

ProStart™ MC

CT-3100

Automatic transmission remote engine
starter systems.



INSTALLATION GUIDE

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NOTICE:

DUE TO THE POTENTIAL FOR DAMAGE TO THE VEHICLE, THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY ELECTRICAL OR MECHANICAL DAMAGE TO THE VEHICLE OR TO THE UNIT THAT HAS CAUSED VEHICLE DAMAGE DUE TO IMPROPER INSTALLATION OF THE PRODUCT.

AN AUTHORIZED PROSTART TRAINED TECHNICIAN USING ALL SAFETY DEVICES SUPPLIED MUST INSTALL THIS UNIT.

Please review the installation guide carefully before any work begins.

WARNING

THIS UNIT IS FOR AUTOMATIC TRANSMISSION ONLY, BEFORE INSTALLING THE UNIT TEST THAT THE VEHICLE WILL NOT START IF THE GEAR SELECT LEVER IS IN A DRIVE POSITION. IF IT STARTS IN GEAR, INSTALL A MANUAL TRANSMISSION CAR STARTER. (AS-3160M)

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WHAT'S INCLUDED

Please review the installation guide before beginning the installation, particularly the wiring diagram and the list of programming options.

Prior to installation please be sure that all hardware components required to install the system is in the box.

The following is a list of components included in the Kit:

- 1 - Control unit
- 1 – Transmitter (As per model)
- 1 - 5 Pin 14 AWG harness (Ignition harness)
- 1 - 7 Pin 18 AWG harness (Main harness)
- 1 - 4 Pin / 2 Wire 18 AWG harness Accessories)
- 1 Antenna
- 1 Parts Bag (Hood switch, Valet switch, Connector, wires)
- User guide, tech bulletins.

NOTICE:

THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

INSTALLATION POINTS TO REMEMBER

- When working on a vehicle always leave a window open.
- Remove courtesy light fuse if possible to prevent battery drain.
- Never install control unit where it could interfere with normal operation or obstruct service technicians.
- Do not disconnect the battery on vehicles equipped with air bags and anti-theft radios.
- Always use a grommet when running wires into the engine compartment. Never run wires through bare or sharp metal.
- Always solder and tape all connections.
- Never ground control unit to vehicle steering column.
- Make sure that vehicles equipped with automatic transmission do not start while in any of the drive gears. **(If it will start in gear please install a manual transmission starter)*

FEATURES

- Dual 12-volt power lines.
- 12 volt Parking lights output.
- Factory alarm control.
- Gasoline or Diesel engine ready.
- Negative door lock output.
- Cold weather timer.
- Negative trunk output.
- Up to 800 feet range
- Ground output (pulsed or constant)
- Starter kill out (Ground when armed)
- External trigger control (From external receiver e.g.: *alarm*)

OPTIONS

- Remote keyless entry.
- Remote Trunk release.
- Anti-theft Starter kill.
- Flashing LED.
- Pager Ready.
- LIMITED LIFE WARRANTY.

PROGRAMMABLE OPTIONS

- Door lock pulse duration (1 sec, 4 sec, or two ¼ sec unlock pulses).
- Ignition controlled door locks.
- Constant or pulsed Groundout when running.
- Run time (4, 15, or 25 minutes).
- Maximum crank duration (6, 8, or 12 seconds).
- Childproof operation.
- Gasoline or Diesel engine operation.
- Secure Lock.

TRANSMITTER CODE LEARNING

The ProStart transmitters do not come pre-programmed. They must be CODE LEARNED at the time of installation.

The unit will hold up to 4 transmitter codes in memory.

To program a new transmitter:

1. Raise the Hood.
2. Turn Valet switch "OFF".
3. Turn Ignition "ON".
4. Turn Valet switch "ON". Parking lights SHOULD turn ON for 5 seconds.
5. Press Button 1 (CH1) on transmitter within 5 seconds of step 4. (Parking lights will flash 5 times fast, and 2 times slow)
6. Turn Ignition OFF and close the Hood.

TACH ADJUSTMENTS

ProStart systems have two methods of fine-tuning the Tach signal that is generated from the vehicle, the first method is manual Tach searching and setting and the second is automatic Tach searching and setting. Either method can be used, however an automatic search is recommended. **Tach adjustment procedures should be done every time a new unit is installed.** This is because the Tach signal from some ignition systems can sometimes be too high or too low, thus causing failed starts under different temperatures.

The procedures for Tach adjustment are as follows:

1. Hold Hood switch down for 6 seconds.
2. Release pin-switch (Hood switch). Parking lights should turn ON.
3. With Parking lights ON, immediately press and release pin-switch again.
4. Parking lights will stay ON for up to 20 seconds. (If not repeat from step 1)
5. With Parking lights ON, press CH3 (TRUNK) of the transmitter. (Parking lights will flash 1 to 7 times)
6. Start the vehicle using the key.
7. If Parking lights stays ON, then you have selected an incorrect Tach wire. (*Relocate Tach wire and start from step 1*) If Parking lights go OFF then proceed to the next step.
8. Allow vehicle to reach regular engine idle speed, then press and release brakes. (Parking lights will flash appropriate setting, from 1 to 7 flashes)
9. Press CH3 (TRUNK) of the transmitter, to save setting. (Parking lights will flash one long flash)

NOTE: A manual adjustment should only be done if the auto setting is not completing the crank cycle properly in cold weather.

MANUAL TACH SEARCHING AND SETTING

1. Hold the pin-switch (Hood switch) down for 6 seconds.
2. Release pin-switch. Parking lights should turn ON.
3. With Parking lights ON, immediately press and release pin-switch again.
4. Parking lights will stay ON for 20 sec. (If not repeat from step 1)
5. Press CH3 (TRUNK) of remote transmitter at the same time. (Parking lights will flash 1 to 7 times)
6. Now you can increase or decrease the Tach settings, depending on your needs.
7. CH1 will decrease the setting, and CH2 will increase the setting.
8. After proper setting has been reached, press CH3 (TRUNK) to save setting. (Parking lights should flash once long).

CUSTOM PROGRAMMING OPTIONS

ProStart systems are equipped with 2 custom programming menus that allow the user to custom fit the system according to the installation requirements. These options are designed to help make interfacing with all vehicles possible.

To get into custom programming mode you must do the following:

1. Hold pin-switch (Hood switch) down for 6 sec.
2. Release pin-switch. Parking lights will turn ON.
3. Immediately press and release pin-switch once again. (Parking lights will stay ON for 20 sec.)
4. Press and hold brakes, and press CH1 or CH2 on the transmitter. (**CH1 for mode one, and CH2 for mode two**). Parking lights will flash once for mode 1 and twice for mode 2.

After you have entered into one of the two programming menus you can release the brake pedal. The unit will stay in programming mode until the pin-switch (Hood switch) is pressed or the Valet switch has been turned OFF. (*So take your time to make the proper selection*)

The menu will automatically start you at function one, once you choose from one of the three options; you will automatically jump to the next function.

To select one of the three options press the appropriate transmitter button. (See below)

1. Button 1 (CH1) = Option 1
2. Button 2 (CH2) = Option 2
3. Button 1 & 2 (CH3=TRUNK) = Option 3

Once an option has been selected the Parking lights will flash 1, 2 or 3 times. (*Depending on option selected*)

MODE 1

*INDICATES DEFAULT SETTING

FUNCTION 1

OPTION 1* Ignition Lock ON.
OPTION 2 Ignition Lock OFF.
OPTION 3 Ignition Lock ON and Locks in TOGGLE MODE*

***DOOR LOCK TOGGLE MODE**

ProStart has a built-in starter kill features and even if the starter kill is not installed, the logic for it still dominates the operation of the system. What this means is that the starter kill will arm automatically 45 seconds after the vehicle's ignition is turned "OFF". The vehicle starter wire is then interrupted until the starter kill is disarmed by pressing Button 1 (UNLOCK) on the remote. If the doors were not locked within the initial 45 seconds of the ignition being turned "OFF" the first press of Button 1 will disarm the starter kill, unlocking the already unlocked doors before they can be locked again, arming the starter kill. Enabling Toggle Mode will circumvent this logic and allow the doors to lock on the first press of the button regardless of how much time has elapsed since the ignition was turned "OFF". This means that when the door lock will always perform the opposite of the last remote door lock action.

FUNCTION 2

OPTION 1* Constant "GROUND OUT".
OPTION 2 Pulsed "GROUND OUT" (1 sec).
OPTION 3 Constant "GROUND OUT" with disarm pulse on defrost line. (Pin # 15)

FUNCTION 3

OPTION 1* .75 second door lock / unlock pulses.
OPTION 2 4 second door lock / unlock pulses.
OPTION 3 One 1 second lock pulse and two ¼ second unlock pulses.

FUNCTION 4

OPTION 1* Trunk release on CH3 (TRUNK). (Will not receive signal while Ignition is "ON")
OPTION 2 Garage door transmitter control. (Will receive signal with Ignition "ON")
OPTION 3 CH3 (TRUNK) used for activation / deactivation of cold weather mode.

FUNCTION 5

OPTION 1* External trigger disabled.
OPTION 2 External trigger enabled.
OPTION 3 Childproof Operation. {CH2=(START) button must be pressed for 4 seconds}

MODE 2

* INDICATES DEFAULT SETTING

FUNCTION 1

OPTION 1 4 minute run time
OPTION 2* 15 minute run time
OPTION 3 25 minute run time

FUNCTION 2

OPTION 1 2 start attempts
OPTION 2* 3 start attempts
OPTION 3 4 start attempts

FUNCTION 3

OPTION 1 6-second crank time
OPTION 2* 8- second crank time
OPTION 3 12-second crank time

FUNCTION 4

OPTION 1 Gasoline engines & enable idle mode.
OPTION 2* Gasoline engines.
OPTION 3 Diesel engines & enable idle mode.

FUNCTION 5

Option 1 Secure Lock enable.
Option 2* Secure Lock disable.
Option 3 N/A

OPTIONS PLAYBACK

This feature helps to double check the options that are selected. To do the playback you must perform as follows:

1. Raise the Hood (Parking lights turns ON.)
2. As soon as the Parking lights turns ON press the pin-switch (Hood switch) three times. The Parking lights flashes according to the options that you have selected.
Option 1: one flash
Option 2: two flashes
Option 3: three flashes

VACUUM MODE

The systems can operate in vacuum mode or Tach mode. (Although vacuum mode requires an optional normally *closed Vacuum switch*) In order for the system to work in vacuum mode you must first set the Tach signal to a setting of 8 flashes. (See manual Tach adjustment)

The Vacuum switch has two contacts, one contact must connect to the Tach input of the module, **and the other contact must be connected to +12v.**

TACH WATCH LOCKOUT

Tach Watch lockout is a safety feature built into the remote starter to protect the vehicle's starter motor. If, during remote start, the vehicle's engine ever cranks the entire programmed crank time without detecting any Tach pulses during the first crank cycle, the unit will go into Tach watch lockout. The diagnostics for this is 3 quick Parking lights flash when trying to remote start the vehicle.

If your module is in Tach Watch Lockout it is indicating that a problem exists with the Tach signal it is receiving. Verify that the Tach wire from the remote starter is properly connected to a good Tach signal in the vehicle.

To remove the unit from Tach Watch Lockout you must do the following:

1. Close the Hood.
2. Disable starter kill. (If installed)
3. Start the engine using the key.
4. Let it run for at least 25 seconds, then shut it OFF.
5. The module should now be out of Tach Watch Lockout.

If module is still in Tach Watch Lockout move Tach wire to a better Tach source and perform an Automatic Tach Setting. Then repeat steps 1 to 5.

IDLE MODE

When programmed this option allows the user to engage the remote starter to take over the vehicle while it is already running. This option will keep the vehicle running for the programmed run time or until shut down by remote control.

To activate Idle Mode you must do the following:

1. Select Mode 2, Function 4, and Option 1 for gasoline engines.
2. With vehicle running press either Button on the transmitter until the Parking lights turns ON.
3. Remove the key and exit the vehicle.
4. Vehicle will stay running for the entire programmed run time.

DIESEL ENGINES

All systems are equipped with a dedicated "GLOW PLUG" input (Pin #4).

This input must be wired to the "Wait to Start" light in the vehicle and must receive 12 volts for as long as the light is ON. When this input is used, a protection diode must be installed on the brake input.

Note: On some diesel vehicles the "Wait to Start" light is a negative when ON, for this type of system a relay must be used to convert the signal to a positive.

RESETTING THE MODULE

The systems are equipped with a reset function that allows the installer to erase all transmitter codes and return all programmed options to factory default.

To reset the module:

1. Turn the Valet switch "OFF".
2. Ground Pin # 12 (External Trigger).
3. Turn the Ignition "ON".
4. Raise Hood.
5. Press and hold brake pedal.
6. Turn Valet switch "ON"
7. Parking lights should flash 8 times quickly.
8. Press CH1 button within 5 seconds. (Parking lights flashes to program transmitter.

***See Custom Programming options for default settings.**

SECURE LOCK

Secure lock is for cars that arm and disarm off the lock and unlock wires. (I.e....New VW's) When secure lock is activated it will unlock the doors prior to remote start (disarming factory security), then remote start the car. Once the car is started it will relock the doors. (Usually not rearming the factory security). After remote shutdown or run time out it will relock the doors again. (Rearming factory security)

HARNES DESCRIPTION

7-PIN HARNESS

PIN #	COLOR	POLARITY	DESCRIPTION (connect to...)
1	BLACK	Chassis Ground	Ground to vehicles chassis.
2	VIOLET	Tach Input (Coil -)	Connect to vehicle's Tach wire (coil -)
3	GRAY	Hood Switch	Hood switch - grounded when Hood open
4	EMPTY	Glow plug input (+)	Connect to wait to start light on diesel vehicles.
5	ORANGE	Brake switch	To brake switch wire with +12 volt when brake pressed
6	RED	Valet switch	Connect one side of Valet to the red (Pin 6) wire and the other side to the one of the red primaries (Pin A or E). (Between module and fuse)
7	YELLOW	Parking lights output	Connect to the vehicles Parking lights wire that is +12 volts when the Parking lights switch is ON.

4 PIN HARNESS

PIN #	COLOR	POLARITY	DESCRIPTION (Connect to...)
8	BROWN	Lock (-)	Gives a negative pulse when locking by remote. For pulse duration see MODE 1 FUNCTION 3
9	GREEN	Unlock (-)	Gives a negative pulse when unlocking. For pulse duration see MODE 1 FUNCTION 3
10	Empty	Trunk Output (-)	Auxiliary channel negative output (gives a 1 second pulse when Button 1(CH1) and Button 2(CH2) are pressed simultaneously)
11	WHITE/YELLOW	Starter kill out (-)	Armed output for starter kill option - see installation diagram

4 PIN HARNESS (wires must be inserted as necessary)

12	OPEN	External Trigger Control	Used to trigger remote starter from an external receiver's output (option must be programmed)
13	OPEN	Ground-out	Negative output when running "GROUND OUT"
14	OPEN	Rearm (-)	Provides a 1 second pulse 4 seconds after remote start, and 4 seconds after run timeout or remote shutdown. Will also provide 1 sec pulse when doors are locked by remote.
15	OPEN	Disarm (-)	Provides a 1 second negative pulse 1 second before ignition comes on, upon activation of remote starter. (Disarm). Will also provide 1 sec pulse when doors are unlocked by remote.

5 PIN HARNESS

PIN #	COLOR	POLARITY	DESCRIPTION (Connect to...)
A	RED	+12V Battery	Constant 12 volts *
B	YELLOW	Ignition	Ignition - 12 volts during "RUN" and "START"
C	VIOLET	Crank	Starter - 12 volts during "START" only
D	ORANGE	Accessories	Accessories - 12 volts during "ACC" only
E	RED	+12V Battery	Constant 12 volts *

- NOTE: Constant 12 volts wires must be connected to heaviest gauge 12 volts wires at ignition switch. When there are two constant 12 volts wires at ignition switch wires A and E must be separated (each to their own 12 volts source). When there is only one 12 volts source at ignition switch then and only then can they be connected together.

LIGHT FLASH RATE

FLASHES	RATE	DESCRIPTION
2	Slow	System has reset. Should occur when Valet switch is turned ON. No Tach pulse detected during crank. Should not occur if no pulse is detected within 2 seconds of cranking 'the unit will force a reset'
3	Slow	If Parking lights stayed ON for 5 seconds then flashed 3 times slowly when Valet switch was turned ON, the unit detected the Ignition line was ON, The Hood switch line was grounded and no transmitter was learned.
1	Quick	Button confirmation or end of run time or time canceled or door locks.
3	Quick	Remote start is locked out. See Tach watch lockout.
4	Quick	Indicates that the unit has detected the brakes and cancelled the cranking or run cycle.
5	Quick	New remote learned.
10	Quick	Hood was open unit cancelled cranking or run cycle.
8	Quick	Memory being reset: Occurs when resetting unit on power-up.
On	4 seconds	If Parking lights goes ON for 4 seconds, the Hood was opened and the Hood switch line was grounded.
Erratic		If the unit flashes erratically (1to3 flashes, followed by a pause then more flashes), it might be in playback mode. This occurs when the Hood switch was press 3 times.

