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Operation & Installation Manual for:
Keyless GStarter 2
Model # GTS - 2
Keyless RFID Push Button Start & Security System

FCC Compliance
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.

DISCLAIMER:
This installation manual is designed for the professional installer with a good understanding of automotive electrical systems, and if the vehicle is so equipped, the ability to disable the steering column locking mechanism. To ease in proper installation, we recommend that the installer READ THIS MANUAL thoroughly before beginning the installation. This manual is provided as a GENERAL GUIDELINE and the information contained herein may differ from your vehicle. Gallo Technologies and its' vendors shall not be liable for any accident resulting from the misuse of this product. This product is designed to be professionally installed into a vehicle in which all systems and associated components are in perfect working condition. DAMAGE to the GTStarter-2 unit resulting from incorrect installation or failure to follow guidelines stated in this manual, will not be covered under warranty and will be subject to repair or replacement charges. Links to nation-wide Alarm installers can be found on our web site at www.GalloTech.com.

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1.1 INTRODUCTION   *IMPORTANT:* READ ALL INSTRUCTIONS BEFORE INSTALLATION

GTStarter-2 has been designed to eliminate the need for an ignition key to unlock, start and stop the vehicle, and provide a high level of security. GTStarter-2 makes use of a sophisticated electronic technology called Passive RFID (Radio Frequency Identification). This technology allows all the same functions to be done as an ignition key but completely hands free. Example: just walk up to the vehicle with the RFID key FOB in your pocket or purse and the doors will unlock automatically. After sitting in the vehicle the driver can press the "PUSH START STOP" button one time momentarily and the accessories will turn ON, OR Press and hold the "PUSH START STOP" button and the Ignition will turn ON or will start if the brake/clutch is pressed. Put it in gear and drive away. To turn the vehicle off simple push the "PUSH START STOP" button and the engine will stop. After opening the door and walking away from the vehicle, the doors will automatically lock and the accessories will turn OFF. Other functions such as trunk release, car locating, shock sensor, and other security functions are standard with GTStarter-2.

GTStarter-2 can be installed in any vehicle (carbureted, fuel injected, diesel, automatic or manual transmission, and locking or non-locking steering column.) *If your vehicle is equipped with a locking steering column, the installation requires that the steering column lock be permanently disabled*. Many late model vehicles (2002 – present) have electrically locking steering columns. For electrically locking columns GTStarter-2 includes a "-"disarm output that can be used to activate the necessary vehicle specific security by-pass module that will release the column lock when the system is in the disarm mode. If your vehicle has a factory installed security system with a key activated immobilizer, then GTStarter-2 must be installed with the use of an aftermarket security key bypass module designed for that particular vehicle. These vehicle specific bypass modules should be supplied by the installer, or can be purchased through numerous aftermarket car alarm suppliers.

To ease and reduce installation time, we suggest you consider the following points before starting:
1. Check all vehicle manufacturer cautions and warnings regarding electrical service (AIR BAGS, ABS BRAKES, ENGINE / BODY COMPUTER AND BATTERY). Use extreme care and do not probe any wires of the SRS system.
2. Additional vehicle specific wiring diagrams and other helpful installation information can be found on our web site at www.gallotech.com/support.php
3. Determine the most suitable locations for all components to be placed. These components include: The control module, **"PUSH START STOP"** button, siren or possible extra relays.
4. GTStarter-2 can be installed with or without the ignition switch. If the ignition switch is left functional then the vehicle can be started with either the key or the "Push Start Stop" button. See **Figure 1 Option 1**.
5. Use a Digital Multi-Meter or 12-volt Test Probe (High-Impedance) to test and locate all connections. Conventional Test Lights can damage a vehicle's computer systems.
6. Record all color codes of vehicle wiring to be used for reference. This will save time by not having to re-test the same wires over again. Mark all vehicle wires with masking tape.
7. After locating and marking the appropriate wires DISCONNECT the (+) POS terminal at the battery.
8. Determine the type of door locking system the vehicle has before connecting any wires. Incorrect connection can result in damage to the **GTStarter-2** and/or vehicle locking system. There are several types of door lock systems in vehicles today. Below is listed the many types of common locking systems:
   - **Negative Trigger (-): Many Imports; Late model Ford & General Motors**
   Negative trigger door lock systems send a Negative (Ground) pulse to existing factory relays to lock and unlock the vehicle doors.
   - **Positive Trigger (+): Many General Motors; Chrysler / Dodge / Plymouth**
   Positive trigger door lock systems send a Positive (+12V) pulse to existing factory relays to lock and unlock the vehicle doors.
   - **Reverse Polarity: Many Ford/Lincoln/Mercury/Dodge/Chrysler/Plymouth and early 90's GM Trucks**
   The door lock/unlock motors are controlled directly from the lock and unlock switches in the door. The lock and unlock wires rest at Negative Ground when not in use. When the lock or unlock button is pressed, one of the circuits is "Lifted" and replaced with +12V causing a lock or unlock to occur.
   - **Electric vacuum pump:** Pre-'95 Mercedes-Benz and Audi
   - **Single Wire (Dual Voltage): Late model Chrysler/Dodge/Plymouth Vehicles, some year 2000 and newer GM vehicles**
   Dual Voltage systems have lock/unlock switches that send varying levels of Positive voltage OR Negative ground current to the SAME wire for both lock and unlock. When the vehicle's Body Computer Module (BCM) or door lock module senses different voltages on this wire, the system will either lock or unlock. Single wire

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door lock systems require relays and resistors. This type system requires that you have a good working knowledge of their operation before attempting installation of **GTStarter-2**'s alarm functions. "Engine Start" only function can be easily installed.

- **Data bus Systems 2003 and newer GM Trucks/SUV's, '96-04 Jeep Grand Cherokee**
  Data bus systems send low current "Data messages" to the door lock controllers on a network in order to lock and unlock the vehicle. To install aftermarket systems in these vehicles, an interface module is required that converts the regular lock/unlock pulses into "Data messages" to allow locking & unlocking. This type system requires that you have a good working knowledge of their operation before attempting installation of **GTStarter-2** door locking/unlocking functions.

1.2 RFID KEY FOB OPERATION:

When approaching the vehicle with the RFID FOB in the pocket or purse, the presence of the RFID FOB will be recognized by the control module. The doors will then unlock and the vehicle will be ready to start using only the **"PUSH START STOP"** button. The green LED on the **"PUSH START STOP"** button will flash rapidly. An ignition key is not required. After turning the engine OFF using the **"PUSH START STOP"** button and the driver leaves the vehicle with the RFID FOB in his/her pocket/purse, the accessories will turn OFF (equivalent to turning the key off) the doors will lock and the ARMED mode will be activated. The blue LED on the **"PUSH START STOP"** button will flash continuously while in the armed mode. *NOTE: Only one of the two key FOBs can be in the vehicle at the same time. The small LED on the key FOB will flash green when the FOB is within detection range of the vehicle. When the small LED flashes red, the key FOB battery should be replaced.* The four buttons on the RFID FOB can be used to activate/deactivate other functions:

(Lock Button): Arm/Remote- Lock/Panic/Siren-Stop
a.) Arms the system and locks the doors with one press
- Siren will chirp once and parking lights flash once, doors will lock. The blue LED on the **"PUSH START STOP"** button will flash slowly.
- Shock Sensor will become active after 15 sec.
- The alarm will chirp and parking lights will flash 3 times if all the doors are not closed during arming.
- If the alarm siren has been triggered, pressing this button one time will silence the siren and keep the system in the **armed** mode.

b.) Panic:
- Holding this button for over 2 seconds will cause the siren to sound for 30 seconds and the system will remain in the **armed** mode.

c.) Lock only (when vehicle occupied)
- When the ignition is **ON**, and the system is **disarmed**, pressing this button will lock the doors. The system will stay in the **disarmed** mode.
NOTE: Siren chirp and light flashing is user programmable. See Table 1.
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(Unlock Button): Disarm/Remote-Unlock/Trunk release.
a.) Disarm the system and unlock the doors with one press
- Siren will chirp twice and the parking lights will flash twice. The doors will unlock and the system will be in the **disarmed** mode.
- Within 30 seconds after pressing the button, if a door is not opened or the ignition is not **ON**, the system will automatically rearm and relock the doors.
- If the system has been triggered while in the **armed** mode, the siren will chirp and the parking lights will flash four times, when the unlock button is pressed.

b.) Unlock only (when vehicle occupied)
- When the ignition is **ON**, and the system is **disarmed**, pressing this button will unlock the doors. The system will stay in the **disarmed** mode.

c.) Trunk Release:
- Press and hold this button for 2 sec. the lamps will flash 4 times the doors will unlock and the trunk will open.
NOTE: Siren chirp and light flashing is user programmable. See Table 1.

◁× Mute Button: Silent-(Arm/Disarm)/Remote-Lock/Siren-Stop

a.) **Silent Arm:**

- When in **disarmed** mode press ◁× one time, parking lights flash once, Blue L.E.D. on the Engine Start button will flash slowly, the siren will not chirp, the doors will lock and system will be in **armed** mode. If a door is not closed when pushing the ◁× button, the siren will chirp and the parking lights will flash 3 times and the system will stay in the **armed** mode. When the door is closed the system will be in the **armed** mode. (See "Functions Options" Table 1).
- Shock Sensor will become active after 15 sec.
- Siren stop: When the alarm siren is triggered, pressing the ◁× button or the 🔒 button will stop the siren sounding and the system will stay in the **armed** mode. Pressing the 🔓 button will disarm the system and unlock the doors.

b.) **Silent Disarm:**

- When in the Silent Armed mode, press 🔓 one time will unlock the doors and the parking lights will flash twice.

🔔 Siren Button: Auto Door Lock/Unlock/Car-Locating/Anti-hijack

a.) Auto Door Lock/Unlock enable or disable:

- When the system is in the disarmed mode, pressing and holding 🔔 for 2 sec will enable the RFID auto door lock/unlock function. (parking lights flash 1 time when enabled or parking lights will flash 3 times when disabled)
- While driving, pressing the 🔔 button will only lock the doors.

If the alarm has been triggered, pressing the 🔔 button will stop the siren. The system will remain in the **armed mode**.

b.) Car Locating:

- When the system is **armed**, holding this button for more than 2 seconds, the siren will chirp and the parking lights will flash five times.

c.) Anti-Hijack:

- When driving, holding the 🔔 button for over 2 seconds, the parking lights will flash twice and Anti-Hijack mode will be started.

After 40 seconds, the system will enter armed mode, siren will chirp (non-continuous) for 20 seconds. For another 60 seconds the siren will sound continuously, the parking lights will flash and **the Engine will turn OFF**. At this time the system will stay armed and the siren will stop chirping.

Pressing the 🔓 button or the valet will release the triggered Anti-Hijack mode to the disarmed mode, but will not turn off the anti Hi-jack function.

NOTE: The Anti Hi-Jack function can be turned OFF (disabled) by resetting the Anti Hi-jacking programming option in Table 1 "Function Option Chart". *In the OFF setting, Anti Hi-jacking can note be invoked.*

d.) Light / Heavy Shock Sensor Programming

- Within 3 sec after Arming, press the 🔔 button to program light / heavy shock sensor sensitivity.

No. of times to press 🔔 button	Function	Description	Remark
1	OFF light shock	Park lights flash 1 time Siren chirps 1 time	Siren does not chirp if in MUTE ARM mode
2	OFF light/heavy shock	Park lights flash 2 times Siren chirps 2 times	
3	ON light/heavy shock	Park lights flash 3 times Siren chirps 3 times	
4	ON light shock	Park lights flash 4 times Siren chirps 4 times	
If the 🔔 button is not pressed within 3 sec of entering the armed mode the program will automatically enter the light/heavy shock mode.			

1.3 "PUSH START STOP" BUTTON OPERATION

Turning ACC, IGN1, IGN2 ON/OFF and Starting the Engine:
When in Disarm mode and the RFID key FOB is in detection range.
To Turn ACC ON/OFF
Press **"PUSH START STOP"** button once then release, ACC will turn ON; press **"PUSH START STOP"** button once again then release, ACC will turn OFF.
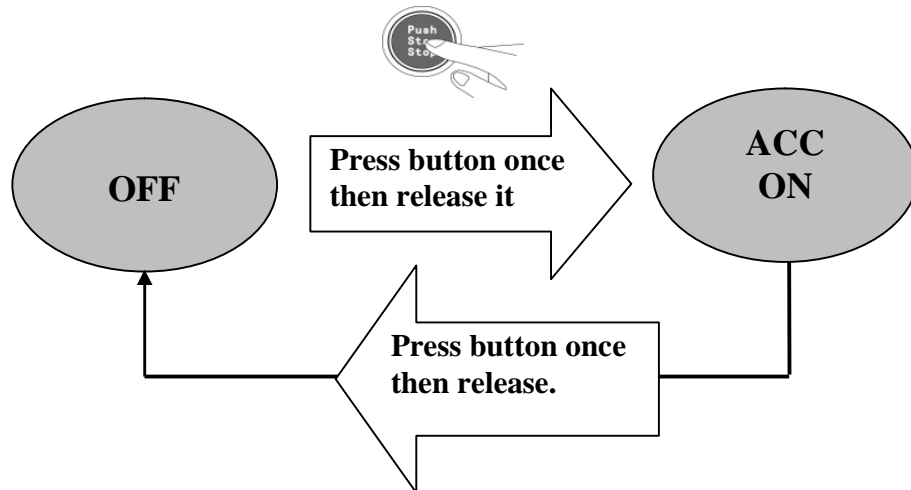
To Turn ACC, IGN 1and IGN 2 ON/OFF with no engine start.
Press **"PUSH START STOP"** button and hold for 1.5 sec. without pressing the brake/clutch peddle, ACC, IGN 1 and IGN2 will turn ON and the engine will not start. To turn ACC, IGN1 and IGN2 OFF, press and hold for 1.5 sec. **"PUSH START STOP"** button, or when the RFID key FOB is taken out of range, ACC, IGN1 and IGN2 will turn OFF automatically.
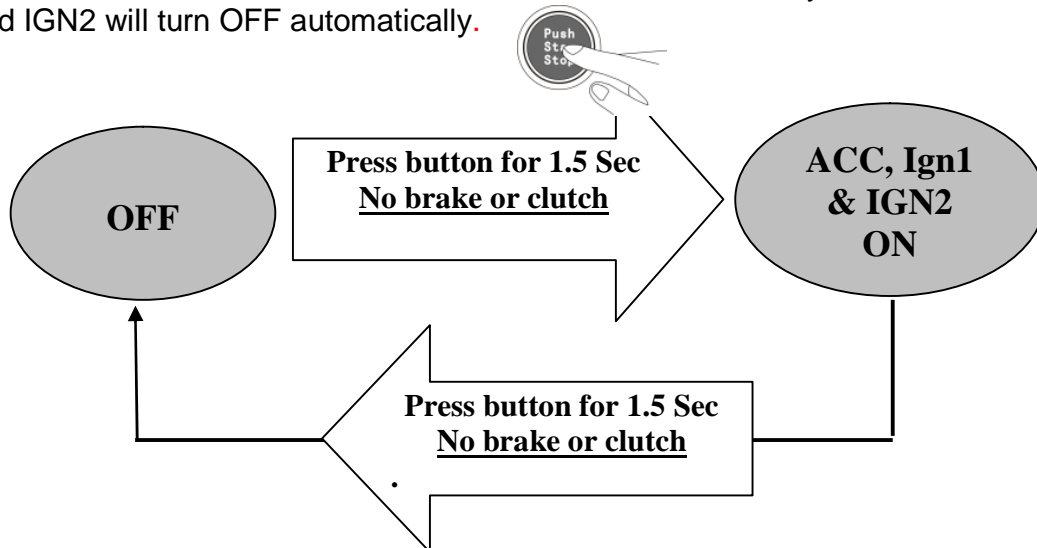
To Start / Stop Engine.
To Start Engine: While pressing the brake/clutch peddle, Press **"PUSH START STOP"** button and hold until the engine starts. IGN 1 will turn ON, the starter will engage and the engine will start. After the engine has started, release the "**PUSH START STOP"** button, ACC, IGN1 and IGN2 will turn ON.

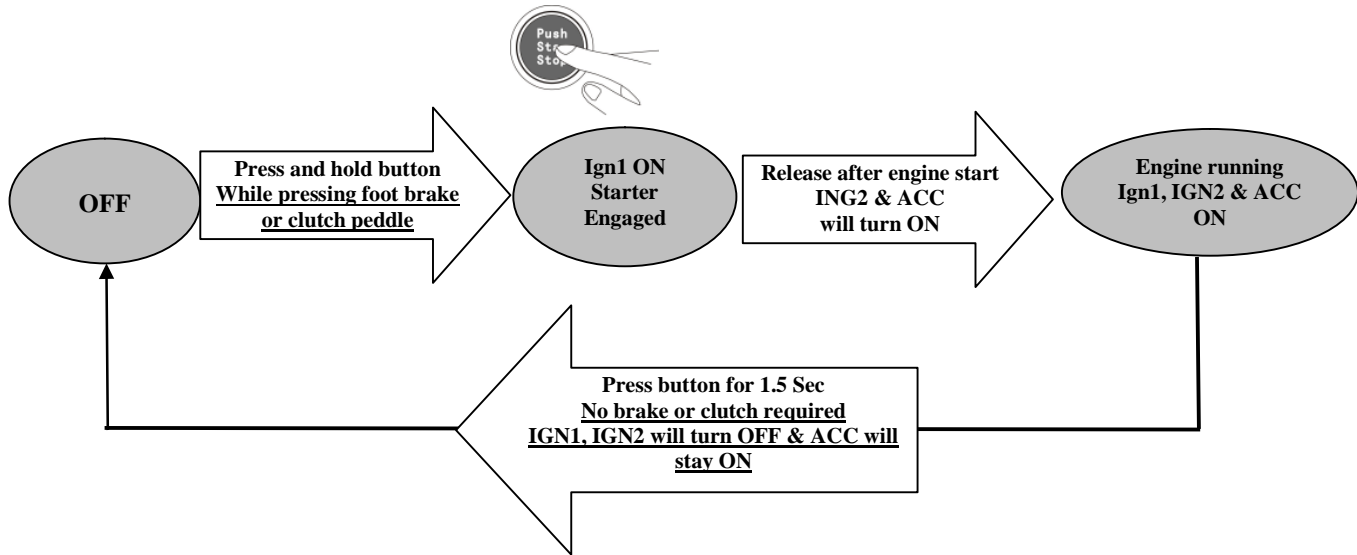**To Stop Engine:** press "**PUSH START STOP"** button for 1.5 sec. IGN 1 and IGN 2 will turn OFF and the engine will stop. ACC will remain ON until (a.) the "**PUSH START STOP"** button is pressed one time, or, (b.) the key FOB is moved out side the vehicle and is out of range.

1.4 GTStarter-2 FUNCTION OPTIONS

GTStarter-2 has numerous user configurable features that can be enabled or modified according to user's preferences. This section explains each of the user configurable functions. See Sec. 1.5 "**Programming Function Set-Up Options"** for details on how to modify configurable features.

Valet Mode: In DISARM mode, Pressing valet switch for over 5 seconds will activate valet mode. Siren will chirp 2 times and the green LED will stay ON.
To deactivate valet mode (normal status), press the valet switch for over 5 seconds. The siren will chirp one time and the green LED will flash slowly.
In Valet mode all alarm function will be disabled. The key FOB buttons can lock and unlock doors, but not the trunk.
"Push Start Stop" button functions will continue as in Normal status. If the key FOB is in range, the vehicle can be started with the **"Push Start Stop"** button or the ignition key, if an ignition key switch is also used.

Transmitter (Key FOB) Code learning: The Key FOBs must be learned by the Control Module before they will function.

Automatic Door Lock / Unlock Function:

Enabled: When the key FOB is within range, the doors unlock automatically and the system enters Disarm mode, the lights flash twice , siren chirps twice (by short tone) (if Silent arm/disarm function is set to OFF). The **"Push Start Stop"** is activated when the door is opened, and the green LED flashes.
When the key FOB is out of range, the doors lock automatically and the system enters the Arm mode. The lamps flash once, siren chirps once by short tone, (if Silent arm/disarm function is set to OFF). The **"Push Start Stop"** button is disabled and the blue LED flashes.

Disabled: When the key FOB is within range, and the system is in disarm mode, the lights will flash 2 times. The **"Push Start Stop"** button is activated when the door is opened. The green LED will flash slowly. The siren will not chirp.

When the key FOB is out of range, the doors will not lock and the system will stay in Disarm mode. The lamps will flash once when the door is closed and the siren will not sound. ACC will turn OFF and the **"Push Start Stop"** button will be disabled.

NOTE: When the key FOB is out of range and "Auto door lock / unlock" function is disabled, the doors can be locked/unlocked and the system armed/disarmed by pressing either key FOB button 🔒 (arm button) or 🔓 (disarm button).

Automatic / Manual Transmission: Determine if the vehicle has an automatic or manual transmission. Set the "Automatic / Manual Transmission" function accordingly. See **Figure 1. Option 4**

Silent Arm/Disarm:
Enabled: Siren does not chirp when locking / unlocking the doors.
Disabled: Siren chirps when locking / unlocking the doors.

Foot-Brake lock/unlock:
Enabled: 15 seconds after starting the engine the doors will automatically lock when the foot brake is pressed. Doors will automatically unlock when the engine is turned OFF.
Disabled: After starting the engine the doors will not automatically lock.

Auto Rearm:
Enabled: The system will automatically rearm and relock itself within 30 seconds after the system is disarmed by pressing 🔓, if the door is not opened.

Disabled: The system will not automatically rearm and relock itself after the system is **disarmed** by pressing 🔓, if the door is not opened.

Electrical Siren/ Horn:
Electrical Siren: Set if the 6 tone siren (included) is used.
Horn: Set if the vehicle's horn is to be used instead of the 6 tone siren. An additional relay may be required. The control module siren output is a low current output and must go through a relay to operate a vehicle's horn.

Central Locking Time:
When pressing 🔒 or 🔓 the electrical pulse sent to the door locking/unlocking mechanism can be set at either 0.5 seconds or 4 seconds. Most cars will function properly when this option is set to the factory default of 0.5 seconds.

Door Open Light Flashing:
Enabled: The parking lights will flash 2 times when a door is opened.
Disabled (default): The parking lights will not flash when a door is opened.

RFID Scan time:
Short (default): Sets the interval between the RFID transmitter scans to a shorter period of time. Shorter battery life & shorter detection time.
Long: Sets the interval between the RFID transmitter scans to a longer period of time. Longer battery life & longer detection time.
> Note: If there is no RFID detection activity for 72 hours or more, the RFID scanner will turn OFF. Pressing any button on the Key FOB will reactivate the RFID scanner.

Anti-hijack:
Enabled (default): Turns ON Anti-Hijack Function.
OFF: Turns OFF Anti-Hijack Function.

1.5 PROGRAMMING FUNCTION SET UP

A. Code learning (code learning mode, for the new transmitters)

1. System must be in Disarm mode (green LED flashing).
2. Press the valet switch 3 times, then hold the valet switch for over 5 seconds, it will enter the code learning mode. The green LED will light up and the parking lights will flash 2 times.
3. Immediately (within 5 seconds) press the 🔒 button on the new key FBO that needs to be code learned. When the parking lights flash 4 times, code learning was successful. Repeat this process if an additional Key FOB needs to be code learned.

B. Function Programming:

1. System must be in Disarm mode (green LED flashing).
2. Press valet switch 5 times, then hold the valet switch for over 5 seconds, parking lights will flash 2 times.
3. According to the "Function Option Chart" below, you can set up the required function by pressing the Valet Switch the number of times indicated in Table 1.
4. Immediately after pressing the valet switch the number of time indicated press the 🔒 button on the key FOB. If the parking lights flash 3 times, the default setting for that function has been set. If the parking lights flash 1 time, the alternate setting has been set.

Note: After entering the "Function Programming" mode, the 🔒 button must be pressed on the key FOB within 5 seconds. If not, the system will exit the "Function Programming" mode and the parking lights will flash 4 times. Repeat steps 1 thru 4 for each additional programming function.

Table 1: FUNCTION OPTION CHART

Press Valet Switch # of Times	Programmable function	Function Default Lights flash 3 times	Function Alternate Light flash 1 time
1	Auto door lock/unlock	**Enabled (Default)**	Auto lock/unlock OFF
2	Automatic/Manual transmission	Automatic transmission **(default)**	Manual transmission
3	Silent arm/Disarm	**Enabled (default)**	Disabled
4	Foot-Brake lock/unlock	**Enabled (default)**	Disable
5	Auto Rearm	**Disabled (default)**	Enabled
6	Electrical Siren/ Horn	**Electrical siren**	Horn
7	Central lock Time	**0.5sec. (default)**	4 sec.
8	Door Open Light Flashing	**Disabled (default)**	Enabled
9	RFID scan time	**Short (default)**	Long
10	Anti-hi jack	**Enabled (default)**	OFF
11	Reset to Factory Defaults		

1.6 INSTALLATION INSTRUCTIONS

SEE Figure 1 For Location and Identification of GTStarter-2 Control Module Connectors.

Installing Connector C1:   4 Pin Wire Harness (Battery, Ign1, Starter, ACC)

IMPORTANT: Read Figure 1. Option 1 before cutting any ignition switch wires.

C1:   RED – Battery Supply Power From Ignition Switch.
The RED wire is used to power the GTStarter-2 starting circuitry, Ign1, and ACC. Before connecting this wire you must first find the **BAT** wire coming from the ignition switch. The **BAT** wire is used to supply +12v battery power to the entire vehicle. Solder connect the C1 RED wire (w/ 35amp fuse) to the **BAT** wire coming from the Ignition switch. At the same time that you connect the C1: RED wire, also solder connect the PINK fused wire from connector **C4**.

C1: ORANGE – Starter Output.
Before connecting this wire you must first find the **START** wire coming from the ignition switch. The **START** wire is used to send +12v through the Park/Neutral safety switch (automatic transmission) to the starter solenoid. Insure that you DO NOT by-pass the Park / Neutral switch; otherwise the engine could be started while in Drive or Reverse. Manual transmission vehicle typically do not have a Park/Neutral switch. Solder connect the C1: ORANGE wire to the **START** wire**.**

C1: BLUE – ACC Power Output
The C1: BLUE wire directly sends a +12 v signal from the Control Module to power the Accessory (ACC) circuits. The ACC circuit has power applied to it only when the ignition key or "Push Start Stop" button is in the ACC position or when the key / "Push Start Stop" button is in the ON position. No power is applied during the engine starting cycle.
Solder connect the C1: BLUE wire to the **ACC** wire coming from the ignition switch.

C1: BROWN – IGN 1 Power Output
The **IGN 1** wire is used to send +12v to the ignition system and engine computer when the ignition key or "Push Start Stop" button is in the **ON** and **START** position. Solder connect the C1 BROWN wire to the **IGN 1** (ignition/computer) wire coming from the Ignition switch.

Installing Connector C2:   2 Pin Low Frequency (LF) Antenna Wire Harness.

The LF antenna is used for the RFID circuitry. The antenna should not be placed directly on any metal surface. The best location is usually on the windshield glass along side the driver's side "A" pillar. To optimize the RFID range other locations on a glass surface can be tested. Before permanently attaching the antenna, experiment with different locations that may further optimize the key FOB range.
Plug in the 2 pin LF antenna into the Control Module indicated in **Figure 1**.
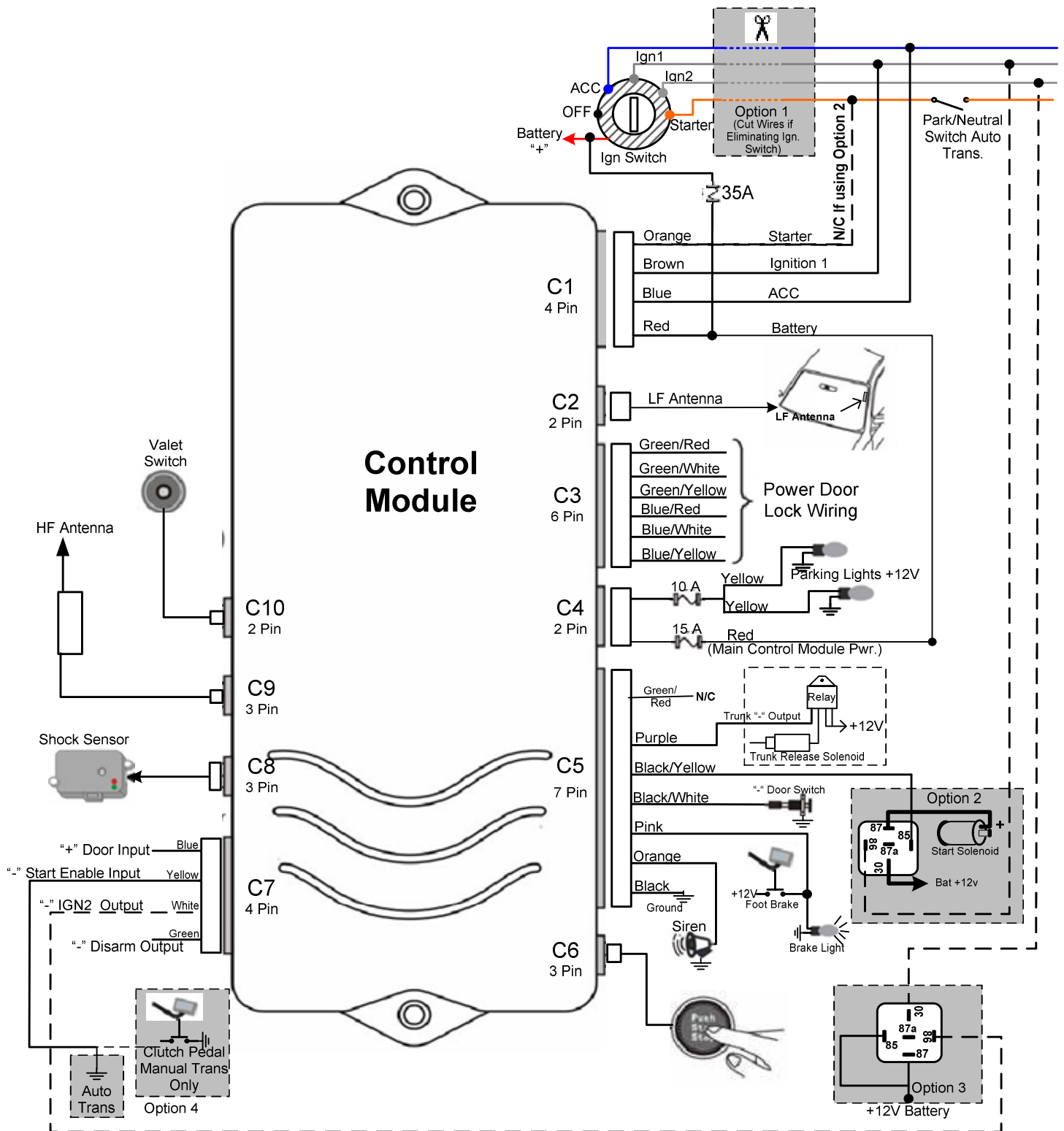
Figure 1

Option 1 – The user has the option of keeping the original ignition switch or completely removing it. If the ignition is kept operational, the vehicle can then be started with either the "Push Start/Stop" button or the ignition key. If eliminating the Ignition Switch, cut all wires as shown. If the Ignition switch is not being eliminated do not cut the wires, the engine can then be started with either the ignition switch OR the "Push Start Stop" button.

Option 2 - Use this wiring when the vehicle's starter solenoid requires more than 10 Amps. i.e. Heavy duty trucks.

Option 3 - Use this wiring to energize (Max 150 MA) an optional relay when your vehicle uses both an Ign 1 & Ign 2 circuits during Starting & Run. The relay AMP rating will need to be high enough to carry the load for your vehicle.

Option 4 – For Automatic transmission connect "Start Enable Input" (yellow) wire to chassis ground "-"

For Manual Transmission connect "Start Enable Input" (yellow) wire to the clutch peddle switch that grounds "-" when the peddle is depressed.

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6 Pin Wire Harness (Door Lock/Unlock Circuit)

Determine the Door Locking/Unlocking circuitry that your vehicle is equipped with. Fig. 2 shows the door lock/unlock output relay configuration of the Control Module. The majority of vehicles come equipped with either Neg (-) Fig. 3 or Pos. (+) Fig. 4 Trigger circuits. Find the location of the appropriate circuitry for your vehicle (Make, Model, Year Diagrams can be found on our web site at www.GalloTech.com) If the Trigger wire is 0v when the Lock/unlock switch is depressed then you have a Neg. (-) trigger (Fig. 3). If the trigger wire is +12v when depressing the Lock/unlock switch then you have a Pos. (+) Trigger (Fig 4). For Pre- '95 Audi or Mercedes Benz vacuum motor operation use Fig. 5. For Reverse Polarity applications, were the lock and unlock wires rest at Negative Ground, use Fig. 6.

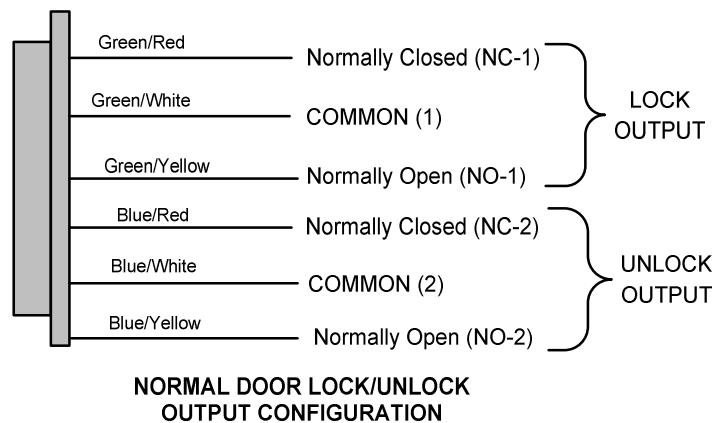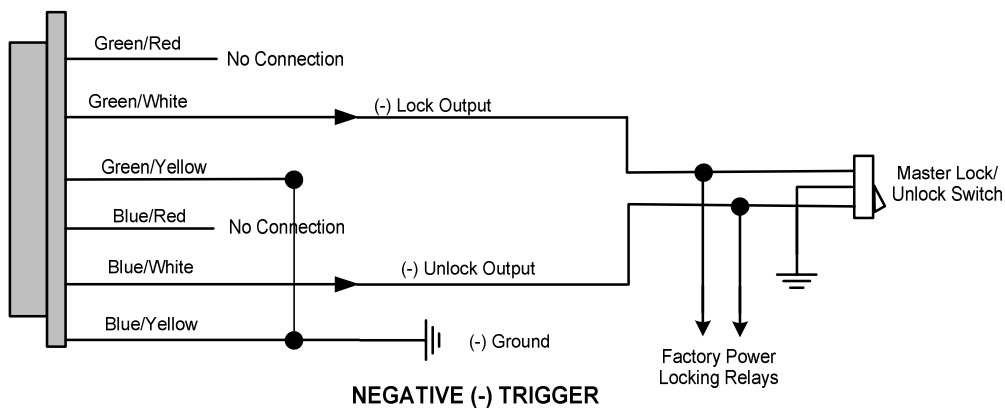### C3: 6 PIN WIRE HARNESS DIAGRAMS: Door Locking/Unlocking Circuits

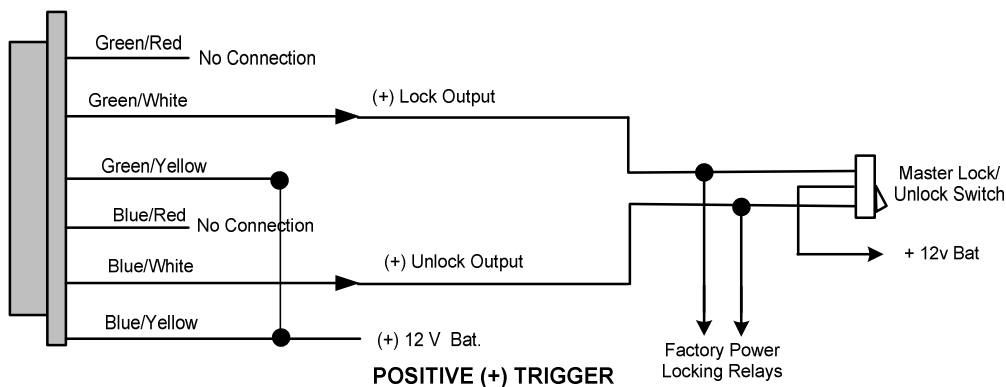NORMAL DOOR LOCK/UNLOCK
OUTPUT CONFIGURATION

Figure 2

NEGATIVE (-) TRIGGER

Figure 3

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Figure 4

Green/Red — No Connection

Green/White → (+) Lock Output

Green/Yellow

Blue/Red — No Connection

Blue/White → (+) Unlock Output

Blue/Yellow

(+) 12 V Bat.

POSITIVE (+) TRIGGER

Master Lock/ Unlock Switch

+ 12v Bat

Factory Power Locking Relays

Figure 4

Figure 5

Green/Red

Green/White

Green/Yellow — (-) Ground

Blue/Red

Blue/White

Blue/Yellow — (+) 12 V Bat.

Door Lock Switch — X cut — Vacuum Pump

1.
2.
3.

The wire color code for Vacuum Motor Locking / Unlocking
1. Green/Blue Main Control Wire (0)
2. Brown (-) Negative Wire
3. Red/Blue (+) Positive Wire

The Main Wire will switch from Negative to Positive signal for Unlocking / Locking

VACUUM OPERATED Audi, Mercedes Benz

Figure 5

Figure 6

Green/Red

Green/White — LOCK

Green/Yellow

Blue/Red

Blue/White — UNLOCK

Blue/Yellow — (+) 12 V Bat.

L

UL

Cut

Cut

Reverse Polarity

Figure 6

Installing Connector C4:   **2 Pin Wire Harness (Control Module Power, Parking lights)**

C4: RED 15 Amp fused wire − + 12v Constant Battery Input (Control Module Supply Power). This connection should have constant +12v available (**BAT** terminal on ignition switch or equivalent). Solder connect the RED wire.

C4: YELLOW − Parking Light +12v output 10 Amps fused. Solder connect one of the YELLOW wires to the vehicle's parking light relay. If parking lights require more than 5 amps use an external 30 Amp relay.

Installing Connector C5:   **7 Pin Wire Harness (Trunk Release, Door Trigger Circuit, Foot Brake Switch, Siren and System Ground).**

C5: GREEN/RED − No Connection.

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C5: PURPLE – Trunk Release Output Neg. (-). Connect the PURPLE wire to the trunk release Neg. (-) trigger wire on the vehicle's trunk release relay. In the event that a trunk release is to be added to the vehicle, an additional relay and trunk release solenoid will be required.

C5:BLACK/YELLOW – Optional high current starter solenoid relay. See **Figure 1. "Option 2"** above for connection.

C5: BLACK/WHITE – Neg. (-) Door Trigger switch Input. Connect the BLACK/WHITE wire to the Neg. (-) Door Trigger switch. If the vehicle has "+" Pos Door Trigger input use the BLUE wire from connector **C7**.

C5: PINK - (+12v) Foot Brake Switch Input Used for door lock and Starter enable input. Connect to Foot brake switch terminal that has +12v only when foot brake is depressed.

C5: ORANGE: - Siren +12v Output. Connect to the RED Siren wire. Connect the second siren input (BLACK wire) to a good chassis ground.

C5: BLACK – Neg. (-) Ground Connection. Connect the BLACK wire to a good chassis ground in a convenient location.

Installing Connector C6:   3 PIN Wire Harness ("Push Start Stop" Button)

The **"PUSH START STOP"** button can be surface mounted in a convenient location on the dash or can be mounted using the supplied adjustable bracket for mounting under the dash or on the console. The high strength double stick adhesive disk is to be used on the back side of the switch with both mounting methods. Make certain that the back of the button and the mounting surface is thoroughly cleaned with **isopropyl alcohol** to remove any dirt, grease or vinyl dressing materials. **DO NOT use acetone, MEK, lacquer thinner or any other harsh chemicals as they will destroy paint, vinyl and plastic**. The adhesive will not come loose or degrade as long as the surface has been cleaned thoroughly. Attach the adhesive disk to the back of the button first.
If you choose to mount the button on the dash with the wire hidden behind the button then drill a 3/8" dia. hole in a location where the small wire and connector can be fed through the dash. Rout the **"PUSH START STOP"** button wire to the module. Connect the White 3 terminal connector to the module. The connector is indexed so that it can only be installed in one direction.

Installing Connector C7:   4 Pin Wire Harness (Start enable & Disarm Output)

C7: BLUE – Pos. (+) Door Switch Input. Connect the BLUE wire to the Pos. (+) Door Trigger switch. If the vehicle has "-" Neg. Door Trigger input use the BLACK/WHITE wire from connector **C5**.

C7: YELLOW – Start Enable Input.
For A**utomatic Transmission:** Connect the YELLOW wire to a good chassis ground (-).
For Manual Transmission: Connect the YELLOW wire to a clutch peddle switch that has a neg. (-) output when the clutch peddle is depressed.

C7: GREEN – Neg (-) Disarm Output to enable security bypass devices. Connect the GREEN wire to the Neg (-) input of a security bypass device. These devices are used in the event that the vehicle has an OEM security system that prevents starting the vehicle without the security key. The proper security by-pass module for the specific vehicle can be found at www.gallotech.com/support.php. Follow the instruction that came with the by-pass module.

Installing Connector C8:   - 3 Pin Shock Sensor Wire Harness

C8: Shock Sensor – The shock sensor should be mounted on a rigid member of the vehicle. Typically it is best attached to the steering column. The shock sensor should never be mounted on the outside of the vehicle where it is not protected from exposure to moisture. Connect the 3 Pin connector to both the shock sensor and the Control Module as shown in **Figure 1**.

Installing Connector C9:   - 3 Pin HF Antenna wire harness

C9: - HF Antenna – The HF antenna is used for the high frequency receiver that operates the remote access functions such as remote door locking, car locating, and anti hi-jack. The location is not all that critical because of the type of antenna that we use, therefore the antenna can be placed anywhere under the dash and out of sight. Caution should be taken as the antenna wip is metal and the installer should insure that the wip will not interfere / short out any under-dash wiring. Connect the 3 Pin connector to the Control Module as shown in **Figure 1.**

Installing Connector C10:   - 2 Pin Valet Switch wire harness

C10: Valet Switch – The Valet Switch should be mounted under the dash or in the glove box so that it can be accessed from time to time to change or modify the programmable functions of GTStarter 2. Connect the 2 pin connector to the Control Module as shown in **Figure 1.**

1.6 FINAL INSTALLATION

1. Recheck all electrical connections to be certain they are connected in the proper locations and check that all connections are wrapped with a good quality electrical tape or shrink tubing.
2. Connect all 10 module connectors to the Control Module. The Control Module should be secured under the dash using cable ties or equivalent.
3. If the vehicle is equipped with a locking steering column, it must be permanently disabled before attempting to drive the vehicle.
4. Reconnect the battery and thoroughly test all starting functions.
- **Code learn the key FOBs first. None of the Control Module functions will operate until the key FOBs have been taught to the Control Module. See Sec. 1.5 for code learning instructions.**
- **Make certain that the vehicle can not be started while it is in any gear except Neutral and/or Park (automatic transmission).**

<u>Test the starting function</u>:
<u>Automatic transmission:</u> Press and hold the "<u>Push Start Stop</u>" button without pressing the brake peddle, making certain that the vehicle will not start. The engine should only start when the brake is pressed and the vehicle is in Park or Neutral. If the engine starts without the brake peddle being depressed, then the wiring connections to the Control Module and the connections to the Park Neutral switch must be rechecked per Figure 1.
<u>Manual Transmission:</u> Press and hold the "<u>Push Start Stop</u>" button without pressing the clutch peddle, making certain that the vehicle will not start. The engine should only start when the clutch peddle is pressed. If the engine starts without the clutch peddle being depressed, then the wiring connections to the Control Module must be rechecked per Figure 1.
5. Program the module to the functions that you desire following Sec. 1.5 "Program Function Set Up" and Table 1 "Function Option Chart".

1.7 TROUBLESHOOTING

ENGINE CRANKS BUT WILL NOT START:
1. Check Ignition switch wiring. See Sec. 1.6 "Installing Connector C1. Some vehicles require 2 separate ignition wires Ign 1 <u>and</u> Ign 2 for the vehicle's ignition system to function properly. If the vehicle requires both Ign 1 & Ign 2 then follow the instructions in **Figure 1. Option 3.**
2. If the vehicle has a security key, check that the security by-pass module is installed properly. See connector C7: GREEN wire installation instructions on page 13.

ENGINE STARTS IN DRIVE OR REVERSE GEAR (AUTOMATIC TRANSMISSION).
Check the location of C1: ORANGE (Starter output) wire. It MUST be connected to the vehicles starter wire close to the ignition switch, making certain that the Park/Neutral lockout is not bypassed. Also check **Table 1** for correct transmission selection.
ENGINE STARTS WHEN THE CLUTCH IS NOT PRESSED (MANUAL TRANSMISSION).
Check the connection of C7: "Start Enable Input" (Yellow) wire. It must be connected to a clutch switch that grounds Neg. (-) when the clutch is pressed. If the clutch peddle switch is Pos. (+) when the clutch is pressed then a relay is required to reverse the input to Neg. (-).Also check **Table 1** for correct transmission selection.

AN ACCESSORY (RADIO, HEATER FAN, ETC.) DOES NOT TURN OFF DURING ENGINE CRANKING AND/OR TURN BACK ON AFTER CRANKING:
   a.) Check the connections of C1: wire harness for the correct connection points. See **Figure 1**. There are usually only two positions on the ignition switch which disconnect power to the accessories during engine cranking. ACC and/or IGN 2. In some vehicles IGN 2 is used for either accessories like the heater fan, or is some times used as an additional ignition system wire. Check the specific wiring diagrams for your Make, Model, and Year vehicle. These can be found at www.gallotech.com/support.php .
   b.) Check all fuses connected to the Control Module wire harnesses. If any are blown then there must be a short in the system. Check all wiring thoroughly.
DOORS LOCK/UNLOCK WHEN THEY SHOULD UNLOCK/LOCK:
Connector C3: 6 Pin Wire Harness wires have been incorrectly connected to the vehicles Master Lock switch. Reversing the Lock and unlock wires at the C3 connector of the Control Module will correct the problem.

INSTALLATION NOTES