

Ford Escape/Mercury Mariner Hybrid

High Voltage Traction Battery

Depowering and Dismantling



ESCAPE HYBRID **MARINER HYBRID**

EMERGENCY RESPONSE GUIDE



FOREWORD

The emergency response procedures for the Escape Hybrid and Mariner Hybrid vehicles are similar to those for traditional gasoline-powered vehicles with the addition of special considerations for the high-voltage electric system components.

The Escape Hybrid or Mariner Hybrid vehicles use a conventional gasoline engine in addition to an electric motor to power the vehicle. The energy used to power the vehicle comes from gasoline (used by the internal combustion engine) and electricity (used by the electric motor).

- Gasoline is stored in a traditional fuel tank.
- Electricity is stored in a high-voltage battery pack.

The combination of a gasoline engine and electric motor provides for improved performance (V6 performance with a 4-cylinder engine and electric motor), reduced emissions and improved fuel economy. The high-voltage system is self contained, never needing to be plugged into an electrical outlet for recharging. The system incorporates a generator that recharges the batteries during cruising and braking. For further information, the following website may be useful: <http://www.fordvehicles.com/escapehybrid/technology/>.

The information in this guide will allow response to emergencies involving Escape Hybrid or Mariner Hybrid vehicles to be as safe as with conventional vehicles.

The Escape Hybrid and Mariner Hybrid vehicles have been designed with many safety features for your protection. These features help provide safe access to the vehicle under various conditions. However, whenever approaching a high-voltage vehicle in a fire, rescue or recovery situation, always follow one industry standard rule:

***ALWAYS ASSUME THE VEHICLE HIGH-VOLTAGE
SYSTEM IS POWERED UP !!!***

ESCAPE HYBRID AND MARINER HYBRID VEHICLE IDENTIFICATION

- The Escape Hybrid and Mariner Hybrid vehicles can be easily identified by the Ford “green leaf highway” badges located on the left and right front doors. There is also a “Hybrid” nameplate on the tailgate that also includes the “green leaf highway” icon.



- The Escape Hybrid and Mariner Hybrid vehicles have a unique left rear quarter glass that incorporates the high-voltage battery pack air intake.

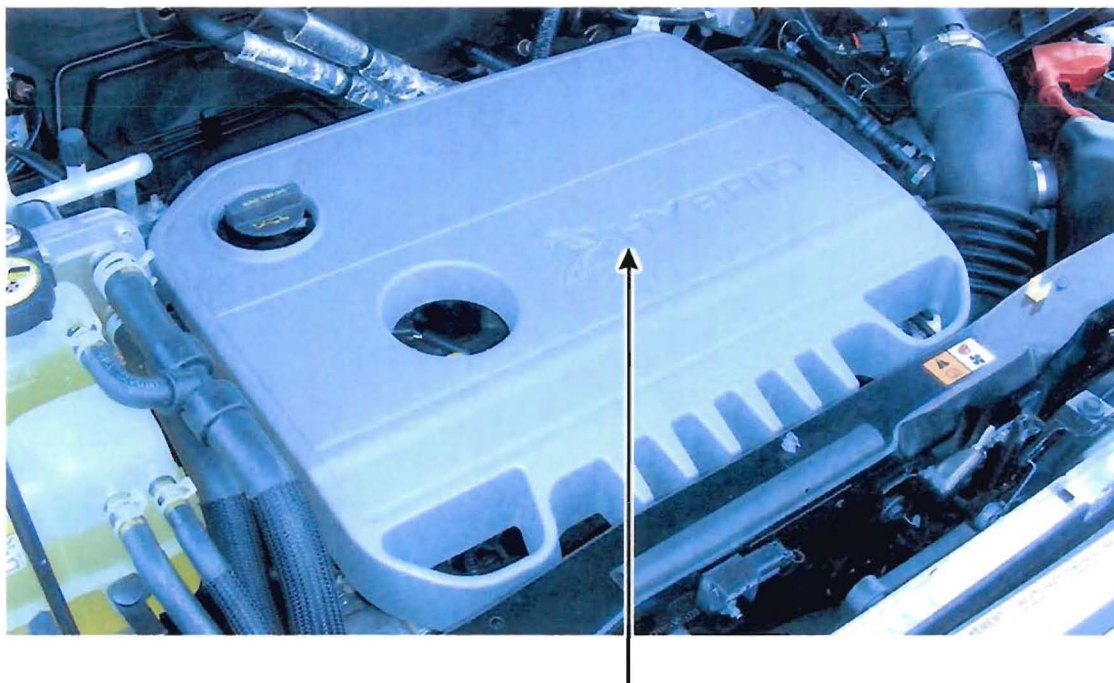


Hybrid Nameplate
with “Green Leaf
Highway” Badge on
Front Door

Unique Left Rear
Quarter Glass with
High-Voltage
Battery Pack
Air Intake

Hybrid Nameplate
with “Green Leaf
Highway” Badge
on Tailgate

- The Escape Hybrid and Mariner Hybrid vehicles have a unique engine appearance cover with raised “green leaf highway” icon and HYBRID lettering.



Unique Hybrid Engine Appearance Cover
with “Green Leaf Highway” Icon

- The 5th, 6th and 7th digits of the vehicle identification number (VIN) identify the Hybrid vehicle line.

VIN POSITIONS 5, 6 and 7	VEHICLE
U29	Mariner Hybrid — Front Wheel Drive (FWD)
U39	Mariner Hybrid — All Wheel Drive (AWD)
U49	Escape Hybrid — FWD
U59	Escape Hybrid — AWD

SAMPLE VIN

1 F M Y **U 5 9** H 3 5 W A 0 0 0 0 1

↑ ↑

Escape Hybrid AWD

HIGH-VOLTAGE ELECTRICAL AND FUEL DISCONNECT FEATURES

The following list describes certain features that have been incorporated into the Hybrid vehicles that allow for either simple or automatic shutoff of the high-voltage electrical and fuel systems.

- **Inertia Switch – Fuel Pump Shut-Off** — The fuel pump shut-off inertia switch is normally closed to allow vehicle operation. In the event of a collision or a substantial physical jolt, the switch is designed to open automatically, shutting off electrical power to the fuel pump and the high-voltage shut-off switch.
- **Inertia Switch – High-Voltage Shut-Off** — The high-voltage shut-off switch is located behind the jack access panel in the cargo area on the passenger side of the vehicle. In the event of a collision or a substantial physical jolt, the switch is designed to open automatically, disabling the high-voltage system.
- **High-Voltage Fuse** — In the event of a high-current short circuit, the high-voltage fuse will open, disabling the high-voltage system.
- **High-Voltage Interlock Circuit** — Whenever a high-voltage connector is disconnected, the high-voltage interlock circuit opens and disables the high-voltage system.
- **Ignition Key in OFF Position** — Any time the ignition lock cylinder is in the OFF position, the high-voltage system is disabled.
- **High-Voltage Service Disconnect Switch** — Whenever the high-voltage service disconnect switch (located on top of the high-voltage battery in the cargo area) is removed, the high-voltage system is disabled. For additional information, refer to Page 9 in this manual.
- **Thermal Sensors** — In the event the ignition key is left in the ON position, while the vehicle is parked and the high-voltage battery temperature exceeds 60°C (140°F), thermal sensors located near the high-voltage battery will automatically disconnect the high-voltage battery.

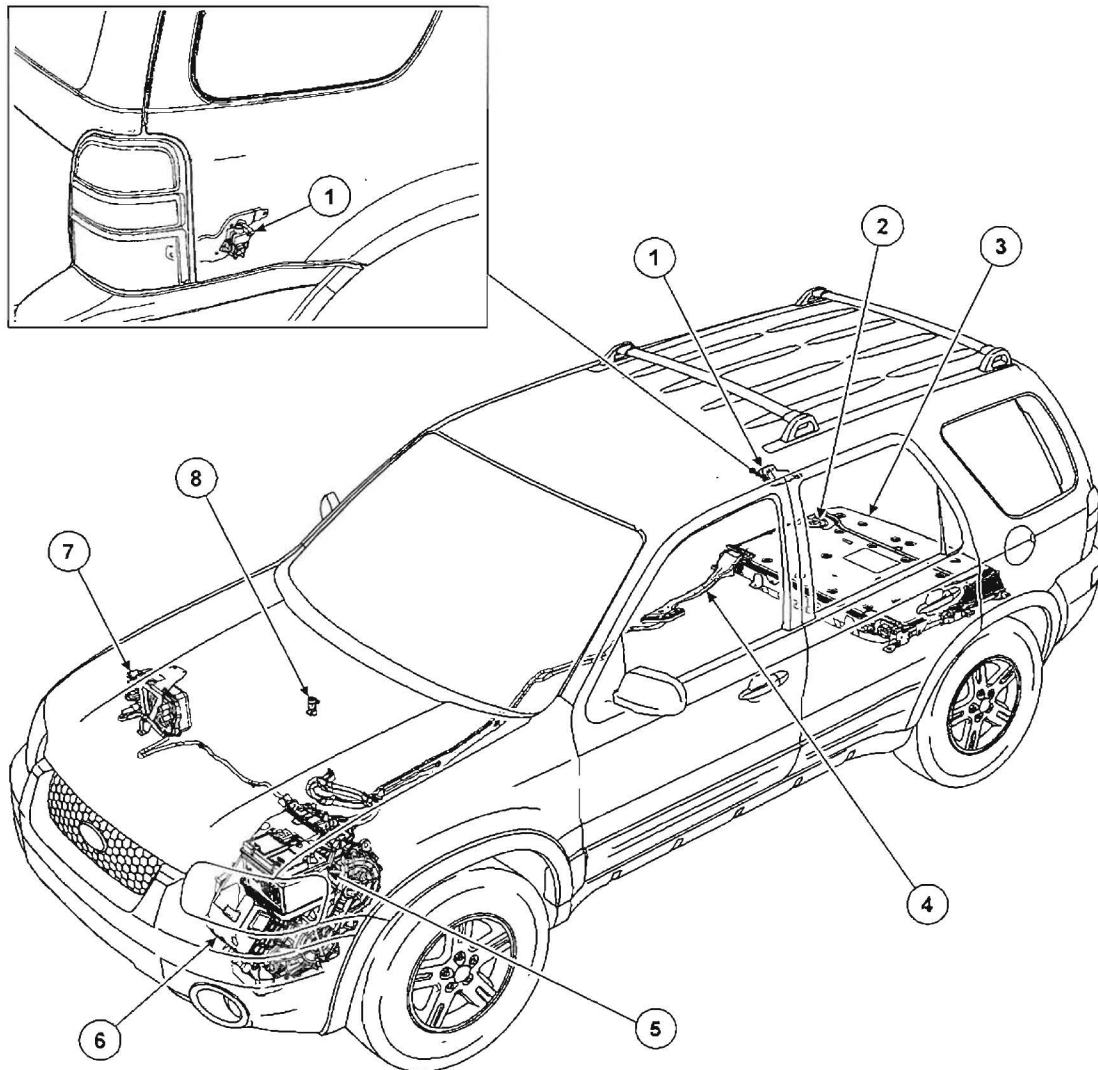
HYBRID COMPONENT LOCATION AND IDENTIFICATION

This chart provides the location, description and basic function of the Hybrid system components. Refer to the Hybrid Component Location illustration on the following page.

	COMPONENT	LOCATION / DESCRIPTION	FUNCTION
1	High-Voltage Shut-Off Switch	<ul style="list-style-type: none"> Located in the jack stowage compartment, passenger side in the cargo area. 	Disconnects high-voltage battery in the event of a collision.
2	High-Voltage Service Disconnect Switch	<ul style="list-style-type: none"> Located on top of the high-voltage battery, passenger side in the cargo area under carpet. Orange in color with molded plastic handle, about 100 mm (4 inch) in diameter. 	Provides means to disconnect high-voltage battery for safely servicing vehicle.
3	High-Voltage Battery — 300+ Volts	<ul style="list-style-type: none"> Located in the cargo area under carpet. Sealed nickel-metal hydride. 	Provides high-voltage storage (300+ V) for vehicle propulsion requirements.
4	High-Voltage Wiring	<ul style="list-style-type: none"> Runs along underside of vehicles cab floor from high-voltage battery to electronically controlled continuously variable transaxle (eCVT) then to DC-to-DC converter. All high-voltage wiring has orange-colored insulation. 	Provides physical path for high-voltage circuitry.
5	12-Volt Battery	<ul style="list-style-type: none"> Located under the hood on driver side of the vehicle. Typical automotive 6-cell lead/acid design. 	Provides 12-volt power for vehicle accessories.
6	Electronically Controlled Continuously Variable Transaxle (eCVT)	<ul style="list-style-type: none"> Transverse-mounted design similar to the non-Hybrid Escape/Mariner vehicles. Contains the traction motor, generator motor and Hybrid electronics. 	Provides delivery of power to wheels for vehicle propulsion, generates electricity to recharge the batteries during braking and coasting, and contains certain Hybrid electronics.
7	DC/DC Converter	<ul style="list-style-type: none"> Located under the hood on the passenger side forward of the strut tower. 	Provides 12 volts of power to charge the 12-volt battery and run vehicle accessories.
8	Fuel Shut-Off Inertia Switch	<ul style="list-style-type: none"> Located behind the flip-up panel in the passenger front foot well. 	Disables power supply to the gasoline fuel pump and the HV shut-off switch in the event of a collision.

NOTE: All high-voltage wires and harnesses are wrapped in orange-colored insulation.

Hybrid Component Location



- Warning decals, as shown here, will be located on components included in the high-voltage system.



HIGH-VOLTAGE BATTERY PACK

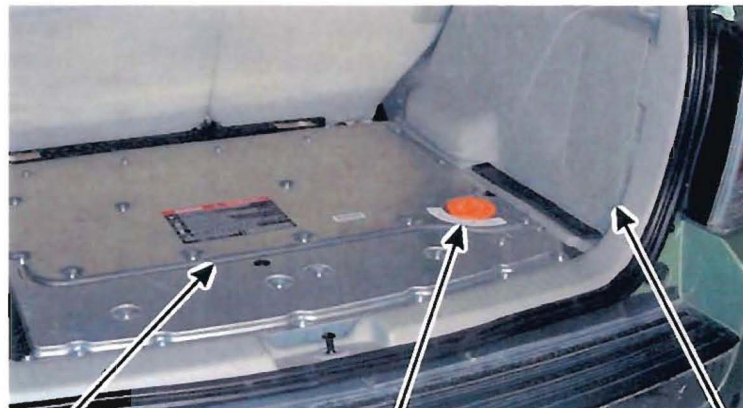
The high-voltage battery pack is located in the rear of the vehicle underneath the carpet.

- The high-voltage battery pack consists of 50 battery modules.
- Each module is comprised of 5 nickel-metal hydride (Ni-MH), 1.3-volt batteries welded together.
- Each battery within the module is similar in size and shape to a size D flashlight battery and is sealed in a stainless steel case.
- The total voltage of the battery pack is approximately 300 volts DC.
- The battery case is designed to be water resistant.
- The battery cells contain a base electrolyte (consisting of potassium hydroxide as the dominant active ingredient) that is absorbed in a special paper. The electrolyte will not leak from the battery under most conditions, however, if the battery is crushed, it is possible for a small amount (drops) of electrolyte to leak.

These warnings must be observed when working with a damaged battery:

1. Exposure to electrolyte could cause skin/eye irritation and/or burns. If exposed, rinse with large amounts of water until the soapy feel is gone. Personal protective equipment (PPE) such as splash shield or safety goggles, gloves (latex, rubber or Nitrile), an apron or overcoat suitable to protect against alkaline and rubber boots are required when handling damaged batteries. **Fold-down helmet shields are not acceptable for acid or alkaline spills.**
2. If the battery is exposed to intense heat, it is possible that hydrogen could be released from the battery. Appropriate precautions should be taken to make sure the area is properly ventilated, such as, opening the liftgate and vehicle doors and opening or removing the rear glass.

Note: The high-voltage service disconnect switch should be moved to the service/shipping position, if possible.



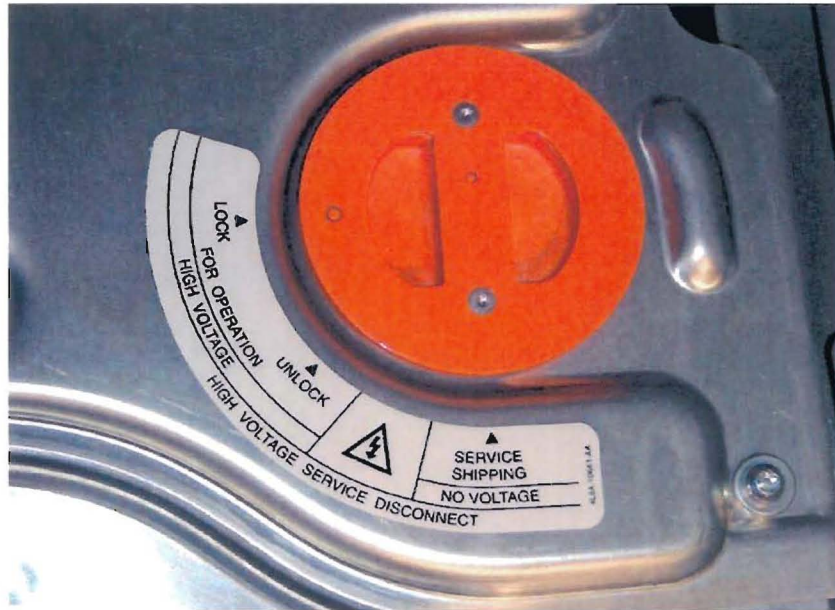
High-Voltage
Battery Pack

High-Voltage
Service
Disconnect
Switch

High-Voltage
Shut-Off Switch
Located Behind
Jack Access
Panel

WARNING

- Removing the high-voltage service disconnect switch disconnects high voltage from the vehicle.
- The individual cells inside the battery pack will still be charged.
- Do not cut into the high-voltage battery case or penetrate the batteries in any way.



**High-Voltage Service Disconnect Switch Shown in LOCK position.
High-voltage system is STILL ACTIVE.**

**Remove switch and place in SERVICE/SHIPPING position
to disconnect high-voltage system.**

APPROACHING A DAMAGED HIGH-VOLTAGE VEHICLE

1. FOLLOW EXISTING TRAINING AND INCIDENT COMMANDER DIRECTION

- This guide provides only supplemental information as it pertains to the Escape Hybrid and Mariner Hybrid vehicles. The same rules apply when approaching any potential high-voltage situation. Always follow your high-voltage safety training. Some precautions to be taken in any high-voltage situation include:
 - Remove all jewelry, watches, necklaces, earrings, etc. Metal objects are conductors of electricity.
 - Wear the necessary PPEs (high-voltage rubber gloves, face shield, insulated boots, protective raincoat or apron).
 - Bring the following equipment:
 - Class ABC powder-type fire extinguisher
 - A non-conductive object – about 1.5 meters (5 feet) long – used to safely push someone away from the vehicle if they accidentally come in contact with high voltage.

2. APPROACHING A DAMAGED VEHICLE

- Disable the high-voltage electrical system using as many of the following steps as possible:
 - Secure the vehicle — place the shift lever into the PARK position. Remove the ignition key. Block the wheels, if necessary. Removing the ignition key or turning it to the OFF position will disconnect the high-voltage system.
 - Disconnect the negative cable from the 12-volt battery – this will also disconnect the high voltage.
 - If possible, place the high-voltage service disconnect switch (see section entitled Hybrid Component Location and Identification for location) into the service position. To place in the service position, turn counterclockwise and then lift out. Reinsert the disconnect switch with the arrow aligned to the service/shipping position.

SPECIAL NOTES

- If the vehicle is on fire, use a Class ABC powder-type extinguisher to contain and smother the flames. Or, if water is used, large amounts are required (e.g., from a fire hydrant).
- If the vehicle has any exposed cables, make sure you are wearing insulated gloves and other protective clothing. Do not touch any broken or damaged orange cables. Treat severed lines as if they contain high voltage.
- If the vehicle is submerged in water, do not touch any high-voltage components or cables while extricating the occupant(s). Do not remove the vehicle until you are sure the high-voltage battery is completely discharged. A submerged high-voltage battery may produce a fizzing or bubbling reaction. The high-voltage battery will be discharged when the fizzing or bubbling has completely stopped.

3. IF THE HIGH-VOLTAGE BATTERY CASE HAS BEEN RUPTURED

- Just like any other battery, hose the area down with large amounts of water.

4. MOVING DAMAGED VEHICLES — WRECKER DRIVERS

- Turn the vehicle ignition key to the ACCESSORY position to release the locking steering wheel.
- If possible, remove the high-voltage service disconnect switch by turning it counterclockwise and lifting out. Reinstall in the service/shipping position.
- Follow the guidelines in the Wrecker Towing Manual.
 - Front Tow: Wheel Lift with Dolly for AWD and No Dolly for FWD
 - Rear Tow: Wheel Lift with Dolly for All (FWD or AWD)
 - Flat bed: Front and Rear

5. SPECIAL NOTE TO SALVAGE YARDS

- If a vehicle with a high-voltage battery is to be scrapped, the high-voltage battery must be disposed of following all local, state/provincial and federal guidelines.

Ford Escape/Mercury Mariner Hybrid

2005-2008 Model Years

GENERAL PROCEDURES

High-Voltage Traction Battery Systems Depowering

**WARNING:**

When servicing the high-voltage system, establish a buffer zone per the specified procedure. Failure to follow this instruction may result in serious personal injury or death.

**WARNING:**

Depower the high-voltage traction battery (HVTB) before carrying out any removal or installation procedures affecting the high-voltage battery system. Failure to follow this instruction may result in serious personal injury or death.

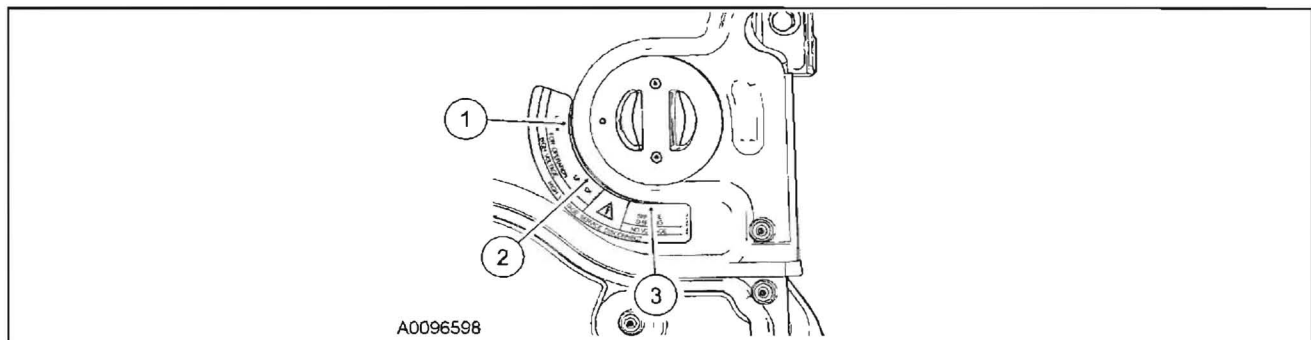
**WARNING:**

Wear high-voltage insulated safety gloves and a face shield when working with high-voltage batteries or cables. The high-voltage insulated safety gloves should be of the appropriate safety and protection rating. Inspect the gloves before use and always wear them with the leather outer glove. Any hole in the rubber insulating glove is a potential entry point for high-voltage. Failure to follow these instructions may result in serious personal injury or death.

**WARNING:**

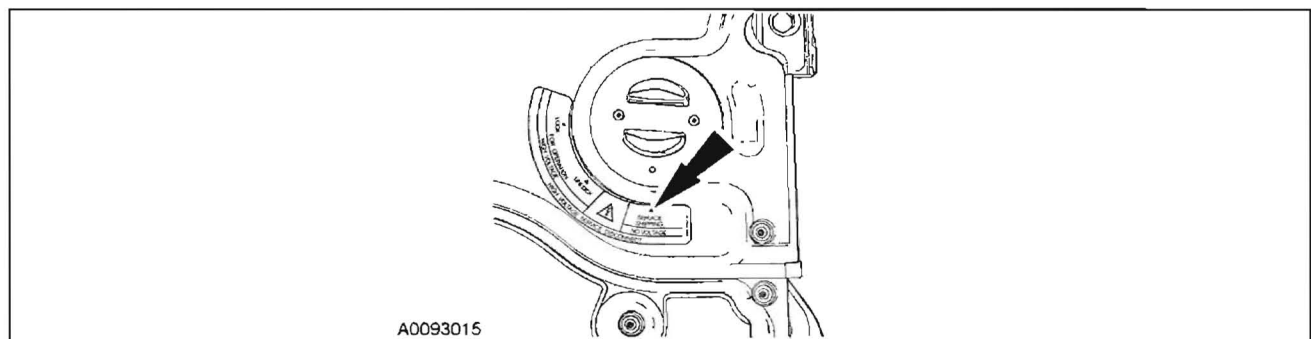
Turn OFF the ignition switch for a minimum of 5 minutes before removing high-voltage cables. High-voltage cables and wiring are orange in color. The nominal high-voltage traction battery voltage (HVTB) is 330 V DC. Failure to follow these instructions may result in serious personal injury or death.

1. Set up the buffer zone around the vehicle. For additional information, refer to Buffer Zone in this section.
2. Remove the service disconnect plug in the following sequence.
 - 1 Rotate the service disconnect plug from the lock (1) position to the unlock (2) position.
 - 2 Remove the service disconnect plug and place in the servicing shipping (3) position.



3. **NOTICE:**
Place the service disconnect plug into the servicing shipping position while the High Voltage Traction Battery (HVTB) is being removed and/or while the high-voltage system is having repairs carried out. If the service disconnect plug is left out and placed on the bench or toolbox, dirt or other contaminants may enter the HVTB, which can cause damage.

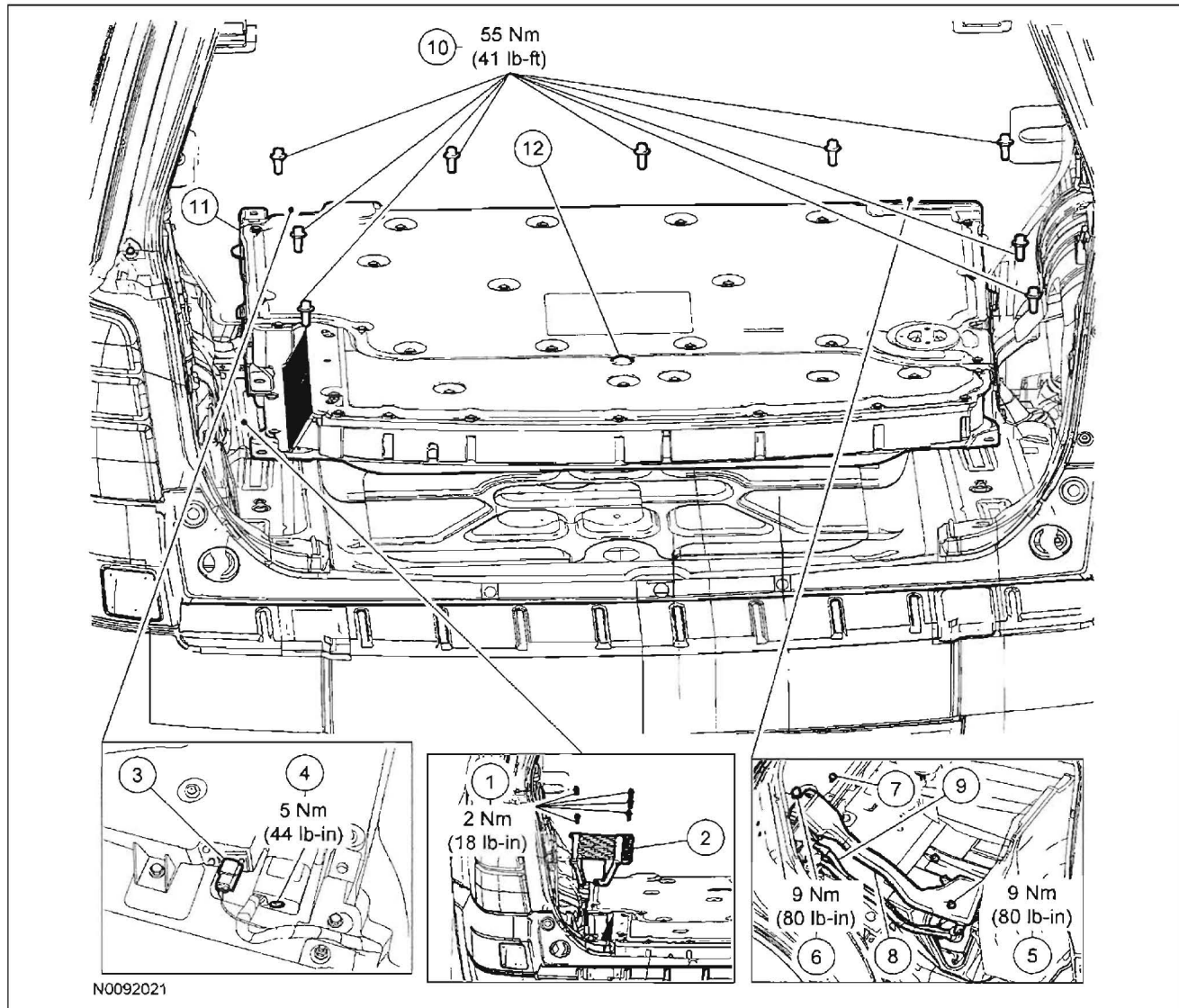
Insert the service disconnect plug into the servicing shipping position. This disconnects the High Voltage Traction Battery (HVTB)



GENERAL PROCEDURES (Continued)

4. To connect, reverse the disconnect procedure.

High-Voltage Traction Battery Removal



Item	Part Number	Description
1	W500212	A/C return duct assembly screws (5 required)
2	19479	A/C return duct assembly
3	—	6-pin low voltage electrical connector (part of 14405)
4	—	40-pin low voltage connector bolt (part of 14405)
5	W520413	High-voltage cables shield nuts (2 required)
6	W500230	High-voltage cables shield bolt
7	W706713	High-voltage cables shield plastic rivet/screw
8	14A099	High-voltage cables shield
9	14B322	High-voltage cables electrical connector
10	W710255	High Voltage Traction Battery (HVTB) bolts (9 required)
11	10B759	HVTB
12	—	Rear lift eye cap

(Continued)

Removal and Installation



WARNING:

When servicing the high-voltage system, establish a buffer zone per the specified procedure. Failure to follow this instruction may result in serious personal injury or death.



WARNING:

Depower the high-voltage traction battery (HVTB) before carrying out any removal or installation procedures affecting the high-voltage battery system. Failure to follow this instruction may result in serious personal injury or death.



WARNING:

Wear high-voltage insulated safety gloves and a face shield when working with high-voltage batteries or cables. The high-voltage insulated safety gloves should be of the appropriate safety and protection rating. Inspect the gloves before use and always wear them with the leather outer glove. Any hole in the rubber insulating glove is a potential entry point for high-voltage. Failure to follow these instructions may result in serious personal injury or death.



WARNING:

Turn OFF the ignition switch for a minimum of 5 minutes before removing high-voltage cables. High-voltage cables and wiring are orange in color. The nominal high-voltage traction battery voltage (HVTB) is 330 V DC. Failure to follow these instructions may result in serious personal injury or death.

NOTE:

A replacement High Voltage Traction Battery (HVTB) may have a low state of charge that is insufficient to start the vehicle. If this occurs, follow the instructions for the jump start procedure in the Owner's Literature.

1. Depower the HVTB. For additional information, refer to High-Voltage Traction Battery Systems Depowering in this section.

2. Remove the rear cargo area carpet insert.

3. **NOTE:**

When installing, tighten the screws on the HVTB first or an airflow loss to the HVTB may occur.

Remove the 5 A/C return duct assembly screws.

- To install, tighten to 2 Nm (18 lb-in).

4. Remove the A/C return duct assembly

5. **NOTE:**

Due to clearance issues, the 6-pin connector must be disconnected first during the removal process and connected last during the installation process.

From the left rear door opening, fold the left rear seat backrest down and disconnect the 6-pin low voltage electrical connector.

6. **NOTE:**

Due to clearance issues, the 40-pin connector must be disconnected last during the removal process and connected first during the installation process.

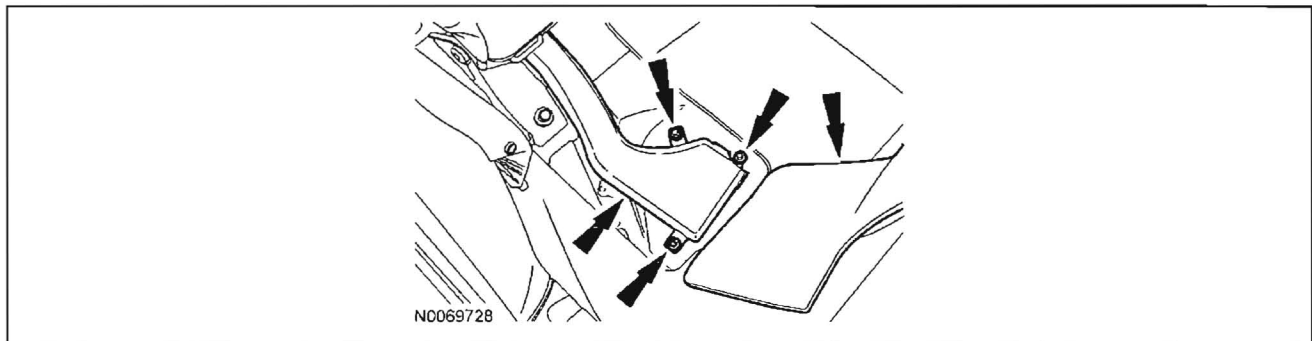
Loosen the bolt and disconnect the 40-pin low voltage connector.

- To install, tighten to 5 Nm (44 lb-in).

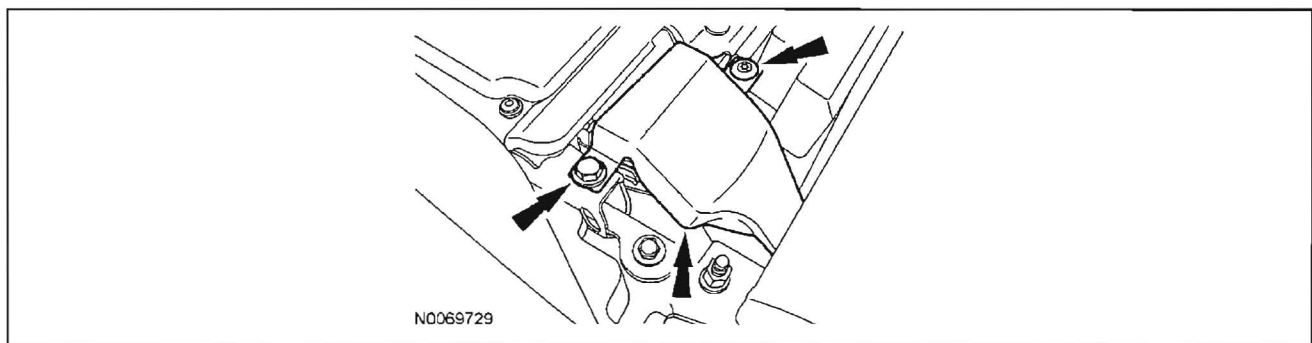
7. From the right rear door opening, fold the right rear seat cushion forward and remove the 2 high-voltage cables shield nuts (access the shield nuts through the slotted opening in the carpet).

- To install, tighten to 9 Nm (80 lb-in).

(Continued)



8. Fold the right rear seat backrest down and remove the high-voltage cables shield bolt, then remove the scrivet.
 - To install, tighten to 9 Nm (80 lb-in).



9. Remove the high-voltage cables shield.
10. Press the locking tab down and rotate the locking lever upward until the aligning dowels are disengaged from the locking lever to remove the high-voltage cables electrical connector.
11. **NOTE:**
The attaching bolts have a conductive coating on them and are serrated under the head flange. These features ground the HVTB to the vehicle, which is required for electro-magnetic compatibility. If a bolt(s) is lost or damaged, a new bolt(s) must be installed with the identical type of bolt.

Remove the 9 HVTB bolts.

- **NOTE:**
Hand-start all of the bolts before tightening them to specification.

To install, tighten to 55 Nm (41 lb-ft).

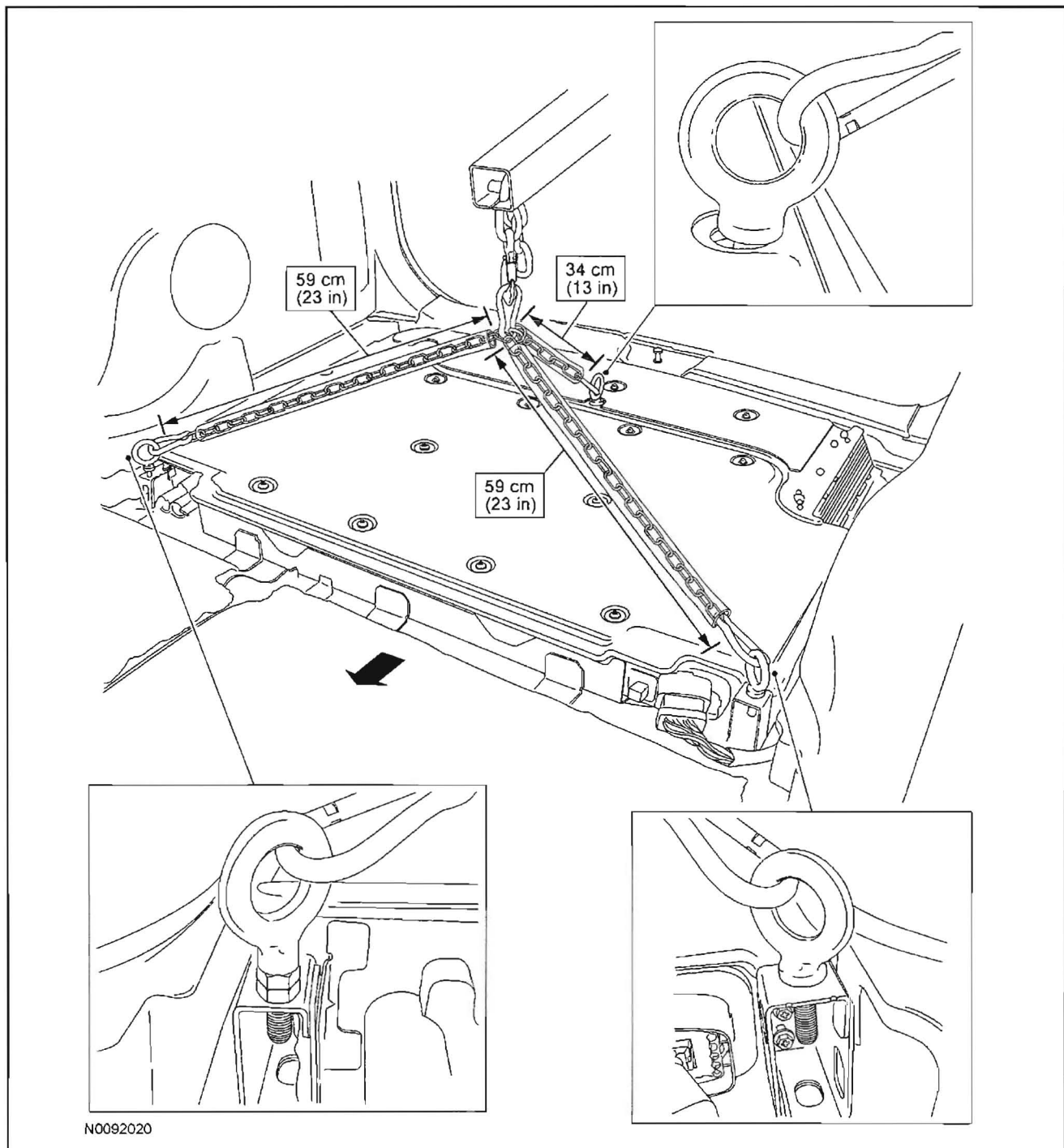
12. **NOTICE:**
Make certain to reinstall this plug during the HVTB installation procedure to avoid noise, vibration and harshness (NVH) issues.

Remove the cap plug to expose the center (rear) lifting attachment point.

13. Attach 3 M10 x 1.5 x 35 eyebolts to the 3 HVTB lift points. Install nuts onto the eye bolts to gain the proper eyebolt height. Obtain the eyebolts locally.
14. **NOTICE:**
Use chain lengths as specified. Changing the chain length may result in damage to the High Voltage Traction Battery (HVTB) or HVTB lifting points.

Attach the lengths of chain to the eyebolts and the lifting device.

(Continued)



15. **NOTICE:**
Make certain the High Voltage Traction Battery (HVTB) does not mar or damage the interior panels during removal. There is only 6 mm (0.23 in) clearance on each side.

With an assistant, lift the HVTB off the 2 alignment dowels using a floor crane.

16. **NOTE:**
Do not strike the headliner with the HVTB (or floor crane) during removal.

Cover the battery mounting brackets with protective padding and remove the HVTB from the vehicle.

(Continued)

17. Inspect the HVTB tray drain grommet located in the floor pan underneath the HVTB. Replace if necessary.
18. To install, reverse the removal procedure.

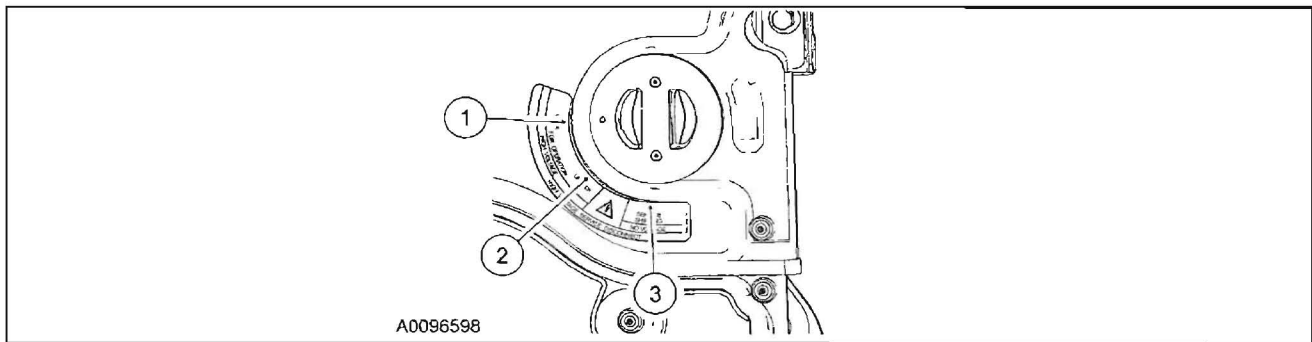
Ford Escape/Mercury Mariner Hybrid

2009-2010 Model Years

GENERAL PROCEDURES**High-Voltage Traction Battery Systems Depowering****⚠ WARNING:**

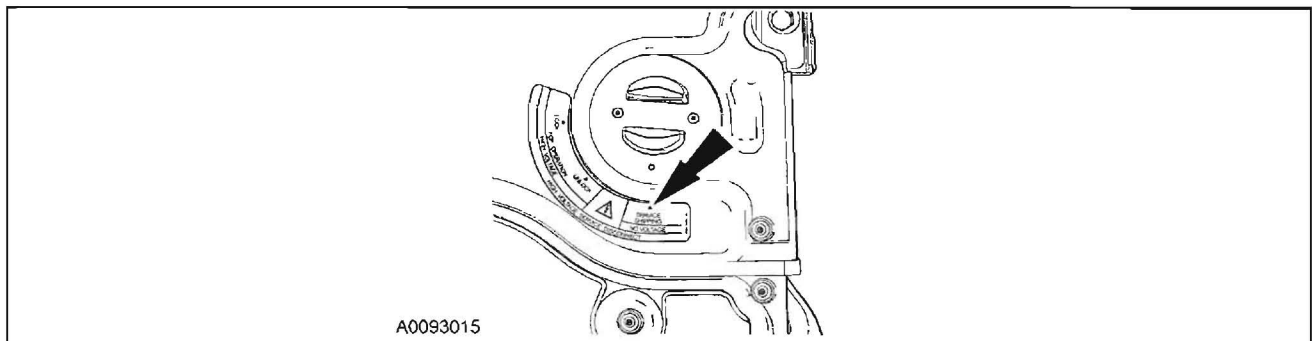
To prevent the risk of high-voltage shock, always follow precisely all warnings and service instructions, including instructions to depower the system. The high-voltage hybrid system utilizes approximately 300 volts DC, provided through high-voltage cables to its components and modules. The high-voltage cables and wiring are identified by orange harness tape or orange wire covering. All high-voltage components are marked with high-voltage warning labels with a high-voltage symbol. Failure to follow these instructions may result in serious personal injury or death.

1. Remove the service disconnect plug in the following sequence.
 - 1 Rotate the service disconnect plug from the lock (1) position to the unlock (2) position.
 - 2 Remove the service disconnect plug and place in the servicing shipping (3) position.

**2. NOTICE:**

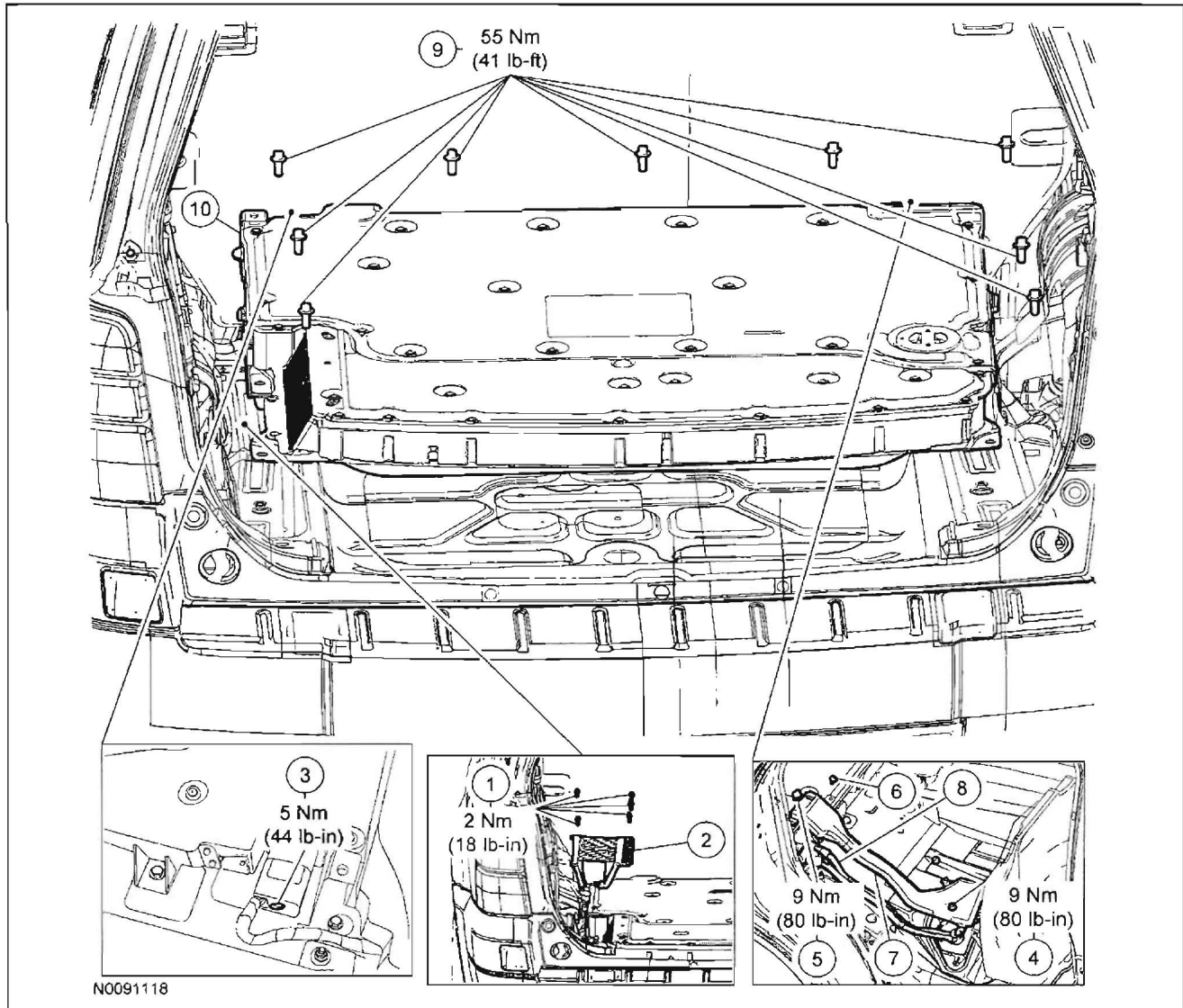
Place the service disconnect plug into the servicing shipping position while the High Voltage Traction Battery (HVTB) is being removed and/or while the high-voltage system is having repairs carried out. If the service disconnect plug is left out and placed on the bench or toolbox, dirt or other contaminants may enter the HVTB, which can cause damage.

Insert the service disconnect plug into the servicing shipping position. This disconnects the High Voltage Traction Battery (HVTB).



3. To connect, reverse the disconnect procedure.

High-Voltage Traction Battery Removal



Item	Part Number	Description
1	W500212	A/C return duct assembly screws (5 required)
2	19479	A/C return duct assembly
3	—	40-pin low voltage connector bolt (part of 14405)
4	W520413	High-voltage cables shield nuts (2 required)
5	W500230	High-voltage cables shield bolt
6	W706713	High-voltage cables shield plastic rivet/screw
7	14A099	High-voltage cables shield
8	14B322	High-voltage cables electrical connector
9	W710255	High Voltage Traction Battery (HVTB) bolts (9 required)
10	10B759	HVTB

Removal and Installation

WARNING:

(Continued)

To prevent the risk of high-voltage shock, always follow precisely all warnings and service instructions, including instructions to depower the system. The high-voltage hybrid system utilizes approximately 300 volts DC, provided through high-voltage cables to its components and modules. The high-voltage cables and wiring are identified by orange harness tape or orange wire covering. All high-voltage components are marked with high-voltage warning labels with a high-voltage symbol. Failure to follow these instructions may result in serious personal injury or death.

NOTE:

A replacement High Voltage Traction Battery (HVTB) may have a low state of charge that is insufficient to start the vehicle. If this occurs, follow the instructions for the jump start procedure in the Owner's Literature.

1. Depower the HVTB. For additional information, refer to High-Voltage Traction Battery Systems Depowering in this section.
2. Remove the rear cargo area carpet insert.

NOTE:

When installing, tighten the screws on the HVTB first or an airflow loss to the HVTB may occur.

Remove the 5 A/C return duct assembly screws.

- To install, tighten to 2 Nm (18 lb-in).

4. Remove the A/C return duct assembly.

NOTE:

Due to clearance issues, the 40-pin connector must be disconnected last during the removal process and connected first during the installation process.

Loosen the bolt of the 40-pin low voltage connector.

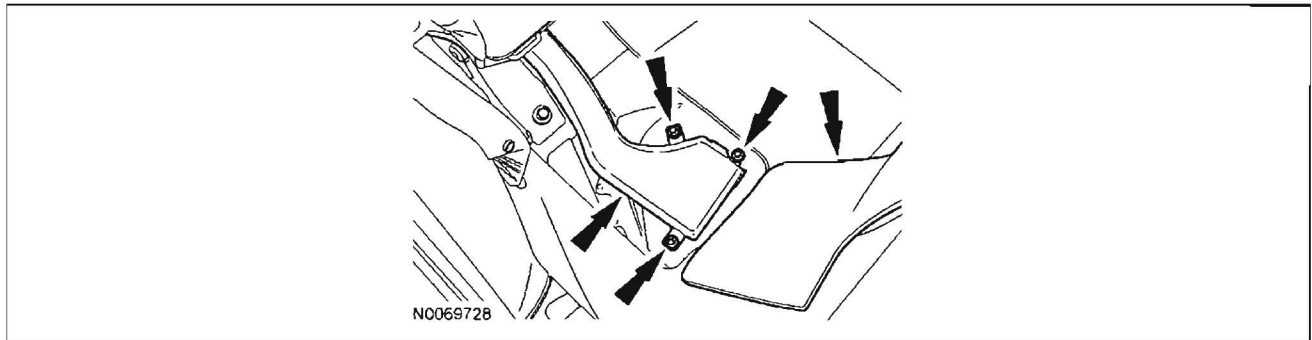
- To install, tighten to 5 Nm (44 lb-in).

NOTE:

Access the shield nuts through the slotted opening in the carpet.

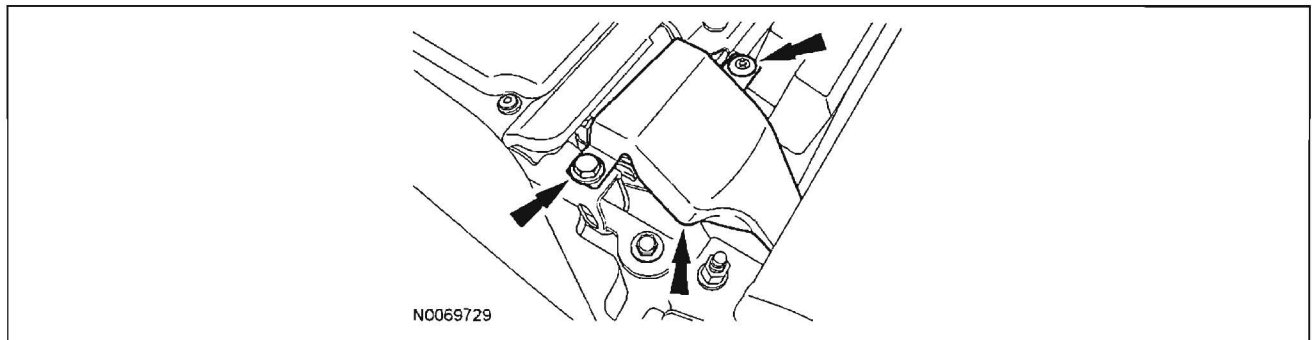
From the right rear door opening, fold the right rear seat cushion forward and remove the 2 high-voltage cables shield nuts.

- To install, tighten to 9 Nm (80 lb-in).



7. Fold the right rear seat backrest down and remove the high-voltage cables shield bolt, then remove the scrivet.

- To install, tighten to 9 Nm (80 lb-in).



8. Remove the high-voltage cables shield.
9. Press the locking tab down and rotate the locking lever upward until the aligning dowels are disengaged from the locking lever to remove the high-voltage cables electrical connector.
10. **NOTE:**

(Continued)

The attaching bolts have a conductive coating on them and are serrated under the head flange. These features ground the HVTB to the vehicle, which is required for electro-magnetic compatibility. If a bolt(s) is lost or damaged, a new bolt(s) must be installed with the identical type of bolt.

Remove the 9 HVTB bolts

- **NOTE:**
Hand-start all of the bolts before tightening them to specification

To install, tighten to 55 Nm (41 lb-ft).

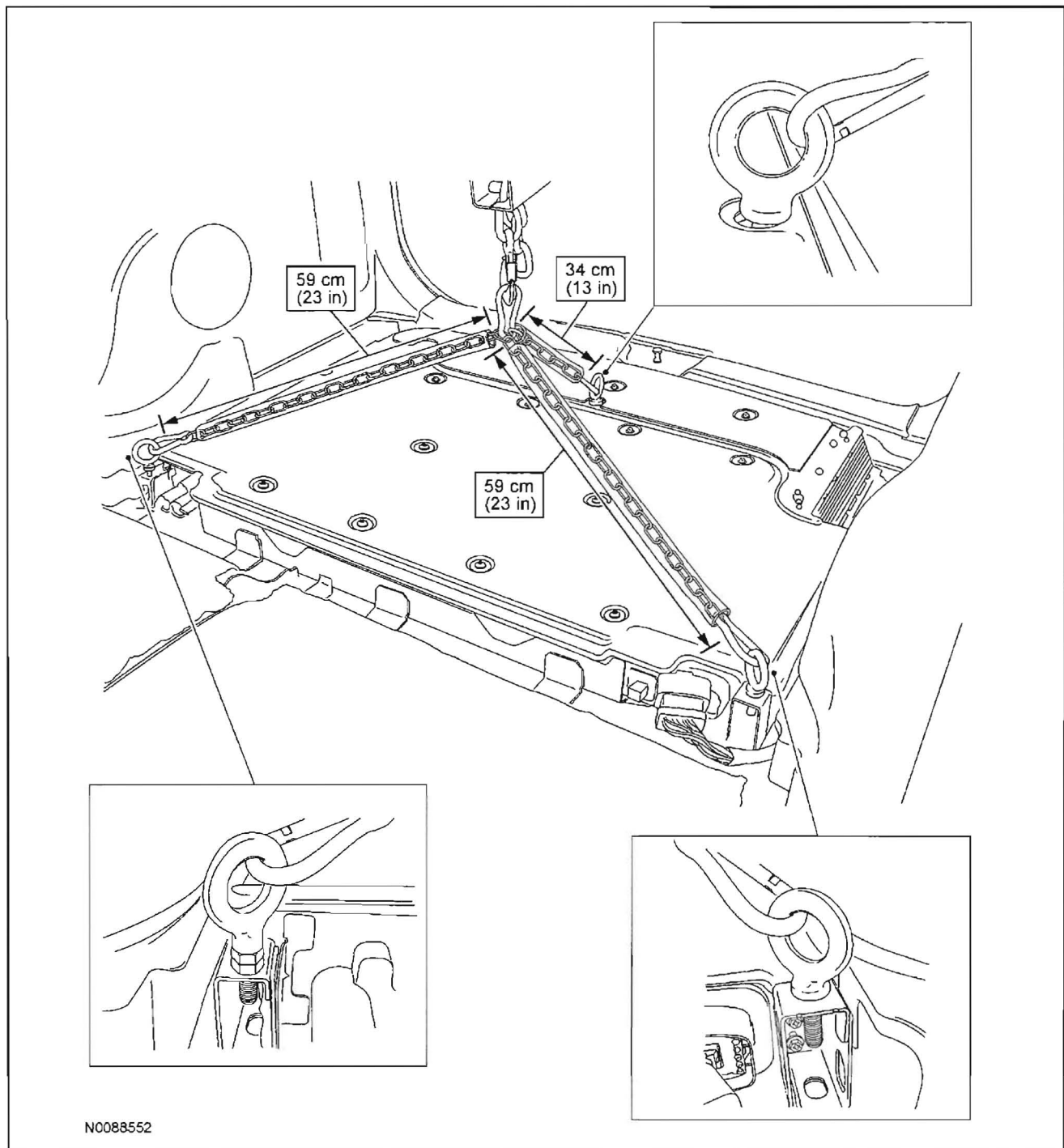
11. **NOTE:**
Make certain to reinstall this plug during the HVTB installation procedure to avoid NVH issues.

Remove the cap plug to expose the center (rear) lifting attachment point.

12. Attach 3 M10 x 1.5 x 35 eyebolts to the 3 HVTB lift points. Install nuts onto the eye bolts to gain the proper eyebolt height. Obtain the eyebolts locally.
13. **NOTICE:**
Use chain lengths as specified. Changing the chain length may result in damage to the High Voltage Traction Battery (HVTB) or HVTB lifting points.

Attach the lengths of chain to the eyebolts and the lifting device.

(Continued)



14. **NOTICE:**
Make certain the High Voltage Traction Battery (HVTB) does not mar or damage the interior panels during removal. There is only 6 mm (0.23 in) clearance on each side.

With an assistant, lift the HVTB off the 2 alignment dowels using a floor crane.

- Disconnect the 40-pin low voltage connector.

15. **NOTICE:**
Do not strike the headliner with the HVTB (or floor crane) during removal or damage to the headliner could occur.

(Continued)

Cover the battery mounting brackets with protective padding and remove the HVTB from the vehicle.

16. Inspect the HVTB tray drain grommet located in the floor pan underneath the HVTB. Replace if necessary.
17. To install, reverse the removal procedure.