Best Practices to Repair and Service
SciCan STATIM\textsuperscript{®} Cassette Autoclave

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April, 2014
In an effort to provide a better understanding how to best service the SciCan STAT IM® Cassette Autoclave, this presentation will center on the following topics:

- The Six Phases of Sterilization used by the SciCan autoclave
- Best Ways to Begin Service or Repair
- Preventive Maintenance
- Review of the Most Common Error Codes
- “Tricks of the Trade”
- RPI Field Service Smart Kit®
- RPI Technical Assistance Center
5 Stages of Sterilization – Stage 2: Conditioning

- TEMP CONTINUES TO RISE FROM 95 - 110°C or 203 - 230°F
5 Stages of Sterilization – Stage 3: Pressurizing

NOW THE KPA INCREASES TO THE FACTORY SET TEMPS FOR THE SELECTED PROGRAM

(110°C - 130°C/135°C or 230°F - 266°F/275°F)
5 Stages of Sterilization – Stage 4: Sterilization

TEMP & KPA IS MAINTAINED TO THE FACTORY SET TEMPS FOR THE SELECTED PROGRAM

(~132 - 135°C)
(~270 - 275°F)
212 KPA
5 Stages of Sterilization – Stage 5: Venting

STERILIZATION CYCLE IS COMPLETED, VENT SOLENOID VALVE OPENS COMPLETELY, AND CASSETTE DEPRESSURIZES INTO THE WASTE BOTTLE. NO POWER TO THE BOILER AT THIS TIME.
AIR COMPRESSOR TURNS ON AND PASSES AIR THRU THE FILTER INTO THE BOILER. HEATED AIR FROM THE STEAM GENERATOR/BOILER IS FORCED INTO THE CASSETTE WHICH WILL DRY THE CASSETTE AND ANY INSTRUMENTS.
Level the Machine

For proper operation (before servicing the autoclave), verify that the autoclave has been properly leveled.

Note the position of the bubble in the bull’s-eye Level (RPI Part #SCL012) that is located on the top right of the autoclave.

A properly leveled autoclave would show the bubble in the 4 to 5 o’clock position.

If leveling is improper, adjust the feet until proper level is achieved.
Use the RPI Extension Test Cable *(RPI Part #SCT026)*

When testing, troubleshooting or repairing the STATIM autoclave, install the RPI Extension Test Cable.

By attaching the Extension Test Cable to the cover and main PC board as shown in this illustration, you will be able to extend the distance between the autoclave and the cover thus allowing you to place the cover in a horizontal (not vertical) position for easier viewing of the LCD display and easier access to the keypad.
Highlights of Replacing the Cassette Seal
(*RPI Part #SCS001 & SCS029*)

- Once the cassette seal has been removed, it is important to inspect, clean and remove any residue and/or debris from the cassette groove and outer edge. Check for dings and dents on both halves of the cassette; if present, a proper seal may not occur. See Figure 1.

- When installing the cassette seal, it is best to start in the back corner, nearest the port holes of the cassette. Slip the cassette seal under and into the corner, placing the locating tabs at the edge of the open corner. Now align the port holes and their locating tabs with the cassette. The locating tabs must protrude through the square notches of the cassette lid. See Figure 2.
There’s More to It Than Just Replacing the Cassette Seal …
*You must also clean, verify and inspect!*

- Ensure that there is no debris or residue on outer edges of cassette tray.

- Verify that outer edges of cassette tray are straight (not nicked, dented, or damaged).

- Confirm that the cassette seal ports are not damaged due to the steam ports.

- Inspect and clean steam ports on probe bracket. If you observe excess debris that is not easily removed, or if the steam ports appear to be worn or damaged, remove probe bracket for proper evaluation. Replace probe bracket if necessary.
RPI PM Kits and Checklist

- Once a year or 6 months (approximately 500 cycles). Customer’s usage will dictate timing of PM.

- The OEM recommends the replacement of the Check Valve Kit (RPI Part #SCK011) and the steam generator/boiler’s Safety Valve (70PSI) (RPI Part #SCV004) every 2 years, and the use of the Reservoir Cap & Filter (RPI Part #SCK059) on all versions of the STATIM autoclave.

- To aid in proper cleaning and maintenance of autoclaves, RPI also offers a Cleaning Kit (RPI Part #RPK791) which includes a variety of brushes, sponges and cleaning pads assembled in a convenient carrying case.
There’s More to It Than Just Replacing the Cassette Seal …

*You must also properly align it!*

Separate cassette tray from cassette lid. Place lid on counter top and remove cassette seal. The cassette seal must be removed before continuing with Alignment Tool installation.

Alignment Tool Installation Instructions

1) Tilt the cassette lid and install Alignment Tool into steam ports from the inside of the cassette lid as shown. The square tabs on the tool must engage the square notches in the cassette lid, and the tool must lay flat within the cassette seal groove. The Alignment Tool must be seated correctly to avoid damaging the tray when latched and closed. See Figure to left.

2) Carefully attach the bottom tray to cassette lid and close to properly retain the Alignment Tool. Cassette lid should close normally and retain the Alignment Tool. DO NOT FORCE IT CLOSED!

3) Cassette is now ready to be used to align probe bracket steam ports.
Replacing the Water Pump Filter

Effective June 2007, the OEM stopped using the mesh filter (installed in the inlet and outlet fittings) and offered the In-Line Water Filter to be installed between the reservoir and pump.

The OEM now recommends the use of the Reservoir Cap and Filter along with the In-Line Water Filter on all units. The mesh filters should be removed and the autoclave should be upgraded to the In-Line Water Filter.

RPI offers the parts you need:
- In-Line Water Filter* (RPI Part #SCF034)
- Reservoir Cap & Filter (RPI Part #SCK059)
- Drain Kit with Pump Filter (RPI Part #SCK037)

* The In-Line Water Filter is also included in the PM Kit!
Proper Placement of the Water Pump Filter

Water Filter (In-line)
(RPI Part #SCF034)

STAT/M 2000

To Drain Kit Barbed Tee or Reservoir

Flow

PUMP

2.50"

900'

900'

STAT/M 5000

Existing Barbed Tee

Flow

PUMP

1.50"

RESIZE TUBING AS SHOWN

RESERVOIR

2.50"

1.50"
Priming the Water Pump Filter

Remove tubing to the boiler and activate pump into bottle

Connect Drain Kit and drain here to aid in priming the Pump Filter.

DRAIN TUBE ASSEMBLY KIT (RPI Part #RPK432)
Importance of Using Sci-Dry™

- SCI-DRY™ is designed to protect stainless steel instruments and will promote even coating of water on the internal surfaces of the cassette without beading. This will reduce spotting on the cassette as well as on the instruments.
- Regular use (every 10 cycles) of SCI-DRY™ enables water to evaporate more quickly and efficiently which enhances instruments’ ability to dry faster.
- It will also increase the life of the cassette seal. Always follow the equipment manufacturer’s instructions and recommended maintenance schedules.

RPI Sci-Dry:
- (1) 2 oz. Spray Bottle (RPI Part #SCA054)
- Case of 12 (2 oz.) Spray Bottles (RPI Part #SCA055)
- (1) 16 oz. Bottle (RPI Part #SCA046)
- Case of 12 (16 oz.) Bottles (RPI Part #SCA047)

Use Sci-Dry spray every 10 cycles!
Be Successful! Use the RPI Field Service Smart Kit®
(*RPI Part #SCK028*)

The RPI Field Service Smart Kit is a valuable work tool that can help save you and your customers time and money.

The Kit includes a booklet where you will find instructions on how to use each of the tools in this Kit, plus:
- Diagrams
- Exploded Views
- PM Check Lists
- Error Code Listings with Trouble-Shooting Service Tips
- List of RPI parts to fit the SciCan STATIM Cassette Autoclaves.
The RPI Field Service Smart Kit®
(RPI Part #SCK028)

Everything needed to properly service the StatIM 2000 and 5000 units, plus more!

RPI offers one-of-a-kind, specialized tools that are not offered by the OEM … only available from RPI.

Tools that make your job easier, and your customers satisfied.
THE BIG THREE!

1. 2.1 – Extension Test Cable
   RPI Part #SCT026

2. 2.2 – Start Switch
   RPI Part #SCS021

3. 2.3 – Pump Tester Bottle
   RPI Part #SCK024
Probe Bracket & Probe Bracket Kits

The Cassette Seal will fail if the:
• Cassette Seal Port Holes are worn
• Steam Ports have mineral build up or are worn
• Probe Bracket is out of alignment

Internal View of Cassette Bay (Armature)

Steam Ports
Spring Bar
Micro Switch

Apply Silicone Adhesive* (RPI Part #RPA874) to side of switch and mount to probe bracket angle.

Apply a sealing bead of Silicone Adhesive around switch housing to close off any leak paths between the switch and bracket.

Watch for steam leaks from the cassette bay as they can cause damage to the micro switch and other internal components. Verify integrity of cassette seal steam ports and probe bracket alignment.

NOTE: Silicone Adhesive (RPI Part #RPA874) replaces Gasket Maker (RPI Part #RPS639).
Solenoid Valve

- Avoid crushing the flute/bonnet (which would prevent the plunger from moving up and down freely) by using a Spanner Nut (RPI Part #RPT364) or Spanner Wrench (RPI Part #RPT501).

- Inspect and clean plunger rubber seat, replace if necessary. Uneven wear could indicate a problem to the valve body orifice.

- Lubricate the plunger (metal body only) with a drop of 3-IN-ONE® oil. This can also help reduce valve noise.

- Inspect and clean valve body orifice and ports, looking for damage and debris.

- Check that the coil and bracket have been reinstalled in the proper orientation.
Check Valve Kit

A failed Check Valve can lead to:
• Compressor failure
• PSI leaks and Error codes

Visual inspection will help to identify if there is a Check Valve failure. Visually inspect:
  a) Clear tubing
  b) Compressor Filter(s)

Service Tip: To avoid possible valve failure, debris must be completely removed from the fitting before installing new Check Valve (RPI part #SCK011) using supplied threadlocker on fitting threads.
Drain Tube Kit
(Drain Kit with Pump Filter (RPI Part #SCK037 fits 2000. For kit to fit 5000, see Note below.)

RPI Advantage!

The Quick Disconnect included in the RPI Drain Tube Kit (RPI Part #SCK037) allows you to drain the machine before taking it to your van or shop to repair.

NOTE: To upgrade the Scican StatIM® 5000, order the Drain Tubing Kit (RPI and the Female Quick Disconnect Fitting (RPI Part #RPF428). The StatIM 5000 comes equipped with the drain Line and Plug.
Water Testing

Water quality is critical! Use only high quality distilled water.

The Water Quality Tester (RPI Part #RPT820) is a meter designed to measure water quality. This meter determines the total amount of dissolved solids (TDS) present in the water being used for sterilization. SciCan states the total dissolved solids (TDS) allowable in the water reservoir to be a maximum of 5 Parts Per Million (ppm) or a conductivity of less than 10 Micro Siemens (µs/cm). RPI’s Water Quality Tester displays its readings in “Parts Per Million” (ppm) and will automatically compensate for temperature variations.
Condenser Waste Bottle Kit (RPI Part #SCK016)

The RPI Advantage!

This one-of-a-kind design allows removal of the Condenser Waste Bottle from the exhaust tubing in one easy step.

Simply push and release the quick connect on the lid and the bottle is free from the exhaust tube for easy maintenance.
Replacement Parts Industries, Inc. (RPI) has been the leader in replacement parts since 1972.

Service Technicians have come to rely on RPI for its valuable technical assistance, including:

- Tech help available via phone, fax, email and website.
- RPI Planned Maintenance Kits to fit a Variety of Tabletop and Bulk Sterilizers.
- Free Troubleshooting Guides.
- Free Exploded Views.
- Web Access to all Installation Instructions.
- Tech Talk and Service Tip Articles.
- At-a-glance Cross References and Quick Reference Guides.
- Annual Planned Maintenance Posters.
- More service tips can be found in the Tech Help section of the RPI website – www.rpiparts.com.

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Thank you for joining us for our presentation on

Best Practices to Repair and Service
SciCan STATIM® Cassette Autoclave

And many thanks for giving
RPI the opportunity to share this valuable
information with you.