

1997-2005 AUTOMATIC TRANSMISSION**Overhaul - A5S 325Z & A5S 360R/390R****APPLICATION****AUTOMATIC TRANSMISSION APPLICATION**

Application	Transmission Model
3-Series (E46)	A5S 325Z (5HP19), A5S 360R/390R (GM5)
525i (E39)	A5S 325Z (5HP19)
528i (E39)	A5S 360R/390R (GM5)
530i (E39)	A5S 325Z (5HP19)
X3 (83)	A5S 360R/390R (GM5)
Z4 (E85)	A5S 325Z (5HP19)

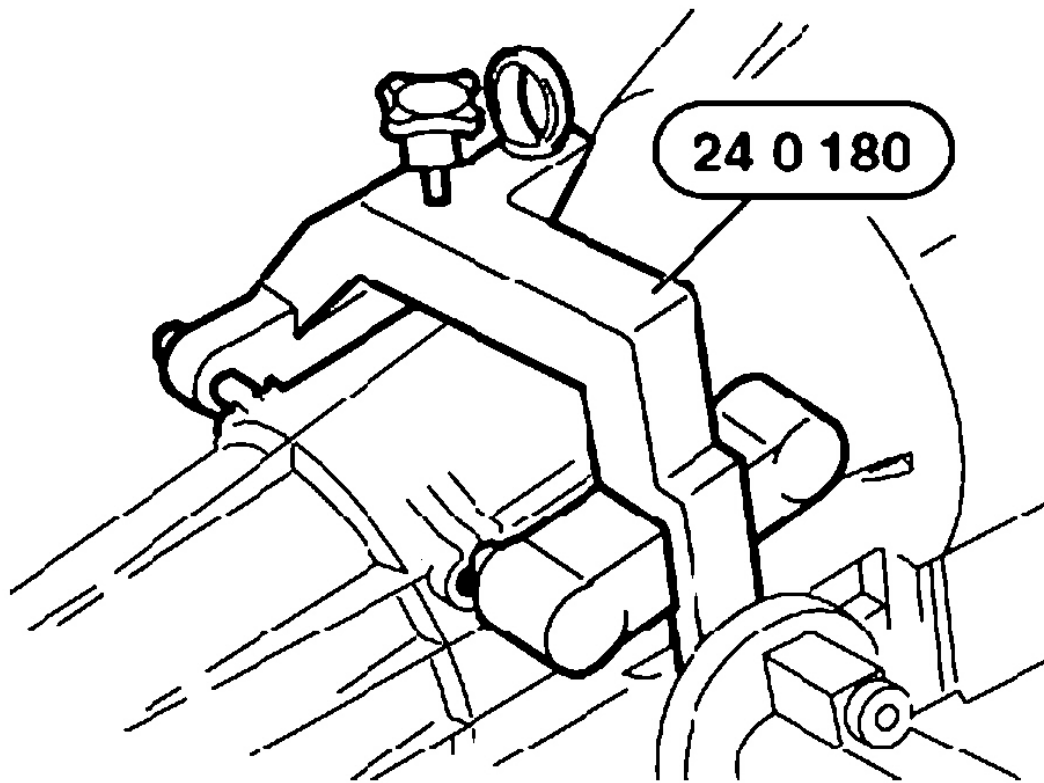
REPLACING RADIAL SHAFT SEAL FOR TORQUE CONVERTER (A5S 360R / 390R, A4S 200R)

NOTE: Manufacturer provides limited overhaul information. For further information, see OVERVIEW - BMW article.

CAUTION: After completion of work, check transmission fluid level. Use only the approved transmission fluid in this automatic transmission. Failure to comply with this requirement will result in serious damage to the automatic transmission. See AUTOMATIC TRANSMISSION Servicing article.

Remove automatic transmission. For 323i, 323Ci, 328i and 328Ci vehicles, see REMOVAL & INSTALLATION - A/T (EXCEPT A4S 270R) . For 325i, 325Ci, 330i and 330Ci vehicles, see AUTOMATIC TRANSMISSION Removal & Installation article. For 325xi and 330xi, see 2001-05 AUTOMATIC TRANSMISSION Removal & Installation article. For 5 series cars, see 2004-05 AUTOMATIC TRANSMISSION . For X3, see 2004-05 AUTOMATIC TRANSMISSION .

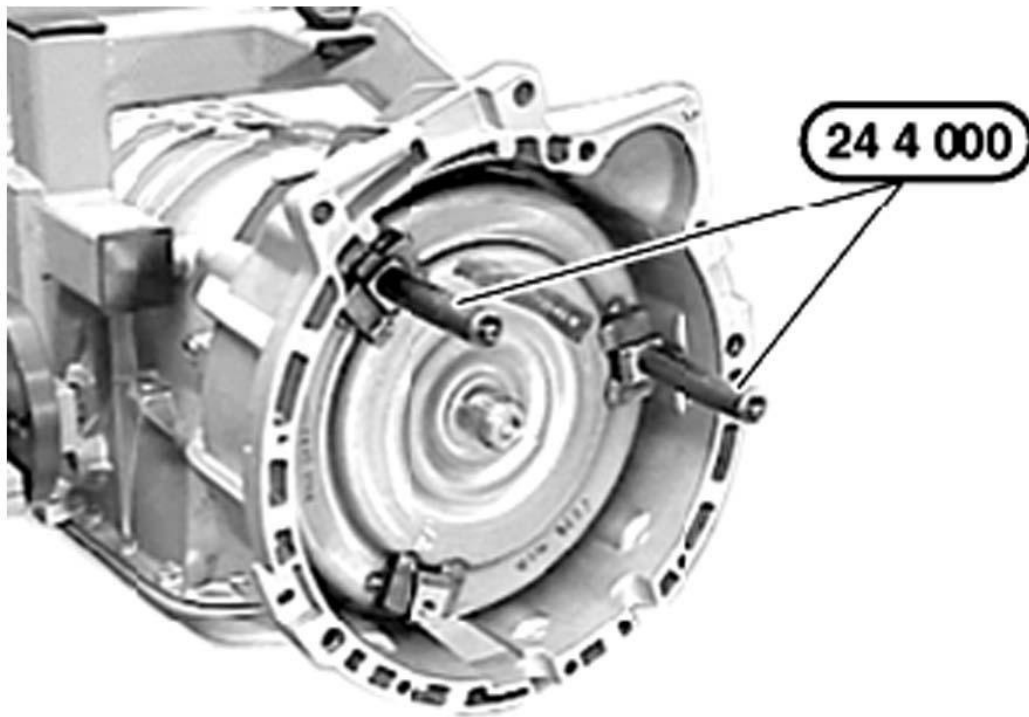
Secure transmission with Special Tool (24 0 180) to Assembly Stand (00 1 450). See Fig. 1 .



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Fig. 1: Securing Transmission With Special Tool
Courtesy of BMW OF NORTH AMERICA, INC.

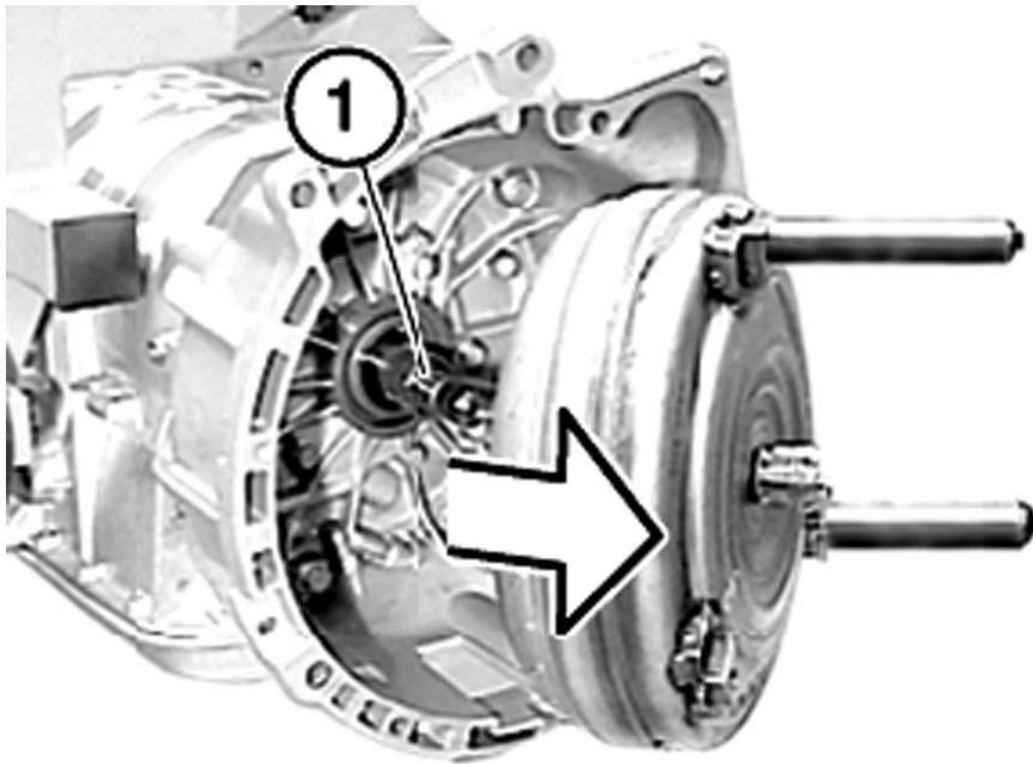
Screw Special Tool (24 4 000) into torque converter. See **Fig. 2** .



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Fig. 2: Screwing Special Tool Onto Torque Converter
Courtesy of BMW OF NORTH AMERICA, INC.

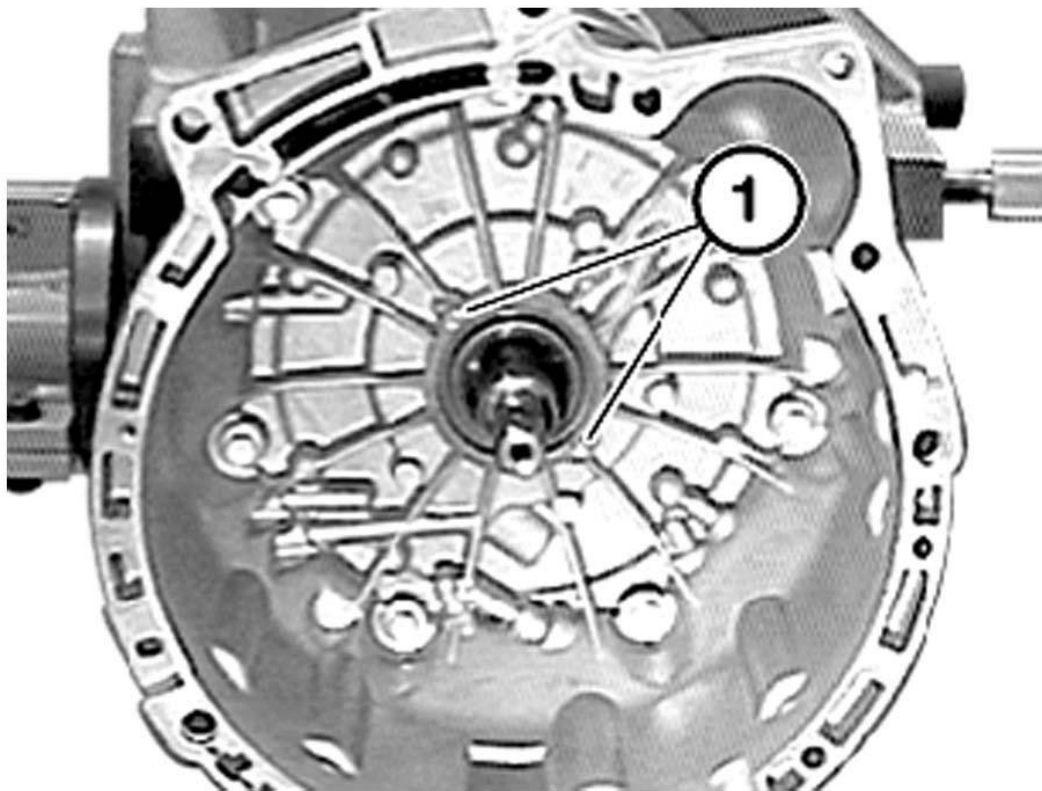
Remove torque converter and set down vertically. Replace sealing ring (1). See **Fig. 3** .



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Fig. 3: Removing Torque Converter
Courtesy of BMW OF NORTH AMERICA, INC.

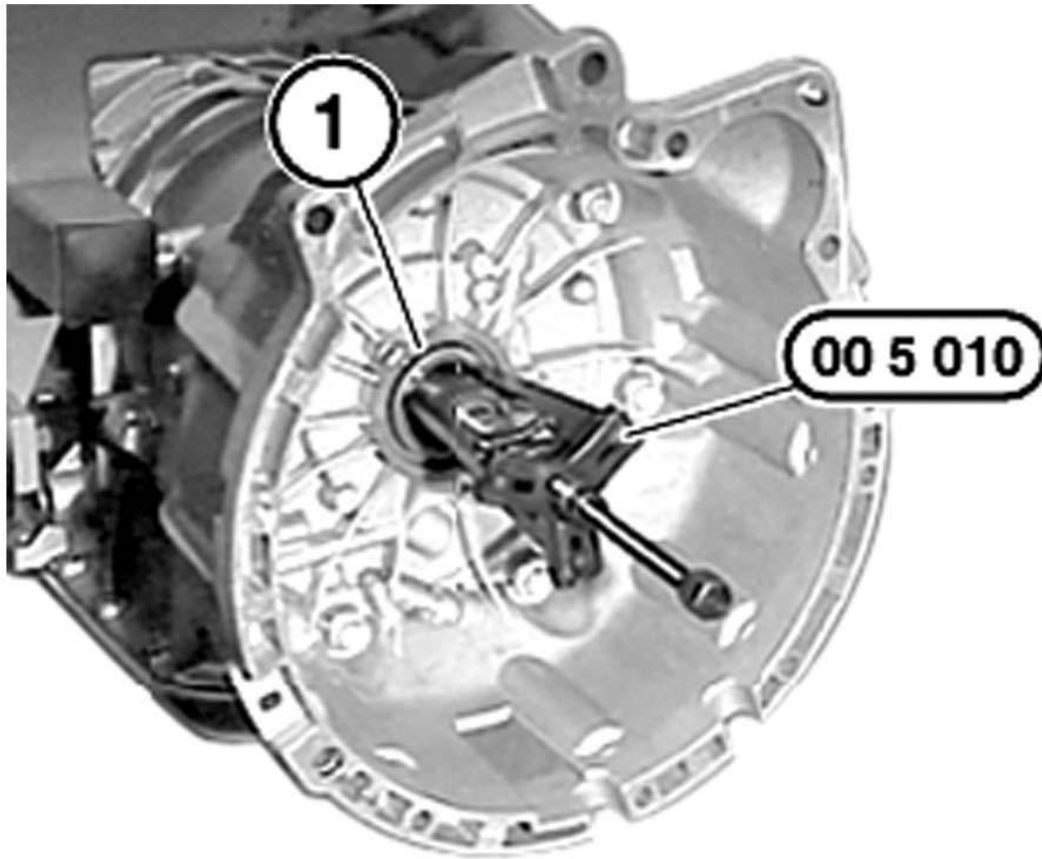
Release retaining screws (1) of radial shaft seal. See **Fig. 4** .



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Fig. 4: Releasing Screws Of Radial Shaft Seal
Courtesy of BMW OF NORTH AMERICA, INC.

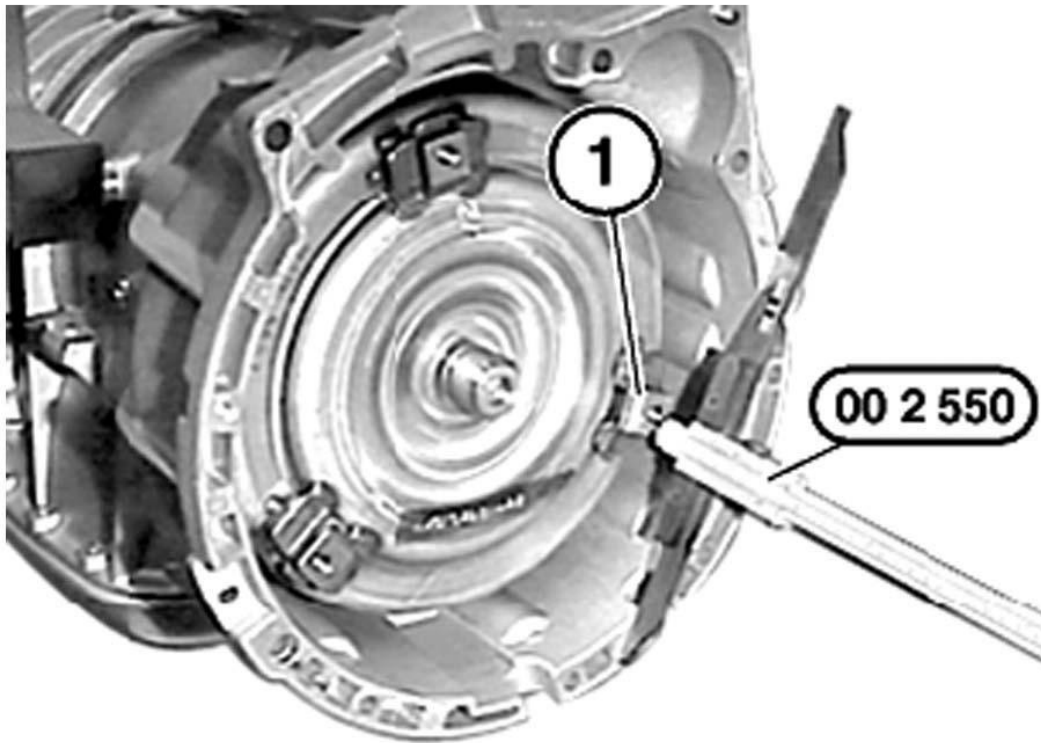
Pull radial shaft seal (1) out of converter housing with Special Tool (00 5 010). See **Fig. 5** . Upon installation: coat sealing lips of radial shaft seal with automatic transmission fluid. Insert radial shaft seal. Tighten both retaining screws uniformly to specification. See **TORQUE SPECIFICATIONS** .



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Fig. 5: Pulling Radial Shaft Seal Out Of Converter Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Push torque converter through radial shaft seal onto transmission shaft as far as it will go. Press torque converter by hand into converter housing. Turn in so doing until opening of converter hub engages in driver of pump impeller. Torque converter must noticeably slide inwards. Determine distance between contact surface and surface (1) of tapped hole in torque converter with Special Tool (00 2 550). See **Fig. 6** . Torque converter is correctly installed when measured value is greater than 30 mm.



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Fig. 6: Determining Distance Between Contact Surface & Surface Of Tapped Hole
Courtesy of BMW OF NORTH AMERICA, INC.

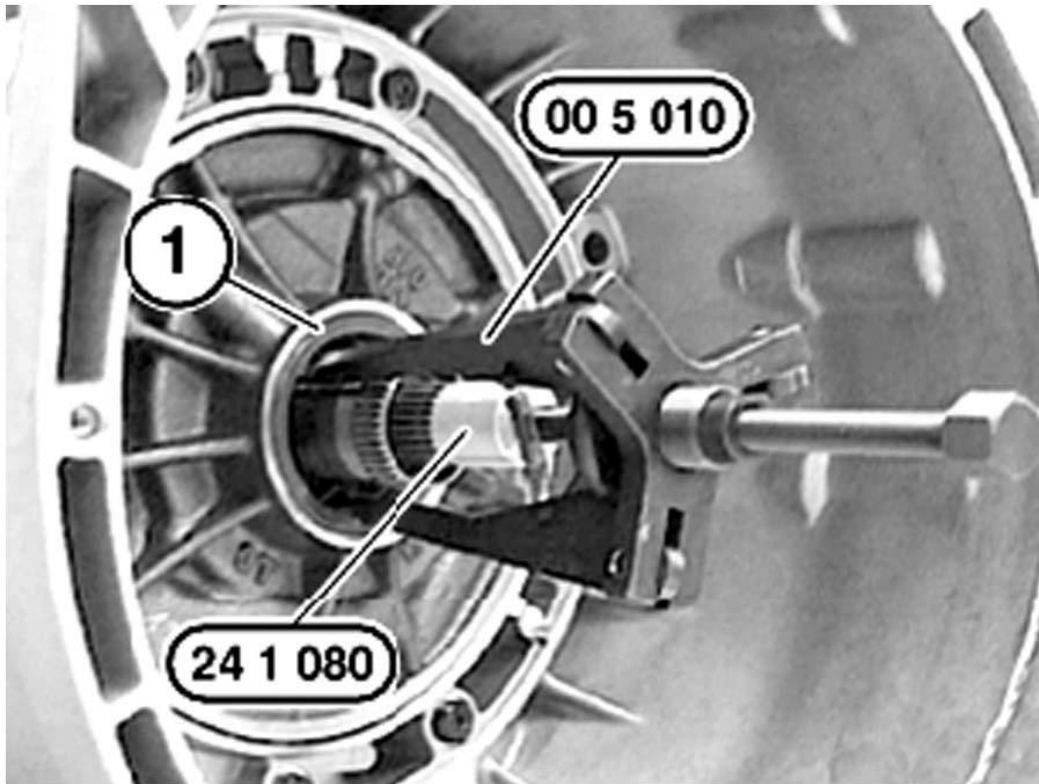
REPLACING RADIAL SEAL FOR TORQUE CONVERTER (A5S 325Z)

CAUTION: After completion of work, check transmission fluid level. Use only the approved transmission fluid in this automatic transmission. Failure to comply with this requirement will result in serious damage to the automatic transmission. See AUTOMATIC TRANSMISSION Servicing article.

Remove automatic transmission. For 323i, 323Ci, 328i and 328Ci vehicles, see REMOVAL & INSTALLATION - A/T (EXCEPT A4S 270R) . For 325i, 325Ci, 330i and 330Ci vehicles, see REMOVAL & INSTALLATION (A5S 325Z) . For 325xi and 330xi, see 2001-05 AUTOMATIC TRANSMISSION . For Z4, see REMOVAL & INSTALLATION (A5S 325Z) .

Remove torque converter. See REMOVING AND INSTALLING OR REPLACING TORQUE CONVERTER (A5S 325Z) .

Remove radial seal (1) with Special Tool (00 5 010) and Thrust Member (24 1 080) from pump housing. See **Fig. 7**.

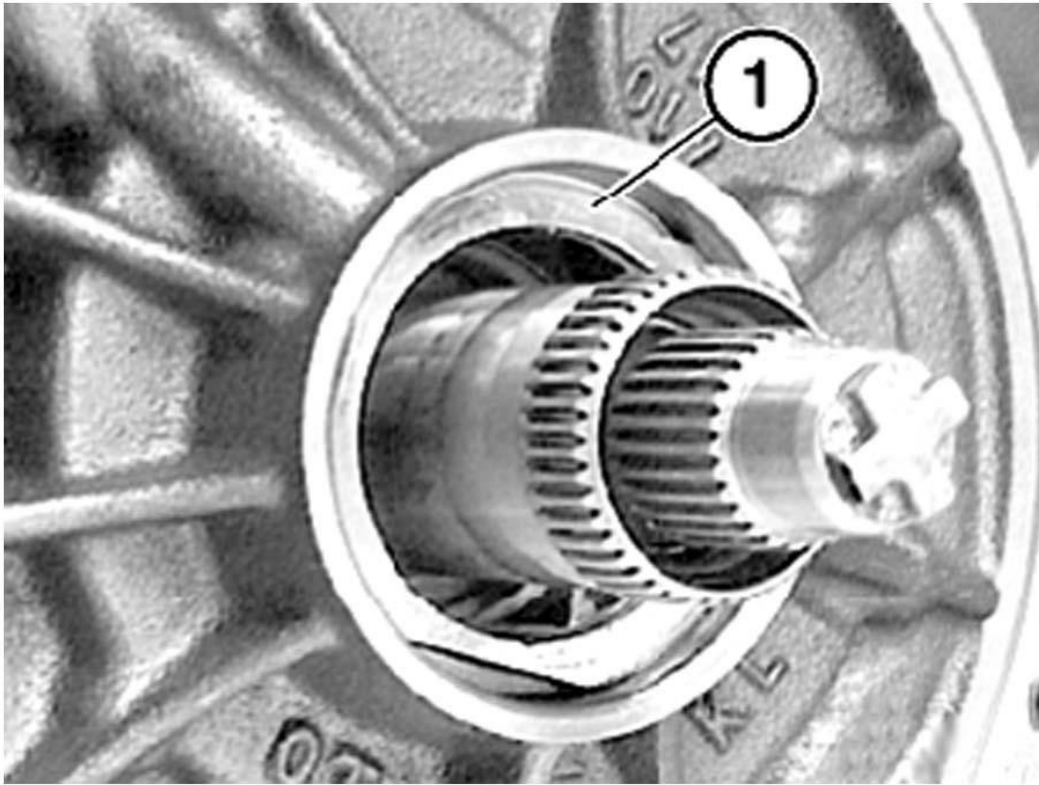


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Fig. 7: Removing Radial Seal

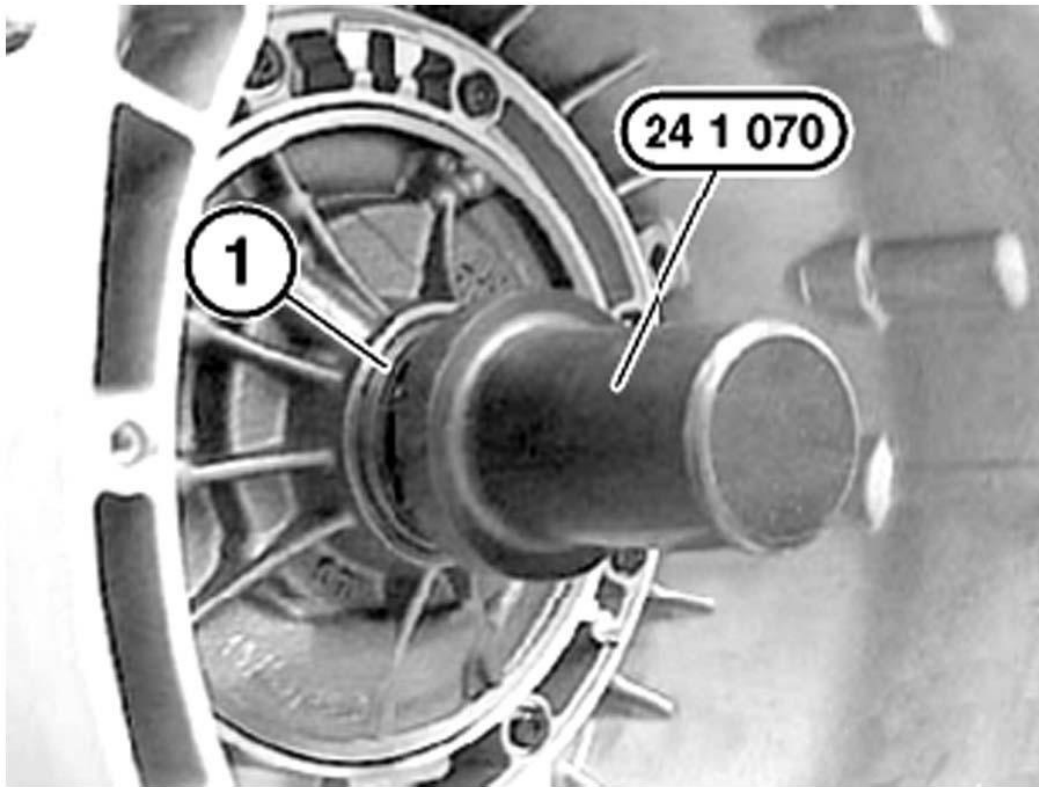
Courtesy of BMW OF NORTH AMERICA, INC.

Installation: pay attention to washer (1) under radial seal. See **Fig. 8**. Coat new radial seal (1) with ATF and drive into pump housing as far as it will go with Special Tool (24 1 070). See **Fig. 9**.



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Fig. 8: Locating Radial Seal
Courtesy of BMW OF NORTH AMERICA, INC.



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Fig. 9: Installing Radial Seal

Courtesy of BMW OF NORTH AMERICA, INC.

INSTALLING CONVERTER BELL HOUSING/OIL PUMP REPAIR KIT (A5S 360R / 390R)

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Remove automatic transmission. For 323i, 323Ci, 328i and 328Ci vehicles, see REMOVAL & INSTALLATION - A/T (EXCEPT A4S 270R). For 325i, 325Ci, 330i and 330Ci vehicles, see AUTOMATIC TRANSMISSION Removal & Installation article. For 325xi and 330xi, see 2001-05 AUTOMATIC TRANSMISSION Removal & Installation article. For 5 series cars, see 2004-05 AUTOMATIC TRANSMISSION. For X3, see 2004-05 AUTOMATIC TRANSMISSION.

Secure automatic transmission with Special Tool (24 0 180) on Assembly Stand (00 1 450).

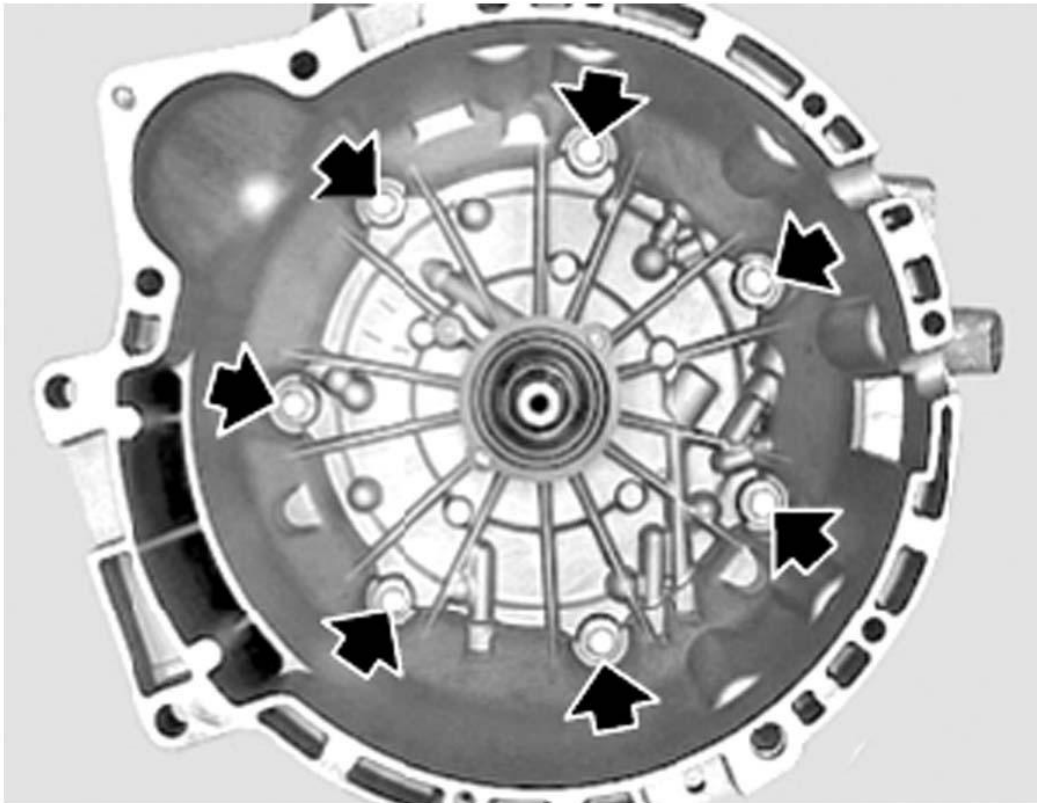
Remove torque converter. See **REMOVING AND INSTALLING/REPLACING TORQUE CONVERTER (A5S 360R / 390R, A4S 200R)** .

Remove transmission oil sump. See **REMOVING AND INSTALLING/SEALING OR REPLACING TRANSMISSION FLUID SUMP** .

Remove transmission oil strainer. See **REMOVING AND INSTALLING/REPLACING TRANSMISSION OIL SCREEN** .

CAUTION: Position automatic transmission vertically on assembly stand, converter bell housing points upwards. Clutch packs must remain in installation position when converter bell housing is removed.

Release screws. See **Fig. 10** . Upon installation: screw centering pin (contained in repair kit) into transmission housing. Tighten down bolts diagonally and evenly. Tightening torque: 23 Nm.

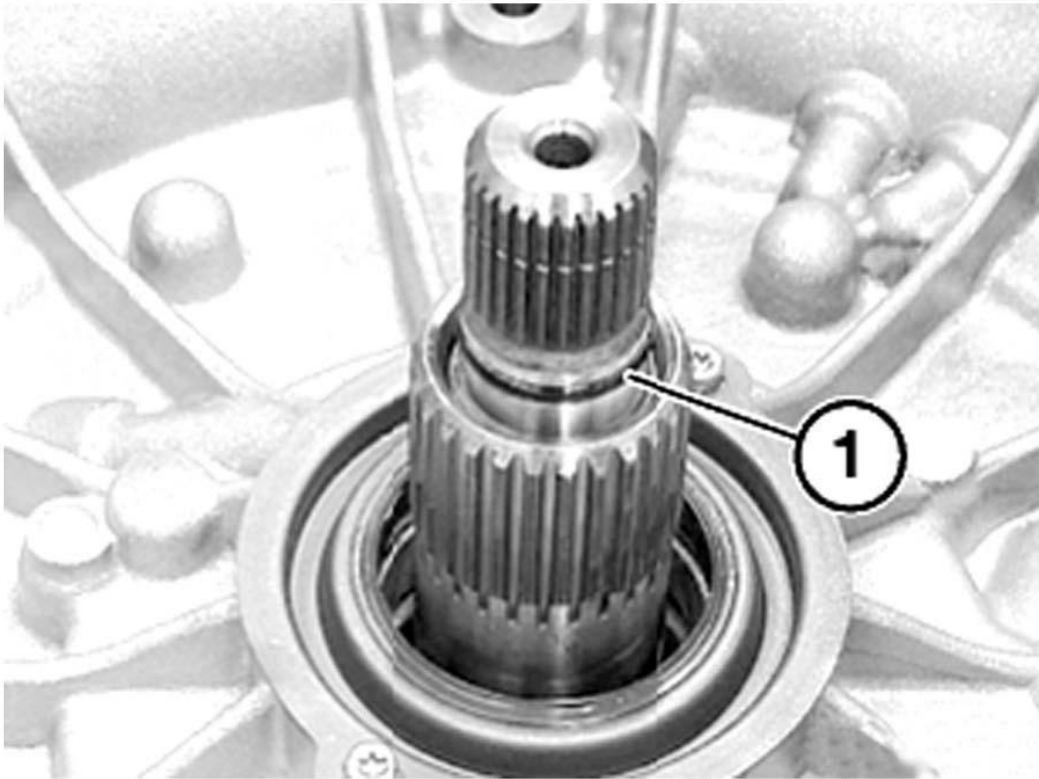


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Fig. 10: Locating Screws

Courtesy of BMW OF NORTH AMERICA, INC.

Remove sealing ring (1). See **Fig. 11** . Upon installation: replace sealing ring (1).



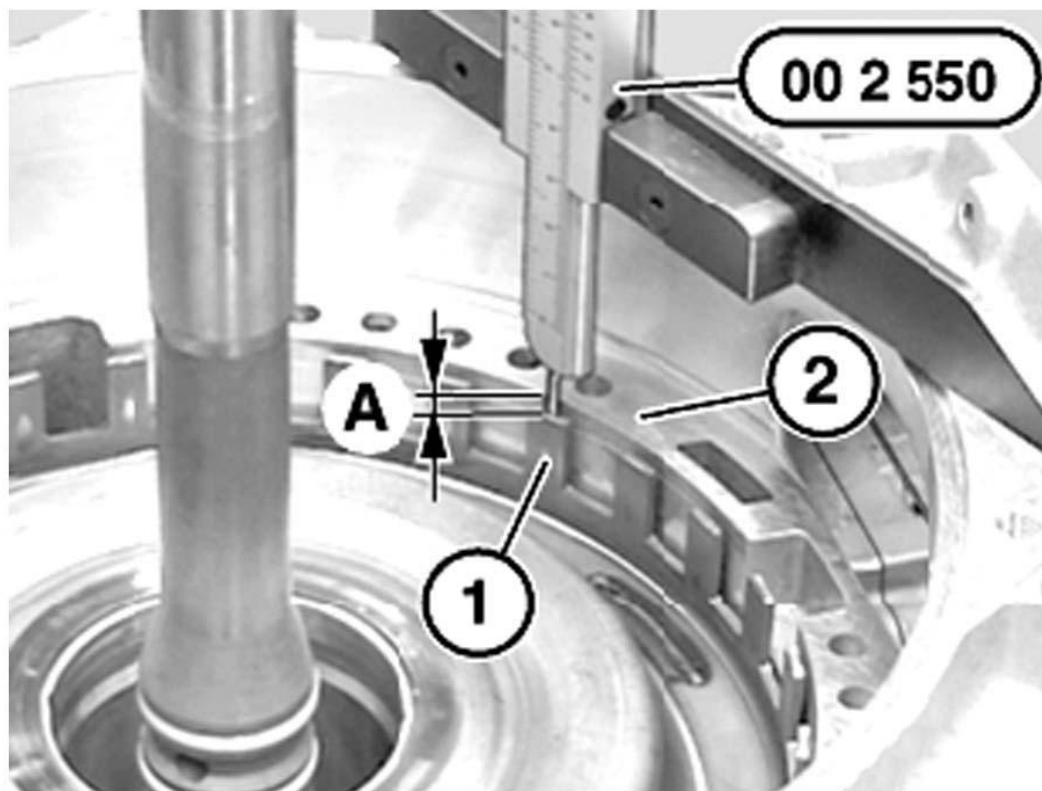
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Fig. 11: Locating Sealing Ring

Courtesy of BMW OF NORTH AMERICA, INC.

Carefully remove converter bell housing with oil pump towards top. Make sure clutch packs are not pulled out as well. Clean sealing surfaces on transmission housing.

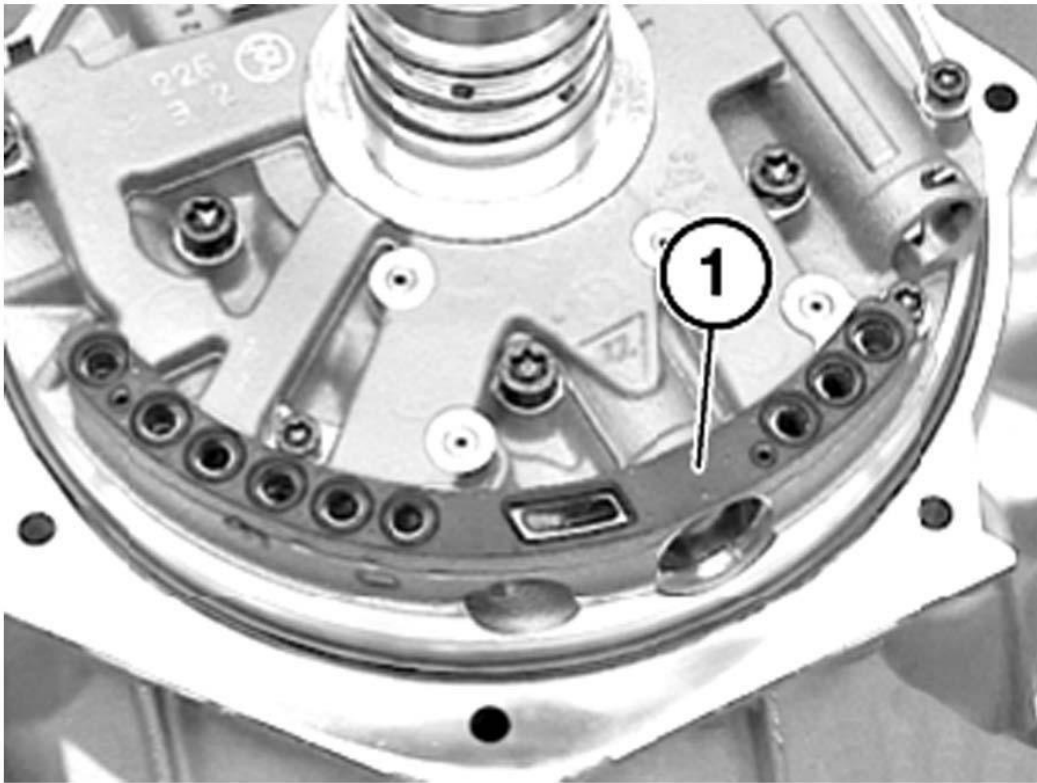
Installation: before fitting new converter bell housing, check measurement "A" between transmission housing (2) and pulse gear (1) with Special Tool (00 2 550). See **Fig. 12** . Measurement "A" = approx.. 1 mm. Pulse gear (1) must be situated below level of sealing surface (2) of transmission housing.



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Fig. 12: Checking Measurement Between Housing & Pulse Gear
Courtesy of BMW OF NORTH AMERICA, INC.

Remove oil pump gasket (1). See **Fig. 13** . Upon installation: Insert new oil pump gasket with fixtures into bore holes in accordance with hole pattern.

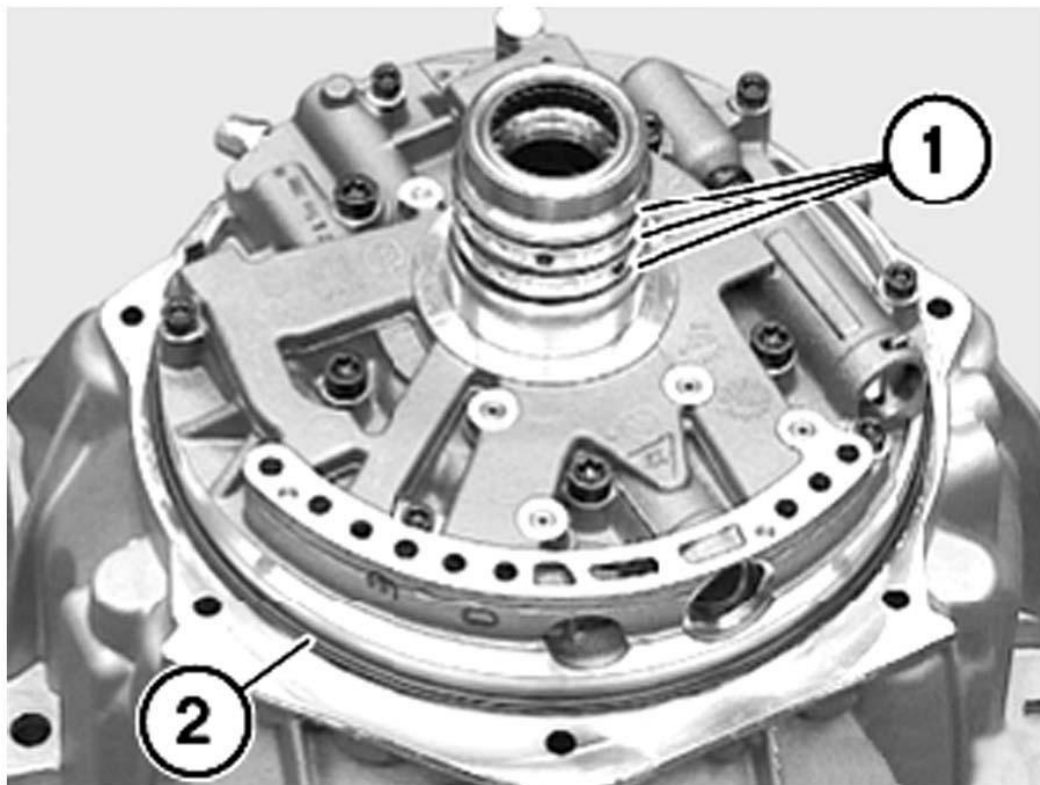


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Fig. 13: Removing Oil Pump Gasket

Courtesy of BMW OF NORTH AMERICA, INC.

Installation: coat sealing rings (1) with petroleum jelly. See **Fig. 14** . Remove sealing ring (2), grease with petroleum jelly and reinstall.

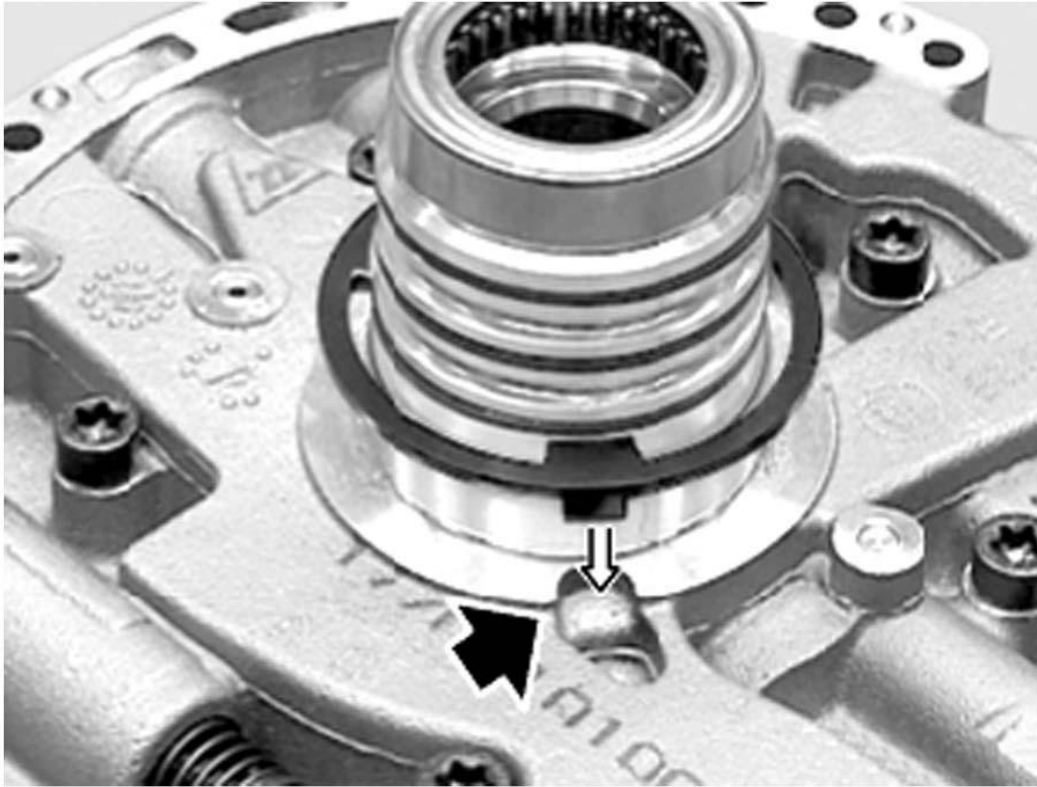


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Fig. 14: Locating Sealing Rings

Courtesy of BMW OF NORTH AMERICA, INC.

Installation: if necessary, remove shim from old converter bell housing. See **Fig. 15** . Secure with petroleum jelly to new converter bell housing on oil pump. Insert with fixture in groove. Note installation position.



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Fig. 15: Locating Shim

Courtesy of BMW OF NORTH AMERICA, INC.

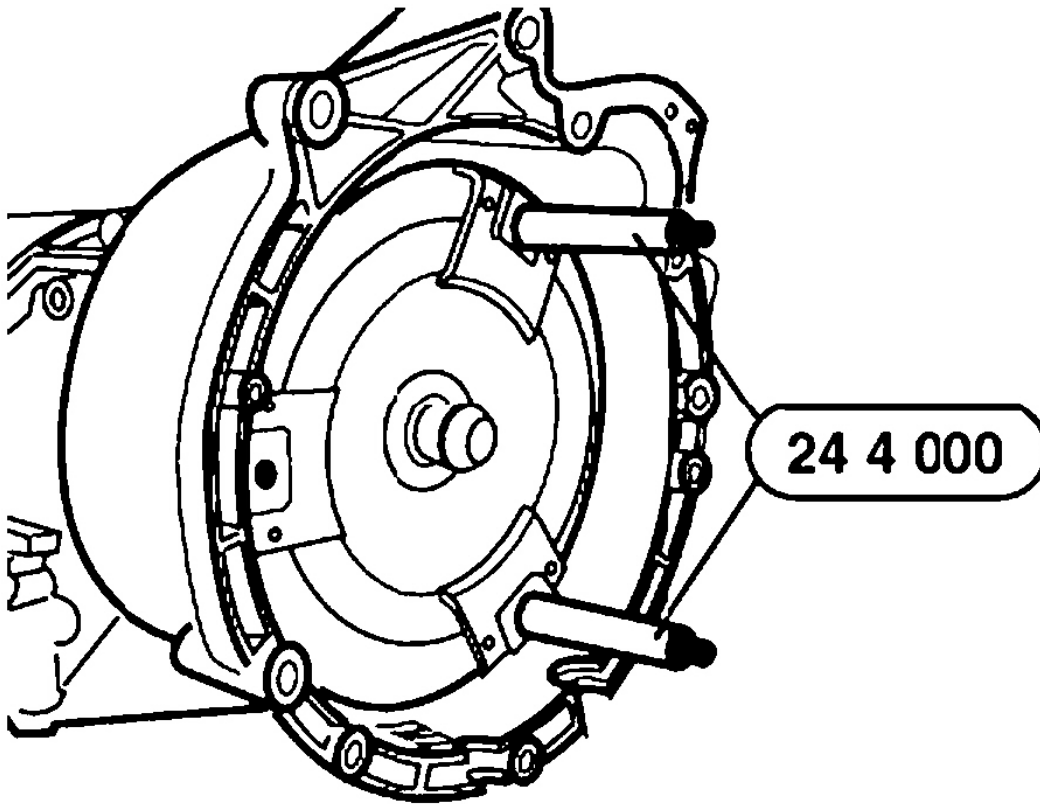
REMOVING AND INSTALLING OR REPLACING TORQUE CONVERTER (A5S 325Z)

CAUTION: After completion of work, check transmission fluid level. Use only the approved transmission fluid in this automatic transmission. Failure to comply with this requirement will result in serious damage to the automatic transmission. See AUTOMATIC TRANSMISSION Servicing article.

Remove automatic transmission. For 323i, 323Ci, 328i and 328Ci vehicles, see REMOVAL & INSTALLATION - A/T (EXCEPT A4S 270R) . For 325i, 325Ci, 330i and 330Ci vehicles, see REMOVAL & INSTALLATION (A5S 325Z) . For 325xi and 330xi, see 2001-05 AUTOMATIC TRANSMISSION Removal & Installation article. For Z4, see REMOVAL & INSTALLATION (A5S 325Z) .

NOTE: When torque converter is removed, transmission oil flows out.

Screw Special Tool (24 4 000) into the torque converter. See **Fig. 16** . Remove torque converter.



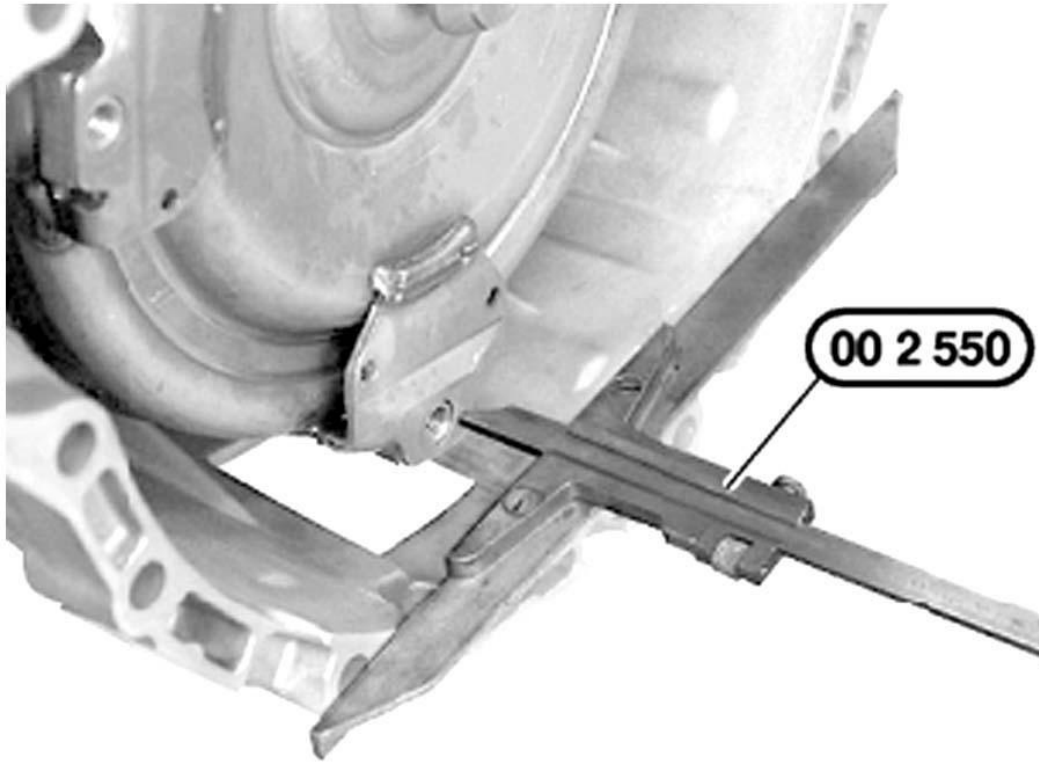
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Fig. 16: Removing Torque Converter

Courtesy of BMW OF NORTH AMERICA, INC.

CAUTION: When installing, avoid that radial seal and bearing are damaged. If the torque converter is not correctly installed, the driver of the pump impeller may be damaged when the transmission is flanged to the engine.

Slide torque converter up to first detent on transmission input shaft. Turn torque converter under slight pressure until opening in converter hub snaps into driver of pump impeller and torque converter slips noticeably inwards. Approx. installation depth of torque converter = 31 mm, check with special tool 00 2 550. See **Fig. 17** .



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Fig. 17: Checking Installation Depth

Courtesy of BMW OF NORTH AMERICA, INC.

REMOVING AND INSTALLING/REPLACING TORQUE CONVERTER (A5S 360R / 390R, A4S 200R)

CAUTION: After completion of work, check transmission fluid level. Use only the approved transmission fluid in this automatic transmission. Failure to comply with this requirement will result in serious damage to the automatic transmission. See AUTOMATIC TRANSMISSION Servicing article.

Remove automatic transmission. For 323i, 323Ci, 328i and 328Ci vehicles, see REMOVAL & INSTALLATION - A/T (EXCEPT A4S 270R) . For 325i, 325Ci, 330i and 330Ci vehicles, see AUTOMATIC TRANSMISSION Removal & Installation article. For 325xi and 330xi, see 2001-05 AUTOMATIC TRANSMISSION Removal & Installation article. For 5 series cars, see 2004-05 AUTOMATIC TRANSMISSION . For X3, see 2004-05 AUTOMATIC TRANSMISSION .

NOTE: When torque converter is removed, transmission oil flows out.

Screw Special Tool (24 4 000) into torque converter. See **Fig. 2** . Remove torque converter.

Installation: during installation do not damage radial shaft seal and bearing. If the torque converter is not correctly installed, the driver of the pump impeller may be damaged when the transmission is flanged to the engine.

Remove torque converter and set down vertically. Replace sealing ring (1). See **Fig. 3** .

Push torque converter through radial shaft seal onto transmission shaft as far as it will go. Press torque converter by hand into converter housing and rotate in so doing. Converter hub opening must snap into place in driver of pump impeller. Torque converter must be felt to slip inwards. Calculate measurement between contact face and area (1) of tapped hole of torque converter with Special Tool (00 2 550). See **Fig. 6** . Torque converter is correctly installed when measured value is greater than 30 mm.

TORQUE SPECIFICATIONS

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Application	INCH Lbs. (N.m)
Radial Shaft Seal On Converter Bell Housing	34 (3)