According to the vehicle identification, the following filter criteria could not be filtered automatically in this contribution. Please observe the limits listed for this contribution!

Event memory entries:

Diagnostic address	Event code	Event type	Status
0002 - Transmission electronics	P173500: Position sensor for clutch 1 Electrical malfunction	-	static
0002 - Transmission electronics	P173500: Position sensor for clutch 1 Electrical malfunction	-	Intermittent
0002 - Transmission electronics	P173600: Position sensor for clutch 2 Electrical malfunction	-	Intermittent
0002 - Transmission electronics	P173600: Position sensor for clutch 2 Electrical malfunction	-	static

Basic filtering of vehicle description

Brand	Model year	Sales model	Engine code	Gearbox code	Final drive code
V	2020	% - ---	%	%	%
V	2020	% - ---	%	%	%
PR numbers					
0EX and without NI7 0EX and without NI9 0EX and without NI8					

Technical product information **Transaction No.: 2058102/28**

Transmission: gearbox warning lamp/various event entries (under 0002)

Release date 26-Aug-2024

Customer statement / workshop findings

Customer statement:

- The transmission warning light on.

Workshop findings:

- The customer statement can be reproduced.

- There are no issues with the gear changing of the vehicle.

At least one of the following event entries must be logged in the gearbox control unit (diagnosis address: 0002, sporadic/ static):

- P173500 – position sender for clutch 1, electric fault

  – Symptom: 10666 **and/or**

- P173600 – position sender for clutch 2, electric fault

  - Symptom: 10668

NOTICE

Observe the symptom number. This TPI only applies if the previously specified symptom number is logged for the event entry. If, for example, event entry P173500/P173600 includes a symptom number other than 10666/10668, this TPI does not apply. In this case the event entry must be completed with the ⇒ Guided Fault Finding. But the costs for the repair cannot be accounted on this TPI.

Revision history:

Revision number:	Type of change:
2058102/28	Header changed Measure changed Attachment(s) changed

NOTICE

The table is not changed, if only the header is amended in a revision.

Technical background

Component-related deviation in the gearbox control unit.

Production change

—

Measure

Check software part number/software version number of the gearbox control unit and (if necessary) replace gearbox control unit. Also refer to FAQ Hub Bulletin VW0036-21 for further support.

NOTICE

Required special tools, testers and equipment:

- ESD workplace -VAS 6613-

NOTICE

In order to ensure a smooth data transmission and therefore a prompt parts supply, if the dealer details are changed (importer number/region number/dealer number) the ODIS licenses have to be updated in the ODIS tester via the eshop.

NOTICE

ODIS: From 12.01.2022 the ODIS service patch version 8.2.0 and the baseline version (diagnosis data dib_GFF-v) 2022.01.00 -> 2.44.0 or higher must be installed.

CAUTION

Risk of destruction of electric components of the mechatronic unit due to electrostatic charge.

- Before working on electric components of the mechatronic unit touch ground (ESD workplace -VAS 6613-).
- Do not directly touch the connector contacts or electronic components!

NOTICE

After the replacement of the gearbox control unit the immobiliser has to be readjusted. It is always necessary for all vehicle keys to be available.

NOTICE

On the DQ381 two different control units are used. Therefore the identification number of the mechatronic unit must be read in advance.

NOTICE

The identification number is made up of the first three and the last digit of the part number of the mechatronic unit. The 4th digit indicates the part order.

- **The identification number is automatically determined as part of the ⇒ Guided Fault Finding.** – Example: “0GCB”

NOTICE

Note:

- If a mechatronic unit with identification number “0BHK” is fitted, this TPI does not apply.
- In this case the complete mechatronic unit must be replaced.

NOTICE

Compare the read software part number/software version number with the software part number/software version number in the ⇒ attachment: DQ381/ DQ500 software. If the read software part number/software version number is not listed in the ⇒ attachment: Software DQ381/DQ500, the following note must be observed.

NOTICE

Note:

- If the read software part number/software version number does not correspond to the vehicle data in the ⇒ attachment: software DQ381/DQ500, contact your responsible Product Technical/importer via a "technical enquiry". But the resulting repairs cannot be accounted with this TPI.
- The software versions listed in the ⇒ attachment: Software DQ381/DQ500 were up-to-date when this TPI was published. Further software versions may have been released since.
- A delivery of the correct control unit is only possible if the diagnosis log is sent with the respective event entry and processed test plan.

NOTICE

The delivery of a control unit is only possible if, at the start of the diagnosis session, 89 values are read and transmitted in the “global variables” under address “DA0002” (see attachments). Before ordering a control unit, check these values are complete. – If, during automatic reading out of the measured values, a fault is/missing values are established in the “global variables” under address “DA0002”, then the necessary values are read out again in the test program. In this case the measured values are shown several times in the “global variables” under address “DA0002”. Nevertheless, ordering the gearbox control unit is still possible in this case.

With the ⇒ vehicle diagnostic tester read under the diagnosis address 0002 – use the test plan of the ⇒ Guided Fault Finding shown for the respective event entry.

-

  - Send the log directly under Protocol -> Diagnosis log.
  - Order required genuine parts according to the ⇒ parts information indicating the vehicle identification number (VIN).

NOTICE

In order to make sure the correct control unit for the gearbox is received, it is always necessary to indicate the vehicle identification number when order parts.

NOTICE

Because of cleanliness rules only perform the installation work after receiving all genuine parts needed and do so in a consistent procedure.

NOTICE

- Before the installation of the control unit it must be ensured that the vehicle identification number on the packaging of the delivered control unit is identical with the existing vehicle.
- If the vehicle identification number on the packaging of the delivered control unit is not identical to that on the existing vehicle (for whatever reason), the control unit must not be updated to the respective software version. In this case another control unit must be ordered.

CAUTION

Damage to the sensitive sensors on the back of the mechatronic unit due to touching/placing down of the mechatronic unit on the sensitive sensors.

- The sensitive sensors on the back of the mechatronic unit must not be touched.
- The mechatronic unit must not be propped up against the sensitive sensors on the back of the mechatronic unit (see illustration 1, in red).

Illustration 1）mechatronic unit/gearbox control unit

- After receipt of the genuine parts needed (see illustration 1), remove the mechatronic unit (see illustration 2, number 2) from the gearbox according to the ⇒ Workshop Manual.

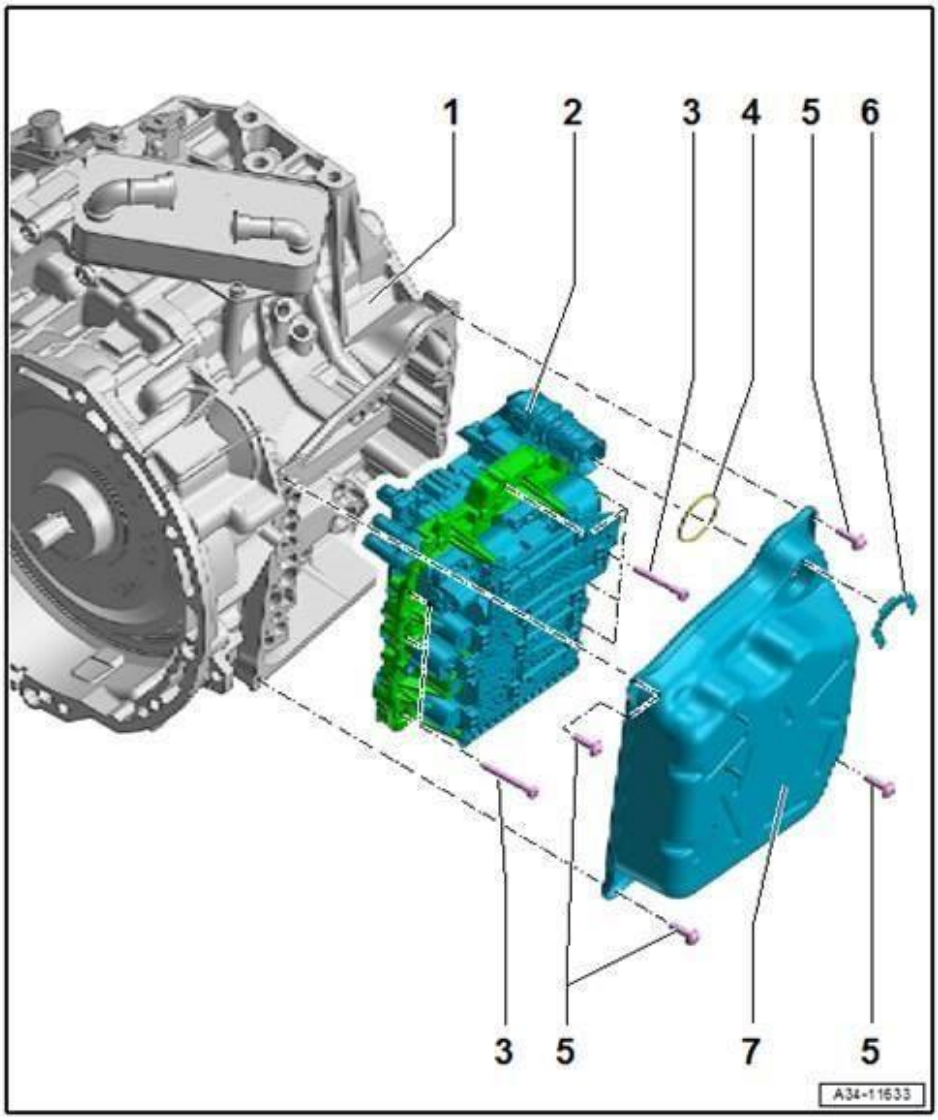

Illustration 2) mechatronic unit being removed and installed

CAUTION
Restricted functions/failure of mechatronic unit due to dirt particles or hairs. – The highest degree of cleanliness must be ensured when working on the mechatronic unit. – Make sure that no dirt particles or hairs get into the system.

- After removing the mechatronic unit, place it in the installation aid. Remove the control unit from the installation aid in advance and securely place it in the packaging.
- After placing the mechatronic unit in the installation aid, with the sensors pointing down (see illustration 3), the contact plate must be removed from the mechatronic unit. Loosen and remove the bolts (see illustration 4 or 5).

Illustration 3) mechatronic unit placed in the installation aid

- Position of the bolts on the contact plate.

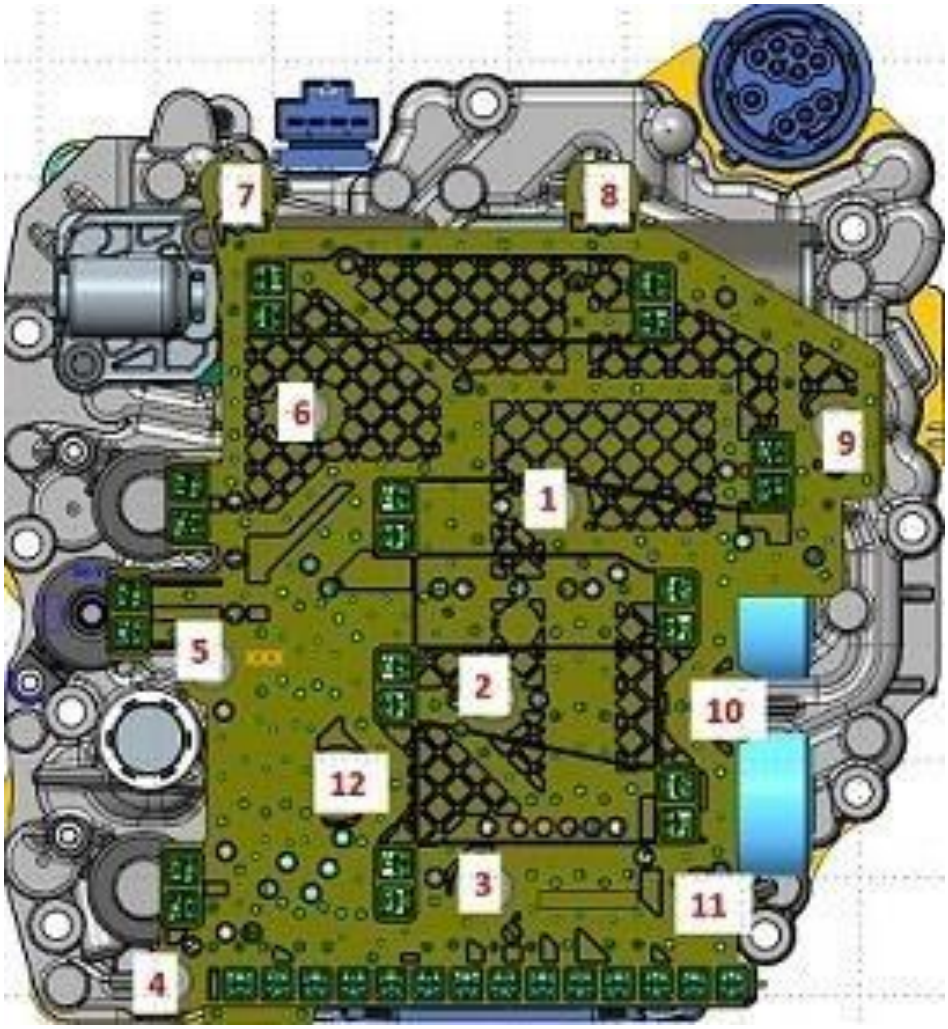

Illustration 4）
DQ381

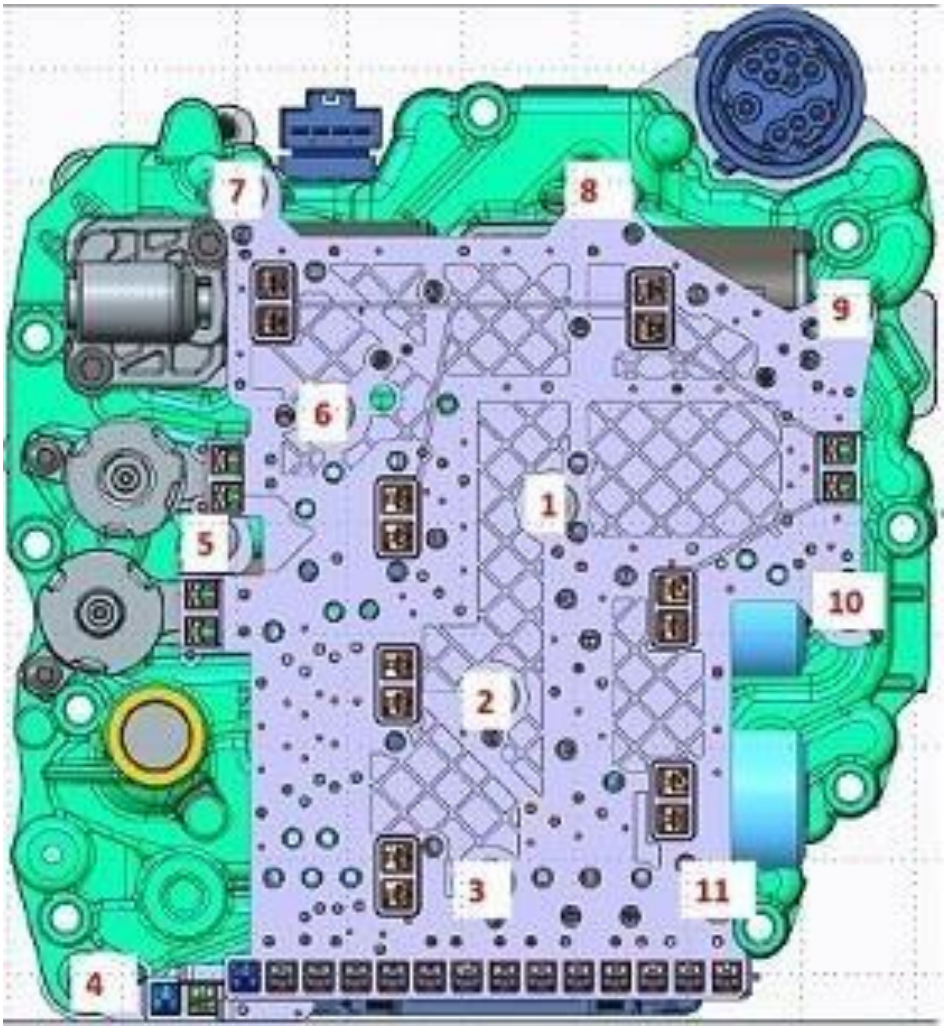

Illustration 5) DQ500

- Without levering, carefully remove the contact plate (see illustration 6, in red) evenly upwards from the mechatronic unit (see illustration, red arrows), beginning with the upper corners. Make sure that the contacts of the valves are not bent or damaged.

Illustration 6) detach contact plate from the mechatronic unit

- Remove mechatronic unit from the installation aid.
- Turn mechatronic unit around and place in the installation aid (see illustration 7). Make sure that the valve contacts and sensors are not damaged.

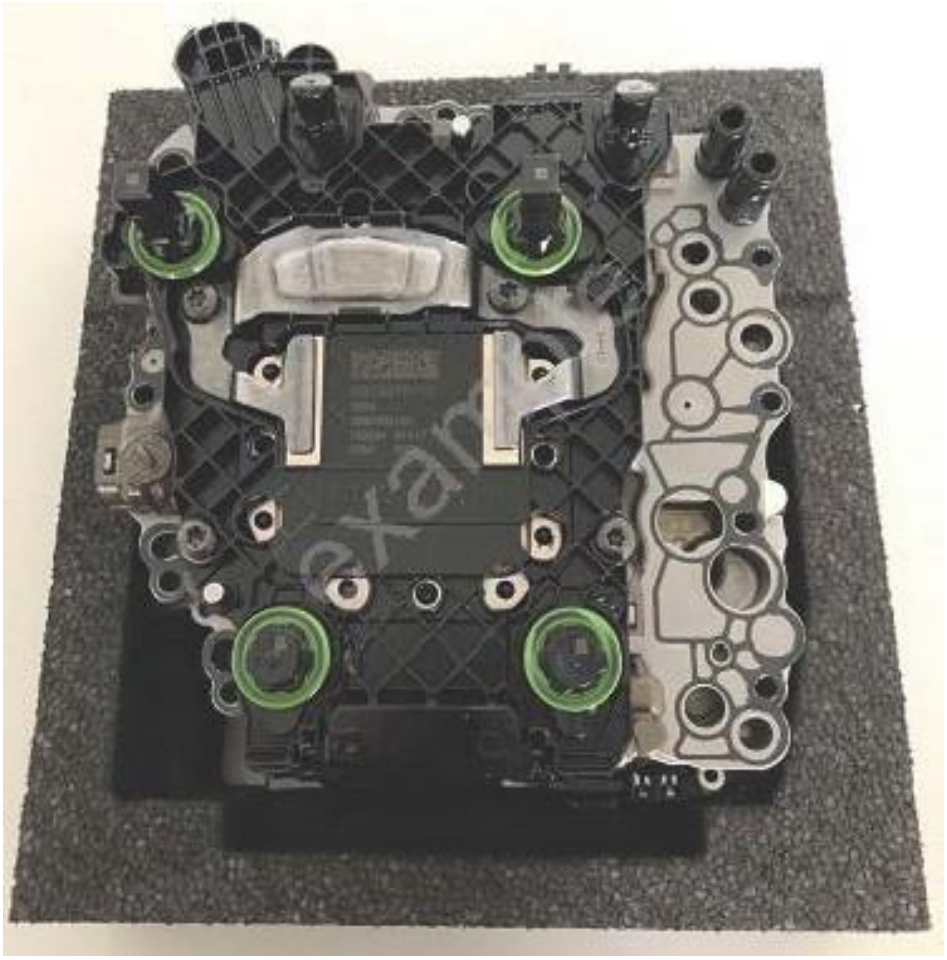

Illustration 7) mechatronic unit placed in the installation aid with the control unit (on top)

- Hinge down clamp between contact plate and control unit to the side in the direction of the arrow (less than 10°, see illustration 8, red arrow). The clamp clicks into the correct position when hinging down.

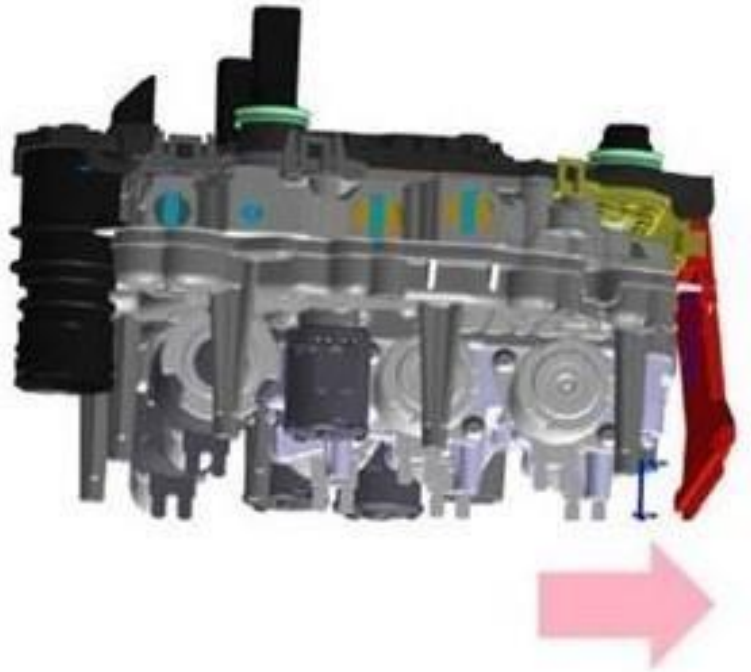

Illustration 8) hinging down of the clamp

- Remove the 4 bolts (see illustration 9, A, D short and B, C long). Then carefully detach the gearbox control unit upwards from the mechatronic unit.

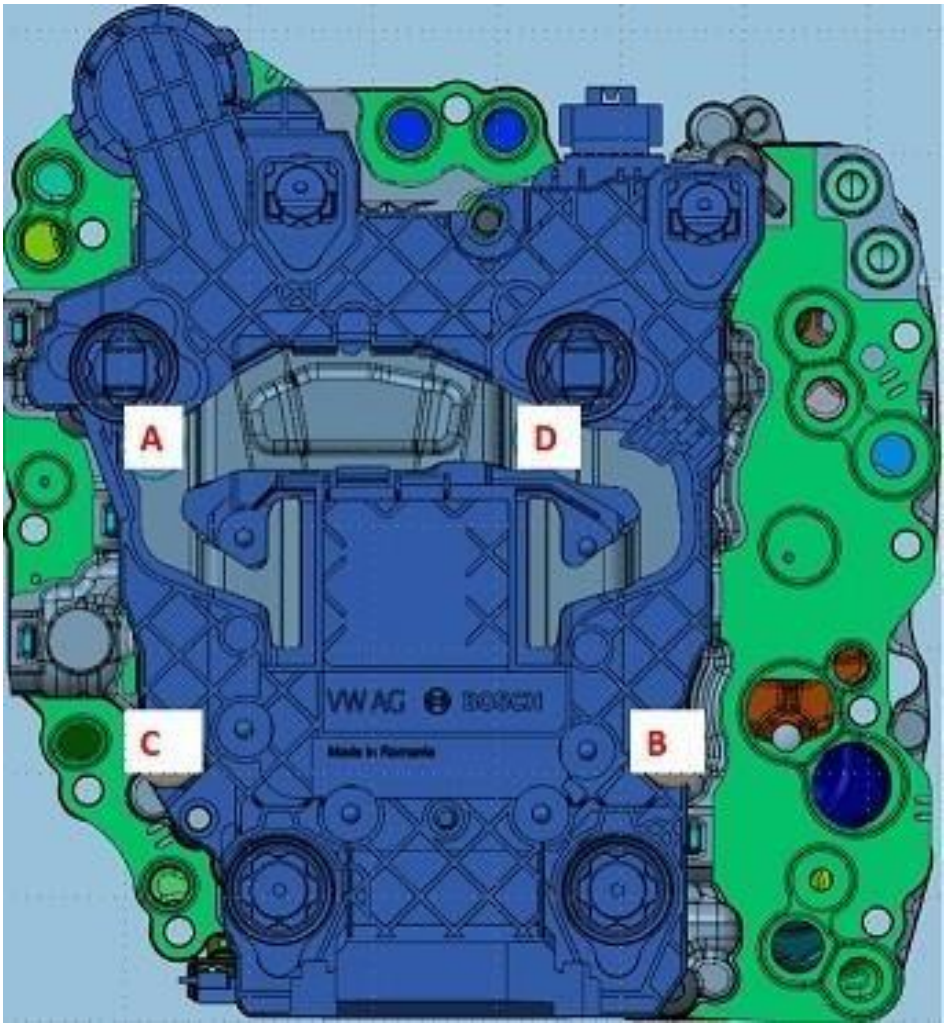

Illustration 9) gearbox control unit bolts

- Replace the seals of the pressure sensors (see illustration 10). Make sure of the correct fit of the seals (see illustration 10, red arrows).

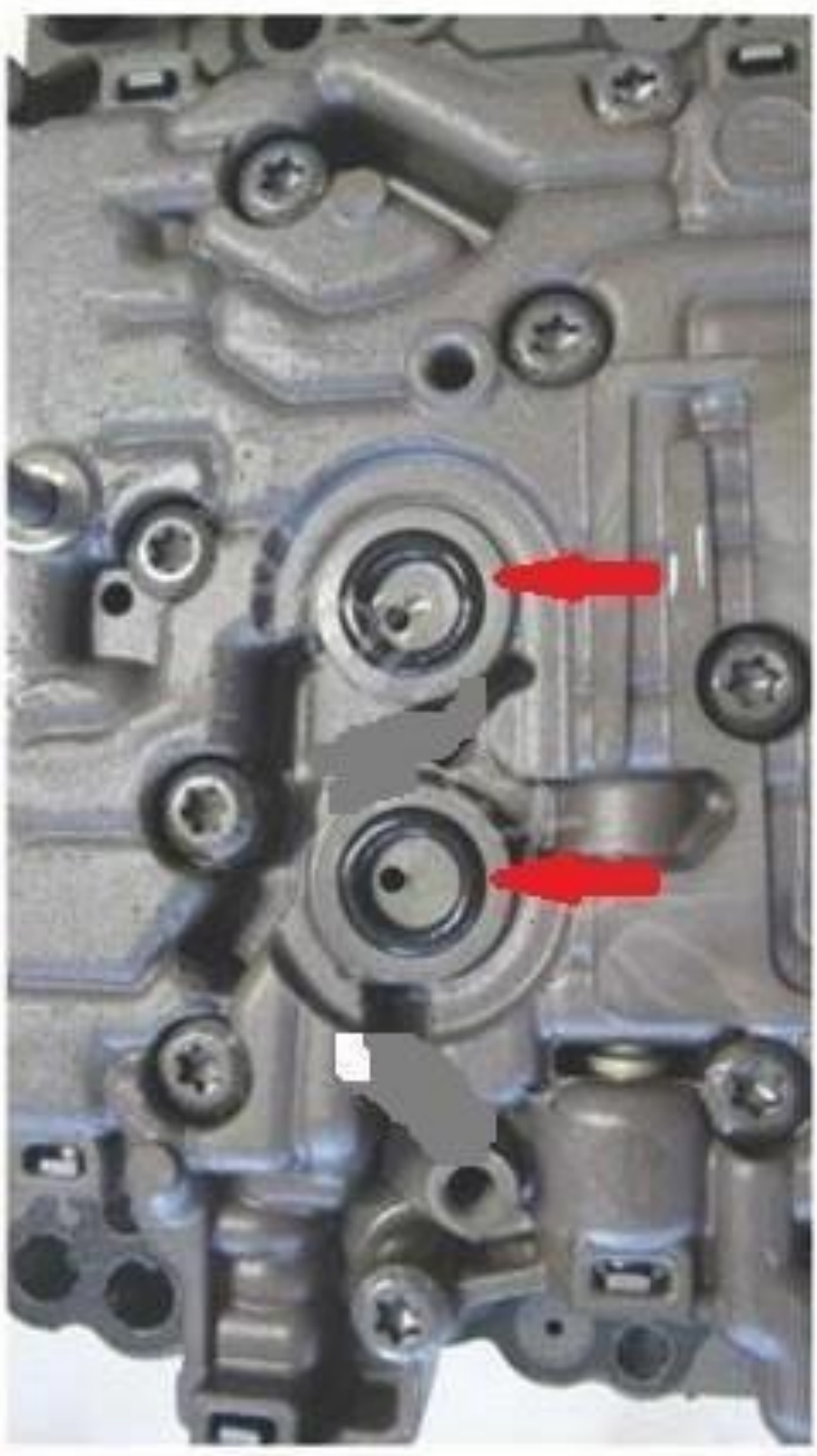

Illustration 10) correct fit of the pressure sensor seals

- Install in reverse order.
- Tighten control unit with new bolts in 2 steps.

- 1. Tightening step:

  – Bolt A and D (short): 6 Nm –

  Bolt B and C (long): 4.5 Nm

- 2. Tightening step:

  – Bolt A and D (short): 8Nm + 30°

  – Bolt B and C (long): 5Nm + 25°

- Place down new contact plate and catch onto the contacts so that it is audible.

NOTICE

When pressing on the contact plate it must be made sure that all contacts are in the planned/correct plugs and are not bent (see illustration 11 and 12).

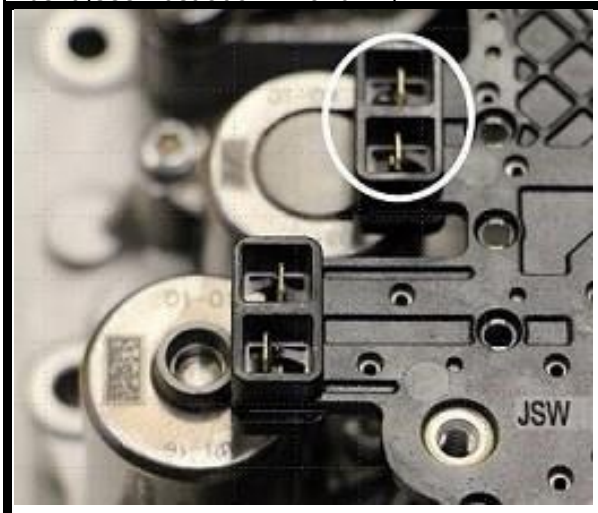

Illustration 11) contacts correct

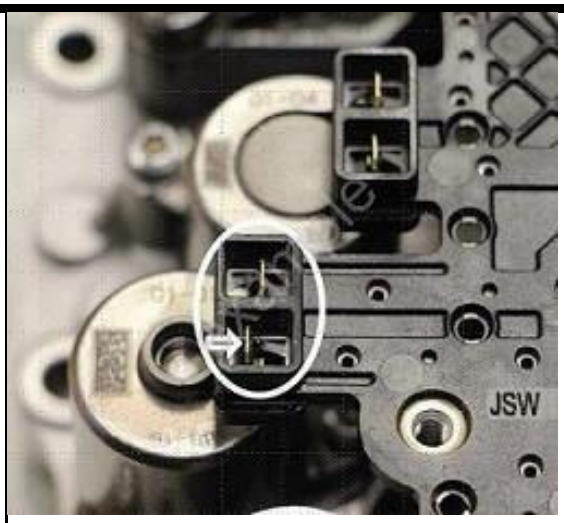

Illustration 12) contact incorrect

- Tighten contact plate with new bolts in the specified sequence (see illustration 4 or 5) in 2 steps.
- **DQ381 (illustration 4):**

  – 1. Tightening step: 2 Nm.

  – 2. Tightening step: 3Nm + 30°

  – Tightening sequence: 1 -> 2 -> 3 -> 12 -> 5 -> 4 -> 11 -> 10 -> 9 -> 8 -> 6 -> 7

- **DQ500 (illustration 5):**

  – 1. Tightening step: 2 Nm.

  – 2. Tightening step: 3Nm + 45°

  – Tightening sequence: 1 -> 2 -> 3 -> 4 -> 5 -> 6 -> 7 -> 8 -> 9 -> 10 -> 11 • Install mechatronic unit into gearbox with new cover for mechatronic unit according to the ⇒ Workshop Manual.

Warranty accounting instructions Service number/damage code: 3481/ 0040

NOTICE

For the simplified processing of the warranty accounting on the manufacturer side the TPI number must also always be included. In markets with DISS/SAGA coupling the TPI number is automatically used from the DISS system. In markets without DISS/SAGA coupling the “HST transaction number” field must be manually populated with the TPI number.

Model	Repair operation	Description	Time units
*	001500 V1	Prepare GFF/guided functions	According to APOS NF
*	001500 A8	Perform GFF/Guided Function	Labour according to diagnostic log
Software part number/software version number correct:			

*	305110 19	Remove and install mechatronic unit	According to APOS NF
*	305110 42	Repair mechatronic unit	**1.** 40 TU

NOTICE

- The labour times are correct at the time of publication. The time units may differ, if the repair operations catalogue has been updated. In this case the time allowances in the repair operations list apply. The open time items (...99) are exempt from this.
- The necessary time for using the ODIS tester is not included. The time must be accounted separately via the diagnostic log of the ODIS tester.
- The repair operation 001500 A8 for accounting the labour from the diagnostic log is created by APOS NF on the system side and automatically added to the shopping basket. − If one of the event entries listed in this TPI includes a symptom number other than specified this TPI does not apply. In this case the event entry must be completed with the ⇒ Guided Fault Finding. But the costs for the repair cannot be accounted on this TPI.

The repair operations include all measures according to the repair instructions.

Accounting with APOS:

Model	Main operation Associated operation	Repair operation	Description	Time units
*	Associated operation	01 50 00 60	GFF/guided functions	Labour according to diagnostic log
*	Associated operation	27 06 89 50	Charge battery	According to APOS
*	Associated operation	35 11 19 xx	Remove and install mechatronic unit	1. According to APOS
*	Associated operation	35 11 41 99	Repair mechatronic unit	2. 40 TU
The repair operations include all measures according to the repair instructions.				

1. Because of the model diversity use the repair operation and its previous and subsequent repair operations

2. separately from the repair operations

list. Use the specified times only for this TPI.

Accounting in APOS NF:

1. Use the specified times only for this TPI.

Parts information

NOTICE

Note:

- Before ordering the control unit it is always necessary to use ⇒ Guided Fault Finding to work through the shown test plan fo th respective event entry. A delivery of the correct control unit is only possible if the diagnosis log is sent online with the respectiv event entry and processed test plan.

NOTICE

The part numbers and indexes of this TPI are correct at the time of publication. There may be deviations, if the parts catalogue has been updated in the meantime. In this case the part numbers and indexes of the parts catalogue apply.

Part number	DQ381 Mechatronic unit part number 0GC.325.025.B/C/D	DQ381 Mechatronic unit part number 0GC.325.025.E/H	DQ500 Mechatronic unit part number 0GC.325.025.E/H	DQ500 Mechatronic unit part number 0BH.325.025.*	DQ500 Mechatronic unit part number 0DL.325.025.*	Quantity	Designa
0GC 927 711 G VI1	x					1	Control un
0GC 927 711 H VI1		x	x	x	x	1	Control un
0GC 927 709 A	x	x	x			1	Contact pl
0BH 927 709 A				x	x	1	Contact pl
N 101 243 04	x	x	x	x	x	2	Bolt for co unit (short)
N 104 057 05	x	x	x	x	x	2	Bolt for co unit (long)
N 904 552 02	x	x	x			12	Bolt for co plate
N 904 552 02				x	x	11	Bolt for co plate
WHT 004 007 B	x	x	x	x	x	2	O ring for pressure sensor
0GC 325 201 * (according to the ⇒ parts catalogue)	x	x	x	x	x	1	Cover for mechatron unit
N 105 540 02	x	x	x	x	x	9	Bolt for mechatronic unit

N 910 327 02	x	x	x	x	x	4	Bolt for mechatronic unit cover
G 052 182 A2			x	x	x	According to ⇒ Workshop Manual	Gear oil
G 055 529 A2	x	x				According to ⇒ Workshop Manual	Gear oil
0BH 325 147	x	x	x	x	x	1	Retaining clip
N 043 809 2	x	x	x	x	x	1	Seal
N 013 813 2			x	x	x	1	Seal