

M (-30 MODEL 600A

	e e			
				<u> </u>
	·			
				- And
				(
				wer
•				

VACUUM PACKAGING MACHINES OPERATION INSTRUCTIONS

TABLE OF CONTENTS

- 1. Setting up the machine
- 2. Electrical connection
- 3. Operation
 - 3.1 Working principles
 - 3.2 Special packaging
 3.2.1 Gas flushing
 3.2.2 Top and bottom sealing
 (bi-active sealing)
 3.2.3 Electrical bag cut
 - 3.3 Setting of digital controls
 - 3.4 Daily cleaning
- 4. Trouble shooting
 - 4.1 Failure during a packaging cycle
 - 4.2 Insufficient vacuum
 - 4.2.1 Leakage in the bag
 - 4.2.2 No leakage in the bag
 - 4.2.3 Insufficient vacuum in the chamber
 - 4.3 Faulty seal
 - 4.3.1 Insufficient seal
 - 4.3.2 No seal
 - 4.3.3 Permanent sealing current
 - 4.3.4 Seal does not stick
 - 4.4 Fault in the valves
 - 4.5 Control board failure
- 5. Regular maintenance

SIPROMAC INC.

VACUUM PACKAGING MACHINES

OPERATION INSTRUCTIONS

1. <u>SETTING UP THE MACHINE</u>:

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 recommanded by the producer. Never exceed maximum quantity of oil indicated, when adding or changing oil.

Due to the oil viscosity, the machine is hard to start when temperatures are very low. Therefore the pump should be put in a room with an air temperature of at least $50^{\circ}F$ (+ $10^{\circ}C$). On the other hand, there must be free access of air to the pump to allow for cooling so that operation temperature of $160^{\circ}F$ ($70^{\circ}C$) is not exceeded.

2. <u>ELECTRICAL CONNECTION</u>:

Electrical connections must be made by qualified personnel. This person must make sure that the electrical entries corresponds to the proper voltage and amperage of the machine.

All vacuum machines are supplied with an electrical schematic drawing.

•		
		3
		- Carlot
		Ìe.
·		

2. Con't

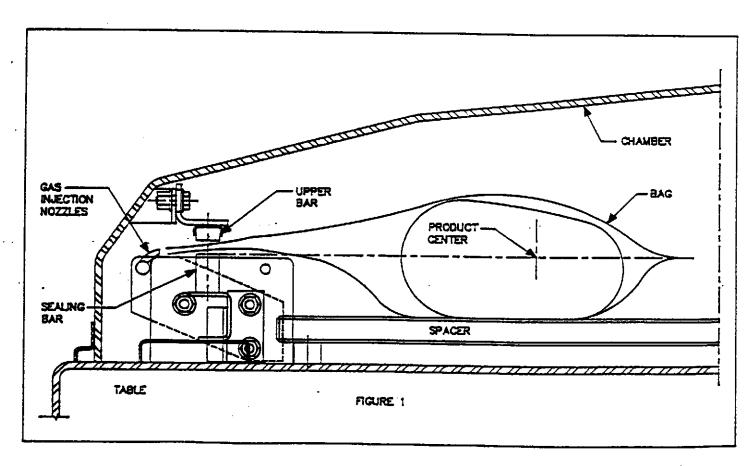
An important step in connecting the machine is to make sure that the pump turns in its correct rotation.

Warning: 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 completly 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 mecanism pushes the sealing bar to the rubber support to seal the bag.



3.1 Con't

To obtain nice packages, the products and the bags have to be of proportional sizes. The bag's opening should never exceed 2" (50 cm) 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.

3.2 Special packaging:

3.2.1 Gas flushing:

There is an atmospheric pressure of 14 lbs/sq. inch (= 1 kg/ sq. cm) 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 couterbalanced 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 can be set by "G" control.

The necessary gas tank and pressure valve mounted on tank not supplied by Sipromac. The pressure of the gas regulator should be set at approximatly 5 lbs/sq. inch. (1/3 kg/sq. cm). Each machine has an adaptor for gas connection.

3.2.2 <u>Top and bottom sealing:</u> (bi-active sealing)

When sealing aluminium laminate bags (especially bags for e.g. coffee) it is imperative to have an upper and a lower sealing bar.

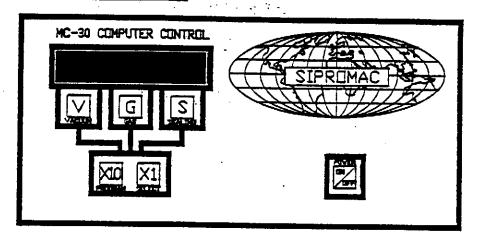
3.2.3 <u>Electrical bag cut</u>:

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 Setting of digital controls for MC-30E p.c. board:

Control pannel:





To turn on: Press the "Power On" key.

To turn off: Press the "Power Off" key.

How to program a complete cycle:

To enter the vacuum time (sec.):

Press the "V" key. The display will flash.

Set your desired timing by pressing on "X10" and/or "X1".

3. Press one more time on the "V" key. The display stays on.

To enter the gas time (sec.):

1. Press the "G" key. The display will flash.

Set your desired timing by pressing on "X10" and/or "X1".

3. Press one more time on the "G" key. The display stays on.

To enter the sealing time (sec. decimals):

1. Press the "S" key. The display will flash.

Set your desired timing by pressing on "X10" and/or "X1".

3. Press one more time on the "S" key. The display stays on.

3.3 Con't

The micro-processor will memorize the last program you entered. The system functions with a 5 volt Cadium Nickel battery which lasts approximately 3 years and recharges automatically if your machine remains plugged in. You may notice, during the first few days of use, that your micro-processor does not keep you program in memory, it is normal due to the fact that your battery is not yet fully charged.

BASIC PROGRAM TO MODIFY ACCORDING TO THE PRODUCTS

MACHINE	"V"	* "G"	"s"	
VAC 350 VAC 450A	20 sec.	As needed	1.3 sec.	
VAC 420A	20 sec. 22 sec.	As needed As needed	1.3 sec. 1.3 sec.	
VAC 550A VAC 600A	25 sec. 25 sec.	As needed	1.5 sec.	
VAC 620A	25 sec.	As needed As needed	1.5 sec. 1.5 sec.	
VAC 650A VAC 680A	27 sec. 27 sec.	As needed As needed	1.5 sec. 1.5 sec.	
VAC 700A	27 sec.	As needed	1.5 sec.	

To modify your program, increase as desired by pressing the "X1" key.

If you do not use the gas option, you have to programme "00".

Warning: Do not increase the sealing time too much
to prevent damaging the teflon.

How to use the memories of the MC-30E p.c. board:

The MC-30E p.c. board has a memory to store up to 9 different programs. To display program number, press the "X10" key. The program number will appear in the center of the display. To select the program number, press the "X1" key, then press the "X10" key to return to operating mode.

3.3 Con't

Sealing time security:

OFF ON LOFF ON OFF ON

The MC-30E p.c. board also has a time limit on the sealing. This is an additional security which does not go thru the micro-processor and has a separate circuit. This is in case the computer malfunctions or the operator sets a sealing time too high. When the sealing time reaches the limit value, the machine will turn off automatically.

BEFORE AUGUST 94	1 2 + 8 2 + 6 1 2 + 8 2 + 8 2 + 6 1 2 + 8 2 + 8 2 + 6 1 2 + 8 2 + 8 2 + 6 1 2 + 8 2 + 8 2 + 6 1 3 + 8 2 + 8 2 + 8 2 + 6 1 4 5 2 + 8 2	S 1 2 4 8 1 2 4 8 C	6 1 2 4 8 1 2 4 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6 1 2 4 8 1 2 4 8	6 1 2 4 8 1 2 4 8 1 2 4 8 1 2 4 8 1 2 4 8 1 2 4 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8 12 4 6 1 2 4 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8 1 2 4 8 1 2 4 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8	8 1 2 4 6 1 2 4 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	6 12461248 6 12461248
	1.4	2.2	3.0	3.8	4.6	5.4	6.2	7.0	NO LIMIT
FROM AUGUST 94	OFF ON	OFF ON 123 4 5 6 7 8	OFF ON 1 2 3 4 5 6 7 8 8	6F 68 1 2 3 4 3 6 7 8	8 12 3 4 5 6 7 8	8 1 2 3 4 5 6 7 8	6F 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6F 08 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8 1 2 3 4 5 6 7 8

TIME LIMIT

Time limit factory settings:

350	3.8
420A	3.8
450A	4.6
550A	4.6
600A	4.6
620A	4.6
650A	4.6
680A	4.6
700A	4 5

NOTE: Pressing the "V" key during the vacuum cycle will stop the vacuum cycle and go to the next step (gas or sealing). This is especially useful to package liquids.

WARNING:

ALL ELECTRICAL NORM DESCRIBES IN THIS BROCKURE SHOULD RE DONE BY A QUALIFIED AND AUTHORIZED TROBUCIAN.

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. Regular application of talkum powder will increase working life of the lid rubber.

Check oil in the pump weekly and add if neccessary. Only use oil types recommended by the producer (see pump brochure).

Check vacuum hose for damage regularly, will save a lot of avoidable trouble with machine breakdown.

TROUBLE SHOOTING:

4.1 Failure during a packaging cycle:

The lid is closed and cycle fails to start or stop immediatly after having started:
Micro switch is actuated too late, re-set the micro switch.

Fault in supply of electricity to the timing control (power on light does not go on):
Check input voltage at transformer (faulty contact in wires);
Check secondary voltage of transformer (approx. 24 Volt AC);
Check fuse;

If none of these apply, change the PC board.

4.2 <u>Insufficient vacuum</u>:

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's.

	·			7
,				

4.3 Faulty seal:

4.3.1 <u>Insufficient seal</u>:

Damaged teflon or silicone rubber.

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

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

4.3.2 <u>No seal</u>:

Sealing wire burnt.

Faulty contact in sealing circuit.

Sealing transformer burnt through.

Contactor does not work.

4.3.3 <u>Permanent sealing current</u>:

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).

<u>Warning</u>: Do not increase sealing time more than really necessary; higher temperature will reduce working life of teflon and silicone rubber.

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.

Evacuation time is too short:

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

4.2.3 <u>Insufficient vacuum in chamber</u>:

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 leak with 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.

Verify valve connections.

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

<u>Warning</u>: Verify connections of measuring equipment before verifing machine.

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

ત નુ

3.	All of the display continuously flashes	3.1	Cover switch remains closed	Check cover switch or continuity between pins #8 and #15 or PC board connector (see dwg #006-0029)
		3.2	Defective PC board	Replace
4.	Display is on but impossible to program any valves	4.1	Programming error	Press "V", "G" or "S" to be in programming mode. Only one at a time
	.**	4.2	Defective PC board	Replace PC board
5.	Impossible to program one timer ("V",	5.1	Defective membrane	Replace membrane
"G" or "S") (the display is on) (see step 4 first)		5.2	Defective PC board	Replace PC board
6.	PC board doesn't keep data in memory	6.1	Battery not charged	Run the machine or leave it plugged in with switch off for a few hours to charge battery
		6.2	Defective battery	Replace battery or complete PC board (the battery is mounted on the PC board)
		6.3	Defective PC board	Replace PC board

		- .
,		

7. Cycle does'nt start	7.1	Poorly adjusted cover switch	Adjust
	7.2	Bad connection or defective limit switch	Verify
	7.3	Defective PC board	Replace PC board
	7.4	PC board is OK, outputs are defective (dwg #006-0029)	Check pump fuses, pump contactor coil, valves, etc.
8. Machine "recycling" or cycle "re-start"	8.1	Poorly adjusted cover switch	Adjust
continuously	8.2	Defective PC board	Replace
9. Double chamber: vacuum sealing or atmosphere is not done on one side only	9.1	Defective relay or connection	Replace the 4PDT (in electrical box). This relay switch functions from one side to the other (the PC board is good because there is one output which control's both sides)
	9.2	Defective contactor or valve	Test voltage on coil

•

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 Control board failure

Problem	Poss	ible Cause	
1. No display	1.1	Programming error	Press on/off switch on membrane
•	1.2	No current coming to PC board	Check fuses Check voltage between pins #6 and #13 on "D" connector, the reading should be approx. 9 volts AC (if not it's due to trans- former or wiring defect)
	1.3	On/off key defective	Disconnect flat cable between PC board and membrane switch and jump pins 1 and 2 or 7 and 8 using a screw driver
	1.4	Defective PC board	Replace PC board
2. Two digits continuously	2.1	Programming error	Press corresponding "V", "G" or "S" key
flashes on "V", "G" or "S"	2.2	Defective membrane	Replace membrane
	2.3	Defective PC board	Replace PC board

		<u> </u>
·		

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.

			 ,
			\sim
•			

VACUUM PACKAGING MACHINE

MODEL 600A

GENERAL TABLE OF CONTENTS

I OPERATION INSTRUCTIONS

II MECHANICAL DRAWINGS

- A- Front view general assembly drawing
- B- Rear view general assembly drawing
- C- Seal bar assembly drawing (twin seal)
- D- Seal bar assembly drawing (electrical bag cut option)
- E- Seal bar assembly drawing (top and bottom sealing or bi-active seal bar option)
- F- Central shaft assembly drawing
- G- Gas injection kit installation drawing (option gas injection)

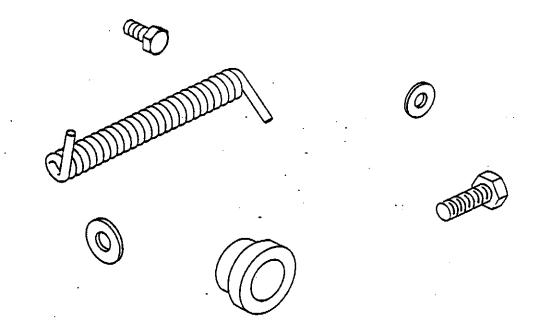
III ELECTRICAL DRAWINGS

- A- Wiring diagram 15 pins
- B- Electrical drawing low voltage
- C- Electrical drawing high voltage (600A-1 phase)
- D- Electrical drawing high voltage (600A-3 phase)

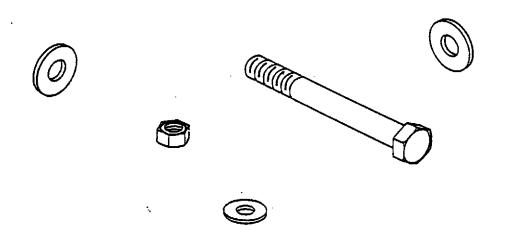
IV PNEUMATIC DRAWING

A- Pneumatic drawing

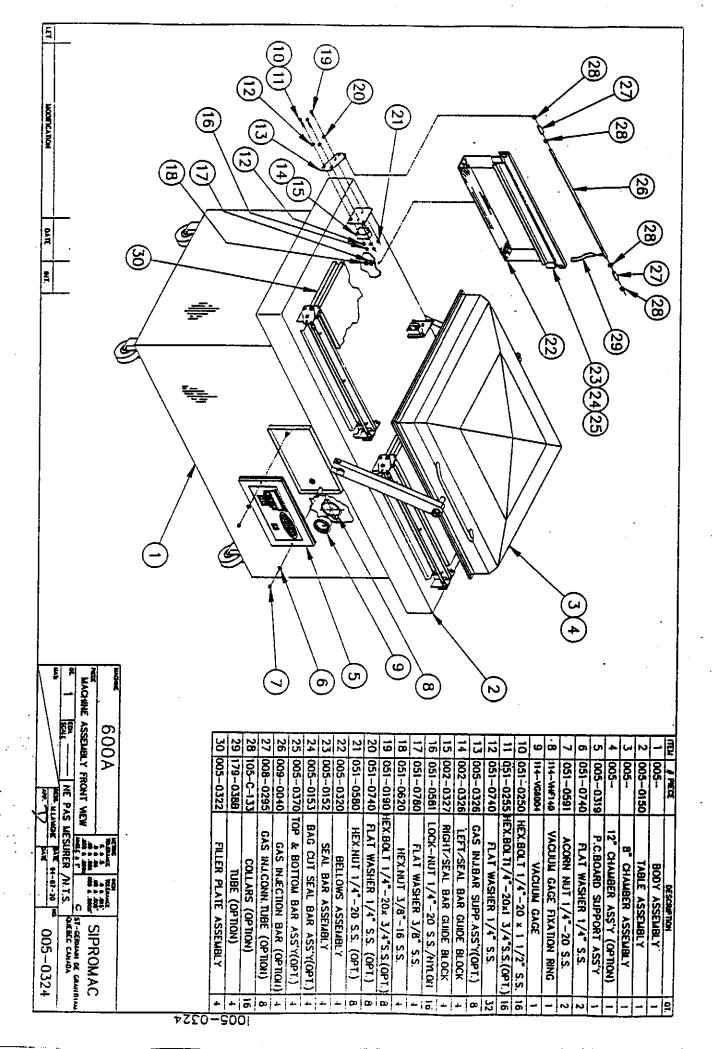
		į	
Ve			(



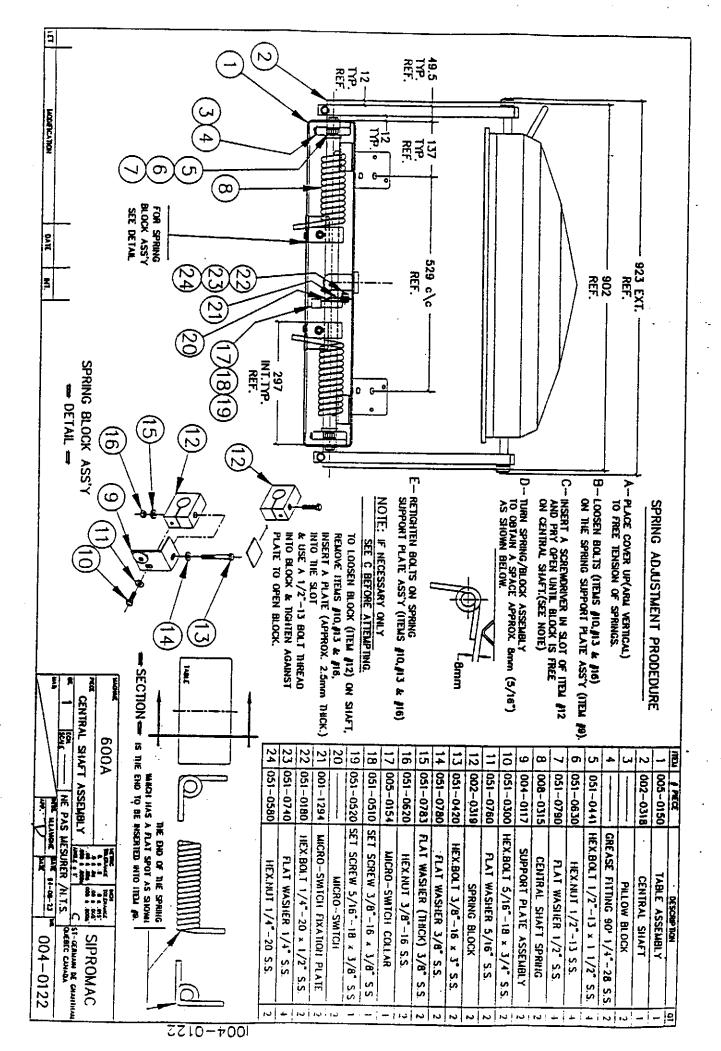
MECHANICAL DRAWING



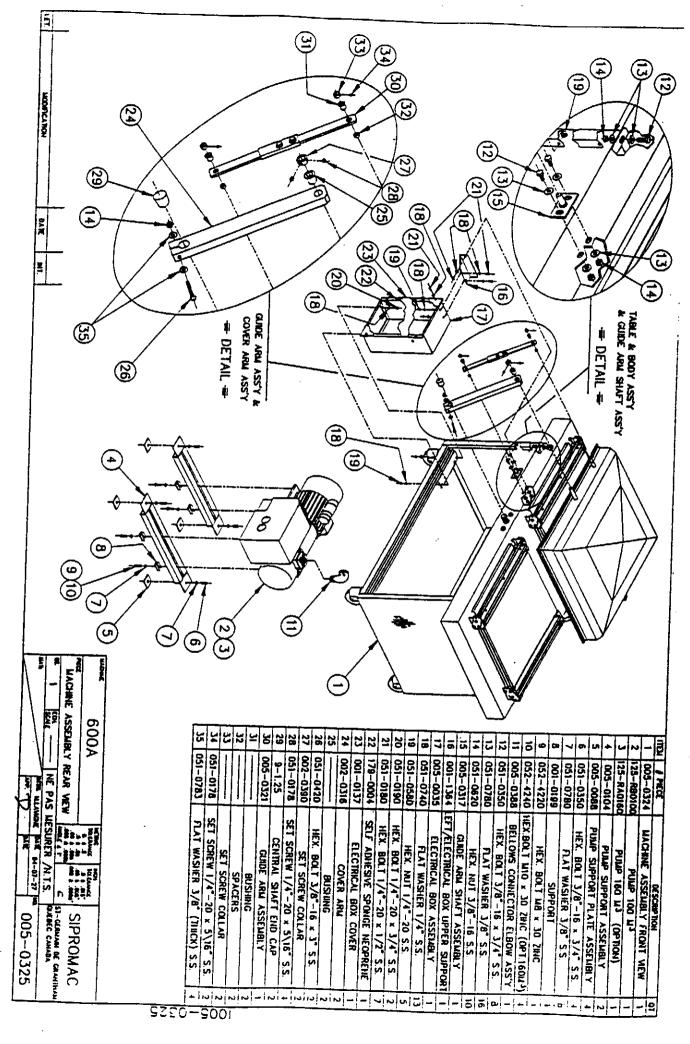
			·
	\$ 		
		y	
•			
	÷		
		·	
			<u>~</u>
			*
	•		



				~
				· ·
				g and a second
·	· · · · · · · · · · · · · · · · · · ·			

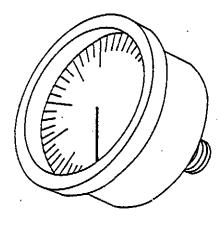


••	<u> </u>
	□ .



.

	,		

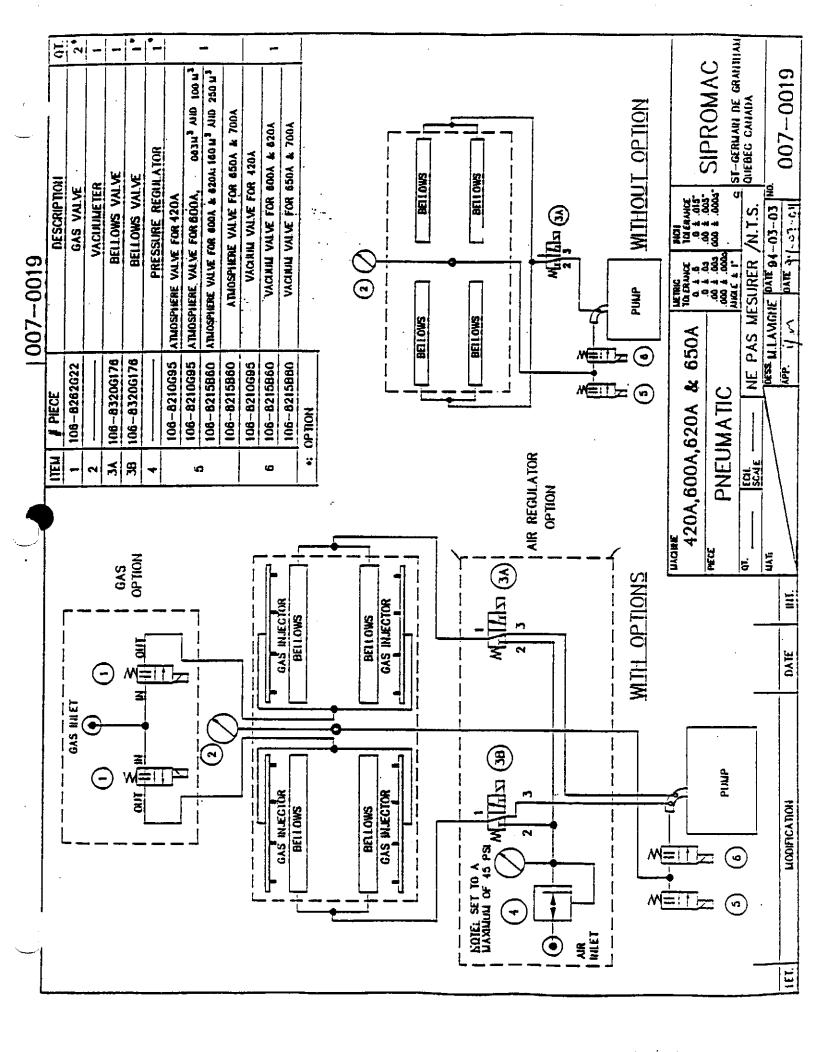


PNEUMATIC DRAMING

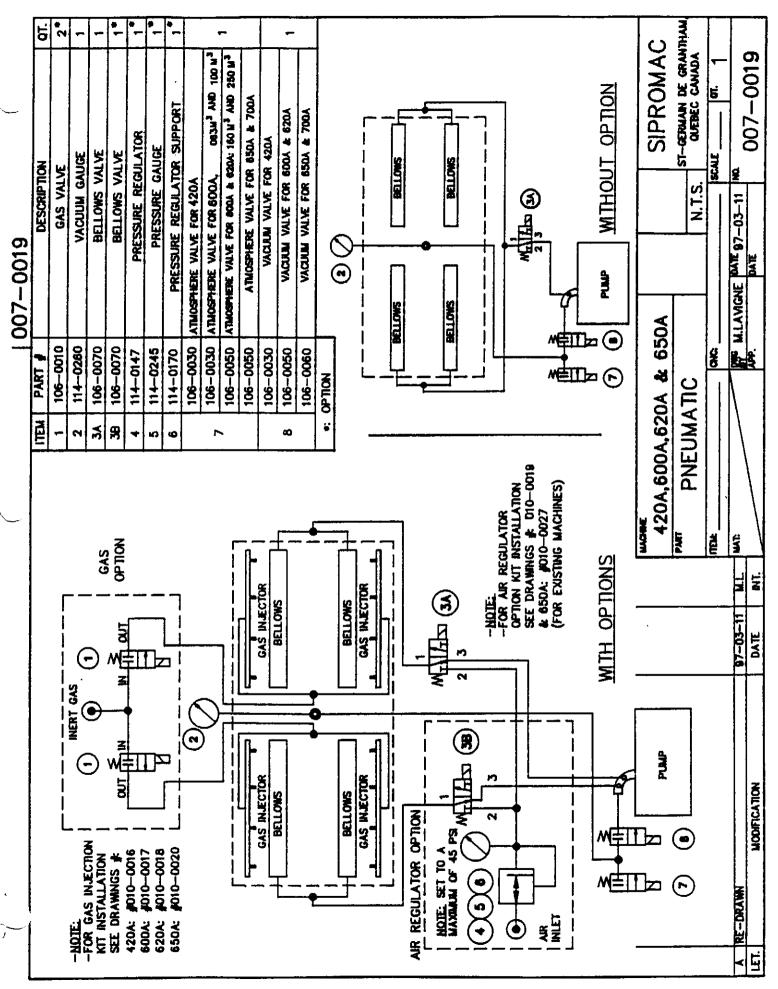




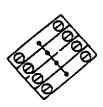
	·			
				_
				:

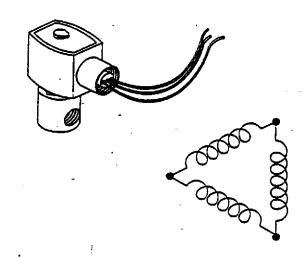


	~



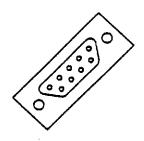
		(
		е _р . «





ELECTRICAL DRAWING



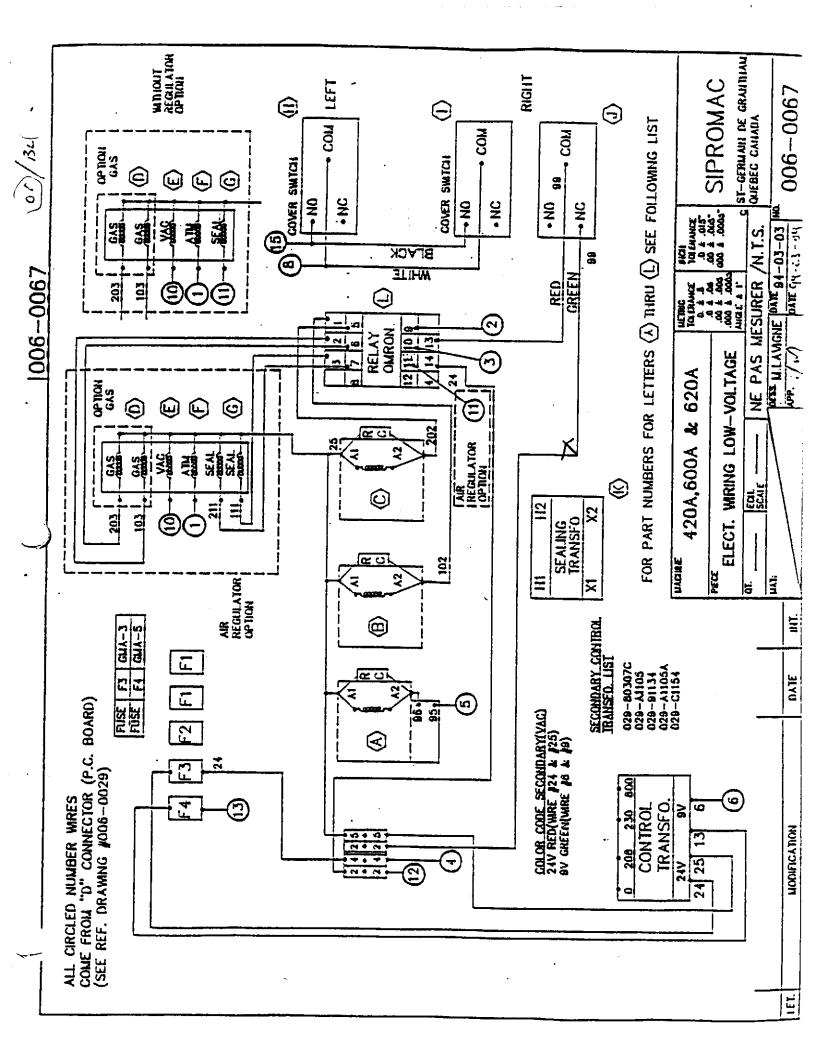


	**		
e me r			

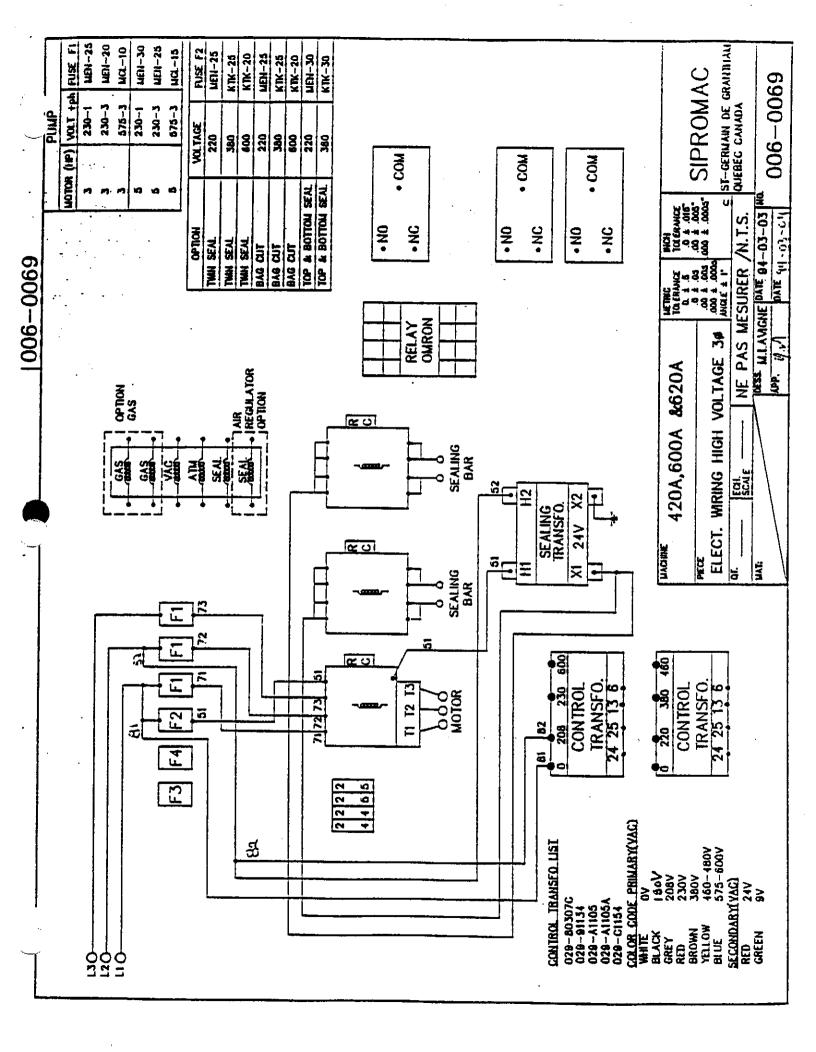
6

** ** &		

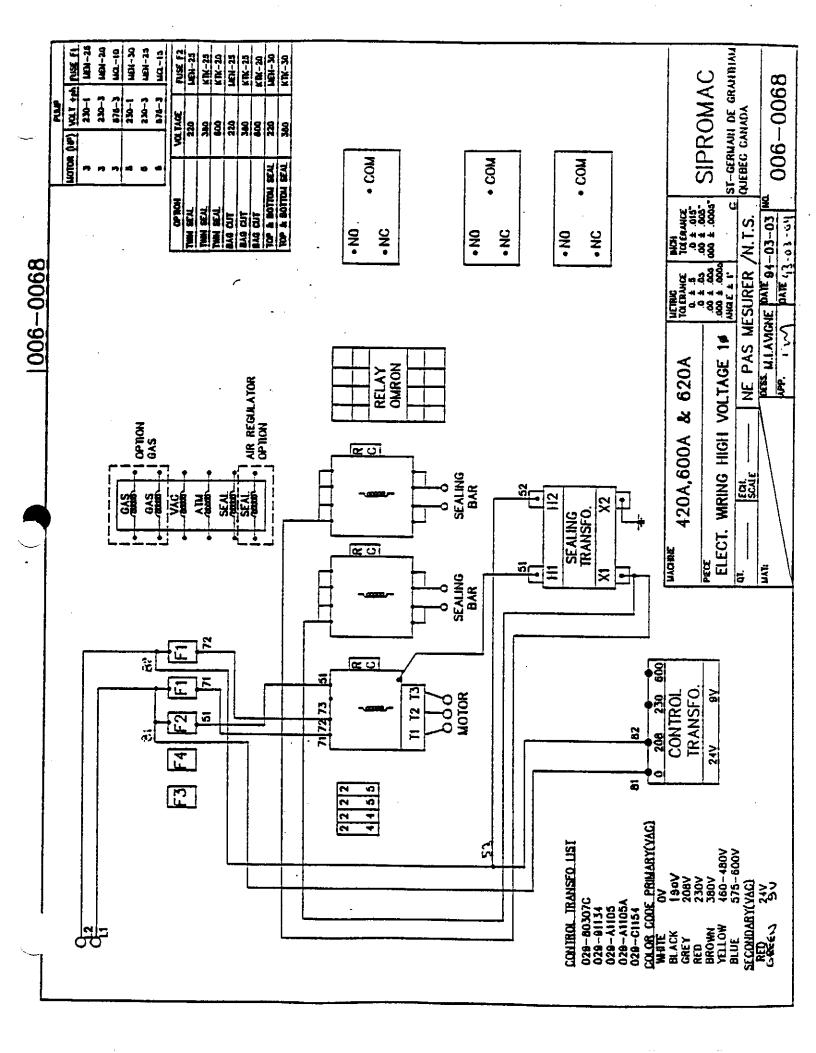
	·	

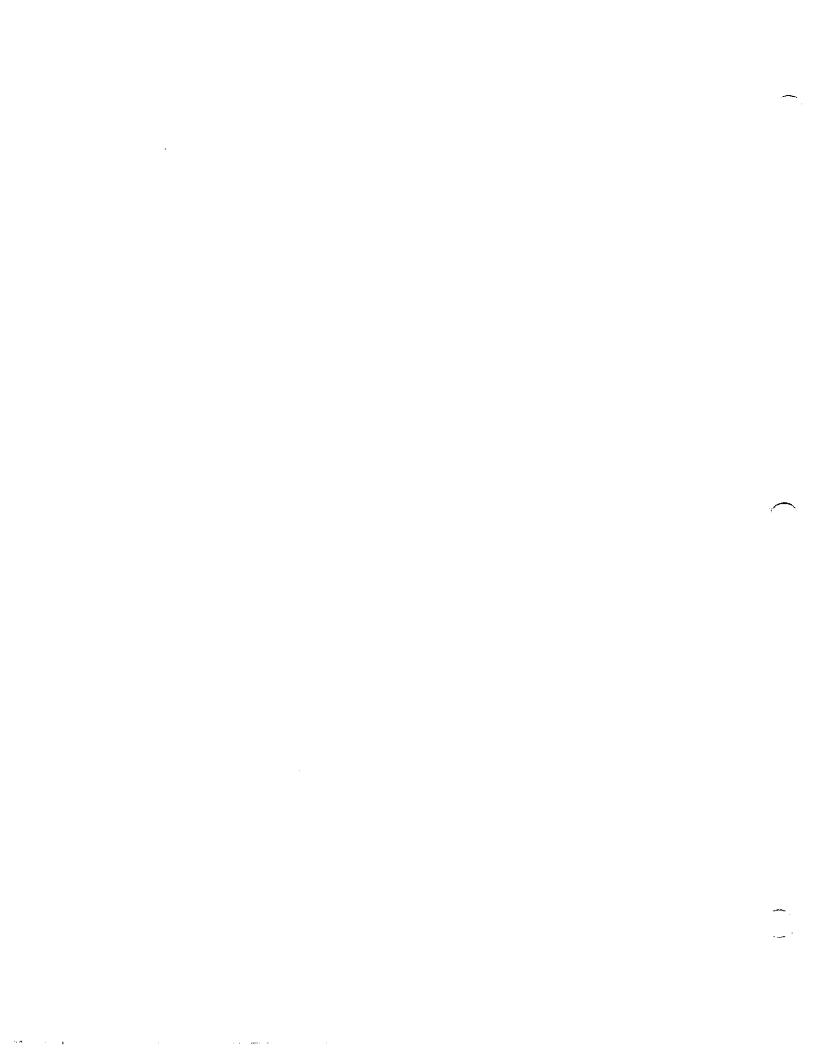


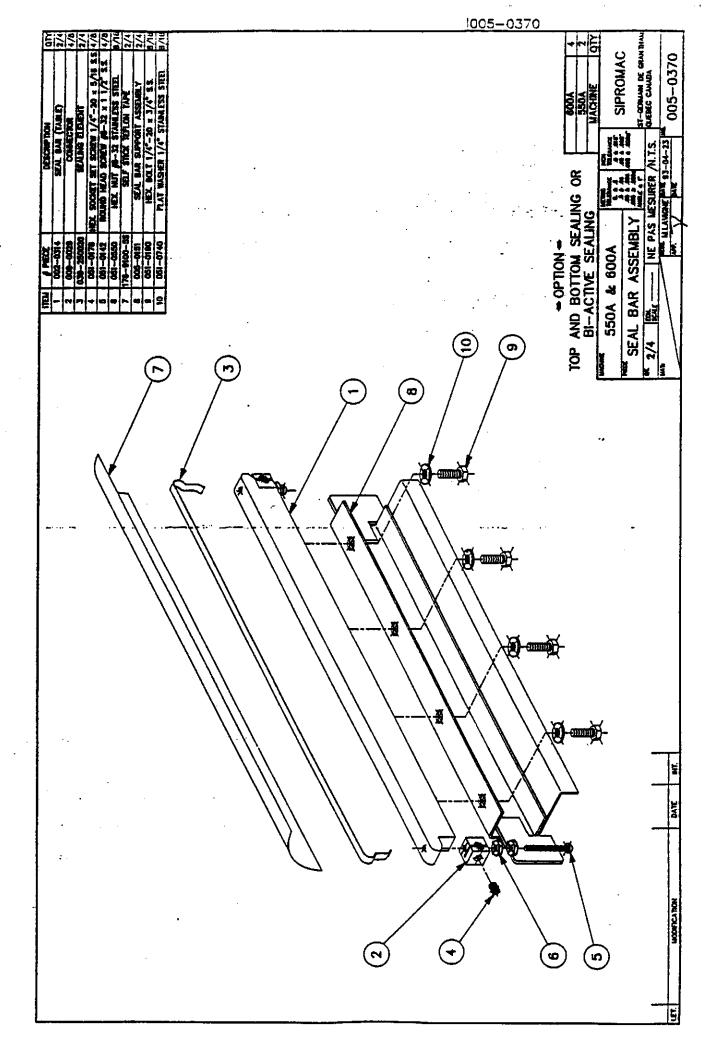
					·
	,				
•					
٠					
			•		
		÷			
	r				
•					
					· e · · · · · · · · · · · · · · · · · ·



			-
	,		
			<u> </u>
		,	



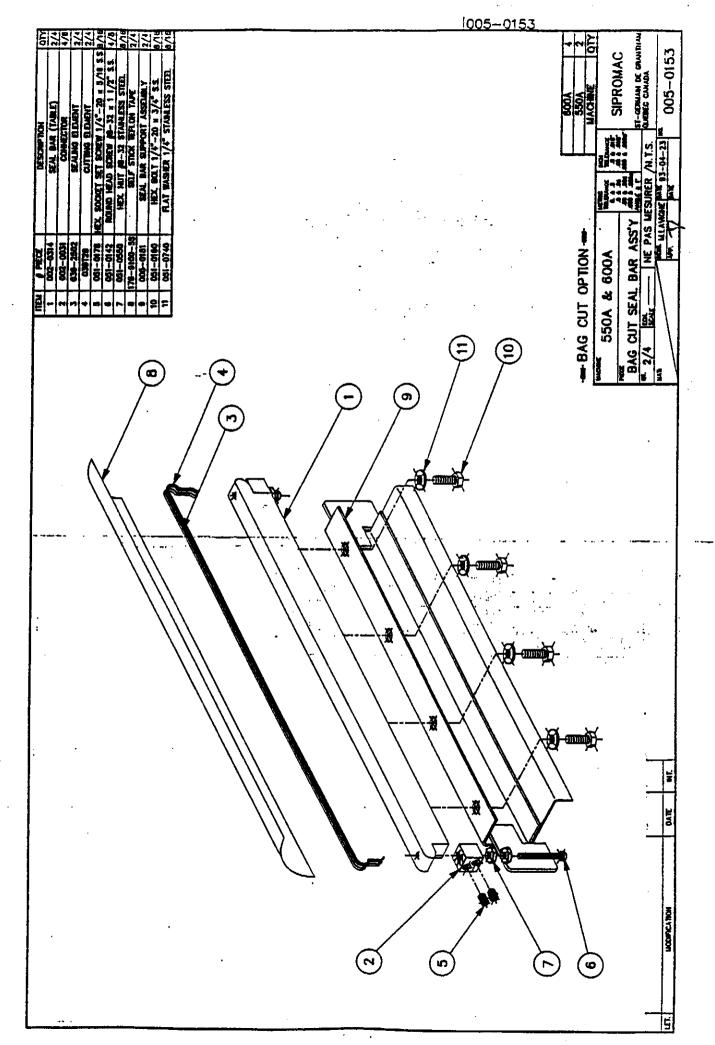




. . -

•

				~
		\$		
				. —
•.	1			



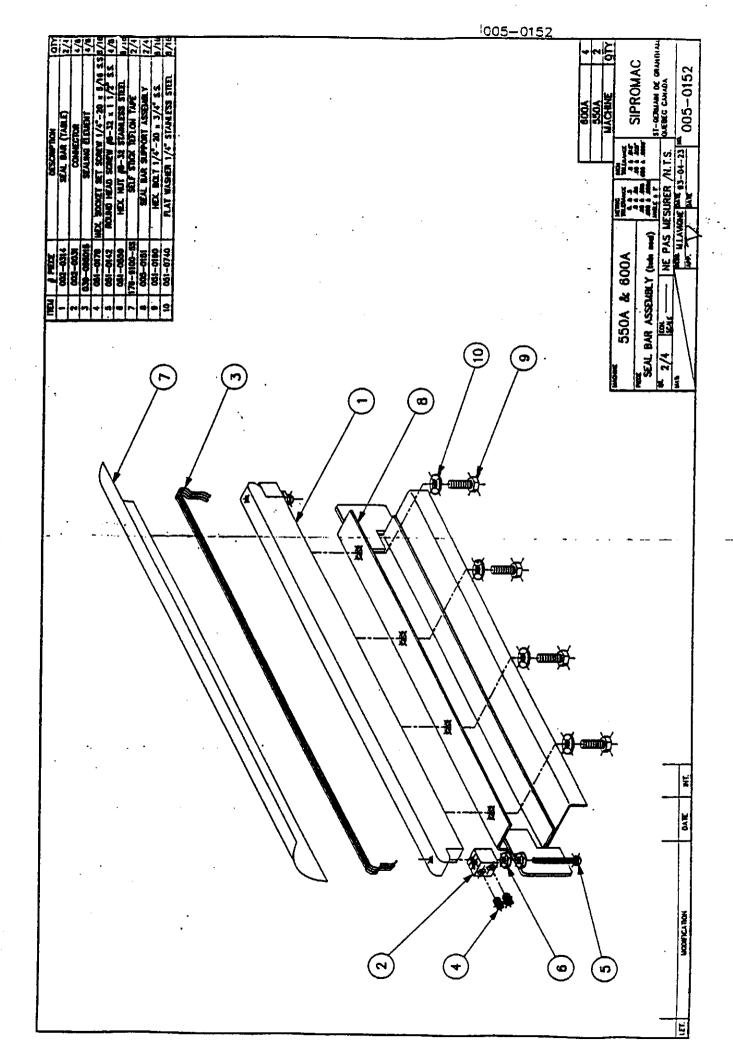
.

-

. .

L_{ss}





		,
· · · · · · · · · · · · · · · · · · ·		