

WHELEN[®]

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Operating Procedures: Transporter

Automotive: Serial Communication

Safety First

This document provides all the necessary information to allow your Whelen product to be properly and safely installed. Before beginning the installation and/or operation of your new product, the installation technician and operator must read this manual completely. Important information is contained herein that could prevent serious injury or damage.

- **Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.**
- **If mounting this product requires drilling holes, the installer MUST be sure that no vehicle components or other vital parts could be damaged by the drilling process. Check both sides of the mounting surface before drilling begins. Also de-burr any holes and remove any metal shards or remnants. Install grommets into all wire passage holes.**
- **If this manual states that this product may be mounted with suction cups, magnets, tape or Velcro™, clean the mounting surface with a 50/50 mix of isopropyl alcohol and water and dry thoroughly.**
- **Do not install this product or route any wires in the deployment area of your air bag. Equipment mounted or located in the air bag deployment area will damage or reduce the effectiveness of the air bag, or become a projectile that could cause serious personal injury or death. Refer to your vehicle owners manual for the air bag deployment area. The User/Installer assumes full responsibility to determine proper mounting location, based on providing ultimate safety to all passengers inside the vehicle.**
- **For this product to operate at optimum efficiency, a good electrical connection to chassis ground must be made. The recommended procedure requires the product ground wire to be connected directly to the NEGATIVE (-) battery post.**
- **If this product uses a remote device to activate or control this product, make sure that this device is located in an area that allows both the vehicle and the device to be operated safely in any driving condition.**
- **Do not attempt to activate or control this device in a hazardous driving situation.**
- **If this product contains strobe light(s), halogen light(s) or high-intensity LEDs, do not stare directly into these lights. Momentary blindness and/or eye damage could result.**
- **Use only soap and water to clean the outer lens. Use of other chemicals could result in premature lens cracking (crazing) and discoloration. Lenses in this condition have significantly reduced effectiveness and should be replaced immediately. Inspect and operate this product regularly to confirm its proper operation and mounting condition. Do not use a pressure washer to clean this product.**
- **It is recommended that these instructions be stored in a safe place and referred to when performing maintenance and/or reinstallation of this product.**
- **FAILURE TO FOLLOW THESE SAFETY PRECAUTIONS AND INSTRUCTIONS COULD RESULT IN DAMAGE TO THE PRODUCT OR VEHICLE AND/OR SERIOUS INJURY TO YOU AND YOUR PASSENGERS!**

For warranty information regarding this product, visit www.whelen.com/warranty

Table of Contents

Introduction	page 3
Section I: The Transporter Unit	page 3
<i>PC Mode.....</i>	<i>page 3</i>
<i>B*LINK Mode</i>	<i>page 3</i>
<i>Pass Thru Mode.....</i>	<i>page 3</i>
Section II: The Operation of the Transporter.....	page 5
<i>Pass Thru Mode.....</i>	<i>page 5</i>
Exercise I: Transferring a Message File to the Messenger Display	page 5
Exercise II: Extracting a Message File from the Messenger Display	page 6
<i>Transferring and Extracting Data in PC Mode</i>	<i>page 6</i>
Exercise III: Transferring a Message File to the Transporter	page 7
Exercise IV: Extracting a Message File from the Transporter	page 7
Exercise V: Clearing the Transporter	page 7
<i>Transferring and Extracting Data in B-LINK Mode</i>	<i>page 8</i>
Exercise VI: Transferring a Message File to the Messenger Display	page 8
Exercise VII: Extracting a Message File from the Messenger Display	page 8
Section III: Communication Troubleshooting	page 9

Illustrations

Figure 1	- Transfer & Extract Switch Positions in PC Mode.....	page 3
Figure 2	- Transfer & Extract Switch Positions in B*LINK Mode	page 3
Figure 3	- Transfer & Extract Switch Positions in Pass Thru Mode	page 3
Figure 4	- Connection Information Window.....	page 4
Figure 5	- Pass Thru Mode Switches.....	page 5
Figure 6	- Pass Thru Mode Connection Layout.....	page 5
Figure 7	- PC Mode Connection Layout.....	page 6
Figure 8	- PC Mode (Extract).....	page 6
Figure 9	- PC Mode (Transfer).....	page 6
Figure 10	- B*LINK Mode (Transfer).....	page 8
Figure 11	- B-LINK Mode (Extract).....	page 8
Figure 12	- B-LINK Mode Connection Layout	page 8
Table 1	- Status Indication	page 9
Overview	- Messenger Connections Layout.....	page 10

Introduction

This manual will outline the procedures necessary for operating the Whelen Transporter. The operation of this unit is not complicated, but it is recommended that the operator read through this manual thoroughly to understand all functions of the device before attempting to actually program the Messenger. **NOTE:** *This Manual assumes the user is familiar with the MGP02 and/or B-LINK Software.*

Section I:

The Transporter Unit

The Transporter is a multi-function, data transfer device that allows the Host Computer to transfer or extract programmed messages to and from the Messenger without requiring direct cable connection. The Transporter functions in one of three modes: PC, B*LINK or Pass Thru.

PC mode - The Transporter is connected to the Host Computer via a 9-pin serial cable. In this mode, the Transporter can either transfer or extract messages to or from the Host Computer.

B*LINK mode - The Transporter is connected to the Messenger display via the 2-conductor, twisted-pair communication wires. In this mode, the Transporter can either transfer or extract messages to or from the Messenger display.

PASS THRU mode - The Transporter is simultaneously connected to both the Host Computer and the Messenger display. In this mode, the Host Computer can either transfer or extract messages to or from the Messenger display.

Fig. 1

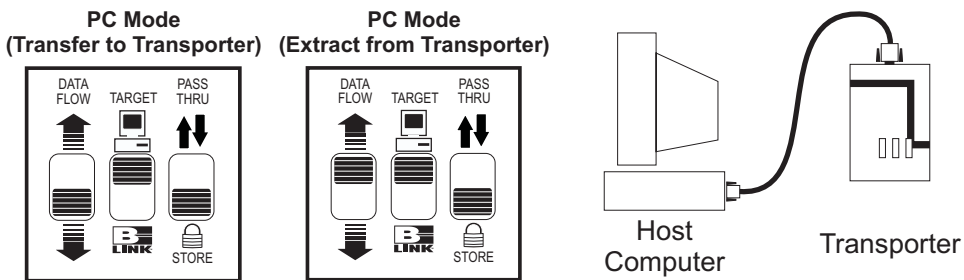


Fig. 2

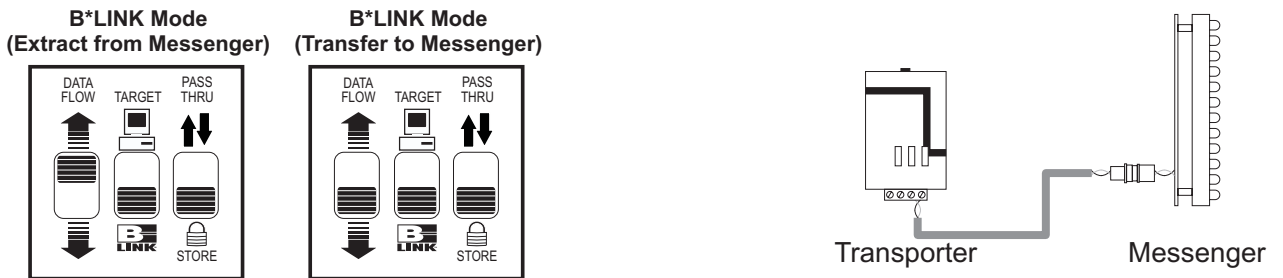
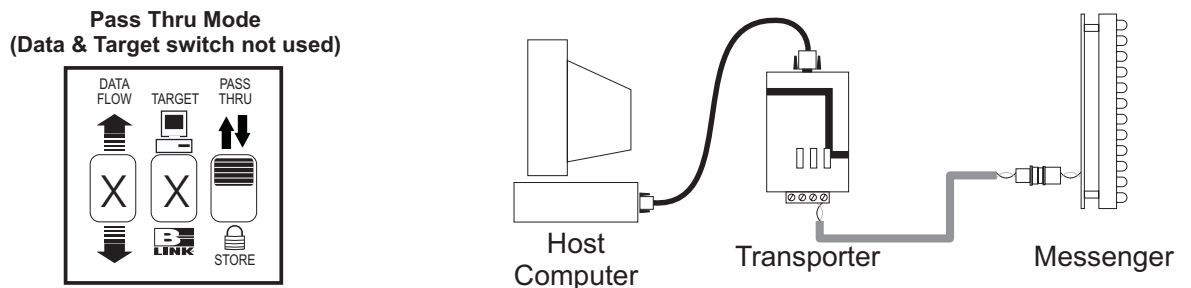


Fig. 3



The Transporter includes both an AC and DC power cord. The appropriate cable (depending on the available power source) is inserted into the power receptacle on the Transporter and then to power. **NOTE: When using the AC adaptor, it is necessary to extend a ground wire between position 4 of the Transporter's phoenix connector and the same ground used by the B-LINK component with which the transporter communicating (see the Overview layout located on the last page of this manual).** After the appropriate data cable (serial or twisted-pair) has been connected, the Transporter is ready to communicate (for programming messages, refer to the SmartArrow Messenger Programming Manual).

In order for the Transporter to communicate with the Host Computer or Messenger Display, the control head unit must be removed from the vehicle or turned off. If other B-LINK control heads are connected to the communication vehicle, they must also be turned off.

To test the connection and switch settings with the Host Computer, click on the COMMUNICATIONS menu and select "Connection Information". The screen should display the following:

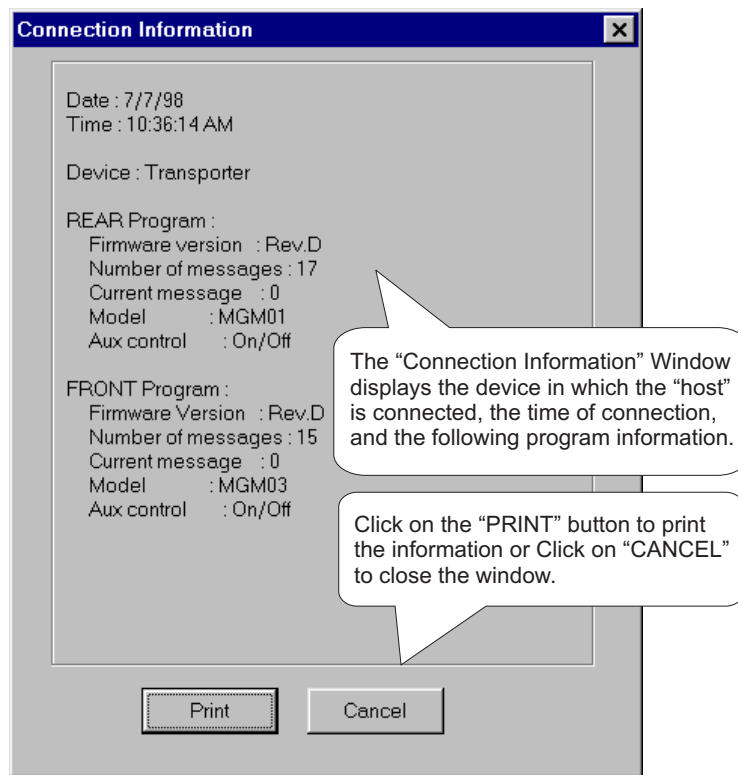


Fig. 4

Section II:

The Operation of the Transporter Unit

Pass Thru Mode...

1. Connect the Transporter to the PC using the 9-pin serial cable as shown in figure 6 below.
2. Plug the Phoenix connector (Blue & Gray wires) from the Messenger display into the Transporter as shown below. Connect the Messenger display to +12VDC. Extend a wire between phoenix connector pos. 4 and the ground used by the Messenger.
3. Insert the AC plug into the Transporter and then connect to 120VAC.
4. For the Transporter to initiate this mode, the far right-hand switch must be pushed up to "PASS THRU" as shown. Press the START button. The Red LED should be off and the Green LED should be on indicating that the Transporter is now in Pass Thru Mode (See Table 1).

Fig. 5

Pass Thru Mode
(Data & Target switch not used)

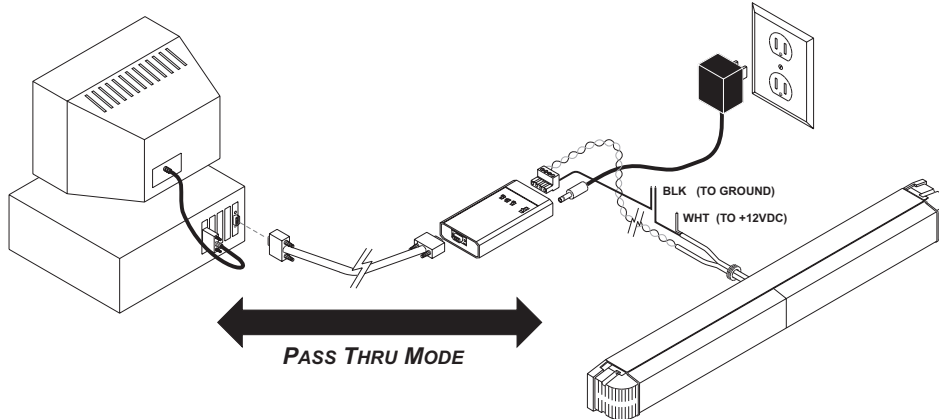
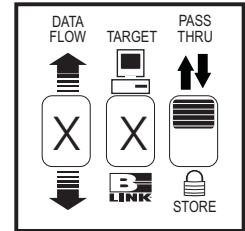


Fig. 6

EXERCISE I: Transferring a Message File to the Messenger Display

1. Select the Message File which will be transferred to the Messenger.
2. Click on "**Communications**". From the menu, select "Messenger", then "Transfer". Or click the button on the toolbar.
3. Set the switches on the Transporter to Pass Thru Mode and press the Start button. The Red LED should be "Off" and the Green LED should be "On" steady to indicate the transfer.
4. The "Transferring..." window will open. Pressing "Transfer" begins the transfer process. As the Message File is transferred, the progress will be displayed in a window. By pressing "Cancel", the operator can abort the transfer process at any time during the transfer.
5. At the end of the transfer, the Communications Information window will be displayed as confirmation.

EXERCISE II: Extracting a Message File from the Messenger Display

1. Click on **“Communications”**. From the menu, select **“Messenger”**, then **“Extract”**. Or click the button on the toolbar.
2. Set the switches on the Transporter to Pass Thru Mode and press the START switch.
3. If both a Rear and Front Messenger are connected, select to extract from either the Front address or the Rear address.
4. The **“Extracting...”** window will open. Pressing **“EXTRACT”** begins the extraction process. As the Message File is extracted, the progress will be displayed in a window. By pressing **“CANCEL”**, the operator can abort the extraction process at any time during the extraction.
5. At the end of the extraction, the Communications Information window will be displayed as confirmation.

PC Mode...

Transferring and Extracting Data

1. Connect the Transporter to the PC using the 9-position connector as shown in Figure 7.
2. Move the far right-hand switch to **“STORE”** and the Target switch to **“TARGET”** the PC icon. This configures the Transporter to store data from the MGP02.
3. Select which way the data will flow using the position of the Data Flow switch. If the PC is extracting data from the Transporter, move the switch up so it faces the PC connection. If the PC is transferring data to the Transporter, move the switch down away from the PC connection.

Fig. 7

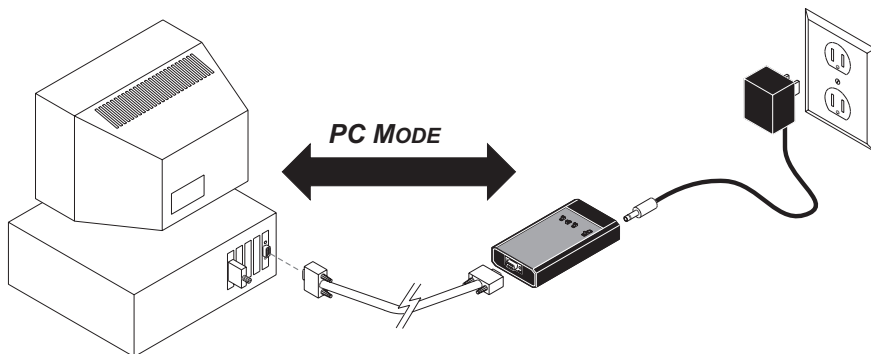


Fig. 8

PC Mode (Extract from Transporter)

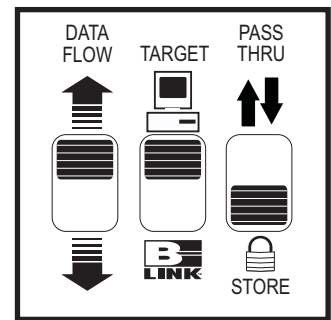
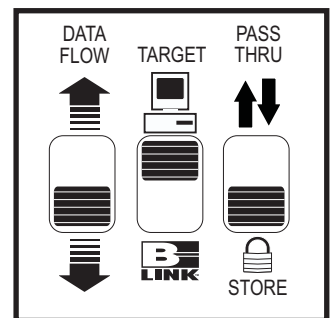


Fig. 9

PC Mode (Transfer to Transporter)



EXERCISE III: Transferring a Message File to the Transporter

1. Select the Message File which will be transferred to the Transporter.
2. Click on COMMUNICATIONS. From the menu, select TRANSPORTER, then TRANSFER. Or click the button on the toolbar.
3. Set the switches on the Transporter to PC transfer Mode. Now press the START switch and the Red and Green LED's will alternate.
4. The "Transferring..." window will open. Pressing "TRANSFER" begins the transfer process. As the Message File is transferred, the progress will be displayed in a window. By pressing "CANCEL", the operator can abort the transfer process at any time during the transfer.
5. At the end of the transfer, the Communications Information window will be displayed as confirmation that programming is complete.

EXERCISE IV: Extracting a Message File from the Transporter

1. Click on COMMUNICATIONS. From the menu, select TRANSPORTER, then EXTRACT. Or click the button on the toolbar.
2. Set the switches on the Transporter to PC extract Mode, press the Start switch, and the LED's will alternate.
3. Select to extract from either the Front address or the Rear address.
4. The "Extracting..." window will open. Pressing "EXTRACT" begins the extraction process. As the Message File is extracted, the progress will be displayed in a window. By pressing "CANCEL", the operator can abort the extraction process at any time during the extraction.
5. At the end of the extraction, the Communications Information window will be displayed as confirmation that programming is complete.

EXERCISE V: Clearing the Transporter

1. Set the switches on the Transporter to PC transfer Mode.
2. Press the Start switch on the Transporter.
3. Click on COMMUNICATIONS. From the menu, select TRANSPORTER, then CLEAR.
4. You will be given the option of clearing the Front, Rear and B-Link programming from the Transporter.

B-LINK Mode...

Transferring and Extracting Data

1. Locate the BLUE and GRAY wires of the Messenger Display on the vehicle. Take the Phoenix connector and insert it into the port on the backside of the Transporter next to the AC/DC plug.
2. Insert the AC/DC plug into the Transporter and then connect to +12VDC.
3. Move the far right-hand switch to STORE and the Target switch to B*LINK. Select which way the data will flow using the position of the Data Flow switch. If the Messenger Display is extracting data from the Transporter, move the switch down so it faces the B-Link connection. If the Messenger Display is transferring data to the Transporter move the switch up away from the B-Link connection.
4. Once the switches are in the correct positions, press START to continue. The Red and Green LEDs will indicate when the programming is complete (see Table 1).

Fig. 10

B*LINK Mode (Transfer to Messenger)

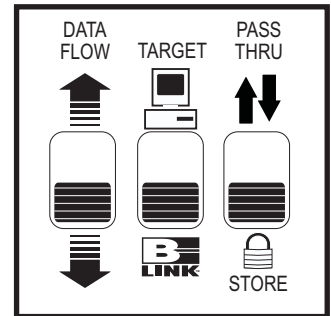
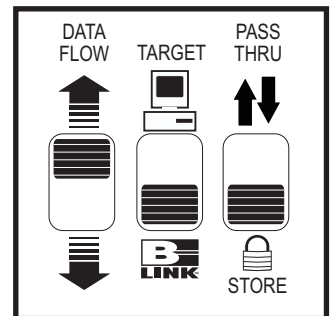


Fig. 11

B*LINK Mode (Extract from Messenger)



EXERCISE VI: Transferring a Message File to the Messenger Display

1. Set the switches on the Transporter to B-LINK transfer Mode, and press the START switch. The Red and Green LED status will flash accordingly (See Table 1).
2. At the end of the transfer, the LED status will return to Red "Off" and Green "On" steady.

EXERCISE VII: Extracting a Message File to the Messenger Display

1. Set the switches on the Transporter to B-LINK extract Mode and press the START switch. The Red and Green LED status will flash accordingly (See Table 1).
2. At the end of the transfer, the LED status will return to Red "Off" and Green "On".

Fig. 12

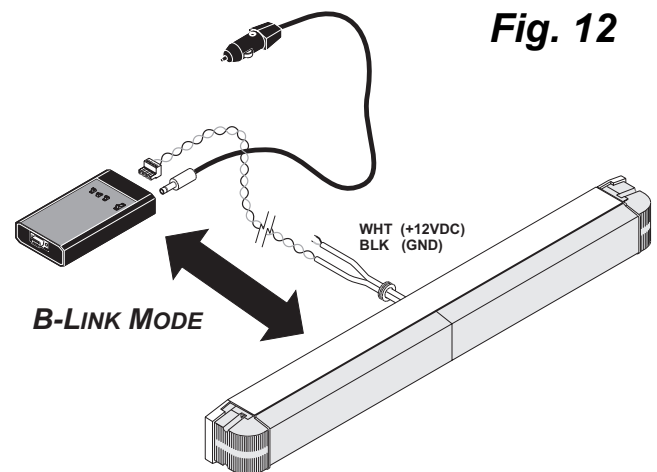


Table 1

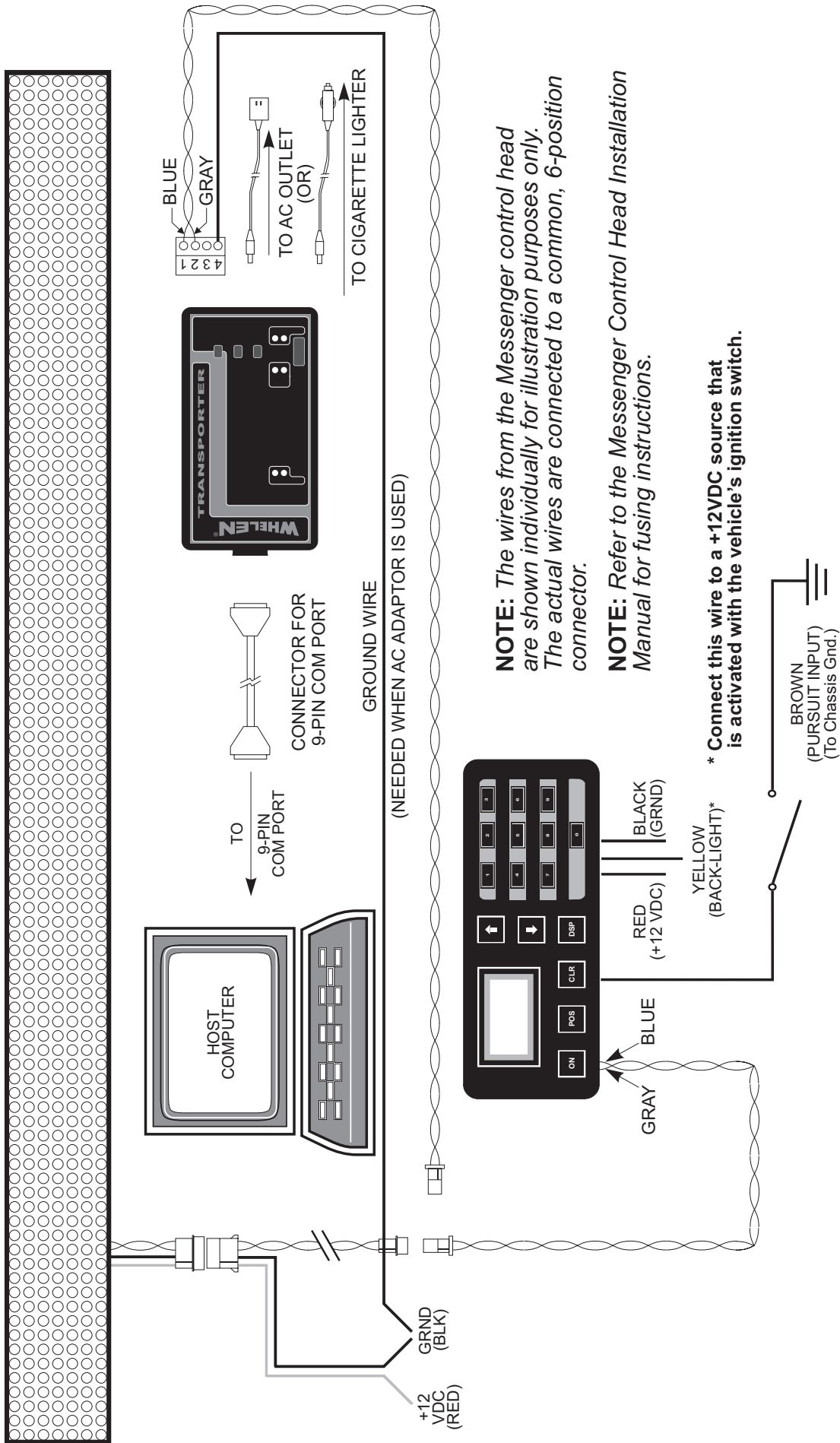
MODE	LED		STATUS
	GREEN	RED	
Pass Thru	Steady	Off	OK
Computer Connected	Alternating		OK
All Others	Off	1 Flash	Master on Bus
	Off	2 Flash	DEVICE Missing
	Off	3 Flash	DEVICE Fail Verify

Section III:

Communication Trouble Shooting

- Messenger Display is not powered** - The display unit requires +12 VDC in order to function. Connect the display to +12 VDC power supply or a +12V automotive battery.
- Wrong Serial Port is selected** - Consult the Host computer's documentation to verify the designation of the Serial Port connected to the Transporter. Select "Comm Port" from the Communications menu. Enter the proper Serial Port in the Comm Port field and press the "INITIALIZE" button.
- The Transporter is not powered** - The Transporter must be connected to a +12 VDC power source to operate.
- Serial Port cables are not connected** - Verify that the proper serial cables are properly connected between the computer and the Transporter. Tighten any loose connections.
- Blue & Gray communication wires are reversed** - A common problem is that the communication wires are reversed somewhere between the Transporter and the Messenger Display. Refer to the Overview diagram for proper communication wire connections.
- MGC01 is still operating** - In order for the Host computer to communicate with the Messenger Display, the MGC01 control head must be removed from the bus or turned off. If other B-LINK control heads are connected to the communication bus, they must also be turned off.
- Floating Ground** - When the Transporter is powered using the AC adaptor, no common ground to the B-LINK network exists. A ground wire must be connected between the #4 position of the Transporter's phoenix connector and the ground used by the B-LINK component with which the Transporter is communicating.

Wiring Diagram



NOTE: The wires from the Messenger control head are shown individually for illustration purposes only. The actual wires are connected to a common, 6-position connector.

NOTE: Refer to the Messenger Control Head Installation Manual for fusing instructions.

* Connect this wire to a +12VDC source that is activated with the vehicle's ignition switch.