

DIGITALLY ENCODED SECURITY SYSTEM (D.E.S.S.)

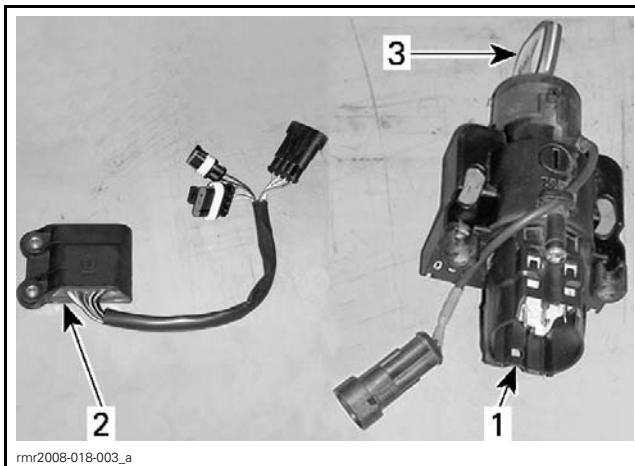
SERVICE TOOLS

Description	Part Number	Page
MASTER KEY	529 036 106	2-3

GENERAL

SYSTEM DESCRIPTION

The D.E.S.S. system is an electronic anti-start system that allows engine starting only with a programmed key.



1. Ignition switch
2. D.E.S.S. module
3. Ignition key with a ROM chip

The ignition key contains a ROM chip that includes a digital type code.

The 2 keys that come with the Roadster have been programmed at the factory. Up to 4 keys can be programmed on the Roadster.

SYSTEM OPERATION

When the ignition switch is turned to the ON position, the D.E.S.S. module is energized and a signal is sent by radio wave to an antenna located on the ignition switch. If the D.E.S.S. module recognizes the ignition key code, it sends a run signal to the ECM which allows engine cranking to take place. If the D.E.S.S. module does not recognize the code, the cluster will display "BAD KEY" (it can take up to 40 seconds before the message displays).

If all vehicle keys have been lost, the ignition switch **AND** D.E.S.S. module must be replaced.

PROCEDURES

KEYS

General Information on Programming Keys

The D.E.S.S. module is programmed to recognize the digital code in the key.

A master key is used to program keys.

The cluster will display guiding tips during key programming.

During the programming process, all keys will be erased (the first key installed after removal of the master key will erase the previous key(s) and this key will be the first newly programmed key).

If you want to reuse previously programmed keys, you must reprogram them.

A minimum of 2 keys **MUST** be programmed.

The second key must be programmed within 2 minutes. Otherwise, the D.E.S.S. module will remain in programming mode and the following conditions will occur:

- Engine will start, then stop after 2 minutes.
- When the ignition is turned OFF, current drain will be higher than usual and the battery will completely discharge within 1-2 weeks if the vehicle is not used.

If key programming was successful, the cluster will display a "SUCCESS" message. If the cluster does not display this message, the new key programming will not be stored. The entire procedure must be repeated from the beginning.

If the programming session is not correctly completed, no changes are saved in the D.E.S.S. module.

Adding/Reprogramming Keys

The following procedures describe how to program keys on a vehicle that has already at least one programmed functional key.

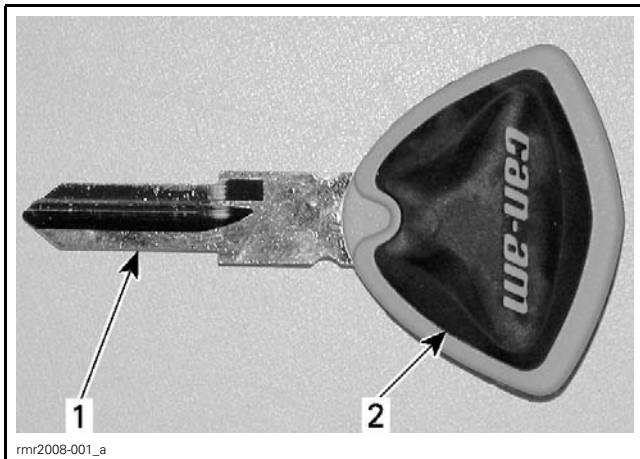
NOTE: Additional keys to program must be precut to the ignition switch.

Subsection XX (DIGITALLY ENCODED SECURITY SYSTEM (D.E.S.S.))

To add or reprogram a key, carry out the following steps:

1. Insert an already programmed functional key into the ignition switch.
2. Turn the ignition key to "ON".
3. Turn the ignition key to "OFF".
4. Wait five (5) seconds.
5. Remove programmed key.
6. Insert MASTER KEY (P/N 529 036 106).

NOTE: The master key is purposely "not cut" and will not turn in the ignition switch.



MASTER KEY
1. No notches
2. RED colored

7. Wait until the cluster displays "MASTER".
 8. Remove the master key.
 9. Insert a key to program.
 10. Turn ignition switch to "ON".
 11. Wait until cluster displays "NEXT KEY".
 12. Turn ignition switch to "OFF".
 13. Remove key.
 14. Insert next key to program.
 15. Turn ignition switch to "ON".
 16. Wait until cluster displays "NEXT KEY".
- NOTE:** If there are at least two keys programmed and you do not wish to program more keys (4 maximum), leave the last programmed key in the ignition switch. If you wish to program another key, repeat the previous five steps.
17. Wait until cluster displays "SUCCESS".
 18. Turn ignition switch to "OFF".
 19. Remove key.
- Key programming procedure is complete.

NOTE: When the maximum of four keys are programmed, the cluster will display "SUCCESS".

Start engine and let run for more than 2 minutes. If engine does not stop on its own after 2 minutes, programming mode is complete.

Programming Keys with a New D.E.S.S. Module

The following procedures describe how to program keys on a vehicle when the D.E.S.S. module has been replaced.

After installation of a new D.E.S.S. module (with or without a new ignition switch), the module will automatically go into programming mode when the ignition switch is first turned ON.

NOTE: No master key is required.

To program the ignition keys into the new D.E.S.S. module, carry out the following steps:

1. Insert first key to program into the ignition switch.
 2. Turn the ignition key to "ON".
 3. Wait until cluster displays "NEXT KEY".
 4. Turn ignition switch to "OFF".
 5. Remove key.
 6. Insert the second key to program.
- NOTE:** A new D.E.S.S. module will allow programming of two keys initially. If you wish to program more than two keys, refer to *ADDING/REPROGRAMMING KEYS* after this procedure is completed.
7. Turn ignition switch to "ON".
 8. Wait until cluster displays "SUCCESS".
 9. Turn ignition switch to "OFF".
 10. Remove key.

Key programming procedure is complete.

Start engine and let run for more than 2 minutes. If engine does not stop on its own after 2 minutes, programming mode is complete.

Programming Keys with a New Ignition Switch

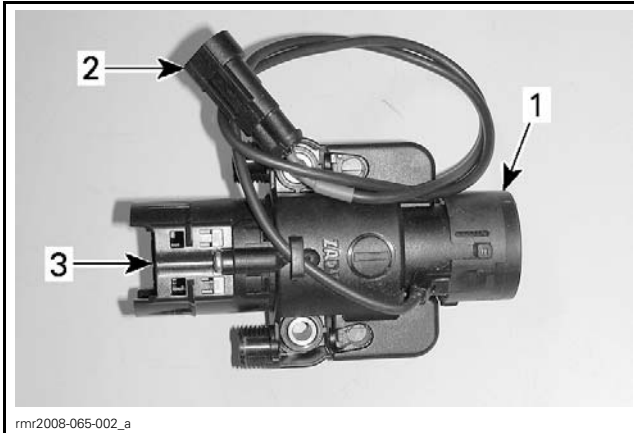
The following procedure describes how to program keys when **only** the ignition switch has been replaced.

NOTE: You must have at least the top portion of an ignition key containing the electronic chip programmed to the vehicle and in good working order to carry out this procedure. If not, both the ignition switch and D.E.S.S. module must be replaced.

Subsection XX (DIGITALLY ENCODED SECURITY SYSTEM (D.E.S.S.))

Replace the ignition switch according to the removal and installation procedures in the *IGNITION SYSTEM* subsection. However, do not install the upper console assembly or other panels removed for access.

Connect only the large ignition switch connector to the new switch at this time. The old ignition switch D.E.S.S. antenna must remain connected to the D.E.S.S. module.

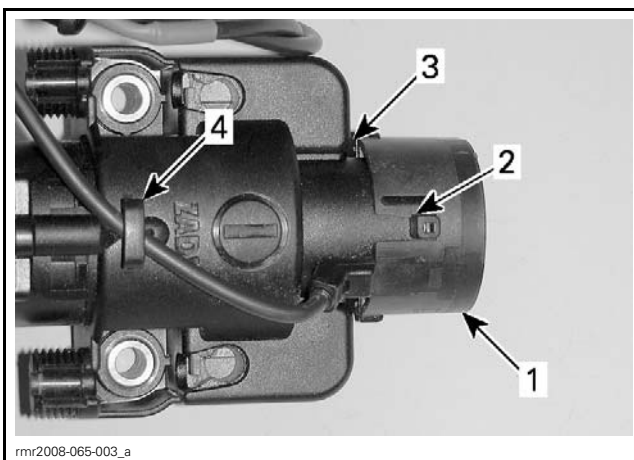


IGNITION SWITCH ASSEMBLY

1. D.E.S.S. antenna ring
2. D.E.S.S. antenna connector
3. Ignition switch connector

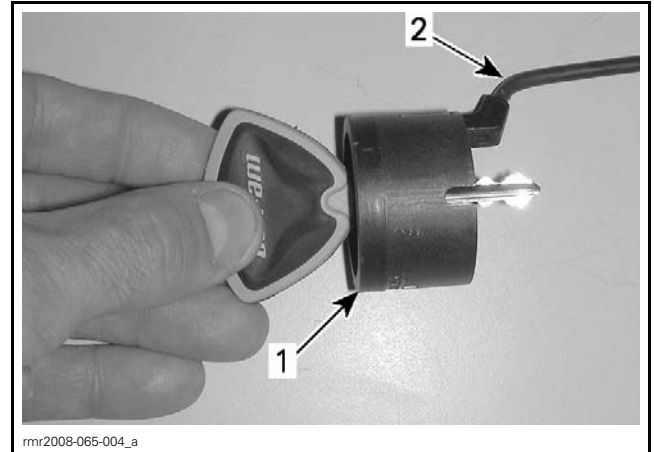
NOTE: The new ignition switch will be used to power ON the vehicle but the old ignition key and antenna must be used for recognition by the D.E.S.S. module.

NOTE: If a key cannot be inserted in the old ignition switch, carefully pry off the D.E.S.S. antenna from the top of the old switch assembly. It will be used during the key programming procedure.



1. Antenna ring
2. Antenna locking pin (one each side)
3. Carefully pry here (each side)
4. Squeeze this clip in to remove from switch assembly

The following illustration shows how to use the old D.E.S.S. antenna for recognition of the old ignition key and master key to put the D.E.S.S. module into programming mode.

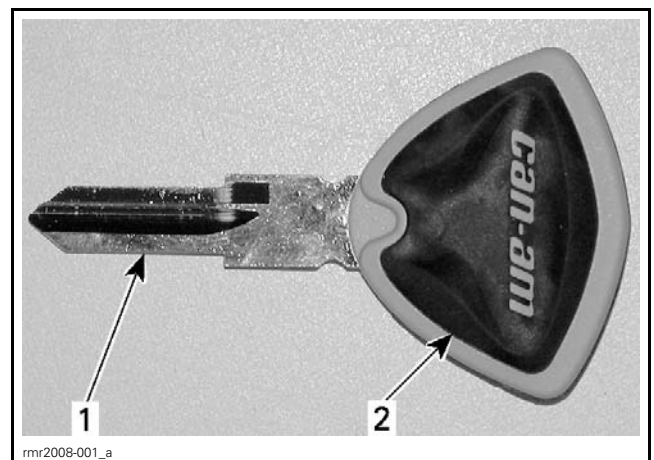


KEY HELD AS IF IN IGNITION SWITCH

1. Antenna ring
2. Antenna wire connected to D.E.S.S. module connector

To program the ignition keys from the new switch into the old D.E.S.S. module, carry out the following steps:

1. Insert the **OLD** programmed key into the **OLD** ignition switch (or old antenna).
2. Insert a **NEW** key in the **NEW** ignition switch.
3. Turn the **NEW** ignition key to "ON" to power the system.
4. Turn the **NEW** ignition key to "OFF".
5. Wait five (5) seconds.
6. Remove the **OLD** programmed key and insert the **MASTER KEY** (P/N 529 036 106) in its place.



MASTER KEY

1. No notches
2. RED colored

Subsection XX (DIGITALLY ENCODED SECURITY SYSTEM (D.E.S.S.))

7. Wait until the cluster displays "MASTER" indicating that the module enters the key programming mode.
 8. Remove the master key.
 9. Quickly disconnect the **OLD** D.E.S.S. antenna and connect the **NEW** D.E.S.S. antenna to the D.E.S.S. module.
- NOTE:** If too much time is used to switch the antenna connectors, the programming may fail and the procedure will have to be repeated from the beginning.
10. Turn **NEW** ignition switch to "ON".
 11. Wait until cluster displays "NEXT KEY".
 12. Turn ignition switch to "OFF".
 13. Remove key.
 14. Insert next key to program.
 15. Turn ignition switch to "ON".
 16. Wait until cluster displays "NEXT KEY".

NOTE: If there are at least two keys programmed and you do not wish to program more keys (4 maximum), leave the last programmed key in the ignition switch.

17. Wait until cluster displays "SUCCESS".
18. Turn ignition switch to "OFF".
19. Remove key.

Key programming procedure is complete.

Start engine and let run for more than 2 minutes. If engine does not stop on its own after 2 minutes, programming mode is complete.

Ensure wiring is properly routed and all connectors properly connected to new switch and D.E.S.S. module.

NOTE: Do not apply dielectric grease in the D.E.S.S. module connectors.

Install the remaining parts, refer to applicable sections.

D.E.S.S. MODULE

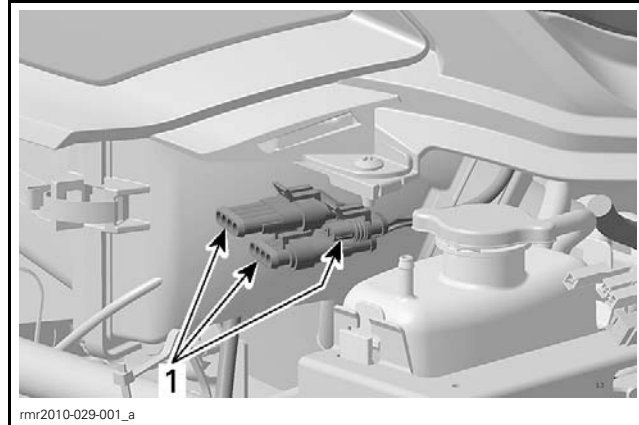


The D.E.S.S. module is located behind the front frame member.

D.E.S.S. Module Replacement

1. Refer to *BODY* and remove console module and service cover.

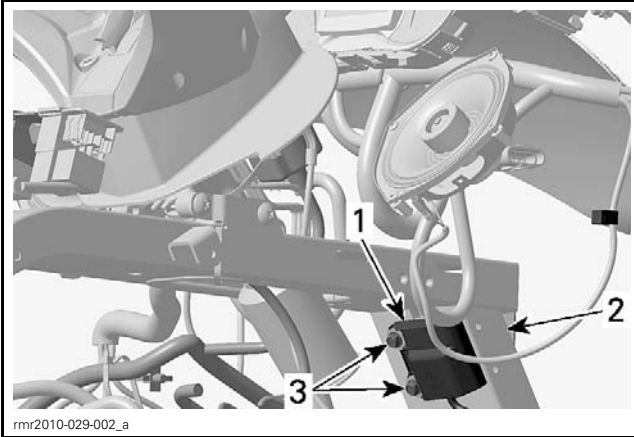
Disconnect the D.E.S.S. module connectors.



PARTS REMOVED FOR CLARITY

1. D.E.S.S. module connectors

Remove the D.E.S.S. module retaining screws.



PARTS REMOVED FOR CLARITY

1. D.E.S.S. module
2. Front frame member
3. Retaining screws

Remove the D.E.S.S. module.

For installation, reverse the removal procedures.
Tighten retaining screws to 7 N•m (62 lbf•in).

NOTICE Do not apply any dielectric grease in the D.E.S.S. module connectors.

Program a minimum of 2 keys into the new module. See *PROGRAMMING KEYS WITH A NEW D.E.S.S. MODULE* in this subsection.