30-2219
Polaris RZR XPT
CD-7 Plug & Play Harness Kit
Kit Contents

- CD-7 PnP RZR XPT Harness
- User Instructions

Important Application Notes

- Plug and Play for RZR XPT with SAE J1939 CAN Protocol

Introduction

This CD-7 Plug and Play Kit for Polaris RZR vehicles consists of a plug and play harness and layouts designed specifically for the RZR. The harness plugs into the vehicle’s diagnostic port and requires no additional wiring in order to display all the channels transmitted over the vehicle’s factory CAN data stream. The CD-7 can be paired with an AEM Vehicle Dynamics Module (VDM) or AEM GPS Module as well as other AEMnet enabled products or third party CAN devices to receive and display additional data.

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<th>Parts and Accessories (Sold Separately)</th>
<th>Part Number</th>
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<tr>
<td>AEM Vehicle Dynamics Module</td>
<td>30-2206</td>
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<tr>
<td>AEM GPS Module</td>
<td>30-2207</td>
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<tr>
<td>AEMnet Extension Cable 2 FT</td>
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<td>AEMnet Extension Cable 5 FT</td>
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<td>AEMnet Extension Cable 10 FT</td>
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<td>AEM Inline UEGO Controller</td>
<td>30-0310</td>
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Harness Installation Instructions

Step 1.
Remove the front hood by twisting the highlighted knobs below and lifting up.

Step 2.
Locate the diagnostic connector (square) and grommet (circle) show below.
Step 3.
Remove the diagnostic connector from dust cap and then remove the rubber grommet.

Step 4.
Carefully cut the grommet along the existing striations, as highlighted below.
Step 5.
Install the grommet back in its original position and push the diagnostic connector through the grommet.

Step 6.
Connect the dash harness connector to the RZR diagnostic connector on the inside of the vehicle and carefully route the other end to your dash.

Step 7.
Secure excess cable out of the way. Make sure it will not interfere with the gas or brake pedals.
Step 8.
Install hood and lock it in place.

Step 9.
Connect AEMnet and CAN 2 connectors on the adapter harness to the corresponding connectors on the AEM dash harness, as shown below.

Layout Installation Instructions
Launch Dash Design software and open appropriate RZR specific layout file. Go File>Open... and navigate to My Documents\AEM\DashDesign\Setups\App Specific\RZR\Adapter Harness 2219. If folder can not be found please download the newest release of AEM dash design software. Race layouts utilize the VDM’s or GPS Module’s GPS input for lap timing and a lap time tracking page with predictive lap timing function is provided. Adventurer layouts utilize the GPS data for navigational use and include a live compass heading graphic as well as latitude, longitude and elevation data. Select from following files. Note the file names may include “2216” or “2219” depending on which harness they were designed for. 2216 refers to harness PN 30-2216 and 2219 refers to harness PN 30-2219.
With desired layout file open, connect the USB cable between the dash and PC. Connection status will change to green “AEM CD-7 connected”. To load layout onto dash go File>Upload to Display… or use Ctrl+U keyboard shortcut. Wait until layout is fully loaded – do not unplug USB cable until connection status displays green “Upload complete, OK to disconnect”. Layout is now loaded onto dash.
Displayable Channels

The following channels are captured from the vehicle's CAN data stream and available for display:

- Engine Speed
- Boost Pressure*
- Throttle Position
- Throttle Position
- Coolant Temp
- Battery Volts**
- Vehicle Speed
- Fuel Level
- Gear Shifter Position
- AWD Status
- MIL Status
- Fuel Economy Instantaneous
- Fuel Economy Average
- Fuel Consumption Rate

*Factory turbo only
**Voltage data provided by dash internal voltage measurement
Layout Configuration

Page 1

- Clock – Uses dash’s internal clock. Configurable for 12 or 24 hour.
- Odometer – Non-resettable odometer. Increments in tenths of a mile. Based on speed from Vehicle Speed Sensor.
- Heading – VDM only. Ordinal course over ground compass direction.
- GPS Status – Green = Valid Fix; Red = No Fix
- Coolant Temp – Coolant temp from engine’s coolant temp sensor. Turns red when temp >210°F. See also LEDs - Amber LED.
- Tach – Dynamic Needle Gauge. Floating needle over bitmap background image.
- Vehicle Speed – Vehicle speed in miles per hour from Vehicle Speed Sensor.
- Gear Position – Gear shifter position. P R N L H.
• Volts – Battery voltage. Battery icon turns red when battery voltage alarm triggered due to low voltage. See also LEDs - Amber LED. Note that voltage reading is transmitted onto CAN data stream by the module built into the RZR dash install harness.

• Fuel Level – Fuel level increments in percent. Gas icon turns red when fuel level <10%. See also LEDs - Amber LED.

• AWD Status – Status of AWD engagement.

• Boost – Gauged boost pressure in PSI.

Page 2-Same as Page 1 with the addition of a numeric tach read out.

Page 3-Race Layout

• Current Lap Time – Current lap time counter.

• Fastest Lap Time – Displays time of the fastest lap completed.

• Predicted Lap Time – Displays the predicted lap time of the current lap based on progress through GPS mapped lap.

• Last Lap Delta – Displays time difference between the most recently completed lap and the previous lap.

• Fastest Lap # - Displays the number of the fastest completed lap.

• Current Lap # - Displays the current lap number.
**LEDs**

- **Amber LED** – Controlled by output LED Left Amber which is configured as an Alarm. Alarm will trigger if either Warning FuelLevel, Warning ECUBatteryVoltage or Warning CoolantTemp 210 are on (=1). Each warning input channel can be individually adjusted to suit different triggering conditions.

- **Red LED** – Controlled by output LED Right Red which is configured as an Alarm. Alarm will trigger if IndicatorMILState is on (=1).

- **Green LED** – Controlled by output LED Green which is configured as an Alarm. Alarm will trigger if GearPosnCalculated equals 8270 which is raw bit value for “N” for neutral. LED is configured in Setup>Shift Lights and LEDs; LED 1-Green is assigned to LED Green output.

**Additional Information**

- **Splash Screen** – Initial start-up time can be reduced by adjusting the Splash Screen on time. For quickest start up, set to zero.

- **Logging** – Logging channels have already been pre-selected and setup to start logging based on output named EngineRunning which is true (=1) when engine speed is >500. CD-7L (5501) required.
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