

# 2022 CHEVROLET CORVETTE SERVICE MANUAL

- **SEARCH**

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## Wire to Wire Repair - Headliner

### Special Tools

- J-38125-8  $\tilde{\wedge}$ ,  $\hat{\wedge}$  GMNA Splice Sleeve Crimping Tool
- EL-38125-10  $\tilde{\wedge}$ ,  $\hat{\wedge}$  Except GMNA Splice Sleeve Crimping Tool
- EL-38125-5A  $\tilde{\wedge}$ ,  $\hat{\wedge}$  Ultra Torch Special Tool
- DuraSeal splice sleeves

For equivalent regional tools, refer to Special Tools.

### Danger:

In order to reduce the risk of personal injury, loss of high voltage isolation to ground and higher system impedance, do not attempt to repair any HV wiring, connector, or terminal that is damaged. High voltage coaxial type cables are not repairable. Never attempt to repair a coaxial type cable. The entire cable/harness or component must be replaced. In order to maintain system integrity and personal safety, never attempt to repair any high voltage wiring, cables, or terminals. Performing this procedure on high voltage circuits may result in serious injury or death.

### Note:

- If the wiring harness internal to the transmission is damaged, the wiring harness must be replaced. The use of splice sleeves in an attempt to repair the internal transmission wires, connectors, or terminals could result in performance issues.
- Do not splice wires in Door Harness Grommets.
- Use only DuraSeal splice sleeves. Other splice sleeves may not protect the splice from moisture or provide a good electrical connection.
- When performing wire-to-wire repairs with wires of different sizes (Example: installation of Terminated Leads or Pigtails), refer to the Folded-Over Wire Selection Table Refer to: Folded-Over Wire Repair

Use DuraSeal splice sleeves to form a one-to-one splice on all types of insulation except high voltage and specialty cables. Use DuraSeal splice sleeves where there are special requirements such as moisture sealing. Follow the instructions below in order to splice copper wire using DuraSeal splice sleeves.

DuraSeal Splice Sleeve Reference Folded-Over Wire Repair when splicing 2 different size wires.

| Splice Sleeve Color              | Crimp Tool Nest Color    |               | Wire Gauge mm $\tilde{\wedge}$ , $\hat{\wedge}$ / (AWG)                             |
|----------------------------------|--------------------------|---------------|-------------------------------------------------------------------------------------|
|                                  | 3 Crimp Nests            | 4 Crimp Nests |                                                                                     |
| Salmon (Yellow-Pink)<br>19300089 | Red (1) or Red/Green (1) | Red (2)       | 0.13-0.35 / (22 $\tilde{\wedge}$ $\hat{\wedge}$ "26) *                              |
| Salmon (Yellow-Pink)<br>19300089 | Red (1) or Red/Green (1) | Red (2)       | 0.5 $\tilde{\wedge}$ $\hat{\wedge}$ "0.8 / (18 $\tilde{\wedge}$ $\hat{\wedge}$ "20) |
| Blue<br>19300090                 | Blue (2)                 | Blue (3)      | 1.0 $\tilde{\wedge}$ $\hat{\wedge}$ "2.6 / (14 $\tilde{\wedge}$ $\hat{\wedge}$ "16) |
| Yellow<br>19300091               | Yellow (3)               | Yellow (4)    | 3.0 $\tilde{\wedge}$ $\hat{\wedge}$ "5.0 / (10 $\tilde{\wedge}$ $\hat{\wedge}$ "12) |
| Refer to:                        |                          |               |                                                                                     |

Ground Ring Terminal Terminated Lead Kit Reference Folded-Over Wire Repair when splicing 2 different size wires.

- Refer to the Table above for Proper tool usage information.

- This repair is only intended for the M6 Ground Stud.
- The Information in Table Below is for M6 Ground Ring Terminal Terminated lead Splicing. The kit includes the Splice Sleeves.
- If the Ground Stud and nut require repair Refer to:

Ground Repair.

| Splice Sleeve Color              | GM PN                                  |                                        | Wire Gauge mm <sup>2</sup> / (AWG) |
|----------------------------------|----------------------------------------|----------------------------------------|------------------------------------|
|                                  | Single Ground Ring Terminated Lead Kit | Double Ground Ring Terminated Lead Kit |                                    |
| Salmon (Yellow-Pink)<br>19300089 | 84976194                               | 84976197                               | 0.5 – 0.8(18-26)                   |
| Blue<br>19300090                 | 84976195                               | 84976198                               | 1.0 – 2.6(14-16)                   |
| Yellow<br>19300091               | 84976196                               | 84976198                               | 3.0 – 5.0(10-12)                   |

Note:

- Refer to:

1. Note:

You must perform the following procedures in the listed order. Repeat the procedure if any wire strands are damaged. You must obtain a clean strip with all of the wire strands intact.

2. Open the harness by removing any tape:

3.

- Use a sewing seam ripper, available from sewing supply stores, in order to cut open the harness in order to avoid wire insulation damage.
- Use the DuraSeal splice sleeves on all types of insulation except Tefzel and coaxial.
- Do not use the crimp and DuraSeal splice sleeve to form a splice with more than 2 wires coming together.

4. Cut as little wire off the harness as possible. You may need the extra length of wire in order to change the location of a splice.

5. Adjust splice locations so that each splice is at least 40 mm (1.5 in) away from the other splices, harness branches, or connectors.

6. Strip the insulation:

7.

- When adding a length of wire to the existing harness, use the same size wire as the original wire.
- Perform one of the following items in order to find the correct wire size:
  - Find the wire on the schematic and convert to regional wiring gauge size.
  - If you are unsure of the wire size, begin with the largest opening in the wire stripper and work down until achieving a clean strip of the insulation.
- Strip approximately 5.0 mm (0.20 in) of insulation from each wire to be spliced.
- Do not nick or cut any of the strands. Inspect the stripped wire for nicks or cut strands.
- If the wire is damaged, repeat this procedure after removing the damaged section.

8. For high temperature wiring 150°C (302°F) continuous or 175°C (347°F) excursion, use high temperature heat shrink tube (Raychem SCT1) over the DuraSeal splice area. Refer to High Temperature Wiring Repairs below.

9. Select the proper DuraSeal splice sleeve according to the wire size. Refer to the table above, at the beginning of the repair procedure for the color coding of the DuraSeal splice sleeves and the crimp tool nests.
10.  
[Click here for full size](#)
11. Non GMNA Crimping Tool *EL-38125-10* Splice Sleeve Crimping Tool has four crimp nests. The largest crimp nest (4) is used for crimping 5.0 and 3.0 mm<sup>2</sup> (10 and 12 gauge) wires. The second largest crimp nest (3) is used for crimping 2.0 and 1.0 mm<sup>2</sup> (14 and 16 gauge) wires. The third largest crimp nest (2) is used for crimping 0.75 and 0.50 mm<sup>2</sup> (18 and 20 gauge) wires. The smallest crimp nest (1) is used for crimping 0.35 and 0.13 mm<sup>2</sup> (22 to 26 gauge) wires. The crimp nests are referenced in the table (farther above) under the crimp tool nest color.
12.  
[Click here for full size](#)
13. GMNA crimping tool *J-38125-8* splice sleeve crimping tool has three crimp nests. The largest crimp nest (3) is used for crimping 5.0 and 3.0 mm<sup>2</sup> (10 and 12 gauge). The second largest crimp nest (2) is used for crimping 2.0 and 1.0 mm<sup>2</sup> (14 and 16 gauge) wires. The smallest crimp nest (1) is used for crimping 0.75 and 0.50 mm<sup>2</sup> (18 and 20 gauge) wires. The crimp nests are referenced in the table (farther above) under the crimp tool nest color.
14. Use the splice sleeve crimp tool in order to position the DuraSeal splice sleeve in the proper color nest of the splice sleeve crimp tool. For the four crimp nest tool, use the three largest crimp nests to crimp the splice sleeves. For the three crimp nest tool, use all three crimp nests to crimp the splice sleeves. Use the four and three crimp tool diagrams (above) and the table (farther above) to match the splice sleeve with the correct crimp nest. The crimp tool diagram call out numbers match the numbers in the table (under crimp tool nest color).
15.  
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16. Place the DuraSeal splice sleeve in the nest. Ensure that the crimp falls midway between the end of the barrel and the stop. The sleeve has a stop (3) in the middle of the barrel (2) in order to prevent the wire (1) from going further. Close the hand crimper handles slightly in order to firmly hold the DuraSeal splice sleeve in the proper nest.



17.  
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18. Insert the wire into the splice sleeve barrel until the wire hits the barrel stop. Refer to Folded-Over Wire Repair for splicing wires 0.35 and 0.13 mm<sup>2</sup> (22 to 26 gauge) wires and for splicing wires of different gauges.

19. Tightly close the handles of the crimp tool until the crimper handles open when released.
20. The crimper handles will not open until you apply the proper amount of pressure to the DuraSeal splice sleeve. Repeat steps 4 and 6 for the opposite end of the splice.



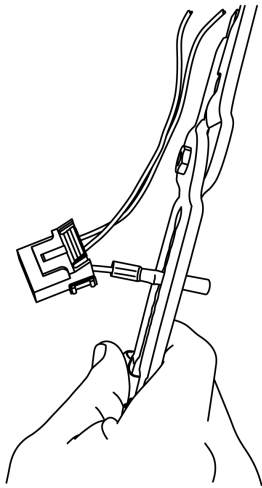
21.  
Click here for full size
22. Using the *EL-38125-5A* Ultra Torch Special Tool, apply heat to the crimped area of the barrel.
23. Start in the middle and gradually move the heat barrel to the open ends of the tubing:
24.
  - The tubing will shrink completely as the heat is moved along the insulation.
  - A small amount of sealant will come out of the end of the tubing when sufficient shrinkage is achieved.

## Weatherpack Wiring Repair

### Note:

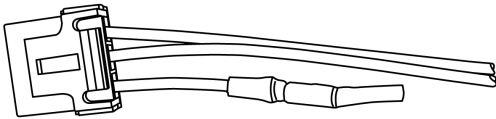
Some replacement pigtail connectors may be delivered without the terminated leads installed into the connector. For Weatherpack connectors, all terminated leads included in the package should be installed into the connector. If the connector end view shows that a terminal is not occupied, the extra terminated lead(s) need to be installed and the end(s) sealed using a DuraSeal splice sleeve and taped back into the harness.

1. Insert the wire into the splice sleeve barrel until the wire hits the barrel stop. Refer to Folded-Over Wire Repair for splicing wires 0.35 and 0.13 mm<sup>2</sup> (22 to 26 gauge) wires and for splicing wires of different gauges.



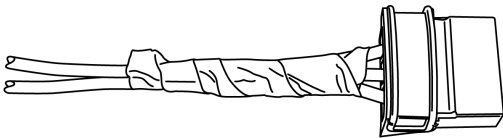
2. [Click here for full size](#)
3. Tightly close the handles of the crimp tool until the crimper handles open when released.
4. The crimper handles will not open until you apply the proper amount of pressure to the DuraSeal splice sleeve. Holding the DuraSEAL with one hand gently tug on the wire to ensure it is crimped in the DuraSeal.

5. Using the *EL-38125-5A* Å,Å Ultra Torch Special Tool, apply heat to the crimped area of the barrel.



6. [Click here for full size](#)
7. Start in the middle and gradually move the heat barrel to the open ends of the tubing:
- 8.

- The tubing will shrink completely as the heat is moved along the insulation.
- A small amount of sealant will come out of the end of the tubing when sufficient shrinkage is achieved.



9. [Click here for full size](#)
10. Tape the excess terminated lead(s) back into the harness. The tape should cover the harness by 25 mm (1 Inch). Use care to make sure the

taping does not cause strain on the wiring and terminals, Improper taping can cause wire and terminal fretting.

## High Temperature Wiring Repairs

Use the following procedures to perform high temperature wiring repairs:

Note:

All wiring repairs need to be 200 mm from the heat zone. Areas of consideration would be any area located near the exhaust manifolds, catalytic converter, exhaust pipes, and turbocharged engines.

### Items Required

- DuraSeal splice sleeves to crimp and seal connections
- High temperature heat shrink tubing (Raychem SCT1) to protect the splice sleeves
- Terminated leads or pigtailed
- The correct tools to remove the terminals from the connectors

Note:

Use high temperature bulk wire rated at 150°C (302°F) continuous temperature of the same or larger gauge size as the original wire when repair damage wire. Also replace any reflective tape that you remove during the repair.

Wiring that is exposed to high temperatures 150°C (302°F) continuous or 175°C (347°F) excursion for prolonged periods of time may use materials i.e. wires, connectors, and shielding that has a higher heat rating than typical wiring. When making a repair in a high temperature area observe the following:

### Wire to Wire Repair Incl High Temp

- Use GM approved high temperature bulk wire rated at 150°C (302°F) continuous temperature to replace any damaged wire.
- Replace any heat shielding that is removed.
- Cover any DuraSeal splice sleeves with high temperature heat shrink tubing (Raychem SCT1).
- After making a wiring repair, ensure that the location of the wiring is not moved closer to the heat source.