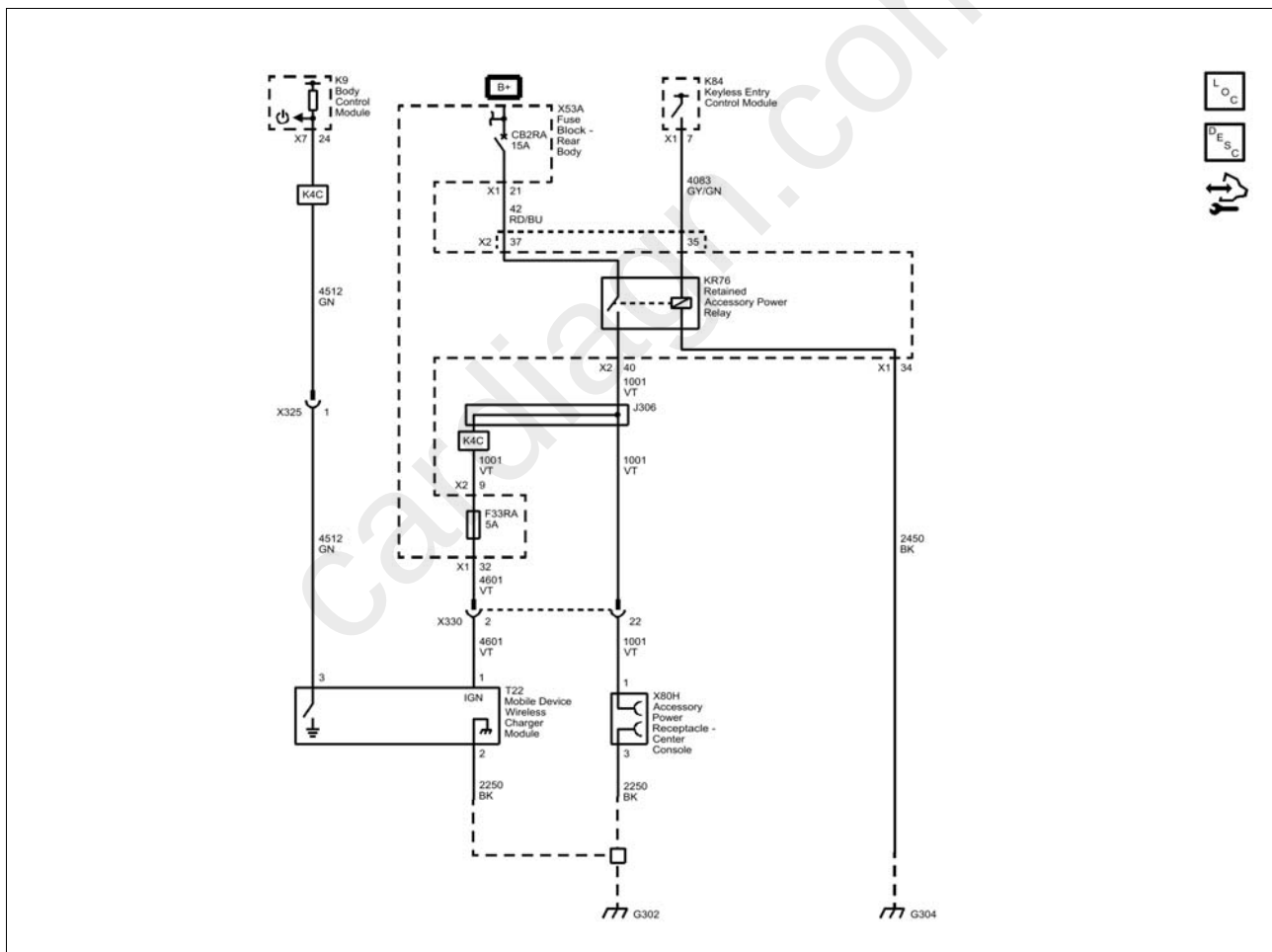


Application	Specification	
	Metric	English
Front Floor Rear Trim Plate Bolt	2 N.m	18 lb in

**SCHEMATIC WIRING DIAGRAMS > CIGAR LIGHTER/POWER OUTLET WIRING
WIRING SCHEMATICS > ACCESSORY POWER RECEPTACLE AND WIRELESS
CHARGING (K4C)**

Fig 1: Accessory Power Receptacle and Wireless Charging (K4C)



Courtesy of GENERAL MOTORS COMPANY

DIAGNOSTIC INFORMATION AND PROCEDURES > SYMPTOMS - POWER OUTLETS

> DIAGNOSTIC INSTRUCTIONS

- Perform the Diagnostic System Check - Vehicle prior to using this diagnostic procedure.
- Review Strategy Based Diagnosis for an overview of the diagnostic approach.
- Diagnostic Procedure Instructions provides an overview of each diagnostic category.

DIAGNOSTIC INFORMATION AND PROCEDURES > SYMPTOMS - POWER OUTLETS > VISUAL/PHYSICAL INSPECTION

- Inspect for aftermarket devices which can affect the operation of the power outlets. Refer to Checking Aftermarket Accessories
- Inspect the accessible system components or the visible system components for obvious damage or for obvious conditions which can cause the symptom.

DIAGNOSTIC INFORMATION AND PROCEDURES > SYMPTOMS - POWER OUTLETS > INTERMITTENT

Electrical connections or wiring may be the cause of intermittent conditions. Refer to Testing for Intermittent Conditions and Poor Connections

DIAGNOSTIC INFORMATION AND PROCEDURES > SYMPTOMS - POWER OUTLETS > SYMPTOM LIST

Refer to Power Outlet Receptacle Malfunction in order to diagnose the system.

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITHOUT EL 51755) > DIAGNOSTIC INSTRUCTIONS

- Perform the Diagnostic System Check - Vehicle prior to using this diagnostic procedure.
- Review Strategy Based Diagnosis for an overview of the diagnostic approach.
- Diagnostic Procedure Instructions provides an overview of each diagnostic category.

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITHOUT EL 51755) > DIAGNOSTIC FAULT INFORMATION

Circuit	Short to	Open/High	Short to	Signal
---------	----------	-----------	----------	--------

	Ground	Resistance	Voltage	Performance
Ignition	1	1	-	-
Signal	3	2	-	-
Ground	-	1	-	-
1. Mobile Device Wireless Charger Module Inoperative 2. Charging Icon Always OFF 3. Charging Icon Always ON				



WARNING:

Remove all metal objects from the charging pad before charging your mobile device. Metal objects, such as coins, keys, rings, or paper clips, between the phone and charging pad will become very hot. On the rare occasion that the charging system does not detect a metal object, and the object gets wedged between the phone and charger, remove the phone and allow the metallic object to cool before removing it from the charging pad, to prevent burns.

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITHOUT EL 51755) > CIRCUIT/SYSTEM DESCRIPTION

When a wireless-charging equipped device is placed on the active surface of the wireless charger the device battery will start to charge. The wireless charging module is controlled by an ignition operated relay and is operational when the ignition is turned to either the Accessory, On, or Run positions. The body control module will detect the device battery is charging and send a serial data message on the GMLAN bus to the P17 Information Display Module. The P17 Information Display Module will display a charging icon when the wireless-charging device is placed on the active surface of the wireless charger and the battery is charging.

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITHOUT EL 51755) > DIAGNOSTIC AIDS

- Verify the mobile device can be charged wirelessly, with the proper wireless charging adapter. To check for phone or other device compatibility, refer to GM Total Connect.
- Verify the charging surface is free from debris on charger mat or any obstruction that may impede charging. The T22 Mobile Device Wireless Charger Module contains an internal thermocouple that will shut down if it exceeds 85°C (185°F) and the charging icon on the radio will flash.
- The ambient operating temperature is -20°C (-4°F) to 60°C (140°F) for the charging system and 0°C (32°F) to 35°C (95°F) for the mobile device. If the mobile device temperature exceeds 35°C (95°F) the mobile device may stop accepting a charge (this may vary with different mobile devices).
- Verify the mobile device is positioned correctly on the charging surface and there are no foreign

objects between the mat and the mobile device. It may be necessary to move the device around slightly or rotate 180 degrees to properly align the device on the charging pad until the device starts to charge. Also, the use of a case may require more precise device placement to allow charging or may inhibit charging. Try removing the protective case.

- The mobile device may not charge if the charge mat is NOT completely flat (or bowed) or has some air gap which can be verified by a finger push at the target graphic located at the center of the mat. If the charge mat is NOT flat, replace the charge mat/rubber liner.
- While operating vehicle in rough conditions, it is possible for the device to move out of the charging surface. Repositioning of the device may be necessary.
- If the mobile device battery is fully charged the P17 Info Display Module charger icon may not be illuminated.

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITHOUT EL 51755) > REFERENCE INFORMATION

Schematic Reference

Cigar Lighter/Power Outlet Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Mobile Device Wireless Charger Description and Operation

Electrical Information Reference

- Circuit Testing
- Connector Repairs
- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITHOUT EL 51755) > CIRCUIT/SYSTEM VERIFICATION

1. Remove the wireless mobile device from the wireless charger active surface. Ignition ON/Vehicle in Service Mode/Vehicle in Service Mode.
2. Verify the wireless charger icon is OFF.

1. If the wireless charger icon is ON

Refer to Circuit/System Testing - A.

1. **If the wireless charger icon is OFF**
3. Ignition ON/Vehicle in Service Mode, place a wireless mobile device on the wireless charger active surface.
4. Verify the wireless charger icon is ON steady and the wireless mobile device is charging.
 1. **If the wireless charger icon is not on steady and the wireless mobile device is not charging**

Refer to Circuit/System Testing - B.
 1. **If the wireless charger icon is not on steady and the wireless mobile device is charging**

Refer to Circuit/System Testing - C.
 1. **If the wireless charger icon is on steady and the wireless mobile device is charging**
5. All OK.

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITHOUT EL 51755) > CIRCUIT/SYSTEM TESTING



NOTE:

Circuit/System Verification must be performed before Circuit/System Testing

Circuit/System Testing - A

1. Ignition OFF/Vehicle OFF, disconnect the harness connector at the T22 Mobile Device Wireless Charger Module. Ignition ON/Vehicle in Service Mode.
2. Verify the wireless charger icon is OFF.
 1. **If the wireless charger icon is ON**
 1. Ignition OFF/Vehicle OFF, disconnect the X7 harness connector at the K9 Body Control Module.
 2. Test for infinite resistance between the signal circuit terminal 24 and ground
 1. If less than infinite resistance, repair the short to ground on the circuit.
 1. If infinite resistance, replace the K9 Body Control Module.
 1. **If the wireless charger icon is OFF**
3. Test or replace the T22 Mobile Device Wireless Charger Module.

Circuit/System Testing - B

1. Using a known good mobile wireless-charging equipped device, place the device on the wireless charger active surface and verify the device is charging.

- 1. If the device charges**

- The wireless charging system is operating normally. The customers mobile wireless charging adapter or device may not be compatible or is defective.

- 1. If the device does not charge**

2. Ignition OFF/Vehicle OFF and all vehicle systems OFF, disconnect the harness connector at the T22 Mobile Device Wireless Charger Module. It may take up to 2 minutes for all vehicle systems to power down.

3. Test for less than 10 Ω between the ground circuit terminal 2 and ground.

- 1. If greater than 10 Ω**

1. Ignition OFF/Vehicle OFF.

2. Test for less than 2 Ω in the ground circuit end to end.

1. If 2 Ω or greater, repair the open/high resistance in the circuit.

2. If less than 2 Ω , repair the open/high resistance in the ground connection.

- 1. If less than 10 Ω**

4. Ignition ON/Vehicle in Service Mode, verify that a test lamp illuminates between the ignition circuit terminal 1 and ground.

- 1. If the test lamp does not illuminate and the circuit fuse is good**

1. Ignition OFF/Vehicle OFF.

2. Test for less than 2 Ω in the ignition circuit end to end.

1. If greater than 2 Ω , repair the open/high resistance in the circuit.

2. If less than 2 Ω , refer to Retained Accessory Power Malfunction

- 1. If the test lamp does not illuminate and the circuit fuse is open**

1. Ignition OFF/Vehicle OFF.

2. Test for infinite resistance between the ignition circuit terminal 1 and ground.

1. If less than infinite resistance, repair the short to ground on the circuit.

2. If infinite resistance, replace the T22 Mobile Device Wireless Charger Module.

- 1. If the test lamp illuminates**

5. Test or replace the T22 Mobile Device Wireless Charger Module.

Circuit/System Testing - C

1. Ignition OFF/Vehicle OFF, disconnect the harness connector at the T22 Mobile Device Wireless Charger Module.

2. Ignition ON/Vehicle in Service Mode, connect a 3 A fused jumper wire between the signal circuit terminal 3 and ground. Verify the wireless charger icon is on.

1. If the wireless charger icon is OFF

1. Ignition OFF/Vehicle OFF, disconnect the X7 harness connector at the K9 Body Control Module, ignition ON.
2. Test for less than 1V between the signal circuit and ground.
 1. If 1V or greater, repair the short to voltage on the circuit.
 1. If less than 1V
3. Test for less than 2 Ω in the signal circuit end to end.
 1. If 2 Ω or greater, repair the open/high resistance in the circuit.
 1. If less than 2 Ω , replace the K9 Body Control Module

1. If the wireless charger icon is ON

3. Test or replace the T22 Mobile Device Wireless Charger Module.

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITHOUT EL 51755) > REPAIR INSTRUCTIONS

Perform the Diagnostic Repair Verification after completing the repair.

- Wireless Charging System Module Replacement
- Control Module References for body control module replacement.

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITH EL 51755) > DIAGNOSTIC INSTRUCTIONS

- Perform the Diagnostic System Check prior to using this diagnostic procedure: Diagnostic System Check - Vehicle
- Review the description of Strategy Based Diagnosis:Strategy Based Diagnosis
- An overview of each diagnostic category can be found here: Diagnostic Procedure Instructions

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITH EL 51755) > DIAGNOSTIC FAULT INFORMATION

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
---------	-----------------	----------------------	------------------	--------------------

Ignition	1	1	-	-
Signal	3	2	-	-
Ground	-	1	-	-
1. T22 Mobile Device Wireless Charger Module = Inoperative 2. Wireless Charging Indicator 3. Wireless Charging Indicator				

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITH EL 51755) > CIRCUIT/SYSTEM DESCRIPTION

Circuit	Description
Ignition	Supplied from a relay.
Signal	The control module input circuit has an internal resistance connected to 12 V. When the switch is closed it will pull the signal voltage low.
Ground	Chassis ground.

Component	Description
T22 Mobile Device Wireless Charger Module	Inductive charging, also known as "wireless charging", uses a magnetic field to transfer energy between two objects. The wireless charger has an induction coil to create an alternating magnetic field. A second induction coil in a portable device takes power from the magnetic field and converts it back into electric current to charge the battery. The two induction coils in proximity work similar as an electrical transformer.
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc. The control module also reads various switches and sensors and makes their values available via serial data.

The T22 Mobile Device Wireless Charger Module is controlled by an ignition operated relay and is operational when the ignition is in the Accessory or On position. When a wireless charging device is placed on the charging pad/pocket the charging of the device battery will start. The K9 Body Control Module detects the device battery is charging and sends a serial data message to the P17 Info Display Module which illuminates the charge indicator.

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITH EL 51755) > DIAGNOSTIC AIDS

- Verify the mobile device can be charged with the proper wireless charging adapter. To check for phone or other device compatibility, refer to GM Total Connect.
- Verify the charging pad/pocket is free from debris or any obstruction that may impede charging.
- The component T22 contains an internal temperature switch that will open if it exceeds 85°C (185°F).
- The ambient operating temperature is between -20 and 60°C (-4 and 140°F) for the charging system and between 0 and 35°C (32 and 95°F) for the mobile device. If the mobile device temperature exceeds 35°C (95°F) the mobile device may stop accepting a charge (this may vary with different mobile devices).
- Verify the mobile device is positioned correctly on the charging pad/pocket and there are no foreign objects between the mat and the mobile device. It may be necessary to move the device around slightly or rotate 180 degrees to properly align it on the charging pad/pocket until the device starts to charge. The use of a protective case may require more precise device placement to allow charging or may inhibit charging. Try removing the protective case.
- The mobile device may not charge if the charge mat is NOT completely flat or has an air gap which can be verified by a finger push at the target graphic located at the center of the mat. If the charge mat is NOT flat, replace the charge mat/rubber liner.
- While operating the vehicle in rough conditions, it is possible for the device to move out of position, repositioning of the device may be necessary.
- If the mobile device battery is fully charged, the charge indicator on the P17 Info Display Module may not illuminate.

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITH EL 51755) > REFERENCE INFORMATION

Schematic Reference

Cigar Lighter/Power Outlet Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Mobile Device Wireless Charger Description and Operation

Electrical Information Reference

- Circuit Testing
- Connector Repairs
- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs

Special Tools

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITH EL 51755) > CIRCUIT/SYSTEM VERIFICATION



WARNING:

Remove all metal objects from the charging pad before charging your mobile device. Metal objects, such as coins, keys, rings, or paper clips, between the phone and charging pad will become very hot. On the rare occasion that the charging system does not detect a metal object, and the object gets wedged between the phone and charger, remove the phone and allow the metallic object to cool before removing it from the charging pad, to prevent burns.

1. Ignition On/Vehicle in Service Mode.
2. Verify the charging pad is clear of any wireless device.

Verify the function: Wireless Charging Indicator = Off

1. If the indicator is On

Refer to: Circuit/System Testing

1. If the indicator is Off

3. Install the special tool: EL-51755 Inductive Charging Test Tool AT Charging Pad/Pocket

Verify the function: Special Tools LED (Light Emitting Diode) = On

1. If the special tool is Off

Refer to: Circuit/System Testing

1. If the special tool is On

4. Verify the function: Wireless Charging Indicator = On

1. If the indicator is Off

Refer to: Circuit/System Testing

1. If the indicator is On



NOTE:

The customer's device may not be compatible or is defective.

5. All OK.

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITH EL 51755) > CIRCUIT/SYSTEM TESTING

 NOTE:

It may take up to 2 min for all vehicle systems to power down before an accurate ground or low reference circuit continuity test can be performed.

1. Ignition/Vehicle Off and all vehicle systems Off.
2. Disconnect the electrical connector: T22 Mobile Device Wireless Charger Module
3. Test for less than 10 Ω between the test points: Ground circuit terminal 2 & Ground
 1. **If 10 Ω or greater**
 1. Disconnect the ground connection: G302
 2. Test for less than 2 Ω between the test points: Ground circuit terminal 2 at Component harness & Terminal G302
 1. If 2 Ω or greater » Repair the open/high resistance in the circuit.
 2. If less than 2 Ω » Repair the open/high resistance in the ground connection.
 1. **If less than 10 Ω**
4. Ignition On/Vehicle in Service Mode.
5. Verify a test lamp turns On between the test points: Ignition circuit terminal 1 & Ground
 1. **If the test lamp does not turn On and the circuit fuse is OK**
 1. Remove the test lamp.
 2. Test for less than 2 Ω between the test points: Ignition circuit terminal 1 & Output terminal at F33RA Fuse
 1. If 2 Ω or greater » Repair the open/high resistance in the circuit.
 2. If less than 2 Ω Refer to: Retained Accessory Power Malfunction
 1. **If the test lamp does not turn On and the circuit fuse is open**
 1. Remove the test lamp.
 2. Test for infinite resistance between the test points: Ignition circuit terminal 1 & Ground
 1. If less than infinite resistance » Repair the short to ground on the circuit.
 2. If infinite resistance » Replace the component: T22 Mobile Device Wireless Charger Module.

1. If the test lamp turns On

6. Verify the function: Wireless Charging Indicator = Off

1. If the indicator is On

1. Ignition/Vehicle Off.
2. Disconnect the electrical connector: K9 Body Control Module
3. Test for infinite resistance between the test points: Signal circuit terminal 3 at Component harness & Ground
 1. If less than infinite resistance » Repair the short to ground on the circuit.
 2. If infinite resistance » Replace the component: K9 Body Control Module

1. If the indicator is Off

7. Connect a 3A fused jumper wire between the test points: Signal circuit terminal 3 & Ground circuit terminal 2

8. Verify the function: Wireless Charging Indicator = On

1. If the indicator is Off

1. Ignition/Vehicle Off, remove the jumper wire.
2. Disconnect the electrical connector: K9 Body Control Module
3. Ignition On/Vehicle in Service Mode.
4. Test for less than 1V between the test points: Signal circuit terminal 3 at Component harness & Ground
 1. If 1V or greater » Repair the short to voltage on the circuit.
 1. If less than 1V
5. Ignition/Vehicle » Off.
6. Test for less than 2 Ω between the test points: Signal circuit terminal 3 at Component harness & Terminal 24 X7 at Control module harness
 1. If 2 Ω or greater » Repair the open/high resistance in the circuit.
 2. If less than 2 Ω » Replace the component: K9 Body Control Module

1. If the indicator is On

9. Test or replace the component: T22 Mobile Device Wireless Charger Module

DIAGNOSTIC INFORMATION AND PROCEDURES > MOBILE DEVICE WIRELESS CHARGER MALFUNCTION (WITH EL 51755) > REPAIR INSTRUCTIONS

Perform the Diagnostic Repair Verification after completing the repair: Diagnostic Repair Verification

DIAGNOSTIC INFORMATION AND PROCEDURES > POWER OUTLET RECEPTACLE MALFUNCTION > DIAGNOSTIC INSTRUCTIONS

- Perform the Diagnostic System Check - Vehicle prior to using this diagnostic procedure.
- Review Strategy Based Diagnosis for an overview of the diagnostic approach.
- Diagnostic Procedure Instructions provides an overview of each diagnostic category.

DIAGNOSTIC INFORMATION AND PROCEDURES > POWER OUTLET RECEPTACLE MALFUNCTION > DIAGNOSTIC FAULT INFORMATION

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Ignition	1	1	-	-
Ground	-	1	1	-
1. Accessory Power Receptacle Malfunction				

DIAGNOSTIC INFORMATION AND PROCEDURES > POWER OUTLET RECEPTACLE MALFUNCTION > CIRCUIT/SYSTEM DESCRIPTION

The vehicle is fitted with a 12 V accessory power receptacle. The accessory power outlets are controlled by an ignition operated relay. The accessory power receptacle is operational when the ignition is turned to either the On or the Accessories positions.

DIAGNOSTIC INFORMATION AND PROCEDURES > POWER OUTLET RECEPTACLE MALFUNCTION > DIAGNOSTIC AIDS

It may be helpful to discuss with the customer the usage of any device that may have drawn too much current and caused an open fuse.

DIAGNOSTIC INFORMATION AND PROCEDURES > POWER OUTLET RECEPTACLE MALFUNCTION > REFERENCE INFORMATION

Schematic Reference

Cigar Lighter/Power Outlet Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Power Outlets Description and Operation

Electrical Information Reference

- Circuit Testing
- Connector Repairs
- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs

DIAGNOSTIC INFORMATION AND PROCEDURES > POWER OUTLET RECEPTACLE MALFUNCTION > CIRCUIT/SYSTEM VERIFICATION

1. Ignition ON, connect an appropriate device to the X80 Accessory Power Receptacle.
2. Verify the device is powered by the X80 Accessory Power Receptacle.
 1. **If the device is not powered**
Refer to Circuit/System Testing
 1. **If the device is powered**
3. All OK.

DIAGNOSTIC INFORMATION AND PROCEDURES > POWER OUTLET RECEPTACLE MALFUNCTION > CIRCUIT/SYSTEM TESTING

1. Ignition OFF, disconnect the harness connector at the appropriate X80 Accessory Power Receptacle. It may take up to 2 min for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 3 and ground.
 1. **If greater than 10 Ω**
 1. Ignition OFF.
 2. Test for less than 2 Ω in the ground circuit end to end.
 1. If 2 Ω or greater, repair the open/high resistance in the circuit.
 2. If less than 2 Ω , repair the open/high resistance in the ground connection.
 1. **If less than 10 Ω**

3. Ignition ON.

4. Verify that a test lamp illuminates between the control circuit terminal 1 and ground.

1. If the test lamp does not illuminate

Refer to Retained Accessory Power Malfunction .

1. If the test lamp illuminates

Test or replace the X80 Accessory Power Receptacle

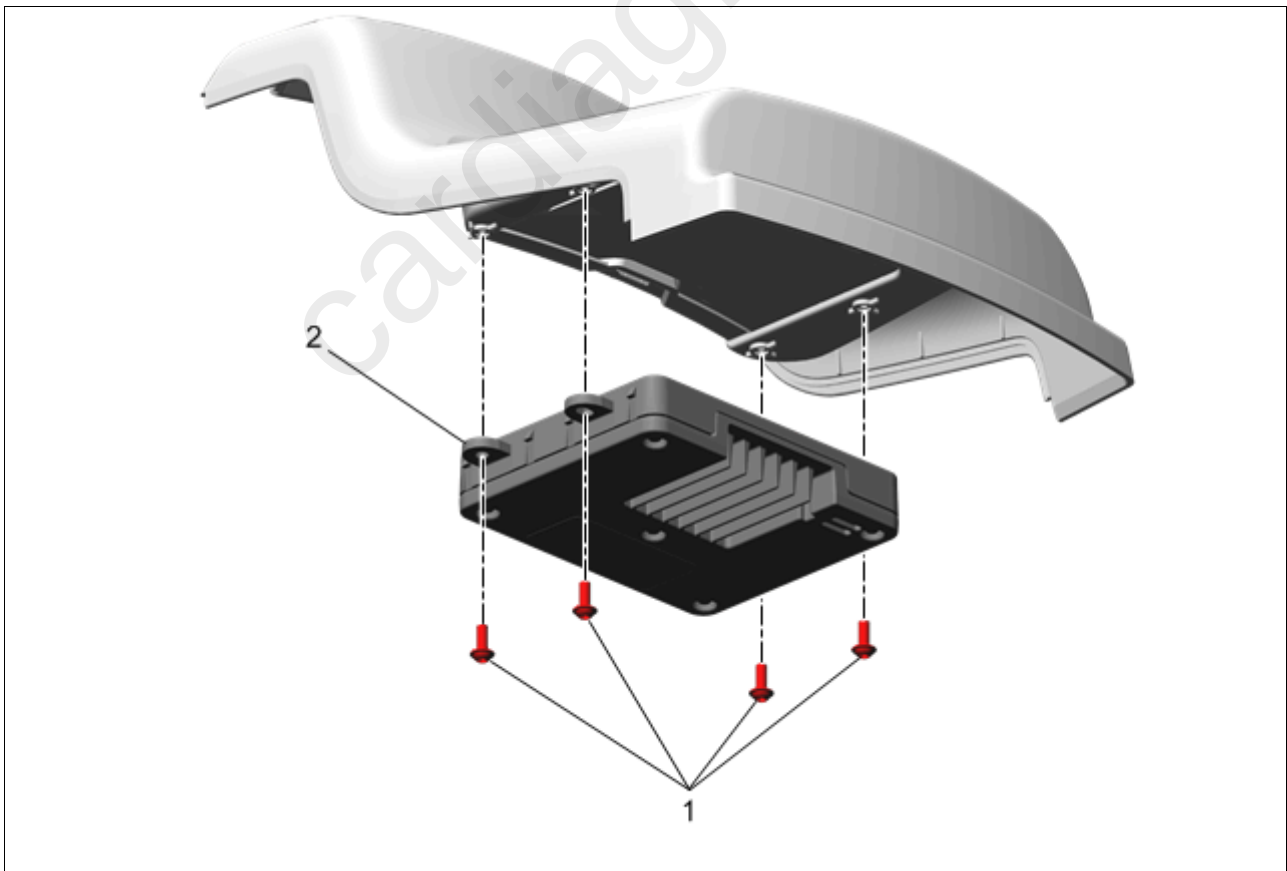
DIAGNOSTIC INFORMATION AND PROCEDURES > POWER OUTLET RECEPTACLE MALFUNCTION > REPAIR INSTRUCTIONS

Perform the Diagnostic Repair Verification after completing the repair.

Accessory Power Receptacle Replacement .

REPAIR INSTRUCTIONS > WIRELESS CHARGING SYSTEM MODULE REPLACEMENT

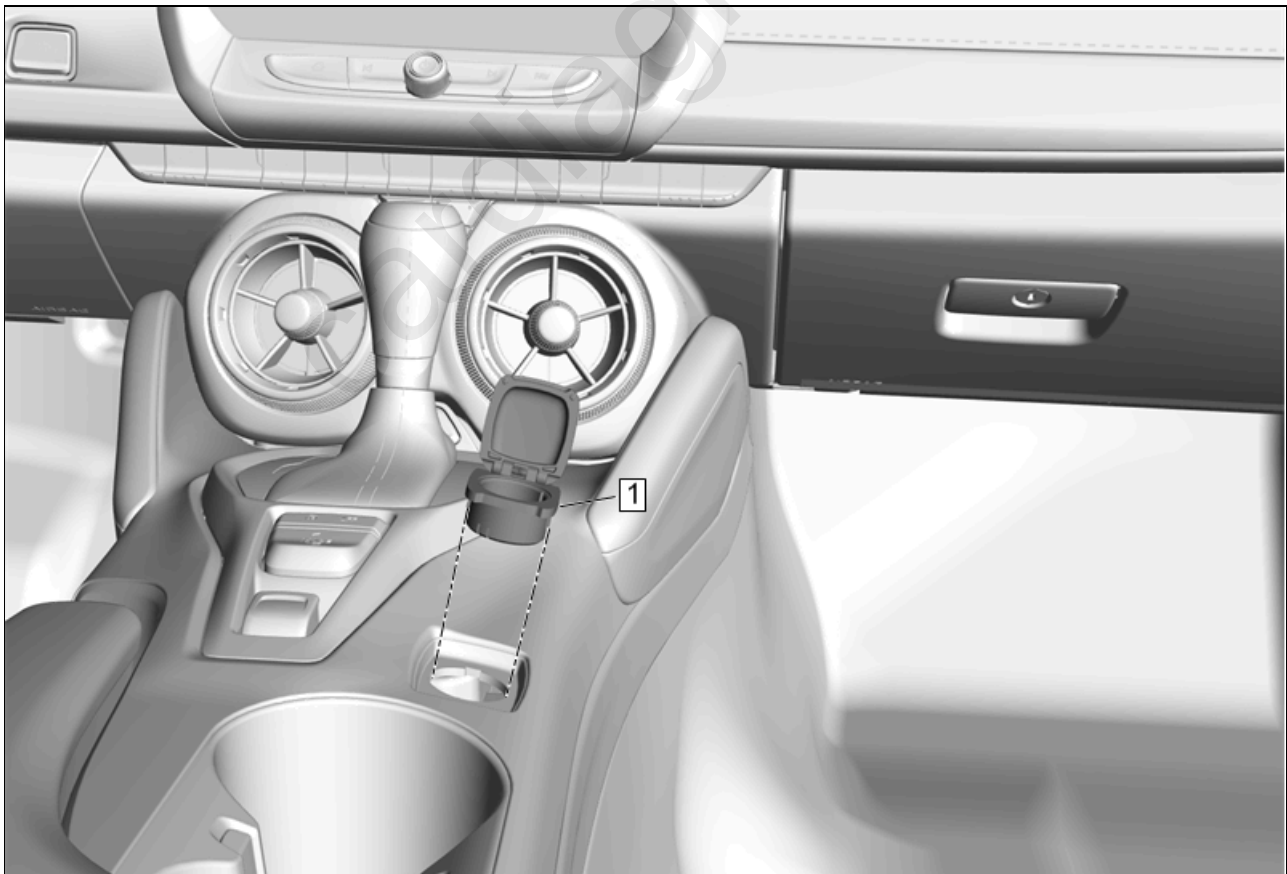
Fig 1: Wireless Charging System Module



Callout	Component Name
Preliminary Procedure Front Floor Console Rear Trim Panel-Endcap»Remove — Front Floor Console Rear Trim Panel Replacement (Side Panel Front)Front Floor Console Rear Trim Panel Replacement (Endcap)	
1	Front Floor Rear Trim Plate Bolt (Qty: 4) CAUTION: <i>Refer to Fastener Caution .</i> Tighten 2 N.m (18 lb in)
2	Wireless Charging System Module

REPAIR INSTRUCTIONS > ACCESSORY POWER RECEPTACLE RETAINER REPLACEMENT

Fig 1: Accessory Power Receptacle Retainer



Callout	Component Name
Preliminary Procedure Accessory Power Receptacle Replacement	
1	Accessory Power Receptacle Retainer Procedure 1. Use a flat bladed plastic trim tool. 2. Release the retaining tabs.

REPAIR INSTRUCTIONS > ACCESSORY POWER RECEPTACLE REPLACEMENT

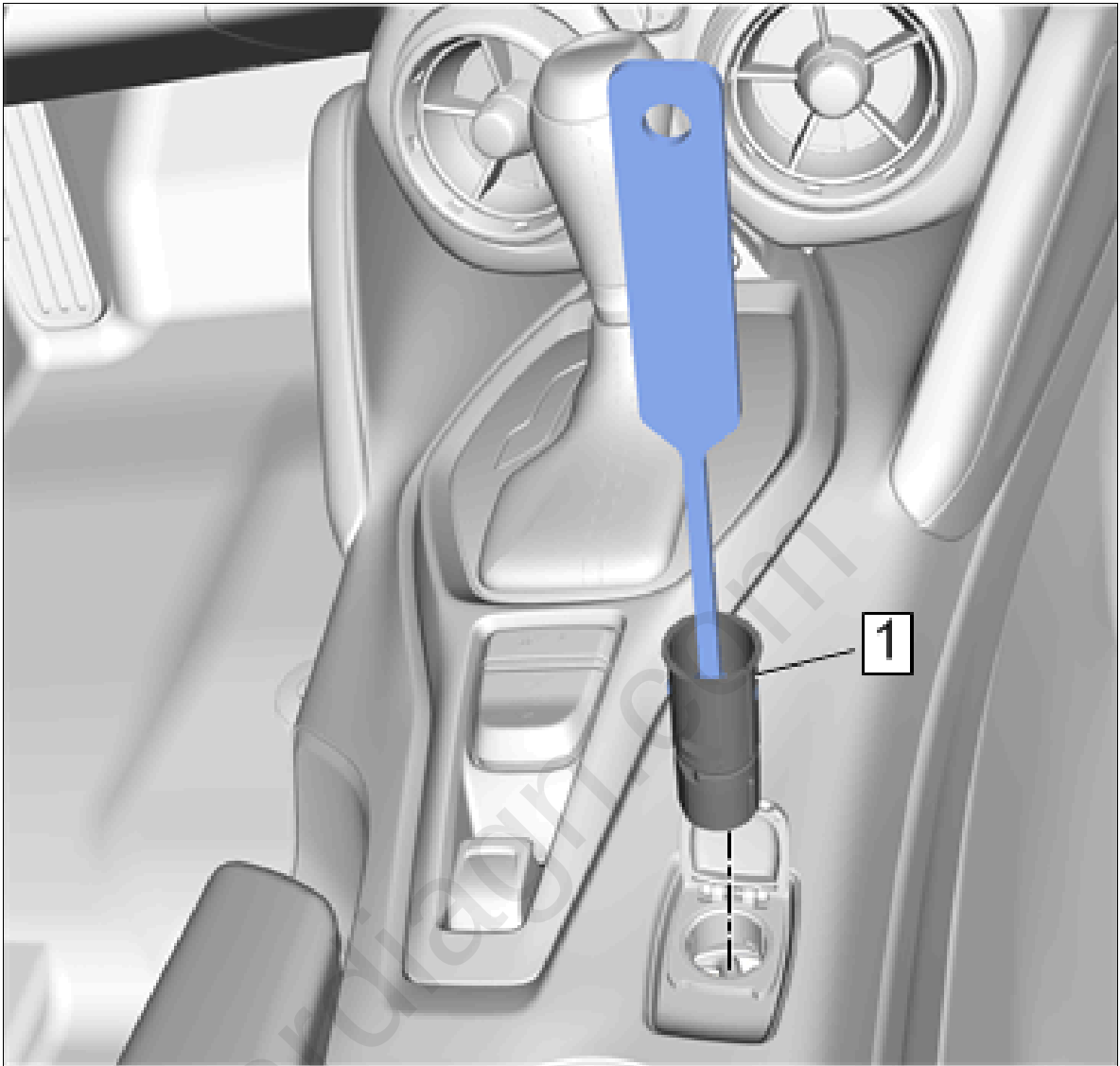
Special Tools

EL-42059 Cigar Lighter Socket Remover

Equivalent regional tools: Special Tools

REPAIR INSTRUCTIONS > ACCESSORY POWER RECEPTACLE REPLACEMENT > REMOVAL PROCEDURE

Fig 1: Accessory Power Receptacle



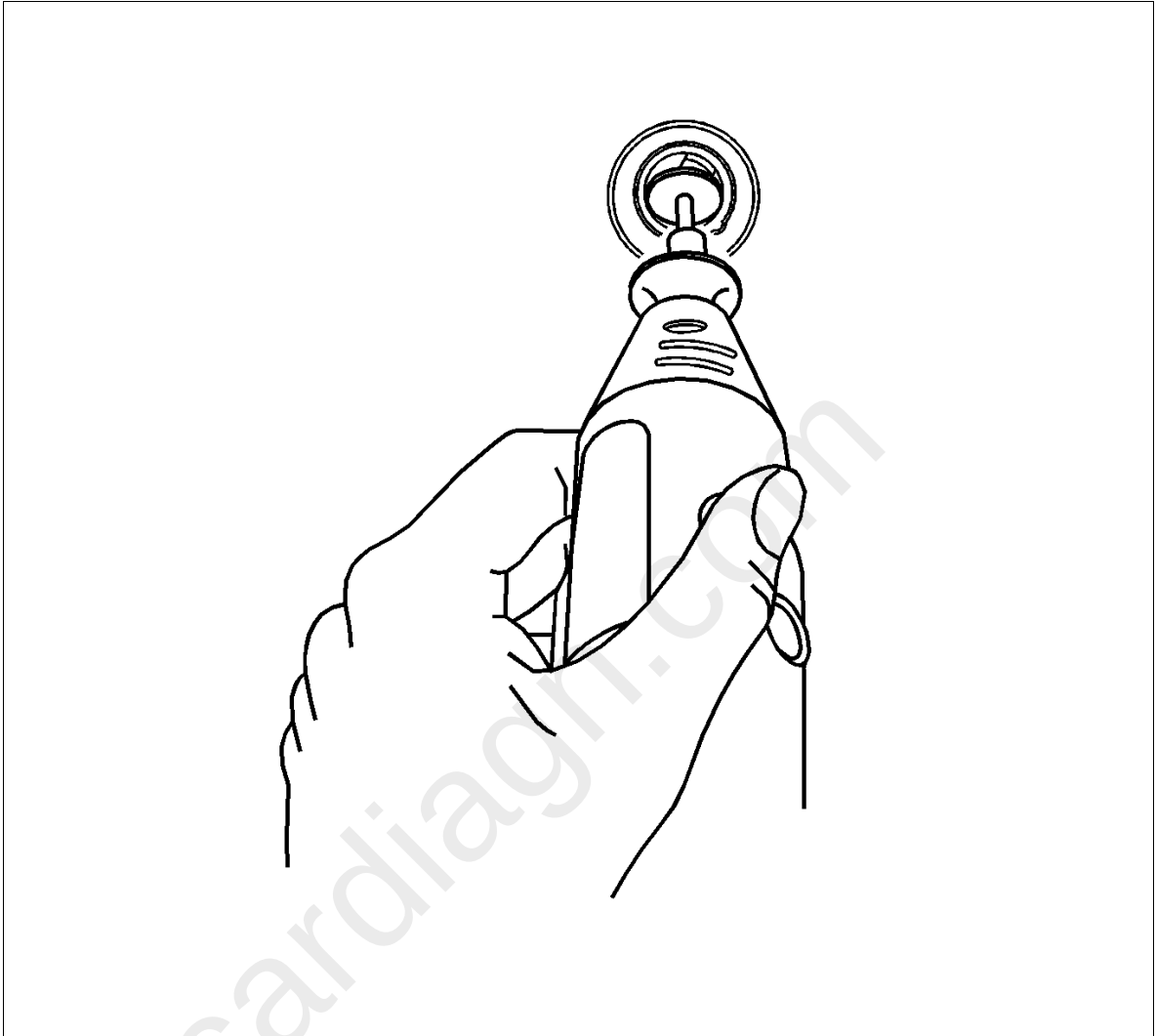
Courtesy of GENERAL MOTORS COMPANY

1. Remove Accessory Power Receptacle Fuse.
2. Remove Front Floor Console Upper Panel - Front Floor Console Upper Panel Replacement
3. Remove the receptacle (1):
 1. Look into the receptacle. There are two 3 mm (0.11 in) tab windows 12 mm (0.47 in) from the front of the receptacle. The **J 42059** cigar lighter socket remover pushes the plastic latches from these tab windows and the receptacle can be pulled straight out.
 2. Place one side of the "T" portion of the **J 42059** cigar lighter socket remover into the tab window. The **J 42059** cigar lighter socket remover will not fit straight into the receptacle. Angle the **J 42059** cigar lighter socket remover slightly for insertion into the receptacle.
 3. Insert the other side of the "T" into the opposite tab window.

You must move the **J 42059** cigar lighter socket remover handle toward horizontal to engage the other tab window.

4. Use the **J 42059** cigar lighter socket remover to pull the receptacle straight out.

Fig 2: Cigar Housing And Grinding Tool

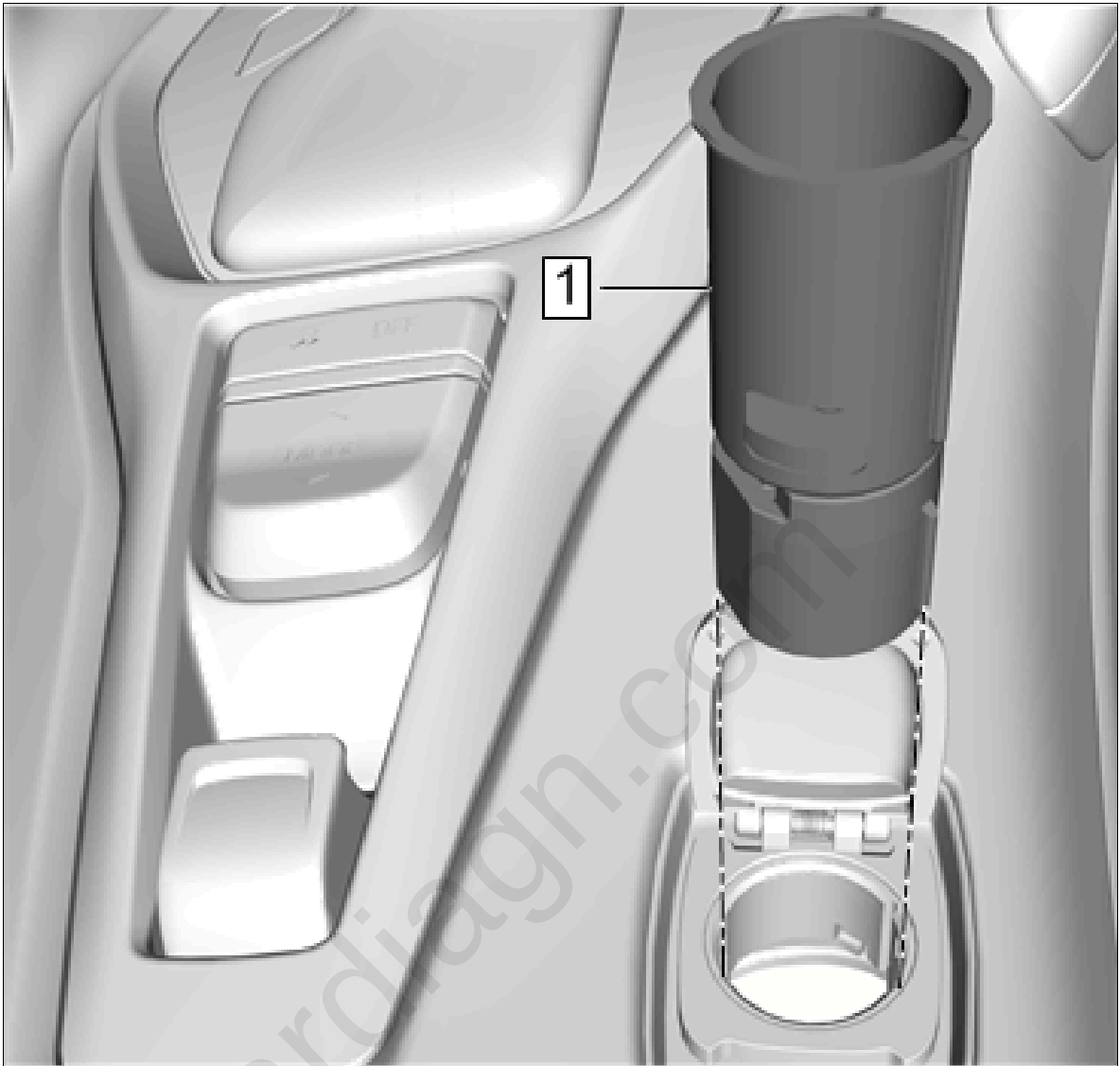


Courtesy of GENERAL MOTORS COMPANY

4. If **J 42059** cigar lighter socket remover tool fails to release the socket from the retainer, perform the following alternate method:
 1. Insert a small grinding tool with a cutoff wheel into the socket.
 2. Remove the plastic latches in the 3 mm (0.11 in) square windows.
 3. Use the **J 42059** cigar lighter socket remover as directed above to remove the socket.

REPAIR INSTRUCTIONS > ACCESSORY POWER RECEPTACLE REPLACEMENT > INSTALLATION PROCEDURE

Fig 1: Accessory Power Receptacle Alignment

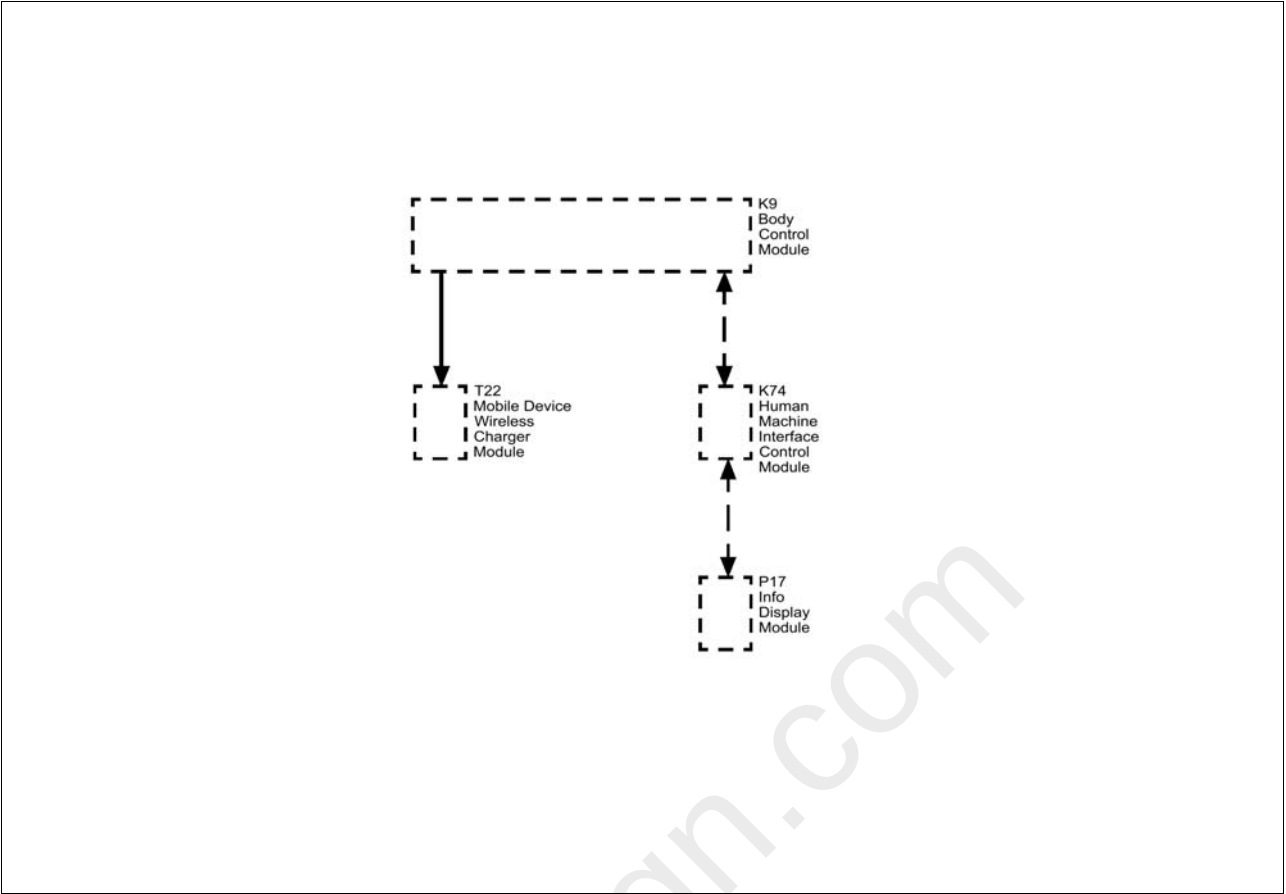


Courtesy of GENERAL MOTORS COMPANY

1. Align the accessory power receptacle (1) to the slots in the opening.
2. Install the receptacle (1) by pressing into place until fully seated.
3. Install Front Floor Console Upper Panel - Front Floor Console Upper Panel Replacement
4. Install Accessory Power Receptacle Fuse.

DESCRIPTION AND OPERATION > MOBILE DEVICE WIRELESS CHARGER
DESCRIPTION AND OPERATION > MOBILE DEVICE WIRELESS CHARGING SYSTEM

Fig 1: Mobile Device Wireless Charging System Diagram



Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
K9	K9 Body Control Module
T22	Mobile Device Wireless Charger Module
K74	Human Machine Interface Control Module
P17	P17 Info Display Module

The Mobile Device Wireless Charging System (WCS) is an system for wirelessly charging mobile devices. It is capable of charging the batteries of compatible mobile devices. A compatible device is one that is compliant with Power Matters Alliance (PMA) or Wireless Power Consortium (WPC) Standard, meaning that it is equipped with a PMA or WPC wireless charge "receiver" that will work with the charge "transmitter" installed in the vehicle. The devices may utilize built-in charging circuitry or an adapter (external plug-in device which contains the charging circuitry). To check for phone or other device compatibility, refer to GM Total Connect.

 WARNING:

Remove all metal objects from the charging pad before charging your mobile device. Metal objects, such as coins, keys, rings, or paper clips, between the phone and charging pad will become very hot. On the rare occasion that the charging system does not detect a metal

object, and the object gets wedged between the phone and charger, remove the phone and allow the metallic object to cool before removing it from the charging pad, to prevent burns.

DESCRIPTION AND OPERATION > MOBILE DEVICE WIRELESS CHARGER

DESCRIPTION AND OPERATION > CHARGING

To charge a device, place it on the charging surface in the vehicle. There is a charging coil located in the center of the charging surface. The device has a charging coil typically near the center of the device. These coils must be lined up in order for charging to proceed. When the interruptible retained accessory power (IRAP) relay is closed (this is true typically when vehicle ignition is in Run or Accessory position), the WCS will detect the device, establish communications with the device to confirm it is a compatible device, and then deliver charging power to the device via wireless interface. The WCS will be able to deliver up to 5W of power to compatible devices. It shall only enter a charging state if communication is established and a compatible device is identified.

The WCS shall not enter a charging state if there is no communication established with a compatible device. If a non-compatible device or metallic foreign object is detected, the WCS will not transfer power. The charger monitors its internal temperature and will shut down if the charger temperature exceeds 185F (85C).

DESCRIPTION AND OPERATION > MOBILE DEVICE WIRELESS CHARGER

DESCRIPTION AND OPERATION > INDICATOR

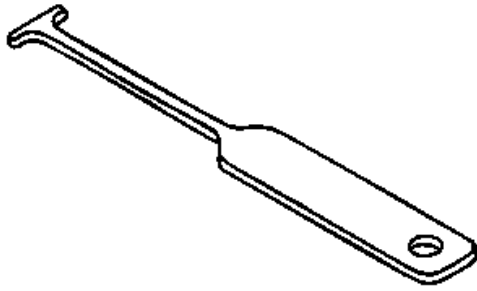
The body control module will detect the device battery is charging and send a serial data message on the GMLAN bus to the radio display. The radio display will indicate a device is currently charging. When the indicator is toggling on and off this indicates a thermal limit has been reached and the device will not charge. For more information refer to the infotainment owners manual.

DESCRIPTION AND OPERATION > POWER OUTLETS DESCRIPTION AND OPERATION > SYSTEM DESCRIPTION

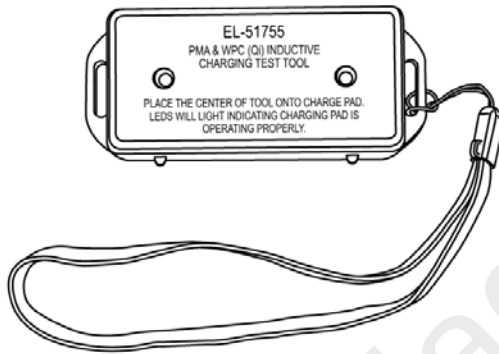
The vehicle is fitted with a cigarette lighter and/or with a 12 V accessory power receptacle. The cigarette lighter and accessory power outlets are controlled by an ignition operated relay. The accessory power receptacle and cigarette lighter are operational when the ignition is turned to either the On or the Accessories positions. To operate the cigarette lighter, press in the lighter knob. When the element is hot, the lighter automatically pops out and is ready for use.

SPECIAL TOOLS AND EQUIPMENT > SPECIAL TOOLS

Illustration	Tool Number/ Description
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EL 42059
J 42059
Cigar Lighter Socket Remover



EL 51755
Inductive Charging Test Tool