05.2016

INSTRUCTION BULLETIN

& MAINTENANCE MANUAL

FOR

CTD MODELS N80X & N90X

CTD MODEL NO: _____

CTD SERIAL NO: _____

MANUFACTURE DATE: _____

DISTRIBUTOR PURCHASED THROUGH:

(IF ANY) _____

CTD MACHINES
2382 East 48th Street
Vernon, CA 90058
Tel (213) 689-4455 • FAX (213) 689-1255
World Wide Web: http://www.ctdsaw.com
e-mail: **ctdsaw@ctdsaw.com**

Machine Requirements:

MODEL NO:_____ SERIAL NO:_____

Cutting Capacities

Staggered Saw Blade/Toe-Notch Configuration
Model N80X: 4-1/2" (114mm) x 4-1/2" (114mm) Deep x 3" (76mm) High
Model N90X: 16" (406mm) Blade Capacity; 6" (152mm) x 6" (152mm) Deep x 4" (102mm) High
18" (457mm) Blade Capacity; 7" (178mm) x 7" (178mm) Deep x 4" (102mm) High
Note: With special configuration up to a 7-1/4" (184mm) can be done.

Mitre Cutting/Staggered Saw Blades
Model N80X: 3-5/8" (92mm) Wide x 3" (76mm) High
Model N90X: 16" (406mm) Blade Capacity; 4-1/8" (105mm) Wide x 4" (102mm) High
18" (457mm) Blade Capacity; 5" (127mm) Wide x 4" (102mm) High

Mitre Configuration/Non-Staggered Saw Blades
Model N80X: 3-1/2" (89mm) Wide x 3" (76mm) High.
Capacities up to 5" (127mm) High with special blade guard modification at extra charge
Model N90X: 16" (406mm) Blade Capacity; 4" (102mm) Wide x 4" (102mm) High
18" (457mm) Blade Capacity; 4-3/4" (121mm) Wide x 4" (102mm) High
Capacities up to 6" (152mm) high with special blade guard modificaiton at extra charge

Electrical Requirements: Based on two motors per machine

Motor Load Amperes

Model No.	Motor Size	RPM	230 Volt	440 Volt
N80X	2 H.P., 3 Phase	3450	5.4 amps	2.7 amps
N80X	2 H.P. 1 Phase	3450	12.5 amps	N/A
N80X	3 H.P., 3 Phase	3450	8.6 amps	4.3 amps
N90X	3 H.P., 3 Phase	1725	7.4 amps	3.7 amps
N90X	5 H.P., 3 Phase	1725	13.2 amps	6.6 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 6" outlet

Cutting Tool Requirements: Heavy, rigid plate blades
13" blades: .110 to .120 plate; 16" blades: .120 to .130 plate; 18" blades: .130 to .140 plate

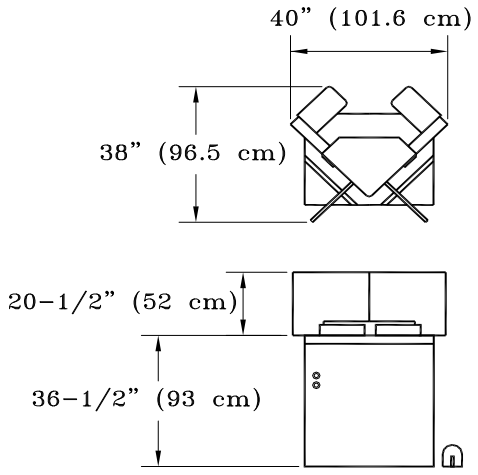
Installation and Set Up:

The Model N80X uses two 2 H.P. 3 Phase, 3450 RPM, 60 Hz TEFC Motors on a NEMA 56 Frame.
The Model N90X uses two 3 H.P. 3 Phase, 1725 RPM, 60 Hz TEFC Motors on a NEMA 182T Frame.
A disconnect switch is provided and the machine should be disconnected before blades are mounted, or at any time the machine is serviced, or the blade is exposed. For motor protection against voltage fluctuations, a Dual Magnetic Starter is provided as a standard feature. This starter protects the motor from overheating and will not allow the motor to restart by itself after power outages. In addition, there is a safety interlock switch located under the blade guard. If the blade is not locked down or in place, the machine will not start.
***IMPORTANT*:** Before operating saw, please be sure to read the "SAFETY INSTRUCTIONS TO THE OPERATOR" (on Page No. 12).

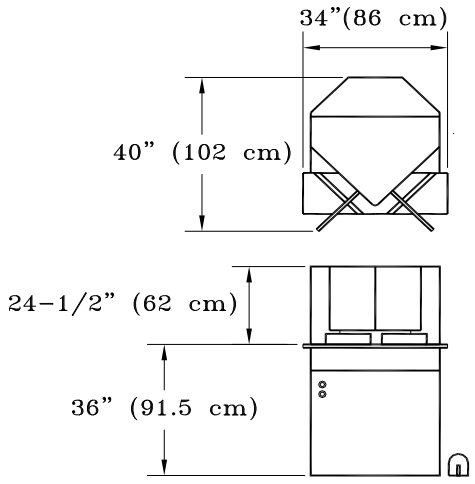
***Note*:** The floor stand must be shimmed, leveled and bolted to the floor or framed in to eliminate vibration. Use holes provided in bottom of floor stand. All machines have been completely assembled at the factory, then disassembled for shipment.

Space Requirements:

N80X



N90X



Blade Installation:

For both Model N80X & N90X: Before setting blades on spindle, disconnect power. Supply air to the machine so that blades rise to the top of the stroke. Remove front blade guard by loosening side guard wing nuts or bolts and then remove two top blade guard wing nuts. Lift guard off, exposing spindle.

1. Remove spindle nut and flange, using the 1-7/16" wrench provided or a large crescent wrench.
2. Place blades on spindle with tips pointing down. Blade must ***always*** rotate to the rear of the machine on the underside of the blade (see Picture "A" on Page No. 5).
3. Replace flange and nut as before, and tighten (refer to Diagram No. "2" on Page No. 5).
4. If blades were purchased from CTD, your machine has been set with your blades marked "RIGHT" and "LEFT" for Notching. If not, diameters vary. Follow special **Instructions for Aligning Blades** below. See Diagram No. "1" on Page No. 5 for blade configuration. If notching, ***right*** blade must be directly below ***left*** blade. If mitering, blades are set on the same plane and should be set for Miter Configuration (see page 5)

The blade must rotate down and to the rear of the machine on the underside of the blade (see Picture "A" on Page No. 5). Your machine has been wired for the specified voltage at the time of your order. **Note: You cannot change the voltage without changing the starter.** The motors have been connected to the starter.

Instructions for Aligning Blades on Model N90X:

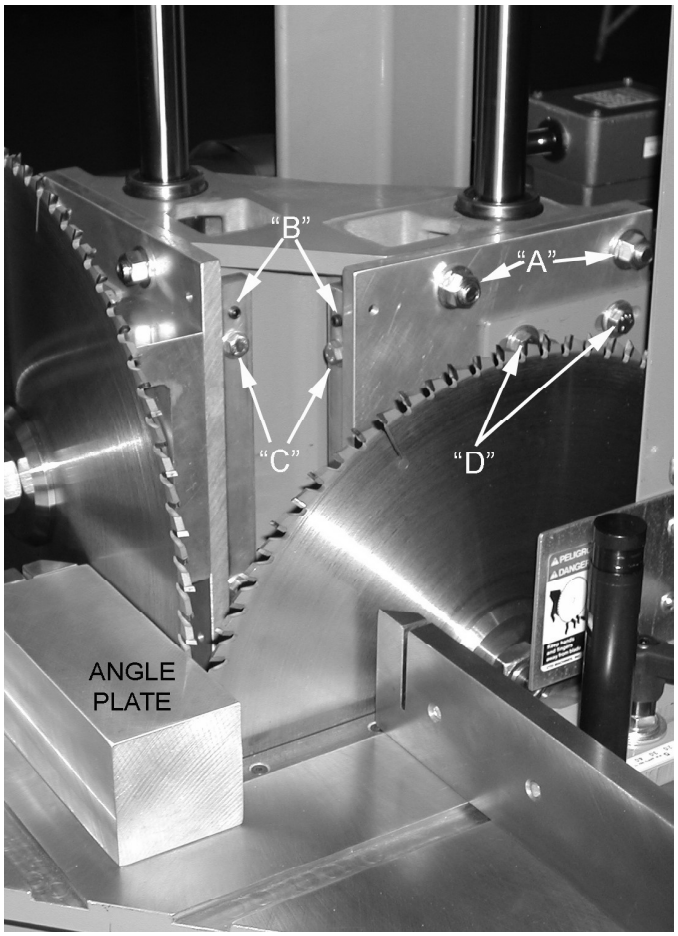
Using an angle plate and the left blade as a reference point, touch the angle plate to the outside carbide tips of the blade. Be sure the angle plate is square to the tips and not touching the plate of the blade. *The tip of the right blade should make very slight contact with the edge of the angle plate when rotated in the opposite direction (by hand) for the notching configuration.* For Mitre Configuration, set blades as shown in Diagram No. 1

1.To move blade ***forward*** (see Pictures "A" & "B"):

A. Loosen bolt "F" on the Motor Mount Bottom Angle, P/N 9M26 R or L (see Picture "B", bottom rear of Slide).
B. Loosen and lightly snug four lock bolts marked "A" Top & Bottom located on P/N 9M28 R or L Spindle Housing Mounting Plate. **Be careful not to loosen too much, as this will cause the mounting plate to cock at an angle.
C. Loosen bolts "C", top and bottom (4), located on Blade Adjustment Bar, P/N 9M38.
D. Loosen nuts only on bolts "B",(4) top and bottom, located on Blade Adjustment Bar, P/N 9M38. Turn bolts "B" to the right to move blade forward.
    1. If blade is positioned correctly for Notching, when it is rotated by hand backwards, blade should make a slight ticking sound against angle plate.
E. After blade has been adjusted;
    1. Tighten nuts on bolts "B", top and bottom (4)
    2. Snug bolts "C", top and bottom (4)
    3. Firmly tighten four lock bolts "A", top and bottom
    4. Tighten bolt "F" on Motor Mount Angle, P/N 9M26 R or L

2. To move one blade ***backwards*** (see Pictures "A" & "B")

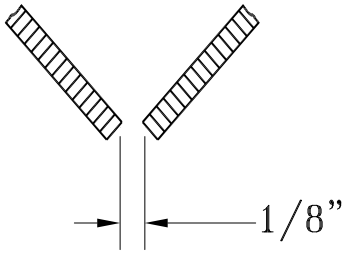
A. Loosen bolt "F" on Motor Mount Angle, P/N 9M26 R or L (see Picture "B", bottom rear of Slide).
B. Loosen and lightly snug four lock bolts marked "A" Top & Bottom (4) located on P/N 9M28 R or L Spindle Housing Mounting Plate. **Be careful not to loosen too much, as this will cause the mounting plate to cock at an angle.
C. Loosen nuts and bolts "B", top and bottom (4), located on Blade Adjustment Bar, P/N 9M38
D. Turn bolts "C", top and bottom (4) to the right and tighten to move blade backward.
    1. If blade is positioned correctly for Notching, when it is rotated by hand backwards, it should make a slight ticking sound against the angle plate.
E. After blade is adjusted
    1. Snug bolts "B" (4) and tighten nuts
    2. Firmly tighten four lock bolts "A", top and bottom
    3. Tighten bolt "F" on Motor Mount Angle, P/N 9M26 R or L



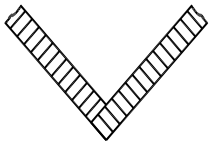
Picture "A"

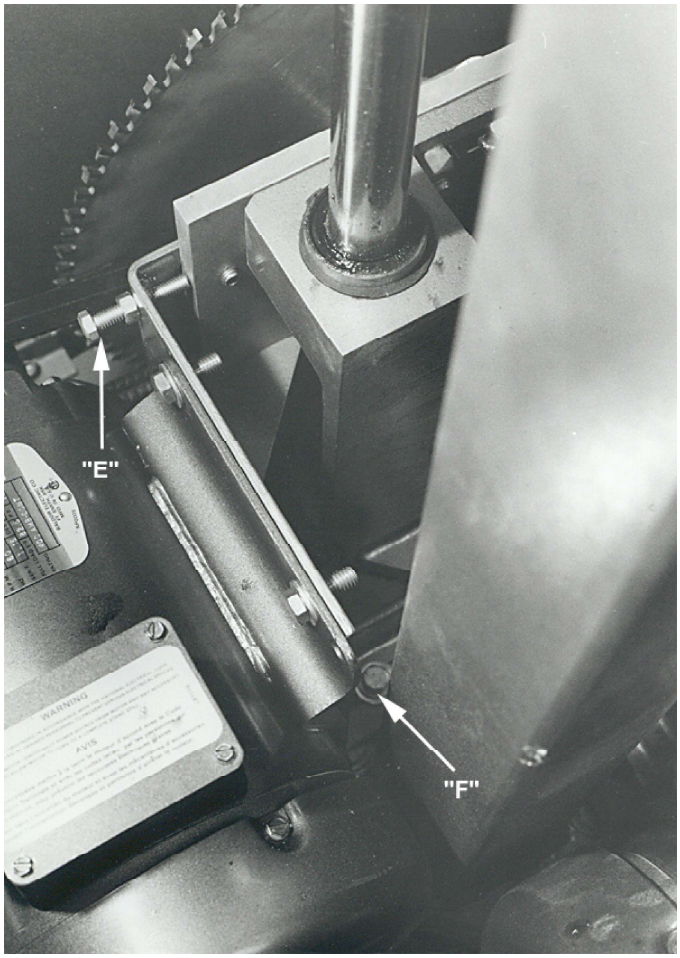
Diagram No. 1

Mitre Configuration



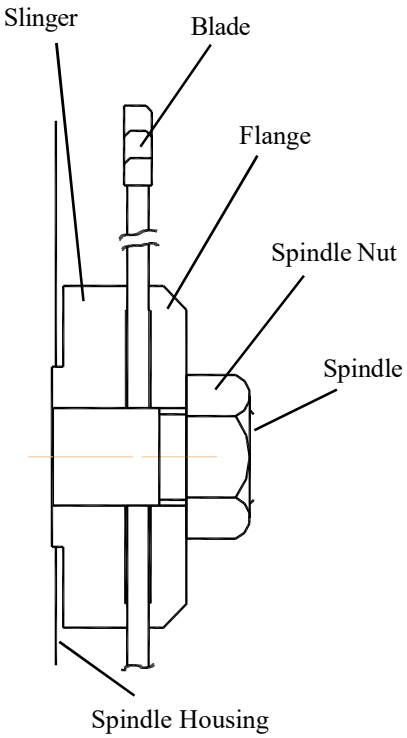
Notching Configuration





Picture "B"

Diagram No. 2



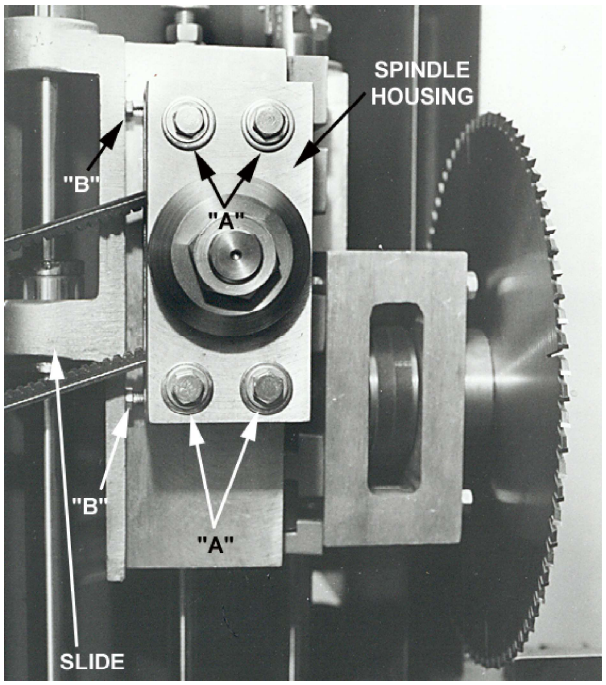
Belt Tension Adjustment for N90X (see Pictures "A" and "B" on Page No. 5):

1. Loosen bolt No. F on Motor Mount Bottom Angle, P/N 9M26 L or R, located at bottom rear side of Slide.
2. Loosen and snug four bolts marked No. D, Top & Bottom (Picture A) on Motor Mount Angle, P/N 9M26.
3. Loosen two nuts on bolts marked No. E on the top and bottom of Motor Mount Angle, P/N 9M26 L or R (Picture B).
4. Turn bolts No. E to right to tighten tension, and to the left to loosen tension.
5. Re-tighten nuts on bolts No. E, and tighten four bolts marked No. D and bolt No. F.

Belt Tension Adjustment for N80X:

The belt tension on the N80X is controlled by a spring loaded motor mount pivot plate. A compression spring is set between two spring supports--one located through the Center Brace, P/N 8C40, and the other on the motor mount pivot plate. The distance between the lip of the spring supports is approximately 4".

Picture "C"



Special Instructions for Moving Blades for Model N80X:

Use an angle plate and one blade as reference point. Touch angle plate to outside tips of the left blade. Tip of right blade should make slight contact with edge of angle plate in notching configuration.

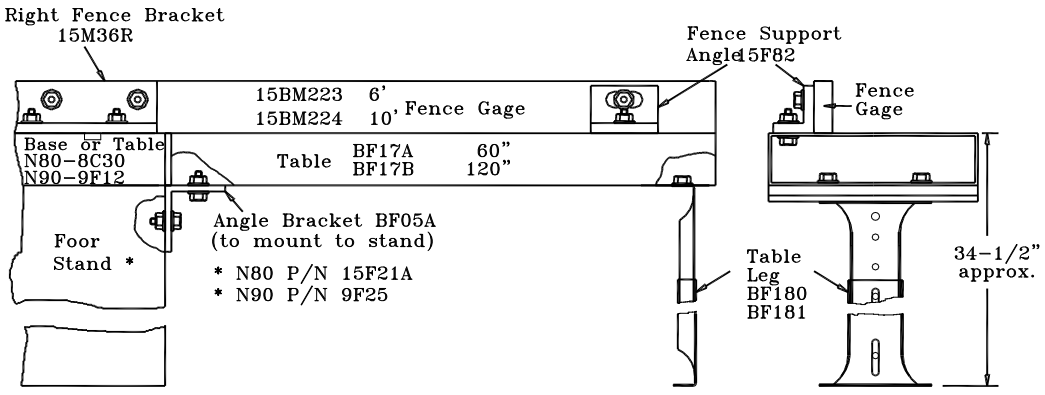
1. To move one blade forward or backward
   A. Loosen four bolts marked No. A, Top & Bottom, located on Spindle Housing, P/N 9A05.
   B. Adjust bolts No. B, Top & Bottom, to move spindle housing to desired settings--forward or backward.
   C. Tighten four bolts marked No. A on Spindle housing. If blade is positioned correctly for notching, when it is rotated by hand backwards, it should make a slight ticking sound against the angle plate.

Assembly of Tables and Gages for Mitering on Models N80X & N90X:

The floor stand must be shimmed and leveled, and if necessary, bolted to the floor to eliminate vibration. To connect table or conveyor;

1. Assemble leg to table with nuts and bolts provided. The hole in the top of the table should be toward the front and farthest away from the blade to attach fence support angle.
2. Attach Table, P/N BF17 to machine on angle bracket provided and level (see Diagram No. 3).

Diagram No. 3



Attaching Measuring System to Machine for Mitre Cutting on Models N80X and N90X:
(see specific instructions for the Measuring System purchased)
For: FEX, OMD, RAB, OMD/RAB Combination Gages, or PAS

1. Place long measuring gage (P/N 15BM223) on table with measuring tape facing up. Bolt through Front Fence Angle, P/N 15M36R with 3/8-16 bolts provided. Adjust gage so measurement rule is correctly set (see Diagram No. "5");
   A. With scale or ruler touching the side of the tips of the blade, measure a distance away from the blade. Be sure the ruler and the tape on the fence gage read the same.
   B. Adjust fence, left to right as necessary.
   C. Both fences, left and right, must be in perfect alignment. Use a long *straight edge* for this purpose.
      1. Take a two foot steel scale lying flat on table base. Butt edge forward against fences. Touch each outside corner of scale. If one side pulls away from fence, then long fence is not in alignment with left fence (see Diagram No. "4"). Adjust front fence angle (p/n 15M36L or R or long fence as necessary.
   D. Attach fence support angle to fence and table (p/n 15F82)
2. If Rabbet Angle Assembly was purchased, place aluminum angle with slide into keyway. (Rabbet Angle Assembly, P/N 15E85 is comprised of Slide, P/N 15M80 & Rabbet Angle, P/N 15M85).
   A. Move angle forward to front fence and square up.
   B. When rabbet angle is square against front fence, both measurement rules should read the same. This may be visually deceiving. Use a 90° square to check.
   C. Adjust rabbet angle on slide as necessary by loosening 1/4-20 bolts on rabbet slide.
3. How to use Rabbet Gage:
   A. Feed stick length with 45° mitre past right blade.
   B. Slide aluminum angle under rabbet of wood moulding to desired dimension.
   C. Move outside stop to that point and lock stop with handle.
   D. Slide rabbet angle back and cut.

Diagram No. "4"

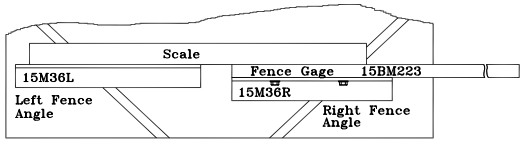
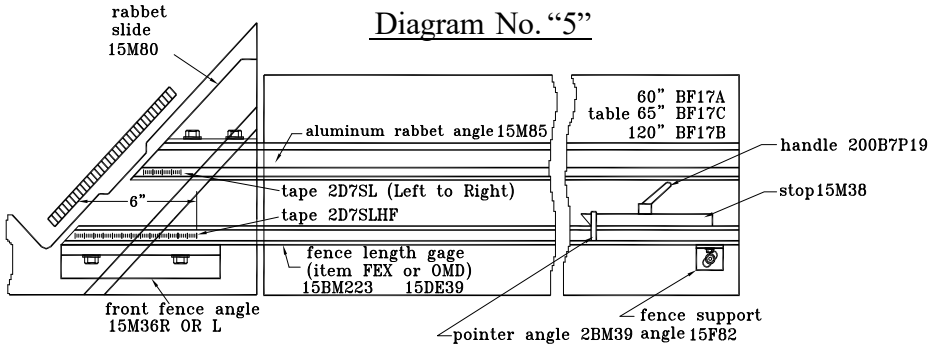


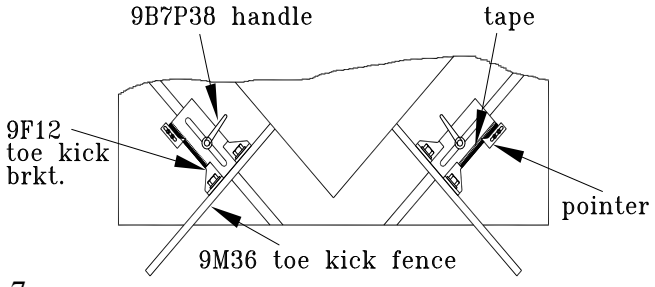
Diagram No. "5"



Toe Notching Fence Configuration:

Toe Notching Fences are easily adjusted for the depth of the notch by loosening adjustment Handle, P/N 9B7P38, and sliding keyed fences to desired dimension by aligning pointer on the measuring tape. Fences will *always* remain square to blades because they are keyed to the table base.

Diagram No. "6"



Electrical Installation:

The CTD N80X uses two 2 H.P. single or three phase 3450 RPM, 60 HZ TEFC (totally enclosed fan cooled) motors on a NEMA 56Z Frame. The N90X uses two 3 H.P. or 5 H.P. three phase 1725 RPM 60 HZ TEFC motors on a 182 Frame. CTD uses a speed up drive so that the blade will run at approximately 3400 RPM for the N80X and 2800 RPM for the N90X..

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 machine. 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 motor **"OFF"**. *Note*: *The STOP button must be pulled out before the START button will activate the motors.* A safety interlock switch is located under the blade guard. The blade guard must be in place and the safety interlock switch *must be made* or the motors *will not* turn on.

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 rear of the machine on 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 No. 9). The blade must rotate down and to the rear on the underside of the blade (see Picture "A" on Page No. 5). 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.*

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 Picture "A" on Page No. 5).

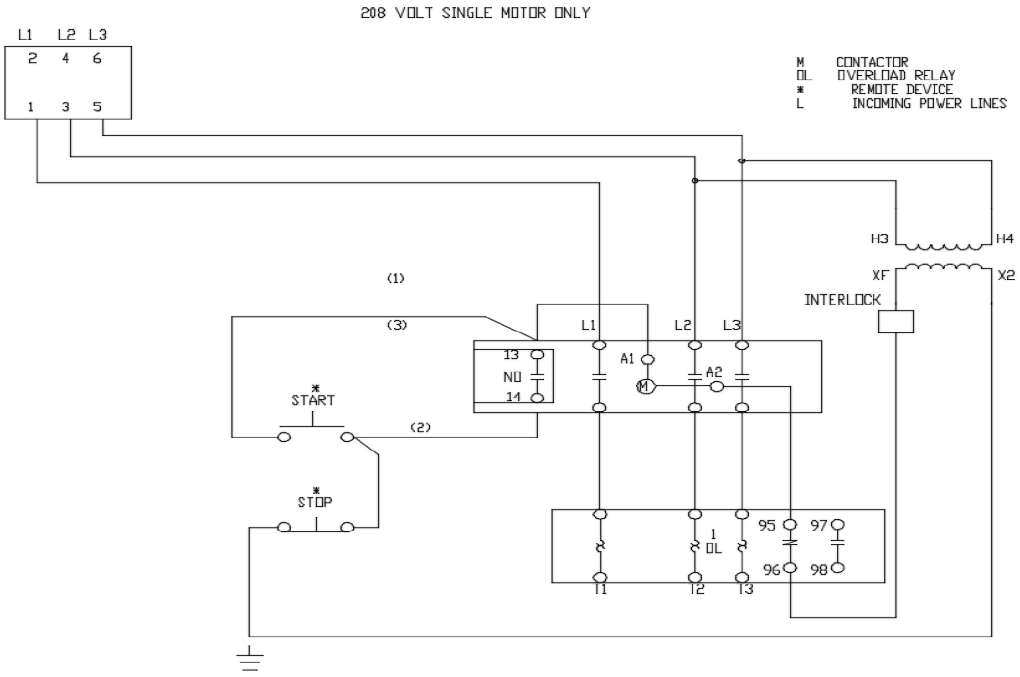
Three Phase Motor Replacement:

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 Picture "A" on Page No. 5). 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.*

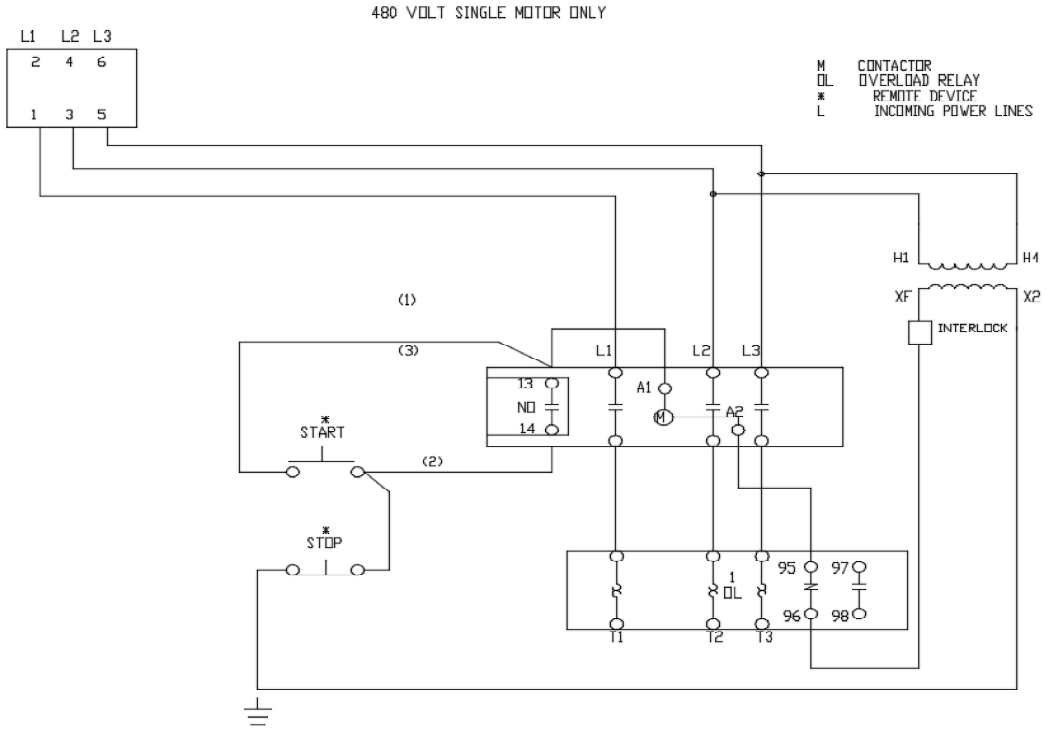
Motor Load Amperes

Model No.	Motor Size	RPM	230 Volt	440 Volt
N80X	2 H.P., 3 Phase	3450	5.4 amps	2.7 amps
N80X	2 H.P., 1 Phase	3450	12.5 amps	N/A
N80X	3 H.P., 3 Phase	3450	8.6 amps	4.3 amps
N90X	3 H.P., 3 Phase	1725	7.4 amps	3.7 amps
N90X	5 H.P., 3 Phase	1725	13.2 amps	6.6 amps

208 Volt Wiring Diagram



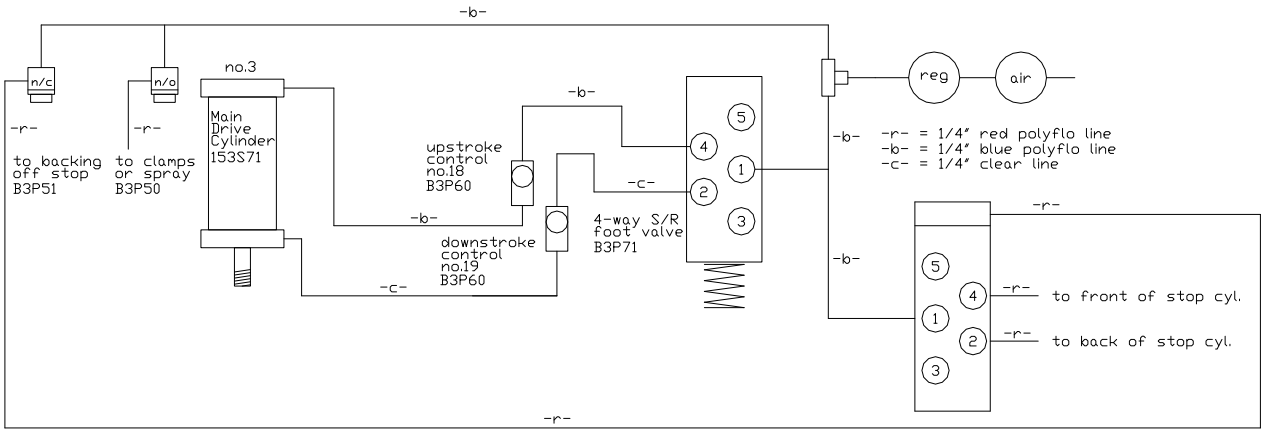
480 Volt Wiring Diagram



N80X & N90X Air/Pneumatic System:

The air pneumatic system on the N80X and N90X 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 Valve, P/N B3P71. This gives a signal to the main 4-Way Control Valve in the Foot Valve to change the direction—allowing air to pass to the main drive Cylinder, P/N 8B3P26 for the N80X, and P/N 9B3P29 for the N90X. This pushes the saw heads down. The speed of descent is controlled by the Speed Control Valve, P/N 9B3P65 (located at the exhaust ports of the foot valve). The saws reverse when the Foot Valve is released. This signals the 4-way valve to change direction of air flow to the drive cylinder and the saw heads reverse. See Diagram No. 7 for operational components.

Diagram No. 7 Air Circuit Piping for Models N80X & N90X



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 should be supplied by the user to shut off the air line.

Foot Valve:

The Foot Valve, P/N B3P71 actuates the saw heads downward. Once the foot valve is depressed, it must be held down. The stroke or downward movement of the saw heads can be reversed at any time by releasing on the foot pedal. Since the Foot Valve rests on the floor, it is important to clean it regularly, as debris from cutting can make its way into the valve, causing improper function. Do not maintain pressure on the Foot Pedal once the blades have cut through the material, as the saw cannot reverse.

Speed Control of Blades Movement:

The downstroke speed of the blades is controlled by the Speed Control Valve, P/N 9B3P65 located in Port "3 " or "S". The upstroke speed is controlled by the Speed Control Valve, P/N 9B3P65 located in Port "5" or "R". Both Speed Control Valves are located on the main 4-way Foot Valve.

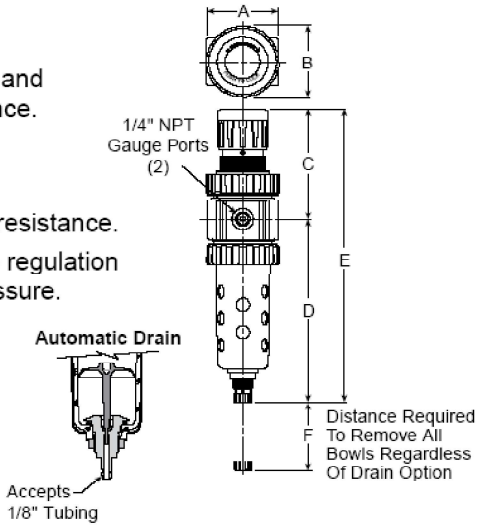
FR—An Air Filter/Regulator is installed ahead of the air inlet to the machine. This system helps prevent foreign matter from entering the system. The FR is comprised of two different components.

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

Features

- Space saving package offers both filter and regulator features for optimal performance.
- Excellent water removal efficiency.
- Rolling diaphragm for extended life.
- Removable non-rising knob for tamper resistance.
- Quick response, and accurate pressure regulation regardless of changing flow or inlet pressure.
- 40 micron filter element standard, 5 micron and adsorber available.
- High Flow: 1/4" – 30 SCFM§
  3/8" – 40 SCFM§



Trouble Shooting the Pneumatic System for the N80X & N90X Cut-Off Saw:

If there is no control over the power feed stroke:

A. Replace either the Upstroke Flow Control Valve, or the Downstroke Control Valve P/N 9B3P65. Another possible cause are bad seals in the air cylinder. Listen for any air leakage and replace if necessary.

B. If machine will not start a cycle, or will not reverse, check the 4-Way Foot Valve, P/N B3P71. To do this, depress the pedal. Listen for the valve to bleed air out of the line, or any air leak. Also, check for any mechanical binding. Disconnect electricity and air supply from the machine. Manually move saw slide down and up to check for binding of the slide or feed mechanism. If machine is bound up, clear the blockage.

Air Hold Down Clamps for the Material:

Both Horizontal and Vertical Air Clamps are available and can be purchased as an optional accessory. These clamps pneumatically hold the material in place when the saw blades are cutting the material. If clamps are not purchased, the operator *MUST HAND HOLD THE MATERIAL*. The clamps are controlled by a 3-Way Normally Open Valve, P/N B3P50 mounted on the top of the brace. When the machine is in the rest position, the slide contacts the 3-Way Valve, P/N B3P50. As soon as the Power Feed is tripped by the Foot Valve, the 3-Way Valve is released to actuate the clamps. A manual Shut-Off for the clamps is provided from the factory.

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 N80X & N90:

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

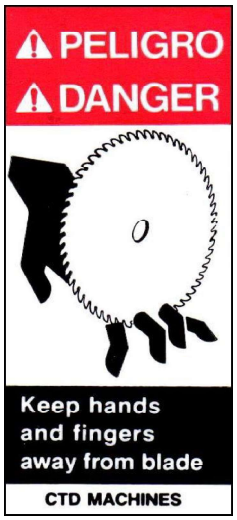
Rotation:

Both blades must rotate to the rear of the machine on the underside of the blades (see Picture "A" on Page No. 5).

Blade Guard:

It is important that the Finger Guards, P/N 20F180 for mitering, or the lower adjustable Front Guard P/N 9F65 for Toe Notching, are adjusted to completely cover the blade. The finger-guards, attached to the main blade guard, should be positioned around the material to give maximum operator protection.

The main blade guard can be removed by loosening the wing nuts on top of the guard and setting aside. Also loosen wing nuts located at the front and sides of the blade guard. The main blade guard will now lift off the machine. After changing blades, replace blade guard. *Be sure to provide clearance between the blade guard and the top of the blade at the top of the stroke. If the blade guard is not set in place properly, the motors will not turn on. An interlock switch located below the blade guard must be contacted before power is supplied to the starter.*



This label is attached to the blade guards.

NEVER PUT HANDS OR FINGERS NEAR OR UNDER THE MOVING BLADE!!

Use a piece of wood to remove short pieces from saw.

Mitre Cutting: (see Diagram No. 8)

A fixed Double Mitre Saw, such as the N80X and N90X 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.
2. After making the trim cut, feed the material (now with a 45° mitre cut) to the stop at the desired length. If using a Rabbet Gage, slide angle under rabbet of moulding and move moulding to desired dimension. Move outside stop to same position and lock (see Diagram No. 8).
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!!!**
5. Be sure to release foot pedal as soon as saws have cut through the material. This eliminates the blade hitting the material twice. ***Minimum cut length on the N80X and N90X is 5" on the point to point dimension***. ***Consult factory for shorter lengths.***

Diagram No. 8

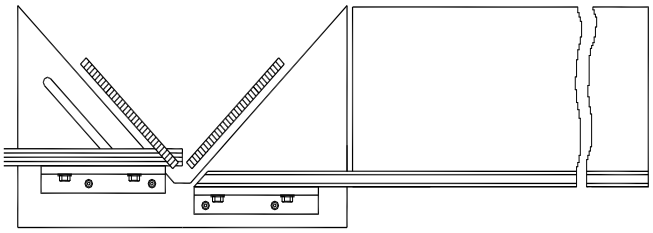
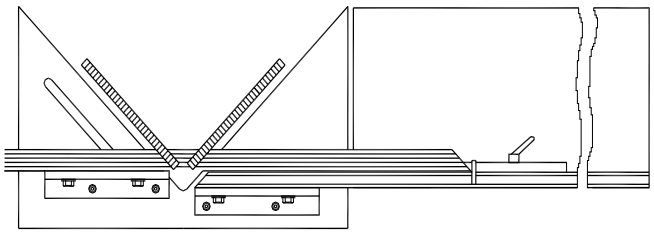


Diagram No. 9

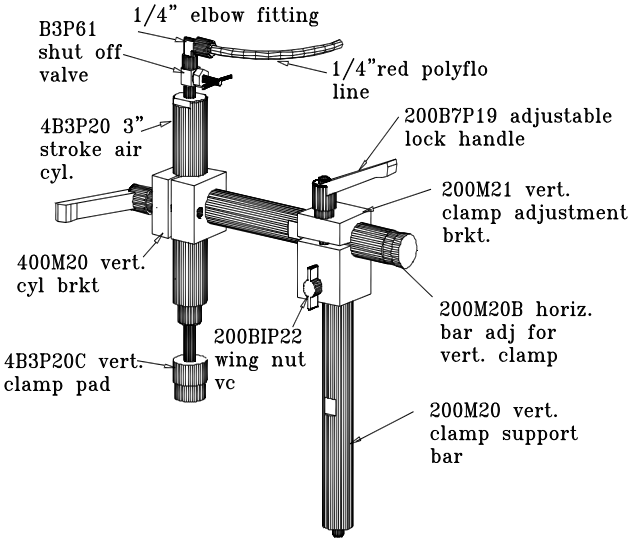


Cutting Speed:
The blade is rotating at approximately 3400 RPM for the N80X and 2800 RPM for the N90X. When moving the blade through the material, the blade must ***NEVER*** be allowed to dwell in the work. If fine finishes are required;
1. Use a sharp blade.
2. Use a ***constant, even pressure*** when 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 hand holding or by 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. CTD offers both Horizontal and Vertical Clamps. The Horizontal Clamp pushes the material forward against the front fence. Vertical Clamps hold the material down, against the table base. Both clamps are offered as optional extras and are highly recommended. The clamps are actuated at the same time as the saw heads by depressing the Foot Valve.
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.17 . Additional tooling may be needed. Consult factory for information.

Vertical Air Clamps:
Vertical Air Clamps should be installed on the Model N80X and N90X to hold material securely. They are controlled by a 3-Way Valve mounted above the right motor on the N90X, and above the slide on the N80X. When the machine is in the rest position, the 3-Way Valve shuts the air supply to the clamps. The clamps are actuated at the same time as the blades by depressing the foot valve. The work must never be allowed to move or vibrate as it is being cut. When work is positioned against a stop, it must be clamped. ***NEVER*** allow unclamped work between the blade and the stop.

Vertical Clamp Assy.



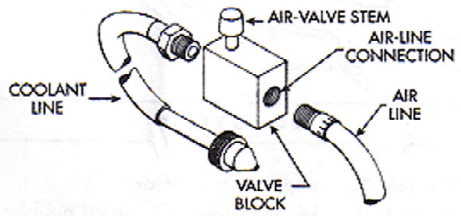
Cutting Wood:
While wood is generally soft and simpler to cut than aluminum, it requires that the material be held in place as the blades pass through the material. CTD suggests using a Carbide Blade with an Alternate Top Bevel (ATB) for lighter wood sections and picture frame mouldings. This type of blade gives the finest of finishes. No *ONE* blade will cut all material perfectly. High lacquers or mica mouldings 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 N80X and N90X 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. CTD offers special 45° Horizontal Clamps for this application (see above). Additional tooling may be required. CTD offers special modified blades for cutting plastics.

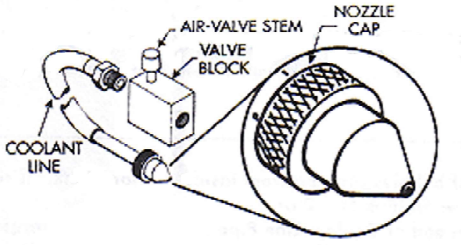
Cutting Aluminum:
As with cutting any material, it is important that aluminum be clamped properly. Precision blades are required for accurate cutting. CTD suggests and uses a Triple Chip Grind on all its non-ferrous Carbide Blades. When cutting aluminum, or other non-ferrous materials, it is essential that the blades be lubricated with a Spray 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 non-ferrous 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 nozzle. Any air leak will cause inconsistent fluid flow to the 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 (by holding Foot Pedal down for 30 seconds), 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.



1. Connect air-line hose to valve block on Coolant Tank.
2. Recommended air pressures: Higher preferred 60 to 125 psi



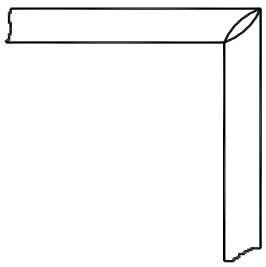
1. Open Air-Valve approximately one full turn.
2. Close Nozzle Cap until snug at end of Coolant Line, then open Nozzle Cap about 1/4 turn until a fine pin-point spray develops.
3. Once spray is coming out of nozzle final adjustment can be made by turning either or both the Air-Valve knob & Nozzle Cap.
4. The best method of testing the mist spray is to direct the spray into the palm of your hand, and when the spray is frigid cold, it has been properly adjusted.

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).

Length of Stroke Adjustment:
The N80X and N90X are unique in that the travel of the air cylinder can be adjusted to eliminate extra blade movement. By adjusting the upstop bumper located above the Slide, P/N 9A06 for the N90X, and P/N 8C01 for N80X, the blades will be lowered closer to the work. This eliminates wasted motion and time, thereby increasing production. Always provide a safe distance between the blade and the work. Re-adjust the Lower Blade Guards, P/N 9F65 or the Finger Guard, P/N 20F180 whenever blades are lowered to make sure blades are completely covered.

Scrap:
The N80X & N90X operate by making two 45° mitres at the same time. A "V" shaped piece is removed and falls into the scrap chute located on the right hand side of the machine. A scrap box should be supplied to collect the scrap pieces. To minimize scrap, make sure blades are set close together as shown in Diagram 1 on Page No. 5. Also see "BLADE INSTALLATION" on Page No. 4. Generally, you will loose between 3/8" (9mm) to ½" (13mm) of scrap material.

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 16" blades, and .110 to .120 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.



Preventative Maintenance:

The N80X & N90X are relatively easy machines to operate and maintain. On the next page is a weekly check list of general maintenance items. The best preventative maintenance advise is to *CLEAN THE MACHINE DAILY,* especially around the pivot points on the machine.

Lubrication and Adjustments of Bearings:
NO LUBRICATION OR ADJUSTMENTS ARE REQUIRED. All CTD cut-off saws are assembled using sealed, prelubricated ball bearings. The spindle and pivot assemblies are constructed using preloaded belleville springs. These springs eliminate the need for adjustments of bearings and also greatly increase the life of these bearings.

General Maintenance Check List:

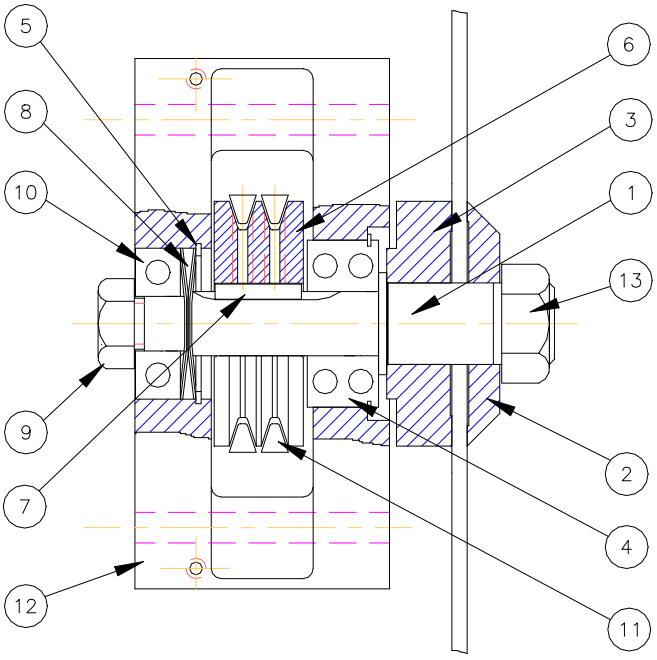
Always disconnect electrical power and air supply.

1. Keep machine clean—especially around the moving parts of the machine.
2. Blow off and clean;
   A. Around air cylinder.
   B. Linear rods and bearings.
   C. Spindle Housing
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. For excessive belt wear.
   B. Make sure motor pulley set screws are tight.

Repair and Service:

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

N80X and N90X Spindle Assembly Parts



1.	90M01L	N80X or N90X Spindle, Left
	90M01R	N80X or N90X Spindle, Right
2.	8M03	N80X Flange
	90M03	N90X Flange
3.	8M02	N80X Slinger
	90M02	N90X Slinger
4.	9B2P04X	Double Row Bearing
5.	9B2P06	Snap Ring
6.	2B4P27	Spindle Pulley 3", .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.	8B4P38	3VX450 N80X Drive Belt Banded (2 required)
	9B4P35	3VX375 N90X Drive Belt (4 required) (for 3 H.P. motors)
	9B4P36	3VX400 N90X Drive Belt (4 required) (for 5 H.P. motors)
12.	9A05	Spindle Housing
13.	9B1P44L	Spindle Nut, Left
	9B1P44R	Spindle Nut, Right

N80X & N90X Spindle Assembly and Bearing Installation Instructions:

Refer to Spindle Assembly Diagram on Page No. 17

For Model N90X:

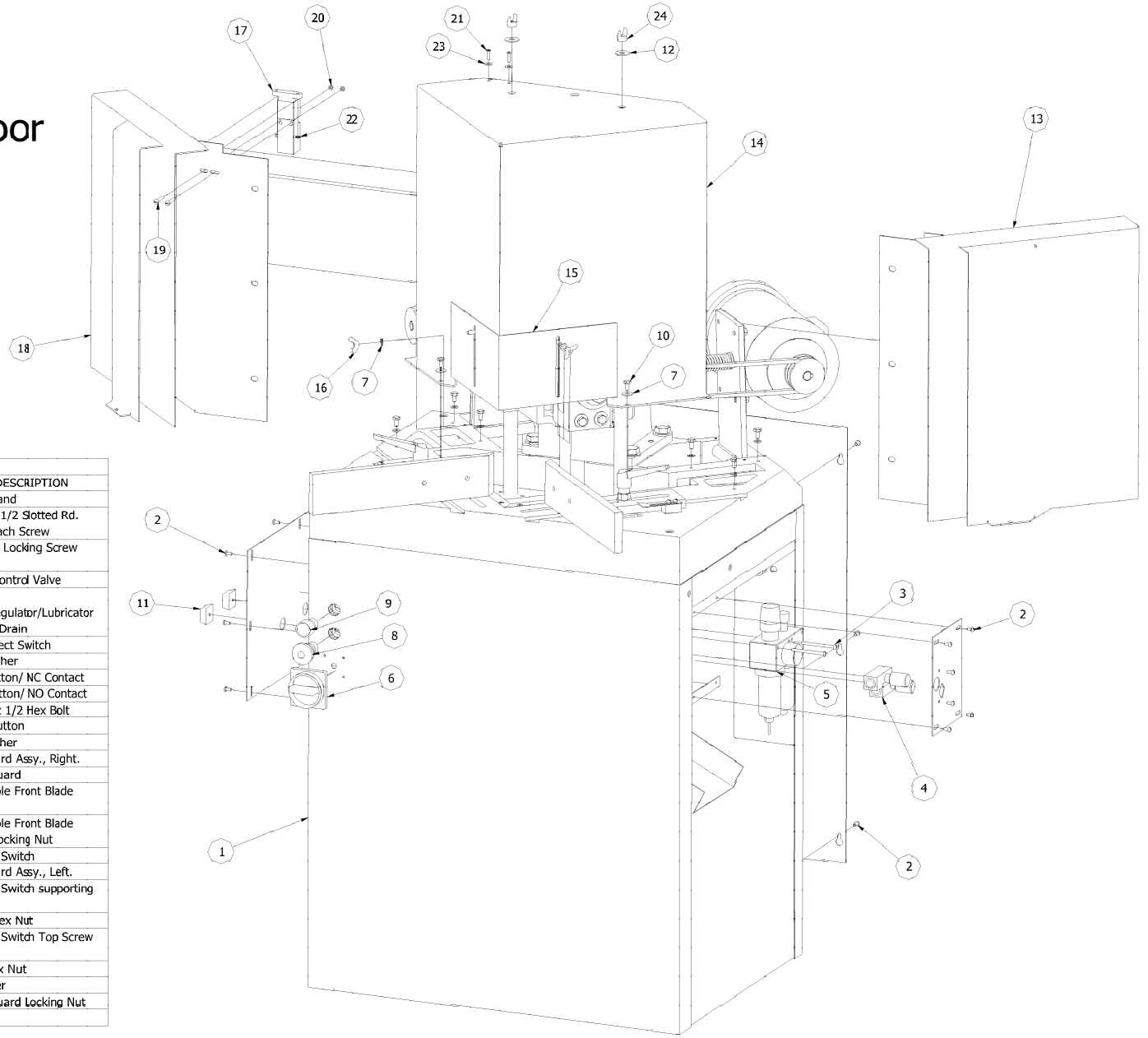
1. Remove front Blade Guard, P/N 9F20 (see Instructions under **Blade Installation** on page 4)
2. Remove rear Motor Cover, P/N 9F52 exposing motors.
3. Loosen belts by following instructions under **Belt Tension** on Page No. 6.

For Model N80X:

A. Remove Blade Guard Cover, P/N 8F10 bolted to base and brace.
B. Push motor forward and remove belts from pulley.

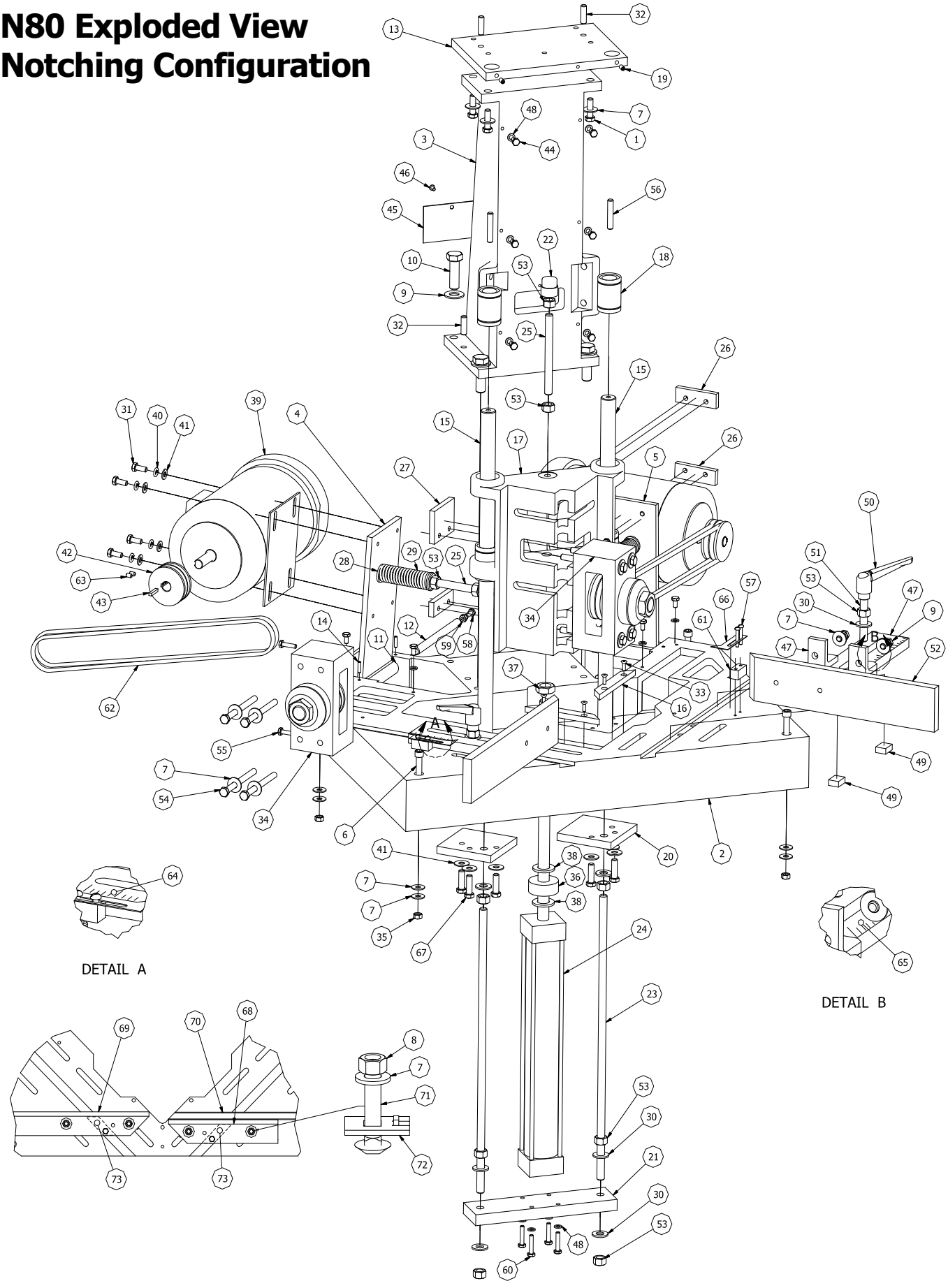
4. Remove hex cap screws with wrench and detach Spindle Housing, P/N 9A05 from Mounting Plate (N90X), or Slide (N80X) [See Pictures "A", "B" and "C" on Page Nos. 5 and 6].
5. Using a vise with aluminum jaws, hold slinger and loosen jam nut No. 9, but leave jam nut on spindle.
6. Loosen set screws in pulley.
7. 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. 7 will slide out of housing when spindle assembly is removed. Bearing on jam nut side will slide out of housing.
8. Replace bearings or belts as necessary.
9. 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.
10. Press new bearing No. 4 on to spindle, making sure spindle is square to the bore.
11. To re-install spindle in spindle housing, take Spindle No. 1 (with Slinger No. 3 and Bearing No. 4), and slowly insert into housing.
12. Position Pulley No. 7 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.
13. From jam nut side of housing, place Belleville Springs No. 8 into housing. Be careful they are inserted correctly as shown in diagram.
14. Now, push bearing No. 10 into housing and on spindle, being careful that bearing goes into housing square.
15. 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.
16. Tighten set screws in pulley.
17. 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.
18. Replace housing on spindle Plate (N90X), or Slide (N80X) with four hex cap screws.
19. Place belts around motor pulley and tighten (see Belt Tension instructions on Page No. 6 for N90X).

N80 Exploded View Blade Guard and Floor Stand Assy.



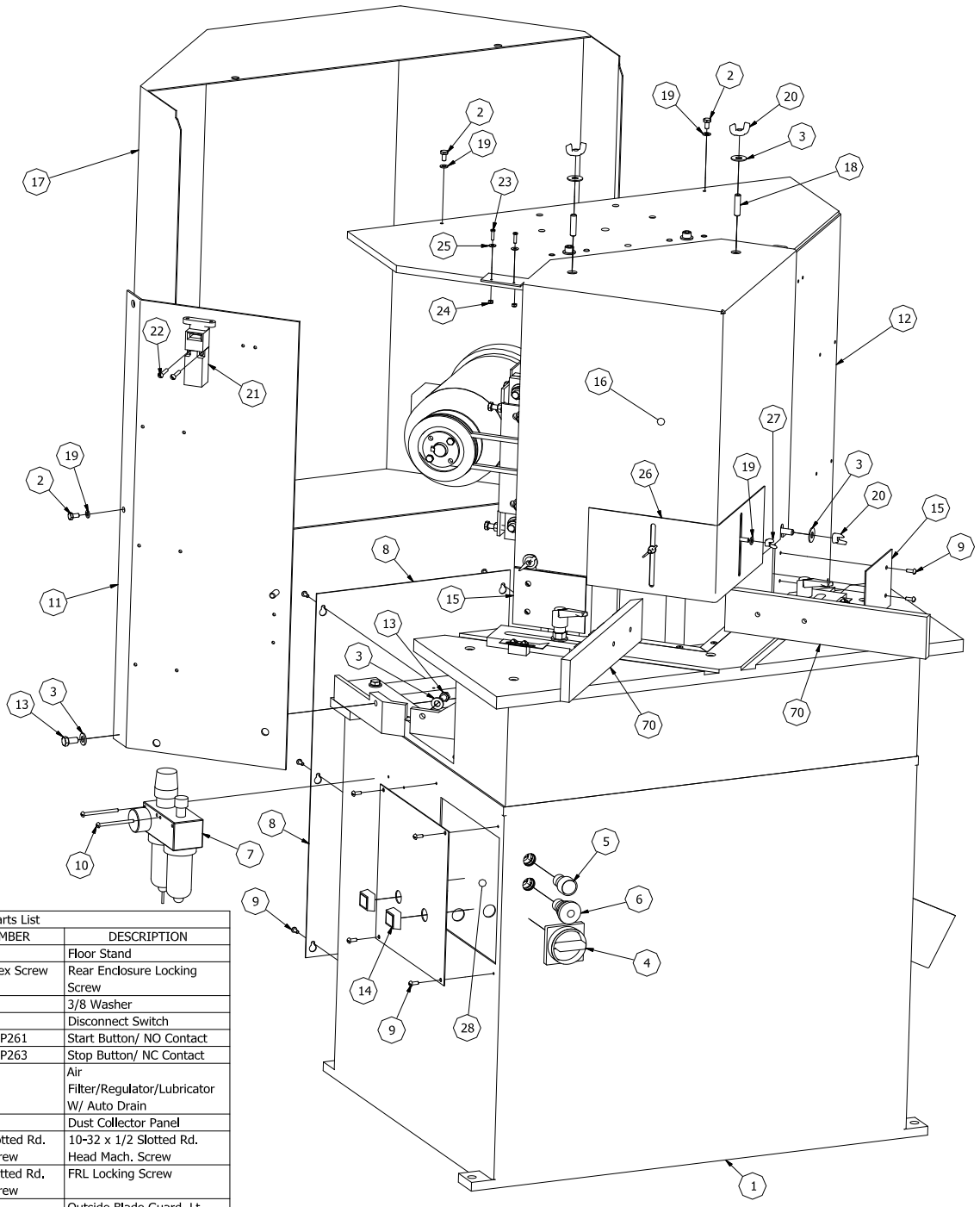
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	15F21A	Floor Stand
2	20	10-32 x 1/2 Slotted Rd. Head Mach. Screw	10-32 x 1/2 Slotted Rd. Head Mach Screw
3	2	10-32 x 1/2 Slotted Rd. Head Mach. Screw	Air Filter Locking Screw
4	2	B3P60	Speed Control Valve
5	1	B3P54A	Air Filter/Regulator/Lubricator W/Auto Drain
6	1	B5P194E	Disconnect Switch
7	2	1/4 Washer	1/4 Washer
8	1	B5P262/CH, B5P263	Stop Button/ NC Contact
9	1	B5P260/CH, B5P261	Start Button/ NO Contact
10	10	1/4-20 x 1/2 Hex Bolt	1/4-20 x 1/2 Hex Bolt
11	2	B5P267/CH	Reset Button
12	2	3/8 Washer	3/8 Washer
13	1	8F11R	Belt Guard Assy., Right.
14	1	8F10	Blade Guard
15	1	9F65	Adjustable Front Blade Guard
16	2	1/4-20 Wing Nut	Adjustable Front Blade Guard Locking Nut
17	1	B5P/E48P4K1	Lockout Switch
18	1	8F11L	Belt Guard Assy., Left.
19	2	10-32 x 1.25" Slotted Rd. Head Mach. Screw	Lockout Switch supporting Screw
20	2	10-32 Hex Nut	10-32 Hex Nut
21	2	8-32 x 1/2 Socket Head Screw	Lockout Switch Top Screw
22	2	8-32 Hex Nut	8-32 Hex Nut
23	2	8 Washer	8 Washer
24	2	3/8-16 Wing Nut	Blade Guard Locking Nut
70	2	2DF15	

N80 Exploded View
Notching Configuration



N80 Exploded View Parts List

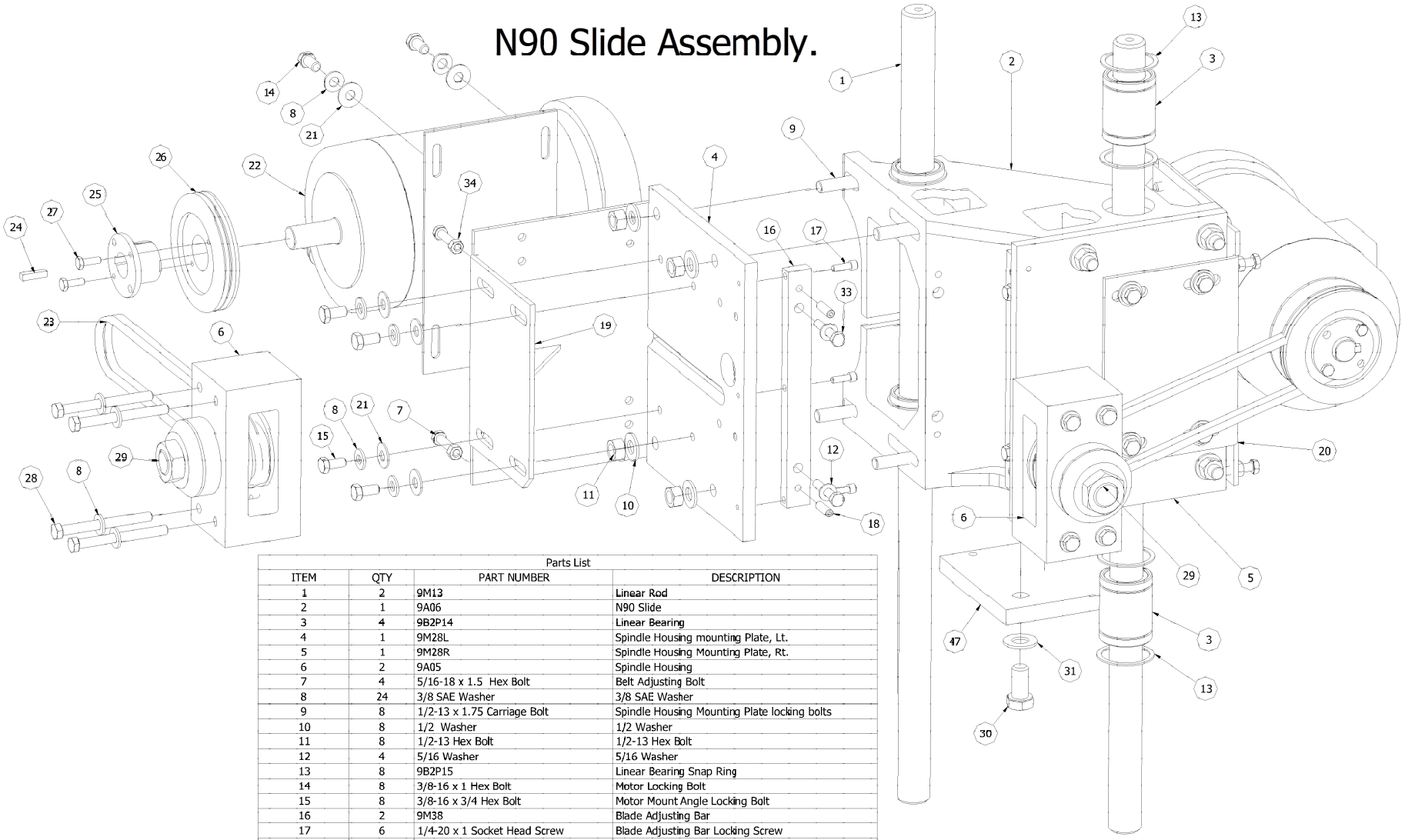
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	4	3/8-16 x 1.25" Hex Bolt	3/8-16 x 1.25" Hex Bolt
2	1	8C30	Base Casting
3	1	8C40	Center Brace
4	1	8M35L	Motor Mount Pivot Plate, Left.
5	1	8M35R	Motor Mount Pivot Plate, Right.
6	4	3/8-16 x 4 Socket Head Screw	Base Screws
7	24	3/8 Washer	3/8 Washer
8	8	3/8-16 Hex Nut	3/8-16 Hex Nut
9	4	3/8-16 x 1" Hex Bolt	Fence Locking Bolt
10	8	1/2-13 x 2 Hex Bolt	Center Brace Mounting Bolt
11	4	150B2P44	Bronze Bushing
12	2	8M36	Motor Mount Pivot Shaft
13	1	8M32	Top Rod Support Brace
14	4	10-32 x 3/4 Set Screw	Motor Mount Pivot Shaft Locking Screw
15	2	8M22	Linear Rod
16	2	8M60A	Chip Breaker
17	1	8C01	N80 Slide
18	4	8B2P25	Linear Bearing
19	2	1/4-20 x 1/2 Set Screw	Linear Rod Locking Screw
20	2	8M21	Bottom Rod Support
21	1	8M41	Bottom Cylinder Mount
22	1	15M03	Up Stop Bumper
23	2	8M42	Cylinder Support Rods
24	1	8B3P26	Air Cylinder
25	3	8M37	Spring Support / Upstop Stud
26	3	8M06A	Housing Nut, Small
27	1	8M06B	Housing Nut, Large
28	4	22M10	Spring Support
29	2	2B7P16	Compresion Spring
30	12	1/2 Washer	1/2 Washer
31	8	5/16-18 x 1" Hex Bolt	5/16-18 x 1" Hex Bolt
32	4	Dowel Pin 3/8 x 1.25"	Center Brace Locking Pin
33	4	10-32 x 3/4 Flat Head Screw	Chip Breaker Locking Screw
34	2	90M01R/L	N80 Spindle Assy W/Housing. Rt, or Lt. See Spindle Expl. View.
35	14	3/8-16 Hex Nut	3/8-16 Hex Nut
36	1	9M66	Rubber Cushion Bottom
37	1	3/4-10 Jam Nut	Cylinder Lock Nut
38	2	3/4 Washer	3/4 Washer
39	2	2B6S07, 2B6S08, 2B6S05	2 HP. 3 Ph. Motor, 3 HP. 3 Ph. Motor, 2 HP. 1Ph. Motor.
40	8	5/16 Helical Split Washer	5/16 Helical Split Washer
41	14	5/16 Washer	5/16 Washer
42	2	2B4P24	Motor Pulley
43	2	2BM23	Motor Pulley Key
44	10	1/4-20 x 1/2 Hex Bolt	Blade Guard Locking Bolt
45	1	8F41	Rear Cover Brace
46	1	10-32 x 3/8 Slotted Rd. Head Mach. Screw	Cover Brace Screw
47	1	9E12	Toe Kick Bracket
48	10	1/4 Washer	1/4 Washer
49	4	9M37A	Toe Kick Bracket Key
50	2	9B7P38	Quick Adjust Handle
51	2	9M73	Stud Locking Handle
52	2	9M36	Toe Kick Fence
53	14	1/2-13 Hex Nut	1/2-13 Hex Nut
54	8	3/8-16 x 4.5 Hex Bolt	Spindle Locking Bolt
55	4	1/4-20 x 1 Hex Bolt	1/4-20 x 1 Hex Bolt
56	2	3/8-16 x 2" All Thread	Blade Guard Locking Stud
57	4	10-32 x 1.25 Slotted Rd. Head Mach. Screw	Gage Block Screw
58	2	1/4-20 x 3/4 Hex Bolt	Motor Mount Pivot Shaft Removal Bolt
59	2	1/4-20 Hex Nut	1/4-20 Hex Nut
60	4	1/4-28 x 1.25 Hex Bolt	Cylinder Support Bolt
61	2	9M68	Gage Block Notching Fence
62	2	8B4P36	3V450 Banded Dbl. Belt
63	4	1/4-20 x 3/8 Set Screw	Motor Pulley Set Screw
64	1	2D75L	Left to Right Notch Fence Tape
65	1	2D75R	Right to Left Notch Fence Tape
66	2	2DF15	Pointer
67	6	5/16-18 x 1.25"	Bottom Rod Support Bolt
68	1	15M36R	Front Fence Angle, Rt.
69	1	15M36L	Front Fence Angle, Lt.
70	1	15BM223	Fence Gage
71	4	3/8-16 x 1.75 Carriage Bolt	Fence Locking Bolt
72	4	BF19	Tab Washer
73	2	15M37	Fence Key



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	9M25	Floor Stand
2	4	1/4-20 x 1/2 Hex Screw	Rear Enclosure Locking Screw
3	10	3/8 Washer	3/8 Washer
4	1	B5P194E	Disconnect Switch
5	1	B5P260/CH, B5P261	Start Button/ NO Contact
6	1	B5P262/CH, B5P263	Stop Button/ NC Contact
7	1	B3P54A	Air Filter/Regulator/Lubricator W/ Auto Drain
8	1	9F27	Dust Collector Panel
9	14	10-32 x 1/2 Slotted Rd. Head Mach. Screw	10-32 x 1/2 Slotted Rd. Head Mach. Screw
10	2	10-32 x 2.5 Slotted Rd. Head Mach. Screw	FRL Locking Screw
11	1	9F22L	Outside Blade Guard, Lt.
12	1	9F22R	Outside Blade Guard, Rt.
13	6	3/8-16 x 3/4 Hex Bolt	Outside Blade Guard Locking Bolt
14	2	B5P267/CH	Reset Button
15	2	9M59	Lower Outer Blade Guard
16	1	9F20	Blade Guard
17	1	9F52	Rear Enclosure
18	2	3/8-16 x 1.5" Stud	Blade Guard Attaching Stud
19	6	1/4 Washer	1/4 Washer
20	4	3/8-16 Wing Nut	Blade Guard Locking Wing Nut
21	1	B5P/E48P4K1	Lockout Switch
22	2	10-32 x 1.25 Slotted Rd. Head Mach. Screw	Lockout Switch Supporting Screw
23	2	8-32 x 1/2 Socket Head Screw	Lockout Switch Attaching Screw
24	2	8-32 Hex Nut	8-32 Hex Nut
25	2	#8 Washer	#8 Washer
26	1	9F65	Adjustable Front Blade Guard
27	2	1/4-20 Wing Nut	Front Blade Guard Locking Wing Nut
28	1		Magnetic Starter

N90 Floor Stand and Blade Guard Exploded View

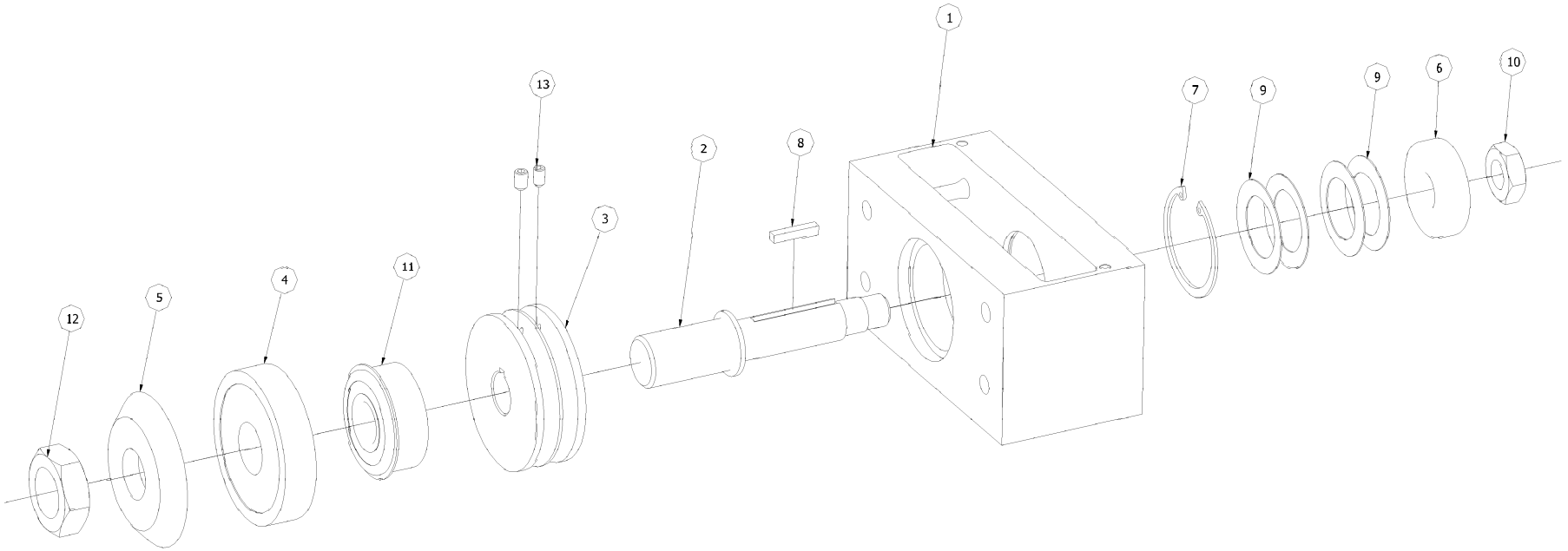
N90 Slide Assembly.



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	9M13	Linear Rod
2	1	9A06	N90 Slide
3	4	9B2P14	Linear Bearing
4	1	9M28L	Spindle Housing mounting Plate, Lt.
5	1	9M28R	Spindle Housing Mounting Plate, Rt.
6	2	9A05	Spindle Housing
7	4	5/16-18 x 1.5 Hex Bolt	Belt Adjusting Bolt
8	24	3/8 SAE Washer	3/8 SAE Washer
9	8	1/2-13 x 1.75 Carriage Bolt	Spindle Housing Mounting Plate locking bolts
10	8	1/2 Washer	1/2 Washer
11	8	1/2-13 Hex Bolt	1/2-13 Hex Bolt
12	4	5/16 Washer	5/16 Washer
13	8	9B2P15	Linear Bearing Snap Ring
14	8	3/8-16 x 1 Hex Bolt	Motor Locking Bolt
15	8	3/8-16 x 3/4 Hex Bolt	Motor Mount Angle Locking Bolt
16	2	9M38	Blade Adjusting Bar
17	6	1/4-20 x 1 Socket Head Screw	Blade Adjusting Bar Locking Screw
18	4	5/16-18 x 1 Set Screw	Blade Adjusting Set Screw
19	1	9M26L	Motor Mount Angle Assy. Lt.
20	1	9M26R	Motor Mount Angle Assy. Rt.
21	16	3/8 USS Washer	3/8 USS Washer
22	2	9B6S11/9B6S22	3 H.P. 3 Ph. Motor / 5 H.P. 3 Ph. Motor
23	4	9B4P35/9B4P36	Belt for 3 H.P. Motor / Belt for 5 H.P. Motor
24	2	Motor Pulley Key	1/4 x 1/4 x 1.5 (3 HP) / 1/4 x 1/4 x 1.75 (5 HP)
25	2	B4PH118	Motor Pulley Bushing
26	2	B4P2H3V47	Motor Pulley
27	4	1/4-20 x 3/4 Hex Bolt	Motor Pulley Locking Bolt
28	8	3/8-16 x 3.75 Hex Bolt	Spindle Housing Locking Bolt
29	2	90M01L/R	Spindle Assy. Lt or Rt.
30	1	5/8-11 x 1.25 Hex Bolt	Slide Support Brkt. Locking Bolt
31	1	5/8 Washer	5/8 Washer
32	1	9M39	Slide Support Bracket
33	4	5/16-18 x 1.75 Hex Bolt	Blade Adjusting Bolt
34	4	5/16-18 Hex Nut	5/16-18 Hex Nut

N90 Spindle Assembly

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	9A05	Spindle Housing
2	1	90M01R/L	Spindle, Rt. or Lt.
3	1	2B4P27	Spindle Pulley 3", .787 bore
4	1	90M02	Slinger
5	1	90M03	Flange
6	1	9B2P03	Bearing, Jam Nut side
7	1	9B2P06	Snap Ring
8	1	2BM23	Pulley Key
9	4	9B2P05	Belleville Spring
10	1	151P16R/L	Jam Nut, Rt. or Lt.
11	1	9B2P04X	Double Row Bearing
12	1	9B1P44R/L	Spindle Nut, Rt. or Lt.
13	2	1/4-20 x 3/8 Set Screw	Spindle Pulley Set Screw



Parts List

For Model N80X:

8M22	Linear Rod (2 required)
8B2P25	Linear Bearing (4 required)
8C01	N80X Slide
8M35L	Motor Mount Pivot Plate, Left
8M35R	Motor Mount Pivot Plate, Right
8B2P34	Bushing Motor Mount Pivot (4 required)
8M36	Motor Mount Pivot Shaft
8C30	Base Casting
15F21A	Floor Stand
8M32	Top Rod Support Brace
8M21	Bottom Rod Support
8M41	Bottom Cylinder Mount
8M42	Cylinder Support Rods (2 required)
8M06A	Housing Nut, Small (3 required)
8M06B	Housing Nut, Large (1 required)
8C40	Center Brace
15F15	Accessory Valve Brkt.
15M103	Upstop Bumper
9M66	Rubber Cushion Bottom
8F41	Rear Cover Brace
2B7P16	Return Spring Motor (2 required)
22M10	Spring Support (4 required)
8M37	Spring Support Stud
8F10	Blade Guard
8F11L	Belt Guard Assembly, Left
8F11R	Belt Guard Assembly, Right
8M60A	Chip Breaker

For Model N90X:

9M13	Linear Rod (2 required)
9B2P14	Linear Bearing (4 required)
9B2P15	Linear Bearing Snap Ring (8 required)
9A06	N90X Slide
9A05	Spindle Housing (2 required)
9B7P68	Upstop Spring
9M28L	Spindle Housing Mounting Plate, Left
9M28R	Spindle Housing Mounting Plate, Right
9M38	Blade Adjusting Bar
9M69	Accessory Valve Bracket
9F12	Toe Kick Bracket
9M36	Toe Kick Fence
9M26L	Motor Mount Angle Assembly, Left
9M26R	Motor Mount Angle Assembly, Right
9C42	Base Casting
9F10	Top Plate
9F11	Table Top
9M25	Floor Stand
9M19A	Top Rod Mount
9M19	Bottom Rod Mount
9F20	Blade Guard
9F22L	Outside Blade Guard, Left
9F22R	Outside Blade Guard, Right
9ME40	Center Brace
9F52	Rear Enclosure
9M63	Cylinder Support
9M66	Rubber Cushion Bottom
9M70	Cylinder Support Rods
9F27	Dust Collector Panel
9M59	Lower Outer Blade Guard (2 required)

Electrical and Motor Parts:

2B6S07	2 H.P. 3 Phase Motor, 56Z Frame, N80X
2B6S08	3 H.P. 3 Phase Motor, 56Z Frame, N80X
2B6S05	2 H.P. 1 Phase Motor, 56Z Frame, N80X
9B6S11	3 H.P. 3 Phase Motor, 182 Frame, N90X
9B6S22	5 H.P. 3 Phase Motor, 182 Frame, N90X
2B4P24	Motor Pulley, N80X (2 required)
B4P2H3V47	Motor Pulley, N90X (2 required)
B4PH118	Motor Pulley Bushing, N90X (2 required)
B5P153Q230V/DM/CH	Magnetic Starter, 230 Volt, N80X 2 H.P.
B5P153Q460V/DM/CH	Magnetic Starter, 460 Volt, N80X 2 H.P.
B5P3H3Q230V/DM/CH	Magnetic Starter, 230 Volt, N80X/N90X 3 H.P.
B5P3H3Q460V/DM/CH	Magnetic Starter, 460 Volt, N80X/N90X 3 H.P.
B5P194E	Rotary Cam Disconnect Switch
B5PE48P4K1	Blade Guard Interlock Switch

Parts List Continued

Air System Parts:

8B3P26	N80X Air Cylinder
9B3P29	N90X Air Cylinder
B3P71	Foot Valve 4 way Spring Return
9B3P65	Flow Control Valve
B3P154	Filter Regulator with Auto Drain
B3P50	3-Way Normally Open Clamp Actuator Valve
2B3P20	3" Stroke Clamp Cylinder
15F15	Valve Bracket
B3P64	Muffler/Silencer

Pneumatic Clamps and Parts (see Diagrams Page No. 14)

2B3P20	3" Stroke Clamp Cylinder
2B3P22	Pressure Regulator for clamps
2B3P23	Bracket for Pressure Regulator
2B3P20C	Vertical Clamp Pad Assy.
200M20	Vertical Clamp Support Bar
200M20B	Horizontal Bar, Vertical Clamp Support
200M21	Vertical Clamp Adjustment Bracket
200M22	Vertical Cylinder Bracket
200B1P22	Wing Stud
200B7P19	Adjusting Lock Handle
150M87	45° Horizontal Cyl. Bracket
150M88L/R	45° Horizontal Clamp Pad, Left & Right
200B3P21	3" Stroke Horizontal Clamp Cylinder

N80X & N90X Fence Parts:

9M37A	Toe Kick Bracket Key (2 required)
9F12	Toe Kick Bracket (2 required)
9M36	Toe Kick Fence (2 required)
9B7P38	Quick Adjust Handle Toe Kick Bracket
15M36L	Mitre Front Fence, Left
15M36R	Mitre Front Fence, Right
15M37	Mitre Front Fence Key
9F65	Adjustable Front Blade Guard
9M68	Gage Block Notching Fence (2 req.)
2DF15	Pointer for Toe Kick Gage
2D7SLHF/R	Left to Right and Right to Left Measuring Tape
9B7P65	Spindle Wrench, 1-7/16"
9M73	Stud for Lock Handle

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.

CTD MACHINES

2382 E. 48th Street

Vernon, CA 90058

(213) 689-4455 • Fax (213) 689-1255

e-mail: **ctdsaw@ctdsaw.com** www: **http://www.ctdsaw.com**