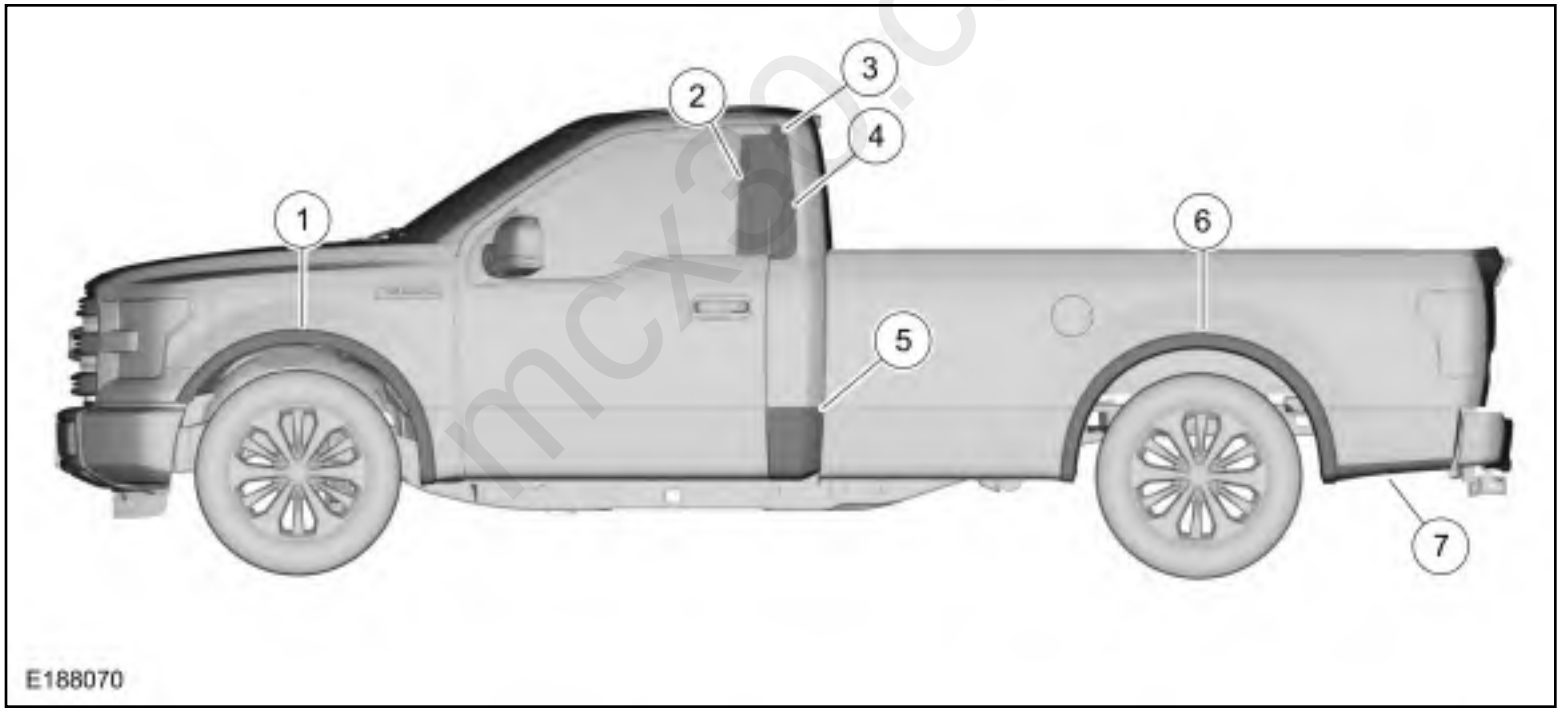
Plastic Repairs

Plastic Components

The following illustration is not all-inclusive of trim levels available. The actual trim level of the vehicle will determine the viability of carrying out a plastics repair. Typically components with moulded-in color or a textured finish are not considered repairable components.

Exterior Plastic Components

NOTE: *Regular cab shown, SuperCab and SuperCrew cab similar.*



Item	Description	Material
1	Front wheel opening trim	TPO (Thermoplastic Olefin)
2	Door applique	ASA (Acrylic Styrene Acrylonitrile)
3	Door opening panel trim cap	PC (Polycarbonite) + ABS (Acrylonitrile Butadine Styrene)

4	Door opening trim panel	TPO (Thermoplastic Olefin)
5	Cab corner trim	TPO (Thermoplastic Olefin)
6	Rear wheel opening trim	TPO (Thermoplastic Olefin)
7	Pickup box finisher	TPO (Thermoplastic Olefin)

Repair Considerations

Several considerations will determine viability of plastic repair procedure(s):

- Is the damage cosmetic or structural?
- Can the repair be carried out on the vehicle?
- Is the part readily available?
- Is component repair the most cost effective method?
- Will the repair provide for the fastest, highest quality repair?

Several types of plastic are in use for automotive application. However, all plastics will fall into 2 primary categories of thermoplastic or thermosetting plastic.

Thermosetting Plastic

Generally, thermosetting plastics are made with 2-part thermosetting resins. When mixed together, heat is generated, producing a cure that is irreversible. Because of this, thermosetting plastics will require the use of a 2-part adhesive for repair.

SMC (Sheet-Molded Composite):

- SMC (Sheet-Molded Composite) is a type of thermosetting plastic that uses glass fibers or nylon fibers in combination with thermosetting polyester resins. When fully cured, SMC (Sheet-Molded Composite) is strong and rigid.
- SMC (Sheet-Molded Composite) is similar to, but not identical to fiberglass. Ford Motor Company uses SMC (Sheet-Molded Composite) in components such as fenders, hoods and liftgates.

Thermoplastic Compounds

Thermoplastic compounds are manufactured by a process that is reversible. Thermoplastics can be remolded repeatedly by reheating. This characteristic of thermoplastics makes plastic welding a possible repair alternative. A repair of thermoplastic compounds is still possible through the use of a 2-part adhesive and filler repair materials and reinforcements as needed. Thermoplastics are widely used in

interior trim components, wheel flares, body side cladding and bumper covers.

Polyolefin

Polyolefins fall into the family of thermoplastics with one unique characteristic: an oily or waxy feel to the material when sanded or ground. Polyolefin lends itself very well to remolding through the use of heat. Because of this, components made of this material lend themselves well to the possibility of plastic welding. Most adhesive repair materials and paint will not bond to the surface of a polyolefin unless an adhesion promoter specially formulated for plastic is first applied to the exposed raw surface. Otherwise, polyolefins are repaired like most other thermoplastics. Polyolefins are used in bumper covers, fan shrouds and wheel housings.

Proper identification of the various types of plastic is necessary to select the appropriate repair method (s) to carry out high quality plastic repairs.
For additional information, refer to: Plastic Repairs (501-25 Body Repairs - General Information, General Procedures).
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