
BODY

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59.1 Information and Repair of Plastic Panel

1 Warning and Precautions

1.1 Warning

In order to avoid possible property loss, personal injury or death, please observe the following instructions before repair.

- (1) Use service materials in a well ventilated environment because the soot particles produced by the service materials are toxic.
- (2) Apply protective cream to exposed skin to prevent skin irritation.

1.2 Precautions

In order to avoid dangerous operation and damage to the vehicle, please observe the following instructions before repair.

- (1) Wear rubber gloves.
- (2) Wear protective glasses when using compressed air and sanding.
- (3) Immediately clear any mixture that contacts your skin because mixture solidifies quickly.
- (4) Wear dust boot and protective glasses when grinding or sanding.
- (5) Clean your skin with cold water to reduce the slight irritation of resin dust on your skin.
- (6) Avoid service materials sticking to your clothes.
- (7) After using, close all service material containers. Dust or moisture will pollute service materials and reduce service effect.

2 System Overview

2.1 System Description

- The materials of interior and exterior surface covering parts are modified PP, ABS, PC + ABS and PVC (-artificial leather materials), which are all thermoplastic plastics and its modified materials. The materials of interior and exterior non-surface covering parts also uses POM, PA and HDPE materials etc. Thermosetting plastic is mainly used as construction part in electronic appliance and safety component. Repairing thermoplastic part uses hot soldering iron plastic materials to fill the welding machine, but the common service uses replacement method. Thermosetting plastic can use epoxy resin or other harder two-component service materials. In this chapter, its service method is simply introduced while the service is not suggested.
- Thermosetting plastic refers to the plastic that can solidify or has insoluble (melting) characteristics under heating or other conditions, such as phenolic plastic, epoxy plastic, etc. Thermoplastic refers to the plastic that can be repeatedly heated, softened and cooled and hardened within a specific temperature range, such as polyethylene, polytetrafluoroethylene, etc. Thermoplastic and thermosetting plastics can be either hard plastic or soft plastic.

3 Inspection and Adjustment

3.1 Repair of Thermosetting Plastic Dent

■ Repair

Warning

- Wear rubber gloves.

- (1) Clean and dry the components to be repaired.
- (2) Heat the dent position with a hot air blower until the dent can be flattened with an appropriate tool.
- (3) Polish the dent area with abrasive paper/emery paper.
- (4) Then clean service area with cleaner and dry it out for 5 minutes.
- (5) Apply a thin layer of adhesive on it and dry it out for 10 minutes.

- (6) Fill the uneven surface with adhesive and smooth it with trowel.
- (7) Accelerate solidifying process with infrared lamp, adjust the temperature to 60 - 70 °C and heat it for 15 minutes.
- (8) Polish the dent area with abrasive paper.
- (9) Remove dust and debris.
- (10) Apply a thin layer of adhesive on it and dry it out for 10 minutes.
- (11) Restore paint surface according to the repairing procedure on paint surface of plastic parts.

3.2 Repair of Thermosetting Plastic Scratch

■ Repair

Warning

- **Wear rubber gloves.**

- (1) Clean and dry the components to be repaired.
- (2) Remove protruding materials with abrasive paper.
- (3) Then clean service area with cleaner and dry it out for 5 minutes.
- (4) Apply a layer of adhesive on it and dry it out for 10 minutes.
- (5) Fill the uneven surface with adhesive and smooth it with trowel.
- (6) Accelerate solidifying process with infrared lamp, adjust the temperature to 60 - 70 °C and heat it for 15 minutes.
- (7) Polish the dent area with abrasive paper.
- (8) Remove dust and debris.
- (9) Apply a thin layer of adhesive on it and dry it out for 10 minutes.
- (10) Restore paint surface according to the repairing procedure on paint surface of plastic parts.

3.3 Repair of Thermosetting Plastic Crack (The Length is Less Than 100 mm)

■ Repair

Warning

- **Wear rubber gloves.**

- (1) Clean and dry the components to be repaired.
- (2) Chisel crack end for 5 mm and polish crack to V-shape to internal stress and protruding area.
- (3) Then clean service area with cleaner and dry it out for 5 minutes.
- (4) Apply a layer of adhesive on it and dry it out for 10 minutes.
- (5) Stick reinforcing tape to the back of service part with adhesive and overlap the damaged part for at least 20 mm.
- (6) Accelerate solidifying process with infrared lamp, adjust the temperature to 60 - 70 °C and heat it for 15 minutes.
- (7) Fill the front part of crack with adhesive and smooth it with trowel.
- (8) Accelerate solidifying process of the front part of crack with infrared lamp.
- (9) Polish the dent area with abrasive paper.
- (10) Apply a thin layer of adhesive on it and dry it out for 10 minutes.
- (11) Remove dust and debris.
- (12) Apply a layer of adhesive on it and dry it out for 10 minutes.
- (13) Restore paint surface according to the repairing procedure on paint surface of plastic parts.