

MMR Air Mask With

*Firehawk*TM
Regulator

with Threaded Hose

Upgrade Kits

P/N 10025121 Slide to Connect

P/N 10050036 Slide to Connect w/ Solid Cover

P/N 10038665 Push To Connect

P/N 10050039 Push To Connect w/ Solid Cover

UPGRADE INSTRUCTIONS

WARNING

THIS MANUAL MUST BE CAREFULLY READ AND FOLLOWED BY ALL PERSONS WHO HAVE OR WILL HAVE THE RESPONSIBILITY FOR UPGRADING THE AIR MASK. THIS AIR MASK WILL PERFORM AS DESIGNED ONLY IF UPGRADING ACCORDING TO THE INSTRUCTIONS. OTHERWISE IT COULD FAIL TO PERFORM AS DESIGNED, AND PERSONS WHO RELY ON THE AIR MASK COULD SUSTAIN SERIOUS PERSONAL INJURY OR DEATH.

We encourage our customers to call or write for a demonstration of this equipment prior to use, or for any additional information relative to this upgrade or the SCBA use or repairs. During regular working hours, call 1-800-MSA-2222.



MSA

Be Sure.
Choose MSA.

MINE SAFETY APPLIANCES COMPANY
PITTSBURGH, PENNSYLVANIA, U.S.A. 15230

BEFORE USE

Table of Contents

Before Use	2
Upgrade Instructions	5
Donning the Apparatus.....	7
Removing the Apparatus	11

BEFORE USE

- Read and understand these instructions before attempting to use this equipment.
- This air mask is to be used only by trained and qualified personnel.

UPGRADING FIRST STAGE REGULATOR

WARNING

Do not tighten fittings or connectors when the system is pressurized. Close the cylinder valve. Be sure nothing blocks the regulator outlet. Relieve pressure from the system. Failure to follow this precaution may cause fittings or connectors to rupture, resulting in serious personal injury or death.

All repair procedures require that the regulator and Audi-Larm are disassembled from the apparatus carrier. To do this:

CAUTION

Wear eye protection throughout maintenance procedures to avoid eye injury.

DISCONNECT AUDI-LARM 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 coupling nut when pressure is shown on the harness gauge. Release 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 coupling nut from the cylinder valve.
5. Leak-test after each repair.

REMOVE THE INTERMEDIATE PRESSURE HOSE FROM THE FIRST STAGE REGULATOR

1. Disconnect the intermediate hose from the First Stage Regulator. Use an open-end wrench. Turn the hex nut counter-clockwise. When the nut is loose, pull firmly on the hose to break the O-ring connection.
2. Pull the hose out from the shoulder strap.

DISASSEMBLING THE FIRST STAGE CAP

1. Using retaining-ring pliers, remove the retaining ring. Slide the swivel off the cap.
2. Using the O-ring removal tool, remove the copper screen from the cap shaft.
3. Insert the 1/8" punch through the holes in the cap and unscrew the cap from the regulator body.

REMOVING THE RELIEF VALVE

1. Using a wrench, turn the relief valve counter-clockwise and unthread the valve from the swivel.
2. Remove the O-ring from the relief valve. Be careful not to damage the O-ring seal area.

INSTALLING THE RELIEF VALVE

1. To protect the O-ring, wrap paper or tape around the Relief Valve threads. Apply Christo-Lube lubricant to the new O-ring.
2. Install a new O-ring (P/N 635037) on the relief valve.
3. Thread the relief valve into the First Stage Cap clockwise by hand. Torque to 90+/-10 IN. LB. with a 5/8" socket.

BEFORE USE

INSTALLING THE FIRST STAGE REGULATOR CAP AND RELIEF VALVE

1. Wrap paper or tape around the regulator body external threads, protecting the O-rings. Apply Christo-Lube lubricant to the new O-ring (P/N 630493) and install it on the regulator body. Remove the paper or tape.
2. Thread the First Stage Regulator cap and relief valve assembly on the First Stage Regulator. Using a torque wrench, torque to 180+/-10 IN LB.

INSTALLING THE FIRST STAGE INTERMEDIATE HOSE

1. Thread the First Stage Intermediate Hose into the First Stage Cap clockwise hand tighten. Using a torque wrench, torque to 125+/- 5 IN. LB.



INSTALL THE SECOND STAGE THREADED HOSE REGULATOR

1. Threaded Hose.
 - a. Thread intermediate First Stage hose through the left shoulder strap.
 - b. Thread Intermediate Hose from First Stage Regulator into Intermediate Hose from Second Stage Regulator.
 - c. Ensure the Connection is tight.

UPGRADE INSTRUCTIONS

INSTALLING MMR WITH THREADED HOSE FIREHAWK REGULATOR

1. Thread intermediate First Stage hose through the left shoulder strap.



2. Thread Second Stage Intermediate Hose nut to Intermediate Hose from First Stage Regulator until nut stops. Tighten with a wrench.
3. Re-attach the regulator body to the back-plate.

INSTALL BELT CLIP (P/N 1002245)

1. Black Rhino and Classic Harness
 - a. Remove the two tee-nuts and screws that secure the waist-belt buckle. Set the waist-belt buckle aside.
 - b. Note the location of the old standby belt clip. Slide the old standby belt clip off of the waist-belt and discard.
 - c. Slide the new standby belt clip onto the waist belt to the approximate location of the old belt clip.
 - d. Place one drop of Loctite #222* on each screw. Secure the waist-belt buckle to the waist belt by reusing two tee-nuts and screws.

2. Install Belt Clip for Vulcan
 - a. Cut Old Belt Clip from waist strap and discard.
 - b. Thread waist strap through new Belt Clip and slide Belt Clip to the approximate location.

CHANGING IDENTIFICATION NUMBER OF CARRIER AND HARNESS

1. Apply New Identification Number decal over Original Identification Disc.
2. See the following description of New Carrier and Harness for new Part Number decal (next column).

SYSTEM CHECK

1. Perform the Leak-Test procedures
2. Perform the Donning procedure for SCBA Operation and Instructions Manual supplied with the apparatus.
3. Ensure there are no leaks and the apparatus performs properly. If the unit fails to meet any of the tests, the condition(s) must be corrected before using the apparatus.

Leak Testing should be performed if 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.

DONNING THE APPARATUS

DONNING THE APPARATUS

1. Remove the facepiece from the case.

⚠ WARNING

Do not use a cover lens in a high-temperature environment, such as firefighting. High temperatures may distort the cover lens. Or, moisture trapped between a cover lens and the facepiece lens may condense and distort vision. Always remove the cover lens before donning the facepiece.

2. Check that the cylinder is fully pressurized.

⚠ CAUTION

If the cylinder is not full, the service time is reduced accordingly & should not be used.

3. Reach inside the right shoulder straps and grasp the redundant alarm and pressure gauge, slide left arm through left shoulder straps.
4. Bend forward slightly, rest it on your back.
5. Attach the chest strap (optional).
6. Fasten the waist-strap and pull it tight for a snug fit.
7. As you straighten up, pull the shoulder strap tabs out. Hike the unit up for a comfortable fit.
8. The shoulder straps and waist-strap ends must be tucked in and lay flat across the body

TESTING AND USING THE REDUNDANT ALARM, ICM & AUDI-ALARM

1. Grasp the mask-mounted regulator and push the slide button (top release button).



2. Check that the red bypass knob is fully closed (clockwise).

Note: To test the redundant alarm or ICM, see the Redundant Alarm or ICM donning instruction. The alarm should enter Test Mode.

3. Reach behind and open the cylinder valve fully. Listen for the audible alarm to ring briefly and redundant alarm tones as pressure in the system increases.



4. As the pressure rises from 50 to 200 psig, both visible and audible alarms activate automatically, indicating that the alarms are functional and "cocked." When the system is fully pressurized, the alarms enter the Monitor (normal) mode.

⚠ WARNING

If the alarm fails to ring, ICM or Redundant Alarm fails to light and tone, do not use the apparatus. The SCBA must be checked and corrected for proper operation by an MSA trained or certified repairperson before using. Failure to follow this precaution may result in serious personal injury or death.

5. No air should flow from the regulator. If it does, repeat steps 1 and 2.



6. Check the Pressure Gauge, Redundant Alarm, ICM and Cylinder Gauges. It should be within 110 psig for 2216 psig; 150 psig for 3000 psig; 225 psig for 4500 psig.

⚠ CAUTION

If your readings do not agree with these cylinder values, return the SCBA to an MSA trained or certified repairperson.

DONNING THE APPARATUS

7. Check for bypass operation. Grasp the red knob and turn it counter-clockwise. Listen for airflow, then turn it OFF. Close cylinder valve fully.



8. Check for air leaks. Open cylinder valve fully to pressurize system, then close the cylinder valve and watch the pressure gauge, Redundant alarm or ICM.

⚠ CAUTION

If the needle drops more than 100 psi in 10 seconds, do not use the SCBA.

9. Crack the bypass valve slowly to bleed off pressure until the Redundant alarm or ICM drops below:

530 psig - approximately (low-pressure system),
750 psig. - approximately (3000psi system).
1175 psig - approximately (high-pressure system).

The Redundant alarm, ICM and audi-alarm will sound and the gauge will illuminate until you turn the redundant alarm OFF.

10. When the pressure falls below 200 psig, turn the alarm off.

⚠ WARNING

If the audi-alarm fails to ring, ICM or Redundant alarm fails to light and tone, or fails to continuously ring to 200 psig, do not use the apparatus. The SCBA must be checked and corrected for proper operation by an MSA trained or certified repairperson before using. Failure to follow this precaution may result in serious personal injury or death.

Note: Before donning, check that the regulator sealing ring is seated properly in its groove, and that it is not torn, gouged, or nicked.

DONNING THE FACEPIECE THE SPEED-ON HARNESS

⚠ WARNING

Do not wear eye glasses under the facepiece. The temples or sidebars on eye glasses will prevent an airtight seal. If you must wear glasses, install the spectacle kit. Failure to follow this precaution may cause

inhalation of contaminated air, resulting in serious respiratory injury or death.

1. Extend the facepiece straps fully place neck-strap around your neck and don the facepiece by inserting your chin first.



2. Pull the head harness completely over your head and tighten the lower (neck) straps.



3. Tighten the lower (neck) harness straps first, by pulling them straight back, not out. Tighten the temple straps the same way. Tuck in the ends of the straps so that they lay flat across the head.
4. Push headband pad towards neck, tighten the front strap for best visibility and fit. Tuck in the ends of the straps so they lay flat across the head.

FACEPIECE FIT CHECK

⚠ WARNING

Check the inhalation valve, inhale. If you do not receive sufficient flow of air, do not use facepiece. The facepiece must be repaired or replaced.

1. To check for facepiece fit, hold the palm of your hand over the inlet facepiece adapter and inhale. Hold your breath at least 10 seconds. The facepiece should collapse and stay collapsed against your face. If it does not, readjust the facepiece and test again. If this does not correct the leak, do not use the facepiece.



DONNING THE APPARATUS

2. Test the exhalation valve, take a deep breath and hold it. Block the inlet facepiece adapter with the palm of your hand and exhale. If the exhalation valve is stuck, you may feel a heavy rush of air around the facepiece.



Note: You may need to exhale sharply to open the valve. If this does not release the valve, do not use the facepiece.

⚠ WARNING

This device may not seal properly with your face if you have a beard, gross sideburns or similar physical characteristics (see NFPA-1500 and ANSI Z88.2). An improper facial seal may allow contaminants to leak into the facepiece, reducing or eliminating respiratory protection. Do not use this device if such conditions exist. The face-to-facepiece seal must be tested before each use. Never remove the facepiece except in a safe, non-hazardous non-toxic atmosphere.

3. Open the cylinder valve fully. Push in on the slide button to stop air flow.



INSTALLING SLIDE MASK MOUNTED REGULATOR

1. Grasp regulator and orient regulator so that red bypass knob is pointing to the right and slide button is on top.



2. Slide regulator onto rail (fast track) of facepiece cover. Slide regulator down the rail cover until regulator stops.



3. Insert regulator into facepiece adapter by pushing inward.



4. Listen for the buttons to "click" as the regulator locks into the facepiece.
5. Check proper engagement by pulling on the regulator to ensure regulator is securely attached to facepiece adapter.

⚠ WARNING

Do not use the respirator unless the regulator is connected properly. A regulator that is not installed correctly can separate from the facepiece unexpectedly. Return the respirator to an MSA trained or certified repairperson to correct the condition. Failure to follow this precaution can result in serious personal injury or death.

6. Inhale sharply to start the airflow.
 - a. Check the bypass again by turning the red knob counter-clockwise until you feel increased airflow. Close the bypass.

⚠ WARNING

There must be a continuous flow of air when the bypass knob is opened. If not, do not use the apparatus. The SCBA must be checked and corrected for proper operation by an MSA trained or certified repairperson before using it. Failure to follow this precaution may result in serious personal injury or death.

DONNING THE APPARATUS

Note: If the Air Mask passes all tests, the unit is ready to use. Remember, you must perform these tests every time before you enter the hazardous atmosphere. If the unit fails to meet any of the tests, the condition(s) must be corrected before using the apparatus.

INSTALLING FIREHAWK PUSH TO CONNECT MASK MOUNTED REGULATOR

1. Grasp regulator and insert regulator into facepiece adapter by pushing inward. Listen for the buttons to "click" as regulator locks into the facepiece. Check proper engagement by pulling on the regulator to ensure regulator is securely attached to facepiece adapter.

⚠ WARNING

Do not use the respirator unless the regulator is connected properly. A regulator that is not installed correctly can separate from the facepiece unexpectedly. Return the respirator to an MSA trained or certified repairperson to correct the condition. Failure to follow this precaution can result in serious personal injury or death.

2. Inhale sharply to start the airflow.
3. Check the bypass again by turning the red knob counter-clockwise until you feel increased air flow. Close the bypass.

⚠ WARNING

There must be a continuous flow of air when the bypass knob is opened. If not, do not use the apparatus. The SCBA must be checked and corrected for proper operation by an MSA trained or certified repairperson before using it. Failure to follow this precaution may result in serious personal injury or death.

Note: If the apparatus passes all tests, the unit is ready to use. Remember, you must perform these tests every time before you enter the hazardous atmosphere. If the unit fails to meet any of the tests, the condition(s) must be corrected before using the apparatus.

PRECAUTIONS DURING USE

Periodically check the pressure indicated on the Redundant alarm or ICM pressure gauge. It continually displays the cylinder pressure. When the needle reaches the red zone, the Audi-Larm Alarm will begin ringing and Redundant alarm or ICM will begin to tone. When the bell starts ringing or when the pressure reaches approximately 25% of the rated service pressure, return to fresh air. Redundant alarm, ICM, and Audi-Larm™ activate when cylinder pressure drops below approximate values:

- 530 psig approximately for low-pressure
- 750 psig. approximately (3000psi System)
- 1175 psig approximately for high pressure

when the redundant alarm, ICM or audi-alarm activates, immediately return to fresh air.

Note: Apparatus service life is reduced greatly when the bypass is used:

- Reduced air flow: **Immediately** open the bypass, and **Immediately** return to fresh air.
- Air mask free-flows: **Immediately** return to fresh air.
- Audi-Larm Alarm Rings: **Immediately** return to fresh air.
- Redundant Alarm Lights and Flashes: **Immediately** return to fresh air.
- ICM Lights and Flashes: **Immediately** return to fresh air.

REMOVING THE APPARATUS

REMOVING THE APPARATUS DISCONNECTING THE SLIDE REGULATOR

1. Grasp top of regulator.



2. Push the release buttons and pull regulator down and out of facepiece adapter.



Note: Regulator can hang on cover rail in a stand-by mode.

3. Slide regulator up cover rail until regulator slide button is free of cover rail.



4. Close the cylinder valve fully. Open the bypass to release system pressure. Close the bypass.



5. When the pressure falls below 200 psig, turn the redundant alarm or ICM off.

6. Stow the regulator with slide button at bottom in the STAND-BY belt mount when it is not in use.



7. To remove the facepiece, fully loosen the harness straps and pull the facepiece up and away from your face.



8. To remove the carrier harness, press the belt buckle release button IN.
9. Disconnect the chest strap (if used).
10. To loosen the shoulder straps, grasp the release loops. Push them out and away from your body.
11. Slip your right arm out of the shoulder pad first, then remove the harness.

Note: Be sure to replace the cylinder with a full one. Complete Inspection and Cleaning and Disinfecting procedures outlined in this manual. Ensure complete apparatus is clean and dry. Ensure that facepiece head harness straps and harness adjustment straps are fully extended. Place the complete apparatus in the storage case or suitable storage location so it can be reached easily for emergency use. (See storage instructions.)

DISCONNECTING THE FIREHAWK PUSH TO CONNECT REGULATOR

1. Grasp top of regulator.
2. Push the release buttons and pull regulator out of facepiece adapter.
3. Close the cylinder valve fully. Open the bypass to release system pressure. Close the bypass.
4. When the pressure falls below 200 psig, turn the redundant alarm off (Sleep Mode) by pressing the alarm switch 2 times in rapid succession. An extended single tone will sound indicating the unit has been turned off.
5. Stow the regulator in the STAND-BY belt mount when it is not in use.
6. To remove the facepiece, fully loosen the harness

REMOVING THE APPARATUS

straps and pull the facepiece up and away from your face.

7. To remove the carrier harness, press the belt buckle release button IN.
8. Disconnect the chest strap (if used).
9. To loosen the shoulder straps, grasp the release loops. Push them out and away from your body.
10. Slip your right arm out of the shoulder pad first, then remove the harness.

Note: Be sure to replace the cylinder with a full one. Complete Inspection and Cleaning and Disinfecting procedures outlined in this manual. Ensure complete apparatus is clean and dry. Ensure that facepiece head harness straps and harness adjustment straps are fully extended. Place the complete apparatus in the storage case or suitable storage location so it can be reached easily for emergency use. (See storage instructions.)