



Model DD Hand Held Dowel Inserter

The Model DD hand held Dowel Inserter is designed to insert both the glue and dowel in one operating cycle. This makes the otherwise tedious job of dowel inserting fast and easy. With the one button glue flush system, clean up is a snap!

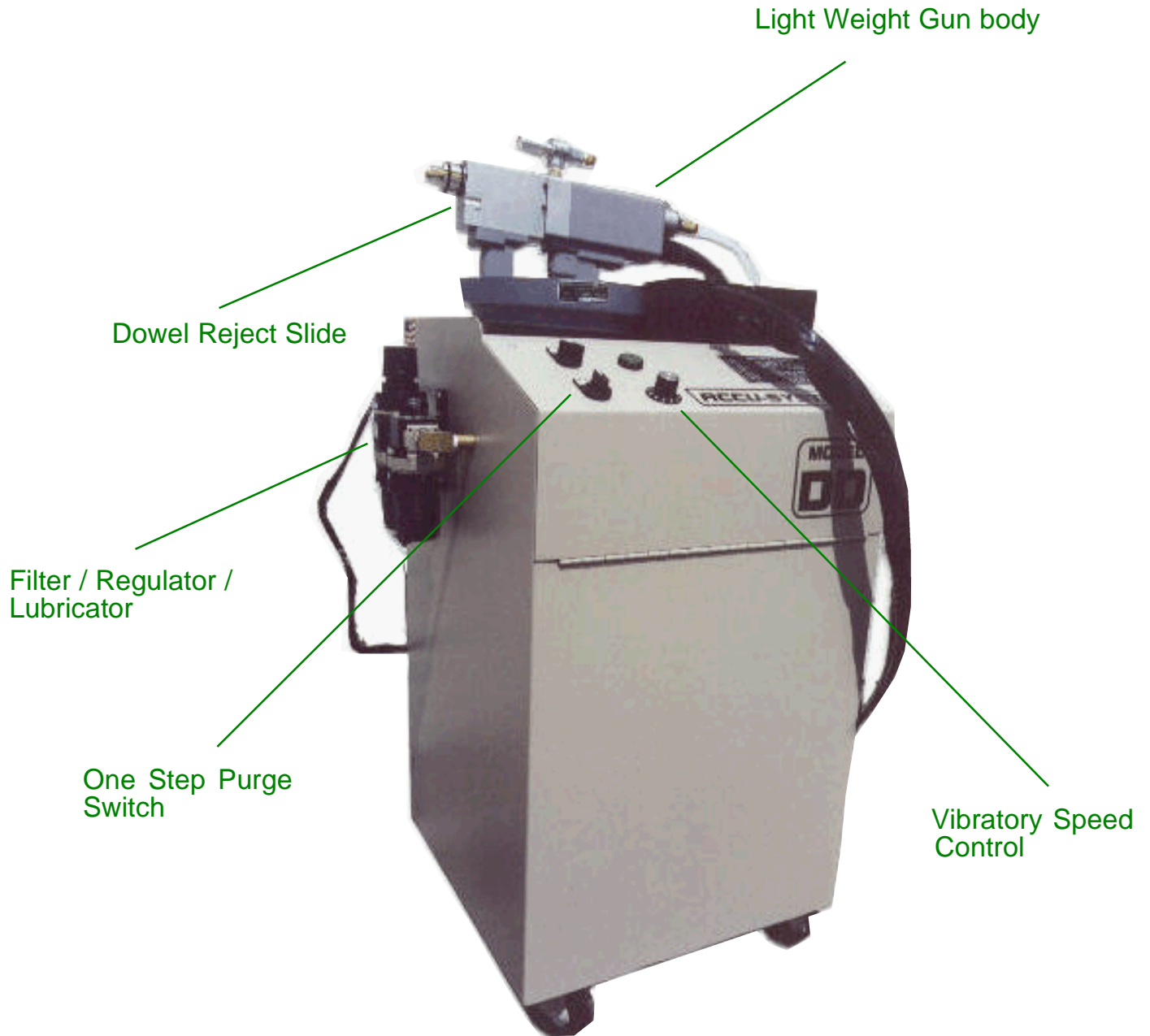
ACCU-SYSTEMS

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Features



Safety Precautions

Please keep in mind these simple safety reminders when working on or around this machine

- 1. Plug into grounded 3 prong outlet**
- 2. Do not remove ground prong.**
- 3. Do not use an adapter.**
- 4. Disconnect power and air before servicing**
- 5. Before opening or working in control panel, always turn main power off.**
- 6. Always wear safety glasses when running this machine**
- 7. Always have hands clear from moving parts when operating machine.**

Start Up Procedures

The following steps must be taken prior to initial start-up of the machine.

A. Uncrate Machine

1. Uncrate & unwrap machine. Unwrap the gun and place it in it's holster.



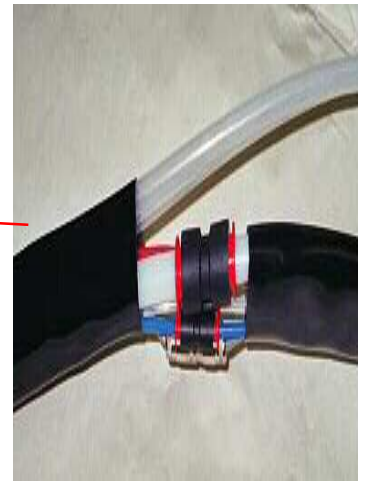
2. Attach the supply hoses **PER COLOR & SIZE** to the gun. Push hoses tight in fittings to assure a proper fit

B. Connect power and Air

1. Attach the power (115V single) and air to the machine.

2. The air connection is a 3/8" NPT thread. We recommend you use a 3/8" air hose connect to the machine.

3. You may use a quick coupler or if you want to leave an air hose connected to the machine we recommend you put a shut off valve on the inlet so you can turn the air off when you are done. **(AIR NOISE AROUND THE SINGULATOR UNIT IS NORMAL WHEN AIR IS ON. There is no air leaking, it is a venturi effect causing the noise. The air that blows the dowel to the gun is pulled into the hose. The air being pulled into the hose makes the sound.)**



C. Load dowels into machine

1. Put the dowels into the hopper.
2. **DO NOT FILL THE TUBE WITH DOWELS.** The machine only shoots one dowel at a time through the tube to the gun.
3. Never push a dowel into the gun through the nozzle fingers.
4. Turn the bowl speed up so the dowels feed into the singulator. Set the speed so when cycling the machine the dowels feed fast enough to keep up with the operator.
5. Align the singulator, so dowels feed smoothly.

D. Set up pressure pot

There are different directions for Conventional Doweling & Pre-glued Dowels.
Follow the directions for the procedure you are using.



CONVENTIONAL DOWELING WITH GLUE

RECOMMENDED GLUE:

Franklin Assembly 161 or Tightbond doweling glue L.V. See spec. sheet in the back of this manual.

1. Remove the pressure pot from the back of the machine.
2. Open the pot and you should see a sample of glue, a plastic one gallon container, and two pick up hoses with filters. The black tube is the glue pick up tube, and the clear tube is the water pick up tube. The sample glue will not go too far, so make sure you have at least 5 gallons of the recommended on hand. **Always shake or stir the glue before putting it into the container.**
3. Place the glue into the plastic one gallon container, place it into the middle of the pressure pot.
4. Pour water around the pot to about half full. Place the top over the pot and make sure the black hose goes into the glue, and clear tube goes into the water.



5. Tighten the pot lid down in an even fashion. Turn the regulator up to around **30-40 PSI**.
6. Go to the front of the machine and take the gun from the holster and aim it into a purge bucket (something to contain the fluid).



7. Flip the H2O-RUN-GLUE switch to the H2O (water) side and you should start to see water exit the tip of the gun in about 10-15 seconds. Then flip the switch to the glue side and you should start to see glue exit the tip of the gun in about 10-15 seconds.

8. Once the glue arrives flip the switch in the middle "RUN" position. You are now ready to shoot.

9. You may need to make a few adjustments as you go along, like increase or decrease the glue pressure or adjust the glue timer inside the control panel for more or less glue. You will have to shoot a few dowels to see if this is necessary.

10. After each time you use the machine you will need to flush the glue back out of the line, to do this hold the gun over the purge bucket, flip the switch to the H2O side and you should start to see water come out of the gun in 7-10 seconds. Let it run a bit before you flip the switch back to run.



11. After this you must clean off the nozzle, and any glue to keep it from drying and causing problems.

PRE-GLUED DOWELING WITH WATER

RECOMMENDED WATER:

DISTILLED OR PURIFIED BOTTLED WATER

1. Remove the pressure pot from the back of the machine.



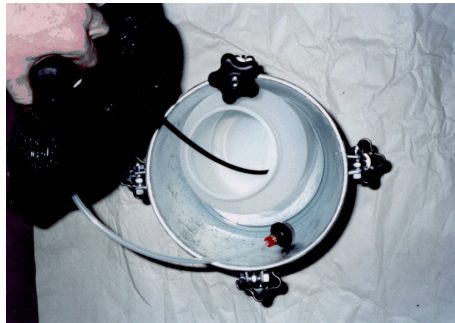
2.

2. Open the pot and you should see a sample of glue, a plastic one gallon container, and two pick up hoses with filters. The middle tube (Black) is NORMALLY the glue pick up tube. The clear tube is the water pick up tube. When using water for Pre-glued dowels the black tube is now the main water pick up tube.

3. **WE RECOMMEND YOU USE DISTILLED WATER.** This will keep the valves from accumulating a build up of minerals that are common in most tap water.

4. Fill either the pot or the plastic container and place it in the main pot.

5. Place both tubes into the water



6. Tighten the pot lid down in an even fashion.

7. Turn the regulator up to around **10-15 PSI**.

8. Go to the front of the machine and take the gun from the holster and aim it into a purge container.

E. Inserting Dowels

1. Place the gun to the dowel hole and push the trigger button. You will first see a shot of glue (or water) and then a dowel will follow it into the hole. Keep the nozzle firm against the material and in line with the hole, it may take a little practice, but before long you will find it quite easy to do. Do not push hard enough to retract the fingers back into the gun body. Also keep the hoses as straight as possible from the machine to the gun. This will help the machine to run smoothly.

If a dowel exits the nozzle, but for some reason did not go into a dowel hole, **NEVER PUSH THE DOWEL INTO THE NOZZLE TO RESHOOT IT!!** Always pull the dowel out and push the trigger for a new dowel.

(If you push the dowel back into the nozzle, it will fall on top of the slide block, and will damage the machine. You will have to take the front handle off to get it out before another dowel can be shot out of the nozzle.)

2. If you are shooting glue, you must **FLUSH THE GLUE FROM THE GUN AS SOON AS POSSIBLE.** Be sure to flush the system **within 20 minutes** to insure no glue drying in the tip. To flush the system, point the gun into the purge bucket and flip the “H2O-Run-Glue” switch to H2O until you see a clear stream of water coming out of the gun for a few seconds. Flip the switch back to the RUN position. Inspect the nozzle and front of gun, removing any build up of glue with a rag. Return the gun to it’s holster.

3. You may now turn the main power switch off, this will also shut off the bowl feeder. Shut off the air or disconnect the air line. Your machine is now ready for the next time you use it.

Operating Procedures

A. Daily operation of machine.

1. Make sure main air regulator reads between 90-100 PSI (main air regulator is on the side of the machine)
2. Turn the main power switch on (front panel) Make sure the “H2O-Run-Glue” switch just below the power switch, is in the RUN position. (H2O = Water)
3. If using glue, purge the system (as talked about on page 2) to refill the line with glue. If you are using water you never need to purge before or after you use the machine (purge with water is only necessary if you run out or after filling pot.)
4. Check dowel feed speed to advance the dowels to the singulator assembly if needed.



YOU ARE NOW READY TO INSERT DOWELS!!

5. After each use of the machine you will need to flush the glue back out of the line. To do this, hold the gun over the purge bucket, flip the switch to the H2O side and you should start to see water come out of the gun in 7-10 seconds. Let it run a bit before you flip the switch back to run.
6. After this you must clean off the nozzle, and any excess glue to keep it from drying and causing problems the next time you use the machine. Return gun to holster.

Maintaining Your Machine

This machine has been designed with the user in mind. It requires little maintenance and will provide years of trouble free operation, if maintenance is performed on a regular basis.

A. The Air System

1. Your machine is equipped with an auto drain filter regulator unit. Check it every month to make sure it is draining properly. Remove any build up of dirt from the inside of the filter assembly as needed.
2. Check the oiler on a monthly basis, and bring the level to the full line using a good grade air lubricator oil*.



***DO NOT USE MOTOR OIL, AIR TOOL OIL, OR ANY TYPE OF OIL THAT IS DESIGNED TO BE USED IN CRANKCASE OR AUTOMOTIVE LUBRICATION. DO NOT USE “MARVEL MYSTERY OIL”. USING THE WRONG OIL WILL VOID YOUR WARRANTY.**

3. The oiler is set at the factory but may need to be adjusted in the field. Please take the time to check and if needed properly set the oiler. It will only have to be done once and will save you a lot of problems in the future.
 - a.. If you notice little or no oil being used out of the oiler when you check it monthly you need to adjust the flow knob.
 - b. If you notice an excessive amount of oil being used, or notice any oil in the bottom of the cabinet around the glue pot, you need to tighten the flow screw down.

The flow knob is located on the top of the oiler. You will need a straight screw driver. You should set the oiler so you see one drop every 30 - 40 cycles of the machine.

B. The Glue / Water System

To keep your machine running properly...

YOU MUST USE THE PROPER GLUE

YOU MUST NOT RUN OUT OF GLUE OR WATER.

YOU MUST FLUSH THE GLUE FROM THE MACHINE AFTER EVERY TIME YOU USE IT.

YOU MUST FLUSH THE ENTIRE SYSTEM WITH HOT WATER ONCE A MONTH.

1. Use the proper type of glue.

a. Use a good quality glue that is designed for automatic dowel inserters.

We recommend you use Franklin tightbond doweling glue L.V. or Franklin Assembly 161. **Do not use** standard white or yellow type wood glue.

b. Glue designed for automatic dowel inserters is a low viscosity glue, with the same properties as standard glue. The proper glue will flow through the machine smoothly and be absorbed into the dowel and wood quickly after being inserted. If you have a problem getting glue or have any questions please call us and we will recommend a source where it can be purchased.

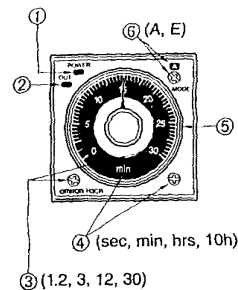
2. Have the Glue Timer set properly.

a. There is a timer located on the bottom shelf in the valve panel. This timer allows you to adjust the amount of glue that comes out of the tip per cycle. You may change the amount of glue by turning the dial.

The normal setting for doweling with glue is: the first line above 0

The normal setting for doweling with water is: at 0

3. Set the air pressure in the pressure pot. If you are using glue, it should be set between 30-50 psi. If you are using water, it should be set between 5-15 psi.
4. **We recommend that you check your glue and or water level on a regular basis, depending on how often and to what extent you use your machine.**
 - a. **If you run out of glue while using the machine, air will be put through the system, and may cause glue to dry in the valves.**



UKUSA Nomenclature

- ① Power indicator
- ② Output indicator
- ③ Rated time selector
- ④ Time unit selector
- ⑤ Setting dial (setting time value)
- ⑥ Operation mode selector

note: If pointer is turned counter-clockwise until overranged, instantaneous output will be issued. (zero point instantaneous operation)

b. If you run out of water, then you cannot flush the glue from the system after you use the machine.

4. Flush the glue from the machine after every time you use it.

a. Be sure to flush the system within 20 minutes to insure no glue drying in the tip. To flush the system, point the gun into the purge bucket and flip the “H20-Run-Glue” switch to H20 until you see a clear stream of water coming out of the gun for a few seconds. Flip the switch back to the RUN position. Inspect the nozzle and front of gun, removing any build up of glue with a rag. Return the gun to it’s holster.



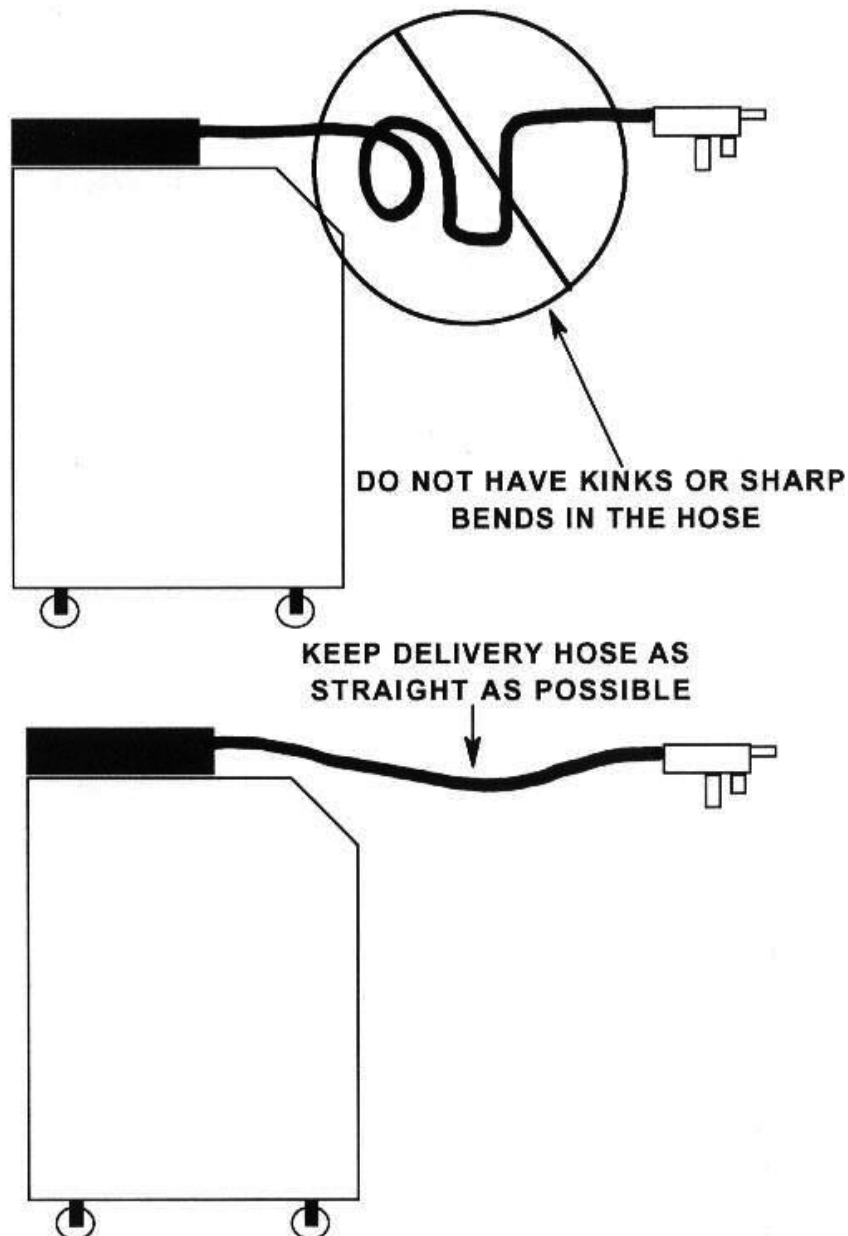
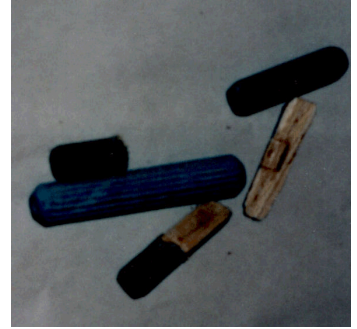
IT IS VERY IMPORTANT THAT YOU REMEMBER TO DO THIS EVERY TIME

5. Once a month flush your system with hot water.

a. If you are using glue, once a month fill the pressure pot with hot water. Flush the system with the hot water to flush out any build up of glue solids that may be present. This will assure a good flow of glue and prevent glue system failure.

C. Dowel Feed System

1. Use good quality dowels. Buying cheap dowels may save you a few pennies at first, but, it will cost you a lot more labor in the end.
2. When you pour your dowels into the bowl sift through them and remove any broken or half dowels that could possibly jam the machine.
3. Keep the bowl clean!!! Do not use the bowl for a “catch all” for glue bottles, staples, tape measures, and saw dust.
4. Do not have kinks or sharp bends in the hose. Keep delivery hose as straight as possible.



Following these easy procedures can save you from having big problems.

Trouble Shooting Guide

Figure 6-1

If you cannot find your problem listed below, please call us. We can most likely solve your problem over the phone. The number to call is 1-800-369-5746.

1. If Dowels do not come out of gun when cycled...

A- Check that the dowel feeder control is turned up far enough?

Turn control up (front panel)

B- IS THERE A SHARP BEND IN THE SUPPLY HOSE TO THE GUN?

Straighten hose to allow dowel easy path to the gun.

C- DOES THE DRIVE PLUNGER HAVE A BUILD-UP OF GLUE ON IT, NOT ALLOWING IT TO RETURN FULLY?

Take air line off drive cylinder at back of gun, with a thin long screw driver (or comparable object) push the drive cylinder out until it protrudes into the nozzle where it can be cleaned (note removal of nozzle may be necessary to properly clean plunger) clean any glue that is build-up and lightly oil plunger and make sure it returns fully. **LOWERING GLUE PRESSURE WILL ALLEVIATE THE PROBLEM OF GETTING TOO MUCH GLUE ON THE DRIVE CYLINDER.**

D- IS THERE A HALF OR BROKEN DOWEL LODGED IN GUN SIDE?

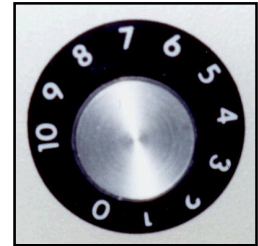


Dowel Reject Slide

If problem still exists after checking the above, open the dowel reject slide on the front of the gun and remove the dowel in the gun. Close the slide and try again. If this does not work, undo the dowel supply hose at the back of the gun (large connector). Hold gun vertical and tap the side of the gun with your hand to loosen any jammed pieces of dowel. Be aware that glue will shoot with all of the following scenarios. With your hand over the dowel supply hose, also cycle the gun to help loosen and release the jammed dowel. Before attaching the hose back to the gun, point the supply hose to the ground and cycle the gun. You should get a dowel shot out the hose when cycled. If you do not then the problem could be in the supply hose. Check hose for a kink that could stop the dowels from moving smoothly through the hose.

E- IS THERE NOT ENOUGH AIR PRESSURE TO THE MACHINE?

Check for correct amount of air at the machine. (90 - 100 psi)



F- IS THE DOWEL HOSE FULL OF DOWELS?

Only *one* dowel at a time should be in the hose. If you do not get a dowel out the front of the gun only cycle it once more then stop if you still haven't gotten a dowel. Open the dowel reject slide just underneath the nozzle of the gun and empty out any build up of dowels you have. If a dowel is jammed, turn off the dowel feeder so as not to continue to insert dowels into the hose. After the line is clear you can turn the feeder back up cycle the machine and make sure a dowel comes out the reject slide, then close the slide and cycle it two more times to get a dowel out the nozzle.

G- IS THERE A DOWEL ON TOP OF SLIDE BLOCK?

You should never push a dowel back into the nozzle to try and shoot it. It will only fall on top of the slide block and cause the gun to not work. You may also bend or damage the slide block and cylinder if repeatedly hitting the block. After you have checked all the above, remove the four allen head screws from the front handle and remove the slide block and cylinder to inspect for a dowel on top. If there is a dowel, remove it and inspect the block to see if it is bent. If it is bent you will need a new cylinder, if not, re-assemble and test again.

2. If dowels come back into the singulator after being pushed into the supply hose...

A- CHECK SOLUTIONS FROM QUESTION #1.

B- CHECK FOR A KINK IN THE DOWEL SUPPLY HOSE.

It is possible to have a kink in the dowel supply hose somewhere under the hose covering... Undo the dowel supply hose at the gun and cycle machine to see if a dowel exits the hose. **DANGER !!! DO NOT POINT THE DOWEL HOSE AT ANY PART OF THE BODY. THE DOWEL WILL EXIT AT A VERY HIGH SPEED AND COULD CAUSE INJURY.** If dowels do not come out a new hose will be needed.

C- THERE MAY NOT BE ENOUGH AIR PRESSURE AT THE MACHINE.

Make sure that proper air is available and set the regulator as stated earlier.

D- CHECK TO SEE IF YOU ARE USING THE WRONG SIZE OF DOWEL.

If your dowel is too long it may be causing the problem.

3. If there is excessive glue on nozzle and plunger... ?

A- IS THE GLUE PRESSURE TOO HIGH?

There is sometimes a fine line between too much and not enough glue in the hole. But if you are getting an excessive amount of glue on the nozzle you are putting too much glue in the hole causing the excess to be pushed back out and into the nozzle of the gun. Lower glue pressure to as low as possible.

B- ARE YOU USING THE WRONG TYPE OF GLUE?

If you are using too thick of glue it may cause dribbling at the nozzle. Make sure to use the proper glue designed for your dowel inserter. It can make a world of difference. A sample of glue is sent with the machine and also the glue specifications are located in the front cover of this manual.

4. If the gun does not cycle, or cycles erratically when trigger is pushed...?

A- THE TRIGGER COULD BE SHORTED OUT OR HAVE A BAD SOLDER CONNECTION.

Check trigger leads in handle of the gun with a multi-meter and re-solder or replace switch if it is found to be bad.

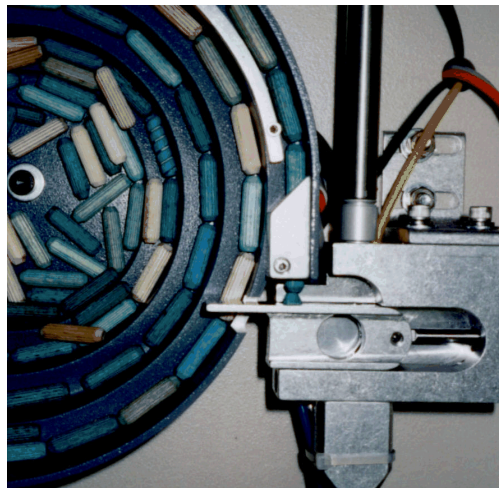
B- THE CONNECTION OF THE GUN COULD ALSO BE LOOSE OR HAVE POOR SOLDER CONNECTIONS.

Check the connections with a multi-meter and re-solder or replace connections, if they are found to be bad.

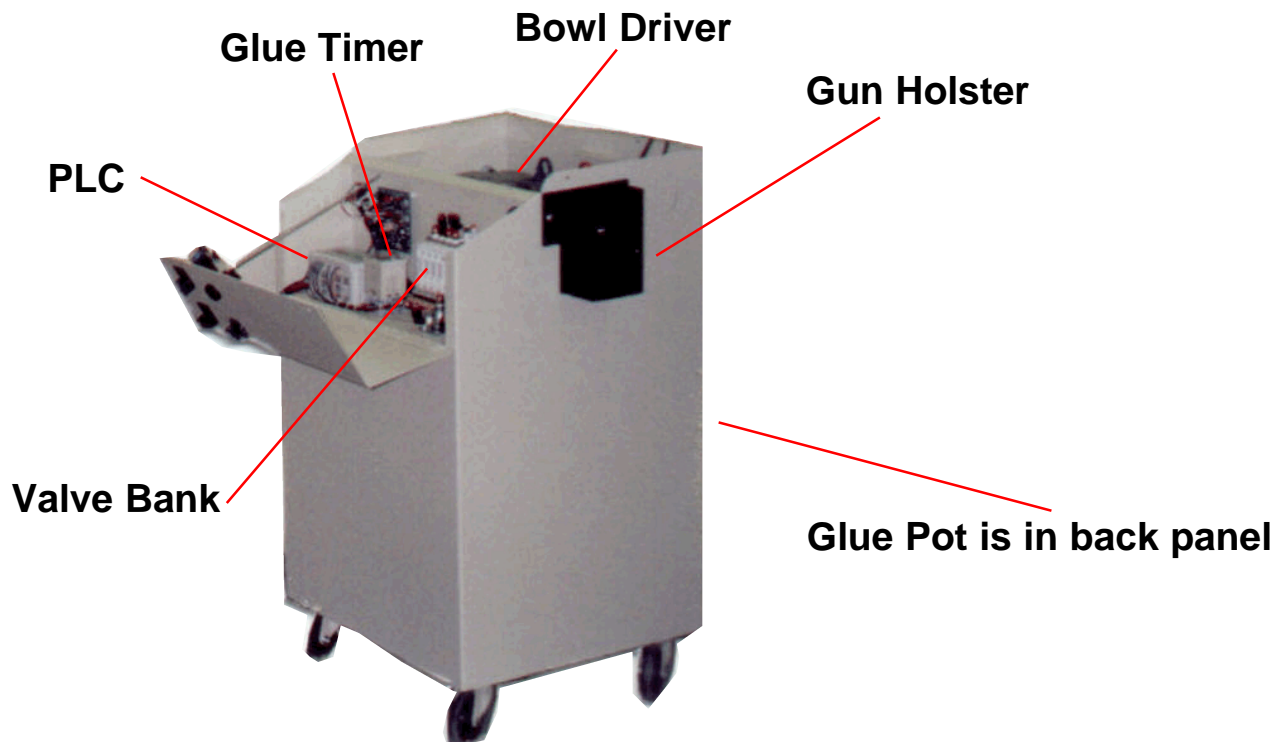
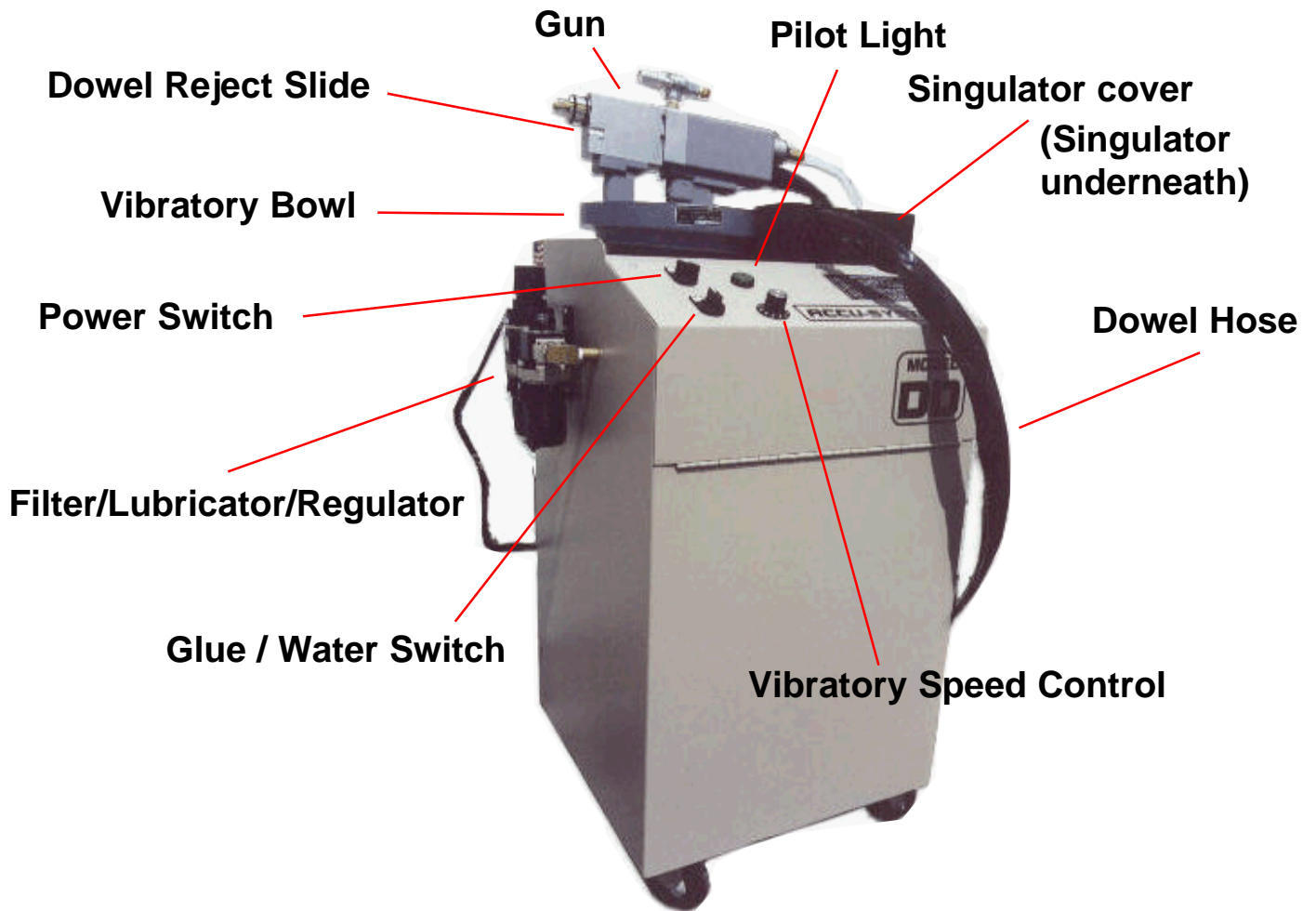
5. If the dowels do not feed properly or get jammed as they come out of the bowl...?

A- CHECK THE ALIGNMENT.

Most likely the bowl is out of alignment with the singulator block (the block that the dowel slides back in). Sometimes in shipping the bowl or singulator may get knocked out of alignment. You should first take off the black shroud which is over the singulator assembly. Then with the power and air off of the machine, manually feed a few dowels up the bowl until one just exits. As it comes out of the bowl it should go straight into the singulator block. Check to see that it is properly lined up in both the vertical and horizontal plains. If adjustment is necessary you can loosen the singulator in both the up / down and forward / back direction to properly align the two.

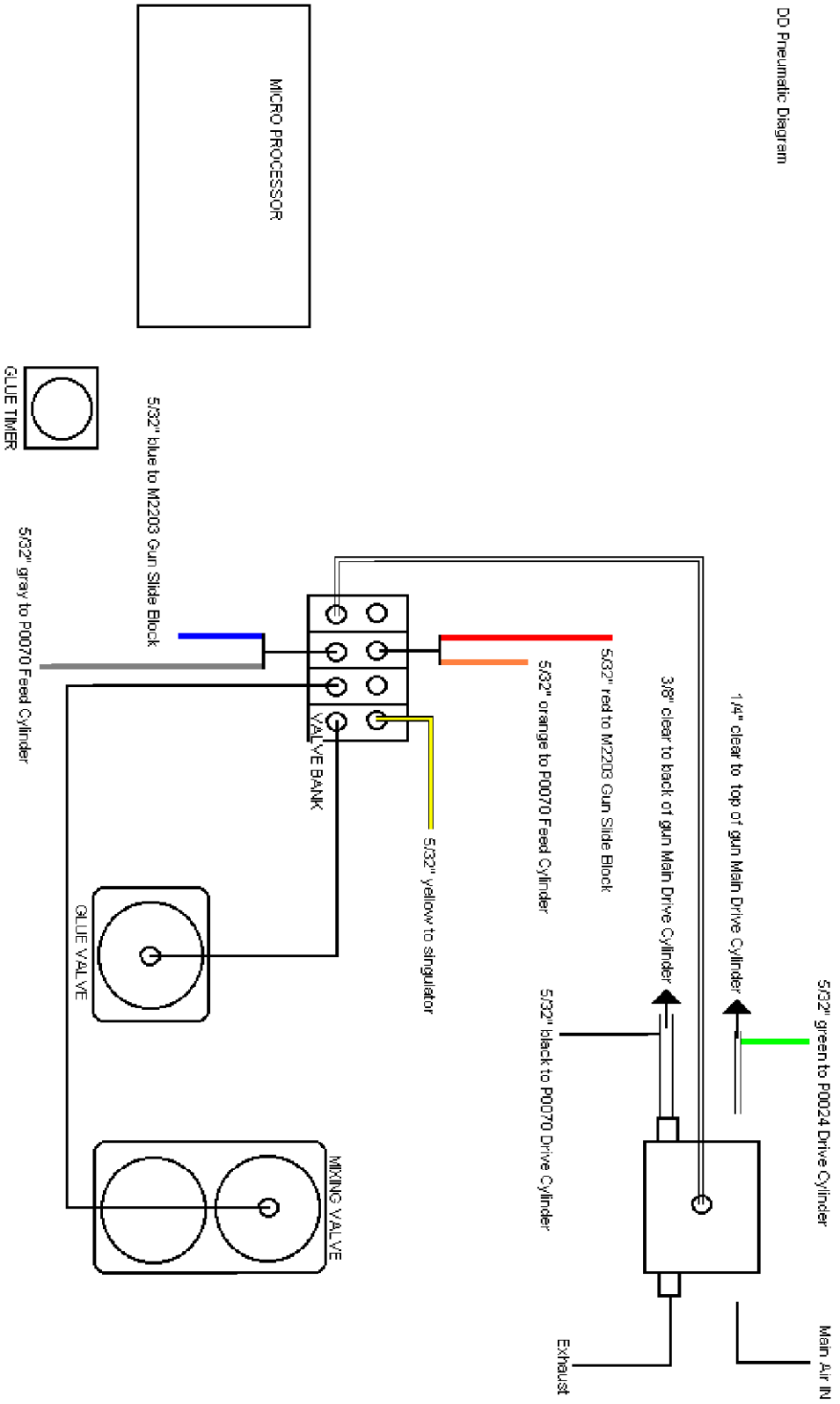


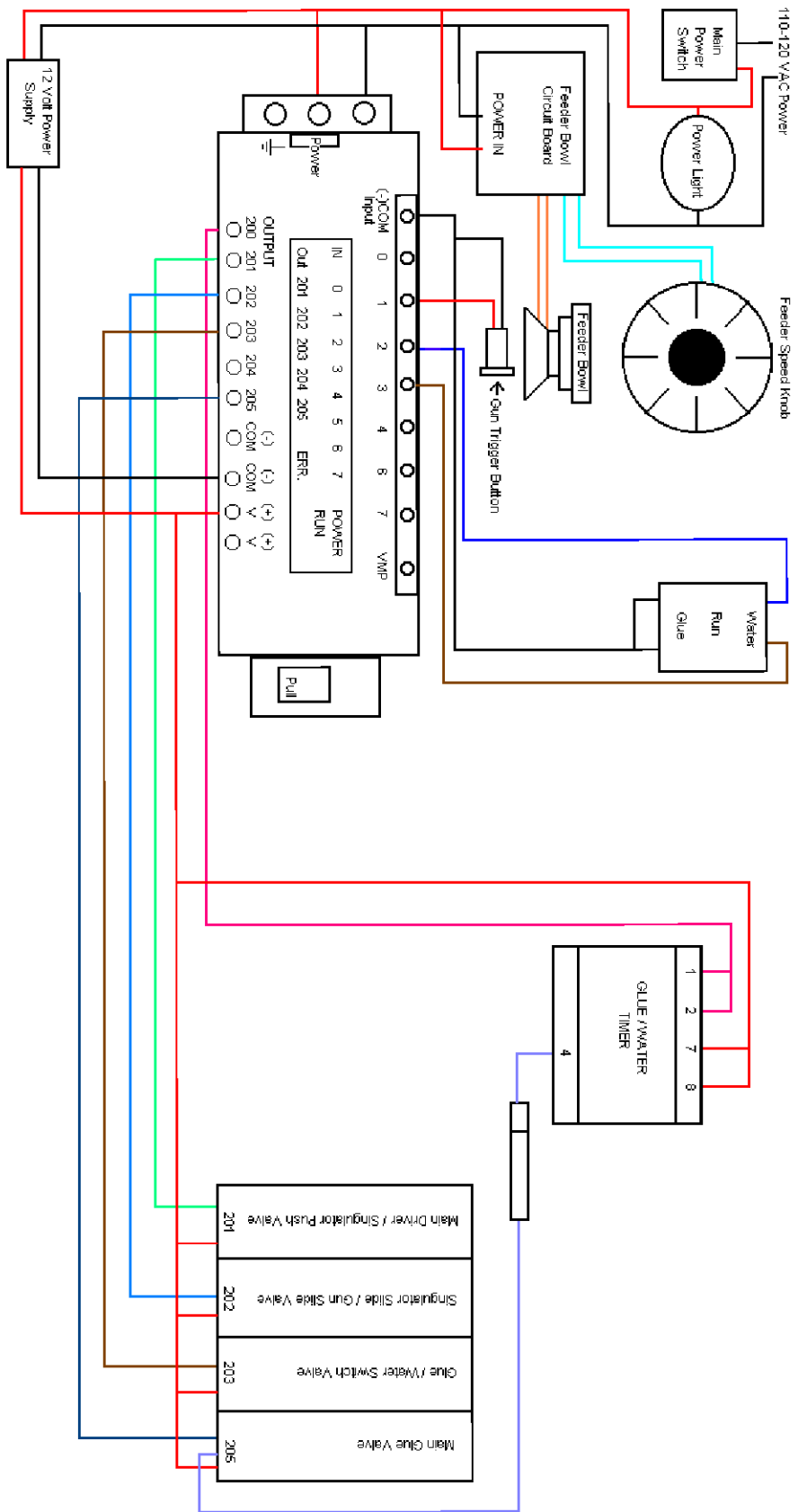
Machine Overview

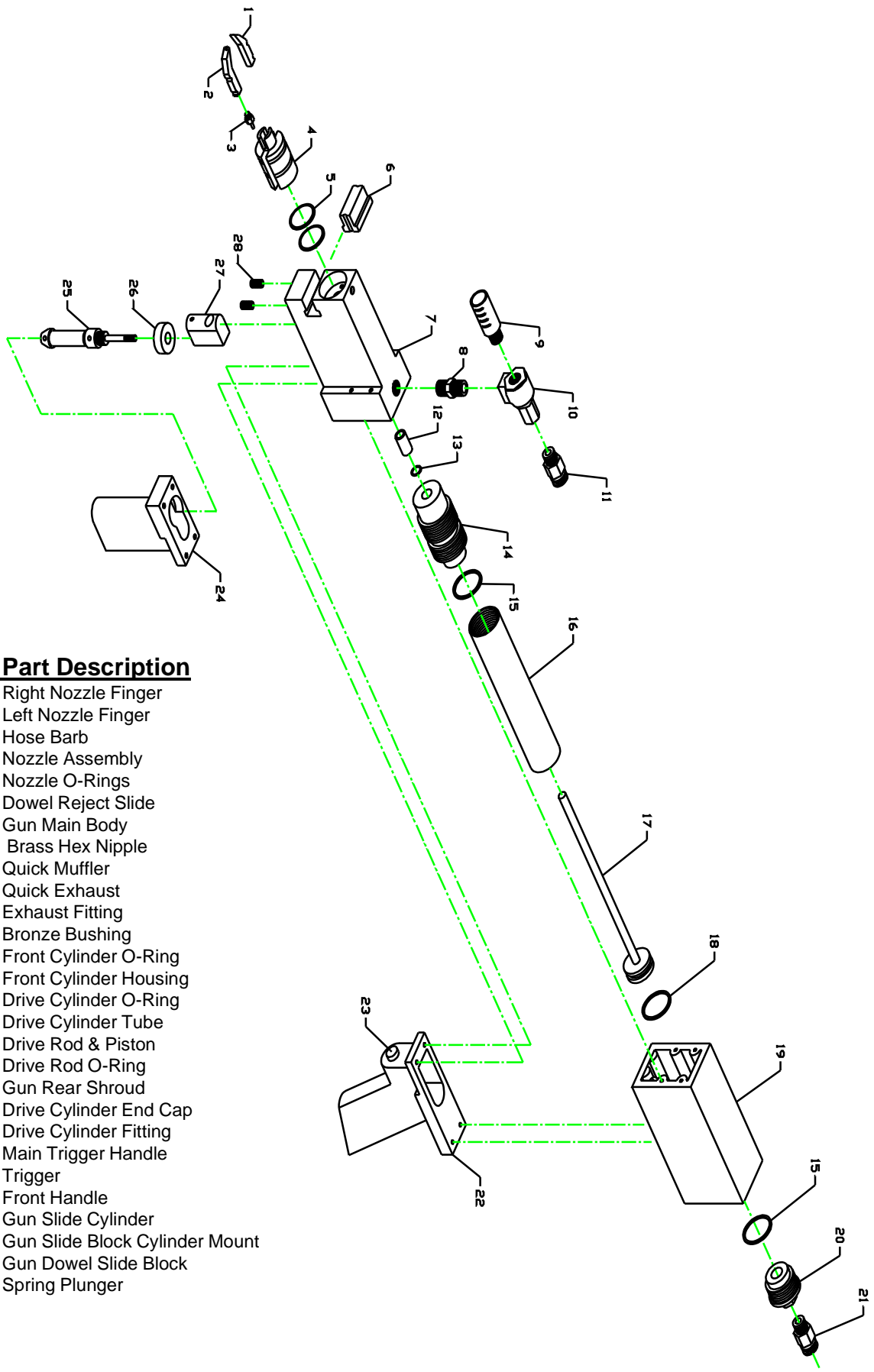


Pneumatic Diagram

00 Pneumatic Diagram



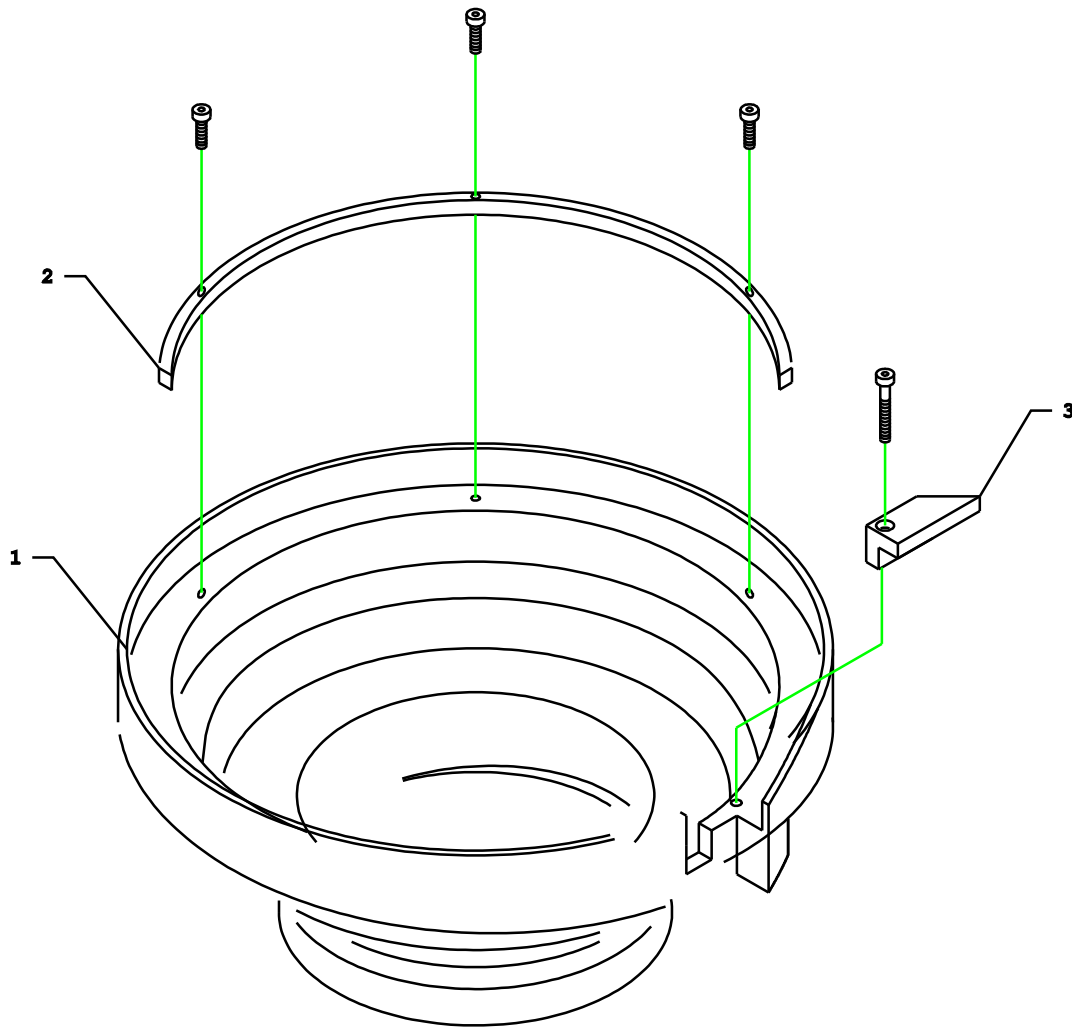




Part # Part Description

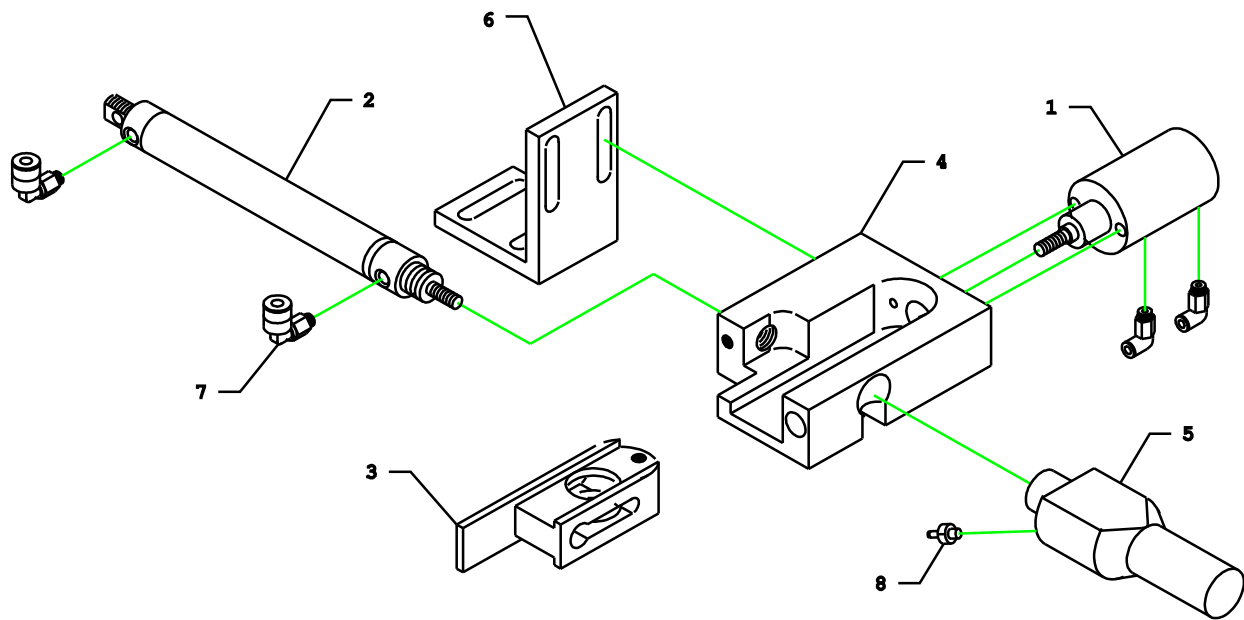
- 1 **M2102-R** Right Nozzle Finger
- 2 **M2102-L** Left Nozzle Finger
- 3 **M2104** Hose Barb
- 4 **M2101** Nozzle Assembly
- 5 **G1212** Nozzle O-Rings
- 6 **M2103** Dowel Reject Slide
- 7 **M2110** Gun Main Body
- 8 **F4100** Brass Hex Nipple
- 9 **F3400** Quick Muffler
- 10 **F3000** Quick Exhaust
- 11 **F7300** Exhaust Fitting
- 12 **M2115** Bronze Bushing
- 13 **G1011** Front Cylinder O-Ring
- 14 **M2117** Front Cylinder Housing
- 15 **G1121** Drive Cylinder O-Ring
- 16 **M2119** Drive Cylinder Tube
- 17 **M2120** Drive Rod & Piston
- 18 **G1214** Drive Rod O-Ring
- 19 **M2111** Gun Rear Shroud
- 20 **M2122** Drive Cylinder End Cap
- 21 **F7350** Drive Cylinder Fitting
- 22 **M2112** Main Trigger Handle
- 23 **M2108** Trigger
- 24 **M2114** Front Handle
- 25 **P0021** Gun Slide Cylinder
- 26 **M2123** Gun Slide Block Cylinder Mount
- 27 **M2106** Gun Dowel Slide Block
- 28 **G3650** Spring Plunger

Dowel Feed Bowl



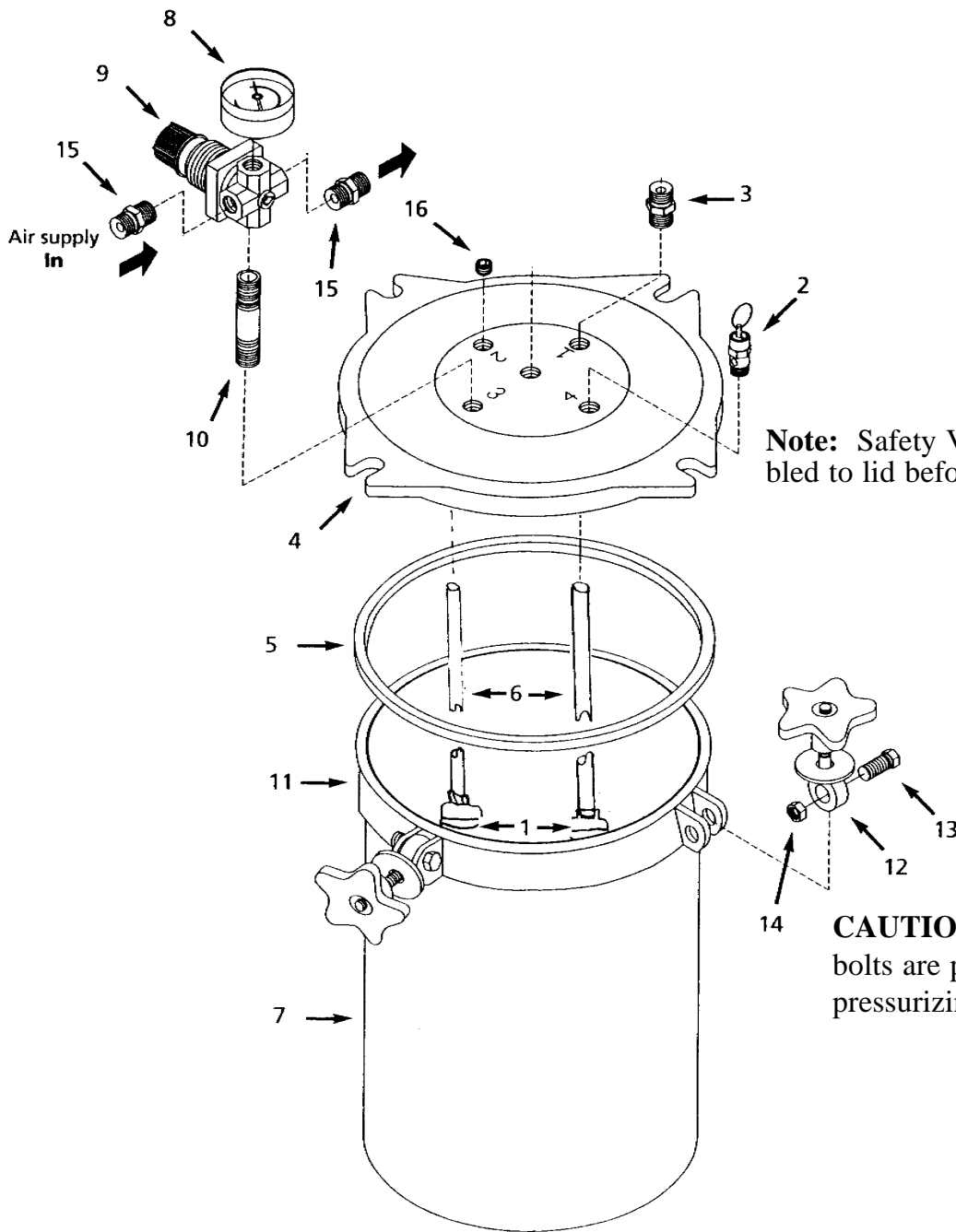
- | | | |
|---|------------------|-------|
| 1 | Vibrating Bowl | G2404 |
| 2 | Dowel Rail Bar | M2208 |
| 3 | Dowel Exit Block | M2209 |

Singulator Unit



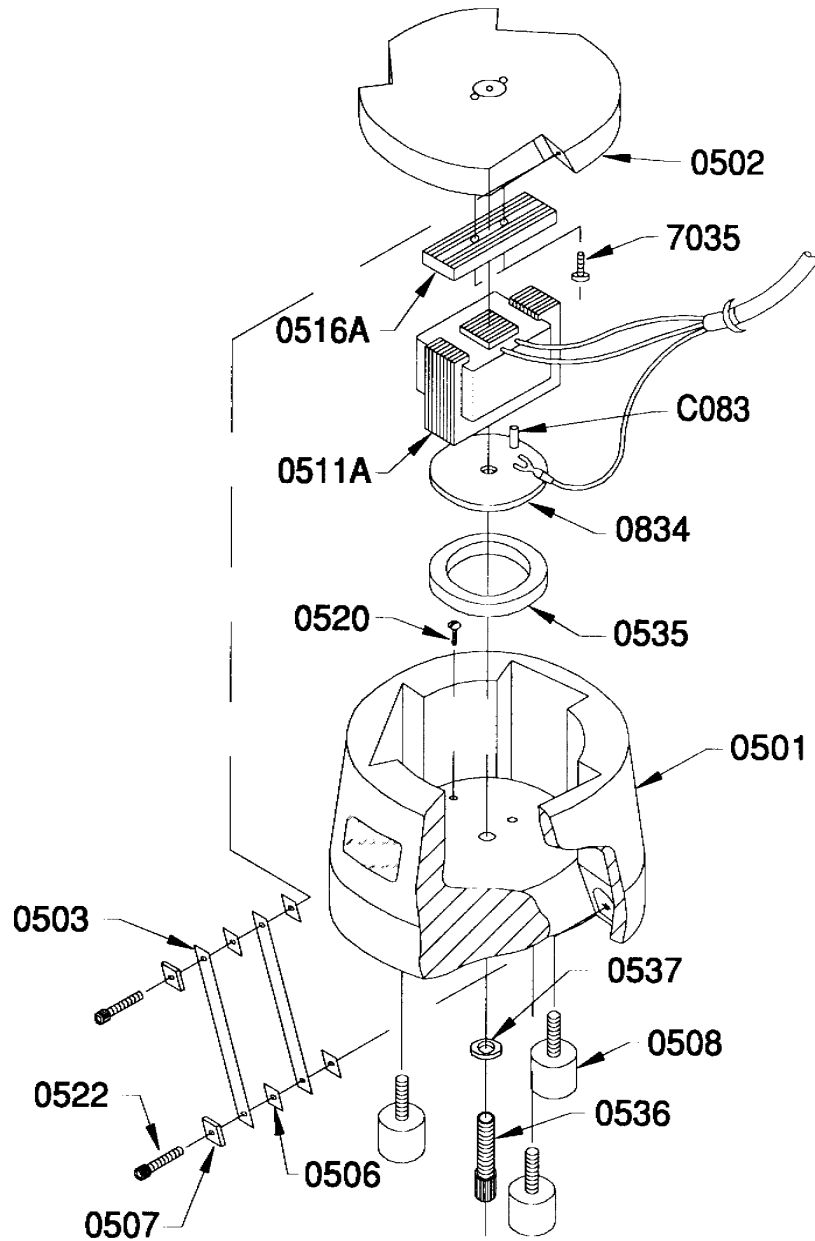
1	P0070	Slide Block Cylinder
2	P0024	Drive Cylinder
3	M2203	Slide Block
4	M2204	Main Block
5	M2205	Dowel Exit Fixture
6	M2206	Singulator Mount
7	F2550	Drive Cylinder Fitting
8	M2104	Hose Barb Fitting

Pressure Pot



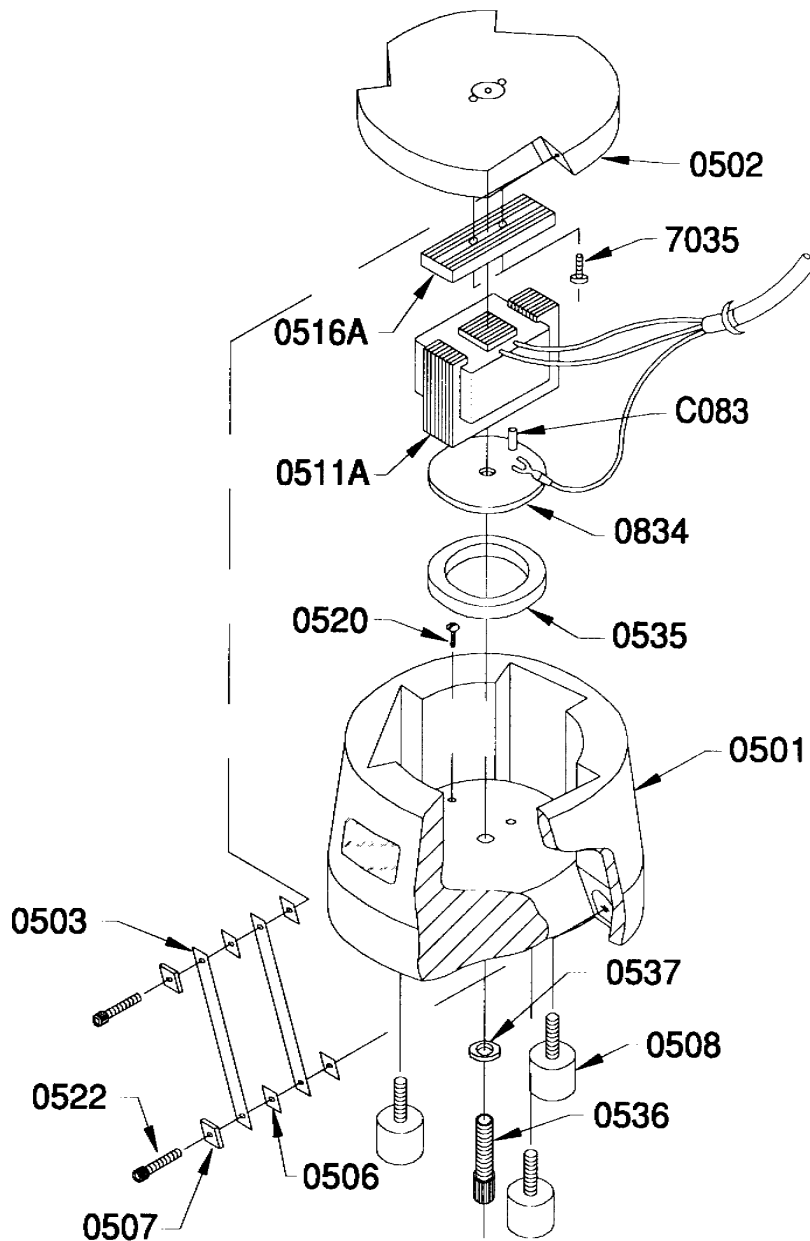
- | | | | |
|---|---------------------------------|-----|--|
| 1 | G3700 Strainer | tor | |
| 2 | P6202 1/4" NPT Safety Valve | 10 | P6210 1/4" NPT Pipe nipple |
| 3 | P6203 3/8" NPS Hose connector | 11 | P6211 Tank bracket |
| 4 | P6204 Tank Lid | 12 | P6212 Eyebolt / Knob / Washer Assembly |
| 5 | P6205 Gasket | 13 | P6213 5/16 - 18 x 1 1/4" SHCS |
| 6 | P6206 Nylon pick up tube | 14 | P6214 5/16 - 18 Locking hex nut |
| 7 | P6207 Galvanized tank | 15 | P6215 1/4" NPT Hose connector |
| 8 | P6208 1/8" NPT Pressure gauge | 16 | P6216 1/8" NPT Plug |
| 9 | P6209 0-60 PSI Pressure regula- | | |

Model 5 Bowl Driver



0501	BASE	0520	10-32 X 3/8 RHMS
0502	TOP	0522	10 - 24 X 5/8 SHCS
0503	SPRING	0535	RUBBER ADJUSTING RING
0506	SPRING SPACER	0536	3/8 - 24 X 1 1/4 SHCS
0507	SPRING PAD	0537	3/8 WASHER
0508	FOOT	0834	COIL ADJUSTMENT WASHER
0511A	120 VOLT COIL (E-FRAME)	7035	10 - 32 X 1/2 SHCS
0516A	ARMATURE	C083	3/16 X 1 ROLL PIN

Model 5 Bowl Driver



0501	BASE	0520	10-32 X 3/8 RHMS
0502	TOP	0522	10 - 24 X 5/8 SHCS
0503	SPRING	0535	RUBBER ADJUSTING RING
0506	SPRING SPACER	0536	3/8 - 24 X 1 1/4 SHCS
0507	SPRING PAD	0537	3/8 WASHER
0508	FOOT	0834	COIL ADJUSTMENT WASHER
0511A	120 VOLT COIL (E-FRAME)	7035	10 - 32 X 1/2 SHCS
0516A	ARMATURE	C083	3/16 X 1 ROLL PIN

Electric Diagram

