

# Standard and Cutoff Connect by Cable Instructions



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

# INSTRUCTIONS

## CONNECTED BY CABLE CUTOFF MUFF

Connected by Cable products provide two-way communication when connection to a mobile telephone or a communication radio is done by a cable.

### Activating the Hearing Protector

- Fit with two standard alkaline batteries (1.5 V, AA).
- The battery holder:
  - is fully integrated in the ear muff
  - contains no buttons.

## INSTALLING AND CHANGING THE BATTERIES

**Note:** Use of rechargeable batteries, type NiMH 1.2 V or NiCad 1.2 V, considerably reduces operating time.

1. Pull the cushion straight out to release it.
2. Insert the batteries in the battery holder.
  - Ensure that the + and – battery poles are oriented in the right direction.
3. Place the sound absorbent back into place and press on the cushion. Check that the:
  - cushion bulge is facing downward
  - sound absorbent material and cushion are properly fitted to ensure noise suppression.
4. Dispose of depleted batteries in accordance with all applicable federal, state, and local regulations.

To turn the hearing protector on, turn the knob clockwise. Turn the knob back to turn off the product; otherwise the hearing protector will drain the batteries. To adjust the volume up or down, turn the knob clockwise or counterclockwise until it reaches a comfortable setting.

- Speaker sound is limited to a maximum of 82 dB.

### Electronic Functions

- The Cable Cutoff Muff is equipped with electronics to reproduce ambient sound; this is known as the cutoff/listening function.
- Sound is captured by two external microphones and produced in the hearing protector speakers.
  - Sound is reproduced in stereo to maintain or improve sound direction location.
  - This function is for use in settings where it is important to hear ambient sounds, such as warning signals, conversation, traffic, etc.

### WARNING

**Connect by Cable Cutoff muffs are not intrinsically safe.**

## CONNECTED BY CABLE STANDARD MUFF

- The Connected by Cable Standard Muff:
  - is similar to the Connect by Cable Cutoff Muff, minus the built-in listening/cutoff electronics
  - does not require batteries
  - is a communication headset that allows the user to hear incoming radio transmissions while being protected from ambient noise.

- Common to the Cutoff Muff and the Standard Muff:
  - boom microphone features
  - hygiene kits
  - lapel microphone
  - push-to-talk interfaces.

### WARNING

**Connect by Cable Standard muffs are intrinsically safe.**

- The hearing protector comes with a jack for cable and adapter connection to external communication devices (e.g., push-to-talk assemblies for communication radios).

## NOISE CANCELLING BOOM MICROPHONE

- The ear muffs are equipped with:
  - a noise-canceling boom microphone for noisy environments
  - an electret or dynamic microphone, depending on the intended application.
- Adjust the boom microphone so it is level with, and 3 to 5 mm from, user's mouth.
  - For best performance, do not exceed this distance when working in a noisy environment.
  - Keep this microphone position when not talking.
  - Prevent wind noise interference with a wind protector

### Hard Wired Muffs

- The cutoff/listening function is controlled by the control knob at the rear of the left ear muff.
- The hard-wired hearing protector comes with a cable and adapter for connection to external communication devices (e.g., communication radios and mobile phones).

### Maintenance

- The outside of the cups and cushions can be easily cleaned with soap and water.
- Ear muffs, particularly the replaceable cushions, may deteriorate with use and should be frequently examined for cracking and leakage.
- With the shaped part of the cushion turned downward, use only MSA hygiene kit (P/N 10061293) designed for electronics.
- Replace hygiene kits at least twice a year (standard use) to maintain the noise attenuation function.

This product may be adversely affected by certain chemical substances. Do not subject hearing protector to rough handling, which can damage electronics. Do not submerge cups in water.

### Troubleshooting

PROBLEM	ACTION
Electronic functions stop working	Check that the contact between the contact functions adapter and the external unit is good
	When the hearing protector is used for long time periods, moisture can build up inside the cups. Prevent long-term

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moisture damage to electronic components, by regularly removing the insert (e.g., overnight) to allow cups to dry internally

## Fitting the Ear Muffs (Headband Version)

- Place the cups over user's ears and adjust the headband and cups to a comfortable position.
  - Make sure cushions seal tightly around the ears.
- Use the adjustment button to adjust band pressure against the head.

**Note:** To remove attachment from slot, repeat step 1. Press tabs from bottom of slot outward and push through slot

- Wear the headband straight over the top of the head.
- Do not store headband in a stretched position.
- Do not compress cushions when the hearing protector is not in use.
- Keep cups clean and dry.
- Store the hearing protector at normal room temperature and away from direct sunlight.

## Fitting the Ear Muffs (Helmet Mounted Version)

- Pull the earcup down to the bottom of the yolk and lift the blade until the spring clicks up (Fig. 1)
- Push the attachment blade into the slot on the side of the helmet (Fig. 2)
- Detach the harness from the rear of the helmet and place the wires leading from the cups above the harness attachment.
- Reattach harness, making sure the wires are free.

**Note:** To remove attachment from slot, press attachment clips outward and push through helmet slot.

## Working Position

- Adjust the cups to a comfortable position, making sure that cushions seal tightly around the ears. (Fig. 3)

**Note:** In noisy environments, always wear the hearing protector in the working position.

## Stand-By Position

- Pull the earmuff away from ear until it locks into the stand-by position (Fig. 4).

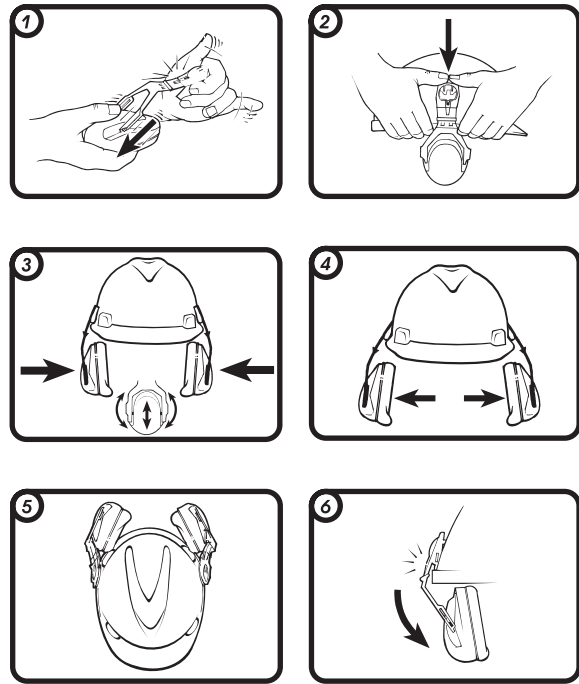
## Parking Position

- Lift the cups into the standby position; then, rotate them up to the next fixed position so cushions cannot be damaged or dirtied, and can dry internally (Fig. 5).

**Note:** Do not press the cups onto the helmet shell as this will lock the spring in the ear muff arm and damage the attachment slots on the side of the helmet.

## Storage Position

- When the helmet is not in use, lower the cups and press them inward (Fig. 6).
- Keep the cups clean and dry and store them at normal room temperature, out of direct sunlight.



## Hearing Protectors Approved for use with MSA Helmets

HELMET	SIZE	HELMET	SIZE
V-Gard	S, M, L	Advance Cap	M
Topgard	M	Thermalgard	M
Vanguard	M	Super V Cap	M
NFL & Nascar Cap	M	Freedom Series	M
Smoothdome	M		

## ⚠ WARNING

Make sure the ear muff or combined ear muff/helmet is:

- fitted, adjusted and maintained according to these instructions
- worn at all times in noisy environments
- regularly inspected for serviceability.

If the product has electronic restoration systems to produce sound, verify operation before use.

Short-term use of the cutoff communication device is not likely to cause noise-induced hearing loss. When effective input voltage does not exceed 430 mV, the ear muff output of the sound restoration circuits does not exceed the values known to constitute a risk to hearing. In case of medium and long-term use, the risk of noise-induced hearing loss cannot be excluded. In such cases, do not use the communication device without MSA or safety expert advice and measures to reduce the risk of noise-induced hearing loss.

When calculating the effective ear muff attenuation, give consideration to the restoration system output signal; calculated total A-weighted sound pressure level inside the cup must not exceed 85 dB.

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Hearing protectors can block out warning cries, alarms and other important signals. Always pay extra attention to your surroundings when wearing hearing protectors.

Do not immerse the cups in water.

**FAILURE TO FOLLOW THESE WARNINGS CAN RESULT IN SERIOUS PERSONAL INJURY OR DEATH.**

- This product is guaranteed for one year from the date of purchase against defects in material or workmanship. The guarantee does not extend to damage caused by product misuse, abuse or unauthorized modifications. To make a claim, please contact the retailer.

## Connect by Cable Tests and Approvals

**Muff (P/N 10064516) - Helmet Mounted (NRR – 23).**

### ANSI S3.19-1974 Data

Frequency (Hz)	125	250	500	1000	2000	3150	4000	6300	8000
Mean	18	22	28	33	34	33	36	39	36
Stand. dev. (dB)	3.4	3.1	2.8	2.5	3.2	2.6	2.9	3.3	3.1

**Muff (P/N 10064515) - Headband (NRR – 25)**

### ANSI S3.19-1974 Data

Frequency (Hz)	125	250	500	1000	2000	3150	4000	6300	8000
Mean	17	24	28	34	35	34	36	39	38
Stand. dev. (dB)	3.1	2.9	2.6	1.9	2.2	2.3	3.2	2.5	2.9

**Cutoff Muff (P/N 10064514) - Helmet Mounted (NRR – 23)**

### ANSI S3.19-1974 Data

Frequency (Hz)	125	250	500	1000	2000	3150	4000	6300	8000
Mean	18	22	28	33	34	33	36	39	36
Stand. dev. (dB)	3.4	3.1	2.8	2.5	3.2	2.6	2.9	3.3	3.1

**Cutoff Muff (P/N 10064513) - Headband (NRR – 25)**

### ANSI S3.19-1974 Data

Frequency (Hz)	125	250	500	1000	2000	3150	4000	6300	8000
Mean	17	24	28	34	35	34	36	39	38
Stand. dev. (dB)	3.1	2.9	2.6	1.9	2.2	2.3	3.2	2.5	2.9

NRR is third-party certified in accordance with ANZI S3, 19-1974, EN 352-3 and meets CSA Class A for all four models.

# WARRANTY

## Mine Safety Appliances Company General Express Warranty and Terms of Sale

**1. Express Warranty** - MSA warrants that the product furnished is free from mechanical defects or faulty workmanship for a period of one (1) year. MSA shall be released from all obligations under authorized service personnel or if the warranty claim results from misuse of the product. No agent, employee or representative of MSA may bind MSA to any affirmation, representation or modification of the warranty concerning the goods sold under this contract. MSA makes no warranty concerning components or accessories not manufactured by MSA, but will pass on to the Purchaser all warranties of manufacturers of such components. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AND IS STRICTLY LIMITED TO THE TERMS HEREOF: MSA SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.

**2. Exclusive Remedy** - It is expressly agreed that the Purchaser's sole and exclusive remedy for breach of the above warranty, for any tortious conduct of MSA, or for any

other cause of action, shall be the repair and/or replacement, at MSA's option, of any equipment or parts thereof, that after examination by MSA are proven to be defective. Replacement equipment and/or parts will be provided at no cost to the purchaser, F.O.B. MSA's plant. Failure of MSA to successfully repair any non-conforming product shall not cause the remedy established hereby to fail of its essential purpose.

**3. Exclusion of Consequential Damages** - Purchaser specifically understands and agrees that under no circumstances will MSA be liable to Purchaser for economic, special, incidental or consequential damages or losses of any kind whatsoever, including but not limited to, loss of anticipated profits and any other loss caused by reason of the nonoperation of the goods. This exclusion is applicable to claims for breach of warranty, tortious conduct or any other cause of action against MSA.