

## Creating A Higher Standard

JBS Technologies produces the world's most innovative and reliable car alarms, remote starters, keyless entry systems and starter immobilizers.

JBS Technologies is not an importing or distribution company. Our products are designed with patented technology and produced in the United States with robotics to insure flawless performance and the highest quality control.

Look for our products and services on the world wide web where you'll find a highly trained support staff to provide assistance to get you on your way to a safer, more convenient driving experience.

JBS Technologies  
225 Technology Way  
Steubenville, OH 43952

Phone: 740-282-1212  
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[www.jbstech.com](http://www.jbstech.com)



**MADE IN AMERICA  
GUARANTEED FOREVER**

# INSTALLATION GUIDE • OWNER'S GUIDE

**JBS TECHNOLOGIES**  
Creating A Higher Standard



Thank you for purchasing American made products by JBS Technologies.

To order additional transmitters or other accessories, visit our website at [www.jbstech.com](http://www.jbstech.com) or contact JBS Technologies at the following address:

JBS Technologies  
225 Technology Way  
Stuebenville, OH 43952

FOR TECHNICAL ASSISTANCE  
[www.jbstech.com](http://www.jbstech.com)  
1-800-878-8007

TO ORDER ACCESSORIES, CALL  
1-800-659-0764



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## YOUR WARRANTY

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Here's how your warranty works:

JBS Technologies warrants to the original customer, and the original car a limited lifetime warranty. Within 12 months of purchase, JBS Technologies will repair or replace, our option, any defective system at no charge. After 12 months from date of purchase, JBS Technologies will, at our option, repair or replace the system for a \$20 shipping and handling fee.

Installation, labor, removal and reinstallation are not the responsibility of JBS Technologies. Registration must be completed and sent in within seven (7) days of purchase in order to validate the warranty. JBS Technologies makes no warranty against the theft of a vehicle or its contents. This warranty is not to be construed as an insurance policy against loss.

### DISCLAIMER

JBS Technologies disclaims the warranty of merchantability and fitness for any particular use. This disclaimer shall be effective as to all claims of any kind made by or through any wholesaler, retailer, consumer or any other person or entity. Some states do not permit the disclaimer of implied warranties in some sales. Hence, this disclaimer may not apply to you.

### LIMITATION OF REMEDIES

Consumer's remedy is limited to repair or replacement of the unit, and in no event shall exceed the purchase price. Incidental, consequential an/or indirect damages are expressly disclaimed. NO person or entity is authorized to alter, amend or increase this limited warranty.

# WARRANTY VALIDATION

PLEASE FILL OUT THIS FORM  
AND MAIL IT IN TO REGISTER YOUR WARRANTY

Your Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 \_\_\_\_\_  
 Email Address \_\_\_\_\_  
 Dealer Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 \_\_\_\_\_  
 Date of Purchase \_\_\_/\_\_\_/\_\_\_ Mdel # \_\_\_\_\_  
 Make/Mdel of Car \_\_\_\_\_  
 Year of Car \_\_\_\_\_ V. I. N. # \_\_\_\_\_  
 Final Quality Check By \_\_\_\_\_

Mail to: JBS Technologies  
225 Technology Way • Steubenville, OH 43952

## PROGRAMMING FUNCTIONS FOR YOUR WALLET OR GLOVE BOX

### ATTENTION:

We urge you to immediately place this card in your wallet.

**Adding Additional Remotes** Press and hold brake. Next, press and hold Button #1 on the working remote until the parking lights flash once. Release. Press and release Button #4 on the new remote. The parking lights will flash three (3) times confirming that the new remote was learned. **Cold Start On and Off (Degree Select)** Press and hold brake. Press and hold Button #2 until the parking lights flash twice. Release. Press and hold Button #2. Each parking light flash is a progression in degrees. Flash #1 is -40°F, flash #2 is -30°F, flash #3 is -20°F, flash #4 is -10°F, flash #5 is 0°F, flash #6 is +10°F, flash #7 is +20°F. Two quick parking light flashes is Cold Start Off. Release the brake, the parking lights will flash three (3) times. **NOTE:** Factory setting is OFF. **Tach Mode - ON** Press and hold brake. Press and hold Button #3, the parking lights will flash three (3) times. Release. Press and release Button #4, the parking lights will flash twice. The Tach Start is programmed ON. Release the brake, the parking lights will flash three (3) times. **Tachless Mode - ON** Press and hold brake. Press and hold Button #3, the parking lights will flash three (3) times. Release. Press and release Button #4, the parking lights will flash once. The Tachless Start is programmed ON. **NOTE:** Factory setting is Tachless Start ON. Release the brake, the parking lights will flash three (3) times. **Programming Runtime with Brake not Pressed** Press and hold Button #4. The parking lights will flash once for every five (5) minutes you want to program. Release button at desired runtime. Maximum length, 15 minutes.

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Protected by one or more  
of the following patents:

Patent #08528768	Patent #5477090
Patent #55459447	Patent #5677664
Patent #60087174	Patent #60097821
Patent #5886622	Patent #5942988

Other patents pending.

# SYSTEM FEATURES

<b>Four-Button Extended Range Remote Control</b>	Remotely start your car to run the heater or air conditioning from an extended distance.
<b>Keyless Entry</b>	Remotely locks and unlocks your power door locks.
<b>Trunk Release</b>	Remotely opens your trunk with a push of a button. (Optional part #775 required)
<b>Remote Programmable Run Time</b>	Remotely program your vehicle to run 5 to 15 minutes.
<b>Run Time Confirmation</b>	Lets you check the run time that the unit is programmed for.
<b>Tach/Tachless Option</b>	A programmable feature that lets you choose from the easy to install tachless operation or the standard wire-in, tach operation.
<b>Parking Light Confirmation</b>	Confirms that your vehicle has received a remote signal and will remain on if the engine is remotely started.
<b>Dome Light Supervision</b>	Never walk up to a dark vehicle again. When unlocking the vehicles doors by remote control the dome light will come on and stay on for 1 minute, or until you activate the ignition switch. (Optional part #775 required)
<b>Cold Start</b>	Remotely program your car to start at a preset temperature. Automatically starts your car in freezing temperature so you never have a dead battery.
<b>Pit Stop Mode</b>	Allows you to exit the vehicle while the engine remains running.
<b>Extended Range Antenna</b>	Allows you to operate your system from up to 400 feet away. (800 feet for E Models)
<b>Code Learning</b>	Allows your remote starter to learn new remotes, should you want to add remotes, or if remotes are lost.
<b>Limited Lifetime Warranty</b>	Guarantees life-long protection.



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## OPERATING FUNCTIONS FOR YOUR WALLET OR GLOVE BOX

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**Starting with the Remote Transmitter** Press and release button #1. The parking lights will flash once, confirming the car starter received the signal. The car will then start and the parking lights will remain on while the vehicle is running. To shut off the engine before the preset time, press button #4 or press the brake pedal. **NOTE:** If your car does not start on the first crank it will automatically attempt to start 2 more times (in tachless mode). While in tachless mode, parking lights will wait approximately 10 seconds before turning on. **Pit Stop: Exiting the Car with the Engine Running** Make sure the transmission is in park and press button #1 before turning the ignition switch off. **Keyless Entry Operation** Press button #2, the parking lights will flash once and the doors will lock. Press button #2 again, the parking lights will flash twice, the doors will unlock, and the parking lights will remain on for one minute or until you turn the ignition on or press the brake. **Dome Light Option** (optional) The dome light will remain on for one minute or until you turn the ignition on or press the brake. **Trunk Release Output** Optional output modules are available to do one of the following: open the trunk, roll up the windows, close the sun roof etc. This output will pulse .75 seconds when pressed and released. In instances where a continuous signal is needed, such as sun roof and power windows, hold down button #3 as long as the signal is needed. The parking lights will remain on as long as this button is being pressed. **Runtime Confirmation** Press and release Button #4. The parking lights will begin to flash. Each flash equals 5 minutes of runtime.

## VEHICLES WITH FACTORY ANTI-THEFT SYSTEMS (CONT.)

Manufacturer	Make/ Year	Anti-theft
PONTIAC	BONNIEVILLE 89+	VATS
	FIREBIRD 88+	VATS
	GRAND AM 96-98	PASSLOCK 1
	GRAND AM 99+	PASSLOCK 2
	GRAND PRIX 92-96	VATS
	MONTANA 99+	TRANSPONDER
	SUNFIRE 96-99	PASSLOCK 1
PORSCHÉ	SUNFIRE 2000+	PASSLOCK 2
	ALL 97+	TRANSPONDER
SAAB	ALL 97+	TRANSPONDER
SATURN	ALL 97+	FACTORY
	2000+	TRANSPONDER
TOYOTA	AVALON 98+	TRANSPONDER
	CAMRY 98+	TRANSPONDER
	LAND CRUISER 98+	TRANSPONDER
	SOLARIA 99+	TRANSPONDER
	SUPRA 98+	TRANSPONDER
VOLKSWAGON	BEETLE 98+	TRANSPONDER
	GOLF 98+	TRANSPONDER
	PASSAT 98+	TRANSPONDER
VOLVO	ALL 98+	TRANSPONDER

### FCC ID: J3STXJS1194

This device complies with part 15 of the FCC Rules,

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

## SYSTEM COMPONENTS

Your system includes:

- 1-Installation & Operation Guide
- 1-Main Control Module
- 1-Four Button Remote Transmitter with Slide Protector
- 1-(4) Relay Harness with Relays
- 1-18-Pin Wire Harness
- 1-Hood Pin Switch
- 1-Extended Range Antenna (E Models Only)

- 2-Window Clips  
(E Models Only)
- 1-Warranty
- 1-Warning Sticker for Under the Hood
- 2-Bulldog Window Decals

## REQUIRED TOOLS

You will need a computer-friendly test light and a 5/16 inch drill bit when mounting the hood pin switch. In most cases no additional tools are required, however if the bottom of your dash on the driver's side will come off you must remove it. In this case a screwdriver or socket set may be needed.

## TECHNICAL ASSISTANCE

Should you need help. First check our website at [www.jbstech.com](http://www.jbstech.com) or call our toll-free Tech Support Hotline Monday through Friday 9AM-8PM and Saturday 10AM-4PM EST at 800-878-8007.

You must give the following information:

- Name
- Telephone Number with Area Code (Fax number if applicable)
- Year, Make, and Model of the vehicle
- The model number of the system you are installing
- The type of assistance you are requesting

If you give the above information you will be called back as soon as possible, usually within 10 minutes.

## BEFORE YOU BEGIN

Congratulations, you have purchased one of the most advanced remote starter systems ever made. Your new remote starter is a technological breakthrough utilizing the most advanced, state-of-the-art technology and components. It is computer controlled and manufactured in the U.S.A. The dependability and variety of features make Bulldog Security the leader in the industry. Enjoy your new remote starter for years to come!

This remote system is designed to start your vehicle by sending a command signal from the remote transmitter or by programming automatic temperature or timed start. It is required that your installation be done in a well-ventilated area. **It is the responsibility of the owner to ensure that the remote system is not used to start the vehicle in an undesired location.**

## BEFORE YOU BEGIN cont.

It is recommended that a carbon monoxide detector be installed in the living area near the location where the vehicle may be garaged.

Since there are many different makes and models of vehicles, look at the wiring chart on our website, [www.jbstech.com](http://www.jbstech.com)

Read this manual thoroughly before starting the installation. You must also decide if any options are desired such as trunk release and dome light supervision. An optional relay will be needed for these options. **Please do not skip any steps.**

### TACH/TACHLESS OPERATION

In most cases the decision to go with tachless mode will save time during the installation. If your vehicle is hard-starting then you should use tach mode.

**MAKE SURE YOU PLACE THE WARNING STICKER UNDER THE HOOD.**

## PRECAUTIONS

**This system is designed for use with vehicle equipped with fuel-injected, gasoline engines having automatic transmissions only.**

### SAFETY FIRST!

Never remotely start your vehicle indoors, with the keys in the ignition or unless the transmission is in park. A periodic safety check is recommended to ensure that your system is in proper working order.

**DO NOT** use mechanical wiring connections, such as **crimp** or **snap together taps**. Follow instructions on page 7-8.

**DO NOT** disconnect the battery if the vehicle has an anti-theft-coded radio or is equipped with an airbag. Doing so may cause a warning light to be displayed and may require a trip to the dealer to be corrected.

**DO NOT** leave the interior or exterior lights on for an extended period of time as it may cause battery drain. Remove the dome light fuse from the vehicle's fuse box. **NOTE:** Starter systems do not work well with a partially discharged battery.

**DO NOT** mount the control module until all connections have been made and tested. Use wire ties or double sided tape. **MOUNT THE MODULE UNDER THE DRIVER'S DASH**

**PLEASE USE CAUTION: DO NOT CUT, PROBE OR DISCONNECT THE VEHICLE'S AIRBAG WIRES. THESE WIRES WILL ALWAYS BE INSIDE A BRIGHT YELLOW TUBE LOCATED NEAR THE STEERING COLUMN HARNESS.**

### WARNING!

#### GENERAL MOTORS REAR WHEEL DRIVE VEHICLES AND DODGE DAKOTAS

All General Motors rear wheel drive vehicles and Dodge Dakotas built prior to 1996 do not have an electrical neutral safety switch. They have a mechanical neutral safety switch. The mechanical neutral safety switch operates as follows.

- The key will only turn to the start position when the gear selector is in park or neutral.
- The key can only be removed from the ignition switch when the gear selector is in the park position.

You must use special precautions with this system. For more information see page 12.

## VEHICLES WITH FACTORY ANTI-THEFT SYSTEMS (CONT.)

Manufacturer	Make/ Year	Anti-theft
	SIERRA 98+	PASSLOCK 2
	SONOMA 98+	PASSLOCK 2
	SUBURBAN 98+	PASSLOCK 2
	YUKON 98+	PASSLOCK 2
	YUKON XL 2000+	PASSLOCK 2
HONDA	ACCORD 98+	TRANSPONDER
	ODYSSEY 98+	TRANSPONDER
	PRELUDE 98+	TRANSPONDER
	S2000	TRANSPONDER
INFINITI	I30 98+	TRANSPONDER
	Q45 98+	TRANSPONDER
	QX4 98+	TRANSPONDER
JAGUAR	ALL 98+	TRANSPONDER
JEEP	GRAND CHEROKEE 99+	TRANSPONDER (GREY KEY ONLY)
	WRANGLER 99+	TRANSPONDER (GREY KEY ONLY)
LEXUS	ALL 97+	TRANSPONDER
LINCOLN	CONTINENTAL 97+	TRANSPONDER
	LS 2000+	TRANSPONDER
LINCOLN	MARK V3 97+	TRANSPONDER
	NAVIGATOR 97+	TRANSPONDER
	TOWN CAR 97+	TRANSPONDER
MERCEDES	ALL 97+	TRANSPONDER
MERCURY	COUGAR 99+	TRANSPONDER
	MOUNTAINEER 98+	TRANSPONDER (Some)
	MYSTIQUE 97+	TRANSPONDER (Some)
	SABLE 96+	TRANSPONDER
NISSAN	MAXIMA 98+	TRANSPONDER
OLDSMOBILE	ACHIEVA 95+	PASSLOCK 1
	ALERO 99+	PASSLOCK 2
	AURORA 95+	VATS
	BRAVADA 98+	PASSLOCK 2
	CUTLASS 97+	PASSLOCK 2
	NINETY-EIGHT	VATS
	SILHOUETTE 99+	TRANSPONDER

# VEHICLES WITH FACTORY ANTI-THEFT SYSTEMS

Manufacturer	Make/ Year	Anti-theft	
CHRYSLER	MALIBU 97+	PASSLOCK 2	
	MONTE CARLO 96-99	VATS	
	MONTE CARLO 2000+	PASSLOCK 2	
	FULL-SIZE PU 98+	PASSLOCK 2	
	S-10 98+	PASSLOCK 2	
	SAVANNAH 98+	PASSLOCK 2	
	SUBURBAN 98+	PASSLOCK 2	
	TAHOE 98+	PASSLOCK 2	
	VAN 98+	PASSLOCK 2	
	VENTURE 99+	TRANSPONDER	
DODGE	CONCORD 98+	TRANSPONDER (GREY KEY ONLY)	
	LHS 98+	TRANSPONDER (GREY KEY ONLY)	
	SEBRING CONV. 98+	TRANSPONDER (GREY KEY ONLY)	
DODGE	300M 99+	TRANSPONDER (GREY KEY ONLY)	
	INTERPID 98+	TRANSPONDER (GREY KEY ONLY)	
	NEON 2000+	TRANSPONDER (GREY KEY ONLY)	
FORD	CONTOUR 97+	TRANSPONDER (Some)	
	CROWN VIC 98+	TRANSPONDER	
	EXCURSION 2000+	TRANSPONDER	
	EXPEDITION 97+	TRANSPONDER	
	EXPLORER 97+	TRANSPONDER	
	FOCUS 2000+	TRANSPONDER	
	MUSTANG 98+	TRANSPONDER	
	F150/250 98+	TRANSPONDER	
	RANGER 99+	TRANSPONDER	
	TAURUS 96+	TRANSPONDER	
	WINDSTAR 2000+	TRANSPONDER	
	GMC	DENALI 99+	PASSLOCK 2
		ENVOY 99+	PASSLOCK 2
S-15 JIMMY 98+		PASSLOCK 2	
SAFARI 98+		PASSLOCK 2	

## TESTING YOUR WIRES

When testing for a positive or negative voltage, you must use a computer-friendly test light (logic probe) or a volt/ohm meter. Make sure to probe and test each wire before making your connections.

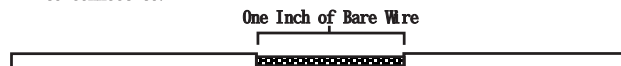
## MAKING CONNECTIONS

**NOTE:** If it is necessary to cut a factory wire to make a connection, see diagram on page 8.

- Strip back two inches of insulation on the wire from the remote starter.



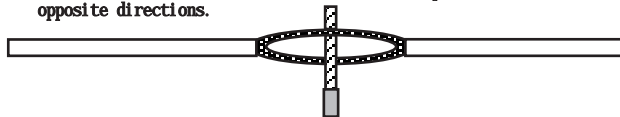
- Strip back one inch of insulation on the wire you need to connect to.



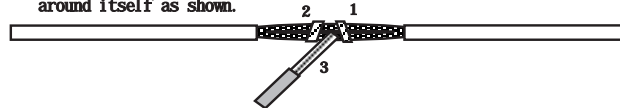
- Separate the vehicle wire as shown. Make the separation large enough to fit the other wire through.



- Insert the wire(s) from the starter through the hole as shown. If two or more wires are inserted, wrap them in opposite directions.



- Wrap the wire around one side then the other and finally around itself as shown.



- Use electrical tape to wrap. Be sure to cover the wire about two inches on either side of the connection. First pull the wire that you have just connected along side the wire you connected to, tape and wire tie them together. Use this method for all connections.



**CAUTION:** All wires must be wrapped with tape and wire tied.

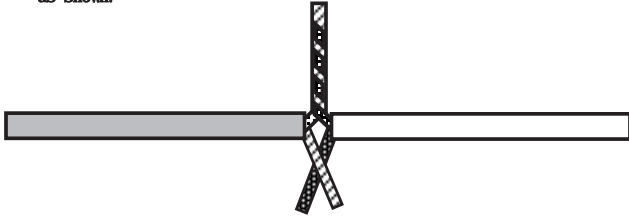
# MAKING CONNECTIONS cont.

## MAKING END TO END CONNECTIONS FOLLOW THESE INSTRUCTIONS

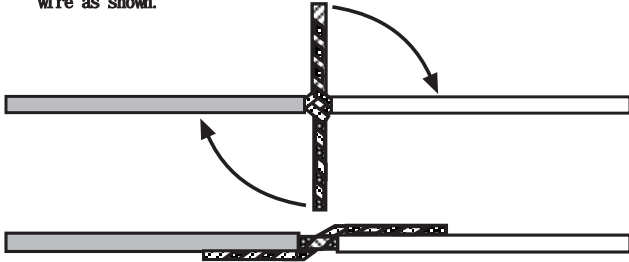
1. When tying two separate wires together at their ends, strip back one inch of insulation on both wires and separate the strands of wire as shown below.



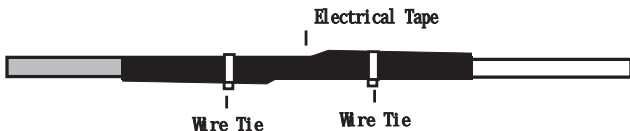
2. Twist upper wires together, twist lower wires together as shown.



3. Lay upper twisted pair of wires over right wire as shown. Bring lower twisted pair of wires up to meet the left wire as shown.



4. Use electrical tape to wrap, be sure to cover about 2 inches on either side of connection. Secure with wire ties as shown.



Use this method **ONLY** when connecting two separate wires end to end.

# VEHICLES WITH FACTORY ANTI-THEFT SYSTEMS

Manufacturer	Make/ Year	Anti-theft
Acura	TL 99+	TRANSPONDER
	CL 98+	TRANSPONDER
	RL 99+	TRANSPONDER
	INTEGRA 00 +	TRANSPONDER
	NSX	TRANSPONDER
AUDI	A4 00+	TRANSPONDER
	A6 00+	TRANSPONDER
	A8 98+	TRANSPONDER
BMW	ALL 97+	TRANSPONDER
BUICK	CENTURY 97+	VATS
	LESABRE 90-96, 2000	VATS
	PARK AVE 91-96	VATS
	PARK AVE 97+	TRANSPONDER
	REGAL 93-96	VATS (Some)
	RIVIERA 93-99	VATS (Some)
	ROADMASTER 93-96	VATS
CADILLAC	SKYLARK 96-98	PASSLOCK 1
	ALLANTE 91-93	VATS
	BROUGHAM 90-96	VATS
	CATERA 98+	TRANSPONDER
	DEVILLE 92-96	VATS
	DEVILLE 99+	TRANSPONDER
	ELDORADO 89-98	VATS
	ELDORADO 99+	VATS
	ESCALADE 99+	PASSLOCK 2
	FLEETWOOD 90-96	VATS
	SEVILLE 90-98	VATS
	SEVILLE 99+	TRANSPONDER
	SLS/ STS 97+	TRANSPONDER
CHEVROLET	ASTRO 98+	PASSLOCK 2
	BLAZER 98+	PASSLOCK 2
	CAMARO 86+	VATS
	CAVALIER 95-99	PASSLOCK 1
	CAVALIER 2000+	PASSLOCK 2
	CORVETTE 88+	VATS
	EXPRESS 98+	PASSLOCK 2
	IMPALA 2000+	PASSLOCK 2
	LUMINA 96+	VATS





# LOCATING & MAKING CONNECTIONS

## ACCESSORY WIRE(S) THAT POWER THE HEATER/BLOWER MOTOR

(+12V in run or on positions) This wire is also in the main ignition switch harness usually located in the steering column. Make all connections as close to the ignition switch harness as possible.

Most vehicles will have (1) accessory wire; however some Fords, newer GM vehicles and Chrysler 94 and up will have (2) or more accessory wires. To locate these wire(s) probe for wire(s) that only show +12V when the ignition switch is in the **RUN** or **ON** positions. This wire(s) will not show +12V when the ignition switch is in any other position.

1. If your vehicle has only (1) accessory wire connect the **WHITE WITH BLACK STRIPE** wire from the 4-relay harness to this wire.
2. If your vehicle has 2 Accessory wires (some GMs and most Fords), connect the **WHITE WITH BLACK STRIPE** wire to both the Accessory #1 and Accessory #2 wires. At this time, if you do not use the second **WHITE** wire from the 4-relay harness (your vehicle does not have an Ignition #2 wire) you can take that second **WHITE** wire and attach it to the Accessory #2 wire, this way you do not have to tie both the Accessory #1 wire and Accessory #2 wires together on the **WHITE WITH BLACK STRIPE** wire from the 4-relay harness.

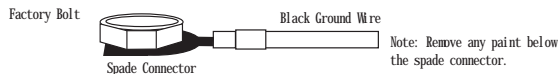
## STARTER/CRANK WIRE (+12V in the start position only)

Make all connections as close to the ignition switch harness as possible.

The starter/crank wire is also in the main harness. Locate the wire that shows +12V only in the **crank** position. This wire will not show +12V in any other position. Attach the **YELLOW WITH BLACK STRIPE** wire from the 4-relay harness to this wire. NOTE: Some vehicles use 2 Starter/Crank wires (mostly Nissan and Audi) in this case connect BOTH of the Starter/Crank wires from the ignition switch harness to the **YELLOW WITH BLACK STRIPE** wire from the 4-relay harness.

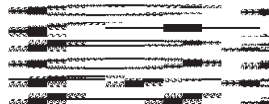
## CHASSIS GROUND (-)

Locate an easy to get to bolt or screw located under the driver's side of the dash and attach the **BLACK** ground wire from the 18-pin harness securely as pictured.



## PARKING LIGHTS (+12V only with parking lights on)

Turn the parking lights to the **ON** position. (NOT YOUR HEADLAMPS). Probe the wire(s) coming from your headlamp control switch. Find a wire that will show +12V only when the parking lights are **ON**, then switch the controller to the headlight position and test the same wire. It should have power in the parking light position and the headlight position. Turn the light switch **OFF**, the +12v should then turn **OFF** also. This is the correct wire. Connect the **BROWN** wire from the 18-pin harness to this wire. If this wire tests as a (-) negative, see diagram



# OPERATOR PROGRAMMING INSTRUCTIONS

## Adding Additional Remotes without a Working Remote Control

To program a new (replacement) remote without a working remote, you will need to clear the E-Prom first. Follow the steps for Clearing the E-Prom at the bottom of this page. After the unit is cleared, use the new remote control.

## Cold Start On and Off (Degree Select)

Press and hold brake. Press and hold Button #2 until the parking lights flash twice. Release. Press and hold Button #2. Each parking light flash is a progression in degrees. Flash #1 is -40°F, flash #2 is -30°F, flash #3 is -20°F, flash #4 is -10°F, flash #5 is 0°F, flash #6 is +10°F, flash #7 is +20°F. Two quick flash parking light flashes is Cold Start Off. Release the brake, the parking lights will flash three (3) times. **NOTE:** Factory setting is OFF.

## Door Lock Pulse Length (Long and Short)

Press and hold brake. Next, press and hold Button #3, the parking lights will flash three (3) times. Release. Press and release Button #1.  
**LONG:** The parking lights will flash once, the door lock pulse length will be 3.5 seconds of output. Release the brake, the parking lights will flash three (3) times. (For European type door locks)  
**SHORT:** The parking lights will flash twice, the door lock pulse length will be 0.7 seconds of output. Release the brake, the parking lights will flash three (3) times. **NOTE:** Factory setting is **SHORT** pulse length.

## Dual Pulse Door Lock and Unlock

Press and Hold the Brake, with the brake held, press and hold Button #4, until the Parking Lights flash (4) times. Release Button #4 and press and release Button #3, the Parking Lights will flash (1) time, the unit is set for **DUAL PULSE UNLOCK**, press and release Button #3 again, the Parking lights will flash (2) times, the unit is set for **DUAL PULSE LOCK**, press and release Button #3 again, the parking lights will flash (3) times, the unit is set for both **DUAL PULSE LOCK** and **UNLOCK**, press and release Button #3 again, the parking lights will flash (4) times and the unit is set for **DUAL PULSE OFF**. Factory setting is **DUAL PULSE OFF**.

## Tach/Tachless Mde

Press and hold the Brake, with the brake held, press and hold Button #3 on the remote until the Parking Lights flash (3) times, release Button #3, press and release Button #4, the Parking Lights will flash (1) time, release the brake and the Parking Lights will flash (3) times, the unit is now programmed for Tach Mde. To return to Tachless Mde, press and hold the brake, with the brake held, press and hold Button #3 on the remote until the Parking Lights flash (3) times, release Button #3, press and release Button #4, the Parking Lights will flash (2) times, release the brake, the Parking Lights will flash (3) times, the unit is now programmed for Tachless Mde. Factory setting is **TACHLESS Mde ON**.

## Tach Learn

To program your unit to learn your Tach Signal, Press and hold the brake, with the brake held, press and hold Button #2, on the remote until the Parking Lights flash (2) times, release Button #2, within 10 seconds of releasing Button #2, Start the vehicle using the Ignition key, with the vehicle running, press and release Button #4 the Parking Lights will flash (1) time, within 5 seconds the Parking Lights will again flash (3) more times, (if the Parking Lights do not flash (3) times See Note Below) The (3) flashes tells you the Tach Signal has been learned, turn off the Ignition Key and release the brake, again the arking Lights will flash (3) more times. **NOTE\*** If the Parking Lights do not flash the (3) times, start this procedure over again, check the connections to the Tach wire on the vehicle, make sure the **BLACK/WHITE** wire from the 18-Pin harness is connected to the proper Tach wire in the vehicle.

## Programming Runtime with Brake not Pressed

Press and hold Button #4. The parking lights will flash once for every five (5) minutes you want to program Release button at desired runtime. Maximum length, 15 minutes.

## Clearing the E-Prom

Press and hold the brake, now cycle the key in the ignition switch from **OFF** to **RUN** (not start) five (5) times within four (4) seconds. If you cannot physically do this in the proper amount of time, then remove the **YELLOW** ignition input wire from Ignition I and touch this **YELLOW** wire to +12V constant five (5) times within four (4) seconds. Release the brake, now try the remote. The unit should not function. If it does repeat the above procedure. If the unit does not function, unplug the unit from both harnesses, wait one (1) minute and plug it back in. Press Button #4 (stop) the parking lights will flash three (3) times, the unit is now back to factory default and ready to operate.

## OPTIONAL CONNECTIONS

### TRUNK RELEASE OUTPUT (-) (Optional Part #775 required)

Locate the trunk release wire coming from the back of the trunk release switch. To determine if your trunk release is tripped by a (+) positive or a (-) negative (most trunk release switches are (+) positive), place the clip end of your test light to ground, probe the wire. Press the "Trunk" button, if the test light illuminates, you have a (+) positive trunk release. If it does not, connect the clip end of the test light to +12V constant and probe the wire. If the test light illuminates when the button is pressed, then you have a (-) negative trunk release.

Connect the **WHITE WITH RED STRIPE** wire to the **WHITE** wire of the optional relay. Please use figures below for correct connections.



### AUXILIARY INPUT

If you wish to use this starter with an aftermarket alarm, connect the **BLUE** wire from the 18-pin harness to the second or third channel (-) output of your existing alarm. When the output is activated, a (-) signal will be supplied to the remote starter.

## OPERATOR PROGRAMMING INSTRUCTIONS

### ENTERING PROGRAMMING MODE

Make sure your vehicle is not running and the brake is pressed. The brake is to remain pressed as long as you want to remain in programming mode. The only exception is when a different remote has been learned. The unit will exit the programming mode simply by releasing the brake and the parking lights will flash three (3) times.

### Adding Additional Remotes with a Working Remote Control

Press and hold brake. Next, press and hold Button #1 on the working remote until the parking lights flash once. Release. Press and release Button #4 on the new remote. The parking lights will flash three (3) times confirming that the new remote was learned.

## LOCATING & MAKING CONNECTIONS

### BRAKE INPUT (+)

The brake wire is located on the switch near and above the brake pedal, if you cannot locate this wire at the brake switch, you will then need to locate a wire at the rear window brake light or at the brake light system in the rear of the vehicle. The correct wire will show +12V only when the brake is pressed. Connect the **BLUE WITH BLACK STRIPE** from the 18-pin harness to this wire.

### FACTORY ALARM SHUT DOWN WIRE (FASD) (-)

If your vehicle is equipped with a factory alarm system (as most vehicles with a factory keyless entry are) or, if your vehicle DOES NOT have a factory remote control that honks the horn when locking and unlocking the doors, or when you use the key in the driver's door, you DO NOT get a light on the dash that says "security" then mostly you will not need to use this wire. If your vehicle is so equipped, probe for a small gauge wire (usually found in the driver's side kick panel) that shows (-) ground when the door lock cylinder is turned to the unlock position using the key. This wire will usually show a (+) positive voltage before turning the key. **NOTE:** Some factory disarm wires remain neutral before you turn the key to unlock instead of +12V positive. Connect the **RED WITH BLACK STRIPE** wire from the 18-pin harness to this wire.

### HOOD PIN SWITCH (-)

This feature will keep the engine from starting, or shut off the engine when the hood is opened (this is ONLY when in remote start mode, this hoodpin switch has no control over an engine when started with the ignition key or under normal operation). Locate a good chassis ground, if at all possible do not install the pin switch in the rain gutter. Drill a 5/16 hole, insert the pin switch into the hole and tighten. Check for the hood adjustment, there is approximately 1/4" adjustment in the pin switch. Close the hood easy, making sure that the pin switch is not keeping the hood from closing all the way, if it does, cut off approximately 1/8" of the black plastic off of the top of the hoodpin switch and try closing the hood again. Check to make sure that the hoodpin switch remains neutral when the hood is closed and shows ground when the hood is open. Plug the **BLACK WITH BLUE STRIPE** wire from the 18-pin harness into the bottom of the hood pin switch.

### TACH INPUT (Optional)

By this time, you should have determined the way you want your vehicle to start (tach or tachless). If you have chosen the TACHLESS start option, simply proceed to the next step and skip the following connection instructions. Make sure to tape the **BLACK WITH WHITE STRIPE** wire up if not used. For TACH mode connect the **BLACK WITH WHITE STRIPE** wire from the 18-pin harness to the negative side of the coil or the tach wire at the coil pack under the hood. To find the coil pack follow the spark plug wires back to the termination point. To operate in tach mode, make sure to program tach option, see programming tach option page 19.

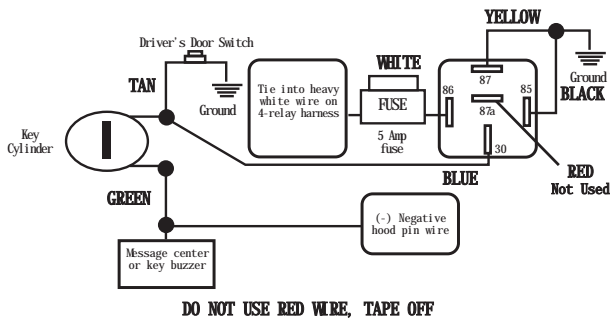
# NEUTRAL SAFETY SWITCH

## MECHANICAL NEUTRAL SAFETY SWITCH (Rear Wheel Drive Only)

When installing a Bulldog remote starter on GM vehicles or Dodge Dakotas built prior to 1996, you must:

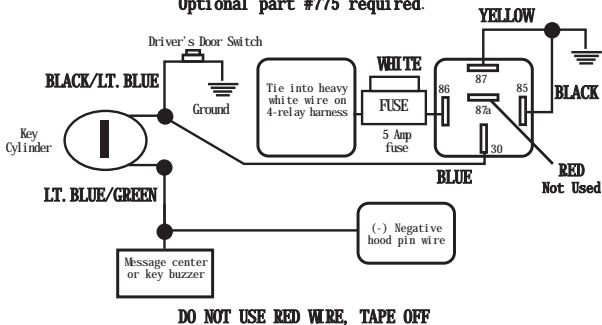
Use the diagram below to create a circuit that will prevent the remote starter from starting the vehicle unless the key is removed from the ignition switch.

### PRE-1996 GM REAR WHEEL DRIVES WITH PURPLE CRANK WIRE Optional part #775 required.



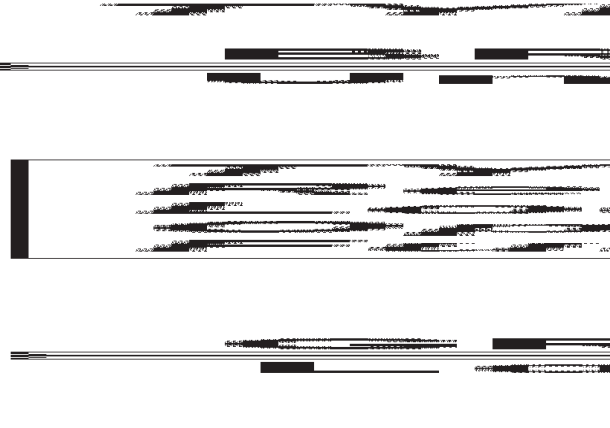
Ground

### PRE-1996 DODGE DAKOTAS Optional part #775 required.



# OPTIONAL CONNECTIONS

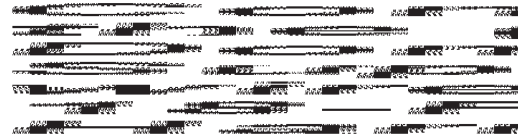
## "Type C" (continued)



## DOME LIGHT (-) (Optional Part #775 required)

To determine if your dome light is turned on with (+) positive or (-) negative trigger, probe for a wire in the driver's side kick panel that switches polarity when the door is closed then opened. You can also find this wire going to the under dash courtesy lights.

- If this wire reads +12V when the door is open and (-) ground when the door is closed, it is (+) positive. (most Fords)
- If this wire reads (-) ground when the door is open and +12V when the door is closed, it is (-) negative.

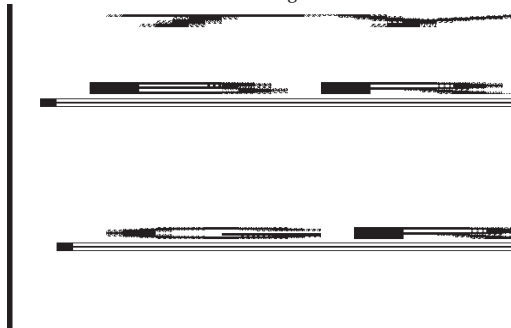


## OPTIONAL CONNECTIONS

### CONNECTING DOOR LOCKS (Optional)

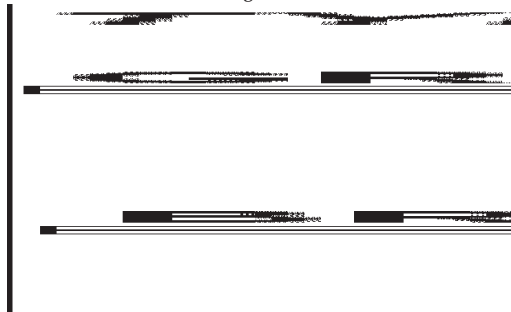
#### CONNECTING "TYPE A LOCKS"

• If your vehicle has a "Type A" door locking system connect the **BROWN WITH BLACK STRIPE** wire from the 18-pin harness to the door lock wire. Connect the **GREEN WITH BLACK STRIPE** wire to the unlock wire. See diagram below.



#### CONNECTING "TYPE B LOCKS"

• If your vehicle has a "Type B" door locking system connect the **GREEN WITH BLACK STRIPE** wire from the 18-pin harness to the door lock wire. Connect the **BROWN WITH BLACK STRIPE** wire to the unlock wire. See diagram below.



#### CONNECTING "TYPE C LOCKS"

• If your vehicle has a "Type C" door locking system you will need to purchase optional part #778. Once you have purchased the relays, follow the diagram on page 17 for "Type C" door locks.

## CONNECTING THE 18-PIN HARNESS & 4-RELAY HARNESS



**IMPORTANT NOTICE:** This unit when first powered up must be initialized to code in the Remote Control.

#### INITIALIZATION OF THE CONTROL MODULE.

When the unit is first powered up and all the connections are completed with the harness plugged into the control module, the Parking Lights on the vehicle will begin to flash.

You must make sure the Hood is opened (if the Hood Pin Switch is connected) if not, connect the Hood Pin Switch wire to a good Body Ground, then press and hold the Brake Pedal. With the brake pedal held, press and release the START Button on the Remote Control, the Parking Lights will then stop flashing. Release the brake pedal on the vehicle and close the hood or remove the Hood Pin Switch wire from ground.

This procedure must be used if the Remote Control is lost (learning a replacement Remote Control) or the unit's memory is cleared.

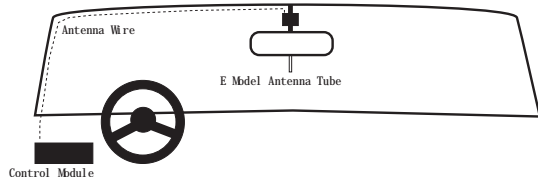
## ANTENNA PLACEMENT

### ANTENNA

For best results, run the antenna (**YELLOW WIRE WITH BLACK TIP** from the back of the unit) as high up in the dash and as straight as possible. **Do not place the antenna next to any metal parts or the vehicle's main computer control module.** Range is up to 400 feet.

### E MODEL REMOTE STARTERS

Run the antenna up the windshield pillar on the driver's side and across the top of the windshield to the center, behind the rearview mirror. Use the antenna clips provided to hold it in place. Be sure to expose the full length of the clear antenna. It will perform best if mounted vertically, below the dark windshield tint. **Never leave antenna in headliner.** Range is up to 800 feet.



Each receiver is tested to more than 400 feet (800 feet, E models) of clear air reception. While many times you will see a higher range. Many factors will affect the range, including the amount of radio signals in the area, battery strength, window tint, etc.

## FACTORY ANTI-THEFT SYSTEMS

### FORD GENERAL MOTORS CARS ONLY

**System 1: PASSKEY or VATS** system (1985 and up). This system has a resistor pill in the key. Measure resistance of the pill using a test meter. A bypass module is available, Module 791.

**System 2: PASSLOCK I and II** system (1995 and up). Passlock does not have a pill in the key. It has a light on the dash that states **ANTI-THEFT OR SECURITY** system. A bypass module is available, Module 791.

**System 3: PASSKEY III** system (GM 1998 and up). Passkey III is GM's version of a transponder system. **This key will have the letters PK3 on it.** A bypass module is available. (Part #791)

### FORD ANTI-THEFT SYSTEM PATS

1995-1998 Ford uses a bypass part #FBP-718 module. (1999 and up will use part #791.)

### CHEVROLET AND MOST IMPORTS ANTI-THEFT SYSTEM TRANSPONDER

1998 and up will use part #791.

To order these bypass modules call 1-800-659-0764 or see our website at [www.jbstech.com](http://www.jbstech.com)

**START VEHICLE AND CHECK STARTER SYSTEM BEFORE ADDING OPTIONAL CONNECTIONS.**

## OPTIONAL CONNECTIONS

### TESTING: Door Locks

There are three basic types:

#### "Type A" Door Lock Test (Most GMs and some Chryslers)

Probe both of your door lock wires going to the door lock switch usually located in the driver's kick panel. Attach the clip end of your test light to a good chassis ground. Using the vehicle's door lock controls, activate the lock then the unlock, testing both wires one at a time. If one of these wires tests (+) positive when lock is pressed and the other tests (+) positive when they are unlocked, your vehicle has a "Type A" door locking system. Make sure to mark which wire is lock and unlock. Proceed to page 17, Connecting Door Locks. **NOTE:** "Type A" and "Type C" locks will test the same, until you test for ground. Make sure you run both tests before making your connections.

#### "Type B" Door Lock Test (Most Imports, some newer Fords)

Probe both of your door lock wires going to the door lock switch usually located in the driver's kick panel. Attach the clip end of your test light to +12V. Using the vehicle's door lock controls, activate the lock then the unlock testing both wires one at a time. If the test light illuminates when you probe the lock and the unlock wires your vehicle has a "Type B" door locking system. Make sure to mark which wire is lock and unlock. Proceed to page 17, Connecting Door Locks.

#### "Type C" Door Lock Test (Most Fords, some Chryslers, GM Trucks)

(Optional part #778 required)

Using your test light probe both the lock and the unlock wires usually located in the driver's kick panel. Attach the clip end of your test light to ground probing both wires one at a time while locking and unlocking the doors with the driver's side switch (usually the master switch). The test light should illuminate in both switch positions. Now attach the clip end of your test light to +12V constant, probe both wires one at a time again. The light should then illuminate again only in reverse order. This tells you that you have a "Type C" reversing polarity system. Make sure to mark which wire is lock and unlock. Proceed to page 17-18, Connecting Door Locks.

### Testing Switch Wire and Motor Wires

Before connecting, you must now determine which wire is the switch wire and which is the motor wire. Cut both the lock and unlock wires in half. Start with both of the lock wires by placing the clip end of your test light to ground, hold the door lock switch in the lock position, make sure you are using the master switch (usually on the driver's door) and probe both lock wires looking for voltage. The wire that illuminates the test light, mark as the switch wire, the wire that shows no voltage, mark as the motor wire. Repeat the procedure for the unlock wire. When connecting the lock and unlock wires to the #778 relay harness, make sure you connect the switch wire to the **RED** wire or pin #87A and the motor wire to the **BLUE** wire or pin #30. Be sure to connect the lock wires to the lock relay, and the unlock wires to the unlock relay, you may need to mark these relays before you start.

**NOTE: IF YOUR VEHICLE REQUIRES A DUAL PULSE TO UNLOCK YOUR POWER DOOR LOCKS, SEE PROGRAMMING "DUAL PULSE UNLOCK", PAGE 19.**