

TRANSMISSION

Clutch - S-Tronic Transmission Internal Components 0B5 (Sedan)

CLUTCH

DESCRIPTION AND OPERATION

FLYWHEEL AND DUAL CLUTCH OVERVIEW

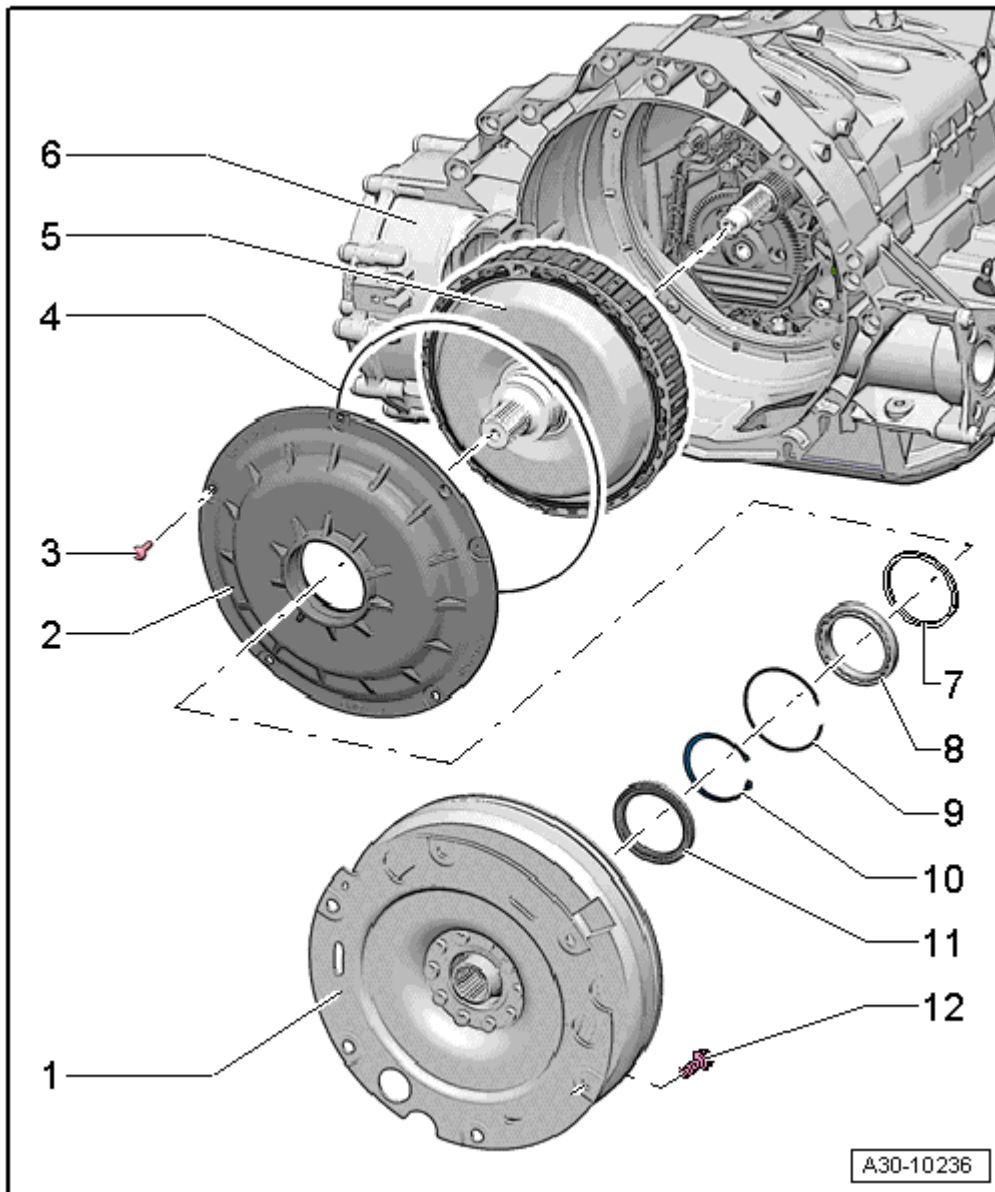


Fig. 1: Flywheel And Dual Clutch Overview
Courtesy of AUDI OF AMERICA, LLC

1. Flywheel
 - There are different versions depending on the date of manufacture.
 - Removing and installing, refer to **FLYWHEEL**
2. Clutch Cover
 - There are different versions depending on the date of manufacture, with or without a thrust washer, refer to7
 - Removing and installing, refer to **DUAL CLUTCH**
3. Bolt
 - Tightening specification and sequence, refer to **Fig. 2**
4. O-ring
 - Replace
5. Dual Clutch
 - There are different versions depending on the date of manufacture.
 - Removing and installing, refer to **DUAL CLUTCH**
 - Perform "Guided Functions" using a vehicle diagnostic tester after replacing the dual clutch. Refer to **[For engine(s) CCBA] General Information** .
6. Transmission Housing
7. Thrust Washer
 - Clutch cover allocation depends on the date of manufacture.
8. Ball Bearing
 - For the dual clutch
 - Removing and installing, refer to **INPUT SHAFT BALL BEARING**
9. Locking Ring
 - Replace
 - For ball bearing
10. Locking Ring
 - Replace
 - For the dual clutch
11. Shaft Seal
 - For the input shaft
 - Removing and installing, refer to **INPUT SHAFT SEAL**
12. Bolt
 - 60 Nm
 - Replace
 - Quantity: 6 for 6-cylinder engines

Clutch Cover Tightening Specification and Sequence

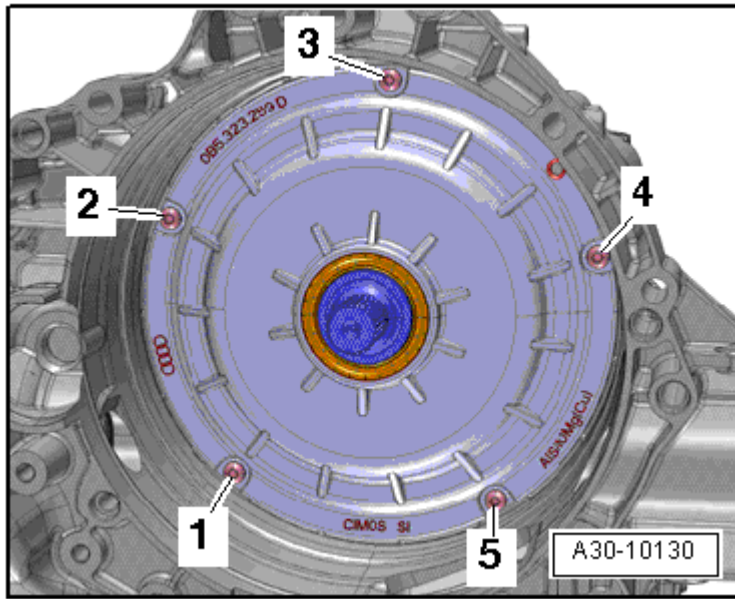


Fig. 2: Dual Clutch And Clutch Cover Tightening Sequence
 Courtesy of AUDI OF AMERICA, LLC

-- Tighten the bolts in three steps in the sequence shown:

Stage	Bolts	Tightening Specifications
1	-1 to 5-	Install by hand evenly until the bolt head contact the clutch cover.
2	-1 to 5-	Tighten one after the other in 90° steps until the clutch cover contact the transmission housing.
3	-1 to 5-	8 Nm

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Components	Fastener Size	Nm
Flywheel to Transmission ¹	-	60

- ¹ Replace

Clutch Cover Tightening Specification and Sequence

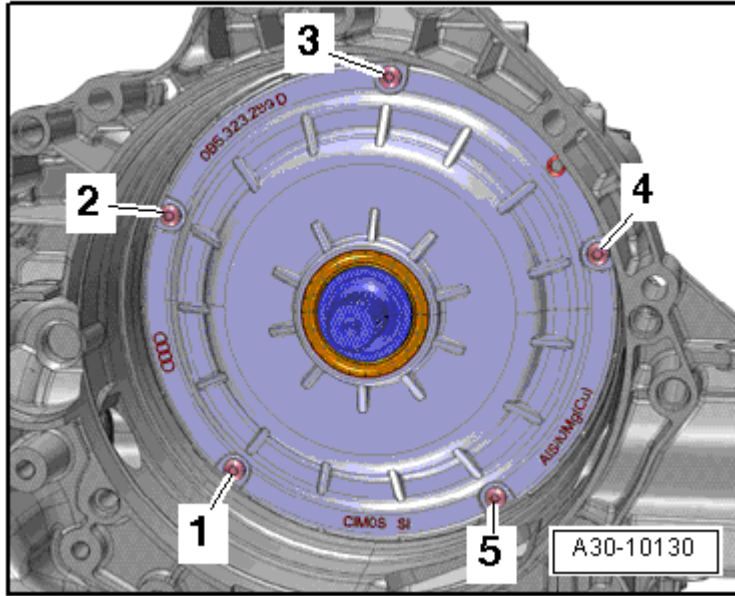


Fig. 3: Dual Clutch And Clutch Cover Tightening Sequence
 Courtesy of AUDI OF AMERICA, LLC

-- Tighten the bolts in three steps in the sequence shown:

Stage	Bolts	Tightening Specifications
1	-1 to 5-	Install by hand evenly until the bolt head contact the clutch cover.
2	-1 to 5-	Tighten one after the other in 90° steps until the clutch cover contact the transmission housing.
3	-1 to 5-	8 Nm

REMOVAL AND INSTALLATION

FLYWHEEL**Special tools and workshop equipment required**

- Extractor T40176
- Engine and Transmission Holder VAS 6095
- Grease for Clutch Disc Shaft Splines G 000 100
- Grease

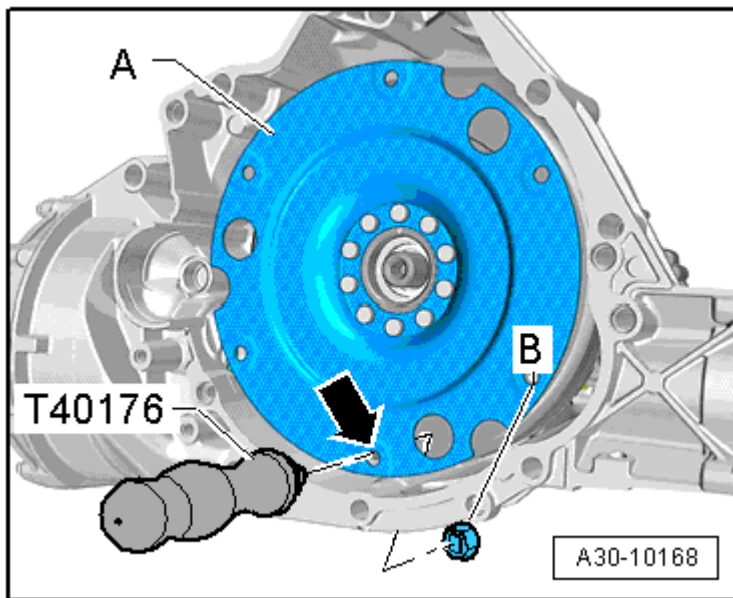
Removing

Fig. 4: Remove/Install T40176 To Flywheel
Courtesy of AUDI OF AMERICA, LLC

- Secure the transmission to the VAS 6095. Refer to **SECURING ON ENGINE AND TRANSMISSION HOLDER**.

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

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

-- Rotate the T40176 upward.

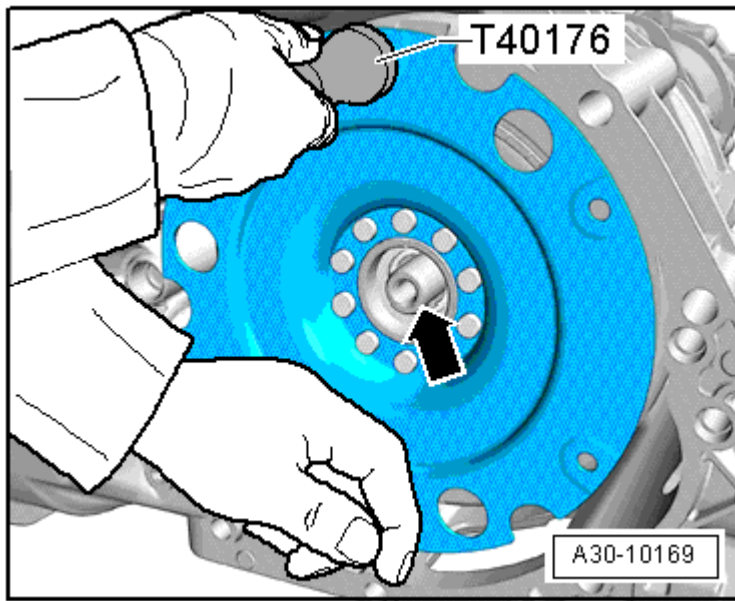


Fig. 5: Remove/Install Flywheel Components
Courtesy of AUDI OF AMERICA, LLC

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

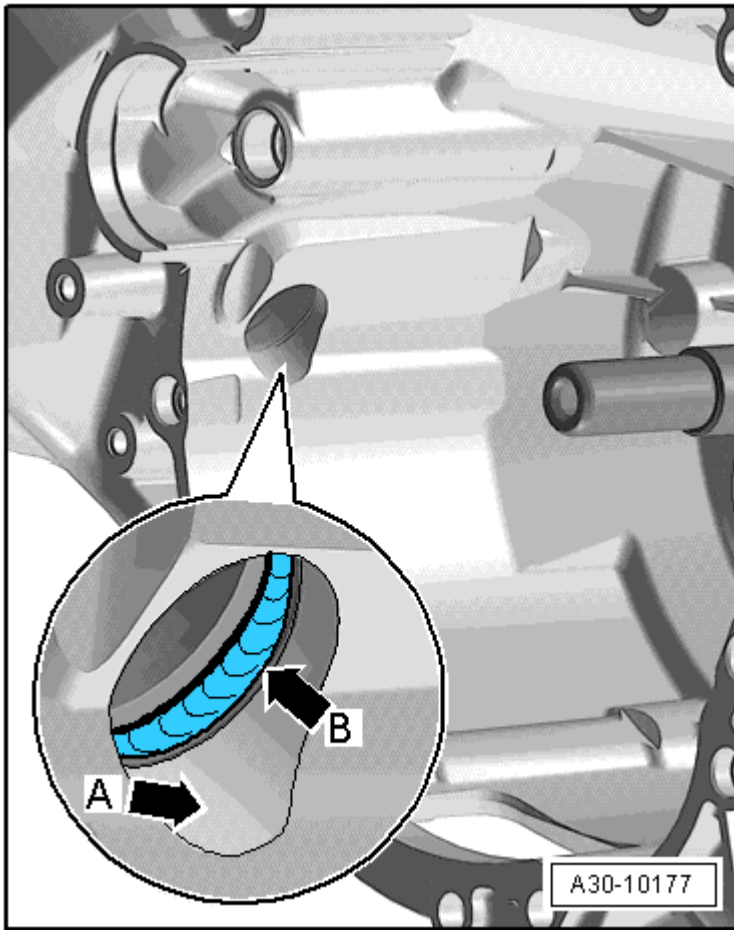


Fig. 6: Replace Shaft Seal Between Differential And Transmission Housing
Courtesy of AUDI OF AMERICA, LLC

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-.

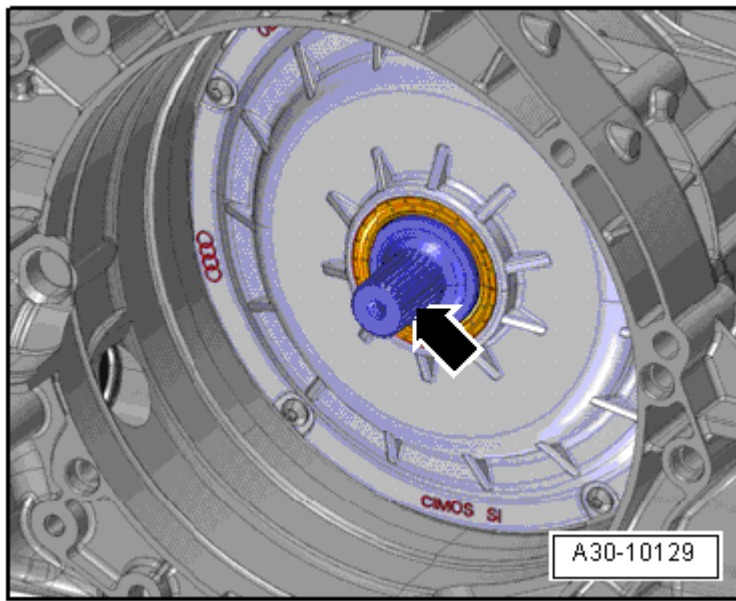


Fig. 7: Identifying Input Shaft

Courtesy of AUDI OF AMERICA, LLC

- Lightly grease the input shaft splines with grease for clutch disc shaft Splines G 000 100.
- Slide the clutch module onto the input shaft -arrow- carefully without tilting it.

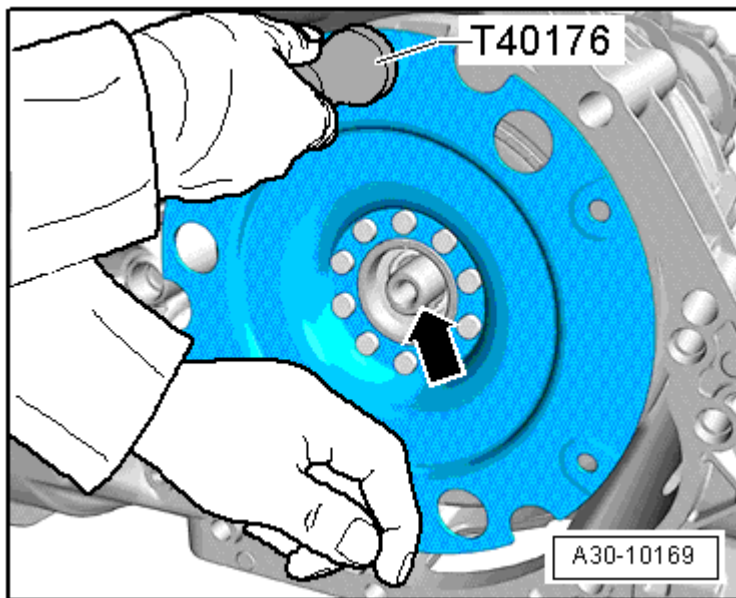


Fig. 8: Remove/Install Flywheel Components

Courtesy of AUDI OF AMERICA, LLC

- Remove the T40176 from the flywheel -A-.

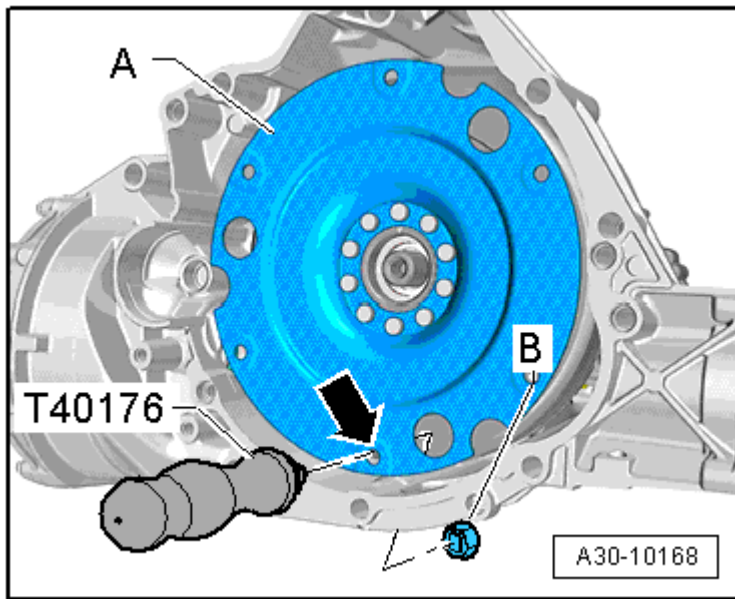


Fig. 9: Remove/Install T40176 To Flywheel
Courtesy of AUDI OF AMERICA, LLC

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

DUAL CLUTCH

Special tools and workshop equipment required

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

Removing

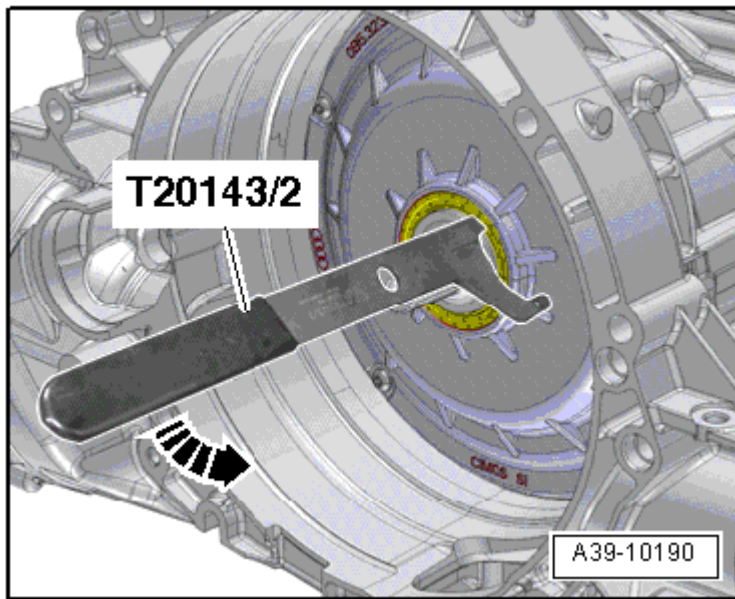


Fig. 10: Remove Input Shaft Seal Using The T20143/2.
Courtesy of AUDI OF AMERICA, LLC

- Secure the transmission to the VAS 6095. Refer to **SECURING ON ENGINE AND TRANSMISSION HOLDER**.
- Remove the flywheel. Refer to **FLYWHEEL**.
- Draining the ATF. Refer to **ATF, DRAINING**.
- Remove the input shaft seal using the T20143/2.
- Remove the bolts -1 through 5-.

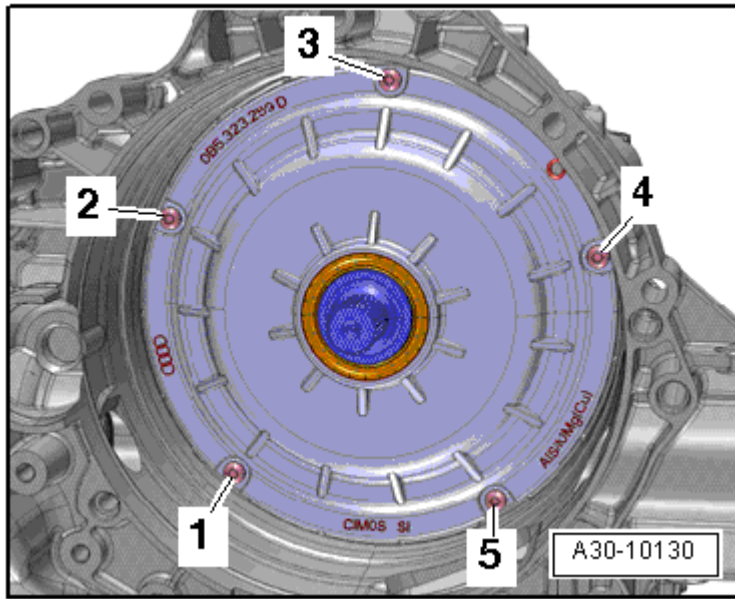


Fig. 11: Dual Clutch And Clutch Cover Tightening Sequence
 Courtesy of AUDI OF AMERICA, LLC

-- Turn the inside of the VAS 6095 so that it is vertical.

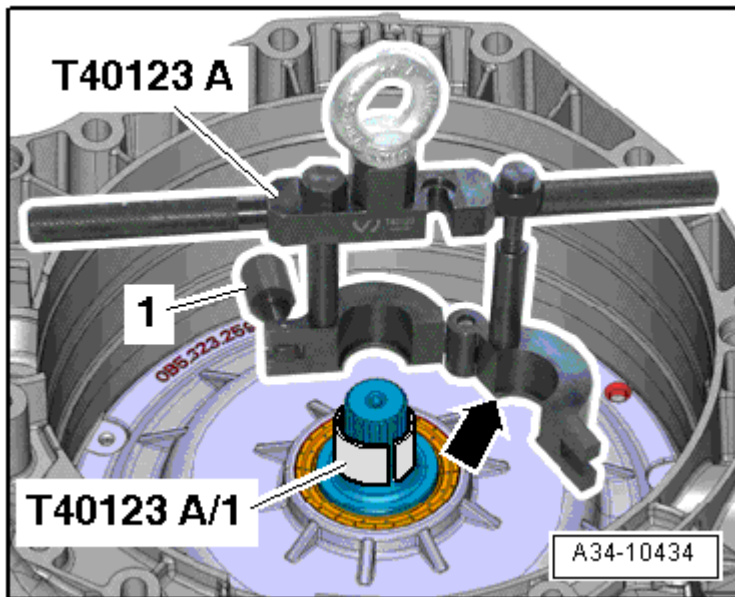


Fig. 12: Identifying Special Tool Placement, T40123 A/1 And T40123 A
 Courtesy of AUDI OF AMERICA, LLC

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

-- Position the T40123 A on the input shaft.

- The edge -arrow- of the lifting device must grip under the 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.
- Connect the T40123 A to the 10 - 222 A /2 and attach to the VAS 6100.

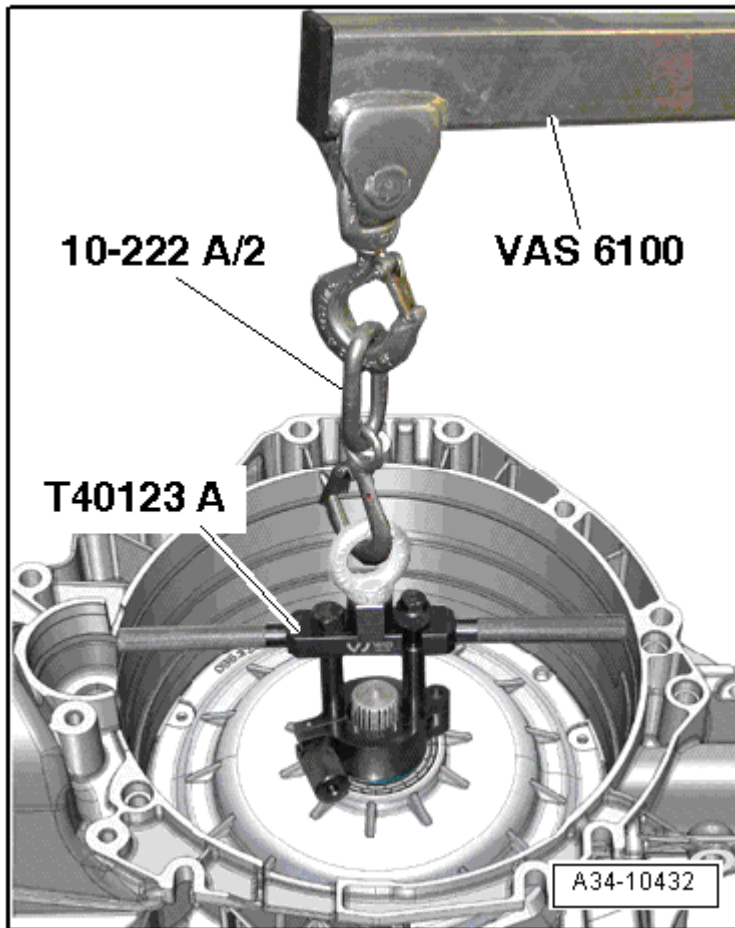


Fig. 13: Remove/Install Dual Clutch Components
Courtesy of AUDI OF AMERICA, LLC

- 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.

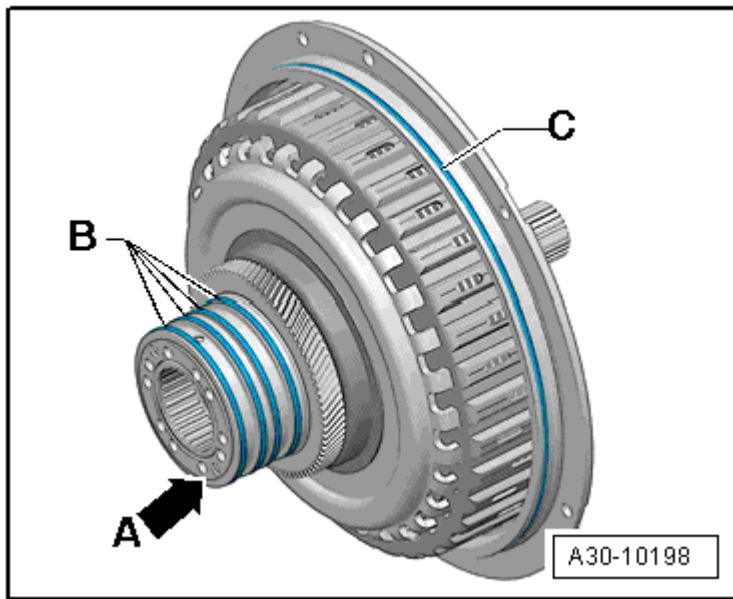


Fig. 14: Identifying Dual Clutch Components
 Courtesy of AUDI OF AMERICA, LLC

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

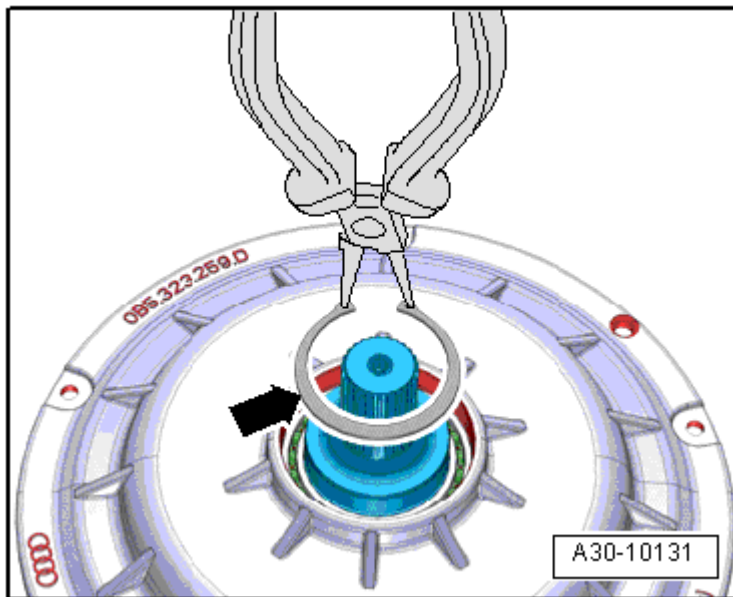


Fig. 15: Removing Locking Ring
 Courtesy of AUDI OF AMERICA, LLC

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

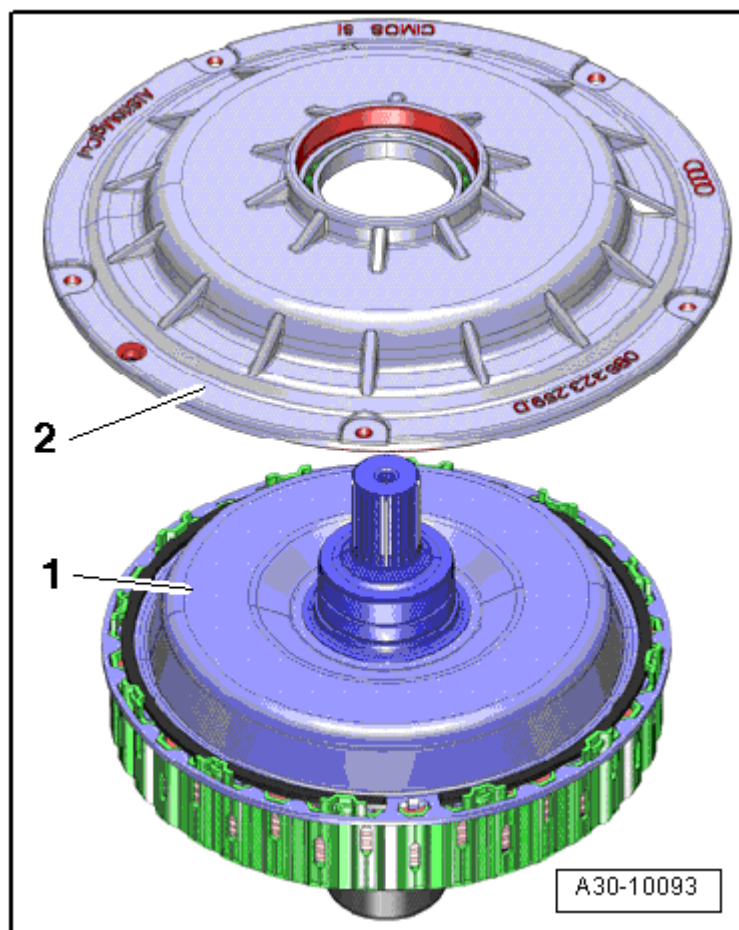


Fig. 16: Identifying Dual Clutch And Cover

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.

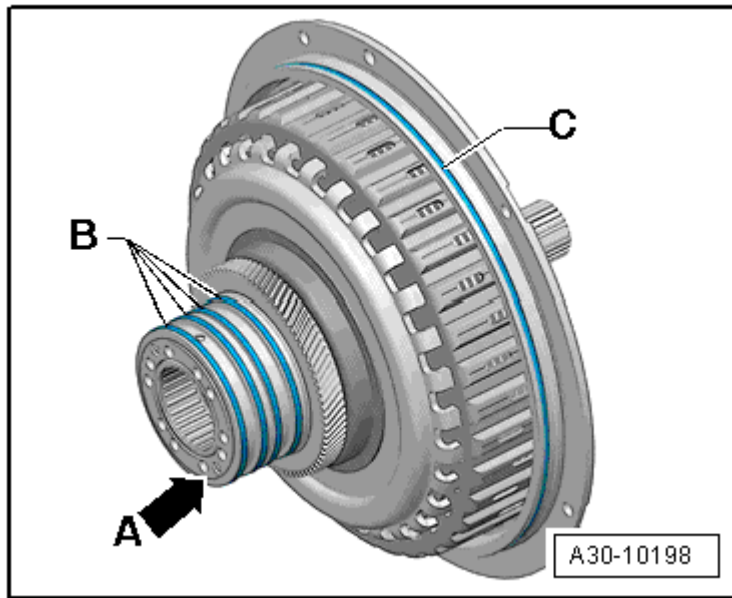


Fig. 17: Identifying Dual Clutch Components
Courtesy of AUDI OF AMERICA, LLC

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.

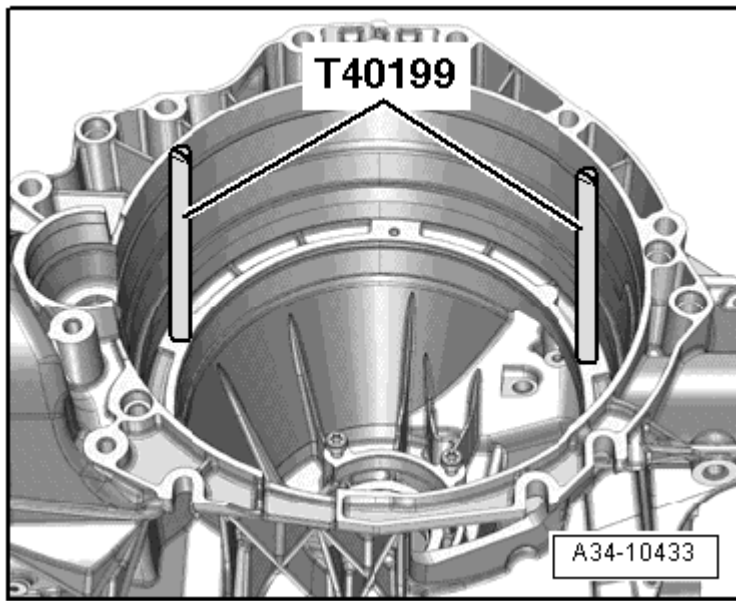


Fig. 18: Install T40199 Into Threaded Hole In Transmission Housing
Courtesy of AUDI OF AMERICA, LLC

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.

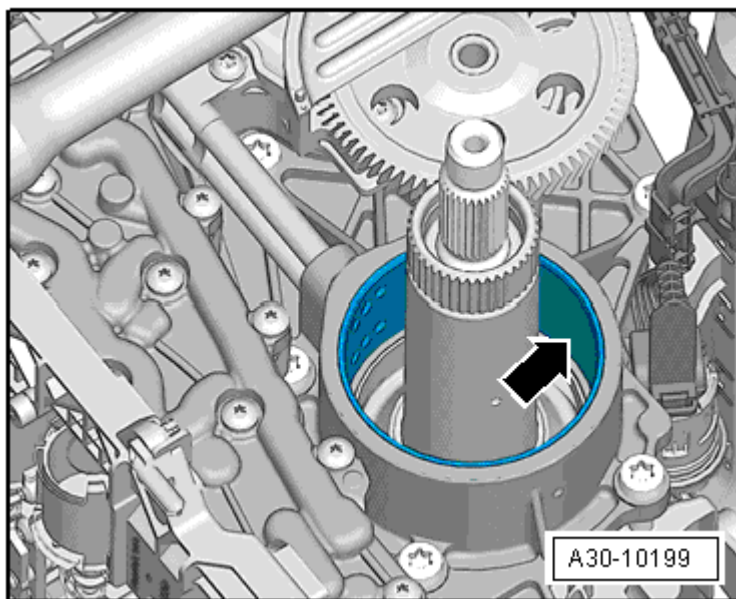


Fig. 19: Checking Transmission Hole
Courtesy of AUDI OF AMERICA, LLC

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

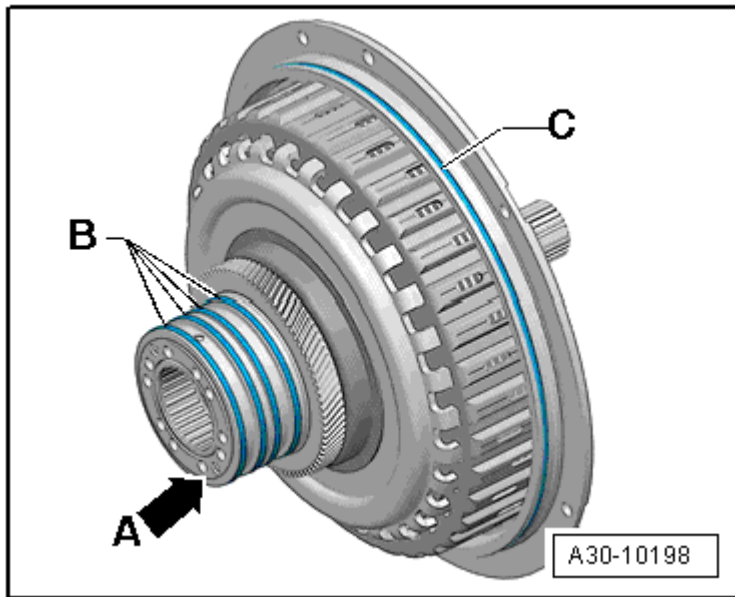


Fig. 20: Identifying Dual Clutch Components
Courtesy of AUDI OF AMERICA, LLC

-- 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.

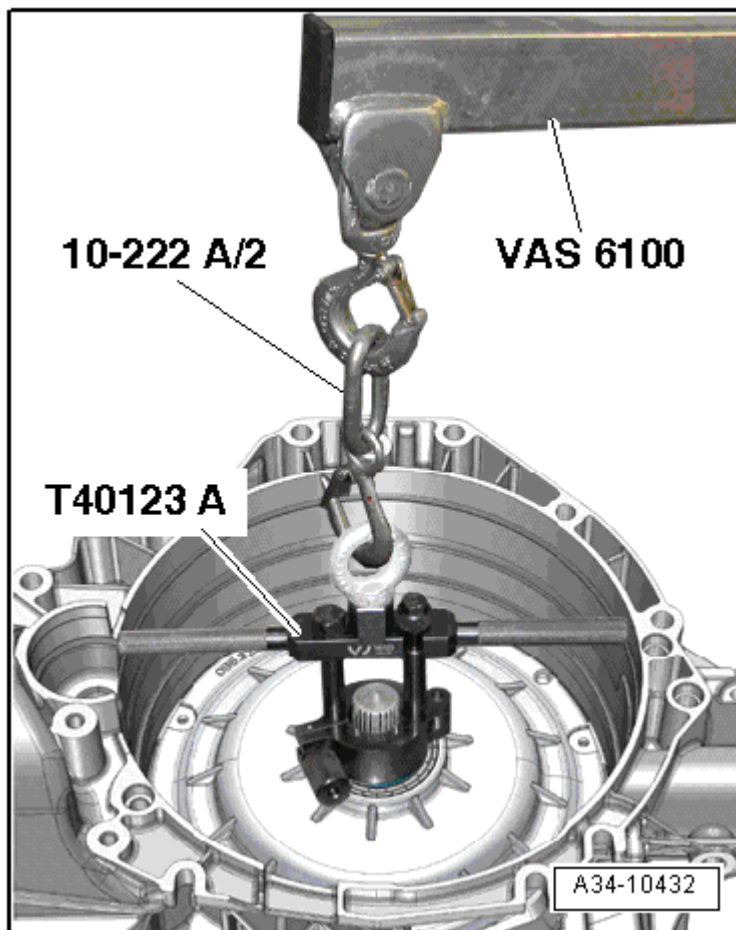


Fig. 21: Remove/Install Dual Clutch Components

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.

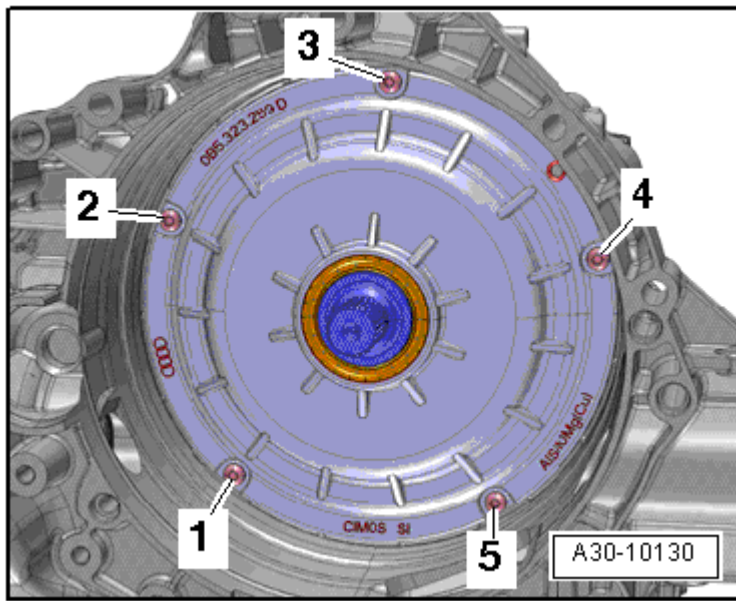


Fig. 22: Dual Clutch And Clutch Cover Tightening Sequence
 Courtesy of AUDI OF AMERICA, LLC

CAUTION:

- Do not let the O-ring get caught when installing.
- Always follow the tightening sequence when tightening the clutch cover bolts -1 through 5- (**Fig. 2**).

-- Tighten the clutch cover bolts -1 through 5- to the tightening specification and sequence. Refer to **Fig. 2**.

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

-- Install the flywheel. Refer to **FLYWHEEL**.

-- Fill the ATF after installing the transmission. Refer to **[For engine(s) CCBA] General Information** .

- Perform "Guided Functions" on the vehicle diagnostic tester after replacing the dual clutch. Refer to **[For engine(s) CCBA] General Information** .

INPUT SHAFT BALL BEARING

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

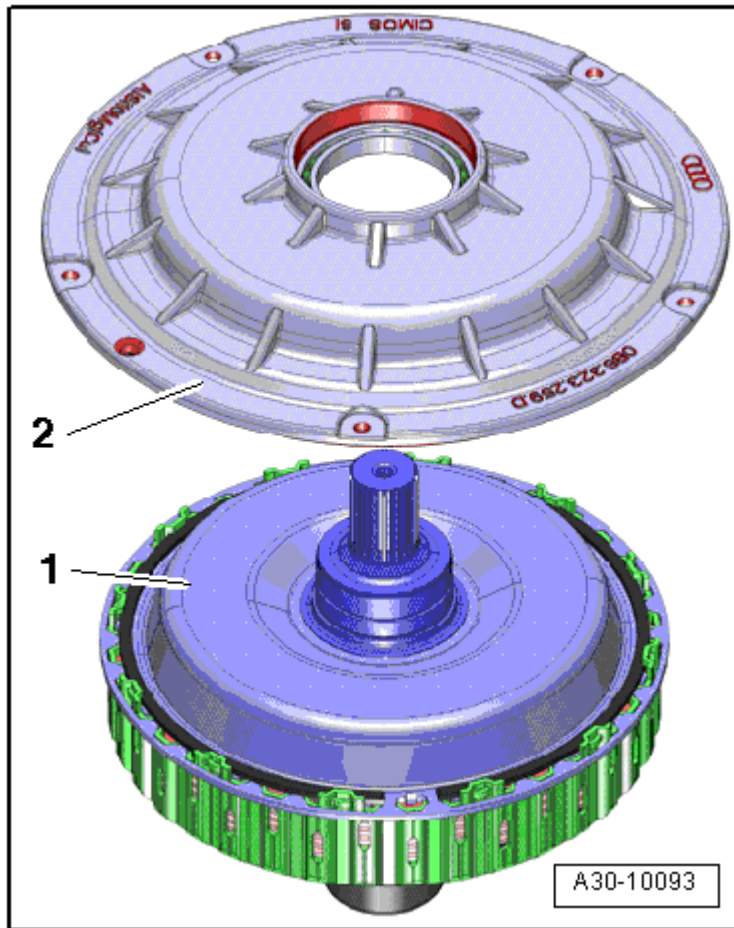


Fig. 23: Identifying Dual Clutch And Cover
Courtesy of AUDI OF AMERICA, LLC

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

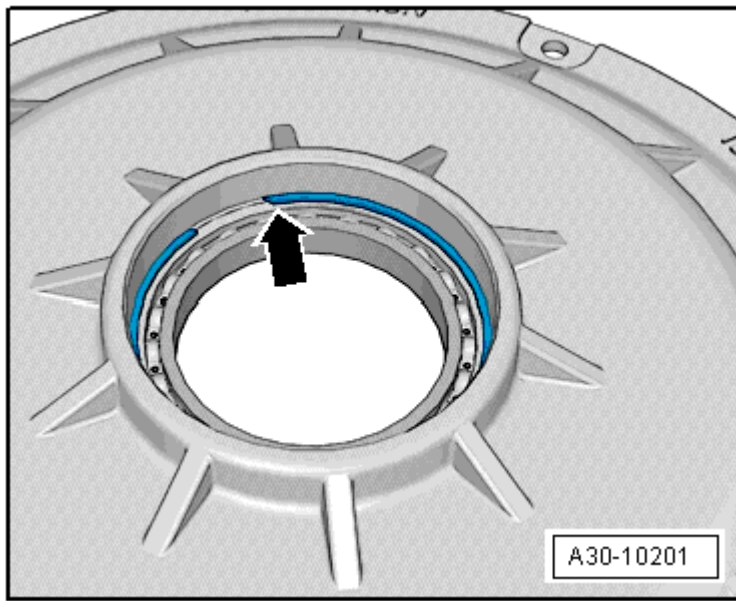


Fig. 24: Identifying Locking Ring

Courtesy of AUDI OF AMERICA, LLC

-- Remove the dual clutch ball bearing.

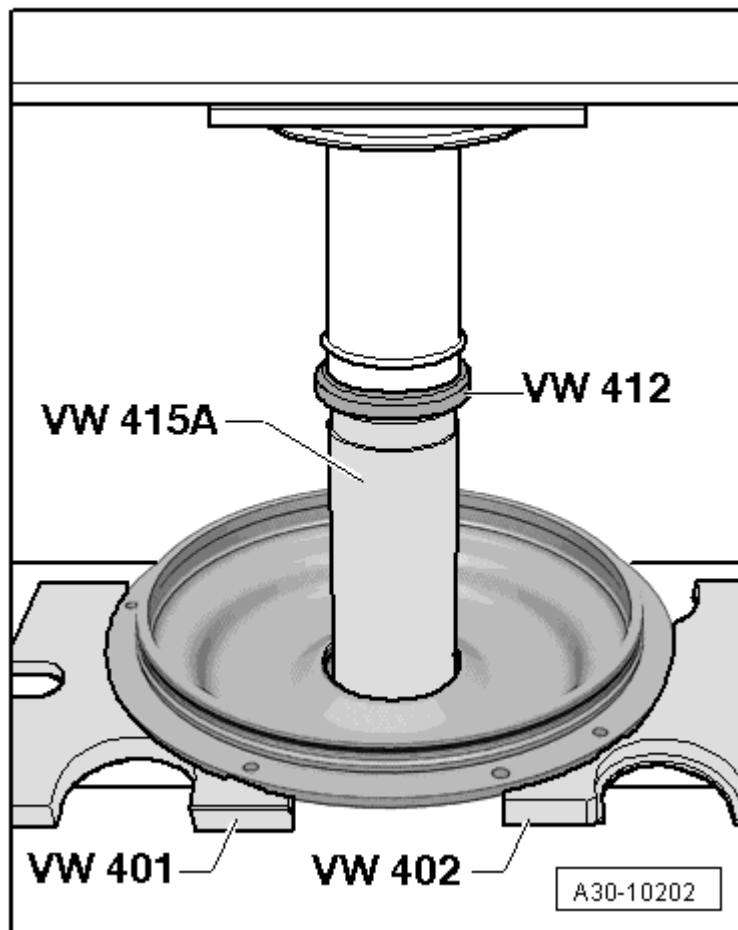


Fig. 25: Removing Dual Clutch Ball Bearing

Courtesy of AUDI OF AMERICA, LLC

NOTE: There may still be a thrust washer -2- behind the ball bearing -3- depending on the clutch cover date of manufacture. If there is, then replace the old one with a new one when installing the new ball bearing.

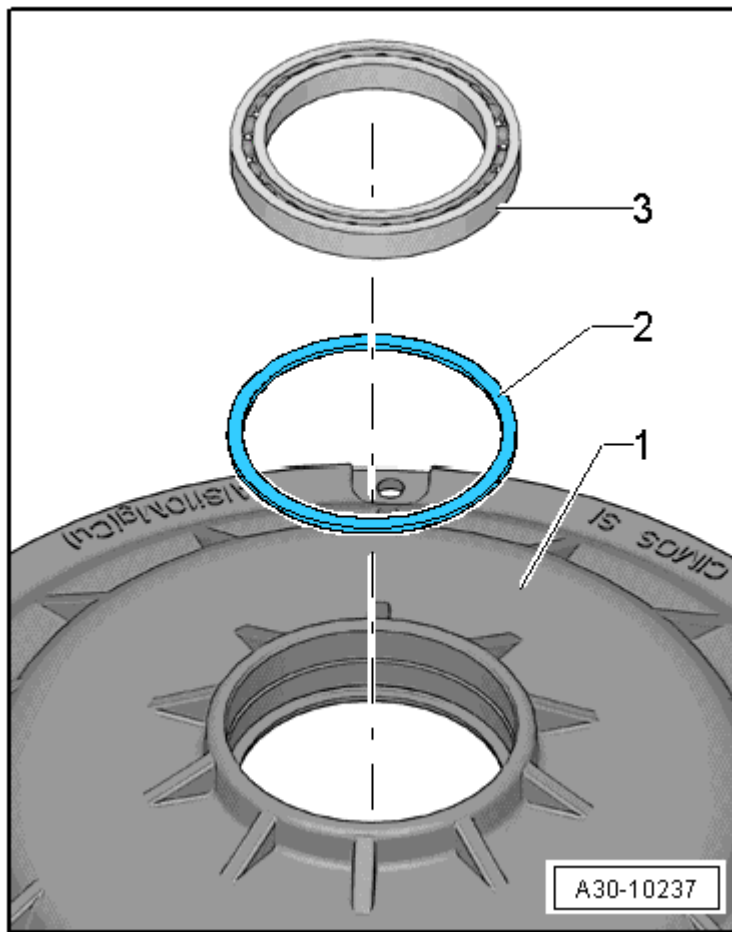


Fig. 26: Identifying Clutch Cover Components
Courtesy of AUDI OF AMERICA, LLC

Replace the ball bearing -3-.

Installing

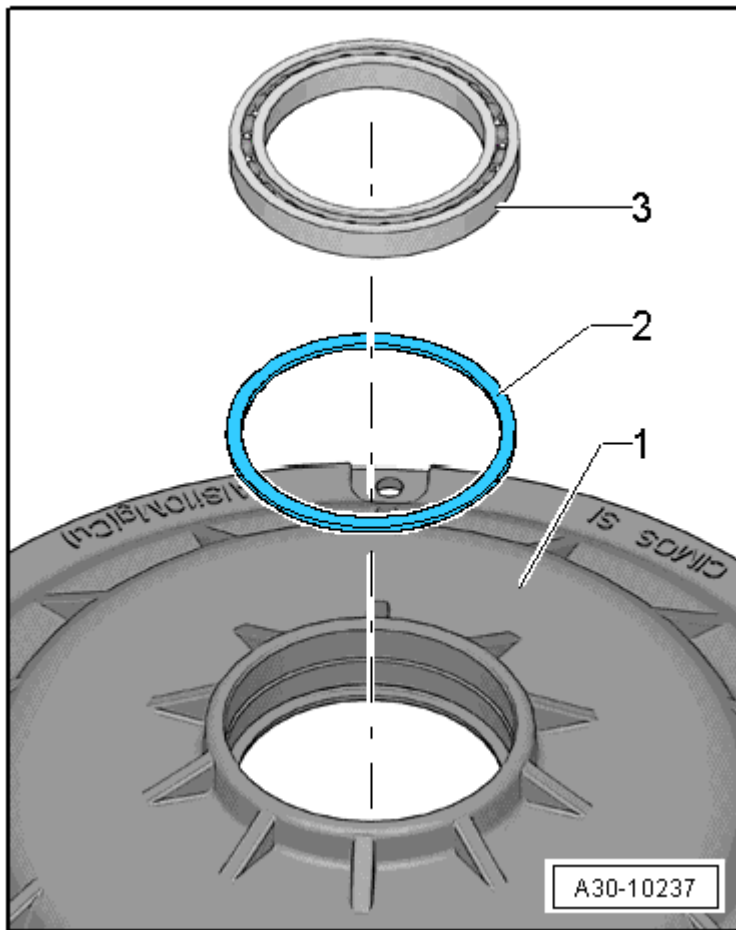


Fig. 27: Identifying Clutch Cover Components

Courtesy of AUDI OF AMERICA, LLC

Install in reverse order of removal. Note the following:

-- Replace the O-ring and locking rings. Refer to **FLYWHEEL AND DUAL CLUTCH OVERVIEW**.

NOTE: **The clutch cover may have or not have a thrust washer -2-, depending on the date of manufacture.**

-- If it was there during the removal, then insert a thrust washer -2- into the cover -1-.

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

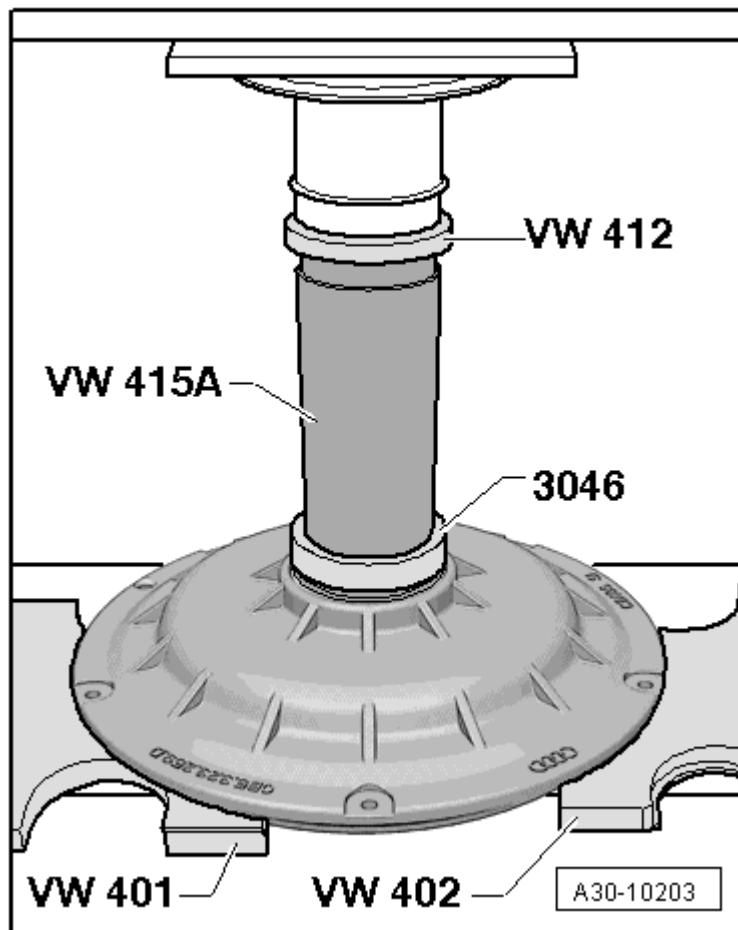


Fig. 28: Installing Dual Clutch Ball Bearing
Courtesy of AUDI OF AMERICA, LLC

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

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

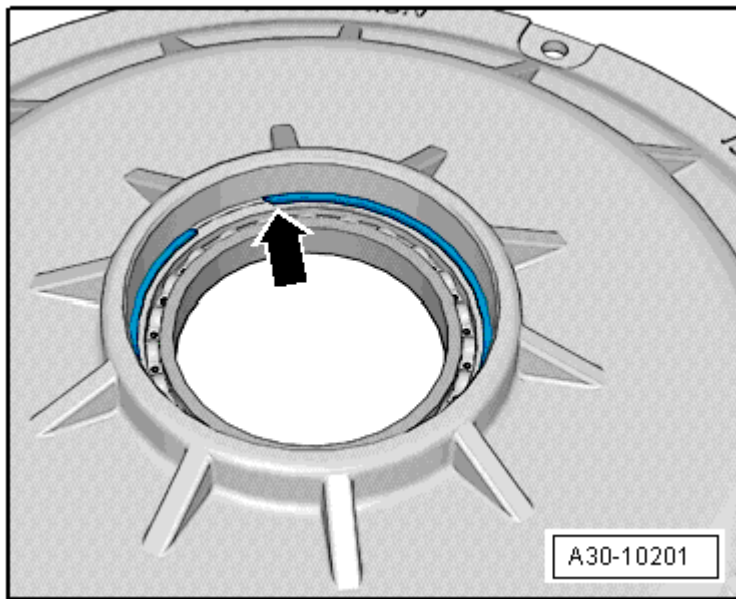


Fig. 29: Identifying Locking Ring

Courtesy of AUDI OF AMERICA, LLC

-- Clean the sealing surface on the clutch cover.

SPECIAL TOOLS

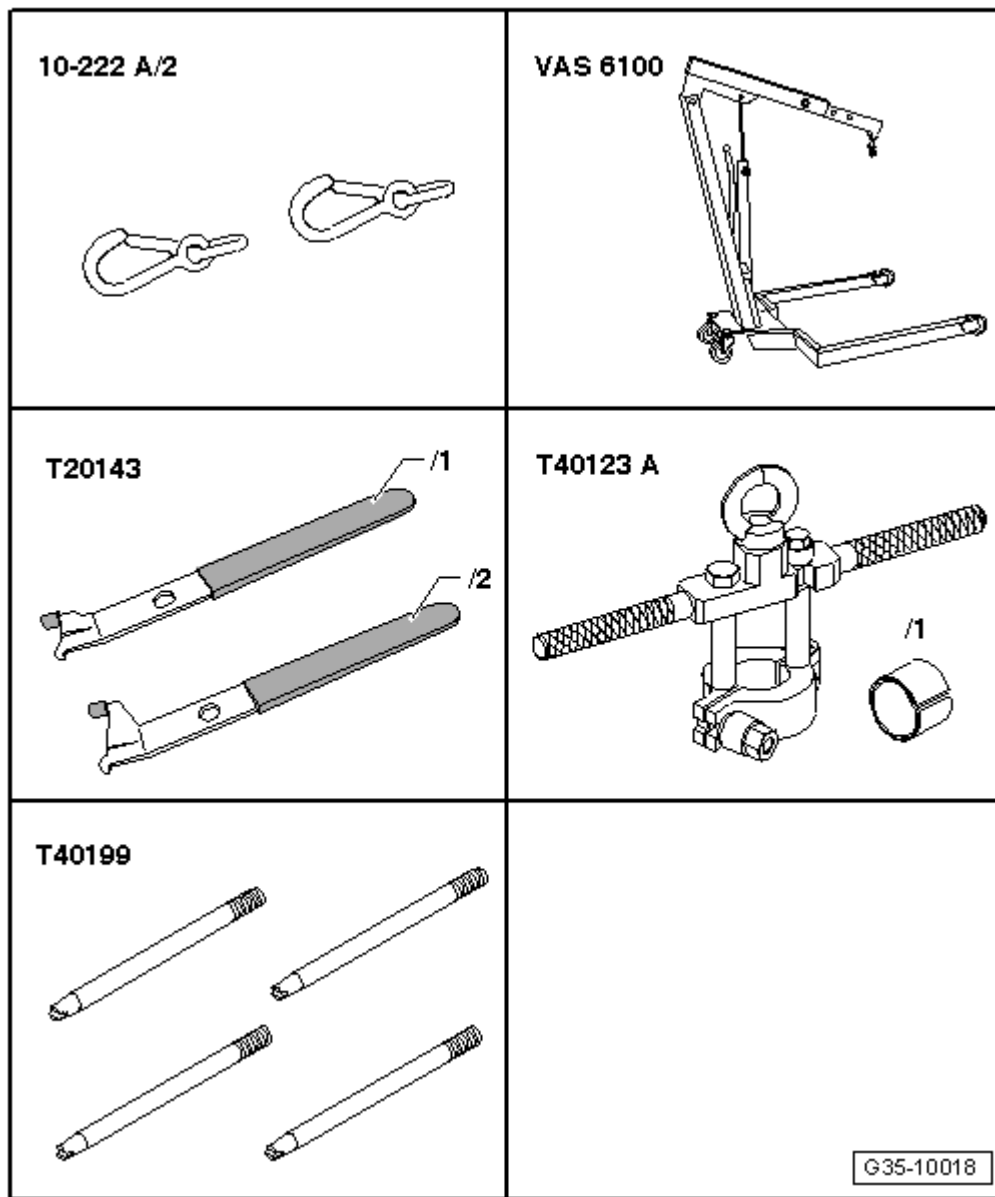


Fig. 30: Identifying Special Tools, Clutch
 Courtesy of AUDI OF AMERICA, LLC

Special tools and workshop equipment required

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

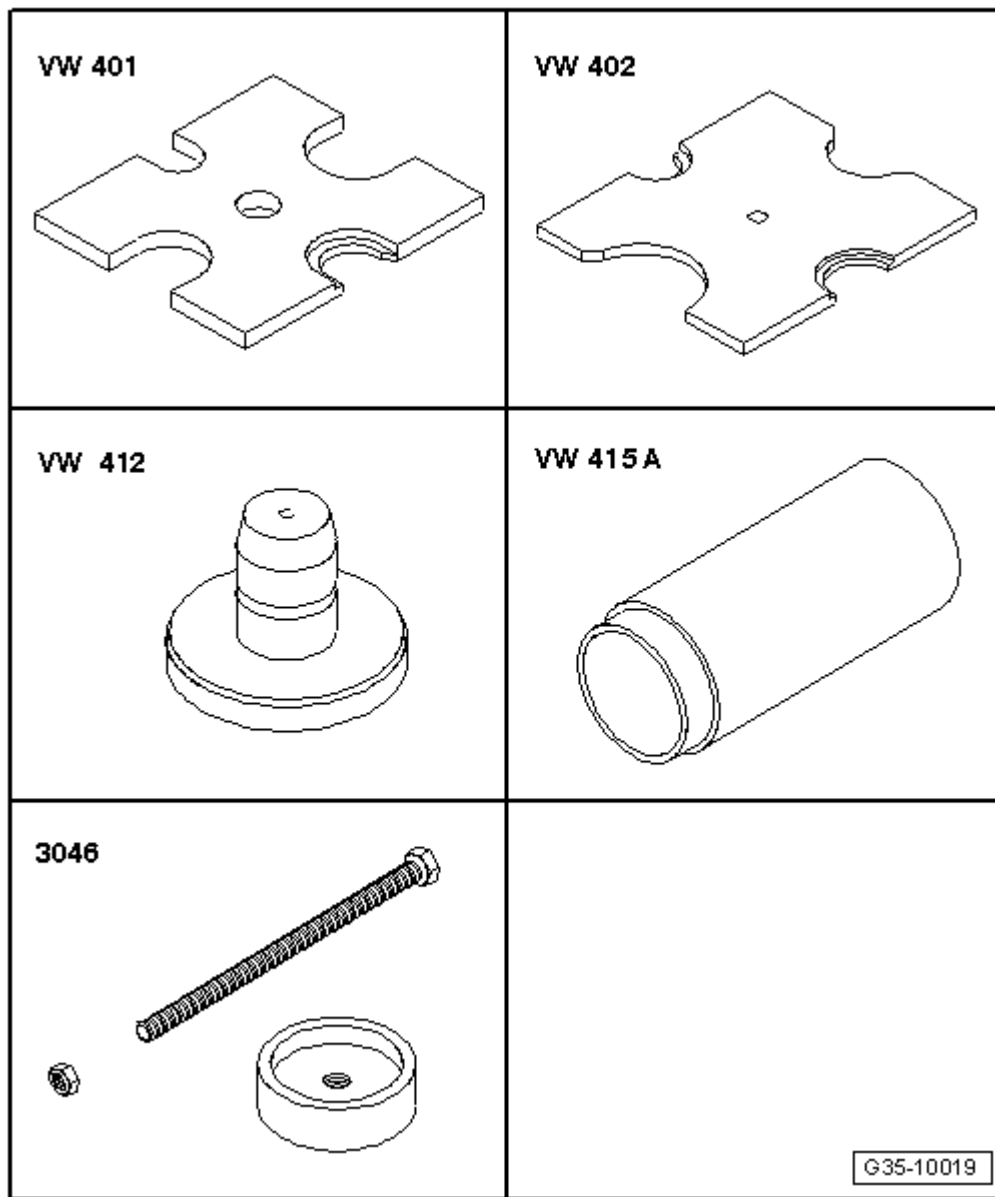


Fig. 31: Identifying Special Tools, Clutch Cover
Courtesy of AUDI OF AMERICA, LLC

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

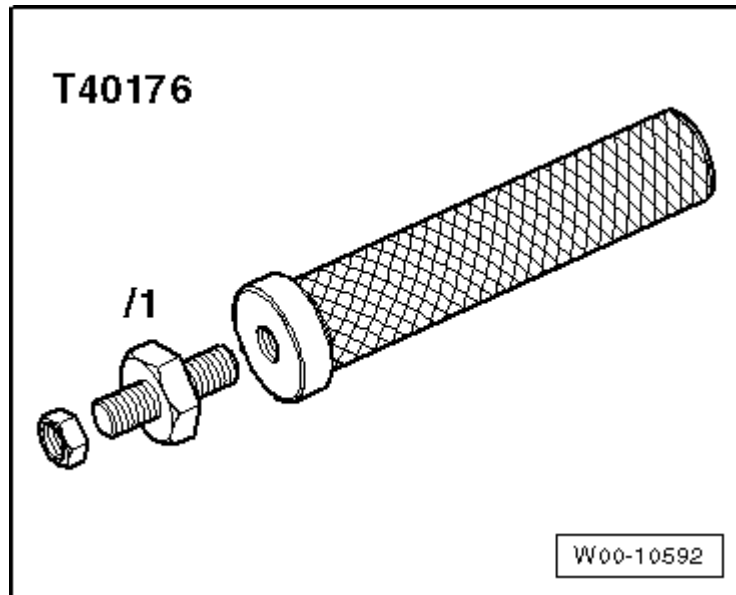


Fig. 32: Identifying Extractor T40176
Courtesy of AUDI OF AMERICA, LLC

- Engine and Transmission Holder VAS 6095

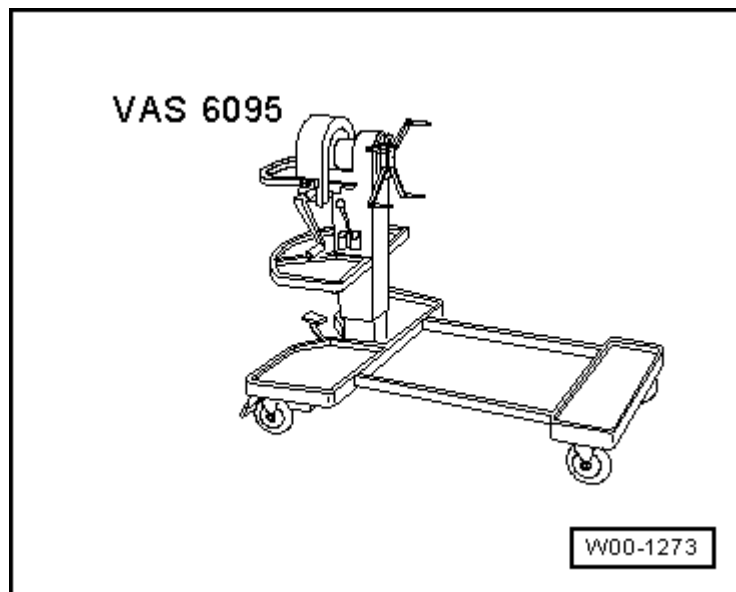


Fig. 33: Identifying Engine And Transmission Holder VAS 6095
Courtesy of AUDI OF AMERICA, LLC

- Not illustrated:
- Sleeve T40123 A/1