

**INSTRUCTION BULLETIN  
& MAINTENANCE MANUAL  
FOR CTD MODELS  
D45AX & D45FX**

**CTD MODEL NO:** \_\_\_\_\_

**CTD SERIAL NO:** \_\_\_\_\_

**MANUFACTURE DATE:** \_\_\_\_\_

**DISTRIBUTOR PURCHASED THROUGH:**

**(IF ANY)** \_\_\_\_\_



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### Machine Requirements:

MODEL NO: \_\_\_\_\_ SERIAL NO: \_\_\_\_\_

#### **Cutting Capacities:**

<u>10" (254mm) Blade Capacity</u>		<u>12" (305mm) Blade Capacity</u>	
<u>Height</u>	<u>Width</u>	<u>Height</u>	<u>Width</u>
3/4"(19mm)	5"(127mm)	7/8"(22mm)	5-3/4"(146mm)
4" (102mm)	2-3/8(60mm)	3-1/4" (83mm)	3"(76mm)
<u>14" High Top (355mm) Blade Capacity</u>			
<u>Height</u>		<u>Width</u>	
2"(51mm)		6"(152mm)	
3.25"(83mm)		3-1/2" (89mm)	

#### **Electrical Requirements:** Based on two motors per machine

<u>Motor Size</u>	<u>Required Amperage</u>	<u>Breaker Needed</u>
1-1/2 H.P., 1 Phase 230 Volt	20 amps	30 amp
1-1/2 H.P., 3 Phase 230 Volt	9.2 amps	15 amp
1-1/2 H.P., 3 Phase 460 Volt	4.6 amps	15 amp
2 H.P., 1 Phase 230 Volt	25 amps	40 amp
2 H.P., 3 Phase 230 Volt	10.8 amps	20 amp
2 H.P., 3 Phase 460 Volt	5.4 amps	15 amp

#### **Pneumatic Requirements:**

1 CFM per 10 strokes at 75 PSI (.043 cubic meters at 5.4 kg/cm<sup>2</sup>)

#### **Dust Collection Requirements:** 1200 CFM at 6" outlet

#### **Cutting Tool Requirements:** Heavy, rigid plate blades

10" blades: .090 to .100 plate    12" blades: .100 to .110 plate    14" blades: .120 to .130 plate

## Installation and Set Up:

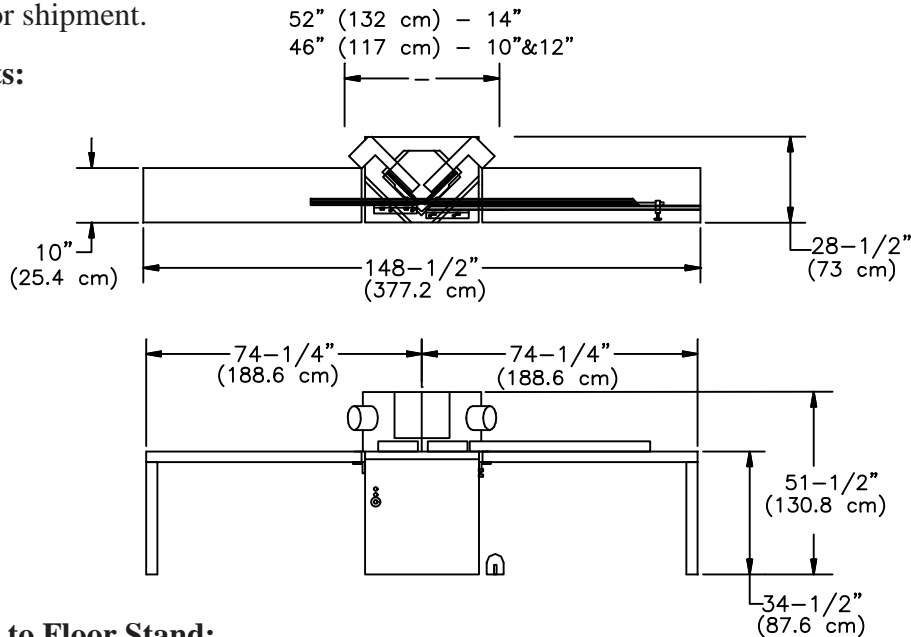
CTD 10", 12", and 14" Models D45AX Automatic & D45FX Foot Cut Off Saws:

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 D45AX 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 9500 SFPM on a 10" blade, and 11,400 SFPM on a 12" blade. The D45AX and D45FX 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. 11).

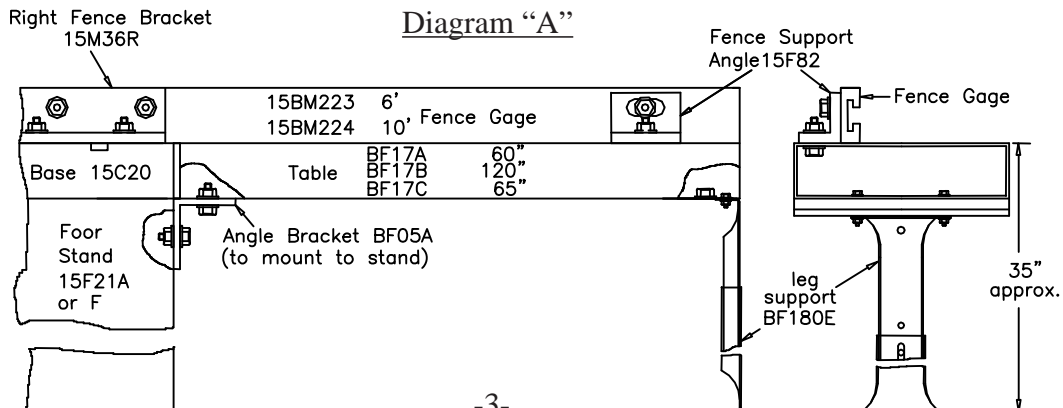
**Note:** The floor stand must be shimmed, leveled and bolted to the floor or framed in to eliminate vibration. Use holes provided in bottom of floor stand. All machines have been completely assembled at the factory, then disassembled for shipment.

### Space Requirements:



### 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 Angle, P/N 15F82 (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, remove blade guard by removing wing nuts on top of main blade guard. Also remove bolts located at the front and sides of the blade guard. Remove main guard completely, by lifting off machine, exposing Arm Assembly.

1. Remove Spindle Nut, P/N 15B1P36 or 37 and Outer Flange, P/N 150M13X. If necessary, hold blade in hand with rag or lower blade into a piece of wood. Push down with a 15/16" wrench.
2. Place blade on spindle with tips pointing down. Make sure Slinger (inner flange P/N 150M14X) 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. 8).

**Always check rotation before cutting a piece of material.**

3. Replace Outer Flange, P/N 150M13X 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.

If blades were purchased from CTD, your machine has been set with your blades. If not, blade diameters may vary. Check to see if the blades you are using conform to Diagram "C". If repositioning is necessary, follow instructions below.

Note: 10" blade capacity spread is 1/4".

1. Position the arms so that the centerline of the spindles are 2" above the table (see Diagram "D"). A 1-1/2" thick spacer placed between the spindle nut flat and the table will bring the centerline up to 2". It is at this **position** that the two **blades** are the **closest together**.
2. Set blades as shown in Diagram "C" about 1/8" apart. On 10" blades, the spread distance is 3/16" apart.
  - A. Loosen three hold down bolts on pivot bracket and move the entire arm and pivot assembly in or out of its original position as needed in the keyway (see Diagram "E").
  - B. Tighten three hold down bolts after positioning heads.
3. Use this method of setting blades **ONLY**. If blades are set at table level, they will contact each other on the upstroke. This can **cause severe damage** to the blades.

Diagram "B"

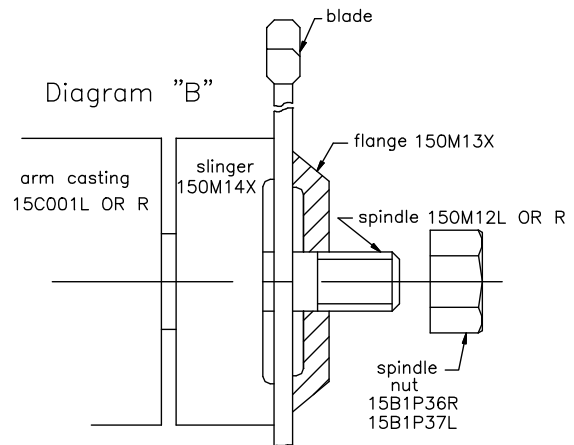


Diagram "C"

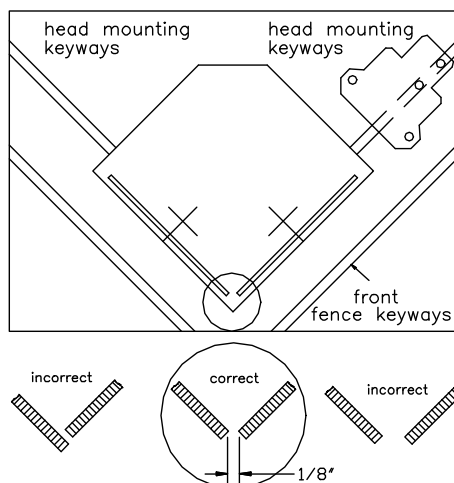
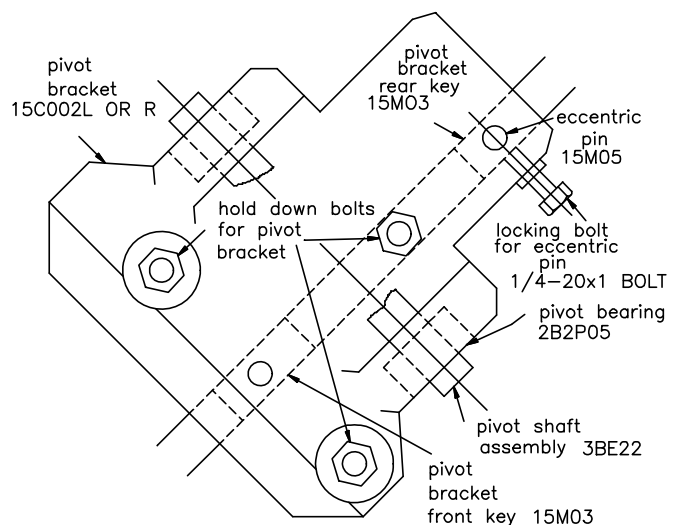


Diagram "E"

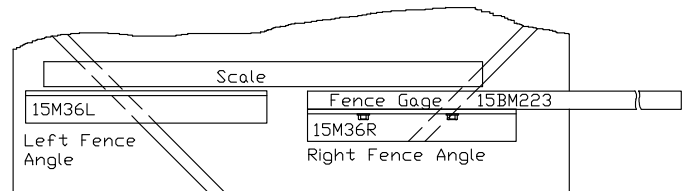


**Attaching Measuring System to Machine:** (see specific instructions for the Measuring System purchased)

For: FEX, OMD, RAB, OMD/RAB Combination Gages, or PAS

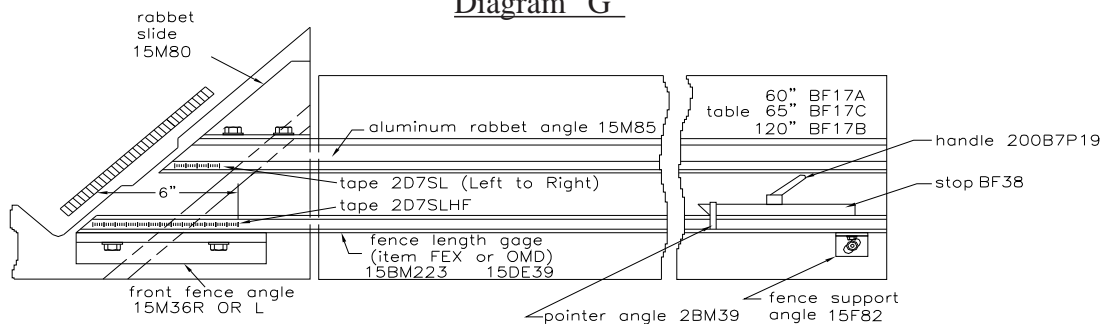
1. Place long measuring gage on table with measuring tape facing up. Bolt through Front Fence Angle, P/N 15M36R with 3/8-16 bolts provided. Adjust gage so measurement rule is correctly set (see Diagram "G");
  - A. With scale or ruler touching the side of the tips of the blade, measure a distance away 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 "F").

Diagram "F"



- D. Attach fence support angle to fence and table.
2. Place aluminum angle with slide into keyway. (Rabbit Angle Assembly, P/N 15E85 is comprised of Slide, P/N 15M80 & Rabbit Angle, P/N 15M85)
    - A. Move angle forward to front fence and square up.
    - B. When rabbit 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 rabbit angle on slide as necessary by loosening 1/4-20 bolts on rabbit slide.
  3. How to use Rabbit 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 and clamp to that point and lock.
    - D. Slide rabbit angle back and cut.

Diagram "G"

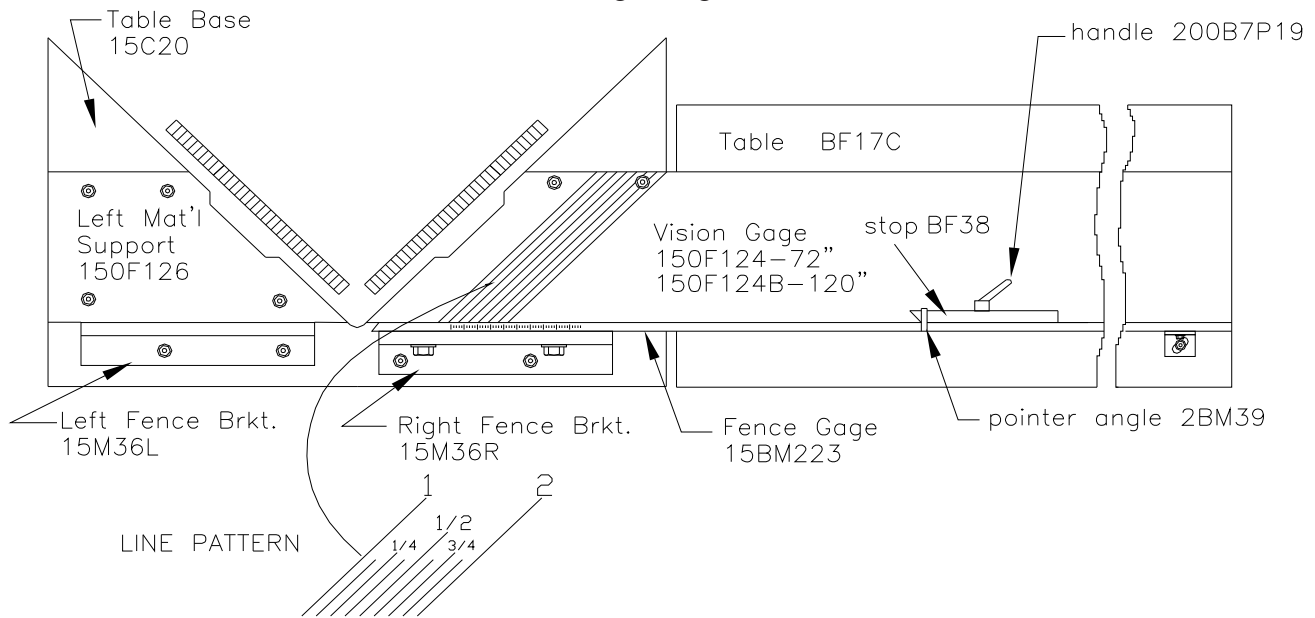


**Vision Gage Assembly:**

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 BF17C to machine floor stand on Angle Bracket, P/N BF05A. Use 3/8-16 bolts and nuts provided on angle bracket.
3. Butt Vision Gage as close as possible to the edge of the base casting P/N 15C20. Attach Vision Gage to machine base with 10-32 screws provided.
  - 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 15BM223 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 15M36R. Adjust gage so measurement rule is correct. Follow instructions under No. 3A above. Attach Fence Support Angle, P/N 15F82 with bolt and nuts provided.

## Vision Gage Diagram



## Electrical Installation:

The CTD D45'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 motor "OFF".  
Note: The STOP button must be pulled out before the START button will activate the motors.

*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.*

## **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 7.)

## **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. 8).

### Three Phase Motor Replacement:

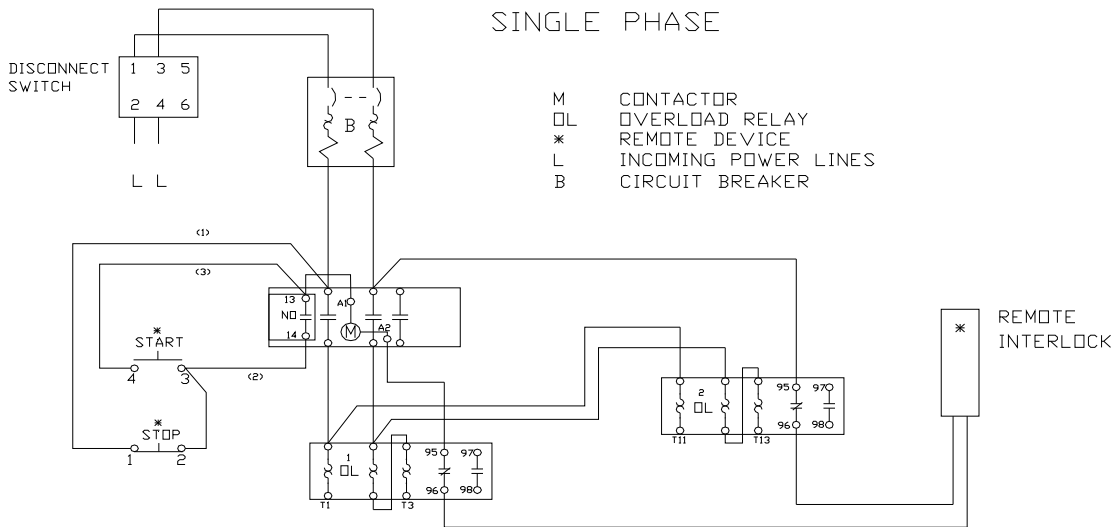
Connect motor line leads to T1, T2, & T3 of the overload relays. (See wiring diagram for three phase motors.) Green ground wire must be grounded to enclosure. *Be sure to check rotation* as polarities may be different. The blade must rotate down and to the rear on the underside of the blade (see Diagram "D" on Page No. 8). 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 Circuit

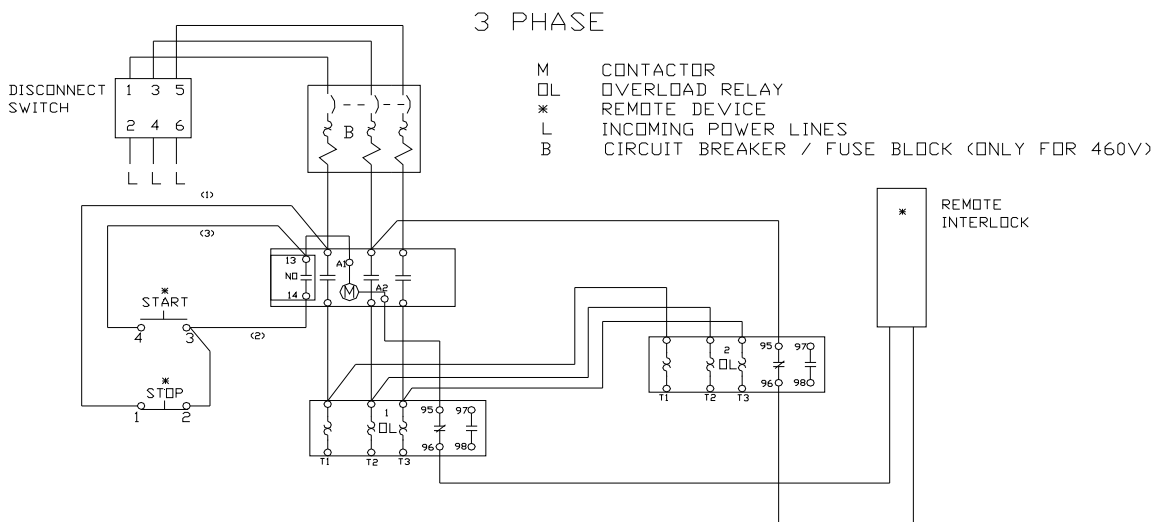
MOTOR SIZE	110 VOLT	220 VOLT	440 VOLT	208/230 VOLT	460 VOLT
1-1/2 H.P., 1 Phase	20 amps	10 amps	N/A	QCR2030H	-
1-1/2 H.P., 3 Phase	N/A	4.6 amps	2.3 amps	QCR3025H	15 amps Fuses
2 H.P., 1 Phase	25 amps	12.5 amps	N/A	QCD2060H	-
2 H.P., 3 Phase	N/A	5.4 amps	2.7 amps	QCR3025H	15 amps Fuses

### Breakers and Fuse Blocks

### Single Phase Wiring Diagram

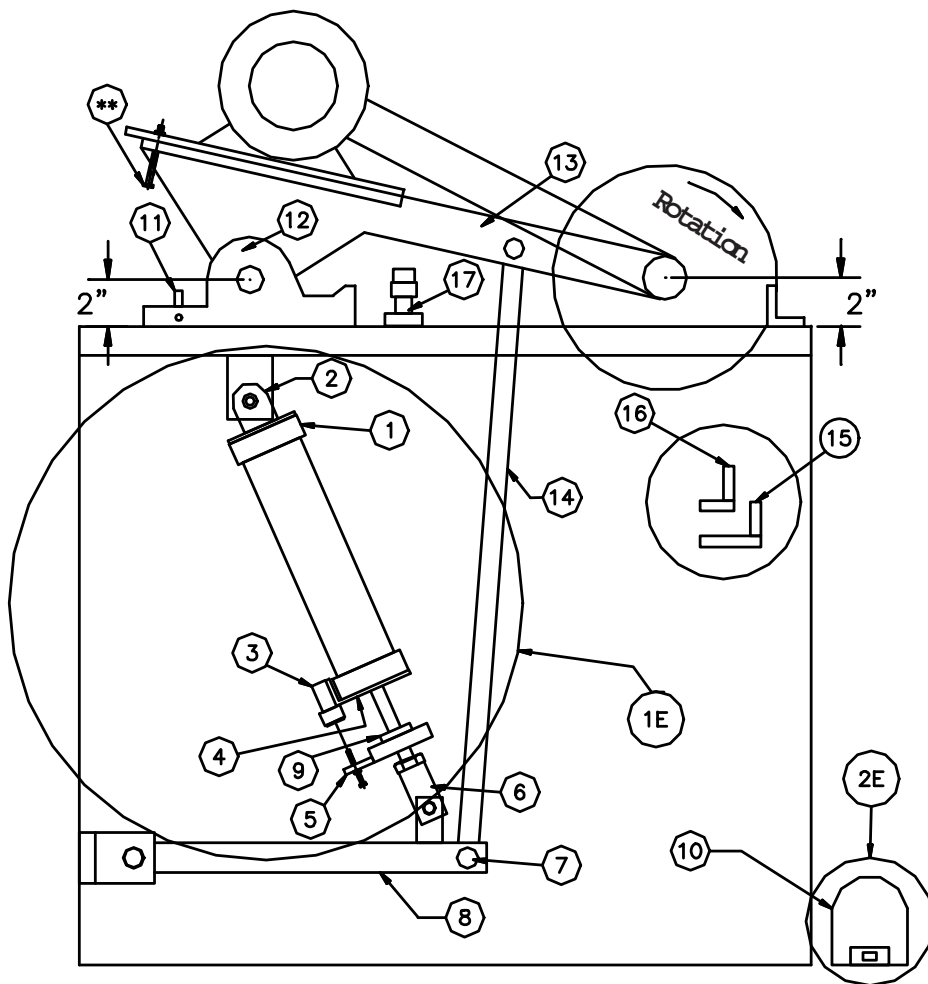


### Three Phase Wiring Diagram



# D45AX Air/Pneumatic System

Diagram "D"



<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>No.</u>	<u>Part No.</u>	<u>Description</u>
1	153S71	CTD #3 Air Cylinder	12	15C002LX	Pivot Bracket, Left
2	153P27	Clevis Mount for Cylinder		15C002RX	Pivot Bracket, Right
3	B3P50	Way Normally Open Valve	13	15C001LX	Arm Casting, Left
4	4BF101	Valve Bracket		15C001RX	Arm Casting, Right
5	15M77	Upstop Block for Upstroke Limit	14	15E27	Pull Rod Assembly
6	15M26	Clevis Power Feed	15	B3P60	Downstroke Control Valve
7	15MS25A	Front Pivot Shaft AX	16	B3P60	Upstroke Control Valve
8	15E30A/F	Pivot Tube Assembly with tang & shaft	17	2B3P20C	Downstop Bumper
9	157P73	Cylinder Bumper		150B1P20	Threaded Rod Bumper
10	B3P71	Way Spring Return Foot Valve	1E	150E70	Air Cylinder Assembly
11	15M05	Eccentric Pin	2E	B3P71	Foot Valve Assembly

\*\*Upstroke Safety Bolt

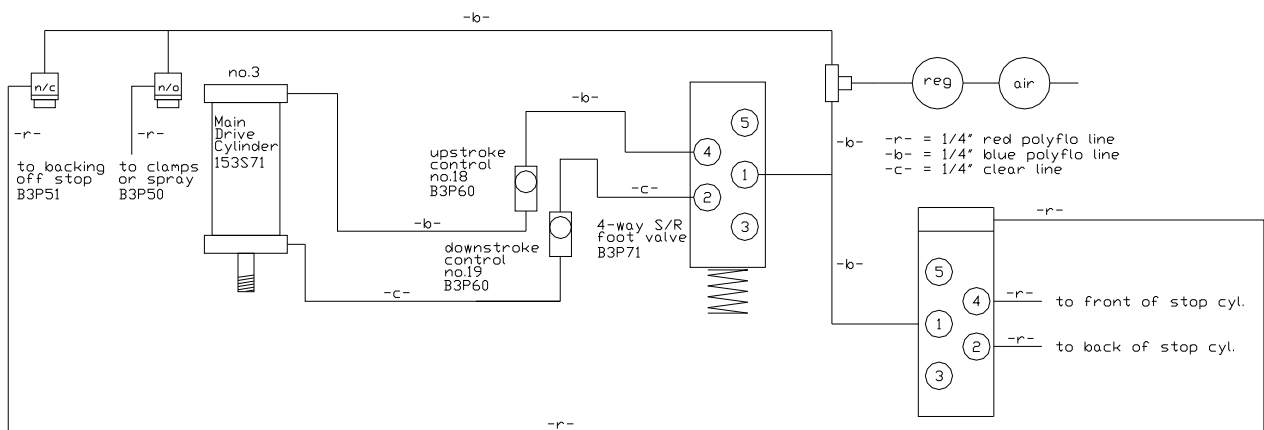
**Do not adjust! (for safety purposes only)**



## **D45AX Air/Pneumatic System:** (not for D45FX)

The air pneumatic system on the D45AX 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 153S71. This pushes the saw heads down. The speed of descent is controlled by the Speed Control Valve, P/N B3P60. 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 additional headings for operational components. Also refer to Diagram “D” for parts listing of air components.

Diagram “I” Air Circuit Piping for Model D45AX

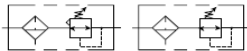


**Air Supply**—The air supply must be turned off and all electrics disconnected before making adjustment on the power feed. A working pressure of 75 PSI (5.4kg/cm<sup>2</sup>) is required. An industrial-type compressor of at least 3 CFM (.085 cubic meters) is recommended. An additional 3 CFM (.085 cubic meters) is required for Spray Mists. A conveniently located valve should be supplied by the user to shut off the air line. **Arms should be Raised or lowered 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.

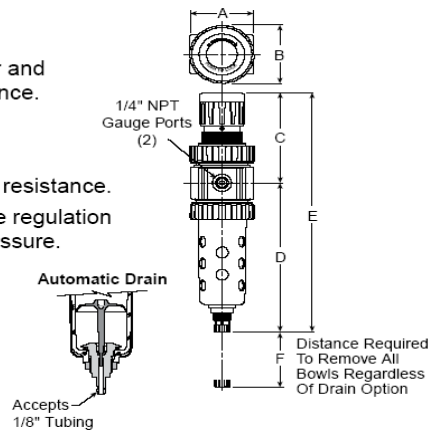
1. The Air Filter Bowl is located on the left side and is provided with an automatic drain. This collects and then releases foreign matter and condensation collected by the air filter.
2. The Pressure Regulator, which is located on top of the air filter, controls the amount of air pressure allowed into the system. An operating pressure of 75 PSI is required. (This is set at the factory.)

## Air Filter/Regulator



### 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§



### 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, as the saw cannot reverse stroke.

### Speed Control of Blades Movement:

The downstroke speed of the blades is controlled by the lower Speed Control Valve, P/N B3P60, No. 15. The upstroke speed is controlled by the upper Speed Control Valve, P/N B3P60, No. 16. Both are located on the right side of the floor stand and are connected to the main control 4-Way Valve. (See Diagram "D") An easy way to remember is the *upstroke* is controlled by the *upper* valve, and the *downstroke* is controlled by the *lower* (down) valve. Up is up, and down is down.

### Length of Stroke Adjustment:

The D45AX is unique in that the travel of the air cylinder can be adjusted to stroke only the length needed to cut a particular moulding. *Example:* The highest moulding to be cut is 2" high. To adjust the stroke:

1. Shut off air supply and disconnect power.
2. Manually lower saw blades so that they are 1/2" above the work.
3. Adjust Upstop Clamp, No. 5 to contact Accessory Valve, No. 3 (see Diagram "D" on Page No. 8).
  - A. Loosen Upstop Clamp by using a 5/16 hex wrench on socket cap screw.
  - B. Move Upstop Block upward on cylinder shaft to contact Accessory Valve, closing the valve.
  - C. Tighten socket cap screw at this position.
4. The blades will now return to this height.

Adjust the Downstroke Bumper, No. 17 to contact Arm Casting, No. 13 as soon as the blades have cut through the work.

You now have eliminated wasted motion and time, thereby increasing production. Always provide a safe distance between the blade and the work. Re-adjust the blade guard whenever the clamp is changed to make sure the blades are completely covered.

## **Trouble Shooting the Pneumatic System for the D45AX Cut-Off Saw:**

If there is no control over the power feed stroke;

- A. Replace either Upstroke Flow Control Valve, No. 16 or Downstroke Control Valve, No. 15. Another possible cause are bad seals in the air cylinder. Listen for any air leakage.
- B. If machine will not start a cycle, or will not reverse, check the 4-Way Foot Valve, No.10. 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 heads down and back to check for binding of the saw arms 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 Valve mounted on the bottom of the Power Feed Unit. When the machine is in the rest position, the Upstroke Clamp, No. 5 contacts the 3-Way Valve, No. 3. 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 can be provided upon request 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 D45AX & D45FX:

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.

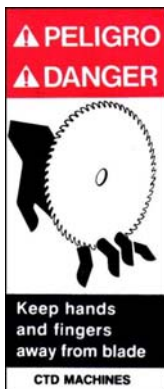
### **Rotation:**

Both blades must rotate to the rear of the machine on the underside of the blades (see Diagram “D” on Page No. 8.)

### **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 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 remove bolts 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.*

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.

### **Cutting:** (see Diagram “J”)

A fixed Double Mitre Saw, such as the D45X 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 “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!!!**
5. Be sure to adjust blades so that the blades reverse as soon as saws have cut through the material. This eliminates the blade hitting the material twice (see Length of Stroke Adjustment on Page No. 10 for instructions). **Minimum cut length on the D45AX and D45FX is 5” on the point to point dimension. Consult factory for shorter lengths.**

Diagram “J”

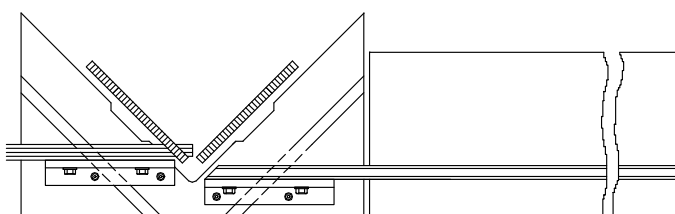
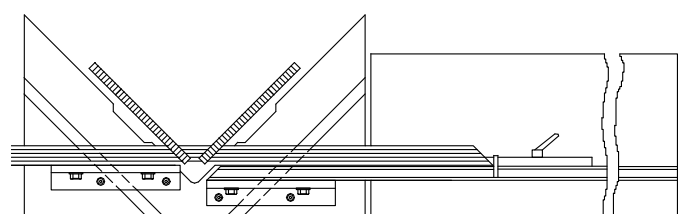


Diagram “K”



## Cutting Speed:

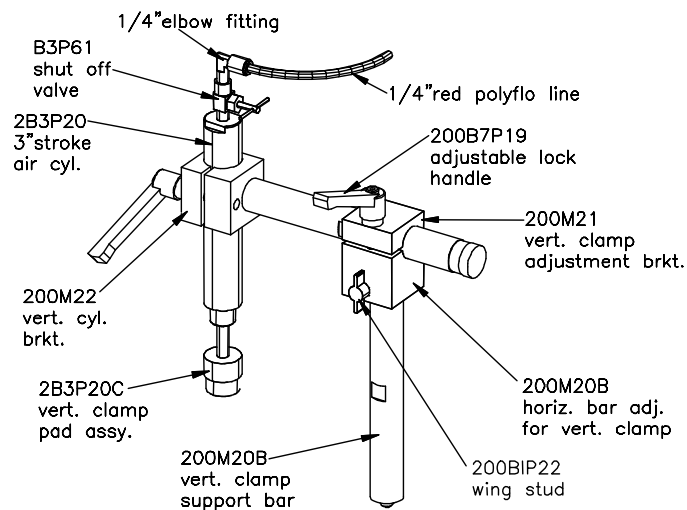
The blade is rotating at approximately 3700 RPM. When moving the blade through the material, the blade must ***NEVER*** be allowed to dwell in the work. If fine finishes are required;

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

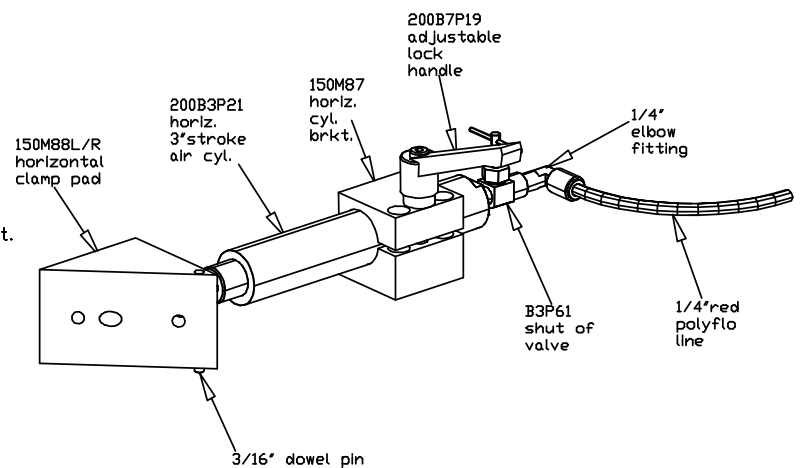
## Clamping and Work Slippage:

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 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. 16. Additional tooling may be needed. Consult factory for information.

Vertical Clamp Assy.



45° Horizontal 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 laquers 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 D45X 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° clamps for this application. Additional tooling may be required. Special carbide blades are available for cutting plastics.

### Cutting Aluminum:

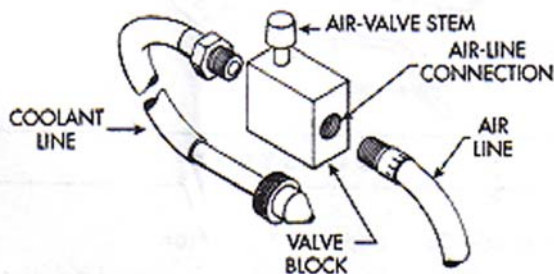
As with cutting any material, it is important that aluminum be clamped properly. Precision blades are required for accurate cutting. CTD suggests and uses a Triple Chip Grind on all its non-ferrous Carbide Blades. When cutting aluminum, or other non-ferrous materials, it is essential that the blades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

### Combination Blades:

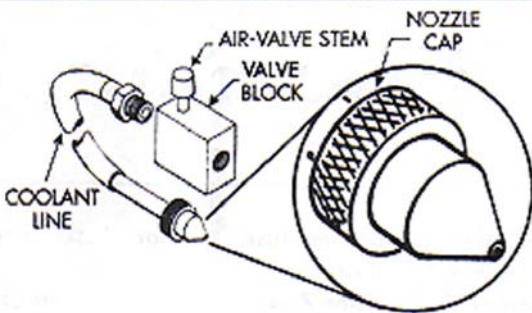
Any combination blade is basically an aluminum cutting blade. Significant blade life in between sharpenings will be lost if a blade is used for cutting both aluminum and wood. The amount of production for either wood or aluminum should be the determining factor in the assessment of the particular blade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



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).

### **Cutting Wide Materials:**

Wider mouldings can easily be cut on the D45's because of our unique above-table saw head design. This design allows for use of the bottom of the blade to cut, as well as the front of the blade. Of course, the blade must be stopped before the flange (holding the blade on) makes contact with the moulding or material to be cut. To stop the blade before it reaches the table (refer to Diagram "D" on Page No. 8);

1. Shut off air supply and disconnect power when making any adjustment to the machine.
2. Adjust Downstroke Bumper so that the blades will stop before the flange contacts material. See "LENGTH OF STROKE ADJUSTMENT" on Page No. 10 for more details.

### **Cutting Smaller Materials:**

When cutting larger production runs of smaller height and width materials, you will want to limit the upstroke and downstroke of the machine to save time and motion.

1. Shut off air supply and disconnect power.
2. Lower saw heads so that saw blades are 1/2" above the material to be cut, ***NEVER*** cut below the height of main blade guard, so the blades are exposed.
3. Adjust Upstop Clamp, No. 5 to contact Accessory Valve (3-Way Normally Open). This clamp limits the upstroke of the cylinder on the piston rod. The saw heads will now return to this position every time when completing a cycle.
4. Always provide a safe distance between the blade and the work to be cut. Re-adjust the finger guards whenever the upstop clamp is changed. Make sure the blades are completely enclosed. See "LENGTH OF STROKE ADJUSTMENT" on Page No. 10 for additional details.

### **Scrap:**

The D45's 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 "C" on Page No. 4. Also see "BLADE INSTALLATION" on Page No. 4. Generally, you will loose between 3/8" (9mm) to 1/2" (13mm) of scrap material.

### **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 D45AX and D45FX are relatively easy machines to operate and maintain. Below 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. All air cylinders are "lubed for life".

### **General Maintenance Check List:**

Always disconnect electrical power and air supply.

1. Keep machine clean—especially around pivot bracket and pivot bearings.
2. Blow off and clean;
  - A. Around air cylinder.
  - B. Spherical rod ends.
  - C. Pivot tube attached to the bottom of the air cylinder—especially at the pivot points.
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.

#### **Fence Alignment and 45° Angle Adjustment of Blades:**

All D45's are present at the factory for perfect 45° double mitre cuts. If any adjustments are necessary;

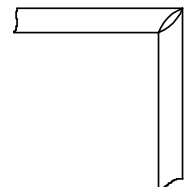
1. Check alignment of front fences—left to right as shown in Diagram “F” on Page No. 5). Use a two foot steel scale or quality precision straight edge and lay flat on table base. Butt edge against fence bracket and long measuring gage. Touch the outside corner of the straight edge. If one side of the straight edge pulls away from the fence, then the long fence gage is not in alignment with the Left Fence Bracket, P/N 15M36L.
2. Loosen 3/8-16 lock nut on Right Fence Bracket, P/N 15M36R and Fence Support Angle, P/N 15F82. 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.

If adjustment of the 45° mitre settings are necessary, you will need a precision draftsman's triangle. Check the 45° mitre by placing the triangle against the left fence and in between the gullets or teeth of a Carbide Blade. Touch the triangle against the steel plate of the blade—not against the tips. If an adjustment is necessary;

- A. Loosen the three lock down nuts for the pivot bracket, using 9/16 wrench (see Diagram “E” on Page No. 4).
- B. Locate Eccentric Pin, No 11 in Diagram “D”. There is a lock bolt (1/4-20x1” bolt with nut) that locks the eccentric pin in place (see Diagram “E”). Loosen nut and bolt. Adjust eccentric pin until blade plate aligns perfectly with precision triangle. Now, tighten the eccentric pin lock bolt and nut.
- C. Tighten three lock down bolts for the pivot bracket.

#### **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 .090 to .100 on 10” blades, and .095 to .110 on 12” 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.





**Pull Rods:** (refer to Diagram “D”, No. 14 on Page No. 8)

It is important that both blades finish the cut on the material at the same time. If you are getting tear-out on one side, then a pull rod adjustment may be necessary. The pull rods are tapped left and right, and operate as a turn-buckle. By loosening the lock nuts and turning the pull rod, the blade is adjusted up, or down from its original position. A turn to the right shortens the pull rod length. A turn to the left lengthens the pull rod. This adjustment may be necessary after replacing or resharpening blades. It can also eliminate tear-out on wood mouldings. A chip breaker can be provided as an optional accessory to support the scrap piece and support the material next to the blade edge—also helping to eliminate tear-out.

**\*\*Do not adjust safety upstroke bolt to contact table** (for safety purposes only).

**Other Repairs:**

See specific areas within the manual for additional information on repairs and maintenance.

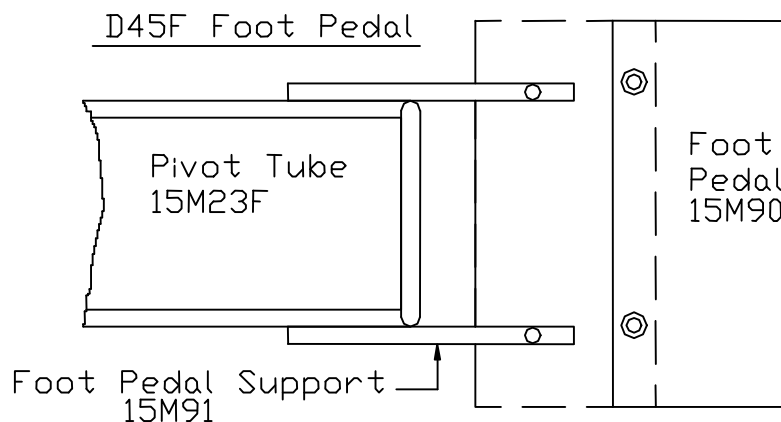
**D45FX Special Installation and Set Up:**

The D45FX is a manually foot operated saw. By depressing the foot pedal, the operator moves the saw heads down, through the material. A spring return and cushion cylinder are provided for the smooth return of the saw heads to the rest position. To attach the return spring and cushion cylinder:

1. Loosen bottom nut on eye bolt (located under pivot tube) to the end of eye bolt. **DO NOT REMOVE.**
2. Raise eye bolt to meet spring and attach to it.
3. Draw eye bolt and spring back down to top nut on eye bolt, using bottom nut located under pivot tube and tighten.
4. To adjust return speed of cushion cylinder, rotate cushion cylinder to right to slow down, and to the left to speed up. (See sticker on cylinder.)

**Attaching Foot Pedal:**

1. Remove two 5/16” Flat Head Screws from Foot Pedal Support, using a 3/16” Allen Wrench.
2. Place Foot Pedal in position and tighten screws until flat with Foot Pedal.



**Stop Adjustments of Foot Pedal Stroke:**

The D45FX has stops for adjusting the upstroke rest position and downstroke stop. These stops are located inside the Floor Stand and can be adjusted if necessary. The machine has been factory adjusted for maximum cutting capacity. If adjustments are necessary:

1. Loosen lock nuts on stops, located inside Floor Stand and adjust as required.
2. Re-tighten all lock nuts after completing adjustments.

## **D45X Spindle Assembly & Bearing Installation Instructions:**

(refer to sketch on following page.)

It is suggested that replacement spindle assemblies be purchased from CTD before disassembling. Old spindles can be returned for bearing replacement and slinger refacing for a nominal fee. The D45X spindle assembly provides for a *slip-fit* between the outer races of the bearing and the housing or arm casting, and a *press-fit* between the inner race and the spindle. Great care must be taken with ball bearings or the life of the bearing will be reduced. Disconnect power and air supply to the machine. To remove the spindle assembly;

A. Remove belts

1. Twist belt inside out by hand while rotating forward over spindle pulley
2. Once belt is inside out, pull belt off while rotating around pulleys.
3. Repeat the same procedure for second belt. (Repeat Step No. 1 & 2.)

An alternative method is to loosen the motor.

B. Remove Spindle Pulley Nut, No. 9 by holding pulley.

C. Remove Pulley, No. 8 and place Pulley Nut, No. 9 back onto spindle to protect threads.

D. With a soft hammer or rubber mallet, gently drive spindle towards blade side. Take care to protect pivot bearings by holding arm casting on blade side to overcome effects of hammer blows.

E. Remove Pulley Nut, No. 9 once again.

F. Spindle Assembly, consisting of Spindle No. 1, Slinger No.3, and Blade Bearing No. 4 will come out of housing. Pulley bearing will slip out. If you have purchased a replacement spindle, go to item "L".

G. If bearing on the blade side must be replaced, an arbor press must be used to disassemble the bearing and the slinger from the spindle. Great care must be used in disassembling, or the spindle will be scored or stripped by the slinger. Before pressing apart, scribe a line on the face of the spindle and the slinger so that they will be reassembled in exactly the same position in relation to each other.

H. Press off slinger and bearing from spindle.

I. Press new bearing on to spindle, making sure spindle is square to the bore.

J. Replace slinger, as above, making sure scored lines match.

K. The face of the slinger must be checked to make sure the face (next to the blade) is running true. Using a dial indicator, the slinger should have a maximum run-out of .001 total. If it is not in tolerance, it should be refaced. To reface, partially assemble pulley bearing on spindle. Hold outer races of both bearings gently in a vise. Use the side of a surface grinder wheel to dress the face of the slinger by rotating spindle in bearings slowly against the direction of the grinding wheel.

L. Make sure that Belleville Springs, No. 6 are assembled in housing as shown in sketch. To reassemble spindle assembly, slip blade bearing into housing up to the snap ring.

M. Slide pulley bearing onto the spindle as far as it will go.

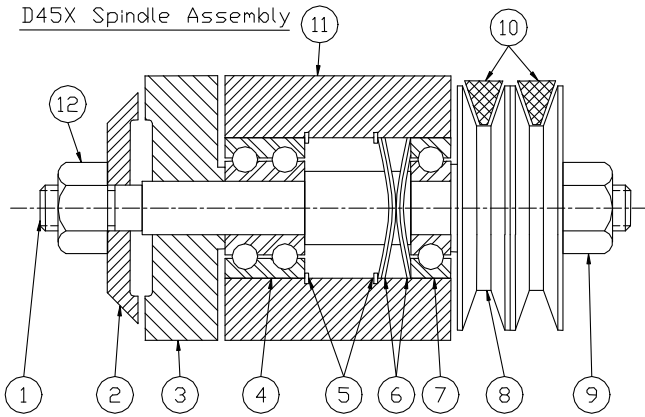
N. Slide pulley onto shaft. This will allow you to use Pulley Nut, No. 9 to press bearing on. Tighten Pulley Nut No. 9, pushing bearing onto spindle.

O. To replace belts, reverse procedure under section "A" above. If motor was moved, the centerline of the motor shaft and the spindle must be parallel. Both pulleys must be in line or belts will not wear evenly. This should be checked by placing a straight edge across both pulleys. Tighten motor.

P. Belt tension is of critical importance. To obtain proper tension, press down on top of belts with a moderate amount of pressure. Belts should deflect approximately 1/4".

Q. Tighten set screw in both pulleys. To check assembly after tightening belts, apply pressure in the direction of the blade on the pulley nut. A slight spring pressure should be felt. If spindle does not spring back, the belts may be too tight.

D45X Spindle Assembly



- Spindle Assembly, Left  
with ground slinger 150E12LX
- Spindle Assembly, Right  
with ground slinger 150E12RX
- Arm Assembly w/ Spindle, Left 150E001LX
- Arm Assembly w/Spindle, Right 150E001RX
- Arm & Pivot Assembly, Left 150E101LX
- Arm & Pivot Assembly, Right 150E101RX

**Pivot Shaft Parts, D45X**

- A. 3BM08 Pivot Shaft
- B. 2B2P05 Pivot Bearing (2 required)
- C. 3B2P10 Belleville Spring (2 required)
- D. 3B2P11 Snap Ring (2 required)

**Pivot & Motor Parts**

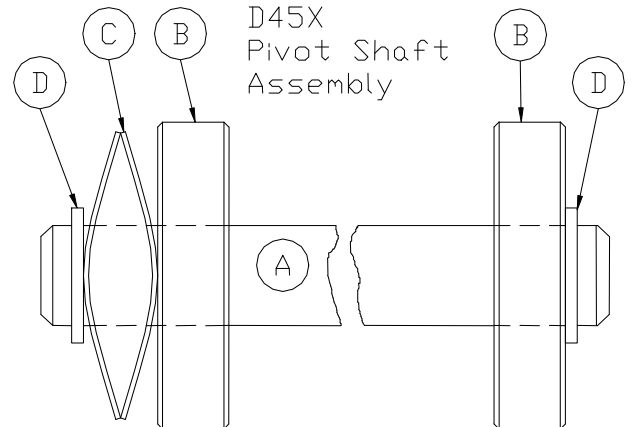
- 15C002LX or RX Pivot Bracket, Left or Right
- 15M03 Key Pivot Bracket Blade Guard
- 15M06 Motor Mount Plate
- 2B4P24 Motor Pulley
- 150E50L or R Belt/Blade Guard Assy, Lt or Rt
- 15B6S03 1-1/2 H.P. 1 Phase Motor, 60 Hz
- 15B6S06 1-1/2 H.P. 3 Phase Motor, 60 Hz
- 15B6S04 1-1/2 H.P. 1 Phase Motor, 50 Hz

**Floor Stand & Table Parts**

- 15F21A or F Floor Stand, Auto or Foot
- 15C20 Table Base
- 15M23A Pivot Tube, D45AX
- 15M23F Pivot Tube, D45FX
- 15E30A Pivot Tube Assy, D45AX
- 15E30F Pivot Tube Assy, D45FX
- 15M24 Rear Pivot Shaft
- 15MS25A Front Pivot Shaft, D45AX
- 15M92 Front Pivot Shaft, D45FX
- 15M27A Pull Rod, D45AX
- 15M27F Pull Rod, D45FX
- 15E27A or F Pull Rod Assembly
- 152P28L or R Spherical Rod Bearing, Lt or Rt

**No. Description**

- | <b>No.</b> | <b>Description</b>              | <b>Part No.</b> |
|------------|---------------------------------|-----------------|
| 1          | Spindle, Right hand             | 150M12RX        |
|            | Spindle, Left hand              | 150M12LX        |
| 2          | Flange                          | 150M13X         |
| 3          | Slinger                         | 150M14X         |
| 4          | Inside Bearing                  | 150B2P15        |
| 5          | Snap Ring (2 required)          | 2B2P06          |
| 6          | Belleville Spring (4 required)  | 2B2P07          |
| 7          | Outside Bearing                 | 2B2P05          |
| 8          | Spindle Pulley                  | 30B4P23         |
| 9          | Pulley Jam Nut, Right           | 15B1P36R        |
|            | Pulley Jam Nut, Left            | 15B1P36L        |
| 10         | Drive Belt, 3V355 (2) 10" & 12" | 154P48          |
|            | Drive Belt 14" H.T. 3VX375(2)   | 9B4P35          |
| 11         | Arm Casting, Right              | 15C001RX        |
|            | Arm Casting, Left               | 15C001LX        |
| 12         | Spindle Nut, Right              | 15B1P36R        |
|            | Spindle Nut, Left               | 15B1P37L        |



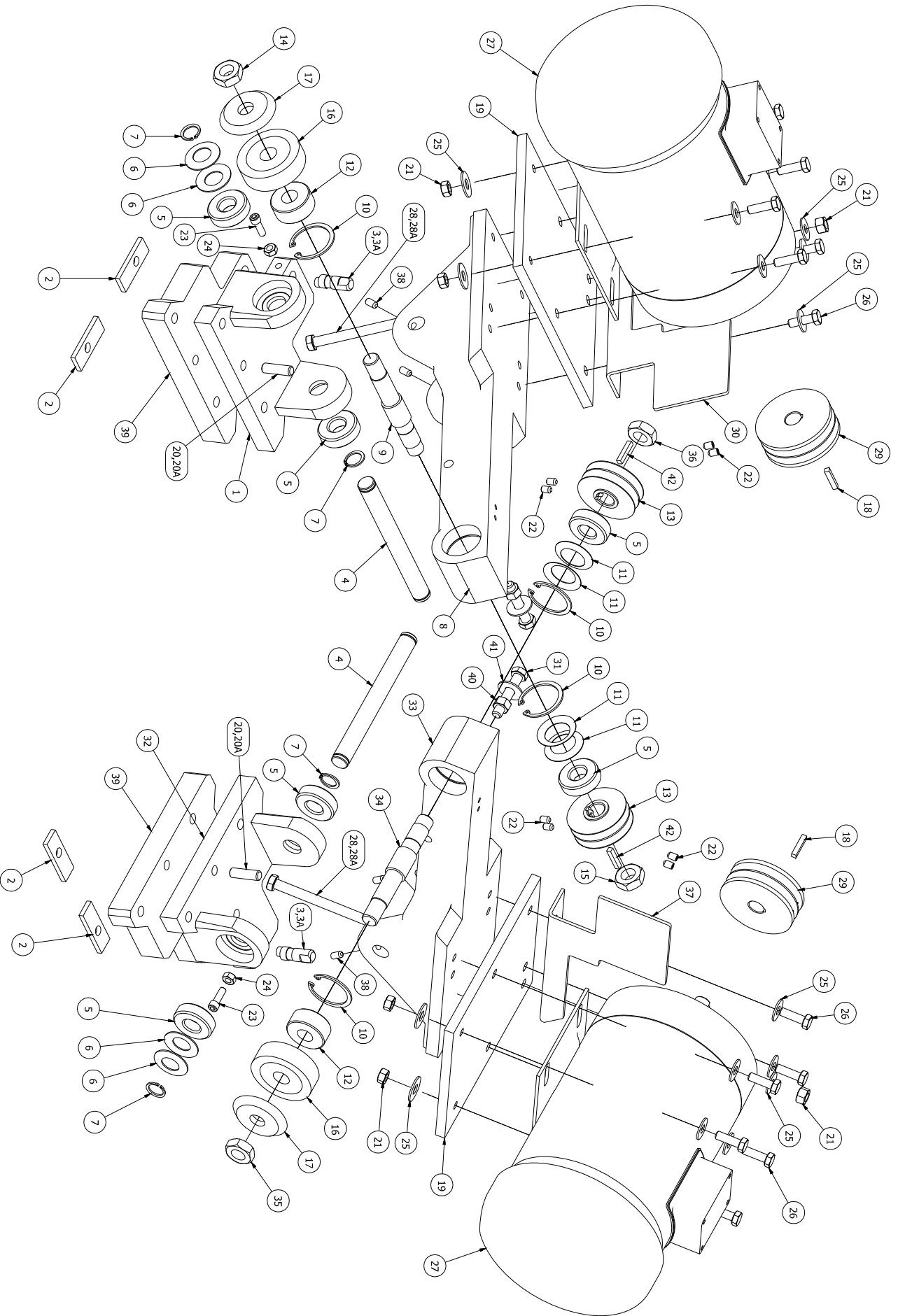
**Floor Stand & Table Parts continued**

- 15M36L Front Fence, Left
- 15M36R Front Fence, Right
- 152P21 Bronze Bushing Pivot Tube
- 150M44 Top Cylinder Eye Mount

**Air Cylinder & Air Feed Parts**

- 150E70 Air Cylinder Assembly
- 153P27 Cylinder Clevis Mount
- 4BF101 Valve Bracket
- 153S71 CTD No. 3 Air Cylinder
- 15M77 Cylinder Up-Stop Block
- B3P50 3-Way Normally Open Valve
- 15M26 Rod Clevis
- B3P71 Foot Valve Assembly
- B3P154 FR Unit with Auto Drain
- 157P73 Rubber Bumper
- 15M86 Bumper Ring
- B3P60 Upstroke & Downstroke Flow Control Valve

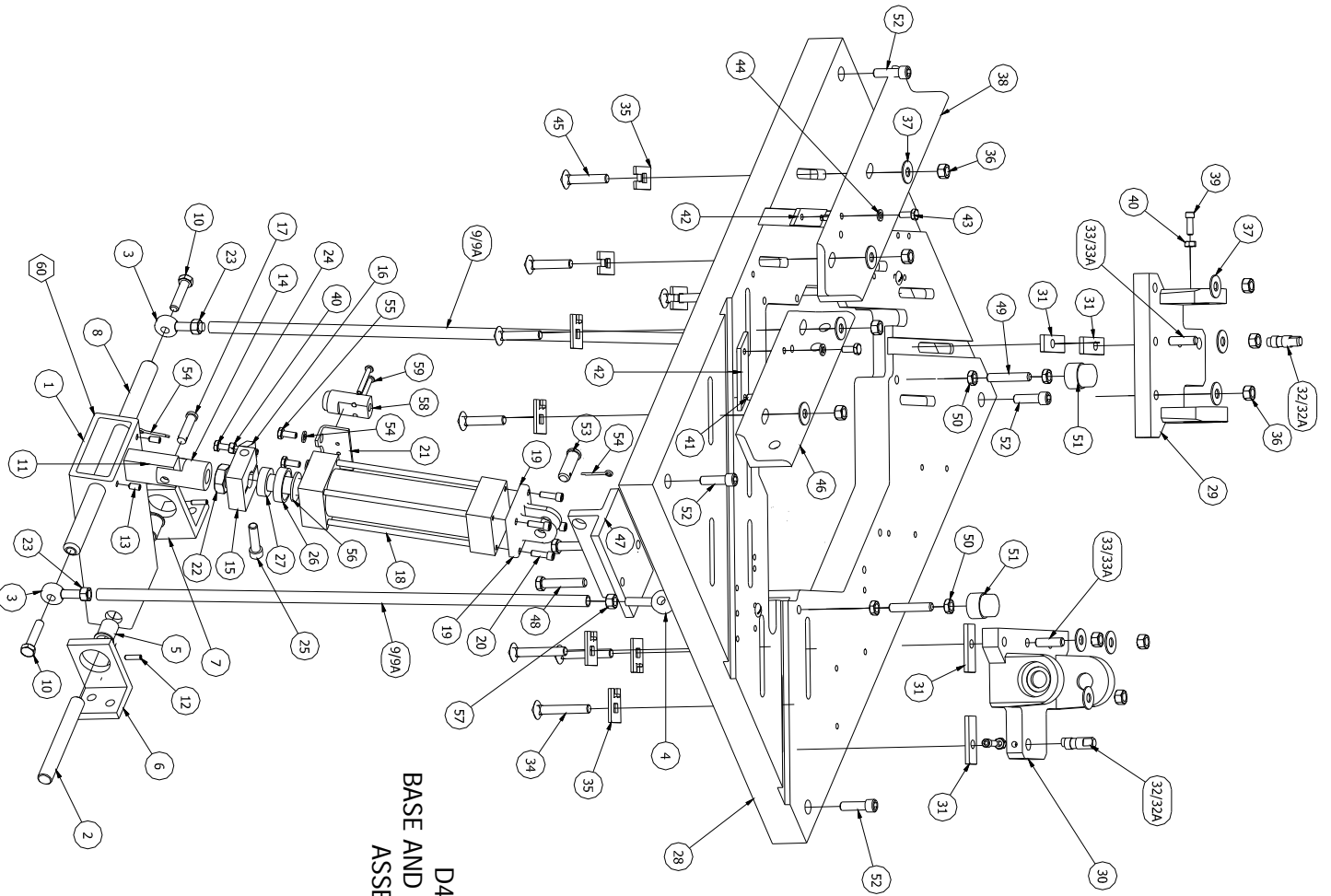
# D45AX & D45FX SAW HEAD ASSEMBLIES



# D45AX & D45FX SAW HEAD ASSEMBLY PARTS LIST

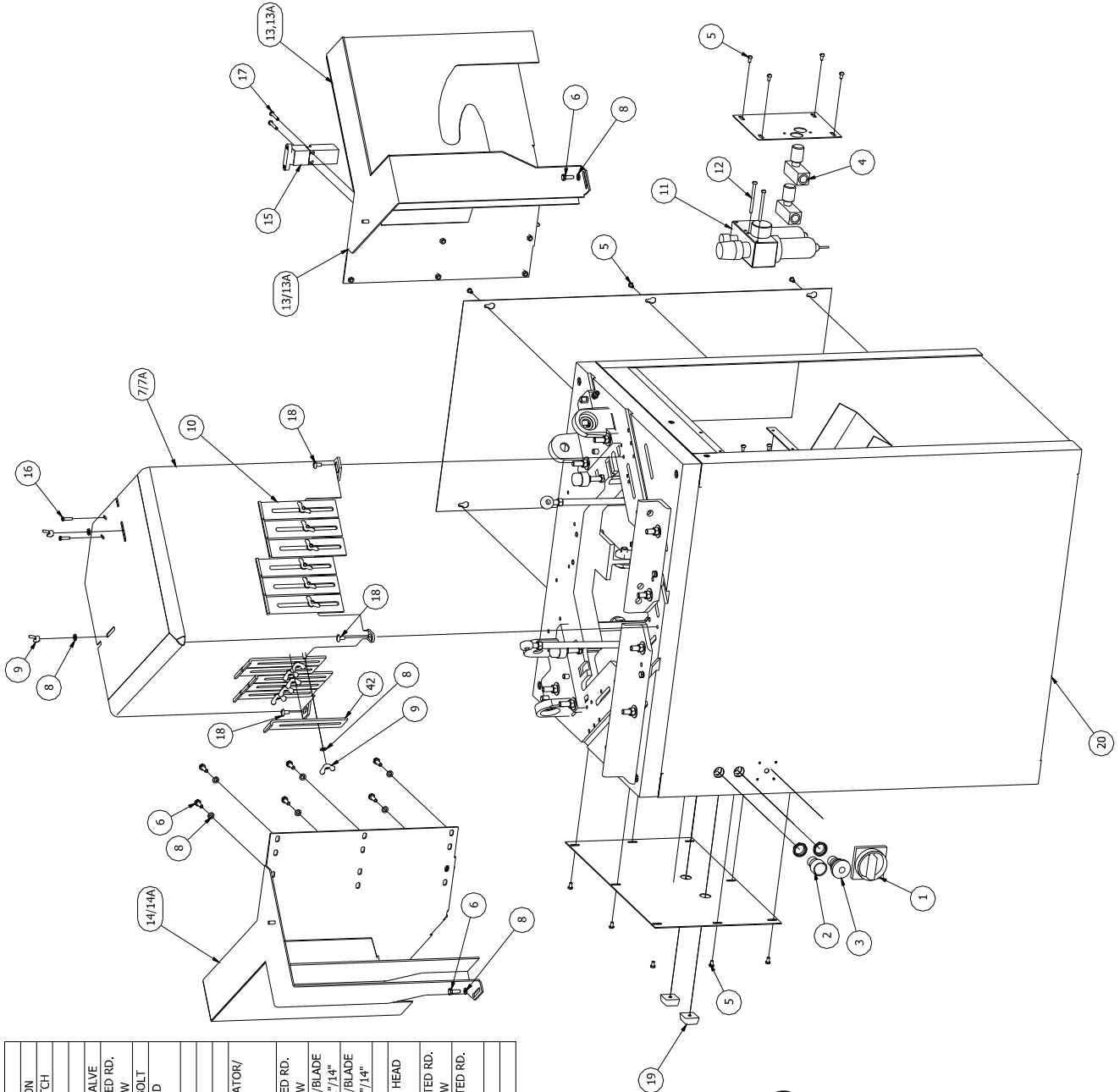
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	15C002LX	PIVOT BRACKET (LEFT)
2	4	15M03	KEY PIVOT BRACKET
3/3A	2	15M05/150M05-14"	ECCENTRIC PIN 10" & 12"/14"
4	2	3BM08	PIVOT SHAFT
5	6	2B2P05	SPINDLE & PIVOT BEARING
6	4	3B2P10	BELLEVILLE SPRING WASHER
7	4	3B2P11	PIVOT SNAP RING
8	1	15C001LX	ARM CASTING (LEFT)
9	1	150M12LX	SPINDLE (LEFT)
10	4	2B2P06	SNAP RING SPINDLE
11	4	2B2P07	PRELOAD BELLEVILLE SPRING WASHER
12	2	150B2P15	INSIDE BEARING
13	2	30B4P23	SPINDLE PULLEY
14	1	15B1P37L	SPINDLE NUT, LEFT THREAD
15	1	151P16R	PULLEY JAM NUT, RIGHT
16	2	150M14X	SLINGER
17	2	150M13X	FLANGE
18	2	2BM23	KEY PULLEY
19	2	15M06	MOTOR MOUNT PLATE
20/20A	2	3/8 x 1.25 DOWEL PIN / 3/8 x 2.5 DOWEL PIN	PIVOT DOWEL PIN 10" & 12" / 14"
21	14	5/16-18 HEX NUT	5/16-18 HEX NUT
22	8	1/4-20 x 3/8 SET SCREW	PULLEY SET SCREW
23	2	1/4-20 x 1 SOCKET HEAD SCREW	ECCENTRIC PIN LOCK SCREW
24	2	1/4-20 HEX NUT	ECCENTRIC PIN LOCK NUT
25	26	5/16 WASHER	5/16 WASHER
26	12	5/16-16 x 1 HEX BOLT	MOTOR BOLT
27	2	15B6503/15B6506/ 2B6505/2B6507	1.5HP 1ph/ 1.5HP 3ph/ 2HP 1ph/ 2HP 3ph
28/28A	2	5/16-18 x 2 HEX BOLT / 5/16-18 x 3 HEX BOLT	REAR DEAD STOP 10" & 12" / 14"
29	2	2B4P26	MOTOR PULLEY
30	1	150F52L	BELT COVER INSIDE (LEFT)
31	2	3/8-16 x 2 HEX BOLT	PULL ROD BOLT
32	1	15C002RX	PIVOT BRACKET (RIGHT)
33	1	15C001RX	ARM CASTING (RIGHT)
34	1	150M12RX	SPINDLE (RIGHT)
35	1	15B1P36R	SPINDLE NUT, RIGHT THREAD
36	1	151P16L	PULLEY JAM NUT, LEFT
37	1	150F52R	BELT COVER INSIDE (RIGHT)
38	4	1/4-20 x 1/2 SET SCREW	ARM LOCK TO PIVOT SHAFT SET SCREW
39	2	150M002	1" RISER (FOR 14" ONLY)
40	2	3/8-16 HEX NUT	PULL ROD LOCK NUT
41	2	3/8 WASHER	PULL ROD LOCK WASHER
42	1	150M23	SPINDLE PULLEY KEY
-	2	154P48 / 9B4P35	DRIVE BELT, 3V355 FOR 10" & 12" / 3VX375 FOR 14" H.T.
-	1	150E12LX	SPINDLE ASSY. LEFT 9,5,10,11,12,14,15,16,17
-	1	150E12RX	SPINDLE ASSY. RIGHT 34,5,10,11,12,16,17,35,36

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	15M23A	PIVOT TUBE
2	1	15M24	REAR PIVOT SHAFT
3	2	15P28L	SPHERICAL ROD BEAR LT
4	2	15P28R	SPHERICAL ROD BEAR RT
5	2	15P21	PIVOT TUBE BUSHING
6	1	15M22R	ANGLE PIVOT TUBE RT
7	1	15M22L	ANGLE PIVOT TUBE LT
8	1	15MS25A	FRONT PIVOT SHAFT
9/9A	2	15M27/15M27A-14"	PULL ROD (AUTO) 10"X12"/14"
10	2	3/8-16 x 1.5 HEX BOLT	PULL ROD BOLT
11	1	15M29	BOTTOM/TANG AUTO
12	2	10-32 x 3/4 SET SCREW	REAR PIVOT SHAFT LOCK SET SCREW
13	2	1/4-20 x 1/2 SET SCREW	FRONT PIVOT SHAFT LOCK SET SCREW
14	1	15M26	ROD CLEVIS
15	1	15M77	UP STOP BLOCK/ACCESS.
16	1	15M79	UP STOP TANG
17	1	3/8 x 1.5 CLEVIS PIN	3/8 x 1.5 CLEVIS PIN
18	1	15S371	CTD #4 AIR CYLINDER
19	1	15S372	REAR MOUNT CLEVIS
20	4	1/4-20 x 3/8 SOCKET HEAD SCREW	1/2-20 x 3/8 SOCKET HEAD SCREW
21	1	48F101	VALVE BRACKET
22	1	3/4 JAM NUT	CLEVIS LOCK NUT
23	4	3/8-24 HEX NUT L	ROD BEARING LOCKING NUT L
24	1	1/4-20 x 1.25 HEX BOLT	ADJUST VALVE ACT. BOLT
25	1	3/8-16 x 1.75 SOCKET HEAD SCREW	UP STOP BLOCK LOCK SCREW
26	1	15M86	RUBBER RING
27	1	157P73	RUBBER BUMPER
28	1	15C20	BASE CASTING
29	1	15C02LX	PIVOT BRACKET LT
30	1	15C02RX	PIVOT BRACKET RT
31	4	15M03	KEY PIVOT BRACKET
32/32A	2	15M05/15M05-14"	ECCENTRIC PIN 10"X12"/14"
33/33A	2	3/8 x 1.25 DOWEL PIN/ 3/8 x 2.5 DOWEL PIN	PIVOT DOWEL PIN 10"X12"/14"
34	6	3/8-16 x 2.25 CARRIAGE BOLT	3/8-16 x 2.25 CARRIAGE BOLT
35	10	BE19	TAB WASHER
36	10	3/8-16 HEX NUT	3/8-16 HEX NUT
37	10	3/8 WASHER	3/8 WASHER
38	1	15M36L	FRONT FENCE ANGLE/LT
39	2	1/4-20 x 1 SOCKET HEAD SCREW	ECCENTRIC PIN LOCK SCREW
40	3	1/4-20 HEX NUT	ECCENTRIC PIN LOCK NUT
41	2	1/4 x 3/4 DOWEL PIN	FENCE DOWEL PIN
42	2	15M37	FENCE KEY
43	2	1/4-28 x 5/8 HEX BOLT	1/4-28 x 5/8 HEX BOLT
44	6	1/4 WASHER	1/4 WASHER
45	4	3/8-16 x 1.75 CARRIAGE BOLT	3/8-16 x 1.75 CARRIAGE BOLT
46	1	15M36L	FRONT FENCE ANGLE/LT
47	1	15M44	TOP CYL. MT W/BUSHING
48	2	5/16-18 x 2 HEX BOLT	5/16-18 x 2 HEX BOLT
49	2	3/8-24 x 2 ALL THREAD STUD	DOWN STOP STUD
50	4	3/8-24 JAM NUT	3/8-24 JAM NUT
51	1	2B3P20C	DOWN STOP PAD ASSY.
52	4	3/8-16 x 1.25 SOCKET HEAD SCREW	BASE LOCK SCREW
53	1	1/2 x 1.5 CLEVIS PIN	CYLINDER CLEVIS PIN
54	2	3-32 x 1 COTTER PIN	3-32 x 1 COTTER PIN
55	2	1/4-28 x 5/8 HEX BOLT	1/4-28 x 5/8 HEX BOLT
56	1	5/8 WASHER	5/8 WASHER
57	2	3/8-24 R HEX NUT	ROD BEARING LOCK NUT
58	1	B3P90	3 WAY N/O VALVE
59	2	10-32 x 3/4 SLOTTED RD. HEAD MACH. SCREW	VALVE LOCK SCREWS
60	1	15E30A	PIVOT TUBE ASSY. 1.2,5,8,11,13



D45AX  
BASE AND AIR SYSTEM  
ASSEMBLY

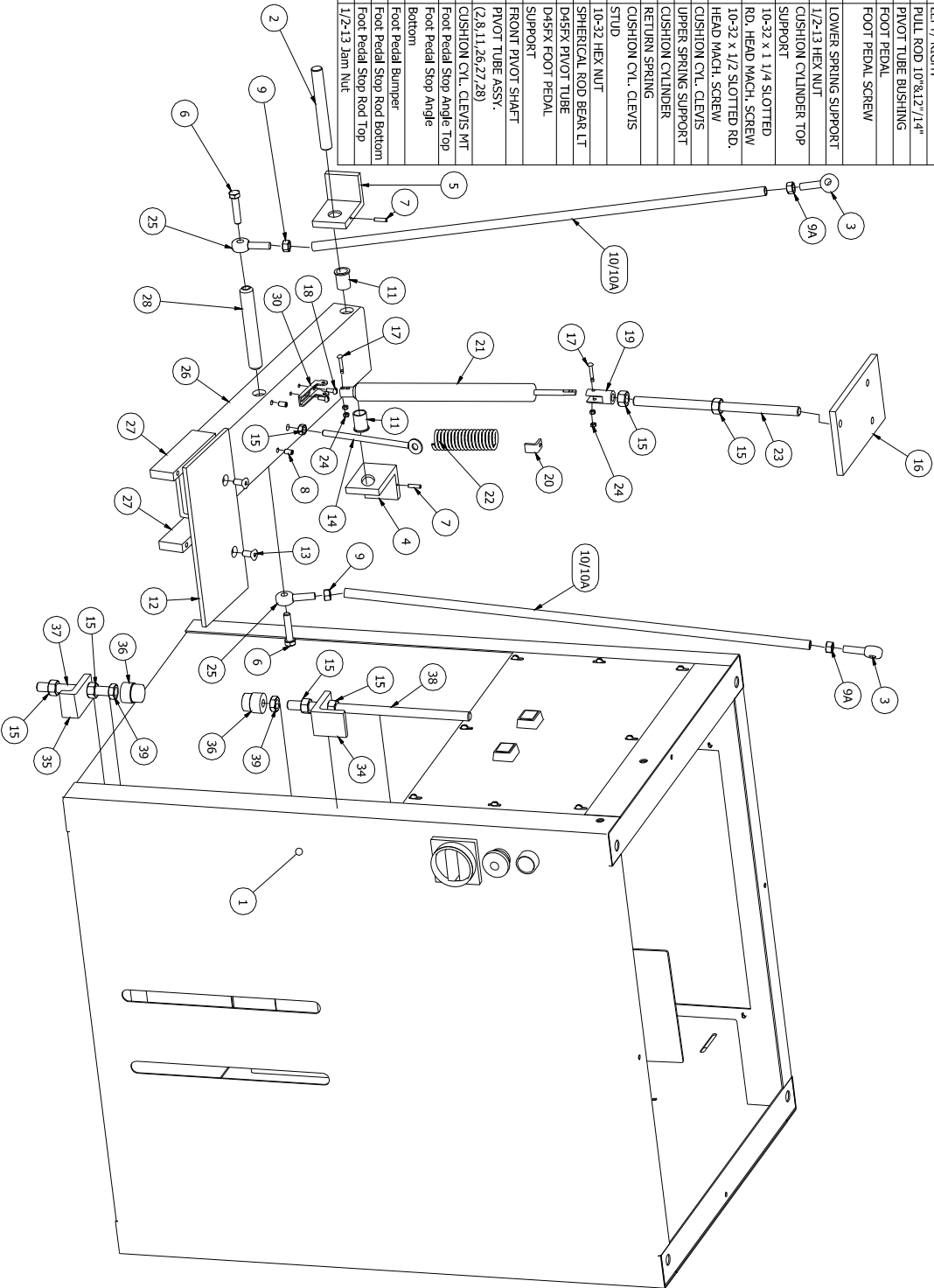
Parts List		
ITEM	QTY	DESCRIPTION
1	1	DISCONNECT SWITCH
2	1	START BUTTON
3	1	STOP BUTTON
4	2	SPEED CONTROL VALVE
5	20	10-32 x 1/2 SLOTTED RD. HEAD MACH. SCREW
6	12	1/4-20 x 1/2 HEX BOLT
7/7A	1	150F42/150F42-14"
8	20	1/4-20 WASHER
9	14	1/4-20 WING NUT
10	12	20F180
11	1	BSP54A
12	2	10-32 x 2.5 SLOTTED RD. HEAD MACH. SCREW
13/13A	1	150E50R/150E50R-14"
14/14A	1	150E50L/150E50L-14"
15	1	BSP/E48P4K1
16	2	6-32 x 1/2 SOCKET HEAD SCREW
17	2	10-32 x 1.25 SLOTTED RD. HEAD MACH. SCREW
18	3	1/4-20 x 1/2 SLOTTED RD. TRUSS SCREW
19	2	BSP167
20	1	19FZ1A



## D45AX BLADE GUARD AND STAND ASSEMBLY

# D45FX STAND ASSEMBLY

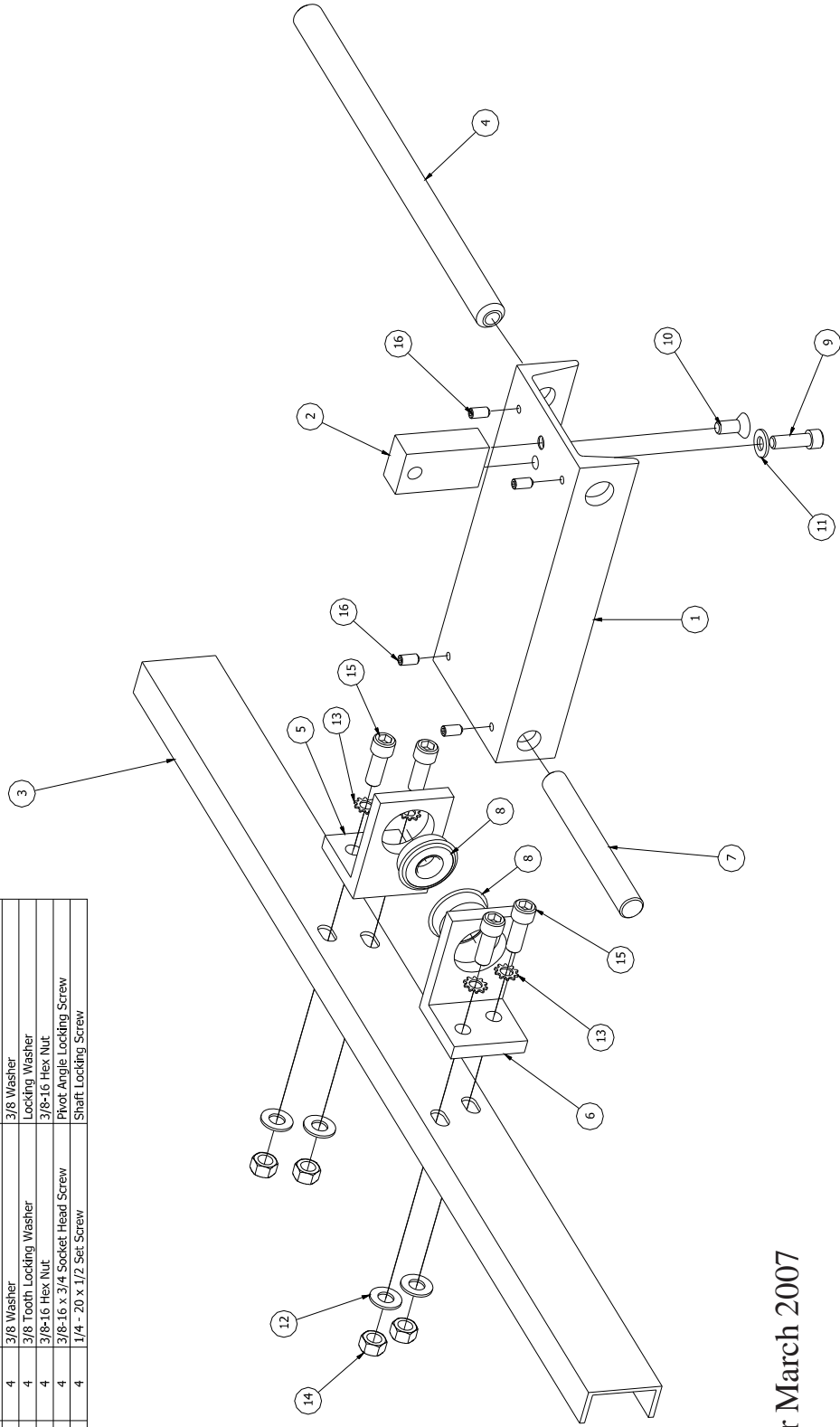
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	15F21F	D45FX STAND
2	1	15M24	REAR PIVOT SHAFT
3	2	15P28R	SPHERICAL ROD BEAR RT
4	1	15M22R	ANGLE PIVOT TUBE RT
5	1	15M22L	ANGLE PIVOT TUBE LT
6	2	3/8-16 x 1.5 HEX BOLT	PULL ROD BOLT
7	2	10-32 x 3/4 SET SCREW	REAR PIVOT SHAFT LOCK SCREW
8	2	1/4-20 x 1/2 SET SCREW	FRONT PIVOT SHAFT LOCK SCREW
9/9A	4	3/8-24 HEX NUT LEFT/ RIGHT	ROD BEARING LOCK NUT LEFT/ RIGHT
10/10A	2	15M27F/15M27R-14"	PULL ROD 10" & 12" / 14"
11	1	15P21	PIVOT TUBE BUSHING
12	1	15M90	FOOT PEDAL
13	2	5/16-18 x 3/4 FLAT HEAD SCREW	FOOT PEDAL SCREW
14	1	15M107	LOWER SPRING SUPPORT
15	8	1/2-13 HEX NUT	1/2-13 HEX NUT
16	1	150M65	CUSHION CYLINDER TOP SUPPORT
17	2	10-32 x 1 1/4 SLOTTED RD. HEAD MACH. SCREW	10-32 x 1 1/4 SLOTTED RD. HEAD MACH. SCREW
18	2	10-32 x 1/2 SLOTTED RD. HEAD MACH. SCREW	10-32 x 1/2 SLOTTED RD. HEAD MACH. SCREW
19	1	15M106	CUSHION CYL. CLEVIS
20	1	BT2101	UPPER SPRING SUPPORT
21	1	157P94	CUSHION CYLINDER
22	1	157P93	RETURN SPRING
23	1	1/2-13 x 10 ALL THREAD STUD	CUSHION CYL. CLEVIS STUD
24	4	10-32 HEX NUT	10-32 HEX NUT
25	2	15P28L	SPHERICAL ROD BEAR LT
26	1	15M23F	D45FX PIVOT TUBE
27	2	15M91	D45FX FOOT PEDAL SUPPORT
28	1	15M92	FRONT PIVOT SHAFT
29	1	15E30F	PIVOT TUBE ASSY. (2, 8, 11, 26, 27, 28)
30	1	15M93	CUSHION CYL. CLEVIS MT
34	1	15M93	Foot Pedal Stop Angle Top
35	1	15M93B	Foot Pedal Stop Angle Bottom
36	2	15M103	Foot Pedal Bumper
37	1	15M93C	Foot Pedal Stop Rod Bottom
38	1	15M93D	Foot Pedal Stop Rod Top
39	2	1/2-13 Jam Nut	1/2-13 Jam Nut





# New Style D45AX Pivot Assy.

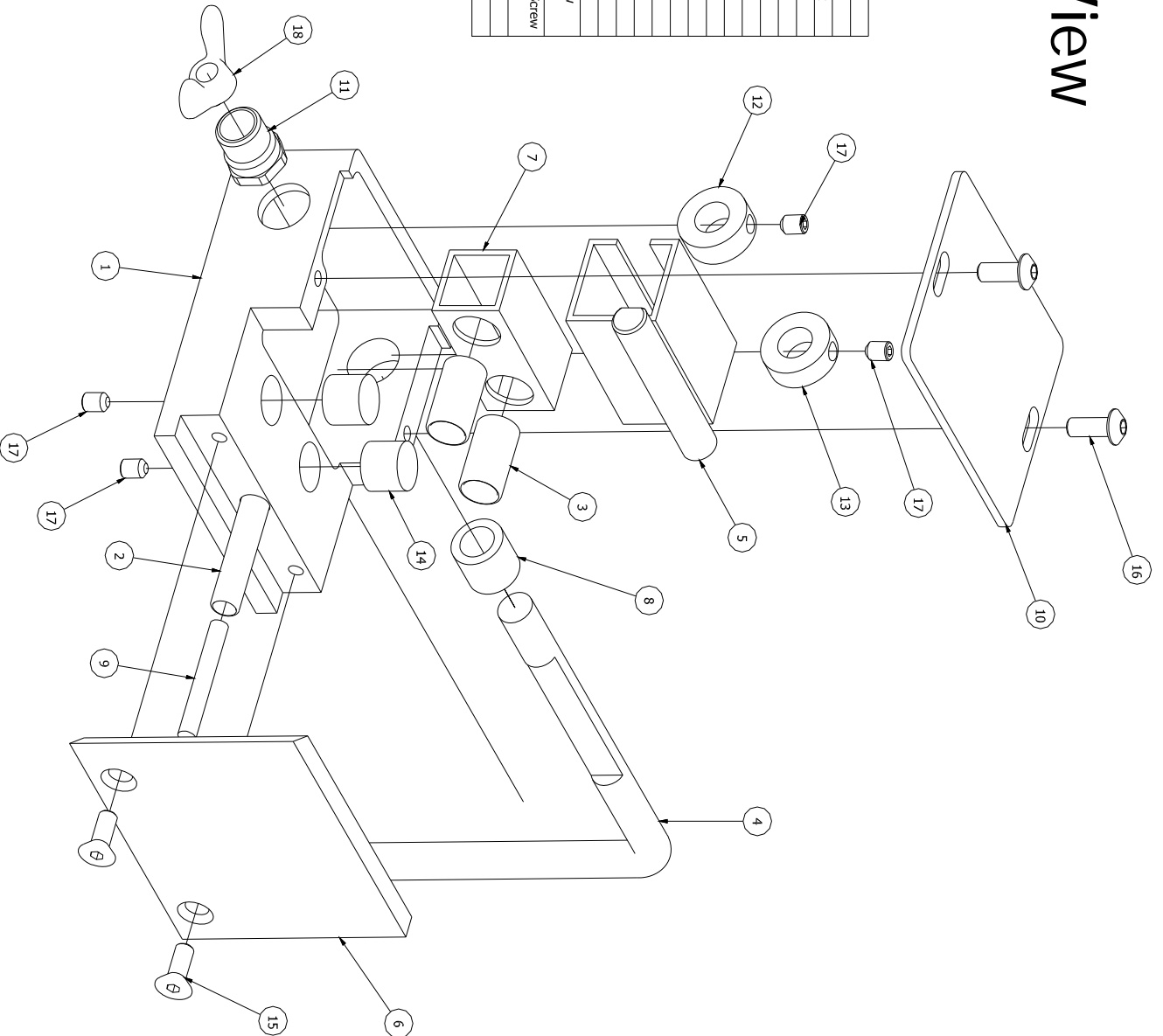
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	150M23A	D45AX Pivot Channel
2	1	150M29	Bottom Tang
3	1	D45 Floor Stand	Floor Stand Back Channel
4	1	15MS25A	Power Feed Piv. Shaft
5	1	150M22L	Pivot Angle, Left
6	1	150M22R	Pivot Angle, Right
7	1	15M24	Rear Pivot Shaft
8	2	152P15	Pivot Bearing
9	1	5/16-18 x 3/4 Socket Head Screw	Bottom Tang Locking Screw
10	1	5/16-18 x 3/4 Flat Head Socket Screw	Bottom Tang Locking Screw
11	1	5/16 Washer	5/16 Washer
12	4	3/8 Washer	3/8 Washer
13	4	3/8 Tooth Locking Washer	Locking Washer
14	4	3/8-16 Hex Nut	3/8-16 Hex Nut
15	4	3/8-16 x 3/4 Socket Head Screw	Pivot Angle Locking Screw
16	4	1/4 - 20 x 1/2 Set Screw	Shaft Locking Screw



Used After March 2007

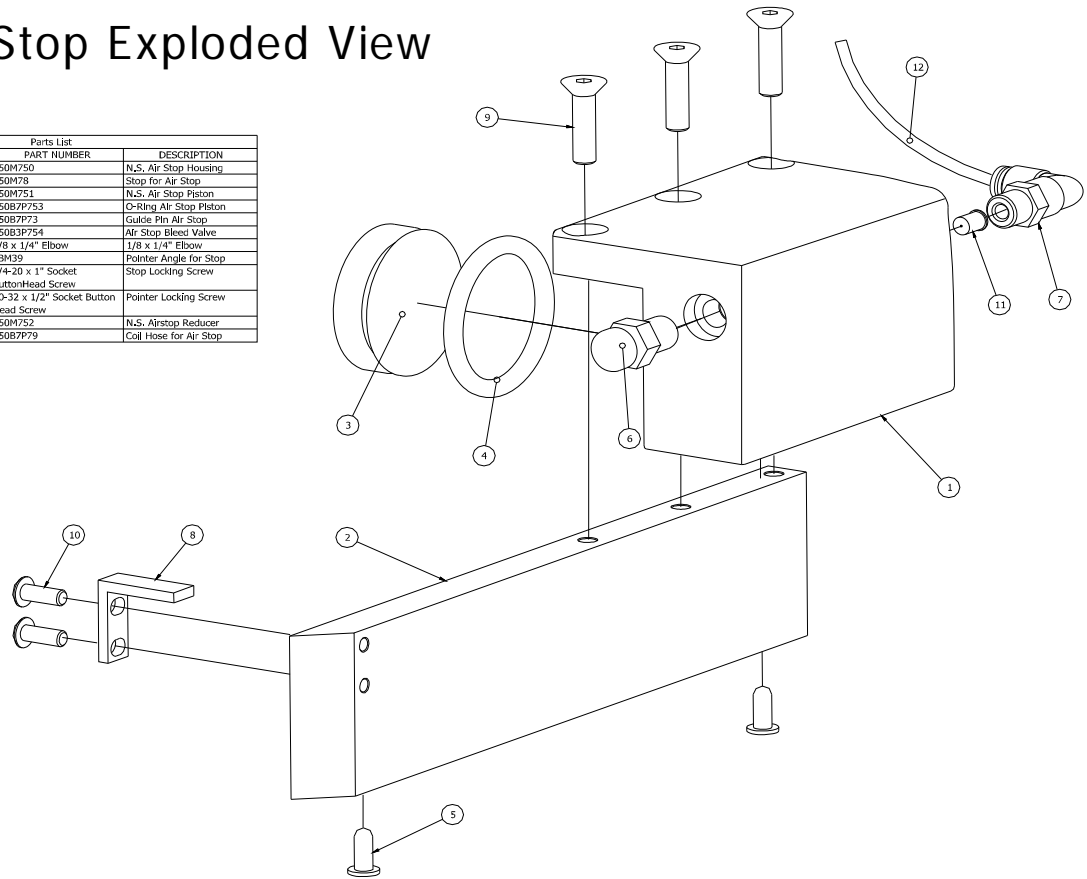
# OMD Exploded View

Parts List		
ITEM	QTY	PART NUMBER DESCRIPTION
1	1	150DM26 Aluminum Housing Box
2	1	15D7P36 Front Stop Spring
3	2	15D7P37 Lock Channel Spring
4	1	15DM27 Handle Bar
5	1	15DM28 Screw Channel Tube
6	1	15DM29A Stop Bar
7	1	15DM30 Support Tube
8	1	15DM31 Spacer Tube
9	1	15DM32 Spring Stud
10	1	15DM34 Bottom Plate
11	1	15DS35 Threaded Bushing
12	1	15DS38 Lock Collar Threaded
13	1	15DS39 Locking Collar Handle
14	2	15OD7P40 Phenolic Wear Plug
15	2	10-32 x 3/4 Flat Head Socket Screw
16	2	10-32 x 1/2 Button Head Socket Screw
17	4	10-32 x 1/4 Set Screw
18	1	15DS1P33 OMD Wing Nut



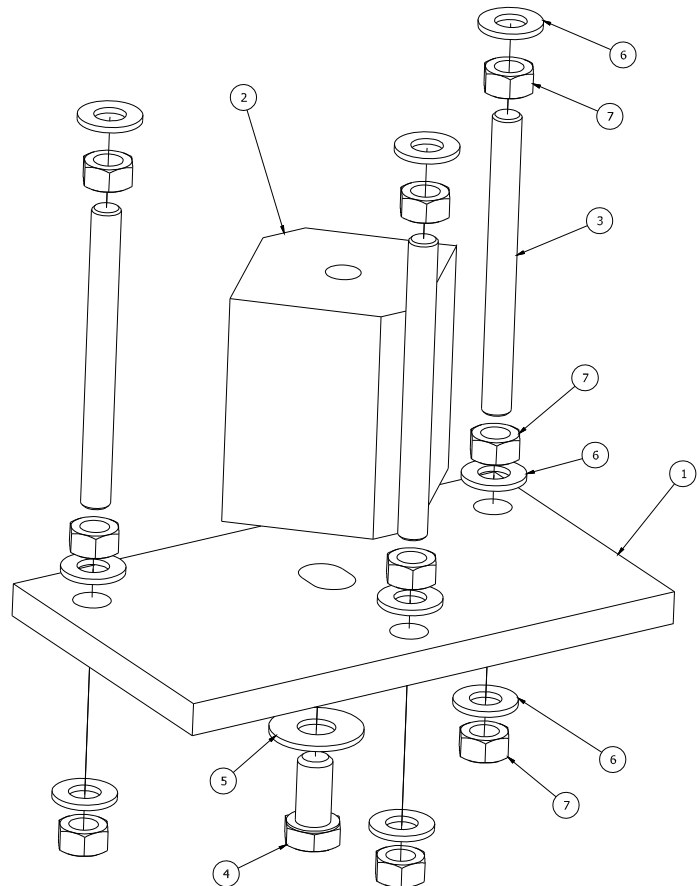
# Air Stop Exploded View

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	150M750	N.S. Air Stop Housing
2	1	150M78	Stop for Air Stop
3	1	150M751	N.S. Air Stop Piston
4	1	150B7753	O-Ring Air Stop Piston
5	2	150B7753	Gulke Pin Air Stop
6	1	150B3P754	Air Stop Bleed Valve
7	1	1/8 x 1/4" Elbow	1/8 x 1/4" Elbow
8	1	2BM39	Pointer Angle for Stop
9	3	1/4-20 x 1" Socket ButtonHead Screw	Stop Locking Screw
10	2	10-32 x 1/2" Socket Button Head Screw	Pointer Locking Screw
11	1	150M752	N.S. Airstop Reducer
12	1	150B7779	Coil Hose for Air Stop



# D45 Chip Breaker Exploded View

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	15M105	Chip Breaker Bottom Plate
2	1	15M105A	Chip Breaker PVC Support
3	3	15M105B	Support Stud
4	1	3/8-16 x 3/4 Hex Bolt	Chip Breaker Support Locking Bolt
5	1	3/8 USS Washer	3/8 USS Washer
6	9	5/16 USS Washer	5/16 USS Washer
7	9	5/16-18 Hex Nut	5/16-18 Hex Nut



### **Blade Guard Parts**

150F42	Blade Guard
20F180	Finger Guard
150E50L	Rear Belt Guard/Blade Guard, Lt
150E50R	Rear Belt Guard/Blade Guard, Rt

### **Miscellaneous Parts**

2D7SR	Right to Left Measuring Tape
2D7SL	Left to Right Measuring Tape
10P01	Soluble Oil for Spray Mist
B5P01	1 Phase Toggle Switch
B5P02	3 Phase Toggle Switch
BF19	Tab Washer
15M05	Chip Breaker Bottom Plate
15M105A	Chip Breaker PVC Support
15DE25	OMD Stop Assembly

### **Pneumatic Clamps and Parts**

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
15M87L/R	45° Horizontal Clamp Base, Left & Right
15M87B	45° Horizontal Clamp Shaft
15M88L/R	45° Horizontal Clamp Pad, Left & Right
157P87	45° Horizontal Clamp Spring

### **D45FX Parts**

157P93	Return Spring for Foot Pedal
157P94	Cushion Return Cylinder
15M90	Foot Pedal
15M91	Foot Pedal Support

**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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