Cool Guard Plus

M910-01 Heat Alarm
M910-02 Rescue Kit
For K9 Police Vehicles

System Status Display on Touch Screen

- **[New] - Heat Index Real Time Status**

- **[New] - Two Temperature Probes with Humidity Readout**

- **Full Color InteractiveTouch Display**

- **Easy Install on any vehicle make or model**

TECHNICAL SUPPORT

Installation / Performance Support
Wire Harness
Fan
Pager
Fusing
Window Interface
Cool Guard & Temperature Probe

Call American Aluminum Service Department
1-800-277-0869 (Toll Free)
1-850-584-3969 (Direct)
1-850-584-8485 (Fax)
www.ezrideronline.com (Web Site)

OVERVIEW

Cool Guard Plus is a "state of the art" K9 Heat Alarm, which monitors both temperature and humidity. The System Status Box continuously displays alarm status, normal (OK), hot or cold warning, and hot or cold alarm. At a glance, the K9 Handler can see accurate readings of temperature, humidity and Heat Index (HI).

Trigger Set Point

Hot and cold temperature trigger set points are displayed and the K9 handler can toggle between a low hot alarm and high hot alarm, depending upon the time of day or location as needed.

Brightness

Touch screen brightness is easily changed to different brightness levels, including dark, by pressing the tab in the upper right corner. If the display is dark, then a touch anywhere will turn it back on.

Gear Tab

The gear tab, in the upper left corner, gives user menu access to all of the other features in the Cool Guard Plus, such as setup, equipment test, install information, event history and diagnostics.

Cool Down

When ignition is turned on, there is a 10-minute Cool Down period, which allows the vehicle interior to climatize to a comfortable level for the K9 and Handler. The Cool Down can be extended as needed or bypassed if the vehicle interior is at an acceptable temperature. During this period, the automatic equipment test can be accessed and performed to verify fan, windows, pager and lights are operating as expected. For extreme conditions - only below 40°F - where a long Cool Down is needed, a standard 30 minute setting is available. Above 40°F Cool Down ON - even with setting @ 30 minutes - system will default back to 10 minutes.

In-Gear/Driving Temperature Not Monitored

Cool Down

Temperature Status

This system is designed to improve the protection of your K9 partner by displaying real time temperature and status information. If an over-temperature condition is detected, the K9 Heat Alarm is triggered and pager signal initiated to call attention to the K9 Handler. Temperature is always monitored except during Cool Down, when vehicle is driving and for 10-minutes when the Alarm Off One Time is active.

Heat Alarm

Paw Protect

Cool Guard Plus Heat Alarm remains active when the ignition is turned OFF until the Paw Protect OFF switch is pressed. The K9 should be removed when the Paw Protect switch is pressed.

OFF Switch

Paw Protect
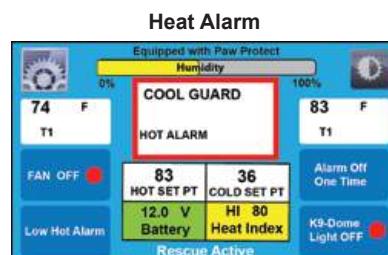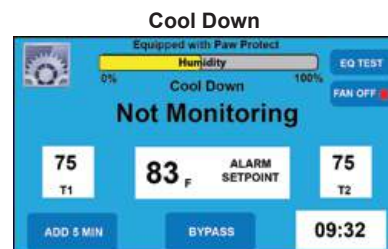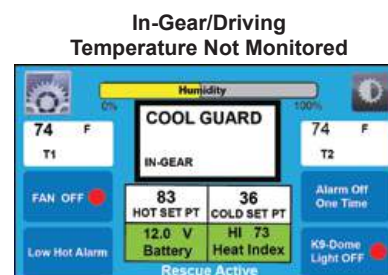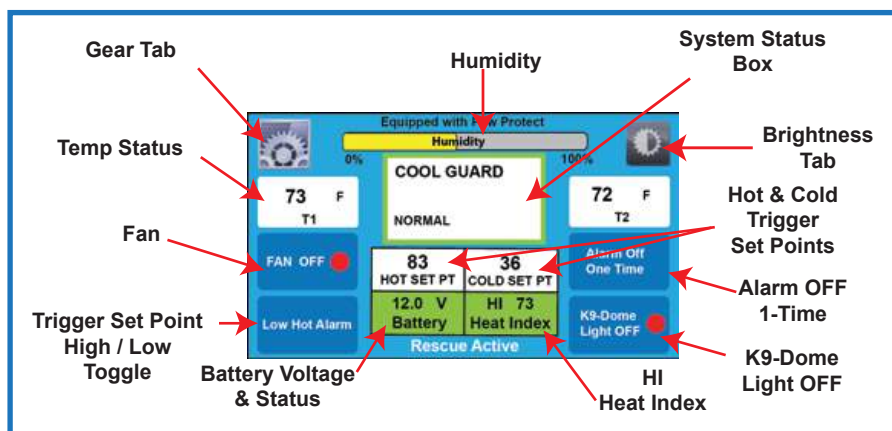
The American Kennel Club (AKC) reports a temperature of 101 to 102.5 degrees Fahrenheit (38.3 to 39.2 degrees Celsius) is typical for K9s and Hyperthermia or heat exhaustion can occur above 103°F (39°C). K9s can only perspire through paws and mouth, and are thus more susceptible to heat exhaustion unlike humans who can freely sweat to help regulate internal body temperature. K9s start experiencing discomfort in the HI Heat Index Caution Zone (Yellow) and can be injured in the HI Danger Zone (Red).

OPERATION

Cool Down

Vehicle Ignition On, turns on the Cool Guard Plus and initiates Cool Down. In Cool Down, temperature is not monitored and alarms are not triggered. Standard Cool Down time period is 10-minutes and is displayed lower right corner. In hot conditions, Cool Down can be extended by 10-minutes, twice or bypassed if temperature is K9 comfortable.

Monitoring and Alarm

Temperature and Alarm status are displayed on the Main Operation screen. T1 and T2 Temp probe temperatures are updated as temperatures change. The Heat Index (HI) uses both temperature and humidity readings to let K9 Handler view comfort status for his K9 Partner,
Green - OK, Yellow - Caution and Red - Danger.

The Hot/Cold warning and the Hot/Cold alarm use termperature and Heat Index (HI) to calculate; then compare to trigger set points. The Pre-alert Hot/Cold warning is triggered when the temperature is detected 3° below the hot trigger set point or 3° above the cold trigger set point. The Hot/Cold alarm triggers 40-seconds after the trigger set point is detected. The HI is calculated as part of the trigger set point calculation. The HI status; OK-Green, Caution-Yellow or Danger-Red, is displayed continuously.

Status Screen

Operation Screen

Brightness

Change display brightness by pressing "Sun" in upper right corner. Five levels of brightness are available including DARK. Cycle through levels by pressing sun tab.

Manual Fan

Press fan switch on or off. Status LED is green if fan is on and red if it is off.

Alarm OFF-One-Time

The alarm can be disabled/turned off for 5-minutes. Press the Alarm OFF-One-Time. Confirm you want to turn off K9 Heat Alarm and stop monitoring temperature by pressing "Yes". Exit any time by pressing the reset tab or Alarm OFF-One-Time will automatically exit after 5-minutes.

Low / High Hot Alarm

Toggle between low "hot" trigger set point and high "hot" trigger set point depending on environmental conditions.

Disable Cool Guard Alarm and Rescue In Gear

Alarm is disabled (turned off) when driving, if the neutral safety switch is accessed and connected to the Cool Guard Plus. Cool Guard Plus is designed for easy user/vehicle setup to correctly detect in-park or in-gear status of vehicle when driving.
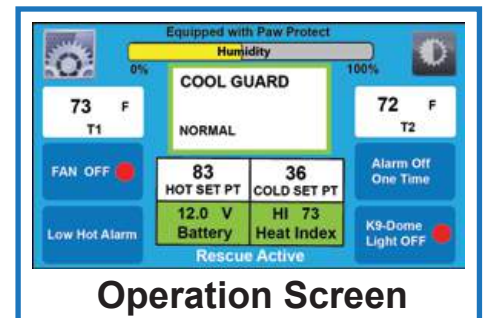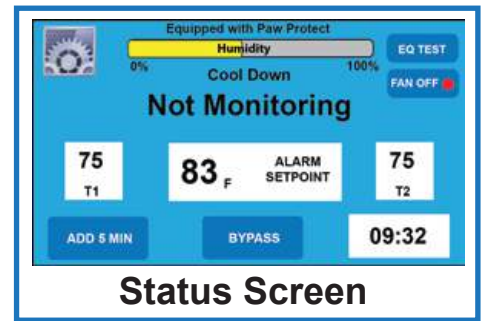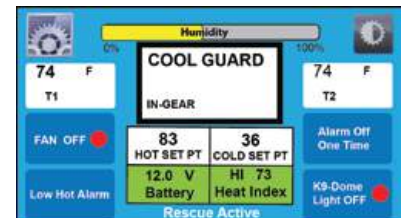
NOTE: *When the border is black and "IN-GEAR" is displayed, system is bypassed and is NOT monitoring the K9.*

Rescue Unlock and Unlatch are disabled when driving.

Equipment Test

Press the Gear Box Icon on any of the touch screens which displays the Main Menu screen to access the Equipment Tests. Automatic test sequence is initiated by pressing "Start Test". Each device is tested (windows, lights & fans for 7-secs; all others devices for 2-secs). To test equipment manually, press the device tab for individual device to be tested.

Low Voltage Monitoring

Any time the default low voltage is detected, the low voltage status box will turn red and a pager signal is initiated. In addition, if the temperature is above 56°, Window #1 rolls down, stops, then, Window #2 rolls down.

Rescue (Requires M910-02 Kit purchased separately)
- Press fob button once, door unlocks.
- Press fob a 2nd time within 3-seconds, door unlatches.

Operation Screen
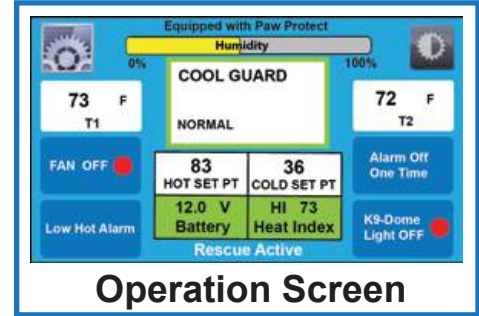
System Function Chart

Operating Condition	Main Status Indicator Operation	Window Drop (+) Output	Fan (+) Output	Horn (+) Output	Lights (+) Output 1 & 2 OFF	Pager (+) Output	Remote Start (-) Output
Normal Operation	COOL GUARD NORMAL	NO	NO	NO	NO	NO	NO
Hot Warning Pre-alert Trigger	COOL GUARD HOT WARNING	NO	NO	YES DOUBLE CHIRP	YES DOUBLE FLASH	NO	NO
Cold Warning Pre-alert Trigger	COOL GUARD COLD WARNING	NO	NO	YES DOUBLE CHIRP	YES DOUBLE FLASH	NO	NO
Hot Alarm Trigger	COOL GUARD HOT ALARM	YES	YES	YES 2 SHORT/ 2 LONG/ 2 SHORT/ REPEAT	YES 2 SHORT/ 2 LONG/ 2 SHORT/ REPEAT	YES 1-SECOND PULSE	Yes if PP=ON (not been pressed)
Cold Alarm Trigger	COOL GUARD COLD ALARM	YES IF TEMP ABOVE 56°F	YES IF TEMP ABOVE 56°F	YES 2 SHORT/ 2 LONG/ 2 SHORT/ REPEAT	YES 2 SHORT/ 2 LONG/ 2 SHORT/ REPEAT	YES 1-SECOND PULSE	Yes if PP=ON (not been pressed)
Low Voltage Factory Default 10.5 VDC Continuous Monitor	10.5 V BATTERY	YES IF TEMP ABOVE 56°F	NO	NO	NO	YES 1-SECOND PULSE	NO
Temperature Single Probe Fault Continuous Monitor	COOL GUARD DBL PROBE FLT! Not Monitoring	NO	NO	NO	NO	NO	NO
Temperature Double Probe Fault T1 & T2	COOL GUARD SNGL PROBE FLT	NO	NO	NO	NO	NO	NO
In-Gear	COOL GUARD In Gear	NO	NO	NO	NO	NO	NO
		K9 is NOT monitored when driving					

NOTE: If Touch Screen display is disabled or not connected, K9 Heat Alarm will trigger as above but status will not be displayed

INSTALLATION

Mounting

External Temperature Probe
- The best place for the external temperature probe is about ten inches (10") above the floor on front of cage. Attach it to the outside, center of the dog cage, near the front seats of the vehicle. A P-clamp is supplied for securing the external temperature probe.
- Locating the temp probe near the roof is NOT recommended because the air trapped there is typically hotter than the rest of the vehicle.

Touch Screen
- Locate a place on the vehicle dash or console to install the pedestal mount securely and that can be easily viewed and accessed by the K9 Handler.
- Install the pedestal base.
- Install the pedestal mount to the back of the touch screen enclosure.
- Attach the touch screen to the pedestal base and tighten screw.

Ignition on Cool Guard Plus, J14-Pin 2
-Install 18AWG Yellow wire to the ignition key vehicle circuit. This wire should be +12V only when ignition key is ON (Run).

Neutral Safety Switch Vehicle Information

Neutral Safety Switch on **Cool Guard Plus** and **Rescue**, J14-Pin 1
- Locate Neutral Safety switch in vehicle and connect 18AWG Yellow/Red wire to it.
- Access setup on Main Menu, Enter, Password, Select, Disable.
- Verify what voltage is In Park and when In-Gear. It may be different than what is on this chart.

Ford Explorer	+12V "in gear"	Ignition ON	
Chevy Tahoe	+12V "in park"	Ignition ON	
	+12V "in park" for 15 minutes	Ignition OFF	
Chrysler Charger/Jeep	+5V "in park"	Ignition ON	Up to 2017
	GROUND "in park"	Ignition OFF	2018+

- Select +12V in either "in-park" or "in-gear". If set correctly, the alarm will not trigger if the termperature exceeds the trigger set point.
- Test and Verify: Return to operation. Put vehicle "in -gear." Alarm status box should turn from Green (Normal) to Black In-Gear (Disable).
- If it does NOT do that, then return to the Disable setup and select the other choice.
- Retest.
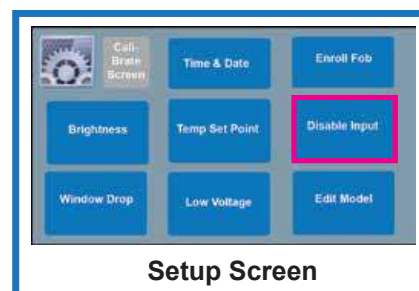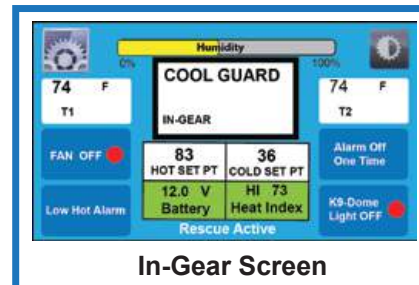
Setup Screen

Cool Guard ONLY

In-Gear Screen

Warning
K9 status is NOT monitored when Cool Guard display In-Gear screen. This should only be displayed if vehicle is driving.

Note: If vehicle is 2018, Chrysler Charger or Jeep, you will need to install a relay to change the ground signal to +12V "in-park".

Block Diagram of Cool Guard Plus with Rescue

Window 2
5 Up / GND 4 / +12V 3 / GND 2 / 1 Down
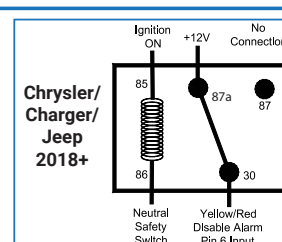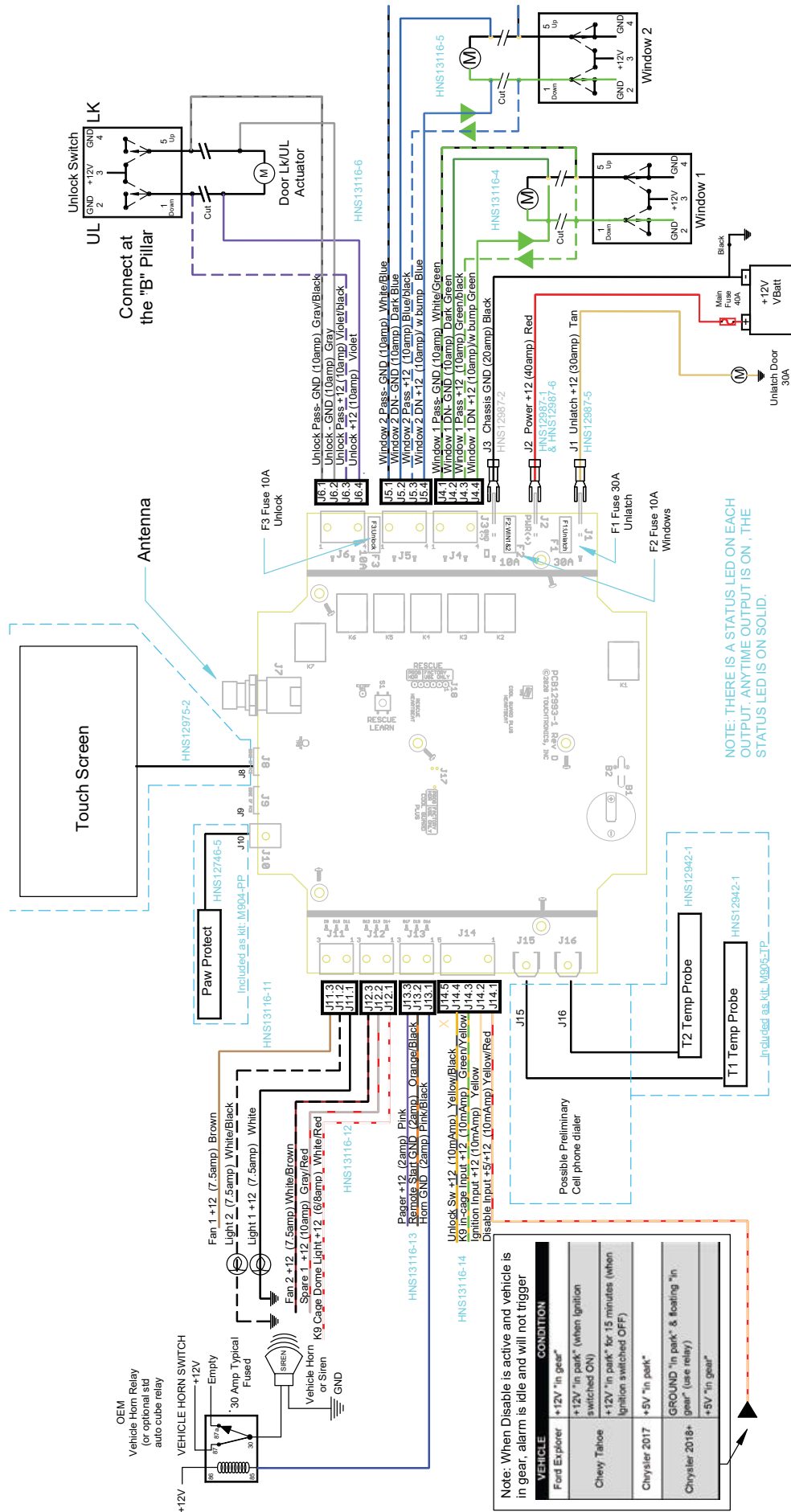HNS13116-5
Cut

Window 1
5 Up / GND 4 / +12V 3 / GND 2 / 1 Down
HNS13116-4
Cut

Unlock Switch
LK
UL
GND 2 / +12V 3 / GND 4 / 5 Up / 1 Down
Cut
HNS13116-6
Door Lk/UL Actuator
Connect at the "B" Pillar

Black
+12V VBatt
Main Fuse 40A

Unlatch Door 30A

Antenna

Touch Screen
HNS12975-2

J6.1 — Unlock Pass- GND (10amp) Gray/Black
J6.2 — Unlock - GND (10amp) Gray
J6.3 — Unlock Pass +12 (10amp) Violet/black
J6.4 — Unlock +12 (10amp) Violet

J5.1 — Window 2 Pass- GND (10amp) White/Blue
J5.2 — Window 2 DN- GND (10amp) Dark Blue
J5.3 — Window 2 Pass +12 (10amp) Blue/black
J5.4 — Window 2 DN +12 (10amp) w bump Blue

J4.1 — Window 1 Pass- GND (10amp) White/Green
J4.2 — Window 1 DN- GND (10amp) Dark Green
J4.3 — Window 1 Pass +12 (10amp) Green/black
J4.4 — Window 1 DN +12 (10amp)/w bump Green

J3 — Chassis GND (20amp) Black
J2 — Power +12 (40amp) Red
J1 — Unlatch +12 (30amp) Tan

HNS12987-2
HNS12987-6 & HNS12987-6
HNS12987-5

F3 Fuse 10A Unlock
F1 Fuse 30A Unlatch
F2 Fuse 10A Windows

K6 K5 K4 K3 K2 K7 K1
RESCUE
RESCUE LEARN
PCB12955-C-1
B1 B2

NOTE: THERE IS A STATUS LED ON EACH OUTPUT. ANYTIME OUTPUT IS ON, THE STATUS LED IS ON SOLID.

J7 J8 J9 J10
J11 J12 J13 J14 J15 J16

Paw Protect
HNS12746-5
Included as kit M904-PP

HNS13116-11

J11.3 / J11.2 / J11.1 — Fan 1 +12 (7.5amp) Brown / Light 2 (7.5amp) White/Black / Light 1 +12 (7.5amp) White
J12.3 / J12.2 / J12.1 — Fan 2 +12 (7.5amp) White/Brown / Spare 1 +12 (10amp) Gray/Red / K9 Cage Dome Light +12 (6/8amp) White/Red
HNS13116-12
J13.3 / J13.2 / J13.1 — Pager +12 (2amp) Pink / Remote Start GND (2amp) Orange/Black / Horn GND (2amp) Pink/Black
HNS13116-13
J14.5 / J14.4 / J14.3 / J14.2 / J14.1 — Unlock Sw +12 (10mAmp) Yellow/Black / K9 in-cage Input +12 (10mAmp) Green/Yellow / Ignition Input +12 (10mAmp) Yellow / Disable Input +5/+12 (10mAmp) Yellow/Red
HNS13116-14

T2 Temp Probe
HNS12942-1
T1 Temp Probe
HNS12942-1
Included as kit M905-TP

J15 J16
Possible Preliminary Cell phone dialer

OEM Vehicle Horn Relay (or optional std auto cube relay)
+12V
Empty
30 Amp Typical Fused
VEHICLE HORN SWITCH
+12V
Vehicle Horn or Siren
GND
SIREN

VEHICLE	CONDITION		
Ford Explorer	+12V "in gear"		
Chevy Tahoe	+12V "in park" (when Ignition switched ON)		+12V "in park" for 15 minutes (when Ignition switched OFF)
Chrysler 2017	+5V "in park"		
Chrysler 2018+	GROUND "in park" & floating "in gear" (use relay)		+5V "in gear"

Note: When Disable is active and vehicle is in gear, alarm is idle and will not trigger

INSTALLATION

Circuit Protection

FUSES		
FUSE #	**SIZE**	**APPLICATION**
1	30A	Unlatch Motor
2	10A	Windows - Passenger & Driver*
3	10A	OEM Unlock Actuators**
4	40A	Main System Fuse at Battery

Window motors are protected by a "bump" circuit that automatically turns OFF the window motor any time 10 Amps is detected

**Most Actuators have an internal reset thermal circuit protection.*

SMART SWITCHES*
Cool Guard Plus Module
Fan #1
Fan #2
Light #1
Light #2
Remote Start
Rescue Receiver

Smart Switches protect circuits and turn OFF if short or over voltage condition is detected. If condition is fixed, Smart Switch turns back on.

INSTALLATION (See Block Diagram on Page 6)

Power and Ground Install

- Power (J2) and Ground (J3)
- Route 10AWG Red wire from the battery to J2.
    Do not install additional motor or lights to this wire!
- Install 40A fuse within 18 inches of battery.
- Route 14AWG Black wire from a chassis ground stud or battery to J3, Ground.

If using chassis ground, then remove paint and clean area before installing, using a startooth washer.

40A

(-) (+)

Battery

Place 40 Amp auto reset circuit breaker or fuse (not supplied) within 18" of battery.

Chassis Ground

#10 x 3/4" Screw
#10 3/16" Star Washer
#10 3/16" Ring Terminal
Vehicle Frame

Scrape paint and clean area before installing ground screw. **A loose chassis ground connection WILL cause intermittent operation!**
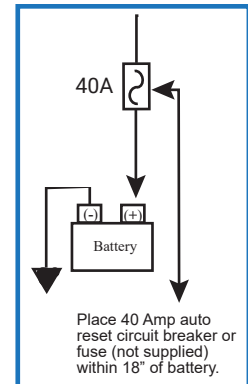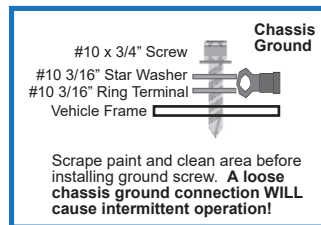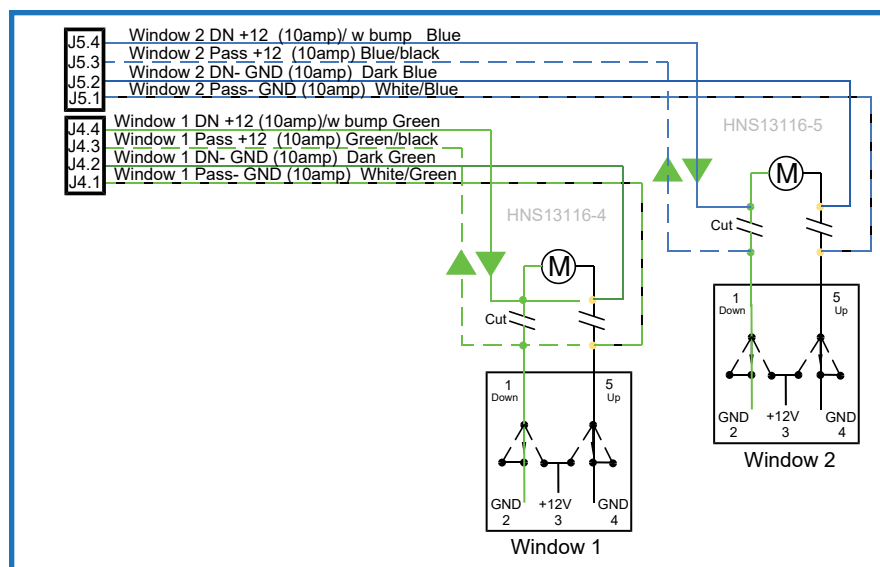
Lights Install

- Connect 18AWG White/Black wire to J11-Pin 1, to the light that will flash when the alarm is triggered.
- Connect 18AWG White wire to J11-Pin 2, to the additional light that will flash when the alarm is triggered.
- Both of these circuits are protected by a smart switch on the PCB Board.

Windows

- Route Harness HNS13116-4 (Green) to the passenger door window.
- Route Harness HNS13116-5 (Blue) to the driver door window.
- Cut window motor wires near the motor and splice as seen in diagram.
- Default window drop is 5-seconds. Go to setup screen to change default, if needed.

J5.4	Window 2 DN +12 (10amp)/ w bump Blue
J5.3	Window 2 Pass +12 (10amp) Blue/black
J5.2	Window 2 DN- GND (10amp) Dark Blue
J5.1	Window 2 Pass- GND (10amp) White/Blue
J4.4	Window 1 DN +12 (10amp)/w bump Green
J4.3	Window 1 Pass +12 (10amp) Green/black
J4.2	Window 1 DN- GND (10amp) Dark Green
J4.1	Window 1 Pass- GND (10amp) White/Green

HNS13116-5

HNS13116-4

Cut

M

Cut

M

Window 1
1 Down   5 Up
GND 2   +12V 3   GND 4

Window 2
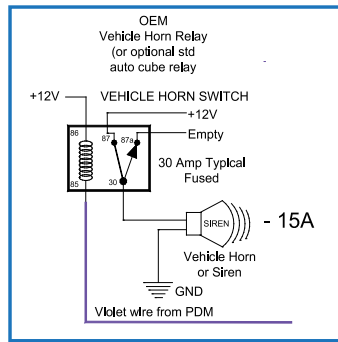1 Down   5 Up
GND 2   +12V 3   GND 4

INSTALLATION

Horn Install

- Connect Violet/Black wire to J13-Pin 1 to OEM factory horn relay.

Fan and Pager Install

- Install Fan 1 Brown wire (J11-Pin 3) to fan input on motor.
- Install Fan 2 White/Brown wire (J12-Pin 3), if needed.
- Install Pager Pink wire (J13-Pin 3) to device.

Unlock Install - Requires M910-02 Kit (purchased separately)

- Install Harness HNS13116-6 and route to the door you want to open remotely.

- Cut both the OEM Lock and Unlock wires on the door near to the lock motor and wire per diagram provided.

   * Violet/black wire connects to the OEM Unlock wire on the cut side closest to the switch.
   * Violet wire connects to the OEM Unlock wire on the cut side closest to the Unlock motor.
   * Gray/black wire connects to the OEM Lock wire closest to the switch.
   * Gray wire connects to the OEM Lock wire on the cut side closest to the motor.
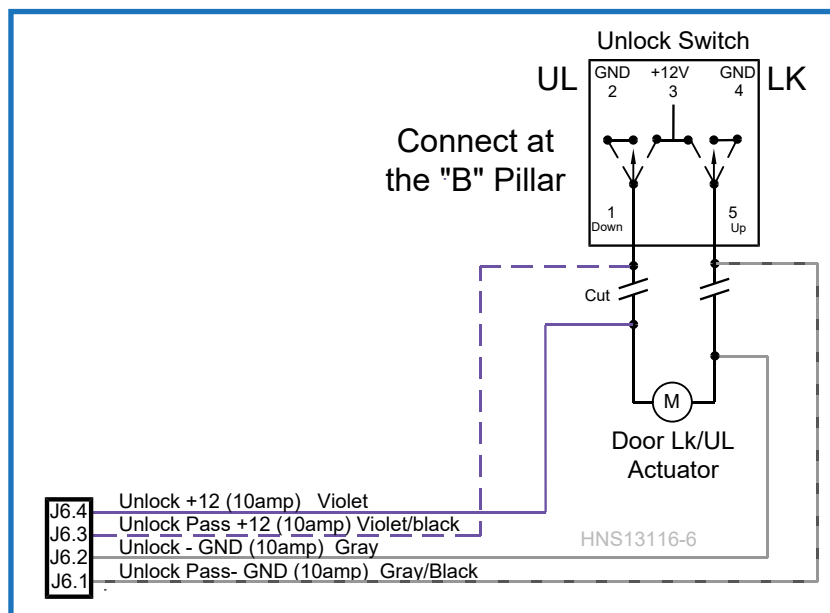
Note: Rescue Disabled is active and will not unlatch door while driving, any time Cool Guard Disable is active and vehicle is driving.

INSTALLATION

Unlatch Install - Requires M910-02 Kit (purchased separately)

- Plug Unlatch terminal (Tan wire) to the Unlatch terminal on the PCB (J1)
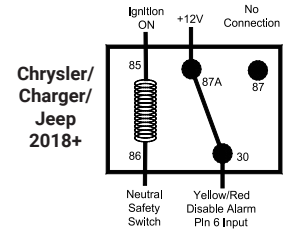- Install HNS12987-5 and route wire

J1 Unlatch +12 (30amp) Tan
HNS12987-5

Neutral Safety Switch

- Verify what voltage is In Park and when In-Gear. It
  may be different than what is on this chart.

Ford Explorer	+12V "in gear"		Ignition ON	
Chevy Tahoe	+12V "in park"		Ignition ON	
	+12V "in park" for 15 minutes		Ignition OFF	
Chrysler Charger/Jeep	+5V "in park"		Ignition ON	Up to 2017
	GROUND "in park"		Ignition OFF	2018+

Note: If vehicle is 2018, Chrysler Charger or Jeep, you will need to install a relay to change the ground signal to +12V "in-park".

Chrysler/ Charger/ Jeep 2018+

Ignition ON +12V No Connection
85 87A 87
86 30
Neutral Safety Switch   Yellow/Red Disable Alarm Pin 6 Input
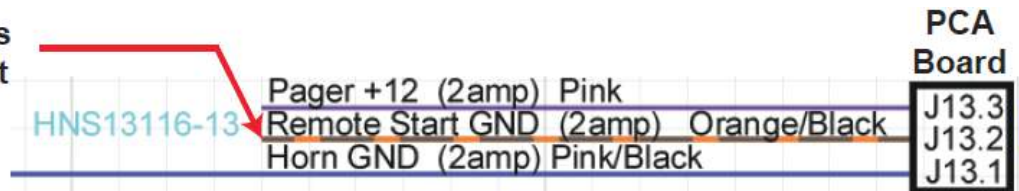
 Warning
K9 status is NOT monitored when Cool Guard display In-Gear screen. This should only be displayed if vehicle is driving.

Remote Start Install

- Connect the Orange/Black wire (J13.2) from Harness HNS11316-13 to the vehicle's factory remote start. This will vary per the vehicle/manufacturer.
- In the event of an alarm, the CGP will send a **_GROUND_** signal if the Paw Protect is ON (not been pressed).

Connects to Vehicle's Factory Remote Start

HNS13116-13

Pager +12 (2amp) Pink
Remote Start GND (2amp) Orange/Black
Horn GND (2amp) Pink/Black

PCA Board
J13.3
J13.2
J13.1

CODE ENROLLMENT & UNENROLLMENT FOR THE M910-CGP
(when the M910-02 Rescue Kit is installed)

M910-CGP

P1000-AAA-TK1

To ENROLL transmitters/fobs (P1000-AAA-TK1) into the M910-CGP:

1. Power the **M910-CGP** ON
2. Remove the protective cap from the top of the **M910-CGP** to allow access to the push button Learn switch on the circuit board inside the enclosure
3. Insert a non-metallic (wood or plastic) object with a point into the access hole and press <u>and</u> release the push button then remove the object
   * ***A Red LED "flicker flashes" (visible through the access hole)***
4. Press and hold the button on the fob
   * ***The Red LED flashes twice indicating enrollment has taken place***
5. Release the button on the fob
6. Repeat the process (steps 3-5) for the second fob
7. Test both fobs by pressing and releasing the button
   * ***Door on vehicle should unlock***

To UNENROLL all transmitters/fobs

1. Power the **M910-CGP** ON
2. Remove the protective cap from the top of the **M910-CGP** to allow access to the push button Learn switch on the circuit board inside the enclosure
3. Insert a non-metallic (wood or plastic) object with a point into the access hole and press <u>and</u> hold the push button
   * ***A Red LED (visible through the access hole) "flicker flashes" for 10-seconds then flashes twice indicating unenrollment has taken place***
4. Release the push button
5. Test unenrollment by pressing <u>and</u> releasing the button on any fob
   * ***Door on vehicle should NOT unlock***

Mounting an Antenna on a Vehicle

1. Find a suitable location on the roof of the vehicle that is clear of any crossmembers and at least 14 inches away (measured tip to tip) from other antennas.

2. Use no larger than a 3/4" hole saw drill bit and drill a hole in the chosen location.

3. Remove the door weather stripping and pull down the headliner slightly.

4. Remove the threaded ring from the antenna base.

5. Use a fish-tape/push-rod and fish it to the edge of the headliner (toward the door).

6. Fish the antenna base toward the hole using either the fish-tape or a piece of spare wire.

7. Position the base in the hole and screw the threaded ring back onto the base, sandwiching the metal between the two (2) pieces.

8. Tighten down the threaded ring carefully.

9. Screw on the antenna whip to the threaded base.

10. Run the coax cable from the headliner to the Cool Guard Master Module and thread it onto the connector. (Be careful when you run the coax to not pinch, puncture or cut the wire which can cause a malfunction and/or damage it.)

**Antenna shown mounted on a
Ford Explorer Police Interceptor**

**Threaded Ring
Antenna Base**

Coax Cable

SYSTEM SETUP

Setup Screen

The system setup is password protected for technicians to set up the various defaults for display brightness, window drop time, low voltage, temperature alarm trigger set points, disable to deactivate alarms trigger while driving, time/date and installation information.

Using the Gear Tab
- Access Main Menu
- Select Setup
- Type Password (Default Password is "55555"; Password can be changd at any time)
- Select the device or item you want to change or add information

Time and Date

Display Brightness

Temperature Set Point

Disable

Window Drop Time

Low Voltage Alarm

Edit Model Information
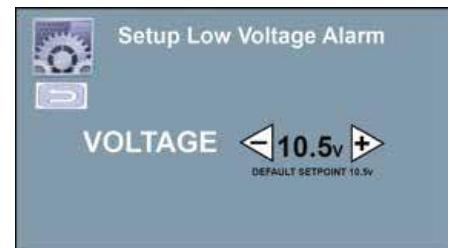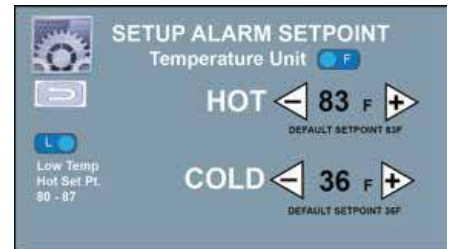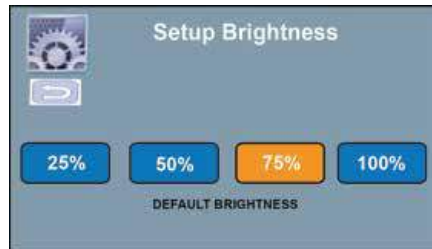
Factory enters:
- Software revision
- Serial number
- Manufacturing date

Installer enters:
- User name
- Install date
- Vehicle Model and Year

DIAGNOSTICS

• Monitoring
  - If for any reason, the display is not functioning, the Cool Guard Plus (CGP) will continue to monitor the temperature and if, an over temperature condition is detected, it will trigger the alarm.

• Testing
  - The CGP will continue to monitor during testing.

• Test Inputs on CGP Controller
  - Press "gear" tab to get to the Home page and select Diagnostics.
  - In this test mode, both the Cool Guard neutral safety switch input and ignition input can be turned OFF and ON to verify the CGP is detecting inputs correctly.
  - In this test mode, the ignition will not turn OFF the CGP.

• Test devices on CGP Controller
  - Press "gear" tab to get to Home page and Equipment test.
  - Press Start to automatically do a 5-second sequential test on each device.
  - To test an individual device, press and select it. It will turn on for 5-seconds.

• Temperature Probes
  - Connected
    * Unplug T1 and T2 temperature probes, one at a time. If the temperature probes are not connected, the hand-shake between the temperature probe and controller is disrupted.
    * The temperature probe status box on the display will indicate the probe failure (fault).
  - Operating
    * Manually heat each probe. If operating OK, the the temperature will rise and new temperatures are displayed.

TEST INSTALLATION

Test Setup
- Turn ignition OFF; vehicle is "in-park" inside building or in shade.
- Turn ignition ON
    * Cool Down screen shot is displayed.
- Press "Add 5-Min"
    * Timer increases to 15-minutes
- Verify both Temp probes are reading correct temperatures
    (should be within 1-2 degrees of each other).
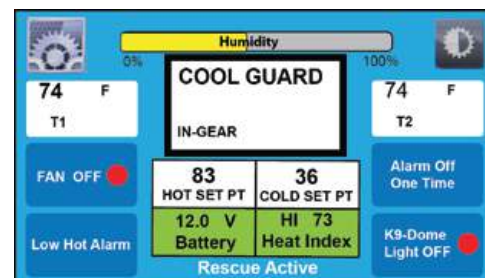- Press "Equipment Test" in upper left hand corner.

Disable Alarm Test - to verify alarm will not trigger when driving
- Put vehicle In Park, ignition on
- Check screen
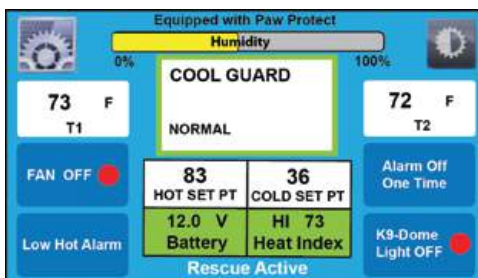
Correct Normal Screen

If this is your screen, change Alarm Disable Input to match your vehicle

Equipment Test
- Press "Auto Start"
- Each device turns ON for 1-5 sec. Rotation matches the device status switches as the sequence progresses.
- This test can be stopped at any time by pressing stop.
- Individual devices can be turned ON by pressing the device switch.

Return to Cool Down
-Press Bypass.
- Turn fan On and OFF manually.
- Put vehicle in gear. Status Box should turn black. This indicates vehicle is in gear.
- Select low trigger set point.
- Trigger Alarm by raising temperature in both Temp probes.
- Pre-Alarm should trigger @ 3° below trigger set point.
- When trigger set point is detected, the alarm will trigger after 40-seconds.
- Press alarm OFF switch to turn OFF alarm.

Alarm Off One Time
- Press Alarm Off One Time.
- Turn alarm off for about 30 seconds.
- Press alarm reset to return to monitoring temperature.
-    Verify horn, fan, window, pager and light alarms correctly.

Test Temp Probes
- Unplug T1 temp probe and replug; on Operation touch screen, T1 turns yellow and status is fault.
- Unplug T2 temp probe and replug: on Operation touch screen, T2 turns yellow and status is fault.

EVENT   HISTORY

Turn Cool Guard Plus OFF
- Turn Ignition OFF.
- Press Paw Protect OFF switch.

Turn System Back ON
- Access the Event History on Main Menu by
        pressing Gear Tab.
- Access Alarm History
    *There should be at least one alarm trigger
        event recorded on your test day.
- Access Temp Probe
    * There should be a recording of Temp
        probe failures on your test day.

Event History has the following records stored, real time:
- Cool Guard Alarm
- Equipment Test
- Paw Protect
- Alarm off
-Temp Probe Fault
- Rescue - not active yet

*These can be accessed at any time to provide
information on alarm trigger events, temp probe
failures and scheduled equipment test.*

TROUBLESHOOTING - COOL GUARD PLUS-CGP & RESCUE

Symptom-1	Possible Cause	Corrective Action
Red LED on CGP is not on, indicating there is NO power to the CGP (Cool Guard Plus)	1.1 Battery connection to CGP has failed	1.1.1 Check ring terminal on battery and verify it is clean and tight to the battery post. 1.1.2 Check the quick connect terminal to the CGP. It should be tight and the wire securely crimped.
	1.2 40A fuse at battery is blown	1.2.1 40A ATO fuse is located in the sealed in-line fuseholder. Verify its status. If it is blown, replace it.
	1.3 Chassis ground connection had failed	1.3.1 Check the chassis ground connection. It should be installed on a bare metal surface with star tooth washer to provide a secure ground path. If the chassis ground connection is loose, repair it.
	1.4 The red power wire, J1 and the black ground wire, J2 are reversed on the CGP	1.4.1 Correct the connection and the red CGP power LED should turn on.

Symptom-2	Possible Cause	Corrective Action
Fuse blows each time the factory window switch is pressed.	2.1 Wire in factory window circuit was NOT cut as part of the install when the CGP wires were connected.	2.1.1 Cut the window down wire in the circuit and connect the CGP wires correctly.
	2.2 CGP wires to the motor, solid blue and green, and switch, white/blue and white/green, are installed backwards. Refer to block diagram, page 6, in service manual.	2.2.1 Reinstall wires correctly and test.

Symptom-3	Possible Cause	Corrective Action
Window moves slower when triggered by the CGP than it does when the switch is pressed.	3.1 Power wire from battery to CGP is too small for the current draw required by the window.	3.1.1 Increase wire guage size to 10AWG between the battery and the PDM. Verify the wires between the PDM and the window motor is 18AWG.

Symptom-4	Possible Cause	Corrective Action
No signal (code) is being transmitted.	4.1 Battery Voltage low in transmitter.	4.1.1 Check battery voltage. Replace battery if voltage is 2.6 volts or less when transmitting. (Signal strength is dependent upon battery voltage).
	4.2 Transmitter is not sending a signal.	4.2.1 Place probe from voltmeter on battery (+) and (-) leads. Press any button. Voltage should change by 0.1 to 0.2 volts if signal is transmitted. Check button.
	4.3 Transmitter code is incorrect.	4.3.1 If transmitter is sending a signal and no signal is being received, re-enroll transmitter to receiver.

TROUBLESHOOTING - COOL GUARD PLUS-CGP & RESCUE

Symptom-5	Possible Cause	Corrective Action
Poor range 0' to 25' or intermittent output.	5.1 Antenna is damaged or grounded.	5.1.1 Check antenna placement. It should not be touching any metal or tinted glass. 5.1.2 Antenna should not be closer than 3-feet to any motors or strobe lights or other antennas. 5.1.3 If antenna is cut or damaged, send back to factory for repair. 5.1.4 NOTE: Antenna can NOT be shortened or altered in any way.
	5.2 Antenna is installed in poor location.	5.2.1 Check location of antenna. If it is too close to other antennas, move to new location.
	5.3 Receiver logic power input is exposed to radiated noise from wire harness or motors or lights.	5.3.1 Disconnect receiver (red) power wire from main harness and reroute new wire from vehicle battery to (red) power wire.
	5.4 Transmitter 3-volt battery is low.	5.4.1 Replace battery if voltage is 2.8 volts or below.
	5.5 RF Interference from other RF eqipment.	5.5.1 Turn Off all other equipment. Check range. If range is normal, then move receiver or antenna. See 5.1 and 5.2.
	5.6 Component of receiver is damaged or defective.	5.6.1 Send back to factory for replacement.
	5.7 Other equipment installed in vehicle causing large voltage drop when initially turning on.	5.7.1 Remove all other equipment from logic ground and power to see if system operates normally. If it does, run power wire directly to the battery.

Symptom-6	Possible Cause	Corrective Action
Window does not drop when alarm is triggered.	6.1 Window drop circuit is not installed correctly.	6.1.1 Verify that the blue and green wires are connected to the motor side of the window down circuit.
		6.1.2 When the window down switch is pressed, there should be +12v on the white/blue or white/green wire. If that is not true, then locate the wires in the window down circuit that are +12v only when the window down switch is pressed.
		6.1.3 Verify that the window down circuit is accessed and not the window up circuit.
	6.2 Window fuse, #2, 10A, for windows 1 & 2 is blown.	6.2.1 Check fuse #2. If it is blown, replace it. 10A ATO.

Symptom-7	Possible Cause	Corrective Action
Temp probes are not displaying correct ambient temperature of vehicle interior.	7.1 Temp probes are installed in a location close to an A/C vent or are installed in direct sunlight.	7.1.1 Identify the temp probe which is reading an incrrect temperature and move it so that it is not exposed to extreme high or low temperatures from external sources.
	7.2 Temp probe connector is not seated correctly	7.2.1 Unplug and then re-plug the temp probe.
	7.3 Temp probe is failed and the status T1 or T2 indicate a failed part.	7.3.1 Replace the failed temp probe with a new one

TROUBLESHOOTING - COOL GUARD PLUS-CGP & RESCUE

Symptom-8	Possible Cause	Corrective Action
Lights do not turn on and flash when alarm is triggered	8.1 Crimp connection on either wire, J11-1 white wire or J11-2 white/black is defective or failed.	8.1.1 Recrimp a new insulated 1/4" quick connector onto the wire and reinstall.
	8.2 Connection to light is failed	8.2.1 Check the wire to the light and the terminal crimps. Repair as needed.
	8.3 Light are protected by a smart switch and will turn off output if a short is detected	8.3.1 Repair short.

Symptom-9	Possible Cause	Corrective Action
Fan does not turn on manually or when alarm is triggered.	9.1 Smart switch, 10A, on CGP Controller is tripped due to a short.	9.1.1 The fan circuit is protected by a smart switch with internal short protection. Check the voltage on the tan wire at the controller, J11-3 or J12-3. It should be ground or floating. Turn fan on manually and this output should be +12v when active. If the short is still present, then trace the wire to the fan connection to locate it. Repair as needed.
	9.2 Fan is failed.	9.2.1 Verify the fan will not turn on using an external power source. Replace as needed.

Symptom-10	Possible Cause	Corrective Action
Pager does not turn on when alarm is triggered	10.1 Smart switch on CGP Controller is tripped due to short	10.1.1 The 2A pager circuit is protected by a smart switch with internal short circuit protection. Check the voltage on the pink wire at the controller, J11-3 (pin). It should be ground or floating. Trigger the alarm to turn on pager. This ouput should be +12v when active. If the short is still present, then trace the wire to the pager connection to locate it. Repair as needed.
	10.2 Pager is failed.	10.2.1 Verify the pager will not turn on using an external power source. Replace as needed.

Symptom-11	Possible Cause	Corrective Action
Horn or Siren does not turn on when alarm is triggered	11.1 Smart switch on CGP Controller is tripped due to a short. This is a ground circuit.	11.1.1 The 2A horn circuit is protected by a ground smart switch with internal short circuit protection. Check the voltage on the purple wire at the controller, J11-3 (pin). It should be +12v or floating. Trigger the alarm to turn on horn. This output should be ground (-12v) when active. If the short is still present, then trace the wire to the pager connection to locate it. Repair as needed.
	11.2 Horn is failed.	11.2.1 Verify the horn will not turn on using as external power source. Replace as needed.

Symptom- 12	Possible Cause	Corrective Action
Touch Screen will not turn on, but controller is still on and monitoring temperature.	12.1 The ignition switch is not on.	12.1.1 Check the ignition switch, and if it is not on, turn it on.
	12.2 The ignition switch is on, but there is a failed terminal connection between the CGP, J14-2 (5-pin connector) and the ignition switch.	12.2.1 Locate the failure point and repair it.
	12.3 The connection between the CGP and the touch screen is failed.	12.3.1 Verify the RJ11 modular connection is plugged securely into both the CGP and the touch screen. If is is not, then re-plug it. 12.3.2 The telephone cable is cut or damaged between the two units. Call for replacement cable. See service part number at end of service manual.
	12.4 The touch screen is failed.	12.4.1 If the above failure options are not the cause, then a replacement touch screen should be installed. Call factory for parts.

Symptom- 13	Possible Cause	Corrective Action
No output from one or more channels on remote control receiver.	13.1 No power to Cool Guard	13.1.1 Observe if the Green LED by J3 is lit 13.1.2 Verify there is a black ground wire attached to terminal J3 and a red power wire to J2 13.1.3 Measure the voltage with a Voltmeter at J2 and J3
	13.2 Failed Receiver	13.2.1 Remove cover on module and observe the green heartbeat LED above the Rescue label on the board (1-sec pulse) 13.2.2 Press button on transmitter and observe if yellow LEDs at K6 and K7 locations turn ON for about 2-sec and relays click 13.2.3 Verify the Green LED at J6 turns ON for about 1-sec 13.2.4 Check the vehicle wiring
	13.3 Failed Transmitter (Fob) - Have power and heartbeat but no response when butto is pressed	13.3.1 Remove screw, replace battery 13.3.2 Replace transmitter (fob) 9 (assuming lights are ON and relays are functioning)

Symptom- 14	Possible Cause	Corrective Action
No power to remote control receiver.	14.1 Power connection to CGP has failed.	14.1.1 Check the 40Amp fuse at the vehicle battery and replace if necessary 14.1.2 Trace the wire to the battery and replace I necessary
	14.2 Chassis ground connection to CGP has failed.	14.2.1 Verify the ground wire at J3 on the Cool Guard Controller is connected to the vecile battery

TROUBLESHOOTING - R.E.S.C.U.E. REMOTE CONTROL SYSTEM

Symptom- 15	Possible Cause	Corrective Action
Coax cable gets hot and melts when the sytem is powered ON	15.1 No ground or a weak ground to the Cool Guard Controller	15.1.1 Connect or reconnect the battery ground 15.1.2 Check ground wire and connection for a damaged wire
	15.2 Shorted power wire to the coaxial wire shield	15.2.1 Look for a cut or pinched wire and correct

Sympton- 16	Possible Cause	Corrective Action
The In-Gear Black Box is displayed when I am IN Park	16.1 The correct Disable status is not selected	16.1.1 Access Set Up/Disable • Determine if you have +12v In Park or when your vehicle is In-Gear or driving • Select the correct status when vehicle is In Park • You should see this screen:

Sympton- 17	Possible Cause	Corrective Action
Paw Protect switch does not turn off Cool Guard	17.1 Ignition J14-2 yellow wire is connected to the battery and is not detected	17.1.1 Connect Cool Guard J-14-2 yellow ignition wire to ignition input on vehicle

PARTS

Parts for M910-01

Part Number	Description		Qty
M904-PP	Paw Protect		1 pc
M906-PED	Pedestal		1 pc
M910-CGP	Controller		1 pc
M910-TP	Temperature Probe		2 pcs
M910-TS	Touch Screen		1 pc
HNS12975-2	Harness, Cool Guard Plus to Touch Screen		1 pc
HNS12987-1	Harness, PDM, Power Wire		1 pc
HNS12987-2	Harness, PDM, Ground Wire		1 pc
HNS12987-6	Harness, Power w/Fuseholder		1 pc
HNS13116-4	Harness, Window #1 Control		1 pc
HNS13116-5	Harness, Window #2 Control		1 pc
HNS13116-11	Harness, Lights #1 & #2 & Fan #2 Control		1 pc
HNS13116-12	Harness, Chime & Fan #2 Control		1 pc
HNS13116-13	Harness, Horn & Pager Control		1 pc
HNS13116-14	Harness, Ignition Disable Control		1 pc

PARTS

Parts for M910-02

Part Number	Description		Qty
ANT13025-1	Flex Whip Antenna		1 pc
ANT13033-05	Antenna Coax Cable, 5m		1 pc
DBH10440-7	Holster		1 pc
HNS12987-5	Harness, PDM, Unlatch Control		1 pc
HNS13116-6	Harness, PDM, Unlock Control		1 pc
LBL10415-1	Do Not Engage Child Safety Switch Label		1 pc
P1000-AAA-TK1	Transmitter		2 pcs

WARRANTY

Section One
Seller will warrant any product originally manufactured or assembled or sold by seller for a period of *up to* **TWO YEARS** (24 months) from the original date of manufacture or **ONE YEAR** (12 months) from the original retail or sale or O.E.M. in-service date.

Section Two
The following are in lieu of all warranties; expressed; implied; or statutory, including but not limited to, any implied warranty or merchantability of fitness for a particular purpose and of any other warranty obligation on the part of the seller. Seller, except as otherwise hereinafter provided, warranty the goods against faulty workmanship or the use of defective materials for a period of *up to* **TWO YEARS** (24 months) from the original date of manufacture or **ONE YEAR** (12 months) from the original retail or O.E.M. in-service date.

Sellers sole and exclusive liability shall be (at seller's option) to repair; replace; or credit buyer for such goods which are returned by buyer during the applicable warranty period set forth above, provided that (I) seller is promptly notified in writing or phone upon discovery by buyer that such goods failed to conform and an explanation of any alleged deficiencies, (II) such goods are returned to seller, (III) sellers examination of such goods shall disclose that such alleged deficiencies actually exist and were not caused by accident, misuse, neglect, alteration, improper installation, unauthorized repair or improper testing. If seller elects to repair or replace such goods, seller shall have a reasonable time to make such repairs or replace such goods.

Sellers warranties as herein above set forth shall not be enlarged, diminished, or affected by, and no obligation or liability shall arise or grow out of, sellers rendering of technical advice or service.

Damage to products caused by the customer or during installation cannot be claimed under this warranty. All devices returned that are not covered under the sellers warranty policy, will be charged a minimum of $25.00 for evaluation plus additional charges for components and labor to repair the device not to exceed the original selling price. Seller considers the following to be typical examples of customer or installation damage: burned or broken traces on the printed circuit board, burned or damaged components, dirt or water residue on the printed circuit board or inside the case, modifications by the customer, broken cases or housings and dead batteries.

Section Three
A return material authorization number (RMA) must be issued by seller before any product is returned for evaluation or repair. Warranty repairs must be completed at authorized repair facilities.