

MSR

VANE CUTTER

PART # 43013



**DURO
DYNE**
MACHINERY
DIVISION

OWNER'S MANUAL

INTRODUCTION

The ASVC2 Hollow Vane Cutting Machine was designed utilizing the best current technology to provide greater reliability. The inherent minimal material handling, combined with the utilization of pneumatic power, will ensure your shop of a cost efficient, quality product.

Trouble free service is the foundation on which all Duro Dyne machines are built. Duro Dyne continues this concept and brings the ASVC2 to a new level of reliability, serviceability and efficiency.

This guide is designed to help you set up and operate your ASVC2 at peak performance for years to come.

IMPORTANT

Always follow manufacturer's recommendations for proper safety and handling procedures for all materials used in conjunction with this machine as outlined in manufacturer's Safety Data Sheet (SDS) for each product.

LIMITED WARRANTY

Duro Dyne Machinery is manufactured by skilled mechanics, utilizing the latest production techniques. Each unit has been rigorously tested prior to packaging and shipment in order to ensure trouble-free operation.

Your Duro Dyne machine has a one year warranty against defects in material. Any component found to be defective will be repaired or replaced (at manufacturer's discretion) at no cost if faulty component is returned freight prepaid to the nearest Duro Dyne Service Department. Warranty does not apply to expendable parts (cutting blades, etc.) or repairs or service due to improper maintenance or operation procedures.

Duro Dyne products have been engineered to maximize operator safety. Unauthorized modification of this product will void the warranty. All warranty claims must be accompanied by a serial number, date of purchase and the name and address of the distributor it was purchased from.

INSTALLATION INSTRUCTIONS

- 1) Set up/install the ASVC2 machine as per the following several pages.
Caution: The blade is very sharp. Please keep hands clear of the blade.
- 2) Connect the line cord to a 110-125 VAC outlet.
- 3) Connect the air line to the Regulator: Adjust the regulator pressure to 70 PSI if needed.

TECHNICAL SPECIFICATIONS

ASVC2

AIR REQUIREMENTS:

Input pressure 70 PSI

ELECTRICAL:

Input voltage: 110-125 VAC

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THEORY OF OPERATION

During operation of the ASVC-2 the hollow turning vane is placed on the material feed track by the operator. The operator slides the hollow turning vane along the material feed track through an opening in the front panel of the machine. As the hollow turning vane continues to slide along the material feed track the hollow turning vane is supported by the blade saddle and pushes open the safety gate as it banks against the vane stop gauge located on the exit track.

The hollow turning vane is supported by the entry and exit feed tracks. The internal track brackets prevent the hollow turning vane from escaping the material feed track during the cutting process.

The safety gate is gravity biased into a closed position, hanging from a hinge such that access to the blade saddle and vane cutter blade is blocked or inhibited. When the hollow turning vane is inserted along the material feed track and positioned on the saddle abutting the vane stop gauge the safety gate is partially open or rotated about the hinge due to contact with the hollow turning vane. Once the hollow turning vane has been cut and removed from the exit track the safety gate automatically falls back into the blocking position due to gravity. A mesh screen on the safety gate allows the operator to see through the safety gate to view the blade saddle and vane cutter blade during and after cutting.

The vane stop gauge is adjusted by the operator to set a desired length of cut on the hollow turning vane using the tape measure secured to the exit track as a reference. The vane stop gauge is locked in place using the 1/4-20 thumb screw located on the stop gauge.

Once the operator has positioned the hollow turning vane against the stop gauge, the operator may actuate the on/off switch from the off position to the on position supplying power to the ASVC-2 machine. The on/off switch may be actuated between the off and on positions at any time regardless of whether a hollow turning vane has been positioned against the stop gauge. Power is supplied to the ASVC-2 via a line chord. The power is supplied at 110volts and is stepped down through a 24 volt transformer.

Once the operator has powered on the ASVC-2 using the on/off switch a green power indicator light will illuminate to indicate the ASVC-2 is receiving power.

During setup or operation, the operator is required to connect an air supply line to the air regulator assembly through the air intake port. The air supply line will be regulated through the air regulator adjusted and set to 70 psi.

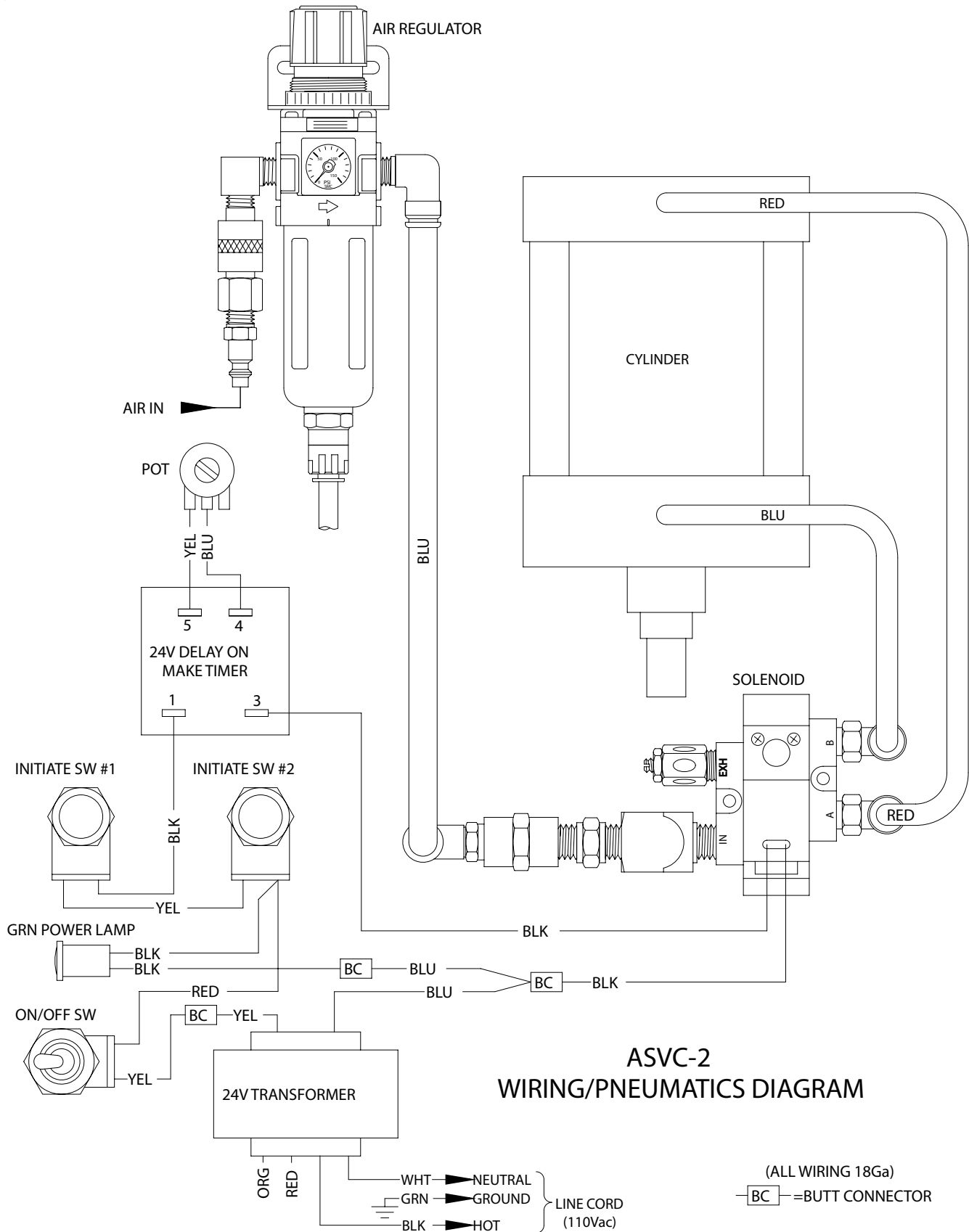
Air from the intake port travels to the solenoid which controls the flow of air to the cylinder. During activation the solenoid associated with the output port will open air to the air cylinder assembly causing the cylinder assembly to pneumatically actuate the vane cutting blade to extend downward from the air cylinder and cut the hollow turning vane positioned on the blade saddle. Once cutting is complete, the solenoid associated with the output port may open the airflow to the air cylinder assembly causing the air cylinder assembly to pneumatically actuate the vane cutter blade to return upward toward the air cylinder assembly.

The actuating mechanism is electrically activated by the momentary switches. Actuation of both momentary switches at the same time sends a signal to the sub-component chassis to open a flow path for the air from the air regulator assembly to travel to the air cylinder assembly. When the air reaches the air cylinder assembly the air pneumatically actuates the cylinder to perform a cutting stroke extending the blade in a downward stroke cutting the hollow turning vane before returning upward toward the air cylinder assembly in a return stroke. Each simultaneous actuation of the momentary switches may cause air cylinder assembly to perform only the cut motion while the return motion is performed in response to one or both of the momentary switches becoming unactuated. (The operator has removed a hand from one or both momentary switches)

The potentiometer controls a 24 V Delay on make timer between actuation of momentary switches and the opening and closing of the solenoids. The potentiometer controls a timing between the cutting portion of the stroke using the output port and the return portion of the stroke.

The vane cutter blade is attached to the blade holder and the blade holder is mounted to the pneumatic piston arm extending from the air cylinder assembly through an opening in the upper cylinder mounting plate. The cylinder mounting shaft is threaded to the blade holder which secures the blade in place. The cutting blade can be re sharpened and may be reversed to prolong life to the cutting blade.

WIRING DIAGRAM



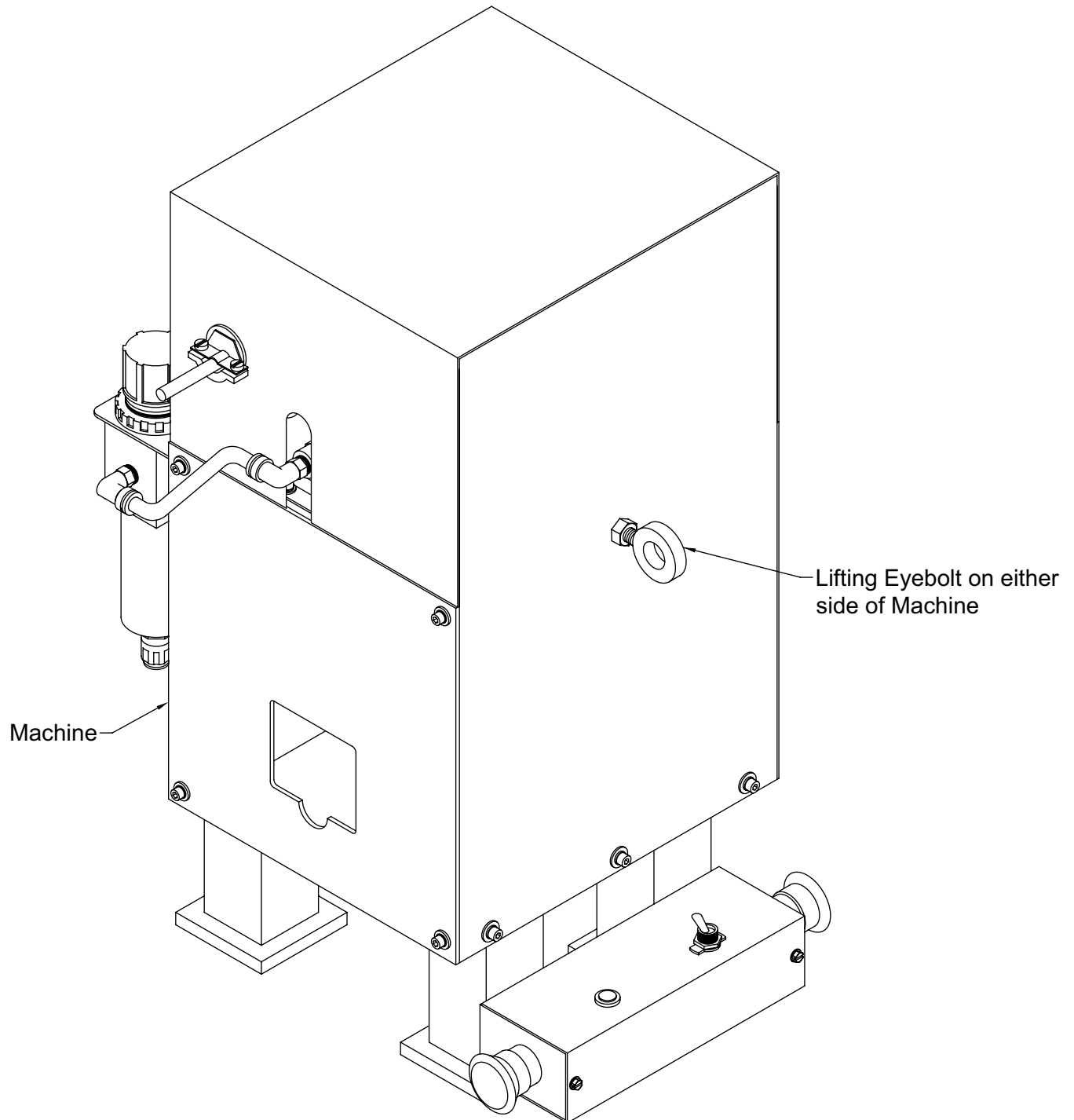
REMOVING THE MACHINE FROM THE CRATE SAFELY

Isometric illustration shown for illustrative purposes.

NOTE: This machine **MUST** be secured to the **Bench Top** for operator safety. Use the **Crate** as a template to mount the **Machine**.

To remove the **Machine** from the **Crate** safely, use the **Lifting Eyebolts** provided on each side of the **Machine** as noted below. With straps and a lifting device, lift the **Machine** onto the **Bench Top** and secure as per the following page.

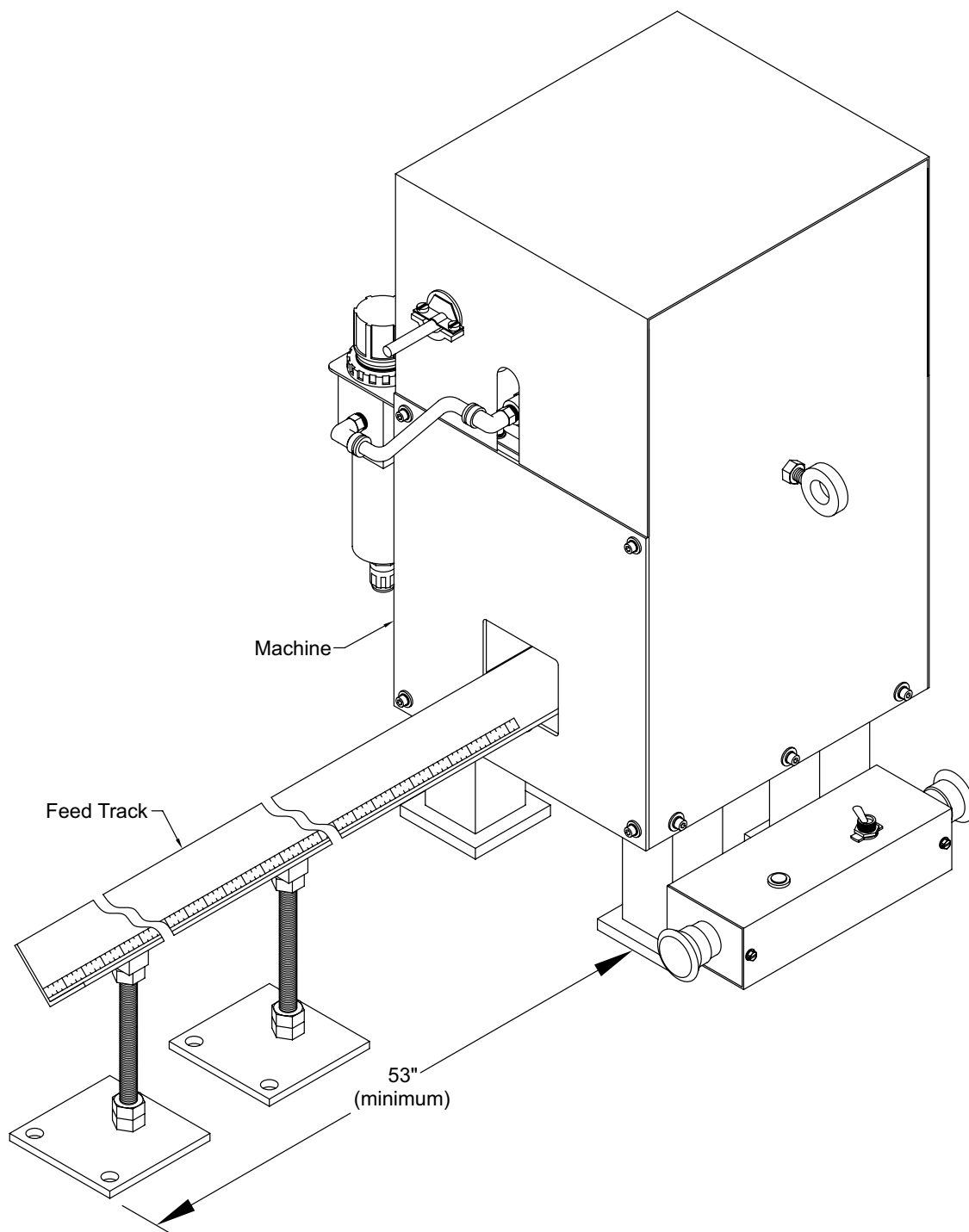
CAUTION: This Machine is **VERY** heavy, please use care when removing from the **Crate**.



INSTALLATION OF THE MACHINE TO THE BENCH TOP

Isometric illustration shown with the Feed Track already assembled to the machine for illustrative purposes.

NOTE: This machine **MUST** be secured to the **Bench Top** for operator safety. Using the **Crate** as a template, spot the holes with a sharpie, drill holes and mount the machine with 1/2-13 hardware (the hardware used in shipping may be used if the **Bench Top** is not too thick).



INSTALLATION OF THE FEED TRACK

Isometric illustration shown without **Plexiglass Guard**: The **Plexiglass Guard** must be removed to gain access to the inside of the **Machine**. **CAUTION:** The Blade is **VERY SHARP**, please keep hands clear of the **Blade**.

1) Remove but **DO NOT** discard the hardware & the **Plexiglass Guard**.

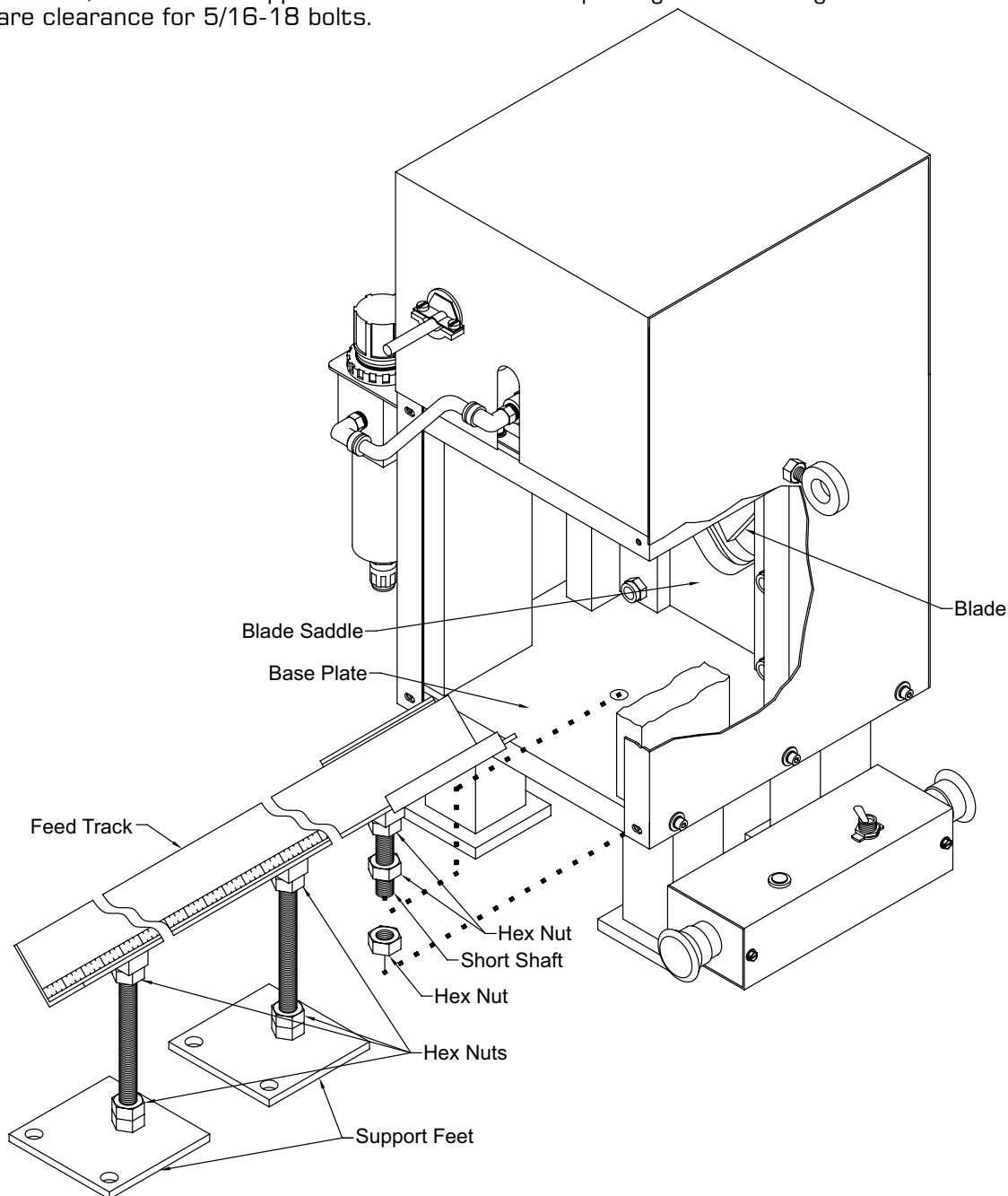
2) To assemble the **Feed Track** to the **Machine**- Thread the **Short Shaft** into the **Feed Track** & lock with a **Hex Nut**. Thread a **Hex Nut** on close to the end (if not already there), then secure it to the **Base Plate** using another **Hex Nut** supplied as shown.

NOTE: Adjust the **Feed Track** height by adjusting the two **Hex Nuts**. The **Feed Track** must be even with or slightly higher than the **Blade Saddle** to ensure proper **Hollow Vane** feed.

3) Secure the **Plexiglass Guard** back in place using the hardware that was previously removed.

4) Secure two of the **Support Feet** to the **Feed Track** as shown, locking them in place with the **Hex Nuts**.

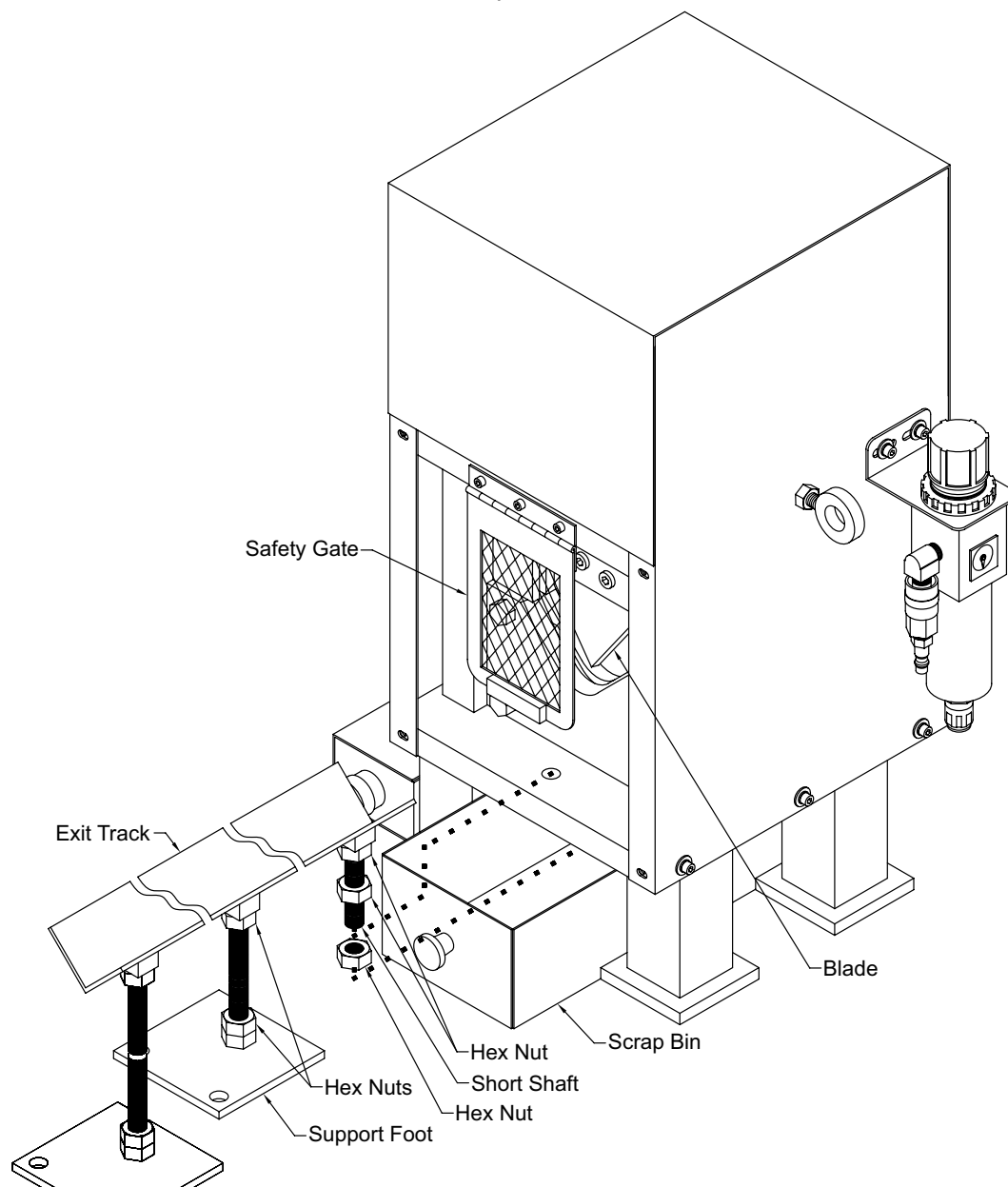
NOTE: If desired, secure the Support Feet to the Bench Top using the mounting holes in the Support Feet, They are clearance for 5/16-18 bolts.



INSTALLATION OF THE EXIT SUPPORT SYSTEM TO THE BENCH TOP

Isometric illustration shown without **Plexiglass Guard**: The **Plexiglass Guard** must be removed to gain access to the inside of the **Machine**. **CAUTION:** The **Blade** is **VERY SHARP**, please keep hands clear of the **Blade**.

- 1) Remove but **DO NOT** discard the hardware and the **Plexiglass Guard**.
 - 2) To assemble the **Exit Track** to the **Machine**: Thread the **Short Shaft** into the **Exit Track** and secure it with a **Hex Nut**. Thread a **Hex Nut** on close to the end (if not already there), then secure it to the **Base Plate** using another **Hex Nut** supplied as shown.
- NOTE:** Adjust the **Exit Track** height by adjusting the **Hex Nuts**. The **Exit Track** must be even with or slightly lower than the **Blade Saddle** to ensure proper **Hollow Vane** feed.
- 3) Secure the **Plexiglass Guard** back onto the **Machine** using the hardware as before.
 - 4) Thread the **Support Foot** into the middle of the **Exit Track** and secure it with the **Hex Nuts**. **NOTE:** If desired, secure the **Support Foot** to the **Bench Top** using the mounting holes in the **Support Foot**. The holes are clearance for 5/16-18 bolts.
 - 5) Slide the **Scrap Bin** underneath the **Frame** to catch any debris.

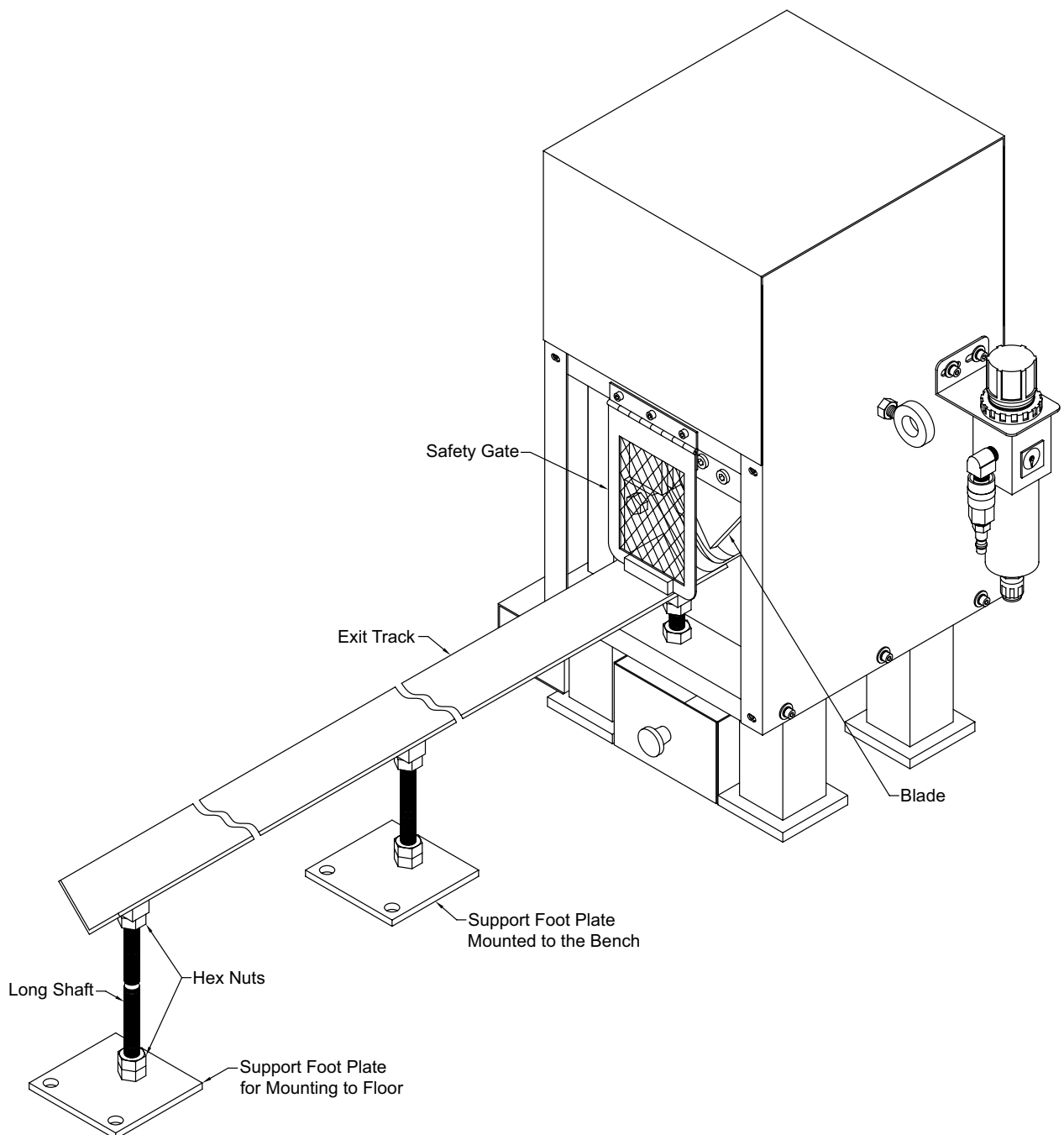


INSTALLATION OF THE EXIT SUPPORT SYSTEM TO THE FLOOR

Isometric illustration shown without **Plexiglass Guard** for orientation purposes only. The **Plexiglass Guard** should be secured to the machine at all times once the **Exit Track** has been secured to the machine.

CAUTION: The **Blade** is **VERY SHARP**, please keep hands clear of the Blade.

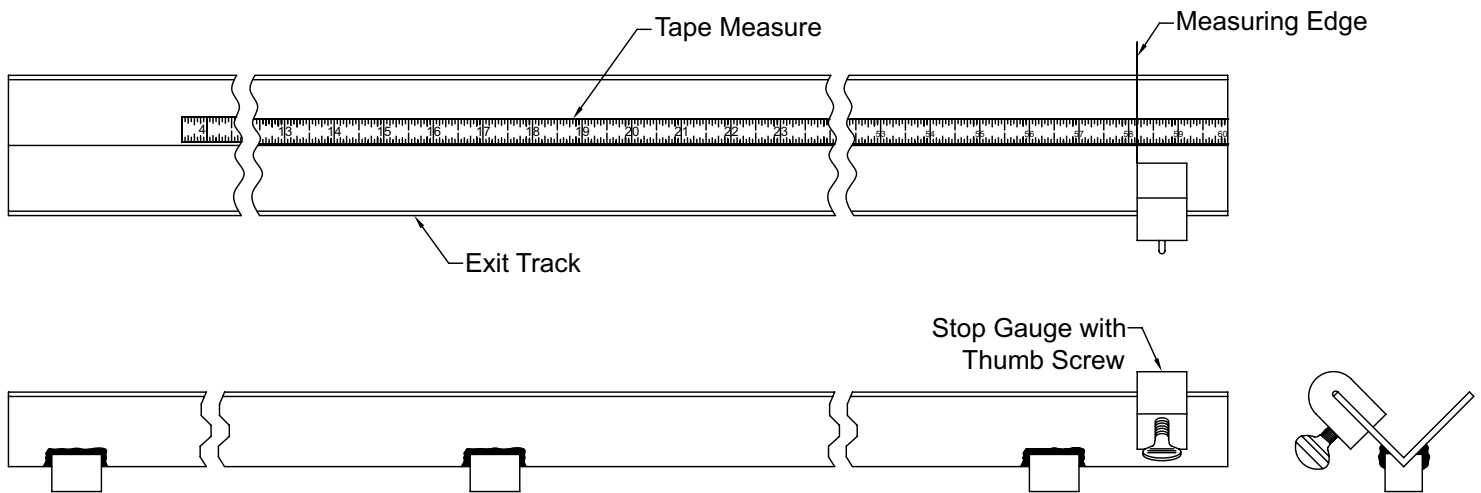
- 1) Thread the **Long Shaft** into the end of the **Exit track** and secure it with the **Hex Nut**. Thread a **Hex Nut** on close to the end (if not already there), then secure the **Support Foot** to the end of the **Long Shaft**. Secure it with the **Hex Nut**.
- 2) **NOTE:** If desired, secure the **Support foot** to the floor using the mounting holes in the **Support Foot**, they are clearance for 5/16-18 bolts.



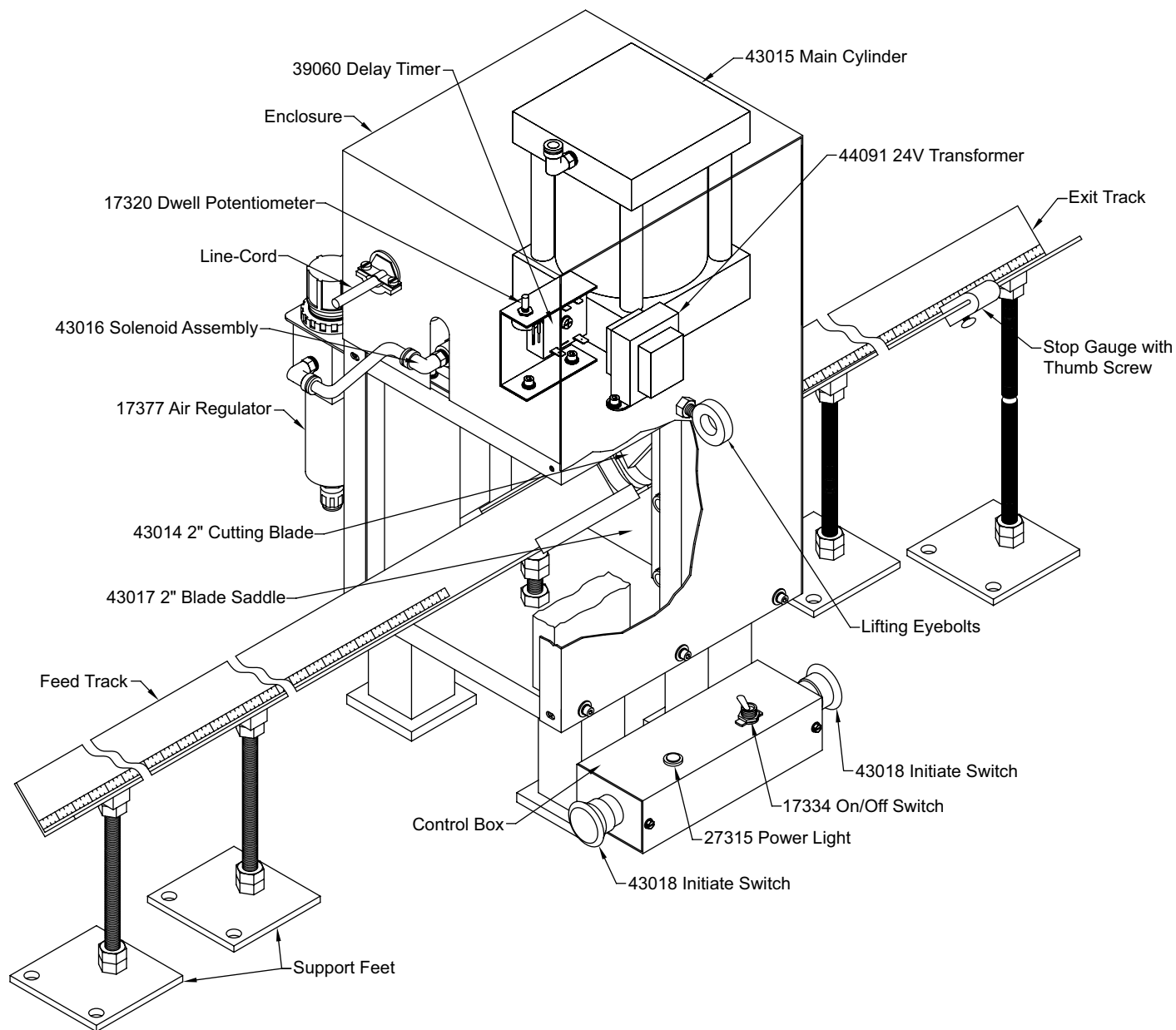
MEASURING THE HOLLOW VANE TO THE LENGTH DESIRED

Illustration shown without **Machine**: **CAUTION:** The **Blade** is **VERY SHARP**, please keep hands clear of the **Blade**.

- 1)** Slide the **Stop Gauge** with the **Thumb Screw** along the edge of the **Exit Track** to the desired location on the **Tape Measure** and secure it in place.
- 2)** Slide the **Hollow Vane** through the **Machine** and bank it against the **Stop Gauge** at the **Measuring Edge** to cut the **Hollow Vane** to the desired length.



ASVC2 BASIC PARTS LOCATION



ASVC2 SPARE PARTS LIST

NOTE: When ordering spare parts include serial number of machine.

Part #	Description
17320	Dwell Potentiometer
17334	On/Off Switch
17377	Air Regulator
27315	Power Light
39060	PLS/ASVC2 Delay Timer
43014	ASVC2 2in Cutting Blade
43015	ASVC2 Main Cylinder
43016	ASVC2 Solenoid Assembly
43017	ASVC2 2" Blade Saddle
43018	ASVC2 Initiate Switch
44091	24V Multi-Tap Transformer

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43017	ASVC2 2" Blade Saddle
43018	ASVC2 Initiate Switch
44091	24V Multi-Tap Transformer

OPERATION

ASVC2 Initial Adjustments

- 1) Turn the **Power Switch** to 'ON'
- 2) Feed the **Hollow Turning Vane** into the **Feed Track**.
- 3) If needed, adjust the height of the **Feed Track** slightly higher than the **Blade Saddle** for proper feed of the Hollow Turning Vane.
- 4) Ensure the **Safety Gate** opens properly and fully, allowing the Hollow Turning Vane to exit onto the **Exit Track**.
- 5) Both initiate switches must be depressed to activate the cutting blade.
- 6) The speed in which the blade lowers to cut is pre-set from the Duro Dyne factory and should not be changed without contacting the Duro Dyne Service Department.

MAINTENANCE

To prolong the blade life and improve the cut quality, it is important that the cutting area always be kept clean. For best results, use a fine emory cloth to clean and smooth the blade and blade saddles.

SERVICING

A SIMPLIFIED STEP-BY-STEP PROCEDURE

Duro Dyne has called upon its many years of manufacturing experience in designing the ASVC2. Your unit has been rigorously factory tested and inspected to provide many years of dependable service.

WHAT TO DO BEFORE TROUBLESHOOTING:

CONSULT THE MANUAL

Most of the functional problems that occur are due to an oversight in the set-up, operational or normal maintenance procedures. Therefore, you should re-check all "Set-Up", "Initial Adjustment", "Operation", and "Maintenance" procedures.

INSPECT THE UNIT

If the problem still persists, the next step is careful visual inspection. Turn off the electricity - that is, disconnect your ASVC2 from its power supply and carefully check the control box for loose, broken or disconnected wires. Also, check the air circuit for leaky air connections or cut hoses.

HOW TO IDENTIFY CUTTING QUALITY PROBLEMS

- 1) The cut edge is burred
- 2) The cut edge is deformed
- 3) The cut is not completely through the vane
- 4) The vane gets jammed on entering
- 5) The vane gets jammed on exiting

If any of the above problems occur, please call the Duro Dyne Technical Services Department at 1-800-899-3876 between the hours of 7am - 6pm EST.



MACHINERY DIVISION

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