

SECTION 6

FRAME DOOR OPENING, DOOR AND SIDE
PANEL OUTER

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1-2. REPAIR PROCEDURE

1. Remove the related parts.

- Doors.
- Weather strips, pillar trims and related parts.
- Carpet.
- Seat belt assembly
- Door switch and wiring harness.
- Fuel pipe and brake oil pipe.
- Other related parts.

Note : Pull out and straighten the damaged area to approximately the original shape.

2. Remove the related parts.

- Damage may extend to the inner roof frame, the inner frame door opening and the floor. Determine the extent of the damage first, so the frame can be pulled out properly.

Note : Use heat-resistant protective cover for protect painting areas, seats, carpets and other parts.

- Pull out and straighten the damaged areas.
- Do not pull out more than necessary.

3. Cut and pry off the frame door opening.

- Check the damage on the frame door opening, then cut the new frame door opening so it will overlap by 30mm(1.18in.) in the pillar, front and rear.
- Cut the damaged area with a hand saw along the bold line as shown.

Note : Be careful not to cut the inner panel. This could result in extensive repair.

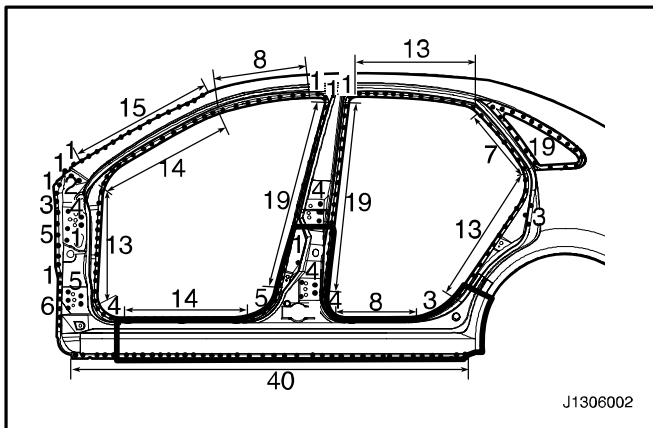


Fig. 2

- If the damage involves part of the center pillar, cut them as shown.

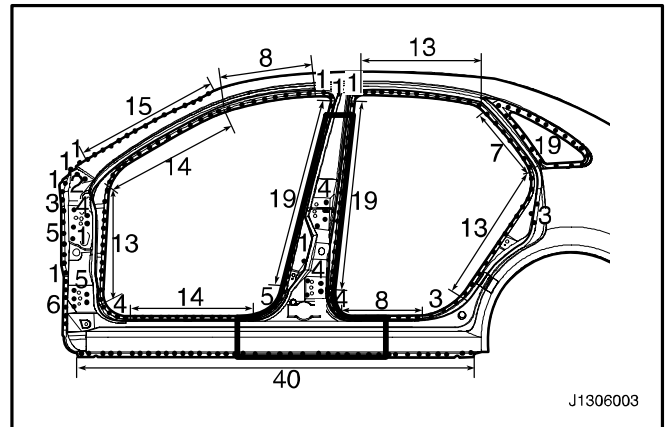


Fig. 3

- Center punch around the spot weld imprints on the welded flange.
- Use the special spot cutter to drill holes at the spot weld nuggets.

Note : When drilling holes be careful not to drill down to the inner panel..

- Pry off the frame door opening panel with an air chisel, leaving the welding flanges intact.

CAUTION : To prevent eye injury, wear goggles or safety glasses whenever sanding, cutting, or grinding.

4. Mold damaged related parts.

- Fill any holes drilled by welding.

CAUTION : To prevent eye injury and burns when welding, wear an approved welding helmet, gloves and safety shoes.

- Use a hammer and dolly to mold damaged areas of the remaining inner panel and even out the welding flanges.
- Level and finish the burrs from the pried off spot welds with disc sander.
- Sand off the paint and undercoat from both sides of the flange to be welded.

5. Set the new frame door opening.

- Grind both sides of the welding section of the prepared frame door opening part with a disk sander to remove the paint and expose the steel plate.
- Clamp the new panel in place with the vise grips.
- Tack weld the clamped section for temporary installation.

CAUTION : To prevent eye injury and burns when welding, wear an approved welding helmet, gloves and safety shoes.

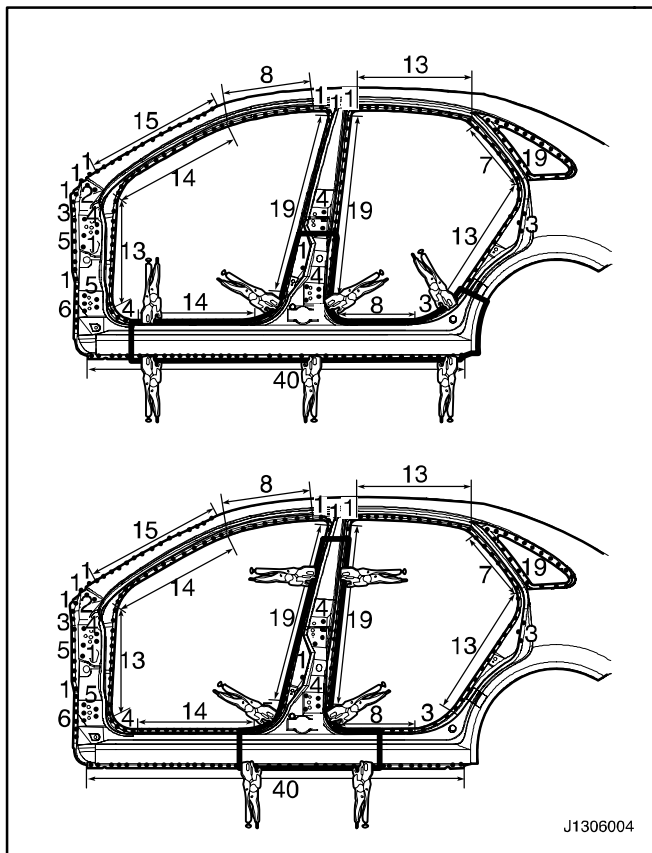


Fig. 4

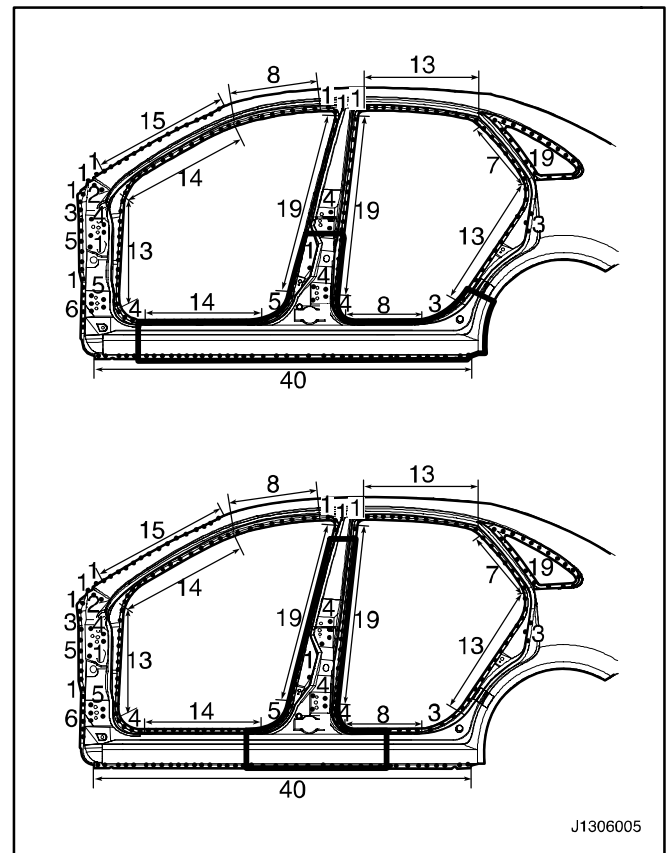


Fig. 5

- Remove the vise grips and temporarily install the fender and doors, then check the clearances, level differences and outer appearance.
6. Perform the main welding.

- Weld the front, rear frame door opening and center pillar at the butt joints with a gas or MIG welder.
- Spot weld the frame door opening and center pillar as shown.

CAUTION : To prevent eye injury and burns when welding, wear an approved welding helmet, gloves and safety shoes.

- Perform a trial welding first, and check the welding condition.
- Increase the number of spot by 20% for areas to be spot welded.

7. Finish the welding areas.

- Level the gas or MIG welded areas with a disc sander, then even out high areas with a hammer being careful not to deform them.

CAUTION : To prevent eye injury, wear goggles or safety glasses whenever sanding, cutting, or grinding.

- Use a hammer and dolly to even out the spot welded flanges for a close fit with the surface of the frame door opening panel.
 - Fill in deformations and level differences of the welded areas with solder or putty, then finish.
8. Apply the sealer.

- Apply the sealer to the matching surfaces of the floor and frame door opening.
9. Apply the undercoat.

- Undercoat to the front floor.
10. Apply the paint.

CAUTION

- Ventilate when spraying paint. Most paint contains substances that are harmful if inhaled or swallowed. Read the paint label before opening paint container.
- Avoid contact with skin. Wear an approved respirator, gloves, eye protection and appropriate clothing when

painting.

- Paint is flammable. Store in a safe place, and keep it away from sparks, flames or cigarettes.

11. Coating the anti-rust agents.

- Coating the anti-rust agents to the inside of frame door opening areas sufficiently.

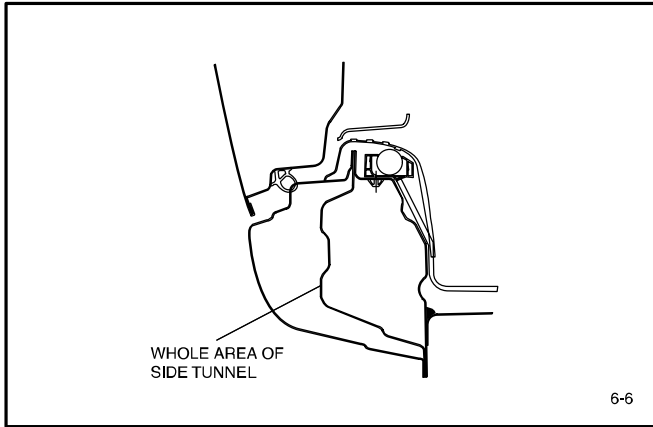


Fig. 6

12. Install the related parts.

- Clean the passenger compartment.
- Wiring harness and related parts.
- Seat belt assembly and carpet.
- Trims and weather strips.
- Door and others.
- Install in the reverse order in which they were removed.

13. Check and adjust.

- Check clearances and level differences.
- Check the door locking and unlocking condition.
- Check for water leaks in the passenger compartment.

2. DOOR

2-1. REPAIR PROCEDURE

1. Remove the related parts.

- Door trim and related parts.
- Wiring harness and solenoid valve.
- Glass and window lifter.
- Linkage, lock set and handle.
- Others.

Note : Inspection and choose the usable parts.

2. Remove the door.

- Remove the bolt from door check hinge(1) and remove the four bolts from door assembly(2).

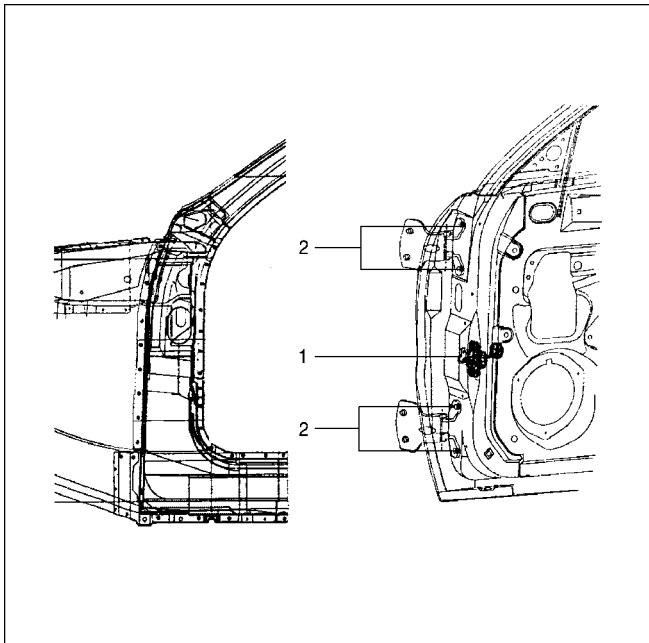
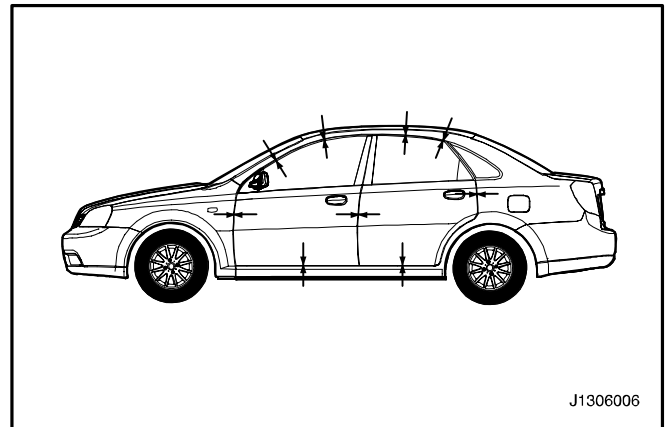


Fig. 7

3. Preparation of the new door.

- Preparation of the new door and check damaged areas.
4. Preinstall the door.
- Fix the four bolts.
 - Check and adjust the clearances and level differences of doors, fender, pillar, roof and side panel outers.



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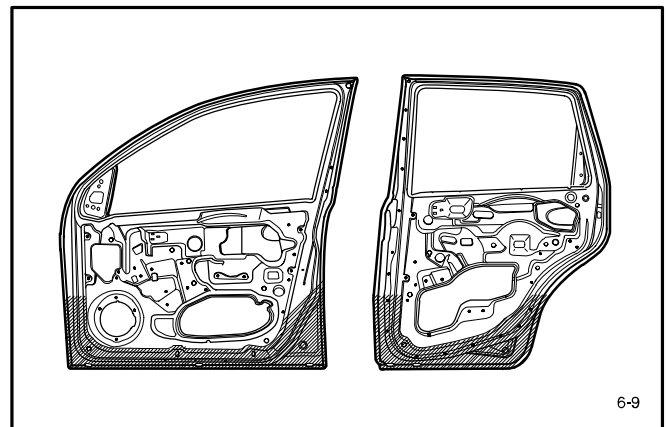
Fig. 8

- Check any deformation.
5. Remove the new door.

- Remove the four bolts from door assembly.
6. Apply the paint.

CAUTION

- Ventilate when spraying paint. Most paint contains substances that are harmful if inhaled or swallowed. Read the paint label before opening paint container.
 - Avoid contact with skin. Wear an approved respirator, gloves, eye protection and appropriate clothing when painting.
 - Paint is flammable. Store in a safe place, and keep it away from sparks, flames or cigarettes.
7. Coating the anti-rust agents.
- Coating the anti-rust agents to the inside of bottom areas.



6-9

Fig. 9

8. Install the door.

- Install the door with four bolts.
- Install the door check link set in the door and fix the bolt.
- Check clearances and level differences.

9. Install the related parts.

- Handle, linkage and lock set.

- Glass and window lifter.
- Solenoid valve and wiring harness.
- Install door trim and others.

Note : Before install the door trim and related parts, rub in grease to the moving parts and check all operation.

10. Check and adjust.

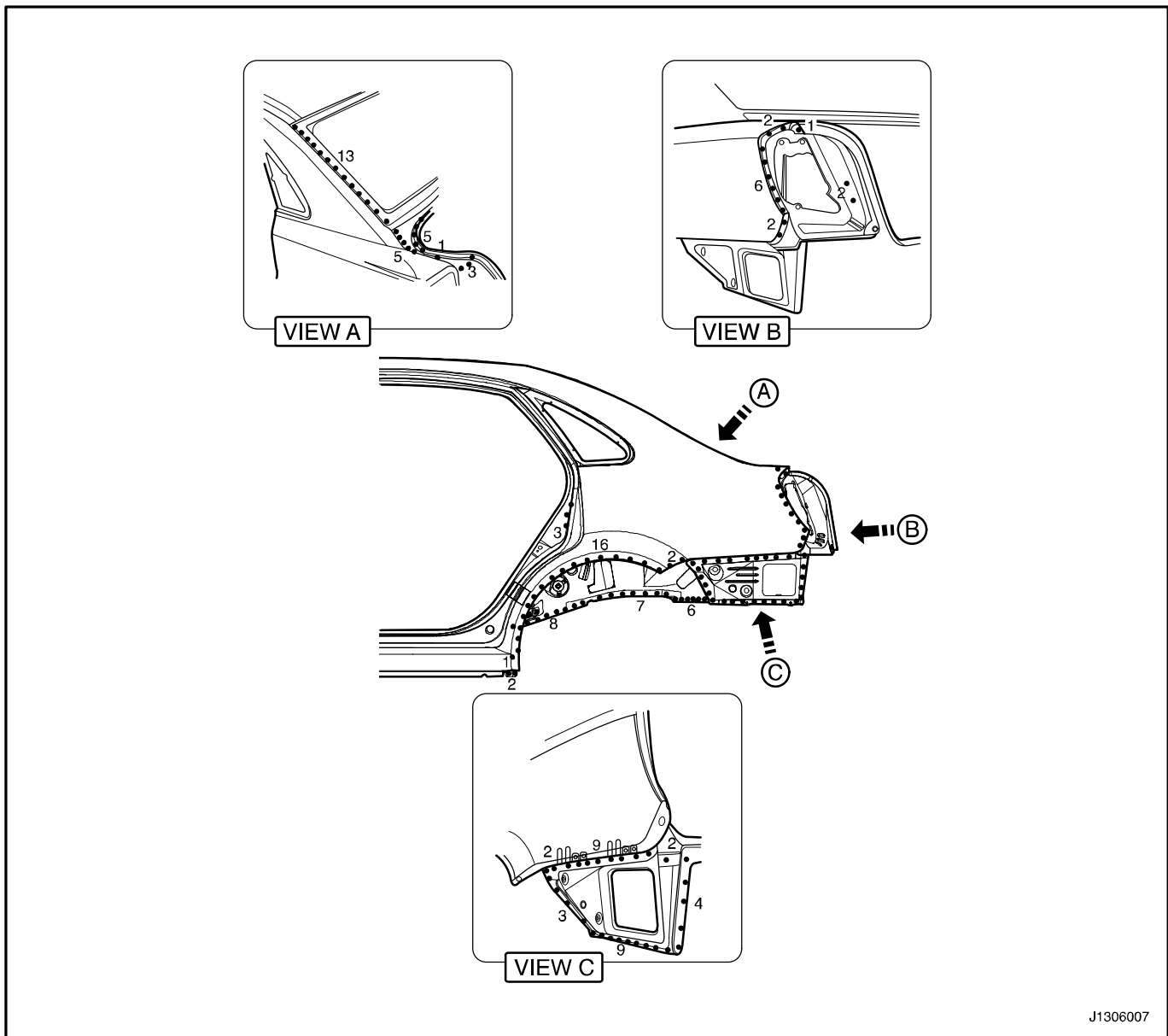
- Check clearance and level differences.
- Check the door locking and unlocking condition.
- Check for water leaks in the passenger compartment.
- Install door trim and others.

3. SIDE PANEL OUTER

3-1. GENERAL DESCRIPTION

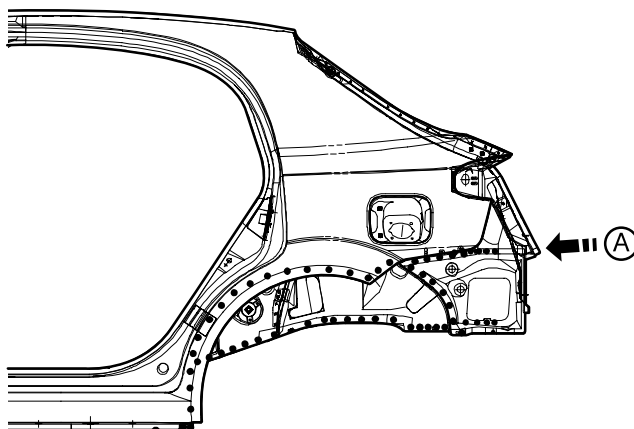
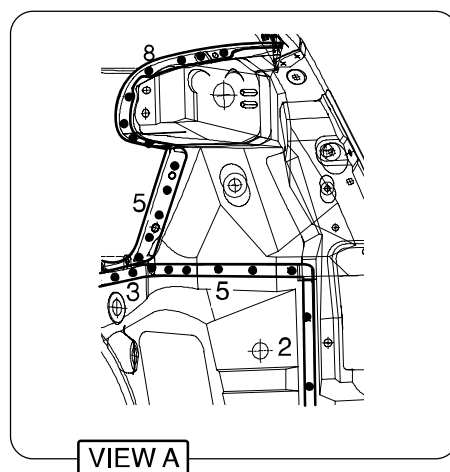
The side panel outer consists of side outer area and frame door area. The side outer area is a conspicuous part of the outer appearance of the vehicle. It is espe-

cially important for the body line continuing from door. Therefore, pay particular attention to it when conducting work. This part must be aligned with the rear door, trunk lid, rear glass and other parts.



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Fig. 10 Side Panel Outer Welding Assembly (NOTCHBACK)



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Fig. 11 Side Panel Outer Welding Assembly (HATCHBACK)

3-2. REPAIR PROCEDURE

1. Remove the related parts.

- Rear and trunk trims.
- Rear combination lamps and wiring harness.
- Rear bumper and related parts.
- Rear seat and rear seat belt.
- Chassis and fuel parts.
- Other related parts.

CAUTION : Do not smoke while working near the fuel system. Keep open flame away from the fuel system. If necessary, remove the fuel tank and off lines.

2. Pull out and straighten the damaged area to approximately the original shape.

- Attach the car to the frame straightener by tightening the underbody clamps at the four designated support points.
- Before cutting off the damaged sections, pull them out so that they are restored to the original shape.
- Do not pull out more than necessary.
- Pull out and straighten the damaged areas of the rear side outer panel, side inner panel and wheelhouse inner.

Note : Check the rear door locking and unlocking condition.

3. Cut and pry off the side panel outer.

- Cut at the rear pillar and side outer(rear side of frame door opening) along the bold lines as shown with a hand-saw and snips carefully.

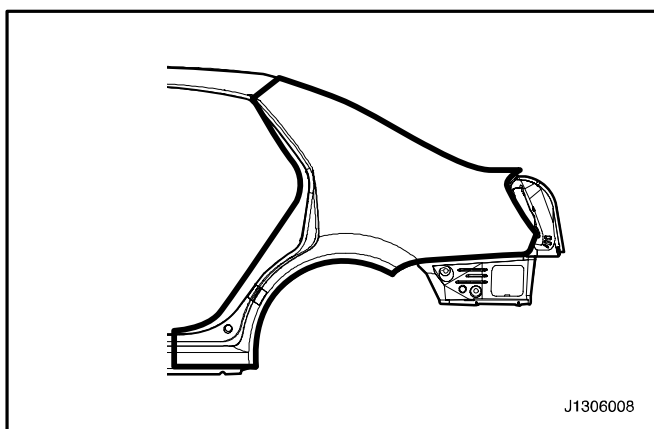


Fig. 12

- Center punch around the spot weld imprints with the rear panel, side panel inner and arch area.
- Use the special spot cutter to drill holes at the spot weld nuggets on the rear side outer panel.

Note : When drilling holes be careful not to drill down to the side panel inner and rear panel themselves.

- Cut the panel from the body with an air chisel, leaving the welding flanges at the side inner panel, wheelhouse inner and back panel intact.

- Level and finish the burrs from the pried off spot welds with a hammer, dolly and disc sander.

CAUTION : To prevent eye injury, wear goggles or safety glasses whenever sanding, cutting, or grinding.

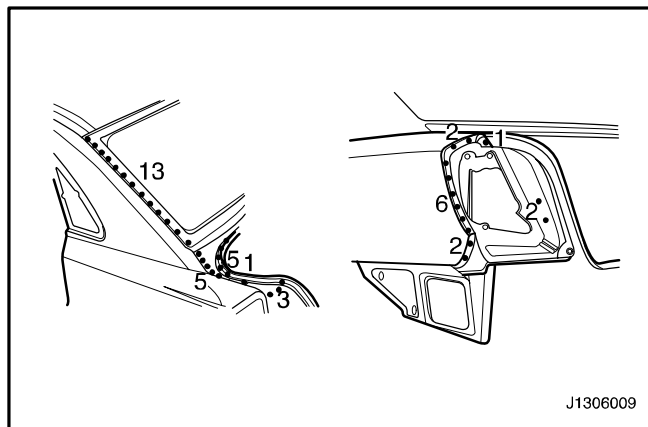


Fig. 13

4. Mold damaged related parts.

- Fill any holes drilled by welding.

CAUTION : To prevent eye injury and burns when welding, wear an approved welding helmet, gloves and safety shoes.

- Use a hammer and dolly to mold damaged areas of the remaining inner panel and even out the welding flanges.
- Sand off the paint and undercoat from both sides of the flange to be welded.

5. Set the new side panel outer.

- Cut the new side panel outer so it will overlap by 30mm(1.18in.) in the frame door opening area with a hand saw.

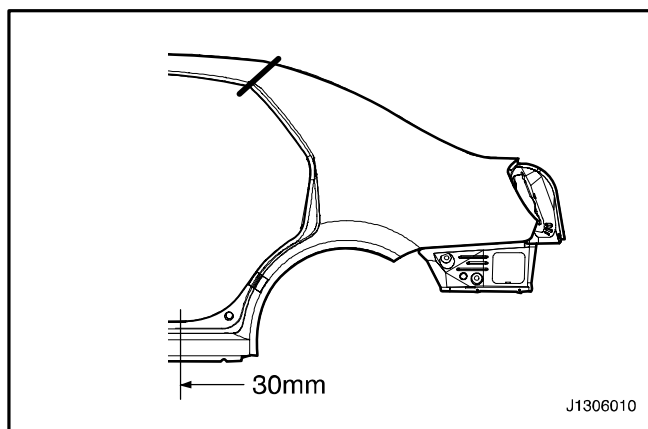


Fig. 14

- Grind both sides of the welding section of the prepared side panel outer with a disk sander to remove the paint and expose the steel plate.
- Clamp the new panel in place with the vise grips.

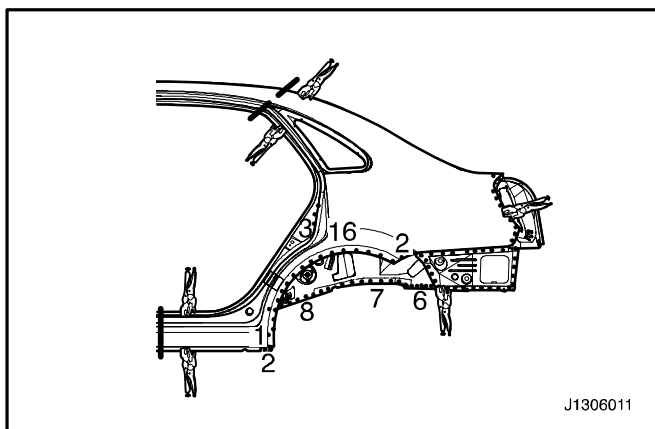


Fig. 15

- Tack weld the clamped section for temporary installation.

CAUTION : To prevent eye injury and burns when welding, wear an approved welding helmet, gloves and safety shoes.

- Remove the vise grips and temporarily install the trunk lid and doors, then check the clearances, level differences and outer appearance.

6. Perform the main welding.

- Weld the frame door opening area and pillar at the butt joints with a gas or MIG welder.
- Spot weld the flanges and wheel arch of the side panel outer as shown.

CAUTION : To prevent eye injury and burns when welding, wear an approved welding helmet, gloves and safety shoes.

- Perform a trial welding first, and check the welding condition.
- Increase the number of spot by 20% for areas to be spot welded.

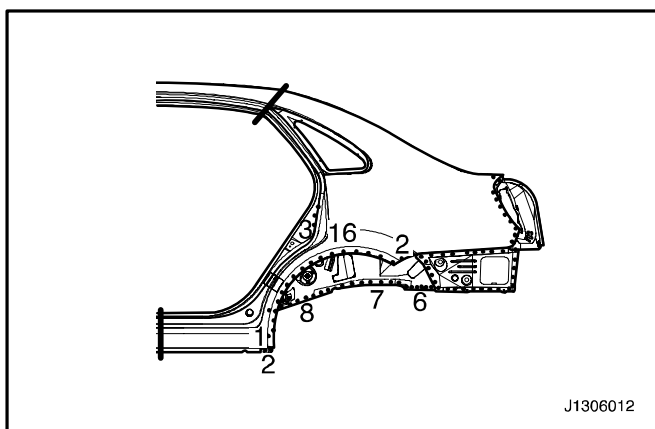


Fig. 16

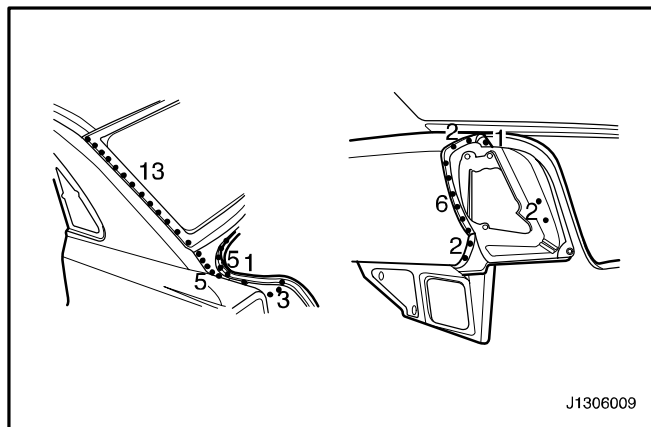


Fig. 17

7. Finish the welding areas.

- Level the gas or MIG welded areas with a disc sander, then even out high areas with a hammer being careful not to deform them.

CAUTION : To prevent eye injury, wear goggles or safety glasses whenever sanding, cutting, or grinding.

- Use a hammer and dolly to even out the spot welded flanges for a close fit with the surface of the side panel outer.
- Fill in deformations and level differences of the welded areas with solder or putty, then finish.

8. Apply the sealer.

- Apply the sealer to the matching surfaces of the web plate, back panel lower, rear combination lamp area and side panel outer.

9. Apply the undercoat.

- Undercoat to the rear wheelhouse and designated rear floor.

10. Apply the paint.

CAUTION

- Ventilate when spraying paint. Most paint contains substances that are harmful if inhaled or swallowed.
- Read the paint label before opening paint container.
- Avoid contact with skin. Wear an approved respirator, gloves, eye protection and appropriate clothing when painting.
- Paint is flammable. Store in a safe place, and keep it away from sparks, flames or cigarettes.

11. Coating the anti-rust agents.

- Coating the anti-rust agents to the inside of frame door opening areas sufficiently.

12. Apply the deadner.

- Apply the deadner to the inside of side panel outer center. (Left side only)

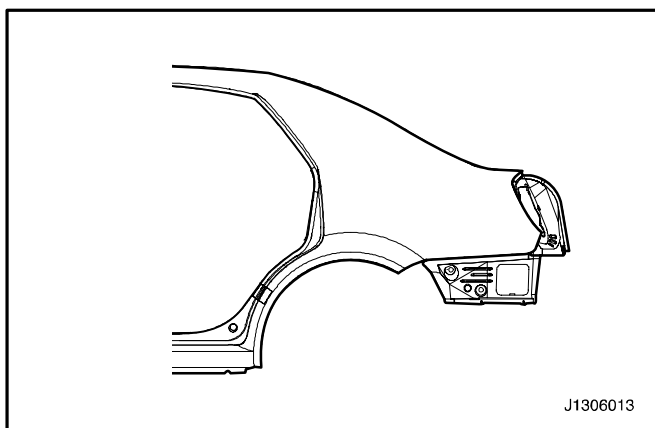


Fig. 18

13. Install the related parts.

- Clean the passengers compartment.
- Wiring harness and related parts.
- Seat belt assembly and carpet.
- Trims and weather strips.
- Door and others.
- Install in the reverse order in which they were removed.

14. Check and adjust.

- Check clearances and level differences.
- Check the door locking and unlocking condition.
- Check for water leaks in the passenger compartment.