Autoclave Chamber strainer - cleaned and checked daily
Back of Solenoid is 120VAC electrical connection. To check to see if power is getting to solenoid, can undo single phillips screw and back off 3 prong plug (check two opposite spades) for 120VAC power. When 120VAC goes to this solenoid, it also goes to the pump - to pump water into the Boiler.

Check Valve

Valve stem securing nut - may leak steam, need to backoff nut and repack with teflon or high temp wrap

pump intake water into generator/boiler

Site Glass - about half full - indicates level of water in the boiler/generator
Sight Glass to evaluate level in the boiler or steam generator

Steam Generator or Steam Boiler

Typ water level

Valve stem nut can be backed off and repacked with teflon or high temp wrap, then screwed back on to keep water or steam from escaping

Red Handle valves can be closed if glass fails, so as not to render the Autoclave useless. It allows or can be operated with these valves closed
Pressure Indicator (above generator/boiler) for Generator or boiler typical about ~70 - 75psi. Note SAFETY relief valve on this steam line is set to be about 100psi.
Should be measuring ~480Volts for the heating elements

120VAC distribution to Valve Solenoids
Pressure "Control" Valve has settings that can be adjusted by turning the Orange cap.

behind is the jacket chamber "relief valve"

From Boiler/Generator

to jacket
regularly check this strainer. If clogged or has holes it affects the chamber pressure regulating valve. It keeps debris from getting onto the seat of the regulating valve and causing steam to leak by door gaskets etc., - preventing adequate PSI regulation.
1st remove captive nut, to remove the electronics portion of the Parker 722 solenoid on the plunger shaft. Note: if too loose when re-installing, you will hear a large humming or siren sound.

2nd - remove 4 philips screws

Pressure Regulator to steam jacket, typically its pressure setting is what you read on the front steam jacket pressure gauge - ~25 psi

Apollo Model jacket pressure safety relief valve press > 39 psi releases steam
Jacket Pressure Front Panel Indicator
~25 - 28 psi.

Note: When we saw ~30psi - it told us water is in the system and has to work itself out. Hammering sounds, knocking, means steam is building and pushing out the water or "wet steam" - purging. It will take a bit of time.
jacket steam Exhaust solenoid. Energized to allow the steam in the jacket to escape. Used during Liquid Cycle, so as to promote a bit faster cool down.

steam jacket safety relief valve - Apollo model. Note if pressure > 39 psi - it releases steam.

Liquid Cycle Exhaust Steam from the Jacket - assist in quicker cooling cycle.
some sort of water release - steam release

Undo Universal joint - exhaust side pipe
Only in Gravity Cycle is the Chamber Vacuum Release Valve kicked in to allow the fresh air into the chamber.

Joint here can be a bit loose - cause all it is doing is letting air in the filter.

Check valve for air into chamber.

Air filter - to check.
Another view from back side

Check valves

Air filter - used during Gravity Cycle

Want no steam flowing back thru the Check Valve and then into the solenoid and being discharged out thru the filter
check - idea is that there is no leak backwards toward airfilter

check O-Ring
Jacket Steam direction to the Back of the Chamber
steam from jacket / or at end of cycle - fresh air into chamber

BACK OF AUTOCLAVE

steam into Chamber
Removed the solenoid Electronics and plunger portion of kit

On this one membrane Tab should be on this side since steam flow is into jacket

Steam Flow Direction
After removing the captive or securing nut set aside the solenoid electronics.
Plunger Eval - replaced part

Don't forget the spring on top
Parker 722, solenoid repair kit 1/2" PN 06-046 about $113ea

solenoid Rubber plunger kit for Parker valves

install tab toward direction of steam flow !!

steam flow

don't forget spring that slips into top

Parker Valve Membrane
Reassembling the new plunger and membrane
Another Solenoid Repair - Jacket steam to Chamber solenoid

jacket pressure relief valve pipe

release flow from relief valve

notice tab orientation - direction of flow

From Jacket

Flow direction

To Chamber

Liquid Cycle Cooling Assist
Reassemble the Parker shaft with new plunger & membrane
Steam Exhaust Trap - collects water - when water present, it floats trap valve to open path and allow water to discharge but closes when only steam present - so nothing escapes

Mixture of Steam and Water

External Temp Probe - Chamber Temperature to controller

By-pass about 1/8 turn to 1/4 turn open, extra bleed valve for slow exhaust
Jacket Exhaust Steam Trap - Allows water to escape and traps the steam

Chamber Exhaust Steam Trap
Steam Exhaust

Orifice - Creates Vacuum, that helps pull out Steam from Chamber

EXHAUST

Cooling Water

MIXING