



Operation & Service Manual



Vehicle Access Control System for Utilimaster Walk-In Vans

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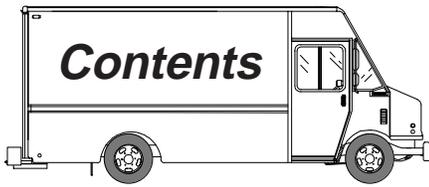
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Introduction

This manual lists operation, service, and maintenance procedures for Vehicle Access Control System (VACS) in Utilimaster walk-in van bodies. It contains drawings and procedures to aid in servicing the vehicle. This manual covers only those assemblies manufactured by or installed by Utilimaster® Corporation. Items such as chassis and drive train components or certain interior furnishings are covered by separate manufacturer-supplied information.



NOTE: *This service information is generic. Details in illustrations and procedures may differ from the VACS installation in your vehicle. Use this information as a guideline where it applies.*

All information, specifications, and illustrations contained in this manual are based on the latest product information available at the time of publication. Utilimaster reserves the right to amend the information in this document at any time without prior notice.

Vehicle Identification Number (VIN), Body Serial Number, and Work Order Numbers

VIN

The 17-digit chassis **Vehicle Identification Number (VIN)** is the legal identifier for this vehicle and is the number recorded in the license plate registration. The VIN appears on a label on the dash cowl extrusion on the driver's side. You can read the VIN if you look through the quarter-panel window. (See Illustrations LA-10 and LA-12.) The number is also recorded on the Federal Certification Label. (See Illustration LA-20.)



LA-10
Vehicle Identification Number

Body Serial Number

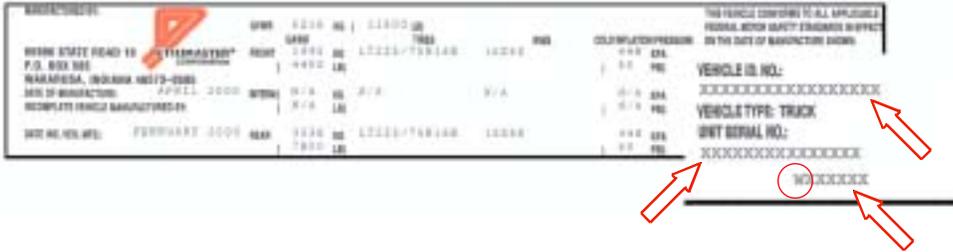
The 15-digit **Utilimaster Body (or Unit) Serial Number** is recorded on the **Federal Certification Label**. This label is a plastic decal (about 11" long and 2" high) that contains a variety of manufacturing information (including the VIN). This label is found between the quarter window and door. (See Illustrations LA-15 and LA-20).



LA-12
Vehicle Identification Number Beside Dash

Work Order Number

A 7-digit **Work Order Number** appears below the Unit Serial Number on the Federal Certification Label. (See Illustration LA-20.)



LA-20
Federal Certification Label



LA-15
Federal Certification Label on
Door Post

Recommend Tools

Below are some tools that may also be required in addition to the more commonly used hand tools (drills, wrenches, etc.) in vehicle body repair.

- Torque wrenches (any quality sets with in•lb and ft•lb [or N•m] measurements)
- DVOM (Digital Voltmeter)
- Terminal tool kit (Snap-On TT600 recommended)
- Terminal extraction tool (Mini-Fit™ 11-03-0044 recommended)
- Memory saver

Notes, Cautions, and Warnings

As you read through the procedures, you will come across NOTES, CAUTIONS, and WARNINGS. Each one is there for a specific purpose.



- **NOTES** give you additional information that will help you to complete the procedure.
- **CAUTIONS** warn you against making an error that could damage the vehicle.
- **WARNINGS** remind you to be careful when there is a risk of personal injury.

Below are some basic WARNINGS that you should heed when you work on the vehicle's body. They are not all inclusive, however, and common sense must be used when servicing vehicles.

- Always read and understand all the instructions before starting the repair
- Always wear safety glasses and wear other proper protective equipment (gloves, steel-toed shoes, face shields, knee pads, hearing protection) as appropriate to the process.
- Use safety stands and/or wheel blocks whenever you are underneath the vehicle.
- Put the transmission in Park and set the parking brake before working on the vehicle.
- Be sure that the ignition switch is Off unless otherwise required by the procedure.
- Operate engines only in well-ventilated areas.
- Keep yourself and your clothing away from the radiator fan, belts, and any moving parts when the engine is running.
- Keep hands and other objects clear of the radiator fan blades. The electric fan can start at any time even though the ignition is Off. Disconnect the fan when working under the hood.
- Avoid contact with hot metal parts, such as the radiator or exhaust system.
- Always remove rings, watches, hanging jewelry, and loose clothing before working on a vehicle. Tie long hair securely behind your head.
- Become familiar with all warning labels.
- Use only tools that are in good condition, and use them only in the appropriate manner.
- If at any time you are not confident that perform the described repairs or operate the needed tools safely and correctly, STOP! Call your local dealer or Utilimaster representative.

NOTE: This service information is generic. Details in illustrations and procedures may differ from your vehicle. Use this information as a guideline where it applies.

Operation and Service Information

1.0 Overview

1.1 Definitions

VACS is a combined vehicle access, control, and security system which utilizes Radio Frequency Identification (RFID) technology. This system allows a driver to enter and start a vehicle without a mechanical key while maintaining a high level of security. The system is composed of the following components:



Wristband Transponder (arrow) and (optional) Ignition Reader



Control Module



Master Programming Card



Access Reader

1.2 Part Numbers

Actuator, LH side and bulkhead door	P/N 08610834
Actuator, RH side door	P/N 08610835
Actuator, rear roll-up door	P/N 08610836
Control module	P/N 16512776
Reader	P/N 16512777
Transponder with wristband	P/N 16512627
Wristband only (12")	P/N 21000525

1.3 Types of Master Programming Cards

Card Features	T1000 Transport Card	Depot (or Station) Card
Label (on back)	T1000	A different 5-digit numeric code
Codes	Universal (all the same)	Unique for location/unit
Function (fleets)	<ul style="list-style-type: none"> • Delivery of new vehicles • Replacing control modules 	<ul style="list-style-type: none"> • Normal programming • Replacing control modules
Function (owners/operators)	<ul style="list-style-type: none"> • Replacing control modules 	<ul style="list-style-type: none"> • Normal programming • Replacing control modules

1.4 Receiving New Vehicles (Fleets)

When new VACS-equipped vehicles are shipped from Utilimaster, their VACS systems are usually programmed to recognize the universal **T1000 transport programming card**. When the fleet customer receives the vehicle, that vehicle's system should be reprogrammed to recognize the customer's unique **depot (or station) programming card**. For this procedure, see Section 3.4.1.3 of this manual or Mode 3 on the *VACS Programming Guide* (included as an appendix in this manual).

After reprogramming the system, keep the T1000 card in a safe place in case a control module ever needs replacing.

1.5 Receiving New Vehicles (Owners/Operators)

When new VACS-equipped vehicles are shipped from Utilimaster to owner/operators, their VACS systems are usually already programmed to recognize the customer's unique (unit) programming card. However, they still receive a T1000 card in case a control module ever needs replacing.

1.6 Replacing Control Modules

After an Access Control Module (see Section 4.1.5) or Ignition Control Module (see Section 4.2.9) is replaced, the new module must be resynchronized with the other modules. Both a T1000 transport programming card and the customer's unique depot programming card are required for this procedure.

2.0 Fuses

In addition to the chassis fuses (that vary per manufacturer) there are two replaceable blade fuses on the body. One is located at the vehicle batteries (Illustration VA-02) and one outside the horn box (Illustration VA-04).



*Illustration VA-02
Fuse at battery*



*Illustration VA-04
Fuse by horn box*

NOTE: This service information is generic. Details in illustrations and procedures may differ from your vehicle. Use this information as a guideline where it applies.

3.0 Vehicle Access Control System (VACS) - Operation

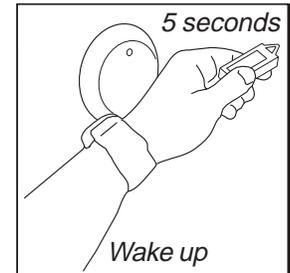
3.1 Waking Up and Unlocking System

NOTE: The door latches may be electronically activated a maximum of 3 times per minute. If this rate is exceeded, then the red LED on the Access Reader will flash and the reader will be inoperative until the rate limit has been met.

NOTE: For optimum performance, hold a wristband or key fob transponder 3–6 inches from the Access Reader.

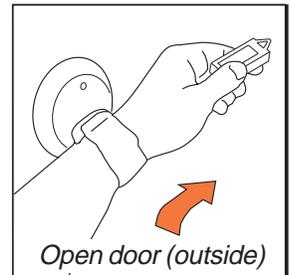
If the vehicle is unused for greater than an hour, then it is necessary to wake up the system using one of the following methods:

- Hold the transponder in position by any Access Reader for up to 5 seconds.
- Pressing an interior door release switch.
- Starting the engine



3.1.1 Unlock From Outside

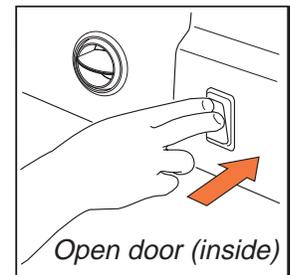
- To unlock a cab exterior door from the outside, the rear door from the outside, or the bulkhead door from the cab side, slowly pass the transponder in front of the access reader. This will unlock the door for 5 seconds.



3.1.2 Unlock From Inside

NOTE: A transponder is not required to open a door from the inside.

- To open a cab door from inside the cab, press the door unlock switch (mounted on the dash). This will unlock the door for 5 seconds.
- To open the bulkhead door from inside the cargo area, press the button mounted beside the bulkhead door. This will unlock the door for 5 seconds.
- To open the rear door from inside the cargo area, press the button mounted beside the rear door. This will 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 roll-up door may be unlocked *manually* by pushing the tab which is located on the bottom of the locking mechanism while unlatching and pulling the door up.



3.1.3 Emergency Entrance and Exit

- In the event of a dead battery, the vehicle may be entered with a key via the rear roll-up door. Remove the reflective decal if present to allow key insertion.
- Each door deadbolt can be manually operated from the interior.



3.1.4 Interior Lights

The interior lights will turn on when:

- A transponder is read by one of the Access Readers.
- One of the doors is opened.
- The ignition is shut off

The interior lights will turn off again after 10–60 seconds.

- 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 60 seconds.

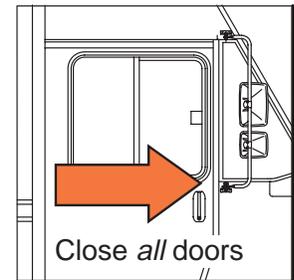
3.2 Starting and Stopping Vehicle

NOTE: Vehicle will not respond unless it reads a programmed transponder.

NOTE: For optimum performance, hold transponder 3–6 inches from the Ignition Reader.

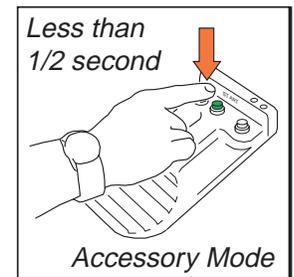
NOTE: All doors (including the bulkhead door) must be closed to start the vehicle in normal operation.

NOTE: A Red LED on the Ignition Control Reader will flash when the Green Start Switch is pressed indicating that a door is ajar.



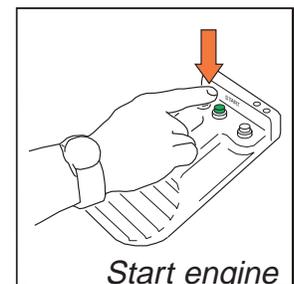
3.2.1 Activating Accessories

- Place the hand with the transponder strapped to the wrist above the Ignition Control Reader and press the Green Start Switch for *less than 1/2 second*. This will activate the accessories.



3.2.2 Starting Engine

- On **gas** engines, place hand with the transponder above ignition control reader, and press the green start switch until engine starts.
- On **diesel** engines, place hand with the transponder above ignition control reader, and press the green start switch for less than 1/2 second or until the instrument panel lights turn on. After the “Wait to Start” light goes off, press the green start switch until engine starts.



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.

3.2.3 Stopping Engine

NOTE: No transponder is needed to shut off the accessories or the engine.

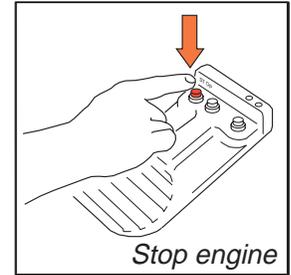
- Press the Red Stop Switch for more than 1/4 second. The engine will stop, and interior lights will activate for 10 seconds.

3.3 Vehicle Security

NOTE: All doors must be closed to start vehicle in normal operation.

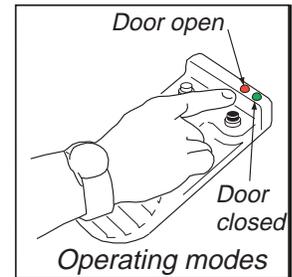
3.3.1 Operating Modes

NOTE: If the alarm is disarmed/deactivated and the vehicle is not started or in accessory mode, the system will arm itself after 10 seconds.



VACS has two operating modes. To toggle between modes (while in accessory mode or when engine is running), press the black mode button.

- **Door Opened** (Red LED): The security system will be armed 10 seconds after any exterior door is opened.
- **Door Closed** (Yellow LED): The security system will be armed 10 seconds after all exterior doors are closed.
- **Maintenance** (No LED—Available only through programming card: The security system will not activate. The vehicle may be started with open doors.



3.3.2 Changing Security Mode

NOTE: Starting the engine with a Programming Card will automatically place the vehicle in maintenance mode.

NOTE: Maintenance mode cannot be entered with a wrist band.

1. Place ignition in either Accessories On or Engine Run mode using a Wristband Transponder or Programming Card.
2. Using either a Wristband Transponder or Programming Card, press the Black Alarm Control Switch.

When using the Programming Card, modes will cycle between:

- Door Open—Red LED illuminated.
- Door Closed—Yellow LED illuminated.
- Maintenance—No LED illuminated.

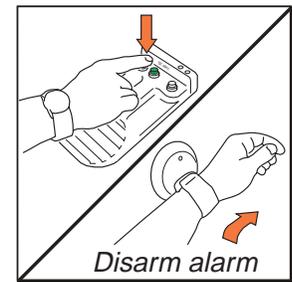
When using a Wristband Transponder, modes will cycle between:

- Door Open—Red LED illuminated.
- Door Closed—Yellow LED illuminated.

3.3.3 Disarming/Deactivation of Alarm

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

- A valid transponder code is read by an Access Reader.
- Starting the vehicle with a valid transponder or Programming Card.
- Placing the vehicle in Programming mode via the Ignition Switch Module.
- Alarm will cease after three minutes of continuous activation.



NOTE: If the alarm is disarmed/deactivated and the vehicle is not started or put in accessory mode, the system will arm itself after 10 seconds.

3.4 Transponder Programming

*NOTE: See also the **VACS Programming Guide** (P/N 03102519-RY01EN), which is a single laminated sheet for easy reference (and reproduced as an appendix in the back of this manual).*

- Programming can be conducted at any of the readers on the vehicle. (See Section 3.4.2 for Ignition Reader programming.) 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 inactive while in programming mode. This state is indicated by constant illumination of the Red LED.
- The system provides three programming functions.
 - **Add** new transponder codes to an existing bank of codes in memory (10 maximum).
 - **Delete** existing transponder codes in memory and add new codes.
 - **Change Programming Card** and delete existing transponder codes in memory.

3.4.1 Programming via Access Reader

3.4.1.1 Add New Transponder Codes to an Existing Bank of Codes in Memory

1. Slowly pass the Programming Card 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.
2. Slowly pass a non-programmed 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 system's memory.
3. You may continue to add codes to the system's memory by simply passing non-programmed transponders by the Access Reader.

There are four methods of exiting this mode of operation.

- Pass a programmed transponder by the reader (for example, the transponder that was just added).
- Pass the Programming Card by the reader.
- Programming mode will be exited automatically after 10 codes have been stored.
- Programming mode will be exited automatically after 5 minutes of inactivity.

NOTE: The Red LED will illuminate for approximately 1 second to indicate that the operator has exited the programming mode.

3.4.1.2 Delete Current Transponder Codes in Memory and Add New Codes

1. Slowly pass the Programming Card by the Access Reader once, and then pass it by the reader a second time. 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.
2. Slowly pass a transponder by the Access Reader. 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 system's memory.
3. You may continue to add codes to the system's memory by simply passing non-programmed transponders by the Access Reader.

There are four methods of exiting this mode of operation.

- Pass a programmed transponder by the reader.
- Pass the Programming Card by the reader.
- Programming mode will be exited automatically after 10 codes have been stored.
- Programming mode will be exited automatically after 5 minutes of inactivity.

NOTE: The Red LED will flash once to indicate that the operator has exited the programming mode.

3.4.1.3 Add a New Programming Card and Delete Existing Transponder Codes in Memory

1. Slowly pass the Programming Card by the Access Reader once, twice, and again a third time while 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 Programming Card mode of operation.

NOTE: If the existing Programming Card 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.

2. Slowly pass the desired Programming Card by the Access Reader three consecutive times. Each time the new card is passed, the red LED indicator will flash once for each time the card has been passed. After the third pass the system will save the new Programming Card, delete all existing user codes, and exit the programming mode automatically.

NOTE: The red LED will illuminate for approximately one second to indicate that the operator has exited the programming mode.

NOTE: If the new Programming Card is not presented three consecutive times (i.e., any other code is entered after the new Programming Card has been presented at least once), then the programming mode will be exited immediately and no changes will occur.

NOTE: To add codes to the system, use the new Programming Card and enter the Add Codes mode of operation.

3.4.2 Programming via Ignition Reader

NOTE: Programming Modes can only be entered when the vehicle is off.

NOTE: The vehicle is not allowed to start if programming from the Ignition Control Reader.

Instructions for Access Readers apply with the following additions/exceptions:

- Hold the Programming Card above the Ignition Reader and press the Black Alarm Control Switch in order to activate programming mode.
- Press the Black Alarm Control Switch in order to add and delete codes while holding the new transponder above the Ignition Reader.
- Pressing the Black Control Switch while holding a programmed transponder will not result in any action.
- Press the Red Stop Switch to exit programming mode.
- Black Alarm Control Switch is pressed to simulate passing the programming card by an Access Reader.

3.5 FCC Equipment Certification

This device complies with FCC rules Part 15. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including that causing undesired operation.

4.0 VACS - Troubleshooting

4.1 Troubleshooting Access Problems

Perform the following steps then refer to Table 1.

1. Verify that both connectors at the Access Control Module are fully inserted.
2. Press the release switch and note the status of the Reader LED and the latch.
3. Use a wristband transponder and note the status of the reader LED and the latch.

Problem	Probable Cause	Recommended Action
Neither the release switch nor the transponder activate the Door Latch and the Reader LED.	<p>Defective wire harness. No voltage at control module.</p> <p>Access Control Module.</p> <p>Access Reader and Push-button switch.</p>	<ol style="list-style-type: none"> 1. Check voltage at control module connector. If voltage is within limits per section 4.1.1 then investigate the next probable cause. 2. If voltage is not present then troubleshoot and replace or repair harness. 3. Disconnect the 10-pin connector from the control module (if not done so from the previous step) and leave disconnected for approximately 1 minute. 4. Reconnect the 10-pin connector. The red indicator on the Access Reader will flash from 1 to 16 times. While the indicator is flashing, the control module will not respond to inputs. 5. Check the operation of the latch with the release switch and via the reader with a known valid transponder. If both fail to activate the latch then replace the control module per section 4.1.5. 6. If either the release switch or the transponder causes the latch to activate then investigate the next probable cause prior to replacing the control module. 7. Verify that both the release switch and the reader assembly are functional and within specifications per sections 4.1.2 and 4.1.3.
Door Latch does not respond to push-button switch. (Does respond to Transponder.)	<p>Defective Push-button Switch or switch wiring.</p> <p>Access Control Module.</p>	<ol style="list-style-type: none"> 1. Check continuity of switch at control module connector per section 4.1.2. If continuity is present then investigate the next probable cause. 2. If no continuity is present then check at switch. Replace switch or repair wiring as necessary. 3. Replace control module per section 4.1.5.
Door reader (Latch) does not respond to a programmed Transponder. (Does respond to the release switch.)	<p>Transponder defective or not programmed in system.</p> <p>Access Reader.</p> <p>Access Control Module.</p>	<ol style="list-style-type: none"> 1. Check transponder at another door reader or on another vehicle. 2. If transponder is functional then try reprogramming it in the non-responding reader. If it does not program into the system or there is no activity at the reader then investigate the next probable cause. 3. Check reader per section 4.1.3. If measurements are within limits then investigate next probable cause. 4. Replace control module per section 4.1.5.

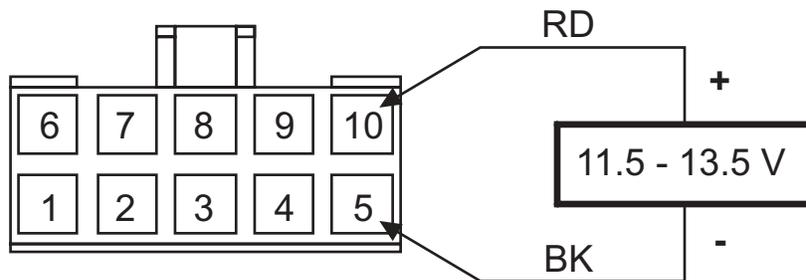
Table 1a Access Troubleshooting

Problem	Probable Cause	Recommended Action
Red LED illuminates but Latch does not activate.	Defective Latch. Access Control Module.	1. Check latch activation voltage at connector per section 4.1.4. If voltage is within limits then replace latch. If voltage is not within limits then investigate the next probable cause. 2. Replace control module per section 4.1.5.
Latch activates but red LED does not illuminate.	Access Reader. Access Control Module.	1. Check reader per section 4.1.3. If measurements are within limits then investigate next probable cause. 2. Replace control module per section 4.1.5.
(In order of probability:) A solenoid activated door latch cycles too fast (does not stay open for 5 seconds) The engine will not start with the VACS, the red LED indicates a door is open although all doors are closed. The engine will not shut off with the VACS. When programming the VACS, not ALL door reader LEDs light up. The VACS alarm sounds when opening an exterior door with a valid transponder. When attempting to start the engine, the cargo/dome lights blink in sequence with the red LED on the ignition reader.	High voltage situation at the communication bus.	1. Check the voltage at J1 connector. (See Section 4.3.) 2. Diagnosis and isolate the module. 3. Replace the defective module.

Table 1b Access Troubleshooting

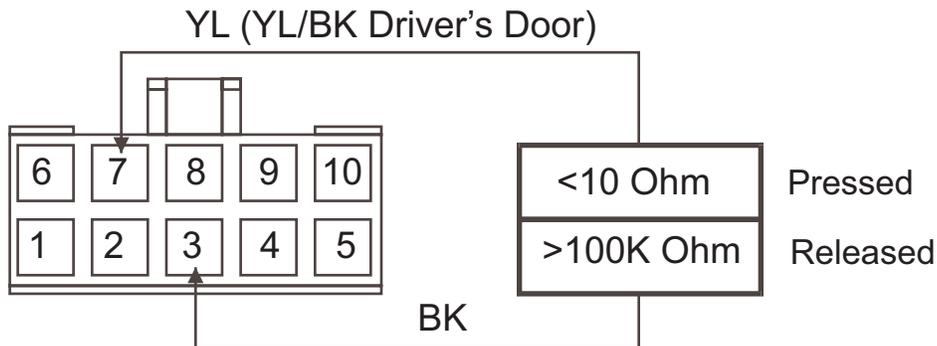
4.1.1 Checking Control Module Harness Voltage

Measure the voltage between terminals 10 and 5 with a DVM.



4.1.2 Checking Push-button Switch Continuity

1. Measure the resistance between terminals 3 and 7 with a DVM.
2. With the Push-button pressed the measurement should be $< 10 \Omega$.
3. With the Push-button released the measurement should be $> 100K \Omega$.

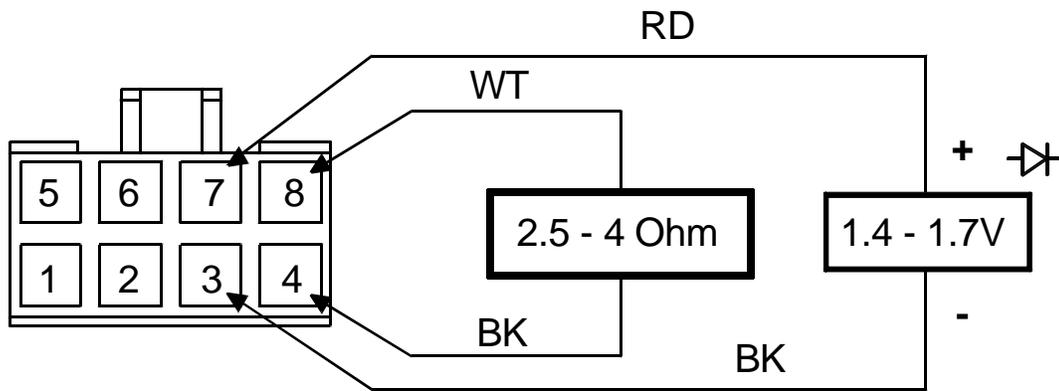


NOTE: Connector Mating View

4.1.3 Checking Access Reader Limits

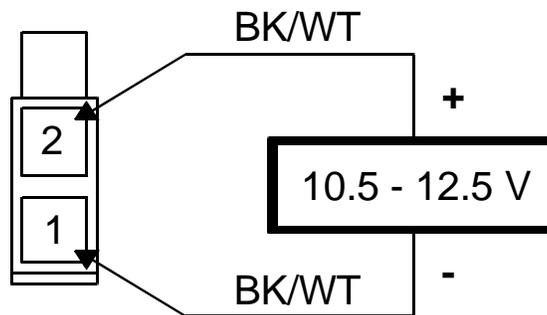
NOTE: Terminals are located in connector locations 3, 4, 7 and 8 only.

1. Check Antenna continuity by measuring resistance between terminals 8 and 4 with a DVM.
2. Check LED continuity by measuring voltage between terminals 7(+) and 3(-) with a DVM that is set to the diode test function.



4.1.4 Checking Latch Activation Voltage

Measure the voltage between terminals 1 and 2 with a DVM while the output is activated.

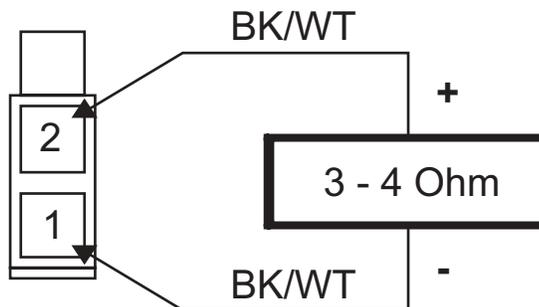


NOTE: Connector Mating View

4.1.5 Checking Latch Resistance

Measure the resistance between terminals 1 and 2 with a DVM.

NOTE: Resistance less than .5 OHMS indicates a defective activator.



NOTE: Connector Mating View

4.1.6 Replacing Access Control Module

NOTE: Whenever an Access Control Module is replaced, the Programming Card and all desired wristband or key fob transponders must be reentered.

1. Prior to replacement, verify that no transponder or Programming Cards are within close proximity (< 3 feet) of any Access Reader on the vehicle.
2. Disconnect the 10-pin (larger) connector then the 8-pin (smaller) connector and remove the defective module.
3. Install the new module. Reconnect the 8-pin connector and the 10-pin connector.
4. At **another** door location use the existing “Depot” Programming Card to convert to the T1000 “Transport” Programming Card (per Section 3.4.1.3). Then immediately, use the T1000 Programming Card to transfer back to the desired Depot Programming Card (again per Section 3.4.1.3). See also Section 1.0.
5. At any location on the vehicle reprogram all desired transponders (per Section 3.4.1.2).
6. Verify functionality of all transponder at all locations. Please note that each door latch can be activated a maximum of three times per minute. After the third activation (in less than one minute) the red indicator on the reader will flash until one minute after the first activation has expired.

NOTE: See also Section 4.4.

4.2 Troubleshooting Ignition Problems

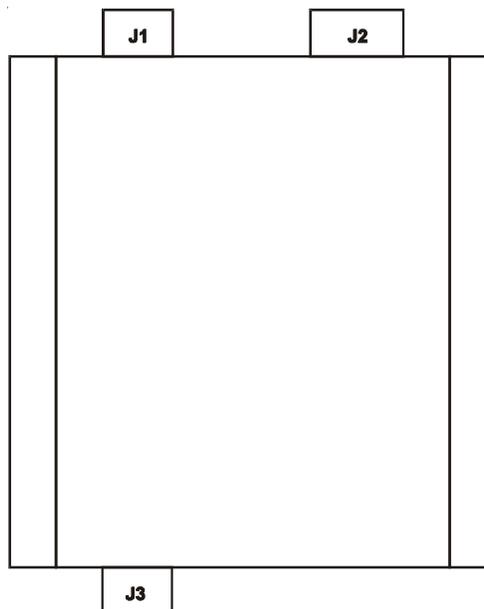
Problem	Probable Cause	Recommended Action
Does not respond to Reader switch activation.	<p>Ignition Reader Module.</p> <p>Defective wire harness. No voltage at control module.</p> <p>Ignition Control Module.</p> <p>Switches not depressed long enough.</p> <p>Interference from CRT (if applicable) or other metallic objects.</p>	<ol style="list-style-type: none"> 1. Check reader antenna and switches per sections 4.2.2 and 4.2.3. If measurements are within limits, then investigate next probable cause. 2. Check connector terminals for signs of severe deformation, excessive contamination, or poor crimp connections. Repair or replace if necessary. 3. Check J1 supply voltage per 4.2.5 (step 1). If measurements are within limits then replace the control module. 4. Disconnect connectors J3 and J1 (if not done so from previous step) and leave disconnected for approximately 1 minute. 5. Reconnect J1 and J3. The red indicator on the Ignition Reader will flash from 1 to 16 times. While the indicator is flashing, the Control Module will not respond to inputs. 6. If the Control Module fails to respond to the reader switch input with a known valid wristband then replace the Control Module per section 4.2.9. 7. If the system functions properly after reconnecting the harness then investigate the next probable causes. 8. Switches need to be depressed a minimum of 0.5 seconds. 9. Remove or move metallic objects from the vicinity of the Reader Module. 10. Reposition CRT.
LEDs do not illuminate.	<p>Ignition Reader Module.</p> <p>Ignition Control Module.</p>	<ol style="list-style-type: none"> 1. Check reader LEDs per section 4.2.4. If measurements are within limits then investigate next probable cause. 2. Replace control module per section 4.2.9.
Reader LED(s) function but one or more ignition relays not activating.	<p>Relays, wire harness.</p> <p>Ignition Control Module.</p>	<ol style="list-style-type: none"> 1. Check the affected relay coil resistance at the J1 connector per section 4.2.5 (Steps 2–4). 2. If measurements are not within limits then replace relay or repair harness as necessary. 3. Replace control module per section 4.2.9.

Table 2a Ignition/Security Troubleshooting

Problem	Probable Cause	Recommended Action
Reader indicates open door when all doors are closed.	Misadjusted defective door sensor switches. Wire harness. Ignition Control Module.	1. At each (or suspected) door location, check for bare, pinched or shorted wires. 2. Independently check each switch by disconnecting one wire and checking continuity in both the door open and door closed state. When the door is closed, check while pulling to extreme positions to verify if an intermittent condition exists. Replace or adjust switch/magnet as necessary. 3. Check door inputs via harness connector J3 per section 4.2.6. Troubleshoot and repair as necessary. 4. Replace control module per section 4.2.9.
Interior Lights or Horn not activated by system.	Relays, wire harness. Ignition Control Module.	1. Check the affected relay coil resistance at the J3 connector per section 4.2.7. 2. If measurements are not within limits then replace relay or repair harness as necessary. 3. Replace control module per section 4.2.9.
Nuisance alarms.	Misadjusted improperly mounted motion sensor(s). Intermittent short in wire harness.	1. Check that each sensor is securely mounted. 2. Reduce sensitivity of suspected sensor per section 4.2.10. 3. Disconnect motion sensor(s) and check harness continuity at harness connector J3 per section 4.2.8.

Table 2b Ignition/Security Troubleshooting

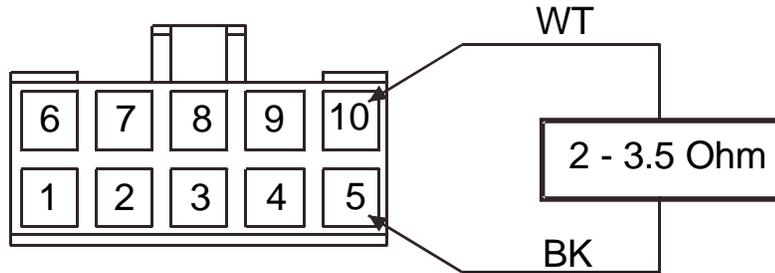
4.2.1 Ignition Control Module Connector Identification



Ignition Module, Top View

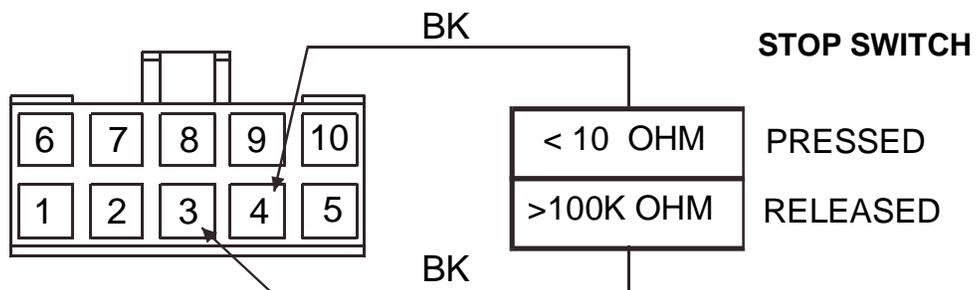
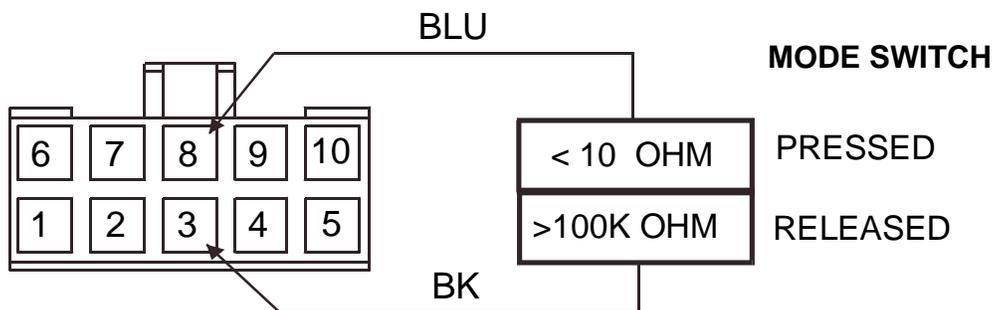
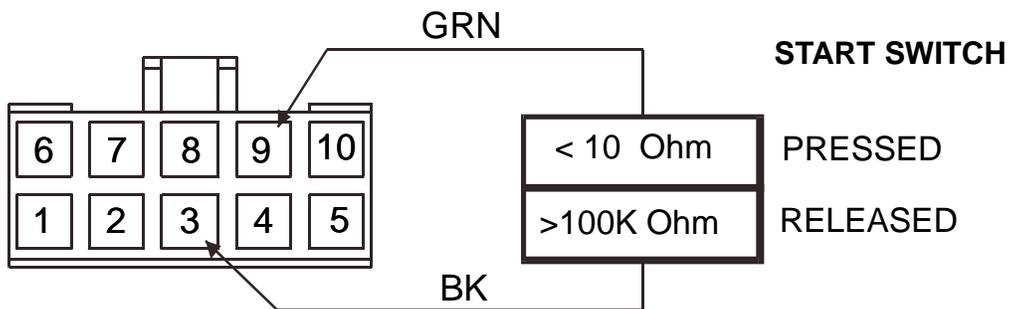
4.2.2 Checking Ignition Reader Antenna Limits - J2

Check antenna continuity by measuring resistance between terminals 10 and 5 with a DVM.



4.2.3 Checking Ignition Reader Switches - J2

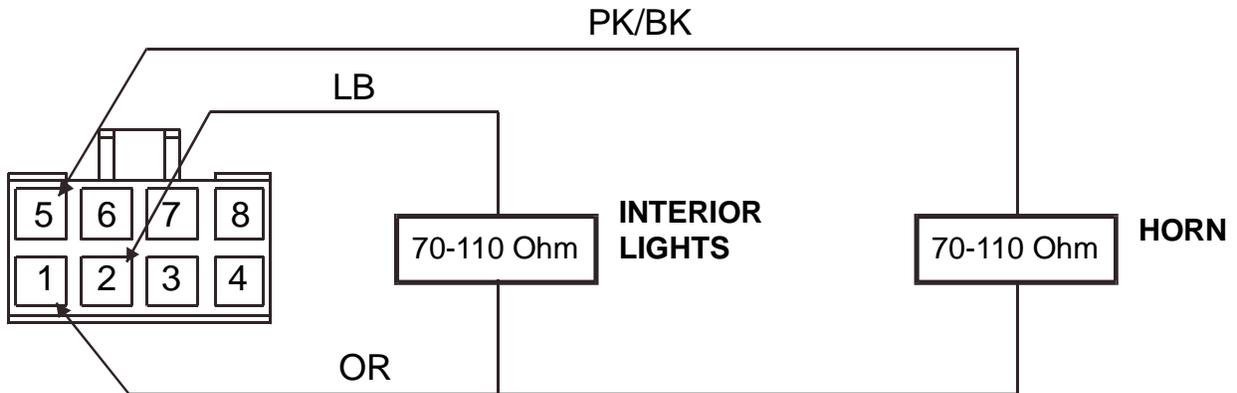
1. Measure the resistance between the appropriate terminals with a DVM.
2. With the Push-button pressed the measurement should be $< 10 \Omega$.
3. With the Push-button released the measurement should be $> 100K \Omega$.



NOTE: Connector Mating View

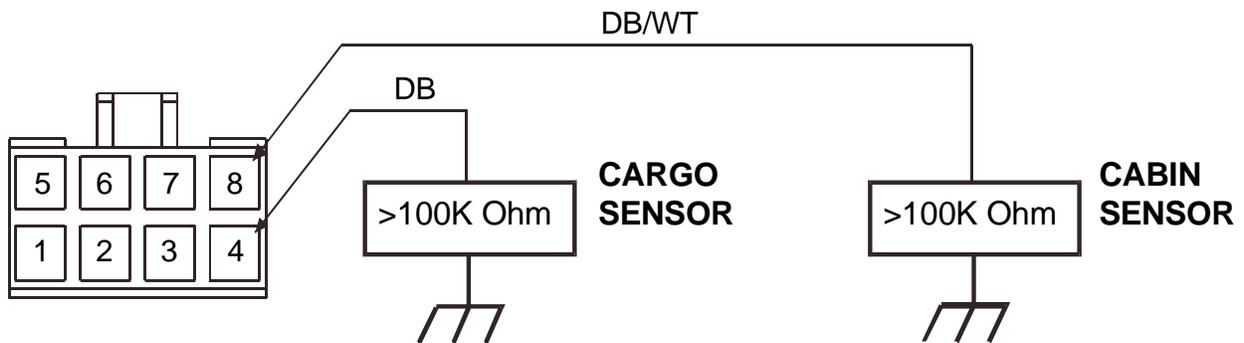
4.2.7 Checking Interior Lights Relay and Horn Relay Coil via Harness Connector - J3

1. Measure the interior lights relay coil resistance between terminals 1 and 2 with a DVM.
2. Measure the horn relay coil resistance between terminals 1 and 5 with a DVM.



4.2.8 Checking Motion Sensor Harness via connector J3

1. Disconnect motion sensor(s).
2. Measure the resistance between the appropriate terminals and chassis ground with a DVM.



NOTE: Connector Mating View

4.2.9 Replacing Ignition Control Module

NOTE: Whenever an Ignition Control Module is replaced, the Programming Card and all desired wristband transponders must be reentered.

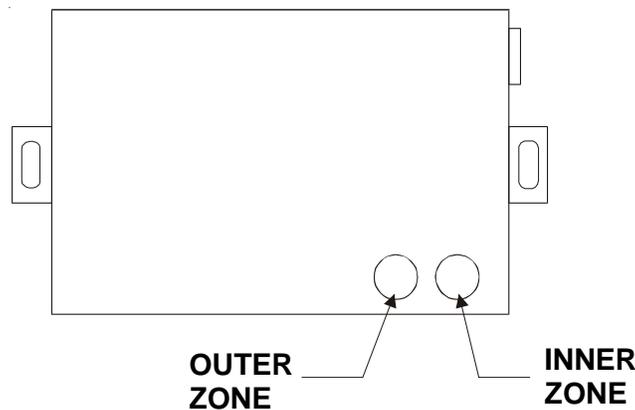
1. Prior to replacement verify that no transponder or Programming Cards are within close proximity (< 3 feet) of any Access Reader on the vehicle.
2. Disconnect connector J3, then J2 and J1, and remove the defective module.
3. Install the new module. Reconnect J1, J2, and J3.
4. At **any door** location use the existing “Depot” Programming Card to convert the T1000 “Transport” Programming Card (per Section 3.4.1.3). Then immediately, use the T1000 Programming Card to transfer back to the desired Programming Card (again per Section 3.4.1.3). See also Section 1.0.
5. At any location on the vehicle, reprogram all desired wristband transponders (per Section 3.4.1.2).
6. Verify functionality of all transponders at all locations. Please note that each door latch can be activated a maximum of 3 times per minute. After the third activation (in less than 1 minute), the red LED indicator light on the Reader will flash until 1 minute from the first activation has expired.

NOTE: See also Section 4.4.

4.2.10 Adjusting the Motion Sensor

NOTE: Turn clockwise to increase or counterclockwise to decrease sensitivity.

1. Wait approximately 1 minute to check results after making an adjustment.
2. Adjust the outer zone such that the Green LED on the sensor illuminates upon entering a doorway.
3. Adjust the inner zone such that the Red LED on the sensor illuminates while approaching the sensor just prior to reaching it.



Motion Sensor Adjustment

4.3 Problems Caused by High Voltage on the Communication Bus

4.3.1 Overview

The VACS system installed on some vehicles has displayed characteristics that have been cause for confusion and misdiagnosing component failures. A high voltage condition at the communication bus can create a variety of symptoms that should be checked **before** replacing any components.

4.3.2 Symptoms

In order of probability:

1. A solenoid activated door latch cycles too fast (does not stay open for 5 seconds)
2. The engine will not start with the VACS, the red LED indicates a door is open although all doors are closed.
3. The engine will not shut off with the VACS.
4. When programming the VACS, not ALL door reader LEDs light up.
5. The VACS alarm sounds when opening an exterior door with a valid transponder.
6. When attempting to start the engine, the cargo/dome lights blink in sequence with the red LED on the ignition reader.

4.3.3 Diagnosis

1. Locate the J1 connector on the ignition module (see Section 4.2.1).
2. Locate circuits 5 and 1 in the J1 connector (see Section 4.2.5).
3. Both circuits 5 and 1 are positive circuits. With the J1 connector plugged into the ignition module, insert the positive probe from the DVM into circuit 5 or 1 and touch the negative probe from the DVM to any grounded surface.
4. The typical correct voltage should be 0.22V to 0.66V, and it should fluctuate. (Any reading less than 1V is acceptable.)
5. The typical high incorrect voltage is 2.3V to 5.8V, and it will not fluctuate. (Any reading of more than 1V is unacceptable.)
6. Both circuits 5 and 1 should read approximately the same voltage.

4.3.4 Resolution

1. Once the existence of the high voltage condition is confirmed, certain critical steps must be followed to ensure correct repair.
2. Even though the voltage readings are measured at the ignition module, the high voltage condition could be generated by any of the modules.

3. The modules must be disconnected one at a time to determine which module is causing the problem.
4. Disconnect the C822 connector at the rear door module (see Section 6.1 and 7.1).
5. Go back to the ignition module and follow Steps 1–6 in Section 4.3.3 above.
6. If the voltage readings drop to the correct level, as shown in Step 4 of Section 4.3.3, you have just identified the module that is causing the problem.
7. If the voltage readings remain at the incorrect level, as shown in Step 5 of Section 4.3.3, leave the rear door module disconnected, and move to the bulkhead door module.
8. Disconnect the C816 connector at the bulkhead door module.
9. Go back to the ignition module and follow Steps 1–6 in Section 4.3.3 above.
10. If the voltage readings drop to the correct level, as shown in Step 4 of Section 4.3.3, you have just identified the module that is causing the problem.
11. If the voltage readings remain at the incorrect level, as shown in Step 5 of Section 4.3.3, leave the rear door module and the bulkhead door module disconnected, and move to the RH door module.
12. Continue following this process of elimination until you find the module that is causing the problem.
13. If **all** door modules are disconnected, but you still have the incorrect high voltage, the ignition module is the module probably causing the problem, since it is the only one still connected.
14. When the module is identified that is causing the problem, then reconnect **all** the modules to the harnesses.

NOTE: It is important that the module causing the problem is identified prior to disconnecting the batteries, as the high voltage condition on the communication bus may be lost when power is cycled to the VACS.
15. After ALL modules are reconnected to the harnesses, disconnect the chassis batteries, and load test each battery individually.
16. If the battery(s) do not withstand a load test, replace them.
17. Connect the new battery(s). The incorrect high voltage condition should be resolved, and no additional action should be required with the VACS components.
18. Go back to the ignition module and follow Steps 1–6 in Section 4.3.3 above.
19. If the incorrect high voltage condition continues to exist, replace the module identified in Steps 4–12.
20. If the battery(s) do withstand a load test. Reconnect the battery(s).
21. Go back to the ignition module and follow Steps 1–6 in Section 4.3.3 above.
22. If the incorrect high voltage condition continues to exist, replace the module identified in Steps 4–12.
23. Whenever a module is replaced, you need to reprogram the VACS (see Section 4.1.5 and 4.2.9).

4.4 Problems After Changing Master Programming Card

4.4.1 Situation

Vehicles equipped with Keyless Entry or VACS systems may experience an anomaly when changing from one master programming card to another. This could occur in the following cases:

- When changing from the transport programming card (T1000) to the unique depot programming card or vice versa. See Section 1.0.
- When a vehicle is transferred in from another depot where it was already in service.
- When any control module on the vehicle is replaced.
- When a new master programming card is needed because existing programming cards are no longer in use.

When entering codes (such as adding a new master programming card or transponder) into a VACS ignition or access reader, the information added to that reader location (and its corresponding control module) is automatically transmitted to all other reader locations (and control modules) in that vehicle.

In **some** vehicles, however, **some** reader locations may not receive the new master programming card information. In those cases, the affected reader location(s) will continue to recognize only the previously stored card number.

This situation will become apparent only if you attempt to use a programming card at a reader location where that (new) programming card has not successfully been stored.

4.4.2 Affected Units

Some vehicles manufactured from 1999 through May of 2001.

4.4.3 Resolution

It is necessary to confirm that the correct master programming code is stored **at each reader location** whenever changing to a new master programming card:

1. Verify that the correct master programming card **is** recognized at each vehicle reader location (ignition and all doors). Use the instructions in the *VACS Programming Guide* (P/N 03102519-RY01EN), which is a single laminated sheet for easy reference (and reproduced as an appendix in the back of this manual). If the card **is** recognized at all locations, no further checking is required.
2. If the correct new master programming card is **not** recognized at a specific reader location:
 - A. Use the **original** master programming card to add the **new** master programming card at that reader.
 - B. Verify that the desired new master programming card is now recognized at all locations.
 - C. Upon completion, reenter all desired transponder (wristband or key fob) codes.

Note: If cards are lost or unavailable, replacements for original programming cards can be ordered from Utilimaster.

4.5 Replace a Lost Master Programming Code

If the master programming code is lost or otherwise unavailable, there are three options for replacing the existing programming code with a new code.

1. Temporarily connect a module that has a known programming code already installed.
 - A. At a convenient location (e.g., rear door), disconnect both connectors from the module. Temporarily connect both connectors to a module that contains a known (available) programming code (i.e., a module borrowed from another truck).
 - B. Using the available programming code (card), change the programming code to a transponder temporarily. (See Section 3.4.1.3.)
 - C. Using the transponder, change the programming code back to the programming card. (See Section 3.4.1.3.)
 - D. Disconnect the temporary module and reconnect the original module.
 - E. The original module that was just reconnected still does not contain the proper programming code. Go to another door location and perform Steps B and C again.
 - F. All modules now contain the proper programming code, however, all transponders have been erased. Reprogram all desired transponders from any location. (See Section 3.4.1.1.)
 - G. Return the temporary module to its original location. This module contains the proper programming code, however, all of its previously stored transponders have been erased. Reprogram all desired transponders from this location. (See Section 3.4.1.2.)
2. Temporarily connect a service replacement module which has no programming code or transponders installed.



CAUTION: Service parts arrive with no previously stored codes. Once connected to a system, the first valid code that is read is saved as a programming code. Therefore, extreme care must be exercised when replacing modules with service parts. Make sure all transponders are located away from the associated reader and that the desired programming code is the first one presented to the reader.

- A. At a convenient location (e.g., rear door), disconnect both connectors from the module. Temporarily connect both connectors to the service module.
- B. Slowly wave the desired programming code (card) past the associated reader. The indicator on the reader will flicker three times (fast) indicating the code has been saved as the new programming code.
- C. If the indicator also flashes long (1 second), then the reader has also placed itself in programming mode #1. Wave the programming card past the reader three more times to exit the programming sequence. (See Section 3.4.1.)
- D. Disconnect the temporary module and reconnect the original module.
- E. The module that was just reconnected still does not contain the proper programming code. Go to **another** door location, temporarily replace the programming card with a transponder, and then replace the programming “transponder” with the programming card. (See Section 3.4.1.3.)

- F. All modules now contain the proper programming code, however, all transponders have been erased. Reprogram all desired transponders from any location. (See Section 3.4.1.1.)
 - G. The service module that was used now contains a programming code. It should probably be marked to indicate this.
3. Reset a control module PCB.
- A. At a convenient location (e.g., rear door or bulkhead door), disconnect both connectors from the module. Remove the center screw from the connector side of the module and remove the four corner screws from the side opposite the connector side.
 - B. Carefully pull the PCB (Printed Circuit Board) from the enclosure until the four-position DIP switch is visible. Slide switch #2 to the ON position.
 - C. Push the PCB back into the enclosure and hold while reconnecting both connectors.
 - D. Disconnect both connectors again. Carefully pull the PCB from the enclosure until the four-position DIP switch is visible. Slide switch #2 back to the OFF position.
 - E. Push the PCB back into the enclosure and replace all screws. Reconnect both connectors.
 - F. This module has been cleared and is equivalent to a service part.



CAUTION: Service parts arrive with no previously stored codes. Once connected to a system, the first valid code that is read is saved as a programming code. Therefore, extreme care must be exercised when replacing modules with service parts. Make sure all transponders are located away from the associated reader and that the desired programming code is the first one presented to the reader.

- G. Slowly wave the desired programming code (card) past the associated reader. The indicator on the reader will flicker three times (fast) indicating the code has been saved as the new programming code.
- H. If the indicator also flashes long (1 second), then the reader has also placed itself in programming mode #1. Wave the programming card past the reader three more times to exit the programming sequence. (See Section 3.4.1.)

All modules now contain the proper programming code, however, all transponders have been erased *from the cleared module*. Reprogram all desired transponders from the cleared module location. (See Section 3.4.1.2.)

5.0 Service and Maintenance of VACS Components

5.1 Latch and Catch Maintenance

Part	Service Check	Requirements	Service Action
Latch (Left, Right and Bulkhead)	Check for wear on latch tongue.	Latch tongue must have a minimum 1/8" contact with catch plate.	Adjust catch position. If insufficient metal remains on tongue, replace latch as a unit.
Catch (Left, Right and Bulkhead)	Check for wear on catch plate.	Latch tongue must have a minimum 1/8" contact with catch plate.	Lubricate each side of the slide bolt with dry graphite lubrication at six-month intervals or as needed. See Section 5.2.3. Adjust catch position. If insufficient metal remains on tongue, replace latch as a unit.
Rear Rollup Latch	Wear on deadbolt.	Bolt must extend minimum 1/2" from track.	Lubricate the three zerk fittings with #2 grease at six month intervals or three-month intervals in hot, dusty conditions. See Section 5.2.3. Grease with #2 grease every 6 months under normal conditions, every 3 months in hot or dusty conditions. See Section 5.2.3. Replace solenoid unit if bolt is worn beyond specification.
Rear Lock Cylinder	Reflective sticker over key slot	Reflective sticker must be securely in place. Sticker must be replaced after each use.	Check at each PM for free operation of lock if seal is broken; replace sticker if peeling, damaged, or missing.

Table 3 Latch Maintenance

5.2 General Maintenance

5.2.1 Access Readers

1. To avoid needing to replace the rear door access reader (see Illustration VA-10) be very careful when backing up the vehicle. Access readers are impact resistant, but they will not withstand the force of a vehicle backing into a dock or other obstacle.
2. A kit to mount the reader in a recessed position is available. See Section 7.0.



CAUTION: Access readers are impact resistant, but they will not withstand the force of a vehicle backing into a dock or other obstacle. Avoid hitting any obstacles while backing.



Illustration VA-10 Access Reader

5.2.2 Harness Connectors

1. To maintain a proper electrical connection, add dielectric grease to female harness connectors (see Illustration VA-20) throughout the VACS system. This is a onetime application done during any normal preventive maintenance cycle.



Illustration VA-20 Harness Connector

5.2.3 Door Dead Bolts

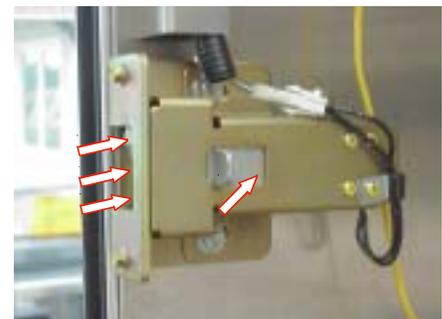
1. To maintain proper operation of the rear door dead bolt, lubricate the three zerk fittings with #2 grease at six month intervals or three-month intervals in hot, dusty conditions. (See Illustration VA-30.)
2. To maintain proper operation of the bulkhead and both side door dead bolts, lubricate each side of the slide bolt with dry graphite lubrication at six month intervals or as needed. (See Illustration VA-40 and VA-50.)



Illustration VA-30 Rear Door Dead Bolt



*Illustration VA-40
Side Door Dead Bolt*



*Illustration VA-50
Bulkhead Door Dead Bolt*

5.2.4 Door Access Modules

1. To prevent damage to the circuit boards, do not subject door access modules to direct contact with water. (See Illustrations VA-60 through VA-80.)
2. To further protect the rear door access module from water intrusion, add silicone sealant to the top middle slot and screw (if there is none already there). (See Illustration VA-80.)



CAUTION: To prevent damage to the circuit boards, do not subject door access modules to direct contact with water.



*Illustration VA-60
Left-Hand Door Access Module*



*Illustration VA-70
Right-Hand Door Access Module*

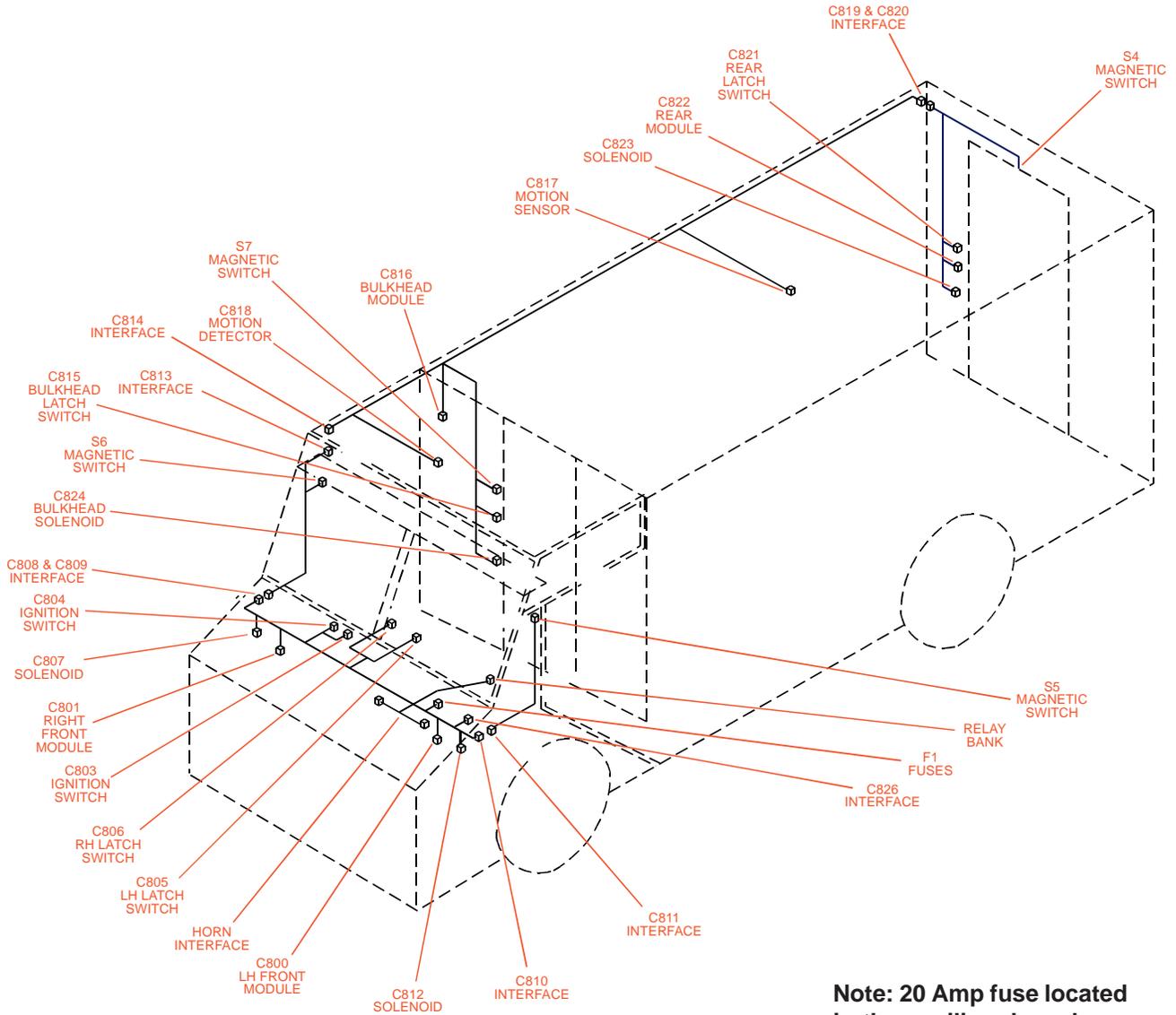


*Illustration VA-80
Rear Door Access Module*

6.0 Wiring Diagrams

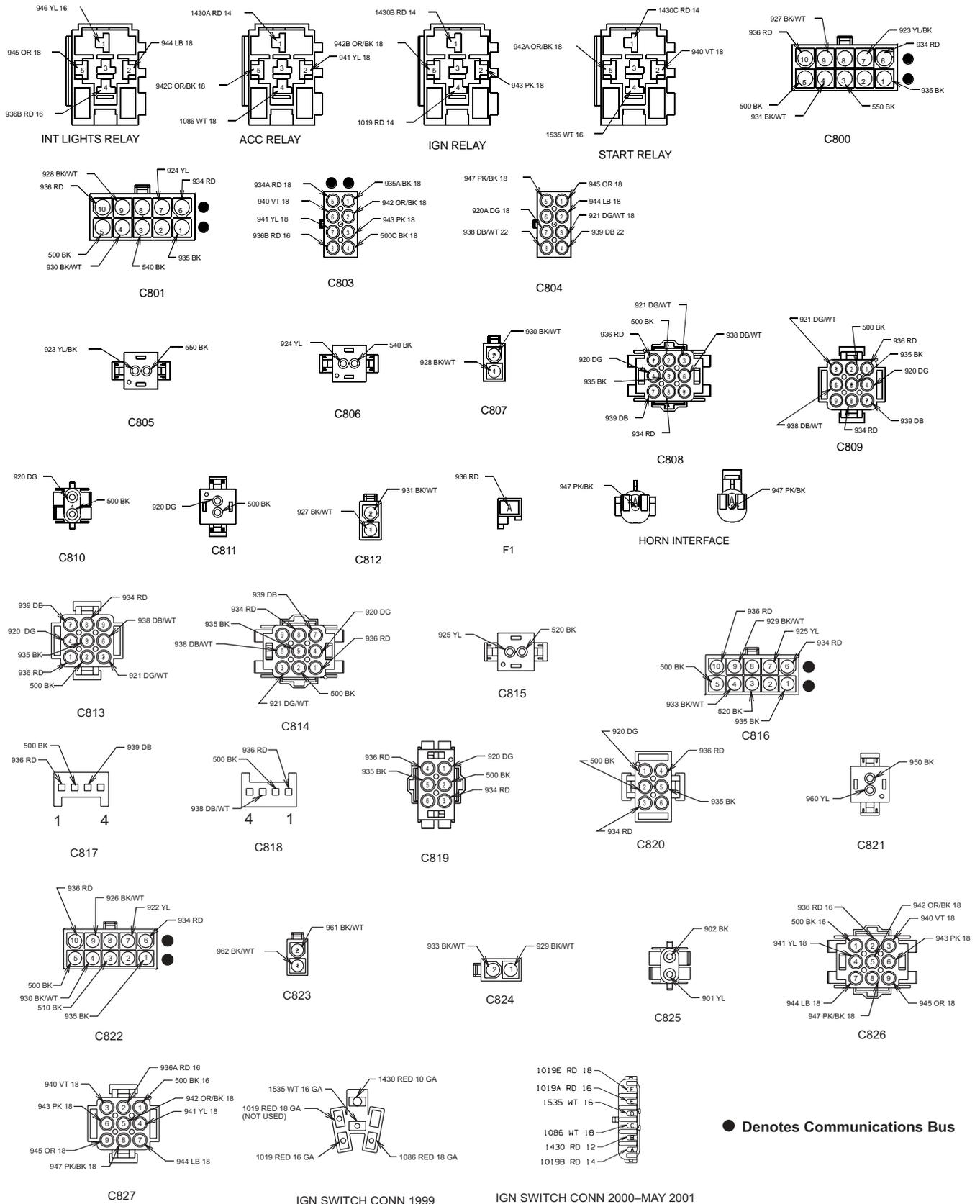
6.1 Model Year 1999–May 2001

6.1.1 Wiring Diagram Overview

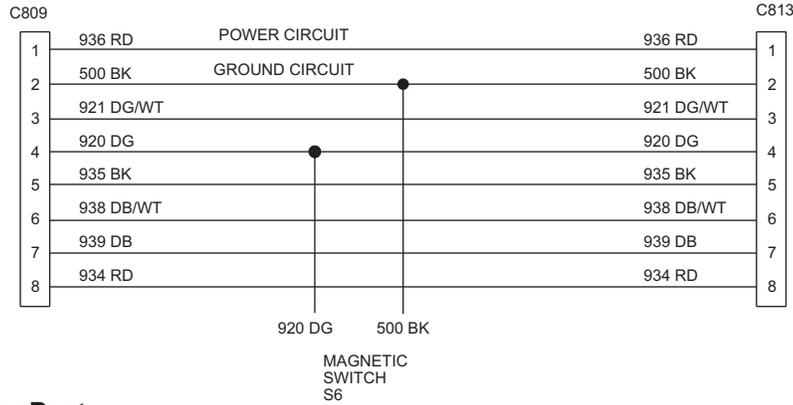


Note: 20 Amp fuse located in the auxiliary horn box. See also Section 8.5.

6.1.2 Connectors



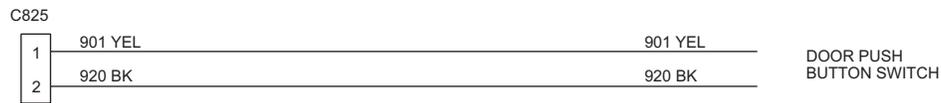
6.1.3 RH Quarter Post



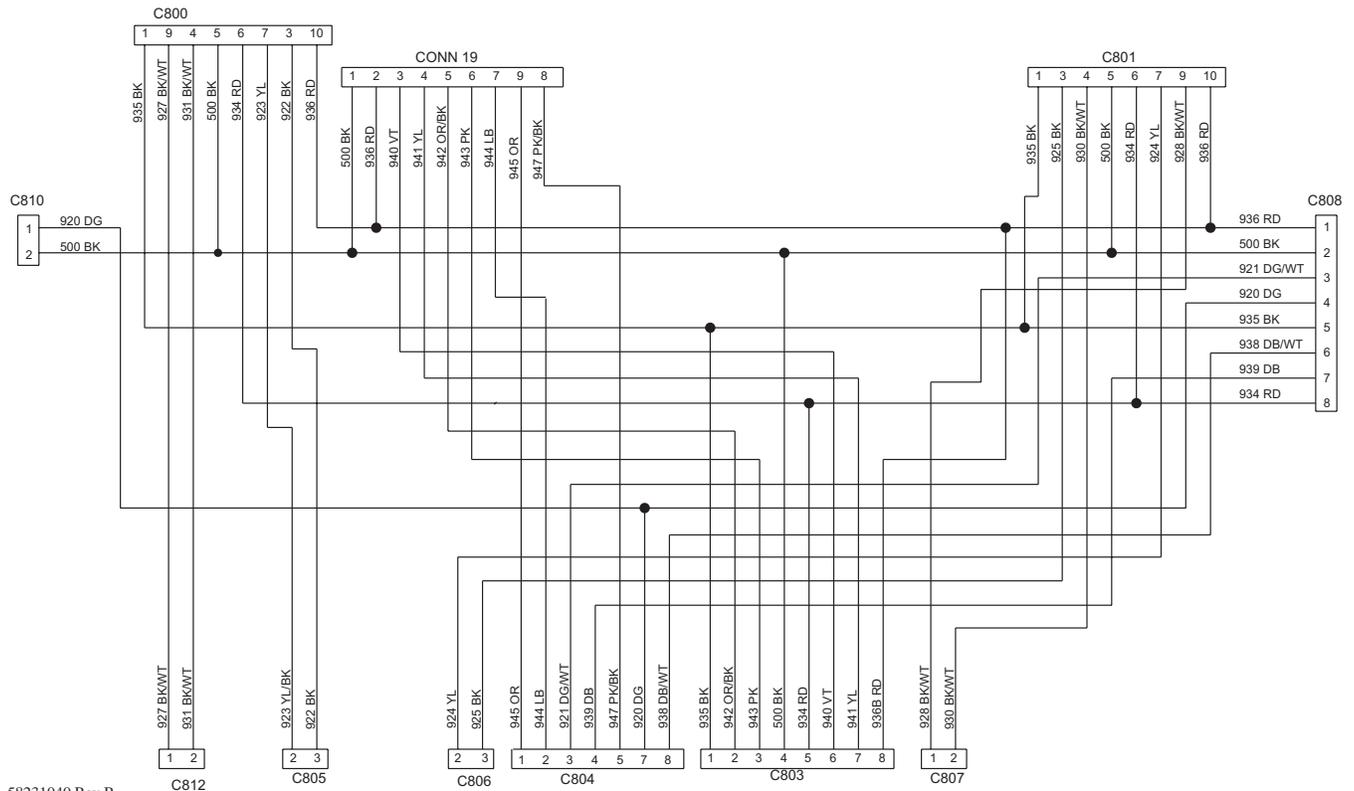
6.1.4 LH Quarter Post



6.1.5 Entry Door Switch

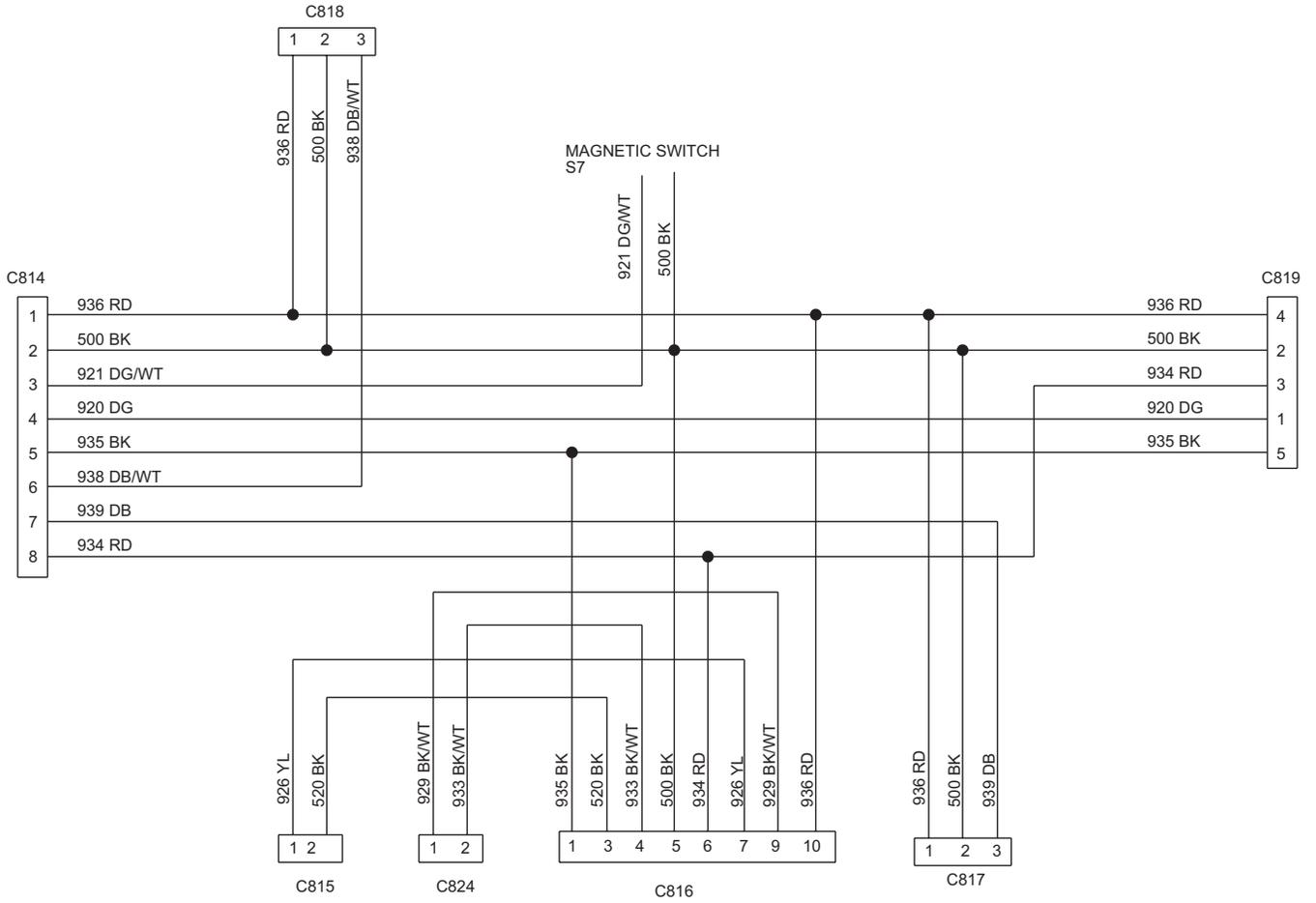


6.1.6 Dash

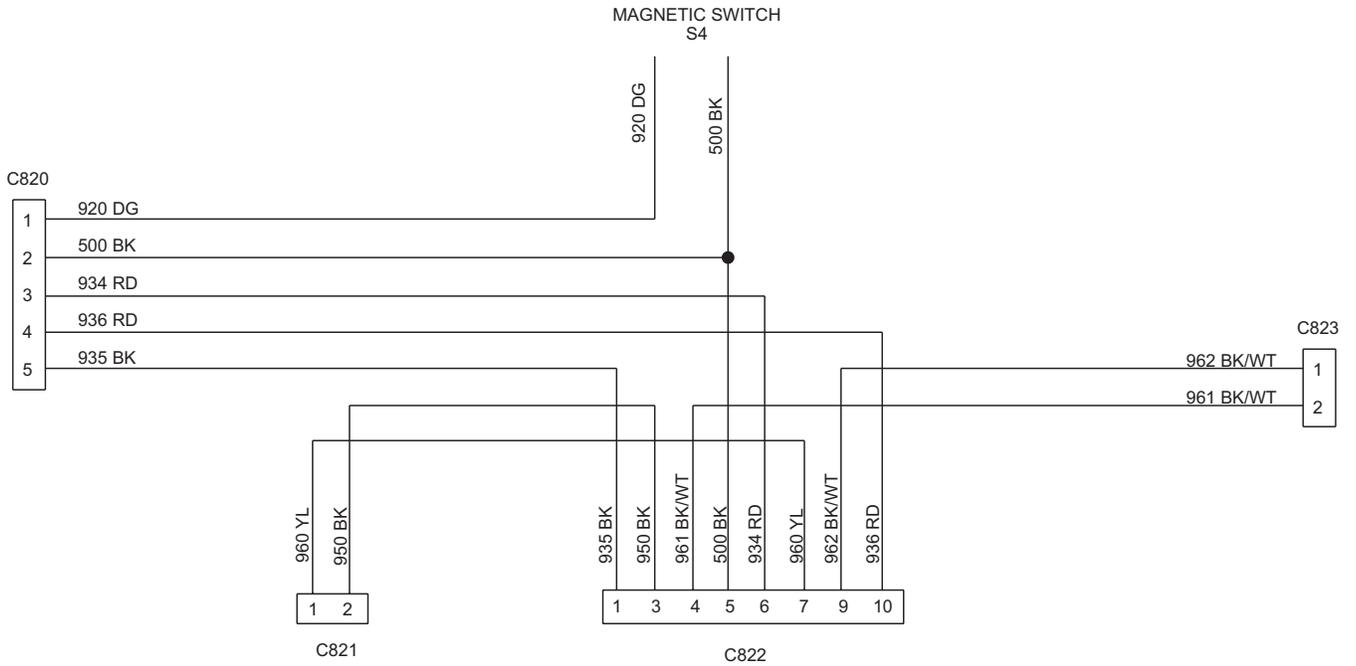


58231040 Rev B

6.1.7 Roof

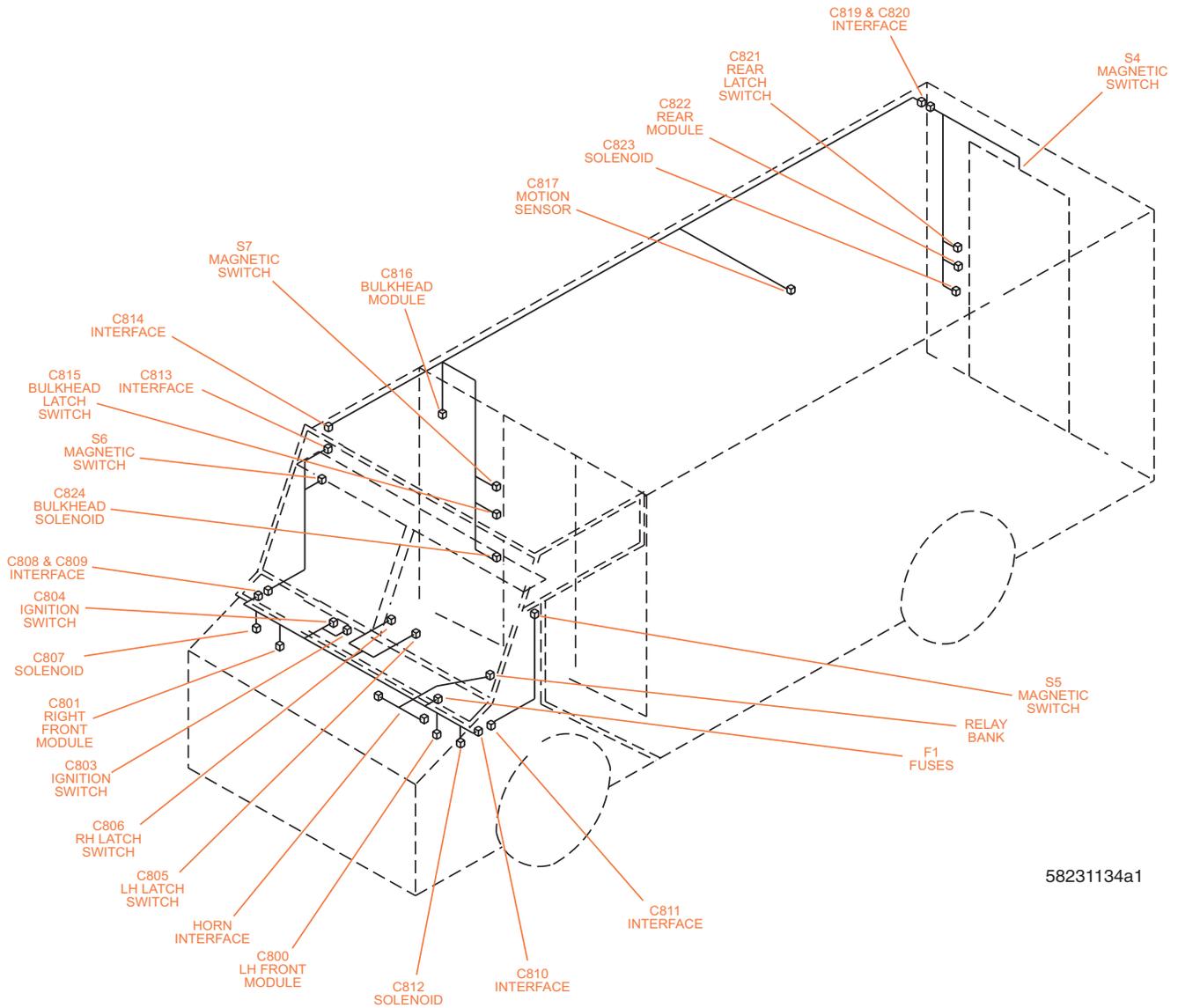


6.1.8 Rear Jumper



6.2 Model Year May 2001–2003

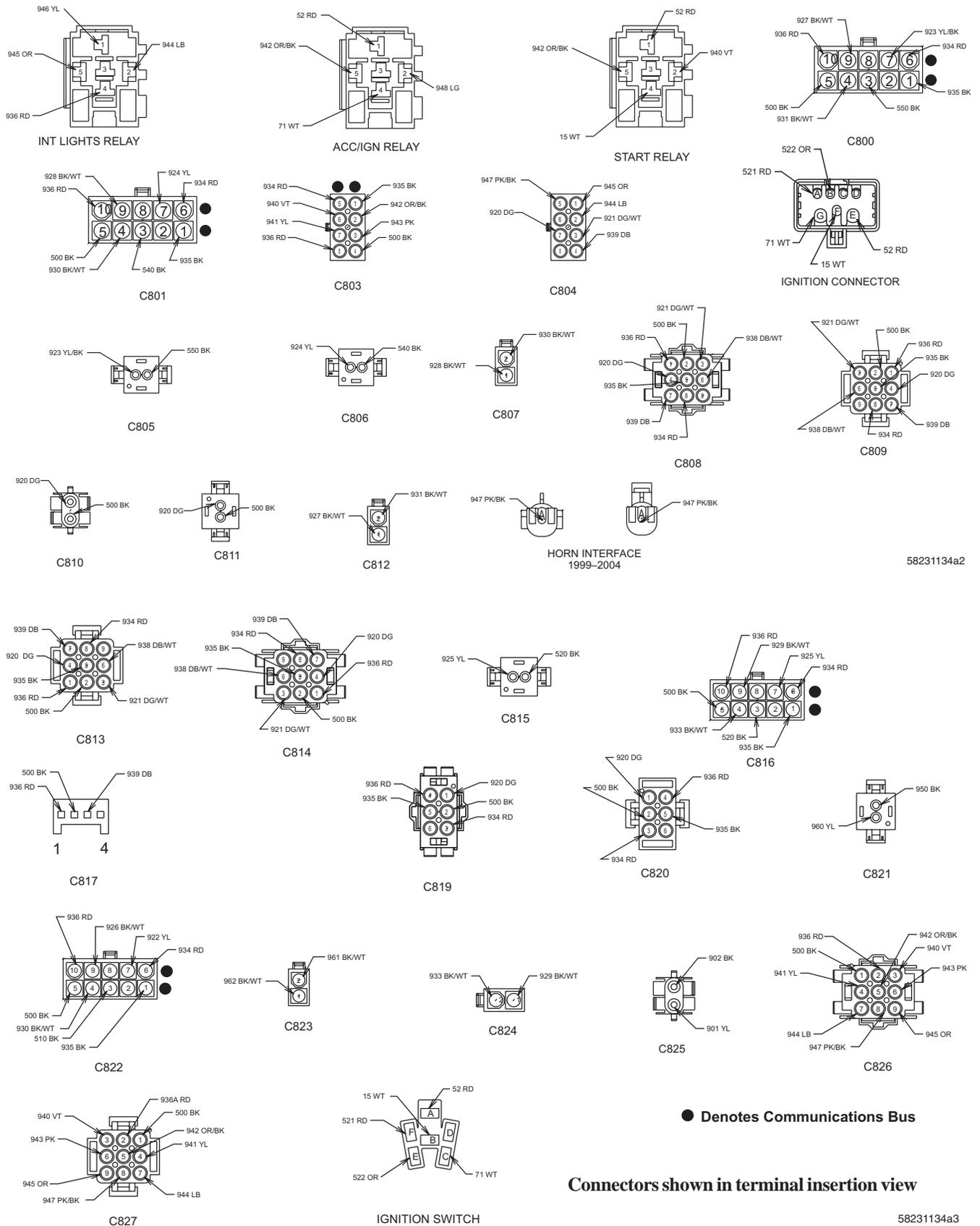
6.2.1 Wiring Diagram Overview



Note: 20 Amp fuse located in the auxiliary horn box.

See also Section 8.5.

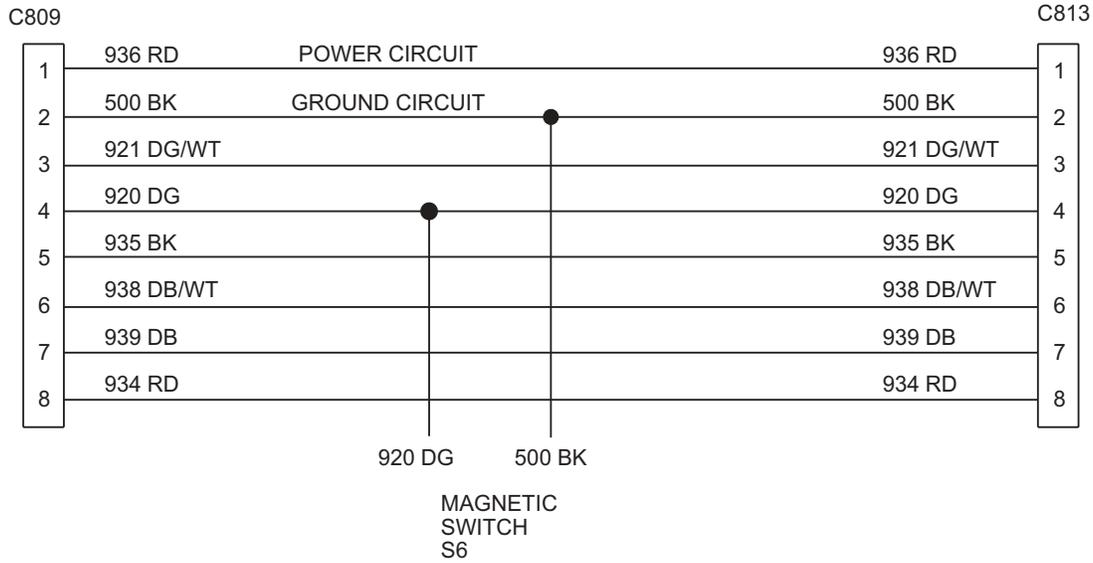
6.2.2 Connectors



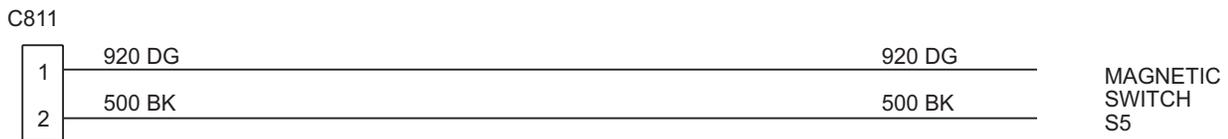
58231134a2

58231134a3

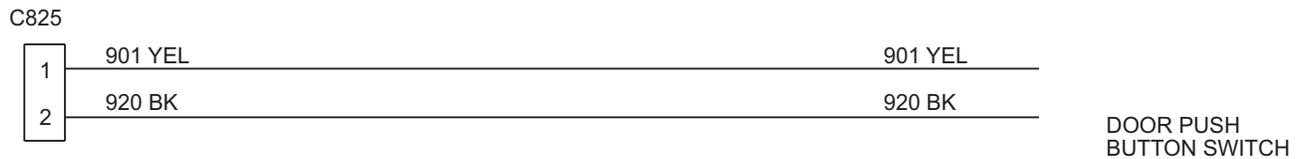
6.2.3 RH Quarter Post



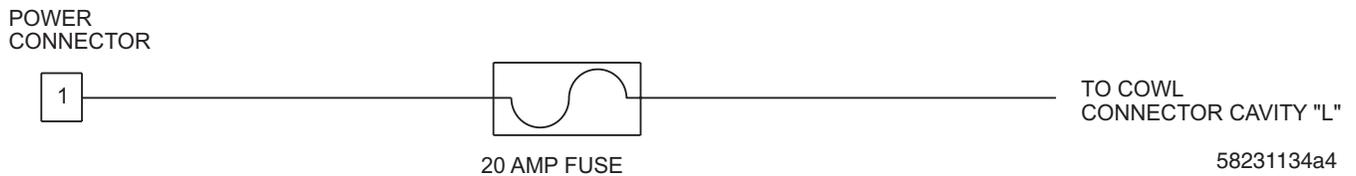
6.2.4 LH Quarter Post



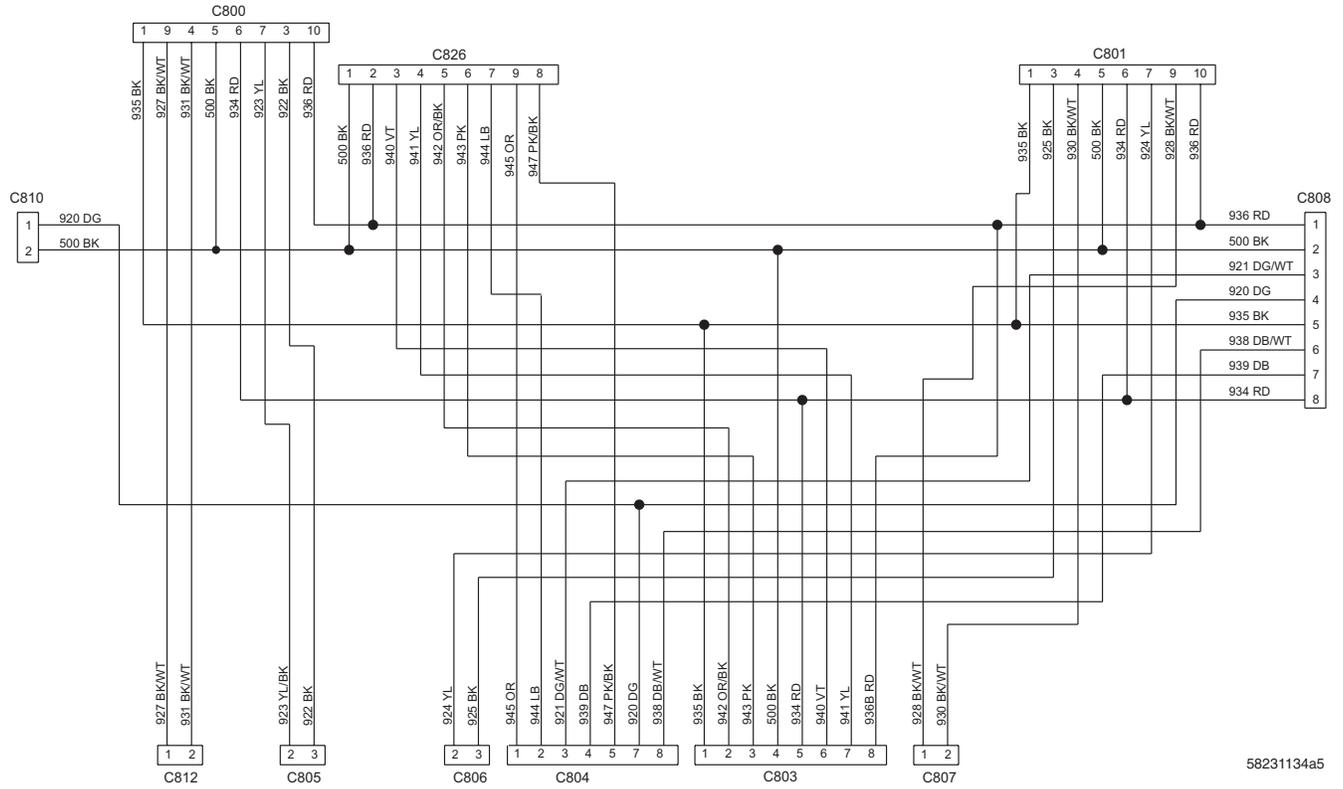
6.2.5 Entry Door Switch



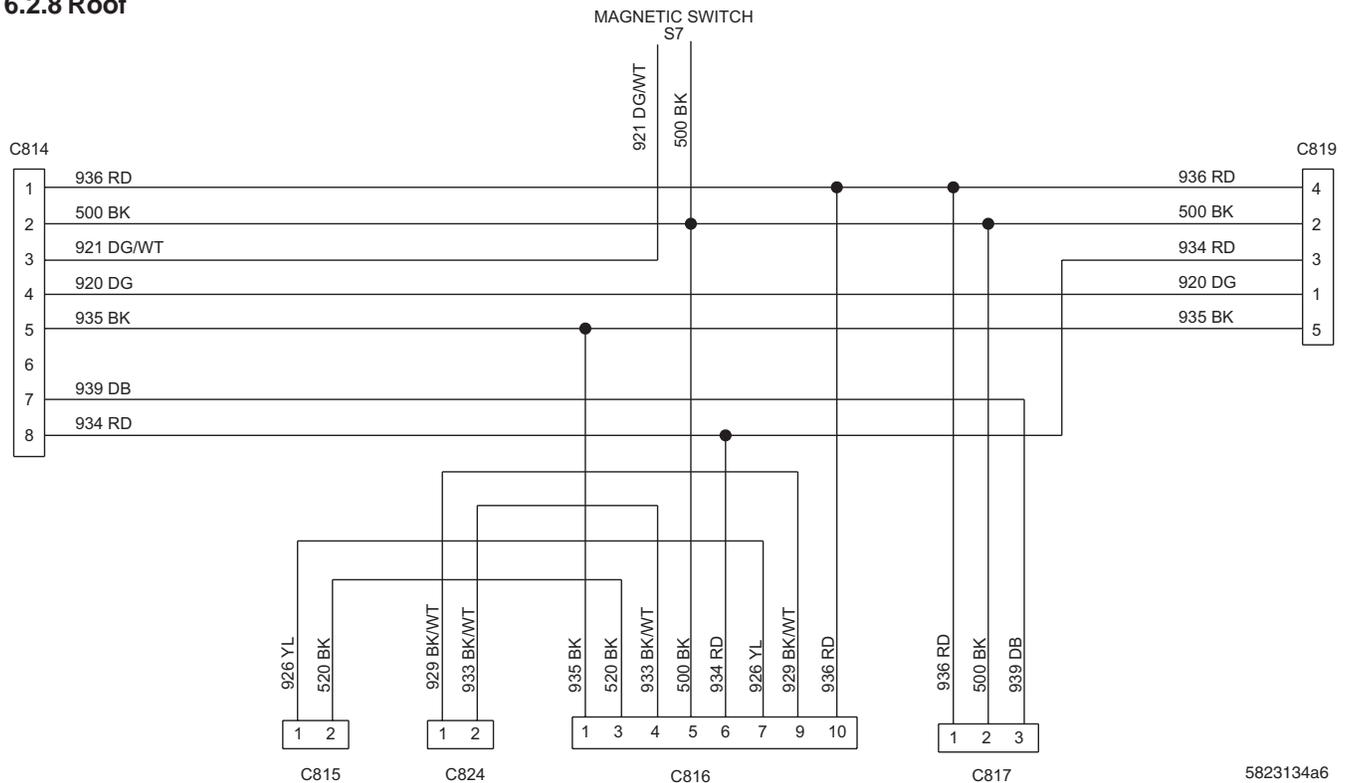
6.2.6 Power Feed



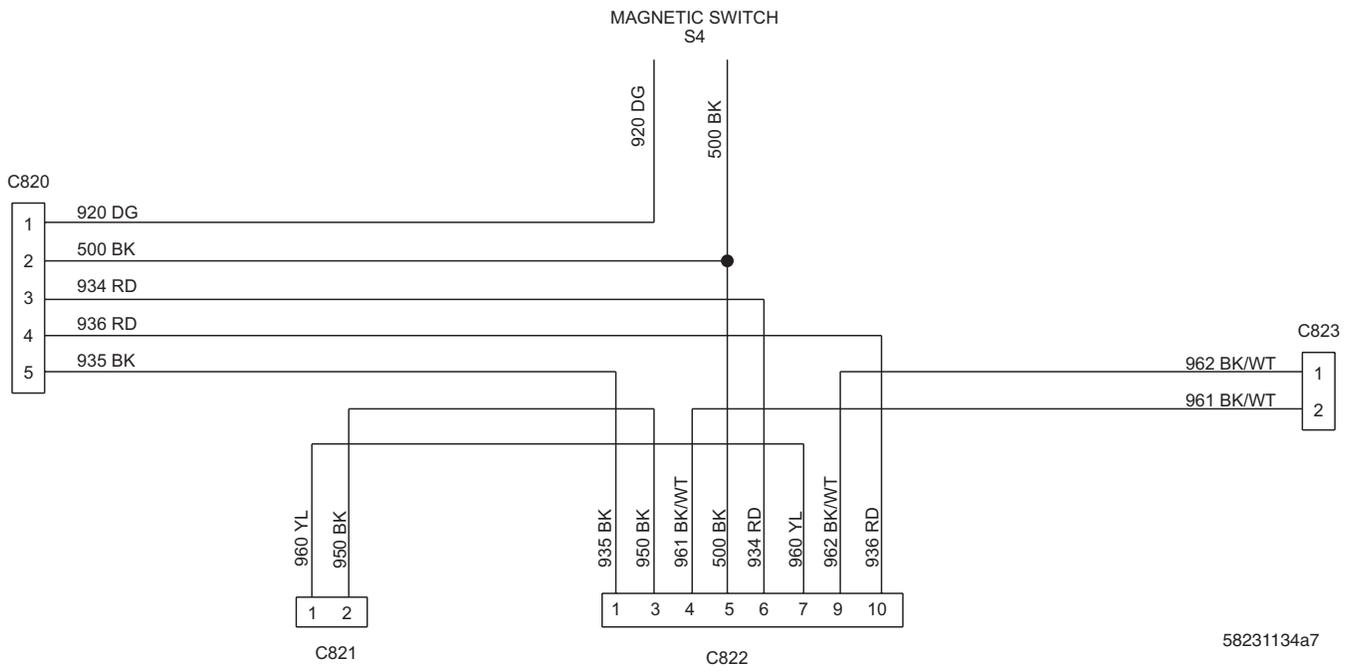
6.2.7 Dash



6.2.8 Roof

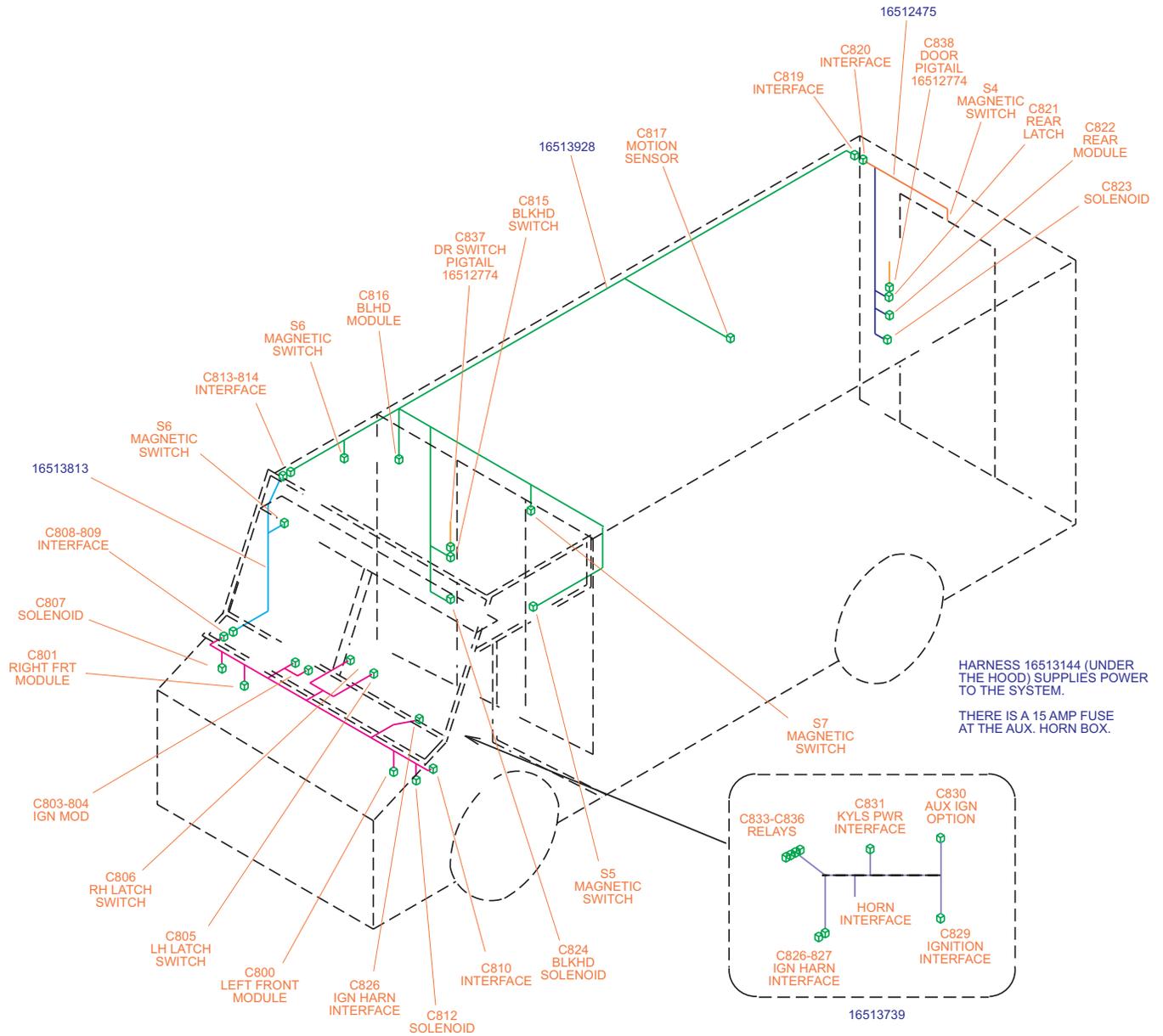


6.2.9 Rear Jumper

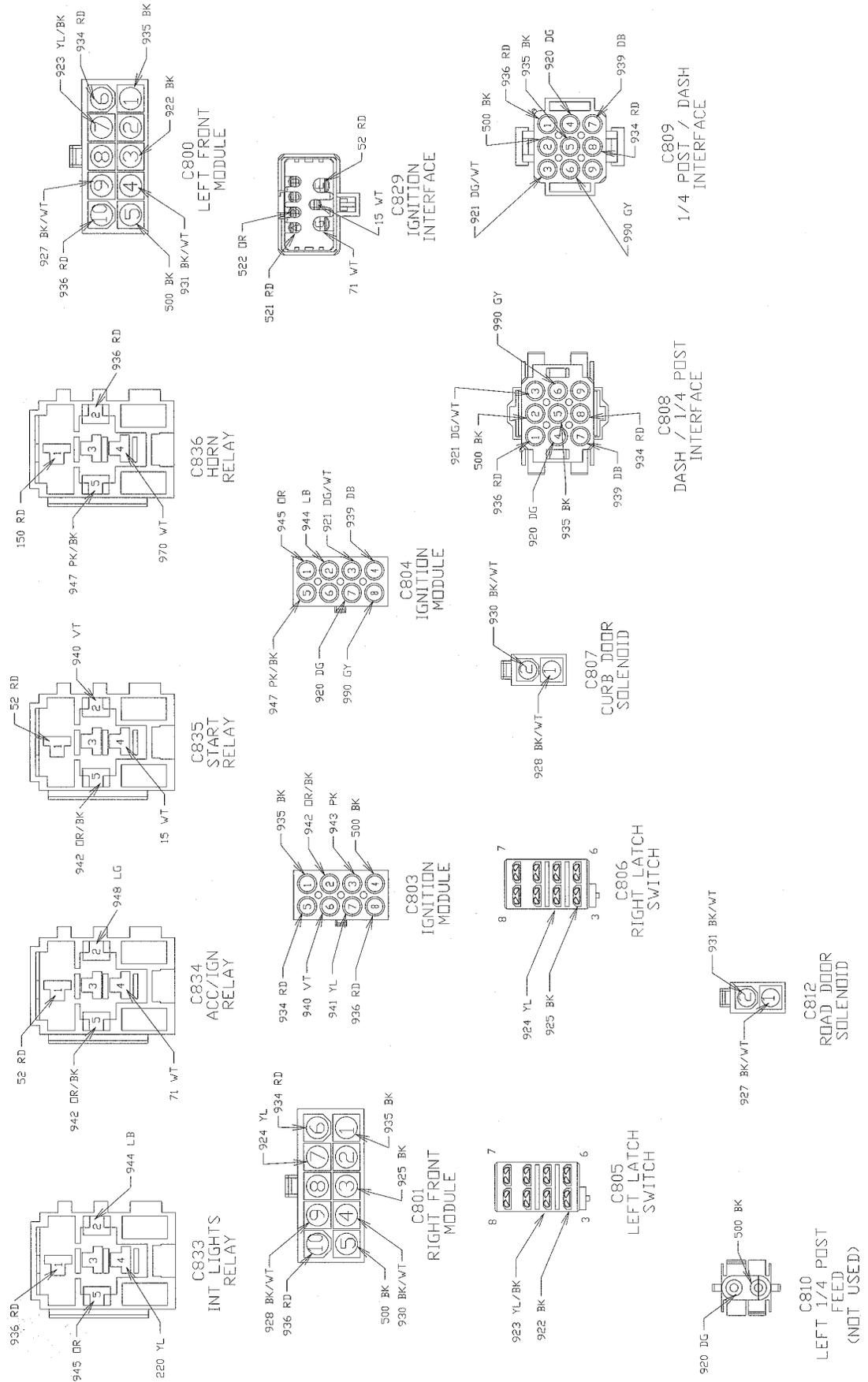


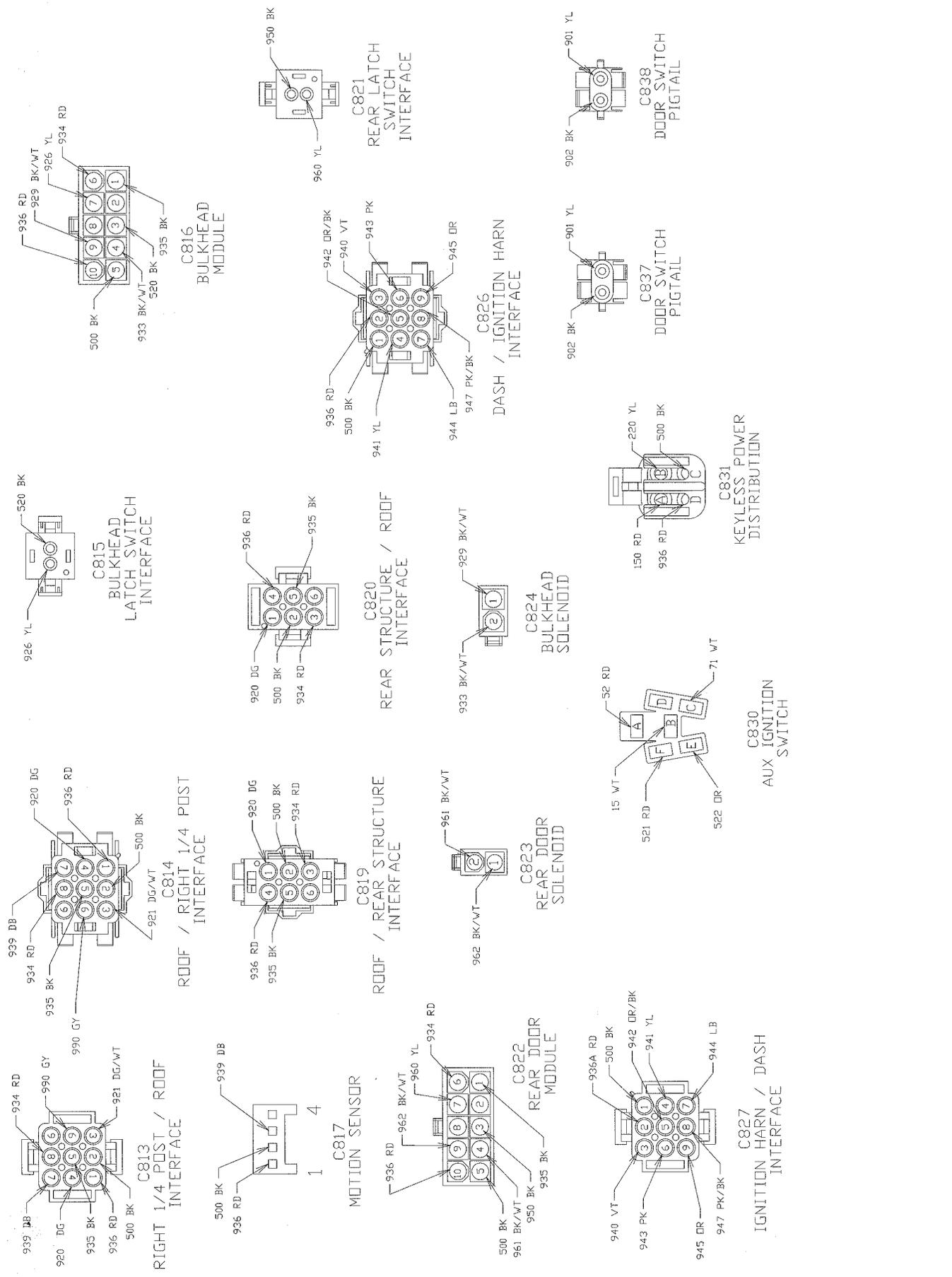
6.3 Model Year 2003 and Later

6.3.1 Wiring Diagram Overview



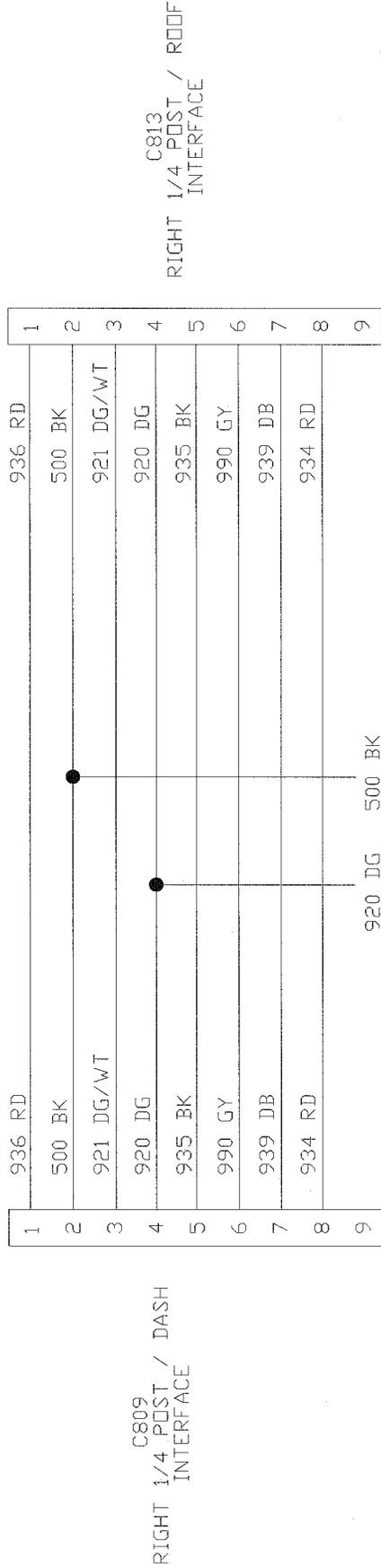
6.3.2 Connectors





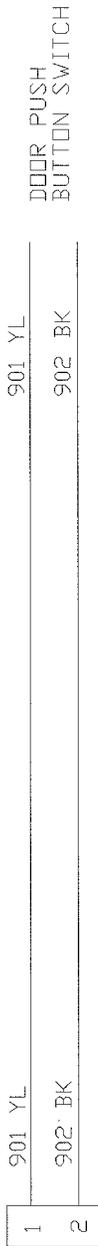
6.3.3 RH Quarter Post

16513813



6.3.4 Entry Door Switch

16512774

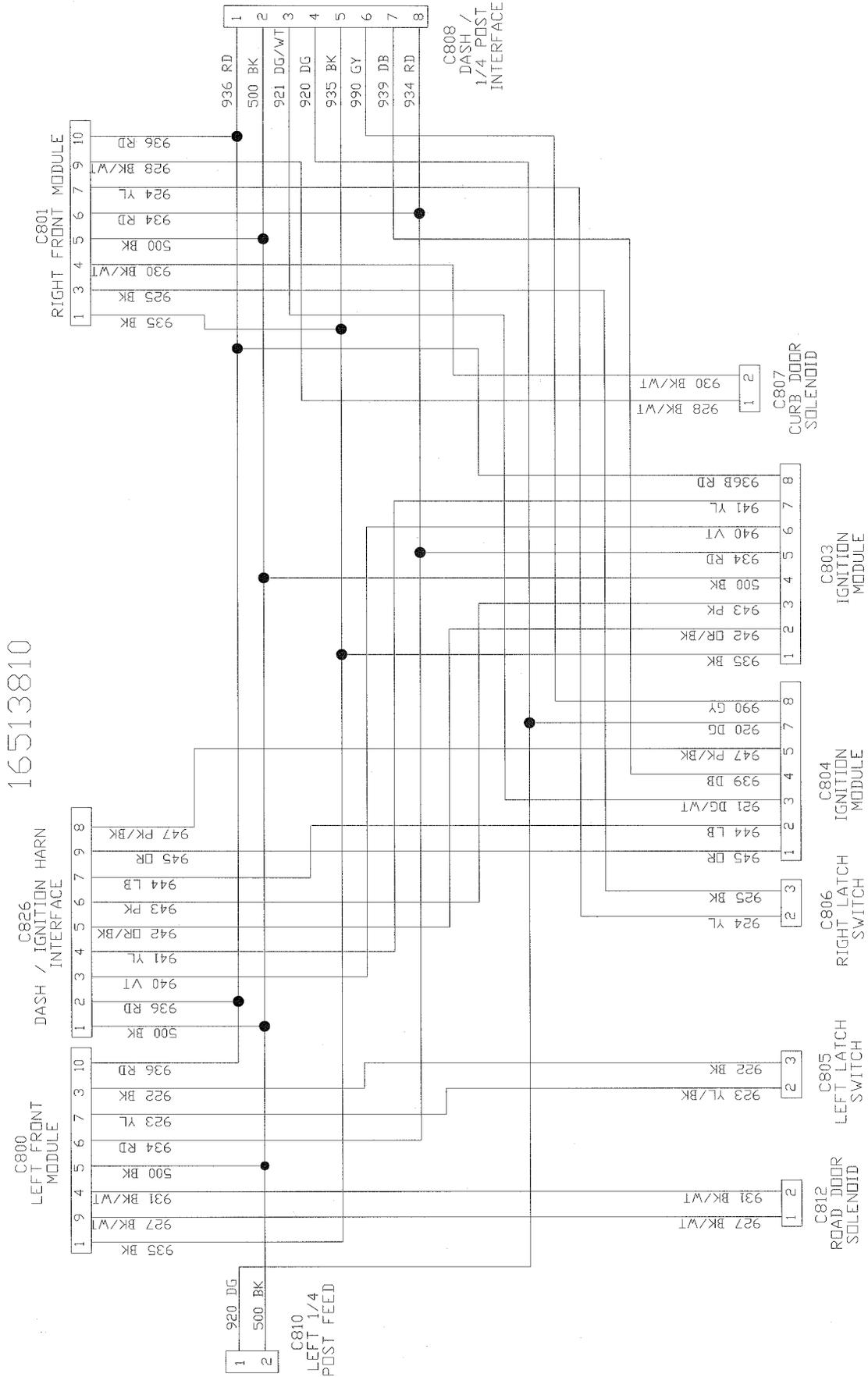


6.3.5 Power Feed

16513144



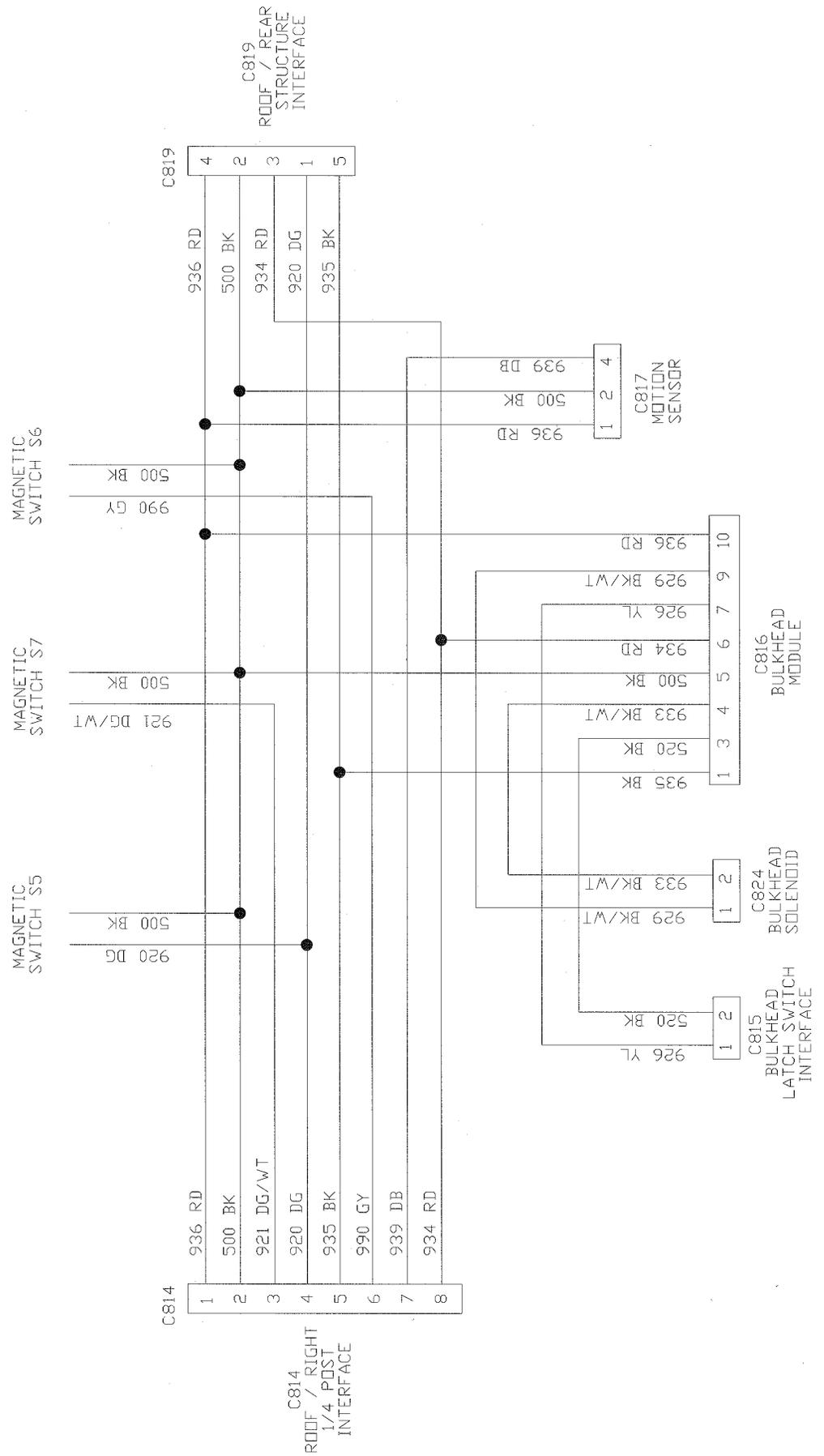
6.3.6 Dash Passenger Door Override



16513810

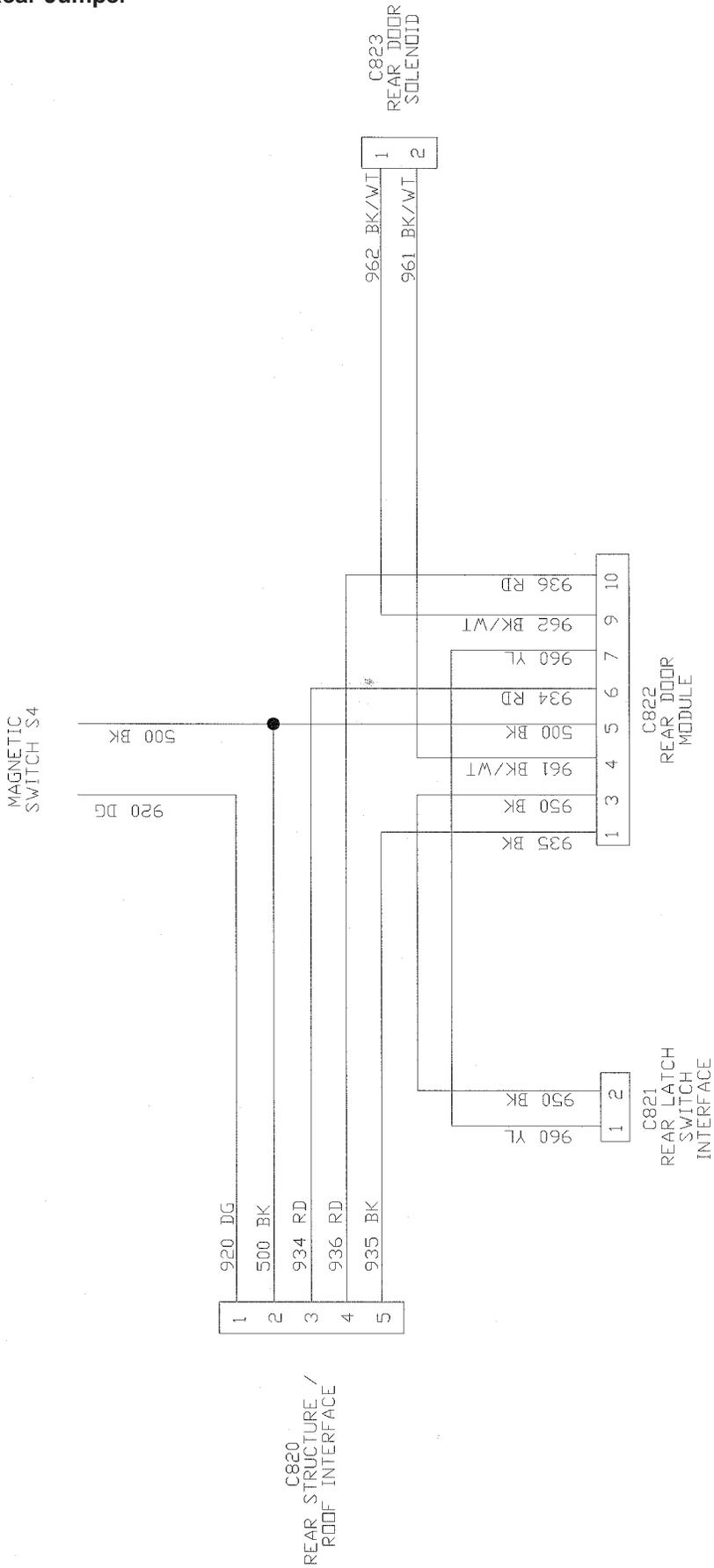
6.3.7 Roof

16513928



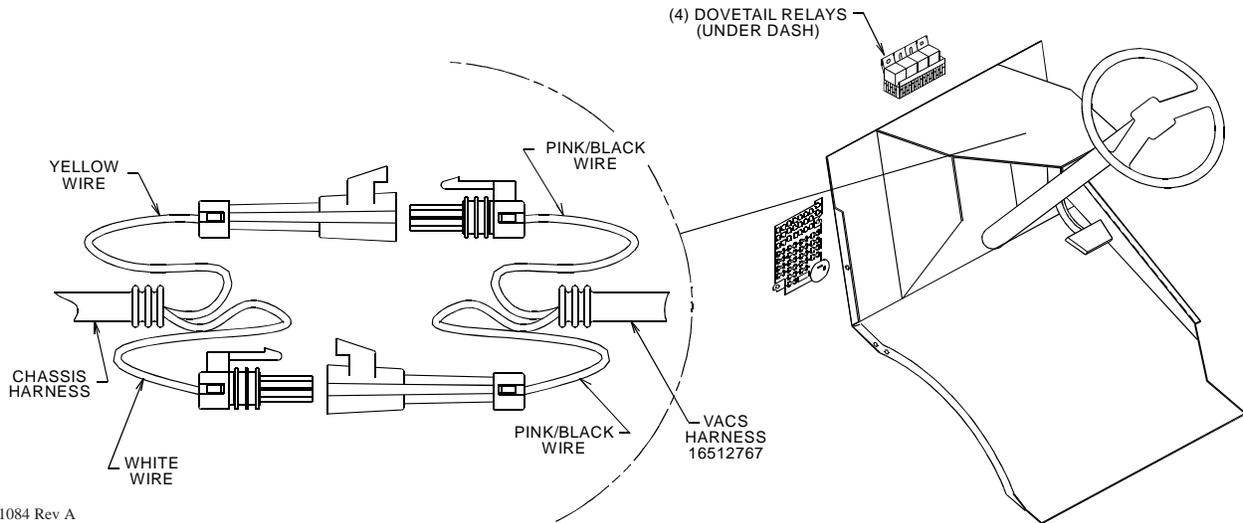
6.3.8 Rear Jumper

16512475



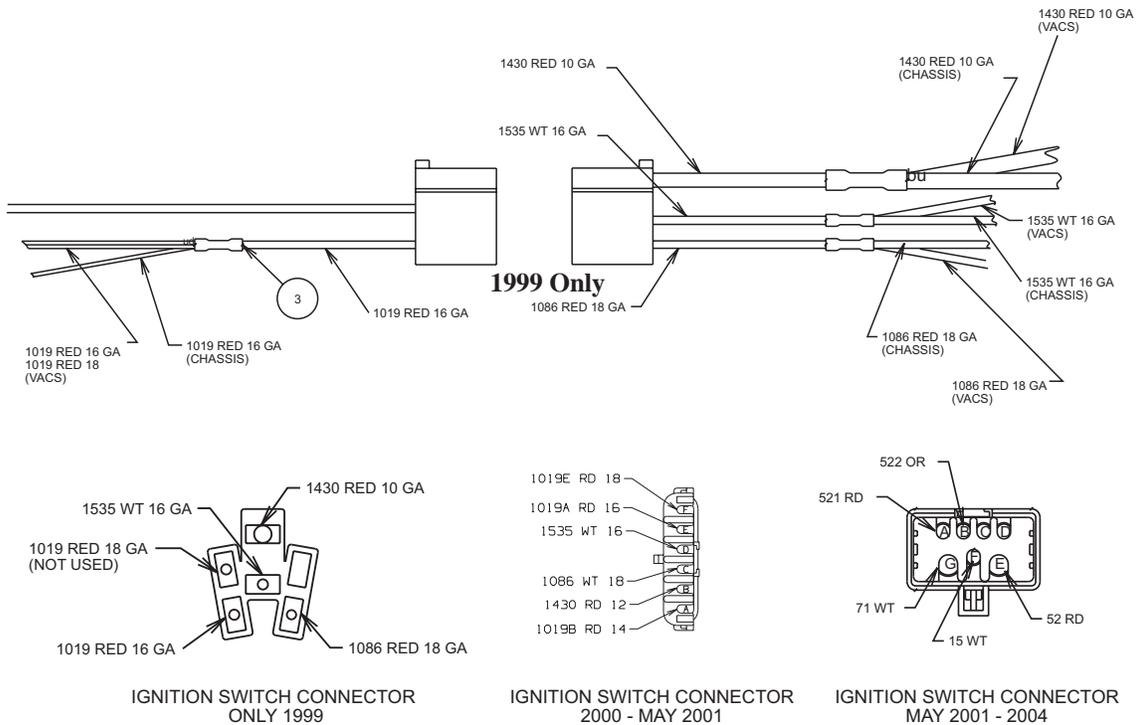
6.5 Chassis to Body Wiring Interface

6.5.1 Horn Interface (Freightliner)



58231084 Rev A

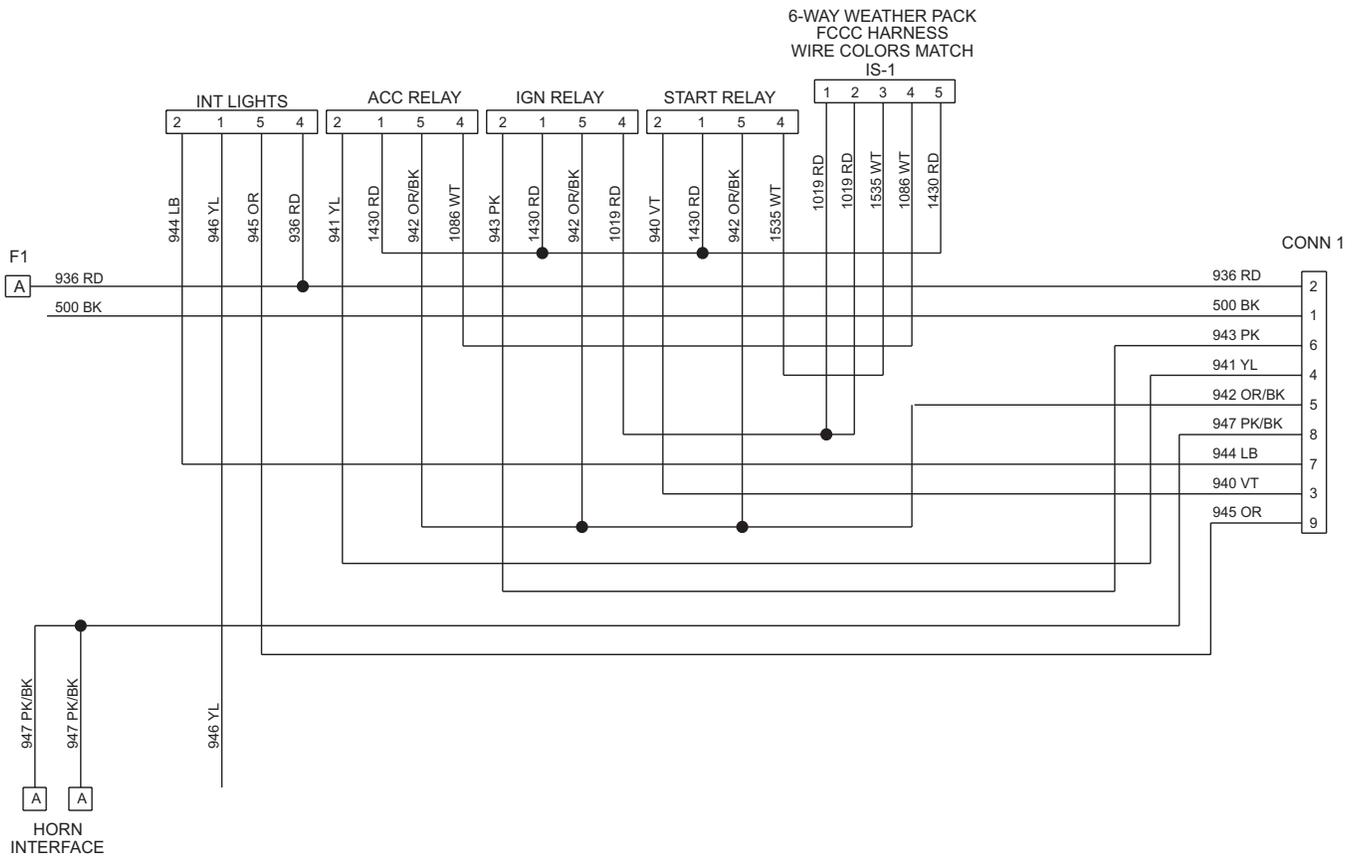
6.5.2 Ignition Interface (Freightliner)



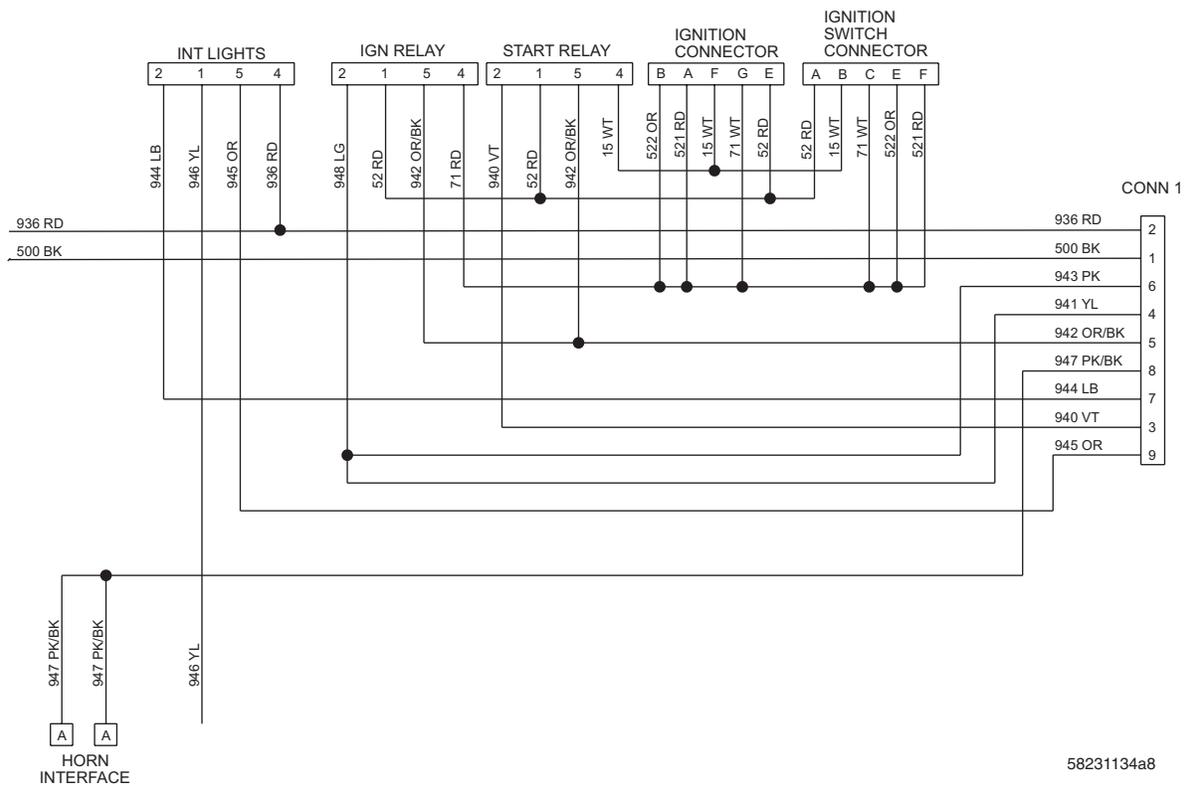
58231085 Rev A

Connectors shown in terminal insertion view

6.5.3 Chassis Interface (1999–2001 Freightliner)

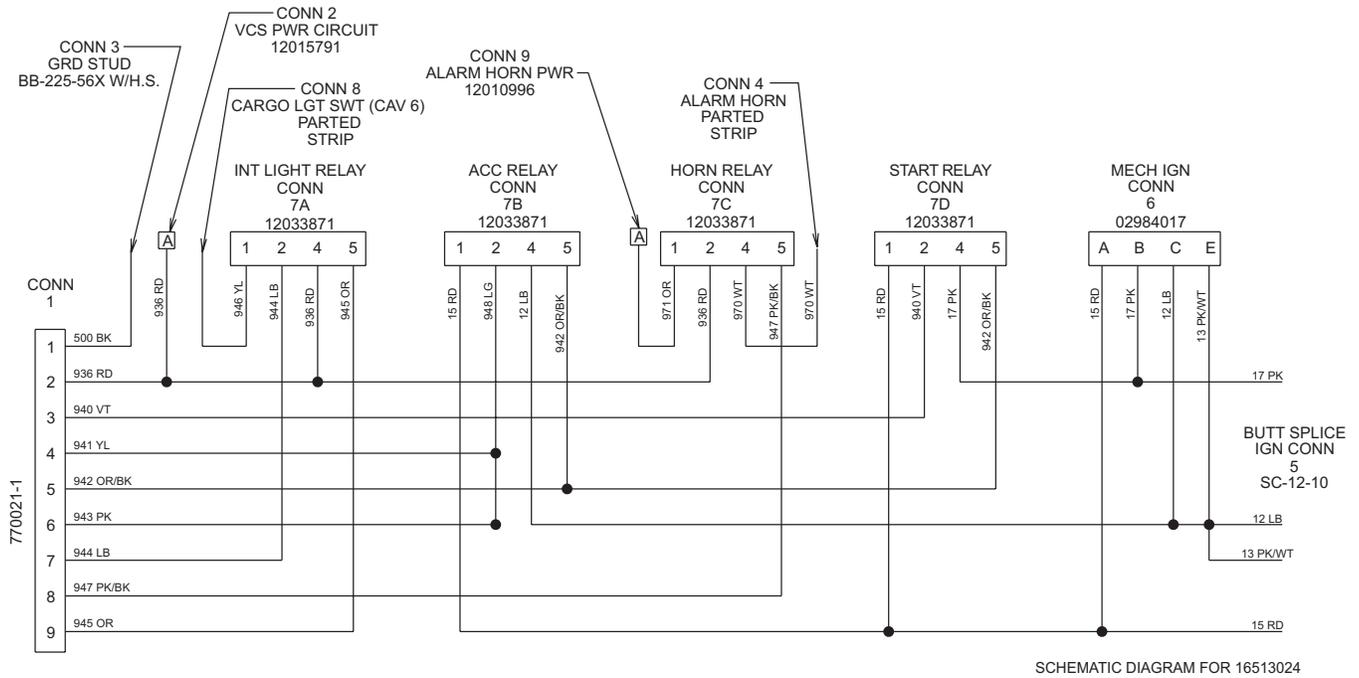


6.5.4 Chassis Interface (2001–2003 Freightliner)



58231134a8

6.5.6 Chassis Interface (Navistar International)



SCHEMATIC DIAGRAM FOR 16513024

VACS WIRES AT POSITIVE BATTERY POST

- Red wire = VACS power at battery - 20 Amp Fuse
- Orange wire = VACS alarm horn at battery - 15 Amp Fuse
- VACS current draw > 80 ma AWAKE
- VACS current draw < 20 ma ASLEEP
- VACS current draw = 20 ma ASLEEP AND ONE DOOR OPEN

6.6 Circuit Number Identification

CIR #	COLOR	FUNCTION	CIR #	COLOR	FUNCTION
15	WT	START SIGNAL	931	BK/WT	LEFT OUTPUT 2 (+), LEFT DOOR SOLENOID
52	RD	BATTERY POWER (+12V)	933	BK/WT	BULKHEAD OUTPUT 2 (+), BULKHEAD DOOR SOLENOID
71	WT	IGNITION & ACCESSORY POWER / SIGNAL	934	RED	COMMUNICATIONS BUS HIGH (TWISTED WITH 935)
150	RD	BATTERY POWER IN (+12V) TO HORNS	935	BK	COMMUNICATIONS BUS LOW (TWISTED WITH 934)
220	YL	CARGO / CAB LIGHT OUTPUT	936	RD	BATTERY POWER (+12V)
500	BK	GROUND	939	DB	MOTION SENSOR SIGNAL
520	BK	BULKHEAD INPUT 2, BULKHEAD LATCH SWITCH GROUND	940	VT	START RELAY SIGNAL
521	RD	IGNITION & ACCESSORY POWER / SIGNAL	941	YL	IGNITION / ACC SIGNAL FROM IGNITION MODULE
522	DR	IGNITION & ACCESSORY POWER / SIGNAL	942	DR/BK	12V RELAY
901	YL	PUSHBUTTON SWITCH PIGTAIL IN	943	PK	IGNITION / ACC SIGNAL FROM IGNITION MODULE
902	BK	PUSHBUTTON SWITCH PIGTAIL OUT	944	LB	CAB / CARGO LIGHT SIGNAL
920	DG	REAR AND RIGHT DOOR MAG SW (DOOR OPEN GROUND SIGNAL)	945	DR	12V RELAY
921	DG/WT	BULKHEAD DOOR MAG SW (DOOR OPEN GROUND SIGNAL)	947	PK/BK	HORN RELAY GROUND SIGNAL
922	BK	RIGHT INPUT 2, RIGHT DOOR LATCH SWITCH GROUND	948	LG	IGNITION / ACC SIGNAL TO ACC / IGN RELAY
923	YL/BK	RIGHT INPUT 1, RIGHT DOOR LATCH SWITCH	950	BK	REAR INPUT 2, REAR DOOR LATCH SWITCH GROUND
924	YL	LEFT INPUT 1, LEFT DOOR LATCH SWITCH	960	YL	REAR INPUT 1, REAR DOOR LATCH SWITCH
925	BK	LEFT INPUT 1, LEFT DOOR LATCH SWITCH GROUND	961	BK/WT	REAR OUTPUT 2 (+), REAR DOOR SOLENOID
926	YL	BULKHEAD INPUT 1, BULKHEAD LATCH SWITCH	962	BK/WT	REAR OUTPUT 1 (-), REAR DOOR SOLENOID
927	BK/WT	LEFT OUTPUT 1 (-), LEFT DOOR SOLENOID	970	WT	HORN SIGNAL POWER
928	BK/WT	RIGHT OUTPUT 1 (-), RIGHT DOOR SOLENOID	990	GY	RIGHT DOOR MAG SW (DOOR OPEN GROUND SIGNAL (COVERED))
929	BK/WT	BULKHEAD OUTPUT 1 (-), BULKHEAD DOOR SOLENOID			
930	BK/WT	RIGHT OUTPUT 2 (+), RIGHT DOOR SOLENOID			

7.0 Recessing the Rear Access Reader

7.1 Overview

VACS access readers are impact resistant, but they will not withstand the force of a vehicle backing into a dock or other obstacle. To prevent damaging the rear access reader, the reader can be removed and reinstalled into a recessed position. To remount the rear access reader in a recessed location, order the Recessed Rear Reader Retrofit Kit (P/N 23002142SK).



WARNING: Put the transmission in PARK and set the parking brake before working on the vehicle.

WARNING: Always wear safety glasses while working on the vehicle.

7.2 Exploded Parts List

15	2	08611175	HEYCO DOME PLUG
14	4	11008114	WASHER 1/4 FLAT USS
13	4	11600811	NUT 1/4-20 FNSH HEX SS
12	REF	08610836	LATCH RR DR KYLS ENTRY
11	REF	06922628	PLATE SHIM REAR ALUM KEYLESS ENTRY
10	REF	22817011	SHIELD SECURITY LWR RR DR KYLS ENTRY
9	REF	22816756	SHIELD UPR SECURITY RR DR KYLS ENTRY
8	REF	11600724	SCREW #10-24 X 1/2 SLT
7	REF	11005597	BOLT HXCP 1/4-20 x 1 G5Z
6	REF	11008411	WASHER, FLAT #10 SAEZ
5	4	11305083	SCREW 1/4-20 x 1-1/2
4	REF	16512777	READER, ACCESS KYLE ENTRY
3	1	05705688	GASKET, RECESSED READER
2	4	17900528	SPACER 3/4" PLENUM
1	1	06924258	PLATE, RECESSED READER MOUNT
DET	QTY	PART NUMBER	DESCRIPTION

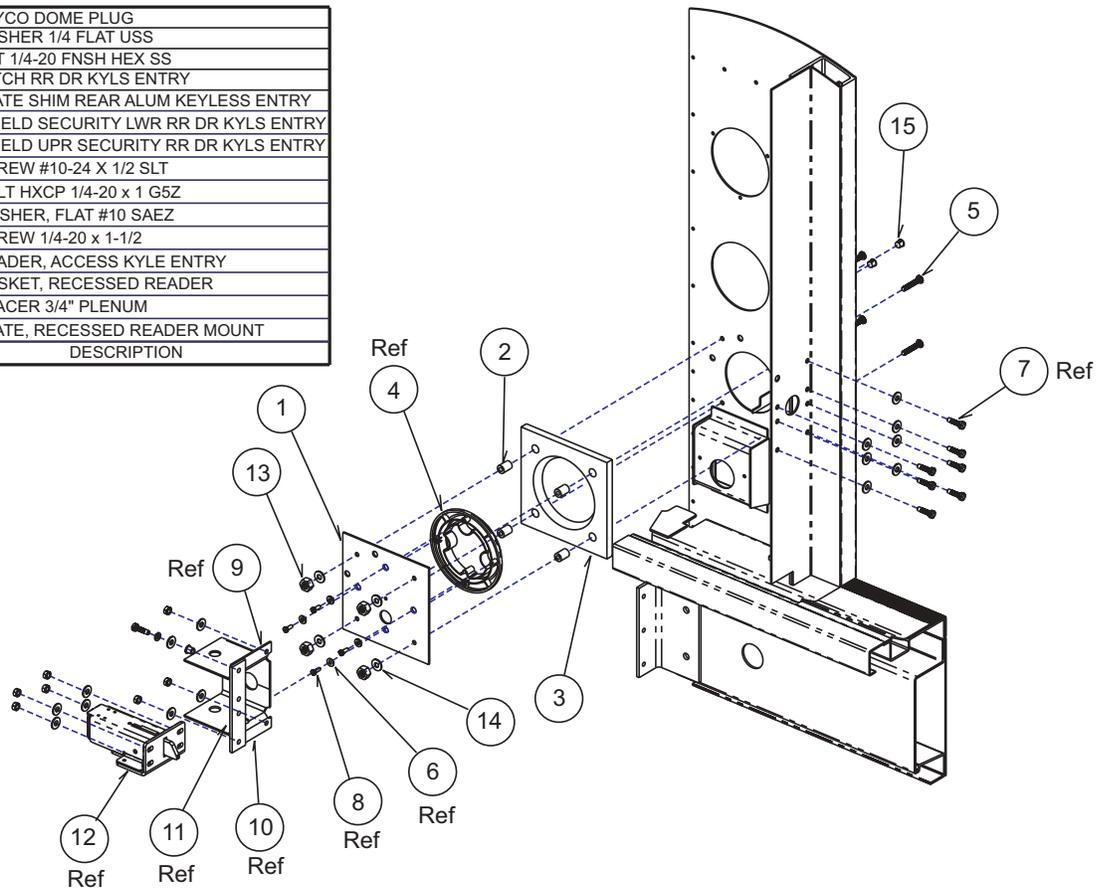


Illustration VA-100 Recessed Reader Kit Parts and Reference Parts

7.3 Procedure

NOTE: Read all instructions before beginning.

1. Disconnect the main wire harness to the rear door access module (aluminum box). Disconnecting this first will protect the rest of the system. This is the larger of the two harnesses that plug into the module. (See Illustration VA-105.)
2. Disconnect the access reader wire harness.
3. Carefully cut the wire ties holding the harnesses together.
4. Disconnect the electrical connection to the rear door solenoid and unhook the wire harness from the taillight cover. (See Illustration VA-110.)
5. Remove the one Torx® head screw attaching the taillight cover to the floor. Retain the screw for reinstallation. (See Illustration VA-110.)

NOTE: The rear latch solenoid has been removed to clarify these instructions. See Illustration VA-115.

6. Remove the four #10 screws holding the reader in place and remove the reader. Remove the plastic wire grommet from the rear structure and retain.
7. Line up the reader plate as shown. (See Illustration VA-120.)



CAUTION: This step is going to use the recessed reader mounting plate as a drill fixture. Please read twice and drill once!

Notice the new reader location will be located below and to the left of the existing holes! Use the 3/8" diameter bolts to temporarily hold the plate in place using the existing hole. Do not tighten more than finger-tight.

8. Drill four 0.257" diameter (17/64") holes located 1" from edge of plate. (See Illustration VA-120.)



*Illustration VA-105
Disconnect Module*



Illustration VA-110 Remove Cover



Illustration VA-115 Latch Solenoid

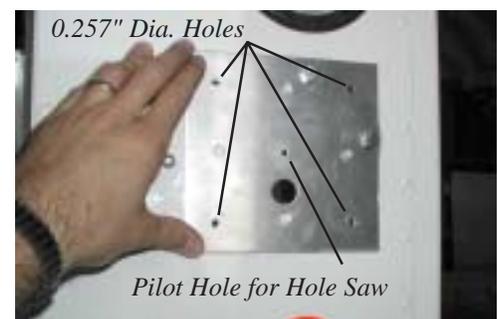


Illustration VA-120 Reader Plate

9. Drill the center hole to the same diameter as the guide drill of your hole saw. (See Illustrations VA-120 and VA-125.)



CAUTION: Use a quality hole saw because the hole diameter is important to good sealing.

10. Remove the plate.
11. Use a hole saw to drill a 4" diameter hole in the rear structure. (See Illustration VA-125.)
12. Deburr the hole to remove sharp edges. (See Illustration VA-130.)
13. Thoroughly clean the interior surface of the rear wall.
14. Peel off the paper from the back of the gasket and install it on the inside of rear structure. Be very careful to line up the center hole and mounting holes. (See Illustration VA-135.)
15. Install 1/4-20 stainless screws, and then install 3/4" long spacers. (See Illustration VA-135.)
16. Install the plastic wire grommet on the reader mounting plate. (See Illustration VA-140.)
17. Attach the reader to the plate using 4 screws removed earlier. Torque to 10 to 15 in•lb.
18. Install the plate with the reader attached to the rear structure. (See Illustration VA-145.) Tighten the



Illustration VA-125 Drill 4" Hole



*Illustration VA-130
Deburr Opening*



*Illustration VA-135
Gasket with Spacers*



*Illustration VA-140
Feed Harness with Grommet*



*Illustration VA-145
Attach Mounting Plate*

1/4-20 nuts until the spacers bottom out. **Do not over tighten.** (Torque to 4 lb•ft.)

19. Use metal shears or a saber saw to notch the taillight cover. The notch is 1" deep, extending 4" below solenoid notch and 1" above solenoid notch. (See Illustration VA-150.)



CAUTION: Make sure wires do not get pinched and that they are fastened securely.

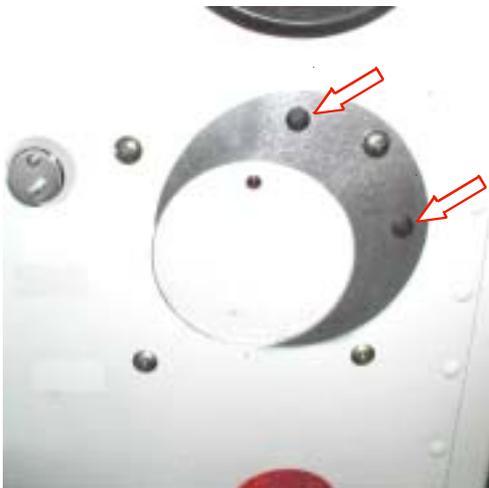
20. Reinstall the taillight cover using the same fastener. (See Illustration VA-155.)
21. Reconnect the access reader harness.
22. Reconnect the control module harness.
23. Secure the wires to their original positions with wire ties.
24. Install dome plugs from the exterior. (See Illustration VA-160.)
25. Follow the standard paint repair procedure to touch up the paint around the reader. (See Illustration VA-165.) Refer to *Utilimaster Body Service Manual*.



*Illustration VA-150
Notch Light Cover*



*Illustration VA-155
Install Light Cover*



*Illustration VA-160
Install Dome Plugs*

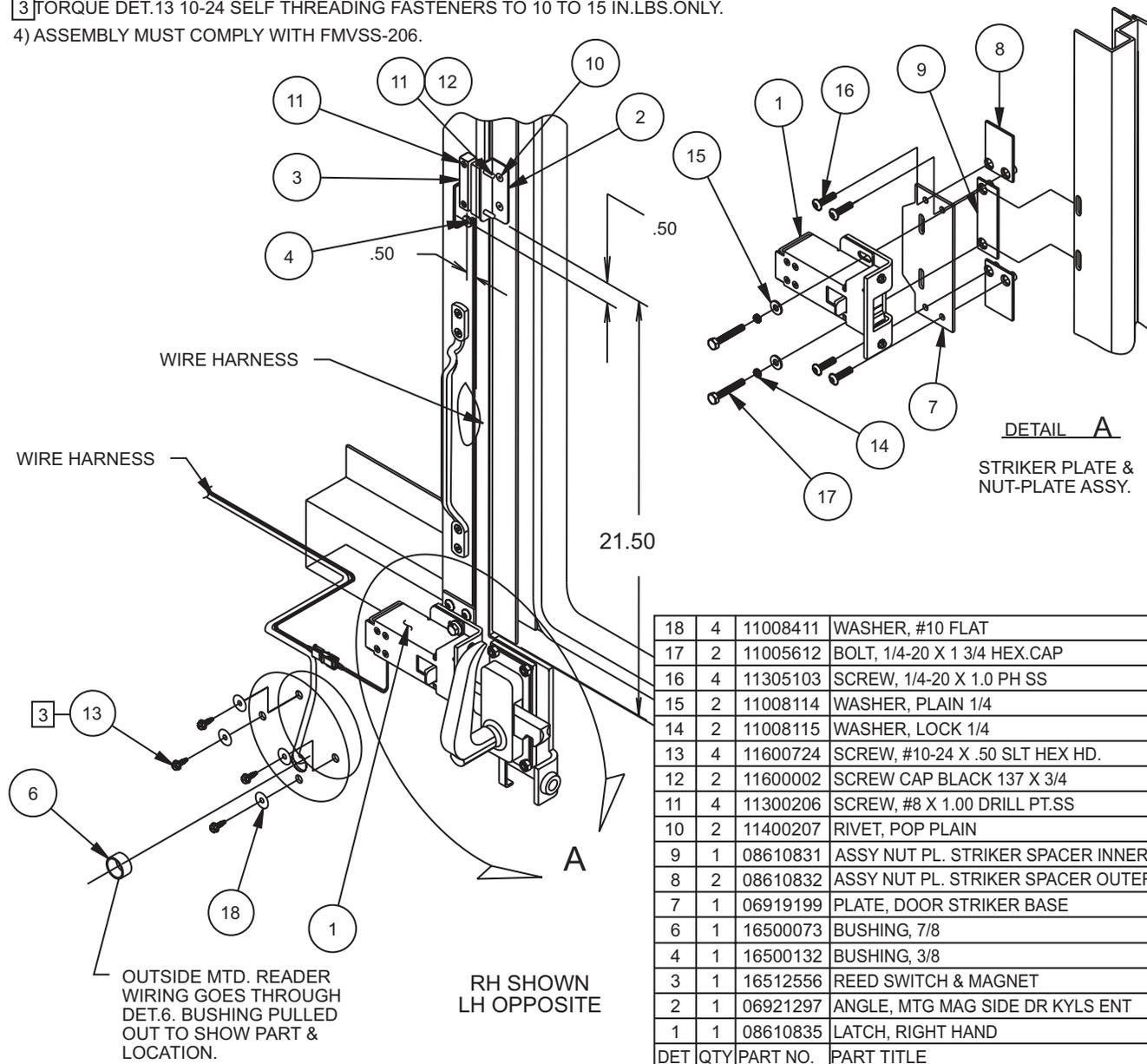


*Illustration VA-165
Recessed Access Reader Completed*

8.0 Assembly Drawings

8.1 Side Door

- 1) ALL DIMENSIONS TO OUTSIDE UNLESS OTHERWISE SPECIFIED.
- 2) .19 - .25 GAP BETWEEN MAGNET & SENSOR (DET.3) IS REQ'D.
- 3) TORQUE DET.13 10-24 SELF THREADING FASTENERS TO 10 TO 15 IN.LBS. ONLY.
- 4) ASSEMBLY MUST COMPLY WITH FMVSS-206.

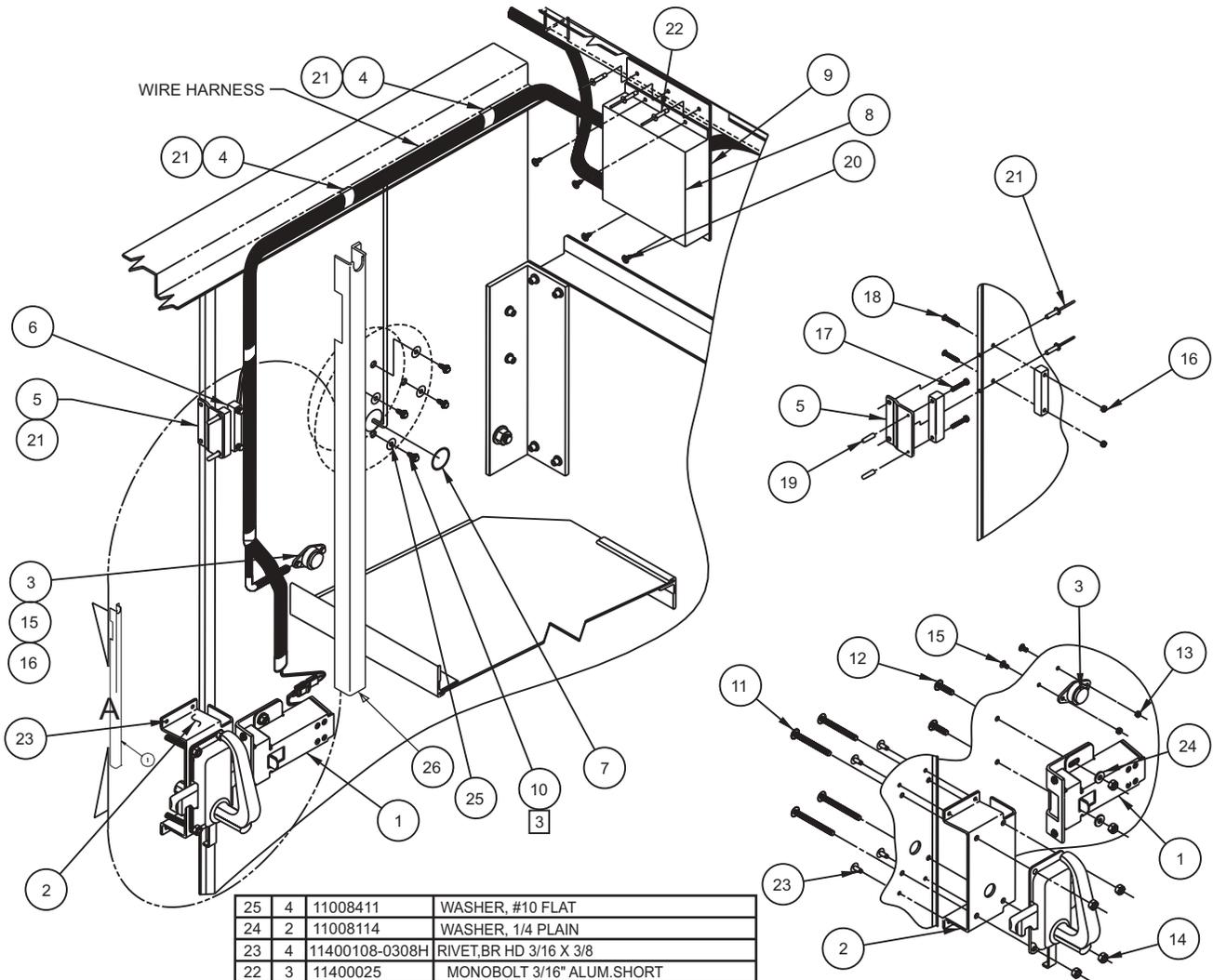


18	4	11008411	WASHER, #10 FLAT
17	2	11005612	BOLT, 1/4-20 X 1 3/4 HEX.CAP
16	4	11305103	SCREW, 1/4-20 X 1.0 PH SS
15	2	11008114	WASHER, PLAIN 1/4
14	2	11008115	WASHER, LOCK 1/4
13	4	11600724	SCREW, #10-24 X .50 SLT HEX HD.
12	2	11600002	SCREW CAP BLACK 137 X 3/4
11	4	11300206	SCREW, #8 X 1.00 DRILL PT.SS
10	2	11400207	RIVET, POP PLAIN
9	1	08610831	ASSY NUT PL. STRIKER SPACER INNER
8	2	08610832	ASSY NUT PL. STRIKER SPACER OUTER
7	1	06919199	PLATE, DOOR STRIKER BASE
6	1	16500073	BUSHING, 7/8
4	1	16500132	BUSHING, 3/8
3	1	16512556	REED SWITCH & MAGNET
2	1	06921297	ANGLE, MTG MAG SIDE DR KYLS ENT
1	1	08610835	LATCH, RIGHT HAND
DET	QTY	PART NO.	PART TITLE

INSTAL DR LATCH RH KYLS ENT
54232736

8.2 Bulkhead Door

- NOTES: 1) ALL DIMENSIONS TO OUTSIDE UNLESS OTHERWISE SPECIFIED.
 2) .19 - .25 GAP BETWEEN MAGNET & SENSOR (DET.3) IS REQ'D.
 3] TORQUE DET.10 10-24 SELF THREADING FASTENER TO 10 TO 15 IN.LBS.ONLY.



25	4	11008411	WASHER, #10 FLAT
24	2	11008114	WASHER, 1/4 PLAIN
23	4	11400108-0308H	RIVET,BR HD 3/16 X 3/8
22	3	11400025	MONOBOLT 3/16" ALUM.SHORT
21	4	11400207	RIVET, POP PLAIN AD48BS
20	4	11301314	SCREW, 8-32 X.50 LG.TR.HD.DR.PT.
19	2	11600002	CAP.SCREW BLACK 137 X 3/4
18	2	11301624	SCREW, 8-32 X 1.0 ZINC
17	2	11300206	SCREW, 8-32 X 1.0 DR.PT.SS
16	2	11301833	NUT, HEX KEPS 8-32 ZINC
15	2	11303638	SCREW, 10 X.50 LG. PTR
14	6	11000039	NUT, LOCK 1/4-20 2 WAY
13	2	11000067	NUT, HEX KEPS 10-24 ZINC
12	2	11305103	SCREW,1/4-20 X 1.00 LG. PH.HD.
11	4	11305180	SCREW,1/4-20 X 2.75 LG. PH.HD.
10	4	11600724	SCREW, #10-24 X.50 SLT HEX HD.
9	1	06921217	BRACKET, MODULE MOUNTING
8	1	16512776	MODULE, ACCESS CONTROL
7	1	16500073	BUSHING, 7/8 SB500-6
6	1	16512556	REED SWITCH & MAGNET
5	1	06921295	PLATE, MTG MAG BULKHD DR KYLS ENT
4	2	08706376	J-CLAMP 1/2"
3	1	16512554	BUTTON, HORN
2	1	06919180	BRACKET, BULKHEAD DOOR LATCH
1	1	08610834	LATCH, LEFT HAND (#598830)
DET	QTY	PART NUMBER	PART TITLE

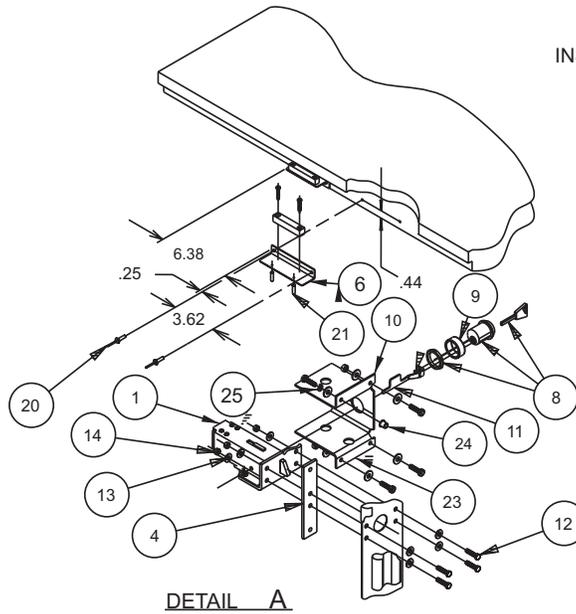
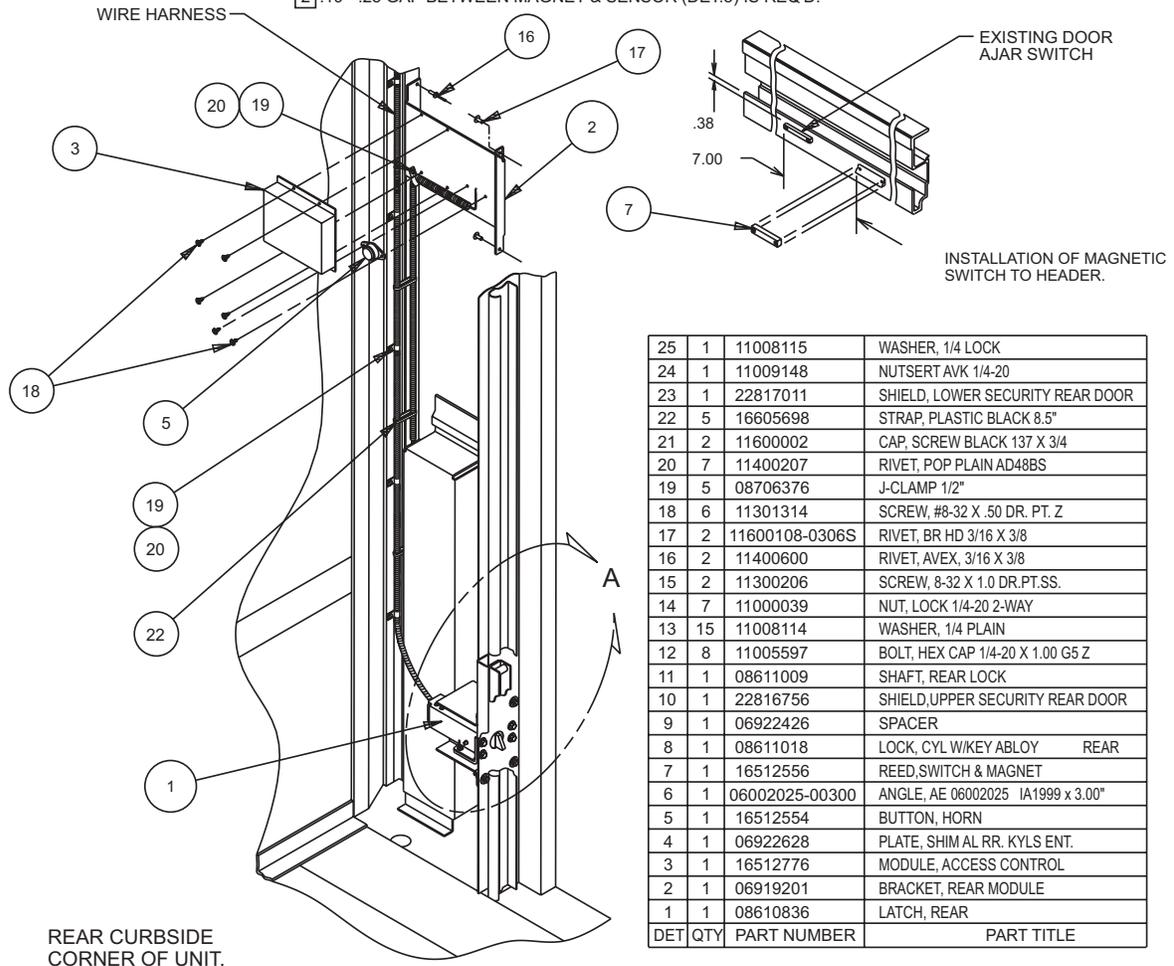
DETAIL A
DOORLATCH & REED SWITCH ASSEMBLY

INSTR,BLKHD LOCK KYLS ENT

54232738

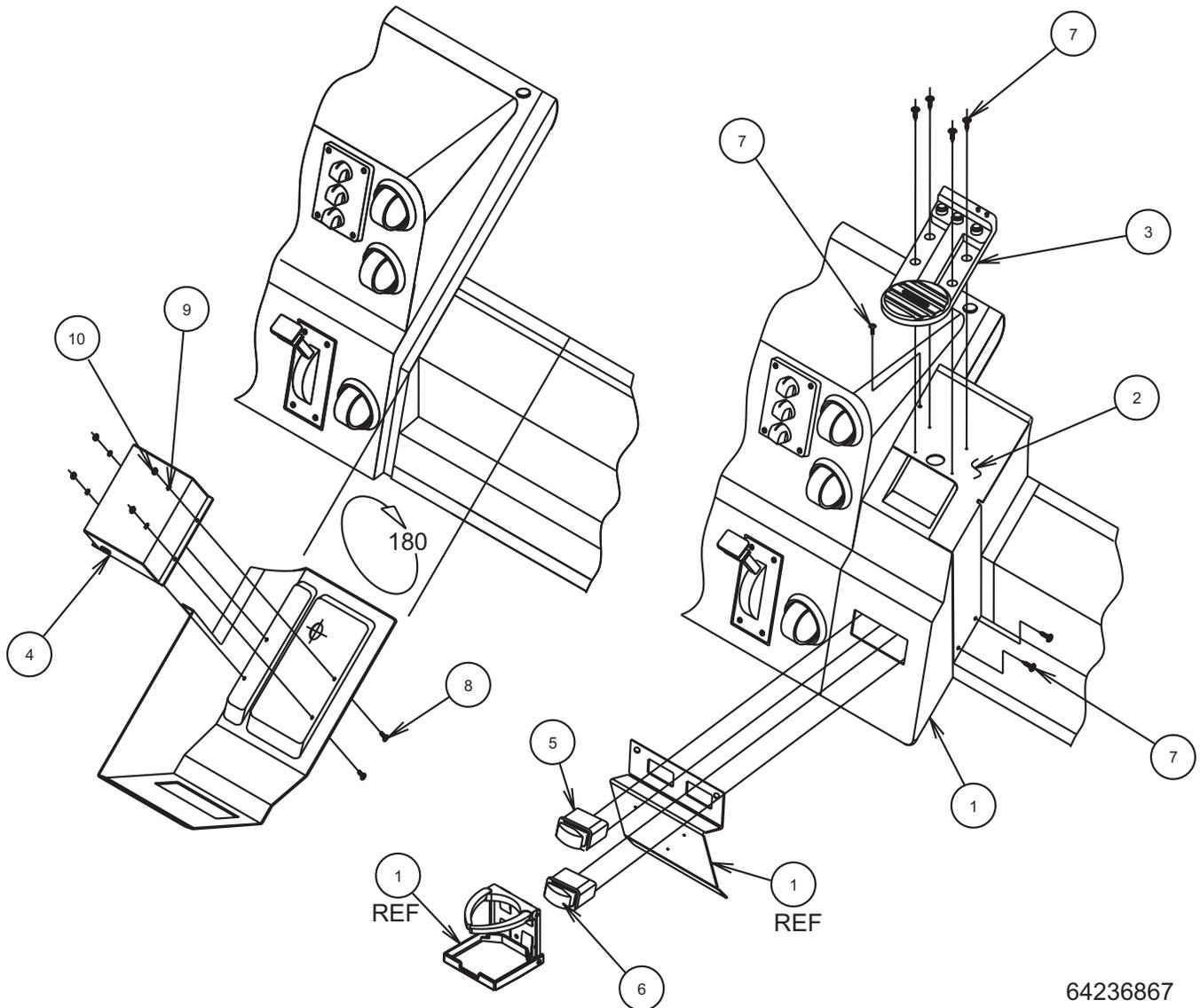
8.3 Rear Door

NOTES: 1) ALL DIMENSIONS TO OUTSIDE UNLESS OTHERWISE SPECIFIED.
 2) .19 - .25 GAP BETWEEN MAGNET & SENSOR (DET.3) IS REQ'D.



8.4 Ignition Module

8.4.1 (Model Year 1999–2001)



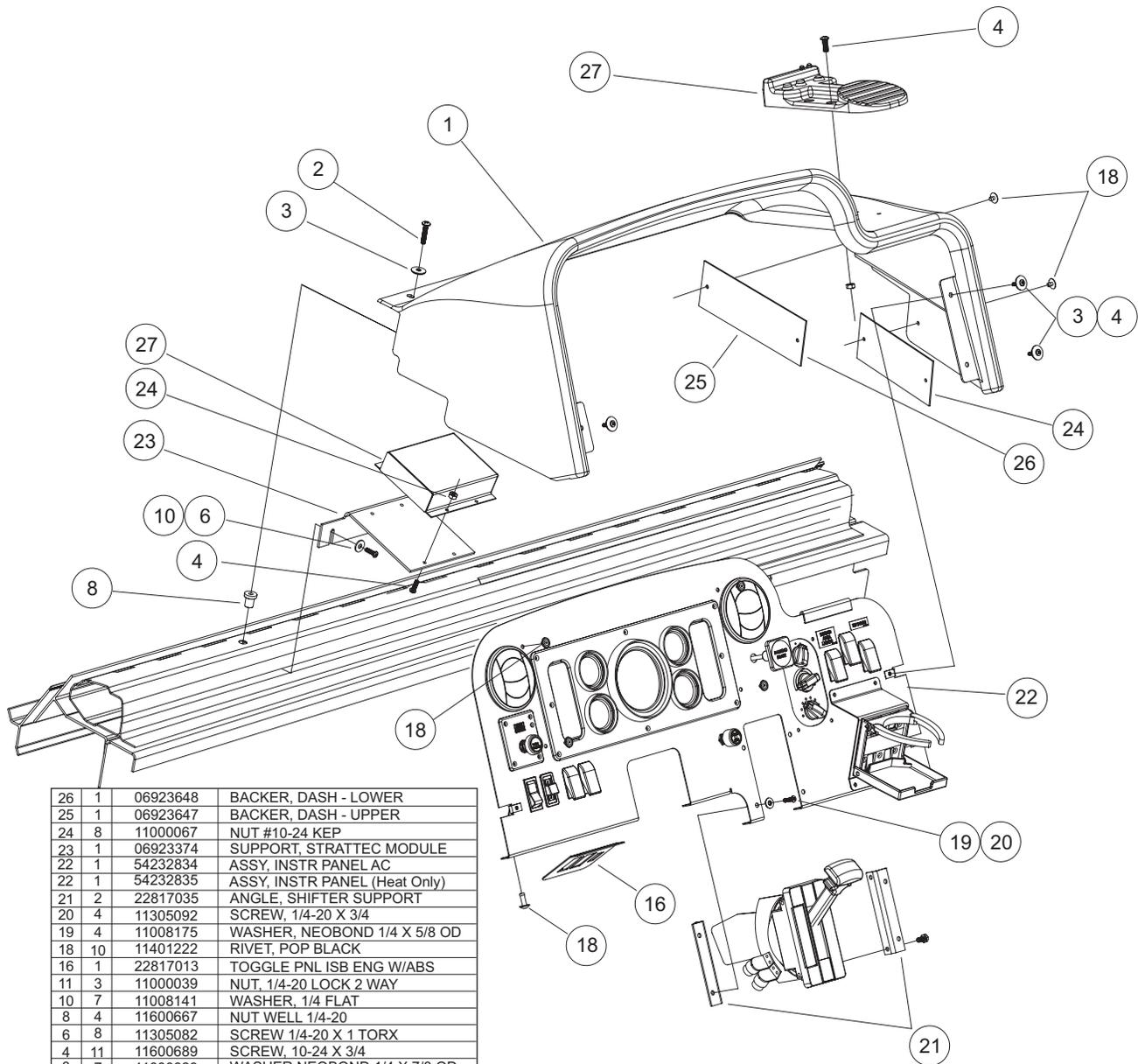
64236867

INSTR.IGNITION MODULE/READER KYLS ENT

10	4	11006930	NUT, HEX. #8 ZINC
9	4	11000039	WASHER, LOCK #8
8	4	11300010	SCREW, #8-32 X .38 PAN HD.MACH.SS
7	7	13301533	SCREW, #8-32 X.75 TR.HD.DR.PT.BLK.OX.
6	2	16100095	SWITCH, ACTUATOR(NO LIGHT) AKR-0300?
5	2	16512068	SWITCH BODY - OFF/MOM.-ON SRCNT020CA
4	1	16512778	MODULE, IGNITION CONTROL
3	1	16512779	READER,IGNITION ACCESS
2	1	06921475	PLATE, BACKER ALUM. KYLS ENT.
1	1	54232778	INSTALL, FOLD UP CUP HOLDER KYLS
DET	QTY	PARTN NO.	PART TITLE

8.4 Ignition Module

8.4.2 (Model Year May 2001–2003)



26	1	06923648	BACKER, DASH - LOWER
25	1	06923647	BACKER, DASH - UPPER
24	8	11000067	NUT #10-24 KEP
23	1	06923374	SUPPORT, STRATTEC MODULE
22	1	54232834	ASSY, INSTR PANEL AC
22	1	54232835	ASSY, INSTR PANEL (Heat Only)
21	2	22817035	ANGLE, SHIFTER SUPPORT
20	4	11305092	SCREW, 1/4-20 X 3/4
19	4	11008175	WASHER, NEOBOND 1/4 X 5/8 OD
18	10	11401222	RIVET, POP BLACK
16	1	22817013	TOGGLE PNL ISB ENG W/ABS
11	3	11000039	NUT, 1/4-20 LOCK 2 WAY
10	7	11008141	WASHER, 1/4 FLAT
8	4	11600667	NUT WELL 1/4-20
6	8	11305082	SCREW 1/4-20 X 1 TORX
4	11	11600689	SCREW, 10-24 X 3/4
3	7	11600629	WASHER NEOBOND 1/4 X 7/8 OD
2	4	11305083	SCREW, 1/4-20 X 1-1/2
1	1	20510685	COVER, INSTRUMENT PANEL - ABS
DET	QTY	PART NUMBER	DESCRIPTION

54232836



VACS Operator's Guide

1.0 Waking Up and Unlocking VACS System

NOTE: This guide may describe options that are not available on your vehicle.

1.1 Waking Up System

NOTE: Vehicle will not respond unless it reads a programmed transponder.

NOTE: For optimum performance, hold transponder 3–6 inches from the reader.

If the vehicle is unused for more than an hour, it is necessary to wake up the VACS (Vehicle Access Control System) by using one of the following methods:

- Hold the transponder in position by any access reader for up to 5 seconds.
- Pressing an interior door release switch.
- Starting the engine.

1.2 Unlock From Outside

NOTE: Electronic door latches will be inoperative if activated more than 3 times per minute until the cycle time elapses.

- To unlock a cab exterior door from the outside, the rear door from the outside, or the bulkhead door from the cab side, slowly pass the transponder in front of the access reader. This will unlock the door for 5 seconds.

1.3 Unlock From Inside

NOTE: A transponder is *not* required to exit from the vehicle.

- To open a cab door from inside the cab, press the door unlock switch (mounted on the dash). This will unlock the door for 5 seconds.
- To open the bulkhead door from inside the cargo area, press the button mounted beside the bulkhead door. This will unlock the door for 5 seconds.
- To open the rear door from inside the cargo area, press the button mounted beside the rear door. This will unlock the door for 5 seconds.

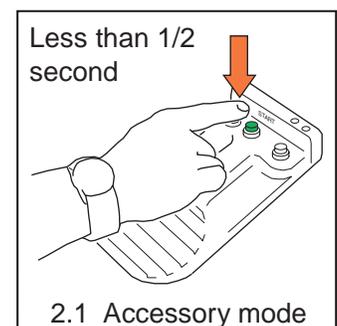
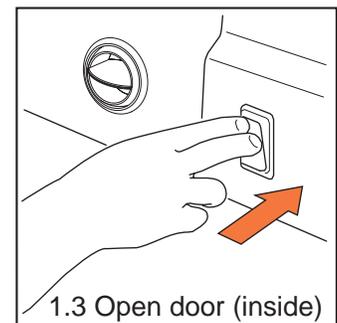
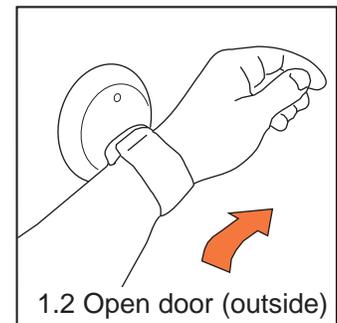
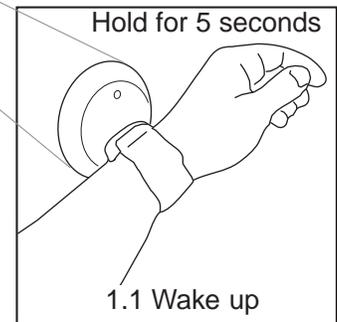
1.4 Emergency Entrance and Exit

- In the event of a dead battery, the vehicle may be entered with a key via the rear roll-up door. Contact your maintenance facility for assistance.
- Each door dead bolt can be manually operated from the interior.

2.0 Starting and Stopping Vehicle

2.1 Activating Accessories

- Place the hand with the transponder strapped to the wrist above the ignition control reader and press the green start switch for *less* than 1/2 second. This will activate the accessory mode.



2.2 Starting Engine

NOTE: All doors must be closed (including bulkhead) to start vehicle in normal operation. If a door is ajar, a red LED on the ignition reader will flash when attempting to start the unit.

- On **gas** engines, place hand with the transponder above ignition control reader, and press the green start switch until engine starts.
- On **diesel** engines, place hand with the transponder above ignition control reader, and press the green start switch for less than 1/2 second or until the instrument panel lights turn on. After the “Wait to Start” light goes off, press the green start switch until engine starts.

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.

2.3 Stopping Engine

NOTE: No transponder is needed to shut off the engine.

- Press the red stop switch for more than 1/4 second. The engine will stop, and the interior lights will activate for 10 seconds.

3.0 Vehicle Security

3.1 Operating Modes

NOTE: If the alarm is disarmed/deactivated and the vehicle is not started or in accessory mode, the system will arm itself after 10 seconds.

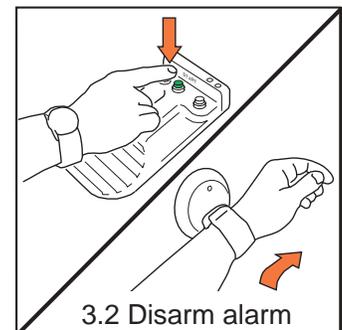
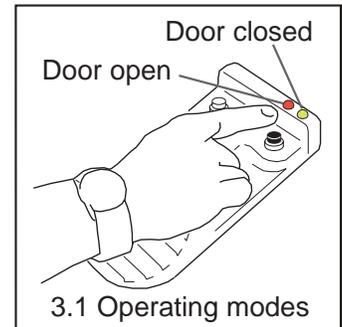
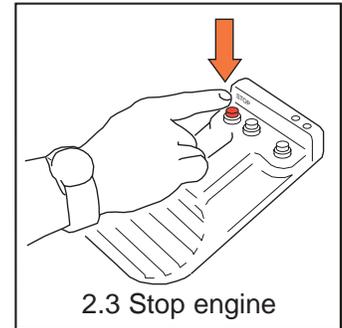
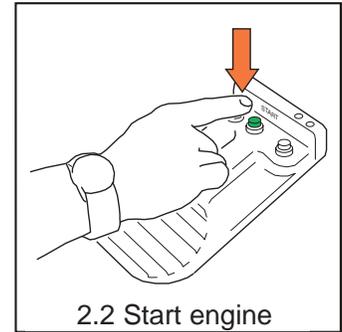
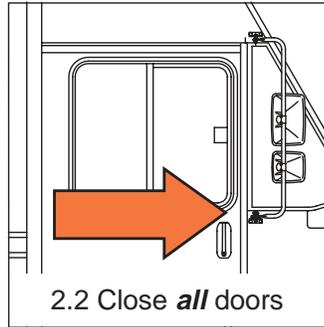
VACS has two operating modes. To toggle between modes (while in accessory mode or when engine is running), press the black mode button.

- **Door Opened** (Red LED): The security system will be armed 10 seconds after any exterior door is opened.
- **Door Closed** (Yellow LED): The security system will be armed 10 seconds after all exterior doors are closed.

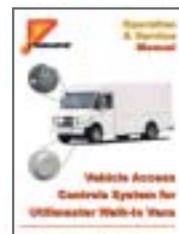
3.2 Disarming/Deactivating the Alarm

The alarm can be deactivated by any one of the following methods:

- A valid transponder is read by any access reader.
- Starting the vehicle with a valid transponder.



For additional information, browse www.utilimaster.com/vacs. From there, the *Vehicle Access Controls System Operation and Service Manual* (Part Number 03102103) can be downloaded in Adobe Acrobat format. Also, a (paper) copy can be ordered by emailing CustSvc@Utilimaster.com, calling 800-237-7806 (574-862-3219), or faxing 574-862-7637.



VACS Operator's Guide (Part Number 03102240) Revision C

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VACS Programming Guide

Programming Modes

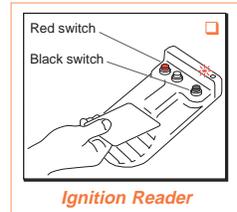
There are three modes of programming on a VACS (Vehicle Access Control System) or keyless-entry vehicle:

- **Mode 1:** Adding new user transponder code(s).
- **Mode 2:** Deleting all existing user transponder code(s) and adding new user transponder code(s).
- **Mode 3:** Changing to a new master programming card (which automatically deletes all existing user transponder codes).

You may experience an anomaly when performing **Mode 3** programming. In some cases, the new programming card information may not be stored in all vehicle reader (and corresponding control module) locations. Please note that **Modes 1 and 2 are not affected** by this programming anomaly and the anomaly will not affect the day-to-day operation of any keyless entry vehicle for a driver with a valid user transponder (wristband or key fob).

Note that instructions for **access** readers in the following sections also apply to the **ignition reader** with the following additions and exceptions:

- ❑ To use the ignition reader for programming, the vehicle must be off. (The red switch shuts off the engine.)
- ❑ Hold the **master programming card** above the ignition reader and press the black switch in order to activate programming mode. The black switch is pressed (once) to simulate each pass of the master programming card by an access reader.
- ❑ Press the black switch in order to add codes while holding the new **transponder** above the ignition reader.
- ❑ Press the red switch to exit programming mode.



Ignition Reader

Mode 1—Adding New User Transponder Codes

1. Slowly pass the master programming card 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.
2. Slowly pass a non-programmed transponder by the access reader and observe that the red LED will flash quickly twice. This indicates that the transponder has been added to the system's memory.
3. You may continue to add codes to the system's memory by simply passing non-programmed transponders by the access reader.

There are four methods of exiting this mode of operation:

- Pass a programmed transponder by the access reader.
- Pass the master programming card by the access reader.
- Programming mode will be exited automatically after 10 codes have been stored.
- Programming mode will be exited automatically after 5 minutes of inactivity.

Note: The red LED will illuminate for about 1 second to indicate the operator has exited the programming mode.

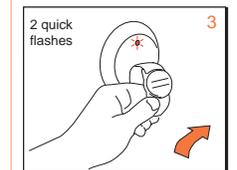
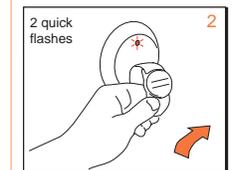
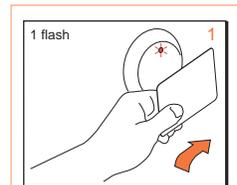
Mode 2—Deleting All Existing User Transponder Codes and Adding New User Transponder Codes

1. Slowly pass the master programming card by the access reader once, and then pass it by the access reader a second time. 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.
2. Slowly pass a transponder by the access reader. The red LED will flash quickly twice. This indicates that all existing codes in memory have now been deleted and the transponder that you just passed by the access reader has been added to the system's memory.
3. You may continue to add codes to the system's memory by simply passing non-programmed transponders by the access reader.

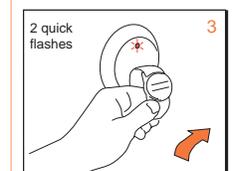
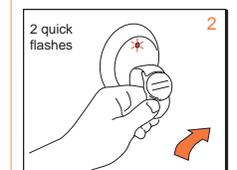
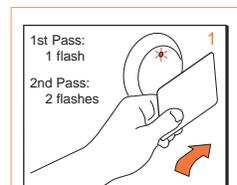
There are four methods of exiting this mode of operation:

- Pass a programmed transponder by the access reader.
- Pass the master programming card by the access reader.
- Programming mode will be exited automatically after 10 codes have been stored.
- Programming mode will be exited automatically after 5 minutes of inactivity.

Note: The red LED will illuminate for about 1 second to indicate the operator has exited the programming mode.



Mode 1 Programming



Mode 2 Programming

Mode 3—Changing to a New Master Programming Card (which Automatically Deletes All Existing User Transponder Codes)

Programming New Card

1. Slowly pass the master programming card by the access reader once, twice, and again a third time while 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 programming card mode of operation.

Note: If the master programming card 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 system.

2. Slowly pass the desired new master programming card by the access reader once, twice, and again a third time while observing that the red LED in the access reader will flash once, and then twice, and then three times. After the third pass, the system will save the new master programming card, delete all existing user transponder code(s), and exit the programming mode automatically.

Note: The red LED will illuminate for about 1 second to indicate the operator has exited the programming mode.

To determine if the Mode 3 programming anomaly exists, you must check every door access module location and the ignition module location to verify each location recognizes the correct master programming card.

Checking Door Access Modules

At each door, perform the following sequence:

1. Hold the master programming card about 2 inches away from the reader and observe a single red flash.
2. Move the master programming card away from the reader. (Note: Remaining access locations should have their red indicators illuminated and will be inactive at this time.)
3. Present the master programming card a second time and observe two red flashes.
4. Move the master programming card away from the reader.
5. Present the master programming card a third time and observe three red flashes.
6. Move the master programming card away from the reader.
7. Present the master programming card a fourth time and observe a 1–second red flash. (Note: Remaining access locations should have their red indicators extinguished at this time.)

This process simply cycles through the programming options of the system without making any changes.

Checking Ignition Module

1. If the engine is not already off, stop the engine by pressing the red switch.
2. Hold the master programming card approximately 2 inches above the spherical area of the ignition reader, and then press and release the black switch. Observe a single red flash. (Note: Remaining access locations should have their red indicators illuminated and will be inactive at this time.)
3. Remove the master programming card. Press and release the red switch and observe a 1–second red flash. (Note: Remaining access locations should have their red indicators extinguished at this time.) Again, this process does not make any changes to the system.

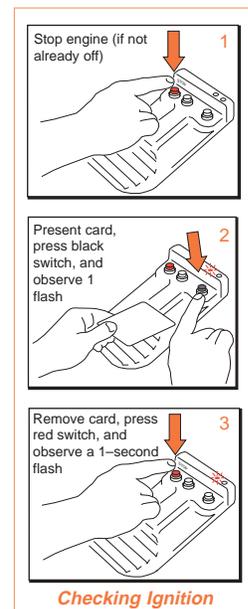
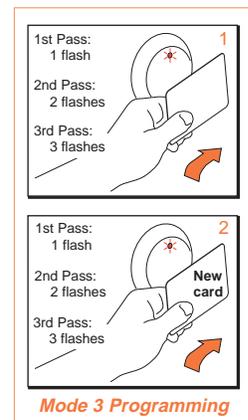
If each reader location recognizes the correct master programming card, then no further action is required.

If a reader location does **not** recognize the correct master programming card, then it still contains the information from a previously stored master programming card. Typically, the information from a previously stored master programming card would be the T1000 transport card. The steps in the next section must be taken **at the affected reader location**.

Reprogramming an Affected Module

1. Use the previously stored master programming card to enter the desired new master programming card by following Steps 1 and 2 under “Programming New Card” above.
2. Using the master programming card you have just programmed into the system, follow Steps 1 through 7 under “Checking Door Access Modules” and Steps 1 through 3 under “Checking Ignition Module” above.
3. After each location recognizes the correct master programming card, then you must reenter all desired transponder codes.

Whenever Mode 3 programming is performed on a vehicle, it is necessary to confirm that the correct master programming card is recognized at all door module locations and the ignition module location.



For additional information, browse www.utilimaster.com/vacs. From there, the *Vehicle Access Controls System Operation and Service Manual* (Part Number 03102103) can be downloaded in Adobe Acrobat format. Also, a (paper) copy can be ordered by emailing CustSvc@Utilimaster.com, calling 800-237-7806 (574-862-3219), or faxing 574-862-7637.

VACS Programming Guide (Part Number 03102519-RY01EN) Revision B

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Filing Warranty Claims

If a problem on the Utilimaster body is caused by a defect in materials or workmanship during the warranty period, it will be covered by our Limited Warranty. Chassis, engine, tires, and battery failures are covered by the individual manufacturers.

Claims must meet the requirements listed below. Failure to meet these requirements may result in a denied or delayed claim.

Complete a repair order with the following information:

- **Chassis VIN or Utilimaster Body Serial Number.**
- **Year and model of vehicle.**
- **Owner's and/or service facility's name and complete address.**
- **Service center representative's signature (or name).**
- **Date vehicle was repaired.**
- **Mileage at time of failure.**
- **Itemized description of the problem, including complaint, cause of failure (if known), and correction (describe in detail).**
- **Service center labor rate and total time of repair.**
- **Total claim amount, including cost of parts (include Utilimaster P/Ns), labor, miscellaneous charges, and sales tax (if applicable).**
- **Your claim or repair order number.**

NOTE: The claim or repair order number is the number used to match Utilimaster payment with the work done. It will be noted on your payment.

- **Utilimaster authorization number** (repairs costing over \$150 U.S. or for structural warranty require prior authorization from Utilimaster).

Other claim requirements:

- Any repairs **over \$150 U.S. or for structural warranty require prior authorization** from Utilimaster, and that number must appear on the repair order. Contact the Warranty Department.

- Any claim that is not **legible and complete** will be returned for completion.
- **All paint claims** require pictures, estimates, and prior authorization.
- **Shipping damage claims** also require pictures, estimates, and prior authorization. The damage must also be noted on the Delivery Acceptance form. This form requires the signature of the carrier driver.
- **Sublet work** must have the sublet repair order attached to the service facility's repair order that is being submitted.
- Claims must be **submitted within 30 days** after the repair is completed.

The claim can be mailed, faxed, emailed, or performed on-line on our web site (assuming all required information is included).

- Warranty claims should be **mailed** to:

**Utilimaster
Attn: Warranty Department
65528 State Road 19
P.O. Box 585
Wakarusa, IN 46573-0585
U.S.A.**

- Alternately, you can **fax** your claim (if no photographs are involved) with the above information to **574-862-7637**. (The resolution of the received copies must be acceptable, or you will be asked to mail your hard copies.)
- Or you can **email** your claim with the above information to **Warranty@Utilimaster.com**. (You can download a customizable **Warranty Claim Form template** from the Utilimaster web site **www.utilimaster.com**. The template has a header that you can customize with your name and address. Then, to file a claim, you only have to enter the specific information about the vehicle—saving retyping the same address information repeatedly. After completing the form information, the file can be emailed as an attachment. This form can also be used for mailing or faxing.)

Claims are paid semimonthly. Utilimaster generally does not pay sales tax on claims. If you do not have our tax exemption number on file, please call 800-582-3454 or 574-862-4561 and ask for the accounting department to obtain the number.

Before returning any parts, contact a Utilimaster Warranty representative.



CAUTION: Utilimaster vehicles are built to designed specifications. Improper use or overloading can cause damage to the equipment and void the warranty.



WARNING: Unauthorized alteration or improper maintenance or repair can result in possible dangerous driving conditions.

Ordering Parts

How to Order

To order parts for this vehicle, gather the following information:

- **Model and year of vehicle** (200_ Aeromaster on ____ chassis).
- **Chassis VIN or Utilimaster Body Number**
- **Complete shipping address**
- **Preferred method of shipping**
- **Complete description of all the necessary parts** (see the Part Numbers section in this manual or the relevant Utilimaster Body parts manual)
- **Method of payment**

NOTE: Customer Service prefers payment by Visa, MasterCard, Discover, or American Express credit cards. Purchase Orders from customers with established open accounts are also accepted.

Then contact Utilimaster Customer Service by using one of the following methods:

- **Email** your order to CustSvc@Utilimaster.com. (See the Customizable Parts Order Form section.)
- **Fax** your order to **574-862-7637**.
- **Call 800-237-7806** (574-862-3219) and ask for the Parts Department.
- **Mail or express service** your order to the following address:

Utilimaster Corp.
Attn: Parts Department
65528 State Road 19
P.O. Box 585
Wakarusa, IN 46573-0585
U.S.A.

Returns

To return parts for credit, call the Customer Service Department for prior authorization. All returns must be shipped prepaid freight. A restocking fee will be charged to all returns. Special-order parts are not returnable.

Utilimaster Corp.
Service Center Name _____
Contact Person _____
Email _____

Address _____
City, State, Zip _____
Phone _____
Fax _____

To Utilimaster Parts Department
 65528 State Road 19, P.O. Box 585
 Wakarusa, IN 46573-0585, U.S.A.

FAX 574-862-7637

Date _____

Preferred Shipping _____
 (i.e., type of carrier and service priority)

Re Parts Order _____
 or Request for Quote Only _____

Credit Card # _____
 (or PO# for customers with open accounts)

Special Instructions _____
 (e.g., different shipping address)

Signature _____
 Service center representative's signature

Vehicle Model		Utilimaster Body S/N or Chassis VIN		Application
				Maintenance __ Accident __ or Warranty __
Order Item #	Utilimaster Part Number	Part Description	Quantity	Comments (optional)
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
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16.				

Reporting Safety Defects

United States Only

If you believe that your vehicle has a defect that could cause a crash, injury, or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA), in addition to notifying Utilimaster.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Utilimaster.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at **800-424-9393** (or **202-366-0123** in the Washington, D.C., area) or write to:

**NHTSA
U.S. Department of Transportation
400 Seventh Street
Washington, DC 20590**

You can also obtain other information about motor vehicle safety from the Hotline.

Canada Only

If you believe that your Canadian-registered vehicle has a defect that could cause a crash, injury, or death, you should immediately inform Transport Canada, in addition to notifying Utilimaster.

To contact Transport Canada, call **800-333-0510** (or **613-993-9851** in the Ottawa region) or write to:

**Transport Canada
Motor Vehicle Defect Investigation
PO Box 8880
Ottawa, Ontario, K1G 3J2**



Towing and Emergency Repairs

Problems with the Utilimaster body are unlikely to disable a vehicle enough to make it undrivable. **See the chassis operator's manual and the engine service manual for emergency information.**

See the chassis operator's manual for information on towing procedures. Utilimaster recommends the following:

- A wheel lift or flatbed equipment is the preferred method of towing.
- Unload the vehicle when possible to reduce stress on the chassis during towing.
- Be sure to place the transmission in Neutral and fully release the parking brake if towing.

More Information

Download Files

Many support documents, including those described here, are downloadable (as Adobe® Acrobat® PDF files) from our award-winning web site at www.utilimaster.com. **Click on the Technical Manuals button, to access the download page.** To view the files you must have the Adobe Acrobat Reader version 4.0 or higher installed on your computer. Acrobat readers are available free for all leading computer operating systems on the Adobe web site (www.adobe.com).

Utilimaster Quick Reference Parts Guide

Easily find commonly replaced parts for most Utilimaster vehicles in the *Utilimaster Quick Reference Parts Guide*. This illustrated document includes part numbers for door hardware, electrical components, mirrors, vents, mud flaps, roll-up door parts, and many other parts. It also includes sealants and repair kits.

Utilimaster Detailed Parts and Wiring Manuals

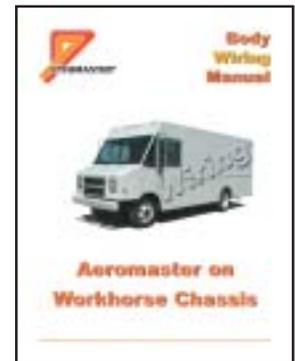
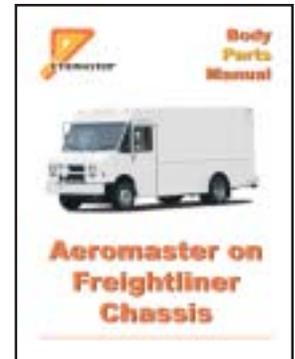
Find wiring diagrams and parts specific to Aeromaster bodies in detailed parts manuals and wiring manuals.

Contact Utilimaster

Browse our site for more information about Utilimaster and its products or contact Utilimaster Customer Service by using one of the following methods:

- Call 800-237-7806 (or 574-862-3219).
- Fax to 574-862-7637.
- Email to CustSvc@Utilimaster.com.
- Mail to the following address:

Utilimaster
Attn: Customer Service Department
65528 State Road 19
P.O. Box 585
Wakarusa, IN 46573-0585
U.S.A.





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Part Number: 03102103
Revision E

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