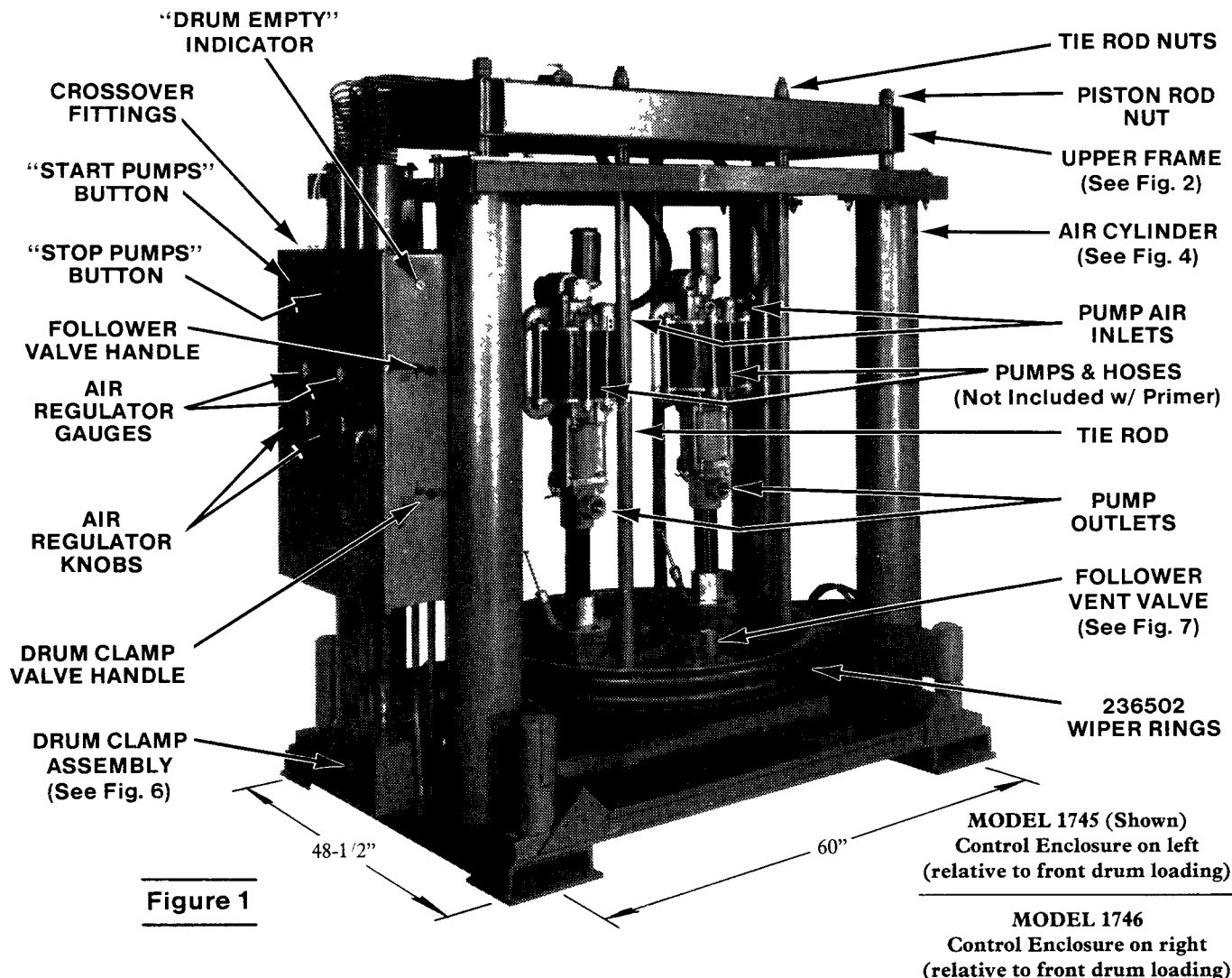


MAGNA-DRUM PRESSURE PRIMER

Models 1745 1746

Series "A"



SPECIFICATIONS:

Maximum Air Pressure.....	100 psi
Overall Dimensions (Raised)	54" x 84" x 150"
Maximum Travel	62"
Weight	4,000 Lbs.
Weight w/ Full Drum & Pumps	10,000 Lbs.
Priming Pressure w/ 100 psi.....	11 psi
Air Cylinder I.D.....	7-1/2"
Material Follower Diameter	42-1/2"
Mounting Holes	3/4" Dia. (4 Holes) x 48-1/2" x 60"

INSTALLATION

IMPORTANT - Location of installation must have 13 feet minimum overhead clearance and a structurally sound floor which can support the weight of this equipment. The weight of each pressure primer loaded with a full drum of material is approximately 10,000 pounds. The floor must be level and the unit should be anchored to the floor using the mounting holes provided in the base.

- 1) Fasten pressure primer securely to floor. If two primers are to be used with automatic crossover, they should be positioned so that the control enclosures are facing each other with the valve handles on the sides of the enclosures facing forward.
NOTE: Leave sufficient space between the units to allow for opening the enclosure doors.
- 2) Mount pumps onto follower plate and connect an air hose from the air regulator above each pump (see Fig. 2) to the pump air inlet (see Fig. 1).

LINCOLN

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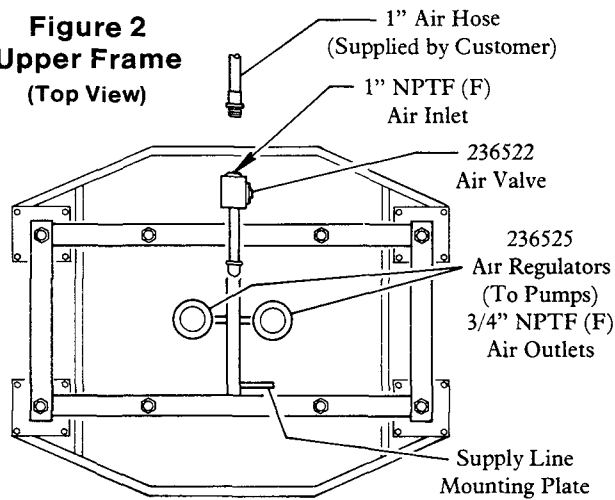
One Lincoln Way
St. Louis, Missouri 63120-1578
(314) 679-4200

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INSTALLATION (cont.)

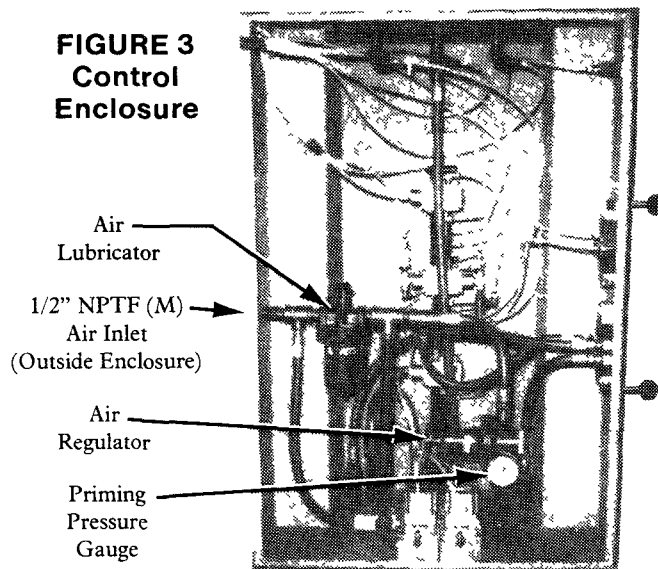
- 3) Connect material supply lines to pump outlets and fasten lines to mounting plate on upper frame of pressure primer (see Fig. 2). The material supply line from the upper frame to the system must have sufficient slack such that the upward travel of the pressure primer will not strain connections. The working pressures of the hose, pipe and fittings (supplied by customer) **must** meet or exceed the maximum pressure that the pumps can develop.

Figure 2
Upper Frame
(Top View)



- 4) Interconnect the automatic crossover system on the two primers by connecting two lengths of 1/4" tubing to the two open fittings on the top of each control enclosure (see Fig. 1). The front fitting on one primer must be connected to the second fitting on the other primer and the front fitting of this primer must be connected to the second fitting of the first primer. If a single primer is being installed the two open fittings must be plugged.
- 5) Before connecting air lines make certain that the valve handles on the side of the control enclosure are in their "neutral" (center) position. Also make certain that the knobs of the two air regulators (push in to unlock) on the enclosure door and handle of the air regulator inside the enclosure are turned counterclockwise until no resistance is felt.
- 6) Connect a 1" air hose from air supply line to the 1" NPTF (female) inlet of the air valve on the upper frame of the primer (see Fig. 2). Leave sufficient slack to allow for the upward travel of the primer. It is recommended that an air filter and lubricator be installed in the air supply line.

FIGURE 3
Control
Enclosure



- 7) Connect a 1/2" air line to the 1/2" NPTF (male) air inlet on the control enclosure (see Fig. 3). Add lubricant to the air lubricator inside enclosure. The air supplied by this line operates the control system and provides the primary pressure.

- 8) Supply 100 psi maximum air pressure to both air inlets.
- 9) Adjust pressure regulator inside enclosure until pressure gauge indicates priming pressure required for the material to be pumped. This regulates downward pressure only. Full line pressure is used to retract the follower from the drum. If pressure required is unknown, adjust to 20 psi and increase later as required.
- 10) Close and latch enclosure door.
- 11) Raise the pumping unit by placing the follower valve handle in the "raise" position (see Fig. 1). Watch carefully as the unit is being raised that there are no obstructions and that there is sufficient slack hose in the air and material supply line. (If it is necessary to stop the unit, return the valve handle to the "neutral" position.) **IMPORTANT:** Leave valve handle in the "raise" position after upward travel has stopped.
- 12) Move the drum clamp valve handle into the "unclamp" position and hold until drum clamps are fully retracted. The valve handle will return to the "neutral" position when released.
- 13) Load a full material drum into position on the primer. The drum must be placed against the rear drum stop.
- 14) Move the drum clamp valve handle into the "clamp" position and hold until the drum clamps are in position. The pins on the drum clamps must engage the holes in the base of the drum. The valve handle will return to the "neutral" position when released.
- 15) Lower the pumping unit into the drum by placing the follower valve handle into the "lower" position. **IMPORTANT:** Leave valve handle in this position after the follower has come to a rest on top of material.
- 16) Adjust pressure regulators on enclosure door to 30 psi on pressure gauges.
- 17) Press "start pumps" button on enclosure door. Allow pumps to cycle until pumps and material lines are primed. To stop pumps press "stop pumps" button on enclosure door. If the pumps will not prime, increase the priming pressure by adjusting the regulator inside the enclosure. If the pumps prime but more pressure is needed to fill the supply lines, increase the air pressure to the pumps by adjusting the regulators equally on the enclosure door.
- 18) After the system is fully primed and ready for operation, equally adjust the air pressure to the pumps to the desired operating pressure.

OPERATION (Crossover System)

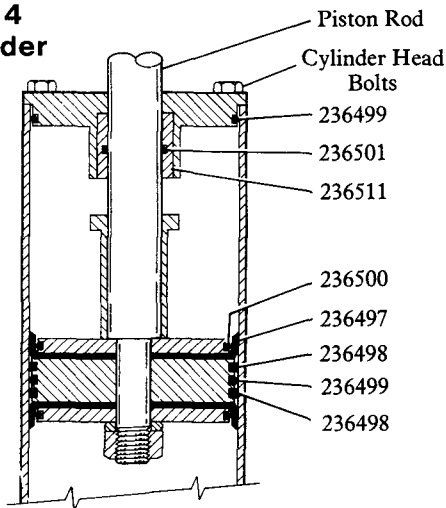
- 1) The pumping units of both primers should be lowered into full drums with the follower valve handles in the "lower" position. **IMPORTANT:** Leave handles on both units in this position.
- 2) Press the "start pumps" button on one of the primers. The pumps on this unit will supply the system until the drum is empty. The pumps can be stopped at any time by pressing "stop pumps" button.
- 3) When the drum has been emptied the pneumatic control circuitry automatically stops the pumps in the empty drum and starts the pumps in the full drum.
- 4) To change the empty drum, move the drum clamp valve handle into the "clamp" position and hold until the drum clamps are fully engaged. The valve handle will return to the "neutral" position when released.
- 5) Move the follower valve handle to the "raise" position to withdraw the pumping unit from the empty drum. **IMPORTANT:** Leave the valve handle in this position.
- 6) Move the drum clamp valve handle into the "unclamp" position to disengage clamps.
- 7) Remove empty drum from primer.
- 8) Place full drum into primer against rear drum stop.
- 9) Move the drum clamp valve handle into the "clamp" position to clamp drum in place.
- 10) Move the follower valve handle to the "lower" position to insert pumping unit into drum. **IMPORTANT:** Leave valve handle in this position.
- 11) Pumps will start when other drum is empty.

DISASSEMBLY

NOTE: An overhead crane and a fork truck are required to disassemble primer.

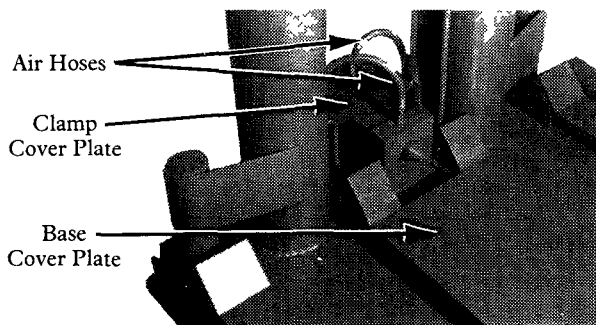
- 1) Relieve material pressure in supply lines.
- 2) Adjust air regulator inside control enclosure until pressure gauge shows no priming pressure.
- 3) Place follower valve handle into "raise" position to raise follower several feet and then place valve into "neutral" position.
- 4) Place two pallets onto primer under follower.
- 5) Place follower valve handle into "lower" position. As air is exhausted from beneath the air pistons the follower will descend under its own weight onto the pallets.
IMPORTANT: Leave valve handle in the "lower" position.
- 6) Disconnect both air lines to primer.
- 7) Move the drum clamp valve handle up and down to make sure all air pressure is exhausted from the clamp assemblies.
- 8) Disconnect all supply lines and air lines connected to upper frame.
- 9) Remove the four tie rod nuts and four piston rod nuts retaining the upper frame (see Fig. 1).
- 10) Lift the frame off with overhead crane or fork truck.

Figure 4
Air Cylinder



- 11) Remove the four bolts retaining the cylinder head on top of each cylinder and remove the cylinder head and bushing from each cylinder (see Fig. 4).
- 12) Replace 236499 O-ring and 236501 O-ring in each cylinder head. Replace 236511 Brass Bushings if worn.
- 13) Lift the piston rod and piston out of each cylinder with overhead crane.
- 14) Remove nut from each piston rod and disassemble pistons. Replace 236499 O-ring, 236498 Packings, 236497 Cup Packings and 236500 O-rings on each piston. Reassemble pistons to piston rods with nuts.

Figure 5
Drum Clamp
(Shown in "Unclamp" Position)



- 15) Unscrew tie rods from follower (see Fig. 1).
- 16) Remove follower and pallets with fork truck.
- 17) Remove eight screws and remove the cover plate on the base of the primer (see Fig. 5).
- 18) Disconnect the air hoses to the clamps.
- 19) Unscrew four screws and remove clamp cover plate from each clamp.

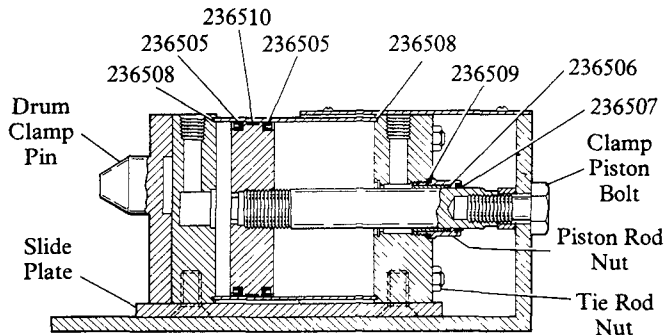
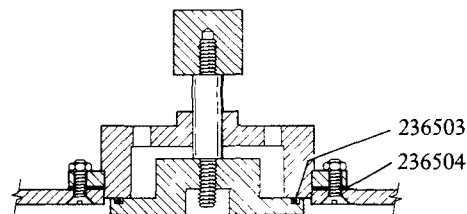


Figure 6
Drum Clamp Assembly

- 20) Remove clamp piston bolt from each clamp (see Fig. 6).
- 21) Slide clamp assemblies, one at a time, towards center of primer to remove.
- 22) Unscrew four screws and remove slide plate from bottom of each clamp assembly.
- 23) Remove tie rod nuts to disassemble clamp assemblies.
- 24) On each clamp:
Replace 236505 U-cup Packings and 236510 Wear Ring on air piston. Replace 236508 Air Cylinder Gaskets. Replace 236506 U-cup Packing, 236507 Piston Rod Wiper and 236509 O-ring on piston rod nut.
- 25) To reassemble, reverse disassembly procedure.

Figure 7
Follower Vent Valve



TO REMOVE FOLLOWER RING

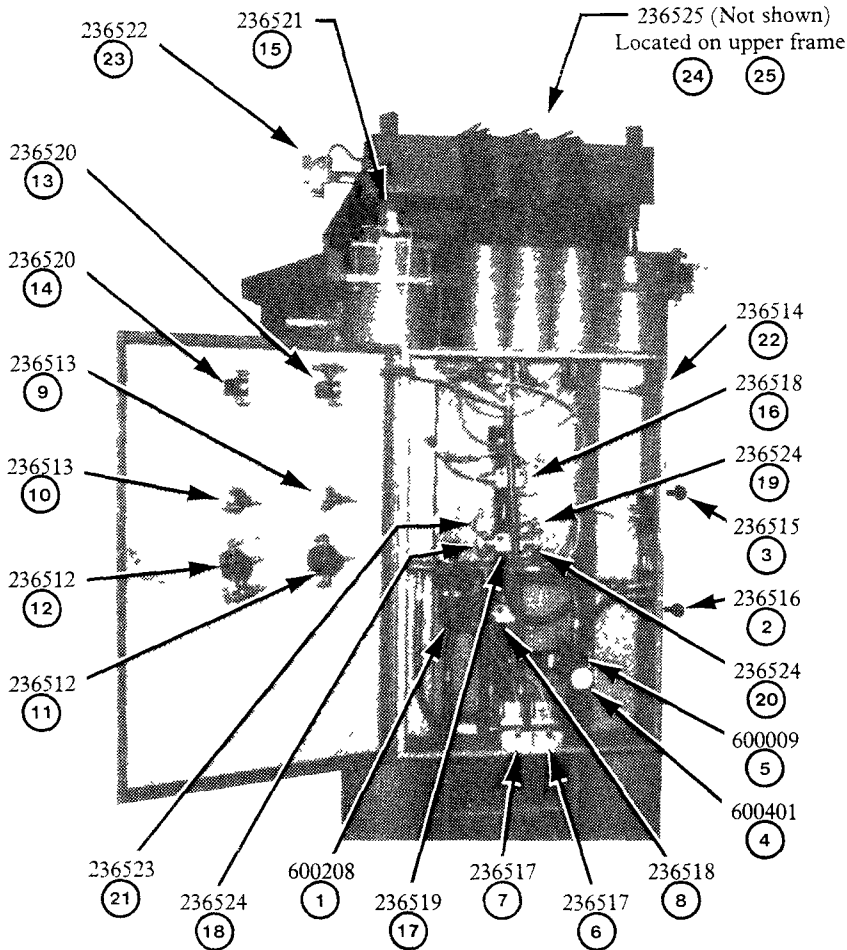
- 1) Pry apart or cut hose at seam to expose band clamp.
- 2) Loosen band clamp with allen wrench and remove follower ring. Note how band is assembled.

TO ASSEMBLE FOLLOWER RING

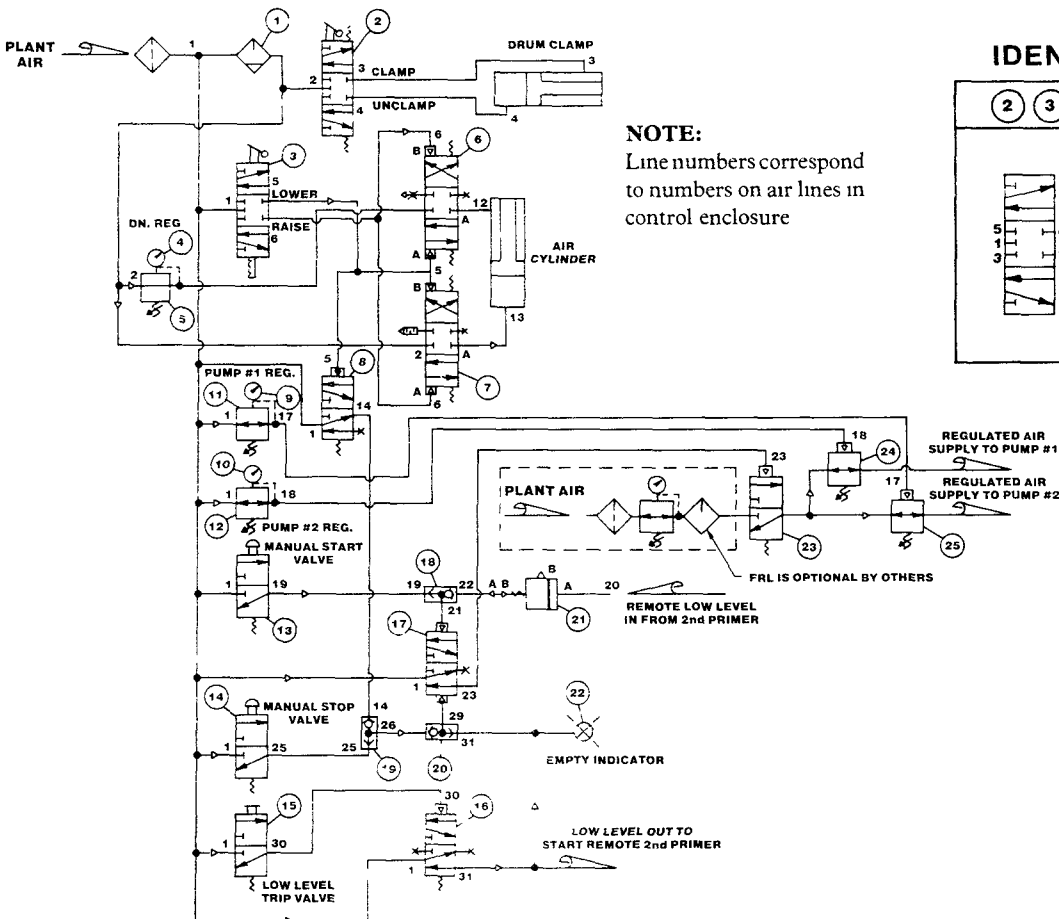
- 1) Thread banding strap through hose and wrap hose around follower.
- 2) Assemble clamp to strap as previously assembled.
- 3) Tighten banding strap with banding tool.
- 4) Pry back hose end to expose band clamp and tighten clamp set screw.
- 5) Cut off end of strap.
- 6) Work hose around follower until hose ends meet.

SERVICE PARTS

PART	QUAN.	DESCRIPTION
236497	8	Cup packing
236498	8	Packing
236499	8	O-ring
236500	8	O-ring
236501	4	O-ring
236502	2	Wiper ring
236503	2	O-ring
236504	2	Gasket
236505	4	U-cup packing
236506	2	U-cup packing
236507	2	Piston rod wiper
236508	4	Gasket
236509	2	O-ring
236510	2	Wear ring
236511	4	Bushing
236512	2	Air regulator
236513	2	Pressure gauge
236514	1	Indicator light
236515	1	Air valve
236516	1	Air valve
236517	2	Air valve
236518	2	Air valve
236519	1	Air valve
236520	2	Air valve
236521	1	Air valve
236522	1	Air valve
236523	1	Air impulse relay
236524	3	Shuttle valve
236525	2	Air regulator
600009	1	Air regulator
600208	1	Air lubricator
600401	1	Pressure gauge



PNEUMATIC SCHEMATIC



VALVE PORT IDENTIFICATION CHART

