<u>*VACS*</u> - *Vehicle Access Control System*

- VACS is a combined vehicle control and security system which utilizes RFID technology.
- This system allows a driver to enter and start a vehicle without a mechanical key while maintaining a high level of security.

<u>Unlocking the Vehicle</u>

** WAKING UP SYSTEM **

If the vehicle is unused for greater than an hour then it is necessary to wake up the system using one of the following methods:

> ***Hold the transponder in position for up to 5 seconds.***
> Pressing an interior door release switch.
> Starting the engine.

FROM OUTSIDE
- Slowly pass the transponder in front of the Access Reader. This will unlock the door for 5 seconds.
- **For optimum performance hold transponder 3-6 inches from Access Reader**

FROM INSIDE
- ***A transponder is not needed to open a door from the inside.***
- Press the interior door unlock switch. This will also unlock the door for 5 seconds.
- The side and bulkhead doors may be unlocked manually by pushing the tab on the locking mechanism and pulling the door at the same time.
- The rear rollup door may be unlocked manually by pushing the tab which is located on the bottom of the locking mechanism while unlatching and pulling the the door up.
- *Note:* **The system may be operated a maximum of 3 times per minute. If a fourth attempt is made, the Access Reader will flash a RED LED and not operate.**

EMERGENCY ENTRANCE
- In the event of a dead battery, the vehicle may be entered with a key via the rear rollup door

INTERIOR LIGHTS
- The interior lights will be activated when:
  - (1) a transponder is read by one of the Access Readers
  - (2) one of the doors is opened
  - (3) the ignition is shut off
- If no doors are opened after the interior lights are activated, the lights will extinguish after 10 seconds.
- If a door is opened, the lights will extinguish 10 seconds after the door is closed.
- If a door is left open, the interior lights will extinguish after 5 minutes.

<u>Starting & Stopping Vehicle</u>

- ***Vehicle will not respond unless it reads a programmed transponder***
- Make sure all doors are closed tight. While pressing the ***GREEN START SWITCH***, a flashing RED LED on the Ignition reader indicates that a door is ajar.
- **For optimum performance hold transponder 2-6 inches from Ignition Reader**

ACTIVATING ACCESSORIES
- Place hand above the ignition control reader and press the ***GREEN START SWITCH*** for less than 1/2 second. This will activate the accessories

STARTING ENGINE
- Place hand above ignition control reader and press the ***GREEN START SWITCH*** for more than 1/2 seconds

Revised 10/19/98

Note: **You have *10 seconds* after the start switch is released to try and restart the vehicle. If this time has expired, the red stop switch has to be pressed, and then the green start switch has to be pressed again to start the engine.**

STOPPING ENGINE
- No transponder is needed to shut off the accessories or the engine.
- Press ***RED STOP SWITCH*** for more than 1/4 seconds. Engine will stop and interior lights will activate for 10 seconds.

<u>Security Modes</u>

There are three security modes:

Door Opened	The security system will be armed 10 seconds after a door is opened. Alarm is triggered via motion sensors. All doors must be closed to start vehicle.
Door Closed	An exterior door must first be opened. The security system will then be armed 10 seconds after all exterior doors are closed. Alarm is triggered via motion sensors and door sensors. All doors must be closed to start vehicle.
Maintenance	The security system will not activate. The vehicle may be started with open doors.

<u>Changing Security Mode</u>

- Place ignition in either Accessories ON or Engine Run mode.
- Using either a wrist band transponder or ***Master Fob***, press the ***BLACK ALARM CONTROL SWITCH*** .
- When using the Master Fob, modes will cycle between
  - **Door Open** - Red LED illuminated
  - **Door Closed** - Yellow LED illuminated
  - **Maintenance** - NO LED illuminated
- When using a wrist band, modes will cycle between
  - **Door Open** - Red LED illuminated
  - **Door Closed** - Yellow LED illuminated
  - Note: Maintenance mode cannot be entered with a wrist band.
- Starting the engine with a ***Master Fob*** will automatically place the vehicle in maintenance mode.

<u>Disarming/Deactivation of Alarm</u>

- The Alarm can be deactivated by any of the following methods:

  - (1) A valid transponder code is read by a Access Reader.
  - (2) Starting the vehicle with a valid transponder or master code.
  - (3) Placing the vehicle in "programming" mode via the ignition switch module.

If the alarm is disarmed/deactivated and the vehicle is not started, the system will arm itself after 10 seconds!

VACS - *Transponder Programming*

- **Programming can be conducted at any of the readers on the vehicle. All system modules will receive the new codes via a communications bus.**
- **The system can hold up to 10 unique codes.**
- **All Access Readers which are not the source of programming will be <u>inactive</u> while in programming mode. This state is indicated by constant illumination of the red LED.**
- **The system provides 3 programming functions.**
  - (1) <u>*Add*</u> new transponder codes to an existing bank of codes in memory (10 maximum)
  - (2) <u>*Delete*</u> current transponder codes in memory and add new codes
  - (3) <u>*Change Master Code*</u> and delete current transponder codes in memory

Programming via Access Reader

<u>*Add*</u> new transponder codes to an existing bank of codes in memory
- Slowly pass the *Master Fob* by the Access Reader and observe that the red LED in the Access Reader will flash once. This indicates that the system is in the *add mode* of operation.
- Slowly pass an unprogrammed transponder by the Access Reader and observe that the red LED will quickly flash twice. This indicates that the transponder has been added to the *systems' memory.*
- You may continue to add codes to the *systems' memory* by simply passing unprogrammed transponders by the Access Reader.
- There are three methods of exiting this mode of operation.
  - (1) Pass a programmed transponder by the reader (for example, the transponder that was just added)
  - (2) Pass the *Master Fob* by the reader
  - (3) Programming mode will be exited automatically after 10 codes have been stored.
  - *The red LED will flash once to indicate that the operator has exited the programming mode.*

<u>*Delete*</u> current transponder codes in memory and <u>*Add*</u> new codes
- Slowly pass the *Master Fob* by the Access Reader once, and then pass it by the reader a *second time* (observing that the red LED in the Access Reader will flash once and then twice). This indicates that the system is in the *delete mode* of operation.
- Slowly pass a transponder by the Access Reader and observe that the red LED will quickly flash twice. This indicates that all existing codes in memory have now been deleted and the current transponder has been added to the *systems' memory*.
- You may continue to add codes to the *systems' memory* by simply passing unprogrammed transponders by the Access Reader.
- There are three methods of exiting this mode of operation.
  - (1) Pass a programmed transponder by the reader
  - (2) Pass the *Master Fob* by the reader
  - (3) Programming mode will be exited automatically after 10 codes have been stored.
  - *The red LED will flash once to indicate that the operator has exited the programming mode.*

<u>*Add*</u> a new *Master Code* and <u>*delete*</u> current transponder codes in memory
- Slowly pass the *Master Fob* by the Access Reader once, twice and again a *third time* by observing that the red LED in the Access Reader will flash once, and then twice, and then three times. This indicates that the system is in the *add new Master Code* mode of operation.
- If the existing *Master Fob* is passed by the Access Reader a fourth time, the red LED will flash once indicating that the operator has exited the programming mode with *no changes* made to the stored codes.
- Slowly pass a transponder by the Access Reader and observe that the red LED will quickly flash twice indicating that this transponder is now the new *Master Code*, and then the red LED will flash once again indicating that the operator has exited the programming mode.
- To add codes to the system, now use the *new Master Code* and enter the *add codes* mode of operation.

Revised 10/19/98

- <u>*DO NOT*</u> leave the system in programming mode, as this will disable the *door modules* for an hour.

Programming via Ignition Reader

- *Programming Modes can only be entered when the vehicle is off .*

- *The vehicle is not allowed to start if programming from the ignition control reader.*

- *Instructions for Access Readers apply with the following additions/exceptions.*

Exceptions:
  - (1) Hold the *Master Fob* above the Ignition Reader and press the black alarm control switch in order to activate programming mode.
  - (2) Press the black alarm control switch in order to add and delete codes while holding the new transponder above the Ignition Reader.
  - (3) Pressing the black control switch while holding a programmed transponder will not result in any action.
  - (4) Press the red stop switch to exit programming mode.

This device complies with FCC rules Part 15. 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 that causing undesired operation.