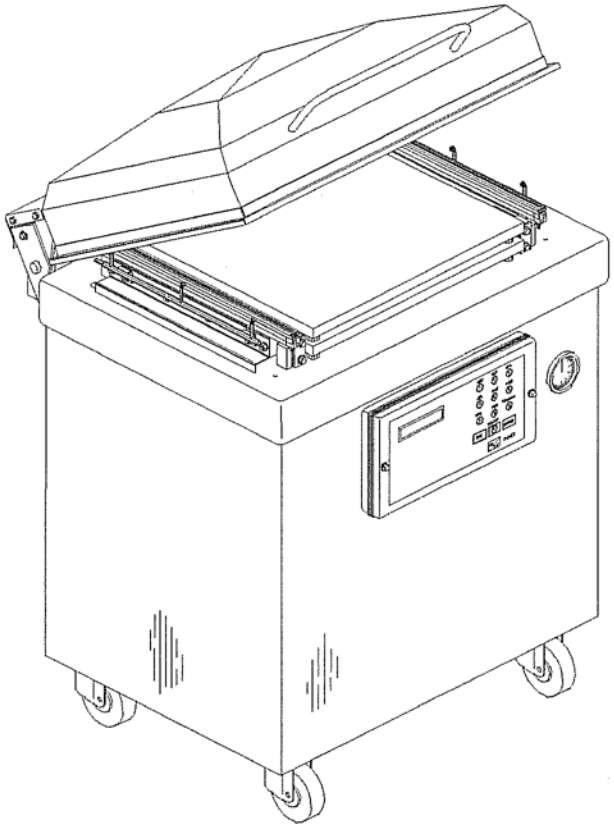
VACUUM PACKAGING MACHINE

MODEL 450A

(Model with New Vacuum Sensor)



OWNERS MANUAL

BK45769 (07-13)

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS

This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate your machine.
Failure to comply with these instructions may result in personal injury.

General Operation

- Read, understand, and follow all instructions in the manual and on the machine before starting. Keep this manual in a safe place for further and regular reference and for ordering replacement parts.
- Only allow responsible individuals familiar with the instructions to operate the machine. Be sure to know controls and how to stop the machine quickly.
- Never put your hands near moving parts.
- Only allow qualified individuals for the maintenance of your machine.
- Remove all obstacles, which may interfere with the machine functions.
- Clear the work area such as electrical wires, buckets, knives etc.
- Be sure that everyone else is clear of your work area before operating the machine.
- Do not sit nor stand on the machine.
- Always turn off the machine after your work is done. Never leave a running machine unattended.
- Always disconnect and wait till the machine has cooled before attempting any maintenance.
- Do not wear loose fitting clothes or jewelry as they may get caught in moving parts of the machine.
- Always wear security shoes, to prevent injury caused by moving the machine or objects falling from the machine.
- Never exceed the time limit to seal, which is recommended by the manufacturer. This is to avoid any damage that may be caused to the sealing bars and to eliminate the risk of fire in the machine. Thus avoiding corporal burns.
- Never touch the sealing bars after they have been used, this will avoid corporal burns. Wait a few minutes to let the machine cool down before touching.
- Always make sure that the sealing bars are well installed in their "Guide Blocks" before starting a cycle.
- Never incline the machine more than 30 degrees, it may tip over and hurt someone seriously.
- Work only in daylight or good artificial light.

Do not operate the machine while under the influence of alcohol or drugs!

Service

- Use proper containers when draining the oil. Do not use food or beverage containers that may mislead someone into drinking from them. Properly dispose of the containers, or store in a safe place immediately following the draining of the oil.
- Prior to disposal, determine the proper method to dispose of waste from your local office of Environmental Protection Agency. Recycling centers are established to properly dispose of materials in an environmentally safe fashion.

Do not pour oil or other fluids into the ground, down a drain or into a body of water.

Warning-Your responsibility:

This machine should only be operated by personal who can read, understand and respect warnings and instructions regarding this machine in the owners manual. Save these instructions for future reference.

VACUUM PACKAGING MACHINE

MODEL 450A

(MC-40 SIPROMAC)

GENERAL TABLE OF CONTENTS

VACUUM PACKAGING MACHINES-OPERATION INSTRUCTIONS

TABLE OF CONTENTS

2010-08-30

VACUUM PACKAGING MACHINES

1. SETTING UP THE MACHINE:

Before choosing the site for the machine, please consider that you will also need room for packaged and non-packaged products apart from the space needed for the machine itself.

Keep in mind that the machine must not be set up upon uneven ground. Especially with mobile models, the weight of the pump might then cause warping of the machine. Then the lid will not fit correctly.

Before starting to work, check the oil view glass on the pump, if there is a sufficient quantity of oil in the pump. Never use oil other than recommended by the producer. Never exceed maximum quantity of oil indicated, when adding or changing oil. Verify weekly.

Normal ambient temperature for the vacuum pump is between 10 to 70°C.For temperature below 10°C; it is recommended to use synthetic oil. Please consult factory and pump manufacturer manual for more information or when ambient temperature are outside normal limits.

2. ELECTRICAL CONNECTION:

Electrical connections must be made by qualified personnel. This person must make sure that the electrical entries correspond to the proper voltage and amperage of the machine. GROUNDING INSTRUCTIONS: This appliance must be grounded. In the event of malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This appliance is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal. Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as to whether the appliance is properly grounded. Do not modify the plug provided with the appliance if it will not fit the outlet; have a proper outlet installed by a qualified electrician.

All vacuum machines are supplied with an electrical schematic drawing. An important step in connecting the machine is to make sure that the pump turns in its correct rotation.

The pump should not rotate more than 3 to 4 seconds in the wrong rotation or it may cause serious damage. The proper rotation is indicated by an arrow on the pump motor.

3.OPERATION:

3.1 Working principles:

A vacuum packaging cycle is made of 3 stages. First the vacuum is made, the air is completely taken out of the chamber and from bag containing the product. (See figure 1). Then it is possible to inject neutral gas from the nozzles, if the product is delicate. Finally, a mechanism pushes the sealing bar to the rubber support to seal the bag.

To obtain nice packages, the products and the bags have to be of proportional sizes. The bag's opening should never exceed 50 cm(2") past the seal bars. The product should be centered in height in relation to the seal bar by adjusting the spacers provided.

To obtain a good seal, make sure that no residue of fat is left between the bag's inner sides where sealing is done.

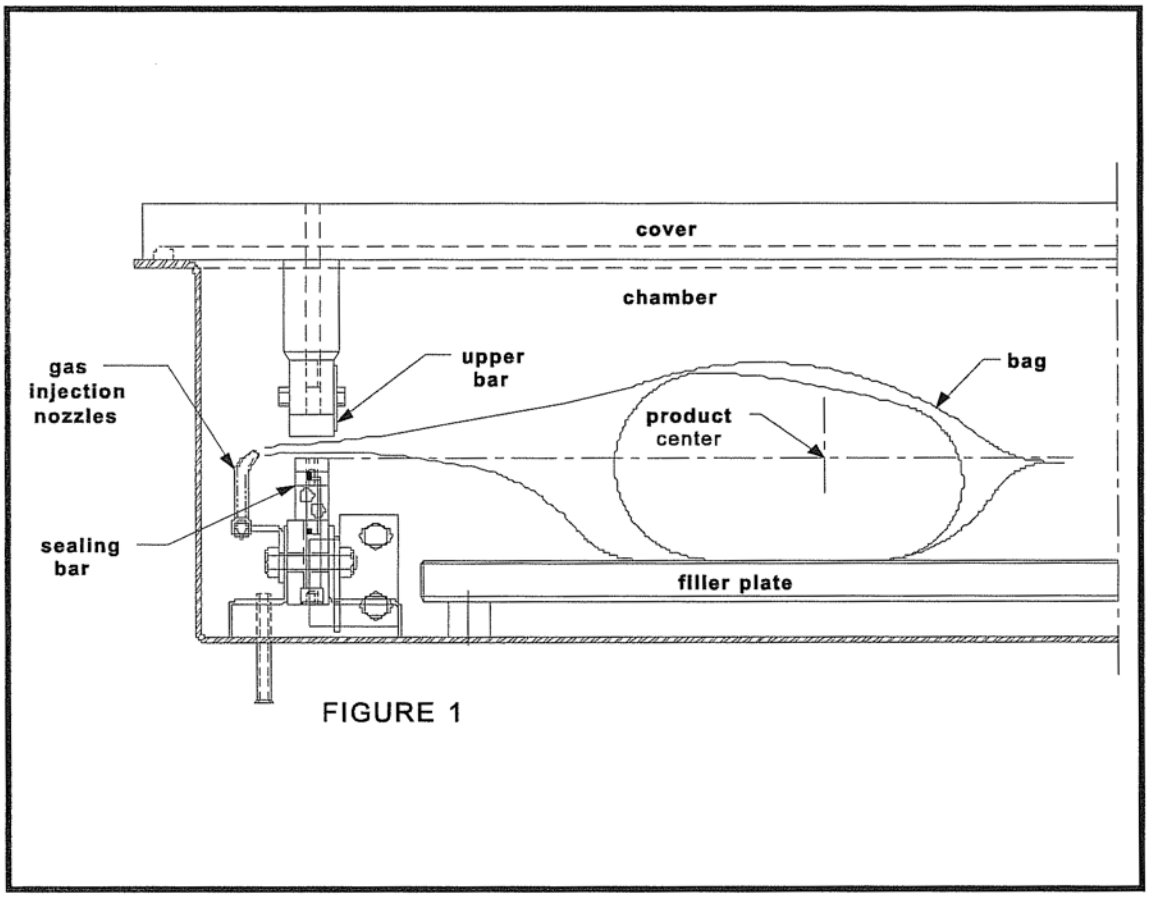


FIGURE 1

3.2 Special packaging:

3.2.1 Gas flushing (option):

There is an atmospheric pressure of 1 kg/ sq. cm (14 lbs/sq. inch) upon products when

fully evacuated. Products which can be damaged by high pressure must be packaged with a partial vacuum, or the pressure must be counterbalance by inflating the bag with gas (nitrogen or carbon dioxide) before sealing after evacuation.

For gas flushing, the bags are placed on the sealing bars, the open end placed over the gas nozzles mounted alongside the sealing bar. After evacuation, the vacuum valve closes and the gas valve opens. Gas time (sec.) can be set in the program menu.

The necessary gas tank and pressure valve mounted on tank is not supplied, The pressure of the gas regulator should be set at approximately 1/3 kg/sq. cm (5 lbs/sq.inch.). Each machine has an adaptor for gas connection when gas flush option is ordered.

3.2.2 Electrical bag cut (optional):

This option is used to obtain a package that the excess bagtail is cut off close to the seal (cannot be used with top and bottom sealing).

3.3 Vacuum packaging operation:

Note: Refer to the menus structure on page 13 and the keyboard detail on page 14.

3.3.1 Basics:

Use key "POWER" to power ON / OFF the vacuum packaging machine. When the unit is energized, the identification of the last executed program is displayed on LCD screen. To disconnect, use the "POWER" key to turn off the machine , then remove plug from outlet. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord. Unplug from outlet when not in use and before servicing or cleaning.

Use the "ESC" key to change over from the programs menu to the functions menu and from the functions menu to the programs menu.

In functions menu, use key "SELECT" to select a function and key "ENTER" to accede and executed the selection.

In programs menu, use key "SELECT" to select a program and key "ENTER" to accede and modify the selection.

In programs submenu, use key "ENTER" to pass over the parameters and point to the following one; the parameters are blinking to point out the acquisition mode. A return to programs menu is performed automatically following the last parameter acquisition.

In program submenu, use key "ESC" to get back to the programs menu. Strike any key to clear the error messages which may be displayed on LCD screen.

3.3.2 Functions menu:

3.3.2.1 Create a program:

When executing the "create a program" function, the program submenu is acceded, starting with the identification. The initial identification "Pxx NO NAME" is given to the program and all parameters are established to zero; the program number is allocated automatically.

3.3.2.2 Delete a program:

When executing the "delete a program" function, the programs menu is acceded and the number of the first program in memory is blinking to point out the deletion mode. Use key "SELECT" to select a program and key "ENTER" to accede and confirm deletion of the selection. Use key "ESC" to unconfirm a deletion and to leave the function. When leaving the function, the number of the actual program on LCD screen cease to blink.

3.3.2.3 Select operating mode:

When executing the "select operating mode" function, which is available only for the automatic units, the actual selection is blinking to point out the acquisition mode. Use key "SELECT" to get through the operating modes, which are automatic, semi-automatic and manual; the validation of the selected operating mode is performed automatically. Use key "ESC" or "ENTER" to leave the function and get back to the program menu.

3.3.3 Programs menu:

3.3.3.1 Program identification:

For a selected program, set the identification, using the numeric keyboard characters chart; press numeric key until the desired character is selected (4 times for the numeric value). Use key "ENTER" to validate the character and to validate the characters string at the end(the new characters string is blinking). In a middle of an acquisition, use key "ESC" to come backward and erase one or several characters.

Example: EXAMPLE 1 (9 characters)

→	keys 2, 2, ENTER	→ E
	keys 8, 8, 8, ENTER	→ X
	keys 1, ENTER	→ A
	keys 5, ENTER	→ M
	keys 6, ENTER	→ P
	keys 4, 4, 4, ENTER	→ L
	keys 2, 2, ENTER	→ E
	keys 9, 9, 9, ENTER	→ space
	keys 1, 1, 1, 1, ENTER	→ 1
	key ENTER to validate the characters string	

3.3.3.2 Vacuum time setting (sensor disabled):

For a selected program set the vacuum time, in seconds; the validation is automatically performed following the second digit entry (the new vacuum time is blinking). In a middle of an acquisition, use key "ENTER" to validate the vacuum time and key "ESC" to come backward and start over with a new acquisition (the old vacuum time is blinking).

Examples: 1s → keys 0, 1 or 1, ENTER
15s → keys 1, 5

3.3.3.3 Vacuum level setting (sensor enabled)

For a selected program set the vacuum level, starting with the values; the decimal point is automatically inserted following the second digit entry and the validation is automatically performed following the third digit entry (the new vacuum level is blinking). The vacuum level is rounded off to the nearest half value. In the middle of an acquisition, use key "ENTER" to validate the vacuum level and key "ESC" to come backward and start over with a new acquisition (the old vacuum level is blinking). Set vacuum level to zero to bypass the pressure transducer and proceed only using the vacuum plus time.

Examples: 90.0% →keys 9, 0, 0 **or** 9, 0, ENTER **or**
keys 9, 0, 1 **or** 9, 0, 2 or 9, 0, 3 or 9, 0, 4
97.5% →keys 9, 7, 5 **or**
keys 9, 7, 6 **or** 9, 0, 7 or 9, 0, 8 **or** 9, 0, 9
0.0% →keys 0, 0, 0 **or** 0, ENTER

3.3.3.4 Vacuum plus time setting (sensor enabled)

For a selected program set the vacuum plus time, in seconds; the validation is automatically performed following the second digit entry (the new vacuum plus time is blinking). In a middle of an acquisition, use key "ENTER" to validate the vacuum plus time and key "ESC" to come backward and start over with a new acquisition (the old vacuum plus time is blinking).

Examples: 1s → keys 0, 1 **or** 1, ENTER
15s → keys 1, 5

3.3.3.5 Gas time setting (sensor disabled)

For a selected program set the gas time setting following the same procedure as for the vacuum time. Keep in mind that increasing gas time decrease sealing pressure. Some vacuum must be kept inside to assure proper functioning.

3.3.3.6 Gas flush level setting: (sensor enabled)

For a selected program set the gas flush level following the same procedure as for the vacuum level; the maximum gas flush level setting is 10% below the vacuum setting.

3.3.3.7 Sealing time setting:

For a selected program set the sealing, starting with the seconds; the decimal point is automatically inserted following the first digit entry and the validation is automatically performed following the third digit entry (the new sealing time is blinking). The sealing time is truncated to the nearest half hundredth. In a middle of an acquisition, use key "ENTER" to validate the sealing time and key "ESC" to come backward and start over with a new acquisition (the old sealing time is blinking).

Examples: 4.50s → keys 4, 5, 0 or 4, 5, ENTER or
keys 4, 5, 1 or 4, 5, 2 or 4, 5, 3 or 4, 5, 4
2.35s → keys 2, 3, 5 or
keys 2, 3, 6 or 2, 3, 7 or 2, 3, 8 or 2, 3, 9
0.00s → keys 0, 0, 0 or 0, ENTER

3.3.4 Vacuum cycle execution:

For the manual units and the automatic units set on manual, close the cover to initiate a vacuum cycle. For the automatic units set on semi-automatic or on automatic, use push button "STOP / START" to initiate or interrupt a vacuum cycle. A selected program can be initiated only in the programs menu, when no modifications are in progress, and the access to the other programs and functions is denied. During cycle execution the operation status is sequentially displayed on LCD screen, except for the parameters established to zero, which are not displayed:

- Vacuum time or vacuum % status during vacuum sequence,
- Gas time or gas % status during gas flush sequence,
- Sealing time status during sealing sequence,
- ATM message during atmosphere sequence.

During cycle execution, use key "1" to abort the vacuum sequence and execute the following sequence, which is gas flush or sealing, and key "ENTER" to accede and modify the program; the parameters become valid only for the following vacuum cycles.

3.3.5 System monitor:

To accede the diagnostics menu, power up the vacuum packaging machine while keeping pushed in the "ESC"key. Use key "SELECT" to select the system monitor function and key "ENTER" to accede and visualize the monitored parameters. Use key "SELECT" to change over from the software revision, the amount of working hours done and the amount of complete cycles performed since first initialization.

-MENUS STRUCTURE-

- **Functions menu:**
  "F1 CREATE A PRGM"
  "F2 DELETE A PRGM"
  "F3 SELECT OPMODE" (automatic units only)

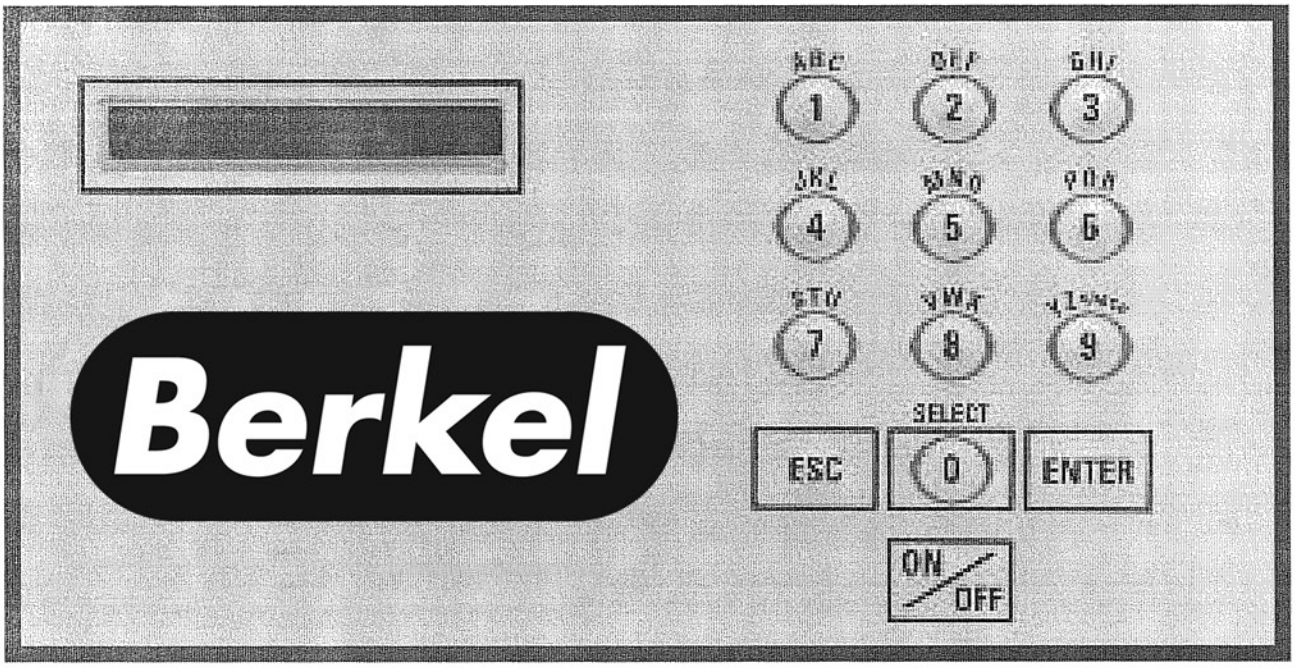
- **Programs menu:**
  "Pxx NAME"
  Program submenu:
  "VACUUM: xx.x%" (10.0% - 99.5%)
  "VACUUM PLUS: xxs" (0s - 99s)
  "VACUUM: xx.xs" (10 – 199s) (sensor disabled in D8 menu)
  "GAS FLUSH: xx.xs" (0 – 99s) (units with gas option) (sensor disabled in D8)
  "GAS FLUSH: xx.x%" (0.0% - 10% below the vacuum level) (units with gas option)
  "SEAL TIME: x.xxs" (0.00s - maximum unit allocated setting)
  "Pxx NAME" (12 characters)

- **Diagnostics menu** (keys "ESC" & "POWER" for access):

  "DIAGNOSTICS MENU" (access code required)
  "D1 INPUTS TEST"
  "D2 OUTPUTS TEST"
  "D3 MODEL SELECT"
  "D4 GAS OPTION"
  "D5 SEALING TIME"
  "D6 COOLING TIME"
  "D7 OFFSET CALIB"
  "D8 VACUUM SENSOR"
  "D9 SIPROMAC PUB"
  "D10 LOADING TIME" (automatic units only)
  "D11 UNLOADNG TIME" (automatic units only)
  "SYSTEM MONITOR" (no access code required)
  "SOFTWARE: R x.xx"
  "WORK HRS: xxxxx"
  "CYCLES: xxxxxxx"

-KEYBOARD DETAILS-

MC-40 CONTROLS



WARNING: All electrical work described in this brochure should be done by a QUALIFIED and AUTHORIZED technician.

3.4 Daily cleaning:

For hygenic cleanliness, it is imperative to clean chamber and spacers daily. Also clean the lid rubber to assure tight seat of the lid.

Cleaning instructions for gas injection nozzles: Periodically on a regular basis the gas injection nozzles must be removed with the connection tube and soaked in a food grade soap and water solution, then dried and re-installed.

4. TROUBLE SHOOTING:

4.1 Failure during packaging cycle:

4.1.1 "VACUUM ERROR" message is displayed on LCD:

No pressure variation is picked up by the PCB transducer during the vacuum sequence within a preset period of time.
- Check vacuum lines for potential leaks or kinks.

4.1.2 "GAS FLUSH ERROR" message is displayed on LCD:

No pressure variation is picked up by the PCB transducer duringthe gas flush sequence within a preset period of time.
- Check gas flush and vacuum lines for potential leaks or kinks.

4.1.3 "ATMOSPHERE ERROR" message is displayed on LCD:

No pressure variation is picked up by the PCB transducer during the atmosphere sequence within a preset period of time.
- Check vacuum lines for potential leaks or kinks.

4.1.4 "COVER DOWN ERROR" message is displayed on LCD(manual units):

The input signal of the down position switch has been lost during cycle execution.
- Check limit switch adjustment.

4.2 Insufficient vacuum:

4.2.1 Leakage in the bag:

Most frequently, insufficient vacuum in bags is due to leakage in bag and not due to any fault of the machine.

Pin-hole leak for which there is no obvious explanation is due to faulty bag material.

Pin-hole leak caused by sharp edge of the product (bone, etc.).Use bone-guard or thicker film.

Tear in bag by careless handling (sharp edge on filling table, damage made by retailer or customer).

Leakage in lateral or bottom seal, complain to supplier of bags or film.

4.2.2 No leakage in the bag:

Bag is too large, therefore the surplus of air remains visible (there is surplus of air in 0.4% of the bag volume in each bag). Use bags of suitable size.

Vacuum level is too low:

Pressure bar is jammed and closes opening of bag during evacuation.

4.2.3 Insufficient vacuum in chamber:

If troubles described under 4.2.1 and 4.2.2 do not apply, there is something wrong with the evacuation.To find the leakage quickly, check for leaks with a precision vacuumeter, going back step by step from the chamber to the pump.

At the chamber (measuring point at base of valve) at maximum time of evacuation. If more than 6 torr, proceed directly to the pump, if more than 3 torr:have pump service by pump supplier.If pressure at pump is good, reconnect hoses to pump and measure again.

Verify at vacuum hose connections and valve connections.

When proceeding this way, starting from pump, loss of pressure per step must not exceed 0.5 to 1 torr.

Caution: Verify connections of measuring equipment before verifing machine.

Most frequent points of leakage: lid gasket, damaged vacuum hose or loose hose clamps.

4.3 Faulty seal:

4.3.1 Insufficient seal:

Damaged teflon or silicone rubber.

Sealing pressure too low, bellows leaking or pressure bar jammed.

Leakers in seal: heating wire mechanically damaged (knicked) or silicone rubber uneven.

4.3.2 No seal:

Sealing wire burnt.

Faulty contact in sealing circuit.

Sealing transformer burnt through.

Contactor does not work.

4.3.3 Permanent sealing current:

Contactor is jammed check sealing transformer for damage through overload.

4.3.4 Seal does not stick:

Insufficient layer of polyethylene (inferior quality of bags).

Seal area extremely contaminated by fat or meat juice. Use filling aid.

Sealing temperature is too low (when using very thick films).

Caution: Do not increase sealing time more than really necessary; higher temperature will reduce working life of teflon and silicone rubber.

4.4 Fault in the valve:

Vacuum or air valve does not open.

Check whether there is voltage on the magnetic valves during their period of operation. If there is no voltage a wire is broken or the PC board is damaged.

Lid does not open at the end of the cycle; air enters, but there is still 20 - 40% vacuum in chamber. Vacuum valve does not close.

4.5 MC40 Control board failure

NOTE:Refer to menu structure on page 12.

This board software is allowing access to a "Diagnostics Menu". Only qualified service technicians are authorized to access this menu by entering a security password.

By acceding either the "D1 input test" feature or the "D2 output test" feature,a trained technician will be able to quickly know the origin of the problem: pump, sealing system, pneumatic problem, security switches problem, etc...

Keep in mind that in most cases trouble is due to a leakage, loose electrical connection or evident dammage to the main components: vacuum pump, valves, electrical contactors, thermal overload, fuses holder or transformer.

For assistance do not hesitate to contact your local service technicians.

5. Regular maintenance:

Routine controls to be made at regular intervals:

Check teflon for wear.

Check silicone rubber for burnt spots and smooth even position.

Check pressure bar for jamming.

Check lid sealing for damage and hardened spots.

Check switch-point of micro switch, adjust if necessary.

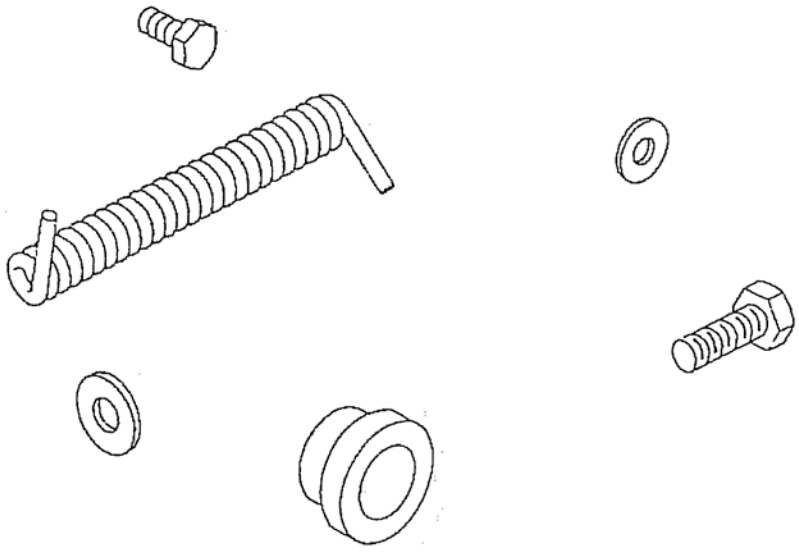
Check evacuation hose for damage (contraction of diameter, or abrasions).

Check vacuum connections for tightness.

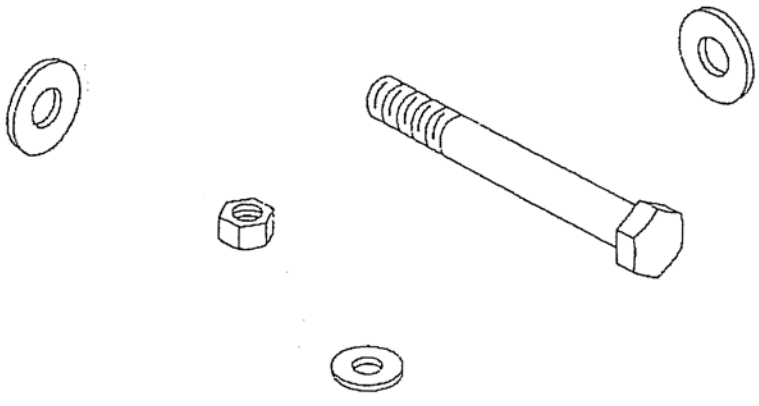
Check oil in pump (oil level in view glass; add if necessary. Regular change of oil - necessity indicated by change of color).

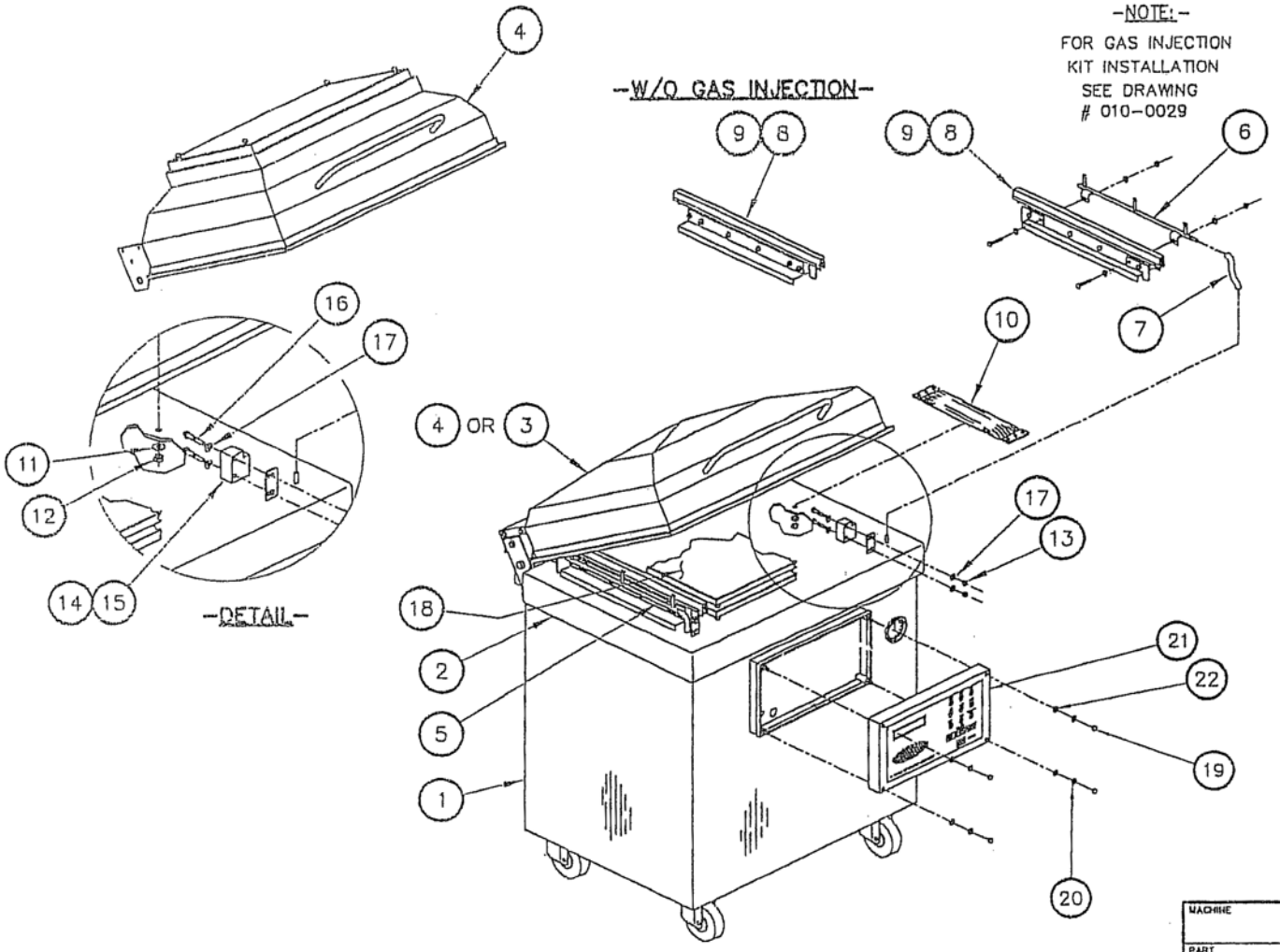
Check vacuum in chamber with precision vacuumeter.

Check function of cycle with various settings of timers.



MECHANICAL DRAWING



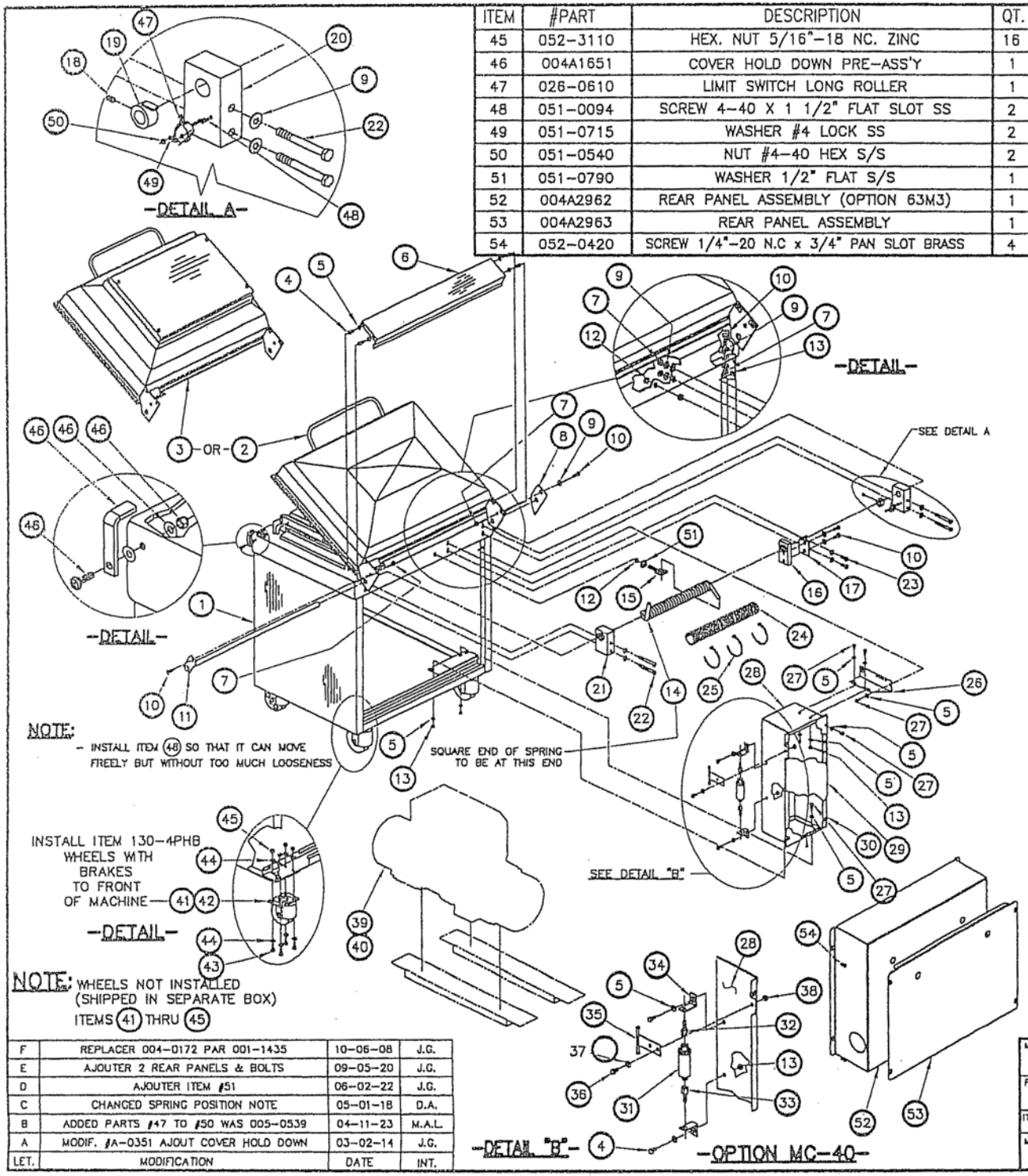


ITEM	PART #	DESCRIPTION	QT.
1	005B0602	MC-40 STRUCTURE ASSEMBLY	1
2	005-0531	TABLE ASSEMBLY	1
3	005-0540	COVER ASSEMBLY	1
4	005-0530	9 1/2" PLEXI COVER ASS'Y (OPT.)	1
5	005A0533	LEFT GAS INJECTION BAR ASS'Y (OPT.)	1
6	005A0808	RIGHT GAS INJECTION BAR ASS'Y (OPT.)	1
7	008-0464	GAS INJECTION CONNECTION TUBE (OPT.)	2
8	005-0564	SEAL BAR ASSEMBLY W/ SUPPORT	2
9	005-0565	SEAL BAR ASS'Y W/ SUPPORT (BAG CUT OPT.)	2
10	005-0532	BELLOWS ASSEMBLY	2
11	051-0780	FLAT WASHER 3/8" S/S	2
12	051-0620	HEX. NUT 3/8"-16 NC. S/S	2
13	051-0581	HEX. NUT 1/4"-20 NC. NYLON LOCK S/S	8
14	002-0326	LEFT/SEAL BAR GUIDE BLOCK	2
15	002-0327	RIGHT/SEAL BAR GUIDE BLOCK	2
16	051-0250	HEX. BOLT 1/4"-20 NC. X 1 1/2" S/S	8
17	051-0740	FLAT WASHER 1/4" S/S	16
18	005-0534	FILLER PLATE ASSEMBLY	2
19	051-0591	ACORN NUT 1/4"-20 NC. S/S	4
20	051-0740	FLAT WASHER 1/4" S/S	4
21	005A0583	P.C. BOARD SUPPORT ASSEMBLY	1
22	057-0089	1/4" x 5/8"O.D. EPDM RUB. SEAL WASHER	4

LET.	MODIFICATION	DATE	INT.
D	REDRAWN	05-09-01	M.A.L

MACHINE: 450A	METRIC TOLERANCE: 0. ± .5, .0 ± .05, .00 ± .005, .000 ± .0005, ANGLE ± 1°	INCH TOLERANCE: .0 ± .015", .00 ± .005", .000 ± .0005"	SIPROMAC ST-GERMAIN DE GRANTHAM QUEBEC CANADA
PART: 450A MC-40 FRONT VIEW		N.T.S.	
ITEM:	CNC:	DEPT: M-1	QT: 1
MAT:	DWG BY: M.A.LEBLANC DATE: 05-09-01	APP. DATE: 05-09-01	NO. 005A0601

005-0607



ITEM	#PART	DESCRIPTION	QT.
45	052-3110	HEX. NUT 5/16"-18 NC. ZINC	16
46	004A1651	COVER HOLD DOWN PRE-ASS'Y	1
47	026-0610	LIMIT SWITCH LONG ROLLER	1
48	051-0094	SCREW 4-40 X 1 1/2" FLAT SLOT SS	2
49	051-0715	WASHER #4 LOCK SS	2
50	051-0540	NUT #4-40 HEX S/S	2
51	051-0790	WASHER 1/2" FLAT S/S	1
52	004A2962	REAR PANEL ASSEMBLY (OPTION 63M3)	1
53	004A2963	REAR PANEL ASSEMBLY	1
54	052-0420	SCREW 1/4"-20 N.C x 3/4" PAN SLOT BRASS	4

ITEM	#PART	DESCRIPTION	QT.
1	005-0601	450A MC-40 FRONT VIEW	1
2	005-0540	COVER ASSEMBLY	1
3	005-0530	9 1/2" COVER ASSEMBLY (OPTION)	1
4	051-0185	SCREW 1/4"-20 NC. X 1/2" PAN PHILL. S/S	4
5	051-0740	FLAT WASHER 1/4" S/S	19
6	001-1435	SPRING COVER	1
7	051-0620	HEX. NUT 3/8"-16 NC. S/S	12
8	001-1335	CHAMBER STOPPER	1
9	051-0783	FLAT WASHER 3/8" (THICK) S/S	25
10	051-0360	HEX. BOLT 3/8"-16 NC. X 1" S/S	8
11	004-0129	COVER AXIS PRE-ASSEMBLY	1
12	051-0630	HEX. NUT 1/2"-13 NC. S/S	2
13	051-0581	HEX. NUT 1/4"-20 NC. NYLON LOCK	7
14	008-0460	COVER SPRING	1
15	005-0346	SPRING TENSION SUPPORT PRE-ASS'Y	1
16	004-0276	CENTRAL COVER AXIS SUPPORT	1
17	001-1540	CENTRAL COVER AXIS SUPPORT FIXATION	1
18	051-0178	SET SCREW 1/4"-20 NC. X 5/16" S/S	1
19	005-0348	MICRO-SWITCH COLLAR ASS'Y	1
20	004-0274	LEFT COVER AXIS SUPPORT	1
21	004-0275	RIGHT COVER AXIS SUPPORT	1
22	051-0424	HEX. BOLT 3/8"-16 NC. 3 1/2" S/S	4
23	051-0360	HEX. BOLT 3/8"-16 NC. 1 1/4" S/S	2
24	038-0350	SLIT COORUG LOOM 2" ID X 370 MM	1
25	057-0330	CABLE TIES 14" LONG BLACK	3
26	001A2810	UPPER ELECTRICAL BOX SUPPORT	1
27	051-0180	HEX. BOLT 1/4"-20 NC. X 1/2" S/S	11
28	005-0347	ELECTRICAL BOX PRE-ASSEMBLY	1
29	004-0273	ELECTRICAL BOX COVER PRE-ASSEMBLY	1
30	056-0020	SPRING NUT 1/4"-20 NC. STEEL	4
31	114-2020	DRYER FILTER	1
32	101-0200	STRAIGHT 1/4" MNPT X 1/4" HOSE	1
33	101-0210	STRAIGHT 1/4" FNPT X 1/4" HOSE	1
34	001-2062	DRYER SUPPORT	2
35	005-0323	GAS INLET ASSEMBLY (OPTION)	1
36	051-0180	HEX BOLT 1/4"-20NC X 1/2" S/S (OPTION)	1
37	051-0740	FLAT WASHER 1/4" S/S (OPTION)	1
38	051-0581	HEX NUT 1/4"-20NC NYLON LOCK S/S (OPTION)	1
39	004-0287	"BUSH" PUMPS INSTALLATION	1
40	004-0288	"LEYBOLD" PUMPS INSTALLATION	1
41	130-4PHB	4" PL. CASTER SWIVEL W/ BRAKE	2
42	130-4PHO	4" PL. CASTER SWIVEL W/O BRAKE	2
43	052-0520	BOLT 5/16"-18 NC. X 3/4" ZINC	16
44	051-0760	FLAT WASHER 5/16"-18 NC. ZINC	32

LET.	MODIFICATION	DATE	INT.
F	REPLACER 004-0172 PAR 001-1435	10-06-08	J.G.
E	AJOUTER 2 REAR PANELS & BOLTS	09-05-20	J.G.
D	AJOUTER ITEM #51	06-02-22	J.G.
C	CHANGED SPRING POSITION NOTE	05-01-18	D.A.
B	ADDED PARTS #47 TO #50 WAS 005-0539	04-11-23	M.A.L.
A	MODIF. #A-0351 AJOUT COVER HOLD DOWN	03-02-14	J.G.

MACHINE: 450A

PART: MC-40 REAR VIEW

TOLERANCE	METRIC	INCH
USINAGE	± 0.1	± 0.004"
TOLERIE	± 0.5	± 0.020"
SOUDAGE	± 0.5	± 0.020"

N.T.S.

SIPROMAC
ST-GERMAIN DE GRANTHAM
QUEBEC CANADA

ITEM: | CNC: | M-1 | QT. 1

MAT:

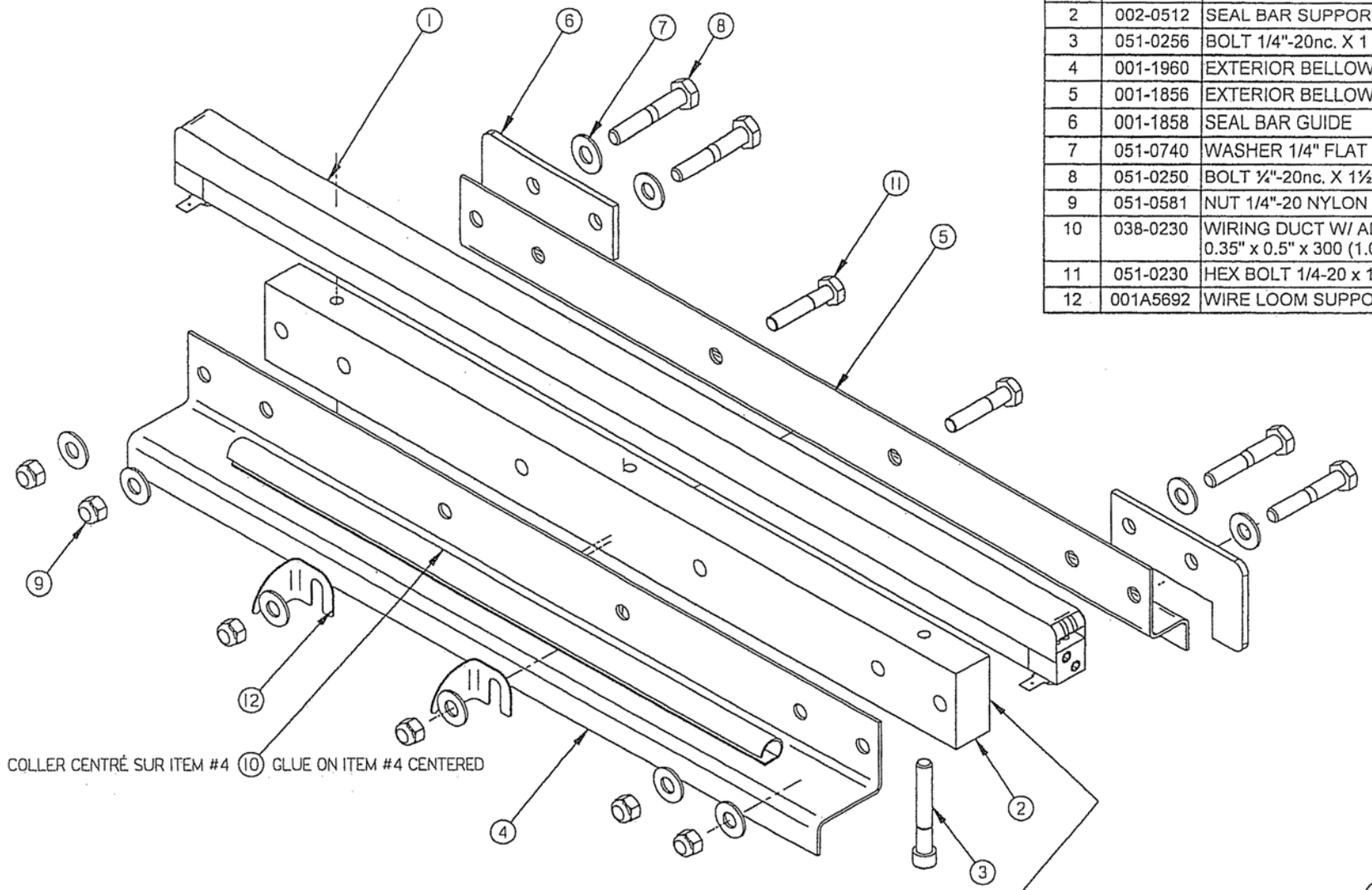
DWG. BY: L.M. DATE 98-05-28

APP. DATE 10-06-11

NO. 005-0607

005-0564

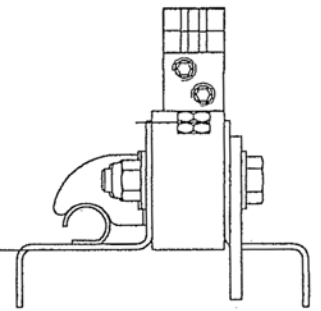
ITEM	PART #	DESCRIPTION	QT.
1	004-0352	SEAL BAR PRE-ASSEMBLY	1
2	002-0512	SEAL BAR SUPPORT	1
3	051-0256	BOLT 1/4"-20nc. X 1 3/4" CAP SKT S/S	3
4	001-1960	EXTERIOR BELLOWS COVER	1
5	001-1856	EXTERIOR BELLOWS COVER	1
6	001-1858	SEAL BAR GUIDE	2
7	051-0740	WASHER 1/4" FLAT S/S	10
8	051-0250	BOLT ¼"-20nc. X 1½" S/S	4
9	051-0581	NUT 1/4"-20 NYLON LOCK S/S	6
10	038-0230	WIRING DUCT W/ ADHESIVE BACKING (0.35" x 0.5" x 300 (1.03)	1
11	051-0230	HEX BOLT 1/4-20 x 1 1/4" SS	2
12	001A5692	WIRE LOOM SUPPORT #2	2



COLLER CENTRÉ SUR ITEM #4 (10) GLUE ON ITEM #4 CENTERED

-CE COTÉ DU SUPPORT ÉGAL AVEC DE LA BARRE DE SCELLAGE.
-THIS SIDE OF SUPPORT TO FIT FLUSH W/ SEAL BAR.

-ITEM #2 ÉGAL AVEC L'ITEM #4 & #5.
-ITEM #2 FLUSH WITH ITEM #4 & #5.



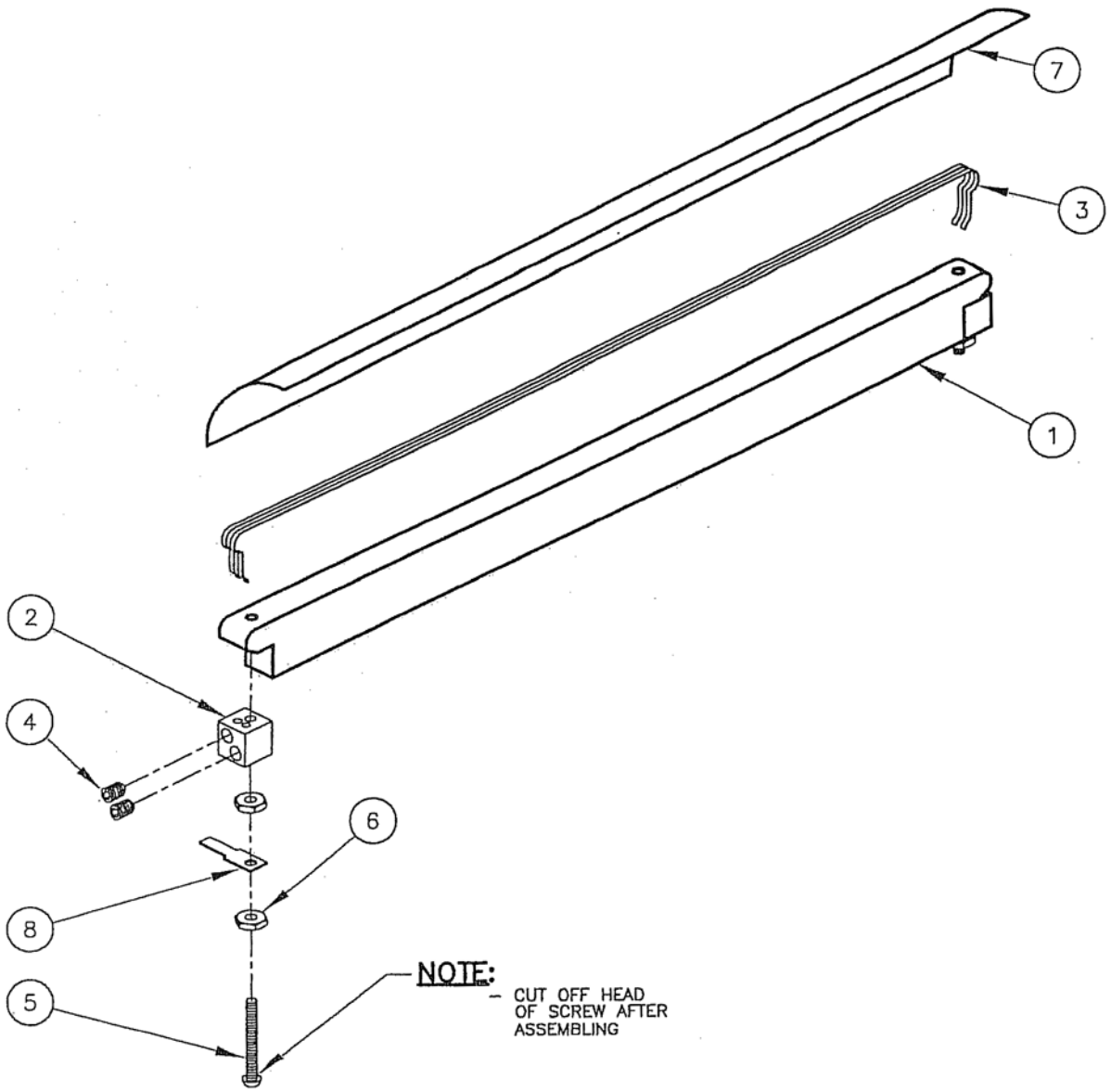
-END VIEW-

LET.	MODIFICATION	DATE	INT.
D	REDESSINÉ S.E. & AJOUTER 001A5692	11-08-30	J.G.

MACHINE: 400, 450T & 450A	DEPT. TOL. / METRIC / INCH: USINAGE ± 0.1 ± 0.004", TOLERIE ± 0.5 ± 0.020", SOUDAGE ± 0.5 ± 0.020"	SIPROMAC ST-GERMAIN DE GRANTHAM QUÉBEC CANADA	
PART: SEAL BAR ASSEMBLY W/SUPPORT	N.T.S.		
ITEM	CNC	DEPT. M-I-(M)	QTY. 2
MAT.	DWG BY J.G. DATE 11-08-30	APP. BY DATE 11-09-01	NO. 005-0564

004-0352

ITEM	#PART	DESCRIPTION	QT.
1	002-0481	SEAL BAR (TABLE)	1
2	002-0031	CONNECTOR	2
3	039-0200	SEALING ELEM. STD TWIN (2x626mm EA.)	4.31
4	052-0395	SCREW 1/4"-20 NC. X 5/16" SET HEX SKT OVAL PT	4
5	052-0250	SCREW #8-32 X 1 1/2" RND SLOT BRASS	2
6	051-0550	NUT #8-32 S/S	4
7	176-0200	TEFLON TAPE 5S ADHESIVE X 2" X (496mm EA.)	0.062
8	027-0400	CONNECTOR ADAPTOR 1/4" X #10 STUD	2



NOTE: – CUT OFF HEAD OF SCREW AFTER ASSEMBLING

LET.	MODIFICATION	DATE	INT.
E	ADDED 450T WAS 005-0377	08-05-26	D.A.
D	MODIFICATION #A-0398 (CONNECTEUR)	04-04-19	J.G.
C	ADDED 400	99-05-06	S.L.
B	REDRAWN	98-02-10	A.P.

MACHINE: 400, 450A & 450T

PART: SEAL BAR PRE-ASSEMBLY

TOLERANCE: USINAGE ± 0.1 (± 0.004") TOLERIC ± 0.5 (± 0.020") SOUDAGE ± 0.5 (± 0.020")

N.T.S.

SIPROMAC
ST-GERMAIN DE GRANTHAM
QUEBEC CANADA

ITEM: CNC:

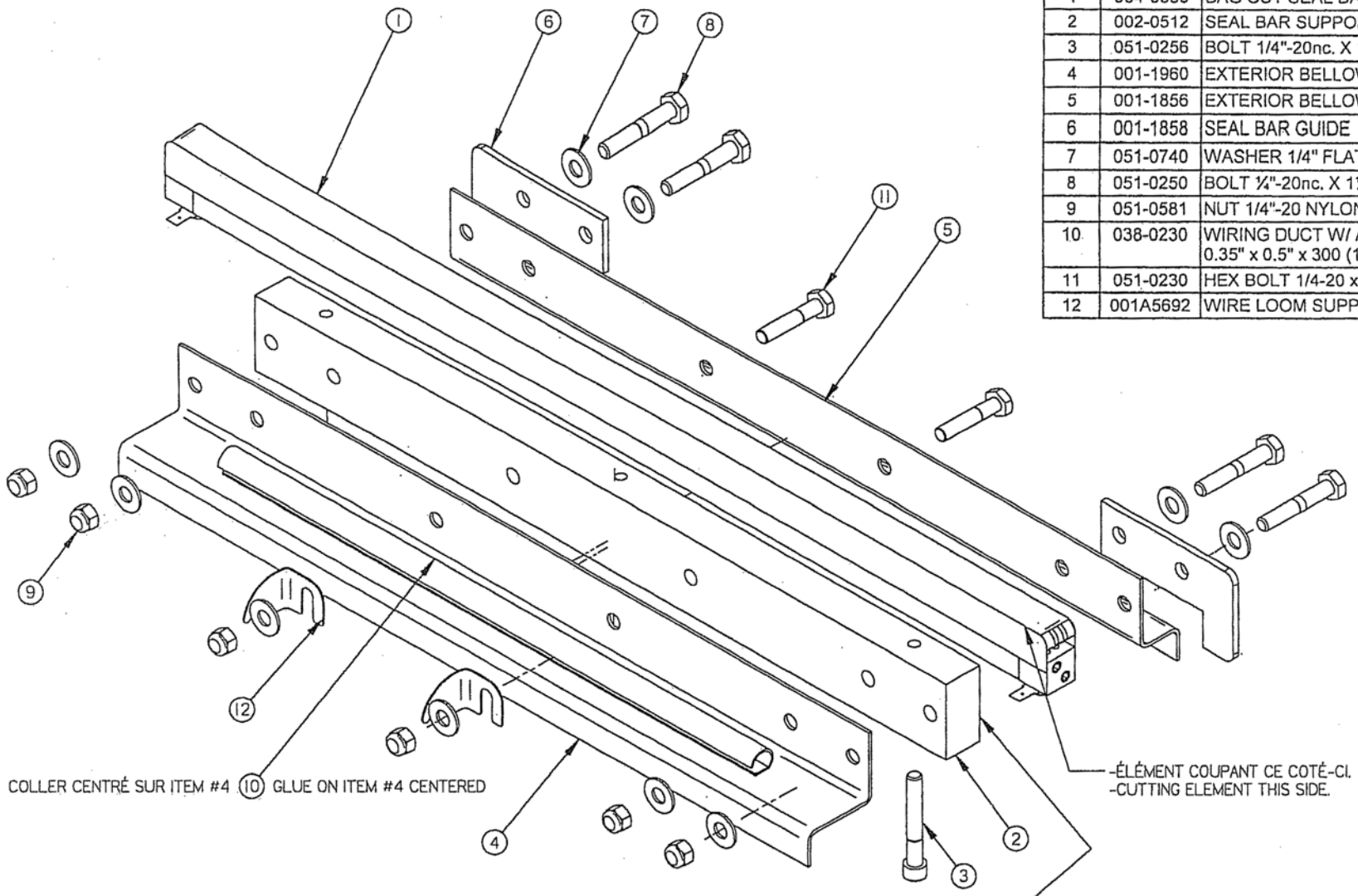
MAT: DWG BY A. P. DATE 98-02-10 APP. DATE 98-09-29

DEPT. M-1 QT. 2

NO. 004-0352

005-0565

ITEM	PART #	DESCRIPTION	QT.
1	004-0355	BAG CUT SEAL BAR PRE-ASSEMBLY	1
2	002-0512	SEAL BAR SUPPORT	1
3	051-0256	BOLT 1/4"-20nc. X 1 3/4" CAP SKT S/S	3
4	001-1960	EXTERIOR BELLOWS COVER	1
5	001-1856	EXTERIOR BELLOWS COVER	1
6	001-1858	SEAL BAR GUIDE	2
7	051-0740	WASHER 1/4" FLAT S/S	10
8	051-0250	BOLT ¼"-20nc. X 1½" S/S	4
9	051-0581	NUT 1/4"-20 NYLON LOCK S/S	6
10	038-0230	WIRING DUCT W/ ADHESIVE BACKING (0.35" x 0.5" x 300 (1.03)	1
11	051-0230	HEX BOLT 1/4-20 x 1 1/4" SS	2
12	001A5692	WIRE LOOM SUPPORT #2	2

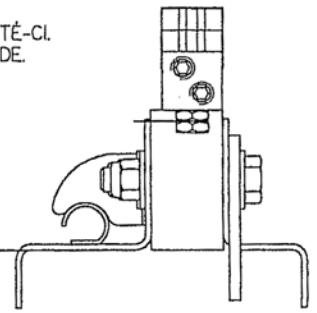


COLLER CENTRÉ SUR ITEM #4 (10) GLUE ON ITEM #4 CENTERED

-ÉLÉMENT COUPANT CE COTÉ-CI.
-CUTTING ELEMENT THIS SIDE.

-CE COTÉ DU SUPPORT ÉGAL AVEC DE LA BARRE DE SCELLAGE.
-THIS SIDE OF SUPPORT TO FIT FLUSH W/ SEAL BAR.

-ITEM #2 EGAL AVEC L'ITEM #4 & #5.
-ITEM #2 FLUSH WITH ITEM #4 & #5.



-END VIEW-

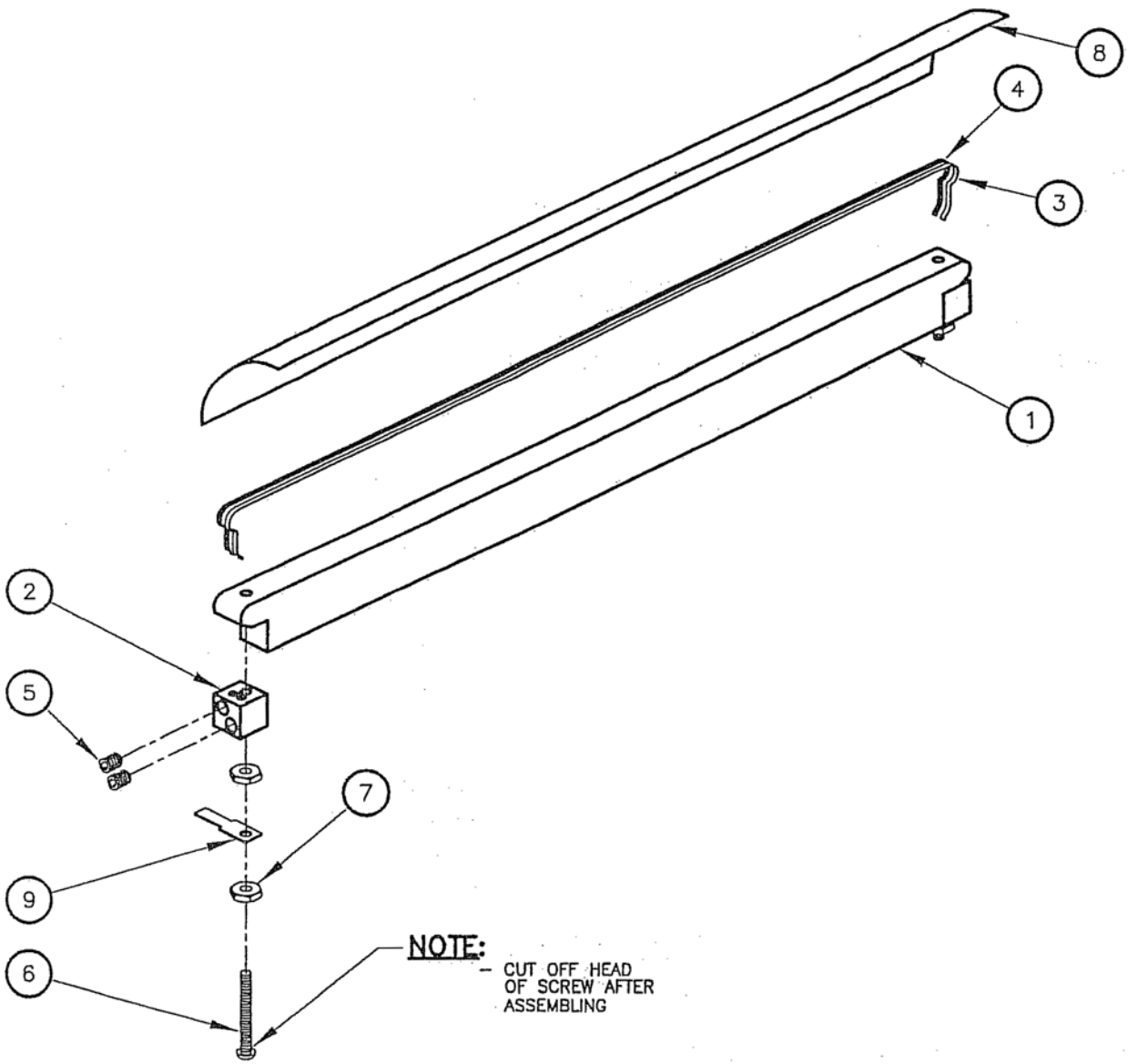
-BAG CUT OPTION-

C	REDESSINÉ S.E. & AJOUTER 001A5692	11-08-30	J.G.
LET.	MODIFICATION	DATE	INT.

MACHINE: 400, 450T & 450A		DEPT. TOL	METRIC	INCH	SIPROMAC ST-GERMAIN DE GRANTHAM QUÉBEC CANADA
PART: SEAL BAR ASSEMBLY W/SUPPORT		USINAGE	± 0,1	± 0.004"	
		TOLERIÉ	± 0,5	± 0.020"	
		SOUDAGE	± 0,5	± 0.020"	
		N.T.S.			
ITEM	CNC			DEPT. M-I-(M)	QTY. 2
MAT.	DWG BY J.G.	DATE 11-08-30		NO. 005-0565	
	APP. BY	DATE 11-09-8			

004-0355

ITEM	#PART	DESCRIPTION	QT.
1	002-0481	SEAL BAR	1
2	002-0031	CONNECTOR	2
3	039-0230	REFLEX BAND 2.5MM (626mm EA.)	0.063
4	039-0270	"T" PROFILE CUT. ELEM. (626mm EA.)	0.063
5	052-0395	SCREW 1/4"-20 NC. X 5/16" SET HEX SKT OVAL PT	4
6	052-0250	SCREW #8-32 X 1 1/2" RND SLOT BRASS	2
7	051-0550	NUT #8-32 S/S	4
8	176-0200	TEFLON TAPE 5S ADHESIVE X 2" X (496mm EA.)	0.063
9	027-0400	CONNECTOR ADAPTOR 1/4" X #10 STUD	2



NOTE:
- CUT OFF HEAD OF SCREW AFTER ASSEMBLING

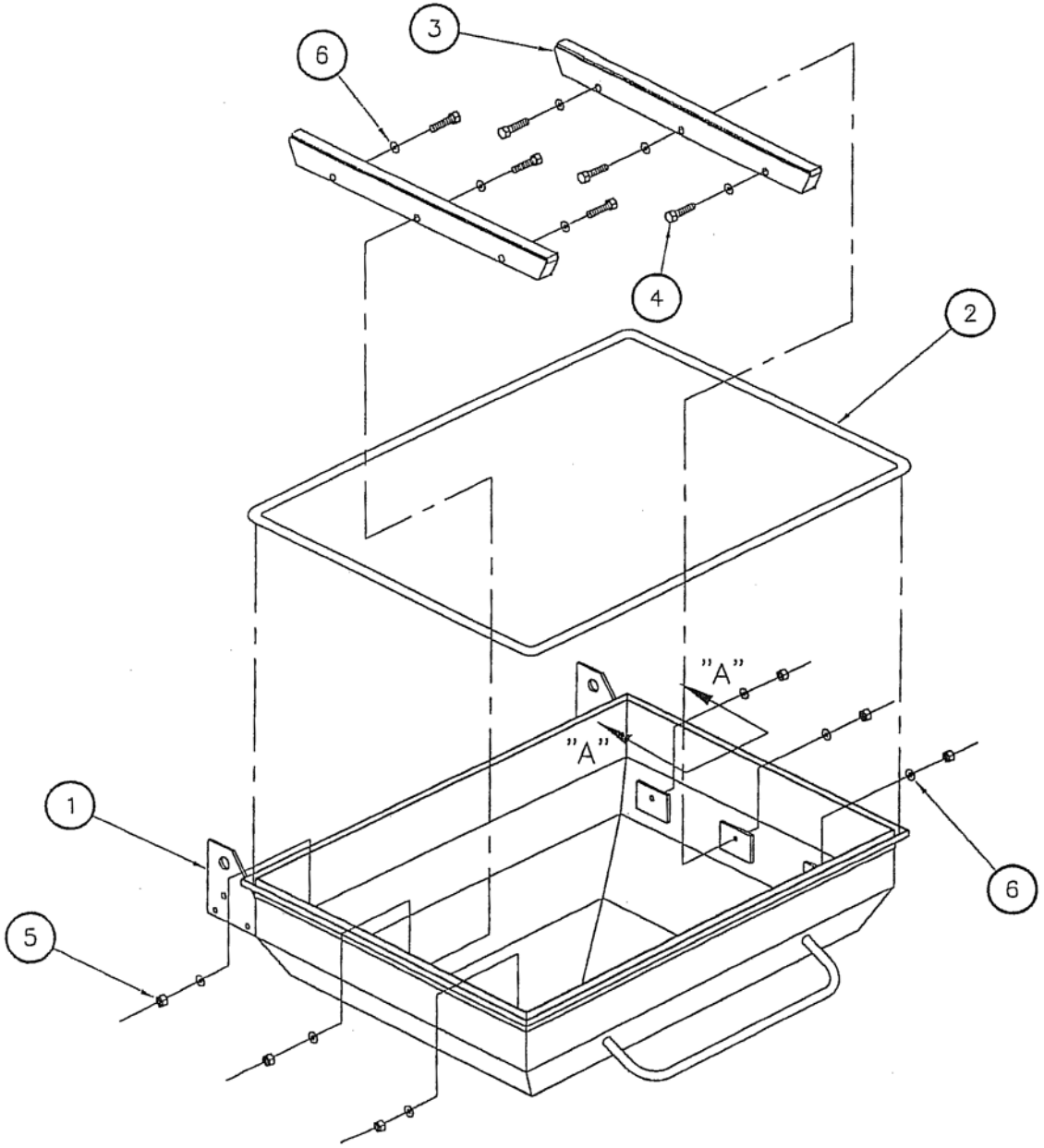
-BAG CUT OPTION-

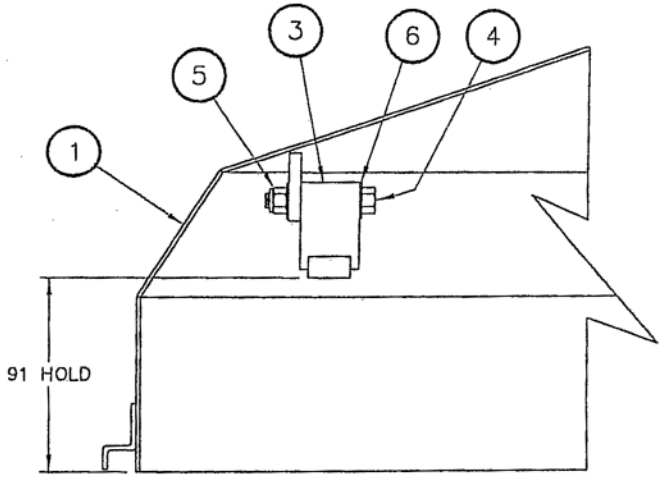
LET.	MODIFICATION	DATE	INT.
E	ADDED 450T WAS 005-0383	08-05-26	D.A.
D	MODIFICATION #A-0398 (CONNECTEUR)	04-04-19	J.G.
C	ADDED 400	99-05-06	S.L.
B	REDRAWN	98-02-10	A.P.

MACHINE: 400, 450A & 450T	TOLERANCE METRIC / INCH: USINAGE ± 0.1 / ± 0.004"; TOLERIE ± 0.5 / ± 0.020"; SOUDAGE ± 0.5 / ± 0.020"		SIPROMAC
PART: SEAL BAR PRE-ASSEMBLY	N.T.S.		ST-GERMAIN DE GRANTHAM QUEBEC CANADA
ITEM:	CNC:	M-1	QT. 2
MAT:	DWG BY A.P.	DATE 98-02-10	NO. 004-0355
	APP.	DATE 08-09-29	

005-0540

ITEM	#PART	DESCRIPTION	C
1	004-0354	COVER PRE-ASS'Y	
2	179-0020	NEOPRENE SPONGE 1/2"	8
3	004A0351	UPPER SEAL BAR PRE-ASS'Y	2
4	051-0255	BOLT 1/4"-20 x 1 3/4" S/S	6
5	051-0581	NUT 1/4"-20 NYLON LOCK S/S	6
6	051-0740	WASHER 1/4" FLAT S/S	1





-SECTION A-A-

LET.	MODIFICATION	DATE	INT.
B	MODIFIED VIEW ITEM #3 (UPPER SEAL BAR)	00-01-24	S.L.
A	ADDED 400	99-05-07	S.L.

MACHINE: 400 & 450A

PART: COVER ASSEMBLY

TOLERANCE	METRIC	INCH
USINAGE	± 0.1	± 0.004"
TOLERIE	± 0.5	± 0.020"
SOUDAGE	± 0.5	± 0.020"

N.T.S.

SIPROMAC
ST-GERMAIN DE GRANTHAM
QUEBEC CANADA

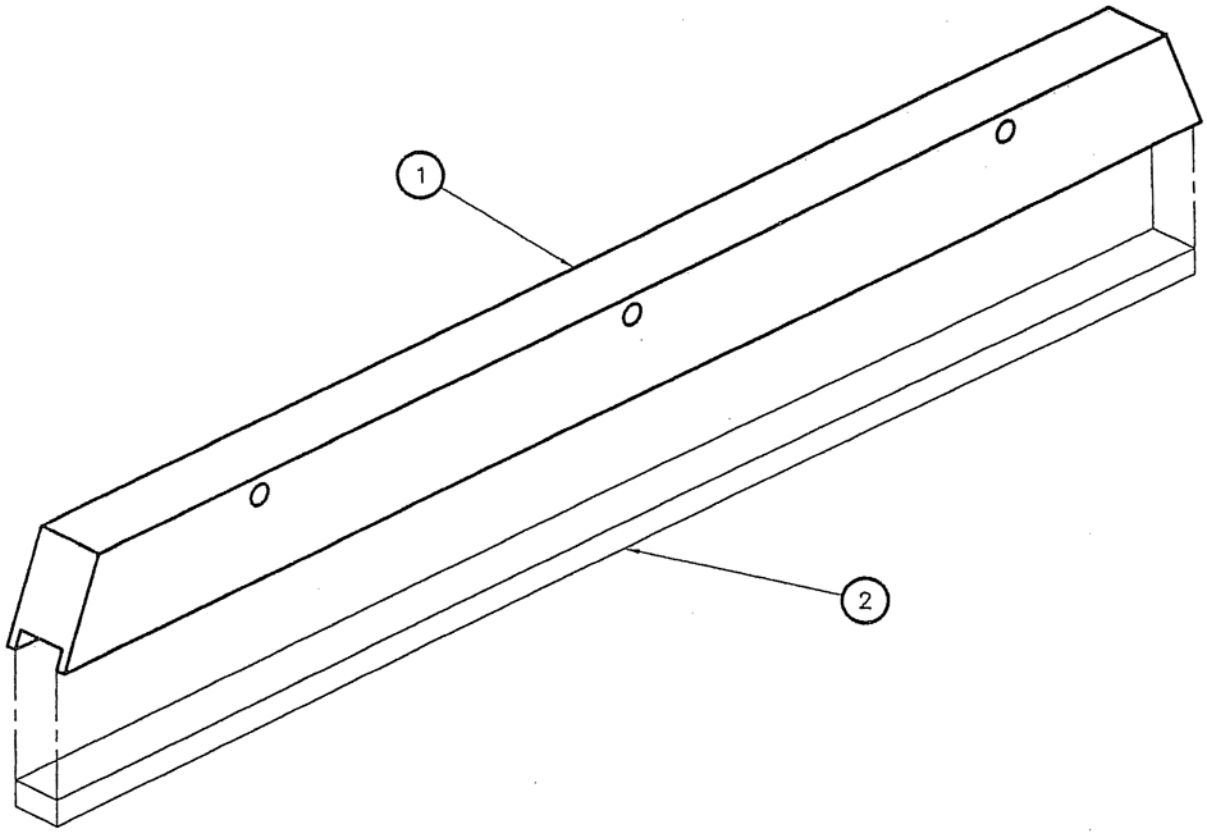
ITEM: | CNC: | M | QT. 1

MAT: | DWG BY S.L. | DATE 99-04-07 | NO. 005-0540

APP. | DATE

004A0351

ITEM	PART #	DESCRIPTION	QT.
1	002A0480	UPPER SEAL BAR SUPPORT	1
2	008-0450	UPPER SEAL BAR RUBBER	1



LET.	MODIFICATION	DATE	INT.
D	ADDED 450T WAS 004A0161	08-05-26	D.A.
C	REDRAWN	99-08-02	S.L.

MACHINE: 400, 450T & 450A

PART: UPPER SEAL BAR PRE-ASS'Y

METRIC TOLERANCE: D ± .5, .0 ± .05, .00 ± .005, .000 ± .0005, ANGLE ± 1°

INCH TOLERANCE: .0 ± .015", .00 ± .005", .000 ± .0005"

N.T.S.

SIPROMAC
ST-GERMAIN DE GRANTHAM
QUEBEC CANADA

ITEM: _____ CNC: - - - - - -

DEPT. M-I QT. 2

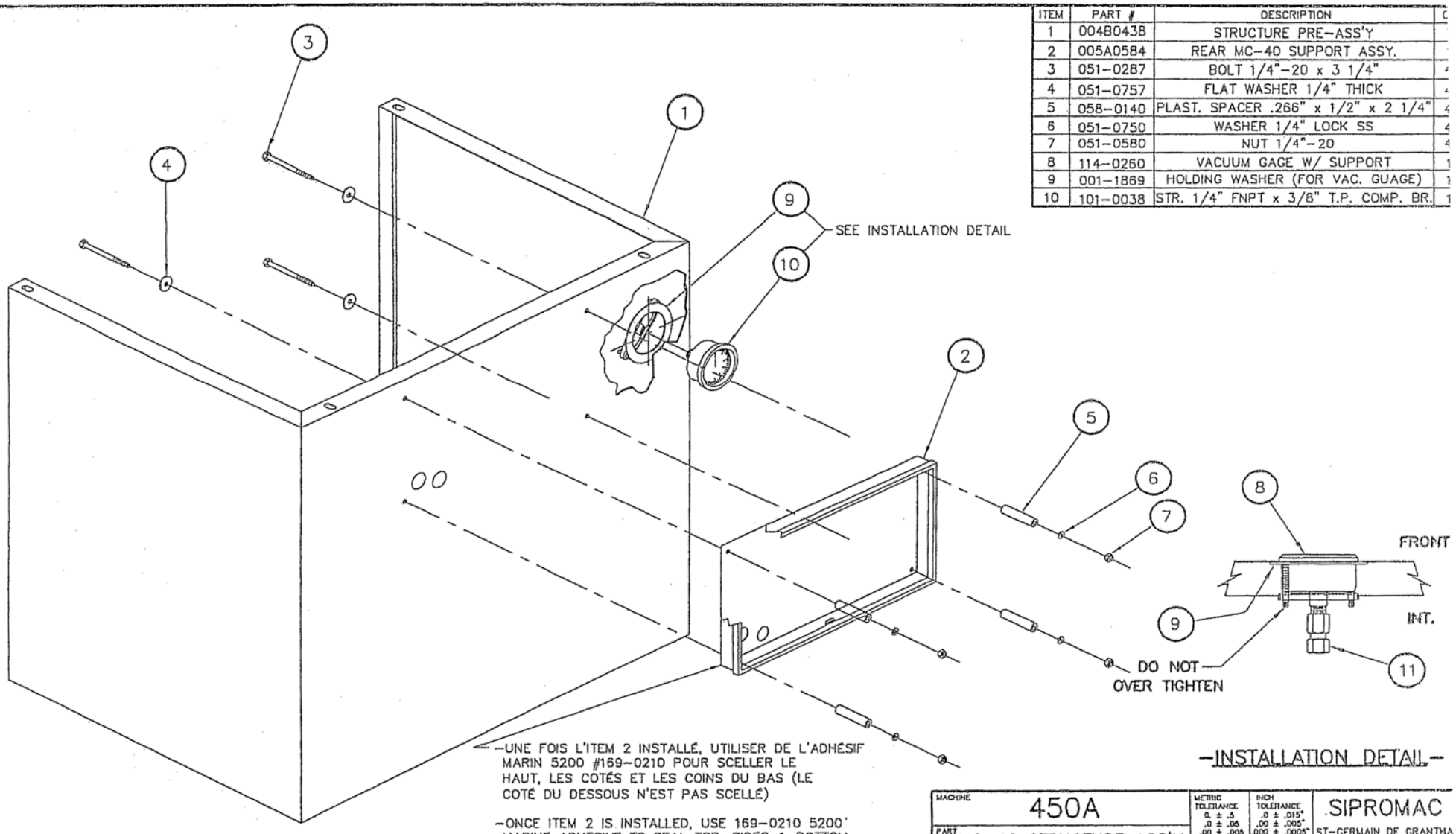
MAT:

DWG BY S. LAROUCHE DATE 99-08-02

APP. DATE 09-12-15

NO. 004A0351

ITEM	PART #	DESCRIPTION	Q
1	004B0438	STRUCTURE PRE-ASS'Y	
2	005A0584	REAR MC-40 SUPPORT ASSY.	
3	051-0287	BOLT 1/4"-20 x 3 1/4"	4
4	051-0757	FLAT WASHER 1/4" THICK	4
5	058-0140	PLAST. SPACER .266" x 1/2" x 2 1/4"	4
6	051-0750	WASHER 1/4" LOCK SS	4
7	051-0580	NUT 1/4"-20	4
8	114-0260	VACUUM GAGE W/ SUPPORT	1
9	001-1869	HOLDING WASHER (FOR VAC. GUAGE)	1
10	101-0038	STR. 1/4" FNPT x 3/8" T.P. COMP. BR.	1



-UNE FOIS L'ITEM 2 INSTALLÉ, UTILISER DE L'ADHÉSIF MARIN 5200 #169-0210 POUR SCELLER LE HAUT, LES COTÉS ET LES COINS DU BAS (LE COTÉ DU DESSOUS N'EST PAS SCELLÉ)

-ONCE ITEM 2 IS INSTALLED, USE 169-0210 5200 MARINE ADHESIVE TO SEAL TOP, SIDES & BOTTOM CORNERS (UNDER SIDE NOT SEALED).

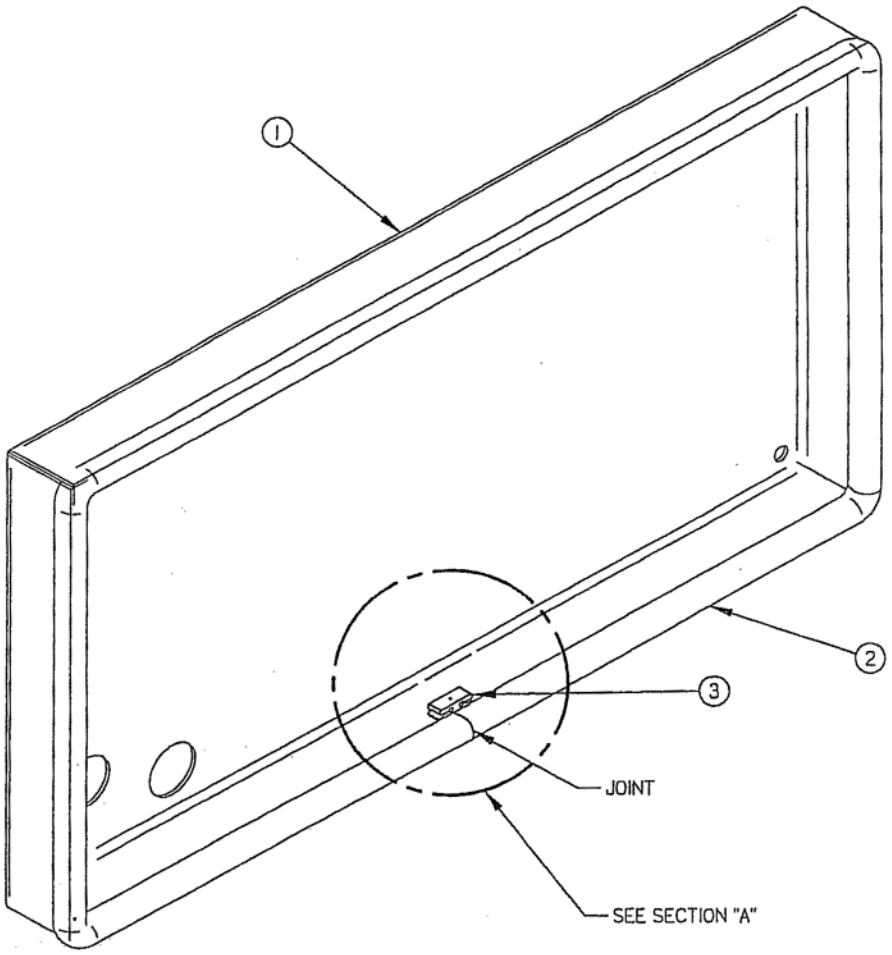
-INSTALLATION DETAIL-

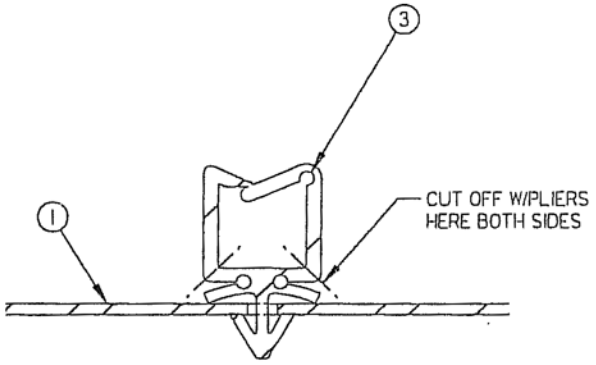
LET.	MODIFICATION	DATE	INT.
B	REDRAWN	05-09-02	M.A.L.

MACHINE: 450A	METRIC TOLERANCE: 0. ± .5, .0 ± .05, .00 ± .005, .000 ± .0005, ANGLE ± 1°	INCH TOLERANCE: .0 ± .015", .00 ± .005", .000 ± .0005"	SIPROMAC
PART: MC-40 STRUCTURE ASS'Y	N.T.S.		ST-GERMAIN DE GRANTHA QUEBEC CANADA
ITEM:	CNC:	DEPT: M	QT. 1
MAT:	DWN BY: M.A.LEBLANC DATE: 05-09-02	APP. DATE: 05-11-04	NO. 005B0602

005A0584

ITEM	PART #	DESCRIPTION	QT.
1	004A0426	REAR MC-40 SUPPORT PRE-ASS'Y	1
2	179-0019	U-CHANNEL BLACK EPDM FOAM (3,9)	1
3	057-0002	CABLE CLAMPS 9mm (11,2 X 9,3)	1





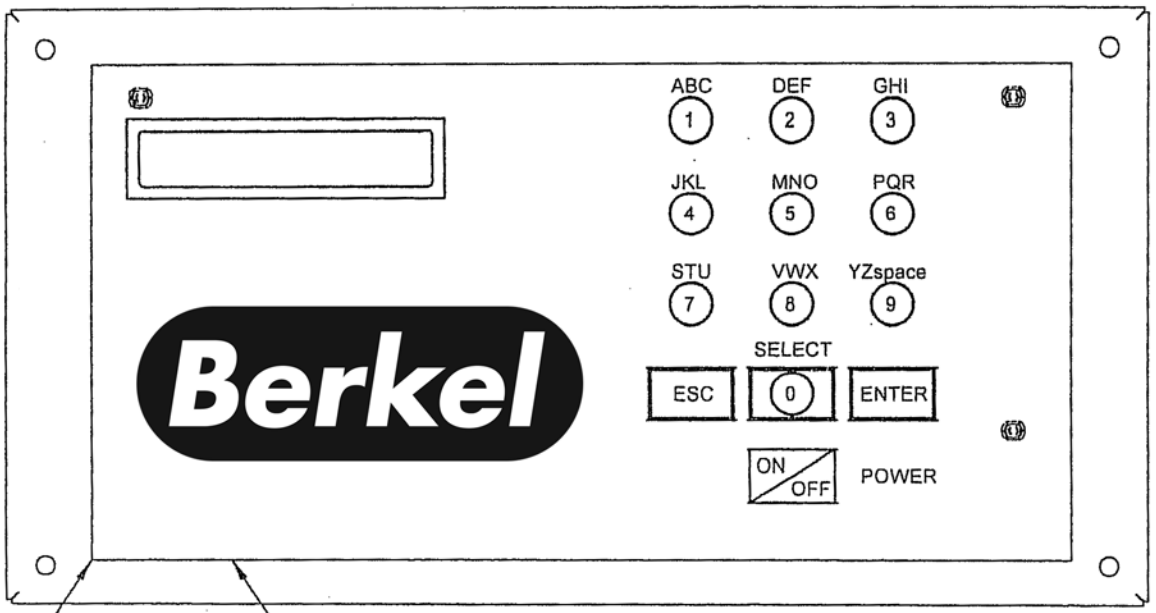
SECTION A

F	REDRAWN	05-09-01	M.A.
LET.	MODIFICATION	DATE	INT.

MACHINE	420A, 450T, 450A, 550A, 570A, 580A, 600A, 620A & 650A	DEPT. TOL	METRIC	INCH	SIPROMAC
		USINAGE	± 0.1	± 0.004"	ST-GERMAIN DE GRANTHAM QUEBEC CANADA
		TOLERIE	± 0.5	± 0.020"	
		SOUDAGE	± 0.5	± 0.020"	
PART	REAR MC-40 SUPPORT ASS'Y		N.T.S.		
ITEM		CHC		DEPT. M	QTY. 1
MAT.		DWG BY M.A.L.	DATE 05-09-01	NO. 005A0584	
		APP. BY	DATE 26-10-24		

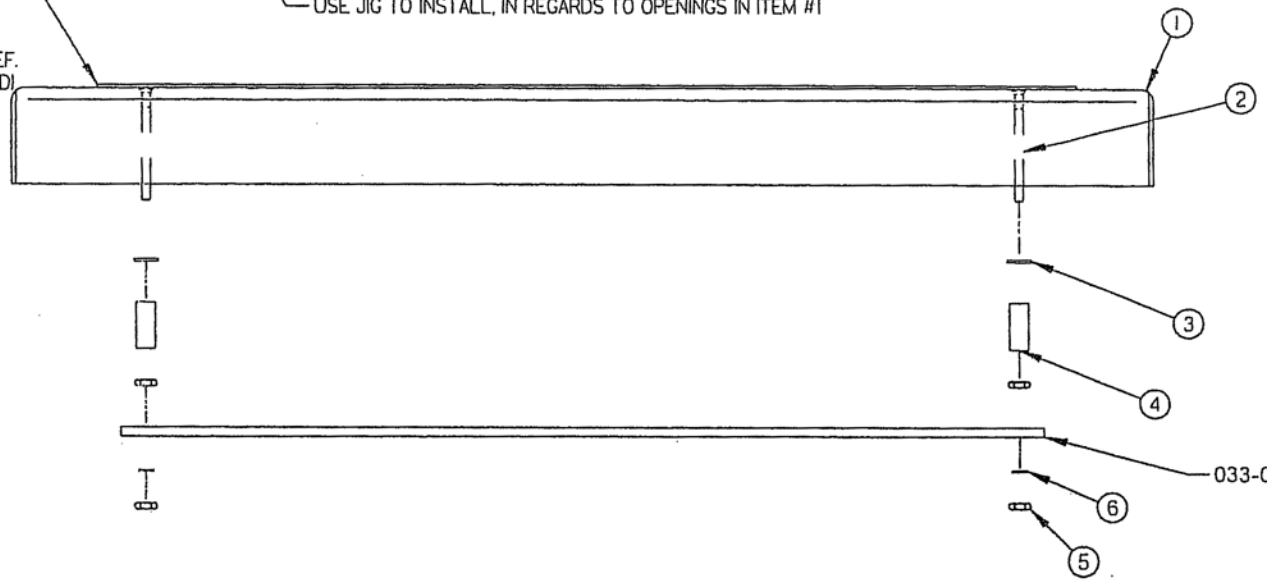
005A0583

ITEM	PART #	DESCRIPTION	QT
1	004A0425	FRONT MC-40 SUPPORT PRE-ASS'Y	1
2	051-0092	SCREW #4-40 x 1 1/4" FLAT SLT S/S	4
3	051-0713	WASHER #4 FLAT S/S	4
4	058-0120	CPVC SPACER 0.120" x 1/4" x 5/8"	4
5	051-0540	NUT #4-40 HEX S/S	8
6	051-0715	WASHER #4 LOCK SS	4



033-0015 OR
033-0017 OR
033-0018 OR
KEY BOARD REF.
(NOT INCLUDED)

USE JIG TO INSTALL, IN REGARDS TO OPENINGS IN ITEM #1



LET.	MODIFICATION	DATE	INT.
H	AJOUTER 500D	08-04-17	J.G.
G	REDRAWN	05-09-01	M.A.

MACHINE: 420A, 450A, 450T, 500A, 500D, 550A, 580A, 600A, 620A & 650A

DEPT TOL. | METRIC | INCH
USINAGE | ± 0.1 | ± 0.004"
TOLERIE | ± 0.5 | ± 0.020"
SOUDAGE | ± 0.5 | ± 0.020"

PART: FRONT MC-40 SUPPORT ASS'Y

N.T.S.

SIPROMAC
ST-GERMAIN DE GRANTHAM
QUEBEC CANADA

ITEM | CNC | DEPT. M(1) | QTY. 1

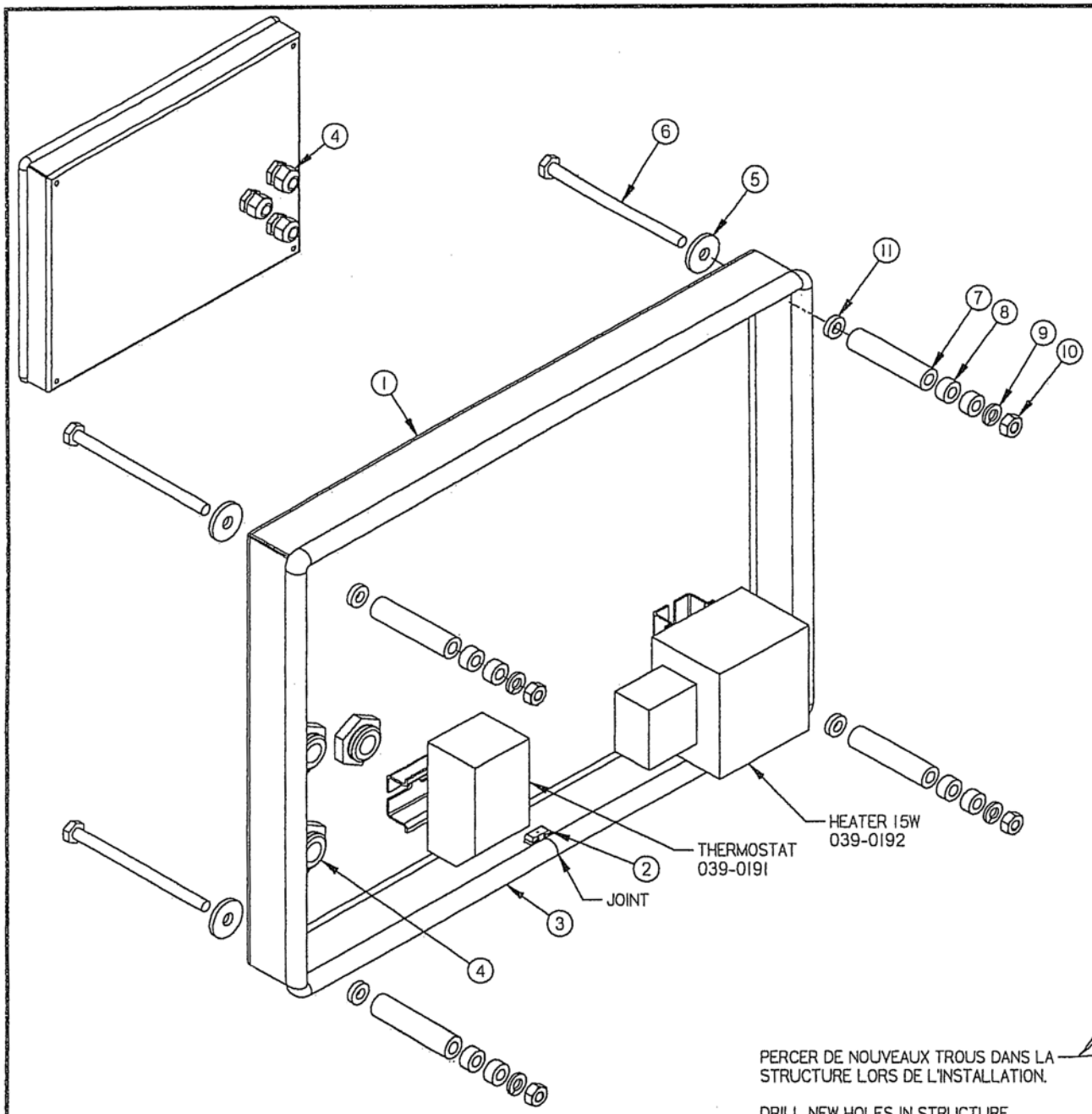
MAT.

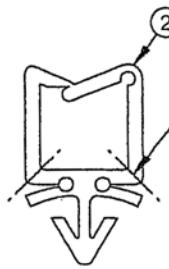
DWG BY M.A.L. | DATE 05-09-01 | NO. 005A0583

APP. BY | DATE 08-04-25

005A0780

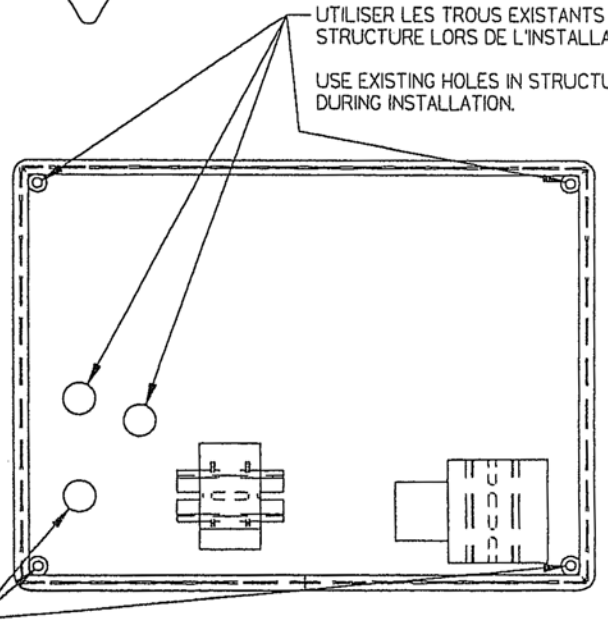
ITEM	PART #	DESCRIPTION	QT
1	004A3167	REAR MC-40 SUPPORT PRE-ASS'Y	1
2	057-0002	CABLE CLAMPS 9mm (11,2 X 9,3)	1
3	179-0019	U-CHANNEL BLACK EPDM FOAM (4.5265)	1
4	036-0409	PRESSE-ETOUPE CD13	3
5	051-0757	WASHER 1/4" FLAT THICK S/S	4
6	051-02885	BOLT 1/4-20 x 3-3/4" HEX SS	4
7	058-0139	NYLON SPACER 1/4" ID X 1/2" OD X 2-1/8"	4
8	058-0025	NYLON SPACER 0.257"ID x 0.500"OD x 1/4"	8
9	051-0750	WASHER 1/4" LOCK S/S	4
10	051-0580	NUT 1/4"-20 S/S	4
11	058-0016	NYLON SPACER .252"ID X 1/2"OD X 1/8"THK	4





COUPER AVEC DES PINCES
ICI DES 2 CÔTÉS.

CUT OFF W/PLIERS
HERE BOTH SIDES.



UTILISER LES TROUS EXISTANTS DE LA STRUCTURE LORS DE L'INSTALLATION.

USE EXISTING HOLES IN STRUCTURE DURING INSTALLATION.

PERCER DE NOUVEAUX TROUS DANS LA STRUCTURE LORS DE L'INSTALLATION.

DRILL NEW HOLES IN STRUCTURE DURING INSTALLATION.

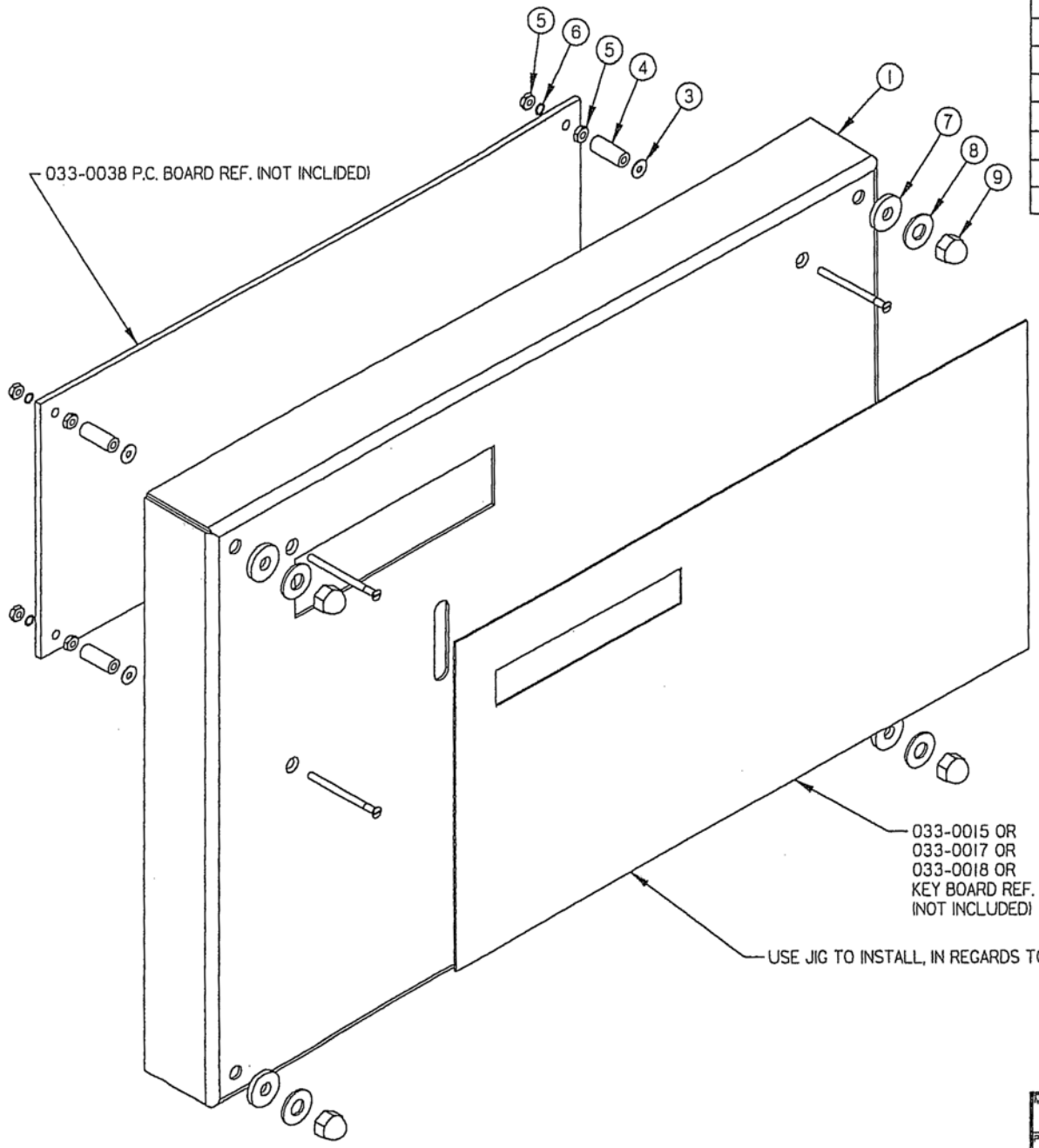
LET.	MODIFICATION	DATE	INT.
A	AJOUTER ITEM 058-0016 ET 058-0139 ETAIT 058-0140	10-09-01	J.G.

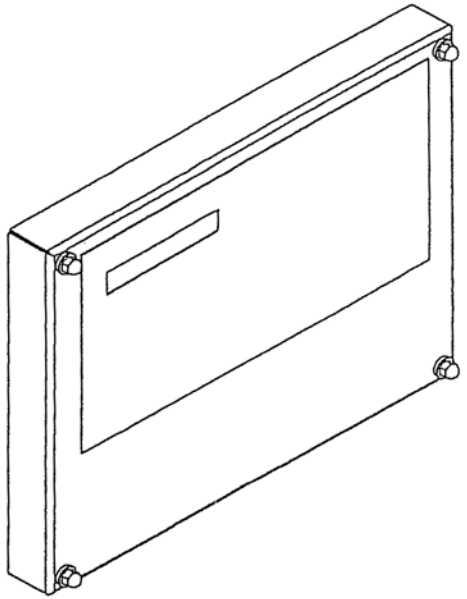
MACHINE: 420A, 450A, 550A, 580A, 600A, 620A & 650A	DEPT. TOL: USINAGE / TOLERIE / SOUDAGE	METRIC: ± 0.1 / ± 0.5 / ± 0.5	INCH: ± 0.004" / ± 0.020" / ± 0.020"
PART: REAR MC-40 SUPPORT ASS'Y(OPT. HEATER)	N.T.S.		
ITEM	CNC	DEPT. M-(M)-I	QTY. 1
MAT.	DWG BY M.D. DATE 10-02-03	APP. BY DATE 10-09-01	NO. 005A0780

SIPROMAC
ST-GERMAIN DE GRANTHAM
QUEBEC CANADA

005A0779

ITEM	PART #	DESCRIPTION	QT.
1	004A3166	FRONT MC-40 SUPPORT PRE-ASSY(OPT. HEATER)	1
2	051-0092	SCREW #4-40 x 1 1/4" FLAT SLT S/S	4
3	051-0713	WASHER #4 FLAT S/S	4
4	058-0120	CPVC SPACER 0.120" x 1/4" x 5/8"	4
5	051-0540	NUT #4-40 HEX S/S	8
6	051-0715	WASHER #4 LOCK SS	4
7	057-0089	1/4" x 5/8"O.D. EPDM RUB. SEAL. WASHER	4
8	051-0740	WASHER 1/4" FLAT S/S	4
9	051-0591	NUT 1/4"-20 ACORN S/S	4





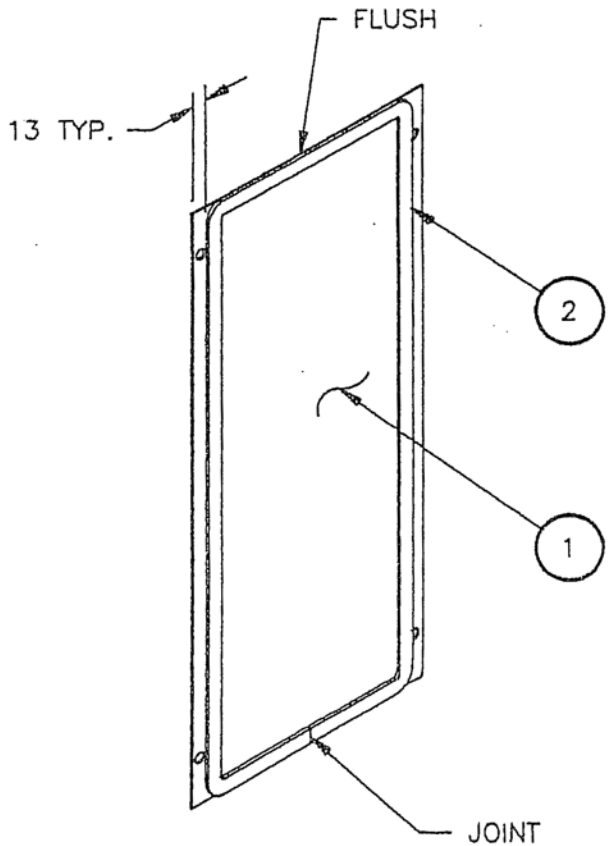
LET.	MODIFICATION	DATE	INT.

MACHINE	420A, 450A, 550A, 580A, 600A, 620A & 650A	DEPT. TOL	METRIC	INCH
		USINAGE	± 0.1	± 0.004"
		TOLERIE	± 0.5	± 0.020"
		SOUDAGE	± 0.5	± 0.020"
PART	FRONT MC-40 SUPPORT ASS'Y(OPT. HEATER)	N.T.S.		
ITEM		CNC		DEPT. M
MAT.		DWG BY M.D.	DATE 10-02-03	QTY. 1
		APP. BY	DATE 10-02-05	NO. 005A0779

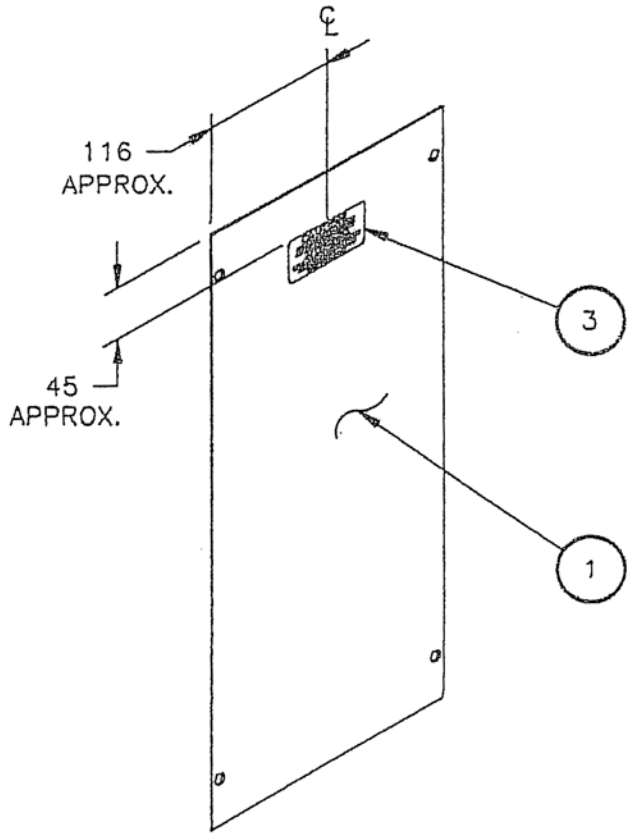
SIPROMAC
ST-GERMAIN DE GRANTHAM
QUEBEC CANADA

004-0273

ITEM	PART #	DESCRIPTION	QT.
1	001-1341	ELECTRICAL BOX COVER	1
2	179-0004	NEOPRENE SPONGE 1/8" X 1/2" ADHESIVE	1
3	127-0100	"CAUTION" YELLOW STICKER	1



-REAR VIEW-



-FRONT VIEW-

LET.	MODIFICATION	DATE	INT.

MACHINE: 450A & 550A

PART: E-BOX COVER PRE-ASS'Y

METRIC TOLERANCE: 0 ± .5, .0 ± .05, .00 ± .005, .000 ± .0005, ANGLE ± 1°

INCH TOLERANCE: .0 ± .015", .00 ± .005", .000 ± .0005"

N.T.S.

SIPROMAC
ST-GERMAIN DE GRANTHAM,
QUEBEC CANADA

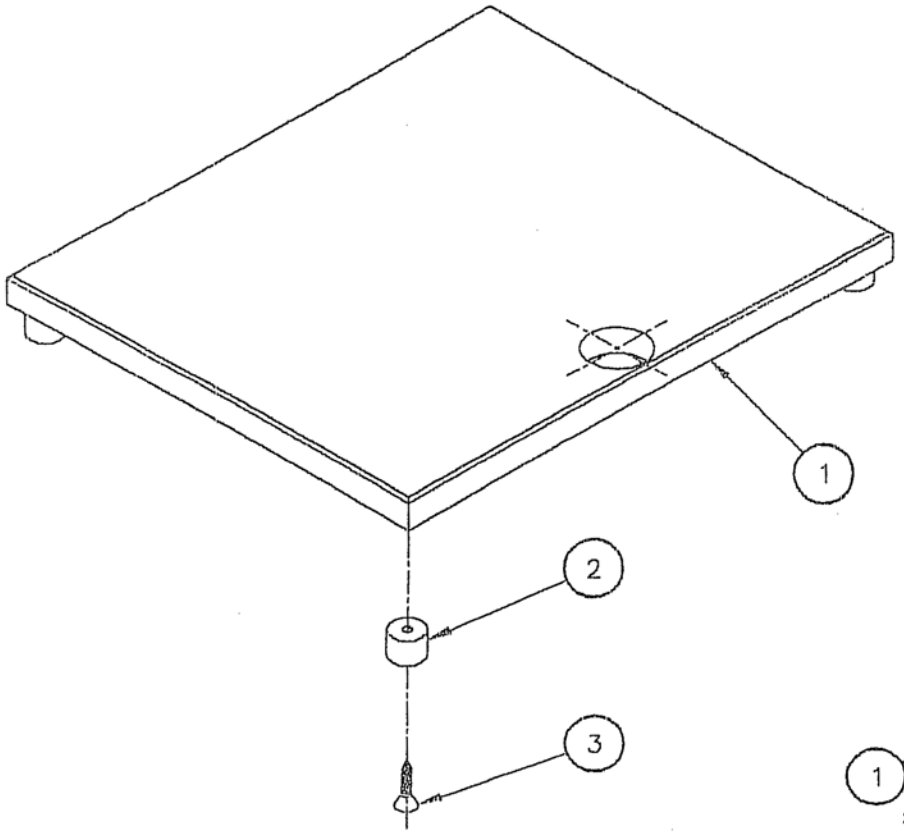
ITEM: ____ CNC: ____ SCALE ____ QT. 1

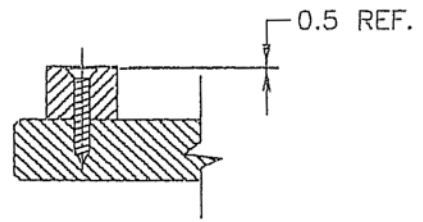
MAT: ____ DWG BY A.P. DATE 97-01-08 NO 004-0273

APP. ____ DATE ____

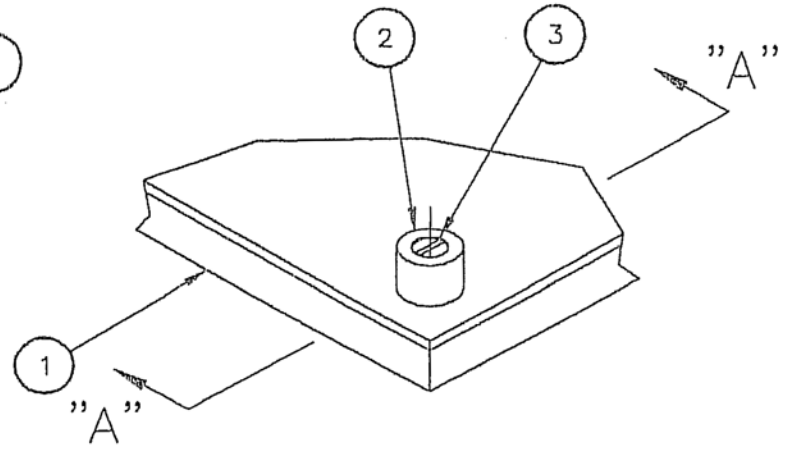
005-0534

ITEM	PART #	DESCRIPTION	QT.
1	008-0455	FILLER PLATE	2
2	003-0080	FILLER PLATE FOOT	8
3	054-0004	METAL SCREW #10 X 1" FLAT SLOT S/S	8





-SECTION "A-A"-



-INSTALLATION DETAIL-

LET.	MODIFICATION	DATE	INT.
C	ADDED 400	99-05-07	S.L.
B	REDRAWN/ MODIF. NO. A-0215	97-08-21	A.P.

MACHINE 400 & 450A

PART FILLER PLATE ASSEMBLY

METRIC TOLERANCE
0. ± .5
.0 ± .05
.00 ± .005
.000 ± .0005
ANGLE ± 1°

INCH TOLERANCE
.0 ± .015"
.00 ± .005"
.000 ± .0005"

N.T.S.

SIPROMAC
ST-GERMAIN DE GRANTHAM
QUEBEC CANADA

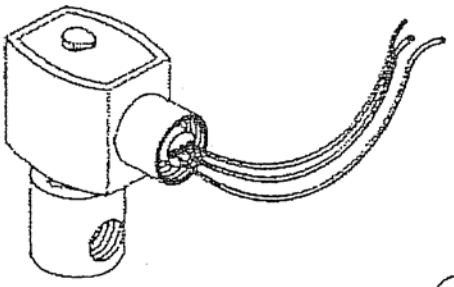
ITEM: ———— CNC: ———— SCALE ———— QT. 2

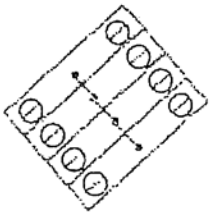
MAT:

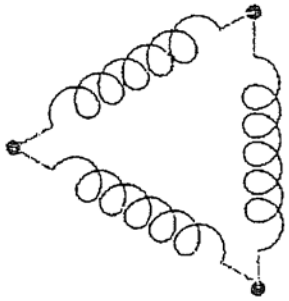
DWG BY A. PROVENCHER DATE 97-08-21

APP. DATE

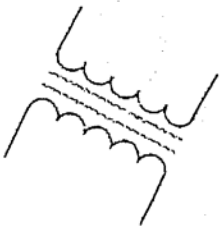
NO. 005-0534

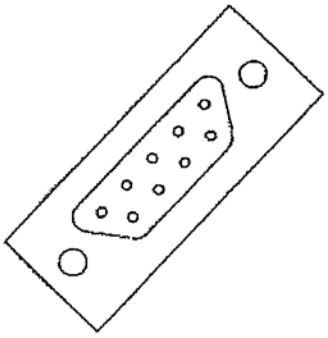


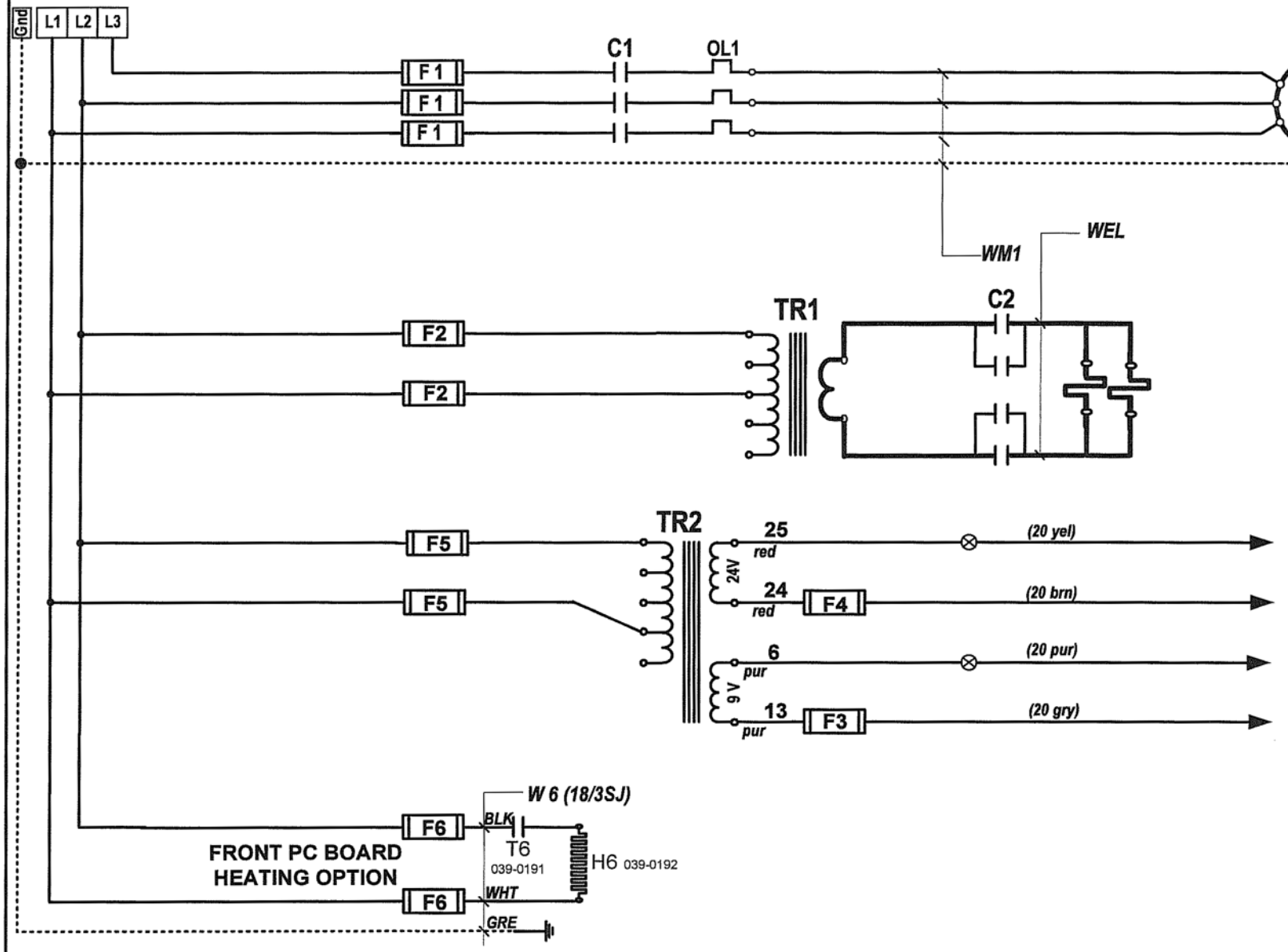




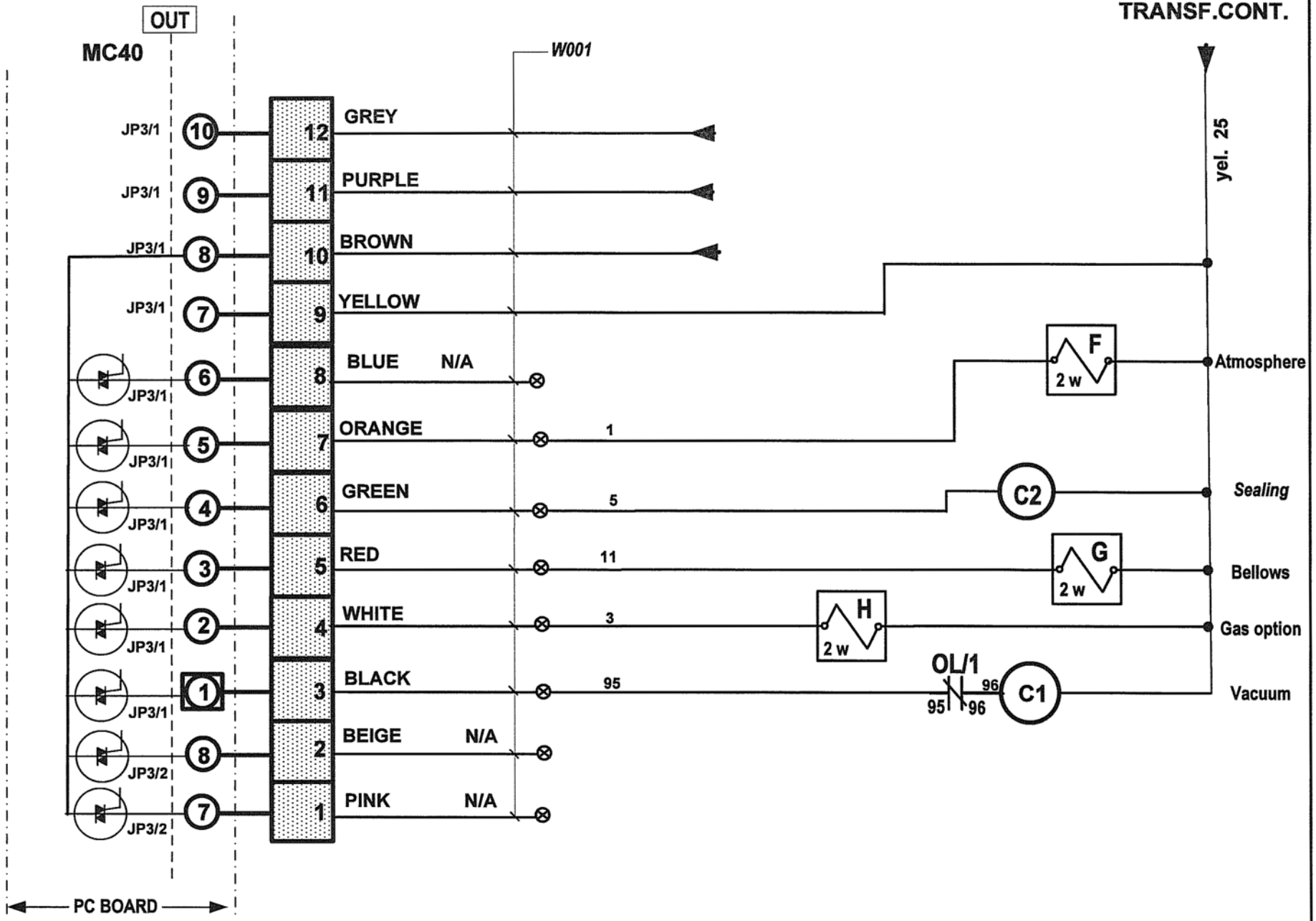
ELECTRICAL DRAWING



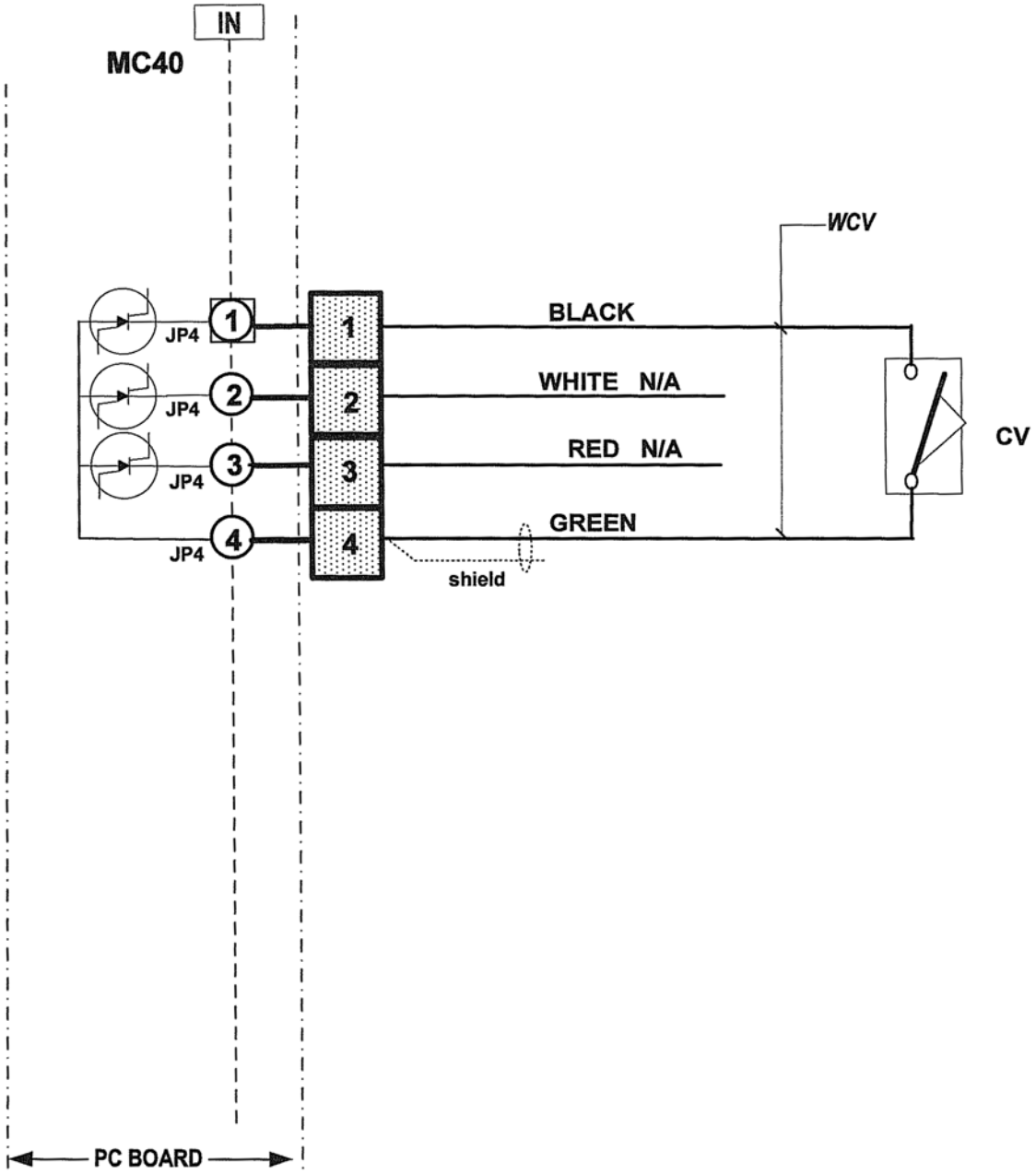




category VACUUM PACK	model 450A	volt. 3Ph 60Hz					SIPROMAC
system MC-40		circuit power	year 10	month 07	day 08	block	St-Germain de Grantham QUEBEC ,CANADA
usual fonctions			concept XX	draw PP	app DL	006-0730	PAGE 1 de 1
options							



category	VACUUM PACK	model	450A	volt.	ALL		SIPROMAC
system	MC-40			circuit	control	year 10 / month 07 / day 08 / block	St-Germain de Grantham QUEBEC ,CANADA
usual fonctions						concept XX / draw PP / app DL	006-0737 PAGE 1 de 2
options							

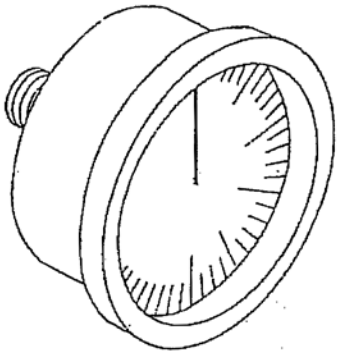


category VACUUM PACK	model 450A	volt. ALL					SIPROMAC St-Germain de Grantham QUEBEC ,CANADA
system MC-40		circuit control	year 10	month 07	day 08	block	
usual fonctions			concept XX	draw PP	app DL	006-0737 PAGE 2 de 2	
options							

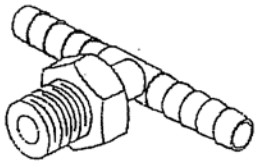
# SIPRO	PART DESCRIPTION	PART APPLICATION	MACHINE VOLTAGE	MACHINE	REF.	OPT.	QTY
028-0018	TERMINAL BLOCK M6/8 600V/50A.(8AWG)	SUPPLY	208V/3PH/60HZ	450A	L1-L2-L3		3
028-0020	GROUND TERMINAL BLOCK M6/8P	SUPPLY	208V/3PH/60HZ	450A	GND		1
028-0060	SEPARATOR M4/6	SUPPLY	208V/3PH/60HZ	450A	GND-L1-L2-L3		4
028-0105	GROUND BARRIER (6 HOLES)	SUPPLY	ALL	450A	GND		1
034-0700	FUSE HOLDER 30A/600V GOULD	VACUUM	208V/3PH/60HZ	450A	F1		3
034-0500	FUSE MIDGET 15A/250V TIME-DELAY	VACUUM RA-0040	208V/3PH/60HZ	450A	F1	A1	3
025-0030	MOTOR CONTACTOR 2HP IN 208V/3PH-CSA,UL	VACUUM RA-0040	208V/3PH/60HZ	450A	C1	A1	1
025-0160	THERMAL OVERLOAD 5.5 TO 8A-CSA,UL	VACUUM RA-0040	208V/3PH/60HZ	450A	O/L1	A1	1
030-0180	CAB TIRE	VACUUM RA-0040	208V/3PH/60HZ	450A	WM1	A1	2M.
125-0030	BUSCH RA-0040 230-460V/3PH/60HZ 2HP 6.2A	VACUUM RA-0040	208V/3PH/60HZ	450A	M1	A1	1
034-0530	FUSE MIDGET 20A/250V TIME-DELAY	VACUUM RA-0063	208V/3PH/60HZ	450A	F1	A2	3
025-0025	MOTOR CONTACTOR 3HP IN 208V/3PH-CSA,UL	VACUUM RA-0063	208V/3PH/60HZ	450A	C1	A2	1
025-0170	THERMAL OVERLOAD 7 TO 10A-CSA,UL	VACUUM RA-0063	208V/3PH/60HZ	450A	O/L1	A2	1
030-0180	CAB TIRE	VACUUM RA-0063	208V/3PH/60HZ	450A	WM1	A2	2M.
125-0040	BUSCH RA-0063 230-460V/3PH/60HZ 3HP 8.4A	VACUUM RA-0063	208V/3PH/60HZ	450A	M1	A2	1
034-0550	FUSE MIDGET 25A/250V TIME-DELAY	VACUUM RA-0100	208V/3PH/60HZ	450A	F1	A3	3
025-0030	MOTOR CONTACTOR 5HP IN 208V/3PH-CSA,UL	VACUUM RA-0100	208V/3PH/60HZ	450A	C1	A3	1
025-0190	THERMAL OVERLOAD 12 TO 18A-CSA,UL	VACUUM RA-0100	208V/3PH/60HZ	450A	O/L1	A3	1
030-0140	CAB TIRE	VACUUM RA-0100	208V/3PH/60HZ	450A	WM1	A3	2M.
125-0060	BUSCH RA-0100 230-460V/3PH/60HZ 5HP 13.6A	VACUUM RA-0100	208V/3PH/60HZ	450A	M1	A3	1
034-0700	FUSE HOLDER 30A/600V GOULD	SEALING	208V/3PH/60HZ	450A	F2		2
034-0450	FUSE MIDGET 7A/250V TIME-DELAY	SEALING	208V/3PH/60HZ	450A	F2		2
029-0040	TRANSFO 500VA/208-240/24V 60HZ	SEALING	208V/3PH/60HZ	450A	TR1		1
027-0220	TERMINAL ROUND STUD #10 600v 75°C	SEALING	ALL	450A	WEL		2
025-0020	CONTACTOR ITH=25A-CSA,UL	SEALING	ALL	450A	C2		1
030-0410	TEW #10/104 BLACK	SEALING	ALL	450A	WEL		7M.
027-0065	TERMINAL FLAG FEMALE YELLOW .250"	SEALING	ALL	450A	WEL		4
005-0564	SEAL BAR ASSEMBLY W/SUPPORT	SEALING TWIN SEAL	ALL	450A		B1	2
005-0565	SEAL BAR ASSEMBLY W/SUPPORT	SEALING BAG CUT	ALL	450A		B2	2
034-0740	FUSE HOLDER M4/8SF	CONTROL TRANSFO	208V/3PH/60HZ	450A	F5		2
034-0200	FUSE 5X20MM 3/4A 250V T-DELAY	CONTROL TRANSFO	208V/3PH/60HZ	450A	F5		2
029-0009	TRANSFO 65VA/208-230V/24-9V	CONTROL TRANSFO	208V/3PH/60HZ	450A	TR2		1
034-0740	FUSE HOLDER M4/8SF	CONTROL 9VAC+24VAC	ALL	450A	F3+F4		2
034-0210	FUSE 5X20MM 2A/250V TIME DELAY	CONTROL 9VAC	ALL	450A	F3		1
034-0240	FUSE 5X20MM 4A/250V TIME DELAY	CONTROL 24VAC	ALL	450A	F4		1
034-0740	FUSE HOLDER M4/8SF-CSA	HEATING PANEL(OPTION)	208V/3PH/60HZ	450A	F6	C	1
034-0200	FUSE 5x20MM 3/4A/250V TD-CSA	HEATING PANEL(OPTION)	208V/3PH/60HZ	450A	F6	C	1
030-0210	CAB TIRE 18/3 SJ-CSA	HEATING PANEL(OPTION)	208V/3PH/60HZ	450A	W6	C	2M.
039-0191	THERMOSTAT HAMMOND DIN RAIL	HEATING PANEL(OPTION)	208V/3PH/60HZ	450A	T6	C	1
039-0192	HEATER 15W	HEATING PANEL(OPTION)	208V/3PH/60HZ	450A	H6	C	1
030-0590	20AWG/12COND.PVC,UNSHIELD.300V	OUTPUT CONTROL	ALL	450A	W001		2.5M.

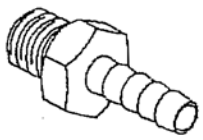
# SIPRO	PART DESCRIPTION	PART APPLICATION	MACHINE VOLTAGE	MACHINE	REF.	OPT.	QTY
036-0740	12 CONTACTS CONNECTOR	OUTPUT CONTROL	ALL	450A	JP3/1-2		1
030-0631	22AWG/4COND.PVC,SHIELDED,300V.	INPUT CONTROL	ALL	450A	WCV		2.5M.
036-0820	0.156" CENTERLINE CRIMP HOUSING	INPUT CONTROL	ALL	450A	JP4		1
036-0850	0.156" CENTERLINE CRIMP TERMINAL	INPUT CONTROL	ALL	450A	JP4		2
033-0038	MICROPROCESSOR MC-40 SENSOR VACUUM	CONTROL WITH SENSOR	ALL	450A	MC-40	D1	1
033-00385	MICROPROCESSOR MC-40 NO SENSOR VAC.	CONTROL W/O SENSOR	ALL	450A	MC-40	D2	1
033-0015	MEMBRANE MC-40 SIPROMAC	CONTROL SIPROMAC	ALL	450A		E1	1
033-0018	MEMBRANE MC-40 BERKEL	CONTROL BERKEL	ALL	450A		E2	1
106-0010	VALVE 2WAY 24V 1/4 NPT(G22) 60HZ	OPTION GAS	ALL	450A	H	F	1
106-0030	VALVE 2WAY 24V 3/4 NPT(G95) 60HZ	ATMOSPHERE	ALL	450A	F		1
106-0070	VALVE 3WAY 24V 1/4 NPT(G176)60HZ	BELLOWS	ALL	450A	G		1
026-0610	LIMIT SWITCH LONG ROLLER 15A 250V	COVER POSITION	ALL	450A	CV		1
028-0018	TERMINAL BLOCK M6/8 600V/50A.(8AWG)	SUPPLY	460V/3PH/60HZ	450A	L1-L2-L3		3
028-0020	GROUND TERMINAL BLOCK M6/8P	SUPPLY	460V/3PH/60HZ	450A	GND		1
028-0060	SEPARATOR M4/6	SUPPLY	460V/3PH/60HZ	450A	GND-L1-L2-L3		4
028-0105	GROUND BARRIER (6 HOLES)	SUPPLY	ALL	450A	GND		1
034-0700	FUSE HOLDER 30A/600V GOULD	VACUUM	460V/3PH/60HZ	450A	F1		3
034-0480	FUSE MIDGET 10A/600V FAST ACTING	VACUUM RA-0040	460V/3PH/60HZ	450A	F1	A1	3
025-0010	MOTOR CONTACTOR 5HP IN 460V/3PH-CSA,UL	VACUUM RA-0040	460V/3PH/60HZ	450A	C1	A1	1
025-0140	THERMAL OVERLOAD 2.5 TO 4A-CSA,UL	VACUUM RA-0040	460V/3PH/60HZ	450A	O/L1	A1	1
030-0190	CAB TIRE	VACUUM RA-0040	460V/3PH/60HZ	450A	WM1	A1	2M.
125-0030	BUSCH RA-0040 230-460V/3PH/60HZ 2HP 2.6A	VACUUM RA-0040	460V/3PH/60HZ	450A	M1	A1	1
034-0510	FUSE MIDGET 15A/600V FAST ACTING	VACUUM RA-0063	460V/3PH/60HZ	450A	F1	A2	3
025-0025	MOTOR CONTACTOR 7.5HP IN 460V/3PH-CSA,UL	VACUUM RA-0063	460V/3PH/60HZ	450A	C1	A2	1
025-0150	THERMAL OVERLOAD 4 TO 6A-CSA,UL	VACUUM RA-0063	460V/3PH/60HZ	450A	O/L1	A2	1
030-0190	CAB TIRE	VACUUM RA-0063	460V/3PH/60HZ	450A	WM1	A2	2M.
125-0040	BUSCH RA-0063 230-460V/3PH/60HZ 3HP 3.9A	VACUUM RA-0063	460V/3PH/60HZ	450A	M1	A2	1
034-0540	FUSE MIDGET 20A/600V FAST ACTING	VACUUM RA-0100	460V/3PH/60HZ	450A	F1	A3	3
025-0010	MOTOR CONTACTOR 5HP IN 460/3PH-CSA,UL	VACUUM RA-0100	460V/3PH/60HZ	450A	C1	A3	1
025-0160	THERMAL OVERLOAD 5.5 TO 8A-CSA,UL	VACUUM RA-0100	460V/3PH/60HZ	450A	O/L1	A3	1
030-0190	CAB TIRE	VACUUM RA-0100	460V/3PH/60HZ	450A	WM1	A3	2M.
125-0060	BUSCH RA-0100 230-460V/3PH/60HZ 5HP 6.3A	VACUUM RA-0100	460V/3PH/60HZ	450A	M1	A3	1
034-0700	FUSE HOLDER 30A/600V GOULD	SEALING	460V/3PH/60HZ	450A	F2		2
034-0430	FUSE MIDGET 4A/600V FAST ACTING	SEALING	460V/3PH/60HZ	450A	F2		2
029-0045	TRANSFO 500VA/220-400-460V/24V	SEALING	460V/3PH/60HZ	450A	TR1		1
027-0220	TERMINAL ROUND STUD #10 600v 75°C	SEALING	ALL	450A	WEL		2
025-0020	CONTACTOR ITH=25A-CSA,UL	SEALING	ALL	450A	C2		1
030-0410	TEW #10/104 BLACK	SEALING	ALL	450A	WEL		7M.
027-0065	TERMINAL FLAG FEMALE YELLOW .250"	SEALING	ALL	450A	WEL		4
005-0564	SEAL BAR ASSEMBLY W/SUPPORT	SEALING TWIN SEAL	ALL	450A		B1	2

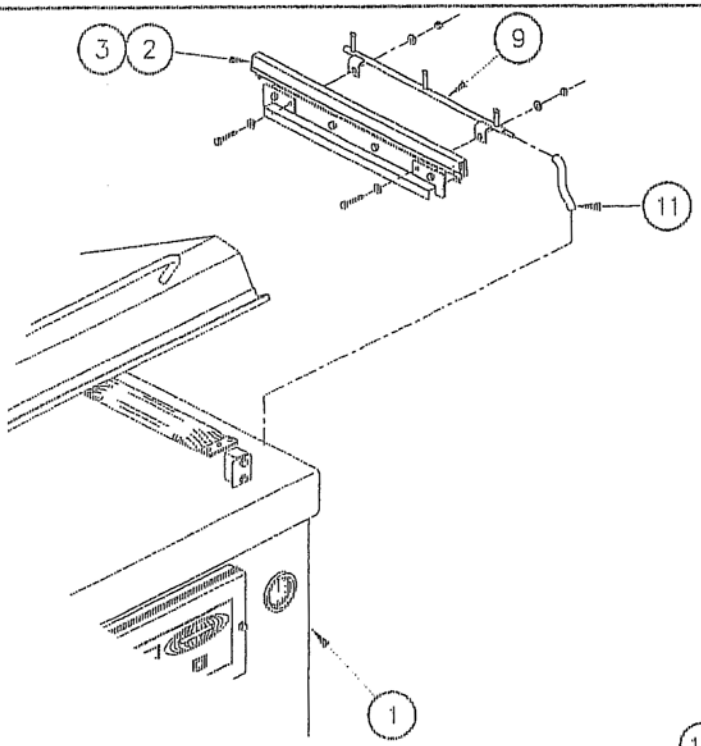
# SIPRO	PART DESCRIPTION	PART APPLICATION	MACHINE VOLTAGE	MACHINE	REF.	OPT.	QTY
005-0565	SEAL BAR ASSEMBLY W/SUPPORT	SEALING BAG CUT	ALL	450A		B2	2
034-0700	FUSE HOLDER 30A/600V GOULD	CONTROL TRANSFO	460V/3PH/60HZ	450A	F5		2
034-0420	FUSE MIDGET 2A/600V FAST ACTING	CONTROL TRANSFO	460V/3PH/60HZ	450A	F5		2
029-0007	TRANSFO 65VA/220-380-460V/24-9	CONTROL TRANSFO	460V/3PH/60HZ	450A	TR2		1
034-0740	FUSE HOLDER M4/8SF	CONTROL 9VAC+24VAC	ALL	450A	F3+F4		2
034-0210	FUSE 5X20MM 2A/250V TIME DELAY	CONTROL 9VAC	ALL	450A	F3		1
034-0240	FUSE 5X20MM 4A/250V TIME DELAY	CONTROL 24VAC	ALL	450A	F4		1
030-0590	20AWG/12COND.PVC,UNSHIELD.300V	OUTPUT CONTROL	ALL	450A	W001		2.5M.
036-0740	12 CONTACTS CONNECTOR	OUTPUT CONTROL	ALL	450A	JP3/1-2		1
030-0631	22AWG/4COND.PVC,SHIELDED,300V.	INPUT CONTROL	ALL	450A	WCV		2.5M.
036-0820	0.156" CENTERLINE CRIMP HOUSING	INPUT CONTROL	ALL	450A	JP4		1
036-0850	0.156" CENTERLINE CRIMP TERMINAL	INPUT CONTROL	ALL	450A	JP4		2
033-0038	MICROPROCESSOR MC-40 SENSOR VACUUM	CONTROL WITH SENSOR	ALL	450A	MC-40	C1	1
033-00385	MICROPROCESSOR MC-40 NO SENSOR VAC.	CONTROL W/O SENSOR	ALL	450A	MC-40	C2	1
033-0015	MEMBRANE MC-40 SIPROMAC	CONTROL SIPROMAC	ALL	450A		D1	1
033-0018	MEMBRANE MC-40 BERKEL	CONTROL BERKEL	ALL	450A		D2	1
106-0010	VALVE 2WAY 24V 1/4 NPT(G22) 60HZ	OPTION GAS	ALL	450A	H	E	1
106-0030	VALVE 2WAY 24V 3/4 NPT(G95) 60HZ	ATMOSPHERE	ALL	450A	F		1
106-0070	VALVE 3WAY 24V 1/4 NPT(G176)60HZ	BELLOWS	ALL	450A	G		1
026-0610	LIMIT SWITCH LONG ROLLER 15A 250V	COVER POSITION	ALL	450A	CV		1



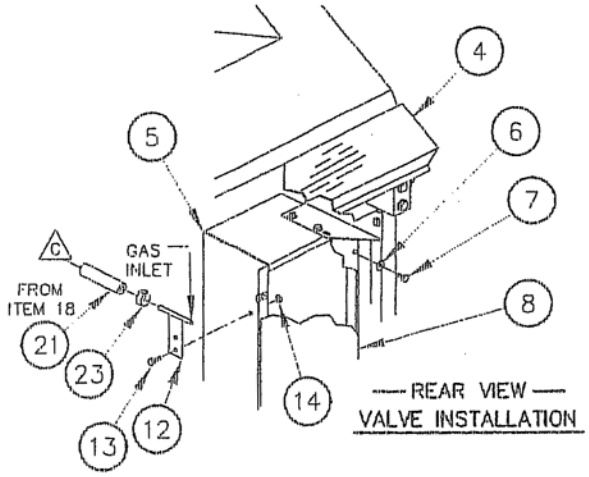
PNEUMATIC DRAWING



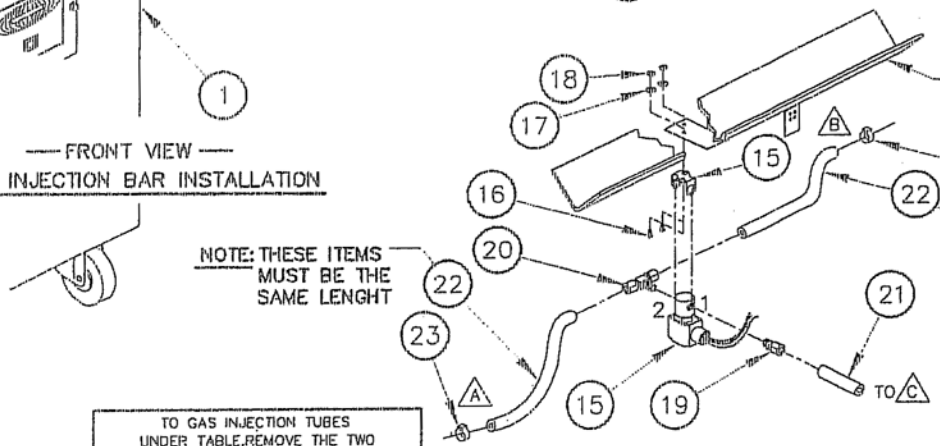




— FRONT VIEW —
GAS INJECTION BAR INSTALLATION



— REAR VIEW —
VALVE INSTALLATION



TO GAS INJECTION TUBES
UNDER TABLE,REMOVE THE TWO
EXISTING CAPS & CONNECT HOSES A & B

— UNDER TABLE VIEW —
VALVE INSTALLATION

ITEM	PART #	DESCRIPTION	QT.
1	005-0410	MACHINE ASSEMBLY FRONT VIEW	1
2	005-0564	SEAL BAR ASS'Y W/ SUPPORT	2
3	005-0565	SEAL BAR ASS'Y W/ SUPPORT (BAG CUT OPT.)	2
4	005-0411	MACHINE ASSEMBLY REAR VIEW	1
5	005-0347	ELECTRICAL BOX ASSEMBLY	1
6	051-0740	FLAT WASHER 1/4" S.S.	4
7	051-0180	HEX.BOLT 1/4"-20 x 1/2" S.S.	4
8	004-0273	E-BOX COVER PRE-ASSY.	1
9	005A0808	RIGHT GAS INJECTION BAR ASSY.(OPT.	1
10	005A0533	LEFT GAS INJECTION BAR ASSY.(OPT.)	1
11	008-0464	GAS INJECTION CONNECTION TUBE	2
12	005-0323	GAS INLET ASSEMBLY	1
13	051-0180	HEX. BOLT 1/4"-20 x 3/4" S.S.	1
14	051-0580	HEX. NUT 1/4"-20 S.S.	1
15	106-0010	SELENOID VALVE 2 WAY 1/4"NPT W/ SUPP.	1
16	051-0100	RND.H.SCREW #8-32 x 3/8" S.S.	2
17	051-0720	FLAT WASHER #8 S.S.	2
18	051-0550	HEX.NUT #8-32 S.S.	2
19	101-0036	STRAIGHT 1/4"MNPT x 3/8"T.P.COMP.	1
20	101-0065	T 3/8"T.P.COMP.x1/4"MNPTx3/8"T.P.COMP.	1
21	104-0060	TUBE 3/8"OD×1/4"ID(POLY.) × mm LG.	1
22	104-0060	TUBE 3/8"OD×1/4"ID(POLY.) × mm LG.	2
23	105-0200	COLLARS 3/8"ø	3

NOTE: --PARTS (1) THRU (8) ARE EXISTING PARTS
--PARTS (9) THRU (23) ARE PARTS SUPPLIED W/ KIT

-OPTION GAS INJECTION-

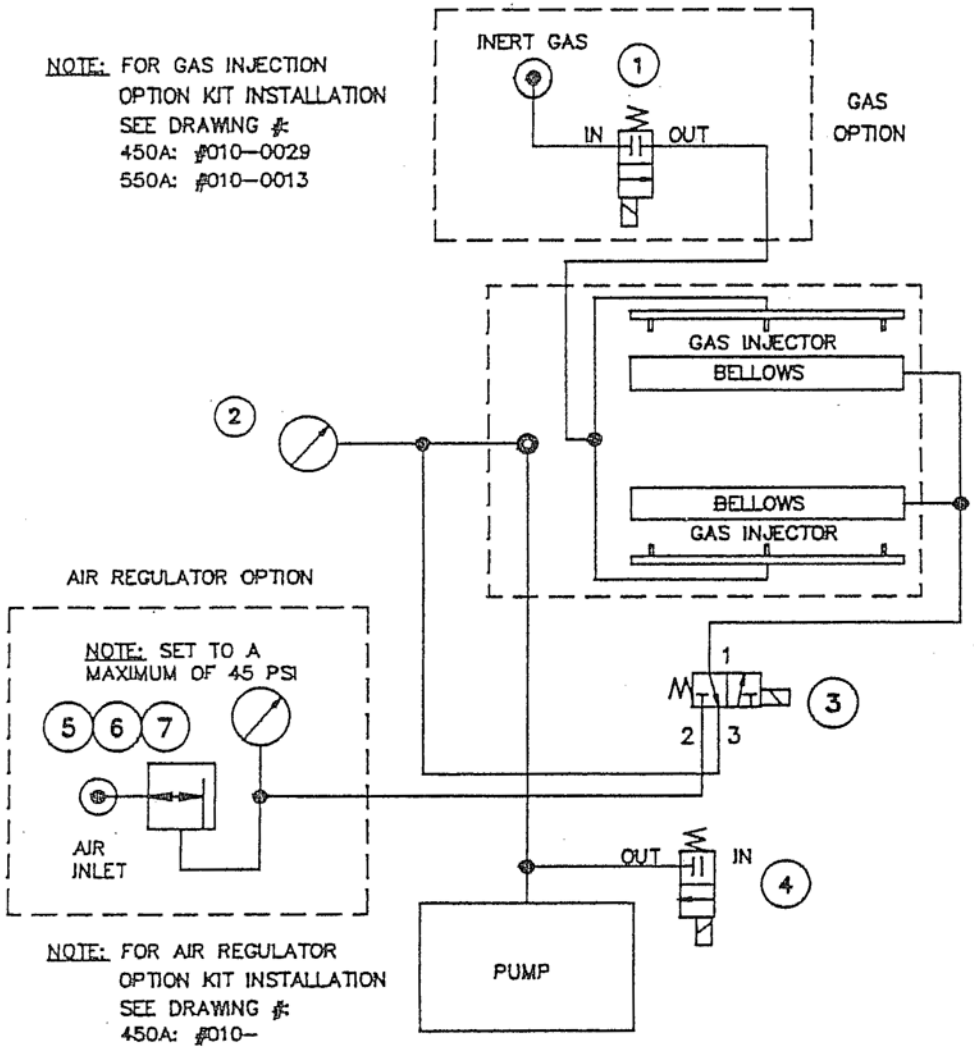
LET.	MODIFICATION	DATE	INT.
C	MODIFICATION #A-0358	03-02-21	J.G.
B	REDRAWN/ MODIF. NO. A-0226	97-10-21	A.P.

MACHINE	450A	METRIC TOLERANCE 0 ± .5, .0 ± .05, .00 ± .005, .000 ± .0005, ANGLE ± 1°	INCH TOLERANCE .0 ± .019", .00 ± .005", .000 ± .0005"
PART	GAS INJECTION KIT INSTALLATION	N.T.S.	SIPROMAC ST-GERMAIN DE GRANTHAM QUEBEC CANADA
ITEM:	CNC:	M-P-I	QT. 1
MAT:	DWG BY A. PROVENCHER DATE 97-10-21 APP. LT DATE	NO. 010-0029	

010-0029

007-0018

ITEM	PART #	DESCRIPTION	QT.
1	106-0010	GAS VALVE	1
2	114-0260	VACUUM GAUGE	1
3	106-0070	BELLOWS VALVE	1
4	106-0030	ATMOSPHERE VALVE	1
5	114-0147	PRESSURE REGULATOR	1
6	114-0245	PRESSURE GAUGE	1
7	114-0170	PRESSURE REGULATOR SUPPORT	1



LET.	MODIFICATION	DATE	INT.
B	RE-DRAWN	97-03-12	M.L.

MACHINE: 450A & 550A

PART: PNEUMATIC DRAWING

N.T.S.

SIPROMAC
ST-GERMAIN DE GRANTHAM, QUEBEC CANADA

ITEM: ____ CNC: ____ SCALE ____ QT. 1

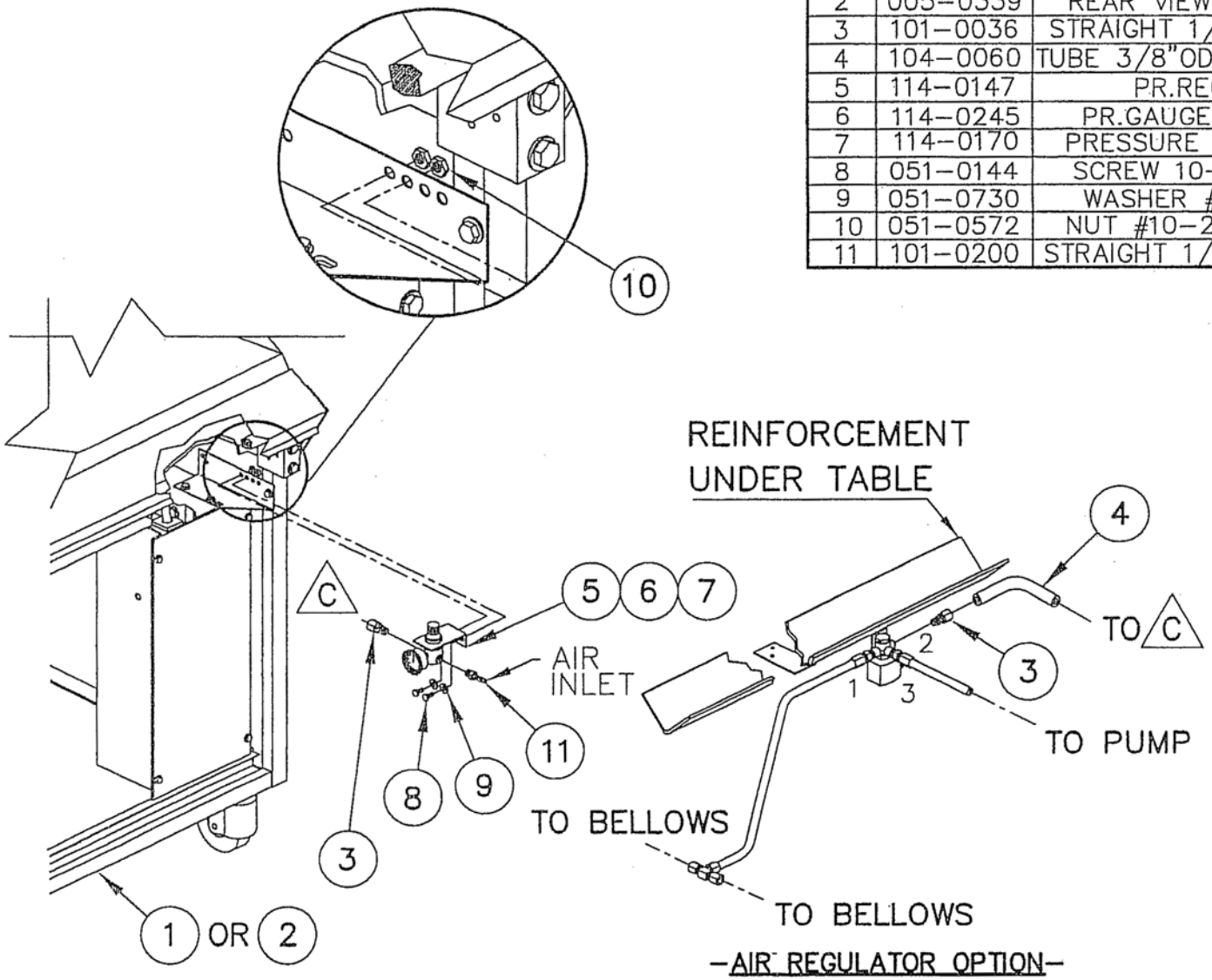
MAT:

DWG BY M.LAVIGNE DATE 97-03-12

APP. DATE

NO. 007-0018

ITEM	PART #	DESCRIPTION	QT.
1	005-0411	REAR VIEW MACHINE ASSEMBLY	1
2	005-0339	REAR VIEW MACHINE ASSEMBLY	1
3	101-0036	STRAIGHT 1/4"MNPT x 3/8"T.P.COMP	2
4	104-0060	TUBE 3/8"ODx1/4"ID(POLY)x mmLG.	2
5	114-0147	PR.REG. 0-60 PSI 1/4"NPT	1
6	114-0245	PR.GAUGE 0-60 PSI 1/8"NPT	1
7	114-0170	PRESSURE REGULATOR SUPPORT	1
8	051-0144	SCREW 10-24 x 1/2" PAN PHIL SS	2
9	051-0730	WASHER #10 FLAT S/S	2
10	051-0572	NUT #10-24 NYLON LOCK SS	2
11	101-0200	STRAIGHT 1/4"MNPTx1/4"HOSE BARB	2



-AIR REGULATOR OPTION-

LET.	MODIFICATION	DATE	INT.
B	051-0144 WAS 051-0100, 051-0572 WAS 051-0560	05-05-05	M.A.L.
A	051-0100 WAS 051-0147, 051-0560 WAS 051-0572	05-03-23	M.A.L.

MACHINE: 450A & 550A

PART: AIR REGULATOR OPTION KIT INSTALLATION

METRIC TOLERANCE: 0. ± .5, .0 ± .05, .00 ± .005, .000 ± .0005, ANGLE ± 1°

INCH TOLERANCE: .0 ± .015", .00 ± .005", .000 ± .0005"

N.T.S.

SIPROMAC
ST-GERMAIN DE GRANTHAM
QUEBEC CANADA

ITEM:

CNC:

MAT:

SCALE M-E

QT. 1

DWG BY M.LAVIGNE

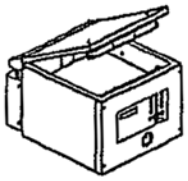
DATE 97-10-07

APP.

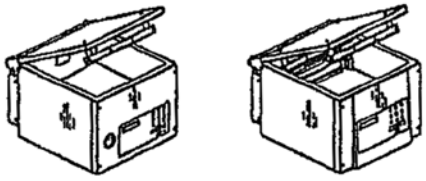
DATE 05-06-20

NO. 010-0033

VACUUM PACKAGING MACHINES

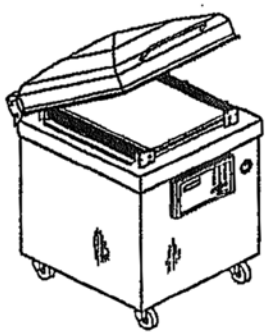


250



350/350D

450A



550A