

PARKING AID SYSTEM SERVICE HELP SHEET

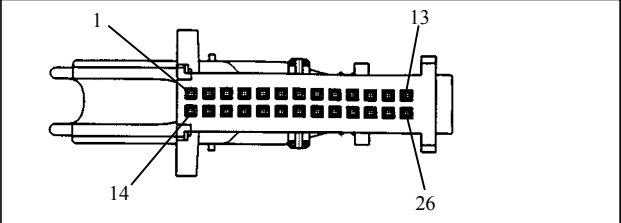
(00 - 02, 04) Expedition, (01-02) Navigator, & (99 - 04) F-Series, Explorer, Mountaineer, Aviator, Excursion, Escape, Windstar, Freestar, and Monterey

| Failure Mode | DTC Logged | Description | Recommendation |
|--|---|--|---|
| System inoperative-Check RPA or Park Assist <OFF> displayed on Message Center, or RPA Disable switch LED is lit (indicates OFF). | Multiple or any combination of the following codes: Short Circuit to VBatt C1699, C1702, C1705, C1708 Open Circuit/Short to GND Failures C1700, C1703, C1706, C1709 Internal Sensor Faults C1701, C1704, C1707, C1710 Power supply to sensor circuit short to gnd B1299 May also include add'l sensor DTCs. | Multiple short to VBatt or GND, open circuit, or internal sensor failures show up at the same time. | When more than one code is present, this indicates a common power or ground problem . Check body-to-rear fascia connector for bad connection, bent/pushed-out pins, power, ground, etc. If ok, then check for same at Park Aid Module (PAM) connector and fascia wiring splices. Next, check for same at each sensor connector. If codes persist, perform pinpoint troubleshooting. |
| | C1701-Sensor ROL C1704-Sensor ROR C1707-Sensor RIL C1710-Sensor RIR | Internal failure (attenuation time) | Check each respective sensor for: sensor membrane surface debris contamination, sensor-to-holder and holder-to-fascia retention integrity, sensor connector pin 2, and fascia-to-body connector pins for bent/pushed out pins. Clear the codes. Run the self test. If codes persist, replace the sensor. |
| | B1299-Voltage Supply to Sensors, will cause multiple sensor failure DTCs, similar to above. | Short to GND power supply sensors. If this DTC exists by itself it is a VBatt power problem and not a sensor problem. | This indicates a VBatt power problem, common to all sensors, may get other multiple sensor codes. Check body-to-rear fascia connector for bad connection, bent/pushed-out pins, If ok, then check for same at Park Aid Module (PAM) connector and fascia wiring splices. Next check for same at each sensor connector. If codes persist, perform pinpoint troubleshooting. |
| | C1742-Sounder Rear | Speaker open circuit or short to GND. | Check Park Aid speaker connection for bent/pushed back pins, proper latching, pinched wires, also Park Aid Module (PAM) connector is properly seated, check for pushed in pins. If codes persist, perform pinpoint troubleshooting. |
| | C1743-Sounder Rear | Speaker short to VBatt | Check Park Aid speaker connection for bent pins or pinched wires. If codes persist, perform pinpoint troubleshooting. |
| | C1920-Status switch lamp LED | Short to GND | Check Disable switch and connection, pinched wires. If codes persist, perform pinpoint troubleshooting. |
| | B2373-Status switch lamp LED | Short to VBatt or open circuit | Check Disable switch and connection, pinched wires. If codes persist, perform pinpoint troubleshooting. |
| | C1748-Parking Aid Disable Switch | Short to GND (switch pushed >= 10 seconds) | Check Disable switch and connection, pinched wires. If codes persist, perform pinpoint troubleshooting. |
| | B1342- Park Aid Module (PAM) fault B2477- Park Aid Module (PAM) fault | ROM or RAM failure Park Aid Module (PAM) configuration error | Replace Park Aid Module (PAM). Replace Park Aid Module (PAM). |
| | System inoperative-no messages or LEDs | No DTCs | Voltage < 9 V at Reverse Lamp Signal |
| System functional, but sensor reports distance with no obstacle in the detection range | No DTCs | Sensor reports distance with no obstacle in the detection range | Clean sensor membrane surface. Ensure that there is no object in the detection range on the ground, on the sides . Check sensor holder for proper fascia-to-sensor integrity (not pointing to ground, to the side, up, not recessed in the holder, etc.). Monitor distance PIDs using NGS Tester. PIDs are identified as: LR_CNTD (Left rear center sensor distance to obstacle detected in centimeters) RR_CNTD (Right rear center sensor distance to obstacle detected in centimeters) LR_CNRD (Left rear corner sensor distance to obstacle detected in centimeters) LR_CNRD (Right rear corner sensor distance to obstacle detected in centimeters) Pass indication: Each sensor PID should display a full scale numerical reading of 255. Fail Indication: If any other reading. <u>Replace only the failed sensor.</u> |

| PAM Pin Number | 26-way PAM Connector | 16-way PAM Connector |
|-------------------|-----------------------|-----------------------|
| 1 | PAM POWER | PAM POWER |
| 2 | (not used) | Rear Sounder + |
| 3 | PAM GND | Reverse Lamp Signal |
| 4 | (not used) | PAM GND |
| 5 | ISO 9141 Link | Status LED |
| 6 | (not used) | Rear Sounder - |
| 7 | Disable/Enable Switch | Radio Mute |
| 8 | (not used) | ISO 9141 Link |
| 9 | Reverse Lamp Signal | Rear Sensor POWER |
| 10 | Sensor Signal RIL | (not used) |
| 11 | Sensor Signal ROL | Disable/Enable Switch |
| 12 | (not used) | Rear Sensor GND |
| 13 | (not used) | Sensor Signal RIR |
| 14 | Rear Sounder + | Sensor Signal RIL |
| 15 | Rear Sensor POWER | Sensor Signal ROL |
| 16 | Rear Sensor GND | Sensor Signal ROR |
| 17 | Rear Sounder - | |
| 18 | (not used) | |
| 19 | Status LED | |
| 20 | (not used) | |
| 21 | Radio Mute | |
| 22 | (not used) | |
| 23 | Sensor Signal RIR | |
| 24 | Sensor Signal ROR | |
| 25 | (not used) | |
| 26 | (not used) | |
| Sensor Pin Number | Sensor Connector | |
| 1 | Sensor PWR | |
| 2 | Sensor Signal Line | |
| 3 | Sensor GND | |

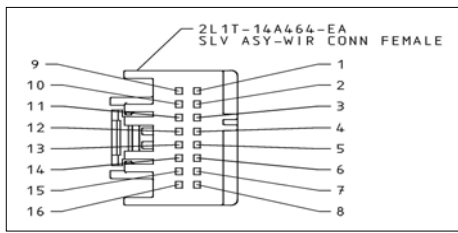
Wiring Harness Connector View for 26-way PAM

(Applies to Expedition, 01-02 Navigator, Windstar, F-Series Super Duty, Explorer, Mountaineer, Aviator, Excursion, 03 - 04 Escape, and Monterey)



Wiring Harness Connector View for 16-way PAM

(Applies to F-150, 05+ Escape, and Freestar)



Wiring Harness Connector View for Sensor (All Vehicles)

