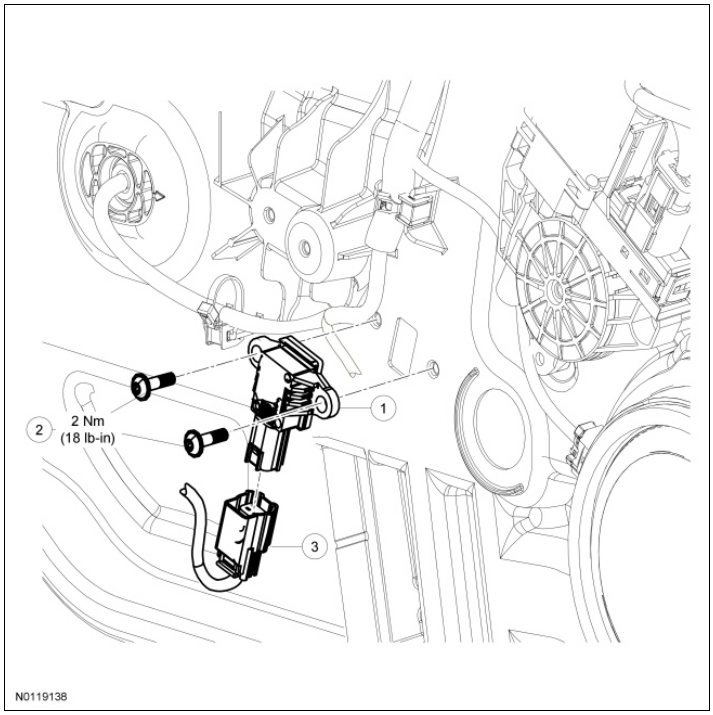
Side Impact Sensor - Front Door

NOTE: LH shown, RH similar.



Item	Part Number	Description
1	14B345	Side impact sensor
2	W506964	Side impact sensor bolts
3	-	Side impact sensor electrical connector (part of 14631)

Removal and Installation

⚠ WARNING: If a vehicle has been in a crash, inspect the restraints control module (RCM) and the impact sensor (if equipped) mounting areas for deformation. If damaged, restore the mounting areas to the original production configuration. A new RCM and sensors must be installed whether or not the air bags have deployed. Failure to follow these instructions may result in serious personal injury or death in a crash.

NOTE: The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition is ON.

NOTE: The Supplemental Restraint System (SRS) must be fully operational and free of faults before releasing the vehicle to the customer.

1. Remove the front door trim panel. For additional information, refer to Section 501-05 .

2. Depower the SRS . For additional information, refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of this section.

3. Slide the locking wedge back and disconnect the side impact sensor electrical connector.

4. Remove the 2 bolts and the side impact sensor.
    - To install, tighten to 2 Nm (18 lb-in).

5. ⚠ **WARNING: Always tighten the fasteners of the restraints control module (RCM) and impact sensor (if equipped) to the specified torque. Failure to do so may result in incorrect restraint system operation, which increases the risk of personal injury or death in a crash.**

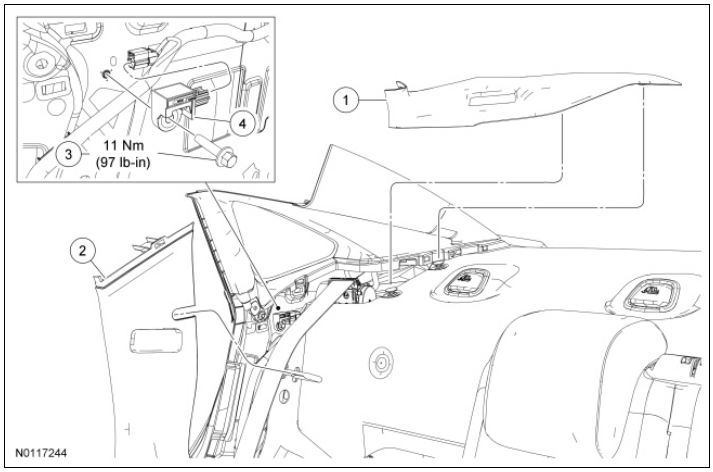
   NOTE: Make sure the door sheet metal and side impact sensor mating surfaces are clean.

   To install, reverse the removal procedure.

6. Repower the SRS . For additional information, refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of this section.

Side Impact Sensor - Second Row, 4-Door Sedan

NOTE: RH shown, LH similar.



Item	Part Number	Description
1	5446808 RH / 5446809 LH	Upper parcel shelf trim panel
2	5431012 RH / 5431013 LH	Lower C-pillar trim panel
3	W505256	Side impact sensor bolt
4	14B004	Side impact sensor

⚠ WARNING: If a vehicle has been in a crash, inspect the restraints control module (RCM) and the impact sensor (if equipped) mounting areas for deformation. If damaged, restore the mounting areas to the original production configuration. A new RCM and sensors must be installed whether or not the air bags have deployed. Failure to follow these instructions may result in serious personal injury or death in a crash.

NOTE: The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition is ON.

NOTE: The Supplemental Restraint System (SRS) must be fully operational and free of faults before releasing the vehicle to the customer.

1. Depower the SRS . For additional information, refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of this section.

2. Position the rear door opening weather-strip aside.

3. Pull to release the clips and position the upper parcel shelf trim panel aside.

4. Position the seat backrest down.

5. Position the lower C-pillar trim panel away enough to access the side impact sensor.
   - Pull to release the clips and locate the side impact sensor just below the quarter glass.

6. **⚠ WARNING: Always tighten the fasteners of the restraints control module (RCM) and impact sensor (if equipped) to the specified torque. Failure to do so may result in incorrect restraint system operation, which increases the risk of personal injury or death in a crash.**

NOTE: Make sure the C-pillar and side impact sensor mating surface is clean and free of foreign material.

Remove the bolt, disconnect the electrical connector and remove the side impact sensor.

- To install, tighten to 11 Nm (97 lb-in).

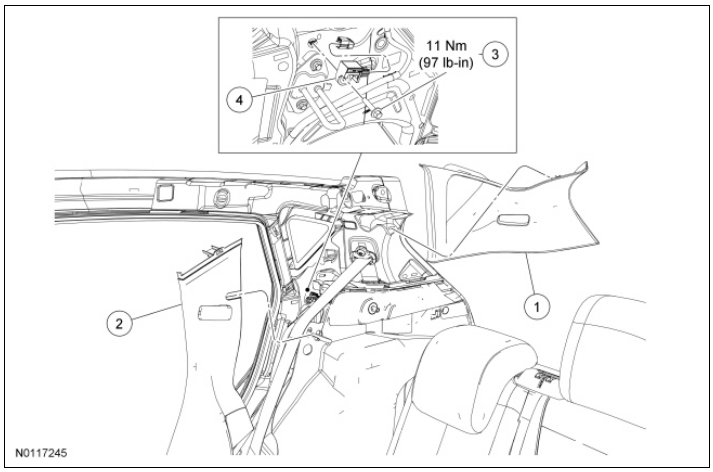
7. To install, reverse the removal procedure.

8. Repower the SRS . For additional information, refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of this section.

Side Impact Sensor - Second Row, 5-Door Hatchback

Removal and Installation

NOTE: RH shown, LH similar.



Item	Part Number	Description
1	5852018 RH / 5852019 LH	Upper quarter trim panel
2	5431012 RH / 5431013 LH	Lower C-pillar trim panel
3	W505256	Side impact sensor bolt
4	14B004	Side impact sensor

⚠ WARNING: If a vehicle has been in a crash, inspect the restraints control module (RCM) and the impact sensor (if equipped) mounting areas for deformation. If damaged, restore the mounting areas to the original production configuration. A new RCM and sensors must be installed whether or not the air bags have deployed. Failure to follow these instructions may result in serious personal injury or death in a crash.

NOTE: The air bag warning indicator illuminates when the correct Restraints Control Module (RCM) fuse is removed and the ignition is ON.

NOTE: The Supplemental Restraint System (SRS) must be fully operational and free of faults before releasing the vehicle to the customer.

1. Depower the SRS . For additional information, refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of this section.

2. Position the door opening weather-strip aside.

3. Pull to release the clips and position the upper quarter trim panel aside.

4. Position the seat backrest down.

5. Position the lower C-pillar trim panel away enough to access the side impact sensor.
   - Pull to release the clips and locate the side impact sensor just below the quarter glass.

6. ⚠ **WARNING: Always tighten the fasteners of the restraints control module (RCM) and impact sensor (if equipped) to the specified torque. Failure to do so may result in incorrect restraint system operation, which increases the risk of personal injury or death in a crash.**

   NOTE: Make sure the C-pillar and side impact sensor mating surface is clean and free of foreign material.

   Remove the bolt, disconnect the electrical connector and remove the side impact sensor.

   - To install, tighten to 11 Nm (97 lb-in).

7. To install, reverse the removal procedure.

8. Repower the SRS . For additional information, refer to Supplemental Restraint System (SRS) Depowering and Repowering in the General Procedures portion of this section.

Material

Item	Specification	Fill Capacity
Clear Silicone Rubber TA-32	ESB-M4G92-A	-
Metal Bonding Adhesive TA-1	-	-
Motorcraft® Acid Neutralizer ZC-1-A	-	-
Motorcraft® Alkaline Neutralizer ZC-2-A	-	-
3MTM Perfect-ItTM Show Car Liquid Wax 39026	-	-
Motorcraft® Detail Wash ZC-3-A	-	-
Motorcraft® Metal Surface Prep ZC-31-A	-	-
Premium Undercoating ValuGardTM VG101, VG101A (aerosol)	-	-
Rust Inhibitor ValuGardTM VG104, VG104A (aerosol)	-	-
Plastic Bonding Adhesive TA-9	-	-
Roof Ditch Sealer Fusor® 122EZ or equivalent, obtain locally	-	-
Seam Sealer TA-2	-	-
Trim and Weatherstrip Adhesive Permatex® 81850 or equivalent	-	-
Motorcraft® Ultra-Clear Spray Glass Cleaner ZC-23	ESR-M14P5-A	-

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

General Specifications -Welding Specifications

Item	Specification
Plug Weld Hole	8 mm (0.31 in)
Weld Wire ER70S-3 or equivalent	0.9-0.11 mm (0.035-0.045 in)

Weld Nugget Chart

Test Thickness of Metal (mm)	Nugget Size
0.7 + 0.7	4.3 mm (0.16 in)
0.7 + 0.7 + 0.7	4.3 mm (0.16 in)
0.9 + 0.9	4.7 mm (0.18 in)
0.9 + 0.9 + 0.9	4.7 mm (0.18 in)
1.0 + 1.0	5.2 mm (0.2 in)
1.0 + 1.0 + 1.0	5.2 mm (0.2 in)
2.0 + 2.0	7.1 mm (0.27 in)
2.0 + 2.0 + 2.0	7.1 mm (0.27 in)
3.0 + 3.0	8.7 mm (0.34 in)
3.0 + 3.0 + 3.0	8.7 mm (0.34 in)
3.0 + 0.7	4.3 mm (0.16 in)
0.7 + 3.0 + 1.0	5.2 mm (0.2 in)
2.0 + 2.0 + 0.7	4.3 mm (0.16 in)
0.9 + 0.9 + 2.0	4.7 mm (0.18 in)
2.0 + 0.9 + 1.0	5.2 mm (0.2 in)
1.0 + 3.0 + 1.0	5.2 mm (0.2 in)
3.0 + 1.0 + 2.0	7.1 mm (0.27 in)
0.9 + 0.7 + 0.9	4.3 mm (0.16 in)

Descriptions of Ford Steel Families

Grade	Alloy Content	Heat Treatment	Typical Applications	Comments
Mild Steel, Bake Hardened, Solid Solution Strengthened	Low	Fully annealed/dead soft	Body panels (closures, floor pan, dash panel)	-
High-Strength Low Alloy (HSLA)	Low	Fully annealed/dead soft	Rails, structural members	Strengthened with fine particles and small grain size
Dual Phase	Medium (Manganese Silicon, Molybdenum Chromium)	Fully annealed/partially hardened	Rails, structural members	15-50% of structure is hard martensite
Ultra High Strength Steel (UHSS) (Martensitic, Boron)	Low	Fully hardened	Rocker reinforcements, door beams, bumper beams	100% of structure is hard martensite
Transformation Induced Plasticity Steel	High (Manganese, Phosphorous, Silicon, Aluminum)	Fully annealed/ partially hardened	To be determined	Complex microstructure for high strength and ductility

Ford Recommended Steel Repairability Matrix

Grade	Trade Descrip-tions	Welding Method			Cold Repairs	Use of Heat for Repair	Temp-erature Range	Max-imum Heat
		Metal Inert Gas (MIG)	Squeeze-Type Resist-ance Spot Welding (STRW)	MIG Braze				
Mild Steel	Mild	Yes	Yes	NA	Yes [a]	Yes	Up to 650°C (1,200°F)	90 sec. x 2
Laminate Steel	Quiet Steel	No	Yes	No	Yes [a]	NA	NA	NA
Bake Hardened	BH 180, BH210, BH 250, BH 280	Yes	Yes	Yes [b]	Yes [a]	Yes	Up to 650°C (1,200°F)	90 sec. x 2
Solid Solution Strength- ened	-	Yes	Yes	Yes [b]	Yes [a]	Yes	Up to 650° C (1,200°F)	90 sec. x 2
High- Strength Low Alloy (HSLA)	HSLA 250, HSLA 350, HSLA 550	Yes	Yes	Yes [b]	Yes [a]	Yes	Up to 650°C (1,200°F)	90 sec. x 2
		Yes	Yes	Yes [b]	Yes [a]	No	NA	NA

Dual Phase = 600 MPa Ultimate Tensile Strength	DP 500, DP 600							
Dual Phase = 600 MPa Ultimate Tensile Strength (particular to 780 and 980 grades) [c]	DP 700, DP 780, DP 900	Yes [d]	Yes	Yes [b]	No	No	NA	NA
Ultra High Strength Steel (UHSS) (Martens-itic, Boron) [e]	Boron	Yes [a]	Yes	Yes [b]	No	No	NA	NA
Transform- ation Induced Plasticity (TRIP) Steel	TRIP 590, TRIP 780, TRIP 980	NA	NA	NA	NA	NA	NA	NA

[a] Cold repairs can be performed if damage excludes kinks. May section only if approved procedure in workshop manual.
[b] MIG braze allowed for non-structural applications only.
[c] Dual phase steels DP 700, DP 780 and DP 980 must be replaced at factory joints, no sectioning unless approved procedure in workshop manual.
[d] For DP 980, use MIG plug welding only, no stitch welding.
[e] Boron components must be replaced at factory joints, no sectioning allowed.

Body

⚠ WARNING: Never install used or reconditioned parts (as specified below) from pre-owned, salvaged or damaged vehicles. The use of such parts could lead to serious injury.

Never use non-Ford parts or accessories for completing repairs.

Ford Motor Company does not approve or recognize body and structural repair procedures, tools, parts or anything but new genuine Ford equipment. Ford cannot attest to the safety, quality, durability or legality of non-Ford parts or accessories. Use of such parts could lead to serious personal injury as they may contain damage which is not visible.

Ford does not approve use of the following:

- Salvaged or used parts
- Major body clips or assemblies from salvage vehicles
- Aftermarket structural or body components
- Salvaged or reconditioned wheels
- Used supplemental restraint system (SRS) components
    - ♦ air bags
    - ♦ restraint system modules
    - ♦ safety belts, buckles or retractors
    - ♦ crash sensors

Returning a vehicle to pre-accident condition can only be assured if repair procedures are carried out by skilled technicians using new genuine Ford parts and Ford-approved methods. Structural component repair procedures approved by Ford, using genuine Ford parts, have been validated by Ford Motor Company engineers.

Ford Motor Company does not endorse, cannot attest to, and makes no representations regarding structural repairs (frames, rails, aprons and body panels) carried out using non-genuine Ford Motor Company parts or non-Ford-approved methods. In particular, Ford makes no representations that the vehicle will meet any crash safety or anti-corrosion performance requirement. Such parts and methods have not been tested by Ford, and may not meet Ford's requirements for safety, performance, strength, quality, durability and corrosion protection.

Ford Motor Company bears no responsibility or liability of any kind if repairs are performed using alternative structural component repair procedures and/or parts.

The body consists of the following:

- Four-door sedan
- Five-door hatchback
- Bolted, removable front fenders, hinged doors and hood
- Steel roof panel constructed of mild steel
- Steel hood constructed of dent-resistant steel
- Steel fenders constructed of dent-resistant steel
- Steel doors with outer door panels constructed of high-strength bake hardenable steel
- Steel luggage compartment lid constructed of dent-resistant steel
- Door panels on all models have sound deadener (mastic) applied
- Mastic and sound deadener material applied to floor pan interior and exterior