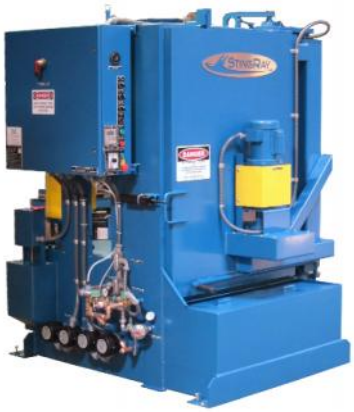


Field Start-up to be completed by StingRay Tech Services Field Service Technician or Company Authorized Individual. This completed form must be returned to initiate Owner Warranty.

Machine Serial No. _____ Model _____ Pump Size _____

Company _____

Contact _____

Address _____

City _____ State _____ Zip _____ Country _____

Phone _____ Fax _____

E-Mail _____ Date: _____

PRELIMINARY INSPECTION

Inspect Parts Washer for shipping or installation damage. Note damages, if any

_____

Is machine leveled properly so that when the door is open 45° the door does not move? [ ] Yes [ ] No

Is machine anchor bolted to floor? [ ] Yes [ ] No

Are shims under the frame vertical angle legs and not just machine feet for support? [ ] Yes [ ] No

Are shims under the door frame for support? [ ] Yes [ ] No

Are all shims snug and cannot be moved? [ ] Yes [ ] No

Are rubber grommets & tie-wrap removed from float rod? [ ] Yes [ ] No

Is machine grouted to floor? [ ] Yes [ ] No

Service and Connections

Water Supply

Supply pipe diameter _____ in/mm

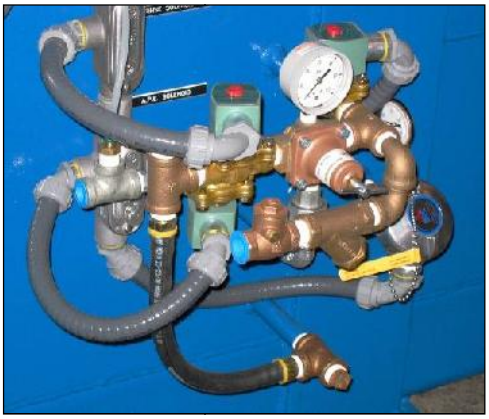
Material type _____

Distance to next larger supply line _____ ft/m

Is water strainer in-line with system? [ ] Yes [ ] No

Incoming Water pressure _____ psi/bar

Is a shut off valve installed? [ ] Yes [ ] No



Compressed Air Supply (If applicable)

Diameter _____ in/mm

Material type _____

Are quick disconnects used in the supply line? [ ] Yes [ ] No

Pressure _____ psi/bar

Distance to next larger supply line _____ ft/m

Is an inline filter installed? [ ] Yes [ ] No

Is a regulator installed? [ ] Yes [ ] No

Electrical

IMPORANT: ALL electrical connections checked for tightness? [ ] Yes [ ] No

Feeder wire size of incoming supply _____

Is washer electrically ground? [ ] Yes [ ] No To where/what? _____

Is ground wire the same size as the supply feeder wires? [ ] Yes [ ] No

Incoming 3 phase voltage L1_____ L2 _____ L3 _____

Is a Master disconnect installed? [ ] Yes [ ] No

Supply fuse or circuit breaker size: _____ amps

Supply run length _____ ft/m

Is supply properly installed in conduit and with sealed electrical connections to electrical panel? [ ] Yes [ ] No

Does supply enter the top of the electrical panel? [ ] Yes [ ] No

Are all edges for incoming wires smooth and protected to prevent damage to insulation? [ ] Yes [ ] No

Steam Exhaust

Does washer have a Hot Air Blow Off? [ ] Yes [ ] No

Stack Material _____

Diameter _____ in/mm

Number & type of elbows _____

Vertical length _____ ft/m

Horizontal length _____ ft/m

Is a rain cap installed? [ ] Yes [ ] No

ASE unit installed _____ ft/m from Power Washer.

ASE unit Mounted: Vertical ____ Horizontal ____

Is ASE exhaust point above highest point of roofline? [ ] Yes [ ] No

If no, explain _____

If the Steam Exhaust Venturi is installed horizontal is the FAN mounted so that it is 45º from the vertical as shown in the operating manual? [ ] Yes [ ] No

Is power supply to ASE unit in conduit? [ ] Yes [ ] No

Have connections to the ASE unit been made per the operating manual? [ ] Yes [ ] No

Heat Inputs

Source: [ ] Gas Burner [ ] Electric [ ] Steam

Fill out Applicable Section:

Gas Burner (if applicable)

[ ] Natural Gas [ ] Propane System [ ] Butane

Eclipse Burner

Gas Supply Line (if applicable)

Diameter _____ in/mm (Note: Supply pipe size affects maximum burner firing rate)

Material _____

Approximate distance to next larger size line or fuel tank _____ft/m

Gas Pressure _____ water column inches (wci)/bar

Gas Flue Pipe (if applicable)

Material _____

Diameter _____ in/mm

Number & type of elbows _____

Vertical length _____ ft/m

Horizontal length _____ ft/m

Make a sketch of the flue pipe run in the space to the right. >>>>

Is rain cap installed? [ ] Yes [ ] No

Is flue vent above highest point of roofline? [ ] Yes [ ] No

If no, explain _____

Riello Burner

Gas Burner Electrical Connection (if applicable)

Is the burner connected per the operating manual? [ ] Yes [ ] No

Is the connection made via conduit provided? [ ] Yes [ ] No

Steam Heat System (if applicable)

Steam Pressure _____ psi/bar

Supply pipe diameter _____ in/mm

Is supply pipe insulated? [ ] Yes [ ] No

Approximate distance to next larger size line _____ ft/m

Is there a strainer in front of the steam valve? [ ] Yes [ ] No

Is there a steam pressure gage near the supply line? [ ] Yes [ ] No

Does condensate return line drain via gravity? [ ] Yes [ ] No

Is condensate drain line lower than steam trap? [ ] Yes [ ] No

Electric Heating Elements (if applicable)

Did you inspect the inside of the element enclosure and verify wire tightness? [ ] Yes [ ] No

STARTUP PROCEDURE

Read Safety Instructions and Warnings Section in STINGRAY Operating Manual & Services By Others Summary before Proceeding

Follow the detail instructions in the STINGRAY Operating Manual under Start-Up Procedure

Outline of Procedure:

☐ Lubricate machine if it is more than 6 months after shipment.

☐ Power-up

☐ Fill machine with water, verify operation of water management system.

☐ Check and verify operation of 7-day clock and other control settings.

☐ Measure control voltage: Transformer Secondary Voltage: _____

☐ Start heating system, record start time and initial water temperature.

Start Time: _____ Water temperature: _____ ºF/ºC

Gas Burner Start-up (if applicable)

To be performed by qualified gas burner/boiler technician: Measure & Record:

Measure and record incoming gas pressure (burner unfired) _____ w.c.i./bar

Measure and record gas pressure (burner fired) Incoming _____ w.c.i./ bar Manifold _____ w.c.i./bar

(Eclipse) measure and record gas pressure differential at the burner head: Low fire _____ High fire _____

(Eclipse) record final air damper setting: Low fire _____ High fire _____

Measure and record exhaust stack temperature with burner fired and water at high temperature _____ ºF/ºC

Measure and record exhaust emissions: CO _____ ppm Oxygen _____% CO_2 _____% excess air _____

Test measurements taken by: PRINT NAME _____

Company _____ Phone # _____

☐ Measure and record time to reach operating temperature of 185-190° F (85-88º C).

Time of day: _____ Total Heat-up time _____ min

- (Duplex Pumps Only) Is the wash delay timer set to a minimum of 20 seconds? [ ] Yes [ ] No [ ] N/A
- Bump start pumps to verify direction of rotation matches arrow on pumps. Check rotation direction on each of the pumps and the sludge scraper if the machine is so equipped. Swap phases if required. Do all the pumps run in the correct direction? [ ] Yes [ ] No
- Check Pumps. Do pumps start, run, and stop smoothly with no vibrations? [ ] Yes [ ] No

☐ Start pumps and record voltage between each power leg (phase to phase) and amp readings:

- Record Amp readings on label inside electrical panel door? [ ] Yes [ ] No
- Compared nameplate amp draw to actual amp draw on pump motors? [ ] Yes [ ] No

		PUMP 1			PUMP 2		
		Nameplate FL Amps: SF:			Nameplate FL Amps: SF:		
		Leg 1	**Leg 2**	**Leg 3**	**Leg 1**	**Leg 2**	**Leg 3**
Main Pump:	Voltage running	volts	volts	volts	volts	volts	volts
Hp:	Amp Draw	amps	amps	amps	amps	amps	amps
		Nameplate FL Amps: SF:			Nameplate FL Amps: SF:		
		Leg 1	**Leg 2**	**Leg 3**	**Leg 1**	**Leg 2**	**Leg 3**
Suction Pump:	Voltage running	volts	volts	volts	volts	volts	volts
Hp:	Amp Draw	amps	amps	amps	amps	amps	amps

Amp Draws:

Turntable Drive:		Transformer Secondary all systems ON	
PBM Drive:			
ASE Blower 1ph:			

Options if Applicable:

Skimmer:		HABO/CABO:	
Mini Scraper:		Center Probe:	
Sludge Scraper:			
ASE Blower 3ph:			
Eclipse Blower			

Electric Heat if Applicable:

	Leg 1	Leg 2	Leg 3		Leg 1	Leg 2	Leg 3		Leg 1	Leg 2	Leg 3
Element 1				Element 2				Element 3			
Element 4				Element 5				Element 6			
Element 7				Element 8				Element 9			
Element 10				Element 11				Element 12			

- **Cycle Test**

Adjust Wash Delay Timer (Duplex Pump) or Soft Start Control (Simplex Pump) to prevent water hammer *(if applicable)*: **Do not allow anyone to stand in front of Parts Washer when performing this test.** With washer at full operating temperature, after allowing ambient air to enter cabinet for at least 30 seconds, close the door

and Start wash cycle. If water "blows" out of the front reservoir or under the door adjust the appropriate control per StingRay Operating Manual.

Wash delay / Soft Start is adjusted to prevent Water Hammer? [ ] Yes [ ] No

- **Operational/Safety Checks**

  Do pump/s and heat systems shut down when the float rod is pushed down? [ ] Yes [ ] No

  Wash cycle aborts when Door Close limit switch senses door not closed properly? [ ] Yes [ ] No

  Turntable drive system aligned with turntable? [ ] Yes [ ] No

  PBM operates smoothly, yellow flag on top of PBM shaft is moving properly? [ ] Yes [ ] No

  All operator controls function as expected & as designed? [ ] Yes [ ] No

  Rinse system functioning properly? Jumper solenoid with door open and inspect? [ ] Yes [ ] No [ ] N/A

  Verified outside of the cabinet and all connections are water tight and sealed after wash cycle? [ ] Yes [ ] No

  Auto Steam Exhaust (ASE) system operates and prevents steam appearing around door seals or front covers during wash cycle? [ ] Yes [ ] No If No, explain _____

  ASE blower running correct direction? [ ] Yes [ ] No

  If ASE has adjustable speed control is speed set so steam just stays in cabinet? [ ] Yes [ ] No [ ] N/A

- **Detergent Charging:**

  Incoming Water Record Water Hardness (ppm) _____ pH Level _____

  Machine Reservoir volume _____ gal/L

  Chemical Brand/Name _____

  (Provide a copy of the Chemical's SDS and Specification Sheet with this form)

  Manufacturer's recommended Detergent concentration _____ [ ] oz(ml) / gal(L) [ ] % of reservoir

  Chemical amount added: Initial Amount _____ [ ] gal/L [ ] lb/kg Total Amount _____ [ ] gal/L [ ] lb/kg

  Method Concentration Monitoring: ☐ Titration ☐ Refractometer ☐ Other _____

  Titration Concentration: Test ml _____ Drops _____ Results _____ [ ] oz(ml) / gal(L) [ ] % of reservoir

  Solution (Water & Detergent) pH Level _____

  Rust Inhibitor Injector Pump Setting: Small Dial (Set 100%) _____ Large Dial (Adjustable %) _____

OPERATING PARAMETERS

- Program 7-Day Clock: Clock is programmed : [ ] Yes [ ] No

  Heat - Program Time _____ - _____ Days S M T W TH F S (Circle Appropriate Days)

  Skimmer - Program Time _____ - _____ Days S M T W TH F S (Circle Appropriate Days)
- Rinse timer Set time to _____ minutes ASE timer Set time to _____ minutes
- Set ASE Speed Control (if applicable) _____ Frequency
- Set Sludge Scraper timer (if applicable) Set time to _____ minutes
- Set Air Lift (if applicable) _____ psi, Air Pressure (5-10 PSI recommended)
- Wash Delay timer / Soft Start set time to _____ seconds
- Wash cycle time: _____ minutes
- Operating Temperature:_____ °F / °C
- Operating hours upon completion of Start-up _____ (Hour Meter)

TEST WASH OF ACTUAL PARTS Test wash actual parts and record results.

Type Parts planning to Clean:_____

Soil Types to be Removed:_____

Next Step after Wash/Rinse/Dry:_____

Cleanliness (Soils) : Excellent (all) ___ Good (most) ___ Fair (some) ___ Poor (none) ___

Rinse Results (Residue): Excellent (none) ___ Good (mild) ___ Fair (some) ___ Poor (heavy) ___

Drying Results (Water/Rust): Excellent (none) ___ Good (mild) ___ Fair (some) ___ Poor (heavy) ___

Comments:_____

_____

_____

_____

Factory Service Technician (Print name): _____ **Date:** _____

Thank you for taking the time to compete your start-up. A properly installed and operating parts washer is your first step in assuring excellent cleaning results and a long operating life. Should you have any questions about your Parts Washer, this start-up, or anything about parts cleaning please contact:

StingRay Tech Services
Phone 1-314-567-3705 Fax 314-567-6318
24/7 User Support website at www.stingrayservice.com & www.stingwash.com

Customer Point of Contacts (POC) for StingRay Washer

Title	Name (Printed)	Phone Number:	E-mail
Washer Operator 1			
Washer Operator 2			
Maintenance			
Washer Supervisor			

To begin your Warranty, please sign and **return your Start-up Form** to StingRay Tech Services.

Overall Performance and Satisfaction: Excellent ☐ Good ☐ Fair ☐ Poor ☐

Authorized Signature: _____

Printed Name: _____

Title: _____

Email: _____

Phone: _____

Date: _____