

TRADE OF VEHICLE BODY REPAIR

PHASE 2

Module 3

UNIT: 6

Door Skinning



Produced by

SOLAS

An tSeirbhís Oideachais Leanúnaigh agus Scileanna
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Introduction

When repairing door panels even the smallest amount of stretching will show up on the almost flat surface of the door. To avoid this problem great care and skill are needed, for the basic repair of flat panels is more difficult than a similar repair on a curved panel. The first stage is to remove, where necessary, the interior door trim, window and lock mechanisms, depending on the location and severity of the damage suffered. In severe cases it is advisable to remove the door from the vehicle by releasing the bolts which hold the check straps and hinges, or if the hinge is welded, by knocking the hinge pin out. The door can now be examined with ease in order to decide on the method of repair. Manufacturers are now producing a wide variety of door skin panels. These replacement door panels will in some cases prove a quicker and less costly method of repair than the conventional repair using hand tools.

Unit Objective:

Door Skinning

By the end of this unit each apprentice will be able to:

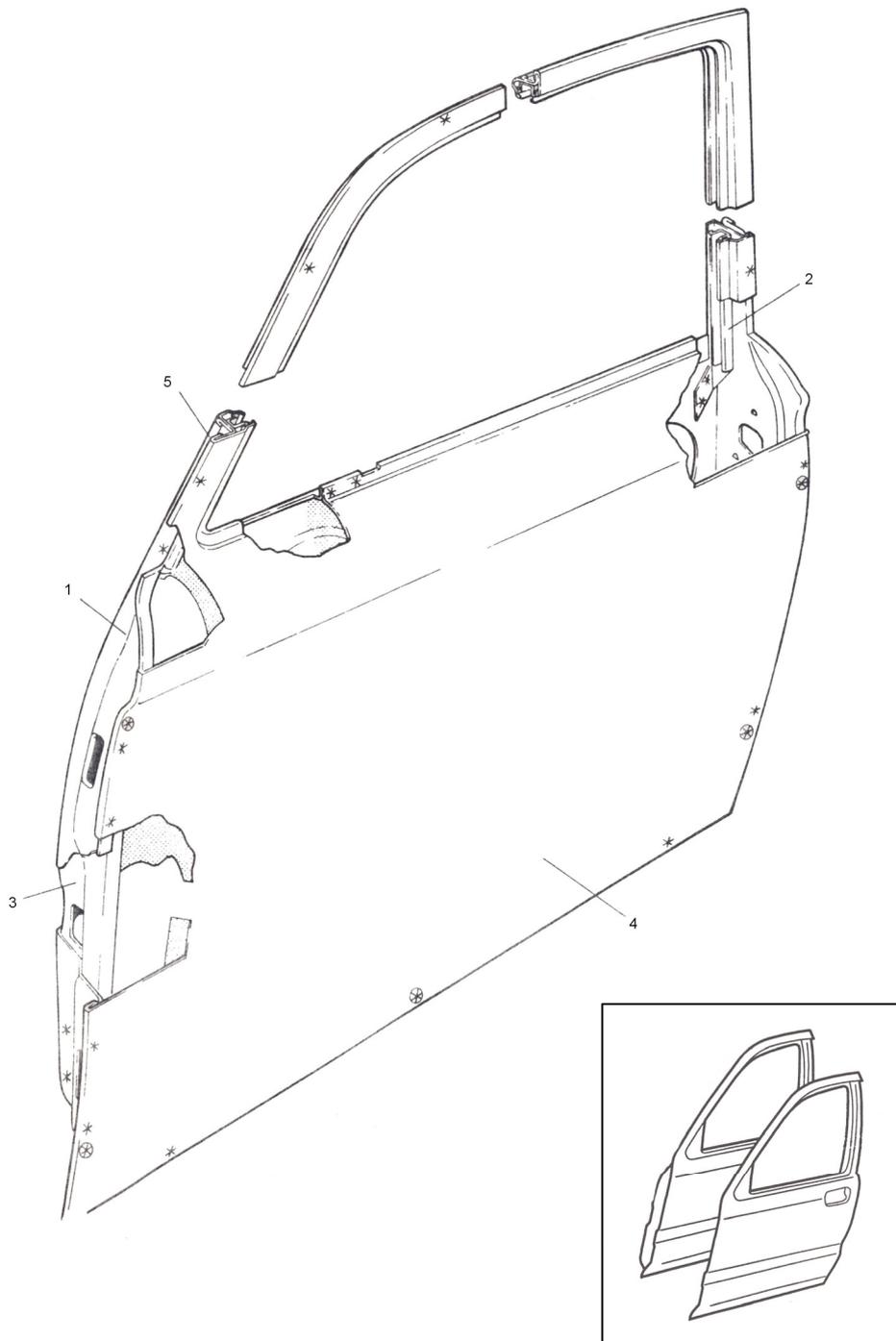
- Identify, at what stage a door may require a skin
- Remove door skin using a hand held grinder in a safe manner
- Install door skin frame, re-fit check contours, weld as necessary
- Select the correct anti-corrosion measures and fit deadening pads

Key Learning Points:

- Factors determining the need to replace door skin
- Panel removal procedures
- Repairs to doorframe
- Installing door skin
- Refit door to vehicle
- Apply sound deadening pad to inner skin
- Apply cavity wax to inner frame

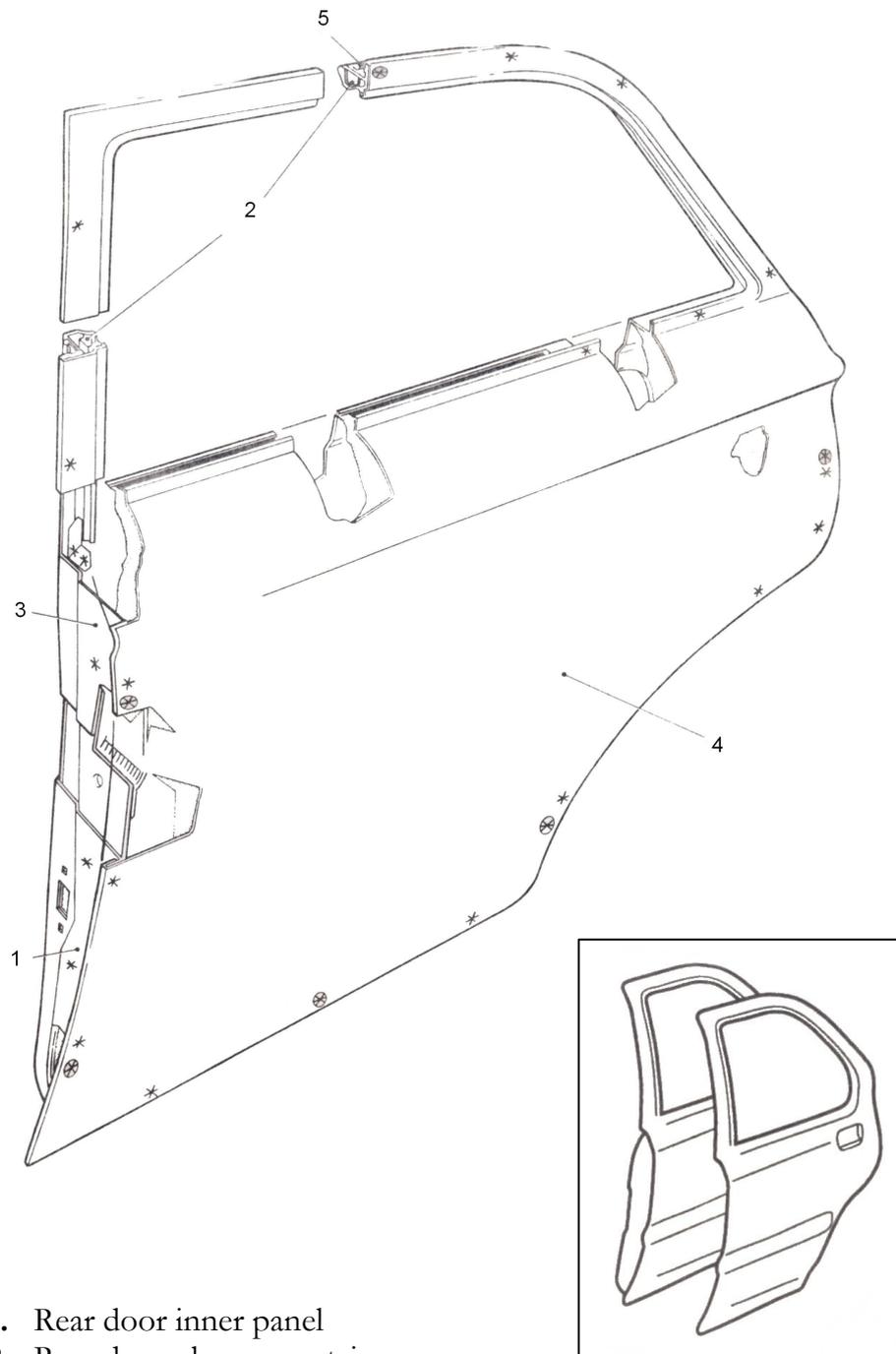
Doors

The various types of vehicle made require a wide range of door types which, regardless of their location, are basically similar in construction. The doors are constructed with two main panels, one being the outer panel or skin and the other being the inner panel which acts as a frame. It is this inner panel which gives the door its strength. The two panels are formed into a single unit by the edges of the skin panel flanging over the edges of the inner panel. The inner panel has holes or apertures, drilled, punched or formed, for the attachment of the door trim. This trim includes the door locking mechanism and the window regulator assembly. These assemblies are positioned using the apertures formed in the inner panel, and their sizes dictate the necessary space required between the two panels of the door thus giving it thickness. Provision is made in the inner panel to accommodate both the hinge pillar and lock sections of the door. In the positions where the lock and hinges are attached to the door, reinforcement angles are inserted between the two panels. The door handle protrudes through an opening in the outer panel of the door. The top half of the door is designed with a large opening which is sealed by a glass window. The window regulator assembly holds the glass firmly and when raised it slides in a channel in the opening between the outer and inner panels in the upper portion of the door. When fully raised the window becomes completely weatherproof.



1. Front door inner panel
2. front door glass run retainer channel assembly
3. front door hinge reinforcement
4. front door outer panel
5. front door weatherstrip finisher

Figure 1: Front Door



1. Rear door inner panel
2. Rear door glass run retainer
3. Rear door hinge reinforcement
4. Rear door outer panel
5. Rear door weatherstrip

Figure 2: Rear Door

1.1 Factors Determining the need to Replace Door Skin

If the door is badly damaged it is preferred to replace the skin rather than repair it because even the smallest amount of stretching will show up on the almost flat surface of the door.

1.2 Removal, Repair and Installing a Door Skin

- Remove the door from the vehicle.
- Remove the interior door trim, window and lock mechanisms and all other trims.
- Remove skin with grinder safely.
- Repair any damage to door frame.
- Apply weldable zinc spray to frame and skin.
- Position skin on frame and clamp, fit door to vehicle and align swage lines and gaps.
- Tack weld in position and remove door again.
- Fold flange on skin with door skin tool.
- Apply etch primer and 2 pack primer.
- Apply seal to flange.
- Re-spray inside and outside.
- Apply cavity wax and sound deadening pad.



Removing Skin from Frame with Grinder



Apply sound deadening pad to inner skin



Apply cavity wax to inner frame

Summary

Repairs arising from minor accidents are usually of a relatively straightforward nature, as the damage is either a dent, scratch or scuff to the outer panel surface of the body and does not always involve structural distortion. But large flexible areas such as flat or slightly curved sections e.g. door skin are easily damaged. If the panel is damaged in an accident then the buckled area, being sharply bent, will create additional stiffness in the panel, whether in an elastic or non-elastic area. The slopes of the buckles surrounding the sharp creases will be fairly elastic, but a greater amount of effort will be needed to reshape the sections of the panel which are made rigid either in manufacturer or through accidental damage. This type of damage is sometimes not repairable and the door skin will need to be replaced a skilled craftsman will know by observation what repair technique is required.

Self Assessment

Questions – Module 3. Unit 6

1. If the cost of repairing a door skin is uneconomical what would you do?

2. What will happen if a sound deadening pad is not replaced on a new door?

3. Why should help be provided when fitting a door to a vehicle?

4. What purpose does the holes at the bottom of a door serve?

5. How is a door skin removed from its frame?

6. What protection is required on the door frame substrate before re-fitting a door skin?

7. What type of sealer is required on the inside flange of a new door?

8. How is a door skin fitted to a 08 VW Golf?

9. What rust protection is required on the inside of a door frame after fitting a door skin?

10. Are door skins available for all vehicles?

Answers to Questions 1-10. Module 3. Unit 6

1.

If repairing the door skin is uneconomical, then replace it.

2.

A vehicle will vibrate in motion without the deadening pad.

3.

Help should be sort to prevent injury from the weight and to prevent dropping it.

4.

The holes at the bottom of a door allow water to drain out.

5.

A door skin is removed from its frame by grinding the edge.

6.

Weldable zinc primer

7.

Polyurethane sealer

8.

Bolted

9.

Cavity wax

10.

No

Exercise

- Demonstrate the proper removal of door from a vehicle; remove skin from the inner frame.
- Replace new skin using the correct tools and procedure.
- Refit door to vehicle and illustrate the importance of even contours and smooth locking of panel before final welding.
- Outline the importance of corrosion protection and sound deadening pads.

Training Resources

- Classroom/workshop
- Door and door skin
- Panel hammer
- Dollies
- Grinder
- Sander
- Body file
- Rubbing block

S O L A S

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