AVISTART 4501

Keyless Entry and
Remote Engine Starter System

Installation Manual

AVITAL

A DIVISION OF CLIFFORD ELECTRONICS

⚠ WARNING ⚠

! **Always exercise caution and common sense when operating your AviStart system.**

! **This product is intended for vehicles with fuel-injection and automatic transmissions only. NEVER attempt to remote start a vehicle with a manual (stick shift) transmission. Serious injury may occur with improper use.**

! **NEVER attempt to remote start the engine while anyone (including pets) is in the vehicle.**

! **NEVER attempt to remote start the engine while the vehicle is in an enclosed area without sufficient ventilation.**

! **NEVER attempt to remote start the engine while the keys are in the ignition.**

! **Always be sure the gearshift selector is in "Park" and the emergency brake is on before attempting to remote start the vehicle.**

! **Keep your AviStart remote controls out of the reach of children.**

! **Whenever the vehicle is being serviced or valet parked, place the system in Protected Valet Mode to prevent accidental or unauthorized remote starting.**

Table of Contents

Important Information

Recommended Installation Tools

Voltmeter

Wire Strippers

Electric Drill & Bits

Phillips Screwdriver

Convoluted Tubing *

Solder Gun *

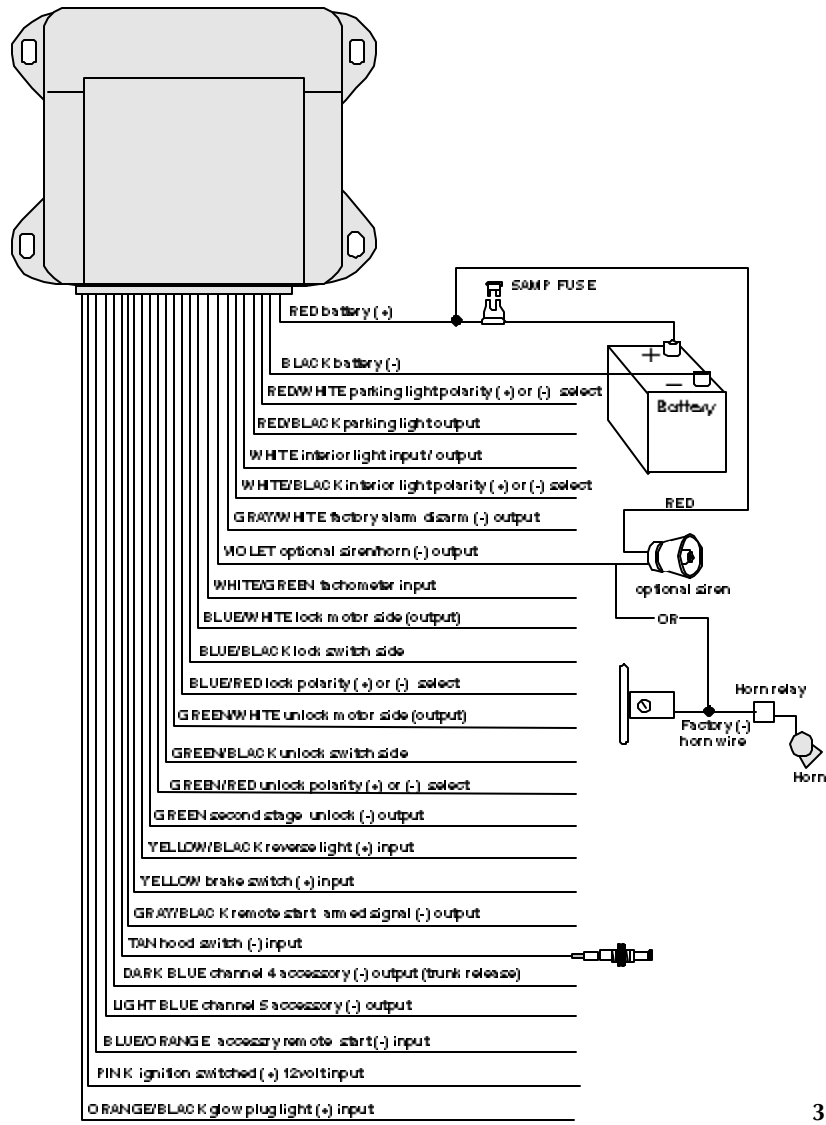Wire Crimpers

Shrink Tube or Electrical Tape

* Optional
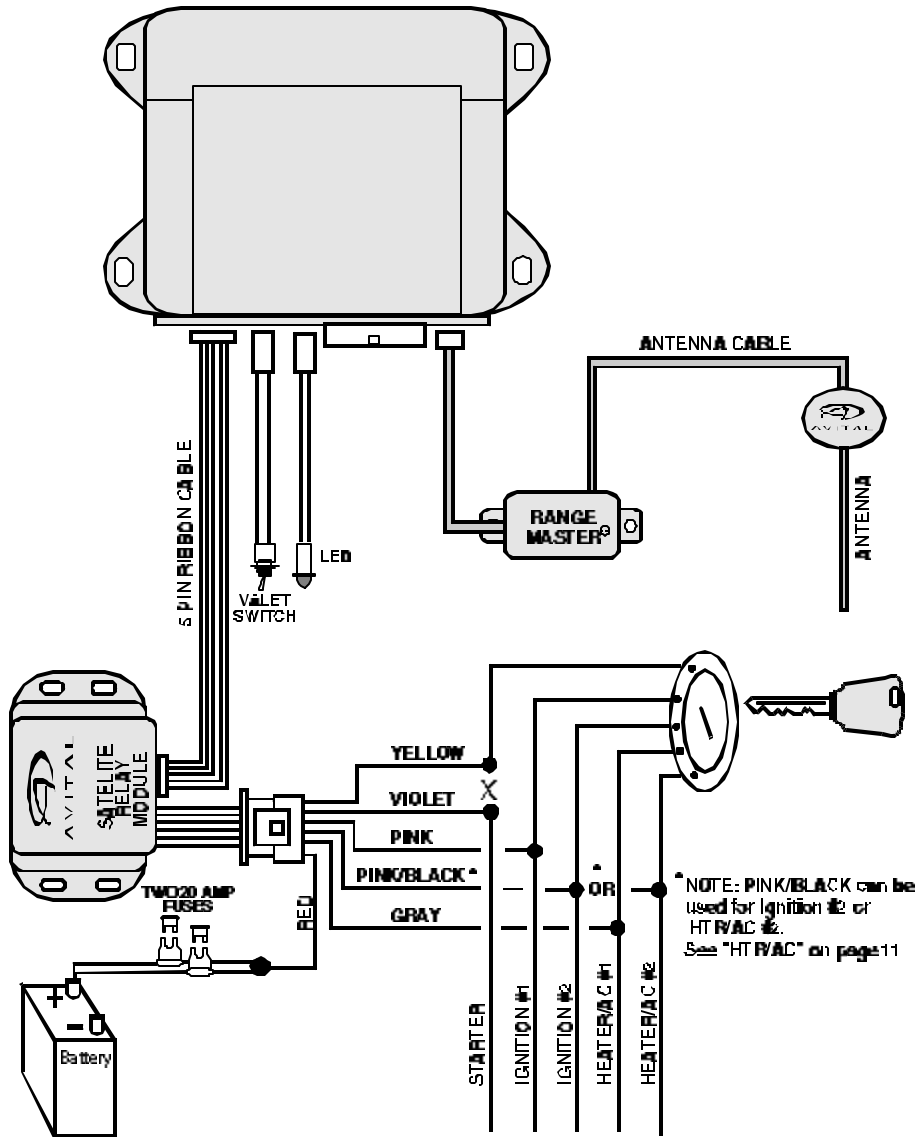
Recommended Procedures

1. Test all circuits with a voltmeter.

2. Make all wiring connections with the supplied solderless crimp connectors. DO NOT twist wires or use scotch-lok connectors.

3. Route the small and large **RED, RED/WHITE** and **BLACK** wires from the control unit directly to the battery.

4. Keep extensions as short as possible. Use same gauge wires for short extensions and larger gauge wires for longer extensions.

5. Before installing, discuss the placement of the LED indicator and valet switch with the vehicle owner.

6. DO NOT disconnect the battery cables. Make all connections by removing the bolts from the cable clamps without detaching the clamp.

7. Turn off dome light or remove dome light fuse to prevent battery drain.

This device complies with Part 15 of the FCC rules. Any changes or modifications made to the system without the express approval of Avital Technologies, Inc. could void the user's authority to operate this equipment.

Main Wiring Diagram

RED battery (+)

5 AMP FUSE

BLACK battery (-)

RED/WHITE parking light polarity (+) or (-) select

RED/BLACK parking light output

WHITE interior light input/output

WHITE/BLACK interior light polarity (+) or (-) select

GRAY/WHITE factory alarm disarm (-) output

VIOLET optional siren/horn (-) output

WHITE/GREEN tachometer input

BLUE/WHITE lock motor side (output)

BLUE/BLACK lock switch side

BLUE/RED lock polarity (+) or (-) select

GREEN/WHITE unlock motor side (output)

GREEN/BLACK unlock switch side

GREEN/RED unlock polarity (+) or (-) select

GREEN second stage unlock (-) output

YELLOW/BLACK reverse light (+) input

YELLOW brake switch (+) input

GRAY/BLACK remote start armed signal (-) output

TAN hood switch (-) input

DARK BLUE channel 4 accessory (-) output (trunk release)

LIGHT BLUE channel 5 accessory (-) output

BLUE/ORANGE accessory remote start (-) input

PINK ignition switched (+) 12 volt input

ORANGE/BLACK glow plug light (+) input

Battery

RED

optional siren

OR

Horn relay

Factory (-) horn wire

Horn

3

Satellite Relay Module Diagram

ANTENNA CABLE

5 PIN RIBBON CABLE

LED

VALET SWITCH

RANGE MASTER

ANTENNA

AVITAL SATELITE RELAY MODULE

YELLOW

VIOLET

PINK

PINK/BLACK

GRAY

NOTE: PINK/BLACK can be used for Ignition #2 or HTR/AC #2. See "HTR/AC" on page 11

TWO 20 AMP FUSES

RED

Battery

STARTER

IGNITION #1

IGNITION #2

HEATER/AC #1

HEATER/AC #2

OR

4

12 Pin Connector

Pin Number	Wire Color	Description
1	**GRAY / WHITE**	Factory Alarm Disarm (-) Output
2	**GRAY / BLACK**	Remote Start Activated Signal (-) Output
3	**TAN**	Hood Switch (-) Input
4	**WHITE**	Door Trigger
5	**BLUE**	Channel 4 (-) Output (Trunk Release)
6	**LIGHT BLUE**	Channel 5 (-) Output
7	**RED / WHITE**	Parking Light Polarity Input (+) or (-) Select
8	**RED / BLACK**	Parking Light Output
9	**RED**	Battery (+)
10	**WHITE / BLACK**	Door Trigger Input Polarity (+) or (-) Select
11	**BLACK**	Battery (-)
12	**VIOLET**	Siren / Horn (-) Output

14 Pin Connector

Pin Number	Wire Color	Description
1	Green	Second Stage Unlock (-) Output
2	Pink	Ignition Switched +12 Volt Input
3	Blue / Orange	Accessory Remote Start (-) Input
4	Yellow	Brake Switch (+) Input
5	Yellow / Black	Reverse Light (+) Input
6	White / Green	Tachometer Input
7		Not Used
8	Green / Black	Unlock Switch Side
9	Green / White	Unlock Motor Side
10	Green / Red	Unlock Polarity (+) or (-) Select
11	Blue / Black	Lock Switch Side
12	Blue / White	Lock Motor Side
13	Blue / Red	Lock Polarity (+) or (-) Select
14	Orange / Black	Glow Plug Light (+) Input

6 Pin Connector

Pin Number	Wire Color	Description
1	**YELLOW**	Starter Interrupt Switch Side
2	**GRAY**	Heater / AC Output
3	**VIOLET**	Starter Interrupt Starter Side
4	**PINK**	Primary Ignition Output #1
5	**RED**	Battery (+)
6	**PINK/BLACK**	Selectable Ignition/Heater-AC Output #2

Installation Procedures

Control Unit

1. Select a location under the dash that will allow you to use the tie wraps to securely fasten the control unit.

2. Mount the control unit as high as possible to ensure maximum security.

3. Do not mount the control unit near moving parts.

4. Avoid areas that are in the direct path of air blowing from the vents.

5. Route wires from this point, leaving slack for ease of service.

RangeMaster™ Super Heterodyne Receiver Module

1. Plug the receiver module **WHITE** connector into the control unit**WHITE** plug.

2. Use tie wraps to fasten the receiver module as far from the control unit as possible.

3. Route the antenna cable up through the driver side windshield pillar, behind the headliner and behind the rear view mirror.

4. Fasten the antenna to the windshield with the double stick tape supplied with the antenna mask facing down.

   NOTE: Be sure to clean the windshield before fastening the antenna.

Wireloom

1. Plug the wirelooms securely into the control unit and satellite relay module.

2. Route wires from the control module and satellite relay module directly to each connection point.

3. Separate the small and large **RED**, **RED/WHITE**, **BLACK**, **TAN**, and **WHITE/GREEN** wires.

4. Sleeve these wires with vinyl tubing or electrical tape and route them through an existing rubber grommet into the engine compartment.

5. If an existing grommet is not available, drill a hole and install a snap grommet.

LED Indicator

1. Discuss placement with the owner.
2. Choose a **location that is visible from both sides of the vehicle.**
3. Drill a ¼" hole.
4. Route the LED wires through the hole and press LED into place.
5. Route the LED wires to the control unit.
6. Plug the **RED** LED connector into the control unit **RED** plug.

Valet Switch

1. Discuss placement with the owner.
2. Choose a **location for the valet switch that is hidden, but convenient for** the owner to access.
3. Drill a ¼" hole and mount the switch.
4. Route the valet switch wires to the control unit.
5. Plug the valet switch **WHITE** connector into the control unit **WHITE** plug.

Brake Lights (Mandatory)

> ⚠ **CAUTION** : As a safety feature, the unit monitors the brake light to prevent an unauthorized driver from driving the car and to switch to normal engine operating condition. For this reason, the YELLOW brake light input wire must be connected and the brake light must be in working condition or the remote start will not operate properly.

1. Turn the ignition key to the "ON" position, then press the brake pedal and make sure the brake light illuminates.
2. Use a voltmeter to find the one wire at the brake light switch (usually located on the upper brake pedal arm) that shows +12 volts when you press the brake pedal and 0 volts when the brake pedal is not pressed.
3. Connect the **YELLOW** wire to the vehicle brake light switch wire.

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Parking Lights

1. If the parking lights are positive trigger, connect the **RED/WHITE** wire to the battery positive (+) terminal through the 20 amp fuse assembly.

   NOTE: Do not connect the RED/WHITE wire to the control unit RED wire.

2. If the parking lights are negative (-) trigger, connect the **RED/WHITE** wire to control unit **BLACK** wire.

3. Connect the **RED/BLACK** wire to the vehicle parking light wire.

Reverse Light

> ⚠️ **CAUTION** : Some vehicles allow you to remove the gear shift selector from "Park" even while the ignition key is not on. As a safety feature, the system will monitor the reverse wire. If the vehicle is removed from "Park" while in the remote start mode, the system will shut down immediately.

1. Set the parking brake.

2. Turn the ignition key to the "ON" position and adjust the gear shift selector to "Reverse."

3. Use a voltmeter to find the wire that will show +12 volts in "Reverse" and 0 volts in "Park."

4. Connect the **YELLOW/BLACK** wire to the vehicle's reverse light wire.

Interior Light Illumination

1. Connect the **WHITE** wire to the vehicle door trigger wire.

2. If the door trigger is negative, connect the **WHITE/BLACK** wire to ground.

3. If the door trigger wire is positive switching, connect the **WHITE/BLACK** wire to a fused constant +12 volt source.

Trunk Release

The **DARK BLUE** wire provides a 1 second ground output when the 🔑 button is pressed for 1-2 seconds. If the 🔑 button is continually pressed, the output will stay at ground as long as the button is held. Most factory trunk releases are positive trigger and require an optional relay.

Channel 5 Accessory

The **LIGHT BLUE** wire provides a 1 second ground output when the 🔒 and 🔓 buttons are pressed at the same time for 1-2 seconds. If the 🔒 and 🔓 buttons are continually pressed, the output will stay at ground as long as the buttons are held. This output can be used for optional accessories such as window roll-up/down or any other accessory requiring a (-) activation.

Remote Start Armed Signal (-) Output

The **GRAY/BLACK** wire will provide a continual ground output for as long as the vehicle is in the remote start mode. This output can be used for additional ignition, starter or heater/AC relays.

Siren/Horn (-) Output (Remote Panic Capability)

The **VIOLET** wire will provide (-) output when the 🔒 button is pressed for 3-4 seconds. The (-) output can be programmed for a continual output when adding an optional siren or a pulsed output when tapping into the vehicle (-) horn wire. See the "Programming Table for System Features" on page 31.

Factory Alarm Disarm (-) Output

The **GRAY/WHITE** wire will provide a 1 second ground output when the START button is pressed.

1 . Arm the vehicle factory alarm system.

2 . Use a volt/ohmmeter to locate the one wire that will show ground only when the driver door key cylinder is held in the unlock position.

   NOTE: Most factory alarm/disarm wires will show 8-12 volts while armed. A few vehicle disarm wires will rest at a neutral state while armed. Regardless of type, both types will change to ground when the key cylinder is turned to unlock.

3 . Connect the **GRAY/WHITE** wire to the factory alarm disarm wire.

Factory Alarm Rearm

The system incorporates the ability to rearm a vehicle's factory alarm system if it is necessary to disarm the factory alarm in order to remote start the vehicle.

While in the remote start mode, if you were to remotely shut off the engine or allow it to "time out," three seconds later the system will turn on the interior lights for five seconds and activate the door locks for two seconds while the interior lights are on.

There are type types of factory alarm systems and this procedure will allow you to rearm either type.

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Type 1

This type of alarm system does not have a factory alarm arm wire. In order to arm this type of system, simply press the vehicle lock switch while the driver side door is opened and then close the door. The factory alarm system will then arm automatically in 10-20 seconds (typically) after the interior lights have turned off.

For this type of system you do not need to make any additonal wire connections. (You do need to be connected the vehicle interior lights and power door locks.)

Type 2

This type of alarm does have a separate factory alarm arm wire. In order to arm this type of system, close the doors, hood and trunk. Turn the driver side door key cylinder to the lock position for one second. The factory alarm will arm automatically in 10-20 seconds (typically).

To rearm the factory alarm system you will need to connect the vehicle arm wire to the Avital lock wire (which is already connected to the vehicle lock wire). See the diagrams below.

Negative Door Locks   **Positive Door Locks**

Blue/White (1 amp diodes) Blue/White

Lock wire
Arm wire

Lock wire
Arm wire

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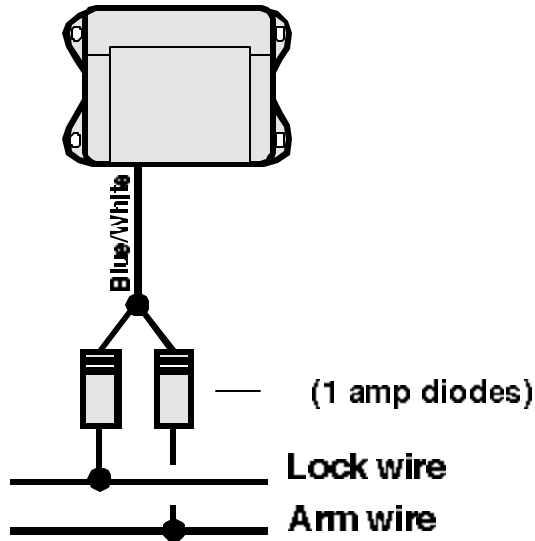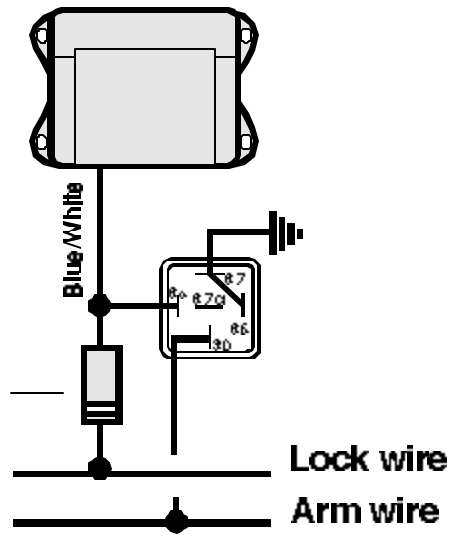
Accessory Remote Start (-) Input

The **BLUE/ORANGE** wire will accept a (-) input pulse to activate the remote start.

Glow Plug Light Input

The AviStart can start a diesel engine by one of two methods.

Pre-ignition

The module can be programmed to turn the ignition "ON" for 15 seconds before the starter engages. This will allow the glow plugs time to warm up and the glow plug light to turn off.

Glow Plug Light Monitoring

The glow plug light (+) input wire will monitor the glow plug light in the dashboard. When a remote start is attempted, the ignition will turn on and when the glow plug light turns "OFF" the engine will start

1. Locate the glow plug light wire that will show (+) 12 volts while the ignition key is on and the glow plug light wire is illuminated.

2. Connect the AviStart **ORANGE/BLACK** wire to the vehicle glow plug light wire.

   NOTE: Do not use both "pre-ignition" and "glow plug light monitoring" at the same time (use one or the other).

Ignition Switch Connections

NOTE: Because these wires can draw high current, we recommend that they be soldered and shrink tubed or taped. If only one PINK wire is needed, tape the end of the second PINK wire to prevent a short circuit. The main control module has an 18 ga PINK wire that must be connected to the vehicle ignition wire with one of the satellite module 14 ga wires.

Ignition #1 Ignition #2

The satellite relay module has two onboard 30-amp relays. Most vehicles have only one ignition wire necessary to start the vehicle. Some vehicles have two ignition wires. Make all wire connections at the ignition switch wire harness.

1. Use a voltmeter to locate the wire(s) that show +12 volts while the ignition key is in the "ON," "CRANK" and "RUN" positions and 0 volts when the ignition key is in the "OFF" position.

2. Connect the 18 and 14 ga **PINK** wires to the vehicle ignition wire.

3. If the vehicle has a second ignition wire, connect the 14 ga **PINK/BLACK** wire to the second ignition wire.

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Heater/AC #1 — Heater/AC #2

The satellite relay module has one onboard 30-amp relay. Most vehicles have only one heater/AC wire. If an additional heater/AC wire is required to activate the vehicle's heater/AC system, follow the directions under step #5 on the page 12. Do not use the **GRAY** wire to power more than one heater/AC wire.

1. Use a voltmeter to find the wire(s) that show +12 volts when the ignition key is in the "ON" position, 0 volts while the starter is cranking and +12 volts while running.

2. Cut this wire in half. Start the vehicle and turn the blower switch on. The blower should not turn on.

3. Connect the **GRAY** wire to the heater/AC wire.

4. If the vehicle has a second heater/AC wire, connect the **PINK/BLACK** wire to the second heater/AC wire.

5. Selectable ignition or heater/AC output #2– the **PINK/BLACK** wire can be programmed to supply an ignition or heater/AC output. The satellite module is factory programmed for ignition #2. To change the **PINK/BLACK** wire from ignition to heater/AC, follow the procedure below.
   - Open the satellite relay module (2 screws).
   - Remove the jumper terminal from "IGN2" terminal.
   - Insert the jumper terminal to the "ACC2" terminal.

Starter

> ⚠ **WARNING**: Review the "Safety Bulletin" and diagrams on pages 11-13 prior to installing the starter system.

1. Use a voltmeter to find the wire that shows +12 volts while the ignition key is in the "CRANK" position **only** and 0 volts while the key is in the "OFF," "ON" and "RUN" positions.

2. Cut the wire in half. Test by trying to crank the starter with the ignition key. If it will not crank, you have the correct wire.

3. Connect the **YELLOW** wire to the ignition switch side of the starter wire.

4. Connect the **VIOLET** wire to the starter solenoid side of the starter wire.

Door Lock/Unlock

The system has onboard door lock relays to lock and unlock all of the doors as well as a two-stage unlock. The diagrams on pages 17-20 will illustrate standard lock/unlock and two-stage unlock.

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Remote Engine Start Neutral Safety Switch Bulletin

A neutral safety switch is a mechanism on almost every vehicle equipped with an automatic transmission. The neutral safety switch prevents the vehicle from starting while the gear shift selector is in "Reverse" or "Forward" gear positions.

There are basically two types of neutral safety switches. The most common is the mechanical (separate) neutral safety switch. A small group of vehicles use a combined neutral safety switch.

Type "A" (separate)

The mechanical neutral safety switch is located between the ignition switch and the starter solenoid. The starter wire runs directly from the back of the ignition switch to the neutral safety switch and then to the starter solenoid. When adding a remote engine starter, make starter wire connections as close to the ignition switch as possible to ensure your connections are between the ignition switch and the neutral safety switch.

Type "B" (combined)

Some vehicles combine the neutral safety switch and the steering column shift mechanism together. The starter wires run from the "combined" switch directly to the starter solenoid. The remote start wire connection cannot be made between the ignition switch and the neutral safety switch. As a result, if the vehicle was left in gear with the key in the ignition and not in the locked position, the vehicle could move forward or backward if a remote start attempt was made.

The combined type neutral safety switch requires an additional relay to prevent the vehicle from remote starting while the key is in the ignition. Use the attached test procedure and relay wiring diagrams. Install the complete remote start unit and test all safety features before conducting the test procedure.

Currently, the only vehicles with the combined neutral safety switch that Avital is aware of are General Motors trucks, GM sport utility vehicles, GM column shift passenger cars and Dodge Dakota pickup trucks. There may be additional vehicles with the combined neutral safety switch that require the additional relay.

NOTE: Use the following test procedure upon completion of every remote start regardless of the make and model of the vehicle

Test Procedure

> ⚠ **CAUTION**: Be sure there is at least 5 feet of unobstructed clearance at the front and rear of the vehicle. Make sure to alert anyone near the vehicle you are testing that the vehicle may move forward slightly.

1. Apply the parking brake.

2. Turn the ignition key to the "ON" position and place the vehicle in "DRIVE."

3. Turn the ignition as close to the "OFF" position as possible. (Most vehicles will not allow the key to turn off completely.)

4. Place your foot over the brake pedal without touching it. Be prepared to step on the brake if the starter engages.

5. Activate the remote engine starter.

6. If the vehicle starter engages, immediately press the brake pedal to disengage (shut down) the remote start. You have a "combined" type neutral safety switch and you will have to add an additional relay as shown in the diagram.

7. If the vehicle starter does not engage, no additional relays are required.

All vehicles have a "key in the ignition" reminder circuit (key minder) that will sound a chime or buzzer while the key is in the ignition and the driver's door is open. The following diagrams will illustrate how to interface the key-minder wires and a relay to prevent the vehicle from remote starting while the key is in the ignition.

The wire color codes are subject to change. Check all wires with a volt/ohmmeter. If you have any questions, please contact the Avital Technical Support Department.

General Motors Sport Utility Vehicles, Trucks and Column Shift Passenger Vehicles
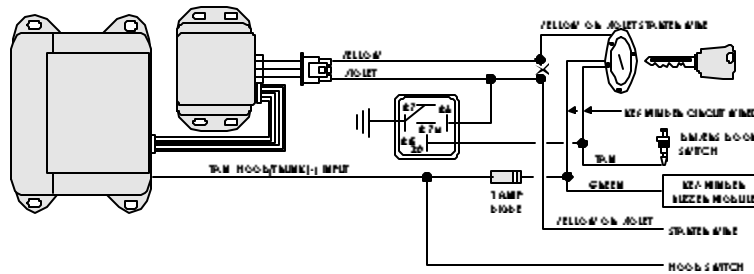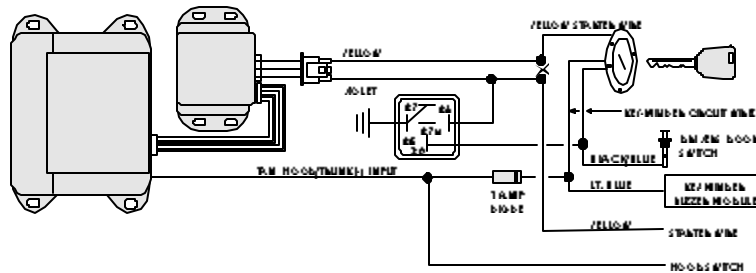
Dodge Dakota Pickup Trucks

Positive Trigger Door Locks
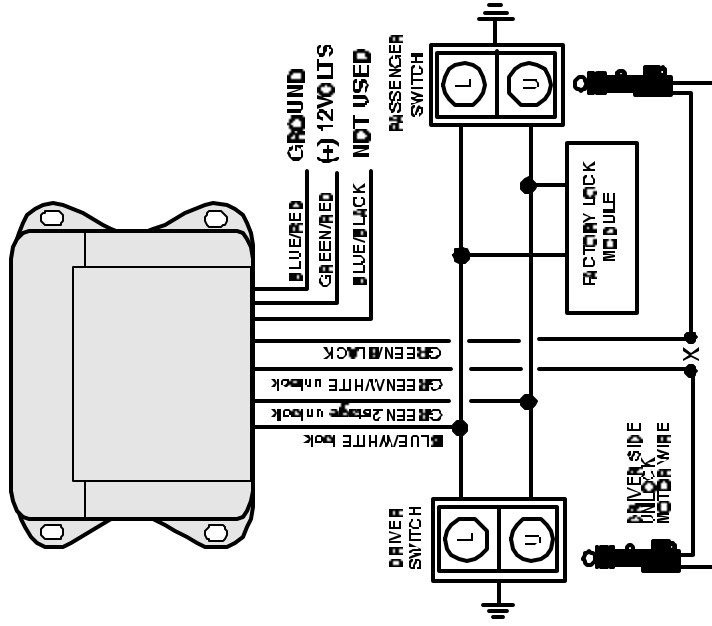*Two Stage Door Unlock*
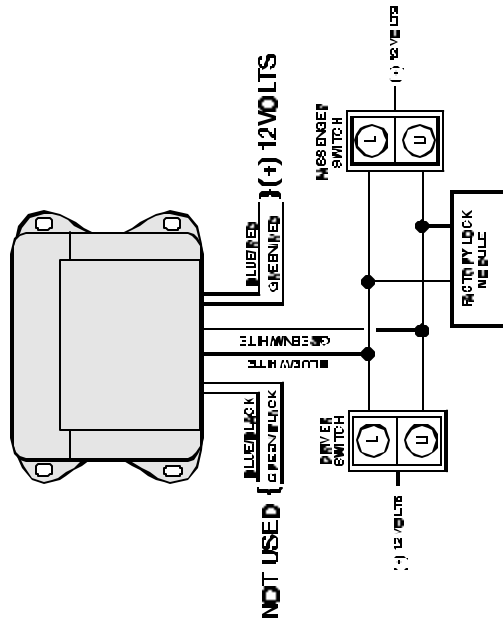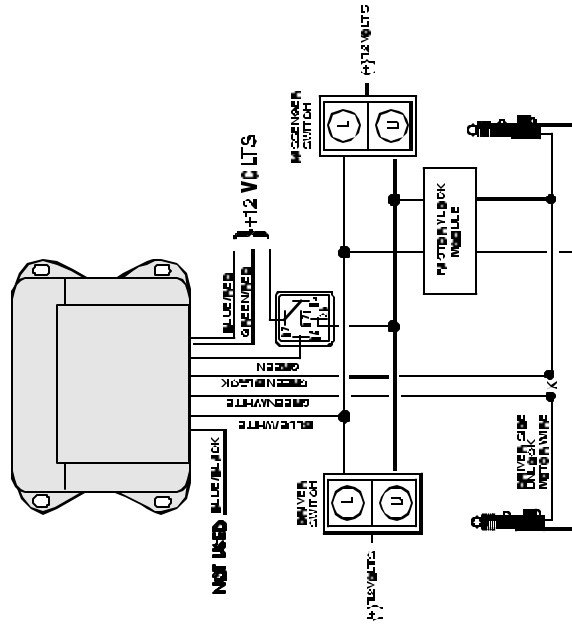
Positive Trigger Door Locks

Negative Trigger Door Locks
Two Stage Door Unlock
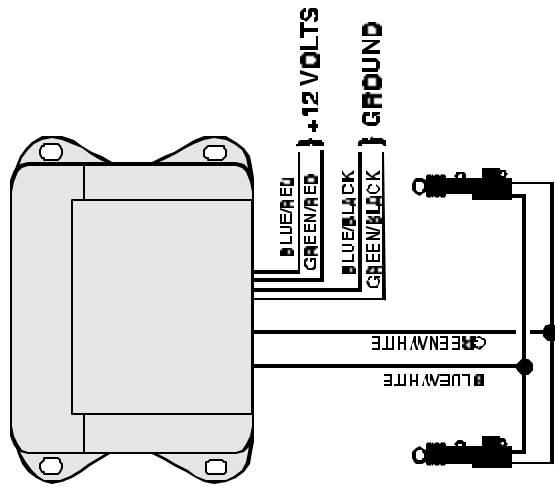
BLUE/RED
GREEN/RED — GROUND
BLUE/BLACK — (+) 12VOLTS
NOT USED

PASSENGER SWITCH
L U

FACTORY LOCK MODULE

GREEN/BLACK
GREEN/WHITE unlock
GREEN 2stage unlock
BLUE/WHITE lock

DRIVER SWITCH
L U

DRIVER SIDE
UNLOCK
MOTOR WIRE

Negative Trigger Door Locks

BLUE/RED
GREEN/RED — GROUND

PASSENGER SWITCH
L U

FACTORY LOCK MODULE

GREEN/WHITE unlock
BLUE/WHITE lock

BLUE/BLACK
GREEN/BLACK
NOT USED

DRIVER SWITCH
L U

18
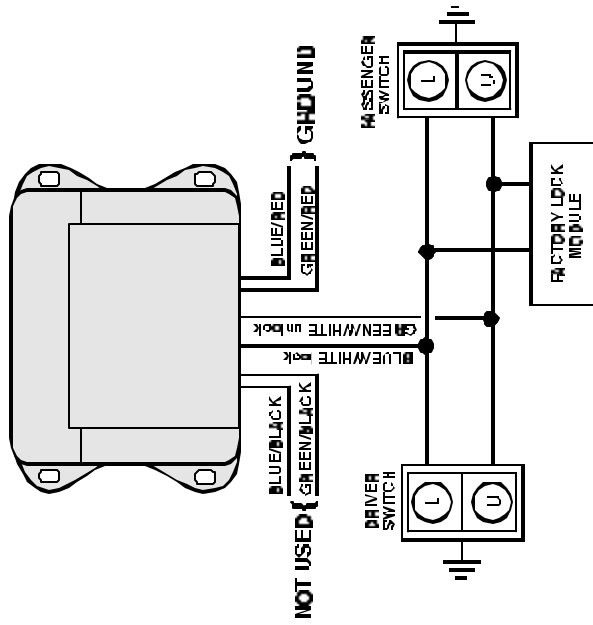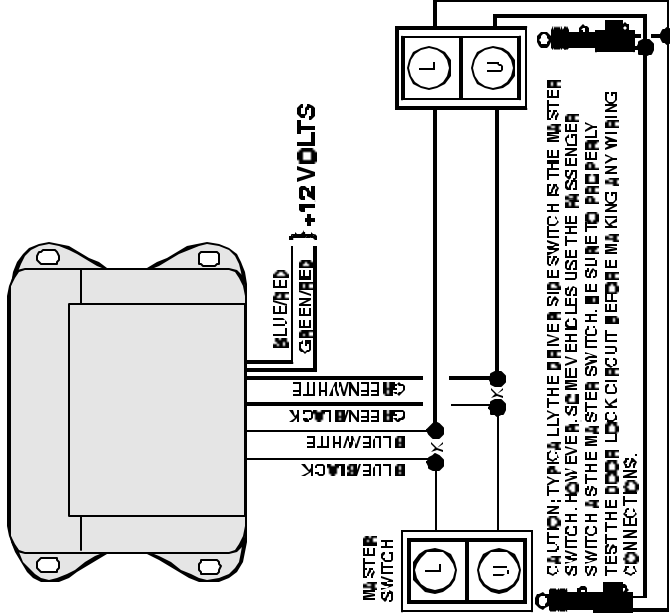
Reverse Polarity Door Locks
Two Stage Door Unlock

PASSENGER SWITCH

L U

+12 VOLTS

BLUE/RED
GREEN/RED

GREEN

GREEN/BLACK

GREEN/WHITE

BLUE/WHITE

BLUE/BLACK

87 87a 30
86 85

NOTE: DIAGRAM ILLUSTRATES DRIVER SIDE SWITCH AS MASTER SWITCH

DRIVER DOOR
UNLOCK MOTOR
WIRE

DRIVER SIDE MASTER SWITCH

L U

Reverse Polarity Door Locks

L U

BLUE/RED
GREEN/RED } +12 VOLTS

GREEN/WHITE

GREEN/BLACK

BLUE/WHITE

BLUE/BLACK

MASTER SWITCH

L U

CAUTION: TYPICALLY THE DRIVER SIDE SWITCH IS THE MASTER SWITCH. HOWEVER, SOME VEHICLES USE THE PASSENGER SWITCH AS THE MASTER SWITCH. BE SURE TO PROPERLY TEST THE DOOR LOCK CIRCUIT BEFORE MAKING ANY WIRING CONNECTIONS.

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One Wire Lock/Unlock
Mercedes/Audi

BLUE/RED — GROUND
GREEN/RED — (+) 12 VOLTS

BLUE/WHITE
GREEN/BLACK
CONNECT

GREEN/WHITE
LOCK/UNLOCK
COMPRESSOR

BLUE/BLACK

L
U

+12 VOLTS

Adding Door Lock Actuators

BLUE/RED
GREEN/RED } +12 VOLTS
BLUE/BLACK
GREEN/BLACK } GROUND

GREEN/WHITE

BLUE/WHITE

20
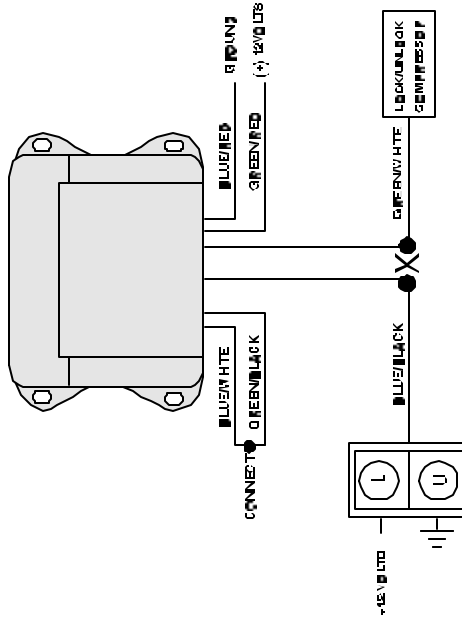
Tach Wire (RPM Monitoring)

The AviStart is designed to monitor the vehicle RPM by connecting directly to the vehicle tachometer wire which is usually located at the distributor, ignition coil or diagnostic plug. On most vehicles, the tach wire is easily accessible. If the tach wire is not accessible, there are several alternative choices. Contact Avital Technical Support Department for alternate choices.

The following procedure for testing the vehicle tach wire is not exact and may vary with different vehicle make, model and year. We recommend that you refer to your autofax documents for tach color code and location information.

1. Set your voltmeter to the AC voltage scale.

2. Start the vehicle. Use the voltmeter to find a wire that will show 1 to 5 volts AC while the vehicle is idle and increase an additional 1 to 5 volts AC when the engine RPM is raised to 3000-4000 RPM.

3. Connect the **WHITE/GREEN** wire to the vehicle tach wire.

Hood Switch (Mandatory)

As a safety precaution, the hood switch prevents the vehicle from starting when the hood is open. If the vehicle is in the remote start mode and the hood is opened, the remote start will immediately shut down.

1. Choose a location under the hood away from direct exposure to water or water drain areas.

2. Check for proper hood clearance.

3. Make sure the hood switch will make contact with a flat surface on the hood when closed.

4. Drill a $^5/_{16}$" mounting hole.

5. Mount the hood switch.

6. Connect the **TAN** wire to the hood switch.

7. Make sure the hood makes contact with hood switch when closed and presses the hood switch straight down to prevent wear.

Power and Ground Connections

> ⚠️ **CAUTION** : Do not plug in the system fuses until the final step below.

1. Connect the 18 ga **RED** wire to one end of a supplied 20 amp fuse assembly.
2. If the vehicle parking lights are positive trigger, connect the **RED/WHITE** wire to one end of the other supplied 20 amp fuse assembly.
3. Connect the **BLACK** wire to the 10 mm ring terminal.
4. Connect the 10 ga **RED** wire to one end of both 30-amp fuse assemblies.
5. Connect the other ends of the 18 ga **RED** and **RED/WHITE** wire fuse assemblies to the 10 mm ring terminal.
6. Connect the other end of the 10 ga**RED** wire fuse assemblies to the other 10 mm ring terminal.
7. Remove the (+) and (-) battery bolts. Do not disconnect the battery clamps.
8. Connect the empty fuse assemblies to the (+) battery terminal.
9. Connect the **BLACK** wire to the (-) battery terminal.
10. Inspect all wiring. Make sure all wires are connected correctly.
11. Install the 5 amp fuse in the 18 ga **RED** wire fuse assembly.
12. Install the 20 amp fuse in the**RED/WHITE** wire fuse assembly.
13. Install the two 20 amp fuses in the 10 ga **RED** wire fuse assemblies.

Mandatory RPM Programming

In order to remote start the vehicle engine and prevent over-grinding of the starter motor, the engine RPM must be programmed into the system memory. The AviStart has a built-in piezo beeper for audible programming confirmation.

1. Start the engine with the ignition key. Let the engine warm up until it reaches a normal idle RPM (typically 700-900 RPM).
2. Turn the ignition key off.
3. Start the engine with the ignition key.
4. Within 10 seconds of starting the vehicle, begin flicking the valet switch on then off 13 times (counting the piezo beeps).

   NOTE: Stop on the 13th beep. See the "Programming Table for System Features" on page 24.
5. Press and hold the remote ☞ button.
6. The parking lights will flash two times to confirm the RPMs have been memorized.
7. Release the ☞ button.

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Programmable Features

All AviStart system and remote control programmable features are accomplished by turning the ignition key to the "ON" position or starting the engine (see "Mandatory RPM Programming") and flicking the valet switch on and off a preset number of times. The system has a built-in piezo beeper for audible programming confirmation.

The AviStart also allows the user to add new remote controls in one step, delete lost or stolen remote controls or rearrange the factory preset remote control functions.

1. Remove the system from Protected Valet Mode. Programming cannot be accessed while the system is in Protected Valet Mode indicated by the LED on solid red.

2. Select the feature you wish to program from the "Programming Table for System Features" or the "Programming Table for Remote Controls" on pages 24-25.Note the number of beeps associated with that feature.

3. Turn the ignition key to the "ON" position.

4. Within 10 seconds, begin flicking the valet switch on and off. The built-in piezo beeper will beep once each time you flick the switch on then off.

5. Continue flicking the switch on and off, counting the number of beeps.

   NOTE: Stop when you reach the number of beeps associated with your chosen feature.

6. Follow the "Secondary Action." You will hear a number of beeps to confirm that you have changed the setting of that feature.

7. Turn the ignition key "OFF."

8. Repeat steps 1-7 for any other feature you wish to program.

Programming Table for System Features

Feature	Factory Setting	No. of Beeps	Secondary Action
Door Lock/Unlock Output Duration (1 or 3 Seconds)	1 Second	4	Wait 3 seconds, the piezo beeper will beep once for 3 seconds, twice for 1 second.
2 Pulse Lock	1 Pulse	5	Wait 3 seconds, the piezo beeper will beep once for 2 pulse, twice for 1.
2 Pulse Unlock	1 Pulse	6	Wait 3 seconds, the piezo beeper will beep once for 2 pulse, twice for 1.
Ignition Control Lock/Unlock	ON	7	Wait 3 seconds, the piezo beeper will beep once for OFF, twice for ON.
0 or 3 Second Delay for Ignition-Controlled Door Lock	0 Second	8	Wait 3 seconds, the piezo beeper will beep once for 3 seconds, twice for 0 seconds.
RPM Door Lock	OFF	9	Wait 3 seconds, the piezo beeper will beep once for OFF, twice for ON.
Passive Starter Disable	OFF	10	Wait 3 seconds, the piezo beeper will beep once for OFF, twice for ON.
Remote Lock Starter Disable	ON	11	Wait 3 seconds, the piezo beeper will beep once for OFF, twice for ON.
Horn/Siren Output	Horn	12	Wait 3 seconds, the piezo beeper will beep once for Siren, twice for horn.
Mandatory RPM Programming		13	See "Mandatory RPM Programming" on page 21.
Remote Start Run Time 20 or 30 Minutes	20 Minutes	14	Wait 3 seconds, the piezo beeper will beep once for 30 minutes, twice for 20 minutes.
Remote Start Pre-Ignition 2 or 15 Seconds	2 Seconds	15	Wait 3 seconds, the piezo beeper will beep once for 15 seconds, twice for 2 seconds.
Temperature-Controlled Starting Off or 5°F (-15° C)	OFF	16	Wait 3 seconds, the piezo beeper will beep once for OFF, twice for 5° F (-15℃).
-7°F (-20℃) or -22°F (-30℃)		17	Wait 3 seconds, the piezo beeper will beep once for -7°F (-20℃), twice for -22°F (-30° C).

Programming Table for Remote Controls

Feature	Factory Setting	No. of Beeps	Secondary Action
Remote Door Lock/Panic	🔒 Button	18	Press the 🔒 Button, the piezo beeper will beep 1 time
Remote Door Unlock	🔓 Button	19	Press the 🔓 Button, the piezo beeper will beep 2 times
Remote Engine Start	🔑 Button	20	Press the 🔑 Button, the piezo beeper will beep 3 times
Remote Trunk Release	🔓 Button	21	Press the 🔓 Button, the piezo beeper will beep 4 times
Temperature Controlled Start Active/Inactive	🔒 + 🔑 Button	22	Press the 🔒 + 🔑 Button, the piezo beeper will beep 5 times
Remote Accessory Output (-)	🔒 + 🔓 Button	23	Press the 🔒 + 🔓 Button, the piezo beeper will beep 6 times
All Learn	🔒 Button	24	Press the 🔒 Button, the piezo beeper will beep 1 time
Delete All		25	Wait 3 seconds, the piezo beeper will beep twice, all codes are erased out of memory.