Clean E-Z Flow Regulators for SCBA and Supplied-Air Respirators

Usq # N/A-4

Change History (≤ Last 5 Rev-Mods)

<table>
<thead>
<tr>
<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
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<tr>
<td>F-0</td>
<td>01/02/2018</td>
<td>Reactivation/Major revision</td>
<td>In general modified procedure to incorporate new changes that were not in affect when procedure inactivated. This includes adding automatic dryer. Newly revised procedure.</td>
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<tr>
<td>E-1</td>
<td>08/15/2013</td>
<td>Inconsequential Change IAW WRPS-PER-2012-1587.3</td>
<td>Replaced reference to MSDS with GHS-SDS and/or MSDS.</td>
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<td>E-0</td>
<td>11/27/2012</td>
<td>All changes are as a result of the periodic review process.</td>
<td>Globally converted action bullets to numbered steps. Modified wording in Steps 5.3.7, 5.3.8.1 and 5.3.24.1.</td>
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<td>D-1</td>
<td>01/06/2010</td>
<td>Operations request.</td>
<td>Added new cleaning solution and MSDS. Modified wording in Steps 5.1.2.1, 5.1.2.2, 5.1.2.3, 5.1.6.2, 5.1.9, 5.2.2.1, 5.2.2.2, and 5.2.2.3. Added new Step 5.1.6.3. Deleted 3rd bullet from Step 5.2.12.6.</td>
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This is a new revision. The First Time Use process as defined in TFC-OPS-OPER-C-13 can be used during the initial performance of this revision.

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### Clean E-Z Flow Regulators for SCBA and Supplied-Air Respirators

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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for the proper cleaning of E-Z Flow Regulator for Self-Contained Breathing Apparatus (SCBA) and supplied-air respirators in accordance with vendor specifications and OSHA requirements.

1.2 Scope

This procedure applies to all SCOTT systems using the Scott E-Z Flow regulator incorporating the air saver switch. These instructions are limited to routine cleaning/sanitizing and do not apply to activities that may involve repair/servicing of regulators by authorized technicians.

2.0 INFORMATION

2.1 Terms and Definitions

**Facepiece Tester Assembly** - Scott O-Vista Facepiece configured with a blank and a suction bulb (aspirator) used to create a vacuum for testing of the regulator. See Attachment 1.

**RPPA** - Respiratory Protection Program Administrator
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

**WARNING** - Failure to ensure the regulator assembly is dry may interfere with the operation of the regulator and could cause respirator failure, resulting in injury or death to the user.

3.1.1 Where there is a potential for exposure to cleaning products used to sanitize respiratory protection equipment such as mixing, spraying, and rinsing the responsible Industrial Hygienist (IH) or the RPPA will evaluate and prescribe the appropriate Personal Protective Equipment (PPE).

3.1.2 An ill worker shall consult their supervisor before cleaning/sanitizing regulators.

3.1.3 Clean and sanitize the work surfaces using disinfecting towelettes (e.g. Clorox, Lysol) prior to and after cleaning regulators as approved by the RPPA.

3.1.4 Failure to follow Wescodyne Plus sanitizing solution mixing and use instructions can result in equipment damage and personnel exposure.

3.1.5 Minimum of chemical gloves, goggles, and portable eyewash with drench hose shall be used when using wescodyne to clean and sanitize respirator equipment or the mixing of wescodyne.

3.1.6 When cleaning and sanitizing respiratory equipment, controls shall be implemented in accordance with “Ergonomic Evaluation: SCBA Cleaning and Sanitizing Processes” WRPS-1705801.

3.2 Equipment Safety

**CAUTION** - Failure to use only designated cleaning station locations for disinfecting and rinsing regulators could compromise regulator cleanliness.
4.0 PREREQUISITES

4.1 Special Tools, Equipment and Supplies

The following supplies may be needed to perform this procedure:

- Cleaning solution Wescodyne Plus, MSDS/SDS-GHS #067210 (dated and not expired)
- Disinfecting towelettes such as Clorox Bleach Wipes, Lysol Wipes, or equivalent as approved by RPPA
- Dawn Dish Soap MSDS/SDS-GHS #070210
- Plastic Face piece Tester Assembly (RPP-STE-00005)
- Suction bulb (aspirator)
- Designated Sink with warm running water (maximum of 100° Fahrenheit)
- Thermometer
- Breathing Air bottle (pressure greater than >1000 psi)
- Cotton towels
- Latex or surgical gloves
- Protective eyewear (Safety goggles or safety glasses with side shields), as required by RPPA
- Other tools, equipment and supplies as identified by Shift Manager/OE/FWS
- Dryer port plugs/covers
- Eyesaline Eyewash MSDS/SDS-GHS #075266
- Bissell SpotClean or shop vac
- Portable Eye Wash with drench hose.
5.0 PROCEDURE

NOTE - Routine cleaning and inspection of multiple regulators can simultaneously be performed using this procedure.

- Sections 5.3 through 5.6 may be performed in any logical order or concurrently, as actions dictate.

5.1 Inspect Regulator Unit, Hose, and Gasket

5.1.1 VISUALLY INSPECT for any obvious damage.

5.1.2 ENSURE emergency bypass rotates freely.

5.1.3 INSPECT air saver switch for cracks and wear.

5.1.4 VISUALLY INSPECT inside of the regulator for cracks and tears in the lining.

5.1.5 INSPECT all hosing for cracks, tears, or abrasions.

5.1.6 ENSURE that all surface areas have been inspected.

5.1.7 ENSURE the regulator gasket is secure with no movement and adequate Teflon is in place.

5.1.8 IF the regulator unit fails any of the specified inspections, TAG out of service AND SEND the unit to trained authorized personnel for repair.
5.2 Clean Harness Assembly

5.2.1 ENSURE work tables have been wiped down with approved cleaning wipes.

5.2.2 PLACE rack in position to be cleaned.

5.2.3 EXTEND AND INSPECT straps for damage.

5.2.3.1 IF damage is found, TAG AND REMOVE unit for repair.

5.2.3.2 CHECK regulator and/or reducer for Hanford Fire Department (HFD) calibration stickers AND CONFIRM calibration is current.

5.2.3.3 IF calibration is not current TAG equipment AND REMOVE from service.

5.2.4 REMOVE obvious dirt from external surfaces of harness using one of the following approved methods.

**Method 1**

5.2.4.1 WIPE CLEAN using cloth dampened with a mild cleaning solution.

5.2.4.2 REMOVE cleaning solution with a water dampened cloth.

5.2.4.3 ALLOW to air dry.

**Method 2**

5.2.4.4 USE an RPPA approved upholstery cleaning device (e.g., Shop vac, Bissell SpotClean) and a mild cleaning solution to clean harnesses.

5.2.4.5 ALLOW to air dry.

**Method 3**

5.2.4.6 USE other methods approved by manufacturer and RPPA.
5.3 Clean and Rinse Regulator

5.3.1 DON protective gloves and eyewear, as necessary.

5.3.2 IF sink is used for rinsing and sanitizing, PERFORM the following:

5.3.2.1 ENSURE date on cleaning solution bottle is not expired.

**CAUTION**

Failure to use only designated cleaning station locations for disinfecting and rinsing regulators could compromise regulator cleanliness.

5.3.2.2 IF sink was not already sanitized, SANITIZE designated sink surface with cleaning solution allowing $\geq 10$-minute contact time for disinfection.

5.3.3 AFTER allowing cleaning solution $\geq 10$-minute contact time, THOROUGHLY RINSE designated sink surface with lukewarm water.

NOTE - A click will be heard when air saver switch is fully depressed.

5.3.4 FULLY DEPRESS air saver switch.

5.3.5 TURN emergency bypass fully clockwise to ensure knob is CLOSED.

**Special Instructions:**

Only Wescodyne Plus or RPPA-approved cleaning solution is allowed to be used.

5.3.6 IF using Automatic Sprayer, APPLY cleaning solution to completely cover surface to be disinfected.

    OR

    IF using hand spray bottle, SPRAY cleaning solution into regulator opening as follows.

5.3.6.1 SPRAY at least three (3) times in each internal side of the regulator.

5.3.6.2 SPRAY at least once in the immediate area around the opening.

5.3.6.3 ENSURE minimum of 7 sprays to regulator.

5.3.6.4 SWIRL liquid to completely cover internal components for $\geq$ five (5) seconds.
5.3 Clean and Rinse Regulator (Cont.)

5.3.7 TURN regulator face down and let Wescodyne Plus drain for a minimum of ten (10) minutes prior to rinsing.

CAUTION
Allowing the rinse water to exceed 100 °F may cause damage to respirator components.

5.3.8 ENSURE rinse water does not exceed 100 °F.
5.3.9 RINSE the regulator with potable water for a minimum of one (1) minute.
5.3.10 REPEAT Step 5.3.9 as necessary to ensure sanitizing solution is removed.
5.3.11 DRAIN excess water from regulator.
5.3.12 ATTACH rack coupler to air cylinder isolation valve unit.
5.3.13 ENSURE air saver switch is engaged.
5.3.14 ENSURE emergency bypass is closed.
5.3.15 SLOWLY TURN air cylinder isolation valve ¼ turn.
5.3.16 ACTIVATE air saver switch and emergency bypass multiple times to remove excess moisture.
5.3.17 ENSURE air saver switch is engaged.
5.3.18 ENSURE emergency bypass is CLOSED.
5.3.19 CLOSE air cylinder isolation valve.
5.3.20 BLEED OFF air.
5.3.21 DISCONNECT from air bottle.
5.4 Air Drying Regulators

5.4.1 IF air drying, PERFORM the following:

5.4.1.1 TURN regulator opening face down.

5.4.1.2 DRAIN excess liquid.

5.4.1.3 PLACE regulator in drying area AND IF necessary, COVER OR PROTECT to maintain sanitary conditions.

5.4.1.4 ALLOW regulator to dry for ≥ 12 hours.

5.4.1.5 IF water is still present in regulator, REPEAT Steps 5.4.1.1 through 5.4.1.5.
5.5 Forced Air Drying Regulators

5.5.1 IF using forced air dryer, PERFORM the following:

5.5.1.1 REMOVE cover of each port to be used AND CLEAN ports with disinfecting towelette(s).

5.5.1.2 INSERT regulator into dryer port opening.

5.5.1.3 TURN regulator \( \frac{1}{4} \) turn to secure in place.

5.5.1.4 PLUG/COVER unused ports on dryer.

5.5.1.5 AFTER loading the racks and installing the regulators for drying, PERFORM the following:

   a. ENSURE emergency bypass is CLOSED.

   b. ENSURE air saver switch is CLOSED.

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**WARNING**

Failure to ensure the regulator assembly is dry may interfere with the operation of the regulator and could cause respirator failure, resulting in injury or death to the user.

5.5.1.6 TURN ON blower unit AND DRY for a minimum of 2 hours.
5.6 In-Service Testing

5.6.1 ENSURE protective gloves and eyewear are donned, as necessary.

5.6.2 IF water is present in regulator, RETURN regulator to forced air dryer for drying.

5.6.3 WITH a breathing air bottle greater than 1000 psi, ENSURE emergency bypass is CLOSED.

5.6.4 ENSURE air saver switch is engaged.

5.6.5 SLOWLY OPEN air cylinder isolation valve at least \( \frac{1}{4} \) turn.

5.6.6 IF air flow is heard, PERFORM the following.

5.6.6.1 CLOSE cylinder isolation valve.

5.6.6.2 BLEED OFF air.

5.6.6.3 DISCONNECT air bottle.

5.6.6.4 TAG AND REMOVE from service.

Special Instructions:

The following leak test can be performed up to four times. If all attempts fail, tag and remove from service.

5.6.7 CYCLE emergency bypass, ending in the CLOSED position.

5.6.8 CYCLE air saver switch, ending in the CLOSED position.

5.6.9 IF water is present in regulator, RETURN regulator to dryer.

5.6.10 ATTACH plastic face piece tester assembly (RPP-STE-00005) to regulator.
5.6 In-Service Testing (Cont.)

5.6.11 **IF** regulator is equipped with Vibralert alarms or beacon alarms and alarm does not activate or continues to alarm after a brief interval, **TAG AND REMOVE** unit from service.

5.6.12 **OPEN** emergency bypass.

5.6.13 **ENSURE** air flow through regulator.

5.6.14 **CLOSE** emergency bypass.

5.6.15 **PLACE** suction bulb over face piece tester assembly hole.

5.6.16 **SQUEEZE AND RELEASE** suction bulb (aspirator) to activate air saver switch.

5.6.17 **PLUG** face piece tester assembly hole with finger to stop air flow.

5.6.18 **FOR** approximately 5 seconds, **LISTEN** for leaks **AND**

**IF** air flow is heard, **PERFORM** the following.

5.6.18.1 **CLOSE** cylinder isolation valve.

5.6.18.2 **BLEED OFF** air.

5.6.18.3 **DISCONNECT** from air bottle.

5.6.18.4 **TAG AND REMOVE** unit from service.

5.6.19 **DEPRESS** air saver switch.

5.6.20 **CLOSE** cylinder isolation valve.

5.6.21 **WHILE** watching indicator gauge, **SLOWLY BLEED OFF** air using purge knob.

5.6.21.1 **IF** Vibralert fails to activate at approximately 25% of gauge, **TAG AND**

**REMOVE** unit from service.
5.6  In-Service Testing (Cont.)

5.6.22  REMOVE face piece tester assembly from regulator.

5.6.23  DISCONNECT rack coupler from air cylinder isolation valve unit.

5.6.24  BAG regulator for service AND COVER other parts.

NOTE - Straps need to be secured before regulator is returned to service.

5.6.25  ENSURE straps are either wrapped or tied.

5.6.26  RETURN regulator to service.

5.6.27  PLUG/COver unused dryer ports.

5.6.28  DOCUMENT final In-Service check in Attachment 2 as followings:

NOTE - One Dryer batch per In-service Checksheet.

- One attachment sheet per dryer and dryer cycle.

5.6.28.1  RECORD regulator unit identifier for regulators, by dryer, that successfully pass the In-Service Check.

  a.  RECORD dryer number in comments section.

5.6.28.2  RECORD rack numbers for regulators that successfully passed the In-Service check.

5.6.28.3  RECORD information in Performer Final In-Service Check blocks.

5.6.28.4  PRINT/SIGN Performer Final In-Service Check blocks.

5.6.29  PLUG/Cover unused forced air dryer ports.
5.7 Records

The performance of this procedure generates no records.

The record custodian identified in the Company Level Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.
Attachment 1 – Facepiece Tester Assembly
# Attachment 2 - Regulator Final In-Service Check Data

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## Final In-Service Check

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**Comments:**

* Keep on file for a minimum of 30 days.