

MIM401-A1 Merlin Interface Module For Merlin Systems with GTWY505/605

Introduction

The MIM401-A1 Merlin Interface Module provides vehicle data to the Merlin control system. Vehicle data allows the Merlin system to make decisions based on various vehicle parameters, such as transmission range, Park Brake, engine temperatures, and so on. The MIM 401-A1 gets this information from the GTWY505/605 module, translates it, and sends it to the Merlin Intelligent Switch Panel (ISP). Note that the Gateway module used, for 2009 and later E-Series vehicles with Merlin, is a new module design from previous years. Pay special attention to harnessing as it is different from previous years.

Installation Instructions

Generally the MIM401-A1 will be installed at the same time that the Merlin and Gateway systems are being installed. All three systems are interconnected but have their own installation instructions. Refer to the installation instructions for both GTWY505/605 and Merlin as necessary when installing the MIM401-A1 module.

Remove the lower dash panel below the steering column area and find a suitable location to mount the MIM401-A1 module, and the GTWY505/605 module, in an area away from heat sources. Mounting them with connectors and harnessing exiting down from the module is recommended to keep dirt out of the module. Do not actually mount the module until all wire harnesses are routed and secure. The last step of the installation is to mount the modules.



MIM401 - Merlin Interface Module transmits vehicle data to Merlin system.

Be sure the vehicle's battery is disconnected before proceeding with installation.



WARNING
Disconnect the battery to prevent setting a check engine light.

Merlin Interface with single piece Merlin Harness

Later Merlin systems use a single piece harness that connects all of the Merlin modules together. If your Merlin harnessing does *not* use a single piece harness, skip to the next section. Perform the following on single piece harness systems:

- This Merlin harness provides a Red flying lead wire, which powers the logic portion of the Merlin system. Connect this Red wire to an 3 amp fused battery source which is hot at all times. Connecting to a hot at all times source allows Merlin to continue functioning after the key is off. This is done for a more orderly load shut down.
- Connect the Black ground wire eyelet to a clean chassis ground.
- Plug the 4 pin white Molex connector (see photo) into the MIM's 4 pin connector.
- Secure the wiring so that it does not hang below the lower dash panel.



Merlin single piece harness with MIM connector & flying power leads on one end.



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Merlin Interface with Segmented Merlin Harness

Some Merlin systems use separate harnesses between each Merlin module. Perform the following installation on segmented harness systems:

- This Merlin harness provides a Red flying lead wire, which powers the logic portion of the Merlin system. Connect this Red wire to an 3 amp fused battery source which is hot at all times. Connecting to a hot at all times source allows Merlin to continue functioning after the key is off. This is done for a more orderly load shut down.
- Connect the 4 Pin White connector end of the Merlin Interface Harness to the MIM 401-A1 Merlin Interface Module.
- Route the other end of this harness (6 Pin Black connector with Red tape) to the Merlin ISP module. Plug the 6 pin Black connector (Red tape) into the Red taped connector on the Merlin ISP "W" Harness. (See Merlin Instructions.)
- Secure the Merlin Interface Harness so that it does not hang below the lower dash panel.



Merlin segmented harness with MIM connector & flying power lead on one end.



Gateway (GTWY505/605) LED Display "Y" Harness (Black 4-pin connectors)

- Run the "single connector end" of the GTWY505/605 LED display "Y" harness to the LED display panel. This LED panel is normally mounted on the dashboard near the driver (See Gateway instructions).
- Plug one of the 4-pin "Y" harness connectors into the thin Black 4-pin connector on the MIM401-A1 module.
- Plug the other 4-Pin "Y" harness connector into the thin Black 4-Pin connector on the GTWY505/605 module. (See Gateway instructions).



"Y" Harness. Single end on right connects to LED panel, double ends on left connect to MIM & GTWY modules.

Mount the module(s)

After choosing an appropriate mounting location for the MIM401-A1 and GTWY505/605 modules, and routing the harnessing, secure the modules in place with screws or two-sided tape. Mounting the modules with their connectors pointing down is desirable to keep debris and dirt out of the module.

After completely installing the MIM401-A1, GTWY505/605 and Merlin system you should reconnect the vehicle's battery for system testing.

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Post Installation Testing

Testing the MIM401-A1 requires that both the GTWY505/605 and Merlin system are installed and working. The MIM401-A1 can be tested by turning the ignition switch to "run" and putting the Merlin ISP into diagnostic mode and displaying vehicle data (see Merlin instructions).

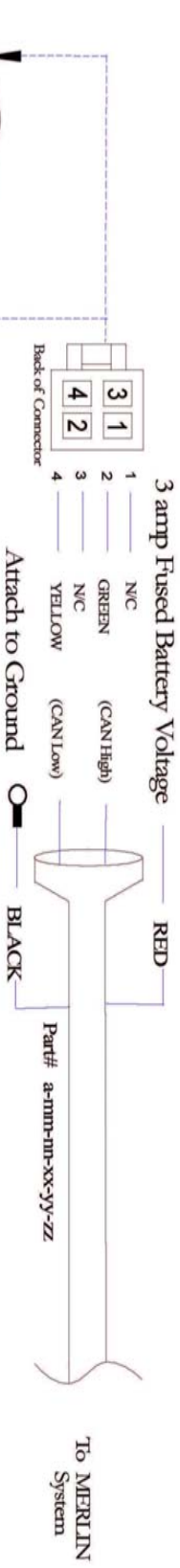
- Vehicle Data should display in real time on the ISP display.
- Select an item for display, such as Transmission Range.
- Depress Service Brake and shift the transmission through its range, verifying the ISP displays the transmission range correctly as you shift gears. If it does not, make sure GTWY505/605 is fully functional and operating (see GTWY505/605 instructions).
- RPM is another value which can be easily verified by starting the engine.
- If Vehicle Data is not properly displayed on the Merlin ISP, verify the cables are properly installed between the MIM401-A1 and GTWY505/605 and also from the MIM401-A1 to the Merlin system. Vehicle data must be communicated to the Merlin system for it to function properly as designed.

In addition to testing the MIM401-A1, the GTWY505/605 module must also be tested.

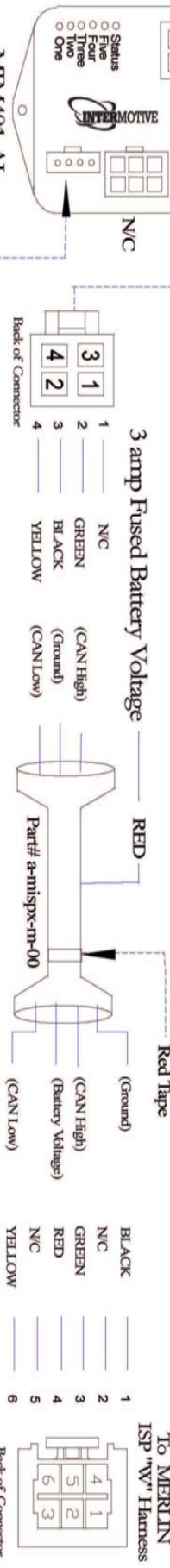
See GTWY505/605 Installation instructions for Post Install testing.

**If any irregular operational issues persist,
contact InterMotive at 530-346-1801 for technical assistance.**

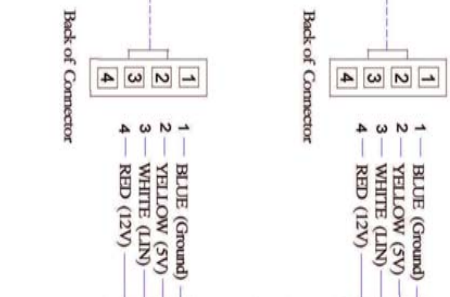
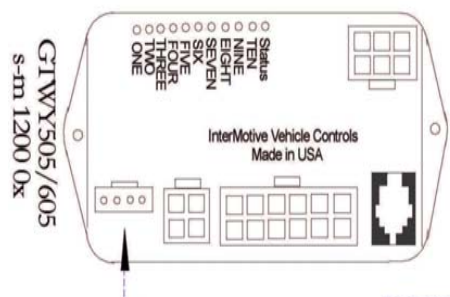
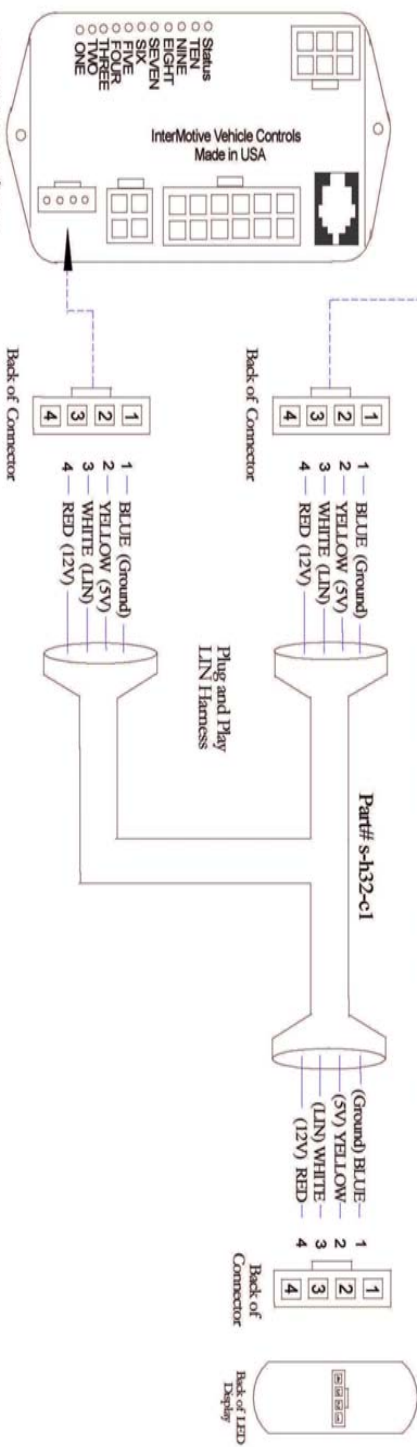
One Piece MERLIN Harness



Segmented MERLIN Harness



"Y" Harness from GTWY505/605 LED Panel



Submit product registration at www.intermotive.net

If the MIM401-AI fails any step in the Post Installation Test, review the installation instructions and check all connections. If necessary, call **InterMotive Technical Support @ (530) 823-1048.**