


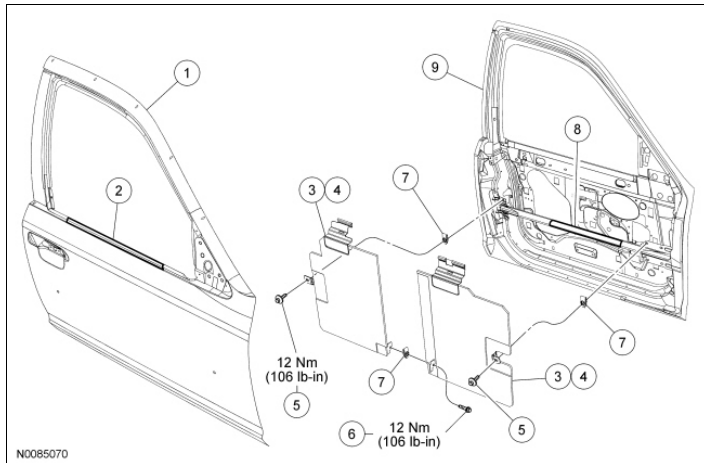
Ballistic Door Panel

Special Tool(s)

 <small>ST1132-A</small>	Heavy Duty Riveter 501-D011 (D80L-23200-A) or equivalent
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Ballistic Door Panel Insert

NOTE: Some Crown Victoria police package vehicles come equipped with a ballistic front door panel insert. The ballistic door panel is a 2-piece assembly. These panels are a set and cannot be serviced individually.

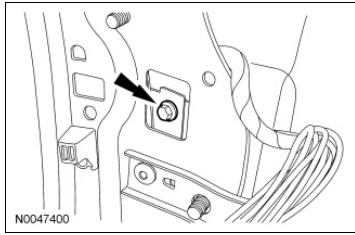


Item	Part Number	Description
1	420221 LH/ 420220 RH	Front door outer panel
2	143580	Protective film
3	201B69	Ballistic door panel kit (driver side)
4	201B68	Ballistic door panel kit (passenger side)
5	W712308-S439	Bolts (2 required)
6	W500214	Bolt
7	N806886	J-clips (3 required)
8	600562	Foam tape (dual layer)
9	5420125 LH/ 5420124 RH	Front door shell

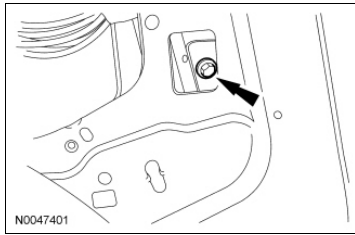
Removal

1. Remove the front door glass top run. For additional information, refer to [Section 501-11](#) .
2. Remove the front door window regulator and motor. For additional information, refer to [Section 501-11](#) .
3. Remove the front door latch. For additional information, refer to [Section 501-14](#) .

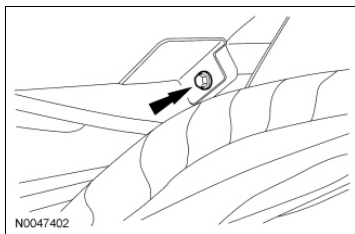
4. Remove the bolt on the forward ballistic door panel.



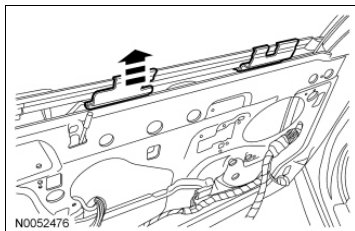
5. Remove the bolt on the rearward ballistic door panel.



6. Remove the center bolt of the ballistic door panel.



7. Slide the forward ballistic door panel as far to the front as possible and remove the rearward panel.



8. Remove the forward ballistic door panel.

Installation

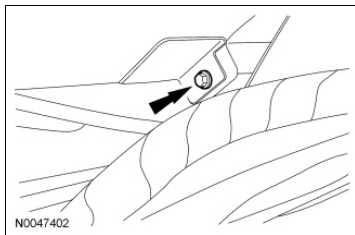
1. **NOTE:** If installing ballistic door panels in a new door or on a vehicle which has received a new front door outer panel, make sure to first install the protective film. If only reinstalling the ballistic door panels, proceed to Step 4.

Install protective film to the front door outer panel belt line, position to the bottom of the belt line flange.

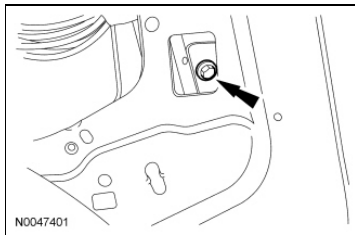
2. **NOTE:** If installing ballistic door panels in a new door, make sure to first install the foam tape to the intrusion beam to prevent panel rattle. If only reinstalling the ballistic door panels, proceed to Step 4.

Apply a double-layer of the foam tape to the intrusion beam.

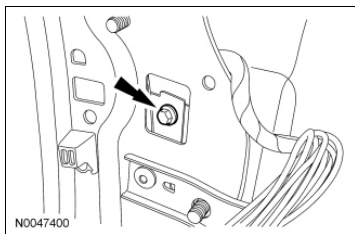
3. Install the J-clips.
4. Insert the forward ballistic door panel through the window opening and hook the top bracket over the outer belt line sheet metal.
 - Position as far forward as possible.
5. Insert the rearward ballistic door panel through the window opening and hook the top bracket over the outer belt line sheet metal.
 - Slide the forward panel back until mated with the rearward panel.
6. Align the panels so the ceramic plate bottoms out against the adjacent panel.
7. Install the bolt in the lower L-bracket.
 - Tighten to 12 Nm (106 lb-in).



8. Install the bolt in the rearward intrusion beam bracket J-clip, but do not tighten.



9. Install the bolt in the forward intrusion beam bracket J-clip, but do not tighten.



10. Visually inspect to make sure there is no gap between the panels. Adjust as necessary.
11. Tighten the rear bolt to 12 Nm (106 lb-in).
12. Tighten the forward bolt to 12 Nm (106 lb-in).
13. Install the front door latch. For additional information, refer to [Section 501-14](#) .
14. Install the front door window regulator and motor. For additional information, refer to [Section 501-11](#) .
15. Install the front door glass top run. For additional information, refer to [Section 501-11](#) .

16. Apply the BALLISTIC PANEL label to the door trim panel just forward of the door latch handle.
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Inner Body Reinforcing Panels

General Equipment

3 Phase Inverter Spot Welder 254-00002
Compuspot 700F Welder 190-50080
I4 Inverter Spot Welder 254-00014
Inverter Welder with MIG Welder 254-00015

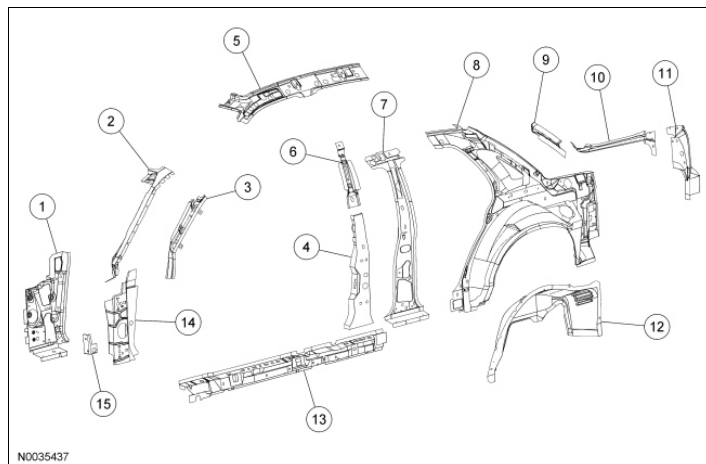
Material

Item	Specification
Metal Bonding Adhesive TA-1	--
Motorcraft® Metal Surface Prep ZC-31-A	--
Premium Undercoating ValuGard™ VG101, VG101A (aerosol)	--
Rust Inhibitor ValuGard™ VG104, VG104A (aerosol)	--
Seam Sealer TA-2	--

Standard Wheelbase

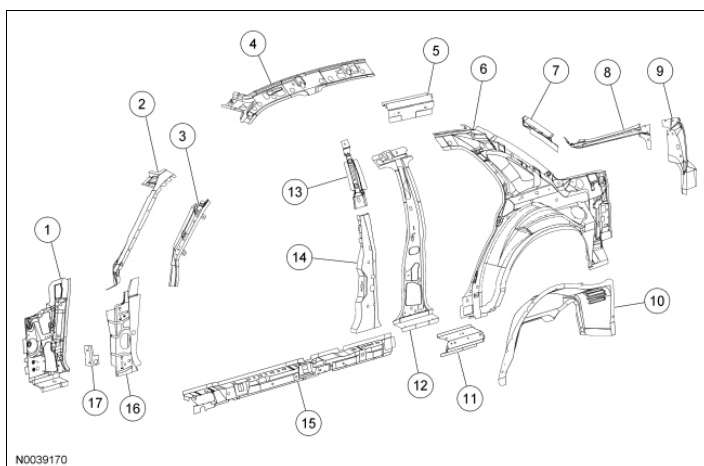
NOTE: Outer panels removed for clarity.

NOTE: Left side shown, right side similar.



Item	Part Number	Description
1	02039 LH/ 02038 RH	Cowl side panel -- high-strength steel
2	02509 LH/ 02508 RH	Front body pillar -- high-strength steel
3	02505 LH/ 02504 RH	Front body upper pillar -- mild steel
4	24301 LH/ 24300 RH	Center body pillar -- high-strength steel
5	51181 LH/ 51180 RH	Roof side inner rail -- high-strength steel
6	--	Front seat shoulder strap reinforcement (LH/RH) -- high-strength steel (part of 24301/24300)
7	24301 LH/ 24300 RH	Center body pillar serviced as assembly with No. 4 -- high-strength steel
8	27791 LH/ 27790 RH	Quarter panel inner -- high-strength steel
9	602A11	Rear seat shoulder strap reinforcement -- high-strength steel
10	278B11 LH/ 278B10 RH	Quarter panel extension -- mild steel
11	45115 LH/ 45114 RH	Luggage compartment drain trough -- mild steel
12	27887 LH/ 27886 RH	Quarter panel inner wheelhouse -- mild steel
13	20403 LH/ 20402 RH	Door frame opening reinforcement -- high-strength steel
14	22843 LH/ 22842 RH	Front door hinge reinforcement -- high-strength steel
15	204A07 LH/ 204A06 RH	Door frame reinforcement -- high-strength steel

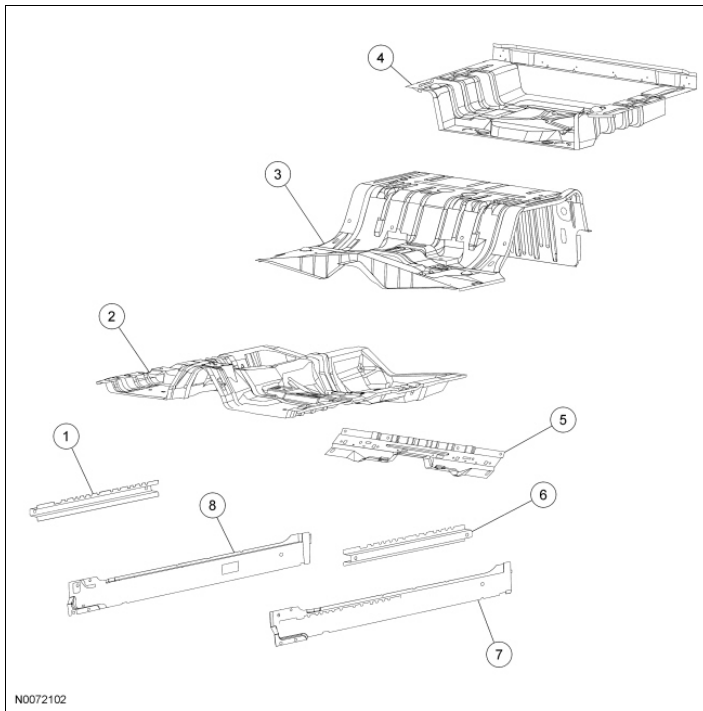
Long Wheelbase



2008 Crown Victoria/Grand Marquis Workshop Manual

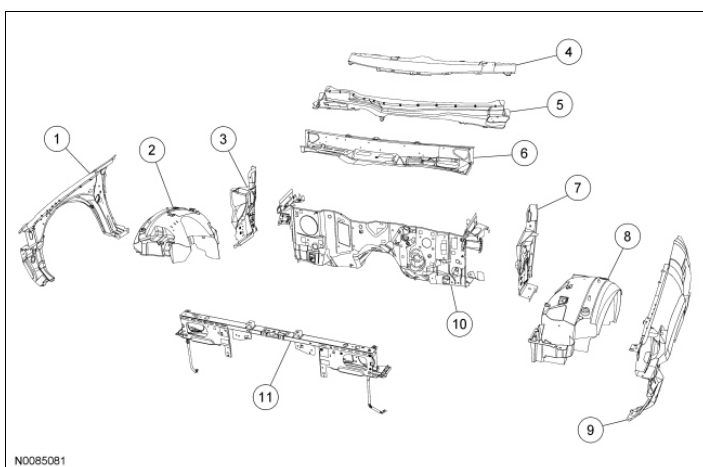
Item	Part Number	Description
1	02039 LH/ 02038 RH	Cowl side panel -- high-strength steel
2	02509 LH/ 02508 RH	Front body pillar -- high-strength steel
3	02505 LH/ 02504 RH	Front body upper pillar -- mild steel
4	51181 LH/ 51180 RH	Roof side inner rail -- high-strength steel
5	279C91 LH/ 279C90 RH	Quarter panel upper rear extension -- mild steel
6	27791 LH/ 27790 RH	Quarter panel inner -- high-strength steel
7	602A11	Rear seat shoulder strap reinforcement -- high-strength steel
8	278B11 LH/ 278B10 RH	Quarter panel extension -- mild steel
9	45115 LH/ 45114 RH	Luggage compartment drain trough -- mild steel
10	27887 LH/ 27886 RH	Quarter panel inner wheelhouse -- mild steel
11	279C91 LH/ 279C90 RH	Quarter panel lower rear extension -- mild steel
12	24301 LH/ 24300 RH	Center body pillar serviced as assembly with No. 14 -- high-strength steel
13	--	Front seat shoulder strap reinforcement -- high-strength steel (part of 24301/24300)
14	24301 LH/ 24300 RH	Center body pillar -- high-strength steel
15	20403 LH/ 20402 RH	Door frame opening reinforcement -- high-strength steel
16	22843 LH/ 22842 RH	Front door hinge reinforcement -- high-strength steel
17	204A07 LH/ 204A06 RH	Door frame reinforcement -- high-strength steel

Underbody



Item	Part Number	Description
1	104A98	Floor side member -- high strength steel
2	11135	Front floor pan assembly -- mild steel
3	11160	Center floor pan assembly -- mild steel
4	11215	Rear floor pan assembly -- mild steel
5	10638	Reinforcement -- high-strength steel
6	104A99	Floor side member (LH) -- high-strength steel
7	10117	Floor side inner (LH) -- mild steel
8	10116	Floor side inner (RH) -- mild steel

Front Structure



Item	Part Number	Description
1	16K006	Inner fender assembly -- mild steel
2	16044	Fender apron -- plastic

3	02044	Cowl side inner panel -- mild steel
4	02015	Cowl top outer panel -- mild steel
5	020C44	Cowl top outer lower panel -- mild steel
6	02030	Cowl top inner panel -- mild steel
7	02045	Cowl side inner panel -- mild steel
8	16045	Fender apron -- plastic
9	16K007	Inner fender assembly -- mild steel
10	01605	Dash panel -- laminated sound/vibration steel
11	16138	Radiator support -- mild steel

⚠ WARNING: Collision damage repair must conform to the instructions contained in this workshop manual. Replacement components must be new, genuine Ford Motor Company parts. Recycled, salvaged, aftermarket or reconditioned parts (including body parts, wheels or safety restraint components) are not authorized by Ford.

Departure from the instructions provided in this manual, including alternate repair methods or the use of substitute components, risks compromising crash safety. Failure to follow these instructions may adversely affect structural integrity and crash safety performance, which could result in serious personal injury to vehicle occupants in a crash.

⚠ WARNING: If the vehicle is equipped with a fire suppression system, repower the system. For important safety warnings and procedures, refer to [Section 419-03](#) . Failure to follow these instructions may result in serious personal injury.

⚠ WARNING: Shut off the electrical power to the air suspension system prior to hoisting or jacking an air suspension equipped vehicle. Failure to do so may result in unexpected inflation or deflation of the air springs, which may result in shifting of the vehicle during these operations. Failure to follow this instruction may result in serious personal injury.

⚠ WARNING: Invisible ultraviolet and infrared rays emitted in welding can injure unprotected eyes and skin. Always use protection such as a welder's helmet with dark-colored filter lenses of the correct density. Electric welding will produce intense radiation, therefore, filter plate lenses of the deepest shade providing adequate visibility are recommended. It is strongly recommended that persons working in the weld area wear flash safety goggles. Also wear protective clothing. Failure to follow these instructions may result in serious personal injury.

⚠ WARNING: Always wear protective equipment including eye protection with side shields, and a dust mask when sanding or grinding. Failure to follow these instructions may result in serious personal injury.

⚠ WARNING: On vehicles equipped with Safety Canopy® options, prior to carrying out any sectioning repairs near the roof line or sail panel areas of the vehicle, remove the Safety Canopy® module and related components. Failure to comply may result in accidental deployment or damage to the Safety Canopy®. Refer to [Section 501-20B](#) . Failure to follow these instructions may result in serious injury to technician or vehicle occupant(s).

⚠ WARNING: Do not cut or grind body side components within 50 mm (1.96 in) of restraint anchoring points. Welding within 50 mm (1.96 in) of restraint anchoring points may result in incorrect operation of restraint devices. For additional restraints anchoring location information, refer to [Section 501-20A](#) and [Section 501-20B](#) . Failure to follow these instructions may result in serious injury to vehicle occupant(s).

NOTICE: Electronic modules and related wiring can be damaged when exposed to heat from welding procedures. Carefully disconnect and remove, or position away from heat-affected areas.

NOTE: When it is necessary to carry out weld-bonding procedures, refer to Weld-Bonding in this section.

1. Remove the outer body sheet metal from the affected area prior to carrying out any reinforcing panel replacement. For additional information, refer to Sectioning Guidelines in this section.

NOTE: Factory spot welds may be substituted with either resistance spot welds or Metal Inert Gas (MIG) plug welds. Spot/plug welds should equal factory welds in both location and quantity. Do not place a new spot weld directly over an original weld location. Plug weld hole should equal 8 mm (0.31 in) diameter.

NOTE: Observe prescribed welding procedures when carrying out any body side section repair. For additional information, refer to Welding Precautions -- Steel in this section.

2. **NOTICE: Electronic modules and related wiring can be damaged when exposed to heat from welding procedures. Carefully disconnect and remove, or position away from heat affected areas. For additional information, refer to Welding Precautions -- Steel in this section.**

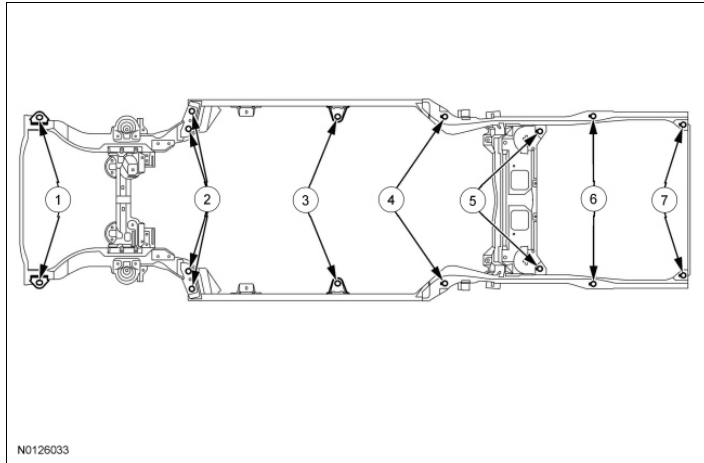
NOTE: When it is necessary to carry out weld-bonding procedures, refer to Weld-Bonding in this section.

Remove the outer body sheet metal from the affected area prior to carrying out any reinforcing panel replacement. For additional information, refer to Sectioning Guidelines in this section.

3. When welding overlapping surfaces or substrates, apply corrosion protection material between the surfaces prior to welding. When the surfaces have been welded, apply corrosion protection material to the exterior surfaces or substrates. For additional information, refer to Restoring Corrosion Protection Following Repair in this section.
 - Make sure horizontal joints and flanges are correctly sealed with seam sealer to prevent moisture intrusion. Water and moisture migrate to horizontal joints and corrosion tends to occur more rapidly in these areas. Metal surfaces must be clean and dry before applying seam sealer.
 4. If equipped with a fire suppression system, repower the system. For important safety warnings and procedures, refer to Section 419-03 .
 5. If equipped with an air suspension system, reactivate the power supply. This can be accomplished by reconnecting the battery or turning on the air suspension service switch located in the luggage compartment on the LH side.
 6. Proceed with the refinish process following Ford-approved paint recommendations.
-

Torque Specifications

Description	Nm	lb-ft	lb-in
Body mount bolts (all others)	48	35	--
Brake caliper bolts	32	24	--
Engine mount nuts	90	66	--
Front end body mount bolts	55	41	--
Intermediate shaft bolt	30	22	--
Lower control arm rear mounting bolts	90	66	--
No. 2 crossmember bolts	250	184	--
No. 2 crossmember bracket bolts	103	76	--
No. 2 crossmember bracket nuts	200	148	--
Outer tie-rod end nuts	80	59	--
Stabilizer bar link nuts	63	46	--
Steering gear nuts	103	76	--
Steering gear studs	20	--	177

Frame and Body Mounting

Item	Part Number	Description
1	W709224	Front end body mount bolts
1	5400155	Front end body mount (lower)
1	5400396	Front end body mount (upper)
2	5C155	Bolt And Grommet Asy
2	5400396	Body support mount No. 1 (upper)
3	5C155	Bolt And Grommet Asy
3	5400396	Body support mount No. 2 (upper)
4	5C155	Bolt And Grommet Asy
4	5400396	Body support mount No. 3 (upper)
5	5C155	Bolt And Grommet Asy
5	5400396	Body support mount No. 4 (upper)
6	5C155	Bolt And Grommet Asy
6	5400396	Body support mount No. 5 (upper)
7	5C155	Bolt And Grommet Asy
7	5400396	Body support mount No. 6 (upper)

NOTE: For torque specifications, refer to the specifications table in this section.

The frame is bolted to the body and is used to:

- aid in structural support.
- provide mounting surfaces for the rear of the front suspension control arms.
- support the radiator.
- provide a mounting point for the front stabilizer bar.
- provide a mounting point for the No. 2 and No. 3 crossmembers.

The front No. 2 crossmember is bolted to the frame and is used to:

- aid in structural support.
- provide mounting surfaces for the front suspension control arms.

- provide a mounting point for the engine mounts.

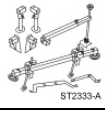

The No. 3 crossmember is bolted to the frame and is used to:

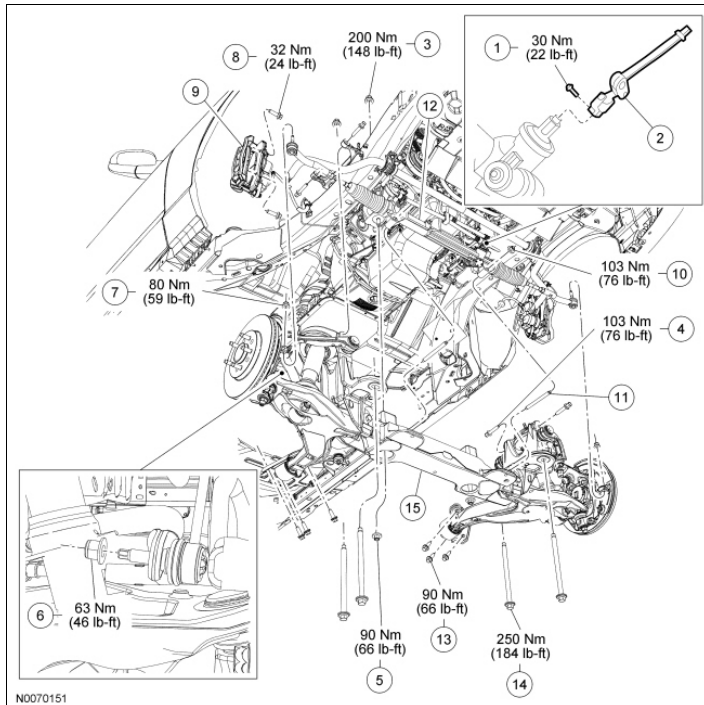
- aid in structural support.
- provide mounting surfaces for the rear transmission support insulator.

For body misalignment and checking, refer to Section 501-35 . Before welding is carried out on the vehicle, refer to Section 501-35 . For frame repair, refer to Section 501-35 .

Crossmember -- Number 2

Special Tool(s)

	Support Bar, Engine 303-F072
	Support Bar, Engine 303-639



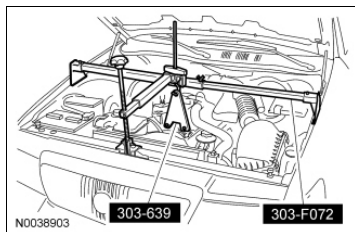
Item	Part Number	Description
1	N808349	Intermediate shaft bolt
2	3B676	Intermediate shaft
3	N804431	Crossmember bracket nut (4 required)
4	W709882	Crossmember bracket bolt (4 required)
5	W707492	Engine mount nut (2 required)
6	W520213	Stabilizer bar link nut (2 required)
7	W520214	Outer tie-rod end nut (2 required)
8	2N386	Brake caliper bolt (4 required)
9	2B120 RH/ 2B121 LH	Brake caliper (2 required)
10	W707492	Steering gear nut (2 required)
11	W707972	Steering gear stud (2 required)

12	3504	Steering gear
13	W708601	Lower control arm rear mounting bolt (6 required)
14	W707968	No. 2 crossmember bolt (4 required)
15	5C145	No. 2 crossmember

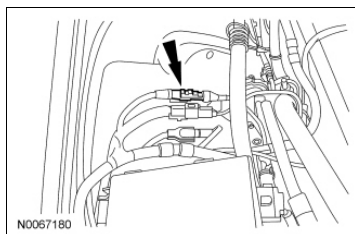
Removal

NOTICE: Suspension fasteners are critical parts because they affect the performance of vital components and systems and their failure can result in major repair expense. A new part with the same part number must be installed if installation is necessary. Do not use a new part of lesser quality or substitute design. Torque values must be used as specified during reassembly to make sure of correct retention of these parts.

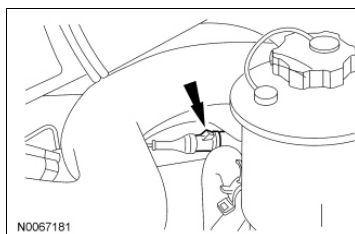
1. Remove the generator. For additional information, refer to [Section 414-02](#) .
2. Remove the 3 pin-type retainers and the radiator sight shield.
3. Install the Engine Support Bars.



4. Disconnect the RH ABS electrical connectors.



5. Disconnect the LH ABS electrical connectors.



6. **⚠ WARNING:** Before servicing a vehicle equipped with a fire suppression system, depower the system by following the procedure in [Section 419-03](#) . Failure to follow the instructions may result in serious personal injury.

⚠ WARNING: Shut off the electrical power to the air suspension system prior to hoisting or jacking an air suspension equipped vehicle. Failure to do so may result in unexpected inflation or deflation of the air springs, which may result in shifting of the vehicle during these operations. Failure to follow this instruction may result in serious personal injury.

Remove the LH and RH front wheel and tire assemblies. For additional information, refer to [Section 204-04](#).

7. **NOTICE:** Do not allow the intermediate shaft to rotate while it is disconnected from the steering gear or damage to the clockspring may result. If there is evidence that the intermediate shaft has rotated, the clockspring must be removed and recentered. For additional information, refer to [Section 501-20B](#).

Remove the bolt and detach the intermediate shaft from the steering gear.

8. Remove the 2 nuts and the 2 bolts from the LH No. 2 crossmember bracket and the 2 nuts and the 2 bolts from the RH No. 2 crossmember bracket.
- Separate the No. 2 crossmember brackets from the crossmember.

9. Raise and support the vehicle.

10. Remove the 2 engine mount nuts.

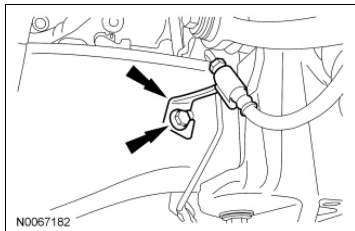
11. **NOTE:** The hex-holding feature can be used to prevent turning of the stud while removing the nut.

Remove the 2 nuts and disconnect the LH and RH stabilizer bar links.

12. **NOTE:** The hex-holding feature can be used to prevent turning of the stud while removing the nut.

Remove the 2 nuts and disconnect the LH and RH outer tie-rod ends.

13. Remove the 2 bolts and position the LH and RH brake hose and brackets assemblies aside.

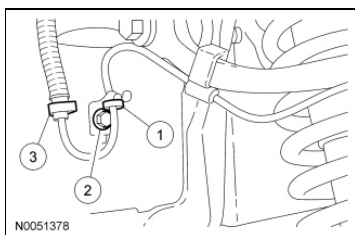


14. Remove the 4 bolts and position the LH and RH brake calipers aside.

- Support the brake calipers away from the No. 2 crossmember.

15. Position the front LH and RH ABS harness aside.

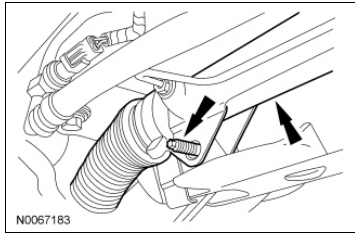
1. Release the 2 ABS harnesses from the support bracket.
2. Remove the 2 bolts and the brackets.
3. Remove the 2 harness retainers from the frame.



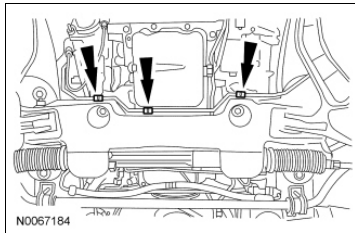
16. Remove the 2 steering gear nuts.

17. Remove the 2 studs and position the steering gear aside.

- Support the steering gear away from the No. 2 crossmember.



18. Release the brake line from the retaining clips at the rear of the No. 2 crossmember.



19. Lower the vehicle.
20. Using the engine support bar, raise the engine to remove the engine weight from the No. 2 crossmember.
21. Raise and support the vehicle.
22. Remove the 3 LH lower control arm and 3 RH lower control arm rear mounting bolts.
23. Position a suitable support table under the No. 2 crossmember.
24. Remove the 4 No. 2 crossmember bolts.
25. Lower and remove the No. 2 crossmember assembly.

Installation

1. **NOTE:** Position the sway bar and the rear bushing plates into place as the No. 2 crossmember is being raised.

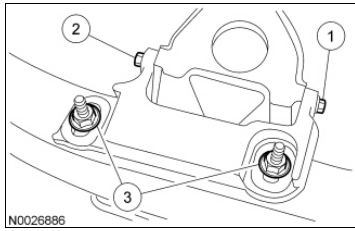
Raise and position the No. 2 crossmember assembly.

2. Install the 4 No. 2 crossmember bolts.
 - Tighten to 250 Nm (184 lb-ft).
3. Position the LH and RH No. 2 crossmember brackets.
4. Remove the support table.
5. **NOTICE:** The bolts must be tightened in the sequence shown or damage to the crossmember bracket may occur.

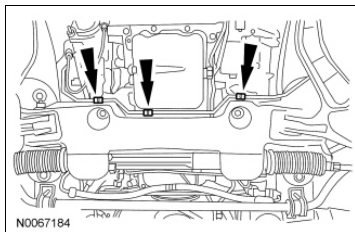
Install the LH and RH No. 2 crossmember bracket nuts and bolts.

1. Tighten the rear bolt.

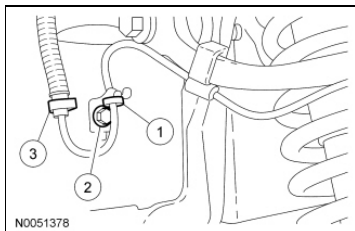
- ◆ Tighten to 103 Nm (76 lb-ft).
- 2. Tighten the front bolt.
 - ◆ Tighten to 103 Nm (76 lb-ft).
- 3. Tighten the nuts.
 - ◆ Tighten to 200 Nm (148 lb-ft).



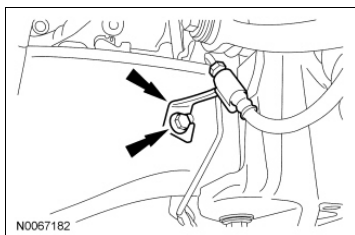
- 6. Install the 3 LH lower control arm and 3 RH lower control arm rear mounting bolts.
 - Tighten to 90 Nm (66 lb-ft).
- 7. Position the brake line into the retaining clips at the rear of the No. 2 crossmember.



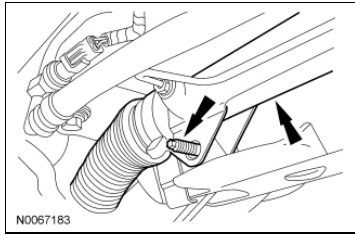
- 8. Install the LH and RH ABS harness.
 - 1. Install the 2 harness retainers into the frame.
 - 2. Install the 2 brackets and bolts.
 - 3. Install the 2 ABS harnesses into the support brackets.



- 9. Position the LH and RH brake calipers and install the 4 bolts.
 - Tighten to 32 Nm (24 lb-ft).
- 10. Position the LH and RH brake hose and brackets and install the 2 bolts.



- 11. Position the steering gear and install the 2 steering gear studs.
 - Tighten to 20 Nm (177 lb-in).



12. Install the 2 steering gear nuts.
 - Tighten to 103 Nm (76 lb-ft).

13. **NOTE:** The hex-holding feature can be used to prevent turning of the stud while installing the nut.

Position the LH and RH stabilizer bar links and install the 2 nuts.

- Install new nuts.
- Tighten to 63 Nm (46 lb-ft).

14. **NOTE:** The hex-holding feature can be used to prevent turning of the stud while installing the nut.

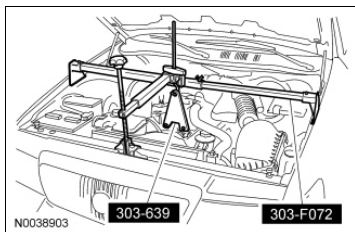
Position the LH and RH tie-rod ends and install the 2 nuts.

- Install new nuts.
- Tighten to 80 Nm (59 lb-ft).

15. Lower the vehicle.

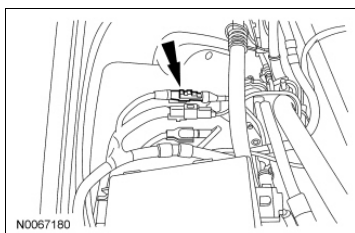
16. Connect the intermediate shaft to the steering gear and install the bolt.
 - Tighten to 30 Nm (22 lb-ft).

17. Remove the Engine Support Bars.



18. Install the LH and RH front wheel and tire assemblies. For additional information, refer to [Section 204-04](#).

19. Connect the RH ABS electrical connectors.



20. Connect the LH ABS electrical connectors.