

Product Information News

September 26, 2003

LEVER HEIGHT INSPECTION FOR FIREHAWK™ MMR

MSA is announcing a revision to the instructions for the Firehawk MMR Second Stage Regulator as they relate to the air mask flow test and maintenance for all apparatus using the Firehawk Second Stage Regulator. The change is as follows:

- The Air Mask Flow Test procedures for the Firehawk MMR Second Stage Regulator are changed to add **Lever Height Inspection for the Firehawk's Valve Assembly**.
- A new Lever Height Gage Kit (P/N 10050211) was developed and must be used to evaluate the Firehawk's Lever Height at each flow test.

The instruction manuals and sections affected by the changes are as follows:

- **Certified Maintenance Instruction Manuals**
 - **Lever Height Inspection for the Firehawk's Valve Assembly** requirements (new)
 - Firehawk Second Stage Regulator Disassembly and Repair (revised)

The attached pages include the above sections and changes indicated. They must be used in place of the existing instructions for the applicable sections. For your convenience, you may place copies of the attached pages in your instruction manual binders and remove the appropriate existing pages.



For More Information: Call (1-800-MSA-2222) or Visit Our Website at (www.MSAnet.com)



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PITTSBURGH, PENNSYLVANIA, U.S.A. 15230

DISASSEMBLY AND REPAIR

INSPECTION OF LEVER HEIGHT FOR FIREHAWK™ MMR VALVE ASSEMBLY

GENERAL NOTES

The inspection and maintenance procedures authorized in this manual are classified Certified Maintenance. Additional, advanced training is available. Contact your MSA representative for details. Refer to the appropriate Illustrated Parts List.

IMPORTANT

You must read and understand the General Notes, Warnings, and Cautions below before performing Disassembly and Repair. General Notes is a collection of procedures common to many repairs.

⚠ CAUTION

Details for each procedure are listed below. Details are not repeated each time the procedure is done. Instead, a reference to the General Note appears in the text.

⚠ CAUTION

Do not attempt repairs beyond those specified in this manual. Breathing apparatus must not be repaired beyond the manufacturer's recommendations.

⚠ CAUTION

Do not over-tighten parts or you may damage the part or the fitting threads.

Note: Leak Testing should be performed when the SCBA fails any of the inspection steps; following disassembly; or, as part of a regularly-scheduled maintenance procedure. The SCBA must hold system pressure without leaks to provide adequate protection. The component leak test procedure is the first step in trouble-shooting. These tests ensure that you do not have a leak. Leak testing quickly identifies components which need repair or replacement. Use P/N 600920 leak test solution, or prepare a soapy water solution. Be sure to use enough soap to produce bubbles.

Note: All repair procedures assume that the Audi-Larm assembly or URC Assembly is disconnected from the apparatus cylinder.

1. Be sure the cylinder valve is completely closed.
2. Be sure that nothing blocks the regulator outlet. Open the bypass valve to relieve pressure in the system.
3. Close the bypass valve fully.

⚠ WARNING

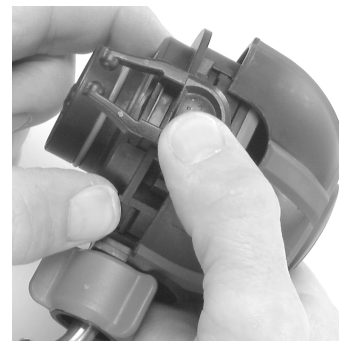
Do not disconnect the Audi-Larm or URC Assembly coupling nut when pressure is shown on the harness gauge. Always be sure that you have released all pressure from the regulator. Removing the coupling nut with the regulator pressurized may result in serious personal injury or death.

4. Unscrew the Audi-Larm or URC Assembly coupling nut from the cylinder valve.

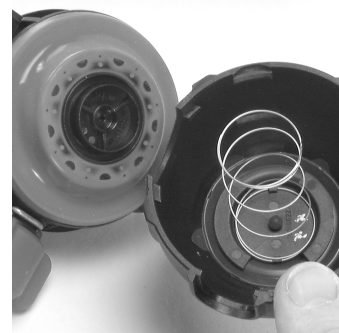
MMR AIR MASK WITH FIREHAWK DISASSEMBLY AND REPAIR (NON CBRN MODELS)

Disassembly - Removing Regulator Cover, Spring and Spring Retainer

- Press in housing buttons, holding the buttons in, also press in on the retaining latches of the regulator housing.



- Pull firmly on the regulator cover, removing the cover, spring and spring retainer from the regulator housing.



Note: Do not stretch the spring.

DISASSEMBLY AND REPAIR

MMR AIR MASK WITH FIREHAWK DISASSEMBLY AND REPAIR (CBRN MODELS ONLY)

Note: The following Section is for CBRN approved Firehawk regulator only.

Removing CBRN Shield

CAUTION

Care should be taken when handling the CBRN shield. Handle the Shield by the plastic ring when removing or installing. The CBRN Shield must be replaced on an annual basis. Refer to the overhaul requirements in the Firehawk Operation and Instruction Manual P/N 10023638.

- Hold the Shield by the outer plastic ring when removing or installing. Lift the CBRN Shield Assembly and Spring Cap off the diaphragm assembly.



- Lift Spring Cap off the CBRN Shield Assembly.



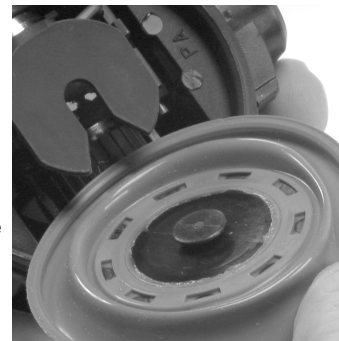
- Check the CBRN Shield to ensure the Shield is not damaged. Inspect the Shield for damage by holding up to a light and checking the film surface for holes prior to installing.

MMR AIR MASK WITH FIREHAWK™ DISASSEMBLY AND REPAIR (ALL MODELS OF FIREHAWKS REGULATOR)

Removing Diaphragm Assembly

- Roll diaphragm edges out of regulator housing groove.

- Slide diaphragm away from red bypass hand-wheel and slide the diaphragm off the valve fork.



INSPECTION

INSPECTION FOR THE VALVE FORK FOR PROPER HEIGHT

- Press on the top of the Valve Fork Assembly to ensure the Valve Fork Assembly moves up and down freely.

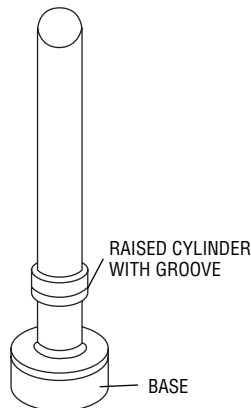
Note: All calibrations will be performed with the Bypass hand-wheel face away and with the Valve Fork's slots facing in.

⚠ CAUTION

Ensure the U clip holding the Bypass and hose assembly in the regulator housing is not removed or lost.

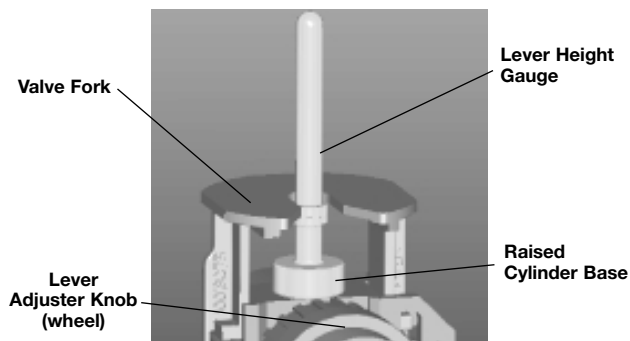
Lever Height Gauge:

Note: The Raised Cylinder with Grooved represents acceptable Lever Height range for Valve Fork Assembly.



INSPECTION

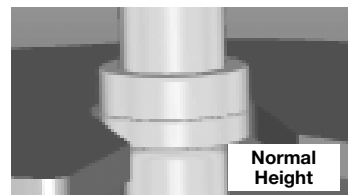
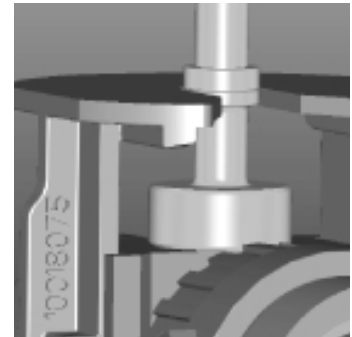
- Place the large base of the Lever Height Gauge on the flat area of the Valve Assembly body under the Valve Fork assembly.
- Insert the Lever Height Gauge between the fork's slots of the Valve Fork Assembly. Slide Lever Height Gauge back until the Lever Height Gauge is centered on the Valve Fork Assembly.



- The top surface of the Valve Fork should be anywhere along the raised cylinder surface of the Lever Height Gauge should not be touching or exerting pressure on the Valve Fork for this measurement.
- Press on the top of the Valve Fork Assembly to ensure the Valve Fork Assembly moves up and down freely.

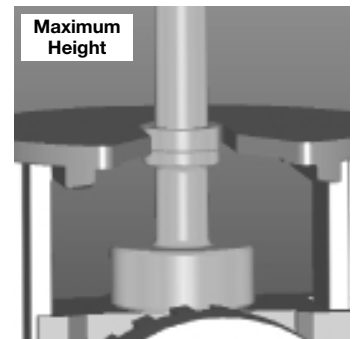
NORMAL VALVE FORK HEIGHT RANGE

The required Valve Fork Height range corresponds to the top surface of the Valve Fork at any position along the raised cylinder.



MAXIMUM VALVE FORK ALLOWABLE HEIGHT

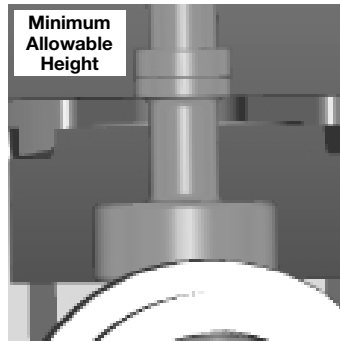
The Maximum Valve Fork Allowable Height is corresponds to the Valve Fork top surface being even with the top edge of the raised cylinder.



INSPECTION

MINIMUM VALVE FORK ALLOWABLE HEIGHT

The Minimum Valve Fork Allowable Height is corresponds to the Valve Fork top surface being even with the bottom edge of the raised cylinder.



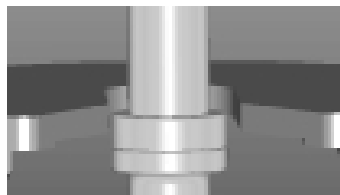
ADJUSTING THE VALVE FORK HEIGHT FOR PROPER PERFORMANCE

Note: All calibrations will be performed with the Bypass hand-wheel face away and with the Valve Fork's slots facing in, the regulator must be depressurized.

⚠ CAUTION

Ensure the U clip holding the Bypass and hose assembly in the regulator housing is not removed or loss.

ADJUSTMENT FOR VALVE FORK MAXIMUM RANGE



Note: Clockwise rotation of Lever Adjuster Knob (Wheel) to lower the Lever Fork.

Note: All calibrations will be performed with the Bypass hand-wheel face away and with the Valve Fork's slots facing in.

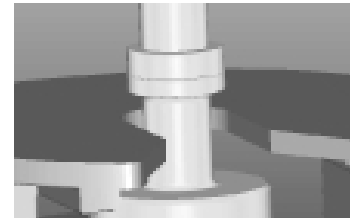
⚠ CAUTION

Ensure the U clip holding the Bypass and hose assembly in the regulator housing is not removed or loss.

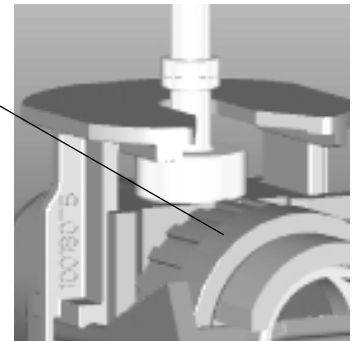
- Press on the top of the Valve Fork Assembly to ensure the Valve Fork Assembly moves up and down freely.
- Use a jeweler's screwdriver; place the screwdriver on the flats of the Lever adjuster knob.
- Turn the Lever adjuster knob (wheel) clockwise to lower the Valve Fork. Be certain adjuster knob clicks into position.
- The top surface of the Valve Fork should be along the grooved surface of the Lever Height Gage without

exerting pressure on the Valve Fork assembly for Normal Valve Fork Height.

ADJUSTMENT FOR VALVE FORK MINIMUM RANGE



Lever Adjuster Knob (wheel)



Note: Counter Clockwise rotation of Lever Adjuster Knob (Wheel) to raise the Lever Fork.

Note: All calibrations will be done with the Bypass hand-wheel face out.

⚠ CAUTION

Check that the U clip holding Bypass and Hose Assembly in the regulator housing is properly engage; pull on the Bypass and Hose Assembly to ensure that the Bypass and Hose Assembly are securely attached to the regulator housing with the U clip.

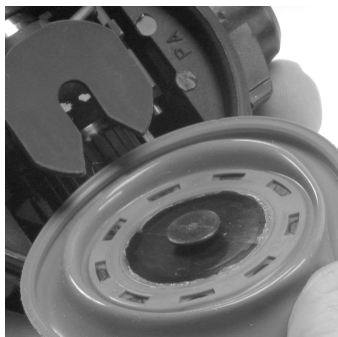
- Press on the top of the Valve Fork Assembly to ensure the Valve Fork Assembly moves up and down freely.
- Use a jeweler's screwdriver; place the screwdriver on the flats of the Lever adjuster.
- Turn the Lever adjuster knob counter clockwise to raise the Valve Fork. Be certain adjuster knob clicks into position.
- The top of the Valve Fork should be along the grooved surface of the Lever Height Gage without exerting pressure on the Valve Fork assembly for Normal Valve Fork Height.
- Press on the top of the Valve Fork Assembly to ensure the Valve Fork Assembly moves up and down freely.

REASSEMBLY

Reassembly Diaphragm Assembly

- **For Only CBRN approved Firehawks**, Apply a skim coat of Christo-Lube™ Lubricant to the top rim of the regulator housing.

- **For Non CBRN Firehawks**; Slide the diaphragm's knob into the valve fork's slot, and sliding the diaphragm toward the red bypass hand-wheel.

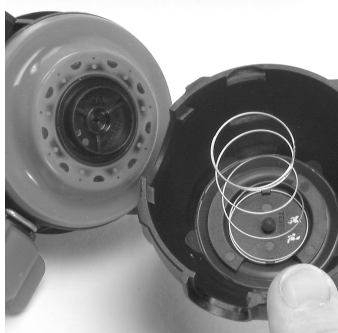


- **For both CBRN and Non CBRN Firehawks**; Roll the diaphragm edges into the regulator housing groove.

Note: The following procedures are for Reassembly CBRN Shield (only).

Installing CBRN Shield

- Push the shut off buttons in for OFF position. While installing the Shield, the valve fork must be in the UP position.
- Apply a thin coating of Christo-Lube Lubrication to the bottom of the Shield Assembly.
- Place the CBRN Shield over the diaphragm assembly.



- Using finger, tap slightly on the top of CBRN Shield to remove trapped air.

- Replace spring cap.

Note: The following procedures are for both CBRN and Non CBRN Firehawks Second Stage Regulator.

Reassembly Regulator Cover

- Insert spring into spring retainer, by attaching last coil of spring over the retainer's hooks.

- Push spring retainer over the center stem of regulator cover.



- Double check proper engagement by lifting on spring retainer. Ensure that the retainer is engaged.
- Push regulator cover, spring and spring retainer onto regulator housing.

⚠ CAUTION

Ensure that the regulator cover is securely attached to the regulator housing. Double check proper engagement by pulling on regulator cover.

FLOW TEST REQUIREMENTS

The Firehawk MMR SCBA a MSA breathing apparatus must be flow tested every year using an MSA approved flow test device. Firehawk MMR SCBA also must be flow tested after all inspection and maintenance procedures. These Maintenance Procedures must be performed by a trained repairperson or at a Certified Service Center. Contact your MSA sales representative or call the MSA Customer Service Center at 1-800-MSA-2222. They will supply the information you need to meet these requirements.