



Remote Start



INSTALLATION & OPERATION MANUAL

**INSTALLATION BY
EMC CERTIFIED
TECHNICIAN
ONLY!**

AEVIT 2.0 Remote Start Installation Manual

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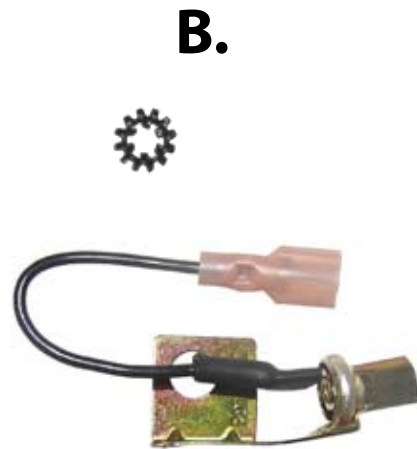
1. PACKING LIST

Check your AEVIT 2.0 Remote Start kit for the following items before proceeding with the installation:

- A. Receiver with attached, sheathed harness & antenna harness
- B. Hood Switch & washer
- C. Transmitter
- D. Antenna
- E. Spade connectors



A.



B.



D.



C.



E.

2.1 OVERVIEW

The AEVIT 2.0 Remote Start option allows the client to start a vehicle equipped with an AEVIT 2.0 System from up to 250 feet away by simply pressing a single button on the transmitter. The AEVIT 2.0 system must be ordered with the Remote Start option enabled. This system is more efficient than the older Gold Series Remote Start due to the remote antenna (included) that can be placed anywhere inside or outside the vehicle, but best fits on the windshield near the rearview mirror.

The AEVIT 2.0 Remote Start is also backwards compatible with the older Gold Series Console Systems. All Gold Series units already in service can be upgraded to work with the AEVIT 2.0 Remote Start. Serial numbers 1001-1532 require a hardware modification and all systems require a software upgrade to the Gold series LCD.

2.2 HOW IT WORKS

Starting the Engine:

The transmitter triggers the receiver to send a (4) second signal to the AEVIT 2.0 System. The AEVIT 2.0 System checks for the following conditions before it will attempt to start the vehicle:

1. Park - the vehicle must be in park for the remote start to function
2. Brakes - if the system detects OEM brake lights, the remote start will not function
3. Ignition - if the ignition is on or if engine is running, the remote start will not function
4. Hood Switch - if the hood is not closed completely, the remote will not function

Once the AEVIT 2.0 System detects the proper conditions above, it will turn on the ignition circuits, sound the horn once, and flash the park lights. The AEVIT 2.0 System will engage the starter for 1.0 second. If it does not see a valid RPM signal from the vehicle it will wait 5.0 seconds and attempt to start the vehicle again by engaging the starter for 1.5 seconds. If a valid RPM signal is still not detected, it will wait another 5.0 seconds and the AEVIT 2.0 System will engage the starter for 2.0 seconds. It will not attempt to start the vehicle again after 3 failed attempts. The sequential increase in starter engage times is to accommodate cold weather starting conditions.



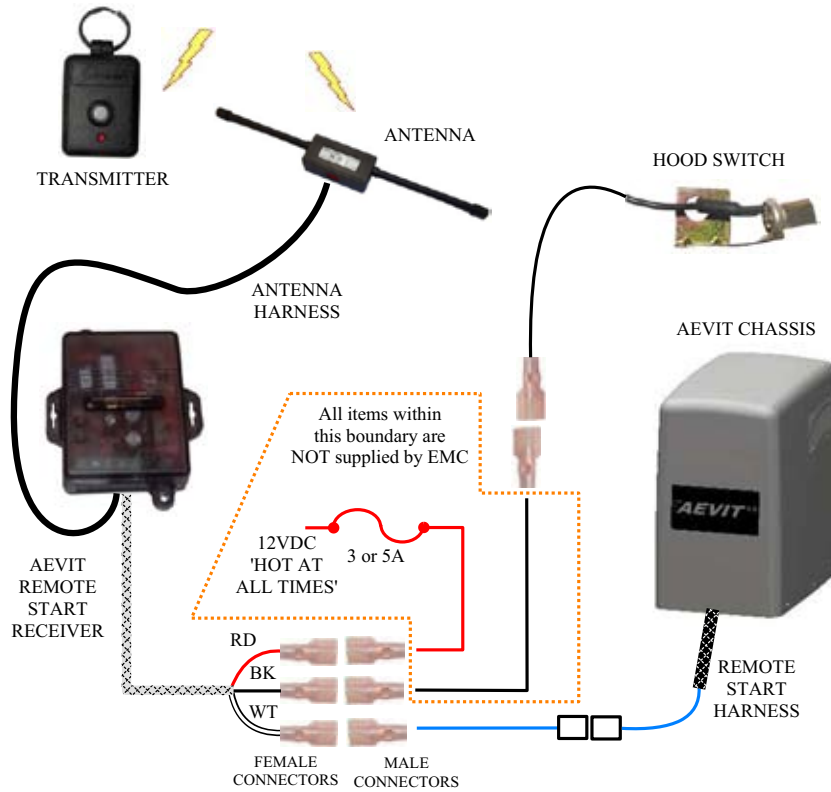
CAUTION:
FOR GOLD SERIES CONSOLE SYSTEMS AND AEVIT 2.0 SYSTEMS **NOT USING THE OBD MODULE**, IT IS CRITICAL TO THE SAFE OPERATION OF THE VEHICLE STARTER THE SYSTEMS RECEIVE A VALID COIL SIGNAL FROM THE VEHICLE OR DAMAGE MAY OCCUR.

APPROXIMATE AEVIT 2.0 REMOTE START OPERATING DISTANCES	
No Obstacles - directly in front of vehicle (and antenna)	450'
No Obstacles - from side or behind vehicle	200'

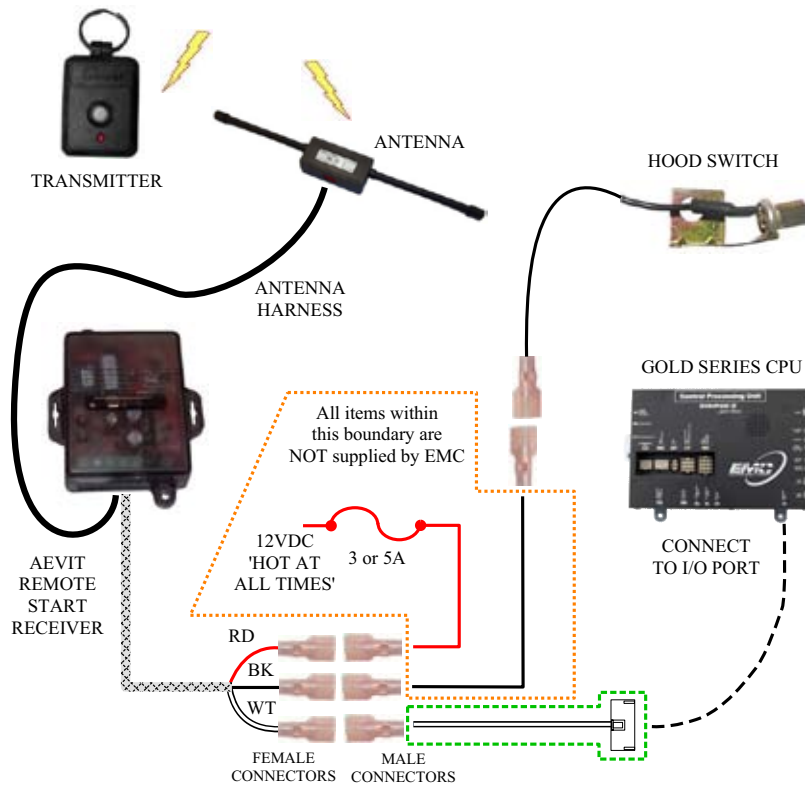
Fans & Climate Controls:

The remote start turns on all ignition circuits including fan and climate controls settings. This will allow the client to set the fan speeds and temperature before turning the vehicle off. The AEVIT 2.0 System will retain the settings and automatically set the fan speeds and the temperature to the last known setting.

AEVIT 2.0 LAYOUT



GOLD SERIES LAYOUT



4.1 RECEIVER & ANTENNA

The AEVIT 2.0 Remote Start uses a radio frequency to activate the system, and for best performance, the antenna should be mounted in an open area such as the windshield glass near the rearview mirror. Mounting too close to metal objects may reduce the usable range so it is best to test a few locations before deciding on the best location. When the final location is determined, first clean the surface, peel the adhesive backer from the antenna, and apply with slight pressure.



The receiver is connected to the antenna with a nine foot harness. Starting at the antenna, work the harness under the head liner, down the A pillar and under the dash to the receiver. The receiver can be located just about anywhere in the front of the vehicle under the dash or center console. If multiple transmitters are needed, the receiver must be accessible so that the additional transmitters can be programmed.

Route the 3-conductor, sheathed receiver wire harness to a central location under the dash. Connect a fused Red wire for power, a Black wire out to hood switch and the Blue wire from the Remote Start Harness exiting the AEVIT 2.0 system (reference sections 4.3 and/or 4.4 for further wiring).

4.2 HOOD SWITCH

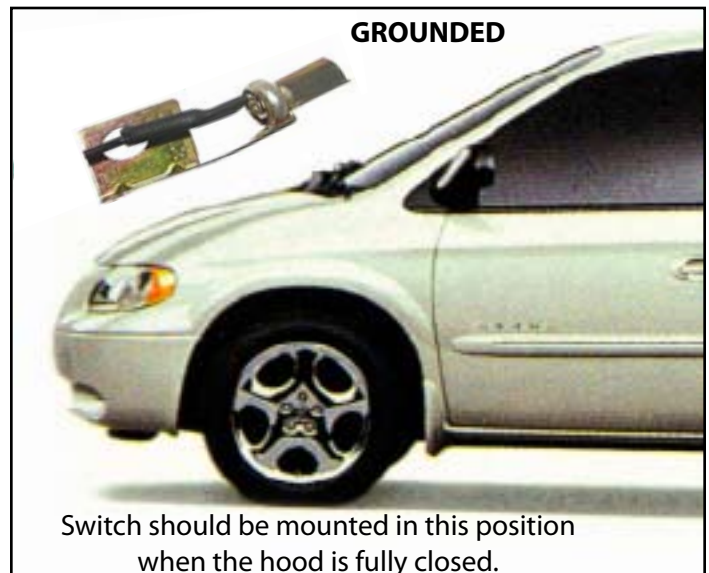
The Hood Switch is a rolling ball switch that connects the Black wire on the switch to chassis ground through the mounting tab of the switch. This connection provides ground to the entire Remote Start and operates when the rolling ball rolls forward and backwards when the switch is rotated.

When the ball rolls toward the Black wire, the switch has continuity between the Black wire and the switch mounting tab. The Black wire loses continuity with the mounting tab when the ball rolls away from the wire.

The best orientation for the switch is horizontal when the hood is opened halfway. This step may require assistance from someone else. Position the switch so the wire exists toward the front of the vehicle. (see figures below)

NOTE:

THE HOOD SWITCH MUST BE CONNECTED TO A GOOD GROUNDING POINT ON THE HOOD. IT MAY BE NECESSARY TO REMOVE A SMALL AREA OF PAINT AND BE SURE TO USE THE STAR WASHER AND SCREW PROVIDED FOR A GOOD CONNECTION. BE SURE THE WIRE IS ROUTED PROPERLY TO AVOID CHAFING.



4.3 WIRING - AEVIT 2.0 SYSTEM

MAIN POWER:

The RED wire provides power to the receiver and must be connected to a continuous 12VDC supply. This supply must be protected by a 3A or 5A fuse.

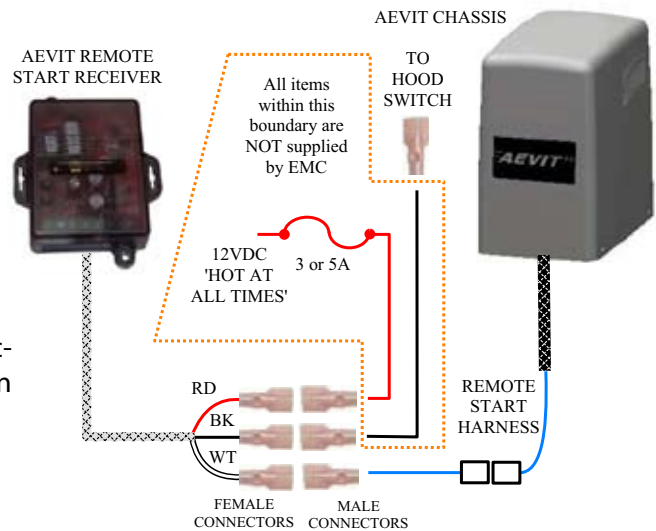
Hood Switch:

The BLACK wire will connect directly to the Hood Switch using the spade connectors.

AEVIT 2.0 Connection:

The WHITE wire will need to be connected to the BLUE wire exiting the back of the AEVIT 2.0 Chassis using a spade connector. This wire is in the AEVIT 2.0 Remote Start harness located in the Misc. Inputs harness (See the AEVIT 2.0 Installation Manuals for more information on locating this wire).

AEVIT 2.0 WIRING



4.4 WIRING - GOLD SERIES

MAIN POWER:

The RED wire provides power to the receiver and must be connected to a continuous 12VDC supply. This supply must be protected by a 3A or 5A fuse. If an EMC Power Kit is being installed, route this wire to one of the Constant Hot circuits and use a 3A or 5A fuse.

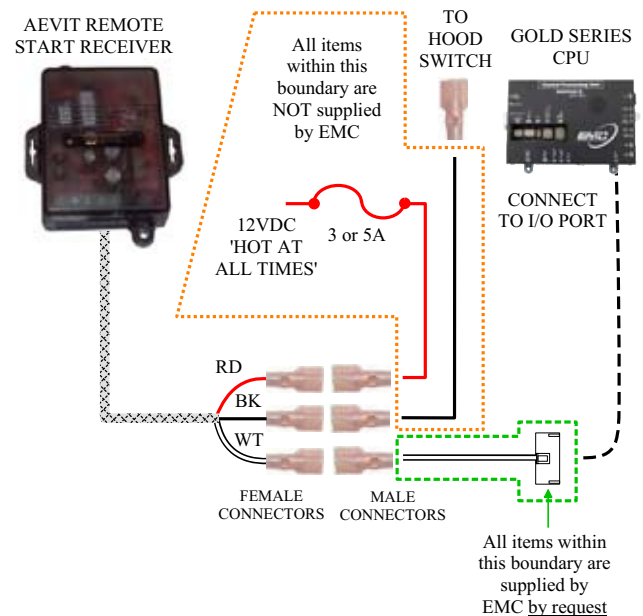
Hood Switch:

The BLACK wire will connect directly to the Hood Switch using the spade connectors.

Gold Series Connection:

The WHITE wire will connect to the I/O port of the Gold Series CPU. A short white wire and appropriate connector are supplied for this. Please call EMC Service to have this wire and connector shipped. Connect this to the Remote Start harness using the supplied spade connector.

GOLD SERIES WIRING




If you are installing this option in conjunction with an I/O module, this port must provide access to both options. To accomplish this, use a small screwdriver to push the locking tab down on the WHITE wire, pin 3. You will need to replace the YELLOW wire in the number 3 position on the I/O module harness with this WHITE wire. Unlock the pin using a small screwdriver, and replace it with the one from the Remote Start.

Check to make sure the pin is secured in place before installing the connector into the Gold Series CPU.


NOTE:
THE WHITE WIRE AND CONNECTOR ARE NOT SHIPPED WITH THE REMOTE START UNLESS SPECIFICALLY ASKED FOR.

The AEVIT 2.0 System recognizes two types of operating modes, "normal" and "remote start." Normal mode is when the vehicle is started using the AEVIT 2.0 Display and not the remote transmitter.

To start the vehicle with the remote transmitter and enter "remote start" mode, the transmitter button must be pressed for at least one (1) second. This will allow adequate time for the AEVIT 2.0 system to wake up and activate the remote start system - honking the horn & flashing the parking lights. In "remote start" mode, the AEVIT 2.0 System must receive confirmation that the user is ready to drive the vehicle. This is accomplished by pressing the  icon on the AEVIT 2.0 Display.

Press icon to switch from
"Remote Start" to "Normal
Mode"



Once the ignition icon is pressed, the ignition icon will change to  and also the RUN icon will be present. These are visual indications that the vehicle is now in "normal" mode and can be safely driven.



There are three (3) methods of shutting off the vehicle's ignition while in "Remote Start" mode. They are:

- 1. Depressing the OEM brakes** - The vehicle's ignition will be shut off if the brakes are applied either by use of an input device or by manually pressing the OEM brake pedal.
- 2. Waiting 15 minutes** - "Remote start" mode has a timer that will shut off the vehicle after 15 minutes has elapsed. This will prevent a vehicle from being started with the remote and left unattended. The timer will shut off when the vehicle is placed in "normal mode".
- 3. Remote Engine Shut Off** - The remote start transmitter can be used to shut off the vehicle before the 15 minute timer elapses. In order to shut off the vehicle, press and hold the transmitter until the horn sounds once then release it. This will shut the vehicle off. If the transmitter button is held for 5 seconds, the horn will sound again and if the button released after the second horn blast, the AEVIT 2.0 System will consider that a restart command and will engage the starter.

6.1 IGNITION SIGNAL

It is critical to the safe operation of the engine starter that the AEVIT 2.0 System or the Gold Series System receive a valid signal from the OBD or the injectors that the engine is running ("RUN" icon). If it does not, the starter can be damaged while attempting to start the vehicle with the remote start.

Start the vehicle with the Display and verify that the "RUN" icon appears in the ignition box. If "RUN" does not appear, inspect that the AEVIT 2.0 System is connected to the AEVIT OBD Module correctly and also correctly connected to the vehicle.

CAUTION:

IF A VALID IGNITION (COIL) SIGNAL IS NOT DETECTED, THE STARTER WILL BE ENGAGED WHILE THE ENGINE IS RUNNING AND DAMAGE WILL OCCUR.

6.2 TRANSMITTER

Verify that the transmitter starts the vehicle. Be sure it is in park, the brake pedal is not depressed, the ignition is not on, and the hood is closed. Verify that the transmitter will also shut off the vehicle once it is started in "remote start" mode.



6.3 BRAKE LIGHT

Verify that the brake light feed shuts down the vehicle after it has been started with the transmitter. Start the vehicle with the Remote transmitter and depress the brake. The "BRAKE" icon should appear on the AEVIT 2.0 Display and the engine should shut down. This will prevent anyone from trying to put the vehicle in gear before turning on the ignition circuits via the console.

WARNING:

THE INSTALLING TECHNICIAN MUST CONFIRM THAT THE VEHICLE'S ENGINE SHUTS DOWN IF THE BRAKE PEDAL IS PRESSED WHILE IN REMOTE START MODE. FAILURE TO CONFIRM THIS OPERATION MAY RESULT IN VEHICLE DAMAGE, PERSONAL INJURY AND/OR DEATH.

6.4 HOOD SWITCH

Verify that the Hood Switch is functioning properly by starting the vehicle with the transmitter and the hood closed. Open the hood and attempt to start the vehicle again with the transmitter. If the vehicle starts, reposition the switch so it does not maintain contact with chassis ground when the hood is open. You may need to bend the mounting bracket for the switch slightly in order to get the correct rotation of the switch with the hood open and closed.

NOTE:

THE HOOD SWITCH WILL NOT STOP THE ENGINE WHILE IT IS RUNNING IN REMOTE START MODE, ONLY PREVENT IT FROM STARTING TO BEGIN WITH.

7.1 TRANSMITTER BATTERY

The AEVIT 2.0 Remote Start transmitter is powered by a 12V battery, type 23A. This is a common battery that can be purchased at a local hardware or drug store. A Red LED flashes on the transmitter indicating when the button is being pushed. During routine maintenance of the AEVIT 2.0 System, the transmitter should be checked for proper operation. If the remote is not able to transmit the specified distances, then you should consider replacing the battery.

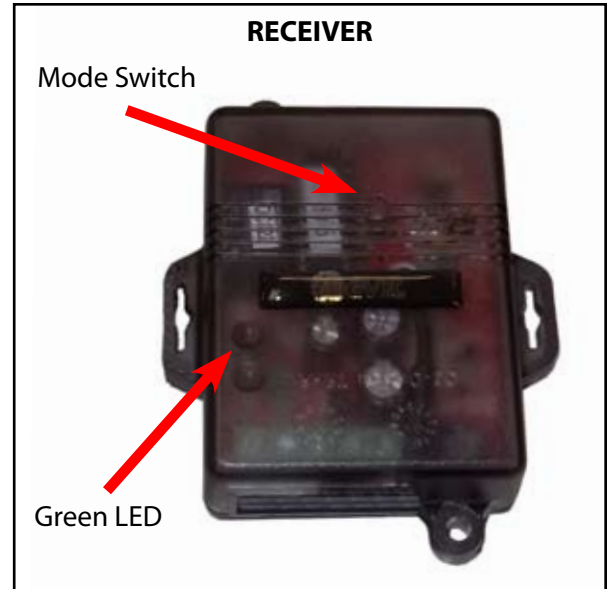
To replace the battery in the transmitter, remove the small screw on the back of the cover then separate the halves of the cover. The battery is at the bottom.

7.2 RECEIVER PROGRAMMING

The AEVIT 2.0 Remote Start receiver has the ability to store up to (15) unique transmitter codes into its memory. This means multiple transmitters can be 'Learned' into memory for a single vehicle. Once a transmitter has been saved to memory, each time the receiver receives a signal, the Green LED on the lower left side of the unit lights up. This confirms that a valid signal is being received from a programmed transmitter.

There are (3) modes to be aware of when programming a receiver - Learn Mode, Clear Memory & Memory Display. The Mode Switch in the center of receiver cover is used when programming.

- **Learn Mode** - This is the mode when programming a new transmitter to the receiver.
- **Clear Memory** - This is the mode that erases all saved transmitter from memory.
- **Memory Display** - This is the mode that flashes the Green LED the number of transmitters already saved to memory.



Learn Mode

1. Press & hold the Mode Switch for (3) seconds. After (3) seconds the Green LED will start to flash quickly.
2. While the Green LED is flashing quickly, press the button on the transmitter. If the receiver receives a signal, the Green LED will flash once saying it was learned and stop flashing. This code is now saved in memory.
3. Repeat Steps 1 & 2 for each transmitter being Learned.

Note: The Green LED will flash quickly for a maximum of (15) seconds. If no new signal is received, the Green LED will stop flashing and the receiver will exit Learn Mode.

- A transmitter code will only be Learned once. Re-Learning the same code will not use multiple slots in memory. If a code is re-Learned, the Green LED will stay On steady in Learn Mode saying that it already had that code in memory.

Clear Memory

1. Press & hold the Mode Switch for (3) seconds. After (3) seconds the Green LED will start to flash quickly.
2. Press & hold the Mode Switch for another (3) seconds.
3. The Green LED will flash twice saying all transmitter codes were cleared from memory.

Memory Display

1. Press & release the Mode Switch.
2. The Green LED will flash the number codes already Learned & saved in memory.