

NightFighter™

OPERATING AND MAINTENANCE INSTRUCTIONS

RECEIVER/TRANSMITTER

WARNING!

Read this manual carefully if you have or will have the responsibility for using or servicing the product. The System from MSA will perform as designed only if used and serviced according to the instructions. Otherwise, the product could fail to perform as designed, and persons who rely on this product could sustain serious personal injury or death.

The warranties made by MSA with respect to the product are voided if the product is not used according to the instructions in this manual. We encourage our customers to write or call for a demonstration of this equipment prior to use, or for any additional information relative to use or repairs. Call 1-800-MSA-2222 during regular working hours.

NIOSH and NFPA certified as an accessory for the Ultra Elite facepiece for use with the MSA MMR, MMR with Slide Connection and BMR breathing apparatus only.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference that may cause undesired operation.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

DESCRIPTION / PREPARING FOR USE

TABLE OF CONTENTS

NIOSH APPROVAL INFORMATION	
Cautions and Limitations	
Special Users Instructions	
DESCRIPTION	
Intrinsically-Safe Rating	
SYSTEM OPERATION (with SCBA)	
CLEANING and MAINTENANCE	
Cleaning and Disinfecting	
Inspection.....	
Storage	
Battery Disposal.....	
REPAIR PROCEDURES	
Replacement Parts	

NIOSH APPROVAL INFORMATION

CAUTIONS AND LIMITATIONS

- I - Contains electrical parts which have not been evaluated as an ignition source in flammable or explosive atmospheres by MSHA/NIOSH.
- N - Never substitute, modify, add, or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.
- S - Special or critical User's Instructions and/or specific use limitations apply. Refer to User's Instructions before donning.

NOTE: See NIOSH Approval Label, Inserted in the Users Instructions for complete list of CAUTIONS and LIMITATIONS for the Respirator.

SPECIAL OR CRITICAL USER'S INSTRUCTIONS

1. Do not alter this unit. Altering will void the Intrinsic-Safety rating and may affect the Intrinsic-Safety of the device.
2. Misuse or abuse of the NightFighter, or the equipment to which it is attached, or using this equipment in a manner or situation not intended by the manufacturers, may result in damage to the NightFighter, or equipment connected to the NightFighter, may result in personal injury or death to user or persons dependent on the user.
3. Always inspect the NightFighter System for damage before use. If damage is found, immediately remove the device from service.

Note: NightFighter is for use with an Ultra Elite facepiece. It cannot be used without the proper installation of the Receiver and Bracket and Transmitter Kit from MSA.

DESCRIPTION

1. The NightFighter System allows a user to clearly and easily read cylinder pressure while wearing a SCBA equipped with the Ultra Elite Facepiece.

Note: The NightFighter can only be used with an Ultra Elite Facepiece.

2. The NightFighter consists of three (3) separate assemblies:
 - Bracket assembly attached to a Ultra Elite facepiece.
 - Receiver mounted on the Bracket Assembly.
 - Transmitter assembled to the gauge line. (See Installation Instruction P/N 10035581).
3. The NightFighter System's Receiver shows the User the percentage (%) of pressure NOT used in the cylinder, from a full cylinder to an empty cylinder, by a LED light pattern.
4. The NightFighter System's Transmitter is assembled to the gauge line hose. The Transmitter sends a signal to the Receiver (on the facepiece) of the cylinder pressure.
5. The NightFighter System's Receiver has seven (7) LED light patterns. (See Chart).
6. The NightFighter System's can be tested without cylinder pressure. (See Instructions).
7. The NightFighter System's Receiver has a photo sensor for the LED lights to automatically adjust the brightness of the LED based on to the brightness as measured outside of the facepiece.
8. The NightFighter System's Receiver will indicate a low battery by an Orange LED light for the Receiver and Transmitter. (See Chart).

The NightFighter operates from four (4) standard AAA alkaline batteries and notifies the user when the batteries need replaced, two (2) batteries for Receiver and two (2) batteries for Transmitter.

CAUTION

Use only Duracell NEDA 24A or Eveready NEDA 24AC AAA alkaline batteries. Use of other batteries will void the Intrinsic Safety approval.

Intrinsically-Safe Rating

The NightFighter System is certified Intrinsically-Safe in the United States for use in Class 1, Division 1, Groups A, B, C, D, E, F, and G hazardous locations.

The NightFighter System is certified intrinsically-safe in Canada CAN CSA-C22-2- No. 157-92.

Note: The intrinsically-safe level of any system which uses the NightFighter is that of the lowest intrinsically-safe rating of any single component in the system.

CAUTION

Substitution of components may eliminate or compromise intrinsic safety.

PREPARING FOR USE

ASSEMBLY OF RECEIVER TO BRACKET

With the facepiece laying on its side:

- Turn Receiver so the thumbscrew is at the bottom of Receiver and MSA logo of the Receiver is to the right.
- Align the Receiver's two slots with the bracket's guide rails.
- Slide Receiver's slots onto bracket guide rail thumbscrew of Receiver should align with thumbscrew hole in bracket.
- Thread thumbscrew into Bracket finger tight.

SYSTEM OPERATIONS:

WARNING
Receiver and Transmitter must be within approximately 12 to 15 inches of each other for the Receiver's LED lights to work properly.

CAUTION
Always test the NightFighter System for damage and be sure the system operates properly before entering any hazardous atmosphere. Do NOT use this device unless it passes all inspection and operational tests. Failure to follow this caution can result in serious personal injury or death.

Note: System can be tested without Cylinder Pressure.

First Start Up:

- Don the SCBA following the Instructions supplied with the SCBA. (See Donning Procedures).
- Looking through the facepiece lens at the LED panel, they should be illuminated at the top of the Receiver when SCBA cylinder valve is opened to pressurize the apparatus.
- Receiver will go through all LED light patterns when system is pressurized. (See Chart).
- The LED lights in the Receiver will automatically adjust for the brightness outside of the facepiece.
- The Receiver will indicate an Orange LED light, after going through the start up check, if a low battery is detected in the Receiver or Transmitter. (See Chart).

Low Battery Warnings

Note: There are different Low Battery Warnings.

- If there is a Low Battery in the Receiver, one short Orange LED flash.
- If there is a Low Battery in the Transmitter, double short Orange LED flashes.
- If there are Low Batteries in the Receiver and Transmitter, the Orange LED will have a long flash.

The Receiver will show cylinder pressure at a percentage (%) of full to empty. (See Chart).

SYSTEM TEST WITHOUT CYLINDER PRESSURE

WARNING

Receiver and Transmitter must be within approximately 12 to 15 inches of each other for the LED lights in the Receiver to work properly.

- Push Operation Button on the Transmitter.
- Receiver's LED lights will go through the start up sequence. (See Chart).
- Then turn itself off within approximately 5 seconds.

Note: If a Low Battery is in the Receiver or Transmitter, the LED Orange light will flash after going through the Start up sequence, (see Low Battery Warnings).

MANUAL OPERATIONS:

- Push Operation Button on the Transmitter and hold button in for 3 seconds.
- Receiver will show last cylinder pressure reading. LED lights will stay on to show cylinder pressure drop.
- A Quick Press of the Operation Button on the Transmitter will show New Pressure for only 10 seconds.

WARNING

In this Continuous Operation mode, the LIFE of the batteries will be shortened.
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Turning Continuous Operations OFF:

- The Continuous mode will deactivate if Low Battery is present.
- Push Operation Button on the Transmitter the second time, holding the button in for 3 seconds.

- Receiver will show last cylinder pressure reading. LED lights will go to Automatic Mode showing only cylinder pressure drop in the percentage mode.

Note: The NightFighter will automatically turn itself OFF, when the apparatus is depressurized.

CLEANING AND DISINFECTING

1. Prepare a cleaning solution by adding Confidence Plus™ (P/N 10009971) to water, following the instructions on the Confidence Plus™ Cleaner container.
2. Cleaning by wiping with a damp sponge or cloth containing Confidence Plus Cleaner from MSA. Follow the directions on the Confidence Plus container for mixing directions and recommended times.

CLEANING AND MAINTENANCE

The Head Up Display should be cleaned and disinfected after each use. Follow an established cleaning and disinfecting program. Failure to follow this procedure can damage the Head Up Display.

Remove the Receiver from the Apparatus

Unscrew the thumbscrew of Receiver and slide the Receiver from the facepiece bracket.

INSPECTION

1. Inspect the Receiver modules. Look for cracks or other signs of damage which could allow contaminants to enter the module housings. Check that the battery compartment is clear of moisture or debris.
2. Reassemble the Receiver module on the Ultra Elite facepiece.

3. Check out the system functions.

- Push Operation Button on the Transmitter
- Receiver's LED lights will go through the start up sequence. (See Chart).
- Then turn itself off within approximately 5 seconds.

Note: If a Low Battery is in the Receiver or Transmitter, the LED Orange light will flash after going through the Start up sequence, (see Low Battery Warnings).

STORAGE

To store the Head Up Display components, be sure that the unit is in the OFF (LED is not illuminated) position. For prolonged storage, remove the batteries to prevent battery corrosion. Store the units in a cool, dry place.

Installing the Batteries

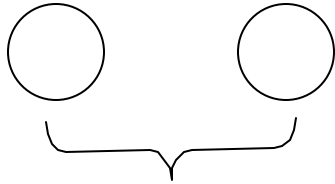
CAUTION
Use only Duracell NEDA 24A or Eveready NEDA 24AC AAA alkaline batteries. Use of other batteries will void the intrinsic safety approval.

1. Loosen the screws to open battery door.
2. Insert two AAA batteries according to the battery orientation noted inside the compartment.
3. Close the battery door and tighten the screws.

Battery Disposal

In continuous service, battery life will vary depending on user conditions. The battery is not rechargeable. Do not dispose of the battery in fire. It may explode! Failure to follow this precaution can result in serious personal injury or death.

CHART

G	G	G	G	76% to 100% Full Cylinder, 4 Green LED 20 Sec. Steadily ON
	G	G	G	75% to 51% 3/4 Full Cylinder, 3 Green LED 20 Sec. Steadily ON
	Y	Y		51% to 26% 1/2 Full Cylinder, 2 Yellow LED 30 Sec. Flashing ON/OFF
R				25% to 0% 1/4 Full Cylinder, 1 Red LED Flashing Continuously
				Orange Light Low Battery LED for Receiver/Transmitter
 <p>NOT USED</p>				