



OS-1 rev.2

General Motors OnStar® Interface Installation Instructions.



The OS-1 is a plug and play interface that allows replacement of a General Motors factory stereo (without RDS option) and maintain operation of the OnStar® system. The OS-1 has on board switching, and amplification to allow audio from the OnStar® system to play through the two front factory speakers when OnStar® is active, and mute the new replacement radio. The OS-1 can also be used when a stereo and amplifier combination system is installed. Separate speakers can be added if desired.

There are separate gain adjustments for left and right OnStar® audio and an LED indicator that turns on when the OS-1 receives an "ON" command from the OnStar® system.

If the vehicle has the factory Bose sound system and it is desired to retain the Bose amplifiers and speakers then PAC's plug and play OEM-1 premium sound system interface is also needed. Either use the complete Bose/OnStar® Kit (OS-1BOSE) that includes the OS-1 and OEM-1 interfaces and harnesses, or add a OEM-1 interface and AMP-GM21A (1999-2002 Pontiac Grand Prix requires a AMP-GM21B) harness to the OS-1.

Supported Vehicles

Cadillac 1999 - 2000 Escalade*, 2002 Escalade. **Chevrolet** 2001 - 2002 Avalanche, 1999 - 2002 Blazer, 1998 -1999 Lumina, 2001 Silverado, 1998 - 2002 Suburban and Tahoe, 1998 -2000 Venture. **GMC** 1997 - 2002 Sierra, 1998 - 2002 Suburban, Yukon and Denali. **Pontiac** 1999 - 2002 Grand Prix*, 1998 - 2000 Montana. **Oldsmobile** 1998 - 2000 Silhouette.

The OS-1 will interface with all GM radios that use the 21 pin / 9 pin connectors. If there is a "RDS logo on the radio face or the radio uses the 24 pin / 12 pin connectors, this interface will not work. The OS-1 will **not** work on 2003 SUV's and trucks.

* See page 2 bulletin

Installation

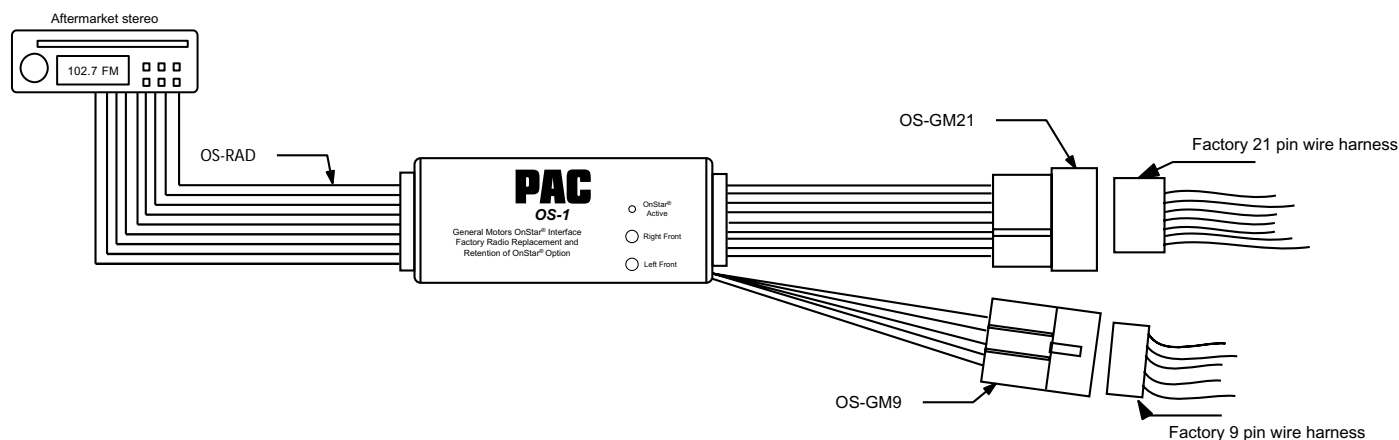
There are four installation options for the OS-1:

- Option 1:** Connect aftermarket stereo to factory speakers or amplifier (non-Bose).
- Option 2:** Connect aftermarket stereo to Delco/Bose Premium Sound Systems. (OEM-1 and AMP-GM21A or AMP-GM21B required)
- Option 3:** Connect aftermarket stereo to aftermarket amplifier and using external speakers.
- Option 4:** Connect aftermarket stereo to factory speakers and using external speakers.

OPTION 1: Connecting the aftermarket stereo and OS-1 to the vehicle's factory speakers.

Step 1.
Pre wire the OS-RAD wire harness to the aftermarket stereo wire harness. If the aftermarket stereo has a mute wire, cut the brown wire as close as possible to the relay socket and connect it to the stereo's mute wire (Fig. 1).

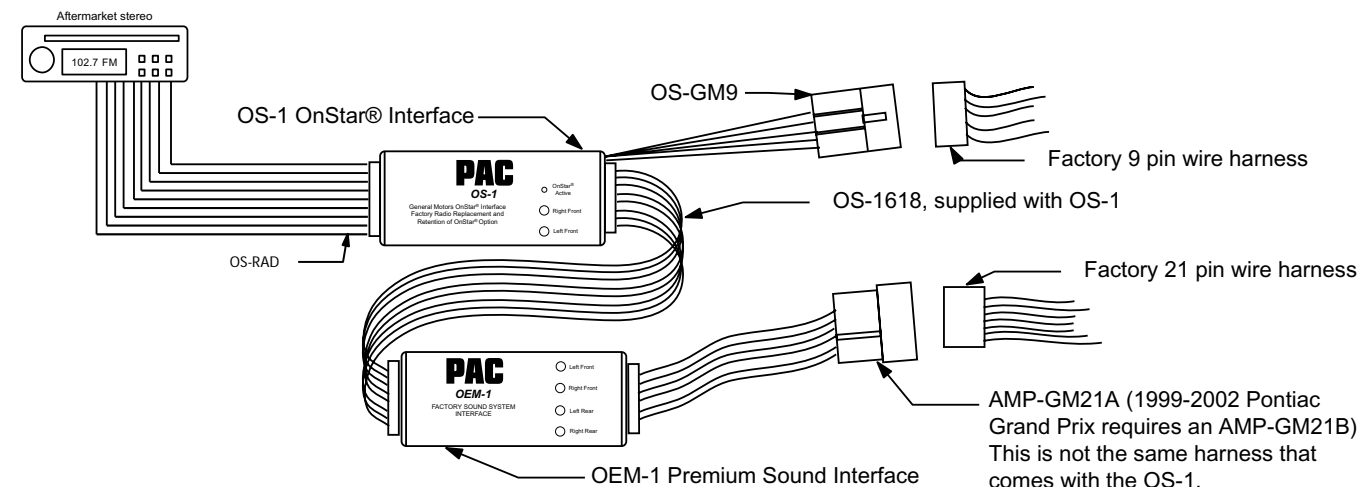
Step 2.
After connecting the OS-RAD and OS-GM21 wire harness to the OS-1 main interface, connect the OS-GM21 and OS-GM9 connectors to the factory harness. You will not need the OS-1618 wire harness for this application.



OPTION 2: Connecting the aftermarket stereo and OS-1 to the vehicle's factory Bose system.

Step 1.
Pre wire the OS-RAD wire harness to the aftermarket stereo wire harness. If the aftermarket stereo has a mute wire, cut the brown wire as close as possible to the relay socket and connect it to the stereo's mute wire (Fig. 1).

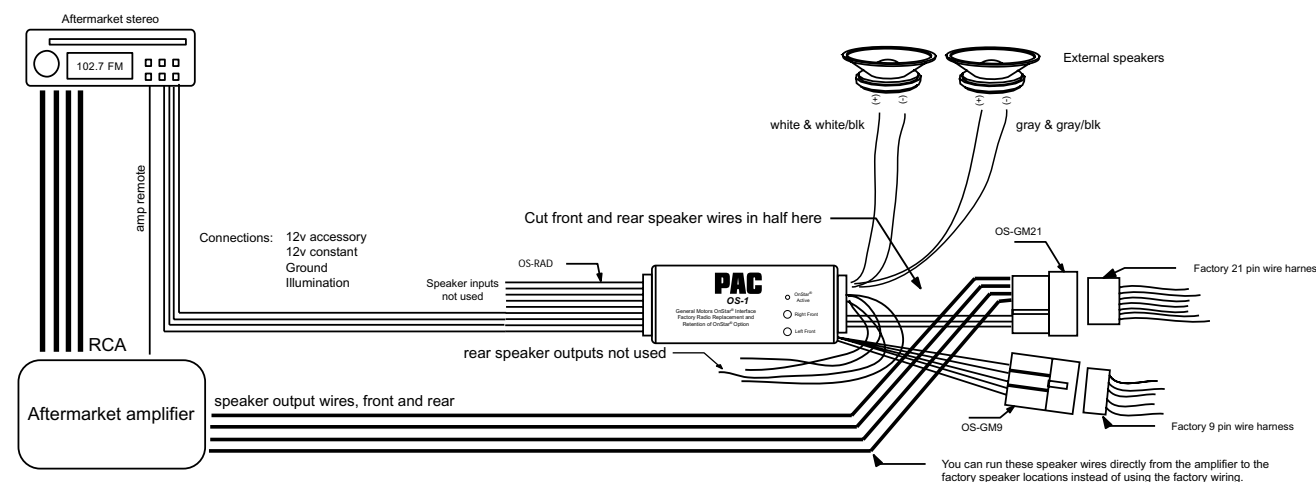
Step 2.
Use the supplied OS-1618 wire harness and connect to the 16 pin connector side to the OS-1. Connect the AMP-GM21A wire harness and OEM-1 interface to the OS-1 according to diagram below. Connect the AMP-GM21A and OS-GM9 connectors to the factory harness. The OS-GM21 wire harness that came with the OS-1 will not be used for this application.



OPTION 3: Connecting OnStar® and OS-1 to external speakers and aftermarket amplifier.

Step 1.
You will need to cut the speaker wires (white & wht/blk, gray & gray/blk, purple & prp/blk, green & grn/blk) in half on the OS-GM21 wire harness. Connect the front two pair of wires on the output side of the OS-1 to external speakers while observing polarity. The front and rear speaker inputs will not be used on the OS-RAD connector. Connect the rest of the aftermarket wire harness to the inputs of the OS-RAD harness. If the aftermarket stereo has a mute wire, cut the brown wire as close as possible to the relay socket and connect it to the stereo's mute wire (Fig. 1).

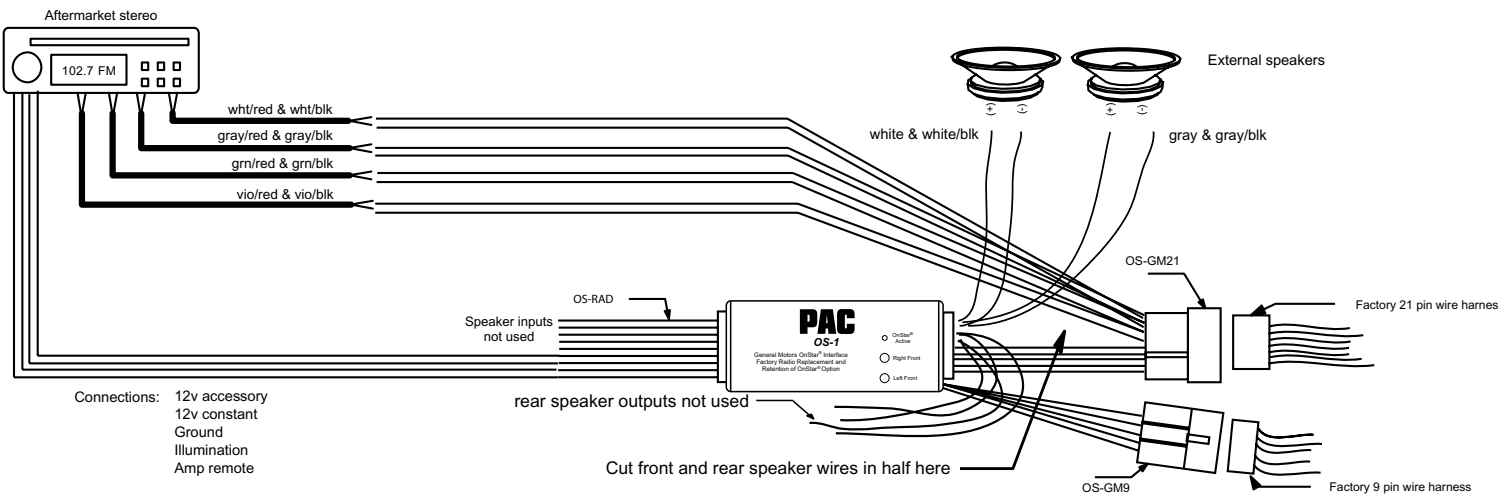
Step 2.
Run all RCA patch cords and remote wire to the amplifier. The speaker outputs on the amplifier can be wired to the OS-GM21 harness if utilizing the factory speaker wiring. If the vehicle had or has a factory amplifier, new speaker wires must be ran directly to the speakers. After connecting the OS-RAD and OS-GM21 wire harness to the OS-1 main interface, connect the OS-GM21 and OS-GM9 connectors to the factory harness.



OPTION 4: Connecting OnStar® and OS-1 to external speakers.

Step 1.
You will need to cut the speaker wires (white & wht/blk, gray & gray/blk, purple & prp/blk, green & grn/blk) in half on the OS-GM21 wire. Connect the front two pair of wires on the output side of the OS-1 to external speakers while observing polarity. The front and rear speaker inputs will not be used on the OS-RAD connector. Connect the rest of the aftermarket wire harness to the inputs of the OS-RAD harness. If the aftermarket stereo has a mute wire, cut the brown wire as close as possible to the relay socket and connect it to the stereo's mute wire (Fig. 1).

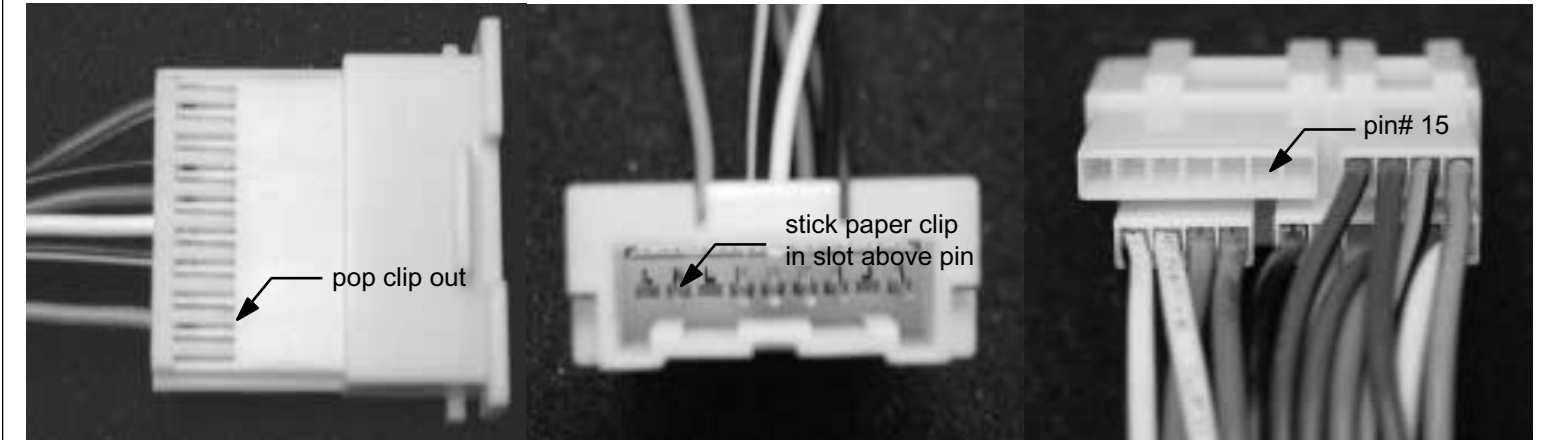
Step 2.
After connecting the OS-RAD and OS-GM21 wire harness to the OS-1 main interface, connect the OS-GM21 and OS-GM9 connectors to the factory harness.



Bulletin*

1999-2002 Pontiac Grand Prix and 1999-2000 Cadillac Escalade (not for 2002 Escalade)

You will need to relocate the green wire in the OS-GM9 connector prior to installation of the OS-1. The green wire will need to go into pin#15 of the 21 pin connector as shown in diagrams below.



Pop white locking clip out on the OS-GM9 connector in the location of the green wire by using a small flat head screw driver.

Insert paper clip into the slot above pin of the OS-GM9 connector and push metal clip down while gently pulling on green wire. If done correctly, wire will pull out easily.

Insert green wire into pin#15 of the OS-GM21 (Grand Prix non/BOSE) or OS-GM21A (Escalade) connector. Pontiac Grand Prix GTP w/BOSE requires a AMP-GM21B wire harness, not a AMP-GM21A harness.

Testing and Verifying Operation

Important! Reset OnStar® by turning the ignition off for at least two minutes prior to testing. If you are not using an OEM-1 Bose interface, go to step #2.

Step #1: Adjusting the OEM-1 level controls.

After all connections are made and plugged in, turn on the aftermarket stereo. Adjust the volume on the radio and the OEM-1 level controls to a suitable undistorted listening level. The OEM-1 can be adjusted with a small flat head screwdriver.

Step #2: Adjusting OS-1 Volume and Testing Operation with OnStar®.

After all connections are made, adjust the audio outputs of the OS-1 with a small flat head screwdriver. Counter clockwise is at minimum and clockwise is maximum output. Push the Blue OnStar® button on the vehicle to initiate a call to the service center. The OS-1 led will turn on and the the stereo should either mute or turn off and a greeting message should be heard. Adjust the OS-1 volume to a suitable loudness level. If the volume sounds distorted, lower the outputs of the OS-1. Pressing the black OnStar® button on the vehicle will end the call and the OS-1 led will turn off. After a few seconds the stereo should resume playing or will turn back on.

NOTES:

WARNING! (Vehicles equipped with a 9 pin Y connector) Do not unplug the separate 9 pin female and male connectors that are located farther back in the dash. Doing so will disconnect OnStar® from the OS-GM9 connector.

- Remember to reset OnStar® by turning the ignition off for at least two minutes prior to testing.
- If using the Options using external speakers, two speakers are not required. You may use any one speaker output if desired.
- Vehicles with Delco/Bose systems require a bose adaptor like PAC's OEM-1 Premium Sound Interface. The OS-1 is designed to be Plug & Play with the OEM-1 interface and AMP-GM21A harness.

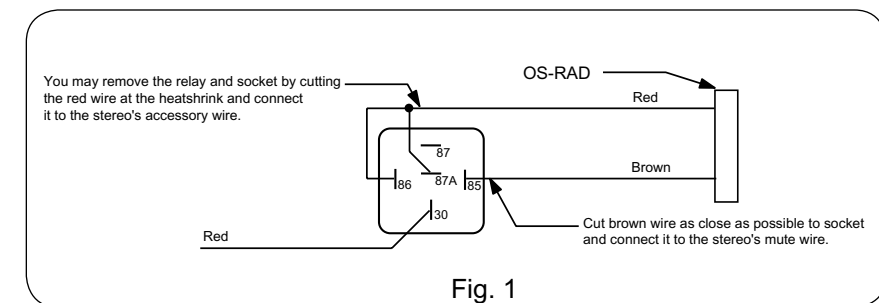


Fig. 1

WIRE COLOR	CIRCUIT	PIN NUMBER	CIRCUIT	WIRE COLOR
WHITE/BLACK	LEFT FRONT (-)	9	MUTE	BROWN
GRAY/BLACK	RIGHT FRONT (-)	8	LEFT FRONT (+)	WHITE
GREEN/BLACK	LEFT REAR (-)	7	RIGHT FRONT (+)	GRAY
PURPLE/BLACK	RIGHT REAR (-)	6	LEFT REAR (+)	GREEN
BLACK	GROUND	5	RIGHT REAR (+)	PURPLE
BLUE	POWER ANTENNA	4	LEFT REAR (-)	GREEN
ORANGE	ILLUMINATION	3	RIGHT REAR (+)	PURPLE
BLUE/WHITE	AMP TRIGGER	2	12V CONSTANT	YELLOW
RED	12V SWITCHED/ACC	1		

WIRE COLOR	CIRCUIT	PIN NUMBER	CIRCUIT	WIRE COLOR
ORANGE	ILLUMINATION	8	12V SWITCHED/ACC	RED
BLUE/WHITE	AMP TRIGGER	7	12 CONSTANT	YELLOW
BLACK	GROUND	6	POWER ANTENNA	BLUE
PURPLE/BLK	RIGHT REAR (-)	5	RIGHT REAR (+)	PURPLE
GREEN/BLK	LEFT REAR (-)	4	LEFT REAR (+)	GREEN
	NIC	3	NIC	
GRAY/BLK	RIGHT FRONT (-)	2	RIGHT FRONT (+)	GRAY
WHITE/BLACK	LEFT FRONT (-)	1	LEFT FRONT (+)	WHITE

Looking from wire side of plugs

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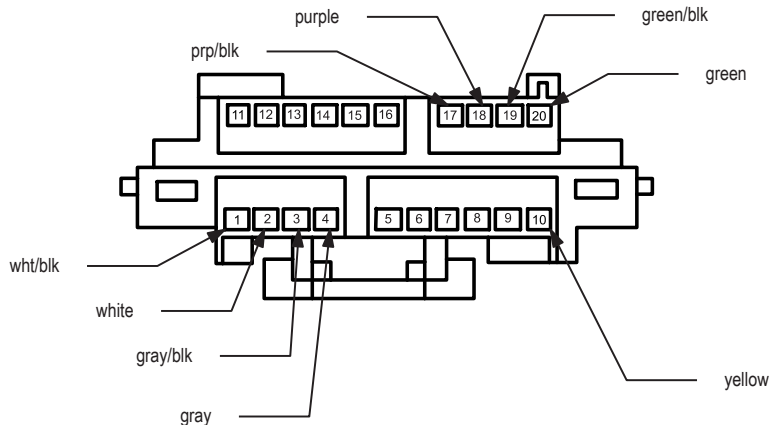


Pacific Accessory Corporation

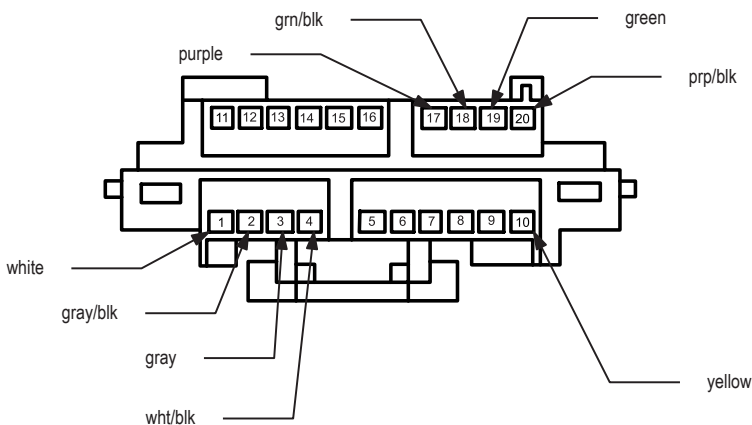
OS-1, OEM-1 and Bose Vehicles.

When using an OS-1 with an OEM-1 in a vehicle with a Bose system, you must use an AMP-GM21A harness (must have the 'A' after the 21). You cannot use a OS-GM21 or AMP-GM21 wire harness as they are not configured correctly. Even if the aftermarket stereo sounds like it plays fine, it will not balance or fade correctly and can sound out of phase. OnStar® audio also cannot be heard when initiated. However, when you use the correct harness, AMP-GM21A, OnStar® audio can be heard when initiated and the aftermarket stereo will balance/fade correctly and will be in phase.

Converting AMP-GM21 wire harness to a AMP-GM21A



This a view of the actual factory plug from the pin side, but by looking at the AMP-GM21 harness from the wire side, the speaker wire colors will be configured like this. Note the location of the yellow wire and use as a reference point.



Remove the pins for all 8 speaker wires and rearrange like this for AMP-GM21A configuration. The pins can be removed with a paper clip by sticking it through the front and pressing metal clip down to release pins. If done correctly, the pins will come out very easily.

Converting OS-GM21 wire harness to a AMP-GM21A

Swap the speaker wire pins around by following the directions on page 1, [Converting AMP-GM21 wire harness to a AMP-GM21A](#), prior to modifying the harness as instructed below.

1. Cut the prp/blk and wht/blk wires in half between the 21 pin connector and 16 pin connector.
2. Splice the prp/blk and wht/blk wires from the 21 pin side to the black ground wire of the OS-GM21 harness.
3. Splice the remaining prp/blk wire onto the grn/blk wire of the OS-GM21 harness.
4. Splice the remaining wht/blk wire onto the gray/blk wire of the OS-GM21 harness.
5. The OS-GM21 is now converted to a AMP-GM21A harness.