times.
- 10. Maintain your machine in top condition. Use proper blades. Clean machine weekly for proper maintenance.
- 11. Keep work area clean. Cluttered areas, benches and slippery floors invite accidents.
- 12. Avoid dangerous environments. Keep work area well illuminated.
- 13. Wear ear protection if exposed to long periods of very noisy shop operations.
- 14. Keep visitors away. All visitors should be kept a safe distance from work area.
- 15. Do not force the machine. The saw will do a better job and be safer to operate at the speed for which it was designed. Forcing the saw can be very hazardous to the operator.
- 16. Use recommended accessories. Use of other accessories may be hazardous. Use this instruction manual or consult CTD for the proper accessories available.
- 17. Do not drown the blade using a steady stream of coolant when cutting non-ferrous materials. Only spray the work to cool it.
- 18. Be sure to use the proper blade for the particular material to be cut.
- 19. Disconnect power cord before adjusting, servicing, and before changing belts, or for installing accessories.
- 20. Safety is a combination of operator *COMMON SENSE* and *ALERTNESS* at all times when the machine is being used.
- 21. **WARNING!!!** DO NOT ALLOW FAMILIARITY (GAINED FROM FREQUENT USE OF YOUR SAW) TO DULL YOUR AWARENESS!! ALWAYS REMEMBER THAT A CARELESS FRACTION OF A SECOND IS SUFFICIENT TO INFLICT SEVERE INJURY!!

How to operate the DMC70A or DMC70M:

Before operating the machine, please read the "SAFETY INSTRUCTIONS TO THE OPERATOR". Other important information and features need to be learned before operating the machine.

Rotation:

Both blades must rotate to the rear of the machine on the underside of the blades (see Diagram "D" on Page No. 4.)

Blade Guard:

It is important that the Finger Guards, P/N 20F180 are adjusted to completely cover the blade. The finger-guards, attached to the hinged main blade guard, should be positioned around the material to give maximum operator protection.



The main blade guard can be hinged up by loosening the lock bolts on front of the guard. An interlock switch locks out the power to the saws until the hinged guard is back in place and the bolts are tightened completely. Disconnect the air supply and move the blades forward manually exposing the blades Follow the instructions on page 4, Blade installation, for changing the blades. After changing blades, replace blade guard and tighten guard lock down bolts . *Be sure to provide clearance between the blade guard and the top of the blade at the top of the stroke*. This label is attached to the blade guards. *NEVER PUT HANDS OR FINGERS NEAR OR UNDER THE MOV-ING BLADE!!* Use a piece of wood to remove short pieces from saw.

Cutting: (see Diagram "J" and "K")

A fixed Double Mitre Saw, such as the DMC70 operates by making two 45° cuts at one time. The machine "V" notches the piece of material between the two blades. To make the first cut on a stick length;

- 1. Feed the material to the centerline of the machine so that **ONLY** the *left blade* makes a trim cut. Be careful not to overfeed beyond the centerline of the machine, as the piece can be hit with the right blade, possibly throwing the unclamped piece into the saw blade, causing damage.
- After making the trim cut, feed the material (now with a 45° mitre cut) to the stop at the desired length. When using the Vision Gage, slide the moulding to the desired inside dimension, sighting down the line to the inside of the rabbet of the moulding.

Move outside stop to same position and lock (see Diagram "K").

- 3. Continue to feed length to stop as above, and make double mitre cuts until length is used.
- 4. *RULE OF DOUBLE MITRE CUTTING*—If the piece to be cut cannot be held on **both sides** of the blade, **do not cut it!!!**

Minimum cut length on the DMC70A and DMC70M is 5 1/2" on the point to point dimension. Consult factory for shorter lengths.

Diagram "J"





Diagram "K"

Cutting Speed:

The blade is rotating at approximately 3700 RPM. When moving the blade through the material, the blade must **NEVER** be allowed to dwell in the work. If fine finishes are required;

- 1. Use a sharp blade.
- 2. Use a *constant, even pressure* when cutting through material.

Clamping and Work Slippage:

The work must never be allowed to move or vibrate as it is being cut. When the work is positioned against a stop, it must be clamped either by the manual horizontal clamp or by vertical pneumatic air clamps. Never allow unclamped work between the blade and the stop, as the blade can grab the material and throw it—thereby causing damage to the blade, the machine, and possibly harming the operator. Vertical Clamps hold the material down, against the table base. Vertical clamps are offered as standard equipment on the DMC70A air operated machine. Manual horizontal clamps are standard on the DMC70M manually hand operated machine. Check your material for squareness, using a 90° square. Material that is out of square will move when it is cut, thereby causing irregular mitres. See "IRREGULAR MITRES", Page No. 15. Additional tooling may be needed. Consult factory for information.



Cutting Wood:

While wood is generally soft and simpler to cut than aluminum, it requires that the material be held in place as the blades pass through the material. CTD suggests using a Carbide Blade with an Alternate Top Bevel (ATB) for lighter wood sections and picture frame mouldings. This type of blade gives the finest of finishes. No *ONE* blade will cut all material perfectly. High lacquers or mica mouldings may require a special modified blade for best results. Consult factory. *Never use a wood blade to cut aluminum,* as it will chip and fracture the carbide tips of the blade.

Cutting Plastic:

Plastic can be cut as easily as wood on the DMC70 models. However, because of its elastic properties, the material can deflect as the blades pass through. Therefore, it is important to clamp the material as close as possible to the blade and support it by use of fixtures. Additional tooling may be required. Special carbide blades are available for cutting plastics.

Cutting Aluminum:

As with cutting any material, it is important that aluminum be clamped properly. Precision blades are required for accurate cutting. CTD suggests and uses a Triple Chip Grind on all its nonferrous Carbide Blades. When cutting aluminum, or other nonferrous materials, it is essential that the blades be lubricated with a Saw Blade Lubrication System or other blade lubricating system for the finest finish. See SAWBLADE LUBRICATION SYSTEM below for more details.

Combination Blades:

Any combination blade is basically an aluminum cutting blade. Significant blade life in between sharpenings will be lost if a blade is used for cutting both aluminum and wood. The amount of production for either wood or aluminum should be the determining factor in the assessment of the particular blade type to be used. Please consult factory.

Sawblade Lubrication System:

The Sawblade Lubrication System is used when cutting aluminum or other nonferrous material. This system normally uses a Water Soluble Oil mixture of *10 parts water to one part oil*. The system operates by siphoning the lubrication up the line to the spray nozzle. Any air leak will cause inconsistent fluid flow to the spray nozzle. *BE SURE* your fluid is free from chips and other debris. A fluid container supplied with the machine contains a One-Way Check Valve, Part No. B3P96 at the end of the clear fluid line. This check valve helps to hold the lubrication in the line. However, after a couple of minutes the lubrication or oil will back-flow into the container. Priming of the system may be necessary if the machine has been standing without use. The system may be shut off by closing the toggle valve next to the vacuum pump. The fluid must be clean or the vacuum pump will clog.



CTD Bio Lubrication System:

The CTD biodegradable lubrication system operates by pulse spraying a minute amount of biodegradable lubricant directly on to the saw tooth of the blade in time-measured increments. The majority of the lubricant then dissipates with the heat of the cutting action. Chips coming off the blade are hot and dry, and are more easily collected (see specific instructions included with system).

Cutting Wide Materials:

Wider mouldings can easily be cut on the DMC70's because of our unique below table saw head design. This design allows for use of the top of the blade to cut, as well as the front of the blade. One blade completes the cut before the second blade begins its cut. The blades cross-over an intersecting point to create a virtually scrap free cut.

Scrap:

The DMC70's operate by making two 45° mitres one right after the other. A "V" shaped piece is removed and falls into the scrap drawer and bin located on the bottom front of the machine. Empty the scrap bin regularly. The blades cross-over an intersecting point that virtually eliminates the scrap. Only the kerf of the two blades is lost in the cutting action.

Sound Levels:

During normal running of the machine without cutting the typical sound range will be between 60-85 db. Due to the wide variety of blades available, CTD cannot warrant that maximum allowable OSHA sound limits can be met--particularly during the cutting cycle.

Preventative Maintenance:

The DMC70's are relatively easy machines to operate and maintain. Below is a weekly check list of general maintenance items. The best preventative maintenance advice is to *CLEAN THE MACHINE DAILY*, especially around the pivot points or moving parts of the machine.

Lubrication and Adjustments of Bearings:

INSPECT AND LUBRICATE BEARING BLOCKS ONCE A MONTH. Bearing blocks and linear tracks (see picture below) must be inspected and lubricated regularly in order to keep fine particules of dust out of the ball bearings. Spindles are assembled using sealed, prelubricated ball bearings. It is not necessary to lubricate the spindle bearings. They also use preloaded belleville springs. These springs eliminate the need for adjustments of bearings and also greatly increase the life of these bearings. All air cylinders are "lube for life".

General Maintenance Check List:

Always disconnect electrical power and air supply.

- 1. Keep machine clean—especially around the bearing track.
- 2. Blow off and clean:
 - A. Around air cylinder.
- 3. Check Air Filter Bowl for water and condensation build up.
- 4. Remove any scrap pieces and dust build up from inside floor stand cabinet.
- 5. Check monthly:

A. Lubricate bearing blocks as detailed on page 15.

- B. Make sure motor pulley set screws are tight.
- C. For excessive belt wear.

Grease here



Grease Requirements and Grease Gun:

Use a Pistol Grip Grease Gun **P/N 70B7P55** to grease both block bearings on the machine (see picture on Page 14). Squeeze handle four times to dispense grease. Grease tube is **P/N 70B7P56** with the following specification of KP 2 K-20 which is suitable for harsh dry environments. **Remember to lubricate monthly.**

Repair and Service:

Always use CTD factory authorized replacement parts and consult factory before making any repairs or adjustments which may be unclear.

Fence Alignment and 45° Angle Adjustment of Blades:

All DMC70's are present at the factory for perfect 45° double mitre cuts. If any adjustments are necessary:

- Check alignment of front fences—left to right as shown in Diagram "F" on Page No. 4). Use a two foot steel scale or quality precision straight edge and lay flat on table base. Butt edge against fence bracket and long measuring gage. Touch the outside corner of the straight edge. If one side of the straight edge pulls away from the fence, then the long fence gage is not in alignment with the Left Fence Bracket, P/N 70M35L.
- 2. Loosen 3/8-16 lock nut on Right Fence Bracket, P/N 70M35R and Fence Support Bar, P/N 20M26. Clean all surfaces of dirt or dust, and re-assemble as before.
- 3. Re-align right fence to left fence with your straight edge. Once you are sure both fences are in alignment, you now have a reference point to check your 45° mitre.

Irregular Mitres:

Irregular mitre cuts are almost always caused by out-of square material. Check your material with a 90° square and a straight edge. Material that has a high spot on the bottom, will move or roll forward as it is being cut (even with pneumatic hold down clamps), thereby causing the blade to cut more on the inside of the moulding than the outside. Another cause of irregular mitre cuts is too thin a plate thickness on blades. Blade plate thickness should be .120 to .130 on 13" blades. Blades will find the easiest avenue to cut through material, and sometimes the blade plate will distort when cutting heavier sections. The drawing below is an example of a cut when blade plate is too thin for the material being cut.

DMC70 Spindle Assembly and Bearing Installation Instructions:

For Model DMC70: (see spindle drawing on page 16)

- A. Hinge up Guard Cover, P/N 70F03E by loosening two front guard bolts.
- B. Push saw forward to remove spindle housing P/N 9A05 from slide.
- 1. Remove hex cap screws with wrench and detach Spindle Housing, P/N 9A05 from slide P/N 70A04.
- 2. Using a vise with aluminum jaws, hold slinger and loosen jam nut No. 9, but leave jam nut on spindle.
- 3. Loosen set screws in pulley.





- 4. With jam nut on end of spindle thread (to protect threads), gently tap jam nut *toward slinger side* using a lead or rubber mallet. The spindle assembly will begin to move out of the spindle housing. Remove jam nut when assembly is almost out. Spindle assembly consisting of Spindle No. 1, Slinger No. 3 and Bearing No. 4 will come out of housing. Pulley No. 6 will slide out of housing when spindle assembly is removed. Bearing on jam nut side will slide out of housing.
- 5. Replace bearings or belts as necessary.
- 6. Bearing on blade side is a press fit on spindle. If bearing on the blade side must be replaced, a puller must be used to disassemble the bearing from the spindle.
- 7. Press new bearing No. 4 on to spindle, making sure spindle is square to the bore.
- 8. To re-install spindle in spindle housing, take Spindle No. 1 (with Slinger No. 3 and Bearing No. 4), and slowly insert into housing.
- 9. Position Pulley No. 6 in center of housing. Place Key No. 7 in broached keyway in spindle. Position belts around pulley, through housing. Push spindle through pulley, and through opposite wall of spindle housing.
- 10. From jam nut side of housing, place Belleville Springs No. 8 into housing. Be careful they are inserted correctly as shown in diagram.
- 11. Now, push bearing No. 10 into housing and on spindle, being careful that bearing goes into housing square.
- 12. Replace jam nut No. 9 on spindle threads. Holding slinger No. 3 in vise, slowly tighten jam nut. This will cause bearing to slowly push into housing. Tighten thoroughly until bearing bottoms out on shoulder of spindle.
- 13. Tighten set screws in pulley.
- 14. The face of Slinger No. 3 must be checked with a dial indicator to make sure it is running true. If it is not, it should be refaced. To reface, use the side of a surface grinding wheel. Dress the face of the slinger by rotating spindle in bearings slowly against the direction of the grinding wheel.
- 15. Replace housing on spindle Slide (P/N 70A04) with four hex cap screws.
- 16. Place belts around motor pulley and tighten.

DMC70 Spindle Assembly Parts



- 1. 90M01L DMC70 Spindle, Left 90M01R DMC70 Spindle, Right
- 2. 8M03 DMC70 Flange
- 3. 8M02 DMC70 Slinger
- 4. 9B2P04X Double Row Bearing
- 5. 9B2P06 Snap Ring
- 6. 2B4P28 Spindle Pulley 2.6", .787 bore
- 7. 2BM23 Pulley Key
- 8. 9B2P05 Belleville Springs (4 required)
- 9. 151P16L Jam Nut, Left
 - 151P16R Jam Nut, Right
- 10. 9B2P03 Bearing, Jam Nut side
- 11. 70B4P25 3VX450 DMC70 Drive Belt Banded (2 required)
- 12. 9A05 Spindle Housing
- 13. 9B1P44L Spindle Nut, Left
- 9B1P44R Spindle Nut, Right





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DMC70 Plates Assembly Parts List

Parts List					
ITEM	OTY	PART NUMBER	DESCRIPTION	DMC70M	DMC70A
1	1	70M01L	Base Plate, Left	x	x
2	1	70M01R	Base Plate, Right	x	x
3	1	70M08	Joiner Plate	x	x
4	12	5/16-18 x 1 Socket Head Screw	5/16-18 x 1 Socket Head Screw	x	x
5	2	1/4-20 x 1.5 Socket Head Screw	Adjusting Block Locking Screw	x	x
6	1	70M15	Adjusting Block	x	x
7	2	70B2P10	Linear Bearing Guide Assembly	x	x
8	16	M5 - 0.8 - 16 Socket Head Screw	Linear Bearing Track Locking Screw	x	x
9	16	5/16 SAE Washer	5/16 SAE Washer	x	x
10	22	5/16 - 1.5 OD Washer	5/16 - 1.5 OD Washer	x	x
11	16	5/16-18 Hex Nut	5/16-18 Hex Nut	x	x
12	2	1/4 x 1" Dowel Pin	1/4 x 1" Dowel Pin	x	x
13	2	70F40	Chip Breaker	x	x
14	4	70B7P50	Front and Rear Saw Bumper	x	x
15	1	70M40	Angle Adj. Stud	x	x
16	12	3/8 USS Washer	3/8 USS Washer	x	x
17	1	70F127	Vision Gage Right Side	x	x
18	10	10-32 x 3/8 Flat Head Screw	Chip Breaker Locking Screw	x	x
19	4	3/8-16 x 3/4 Hex Bolt	Bumper Locking Bolt	x	x
20	1	70M35L	Left Fence Bracket	x	x
21	1	70M35R	Right Fence Bracket	x	x
22	2	70B2P31	Clamp Slide Track	x	
23	1	Left Horizontal Clamp Assy	Left Horizontal Clamp Assy	x	
23,1	1	70M34L	Clamp Slide Block, Left	x	
23.2	3	70B2P32	Clamp Slide Bearing	x	
23.3	3	M5 - 0.8 - 16 Socket Head Screw	Horizontal Clamp Bearing Locking	x	
			Screw		
23.4	1	5/16-18 x 2 Shoulder Bolt	5/16-18 x 2 Shoulder Bolt	x	
24	1	70M45	Left Fence	x	x
25	1	70M223-6"	Right Fence 6' Long	x	x
26	1	Right Horizontal Clamp Assy	Right Horizontal Clamp Assy	x	
26.1	1	70M34R	Clamp Slide Block, Right	x	
26.2	3	70B2P32	Clamp Slide Bearing	x	
26.3	3	M5 - 0.8 - 16 Socket Head Screw	Horizontal Clamp Bearing Locking	x	
			Screw		
26.4	1	5/16-18 x 2 Shoulder Bolt	5/16-18 x 2 Shoulder Bolt	x	
27	1	70M33R	Horizontal Clamp Pad, Rt.	x	
28	2	70M36	Clamp Rod	x	
29	2	70M37	Clamp Track Spring Stop	x	
30	2	70M37A	Spring Support	x	
31	2	200B7P20	5/16-18 3/4 Adj. Handle	x	
32	2	70B7P35	Spring for Clamp	x	
33	4	1/4-20 x 1/2 Socket Head Screw	Clamp Track Locking Screw	x	
34	6	3/8-16 x 3/4 Hex Bolt	3/8-16 x 3/4 Hex Bolt	x	x
35	8	3/8 SAE Washer	3/8 SAE Washer	x	x
36	2	5/16-18 x 3/4 Hex Bolt	5/16-18 x 3/4 Hex Bolt	x	x
37	2	B1P51618	5/16-18 Tee Nut	x	x
38	1	70F126	Vision Gage Left Side	x	x
39	1	70M33R	Horizontal Clamp Pad, Rt	x	
40	2	70M50	Top Slot Cover		x
41	4	10-32 x 1/4 Socket Screw	Slot Cover Locking Screw		x
42	2	70B7P50	Horizontal Clamp Bumper	x	
43	2	2B3P61	Flow Control Valve		x
44	2	70B3P75	Rodless Cylinder		x
45	4	70B3P76	Reed Switch		x
46	2	Vertical Clamp Assy.	Vertical Clamp Assy.		x
46.1	1	200M20	N.S. V/C Support Bar		x
46.2	1	200M20B	N.S. Horizontal Bar VC Support		x
46.3	1	2B3P20	3" Stroke Clamp Cylinder		x
46.4	1	2B3P20C	Vertical Clamp Pad Assy		x
46.5	1	200B1P22	5/16-18 VC3 Wing Stud		x
46.6	2	20087P20	5/16-18 x 3/4 Adi. Handle		x
46.7	1	200M21	V/C Adj. Bracket		x
46.8	1	200M22	Vertical/Horizontal Cylinder Bracket		x
47	4	70B5P75	Reed Switch Bracket		x
48	8	10-32 x 1 Socket Head Screw	Cylinder Locking Screw		x







DMC70 Floor Stand Parts List

		Parts	s List		
ITEM	QTY	PART NUMBER	DESCRIPTION	DMC70M	DMC70A
1	1	70F02E	Floor Stand Assembly	x	x
2	2	5/16 USS Washer	5/16 USS Washer	x	
3	2	5/16-18 x 3/4 Hex Bolt	Retractor Locking Bolt	x	
4	2	B5P267/CH	Reset Button	x	х
5	1	B5P262/CH, B5P263	Stop Button / NC Contact	x	x
6	1	B5P194E	Disconnect Switch	x	x
7	1	B5P260/CH, B5P261	Start Button / NO Contact	x	x
8	2	5/16-18 Hex Nut	5/16-18 Hex Nut	x	
9	4	1/4-20 x 1/2 Socket Head Screw &	1/4-20 x 1/2 Socket Head Screw &	x	x
		Plastic Press-Fit Screw Head	Plastic Press-Fit Screw Head		
10	1	70F03E	Top Cover Assembly	x	x
11	12	20F180	Finger Guard	x	x
12	12	1/4-20 x 3/4 Pem Stud	1/4-20 x 3/4 Pem Stud	x	x
13	12	1/4 SAE Washer	1/4 SAE Washer	x	x
14	12	1/4-20 Wing Nut	1/4-20 Wing Nut	x	x
15	1	B5P49	Interlock Switch	x	x
16	1	70F28E	Door	x	x
17	2	70B7P65	Cable Retractor	x	
18	4	5/16 SAE Washer	5/16 SAE Washer	x	
19	1	3/8 x 2.25 Ring Grip Clevis Pin	Handle Locking Pin	x	
20	1	70M49L	Handle Cover Angle, Left		x
21	1	70M49R	Handle Cover Angle, Right		х
22	1	70F48	2-Hand Shroud Cover		x
23	2	70B3P60	Flow Control Valve		x
24	1	70B5P77	3 Pos. Selector Switch		x
25	1	70B5P78	Light For Saw Motion		x
26	2	70B5P79	Push Buttons 2-Hand		x
27	2	10-32 x 1.5 Slotted Rd. Head Mach	Limit Switch Locking Screw	x	x
		Screw			
28	2	#10 Washer	#10 Washer	x	x
29	2	10-32 Hex Nut	10-32 Hex Nut	x	Х
30	6	70B7P48	Leveling Glide	x	x
31	1	70B7P05	Lexan See Thru Cover	x	Х
32	1	70B5P70E	Electrical Panel Assy		x
	1	70B7P47	Dust Tub for Scrap	x	x
-	1	9B7P65	Spindle Wrench	X	x

Airfeed Control Parts

70B5P70	Program Control Module	-
70B5P71	Program Control Extender Module	-
70B5P69	Program Control Power Supply	I
70B3P72	4 Station Valve Manifold	I
70B3P73	4 Way S/R Sol. Valve (4)	-
70B3P74	4 Way Exhaust Valve	-
70B3P75	16" Stroke Rodless Cylinder (2)	-
70B3P76	Reed Limit Switches Cyl. (4)	-
70B3P60	Speed Flow Control Valve (2)	-
70B3P77	3 Position Selector Switch	I
70B3P78	Pilot Light When Saw in Motion	4
70B3P79	Push Buttons-2 Hand (2)	2
70B3P80	Terminal Block Double Stack (20)	4
70B3P81	Terminal Block End Plate	I
70B3P82	Terminal Block End Stop	2
70F85	Enclosure Box & Cover for Controller	I
	& Valve	N

Support Tables & Measuring Gages

70M223-6'	6' Measuring outside Fence
70M223-10'	10' Measuring outside Fence
BF17D	48" Long Table Support
BF17B	120" Long Table Support
70F126	Left Side Spacer Vision Gage
70F127	Right Side Lined Vision Gage
70F128	Vision Section 29" to 64"
70F129	Vision Section 65" to 94"
70F128	Vision Section 95" to 124"
BF38	Length Gage Stop
2BM39	Pointer Angle Stop
200B7P20	Adj. Handle for Stop
2D7SLHF	Left to Right Tape-Front Fence
BF05A	Angle F.S. to Table Support
20M82	Ext. Fence to Table Support
BF180E	Table Leg Support
Actors & El	antriant Dorta

Motors & Electrical Parts

15B6503	1-1/2 H.P. 1 Phase Mtr 60 Hz.
15B6506	1-1/2 H.P. 3 Phase Mtr 60 Hz.
15B6504	1-1/2 H.P. 1 Phase Mtr 50 Hz.
B5P15H1Q/	230/DM/CH Dual Magnetic
B5P15H3Q	Starter 1 or 3 phase

Guarantee: CTD warrants that their cut-off machines and accessories are free from defect of materials, workmanship and title, and are of the kind of quality indicated and in applicable specifications. The foregoing warranty is exclusive and in lieu of all other warranties, whether written described or oral. CTD's obligation under the foregoing warranty is limited to the repair or replacement (at CTD's option) of the part which is defective in materials or workmanship for a period of one (1) year from the date of shipment to the original purchaser of the equipment. CTD's liability to the purchaser, whether for warranties, negligence, or otherwise, shall not in any way include consequential damages or costs of removing or reinstalling the products. All machines and parts are shipped FOB CTD Los Angeles, CA.

Motor Warranty: Motors which fail during the warranty period of one (1) year), must be returned to an authorized Baldor Service Representative for examination to determine whether the failure was caused by defective manufacturing. In the event a replacement is required before factory examination, a motor will be sold at the list price. If the factory authorizes replacement, CTD will credit customer's account for the replacement cost. All motors are shipped FOB CTD Los Angeles, CA.



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