



INSTALLATION INSTRUCTIONS

Unlocked "301" DQ381 TCU Swap

UH002-DR2

Unitronic recommends that you read through the entire installation instructions prior to beginning the installation to familiarize yourself with the included components, tools required, and procedures involved with the installation.

DISCLAIMER: UNITRONIC STRONGLY RECOMMENDS PROFESSIONAL INSTALLATION OF THIS PRODUCT.

Unitronic Installation Instructions are also available in digital format, if you prefer. Please visit the corresponding product page for a link to download the digital Installation Instructions.
www.getunitronic.com

This product is covered under a limited 3-month warranty from the original date of purchase to the original purchaser. Please contact Unitronic if you have any questions or concerns.

DO NOT ATTEMPT TO REFLASH THE TCU MEMORY WITHOUT FIRST REACHING OUT TO UNITRONIC SUPPORT BEFORE ANY REFLASHING IS ATTEMPTED.

It is recommended to confirm all parts are present prior to beginning the installation.

PACKING LIST:

Part Number	Description	Quantity
UH002-DR2	Unlocked "301" DQ381 TCU	1

RECOMMENDED TOOL NEEDED:

- 6mm, 8mm, and 14mm Allen Hex Bit
- 7mm Socket
- 10mm socket
- 0-100nm Torque Wrench
- T20, T25, and T30 Torx bit
- Oil Catch Pan
- VCDS (VagCom), ODIS (Factory Tool), or Equivalent scan tool



GETUNITRONIC.COM

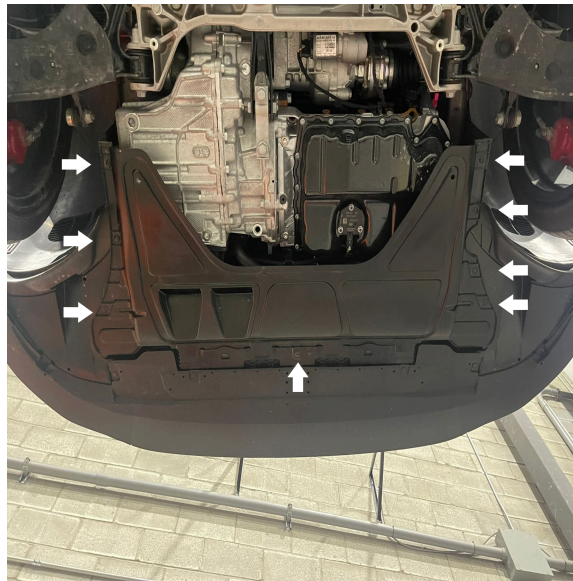
1

QUESTIONS OR CONCERNS? CALL US TOLL-FREE AT 1.866.341.2447 OR EMAIL US AT INFO@GETUNITRONIC.COM

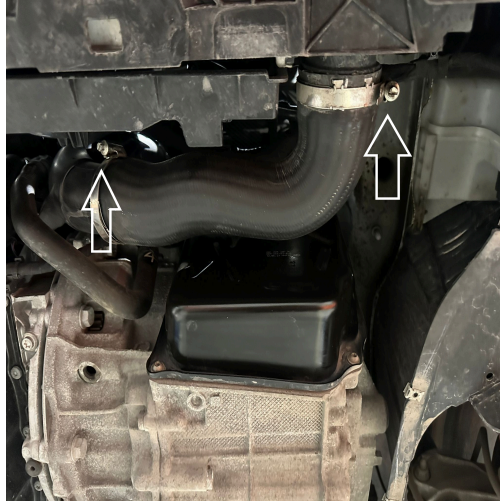
List of recommended parts for a successful TCM replacement:

- 9x N 105 540 02 Mech Unit Bolts
- 1x N 909 654 01 Mech Unit drain bolt with washer
- 4x N 910 327 02 - Mech Unit out pan bolts
- 1x 0GC 927 377 Seal for Mech Unit Connector on Mech pan
- 1x 0GC 325 183 A - DQ381 DSG Filter
- 1x N 043 809 2 - Crush washer for main Drain bolt
- 1x N 910 845 01- Filter housing O-ring
- 6x G 055 529 A2 - DQ381 DSG OEM oil

1. Safely jack up your vehicle and secure it using jack stands to gain access to the underside of the vehicle. For this service, it is required to have the vehicle as level as possible. It is also recommended to clean your workspace in preparation for the mechatronic unit to be split from the TCM.
2. Place the vehicle into Park and engage the emergency brake
3. Disconnect the negative battery terminal using a 10mm socket or wrench
4. Under the vehicle, remove the eight (8) T25 Torx from the belly pan



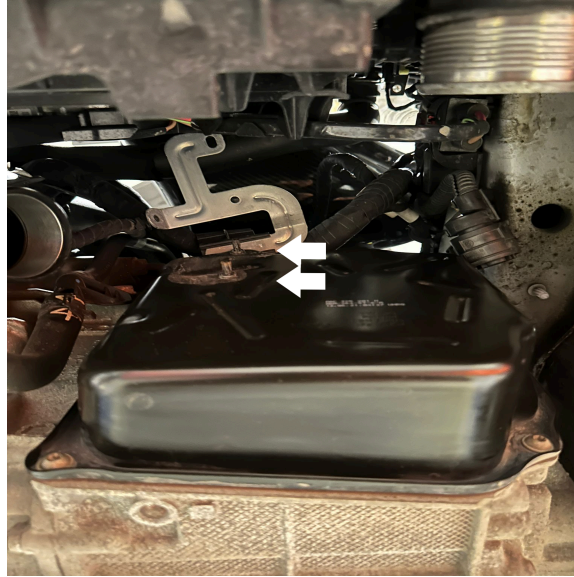
5. Using a 7mm socket, remove the charge pipe silicone completely from the vehicle.



6. Disconnect the TCM connector by turning the locking tab counterclockwise (to the left). Once turned, the connector must be pulled towards the front of the vehicle.



7. Using a 10mm socket, remove the two (2) fasteners that hold the harness bracket to the front of the Mechatronic pan and move the bracket out of the way.



8. Remove the Mechatronic retainer clip. This may be easier from the top of the vehicle with the airbox removed.



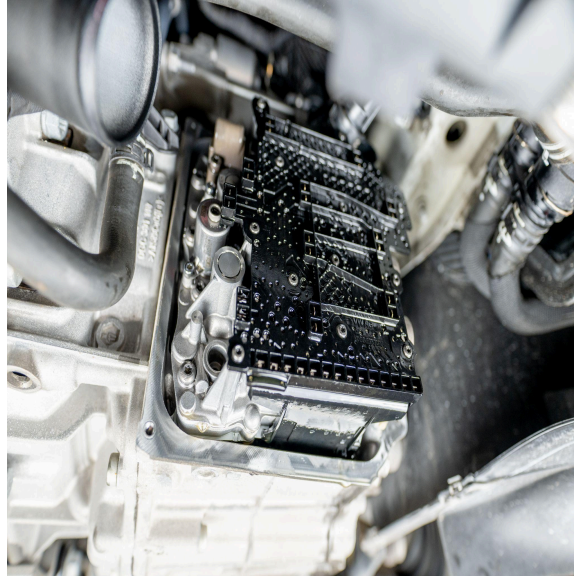
9. Using a catch pan and a 14mm Allen hex bit, remove the main DSG drain plug on the bottom of the transmission.



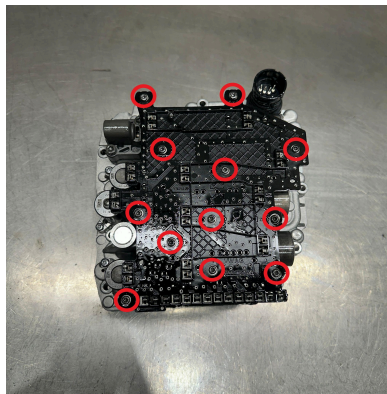
10. With the 14mm drain plug removed, use an 8mm hex bit to remove the transmission fill tube inside the main drain port. The majority of the transmission fluid will drain with the fill tube removed.
11. Using a 6mm Allen key and your catch pan, slowly remove the mechatronic drain plug on the side of the transmission. It is recommended to slowly remove the drain plug to control the flow of the fluid.



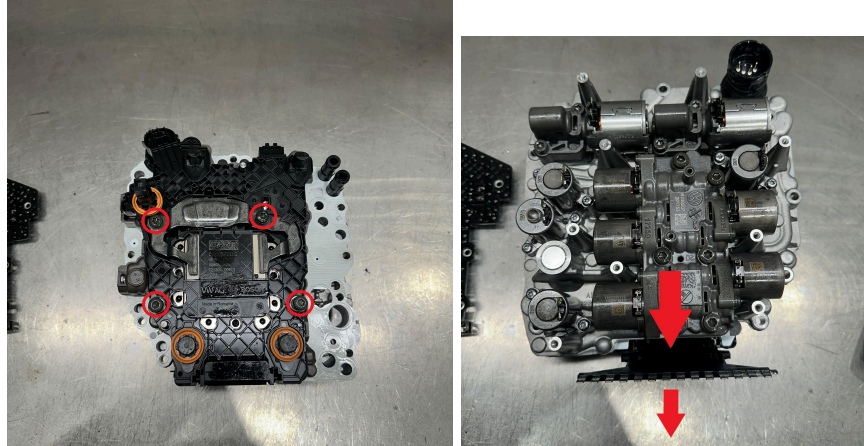
12. Using a T30 Torx bit, remove the four (4) fasteners that hold the Mechatronic cover to the transmission, and remove the cover completely. Be sure to have a catch pan ready, DSG oil will spill when the cover is removed.
13. Using a T30 torx, remove the nine (9) fasteners that hold the mechatronic into the transmission. It is recommended to have someone hold the mechatronic in place while the last bolt is removed to ensure it does not fall out of the transmission.



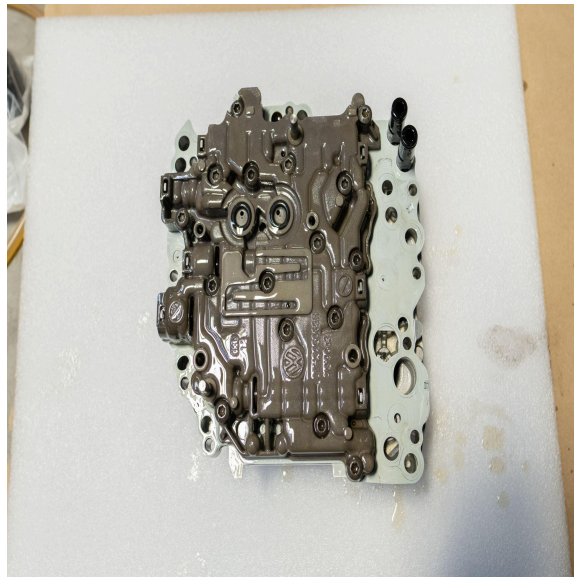
14. With the mechatronic placed on a clean workspace, remove the twelve (12) T20 torx fasteners from the front side of the mechatronic unit and remove the plastic cover by pulling up on the plate. This plate is connected to the mechatronic and the TCM. Use even force when removing the plate from the mech unit.



15. Use a T30 Torx to remove the four (4) fasteners holding the TCM to the mechatronic. The connector portion can be flipped out to clear the mechatronic when being removed.



16. Carefully split the TCM from the mechatronic, taking note of the orientation of the unit. The 0301 TCM will need to be placed in the same orientation.



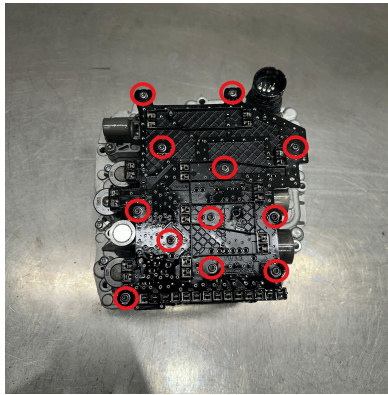
17. Some TCMs may not come with the Cutch Pressure Sensor Plate installed. This will require you to swap the CP plate from your existing TCM to the new 0301 TCM. To remove the plate, use your finger to push down on the tab in the photo and pull the plate up and to the left to release it from the tabs. **This should not require excessive force to remove or install.**



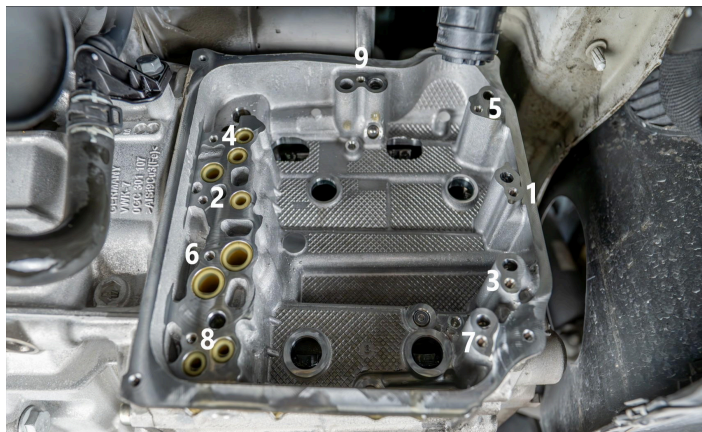
18. Place the clutch pressure sensor plate onto the 0301 TCM by first sliding in the right side of the plate under the tab shown in the photo below, then push into place, ensuring that the plate clips in and is 100% seated



19. Place the new 0301 TCM on the mech unit and use the four (4) fasteners that were removed to secure the TCM to the mech. The fasteners are different lengths, take note of the position and replace them in the same orientation.
20. Reinstall the plate using the twelve (12) fasteners that were removed in step 13. With the plate reinstalled, ensure that all the contacts are making contact with the Mech unit and TCM.



21. Place the mech unit back into the transmission carefully aligning the unit inside the transmission.
22. Reinstall the nine (9) fasteners holding the mech unit to the transmission. These torque to 8NM + 45 degrees. Please follow the torque sequence. It is recommended to replace the bolts on the Mech unit once removed.



23. Reinstall the transmission Pan using the four (4) fasteners. (8Nm + 60°)
24. Plug the Mechatronic connector. This plug should not be forced, if it is being forced it is not in the correct position.
25. Reinstall the mechatronic unit drain plug and tighten to 10Nm + 45°.

26. Reinstall the electrical bracket that was removed in step 7 and the charge pipe that was removed in step 5.
27. Reinstall the transmission fill tube, this should be hand-tight (Do not over-torque the fill tube)
28. Fill the transmission with the manufacturer-specified gear oil and follow the steps below to correctly set the level.

[THE FOLLOWING STEPS REQUIRE ROSS-TECH VCDS, OBDELEVENT OR SIMILAR DIAGNOSTIC TOOL]

29. A Ross-Tech VCDS®, OBDeleven cable or similarly capable diagnostic scan tool is required in order to proceed with the following sequence to run the following test(s) in order to reset the clutch characteristic curve.
 1. Turn Ignition ON. DO NOT START THE ENGINE.
 2. Ensure the gear selector is in Park
 3. Plug in the scan tool and navigate to 02-Auto Transmission. The remainder of the instructions will be done assuming you are using VCDS, but the OBDeleven procedure is very similar.
 4. Navigate to Advanced Measuring Values and note the values for:
 - Clutch 1 Adaption Basic Characteristic Point 0
 - Clutch 1 Adaption Basic Characteristic Point 1
 - Clutch 1 Adaption Basic Characteristic Point 2
 - Clutch 1 Adaption Basic Characteristic Point 3
 - Clutch 2 Adaption Basic Characteristic Point 0
 - Clutch 2 Adaption Basic Characteristic Point 1
 - Clutch 2 Adaption Basic Characteristic Point 2
 - Clutch 2 Adaption Basic Characteristic Point 3
 5. Navigate to Basic Settings and choose Reset Clutch Characteristic Curve from the drop-down menu.
 6. Click “GO”. The clutch characteristic curve will be instantly reset. You may not see it happen and it may immediately say “Not Running”. You can confirm that it was completed by comparing the Clutch Adaptation Basic Characteristic Points now to when you recorded it in Step 4. The values should now be reset.
 7. You are now finished. Take the vehicle for a drive starting at slow speeds, and allow the gearbox to go through all the gears.

ATTENTION — The clutches will need time to fully adapt. Adaptations are continually taking place in the DQ381 during all driving at all times, but ensure you allow for at least 100 km's of mixed driving to allow for adaptations to take place to creeping, up-shifts, and down-shifts through low, middle, and high load driving scenarios. You may notice initially that releasing your foot off the brake pedal results in slow reaction to move forward (creeping) initially, but this should improve over time. You may also notice the clutch engagement when lightly accelerating from a stop after releasing your foot off the brake pedal may be harsher than usual, but this should improve over time.

Congratulations you have successfully installed your 301 TCU.
Remember, the TCU has already been tuned with Unitronic's TCU Performance Software.

DO NOT ATTEMPT TO REFLASH THE TCU MEMORY WITHOUT FIRST REACHING OUT TO UNITRONIC SUPPORT BEFORE ANY REFLASHING IS ATTEMPTED.

REFLASHING THE TCU WITHOUT FIRST REACHING OUT TO UNITRONIC SUPPORT CAN RENDER YOUR VEHICLE INOPERABLE AND MAY RESULT IN THE TCU COMING BACK TO UNITRONIC HQ FOR RE-PROCESSING.

THIS PRODUCT IS COVERED BY A LIMITED 3-MONTH WARRANTY FROM DATE OF ORIGINAL PURCHASE TO THE ORIGINAL PURCHASER.



GETUNITRONIC.COM

11

QUESTIONS OR CONCERNS? CALL US TOLL-FREE AT 1.866.341.2447 OR EMAIL US AT INFO@GETUNITRONIC.COM