

# MODEL AVI TRANSMITTERS

## INSTALLATION AND OPERATING INSTRUCTIONS

### I General

The Automatic Vehicle Identification (AVI) Transmitters Models AVI-X1A, AVI-XM, AVI-TS, and AVI-XMS are intended for installation on the underside of vehicles. The transmitters should be powered from the vehicle's electrical system. For security, the AVI-XM and AVI-XMS has their intelligence (the part which generates the code for transmission) in a separate enclosure (see product data sheet and op instructions), mounted higher up in the engine compartment typically installed near the battery and not accessible from the outside of a locked vehicle.



**AVI-X1A & AVI-XM**



**AVI-TS & AVI-XMS**

Model	Operating Voltage	Power Consumption	Number of Codes
AVI-X1A-n	11 to 40 VDC	100 milliamps (maximum)	One (1)
AVI-XM-n	11 to 40 VDC	100 milliamps (maximum)	One (1)
AVI-TS-n	11 to 40 VDC	100 milliamps (maximum)	One (1)
AVI-XMS-n	11 to 40 VDC	100 milliamps (maximum)	One (1)

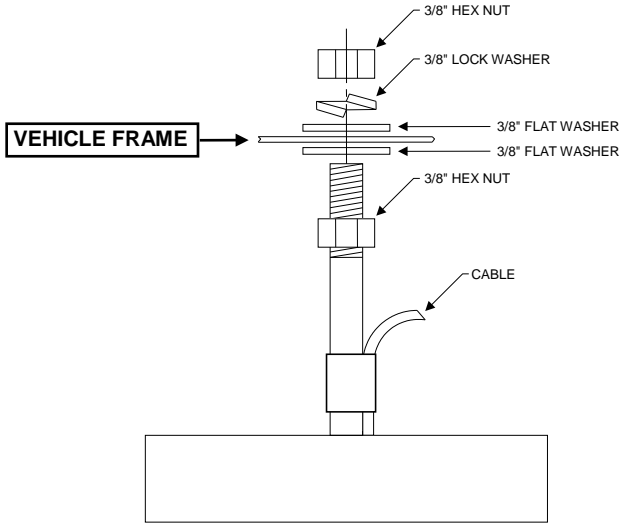
These models transmit a single code; the code is defined by "n". Transmitter codes are factory programmed at the time of manufacture and cannot be changed in the field. The AVI codes are identified on the label located on the transmitter. Each customer receives a unique code; only the 911 code is reserved for those transmitters deployed by first responders, such as police and fire departments.

These transmitters are rated for continuous operation and are powered from the vehicle's DC power source. To prevent the possibility of discharging the vehicle's battery, Reno A&E recommends the transmitter be powered from the switched side of vehicle's ignition switch. This connection ensures the transmitter is powered only when the vehicle is in use. When powered, the transmitter continuously emits the coded signal(s).

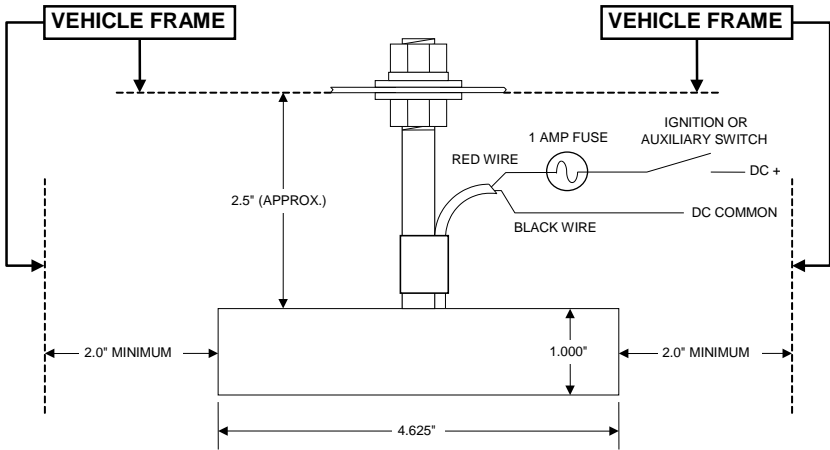
When the transmitter is in close proximity or directly above the in-pavement detection, loop the receiver reads the coded AVI signals. Reno A&E offers different types of AVI receivers, e.g. Model AVI-B (Single code AVI receiver), Model BT-AVI (Combined single channel loop detector and

Single code AVI receiver), Model AVI-E (two channel multiple code AVI receiver), etc. These receivers accommodate a wide range of AVI applications.




## AVI-X1A & AVI-XM

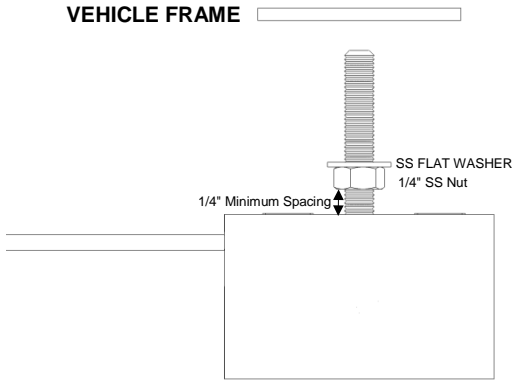


Install parts as shown above.

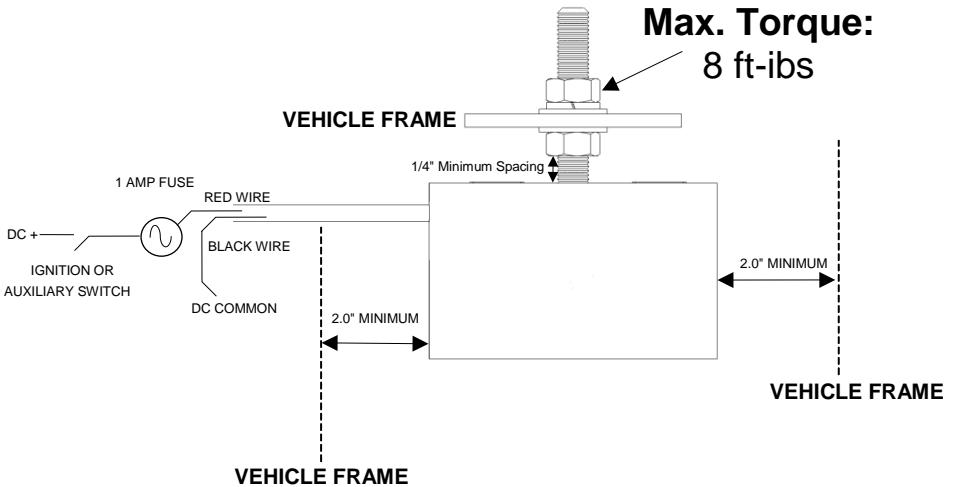


Install on vehicle as shown above and on page 2.

-  1/4" SS Nut
-  1/4" SS LOCK WASHER
-  SS FLAT WASHER



Install parts as shown above.

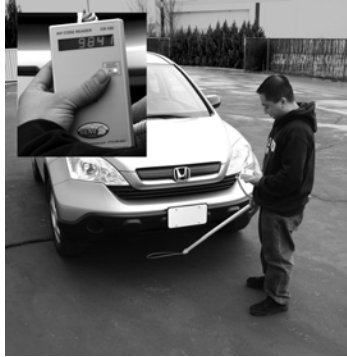


AVI-TS & AVI-XMS

Install on vehicle as shown above and on page 2.

### III Code Reader

The Reno A&E Model CR-100 or CR-200 code reader is a portable hand held device for verifying transmitter operation and the code numbers.

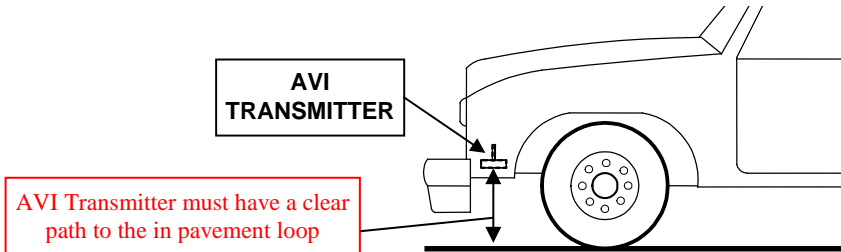


Model CR-200 in use (Code 9841 being read).

### II Installation Instructions

The AVI transmitter should be permanently attached to the underside of the vehicle, somewhere behind the front bumper. Consistent detection of the vehicle's AVI code requires the transmitter to be in close proximity of the loop. Proper installation of the transmitter is essential for reliable operation.

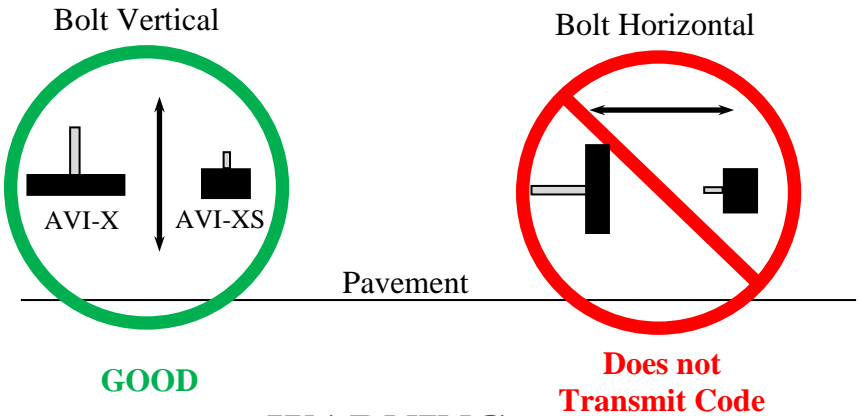
The power cable should *not* be attached to the vehicle in any way that would result in the cable being stressed. The positive (+) wire (red) of the power cable should be fused with a one-amp fuse to protect the vehicle's electrical system if the power cable is damaged. The black wire (-) should be connected directly to the negative side of the vehicle's DC electrical system. Poor electrical connections through the vehicles chassis may cause problems.



**NOTES:** *The transmitter must be installed with a clear path between the transmitter and the in pavement loop.*

*To provide protection against damage from road debris, locate the transmitter in a protected position.*

*The wire insulation should be removed in a way that insures the copper stands are not cut or damaged. If terminals are connected to the red and/or black wire, the terminals should be sized for # 22 AWG wire. Crimp connections should be made directly to the copper wire.*



**WARNING:**

**The transmitter must not be located directly above metal surfaces, or in close proximity to heat sources such as exhaust pipes and mufflers. The transmitter's mounting bolt *must* be in the *vertical* orientation. If the mounting bolt is in the *horizontal* orientation, the AVI Transmitter will not transmit the code**