



Marburg Ind.

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M1250 OWNERS MANUAL

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MACHINE SPECIFICATIONS

PRIMARY ELECTRICAL: 120VAC 7AMPS (WITHOUT BELTS &PRE-HEATER)

CONTROL CIRCUIT: 24VDC

AIR SUPPLY: 80PSIG

CONTROL SYSTEM: MITSUBISHI FX1s-20MT

CONTROL PROGRAM: M1250v10

MATERIAL SIZES: 60MM LAYFLAT – 250MM LAYFLAT

BAND LENGTHS: 1.25” THROUGH 7”

NOTE: NOT ALL LAYFLAT SIZES AND LENGTHS CAN BE RUN IN COMBINATION AND MAY REQUIRE SPECIAL HARDWARE TO RUN AT ALL

MATERIAL THICKNESS: 50MICRON – 70MICRON

ROLL LENGTHS: TYPICALLY 500 METERS LENGTH, OUTSIDE DIAMETER SHOULD NOT EXCEED 17”

ROLL CORE: CORE I.D. SHOULD BE 5”

SPEED: SPEEDS WILL VARY DRAMATICALLY DEPENDING ON LAYFLAT SIZE, LENGTH OF BAND, CONVEYOR SPEED, AND TARGET APPLICATION. THE MACHINE CAN APPLY BANDS AS QUICK AS 100BPM FOR SHORT SMALLER SIZES AND SPEEDS WILL GO DOWN FROM THERE.

PRIMARY CONSTRUCTION MATERIALS: 304 STAINLESS STEEL & 6061 HARD ANNODIZED ALUMINUM

M1250 THEORY OF OPERATION

The M1250 is design to convert a continuous supply of material from a roll, to individual pieces, and then apply the individual pieces to a passing container. The material to be used is generally rolled on a core of approx. 5". This roll will sit on a disk on the rear of the machine. The material is initially unwound and fed through the system by hand. Since the material is typically heavy there is a pre-feed system on the back of the cabinet. The pre-feed system has a dancer which when pulled up from the machine using the material will cause the motorized rollers to pull more material from the supply roll. The rollers will pull material until the dancer is all the way down and then a little more for a buffer.

The material path then takes the material into the cabinet. The first thing to happen to the material is the cross folding. The material is fed over a tetrahedron to change the orientation and press out the original crease.

From the cross-folding station the material goes directly into the feed rollers. The hard plastic rollers have no sticky characteristics. The traction to pull the material comes from the pressure exerted between the 2 rollers from the clamping module.

The cross-folded material is then pushed through a set of static eliminator bars and out the cutting mechanism. The rollers are powered by a stepper motor that will feed out the increment to create the individual band.

When the feeding process is complete, the clamp will close and the cutting carriage will traverse across the width of the material severing off the individual band.

Directly below the cutting station is a vacuum bar which will hold one side of the band (the trailing end), on the other side of the band is a vacuum tube which will come in and grab hold of the front side and pull it away and drop it down.

The band is now hanging from the vacuum bar and waiting for the container to enter the band. A container is then transported under the application area by a conveyor. The container passes a sensor which releases the band from the vacuum bar at the appropriate time and the container continues on to pass under a ski which will slide the rear part of the band over the back side. The band is now full encircling the target area and will shrink to the contour of the container (lid) when exposed to heat.

At this point the machine will start the process all over again.

Note: the beginning of the process is the band hanging from the vacuum bar in a state of wait, for the container to be transported past the application area.

M1250 FUNCTIONAL SEQUENCE

The program for the machine has 2 separate subprograms, which define the machine happenings. The first, which we will not go into, is only to define which text shows in the control screen. The second defines what happens to create a cycle of the machine.

When the main disconnect is turned on, power is provided to the PLC, Servo Drive, and Stepper Drive. The Stepper Drive provides the 24VDC power supply to run the control circuit. The screen will then scroll the text to let you know which buttons to press to turn on and off the functions. Most likely, you will turn on the cycle function first to ready the machine for product flow. By pressing the “A” button on the control pad (from the main menu) the cycle button will alternate the cycle function from on to off, or off to on.

THE CYCLE FUNCTION ENABLED

With M21 enabled (from pressing the “A” button), the main air valve (dump valve) is turned on, the Servo Drive is turned active (Y17), timer T0 is initiated, and Y10 is active until T0 times out. Y10 will turn on the valve to send the cutter carriage the proper side for the first cut.

Note: When you first turn on the cycle, the vacuum will not be on at this point since there is no band to hold; however, after the first cycle the vacuum on the vacuum bar will be on at this point to hold the cut band.

Now press the Single Cycle button. The machine will go through a cycle and a band will be hanging from the vacuum bar ready for the product to pass under.

THE BOTTLE FEED FUNCTION

Press the “B” button to turn on the Spacing Wheel. Pressing the “B” button will alternate the M22 from off to on or on to off. Turning on the M22 will cause Y3 to become active turning on the solid state relay, which will give power to the motor control to run the Spacing Wheel motor.

RUNNING PRODUCT PAST THE APPLICATOR

When a product passes the Cycle Sensor the PLC turns this signal into a single pulse. That pulse (M9) or the pulse created from the signal from the Single Cycle button (M8) will begin the cycle. Unless a very large material is used (usually 300mm and up) both vacuum supplies will turn off at the same time to release the band. This will happen if the value in T40 is set to 0. Do not change this setting unless instructed to do so by Marburg literature. T40 will take us to S12

S12: If X17 is active (which indicates the machine is in plunger mode) the plunger will get sent down now while T41 begins to time out. T41 should be set at a value to allow the product to take away the cut band before the new band is fed. This will depend on the conveyor speed and rate of product being fed.

T41 will advance us to sequence S13.

S13: The material will get fed to create the new band, this happens by outputting a pulse train through Y0 to the servo drive. Simultaneously the Y6 is activated to energize the valve sending in the vacuum tube. The high-speed counter (C235) is counting pulses to determine when the full count has been reached. (If photo-registration option is enabled it will also adjust the pulse-train frequency). At end of pulse-train C235 will send us to S14 and alternate M11 to change the direction of the cutter carriage. If plunger mode is enabled Y6 will also be reset to send the plunger up at this point of the cycle.

S14: T42 will create a delay for the Feed Motor to settle into its proper position to retract any over feed. T42 will take us to S15.

S15: Y5 is set to activate the valve to clamp the material to be cut, and the vacuum for the bar and tube is turned on via Y11, Y12, and Y13. In addition T43 will begin to time out to give the clamp time to fully engage. T43 will set S16.

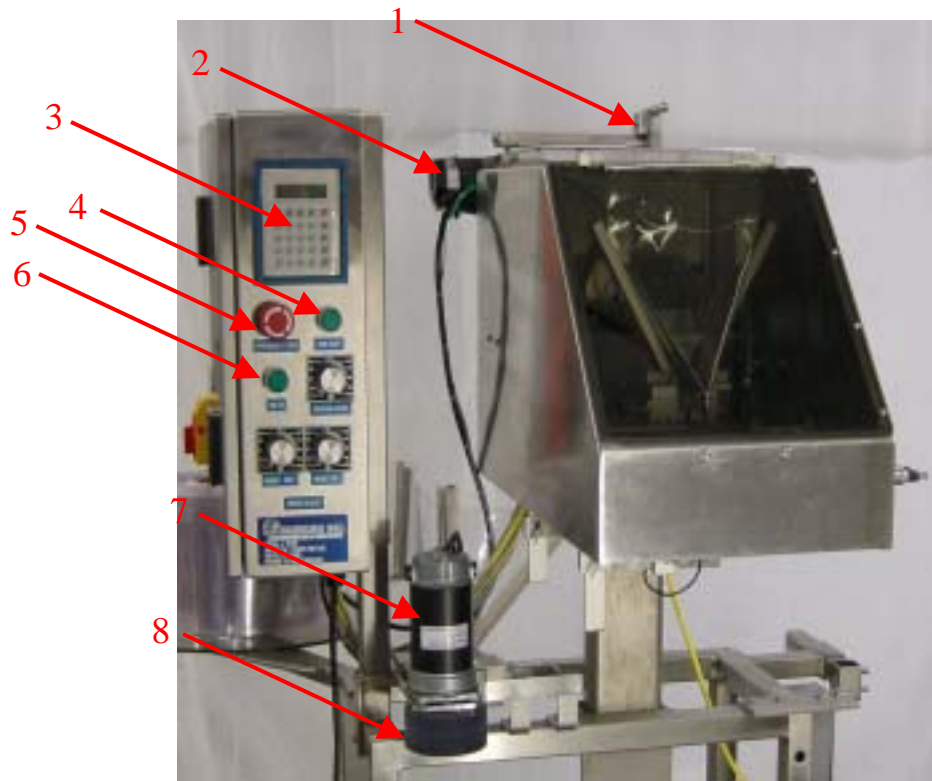
S16: The carriage will get sent across to cut the material. The direction is determined by the state of M11, Depending on M11, either Y7 or Y10 will get set to energize one of the valves which pressurize a particular side of the cutter driver. T44 will start to time out and set S17 when timed out.

S17: Y6 will be reset to send the Vacuum Tube back with the front of the band. T45 will start to time out to allow the clamp to stay clamped to ensure a complete cut. T45 will reset Y5 to open the material clamp and also set S18.

S18: T46 will start to time out. When T46 has reached its preset time Y7, Y10, and Y13, are given reset instructions to release air pressure to the Cutter Driver and turn off the vacuum for the Vacuum Tube. M12 is also reset along with setting S10, which will bring us back the beginning and ready for the next cycle.

During all of this is the signal for the material to be pre-fed to the machine. If T0 is active, with a signal from the Dancer Prox (proximity switch) on X2, M4 will be set. When Y2 input ends, timer T5 begins, T5 will reset M4. When M4 is true, a pulse-train is fed from the Y1 output to the stepper drive causing the pre-feed motor to pull material from the roll and create slack for the machine to have light pull resistance.

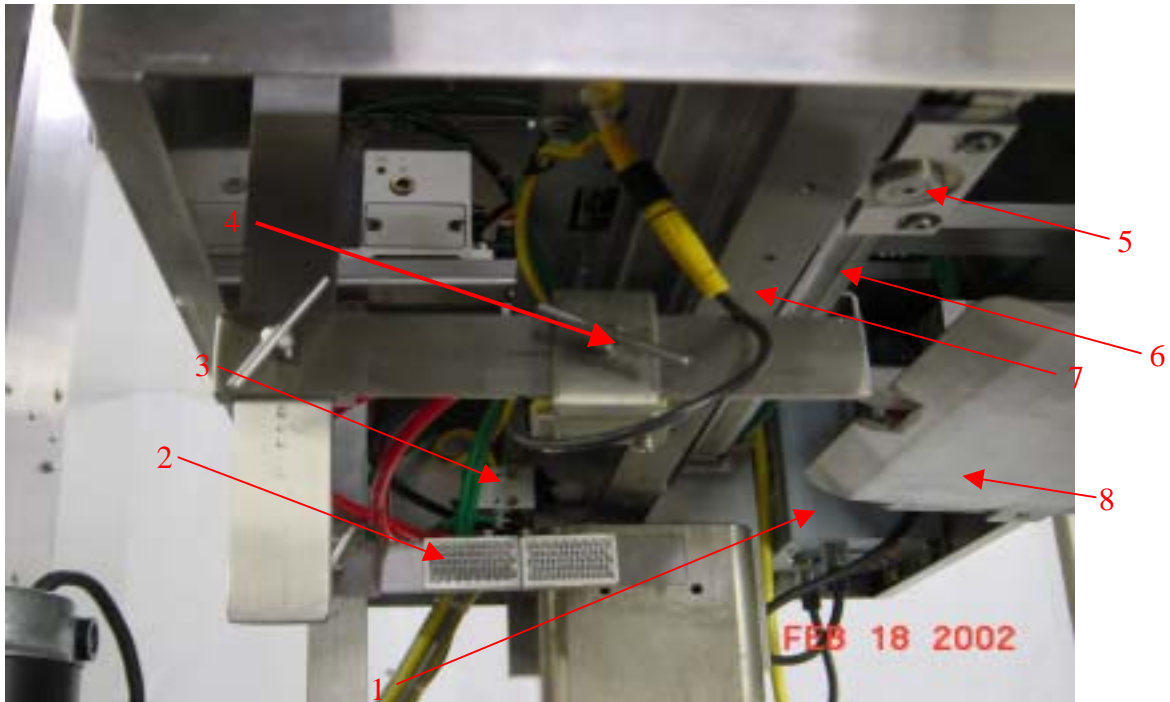
MACHINE COMPONENTS



COMPONENT NAMES

- 1: PERFORATOR
- 2: PREFEED MOTOR
- 3: CONTROL INTERFACE / STATUS DISPLAY
- 4: ONE SHOT CYCLE BUTTON
- 5: E-STOP
- 6: BAND SUPPORT BELTS POWER BUTTON (OPTIONAL)
- 7: SPACING WHEEL MOTOR
- 8: SPACING WHEEL

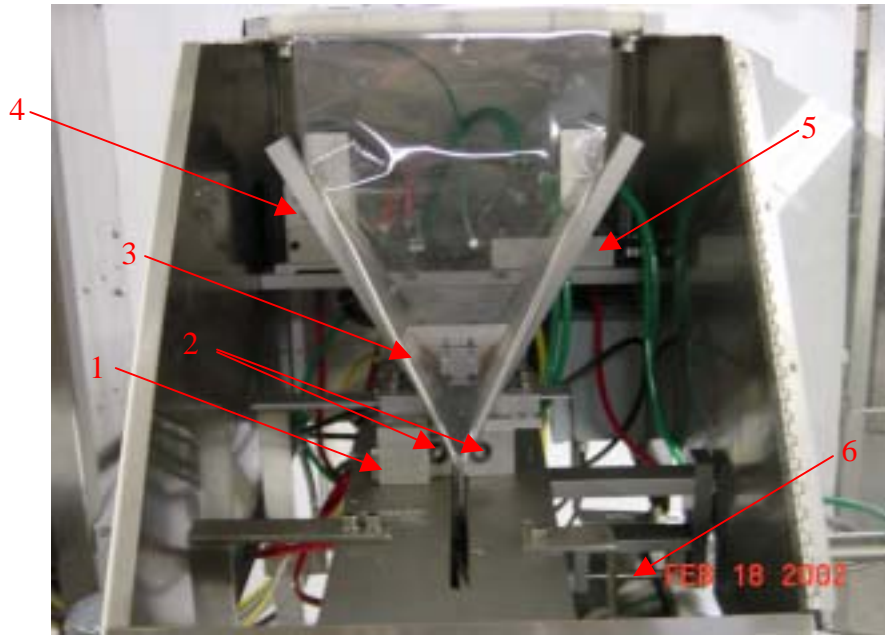
MACHINE COMPONENTS



COMPONENT NAMES

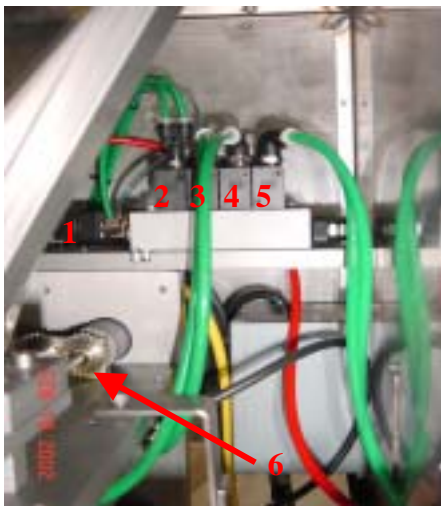
- 1: STATIC ELIMINATOR POWER SUPPLY
- 2: REFLECTORS FOR CYCLE SENSOR
- 3: MATERIAL CLAMPING CYLINDER (1 OF 2)
- 4: ADJUSTMENT SCREW FOR CYCLE SENSOR
- 5: CUTTING BLADE & BLADE REMOVAL SCREW
- 6: CUTTER DRIVER
- 7: VACUUM BAR / MATERIAL CLAMP
- 8: BAND LEVELING SKI

MACHINE COMPONENTS



COMPONENT NAMES

- 1: MATERIAL ROLLER CLAMP HOUSING
- 2: MATERIAL ROLLER BEARING BLOCKS
- 3: TETRAHEDRON / BUTTERFLY
- 4: VACUUM MANIFOLD
- 5: PRESSURIZED AIR MANIFOLD
- 6: VACUUM TUBE (FOR SEPERATING CUT BAND)



- 1: MAIN AIR/DUMP VALVE
- 2: MATERIAL ROLLER CLAMP VALVE
- 3: CUTTER CARRIAGE LEFT VALVE
- 4: CUTTER CARRIAGE RIGHT VALVE
- 5: VACUUM TUBE CYLINDER VALVE
- 6: MATERIAL ROLLER GEARS

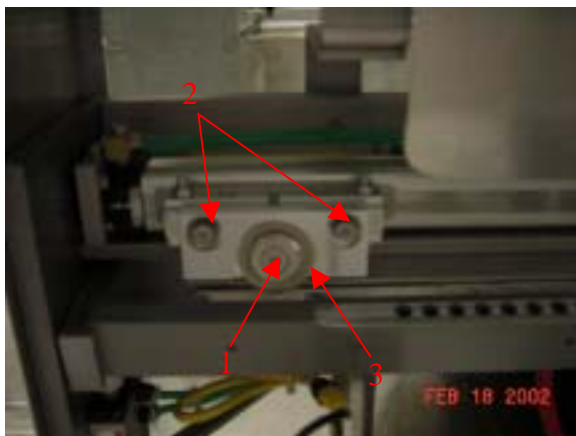
MACHINE COMPONENTS



VACUUM MANIFOLD
FROM FRONT TO BACK,
V1 & V2 ARE FOR THE VACUUM BAR
ON SIZES SMALLER THAN 200MM, V1
& V2 TYPICALLY ARE SET TO SHUT
OFF AT THE SAME TIME AND ARE
USED FOR BOTH SIDES, WITH THE
LARGER SIZES THEY WILL BE
CONFIGURED FOR OUTSIDE AND
INSIDE AND STAGED RELEASE.
V3 IS FOR THE VACUUM TUBE

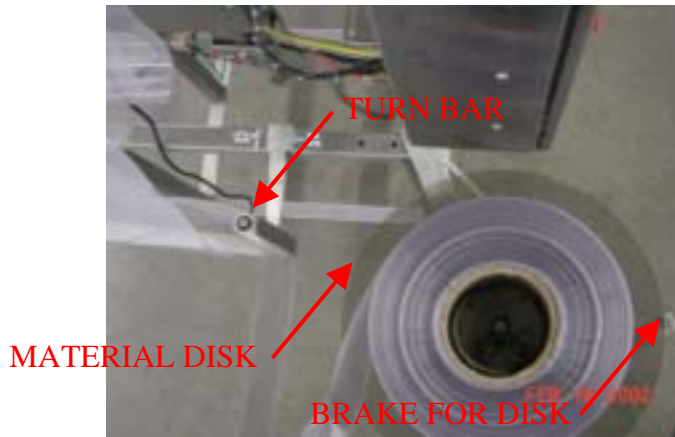


THE VACUUM BAR
THE VACUUM HOSES CAN BE
SLIPPED IN AND OUT OF THE
VACUUM PORTS. THE STARTING
SHOULD BE HAVING THE VACUUM
TUBES ABOUT 2/3s OF THE BAND
WIDTH APART



CUTTER CARRIAGE
1: BLADE REMOVAL SCREW
2: CUTTING ANGLE ADJ SCREW
3: CUTTING BLADE

MACHINE COMPONENTS



IN THIS PICTURE YOU'LL NOTICE THE MATERIAL ROLL SITS ON TOP OF THE DISK SO THAT THE MATERIAL UNWINDS COUNTER-CLOCKWISE. THE LEADER IS FED AROUND THE DANCER/BRAKE MECHANISM AND THEN BACK TO THE TURN BAR. THE MATERIAL DISK IS DIRECTLY BEHIND THE CONTROL BOX.



THE TRANSITION FROM HORIZONTAL TO VERTICAL INVOLVES GOING AROUND A 45DEG ROLLER. NOTICE THE PATH OF THE MATERIAL, AGAIN COUNTER-CLOCKWISE AROUND THIS SET OF ROLLERS. ALSO NOTICE ADJUSTABILITY LEFT AND RIGHT. SINCE THE BOTTOM OF THE MATERIAL DOES NOT CHANGE, THE CENTERLINE WILL CHANGE WHEN CHANGING MATERIAL SIZES. TO KEEP THE MATERIAL IN

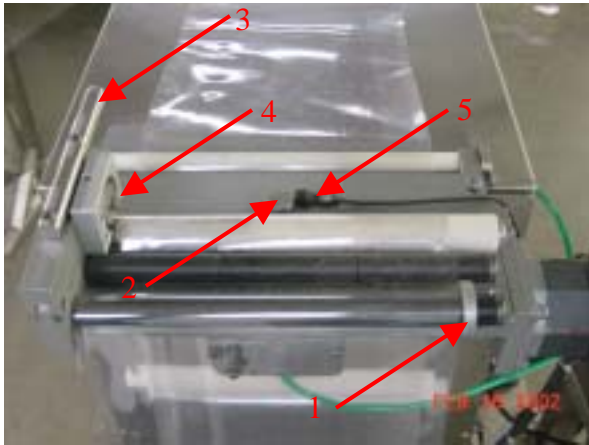
CENTERLINE THE TRANSITION ROLLERS MUST BE MOVED TO COMPENSATE.



FROM THE TRANSITION ROLLERS, THE MATERIAL GOES THROUGH THE PERFORATOR. FROM THE PERF DIRECTLY INTO THE PRE-FEED ROLLERS WHICH PULL THE MATERIAL FROM THE ROLL AND THROUGH THE PERF. THE MATERIAL THEN GOES THROUGH THE DELRIN GUIDE, BACK UP OVER THE ROLLER, ACROSS THE CABINET AND IN. AS THE MATERIAL IS PULLED BY THE

MACHINE, THE LOOP WILL LIFT THE DANCER BAR, ACTIVATING THE PRE-FEED SYSTEM TO DRAW MORE MATERIAL FROM THE ROLL.

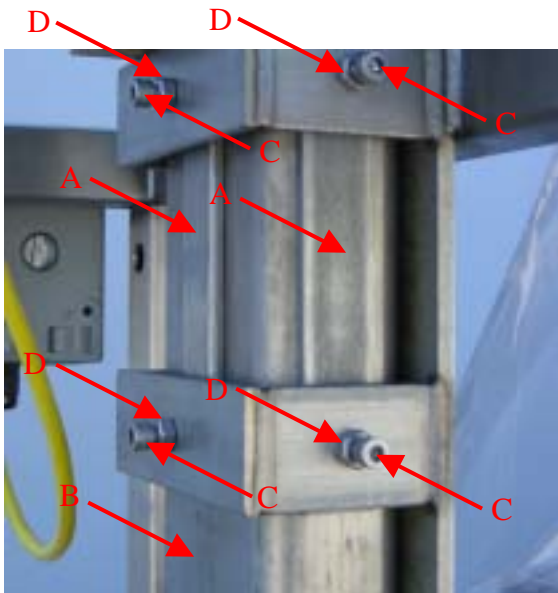
MACHINE COMPONENTS



PRE-FEED / PERFORATOR
1: GUIDE TO KEEP MATERIAL IN LINE
2: SENSING DISK ON TOP OF DANCER
3: HANDLE FOR DISENGAGING BLADE
4: PERF BLADE
5: PROXIMITY SENSOR



CYCLE SENSOR, LOCATED JUST BEFORE THE APPLICATION POINT. THE CYCLE SENSOR GIVES A SIGNAL AFTER THE PASSAGE OF THE CONTAINER INITIATING THE CYCLE. THE SENSOR MUST BE MOVED LEFT OR RIGHT DEPENDING ON THE SPEED OF THE CONVEYOR AND DIAMETER OF THE CLOSURE.



APPLICATOR SUPPORT POST
A: POST GIBS
B: SUPPORT POST
C: GIBS TENSION SCREWS
D: ADJUSTMENT SCREW LOCK NUTS

VACUUM COMPONENTS

VACUUM MANIFOLD

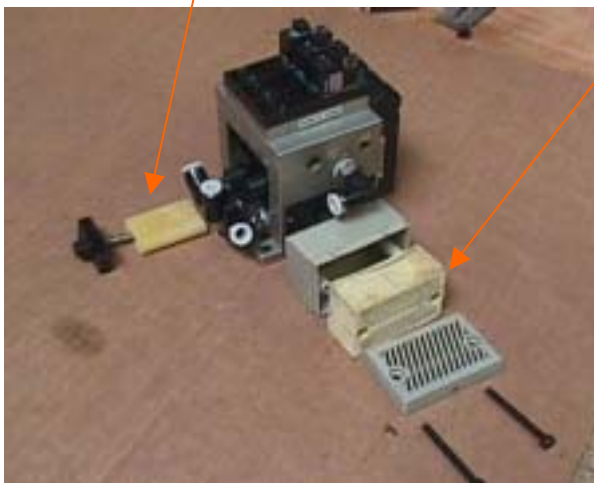


CLEAN INTAKE AIR LINES
FITTINGS FROM ANY EXCESS OF
DEBRIS.

TO CLEAN THE AIR FILTERS
DISASSEMBLE THE VACUUM
MANIFOLD AS SHOWN IN THE
ILLUSTRATION BELOW AND
BLOW AIR TO CLEAN FILTERS.

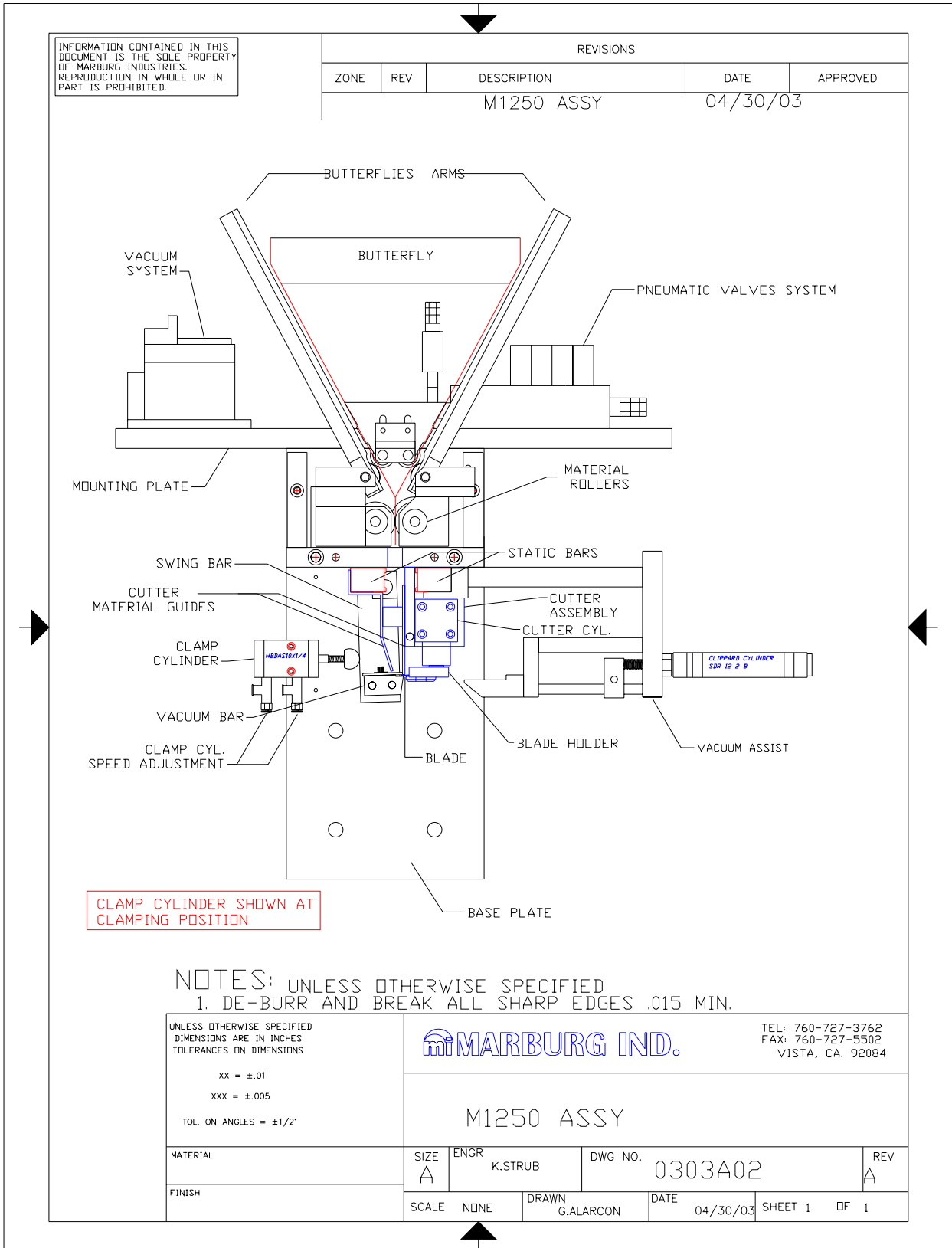
INTAKE VACUUM
AIR LINES FITTINGS

SINGLE VALVE
AIR FILTER

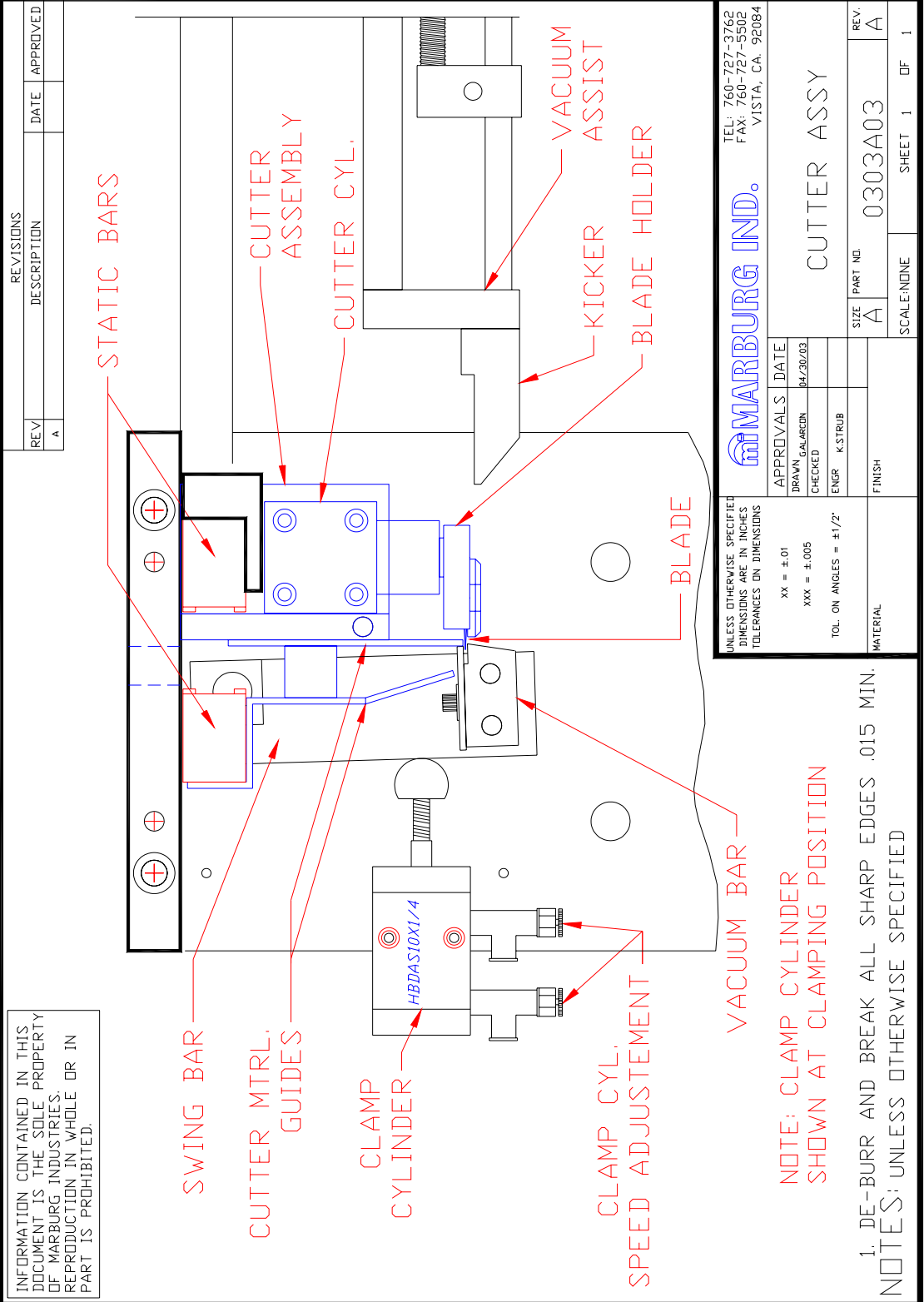


MAIN AIR
FILTER

M1250 ASSEMBLY INTERNALS



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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A			

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DIMENSIONS

xx = ±.01
xxx = ±.005
TOL. ON ANGLES = ±1/2'

MATERIAL

APPROVALS DATE

DRAWN	G. ALARCON	04/20/03
CHECKED		
ENGR	K. STRUB	

FINISH

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CUTTER ASSY

SIZE	PART NO.	REV.
A	0303A03	A

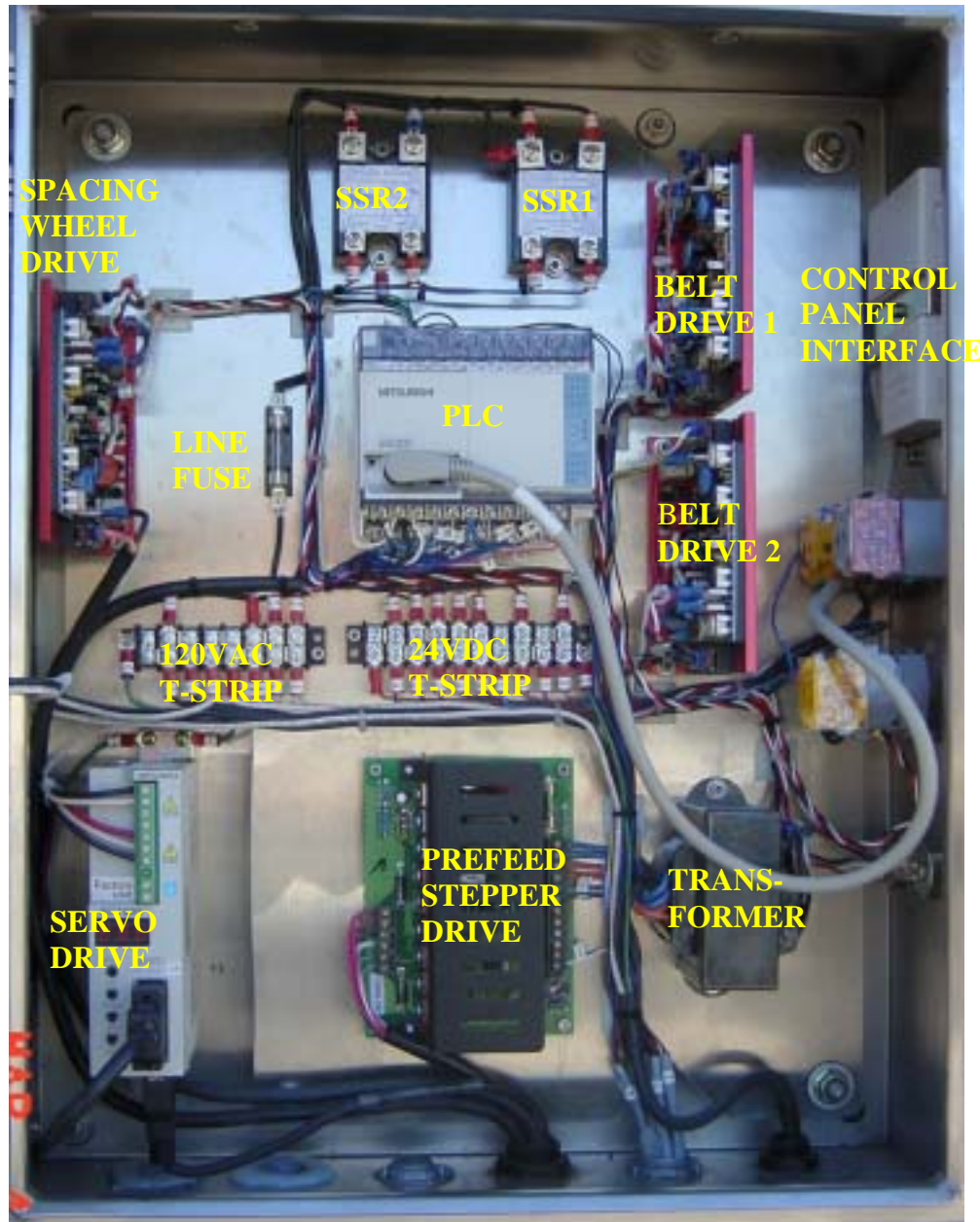
SCALE: NONE SHEET 1 OF 1

NOTE: CLAMP CYLINDER SHOWN AT CLAMPING POSITION

1. DE-BURR AND BREAK ALL SHARP EDGES .015 MIN.
NOTES: UNLESS OTHERWISE SPECIFIED

MACHINE COMPONENTS

ELECTRICAL BOX



CONTROL PANEL INTERFACE OPERATION

AFTER THE GREETING SCREEN PASSES, THE MAIN SCREEN WILL SHOW. THERE WILL BE A SCROLLING DIRECTION MENU. THIS MENU WILL TELL YOU WHICH BUTTONS TO PUSH TO ENABLE THE FUNCTIONS YOU WANT.



THE FIRST SHOWS TO PRESS THE “A” BUTTON TO TOGGLE ON & OFF THE CYCLE FUNCTION.

THE SECOND SHOWS TO PRESS THE “B” BUTTON TO TOGGLE ON & OFF THE FEED FUNCTION (SPACING WHEEL)

THE THIRD SHOWS TO PRESS THE “C” BUTTON TO ACCESS THE SETUP MENU



WHEN YOU ACCESS THE SETUP MENU YOU WILL HAVE A CHOICE OF GOING TO THE PHOTOREGISTRATION ENABLE SCREEN OR THE BAND LENGTH ADJUSTMENT SCREEN. THE PHOTOREGISTRATION IS AN OPTIONAL FUNCTION AND WILL NOT BE ENABLED UNLESS IT WAS SPECIAL ORDERED.

CONTROL PANEL INTERFACE OPERATION



WHEN YOU GET TO THIS SCREEN IT WILL BE FOR THE PURPOSE OF CHANGING THE LENGTH OF THE BAND. FOLLOW THE DIRECTIONS TO CHANGE THE LENGTH.

- 1: PRESS THE “SET” BUTTON (1)
- 2: ENTER AN AMOUNT SUCH AS 37, PRESS THE 3 AND THEN THE 7 BUTTONS
- 3: PRESS THE “ENTER” BUTTON
- 4: PRESS THE “C” BUTTON TO EXIT THIS SCREEN AND RETURN TO THE MAIN MENU

NOTE: THE CYCLE AND FEED FUNCTIONS CANNOT BE TURNED ON AND OFF UNLESS YOU ARE IN THE MAIN MENU SCREEN

MACHINE SET-UP



ALONG WITH YOUR MACHINE YOU WILL GET SOME SPACERS, STUDS, NUTS AND WASHERS. THESE ARE FOR SECURING THE MACHINE TO THE CONVEYOR SO THE ADJUSTMENTS STAY PUT WHEN YOU GET THE MACHINE SET.



DRILL 2 HOLES IN THE CONVEYOR 22 ½" APART AND 2 ½ INCHES DOWN FROM THE TOP OF THE SLATS. THE HOLES SHOULD BE DRILLED AND TAPPED ½-13 TO ACCOMMODATE THE STUDS SUPPLIED. SCREW THE STUDS INTO THE TAPPED HOLES AND SECURE IN PLACE WITH A NUT. NEXT, SLIDE THE SPACERS OVER THE STUDS AND SLIDE THE MACHINE INTO PLACE. THE HOLES IN THE

MACHINE FRAME SHOULD SLIDE OVER THE STUDS. SECURE THE MACHINE TO THE CONVEYOR BY TIGHTENING NUTS ON THE END OF THE STUDS.



ATTACH THE PHOTO-EYE BRACKET TO THE OUTSIDE OF THE CONVEYOR IF PROVIDED WITH CONVEYOR MOUNT. SOME OF THE MACHINES ARE PROVIDED WITH MOUNTING OFF OF THE APPLICATOR HEAD. IF SO MOUNTED MOVE TO NEXT STEP.

NOTE: SHOWN WITHOUT MACHINE



CUT AWAY THE PORTION OF THE GUIDE-RAIL WHICH INTERFERES WITH THE OPERATION OF THE SPACING WHEEL. THE GUIDE RAILS SHOULD ONLY COME TO THE WHEEL AND AGAIN AFTER. AND THE CONCAVE GUIDE NEEDS TO BE MOUNTED DIRECTLY OPPOSITE THE WHEEL. THE EXTRA ROLING TIME MEANS BETTER CONTROL

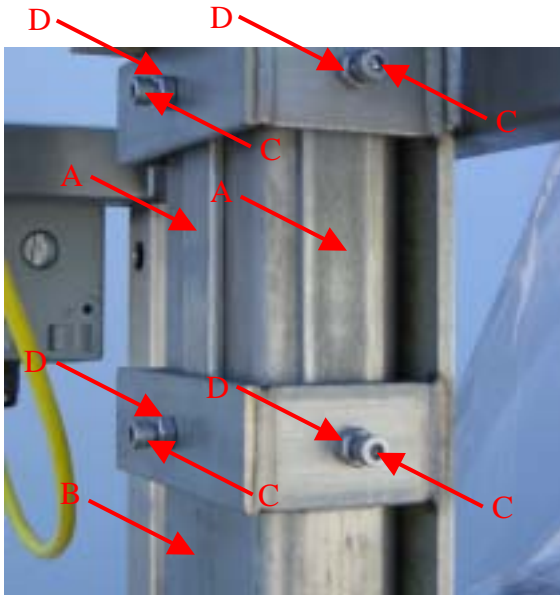


ATTACH THE MATERIAL DISK HOLDER TO THE REAR OF THE FRAME. THERE ARE 2 SCREWS SUPPLIED, THEY GO FROM THE BOTTOM UP THROUGH THE FRAME INTO THE EXTENTION BRACKET. ATTACH THE SPRING AND SET THE DISK ON THE POST. THE SPRING WILL GET THE ROLL IN MOTION WHEN MATERIAL IS PULLED AND ACTIVATE THE BRAKE WHEN SUFFICIENT MATERIAL HAS BEEN

UNWOUND.



ATTACH THE AIR TO THE COELESCING FILTER AND POWER TO THE CONTROL PANEL. THE AIR SHOULD BE 80PSIG MINIMUM AND THE POWER SHOULD BE 120VAC. A STANDARD OUTLET WILL BE MORE THAN SUFFICIENT.



HANDLE UNDER THE SUPPORT POST.

YOU ARE NOW READY TO ADJUST THE GIBS (A) ON THE SUPPORT POST (B). LOOSEN THE LOCK NUTS (D) AND LOOSEN THE SCREWS (C). WIGGLE THE HEAD WITH ONE HAND AND TIGHTEN THE SCREWS WITH THE OTHER HAND. DO NOT USE A WRENCH FOR THIS. TIGHTEN THE SCREWS UNTIL THE HEAD WILL NOT WIGGLE ANY MORE. NOW TIGHTEN THE NUTS WITH A 7/16" WRENCH WHILE HOLDING THE SCREW WITH A WRENCH TO KEEP IT FROM OVERTIGHTENING. THE GIBS ARE NOW SET TO RAISE AND LOWER THE HEAD JUST BY TURNING THE



THIS WILL BE THE STARTING POINT.

FEED THE MATERIAL THROUGH THE MACHINE AS SHOWN IN THE EARLIER SECTION. FIND THE BAND LENGTH YOU WANT TO RUN AND CYCLE A FEW BANDS OUT USING THE SINGLE CYCLE BUTTON ON THE CONTROL BOX. NOW SET THE HEIGHT USING THE HANDLE UNDER THE POST. ADJUST UNTIL THE PART OF THE BAND HELD BY THE VACUUM BAR IS ABOVE THE TOP OF THE CONTAINER APPROX. 1/2".



SET THE PHOTO-EYE SO IT IS AT THE HEIGHT WHERE THE BEAM IS BROKEN BY THE CLOSURE. THE LEFT AND RIGHT ADJUSTMENT IS DETERMINED BY SPEED OF THE CONVEYOR. YOU WILL HAVE TRY TO APPLY BANDS TO DETERMINE THE PLACEMENT OF THE PHOTO-EYE FOR PROPER APPLICATION TIMING.



THE VACUUM TUBE HAS BEEN SET AT THE FACTORY AND SHOULD NOT NEED TO BE ADJUSTED HOWEVER THE HEIGHT CAN BE ADJUSTED. UNDER NO CIRCUMSTANCES SHOULD THE HEIGHT BE SET THAT THE TUBE CAN COLLIDE WITH THE CUTTER CARRIAGE. BARRING THAT THE TUBE SHOULD BE SET AS HIGH AS POSSIBLE WITHOUT CREATING THIS SITUATION. IT IS ALSO

DESIRABLE TO BE JUST SLIGHTLY OFF CENTER TO AVOID THE ORIGINAL CREASE. A BETTER VACUUM SEAL CAN BE CREATED THIS WAY.



THIS IS APPROX. WHAT YOU ARE LOOKING FOR WHEN YOU SET THE MACHINE TO THE CONTAINER. NOTICE HOW THE CONTAINER IS GOING INTO THE BAND. THIS IS ABOUT WHERE YOU WANT THE VACUUM TO RELEASE THE BAND ONTO THE CONTAINER. THE CONTAINER WILL CARRY THE BAND AWAY AND AS THE CONTAINER PASSES UNDER THE

SKI THE BAND WILL GET THE REAR PORTION PUSHED OVER AND DOWN THE BACKSIDE OF THE CONTAINER. IF THE CONVEYOR IS GOING TOO SLOW, THIS IS WHERE YOU WILL NOTICE IT. WHEN YOU RELEASE THE CUT BAND THE NEW BAND WILL FEED ON TOP OF THE OLD BAND AND CONTAINER. IF THIS IS HAPPENING YOU WILL NEED TO ADJUST THE TIMER WHICH DELAYS THE FEED PROCESS. THE NEXT SECTION WILL DESCRIBE IN DETAIL WHICH TIMERS DO WHAT. YOU WILL NEED TO REFER TO THE CONTROL PANEL INTERFACE SECTION TO LEARN HOW TO ACCESS AND CHANGE TIMER VALUES.

TIMER SETTINGS

IN SOME CASES IT MAY BE BENEFICIAL TO CHANGE THE FACTORY TIMER SETTINGS. AFTER THE CUTTER DRIVER HAS WORN IN THE DRIVER MAY HAVE MINUTELY CHANGED SPEED SLOWER OR FASTER. IN EITHER CASE IT MAY CAUSE THE MATERIAL TO NOT BE CUT ON THE LEADING EDGE OR TRAILING EDGE. ALSO IF YOUR CONVEYOR IS GOING AT A SPEED WHICH IS NOT AVERAGE YOU MAY COMPENSATE SOMEWHAT WITH TIMER CHANGES.



TO ACCESS THE TIMERS YOU MUST FIRST CHANGE THE INTERFACE KEY PAD TO MONITOR MODE. IT IS PRESENTLY IN SCREEN MODE. FOR THE PURPOSES OF THIS WE WILL CHANGE THE MODE TO "ALL" SO WE CAN FLIP/FLOP BACK AND FORTH.

1: HOLD THE "ENTER" KEY WHEN POWERING-UP THE MACHINE.

2: SELECT "MODE SETTINGS"

3: SELECT "ALL" AND "ENTER"

4: POWER-DOWN MACHINE

NEXT WHEN YOU POWER-UP THE MACHINE YOU CAN CHANGE THE SCREEN MODE BY PRESSING THE "F" KEY. WHEN THE MONITOR MODE IS SELECTED PRESS THE "TIMER" KEY AND THEN THE # OF THE TIMER YOU WISH TO ACCESS AND THEN "ENTER" THE TIMER WILL APPEAR IN THE SCREEN. YOU CAN NOW CHANGE THE VALUE BY PRESSING THE "SET" KEY ENTERING A NEW VALUE AND PRESSING THE "ENTER" KEY.

NOTE: IT IS BEST TO WRITE DOWN THE ORIGINAL SETTINGS BEFORE MAKING CHANGES AS THE ORIGINAL VALUE CANNOT BE RECALLED AS A DEFAULT. ALTHOUGH THE ORIGINAL VALUE CAN BE REENTERED. AFTER MAKING CHANGES PRESS THE "F" KEY AGAIN TO REVERT BACK TO THE SCREEN MODE.

NOTE: YOU CAN NOT TURN ON AND OFF THE MACHINE FUNCTIONS FROM THE MONITOR MODE

BEFORE ADJUSTING THE TIMERS READ THE "TIMERS AND FUNCTIONS" LIST TO HAVE AN UNDERSTANDING OF THE TIMERS.

NOTE: IT IS NOT RECOMMENDED TO LEAVE THE INTERFACE PAD IN THE "ALL" MODE AS THE SETTINGS CAN ACCIDENTLY GET CHANGED. WHEN ANY ADJUSTMENTS ARE MADE AND ACCEPTABLE RESULTS ARE ACHIEVED RESET THE INTERFACE PAD TO THE "SCREEN" MODE ONLY OPTION.

TIMER

FUNCTION

- T40** T40 is responsible for staging the release of the outside and inside of the vacuum bar if a very large band is being applied, usually over 200mm lay flat. In which case, the vacuum ejectors need to be configured for this. Any other time T40 should be set to “K0” so both sides of the vacuum bar the vacuum release simultaneously.
- T41** T41 will create a delay from the time the vacuum is turned off to release the cut band till the start of feeding a new band. This is necessary since the old band is directly under the area where the new band will be fed. Feeding the new band too early can knock the applied band out of position so it will not wipe on correctly. If your conveyor is going unusually slow you may need to increase this timer.
- T42** T42 provides a delay for the servo motor to “settle in” to home position.
- T43** T43 is the amount of time needed to clamp the material before the cutter carriage is sent across the material to sever the band. If T43 is too short the cutter will travel before the material is clamped and the leading edge of the material will not get cut. If T43 is set too long it will just waste time and the overall cycle time will increase. No harm unless you are operating near capacity, in which case you will want the optimum settings.
- T44** T44 is the amount of time before the vacuum tube starts to retract pulling away the front of the band from the vacuum bar. If T44 is set too short the tube will just break away from the band accomplishing nothing. However if T44 is set too long the tube will hold the front of the band from opening again wasting time.
- T45** T45 is the delay that follows T44 allowing the material clamp to open. T45 added to T44 should be the total amount of time it takes the cutter carriage to traverse the material severing off the individual band. If the sum of these 2 timers is too short the trailing edge of the cut will not finish and the band will not be completely severed since the clamp will open allowing the material to move away from the cutting edge.
- T46** T46 is just a short amount of time allowing the machine to settle into a ready position for the new cycle to begin. If T46 is set too long the next container will pass without a cycle, however if T46 is set too short a new cycle can be started before the machine is ready.

TROUBLE SHOOTING

PROBLEM: MACHINE WILL NOT TURN ON

POSSIBLE CAUSES:

1. MACHINE NOT PLUGGED IN
2. MAIN DISCONNECT TURNED OFF
3. E-STOP PRESSED
4. LINE FUSE BLOWN
5. 24VDC FUSE BLOWN
6. NO AIR PRESSURE (APPEARS MACHINE IS OFF)
7. DEFECTIVE ELECTRICAL COMPONENTS
8. FUSE IN PLC BLOWN
9. PLC IN STOP POSITION
10. INTERFACE PANEL PLUG LOOSE

CHECK:

1. INCOMING POWER
2. INCOMING AIR
3. DISCONNECT IN ON POSITION
4. E-STOP IN ON POSITION
5. FUSES
6. PLUG IN ALL THE WAY (BOTH ENDS)
7. STEPPER TRANSFORMER STILL GOOD

PROBLEM: SPACING WHEEL WILL NOT TURN

POSSIBLE CAUSES:

1. GUIDE RAIL CAUSING PHYSICAL RESISTENCE
2. FUSE BLOWN ON DC DRIVE
3. BRUSHES WORN DOWN
4. MOTOR BAD

CHECK:

1. OBSTRUCTIONS TO WHEEL
2. FUSES ON DRIVE
3. BRUSHES
4. GEAR BOX BROKEN OR WORN ON FRONT OF MOTOR

PROBLEM: PRE-FEED WILL NOT PULL MATERIAL

POSSIBLE CAUSES:

1. FUSE BLOWN ON STEPPER DRIVE
2. ROLLERS NOT ENGAGING PROPERLY
3. MATERIAL PATH CROOKED AND CAUSING JAM
4. SPRING SET INCORRECTLY UNDER DISK
5. PROX NOT SET CLOSE ENOUGH TO METAL DISK
6. PROX DEFECTIVE
7. DRIVE BELT BROKEN
8. MOTOR OVER HEATED AND LOSS OF TORQUE
9. TAPE BUILD-UP ON ROLLERS
10. EXTREEMLY DIRTY ROLLERS

CHECK:

1. CONTINUITY OF FUSES ON STEPPER DRIVE
2. CLAMPING MODULE WORKING PROPERLY
3. CHECK IF MATERIAL IS JAMMED INTO SIDE OF ROLLER
4. CHECK TENSION OF MATERIAL FROM DISK
5. CHECK IF LIGHT APPEARS TO FUNCTION PROPERLY ON PROX
6. CHECK PROX WITH METER
7. INSPECT DRIVE BELT
8. CHECK TORQUE SETTING ON DRIVE
9. CHECK IF ROLLERS ARE FREE OF DEBRIS

PROBLEM: INCONSISTENT BAND LENGTHS

POSSIBLE CAUSES:

1. PRE-FEED NOT DOING ITS JOB
2. INCORRECT MATERIAL SIZE
3. INCORRECT TETRAHEDRON FOR MATERIAL
4. GUIDE ARMS SET TOO TIGHT ON TETRAHEDRON
5. CLAMPING MODULE NOT PRESSING WITH FULL FORCE
6. DEBRIS BUILD-UP ON ROLLERS
7. POOR QUALITY MATERIAL WITH TOO MUCH VARIATION

CHECK:

1. PRE-FEED WORKING
2. MEASURE MATERIAL TO SEE IF IT IS SAME AS LABEL
3. CHECK TETRAHEDRON TO SEE IF STAMPED FOR SIZE BEING USED
4. ADJUST GUIDE ARMS FOR LESS RESISTANCE
5. CHECK AIR PRESSURE OR RESTRICTIVE MOVEMENT OF ROLLER
6. ROLLERS SHOULD BE CLEAN
7. MATERIAL OUT OF SPECIFICATION OF TOO MUCH VARRIANCE

MATERIAL WILL NOT FEED

POSSIBLE CAUSES:

1. SERVO DRIVE IN ERROR MODE
2. COUPLER BETWEEN MOTOR AND FEED ROLLERS BROKEN
3. SERVO MOTOR INOPERATIVE
4. LOOSE CONNECTION BETWEEN PLC AND SERVO DRIVE

CHECK:

1. INSPECT DISPLAY ON DRIVE IN ELECT CABINET, SHOULD READ "CL"
2. INSPECT COUPLER INTEGRITY
3. CHECK IF DRIVE HAS CONTROL OF MOTOR, TRY TO MOVE ROLLERS OUT OF POSITION BY HAND WHEN POWER IS ON AND CYCLE IS ENGAGED.

NOTE: DISCONNECT PHOTO-EYE TO PREVENT POSSIBLE CYCLE.

4. INSPECT TO SEE THE Y0 LED LIGHTS DURING THE TIME WHEN MATERIAL SHOULD BE FED. BECAUSE THE SIGNAL IS A VERY FAST PULSE TRAIN TO THE SERVO DRIVE THE LIGHT WILL NOT LOOK NICE AND BRIGHT LIKE THE OTHERS WHEN LIT BUT MORE OF A PULSED LOOK.

MATERIAL NOT CUTTING PROPERLY

POSSIBLE CAUSES:

1. BLADE EDGE DULL OR BROKEN
2. CARRIAGE DRIVER HAS VARIATION
3. CLAMP OUT OF TIMING
4. CLAMP CYLINDERS SPEED OUT OF ADJUSTMENT
5. BLADE HEIGHT INCORRECT
6. MATERIAL TOO BRITTLE

CHECK:

1. INSPECT CONDITION OF BLADE, ROTATE OR REPLACE BLADE
2. CONFIRM WHERE BAND IS NOT GETTING CUT, BEGINNING OR END OF BAND, IF IT IS ALWAYS THE SAME THEN A TIMING CHANGE MAY BE NEEDED, IF INCONSISTENT THEN DRIVER MAY BE WORN (DRIVER TAKES MANY CYCLES BEFORE THIS IS AN ISSUE)
3. IF EITHER THE BEGINNING OR THE END IS CONSISTENTLY BEING NOT CUT THEN A TIMER ADJUSTMENT HAS TO BE MADE. IF THE BEGINNING IS NOT BEING CUT THEN THE CLAMP NEEDS A LONGER TIME TO CLAMP (INCREASE T34) BEFORE SENDING THE CUTTER CARRIAGE ACROSS. SHOULD THE END OF THE BAND BE LEFT WITHOUT BEING CUT THE CLAMP NEEDS TO STAY CLAMPED LONGER (INCREASE T36).
4. INSPECT FLOW CONTROL ADJUSTMENTS ON CLAMP CYLINDERS

5. INSPECT CUTTER CARRIAGE FOR LACK OF GUIDANCE AND POSSIBLY WORN OUT TRACK WHICH CAN CAUSE BLADE TO WAIVER UP AND DOWN GOING ACROSS
6. SOME MATERIALS ARE FORMULATED SOO BRITTLE THAT THEY CANNOT BE CUT AS FAST AS THE CARRIAGE MOVES ACROSS THE MATERIAL, INSTALL FLOW CONTROLS ON DRIVER CARRIAGE

BANDS NOT GOING ONTO CONTAINER

POSSIBLE CAUSES:

1. TIMING SET INCORRECTLY
2. MACHINE HEIGHT OUT OF ADJUSTMENT
3. VACUUM TUBES SET TOO FAR APART OR CLOSE TOGETHER
4. MATERIAL FEEDING ON CUT BAND
5. VACUUM TUBE HITTING BAND
6. SKI IN WRONG PLACE
7. VACUUM EJECTOR FILTERS CLOGGED
8. AIR PRESSURE CAUSING VARIATION IN MACHINE SPEED
9. MATERIAL INCORRECT SIZE
10. MATERIAL OUT OF SPECIFICATION
11. MATERIAL TOO THIN
12. TETRAHEDRON WRONG SIZE
13. INCONSISTENT BAND LENGTHS
14. CONTAINER NOT IN CENTER LINE OF MACHINE
15. NOT ENOUGH SPACE BETWEEN CONTAINERS
16. CONVEYOR SPEED SET TOO SLOW

CHECK:

1. TRY MOVING THE CYCLE SENSOR TO THE LEFT OR RIGHT TO EXPERIMENT WITH RELEASING THE BAND AT DIFFERENT TIMES
2. ALSO TRY DIFFERENT HEIGHTS, THE AMOUNT OF THE LID WHICH GOES INTO THE BAND WILL HAVE A DIRECT IMPACT ON HOW THE SKI WIPES THE BACK DOWN FOR FULL ENGAGEMENT
3. MAKE VISUAL INSPECTION HOW THE BAND IS HANGING FROM THE VACUUM BAR. SOME MATERIALS ARE MORE RIGID THAN OTHERS AND WILL HANG MORE OR LESS THAN THE PREVIOUS ROLL WITH NO CHANGES TO THE MACHINE. THIS WILL HAVE AN EFFECT ON APPLICATION.
4. MAKE A VISUAL INSPECTION THAT THE BAND IS LEAVING THE APPLICATION AREA WITHOUT BEING DISTURBED BY MATERIAL BEING FED OUT TO CREATE THE NEXT BAND
5. MAKE A VISUAL INSPECTION THE BAND IS LEAVING THE APPLICATION AREA WITHOUT BEING DISTURBED BY THE VACUUM TUBE
6. CHECK SKI IS NOT PREVENTING THE BAND FROM GOING ON PROPERLY

7. INSPECT VACUUM EJECTOR FILTERS SINCE CLOGGED FILTERS CAN CHANGE RELEASE TIME AND CAUSE ERRATIC RELEASE
8. CONFIRM AIR PRESSURE IS AT 80PSIG
9. CONFIRM MATERIAL IS CORRECT SIZE
10. CONFIRM MATERIAL IS PHYSICALLY THE SAME SIZE AS THE LABEL STATES
11. MATERIAL MAY BE TOO THIN FOR APPLICATION, SOME CLOSURES HAVE VERY SHARP EDGES WHICH NEEDS TO BE OVERCOME WITH RIGID MATERIAL, THE TARGET APPLICATION IS RESPONSIBLE FOR DETERMINING THE MATERIAL THICKNESS
12. CONFIRM THE TETRAHEDRON IS THE RIGHT SIZE FOR THE MATERIAL. USING THE WRONG SIZE CAN CAUSE EXCESS PULL AND WAVERING OF THE MATERIAL WHICH WILL CAUSE THE MATERIAL TO NOT HANG CONSISTENT
13. CONFIRM THE BAND LENGTHS ARE CONSISTENT LENGTHS, INCONSISTENT LENGTHS WILL CAUSE SOME BANDS TO NOT GO ON
14. CONFIRM CONTAINER IS TRAVELING DOWN THE CONVEYOR IN THE CENTERLINE OF THE APPLICATION POINT
15. CHECK TO SEE THAT THE CONVEYOR IS SET FAST ENOUGH TO HAVE SUFFICIENT SPACE BETWEEN THE CONTAINERS
16. CONFIRM THE CONVEYOR IS SET FAST ENOUGH TO REMOVE THE CONTAINER AT A SUFFICIENT SPEED

PERIODIC MAINTENANCE

DAILY

1. INSPECT BLADE INTEGRITY
2. INSPECT WATER COELESING FILTER BOWL
3. WIPE DIRT AND DEPRIS FROM CYCLE PHOTO-EYE AND REFLECTOR
4. VERIFY PERFORATION INTEGRITY

MONTHLY

1. DAILY INSPECTION
2. ADD GREASE TO MATERIAL FEED ROLLER GEARS
3. CLEAN DEBRIS FROM ROLLERS
4. INSPECT TIMING BELT ON PREFEED DRIVE
5. CLEAN FILTERS IN VACUUM EJECTORS
6. VISUAL INSPECTION OF SPACING WHEEL

6 MONTHS

1. DAILY INSPECTION
2. WEEKLY INSPECTION
3. INSPECT STATIC ELIMINATOR BAR PRONGS (MUST REMOVE STATIC BARS TO INSPECT)
4. CHECK FOR DIRT ACCUMULATION IN CONTROL BOX AND BLOW CLEAN IF NECESSARY (USE CARE NOT TO CREATE DAMAGE)
5. INSPECT INTEGRITY OF END BUSHING IN SPACING WHEEL MOTOR (CHECK FOR PLAY IN SPACING WHEEL IF BUSHING IS WORN)
6. VISUAL INSPECTION OF PHYSICAL DAMAGE TO WIRES OR CONNECTORS
7. CHECK FOR EXCESSIVE MOVEMENT OF CARRIAGE

ANNUALY

1. DAILY INSPECTION
2. MONTHLY INSPECTION
3. 6 MONTH INSPECTION
4. CHECK FOR PROPER OPERATION OF AIR VALVES

PARTS LIST

PART#	MANUFACTURER	PART NAME / DESCRIPTION
NS3EV493-IP65	BACO	MAIN DISCONNECT
704-9001	EAO	JOG PUSH BUTTON
704-9104	EAO	E-STOP
FX1s30MT	mitsubishi	PLC
FX-10DU-E	mitsubishi	CONTROL PAD INTERFACE
RSSDN-10A	IDEC	SOLID STATE RELAY (2)
LINE FUSE 10AMP	BUSSMAN	740-0201
DRIVER AC FUSE 5AMP	LITTLEFUSE (DIGI-KEY)	F652-ND
DRIVER DC FUSE 1AMP	LITTLEFUSE (DIGI-KEY)	F645-ND
MR-C20A1-UE	mitsubishi	SERVO DRIVE
HC-PQ23-NK-UE	mitsubishi	SERVO MOTOR
DS4417-14MM-8	HELICAL	FEED ROLLER COUPLER
KB-MM-225D	KB ELECTRONICS	90VDC SPACING WHEEL DRIVE
V05159AD80	VON WEISE	SPACING WHEEL MOTOR
BLU-A161-4-40DURO	MARBURG	SPACING WHEEL TIRE
4WT40	DAYTON	CABINET COOLING FAN
AA3344B	ANAHEINM AUTO	TRANSFORMER
TM3PS1-XT1	MARBURG	PRE-FEED DRIVE
M22NRXD-LNN-N3-00	PAC-SCI	PRE-FEED MOTOR
UZP-151	AROMAT	PRE-FEED PROX
A6A3-10DF03708	STOCK DRIVE	MOTOR PULLEY
A6A3-14DF03708	STOCK DRIVE	ROLLER PULLEY
A6G3-025037	STOCK DRIVE	DRIVE BELT
Q23SN6LPQ	BANNER	CYCLE SENSOR
4000464	SIMCO	ANTI-STATIC POWER SUPPLY
4000884C	SIMCO	ANTI-STATIC BARS
EV-25-4	FESTO	FEED CLAMPING MODULE (2)
NVZ5123-5DZ-01T	SMC	AIR VALVES (5)
NZM103HT-J5LZ	SMC	VACUUM EJECTORS (3)
16-2020/20X12-BM	ORIGA	CUTTER DRIVER
SDR-12-2B	CLIPPARD	VACUUM TUBE CYLINDER
HBADS 10x1/4	HUMPHREY	CUTTER CLAMP CYLINDER (2)
CB-1DIA	MARBURG	CUTTING BLADE
PB-1DIA-60-40	MARBURG	PERF BLADE

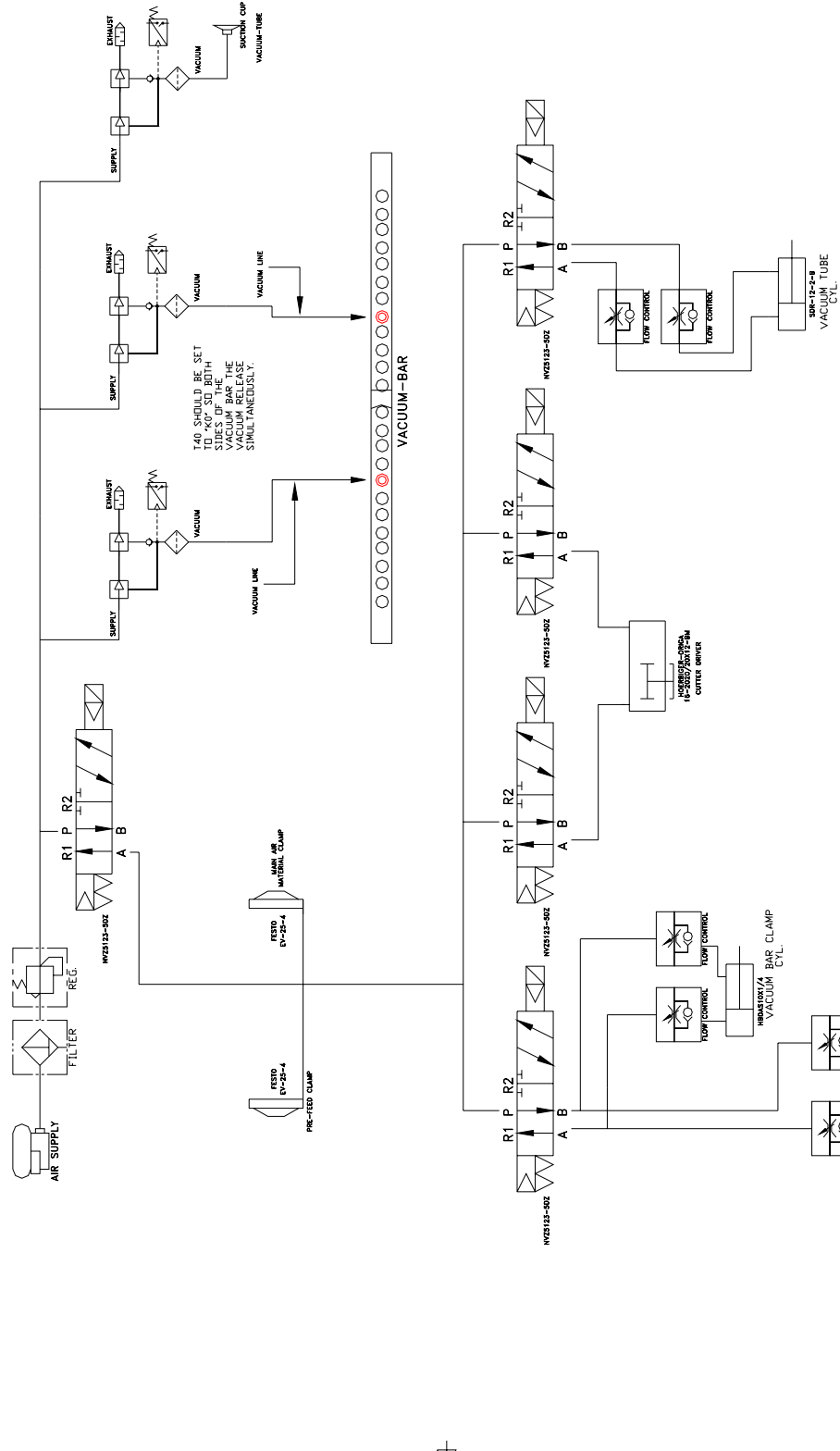
RECOMMENDED SPARES

PART NAME	PART #	STOCK
CUTTING BLADE	CB-1DIA	10
PERF BLADE	PB-1DIA-60-40	4
SPACING WHEEL TIRE	BLU-A161-4-40DURO	1
CUTTER DRIVER	16-2020/20X12-BM	1
CYCLE SENSOR	Q23SN6LPQ	1
PRE-FEED PROX	U ZP-151	1
LINE FUSE 10AMP	740-0201	2
DRIVER AC FUSE 5AMP	F652-ND	2
DRIVER DC FUSE 1AMP	F645-ND	2
AIRVALVE	NVZ5123-5DZ-01T	1
EV-25-4	FESTO	1

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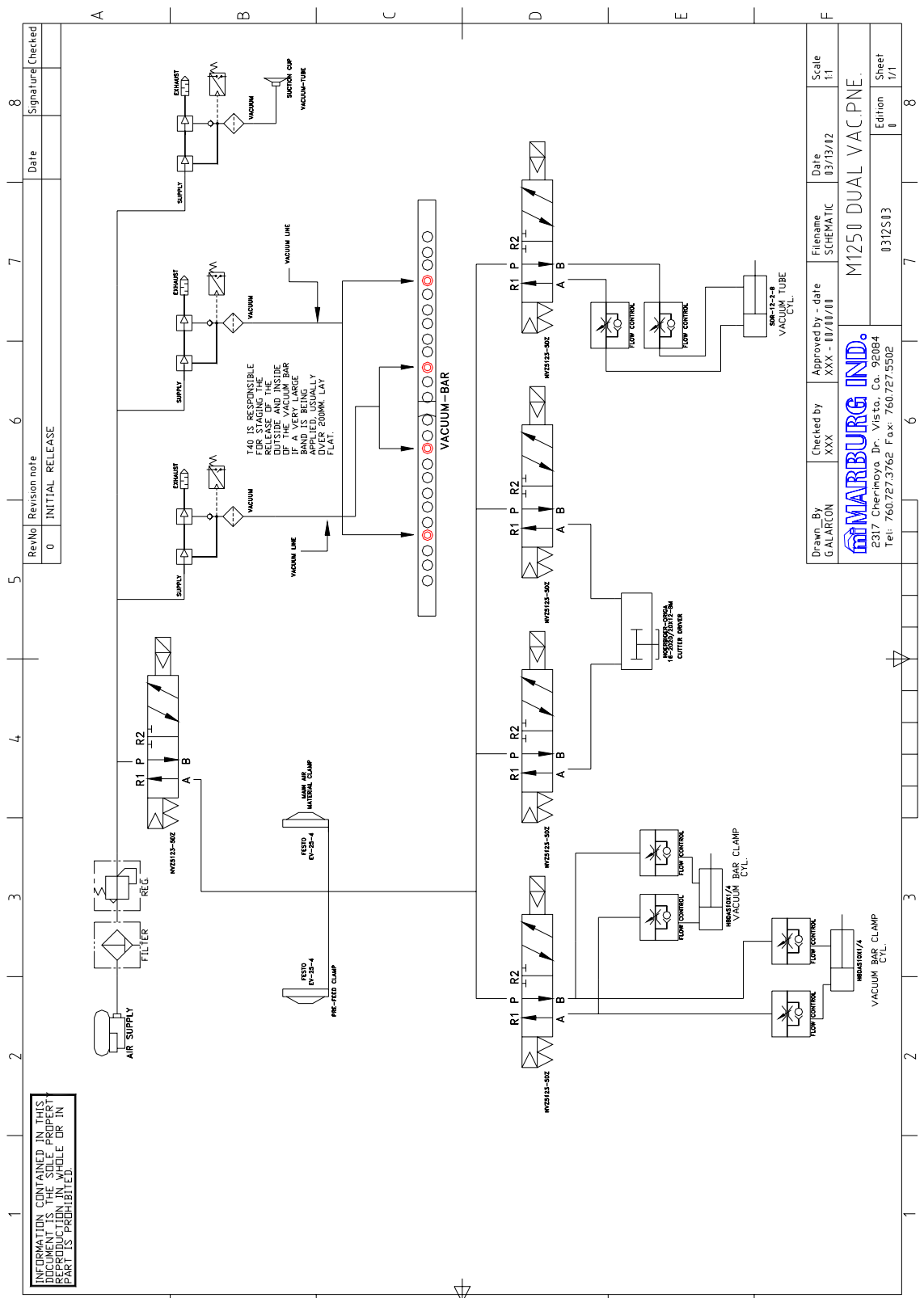
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					Sheet 1/1