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MODEL AVI TRANSMITTERS

INSTALLATION AND OPERATING INSTRUCTIONS

I General

The Automatic Vehicle Identification (AVI) Transmitters Model AVI-X1A, Model AVI-X1ALP, Model AVI-X2A, Model AVI-XS1, Model AVI-XS1LP and Model AVI-XS2 are intended for installation on the underside of vehicles. The transmitters should be powered from the vehicle's electrical system. The AVI-X1ALP and AVI-XS1LP draw less average current than the AVI-X1A, AVI-X2A, AVI-XS1, and AVI-XS2.



AVI-X1A, AVI-X1ALP, & AVI-X2A



AVI-XS1, AVI-XS1LP & AVI-XS2

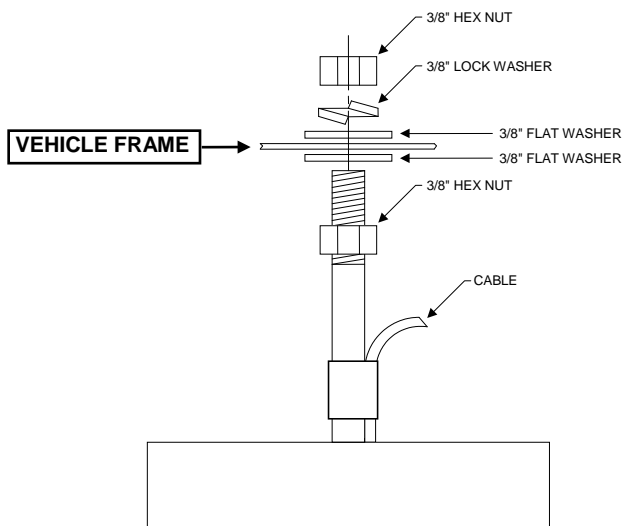
Model	Operating Voltage	Power Consumption	Number of Codes
AVI-X1A-n	11 to 40 VDC	100 milliamps (maximum)	One (1)
AVI-X1ALP-n	11 to 40 VDC	100 milliamps (maximum)	One (1)
AVI-X2A-n1-n2	11 to 40 VDC	100 milliamps (maximum)	Two (2)
AVI-XS1-n	11 to 16 VDC	100 milliamps (maximum)	One (1)
AVI-XS1LP-n	11 to 16 VDC	100 milliamps (maximum)	One (1)
AVI-XS2-n1-n2	11 to 16 VDC	100 milliamps (maximum)	Two (2)

Models AVI-X1A-n, AVI-X1ALP-n, AVI-XS1-n, and AVI-XS1LP-n transmit a single code. The code is defined by "n". The Model AVI-X2A-n1-n2 and AVI-XS2-n1-n2 sequentially transmit two separate codes, defined by "n1" and "n2". Transmitter codes are factory programmed at the time of manufacture and cannot be changed. The AVI codes are identified on the label located on the transmitter.

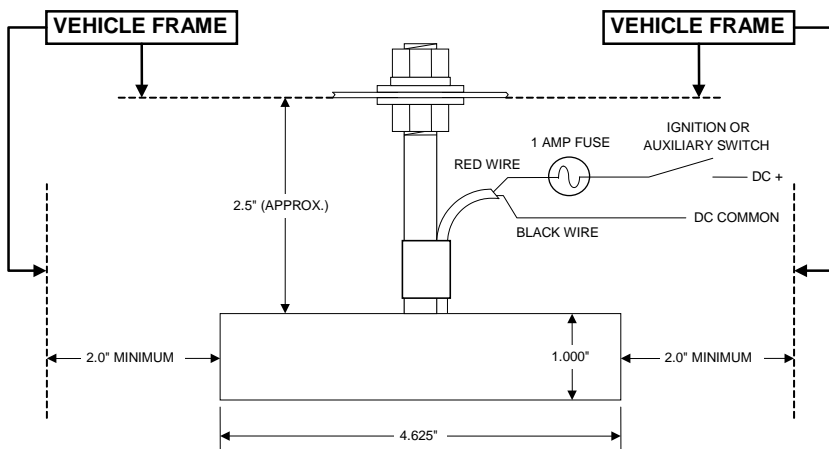
These transmitters are rated for continuous operation and are powered from the vehicle's DC power source. To prevent the possibility of discharging the vehicle's battery Reno A&E recommends the transmitter be powered from the switched side of vehicle's ignition switch. This connection ensures the transmitter 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-X1ALP & AVI-X2A

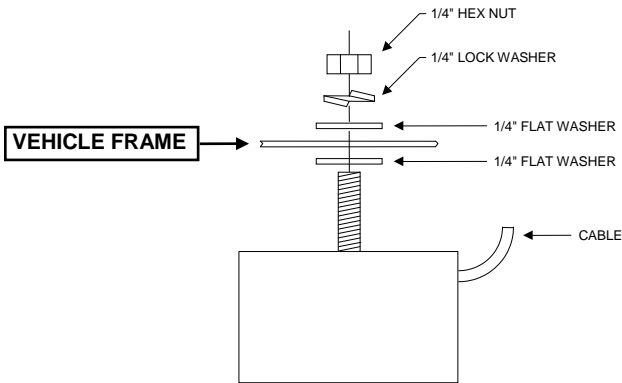


Install parts as shown above.

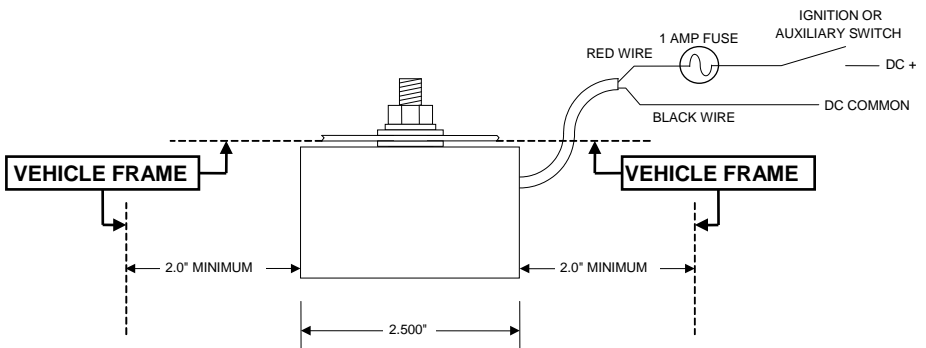


Install on vehicle as shown above and on page 2.

AVI-XS1, AVI-XS1LP & AVI-XS2



Install parts as shown above.



Install on vehicle as shown above and on page 2.

III Code Reader

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

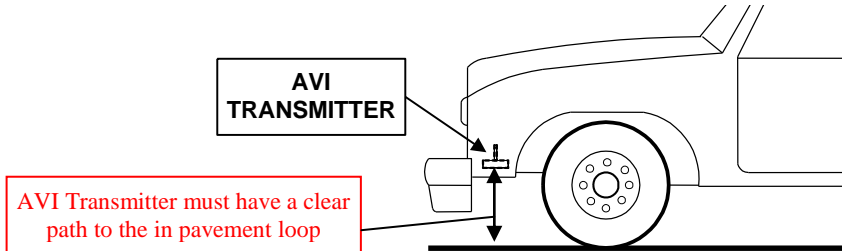


Model CR-100 in use (Code 9841 being read).

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.

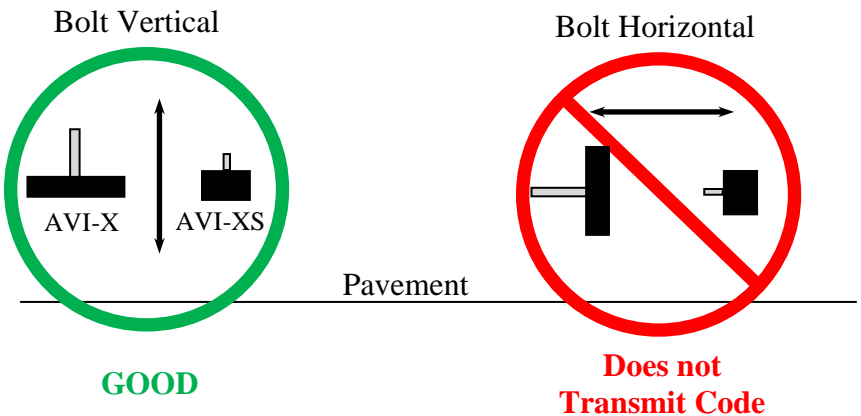
The power cable should **not** be attached to the vehicle in any way that would result in the cable being stressed. The positive (+) wire (red) of the power cable should be fused with a one-amp fuse to protect the vehicle's electrical system if the power cable is damaged. The black wire (-) should be 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 strands 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