

TRANSMISSION

Clutch - S-Tronic Transmission 0B5 (Sedan)

CLUTCH

DESCRIPTION AND OPERATION

DUAL MASS FLYWHEEL AND DUAL CLUTCH OVERVIEW

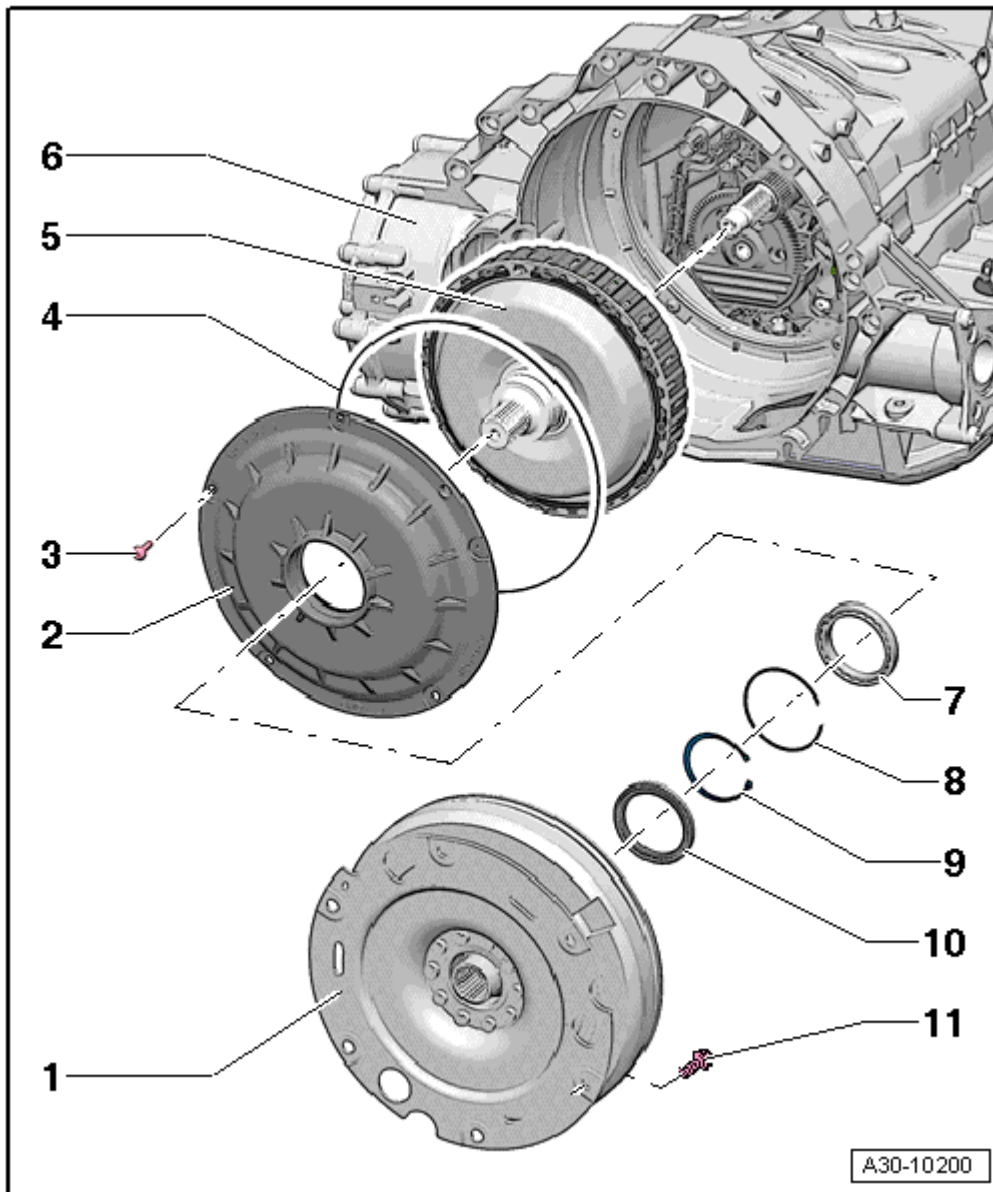


Fig. 1: Identifying Dual Mass Flywheel And Dual Clutch Overview
Courtesy of AUDI OF AMERICA, LLC

1. Flywheel
 - Removing and installing, refer to **DUAL MASS FLYWHEEL**.
2. Clutch Cover
 - Removing and installing, refer to **DUAL CLUTCH**.
3. Bolt
 - Tightening specification and sequence, refer to **Fig. 2**
4. O-ring
 - Replace
5. Dual Clutch
 - Removing and installing, refer to **DUAL CLUTCH**
 - Always perform the necessary "Guided Functions" on the vehicle diagnosis tester after replacing the dual clutch. Refer to **TRANSMISSION GUIDED FUNCTIONS** .
6. Transmission Housing
7. Ball Bearing
 - For the dual clutch
 - Replacing, refer to **INPUT SHAFT BALL BEARING, REPLACING**
8. Locking Ring
 - Replace
 - For ball bearing
9. Locking Ring
 - Replace
 - For the dual clutch
10. Shaft Seal
 - For the input shaft
 - Removing and installing, refer to **INPUT SHAFT SEAL**
11. Bolt
 - 60 Nm
 - Replace
 - Quantity: 6 for 6-cylinder engines

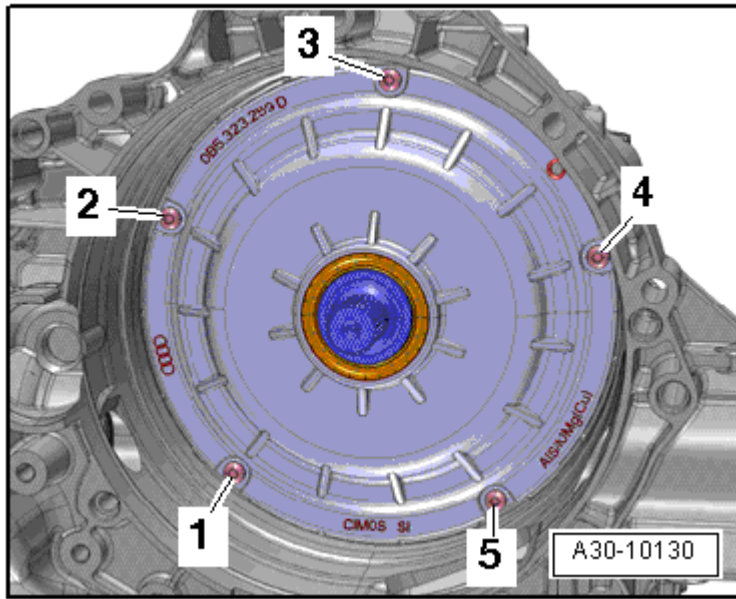


Fig. 2: Identifying Tightening Sequence For Dual Clutch And Clutch Cover
 Courtesy of AUDI OF AMERICA, LLC

- Tighten the bolts in 3 steps in the following sequence: -1 through 5- :
- Install by hand evenly until the bolt head contact the clutch cover.
- Tighten one after the other in 90° steps until the clutch cover contact the transmission housing.
- Tighten to 8 Nm.

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Components	Fastener Size	Nm
Dual Mass Flywheel	-	60

Tightening Specification and Sequence for the Dual Clutch and Clutch Cover

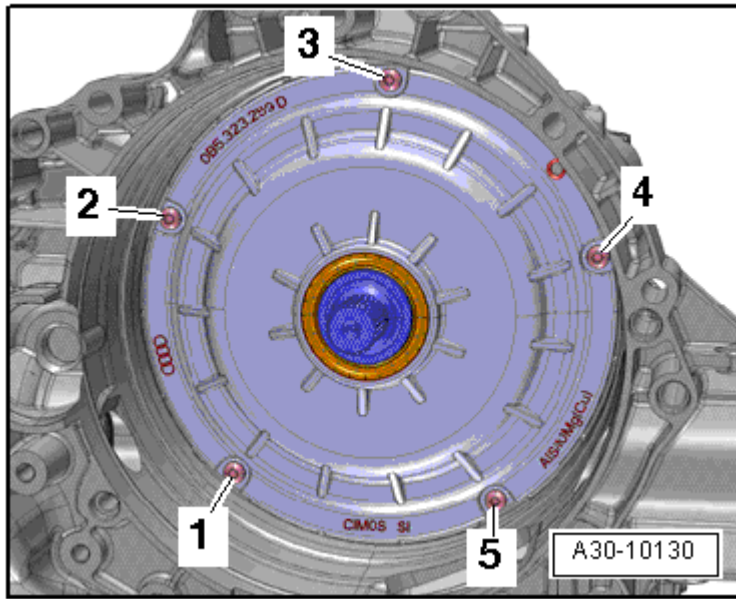


Fig. 3: Identifying Tightening Sequence For Dual Clutch And Clutch Cover
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- Tighten the bolts in 3 steps in the following sequence: -1 through 5- :
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- Tighten one after the other in 90° steps until the clutch cover contact the transmission housing.
- Tighten to 8 Nm.

REMOVAL AND INSTALLATION

DUAL CLUTCH

Special tools and workshop equipment required

- Additional Hooks 10 - 222 A /2
- Shop Crane -Load CAP=700-1200kg VAS 6100
- Pulling Hook T20143/2
- Lifting Device T40123 A
- Sleeve T40123 A/1
- Assembling Pin T40199
- Engine and Transmission Holder VAS 6095

Removing

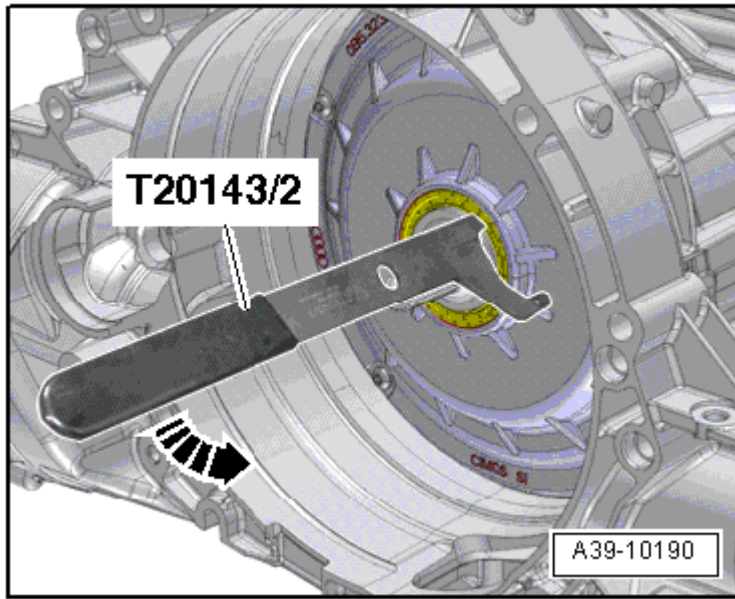


Fig. 4: Using Pulling Hook T20143/2 To Remove Input Shaft Seal
Courtesy of AUDI OF AMERICA, LLC

- Secure the transmission to the VAS 6095. Refer to **TRANSMISSION, SECURING IN ENGINE/TRANSMISSION HOLDER** .

- Remove the flywheel. Refer to **DUAL MASS FLYWHEEL**.
- Draining the ATF. Refer to **ATF, DRAINING AND FILLING** .
- Remove the input shaft seal using the T20143/2.
- Remove the bolts -1 through 5-.

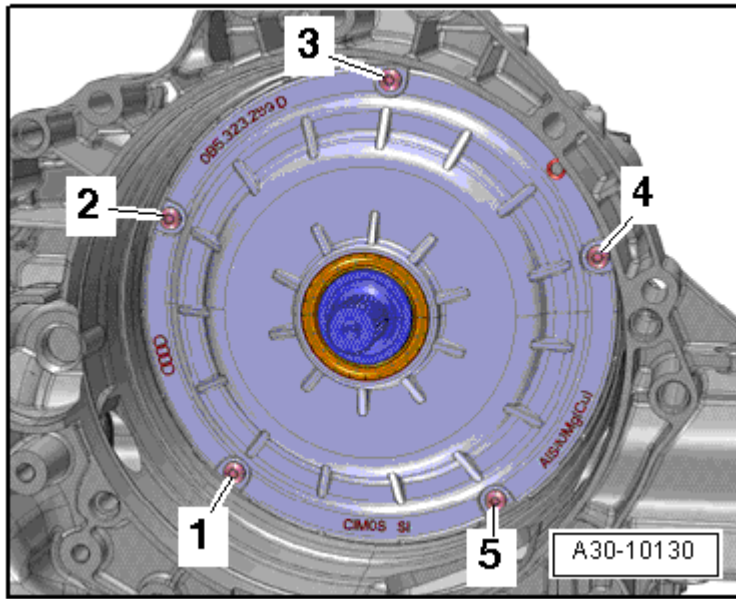


Fig. 5: Identifying Tightening Sequence For Dual Clutch And Clutch Cover
Courtesy of AUDI OF AMERICA, LLC

-- Turn the transmission in the VAS 6095 so that it is vertical.

-- Push the T40123 A/1 onto the input shaft.

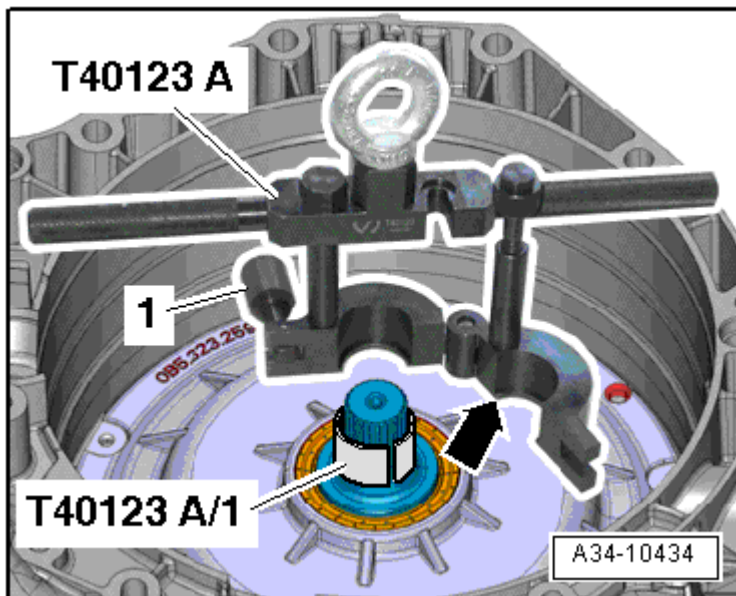


Fig. 6: Identifying Special Tool Placement, T40123 A/1 And T40123 A
Courtesy of AUDI OF AMERICA, LLC

-- Position the T40123 A on the input shaft.

- The edge -arrow- of the lifting device must grip under the sleeve T40123 A/1.

- Close the lifting device and tighten the knurled nut -1- to approximately 20 Nm.
- Make sure the lifting device fits securely on the input shaft.
- Attach the T40123 A to the 10 - 222 A /2 and then attach it to the VAS 6100.

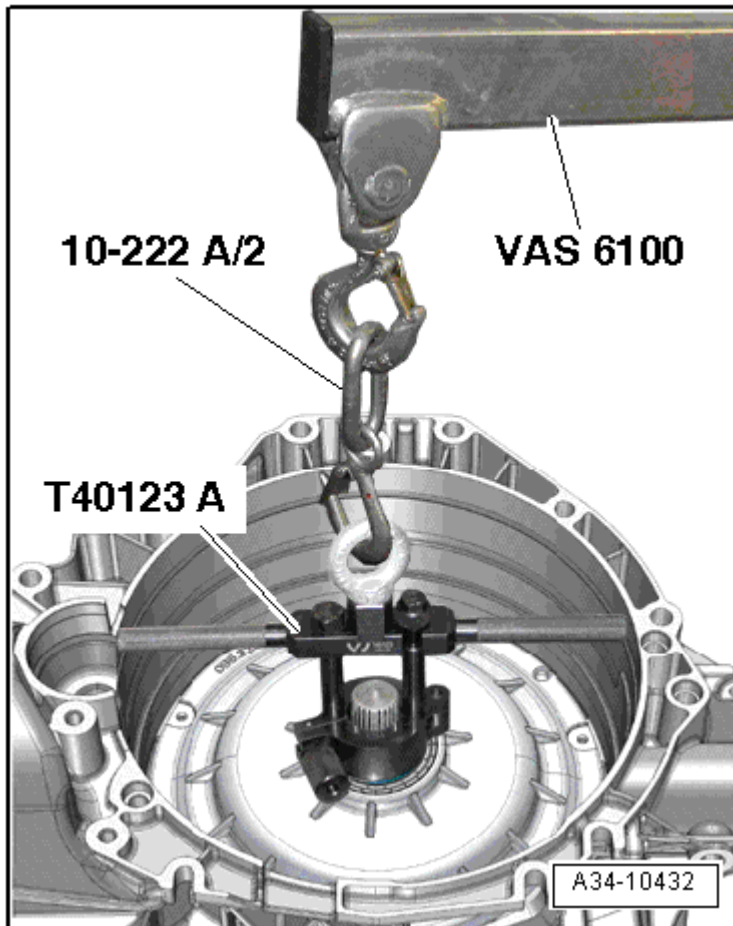


Fig. 7: Identifying Dual Clutch, Remove/Install Components
Courtesy of AUDI OF AMERICA, LLC

- Carefully remove the dual clutch out of the transmission housing.
- Lay the dual clutch and cover on a soft surface so that the thin rib -arrow A- does not get damaged.

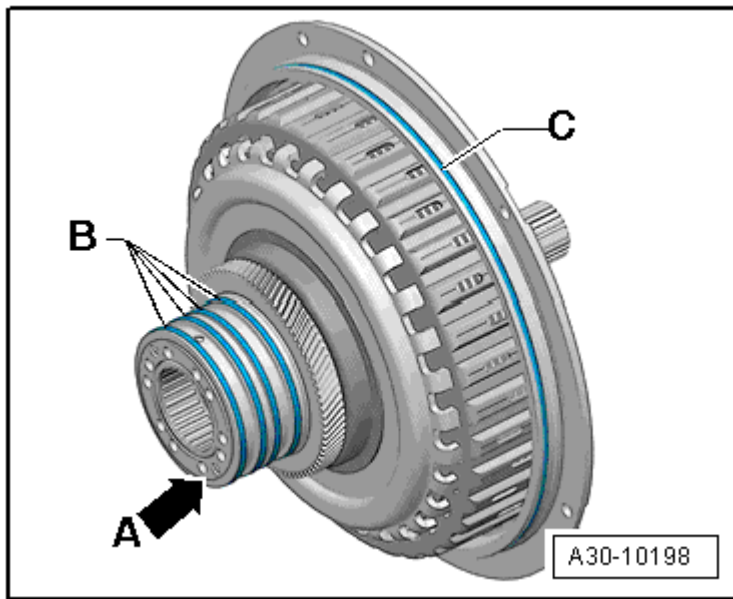


Fig. 8: Identifying Dual Clutch Components
Courtesy of AUDI OF AMERICA, LLC

-- Remove the locking ring -arrow- with locking ring pliers.

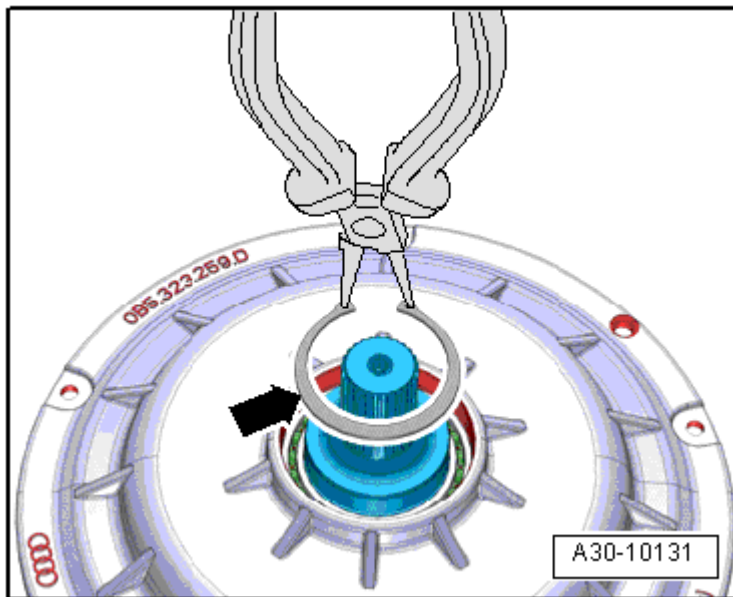


Fig. 9: Identifying Locking Ring, Removal
Courtesy of AUDI OF AMERICA, LLC

-- Remove the clutch cover -2- from the dual clutch -1-.

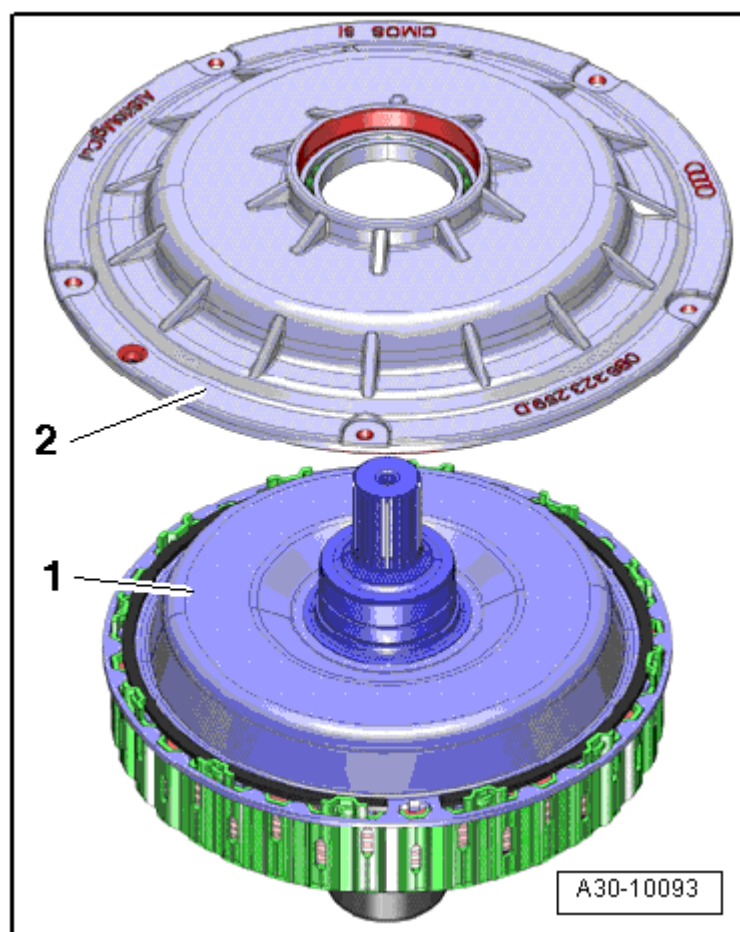


Fig. 10: Identifying Dual Clutch And Cover

Courtesy of AUDI OF AMERICA, LLC

NOTE: If the clutch cover does not come off, gently strike the input shaft with a rubber hammer while a second technician lifts the clutch cover by hand.

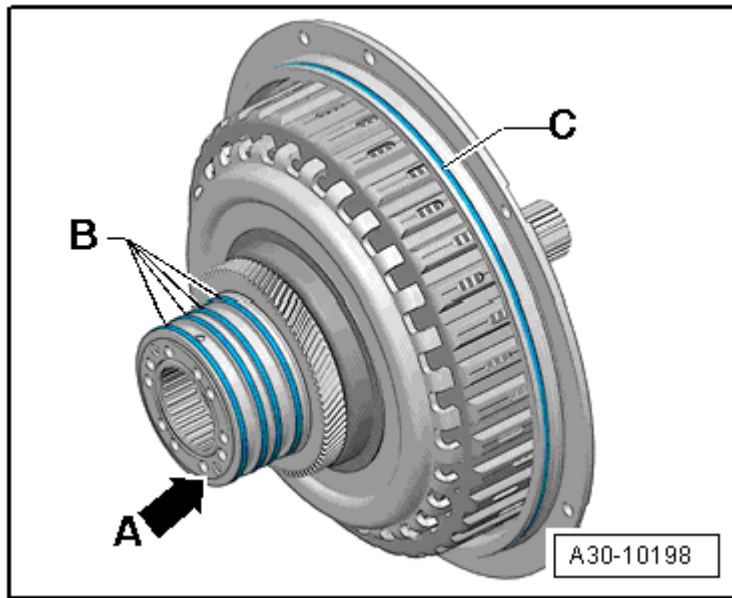


Fig. 11: Identifying Dual Clutch Components
Courtesy of AUDI OF AMERICA, LLC

Be careful not to damage the thin rib -arrow A- when doing this.

Installing

Install in reverse order of removal. Note the following:

NOTE: Replace the O-ring and the circlip.

-- Clean the sealing surface on the clutch cover.

-- Turn the rectangular rings -B- on the hub and check for ease of movement and axial play.

NOTE: If the rectangular rings do not move easily, then the dual clutch must not be installed.

-- Clean the transmission housing around the dual clutch and the sealing surface.

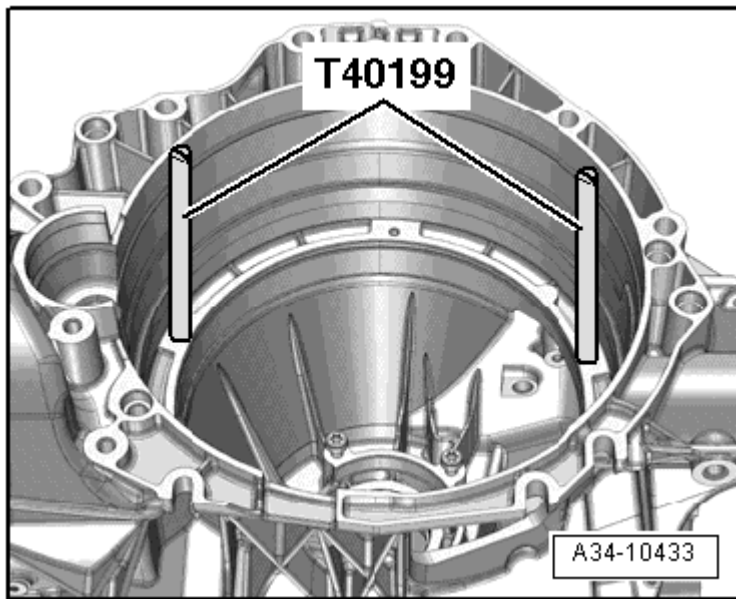


Fig. 12: Identifying Special Tool Placement, T40199
Courtesy of AUDI OF AMERICA, LLC

NOTE: Make sure no dirt can fall into the transmission while cleaning.

- Install the T40199 into the threaded hole in the transmission housing as illustrated.
- Check the hole -arrow- in the transmission for wear grooves.

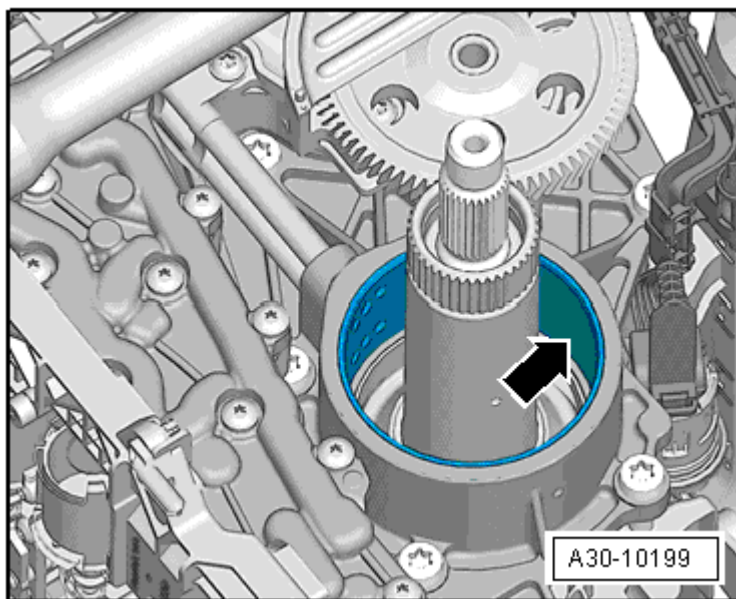


Fig. 13: Checking Transmission Hole
Courtesy of AUDI OF AMERICA, LLC

-- Coat the O-ring -C- and hub -B- on the dual clutch with ATF.

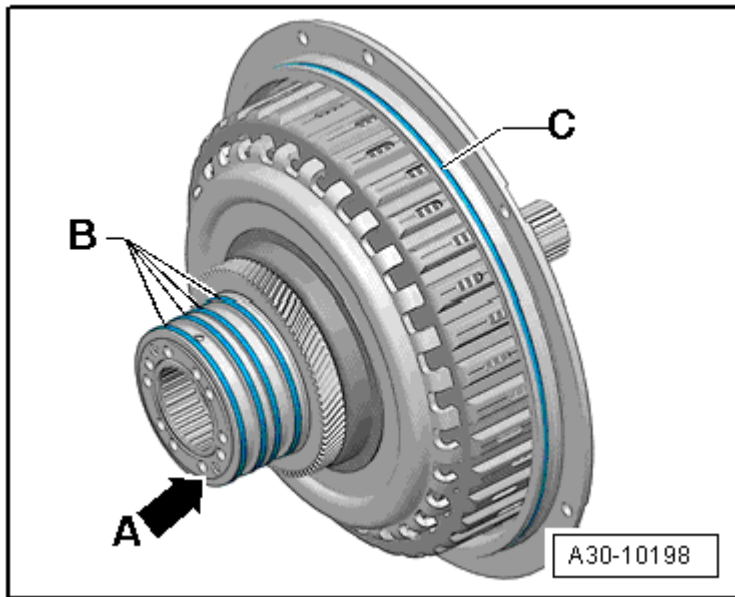


Fig. 14: Identifying Dual Clutch Components

Courtesy of AUDI OF AMERICA, LLC

-- Install the dual clutch into the transmission housing. Using short lifting/turning motions, allow the input shaft to engage into the ATF pump splines and transmission shafts as illustrated.

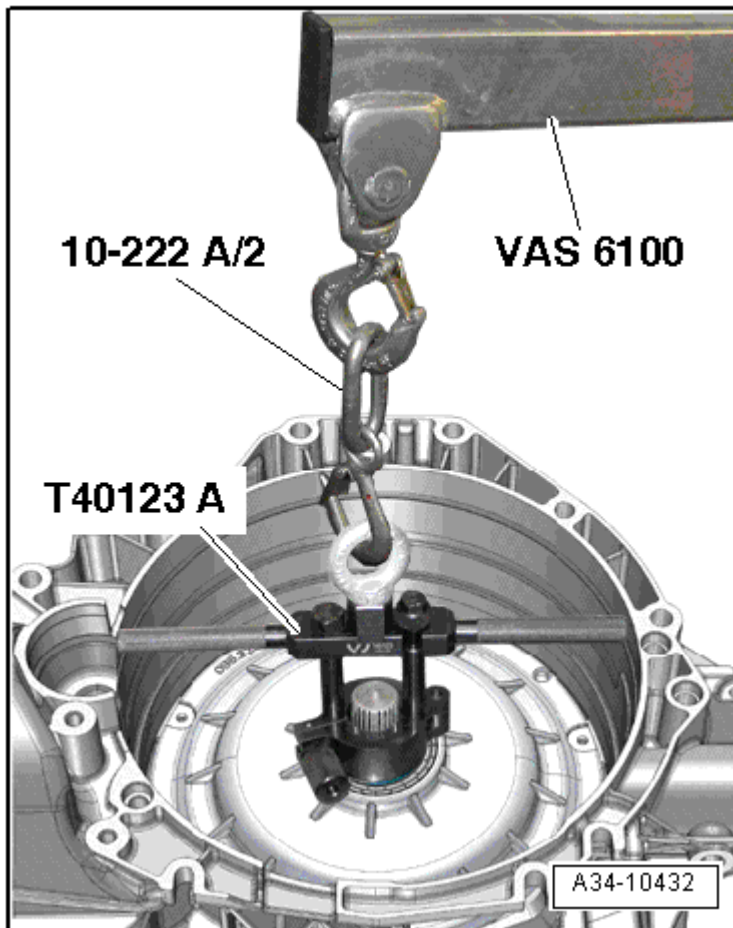


Fig. 15: Identifying Dual Clutch, Remove/Install Components
Courtesy of AUDI OF AMERICA, LLC

- The dual clutch is installed correctly when the clutch cover O-ring noticeably contacts the edge of the transmission housing.

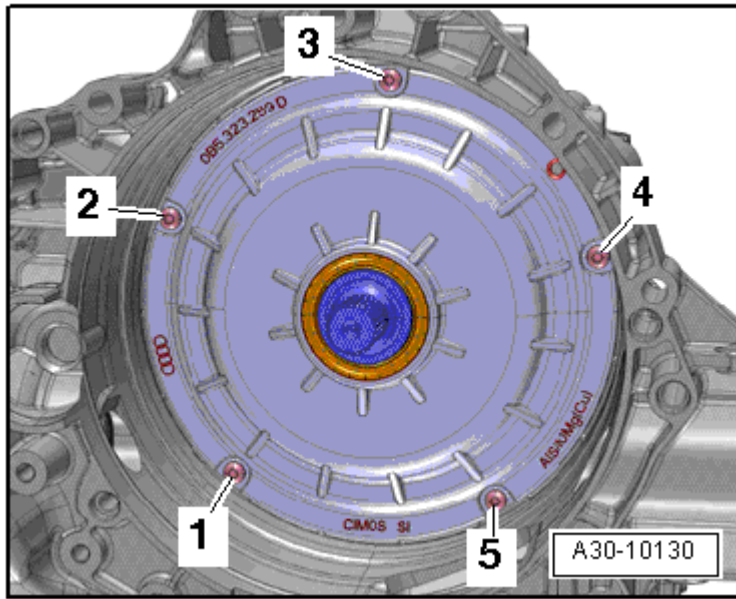


Fig. 16: Identifying Tightening Sequence For Dual Clutch And Clutch Cover
 Courtesy of AUDI OF AMERICA, LLC

CAUTION:

- Do not let the O-ring get caught when installing.
- Always follow the tightening sequence when tightening the bolts for the dual clutch and clutch cover. Refer to Fig. 2.

-- Replace the input shaft seal. Refer to INPUT SHAFT SEAL .

-- Install the flywheel. Refer to DUAL MASS FLYWHEEL.

-- Fill the ATF after the transmission is installed. Refer to ATF, DRAINING AND FILLING .

- Always perform the necessary "Guided Functions" on the vehicle diagnosis tester after replacing the dual clutch. Refer to TRANSMISSION GUIDED FUNCTIONS .

DUAL MASS FLYWHEEL

Special tools and workshop equipment required

- Extractor T40176
- Engine and Transmission Holder VAS 6095
- Grease for clutch disc shaft splines G 000 100

Removing

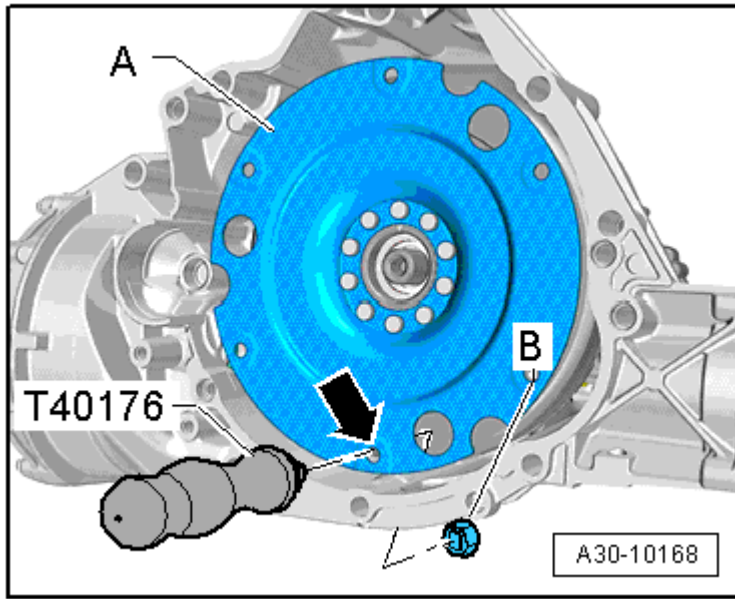


Fig. 17: Securing T40176 To Torque Converter
Courtesy of AUDI OF AMERICA, LLC

- Secure the transmission to the VAS 6095. Refer to **TRANSMISSION, SECURING IN ENGINE/TRANSMISSION HOLDER** .

-- Remove the left flange shaft. Refer to **LEFT FLANGE SHAFT** .

-- Attach the T40176 to the flywheel -A- using the nut -B- -arrow-.

-- Rotate the T40176 upward.

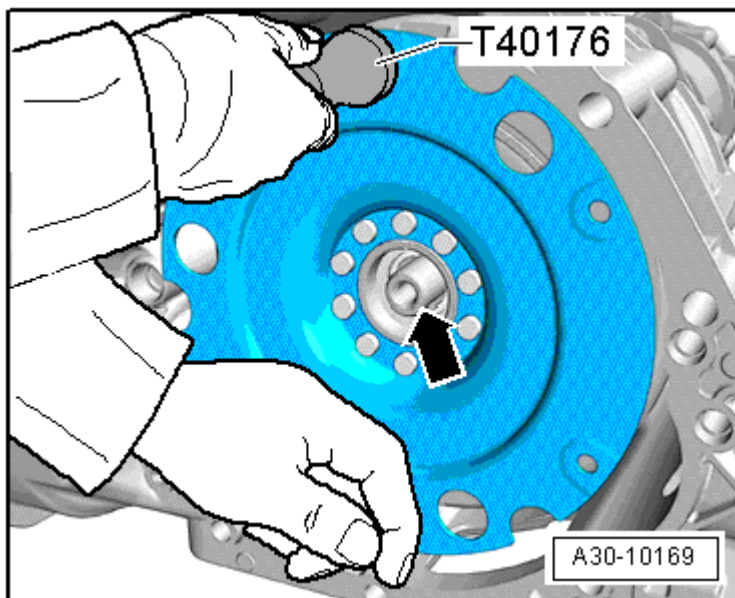


Fig. 18: Sliding Torque Converter Carefully Onto Input Shaft

Courtesy of AUDI OF AMERICA, LLC

NOTE: To prevent the flywheel from tilting, counter hold it underneath as illustrated.

-- Remove the flywheel from the input shaft -arrow-. Do not tilt the flywheel when doing this.

Installing

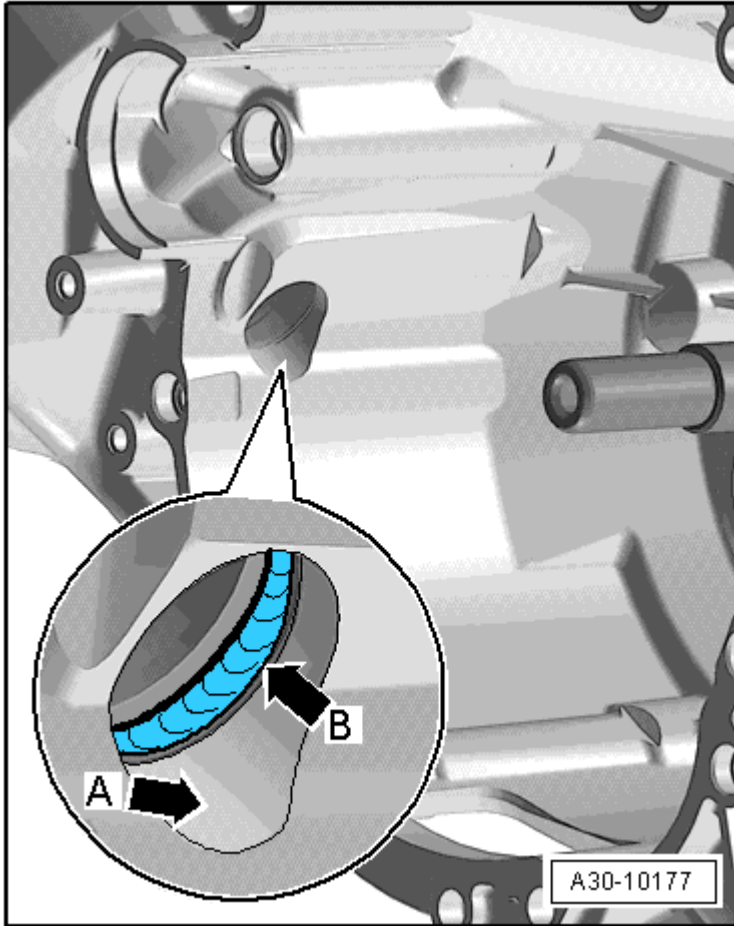


Fig. 19: Replacing Shaft Seal Between Differential And Transmission Housing
Courtesy of AUDI OF AMERICA, LLC

Install in reverse order of removal. Note the following:

-- Always clean the transmission housing in the area where the differential is accessed -arrow A- and the shaft seal -arrow B-.

NOTE: Replace the shaft seal between the differential and transmission housing -arrow B- if it is damaged. Refer to LEFT FLANGE SHAFT SEAL .

-- Fill the space between the sealing and dust lip half way with sealing grease.

-- Clean the input shaft -arrow-.

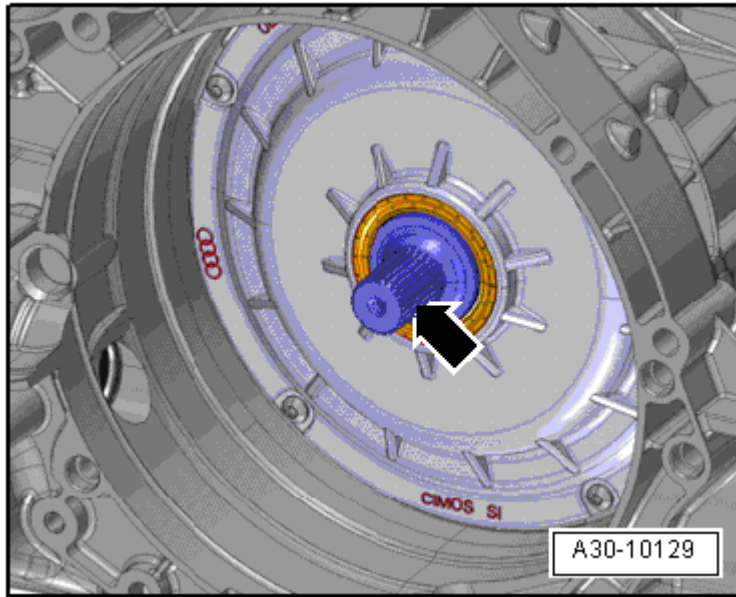


Fig. 20: Locating Input Shaft

Courtesy of AUDI OF AMERICA, LLC

-- Lightly grease the input shaft splines with clutch disc spline grease G 000 100.

-- Slide the clutch module onto the input shaft -arrow- carefully without tilting it.

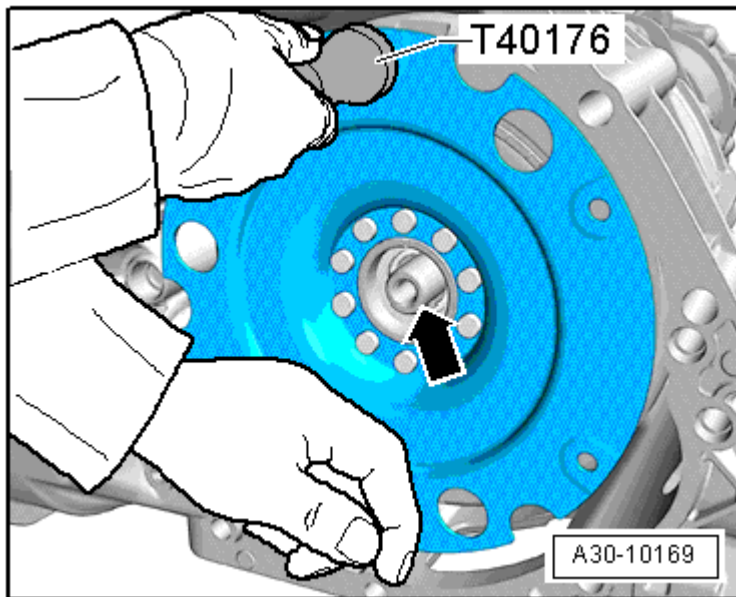


Fig. 21: Sliding Torque Converter Carefully Onto Input Shaft

Courtesy of AUDI OF AMERICA, LLC

-- Remove the T40176 from the flywheel -A-.

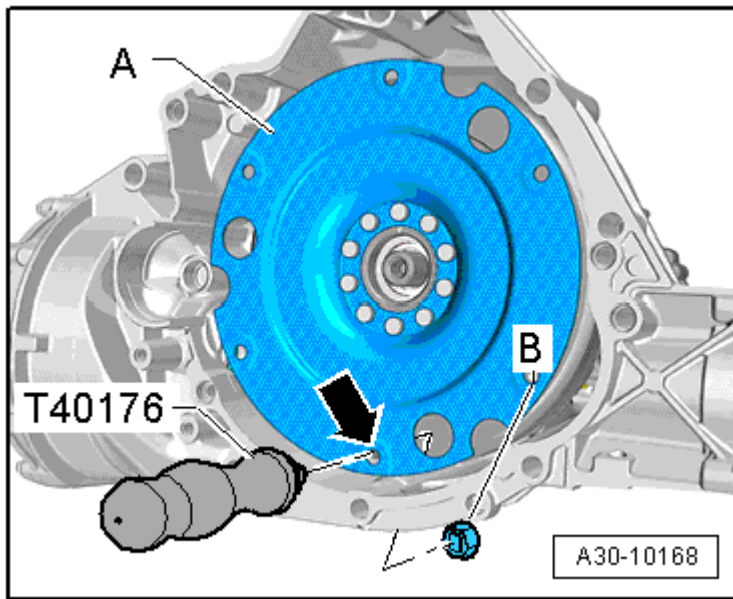


Fig. 22: Securing T40176 To Torque Converter
Courtesy of AUDI OF AMERICA, LLC

-- Install the left flange shaft. Refer to LEFT FLANGE SHAFT .

INPUT SHAFT BALL BEARING, REPLACING

Special tools and workshop equipment required

- Thrust Plate VW 401
- Thrust Plate VW 402
- Thrust Disc VW 412
- Tube 60 mm Dia. VW 415 A
- Puller 3046

Removing

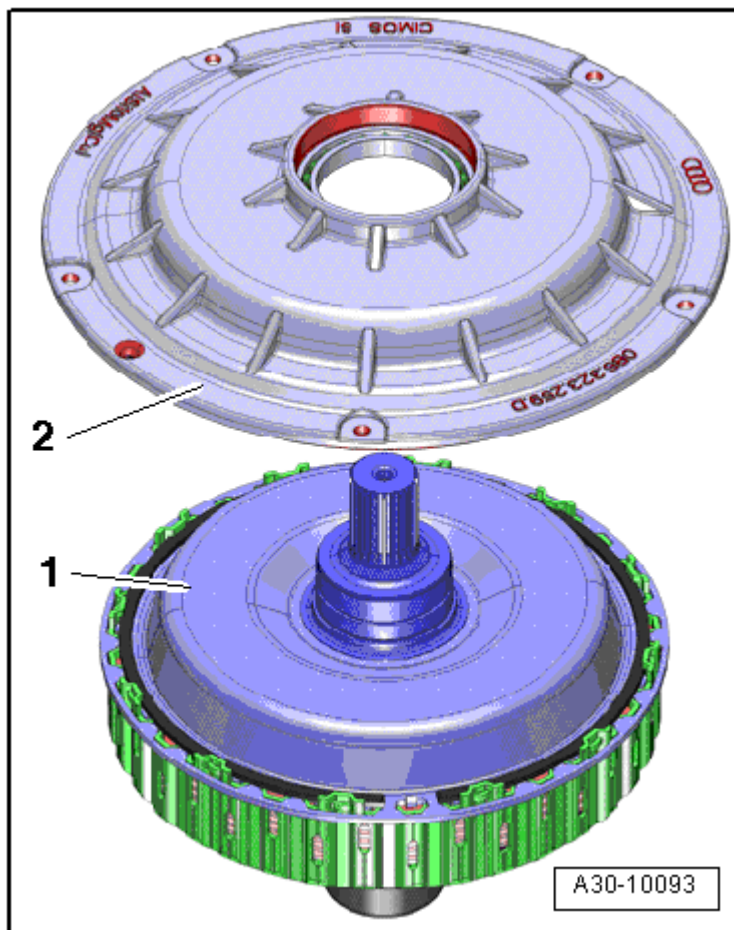


Fig. 23: Identifying Dual Clutch And Cover

Courtesy of AUDI OF AMERICA, LLC

- Remove the dual clutch -1-. Refer to **DUAL CLUTCH**.
- Remove the locking ring -arrow- from the removed clutch cover.

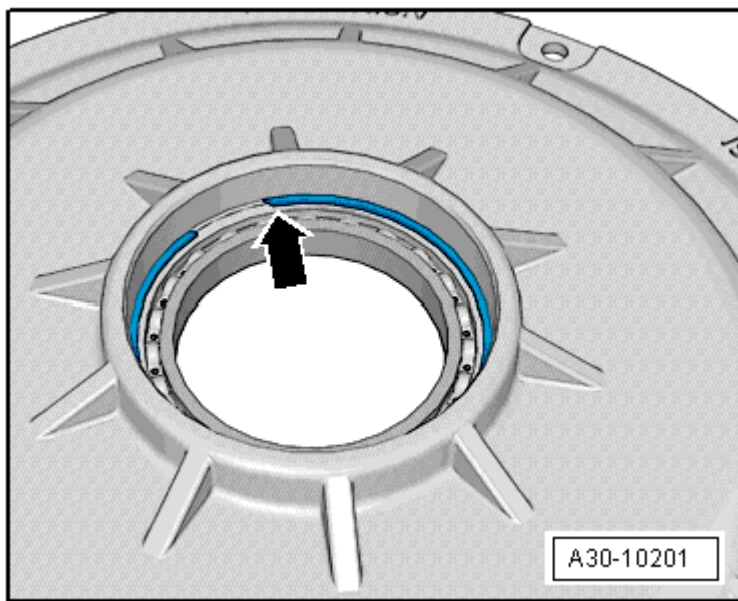


Fig. 24: Identifying Locking Ring

Courtesy of AUDI OF AMERICA, LLC

-- Remove the dual clutch ball bearing.

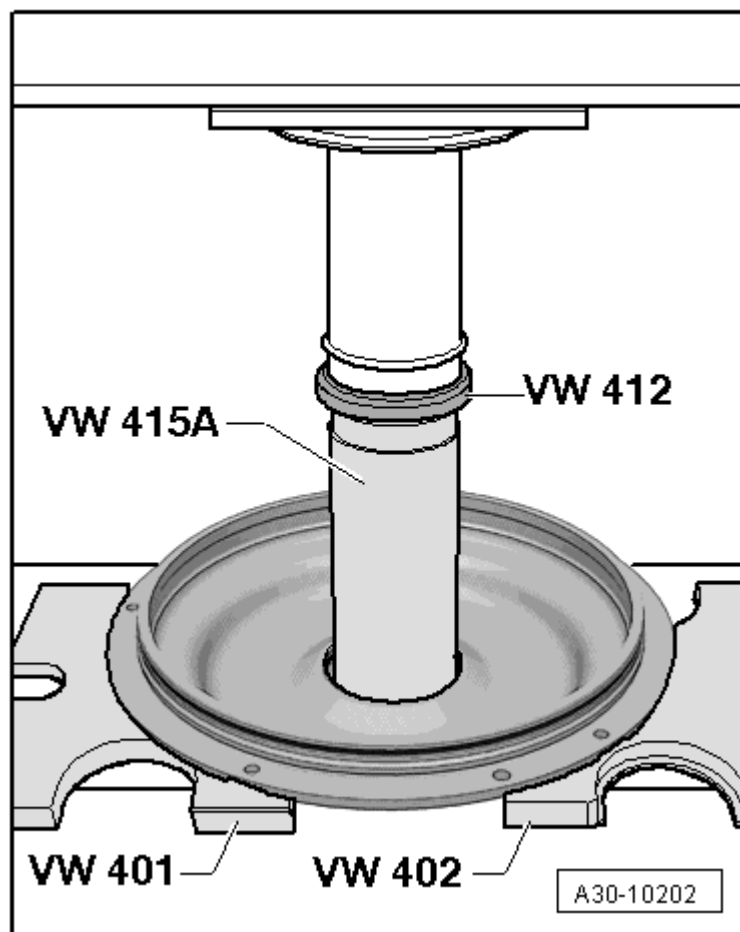


Fig. 25: Identifying Dual Clutch Ball Bearing, Removal
Courtesy of AUDI OF AMERICA, LLC

Installing

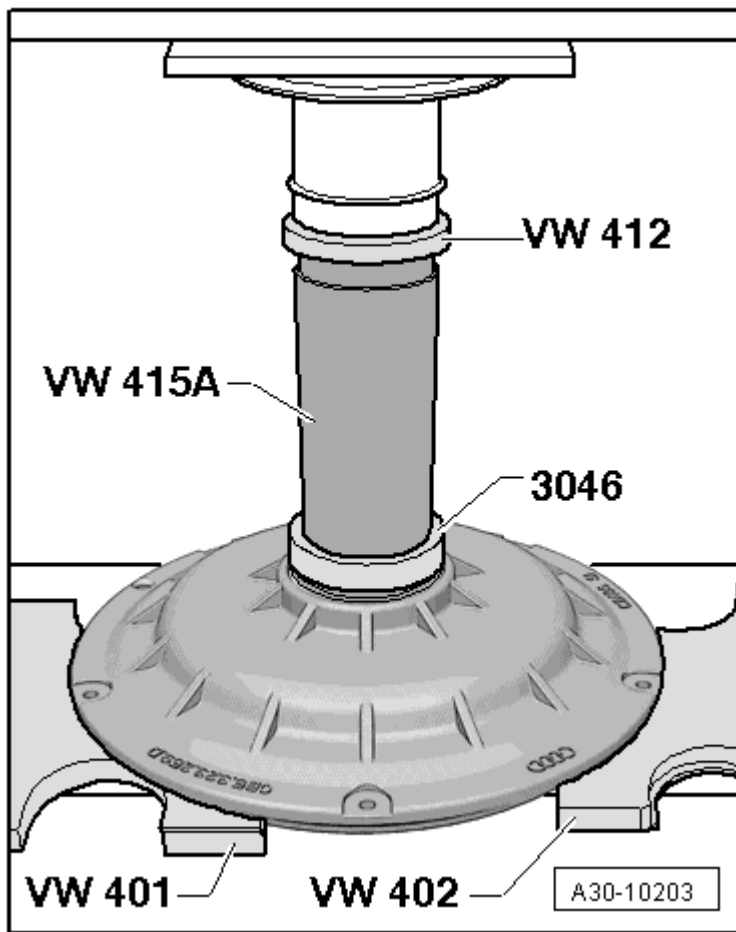


Fig. 26: Identifying Dual Clutch Ball Bearing, Installation
Courtesy of AUDI OF AMERICA, LLC

Install in reverse order of removal. Note the following:

NOTE: Replace the O-ring and the circlips.

-- Install the dual clutch ball bearing all the way.

- Position the VW 415 A with the thin shoulder facing up.

-- Install the new ball bearing circlip -arrow-.

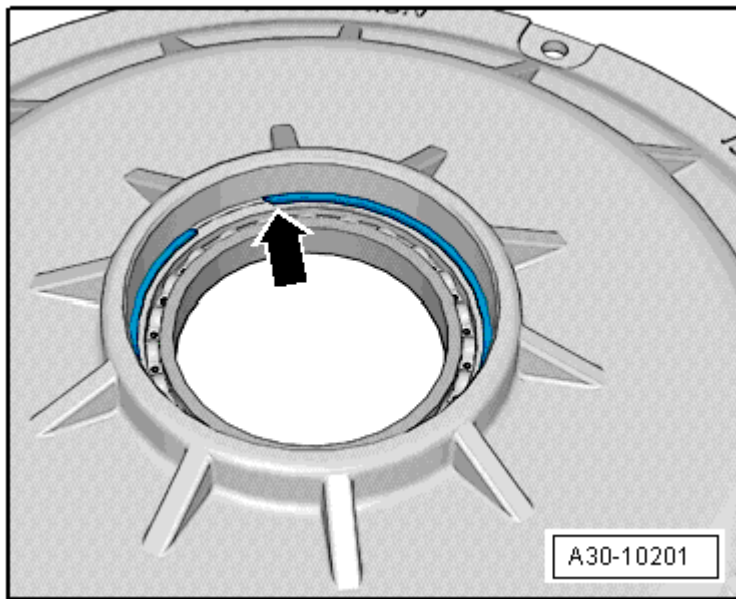


Fig. 27: Identifying Locking Ring

Courtesy of AUDI OF AMERICA, LLC

-- Clean the sealing surface on the clutch cover.

SPECIAL TOOLS

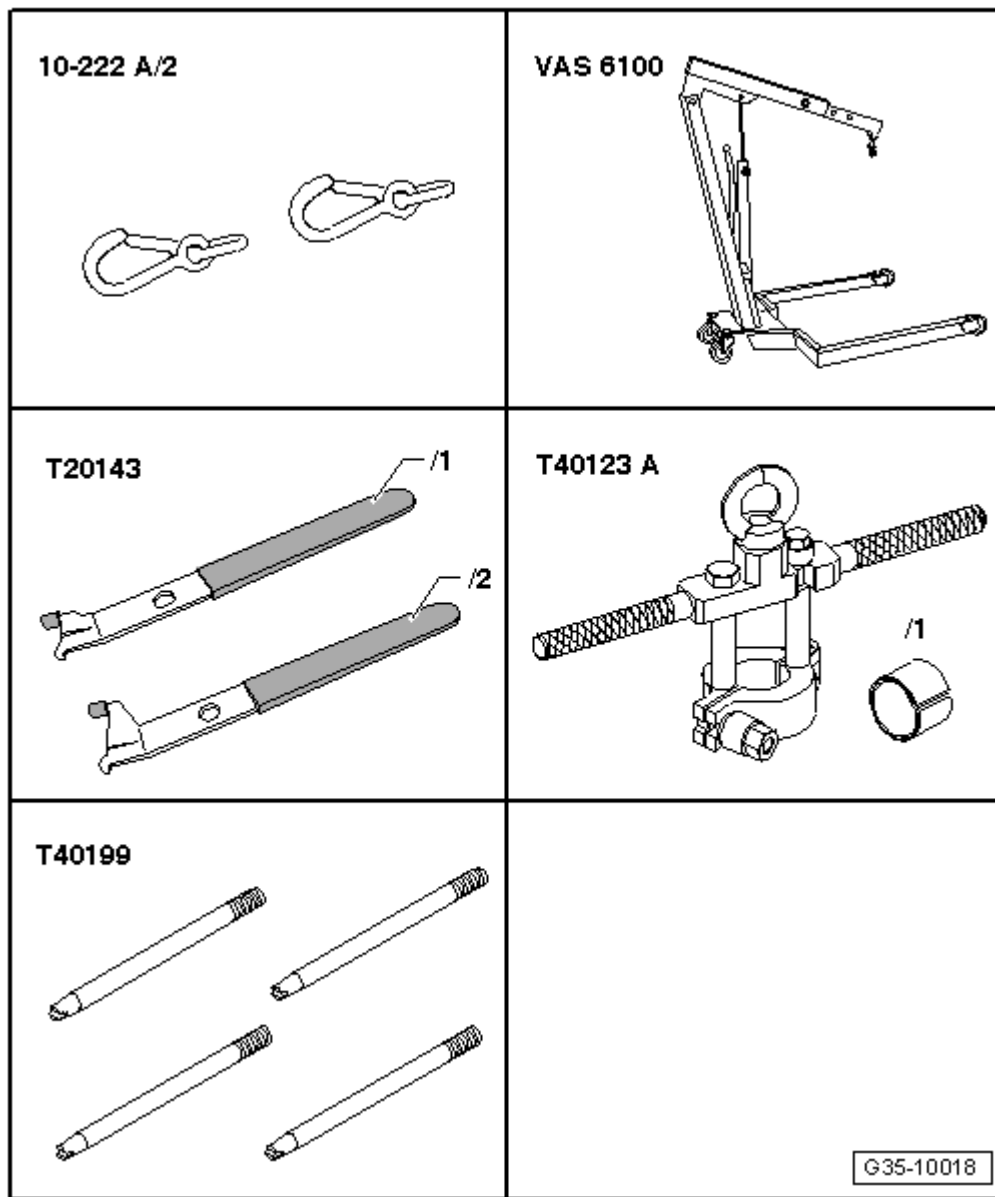


Fig. 28: Identifying Special Tools, Clutch
 Courtesy of AUDI OF AMERICA, LLC

Special tools and workshop equipment required

- Additional Hooks 10 - 222 A /2
- Shop Crane -Load CAP=700-1200kg VAS 6100
- Pulling Hook T20143/2
- Lifting Device T40123 A
- Assembling Pin T40199

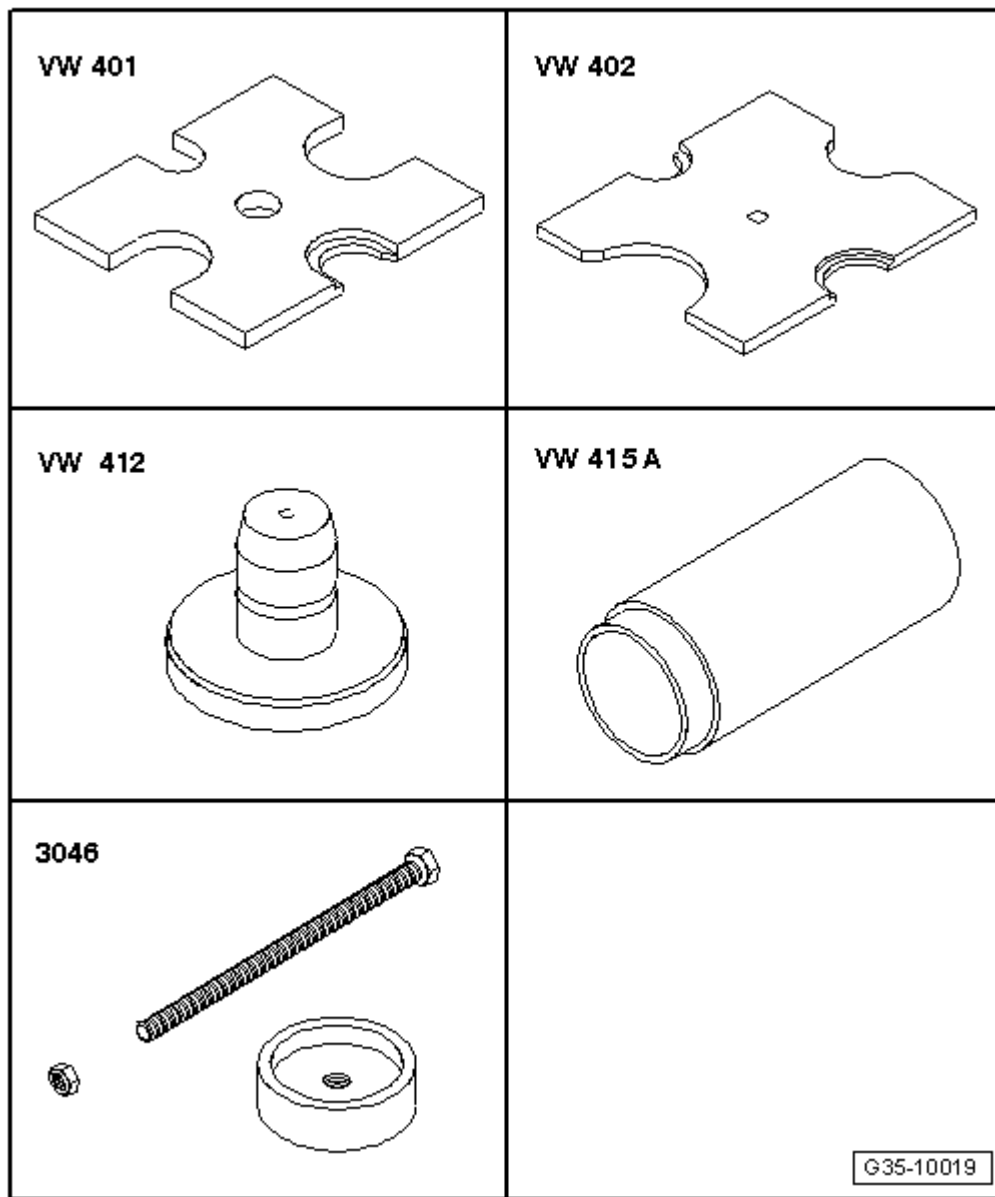


Fig. 29: Identifying Special Tools, Clutch Cover
 Courtesy of AUDI OF AMERICA, LLC

Special tools and workshop equipment required

- Thrust Plate VW 401
- Thrust Plate VW 402
- THRUST DISC VW 412
- Tube 60 mm Dia. VW 415 A
- Puller 3046

Special tools and workshop equipment required

- Extractor T40176

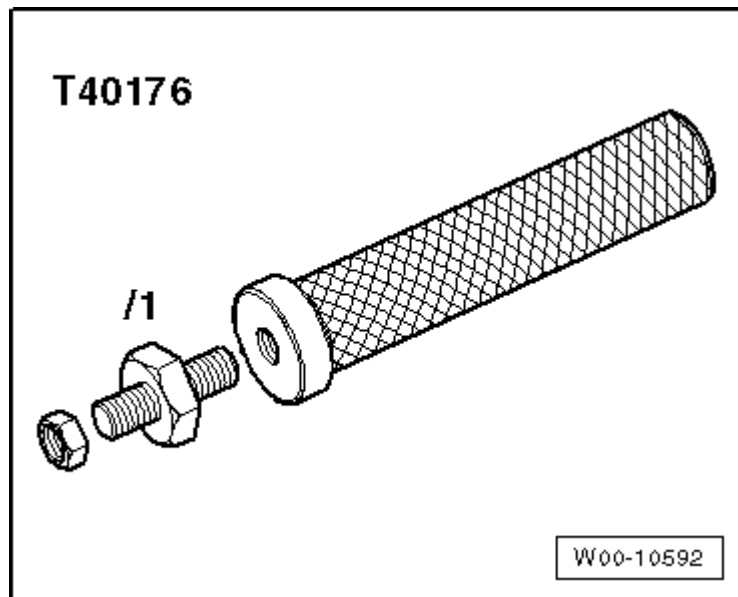


Fig. 30: Identifying Extractor T40176
Courtesy of AUDI OF AMERICA, LLC

- Not illustrated:
- Sleeve T40123 A/1
- Engine and Transmission Holder VAS 6095