

OPERATION MANUAL FOR 3900 SERIES CUTTING TABLE

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3900 SERIES CUTTING TABLE

*CONGRATULATIONS ON YOUR DECISION TO PURCHASE A HIGH QUALITY
PRODUCT FROM ACMEDA!*

Acmeda Australia takes this opportunity to congratulate you on your decision to use one of the finest products from the industry leader.

We thank you for your support and look forward for more support in the future to provide better service and products by exceeding your high expectations.

3900 SERIES CUTTING TABLE

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INTENDED PURPOSE

This product is designed and constructed with an intention to enhance the productivity gains through quicker and high quality production of the windows furnishing or similar materials with reduced stress on the production operators. It is intended that any industry standard fabric could be cut to the desired size with highest possible accuracy. With recommended maintenance program the machine should last longer. The design and construction is aimed for safe and easy operation. Every possible care has been considered and adopted in design and construction of this product. However safety also greatly relies on the operators and owners. It is expected that the operator is trained properly to gain a thorough understanding of the machine controls and process to achieve the productivity goals with complete focus on safety.

GENERAL DESCRIPTION OF THE MACHINE

The components of this machine are classified into 3 groups;

1. Mechanical elements
2. Pneumatic elements
3. Electrical/electronic elements.

This machine has a table, with aluminum frame to support the fabric; it has fabric cutting unit, Free spinning rollers to support material and back stop. Product comes with following options,

1. Ultrasonic cutting.
 - a. 600 watts
 - b. 900 watts
2. Knife cutting
3. Auto-Back stop Squaring.
4. Motorised material rollers with automated edge guide.

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GENERAL DESCRIPTION OF THE MACHINE CONTINUED

It has a power unit attached to the machine, and a control panel box which has an operator interface and allows for easy operation.

Machine is fitted with emergency stops at convenient locations to stop the machine and make it safe in the event of any unforeseen circumstance.

Overall machine sizes are approximately: 6m (Long) x 5m (Width) x 1.4m (high).

Machine runs mainly on electrical power, pneumatics is used for clamping the squaring edge (Auto Back Stop option), clamping the material, and for cooling the cutting head.

With Auto Back Stop Squaring option, a touch screen interface is provided for operator to control the movements of the back stop squaring edge.

GENERAL OPERATION DETAILS:

Basic typical operation cycle involves,

- Operator lines up the material to be cut
- Squares the material.
- Lowers the clamps to clamp the material
- Initiates the cycle start (by pressing the start button)
- The cutter traverses within the clamps and cuts the material.
- On completion of cut, either initiated by the operator or by reaching maximum travel Limit cutter returns to home position.
- Operator releases the clamps. (By selecting 'Up' on the selective switch).
- Re positions the material to cut other sides and to maintain the pre-determined dimensions of the fabric.
- Repeats the cycle to further do other cuts.

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SAFETY FEATURES:

Machine has been designed and constructed with a number of safety features,

- Emergency stops
- Machine reset push button
- Cutter's movement stops if the clamps are raised
- Manual initiation of lowering and raising the clamps
- Cycle will start with lowering the clamps and finish with lifting up the clamps, without lifting up the clamps the cutter can only returned to home position
- Cycle will not start if cutter is not in home position.

MACHINE INSTALLATION

Area requirement: - 9.7m length x 6.84 width will be the recommended area. 1m all around machine will be required to allow for operator movements.

In a designated area the machine will be assembled and installed by a qualified Rollease Acmeda authorised personnel /representative. The table will be leveled and calibrated to specifications. This will be verified as per the Technical requirements. The power and Pneumatic connections will be established and the test cycle will be run. A few samples will be produced to the customer's specifications (Within the machine capabilities). Once the Acmeda trained technician or representative is satisfied with all the conditions, operator training will be provided, to ensure that the operator clearly understands the limitations and capabilities of the machine.

① MACHINE MUST BE INSTALLED BY QUALIFIED AND AUTHORISED ACMEDA REPRESENTATIVE ONLY!

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TECHNICAL SPECIFICATIONS:-

TECHNICAL INFORMATION	
ELECTRICAL POWER REQUIREMENT	240v-50/60Hz. Recommended to have 16A "D" Curve type Circuit breakers at the mains power board.
AIR PRESSURE REQUIREMENTS	<ul style="list-style-type: none"> • Compressor – 15 CFM (MIN) with FAD (Free Air Delivery) of 11 or greater • Air pressure must not drop below 0.6Mpa • In-Line Air Dryer - Applicable for Ultrasonic Cutting • Main Pressure (Regulator) - 700 kPa • Clamp pressure - 650 kPa • Backstop pressure - 600 kPa
Machine Building Standards	<ul style="list-style-type: none"> • Australian Standards AS 4024-2006 / CE Certified
Safety Features	<ul style="list-style-type: none"> • Emergency Stops • All External wiring and switches are 24v (Low Voltage) • Fully enclosed Drive Belts
Construction Type	<ul style="list-style-type: none"> • Full Aluminum construction - Main Table and Front End Unit • All steel parts are Nickel Plated and or Powder coated finish
Cutting Capacity / Type	<ul style="list-style-type: none"> • Crush Cutting (Standard with Machine) - Normal salvage cut in production 25mm. cut achievable 25mm –(Can achieve smaller cut but is material dependant) • Knife Cutting (Optional) - cutting capacity same as Crush cutting • Ultrasonic Cutting (Optional) - Recommended 25mm salvage cut. (Can achieve smaller cut but is material dependant)
Overall Dimensions	<ul style="list-style-type: none"> • Length: 5700mm • Width: 4840mm • Height: 1320mm • Table Working Height: 875mm +/-25mm

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OVERALL MACHINE DETAIL

Machine Main Components: - Machine's main components are as listed below,

- Main Table
- Front end table
- Free spinning rollers
- Back Stop Squaring Edge (With optional Auto Back Stop)
- Fabric clamping Unit
- Cutter
- Power Unit
- Control panel
- Ultra sonic cutting system (only on optional ultrasonic units)

Main Table:

Supports fabric while cutting before and also after separation from the roller. It is flat and has a smooth top for easy sliding of the fabric.

Front End Table Unit:

Supports the fabric from the roll before cutting. It is flat and has smooth top for easy sliding of the fabric.

Free spinning rollers:

Free spinning material rollers support and hold the material rolls.

Back stop squaring edge:

It allows for quick easy and accurate dimensional control, auto option available.

Fabric clamping unit:

Clamps the fabric during cutting operation.

Power unit:

Supplies power to the machine and has some electronic controllers.

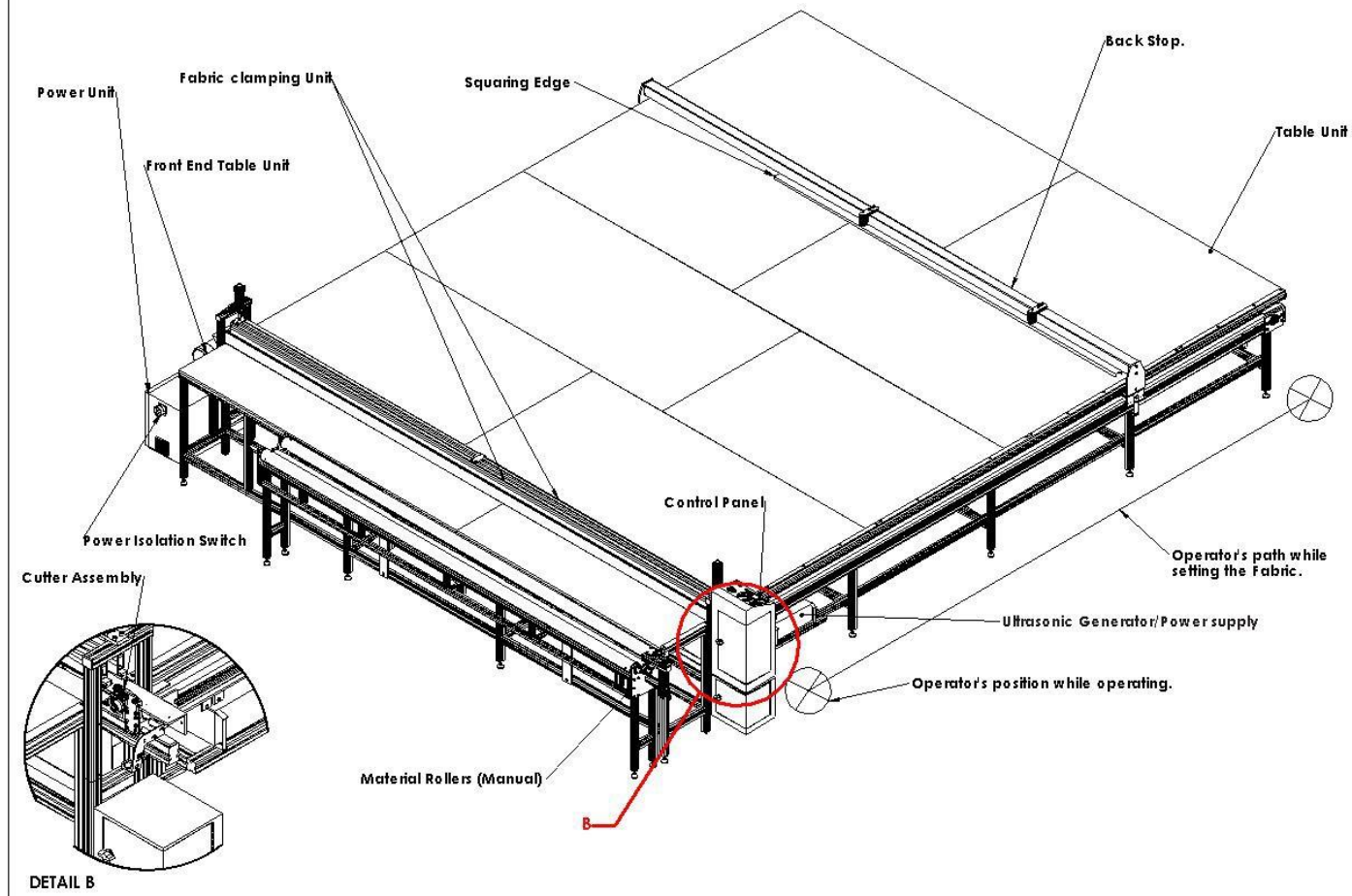
Control Panel:

Provides HMI (Human machine interface) to operate the machine.

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OVERALL MACHINE VIEW

Figure – 1 (Complete assembly of the machine with optional Auto Backstop)



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MACHINE OPERATION

Picture – 1 shows the controls on the control panel



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MACHINE OPERATION CONTINUED

Before beginning ensure, that power (Picture –2 & 3) and air (Picture-4) are connected and turned on, power Isolator switch is on,

SET AIR PRESSURE TO 700kPa.
Ensure that the pressure does not drop below 600kPa.



Picture-2
Power Isolator switch



Picture –3
Power Isolator



Picture-4
Airconnection

Next verify following conditions,

- ☞ Power indicator is on
- ☞ EM (Emergency) active indicator is off (Displayed on the touch screen only with Auto Backstop option).
- ☞ Emergency switch is in released condition.
- ☞ Clamp up/down is in up status.
- ☞ Ensure the back stop is in home position (Applicable for auto back stop option)
- ☞ Cutter Speed Controller is set to desired speed (Could be adjusted during the operation as well).

Before commencing operation, refer machine startup/shut down procedure at Annex I page 43.

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OPERATING PROCEDURE

NOTE: - TO ENSURE PROPER CLAMPING OF FABRIC ON BOTH SIDES OF THE CLAMP BAR A MINIMUM OF 20mm EXCESS SALVAGE MATERIAL IS REQUIRED.

FOLLOWING STEPS ARE FOR STANDARD MACHINE (WITHOUT BACK STOP OPTION) ONLY

1. Load the material roll on to the free spinning rollers.
2. Extend the fabric from the roll on to the table, using straight edge as guide.
3. Position the fabric by passing it under the clamps and ensure the fabric is properly lined up with the straight edge on the table.
4. Allow about 50 to 60mm more than the required finish size.
5. Select the "Clamp Up/Down" switch to "Down" position

Tip-> If the clamps are already down select Up on the "Clamp Up/Down" switch and then repeat step 5 other wise step 6 will not work!

Clamps should move down and grip the fabric firmly.
6. Now press the "Cutter Start/Return" button this will initiate the cutting of the fabric

!!!! WARNING: - DO NOT PUT HAND/S OR FINGER/S IN BETWEEN THE CLAMPS WHILE THE CUTTER IS IN OPERATION
7. Observe the cutter movement by looking in between the clamps when the cut is finished, press "Cutter Start/Return" button to initiate the cutter to return back to the home position.

If "Cutter Start/Return" button is not pressed the cutter travels to full length and then returns home!
8. Ensuring the cutter has returned home, select the "Clamp Up/Down" to 'Up' position.

This should raise the clamps up releasing the fabric.

DO NOT RAISE THE CLAMP BEFORE CUTTER RETURNS HOME, IF CLAMP IS RAISED BEFORE CUTTER RETURNS HOME, EM (emergency) STATUS WILL BE ACTIVATED! If this occurs machine needs resetting, refer to "Resetting – 2" situation in the next section, Page 17.
9. Rotate the fabric by 90°.
10. Allow about 20mm more than the required finish size; slide the excessive fabric under the clamps.

(Ensure that the fabric is lined up along the straight edge on the table.)
11. Repeat steps 5 to 8; remove the material off cut from the table.
12. Rotate fabric by 90°.
13. Using the fabric measure on the table set the fabric to the size allowing 20mm for finishing and slide excessive material under the clamps.

(Ensure that the fabric is lined up along the straight edge on the table.)

3900 SERIES CUTTING TABLE

OPERATING PROCEDURE CONTINUED

14. Repeat step 11.
15. Rotate fabric by 90°.
16. Using the measure set the finish size, slide rest of the excess material under the clamps.
(Ensure that the fabric is lined up along the straight edge on the table.)
17. Repeat Step 11.
18. Rotate the fabric by 90°
19. Using the fabric measure on the table set the fabric to the required size and slide excessive material under the clamps.
(Ensure that the fabric is lined up along the straight edge on the table.)
20. Repeat step 11.

FOLLOWING STEPS ARE FOR MACHINES WITH OPTIONAL BACK STOPS ONLY

1. Load the material roll on to the free spinning rollers.
2. If optional Auto Back stop is used, set the homing position of the back stop (Refer Page 20 for homing of Auto back stop).
3. Extend the fabric from the roll on to the table, using straight edge as guide.
4. Position the fabric by passing it under the clamps and ensure the fabric is properly lined up with the straight edge on the table.
5. Allow about 50 to 60mm more than the required drop size.
6. Select the “Clamp UP/Down” switch to “Down” position
Tip-> If the clamps are already down select Up on the “Clamp Up/Down” switch and then repeat step 5 other wise step 6 will not work!
Clamps should move down and grip the fabric firmly.
7. Now press the “Cutter Start/Return” button this will initiate the cutting of the fabric
!!!! WARNING: - DO NOT PUT HAND/S OR FINGER/S IN BETWEEN THE CLAMPS WHILE THE CUTTER IS IN OPERATION
8. Observe the cutter movement by looking in between the clamps when the cut is finished, press “Cutter Start/Return” button to initiate the cutter to return back to the home position.
If “Cutter Start/Return” button is not pressed the cutter travels to full length and then returns home!

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9. Ensuring the cutter has returned home, select the “Clamp Up/Down” to ‘Up’ position.

This should raise the clamps up releasing the fabric.

DO NOT RAISE THE CLAMP BEFORE CUTTER RETURNS HOME, IF CLAMP IS RAISED BEFORE CUTTER RETURNS HOME, EM (emergency) STATUS WILL BE ACTIVATED! If this occurs machine needs resetting, refer to “Re-setting – 2” situation in the next section, Page 17.

10. Rotate the fabric by 90°.
11. Allow about 40 to 50mm more than the required finish size; slide the excessive fabric under the clamps to cut the first edge of the width.
(Ensure that the fabric is lined up along the straight edge on the table.)
12. Repeat steps 6 to 9; remove the material off cut from the table.
13. Rotate fabric by 180°.
14. Set the back stop squaring edge to the required width size.
15. Lower the squaring edge
16. Slide the material so that it lines up with the squaring edge.
17. Repeat step 12.
18. Rotate fabric by 90°.
19. Lift up the squaring edge
20. Allow about 40 to 45mm slide it under the squaring edge.
21. Slide excessive material under the clamps
(Ensure that the fabric is lined up along the straight edge on the table.)
22. Repeat step 12.
23. Rotate the fabric by 180°.
24. Set the back stop squaring edge to the drop size.
25. Lower the squaring edge
26. Slide the material so that it lines up with the straight edge on the table and the end of material lines up with the squaring edge.
27. Repeat step 12.

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RESETTING

Resetting is required under following situations:-

1. When Emergency button is pressed (Cutter is in home position).
2. Cutter has not returned to home position and clamps are lifted up.
3. When the control panel box door is not closed properly

Situation 1, when emergency button is pressed (Cutter is in home position):

- Select 'down' on the clamp up/down selective switch.
- Release the emergency stop button (emergency light turns off)
- Press the reset button
- Lift up the clamps (Select 'Up' on the clamp up/down selective switch.)

Situation 2, Cutter has not returned to the home position and clamps are lifted up.

- Select 'down' on the clamp up/down selective switch.
- Press the emergency stop
- Release emergency stop
- Push the reset button
- Press the cutter start/return button.
(Cutter should move slowly back to the home position)
- Select 'Up' on the "Clamp Up/Down" switch this should raise the clamps.

Situation 3, when the control box door is not closed properly

- 1) Press the emergency stop button.
- 2) Physically check and confirm that the door on the control panel box is closed properly
- 3) Release the Emergency stop button
- 4) Select 'down' on the clamp up/down selective switch.

3900 SERIES CUTTING TABLE

RESETTING-CONTINUED.

- 5) Press the reset button
- 6) Lift up the clamps (Select 'Up' on the clamp up/down selective switch.)
- 7) Press cutter start/return button to verify.
 - a) If cutter does not start repeat Step 1 to 7 again.
 - b) If cutter starts resetting has been successful.

OPERATING WITH THE OPTIONAL ULTRASONIC CUTTING SYSTEM:-

Picture - 2



Selective switch for turning on/off the air for cooling the ultrasonic cutter head.

Ultrasonic/Pneumatic Crush cutting on/off

While working with ultrasonic cutter unit care must be taken in order to ensure smooth operation and cutter head lasting longer:

Every time ensure that the

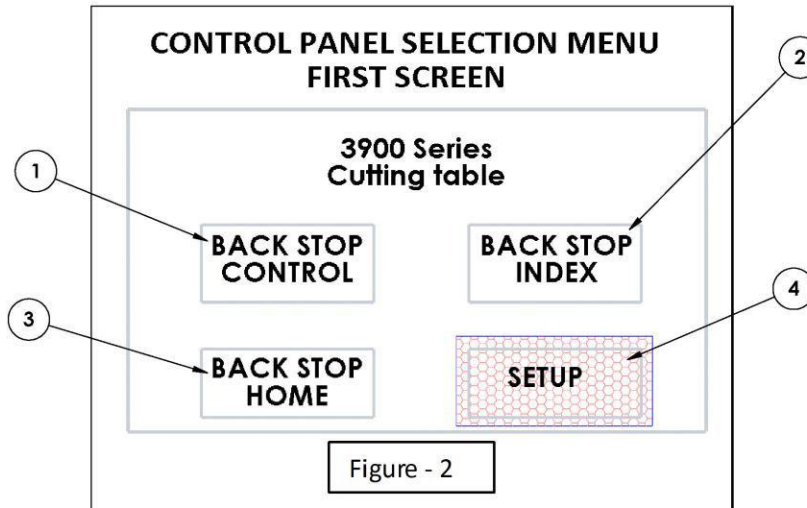
1. Ultrasonic on/off switch is turned on.
2. Air selective switch is turned on.

Set air pressure to 0.1 - 0.2MPa. (Not more than 0.2MPa.)

❗ Failure to do as per the above instructions may result in damaging the material due to tearing action instead of cutting and unit wearing out quickly, necessitating to replace the unit.

3900 SERIES CUTTING TABLE

AUTOMATED BACK STOP (OPTION)



BACK STOP CONTROL- TOUCH SCREEN OPERATION:-

All the movements of the back stop squaring edge are controlled by the 'Touch screen'.

① Before beginning any operation including the cutting, Ensure that the Back Stop Homing is done, by touching the 'BACK STOP HOME' button on the Main Menu screen

⚠ Failure to home the back stop may result in crashing the Back stop unit!

Tip-> When square edge is down all movements of the backstop are stopped. To move the back stop, the square edge must be lifted up.

Main menu presents 4 options, as shown in the Figure-2.

1. Back stop control
2. Backstop Index
3. Backstop Home
4. Setup.

1) Back stop control:-
Select this option to control the back stop squaring edge movements.

2) Back stop Index:-
Select this to control for further movements relating to indexing, moving / setting to indexed position.

3) Back Stop Home:-
Select this every time machine is turned on. To set the home position of the Back stop. Details of homing is explained in the next page.

Warning:- Failure to home the back stop may result in crashing the Back stop unit!!!

4) This is for maintenance purposes only.

SETUP IS FOR MAINTENANCE PURPOSES ONLY AND SHOULD NOT TO BE USED BY THE OPERATOR!

3900 SERIES CUTTING TABLE

HOMING BACK STOP

MAIN MENU SCREEN

3900 Series Cutting table

BACK STOP CONTROL BACK STOP INDEX

BACK STOP HOME SETUP

Home position is not set!

Home Position is Set.

The diagram illustrates the process of homing the back stop through three sequential screens. The first screen is the 'MAIN MENU SCREEN' for the '3900 Series Cutting table', featuring buttons for 'BACK STOP CONTROL', 'BACK STOP INDEX', 'BACK STOP HOME', and 'SETUP'. The second screen, titled 'Home position is not set!', shows a control interface with 'Move To Width' (0800) and 'Move To Length' (1500) buttons, 'BckStp Rev' and 'Bck Stp Frw.' buttons, 'SqEdge Down' and 'Sq Edge Up' buttons, and a 'MENU' button. The 'Act Position' field is blank, highlighted in green, and an arrow points to it from the text 'Home position is not set!'. The third screen, titled 'Home Position is Set.', shows the same interface but with '900' displayed in the 'Act Position' field, and an arrow points to it from the text 'Home Position is Set.'.

Homing the Back Stop.

Every time machine power is turned on, before commencing any movement of back stop, first back stop home has to be set.

This is achieved by using the Main menu screen and touching on the 'BACK STOP HOME'.

WARNING:-
FAILURE TO SET THE HOME POSITION OF BACK STOP WILL RESULT IN CRASHING AND DAMAGING THE UNIT.

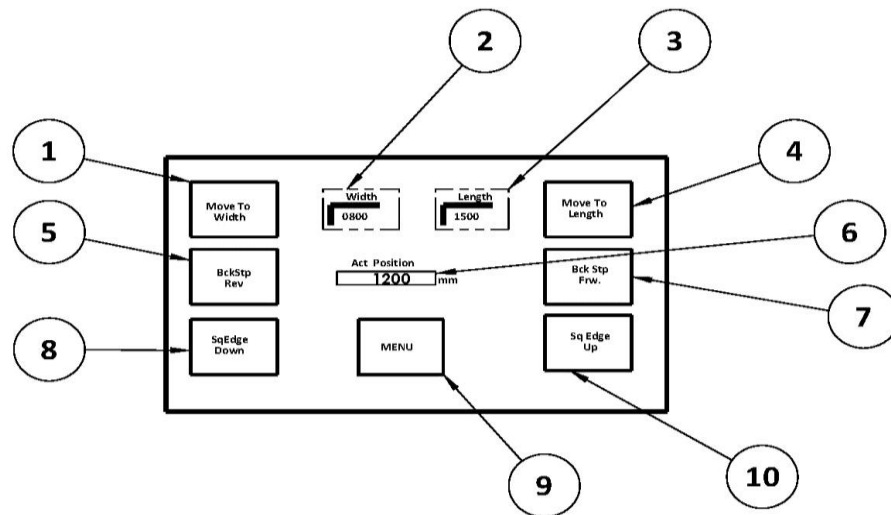
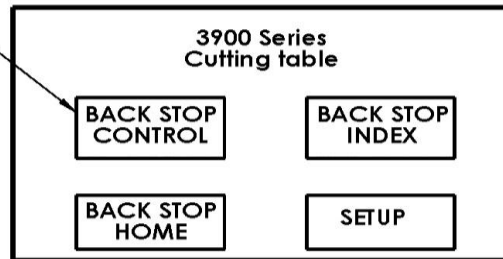
If back stop home position is not set, the 'Act Position' appears blank on the screen; this can be verified by selecting either 'Backstop Control' or 'Back stop index', where actual position is displayed.

When the 'BACK STOP HOME' is activated, the back stop slowly moves towards the cutter, once it reaches closest position it moves away from the cutter and by default it stops at 900mm. Once it comes to complete halt and displays 900mm, homing is complete. It can be verified by moving to next screen by selecting either 'Backstop control' or 'Back stop index'.

3900 SERIES CUTTING TABLE

BACKSTOP CONTROL

Selected



REMEMBER:->

"When square edge is down all movement of the square edge is stopped. To reposition the back stop the square edge must be lifted up".

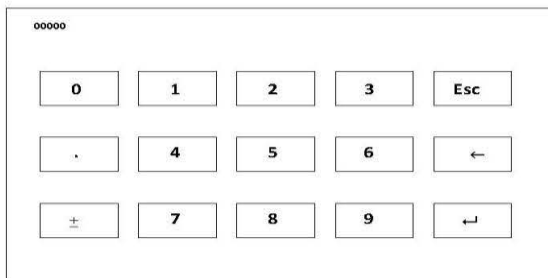
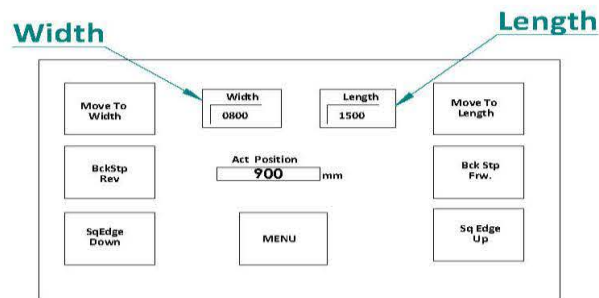
"Backstop Homing must be done prior to moving the backstop."

On selecting 'Back stop control', screen presents further functions as listed below,

1. 'Move to Width' touching this will move the back stop to the width that is set and displayed on the screen.
2. 'Width (0800)' allows setting width, and displays set width (800mm is the set width as shown) .
3. Length (1500) allows setting the length and displays set length (1500mm is the length set as shown).
4. 'Move to Length' touching this will move the back stop to the Length that is set and displayed on the screen.
5. 'BckStp Rev' touching this will move backstop infinitely towards the cutter side as long as it is touched or until its min limit is reached.
6. Act Position gives feedback indicating actual position of the back stop at all times; **if the back stop is not homed this will be blank.**
7. 'BckStp Frw' is very similar to the 'BckStp Rev' except that the back stop moves away from the cutter and its moves until touched or maximum limit is reached.
8. 'SqEdge Down' Touching this will bring down the Square edge.
9. Menu takes back to the main screen
10. 'SqEdge Up' touching this will lift up the Square edge.

3900 SERIES CUTTING TABLE

SETTING WIDTH AND LENGTH (DROP)



REMEMBER-->

“When square edge is down all movement of the Back stop is stopped. To reposition the back stop the square edge must be lifted up “.

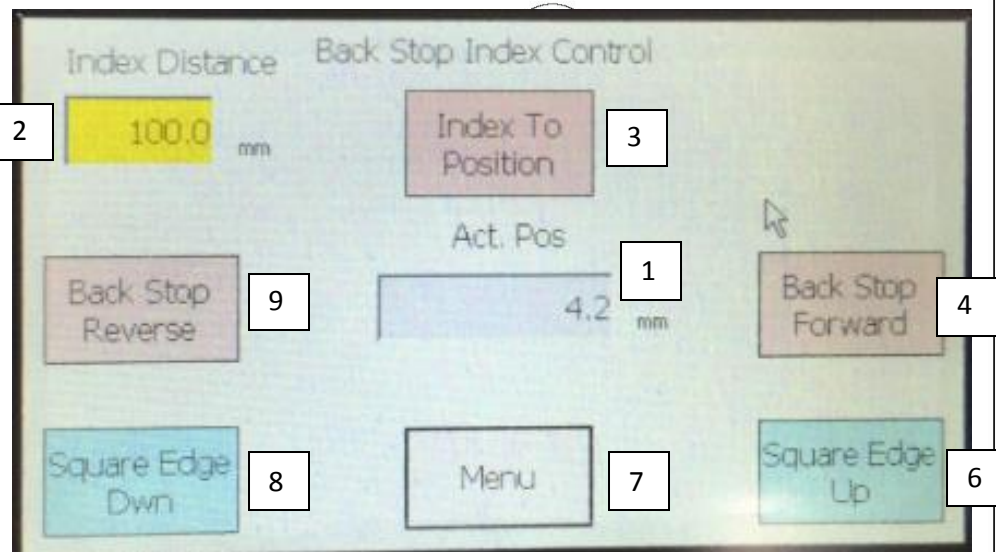
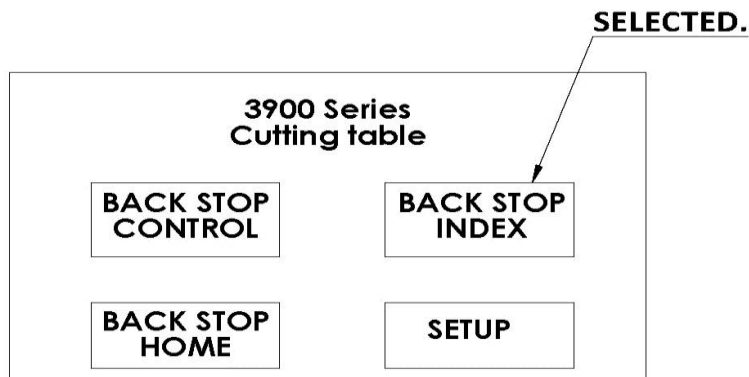
“Backstop Homing must be done prior to moving the backstop.”

On selecting to set Width or Length, as shown, will allow for next screen to appear which will require operator to enter the values for width or length.

- To set values, it must be entered using the digits and ‘Enter’ (↵) will save the values.
- Values are displayed on the top left hand corner as shown.
- To return without setting the value Esc must be pressed this takes back to the previous screen.
- If there is an error while entering the digits, back space (←) could be used to correct the error.
- ± Plus or minus button is not used.
- . Decimal point button is not used.

3900 SERIES CUTTING TABLE

BACKSTOP INDEX



REMEMBER:->

"When square edge is down all movement of the Backstop is stopped. To reposition the back stop the square edge must be lifted up".

"Backstop Homing must be done prior to moving the backstop."

When 'BACK STOP INDEX' is selected from the main menu, next screen will be displayed as shown.

- 1) 'Act' Displays actual position of the back stop.
- 2) 'Pos 0300' Displays set index value and allows to change the values by displaying next screen.
- 3) 'Index to Pos' moves the back stop to the set position values incrementing from its existing position.
- 4) 'BckStp Frw' touching this will move backstop infinitely away from the cutter as long as it is touched or until its max limit is reached.
- 6) 'SqEdge Up' touching this will lift up the Square edge.
- 7) Menu takes back to the main screen
- 8) 'SqEdge Down' Touching this will bring down the Square edge.
- 9) 'BckStp Rev' touching this will move backstop infinitely towards the cutter side as long as it is touched or until its min limit is reached.

3900 SERIES CUTTING TABLE

SETTING INDEX POSITION

Selected.

Pos 0300	Index To Pos	Init Pos
Act 1000		
BckStp Rev		Bck Stp Frw.
SqEdge Down	MENU	Sq Edge Up

Value Display

00000				
0	1	2	3	Esc
.	4	5	6	←
±	7	8	9	↵

REMEMBER:->

"When square edge is down all movement of the Backstop is stopped. To reposition the back stop the square edge must be lifted up".

"Backstop Homing must be done prior to moving the backstop."

When 'Pos' is selected, next screen is displayed as shown. It allows operator to enter the desired values for indexing.

Using the screen shown, values can be entered by selecting the digits.

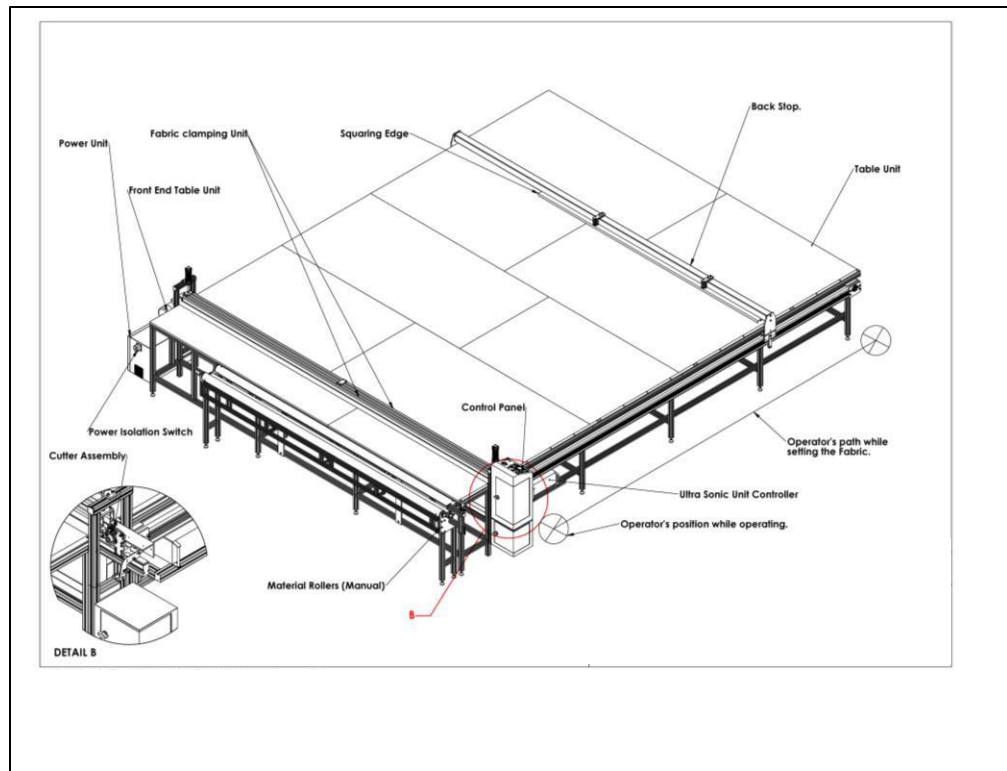
- To set values, it must be entered using the digits and 'Enter' (↵) will save the values.
- Values are displayed on the top left hand corner as shown.
- To return without setting the value Esc must be pressed this takes back to the previous screen.
- If there is an error while entering the digits, back space (←) could be used to correct the error.
- ± Plus or minus button allows the movement to be reversed, + Away from cutter, - Towards cutter.
- . Decimal point button is not used.

3900 SERIES CUTTING TABLE

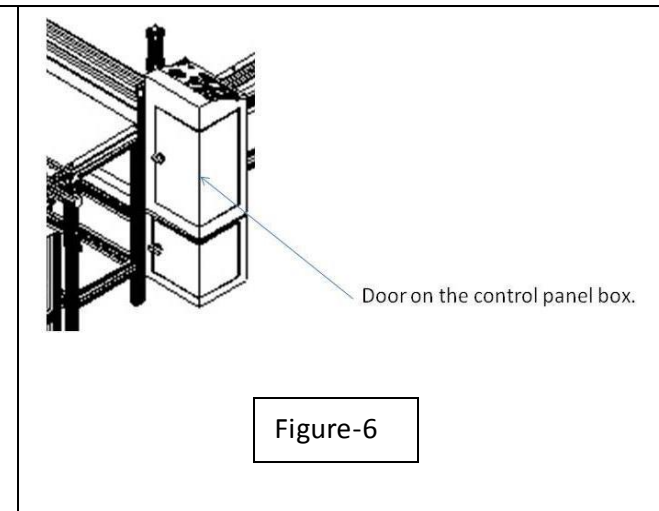
CHANGING THE CUTTERS

The machine has optional cutting head units with crush cutting head being the standard there may be circumstances to change the cutting heads from standard, crush cutting to ultrasonic or to knife cutters. While cutter head changing process between knife cutter and crush cutter heads is, straight forward, it is to replace crush cutter head under the 2 screws and swap the cutter head and tighten with the screws.

Ultrasonic requires a slightly different procedure, as ultrasonic unit is a precise unit and needs cooling during cutting therefore it is strongly recommended to follow the instructions given here,

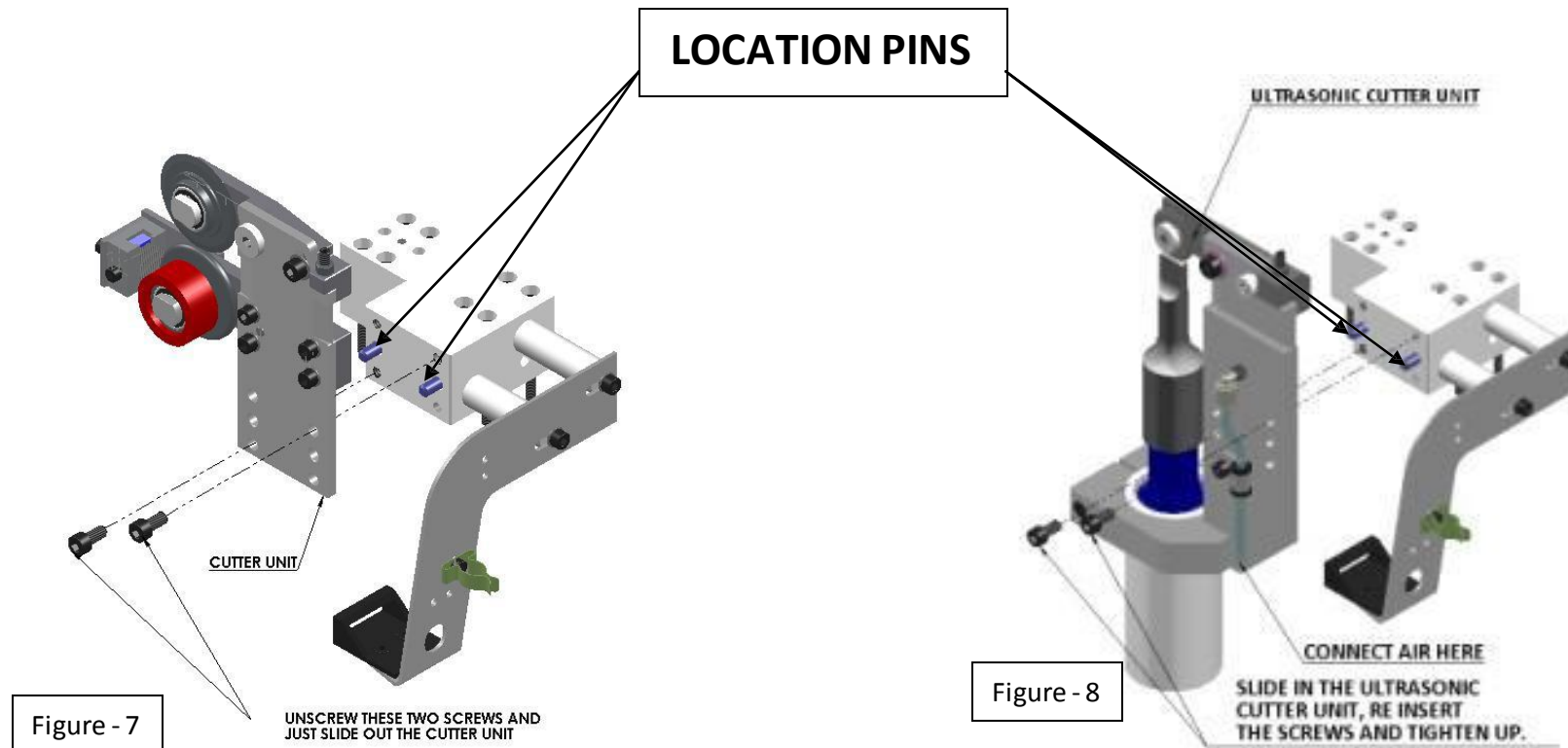


To access the cutter open the door located on the control panel box refer to the figure -6.



3900 SERIES CUTTING TABLE

CHANGING THE CUTTERS CONTINUED.



The cutter units, fit exactly the same way, they are located on the two locating pins and are secured by two screws as shown in figure 7 & 8. If it is required to replace crush cutting unit with Ultrasonic Unit or vice versa, undo the two screws as shown and Slide out the existing cutter unit. Replace the new cutter unit exactly the same way (slide onto the location pins) and tighten the two screws to secure the unit. Ensure that the cutter unit and the screws are tightly secured. For Ultrasonic unit connect Air as shown.

Turn on the air using ¹selective switch, before starting the cut.

¹ Shown on Picture 2 page 15.

3900 SERIES CUTTING TABLE

TROUBLE SHOOTING

SI.No.	PROBLEM FACED	REQUIRED ACTIONS	
1	Machine does not start	Check the power connection	Ensure that there is power supply and turned on.
		Check the air connection	Ensure pressurized air is flowing correctly.
		Check the emergency stop	Ensure the emergency stop is released
		Check the doors of control panel box	Ensure door is properly closed and locked in position.
		Check the cutter is in home position	Ensure that the cutter is in home position
		Check the clamp selective switch is in down position Switch Input.	Ensure that the clamps are down and are clamping the fabric.
2	Clamps do not Clamp or unclamp	Check the air pressure and connections to the pneumatic cylinders locate on either side of clamp bars.	Ensure that there is enough pressure and the connection is leak proof.
3	Auto Back stop does not move to correct distances	Check the homing position of the Backstop. Check the distances set for the movement.	Ensure that the back stop is moved to the home position, whenever the machine power is switched on. Ensure correct distances have been set.
4	Squaring edge on back stop does not move up or down.	Check the air pressure, connectors and the cylinders	Ensure that the connectors are in position and there is air pressure and cylinders are OK.
5	Ultrasonic controller Problems	Check the Controller manual for trouble shooting.	
6	Ultrasonic cutter tears the material	Check the selective switch for ultrasonic unit, the air for ultrasonic.	Ensure that the switch is turned on for ultrasonic and for the air.

3900 SERIES CUTTING TABLE

MACHINE MAINTENANCE

Operational Care:

A large responsibility of the safer and successful operation depends upon the owner and the operators, following are some of the guidelines about caring for the machine to ensure safer operation,

1. Ensure that the operator is fully trained and is aware of the functions and limitations of the machine
2. Ensure that the machine and operating area is always maintained clean and any unwanted material is immediately removed from the machine.
3. Do not drop the material from any height onto the table, this will cause destabilization problems and machine may fail to perform to the expectations and may incur expensive servicing.
4. Do not leave the material roll up tube on the table; it can become an obstruction for Backstop movement particularly with Auto Back stop option.
5. Do not stack any material under the tables as this may turn into a hazard and lead to the risk of tripping and falling.
6. Ensure that the cutter is properly cleaned and maintained without developing any marks or indents.
7. Cutters and cutter head must be regularly checked to ensure smoother quicker cutting operation. In case if the cutter is worn or has developed any indentations or similar marks, it needs to be either replaced or re-sharpened, if this is the case, using the spare parts listed at the annex please contact ACMEDA.
8. Checking all the safety functions and ensuring that the safety functions are working well will ensure a very safe operation.
9. Regular maintenance is recommended to be done once every year.
10. If using the optional Auto back stop
 - a. Do not put or stick any tapes or papers on to the runners, as it can be a hazard which may damage the unit.
 - b. Ensure the table and around table it is clear for the movement of the back stop unit.
 - c. Ensure that no person is allowed near the table while back stop is in operation.
 - d. Watch the back stop position carefully while moving the back stop.

3900 SERIES CUTTING TABLE

MACHINE MAINTENANCE CONTINUED

SERVICING:

Regular servicing is essential to ensure the smooth operation and better productivity therefore the machine must be serviced by a qualified, trained and authorized technician from ACMEDA. ²Violating this may result in a tampered product and poor performance from the machine and may lead to a hazardous situation.

Optional Auto back stop, the 'Setup' button on the menu screen is for maintenance purposes and is password protected. It is not intended for operator's usage.

REPLACEMENT PARTS:-

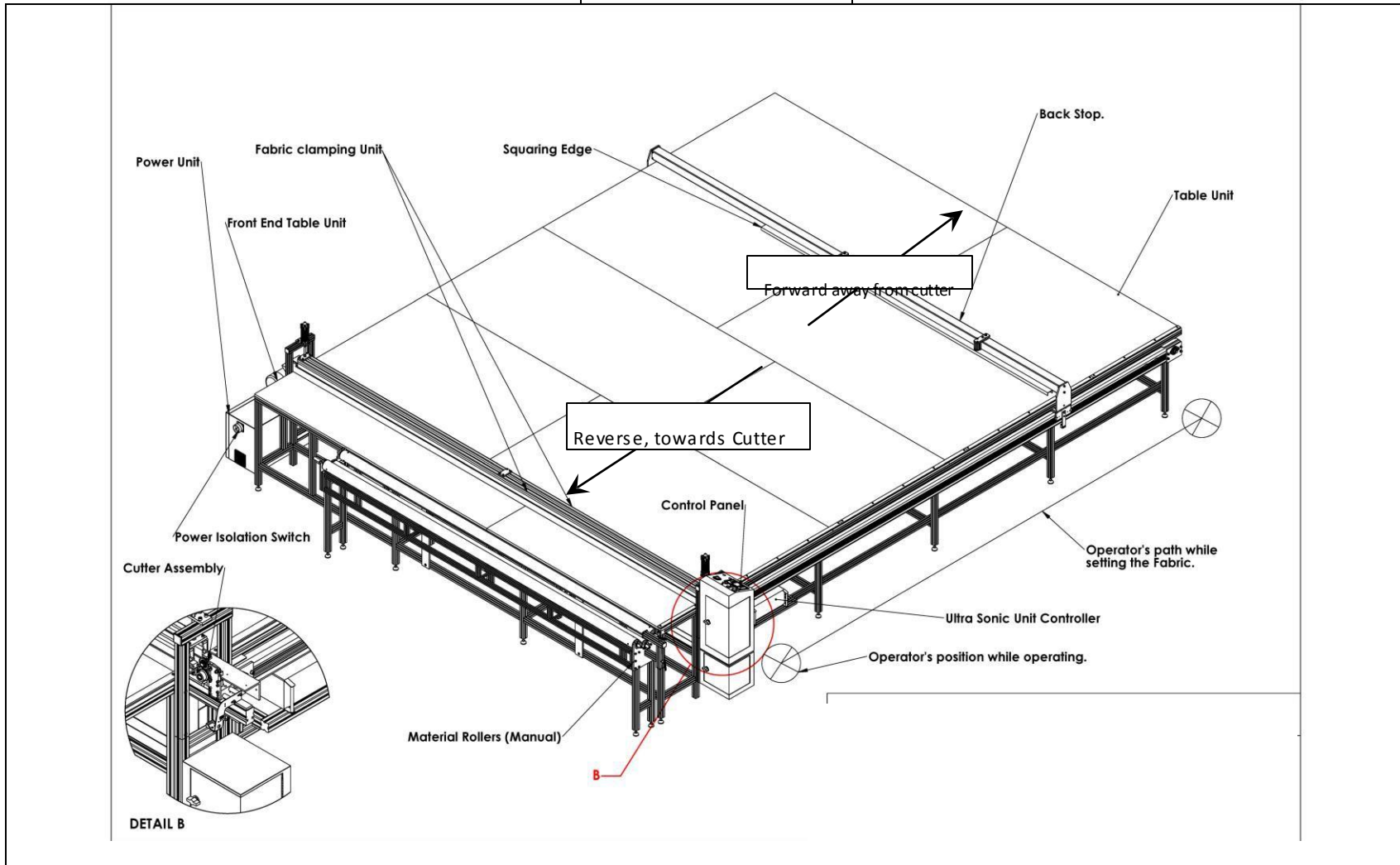
With our experience in the field and feedback from the customers has allowed us to identify the replacement parts that needs replacing depending on the wear tear by regular usage.

The drawings are attached at the appendix.

3900 SERIES CUTTING TABLE

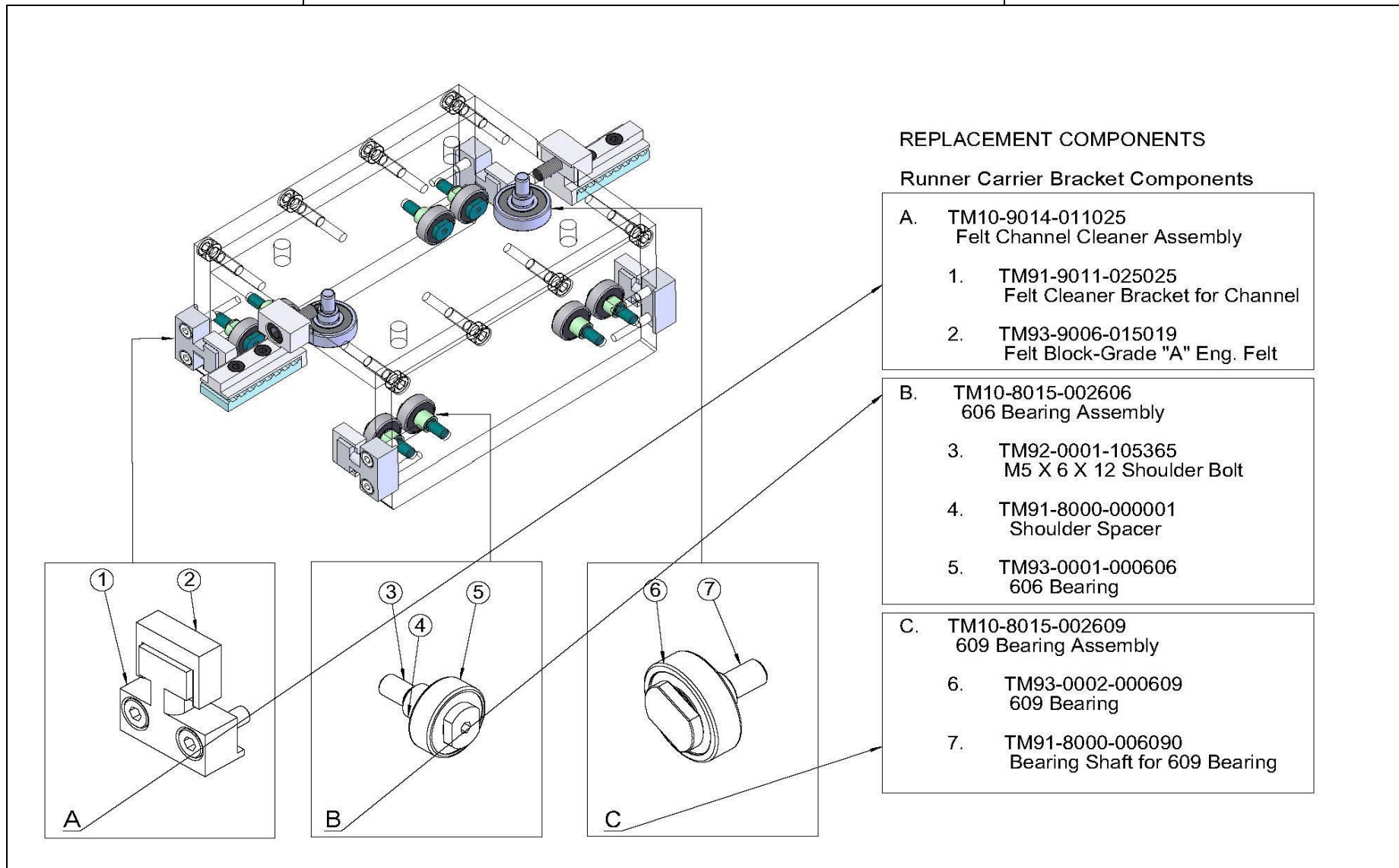
APPENDIX

MAIN ISO VIEW



3900 SERIES CUTTING TABLE

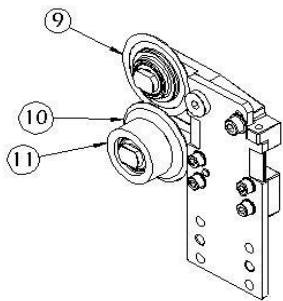
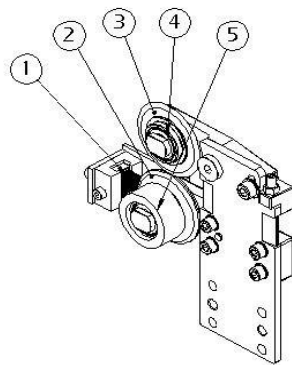
REPLACEMENT COMPONENTS FOR CARRIAGE ASSEMBLY



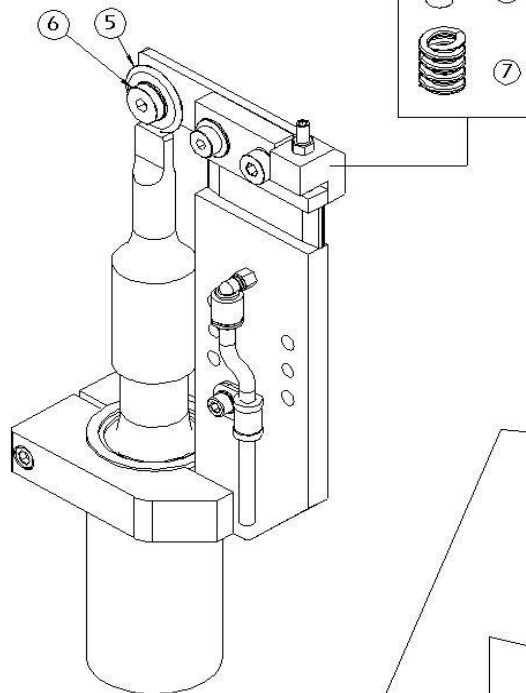
3900 SERIES CUTTING TABLE

CUTTER REPLACEMENT

A. CRUSH CUTTING UNIT



C. KNIFE CUTTING UNIT



B. ULTRASONIC CUTTING UNIT

REPLACEMENT COMPONENTS

Cutting Unit Components

A. TM10-CBDW-420000 Crush Cutting Head w/Cutting Blade and Drive Wheel

1. TM93-9011-012020
Stainless Steel Brush Cut to 20mm
2. TM91-9009-022038
Crush Cutter Anvil
3. TM91-9009-022037
Cutting Blade 50mm Dia.
4. TM93-B000-006900
6900 Bearing
5. TM10-3900-162536
PU-Bush.

B. TM10-9014-130195 Complete Dukane Ultrasonic Bracket Assembly (Without the Dukane Ultrasonic Unit)

5. TM91-9003-000030, TM91-9003-000033 and
TM91-9003-000035
30mm Disk-Dukane U/S Bracket
6. TM91-9010-016018
Pivot Shaft
7. TM93-1217-DRM308
3/16 X 1" Spring- Blue DRM0308
8. TM91-9009-000005
Spring Bung- Dukane Bracket

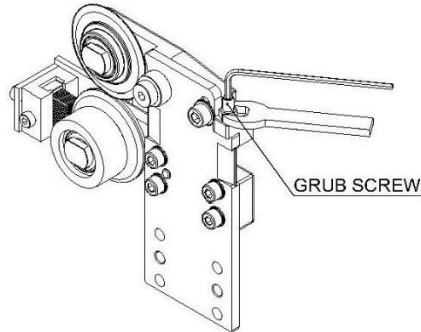
C. TM10-KNAB-420000 Knife Cutting Head w/ Cutting Blade and Knife Anvil

9. TM91-KN00-420000
Knife Blade
10. TM91-KN01-420000
Knife Anvil
11. TM10-3900-162536
PU-Bush.

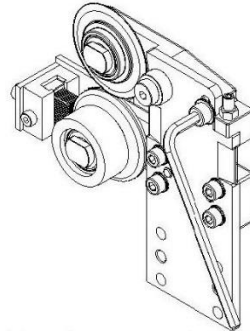
3900 SERIES CUTTING TABLE

CRUSH CUTTER

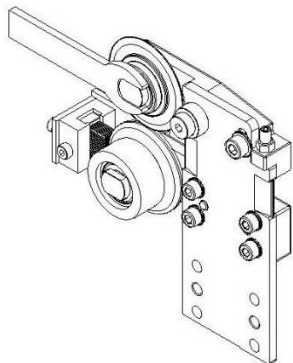
REMOVING THE CRUSH CUTTER BLADE



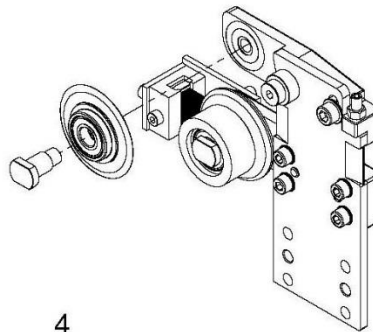
1
FIRST LOOSEN NUT OFF GRUB SCREW USING 8MM OPEN END SPANNER. THEN LOOSEN OFF THE TOP GRUB SCREW (ONLY SLIGHTLY) USING A 2.5MM HEX KEY.



2
LOOSEN OFF THE BACK CAP SCREW ENOUGH TO ALLOW MOVEMENT OF THE CUTTER BLADE MOUNTING ARM USING A 5MM HEX KEY. BACK THE CUTTER BLADE OFF THE BOTTOM ANVIL AND RETIGHTEN SCREW (THIS IS NEEDED FOR THE NEXT STEP).



3
AFTER THE CUTTING BLADE IS RETIGHTENED AWAY FROM THE BOTTOM ANVIL LOOSEN OFF THE CUTTER BLADE SHAFT WITH A 13MM OPEN END SPANNER.



4
COMPLETELY REMOVE SHAFT AND CUTTING BLADE/BEARING ASSEMBLY. LEAVE THE BACK CAP SCREW TIGHTENED AWAY FROM THE BOTTOM ANVIL.

REPLACING CRUSH CUTTER COMPONENTS

If the quality of the cut from the Crush Cutter begins to decline it may be time to replace the Cutting Blade.

Signs that the Cutting Blade needs replacing:

- The material is not sealing properly at the edges (thread ends are visible).
- The Cutter is not cutting completely through the material. *Please note that if this is happening it could be possible that distance between the Blade and Anvil is not set properly.*

To change the cutting blade you will need to remove the Cutting Blade/Bearing assembly from the Shaft Carefully follow the steps as shown at the left to remove the Assembly.

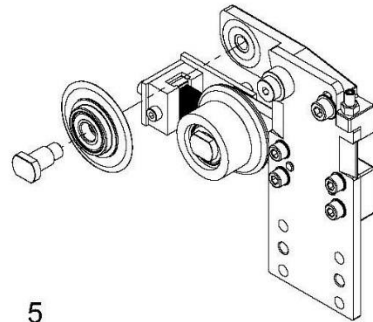
Be sure to handle the parts carefully. If the unit or any parts are dropped they may break or deform which is likely to affect the accuracy of the final cut. The Cutting Blade itself can be resharpened so do not discard dull Blades.

Continued on the next page.

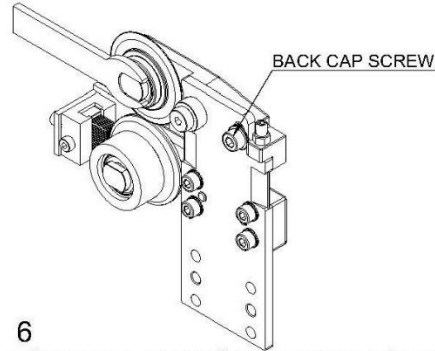
3900 SERIES CUTTING TABLE

CRUSH CUTTER CONTINUED

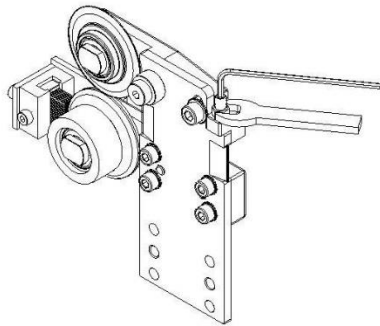
REPLACING THE CRUSH CUTTER BLADE



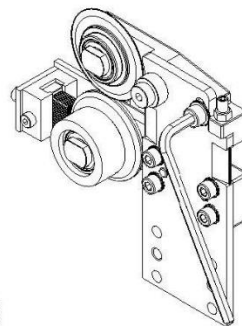
5
PUT THE NEW CUTTING BLADE ASSEMBLY ONTO THE TOP BLADE MOUNTING ARM PAYING SPECIAL ATTENTION TO THE ORIENTATION OF THE CUTTING BLADE AS DETAILED IN Fig.1.



6
TIGHTEN THE BLADE SHAFT FIRMLY. NOW IT IS IMPORTANT TO LOOSEN THE BACK CAP SCREW SO YOU CAN COMPLETE THE NEXT STEP.



7
ADJUST THE DEPTH OF THE TOP GRUB SCREW FOR CONTACT BETWEEN CUTTING BLADE AND THE ANVIL. TURN THE BOTTOM ANVIL BY HAND AND WHEN BOTH THE ANVIL AND THE BLADE ROLL TOGETHER SMOOTHLY WITHOUT GAPS THE DISTANCE IS SET RIGHT. NOW RETIGHTEN THE GRUB SCREW NUT WITH 8MM SPANNER.



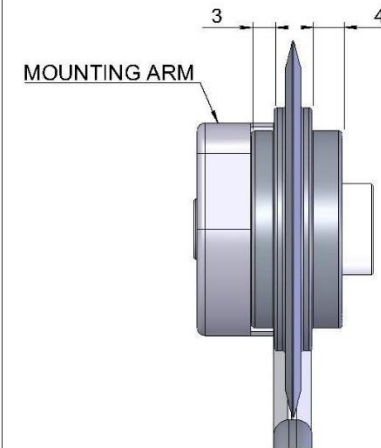
8
FIX THE CUTTING BLADE INTO POSITION USING THE BACK CAP SCREW AND A 5MM HEX KEY. IT IS NOW SET FOR USE.

REPLACING CRUSH CUTTER COMPONENTS (continued from previous page)

When replacing the Cutter Blade make sure to load it into the Cutter Head in the right way.

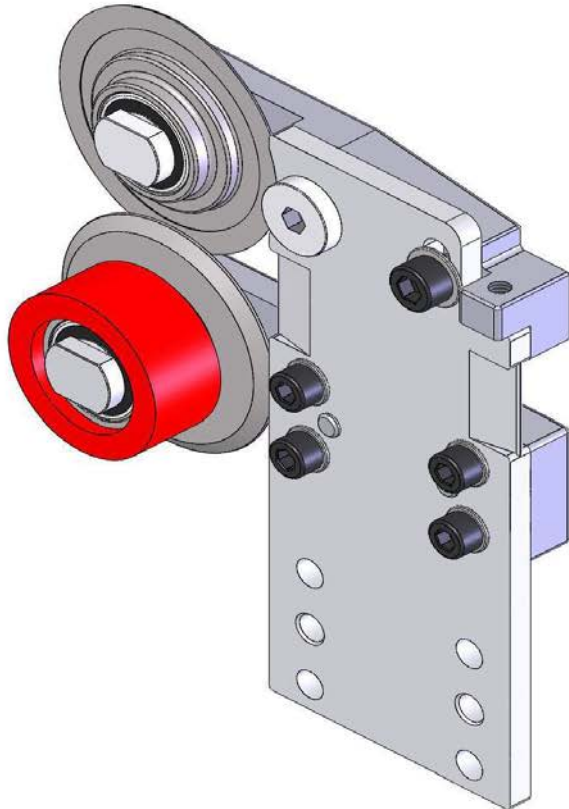
The Cutting Blade is not symmetrical (as shown below) and care must be taken to ensure that the shorter side (3mm) is facing the Mounting Arm. The wider side (4mm) should be facing outward or away from the Mounting Arm.

Fig. 1



3900 SERIES CUTTING TABLE

KNIFE CUTTER

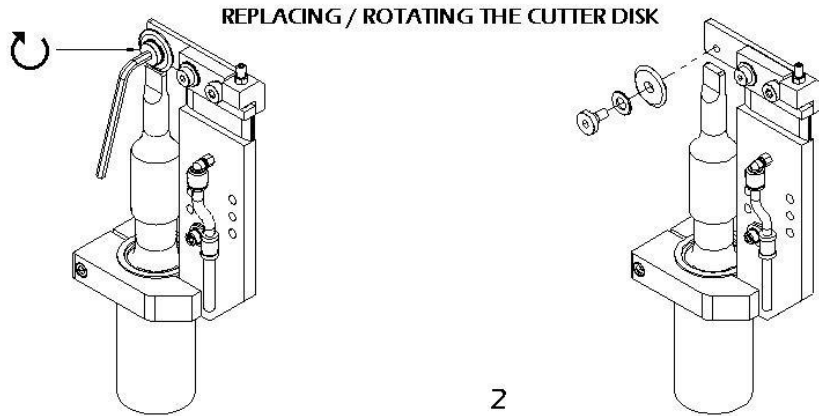


KNIFE CUTTER

Knife cutters require precise settings; hence it needs to be sent back to ACMEDA to get the parts replaced, re-sharpened and for calibration.

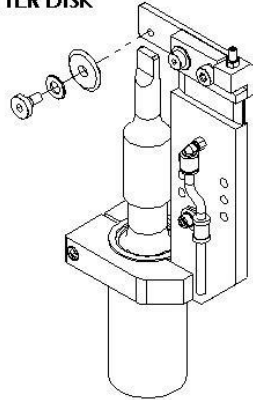
3900 SERIES CUTTING TABLE

ULTRASONIC CUTTER



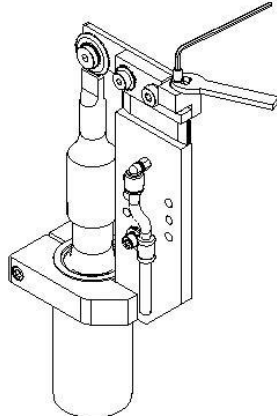
1

LOOSEN OFF THE CUTTER DISK (VERY SLIGHTLY) WITH A 5MM HEX KEY. IF THE DISK NEEDS TO BE ROTATED THEN ROTATE THE DISK BY HAND UNTIL THE WORN AREA IS OUT OF THE CUT PATH. NOW SKIP TO STEP 5 (NEXT PAGE).



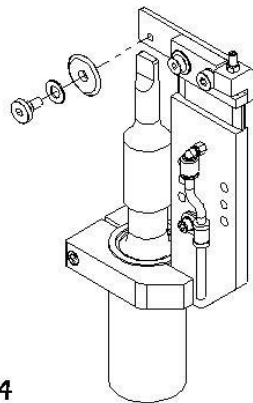
2

IF THE CUTTER DISK NEEDS TO BE REPLACED THEN COMPLETELY REMOVE THE CUTTER DISK, SCREW AND SPACERS.



3

IT MAY BE NECESSARY TO LOOSEN OFF THE GRUB SCREW AND NUT SLIGHTLY FOR EASIER REPLACEMENT OF DISK (STEP 4).



4

REPLACE THE NEW CUTTER DISK AND THE MOUNTING COMPONENTS FROM THE PREVIOUS DISK EXACTLY AS BEFORE.

REPLACING ULTRASONIC COMPONENTS

If the quality of the cut from the Ultrasonic Cutter begins to decline it may be time to rotate the Cutting Disk or possibly replace the Disk.

The Cutting Disk does not rotate during operation, therefore it is possible to slightly rotate the disk and utilize the unused edges.

Signs that the Cutting Disk needs rotating or replacing:

- The material is not sealing properly at the edges (thread ends are visible).
- The Cutter is not cutting completely through the material. *Please note that if this is happening it could be possible that distance between the Cutter Disk and the Ultrasonic Horn is not set properly.*

To rotate or change the Ultrasonic Cutter Disk carefully follow the steps as shown at the left.

Be sure to handle the parts carefully. If the unit or any parts are dropped they may break or deform which is likely to affect the accuracy of the final cut.

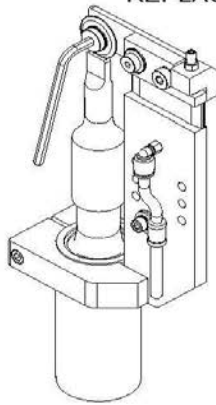
The Ultrasonic unit itself is a sensitive and very expensive instrument so great care should be taken to avoid bumping it as this may break the internal ceramic components and otherwise adversely affect the custom fine tuning of the instrument.

Continued on the next page.

3900 SERIES CUTTING TABLE

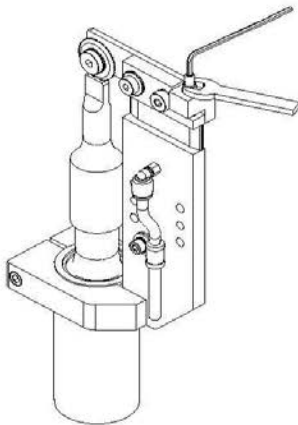
ULTRASONIC CUTTER CONTINUED

REPLACING / ROTATING THE CUTTER DISK



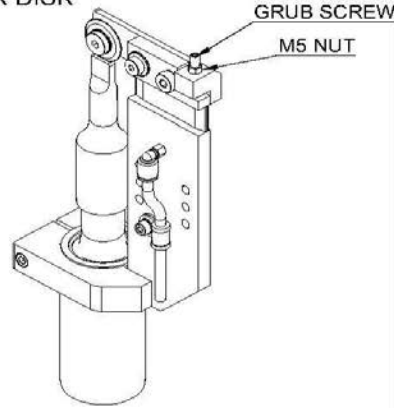
5

FIRMLY TIGHTEN THE DISK ONTO THE DISK ARM USING THE 5MM HEX KEY.



7

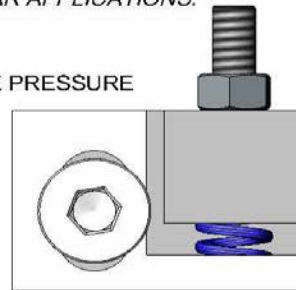
LOCK THE SPRING PRESSURE INTO POSITION BY HOLDING THE GRUB SCREW STATIONARY WHILE TIGHTENING THE M5 NUT DOWN ONTO THE DISK ARM. IT IS NOW SET FOR USE.



6

ADJUST THE DEPTH OF THE TOP GRUB SCREW BY HAND FOR CONTACT WITH SPRING. AS A RULE YOU ONLY NEED TO TIGHTEN THE SCREW JUST BEYOND CONTACT WITH THE SPRING (1/4 TURN). SEE BELOW FOR DETAILS. PLEASE NOTE THAT DURING OPERATOR TRAINING WE WILL BE ABLE TO RECOMMEND APPROPRIATE SETTINGS FOR YOUR PARTICULAR APPLICATIONS.

ADJUSTING THE PRESSURE

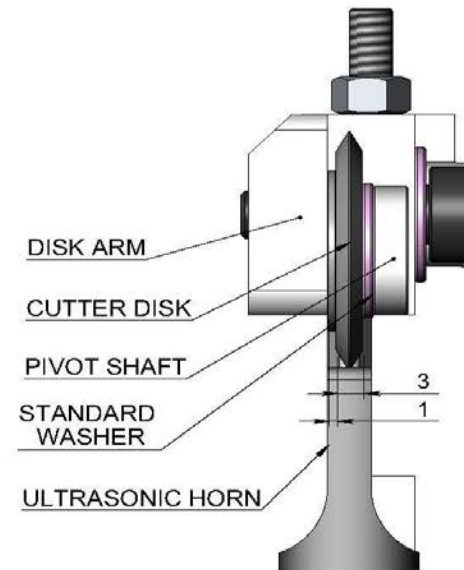


THE GRUB SCREW'S FUNCTION IS TO ALLOW THE PRESSURE OF THE SPRING TO BE ADJUSTED AS REQUIRED. AS YOU TIGHTEN THE GRUB SCREW THE SPRING IS COMPRESSED AND RESULTS IN MORE PRESSURE BETWEEN THE DISK AND THE ULTRASONIC HORN.

REPLACING ULTRASONIC COMPONENTS (continued from previous page)

Follow the instructions to the left for mounting a new Cutting Disk onto the Ultrasonic Unit.

During reassembly be sure to load the parts in the correct order with the large 1mm spacer between the Cutter Disk and the Disk Arm and the small washer under the Pivot Shaft head (as shown below).



3900 SERIES CUTTING TABLE

ULTRASONIC CUTTER CONTINUED.

Ultrasonic cutter is controlled by DUKANE Ultrasonic Generator/Power supply as shown below.



While tensioning the cutter it could be tested using the DUKANE Ultrasonic Generator /power supply. Without mounting the cutter on to the locating pins, connect the cutter to the power input cable.

Turn on the power and the air.

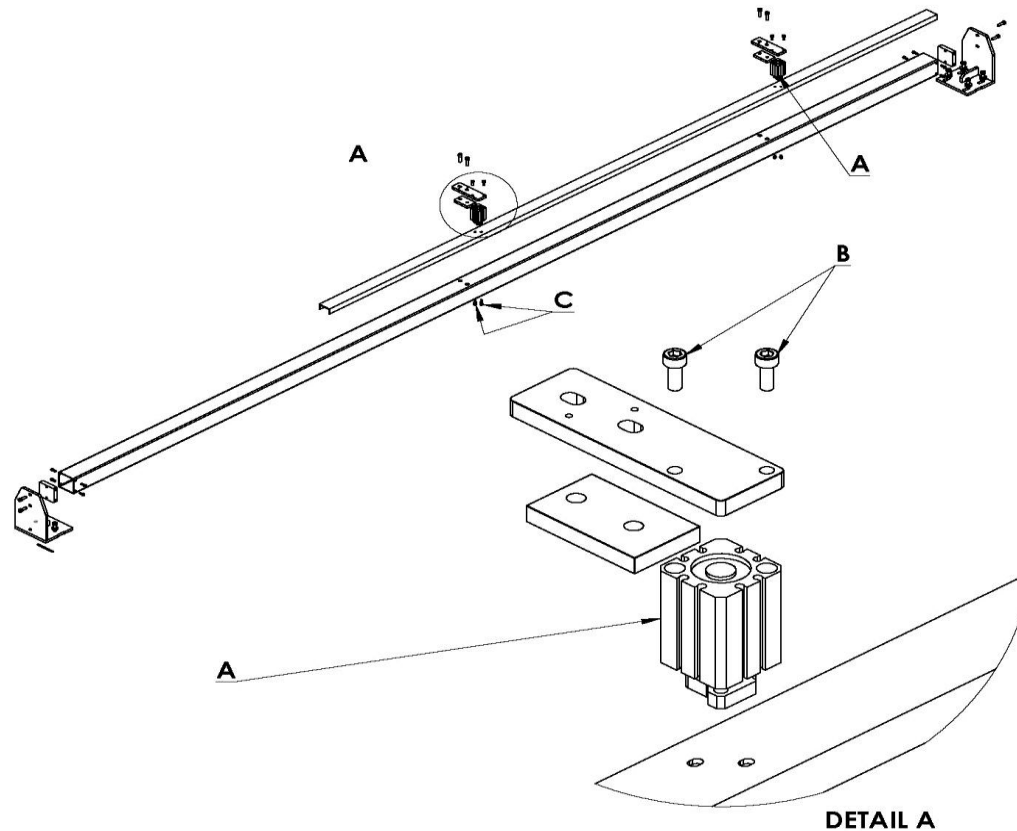
Press the test button on the generator as shown in the above picture.

If the 4 line LCD display indicates Overload, the tension is too high needs to be reduced.

To run the system verification tests for Ultrasonic generator/Power supply unit, Testing the generator or System test Procedures refer to Ultrasonic Generator /Power supply user's manual pages 57 and 58.

3900 SERIES CUTTING TABLE

PNEUMATIC CYLINDERS FOR AUTO BACK STOP



REPLACEMENT COMPONENTS

TM94-3900-SMC017 PNEUMATIC CYLINDER

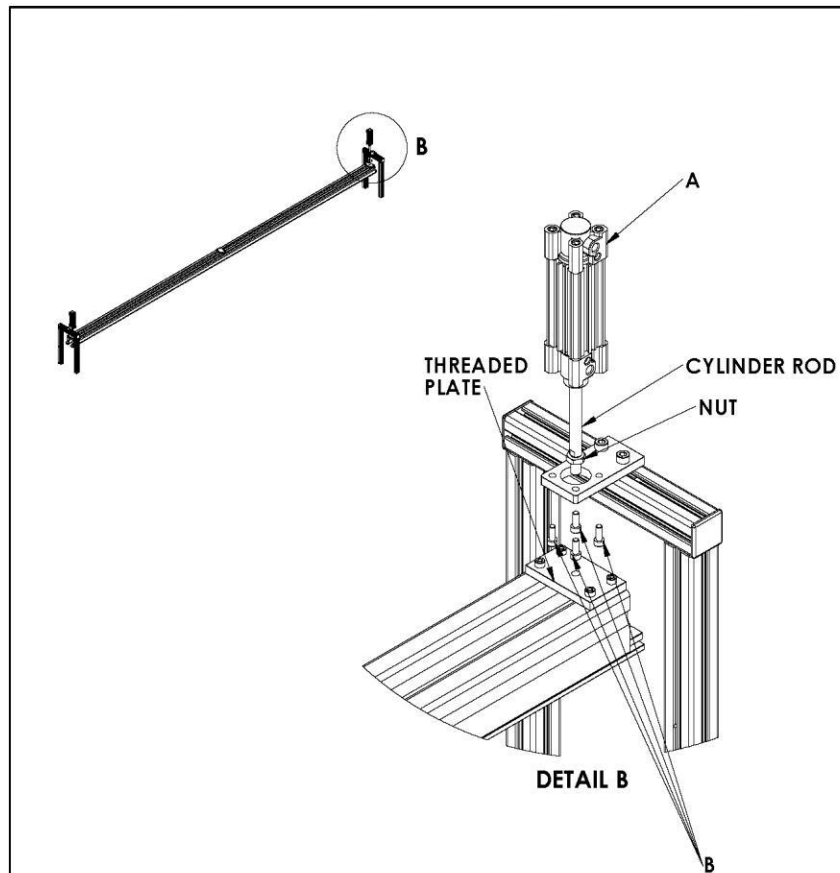
- A. TM94-3900-SMC017-PNEUMATIC CYLINDER.
- B. M6 SCREWS
- C. SHOULDER SCREWS

Occasionally there may be a situation that the cylinders may need replacement, should such a situation arise. Obtain the spare cylinders from Acmeda.

1. Make sure that the power has been shut down and the air line is not pressurised.
2. Disconnect the hoses from the cylinder being replaced.
3. Undo the Screws marked B
4. Undo the Shoulder screws marked C
5. Remove the cylinder
6. Replace the new cylinder correctly.
7. Tighten screws B & Shoulder screws C
8. Re connect the hoses.
9. Switch on the power and ensure line is pressurised.

3900 SERIES CUTTING TABLE

FRONT END CLAMP



REPLACEMENT COMPONENTS

TM94-3900-SMC001 PNEUMATIC CYLINDER

- A. TM94-3900-SMC001-PNEUMATIC CYL.
- B. M6 SCREWS

Occasionally there may be a situation that these cylinders may need replacement, should such a situation arise, Obtain the replacement cylinders from Acmeda.

1. Make sure that the power has been shut down and the air line is not pressurised.
2. Disconnect the hoses from the cylinder being replaced.
3. Tighten the 'NUT' so that it moves up the 'CYLINDER ROD'.
4. Undo the rod from the 'THREADED PLATE'.
5. Undo the 4 Screws marked B
6. Remove the cylinder
7. Replace the new cylinder correctly.
8. Tighten the 'CYLINDER ROD' into the 'THREADED PLATE'
9. Secure the plate and rod by driving 'NUT' towards the plate.
10. Tighten screws B.
11. Re connect the hoses.
12. Switch on the power and ensure air line is pressurised.

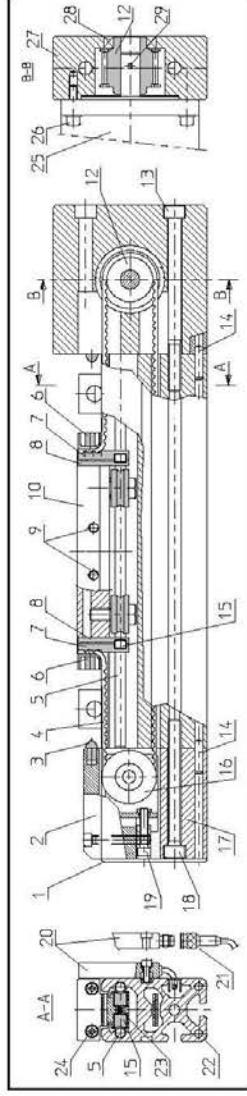
3900 SERIES CUTTING TABLE

Wartungsanweisung Maintenance Manual

BERGER LAHR

LM-P404RT100, LM-S404RT100, LM-H404R

für BERGER LAHR Portalachsen
for BERGER LAHR Portal Axis



Allgemein

Die Portalachse ist durch ihren konstruktiven Aufbau unempfindlich gegen das Eindringen von Schmutz und Fremtteilen. Die Führung ist innenliegend und wird vom Zahnriemen nach außen abgedeckt. Die verwendeten Antriebs- und Führungselemente sind wartungsarm.

Schmierung

Die innenliegenden Führungswellen (5) werden über Ölgeränke, angefederte Schmierflitze (15) gereinigt und geschmiert. Die Schmierintervalle sind abhängig von der Belastung, Geschwindigkeit, Zykluszeit, Umgebung etc. Bei normalen Betriebsbedingungen wird empfohlen, das Führungssystem nach einer effektiven Betriebszeit von ca. 1500 Std mit Schmieröl (z.B. Texaco Alcor DD248 oder Schmieröl nach DIN51524, Kennzeichen HVLP D) zu versorgen. Die Schmierflitze (15) werden jeweils über zwei Schmierbohrungen $\varnothing 2\text{mm}$ in den Riemenklemmstücken (6) auf beiden Seiten am Laufwagen (10) nachgeölt. Hierzu eignet sich am besten ein Ölgeber mit Kanüle.

Zahnriemen

Zahnriemen sind die eingesetzten Zahnriemen wartungsarm. Sollte dennoch ein Riemenwechsel notwendig werden, ist wie folgt vorzugehen:

1. Die Abdeckkappe (1) am Umlenkblock (17) mit einem Schraubenzieher abziehen. Sie ist nur gesteckt. Danach den Endanschlag (2) vom Endblock demontieren.
2. Zahnriemen (4) und Umlenkrolle (16) durch Schraube (19) entspannen.
3. Die Riemenklemmstücke (6) demontieren und den Zahnriemen (4) herausziehen.
4. Einen neuen Zahnriemen gleicher Zahnzahl einziehen und die Enden des Zahnriemens bündig mit der Laufwagenoberkante zwischen die Riemenklemmstücke (6,7) einlegen.
5. Den Zahnriemen mit den Riemenklemmstücken (6) festklemmen.
6. Den Zahnriemen über die Schraube (19) spannen. Die Riemenanspannung beträgt 0,1-0,15% der Riemenlänge. Markierung auf dem Riemen anbringen!
7. Den Endanschlag (2) mit dem Umlenkblock (17) festverschrauben, damit die Halterung der Umlenkrolle auf ihrer Position eingeklemmt wird. Somit ist eine gleichbleibende Riemenanspannung gewährleistet.
8. Abdeckkappe (1) am Umlenkblock (17) montieren.

Achtung: Nach dem Riemenwechsel müssen die anzufahrenden Positionen überprüf und ggf. korrigiert werden.

Bei stärkeren Laufgeräuschen des Zahnriemens kann dieser mit einem handelsüblichen PTFE-Gleitspray benetzt werden.

Service

Bei Ersatzbestellungen oder Serviceanfragen geben Sie bitte die Material- und die Auftragsnummer (siehe Typenschild) der Linearachse mit an.

General

Due to the design of the portal axis, it is protected against dust and foreign particles. The guide system is internal. The utilised drive and guide elements have low maintenance requirements.

Lubrication

The internally mounted guide rods (5) are cleaned and lubricated by spring loaded felt wipers (15). The lubrication interval depends on the load, speed, cycle time and environment conditions. For normal ambient conditions we recommend to lubricate the felt wipers after 1500 hours net operation with spindle oil (e.g. Texaco Alcor DD248 or lubrication oil according to DIN51524 type HVLP D). The felt wipers are lubricated (15), through two holes ($\varnothing 2\text{mm}$) located in the plastic covers (6) on both ends of the carriage (10). To do this, use an oil can with a hypodermic needle.

Belt Replacement

The timing belt requires basically low maintenance. Should, in spite of this, a belt change be necessary, the following procedure has to be performed:

1. Remove the plastic cover (1) from the endblock (17) with a screwdriver. It is only clipped in. After this remove the dead stop (2) from the endblock.
2. Slacken the timing belt (4) and belt tensioning pulley (16) by bolt (19).
3. Remove clamping collars (6) and remove the toothed belt (4).
4. Put in a new toothed belt with the same number of teeth and place the ends of the toothed belt flush to the top of the carriage between the clamping collars (6,7).
5. Clamp the toothed belt to the carriage with the clamping collars (6). Tightening torque 2Nm.
6. Tension the toothed belt by means of the bolt (19). The belt tension is 0,1-0,15% of the belt length. Mark the timing belt!
7. Screw the dead stop (2) and the endblock tight together, so that the tensioning pulley bracket will be clamped into position. Thus ensures a constant belt tension.
8. Replace the plastic cover (1) on to the endblock (17).

Note: Control and if necessary correct the positioning of the carriage.

If during operation, the belt is noisy, a standard PTFE spray can be used in order to reduce the noise.

Service

In case of spare part orders or service, please advise material and order number (located on axis name plate) of the axis or the axis system.

Ersatzteile / Spare Parts List

Pos.	Bezeichnung	Description	Leistung / Quantity	Best.Nr./Material No.
20	Erschütterer, Kabel 5m (Standard)	Limit switch, cable 5m (standard)	1 Stck / pc	00052060002
	Erschütterer, Kabel 10m	Limit switch, cable 10m		00052060004
	Erschütterer, steckbar, 3-polig, Mx1	Limit switch with connector, 3 poles, Mx1		00052060007
21	Kabeldose, 3 polig, Mx1, Kabel 5m (Standard)	connector, 3 poles, Mx1, cable 5m (standard)	1 Stck / pc	00052060005
	Kabeldose, 3 polig, Mx1, Kabel 10m	connector, 3 poles, Mx1, cable 10m		00052060016
4	Zahnriemen 320 AT5, L = (2xHub)+850 (mm)	Toothed Belt 320 AT5, L = (2xStroke)+850 (mm)	Millimeter / millimeter	00052060016
	Set Riemenhalter mit Ölger-M-P/S 404RT100 komplett für ein Laufwagen mit:	Set of belt fastener with lubricator P/S 404RT 100 complete for one carriage, incl.	1 Stck / pc	00052060015
7	2 Stck Riemenklemmprofil R AT5	2 pc. belt clamping profil R AT5		744-00163200
8	2 Stck Ölgerhülse R AT5	2 pc. lubricator housing R AT5		
6	2 Stck Riemenklemmstück	2 pc. belt clamping collar		
23	2 Stck Druckfeder D-029	2 pc. compression spring D-029		
15	4 Stck Schmierflitze	4 pc. felt wipers		
4	4 Stck Zylindererschraube Mx12mm	4 pc. cylindrical bolt Mx12mm		
24	4 Stck Scheibe A4-2 DIN175-S1	4 pc. Scheibe A4-2 DIN175-S1		

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06.2006-V04

3900 SERIES CUTTING TABLE

REFERENECEES:

Following standards, Acts, directives have been referenced during design and manufacturing of this product, 1. AS 4024-

2006

2. EU Directive 2006/42/EC
3. Occupational Health and safety regulations 2007 (Australian Act).
4. Berger Lahr – Maintenance manual
5. DUKANE iQ Series Ultrasonic Generator/Power Supply LS User's Manual.

3900 SERIES CUTTING TABLE



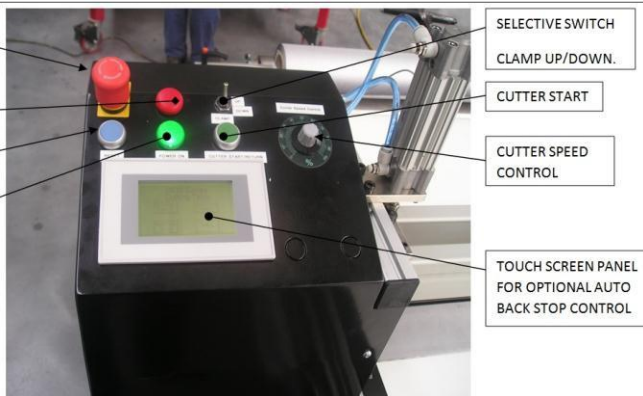
Picture-2

Power Isolator switch



Picture – 3

Power Isolator



PICTURE - 1

ANNEX I.

MACHINE STARTUP/SHUT DOWN PROCEDURE.

Before Starting the machine ensure following conditions:

- Power is properly connected and power is turned on at main source (power point) for machine operation.
- Pneumatic connection is connected and pressure is set at 700kPa.

For Normal Start:

- ☞ Turn on the Power Isolator
- ☞ Wait for 20 Seconds
- ☞ Release the Emergency stop
- ☞ Press reset button

Machine will be operational now.

For Quick Start:

- ☞ Turn on the Power Isolator
- ☞ Release the emergency stop
- ☞ Press the reset button
- ☞ Lower the clamps using the selective clamp up/down switch
- ☞ Lift up the clamps
- ☞ Press the emergency stop
- ☞ Release the emergency stop
- ☞ Press the reset button.

Machine will be operational now.

Warning: If the clamp selective switch is up before pressing the reset button, pressing reset button will lift up the clamps.

Shutting Down (normally at the end of the working)

Ensure that machine table and clamping area is kept clean, fabric is not left under or around the clamps.

- ☞ Lift up the clamp using the selective switch
- ☞ Press Emergency stop
- ☞ Turn off the Power Isolator Switch.