COUNTRY COACH SERVICE TRAINING

Troubleshooting Guide

SMARTIRE®

With

SilverLeaf Electronics

Rev. 1.1

What is Smartire?

SmarTire for RVs is an advanced tire pressure monitoring system specifically designed to meet the unique needs of RVs. SmarTire constantly monitors the tires of an RV and towed vehicle or trailer and warns the user of a tire problem before it becomes dangerous.

• In-wheel sensors constantly monitor tire pressure and temperature
• Graphic display shows real-time tire information while you drive
• Audible and visual alerts provide instant warning when a tire problem occurs
• Monitor the tires of a towed vehicle or trailer, up to 20 total wheel positions

Two generations of the Smartire system for RV's exist.

- Generation 1
  - 6 tire capability with maximum readable pressure of 127 psi
  - Integrated receiver/display
  - Offered on Country Coach products through April, 2004 as well as aftermarket installs

- Generation 2 with SmarTire or Silverleaf VMS display
  - 20 tire capability
  - Primary and a towed screen in the same display
  - Modular receiver and display units
  - Maximum readable pressure of 160 psi
  - Offered on Country Coach since 2004

For more information, consult the Smartire and Silverleaf VMS operators manuals.

SmarTire®/Silverleaf™ Troubleshooting
For Country Coach Products

Here are some helpful troubleshooting tips to follow when you encounter various errors in system operation.

NOTE
The system may receive transmissions from other SmartTire systems in the immediate vicinity. Take this into consideration when troubleshooting data transmissions that appear to be erroneous.

1. Display shows no tire icon, no tire data or the tire icon has an “X” over it

Has the vehicle been driven?
If not, drive it above 20 mph for 5-10 minutes. The vehicle must be driven for the tire sensors to be fully active. This period of tire rotation will trigger the sensors into broadcasting information.

Check the sensor ID number.
Each tire sensor has a unique identification (ID) number that acts as an identifier each time data is transmitted. All the sensor ID numbers must be programmed in the system to represent their respective wheel positions in order for the system to work properly. Once the ID numbers have been programmed into the system they should not need to be re-programmed and are not dependent on the vehicle battery to retain programming.
If no sensor number is saved in the system for a given tire then no tire icon will appear on the display screen. Remedy this by entering the correct number(s) on the tire set up screen (fig. 1.1) of the Silverleaf Vehicle Monitoring System (VMS).
Check the coach documentation for sensor numbers. If this documentation is unavailable call Bob Dickman Tire Center with the coach number to obtain the sensor ID numbers.

Fig. 1.1 – Silverleaf Tire Setup Screen #1

NOTE
If a sensor is replaced the new ID number will need to be programmed into the system. See the Smartire and Silverleaf VMS operators manuals for information.

Check the JIB Communication

The tire sensor status and message count can be viewed on the tire setup screen (fig. 1.2) of the VMS user interface panel. Repeatedly press the “diag” button on the panel until the second tire setup screen appears (the first tire setup screen is for sensor ID assignment). The message count should be slowly increasing and the status should be “00”. If not, the JIB may not be communicating. Check the connections (fig 1.1) between the JIB and the Silverleaf user interface panel. Make sure the JIB has a good ground and 12VDC power only when the ignition key is turned on.

Silverleaf User Interface Panel

Check the Silverleaf JIB firmware version on the JIB housing label or through the second tire setup screen (fig. 1.2). The software version should be no lower than 1.08. If needed, call Silverleaf for an upgrade.

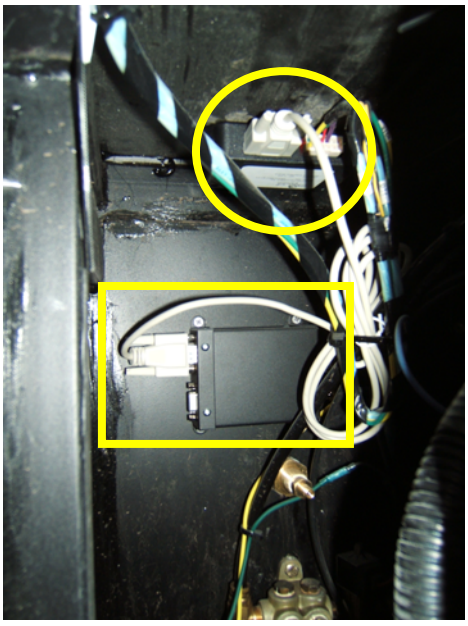


Fig. 1.1 –
JIB (Interface Module)
Receiver

Fig. 1.2 – Silverleaf Tire Setup Screen #2

Check the antenna system.
As many as three antennas may be used, one for the front wheels, a second for the drive/tag wheels and a third for the towed vehicle. Visually inspect the antennas and coax cables for damage and that the antennas are properly placed to maximize signal transmission. Signal strength degrades with distance and obstructions.
Use an ohm meter to check for continuity on the center conductor of the coax cable between the receiver module and any system antenna mast.
There is a coax connection tee in the rear electrical compartment. Check for secure connections at this tee.

Check signal strength on other tires on the same axle through the VMS display. If other tires on the same axle have a high percent of signal strength you probably do not have an antenna problem. Signal strength will typically vary to some degree, but all should be approximately 50% or greater.

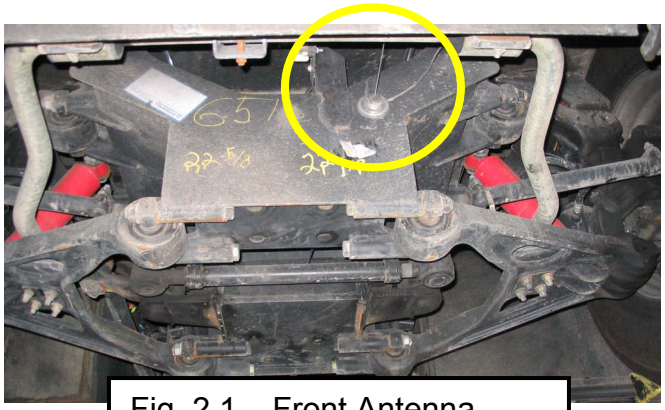


Fig. 2.1 – Front Antenna Location (typical)

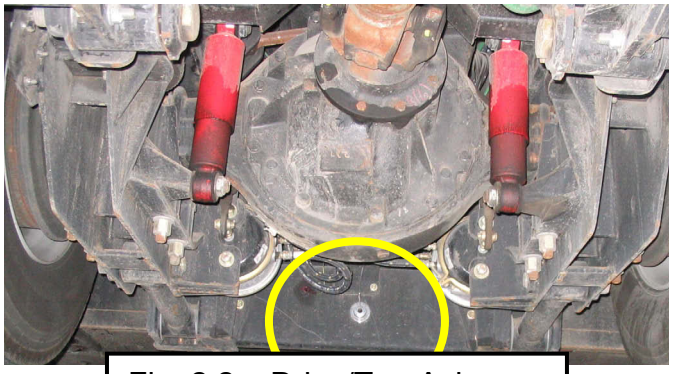


Fig. 2.2 – Drive/Tag Axle Antenna Location (typical)

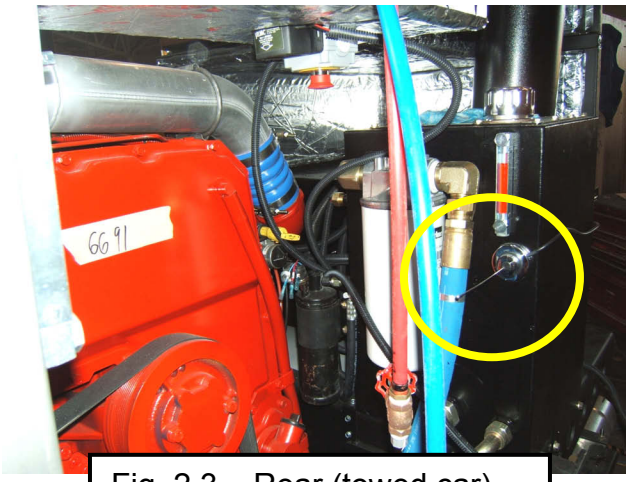


Fig. 2.3 – Rear (towed car) Antenna Location (typical)

2. Sensors Appear to be Inaccurate

Verify that the System is Reporting Tire Pressure and Temperature Correctly

Check the tire pressure manually. If the actual pressure varies from that on the display (fig. 3.1) by more than +/- 1.5 psi for a Gen 1 system or +/- 4 psi for a Gen 2 system verify the accuracy of your manual pressure gauge against that of another gauge. If excessive variation is noted after verifying manual pressure gauge accuracy, check the sensor assignment.

Fig. 3.1 – Silverleaf Tire Status Screen

Tire temperature can be measured using an infra-red thermometer but keep in mind that the reading on the outside of the tire and wheel is not the same as on the inside where the sensor is. The closest estimate would be to take the measurement at the wheel rim because that is what the sensor is attached.

Verify Correct Sensor Assignment

If the display indicates there's a tire with air pressure that is out of system specifications but air pressure at the tire is in spec when manually tested, the sensors may be incorrectly assigned. Check to see if the affected tire is assigned the correct position within the correct group (fig. 1.2).

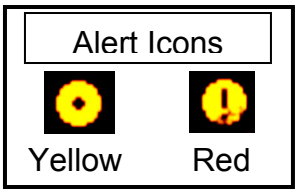
Change pressure in the tires one at a time to detect what sensor is where. Please note that data transmission intervals range from 15 – 60 minutes with the vehicle parked. If necessary, reassign the sensor(s) to the proper positions and/or groups in the system through the Silverleaf user interface panel.

Verify that System Pressure Specs and Actual Inflation Values Match

The next step would be to verify that the actual tire inflation matches the programmed values in the system. The SmarTire/Silverleaf system provides two alert levels, yellow (caution) and red (critical). Both have settings for low pressure and high temperature. These values are viewed and edited on the Silverleaf Tire Setup screen #3. Consult manufacturer's documentation for appropriate pressure and temperature specifications.

Fig. 3.1 – Silverleaf Tire Setup Screen #3

See the programming instructions to check and adjust programming values.



Check the High Temp Alert Setting

Verify that the system setting coincides with manufacturer's recommendations.

Contacts

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