

2022 CHEVROLET CORVETTE SERVICE MANUAL

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Front Rail End Replacement

Materials

- Structural Adhesive Aluminum Panel Bonding
- Structural Rivet (SR3 4X) Fastener Specifications
- Structural Countersunk Rivet (CR1 2X) Fastener Specifications

Removal Procedure

1. [Click here for full size](#)
2. Warning:

Refer to Approved Equipment for Collision Repair Warning
3. Warning:

Refer to Collision Sectioning Warning
4. Warning:

Refer to Glass and Sheet Metal Handling Warning
5. Note:

The front rail end is 5000 series stamped aluminum sheet. Aluminum
6. Note:

Left shown, right similar.
7. Disable the SIR system. SIR Disabling and Enabling.
8. Remove all related panels and components.
9. Remove the sealers and anti-corrosion materials from the repair area as necessary. Anti-Corrosion Treatment and Repair
10. [Click here for full size](#)
11. Note:

Record the number and location of spot welds for installation of structural rivets.
12. Note:

6.7 mm (17/64") hole used for structural rivet installation.
13. Note:

Do not damage or cut attaching panels and reinforcements.
14. Remove spot welds (1) using 6.7 mm (17/64") drill bit through all layers. [2X]
15. [Click here for full size](#)
16. Note:

Record the number and location of spot welds for installation of structural rivets.
17. Note:

6.7 mm (17/64") hole used for structural rivet installation.

18. Note:

Do not damage or cut attaching panels and reinforcements.

19. Remove spot welds (1) using 6.7 mm (17/64") drill bit through all three layers. [4X]

20. Click here for full size

21. Warning:

When separating the aluminum panels during collision repair, be sure to adhere to the following precautions:

- Do not use an open flame
- Focus heat onto panel being replaced and do not exceed 200°C (392°F) for 3 consecutive minutes
- Use care not to damage adjacent panel while prying the panels apart

Failure to follow the precautions may lead to vehicle damage or personal injury.

22. Apply heat to release adhesive (1).

23. Click here for full size

24. Apply heat to release adhesive (1).

25. Click here for full size

26. Remove front rail end (1) from vehicle.

27. Note:

Do not damage body structure when removing adhesive.

28. Remove remaining adhesive from body structure.

Installation Procedure

1. Click here for full size

2. Note:

Temporarily install replacement part.

3. Position front rail end (1) on vehicle using three-dimensional measuring equipment and clamp into place.

4. Click here for full size

5. Note:

6.7 mm (17/64") hole used for structural rivet installation.

6. Drill 6.7 mm (17/64") holes (1). [2X]

7. Click here for full size

8. Note:

6.7 mm (17/64") hole used for structural rivet installation.

9. Drill 6.7 mm (17/64") holes (1). [2X]

10. Note:

Prepare rivet holes for countersunk structural rivet.

11. Using countersink cutting tool, countersink the holes (1). [2X] Special Tools

12. Click here for full size

13. Note:

6.7 mm (17/64") hole used for structural rivet installation.

14. Drill 6.7 mm (17/64") holes (1). [2X]
15. [Click here for full size](#)
16. Remove front rail end (1) from vehicle.
17. [Click here for full size](#)
18. Note:

Only remove E-coat where adhesive will be applied.
19. Note:

Ensure all bare metal is covered.
20. Clean and prepare mating surfaces on structure and replacement part according to adhesive manufacturer's recommendations. Aluminum Panel Bonding
21. Apply structural adhesive (1) to mating surfaces on structure and replacement part according to adhesive manufacturer's recommendations. Aluminum Panel Bonding
22. [Click here for full size](#)
23. Apply structural adhesive (1) to mating surfaces on structure and replacement part according to adhesive manufacturer's recommendations. Aluminum Panel Bonding
24. [Click here for full size](#)
25. Install front rail end (1) on vehicle and clamp into place.
26. [Click here for full size](#)
27. Install structural rivets (1). [SR3 2X] Fastener Specifications
28. [Click here for full size](#)
29. Install structural rivets (1). [SR3 2X] Fastener Specifications
30. [Click here for full size](#)
31. Install structural rivets (1). [CR1 2X] Fastener Specifications
32. Remove excess adhesive.
33. Seal all structural rivets with seam sealer. Anti-Corrosion Treatment and Repair
34. Apply the sealers and anti-corrosion materials to the repair area as necessary. Anti-Corrosion Treatment and Repair
35. Paint the repaired area. Basecoat/Clearcoat Paint Systems
36. Install all related panels and components.
37. Enable the SIR System. SIR Disabling and Enabling