



June 2019

Dealer Service Instructions for:

Safety Recall V71 / NHTSA 19V-407

Occupant Restraint Controller

Remedy Available

2019-2020 (DT) RAM 1500 Pickup

NOTE: Some vehicles above may have been identified as not involved in this recall and therefore have been excluded from this recall.

IMPORTANT: Some of the involved vehicles may be in dealer new vehicle inventory. Federal law requires you to complete this recall service on these vehicles before retail delivery. Dealers should also consider this requirement to apply to used vehicle inventory and should perform this recall on vehicles in for service. Involved vehicles can be determined by using the VIP inquiry process.

Subject

The Occupant Restraint Controller (ORC) on about 142,250 of the above vehicles may contain software that has a potential vulnerability during power-down memory clean-up events which can corrupt flash memory. Once the vehicle is keyed-off, the ORC begins normal routines under its own power reserve. If the ORC powers down and interrupts a memory erase process, data corruption could occur. Memory cleanup does not occur every key-off, not all interruptions will cause corruption, reserve time will vary, and other factors make the occurrence highly variable. Corrupted ORC flash memory may result in internal fault codes, illuminated Airbag Warning Lamp, and disabled deployment of airbags and seatbelt pretensioners. Disabled airbag and seatbelt pretensioner deployment may increase the risk of injury to vehicle occupants in the event of a crash.

Service Procedure

A. Reprogram the ORC Module

NOTE: The wiTECH scan tool must be used to perform this recall. This procedure must be performed with the wiTECH MicroPod II at latest software release level. If the reprogramming flash for the ORC is aborted or interrupted, repeat the procedure. The ORC must be at the latest calibration level after completing this recall.

1. Open the hood. Install a battery charger and verify that the charging rate provides 13.2 to 13.5 volts. Do not allow the charger to time out during the flash process. Set the battery charger timer (if so equipped) to continuous charge.

NOTE: Use an accurate stand-alone voltmeter. The battery charger volt meter may not be sufficiently accurate. Voltages outside of the specified range will cause an unsuccessful flash. If voltage reading is too high, apply an electrical load by activating the park or headlamps and/or HVAC blower motor to lower the voltage.

2. Connect the wiTECH MicroPod II to the vehicle data link connector.
3. Place the ignition in the “**RUN**” position.
4. Open the wiTECH 2.0 website.
5. Enter your “**User id**” and “**Password**” and your “**Dealer Code**”, then select “**Sign In**” at the bottom of the screen. Click “**Accept**”.
6. From the “**Vehicle Selection**” screen, select the vehicle to be updated.
7. From the “**Action Items**” screen, select the “**Topology**” tab.
8. From the “**Topology**” screen, select the “**View DTCs**” tab.

Service Procedure [Continued]

9. From the “DTCs” screen, inspect for the following fault codes DTCs:

These two together:

U1601-00 SW Version mismatch

B222D-00 ECU Unable to Configure/Configuration Not Learned-

or

These three together:

B2207-00 Occupant Restraint Controller Internal 1-

B2208-00 Occupant Restraint Controller Internal 2-

B222D-00 ECU Unable to Configure/Configuration Not Learned-

10. Were any of the above fault codes DTCs present?
- **NO**, codes are not present, continue with the software flash **Step 11**.
 - **YES**, codes are present. Replace ORC module then program the new module. Proceed as applicable to one of the following:
Section B. ORC Module Replacement with Floor Console, Page 6.
Section C. ORC Module Replacement with Center Seat, Page 15.
11. From the “ORC” screen, select the “Flash” tab, then compare the “**Current Electronic Control Unit (ECU) Part Number**” with the “**New ECU Part Number**” listed.
- If the “**Current ECU part Number**” is **NOT** the same as the “**New Part Number**”, continue with **Step 12**.
 - If the “**Current ECU part Number**” is the same as the “**New Part Number**”, proceed to **Step 23**.
12. From the flash ECU agreement page, agree to terms by checking the box.
13. Select “**Flash ECU**” then follow the wiTECH screen instructions to complete the flash.
14. Once the flash is complete, select the “**View DTCs**” tab.
15. Select “**Clear All DTCs**” and then select “**Close**”.

Service Procedure [Continued]

16. From the “**Topology**” screen, click on the “**ABS**” icon.
17. From the “**ABS**” screen, select the “**Misc Functions**” tab.
18. Perform the “**ABS Initialization**” routine and follow the screen prompts.
19. Select “**Clear All DTCs**” and then select “**Close**”.
20. Remove the battery charger from the vehicle and then close the hood.
21. Place the vehicle ignition in the “**OFF**” position, unplug the wiTECH MicroPod II and open and close the driver’s door. Let all modules go to sleep (This should take approximately one minute).
22. Reconnect wiTECH 2.0 and clear any DTCs which may have been set.
23. Place the vehicle ignition in the “**OFF**” position and unplug the wiTECH MicroPod II.
24. Return the vehicle to the customer or to vehicle inventory.

Service Procedure [Continued]

B. ORC Module Replacement with Floor Console

1. Position the front seats fully forward.
2. Remove the floor console rear closeouts on both sides of the console (Figure 1).
3. Remove the rear bolts on both sides of the floor console (Figure 1).
4. Position both front seats fully rearward.



Figure 1 – Floor Console Closeouts and Fasteners Rear

Service Procedure [Continued]

NOTE: When disconnecting and isolating the negative battery cable for the 12-volt system, this will also power down the 48-volt battery system. No extra steps will be needed for a power down of the 48-volt system.

5. Disconnect the Intelligent Battery Sensor (IBS) wire harness connector (Figure 2).

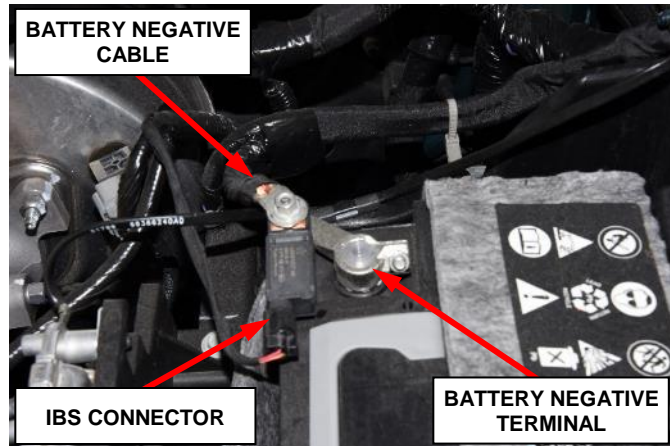


Figure 2 – Battery Cable Negative

NOTE: Failure to disconnect the IBS wire harness connector can lead to damage of the IBS wire harness connector.

6. Remove the ground terminal M8 nut then remove and isolate the negative battery cable eyelet from the IBS and negative battery terminal (Figure 2).

WARNING: To avoid serious or fatal injury on vehicles equipped with airbags, disable the SRS before attempting ORC module service. Disconnect the IBS and negative battery cable assembly from the negative battery post, then wait two minutes for the system capacitor to discharge before disconnecting the ORC module. This is the only sure way to disable the SRS. Failure to take the proper precautions could result in accidental airbag deployment.

Service Procedure [Continued]

7. Remove the Instrument Panel (IP) closeouts on both sides of the floor console (Figure 3).
8. Remove the bolts from the floor console to IP on both sides of the floor console (Figure 3).
9. Remove the side closeouts on both sides of the floor console (Figure 3).
10. Remove the front bolts on both sides of the floor console (Figure 3).

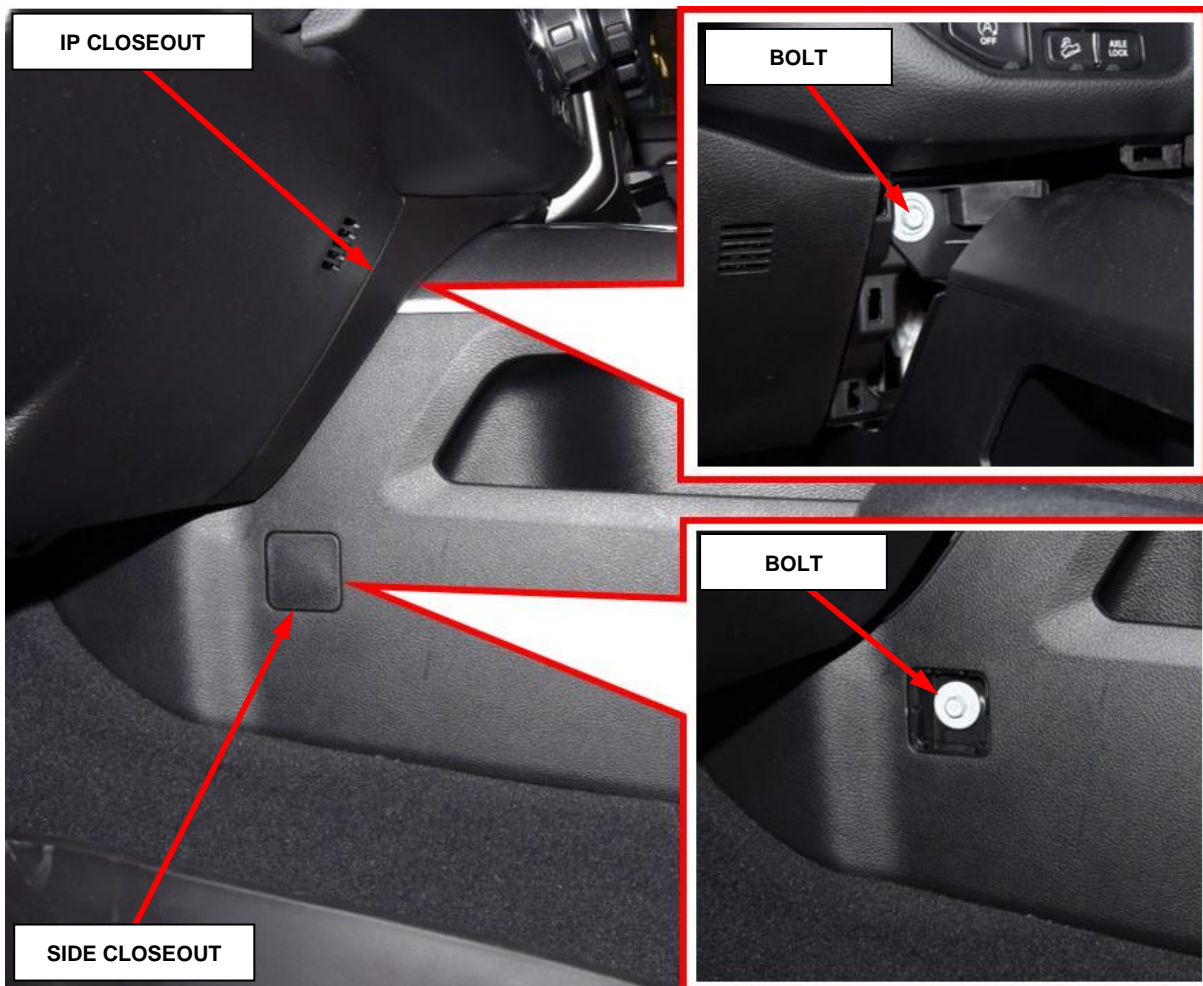


Figure 3 – Floor Console Closeouts and Fasteners Front

Service Procedure [Continued]

11. Lift the rear seat cushion to make removal of the floor console easier.
12. Slide the floor console slightly back towards the rear of the vehicle to access the electrical connectors (Figure 4).
13. Disconnect the electrical connectors (Figure 4).
14. Release the wire harness retainer (Figure 4).
15. Remove the floor console from vehicle.

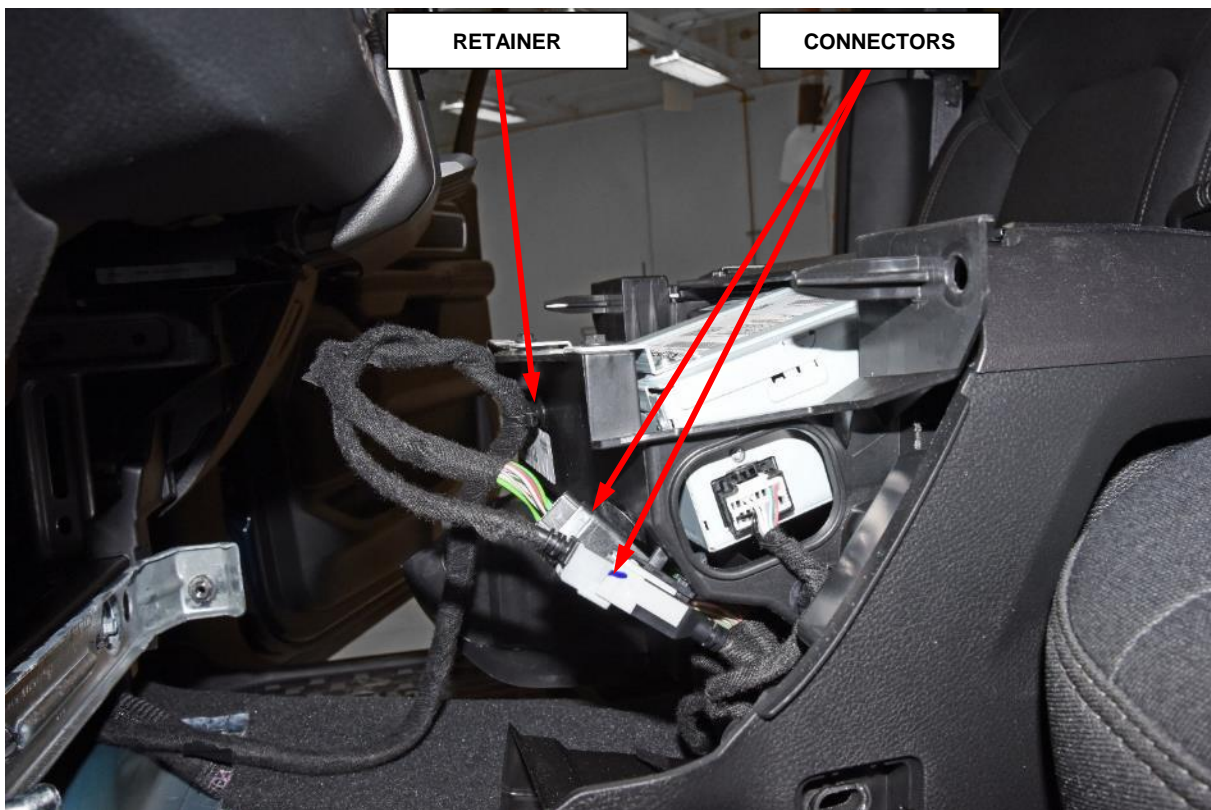
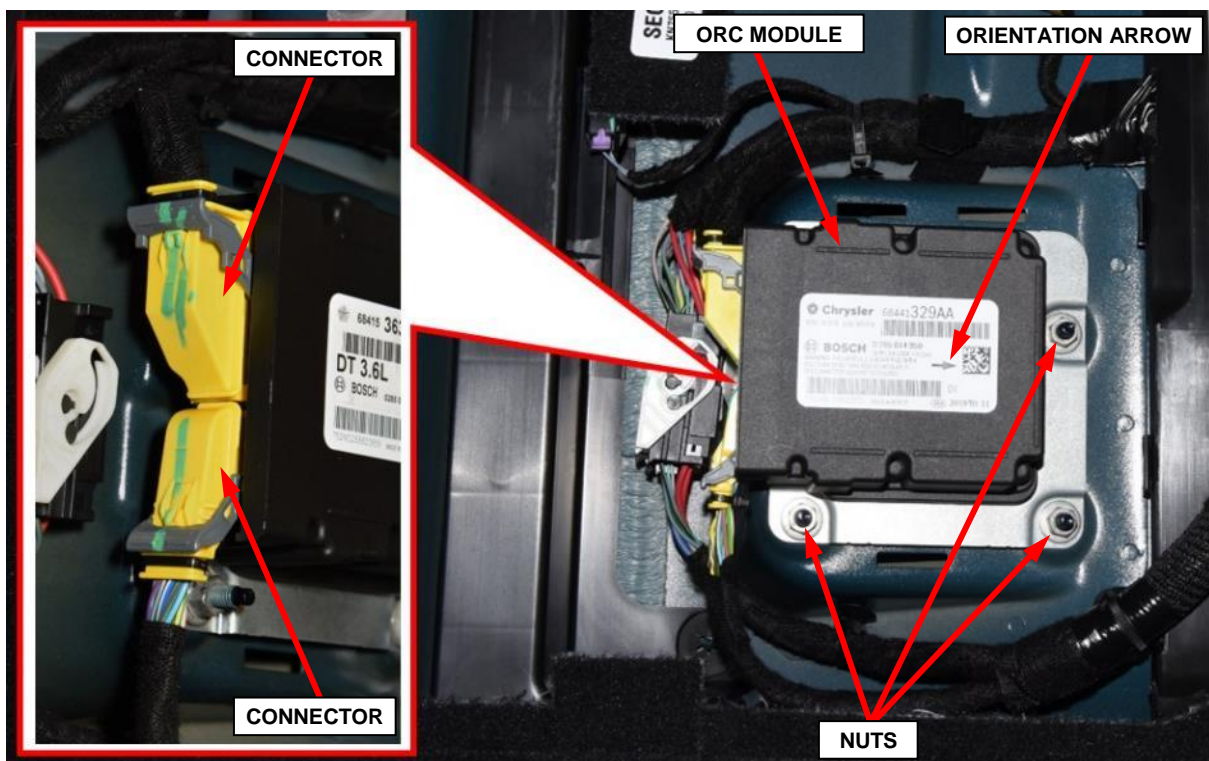


Figure 4 – Floor Console Electrical Harness Connectors and Retainer

Service Procedure [Continued]

16. Disconnect the wire harness connectors from the ORC (Figure 5).
17. Remove the three nuts that secure the ORC to the weld studs on the floor panel center tunnel (Figure 5).
18. Remove the ORC from the vehicle (Figure 5). Render the ORC unusable and discard the ORC.
19. Carefully position the NEW ORC on the weld studs on the top of the floor panel center tunnel. When the ORC is correctly positioned, the bottom of the housing will fit flush with the top of the center floor and the orientation arrow on the label on top of the housing will be pointed forward in the vehicle (Figure 5).
20. Install the three nuts that secure the ORC to the weld studs on the top of the floor panel center tunnel. Tighten the nuts to 12 N·m (9 Ft. lbs.) (Figure 5).
21. Connect both ORC wire harness connectors. Be certain that the latch on each connector is fully engaged (Figure 5).

**Figure 5 – ORC Module**

Service Procedure [Continued]

22. Position the floor console inside the vehicle and over the support brackets.
23. Attach the wire harness retainer (Figure 4).
24. Connect the wire harness connectors (Figure 4).
25. Slide the floor console fully forward to align with the support brackets.
26. Install the front bolts on both sides of the floor console and tighten to 5 N·m (44 In. lbs.) (Figure 3).
27. Install the closeouts on both sides of floor console (Figure 3).
28. Install the floor console to IP bolts on both sides of the floor console and tighten to 5 N·m (44 In. lbs.) (Figure 3).
29. Install the IP closeouts on both sides of the floor console (Figure 3).

WARNING: During the following SRS verification test, the negative cable remains disconnected and isolated from the battery, as it was during the SRS component removal and installation procedures. Failure to follow these instructions may result in possible serious or fatal injury.

30. **For vehicles equipped with a standard key ignition:**
 - a. Turn the ignition to the run position.
 - b. Check to be certain that nobody is in the vehicle.
 - c. Connect the 12-Volt battery. If equipped with an IBS, connect the IBS connector. Secure the negative battery cable eyelet to the IBS M8 stud using the M8 nut. Tighten the M8 nut to 7 N·m (62 In. lbs.). Overtightening of the M8 nut for the negative cable to the IBS will cause damage to the IBS or break the stud for the nut (Figure 2).

Service Procedure [Continued]

31. For vehicles equipped with Keyless Go ignition:
- Remove the steering column opening cover (Figure 6).
 - Remove the ORC fuses F28 and F65 (Figure 6).
 - Connect the 12-Volt battery, wait two minutes before proceeding. If equipped with an IBS, connect the IBS connector. Secure the negative battery cable eyelet to the IBS M8 stud using the M8 nut. Tighten the M8 nut to 7 N·m (62 In. lbs.). Overtightening of the M8 nut for the negative cable to the IBS will cause damage to the IBS or break the stud for the nut (Figure 2).
 - Cycle the ignition to the on position.
 - Connect the ORC fuses F28 and F65 (Figure 6).
 - Install the steering column opening cover (Figure 6).



Figure 6 – ORC Fuses F28 and F65

Service Procedure [Continued]

32. Position the front seats fully forward.
33. Install the rear bolts on both sides of the floor console and tighten to 5 N·m (44 In. lbs.) (Figure 1).
34. Install the closeouts on both sides of the floor console (Figure 1).
35. Position the front seats back to customer preferred position.
36. Connect the battery charger and connect the wiTECH MicroPod II to the vehicle data link connector then begin a wiTECH 2.0 session.
37. From the “Action Items” screen, select the “Topology” tab.
38. From the “**Topology**” screen, click on the “**ABS**” icon.
39. From the “**ABS**” screen, select the “**Misc Functions**” tab.
40. Perform the “**ABS Initialization**” routine and follow the screen prompts.
41. Select “**Clear All DTCs**” and then select “**Close**”.
42. From the “**Topology**” screen, click on the “**ORC**” icon.
43. From the “**ORC**” screen, select the “**Misc Functions**” tab.
44. Perform the “**ORC Initialization**” routine and follow the screen prompts.

Service Procedure [Continued]

45. Select “**Clear All DTCs**” and then select “**Close**”.

46. Remove the battery charger from the vehicle and then close the hood.

47. Place the vehicle ignition in the “**OFF**” position, unplug the wiTECH MicroPod II and open and close the driver’s door. Let all modules go to sleep (This should take approximately one minute).

48. Reconnect wiTECH 2.0 and clear any DTCs which may have been set.

49. Return to **Section A. Reprogram the ORC Module** to verify that the ORC module software level is up to date or flash the ORC module to bring it to the latest software level before returning vehicle to the customer or inventory.

Service Procedure [Continued]

C. ORC Module Replacement with Center Seat

1. Lift the rear seat cushion to make removal of the front center seat easier.



Figure 7 – Storage Bin Liner and Fasteners

2. Position the front seats in the full rearward position.

3. Remove the storage bin liner (2) (Figure 7).

4. Remove the storage bin push pin fasteners (1) (Figure 7).



Figure 8 – Storage Bin

5. Lift at the front of the storage bin (1) and remove the bin (Figure 8).

Service Procedure [Continued]

6. Remove the bolts (1) at the front of the center seat (Figure 9).
7. Move the front seats to the full forward position.

NOTE: When disconnecting and isolating the negative battery cable for the 12-volt system, this will also power down the 48-volt battery system. No extra steps will be needed for a power down of the 48-volt system.



Figure 9 – Center Seat Front Fasteners

8. Disconnect the Intelligent Battery Sensor (IBS) wire harness connector (Figure 10).

NOTE: Failure to disconnect the IBS wire harness connector can lead to damage of the IBS wire harness connector.

9. Remove the ground terminal M8 nut then remove and isolate the negative battery cable eyelet from the IBS and negative battery terminal (Figure 10).

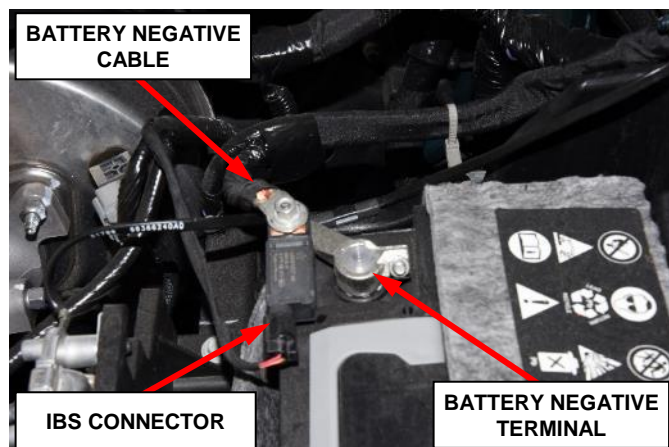


Figure 10 – Battery Cable Negative

WARNING: To avoid serious or fatal injury on vehicles equipped with airbags, disable the SRS before attempting ORC module service. Disconnect the IBS and negative battery cable assembly from the negative battery post, then wait two minutes for the system capacitor to discharge before disconnecting the ORC module. This is the only sure way to disable the SRS. Failure to take the proper precautions could result in accidental airbag deployment.

Service Procedure [Continued]

10. Remove the bolt closeouts at the rear of the front center seat, then remove the bolts on both sides of the seat (Figure 11).

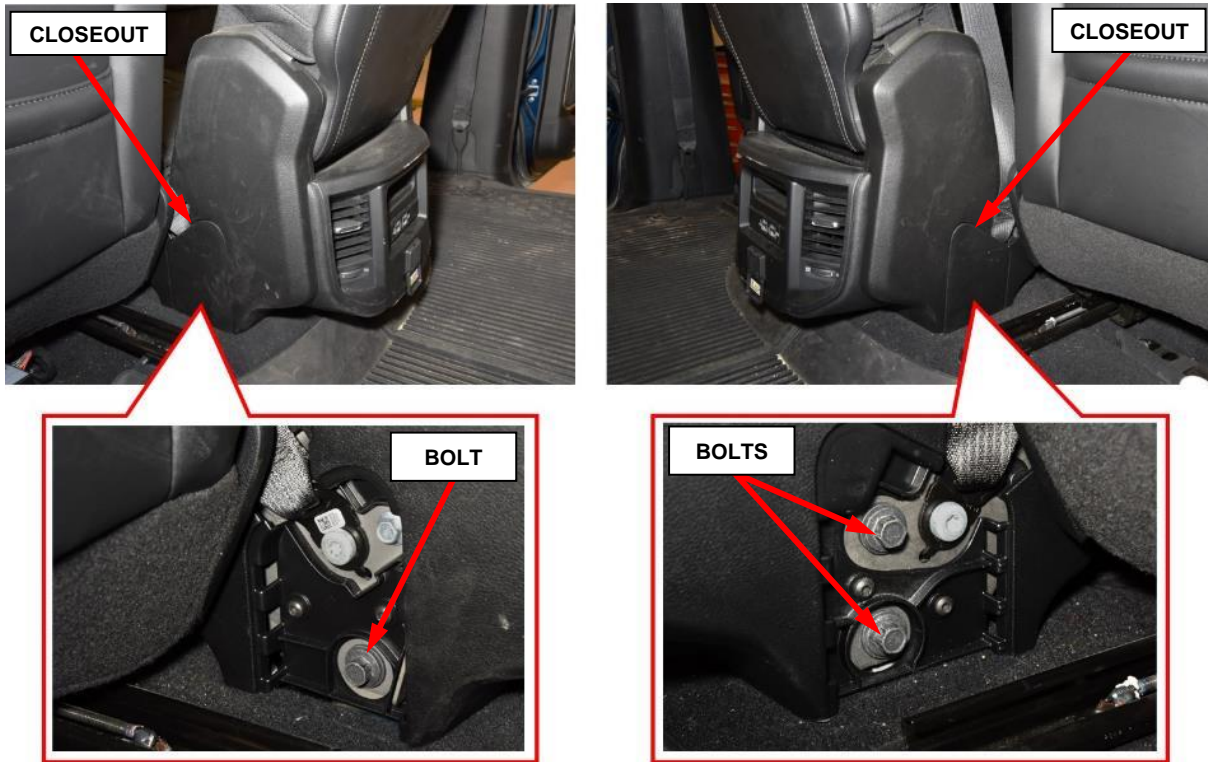


Figure 11 – Center Seat Rear Closeouts and Fasteners

11. Lift and support the center seat at the rear then disconnect the wire harness electrical connector (Figure 12).

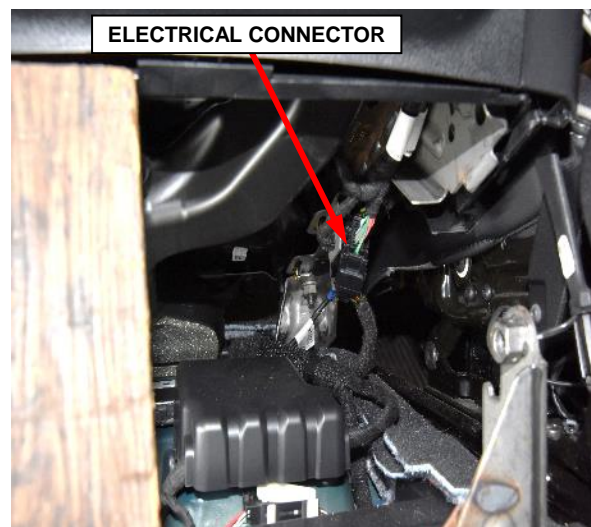


Figure 12 – Electrical Connector

Service Procedure [Continued]

12. Pull slightly rearward to separate the air duct under the seat, then lift out and remove through the rear door (Figure 13).



Figure 13 – Air Duct

13. Remove the ORC cover (Figure 14).

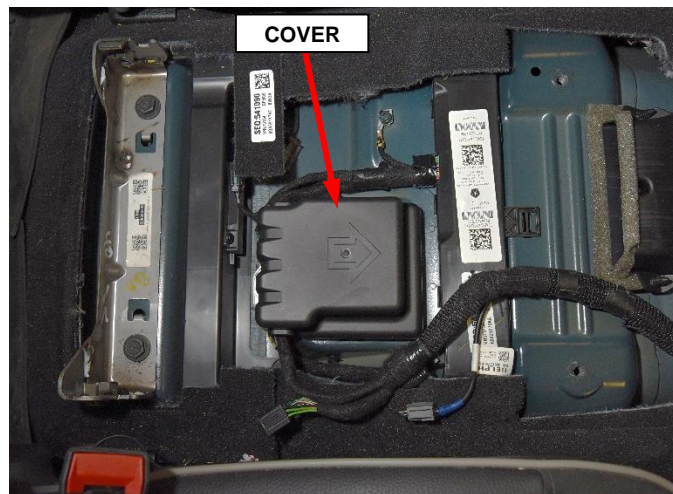
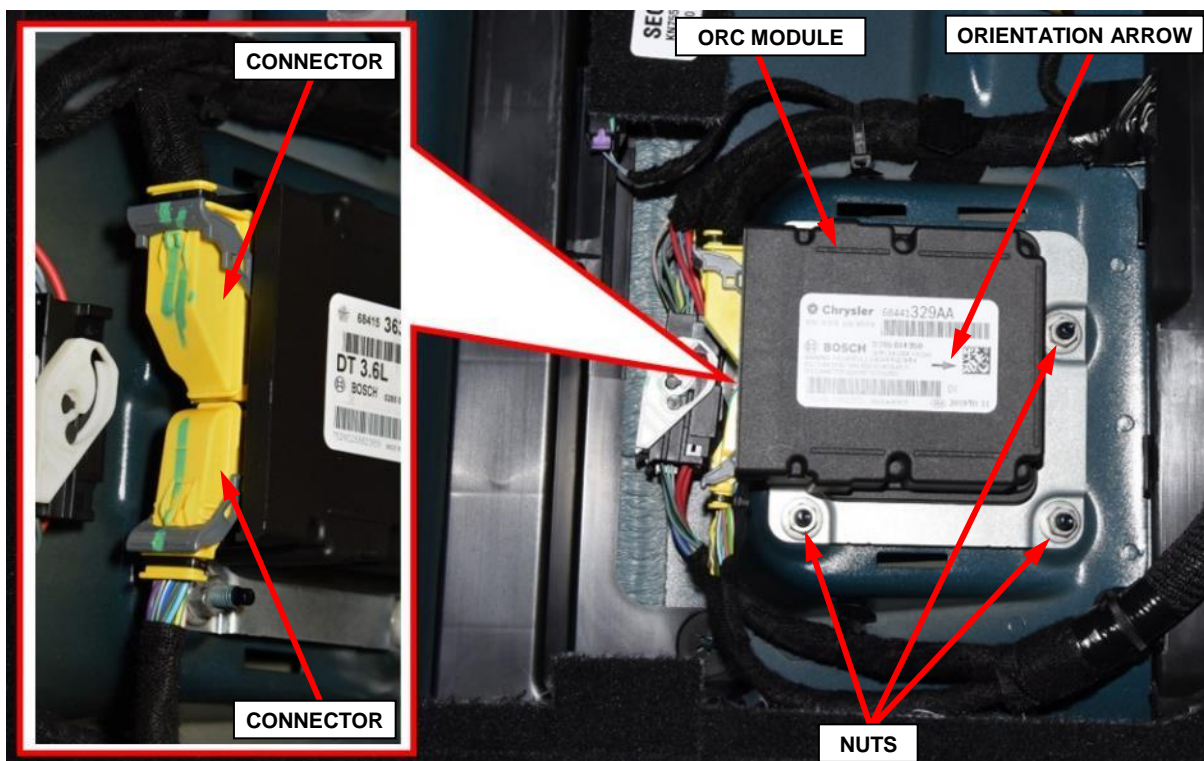


Figure 14 – ORC Cover

Service Procedure [Continued]

14. Disconnect the wire harness connectors from the ORC (Figure 15).
15. Remove the three nuts that secure the ORC to the weld studs on the floor panel center tunnel (Figure 15).
16. Remove the ORC from the vehicle (Figure 15). Render the ORC unusable and discard the ORC.
17. Carefully position the NEW ORC on the weld studs on the top of the floor panel center tunnel. When the ORC is correctly positioned, the bottom of the housing will fit flush with the top of the center floor and the orientation arrow on the label on top of the housing will be pointed forward in the vehicle (Figure 15).
18. Install the three nuts that secure the ORC to the weld studs on the top of the floor panel center tunnel. Tighten the nuts to 12 N·m (9 Ft. lbs.) (Figure 15).
19. Connect both ORC wire harness connectors. Be certain that the latch on each connector is fully engaged (Figure 15).

**Figure 15 – ORC Module**

Service Procedure [Continued]

20. Install the ORC cover (Figure 14).
21. Position the front center seat into the vehicle and locate it to the front air duct (Figure 13).
22. Lift and support the center seat at the rear and connect the wire harness electrical connector (Figure 12).
23. Loosely install all center seat bolts, then tighten the rear bolts to 70 N·m (52 Ft. lbs.) (Figure 11).
24. Install the rear bolt closeouts (Figure 11).

WARNING: During the following SRS verification test, the negative cable remains disconnected and isolated from the battery, as it was during the SRS component removal and installation procedures. Failure to follow these instructions may result in possible serious or fatal injury.

25. **For vehicles equipped with a standard key ignition:**
 - a. Turn the ignition to the run position.
 - b. Check to be certain that nobody is in the vehicle.
 - c. Connect the 12-Volt battery. If equipped with an IBS, connect the IBS connector. Secure the negative battery cable eyelet to the IBS M8 stud using the M8 nut. Tighten the M8 nut to 7 N·m (62 In. lbs.). Overtightening of the M8 nut for the negative cable to the IBS will cause damage to the IBS or break the stud for the nut (Figure 10).

Service Procedure [Continued]

26. For vehicles equipped with Keyless Go ignition:
- Remove the steering column opening cover (Figure 16).
 - Remove the ORC fuses F28 and F65 (Figure 16).
 - Connect the 12-Volt battery, wait two minutes before proceeding. If equipped with an IBS, connect the IBS connector. Secure the negative battery cable eyelet to the IBS M8 stud using the M8 nut. Tighten the M8 nut to 7 N·m (62 In. lbs.). Overtightening of the M8 nut for the negative cable to the IBS will cause damage to the IBS or break the stud for the nut (Figure 10).
 - Cycle the ignition to the on position.
 - Connect the ORC fuses F28 and F65 (Figure 16).
 - Install the steering column opening cover (Figure 16).



Figure 16 – ORC Fuses F28 and F65

Service Procedure [Continued]

27. Position the front seats fully rearward.
28. Install the center seat front bolts, then tighten the bolts to 70 N·m (52 Ft. lbs.) (Figure 9).
29. Install the front of the storage bin (1) (Figure 8).
30. Install the storage bin push pin fasteners (1) (Figure 7).
31. Install the storage bin liner (2) (Figure 7).
32. Position the front seats back to customer preferred position.
33. Connect the battery charger and connect the wiTECH MicroPod II to the vehicle data link connector then begin a wiTECH 2.0 session.
34. From the “Action Items” screen, select the “Topology” tab.
35. From the “**Topology**” screen, click on the “**ABS**” icon.
36. From the “**ABS**” screen, select the “**Misc Functions**” tab.
37. Perform the “**ABS Initialization**” routine and follow the screen prompts.
38. Select “**Clear All DTCs**” and then select “**Close**”.
39. From the “**Topology**” screen, click on the “**ORC**” icon.
40. From the “**ORC**” screen, select the “**Misc Functions**” tab.
41. Perform the “**ORC Initialization**” routine and follow the screen prompts.

Service Procedure [Continued]

42. Select “**Clear All DTCs**” and then select “**Close**”.

43. Remove the battery charger from the vehicle and then close the hood.

44. Place the vehicle ignition in the “**OFF**” position, unplug the wiTECH MicroPod II and open and close the driver’s door. Let all modules go to sleep (This should take approximately one minute).

45. Reconnect wiTECH 2.0 and clear any DTCs which may have been set.

46. Return to **Section A. Reprogram the ORC Module** to verify that the ORC module software level is up to date or flash the ORC module to bring it to the latest software level before returning vehicle to the customer or inventory.

Completion Reporting and Reimbursement

Claims for vehicles that have been serviced must be submitted on the DealerCONNECT Claim Entry Screen located on the Service tab. Claims paid will be used by FCA to record recall service completions and provide dealer payments.

Use one of the following labor operation numbers and time allowances:

	Labor Operation Number	Time Allowance
Inspect ORC Module Software level	18-V7-11-81	0.2 hours
Inspect and Reprogram ORC Module Module with Latest Software Level Includes ABS Initialization	18-V7-11-82	0.2 hours
Inspect and Replace ORC Module Includes Reprogramming ORC with Latest Software Level Includes ABS Initialization	18-V7-11-83	0.9 hours

Dealer Notification

To view this notification on DealerCONNECT, select “Global Recall System” on the Service tab, then click on the description of this notification.

Owner Notification and Service Scheduling

All involved vehicle owners known to FCA are being notified of the service requirement by first class mail. They are requested to schedule appointments for this service with their dealers. A generic copy of the owner letter is attached.

Vehicle Lists, Global Recall System, VIP and Dealer Follow Up

All involved vehicles have been entered into the DealerCONNECT Global Recall System (GRS) and Vehicle Information Plus (VIP) for dealer inquiry as needed.

GRS provides involved dealers with an updated VIN list of their incomplete vehicles. The owner's name, address and phone number are listed if known. Completed vehicles are removed from GRS within several days of repair claim submission.

To use this system, click on the “**Service**” tab and then click on “**Global Recall System.**” Your dealer's VIN list for each recall displayed can be sorted by: those vehicles that were unsold at recall launch, those with a phone number, city, zip code, or VIN sequence.

Dealers must perform this repair on all unsold vehicles before retail delivery. Dealers should also use the VIN list to follow up with all owners to schedule appointments for this repair.

Recall VIN lists may contain confidential, restricted owner name and address information that was obtained from the Department of Motor Vehicles of various states. Use of this information is permitted for this recall only and is strictly prohibited from all other use.

Additional Information

If you have any questions or need assistance in completing this action, please contact your Service and Parts District Manager.

Customer Services / Field Operations
FCA US LLC