

**WARNUNG**

Gefahr des Verlusts der Text-Bild-Zuordnung beim Ausdruck.

- **Aus technischen Gründen kann derzeit nicht ausgeschlossen werden, dass trotz einwandfreier Darstellung auf dem Bildschirm beim Ausdruck der Zusammenhang von Text und zugehörigem Bild verloren geht.**
- **Wird der Fehler nicht bemerkt, besteht die Gefahr, daß Arbeiten nicht korrekt durchgeführt werden und es dadurch zu Personen- und Sachschäden kommt.**

→ Vergleichen Sie deshalb nach dem Druckvorgang unbedingt die Ausdrucke mit der Bildschirmdarstellung. Korrigieren Sie die Ausdrucke im Fehlerfall so, daß der Inhalt der Bildschirmdarstellung zutreffend wiedergegeben wird.

**WARNING**

Danger of losing text-figure correspondence when printing out.

- **For technical reasons, it can currently not be ruled out that the correspondence between text and associated figure can be lost when it is printed out, even though the display on the screen is correct.**
- **If the fault is not noticed, there is the danger that work will not be performed correctly which can cause injury and damage.**

→ Therefore, always compare printouts with the screen display after printing them out. Correct the printouts if they are faulty so that the content of the screen display matches that on the printouts.

**AVERTISSEMENT**

Risque de perte de la correspondance texte-illustration lors de l'impression papier.

- **Pour des raisons techniques, il ne peut pas être exclu à l'heure actuelle que, même en cas d'affichage correct à l'écran, la correspondance entre le texte et l'illustration puisse être erronée sur l'impression papier.**
- **Si l'erreur passe inaperçue, on court le risque d'exécuter certaines opérations de manière incorrecte pouvant conduire à des dommages corporels et matériels.**

→ Comparez impérativement pour cette raison les impressions papier avec l'affichage à l'écran. Corrigez-les en cas d'erreur de manière à reproduire correctement l'affichage à l'écran.

**ATTENZIONE**

Pericolo di perdita dell'abbinamento testo-immagine nella stampa.

- **Per motivi tecnici non è escluso che, nonostante la rappresentazione sullo schermo risulti perfetta, durante la stampa venga persa la corrispondenza fra testo e relativa immagine.**
- **Se tale difetto non viene rilevato vi è il pericolo che i lavori non siano eseguiti correttamente; ciò può avere come conseguenza lesioni e danneggiamenti.**

→ Per questo motivo, dopo la stampa è assolutamente necessario confrontare le stampe con la rappresentazione sullo schermo. In caso di errore si prega di correggere le stampe, così da garantire la riproduzione esatta della rappresentazione sullo schermo.

**ADVERTENCIA**

Al imprimir se corre el riesgo de perder la correcta asignación de las figuras al texto.

- **Por motivos técnicos, por el momento no se puede descartar que, aun siendo correcta la**

imagen que aparezca en la pantalla, al imprimir se pierda la correlación entre el texto y la figura correspondiente.


- Si este error pasara desapercibido, existe el riesgo de que los trabajos no se ejecuten de forma correcta y, por tanto, se produzcan daños personales y materiales.

→ Por ello le rogamos que tras el proceso de impresión compare siempre las copias impresas con la imagen de la pantalla. En caso de error, corrija las copias impresas de forma que se correspondan con el contenido de la imagen de la pantalla.

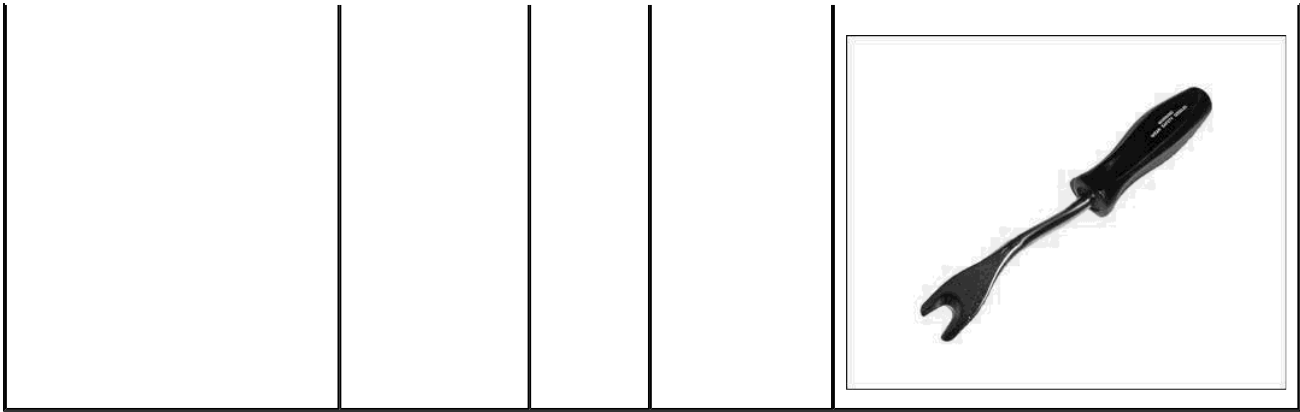
37 35 19 Removing and installing transmission - as of MY 2003

- Preliminary work
- Removing transmission
- Installing transmission
- Subsequent work

Tools

Designation	Type	Number	Explanation	
(material)	special tool	00000	wooden block	<p>PORSCHE</p> <p>siehe Handbuch Werkstattausrüstung</p> <p>Voir le Manuel Equipement d'atelier</p> <p>Refer to the Workshop Equipment manual</p> <p>Vease Manual de Equipamiento de Taller</p> <p>Vedere il Manuale dell'attrezzatura d'officina</p> <p>ワークショップ・イクイップメント・マニュアルを参照</p>
fixing pin	special tool	95950		<p>PORSCHE</p> <p>siehe Handbuch Werkstattausrüstung</p> <p>Voir le Manuel Equipement d'atelier</p> <p>Refer to the Workshop Equipment manual</p> <p>Vease Manual de Equipamiento de Taller</p> <p>Vedere il Manuale dell'attrezzatura d'officina</p> <p>ワークショップ・イクイップメント・マニュアルを参照</p>
fixing pin	special tool	95951		<p>15, 32</p>  <p>9595/1 000 721 959 51</p>
insert	special tool	96870		

				<p style="text-align: center;">PORSCHE</p> <p style="text-align: center;">siehe Handbuch Werkstattausrüstung</p> <p style="text-align: center;">Voir le Manuel Equipement d'atelier</p> <p style="text-align: center;">Refer to the Workshop Equipment manual</p> <p style="text-align: center;">Vease Manual de Equipamiento de Taller</p> <p style="text-align: center;">Vedere il Manuale dell'attrezzatura d'officina</p> <p style="text-align: center;">ワークショップ・イクイップメント・マニュアルを参照</p>
insert bit	special tool	96880		<p style="text-align: center;">PORSCHE</p> <p style="text-align: center;">siehe Handbuch Werkstattausrüstung</p> <p style="text-align: center;">Voir le Manuel Equipement d'atelier</p> <p style="text-align: center;">Refer to the Workshop Equipment manual</p> <p style="text-align: center;">Vease Manual de Equipamiento de Taller</p> <p style="text-align: center;">Vedere il Manuale dell'attrezzatura d'officina</p> <p style="text-align: center;">ワークショップ・イクイップメント・マニュアルを参照</p>
centring pin	special tool	96890		<p style="text-align: center;">PORSCHE</p> <p style="text-align: center;">siehe Handbuch Werkstattausrüstung</p> <p style="text-align: center;">Voir le Manuel Equipement d'atelier</p> <p style="text-align: center;">Refer to the Workshop Equipment manual</p> <p style="text-align: center;">Vease Manual de Equipamiento de Taller</p> <p style="text-align: center;">Vedere il Manuale dell'attrezzatura d'officina</p> <p style="text-align: center;">ワークショップ・イクイップメント・マニュアルを参照</p>
socket wrench insert	special tool	97140		<p style="text-align: center;">PORSCHE</p> <p style="text-align: center;">siehe Handbuch Werkstattausrüstung</p> <p style="text-align: center;">Voir le Manuel Equipement d'atelier</p> <p style="text-align: center;">Refer to the Workshop Equipment manual</p> <p style="text-align: center;">Vease Manual de Equipamiento de Taller</p> <p style="text-align: center;">Vedere il Manuale dell'attrezzatura d'officina</p> <p style="text-align: center;">ワークショップ・イクイップメント・マニュアルを参照</p>
universal disassembly tool	special tool	NR.21		



Preliminary work

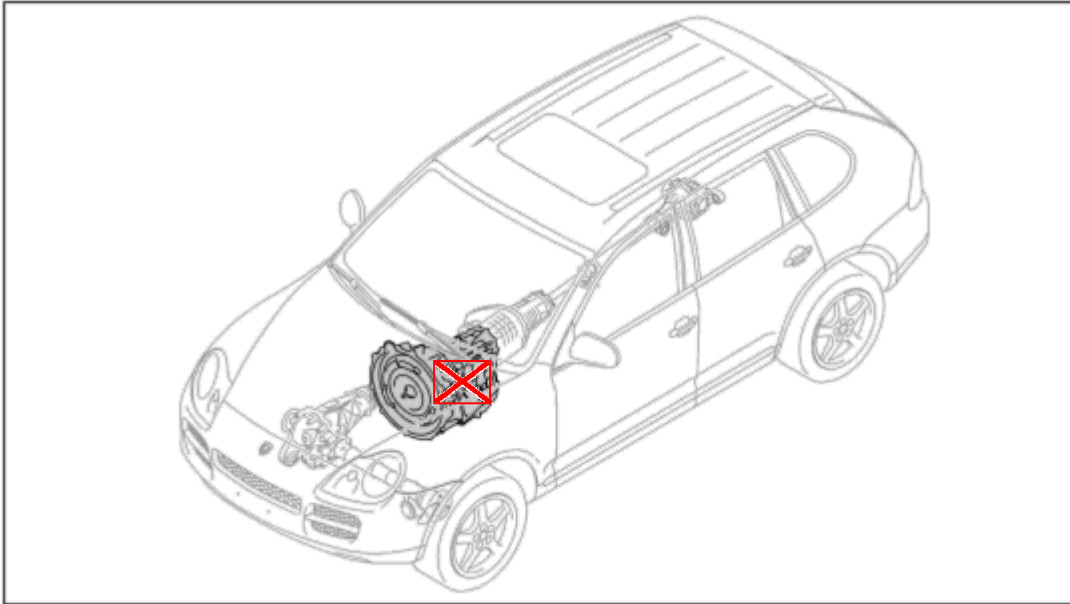
Preliminary work for removing transmission

1. Remove covers in engine compartment to the right and rear. → 700219 Removing and reinstalling front cover (engine compartment) - chapter on "Removing"
2. Remove Y-shaped pipe. → 243519 Removing and installing air box for throttle housing (Y-shaped pipe) - chapter on "Removing" [9PAAF1]→ 243519 Removing and installing air box for throttle housing (Y-shaped pipe) - chapter on "Removing" [9PAAE1]
3. Remove engine guard . → 108019 Removing and installing engine guard - chapter on "removing"
4. Remove exhaust system. → 260119 Removing and installing exhaust system - chapter on "removing"
5. Remove rear cardan shaft. → 393519 Removing and reinstalling rear cardan shaft - chapter on "Removing"
6. Remove front cardan shaft. → 390219 Removing and installing front cardan shaft - chapter on "Removing"

Removing transmission

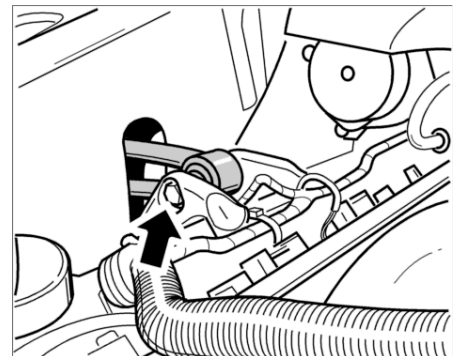
Removing transmission

Installation Location:

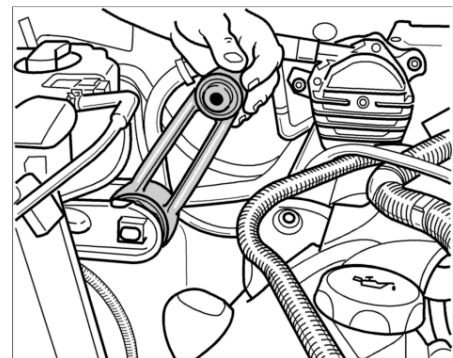
**Note**

- The line connections on the transmission and the ends of the ATF lines must be closed off after the lines have been separated from the transmission!

1. Moving selector lever to position N
2. Remove torque converter support on engine side.

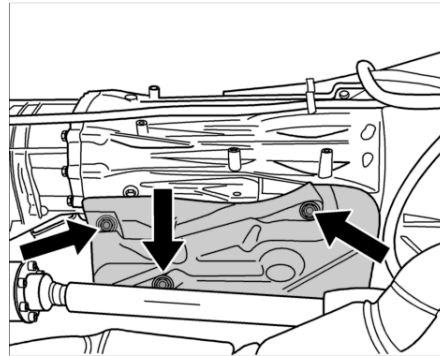


Torque converter support screw

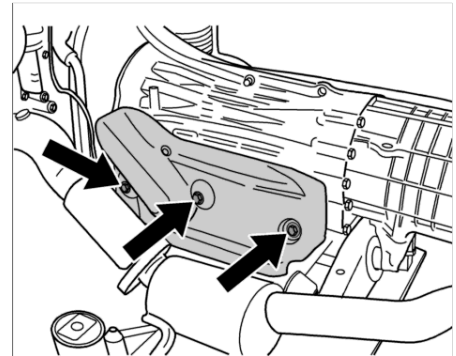


Torque converter support

3. Remove shield on the left of the transmission. To do this, unscrew three fastening screws **-Arrow-** .
4. Remove shield on the right of the transmission. To do this, unscrew three fastening screws **-Arrow-** .
5. Remove transfer box. → 396519 Removing and installing transfer box - chapter on "Removing"

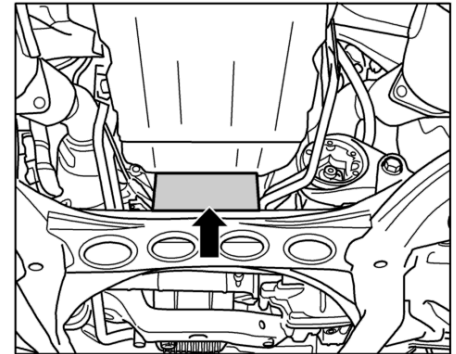


Right shield



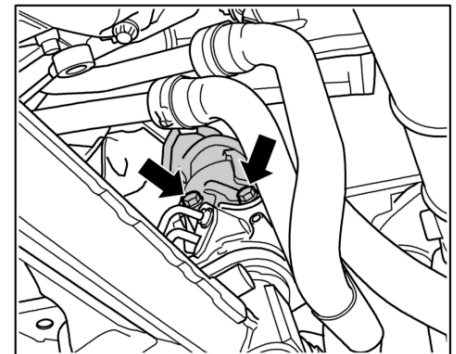
Left shield

6. Support engine transmission aggregate on converter bell housing with a **(material) 00000** on the suspension subframe.



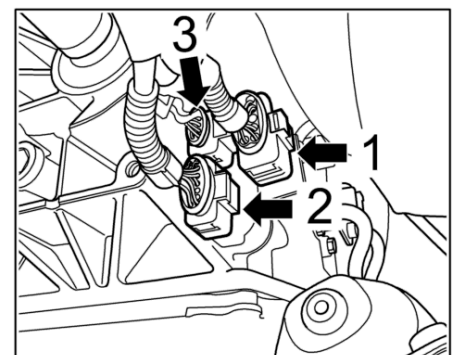
Supporting the engine/transmission aggregate

7. Remove shield panel on the steering gear.



Shield panel to steering gear

8. Remove plug connections on the Tiptronic transmission **-1,2,3-**.

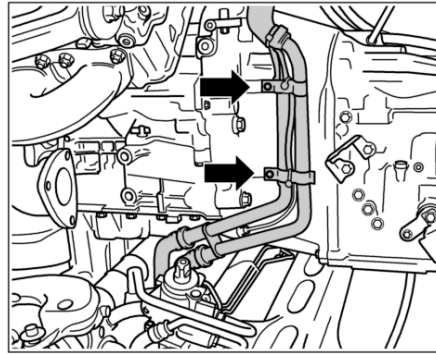


Tiptronic plug connections

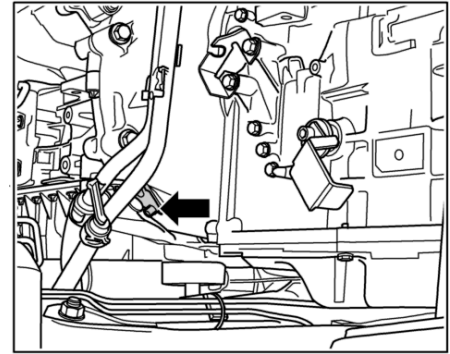
9. Remove reference mark sender on the converter bell housing **-Arrow-**.

10. Unscrew coolant pipe holder bolts **-Arrows-** on the converter bell housing.

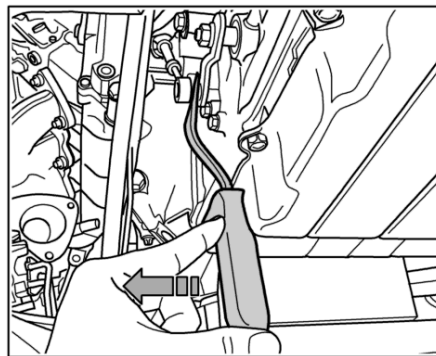
11. Remove retaining clip **-A-** on the holder.



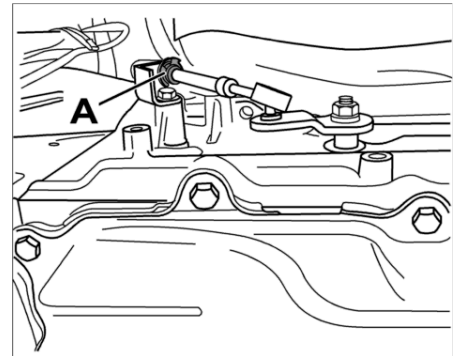
Coolant pipes to converter bell housing



Reference mark sender



Removing selector cable



Selector lever cable connection

12. Unscrew selector lever cable from the ball joint with **universal disassembly tool NR.21**.

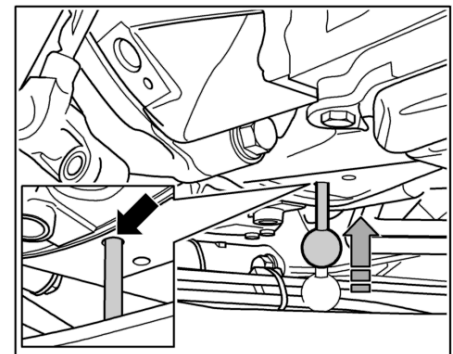


Note

- A second fitter is required to unscrew or screw in the converter screws.
- The converter screws must be replaced.

13. Remove converter screws. Observe the following steps for this purpose.

14. Turn crankshaft clockwise with special tool **socket wrench insert 97140**.



Disconnecting converter screws

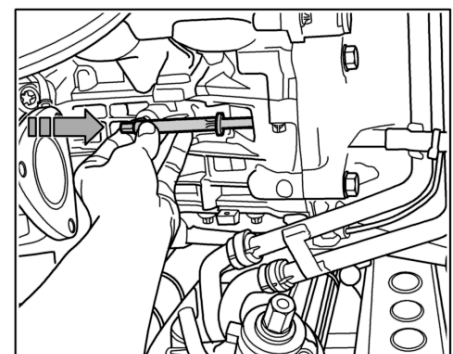
15. Insert special tool **fixing pin 95950** into the front bore on the converter bell housing -**Arrow**- and hold upwards with light pressure until it engages when the crankshaft is turned.

16. Position special tool **insert bit 96880** on converter screw through opening in the engine block, connect bit snap-on head and special **insert 96870** one after the other.

17. Remove special tool **fixing pin 95950** before undoing the converter screws.

18. Unscrew converter screw and twist out.

19. Complete the steps described above for the other five screws.



Opening for converter screws

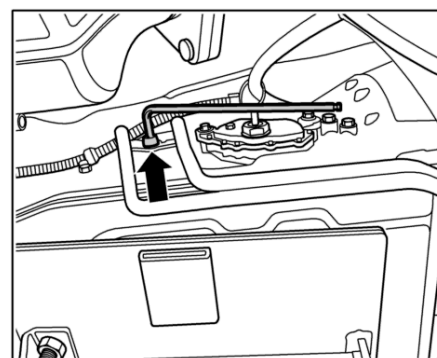


WARNING

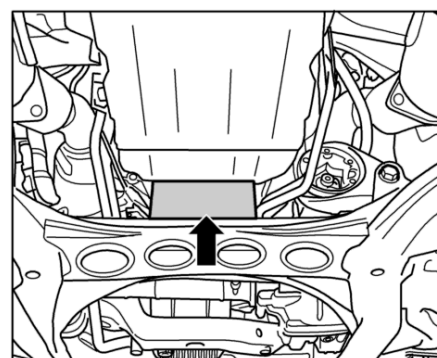
Danger of scalding and chemical burns from hot ATF

- Allow ATF to cool down
- Wear personal protective gear (goggles, gloves)

20. Release ATF lines and lock connections.
21. Lift transmission with transmission jack and mounting plate on the ATF pan and secure with belts.
22. Remove **(material) 00000** base.

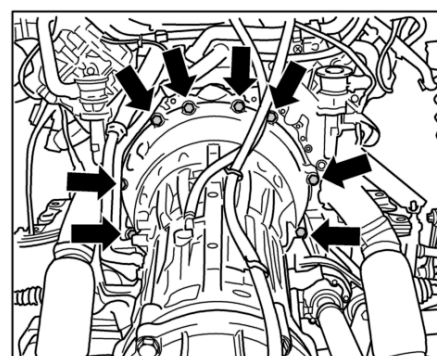


ATF line to transmission



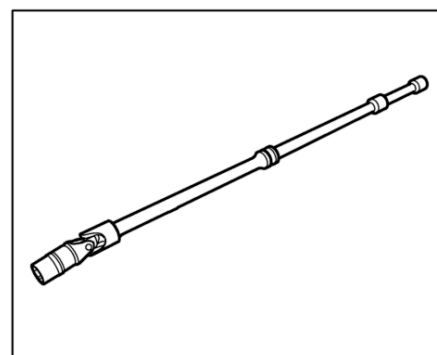
Supporting the engine/transmission aggregate

23. Unscrew engine transmission flange screws **-Arrow-** and two screws on the underside.



Fastening screws for securing transmission to engine

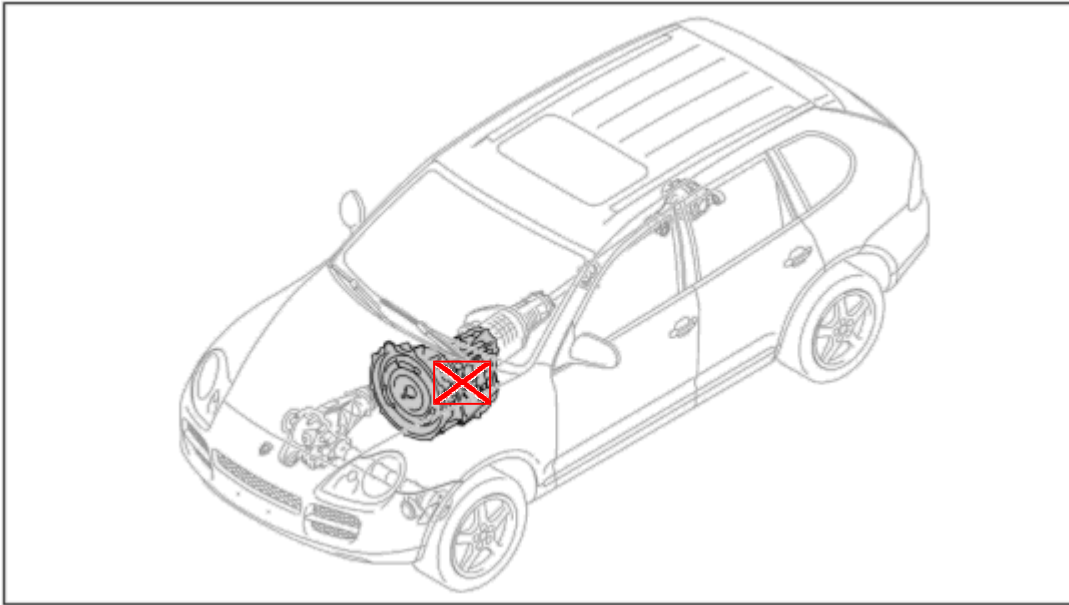
24. Unhinge bleeder line on the upper side of the transfer box whilst lowering.
25. Gradually extend transmission.



Tool recommendation

Installing transmission

Installing transmission

Installation Location:**Note**

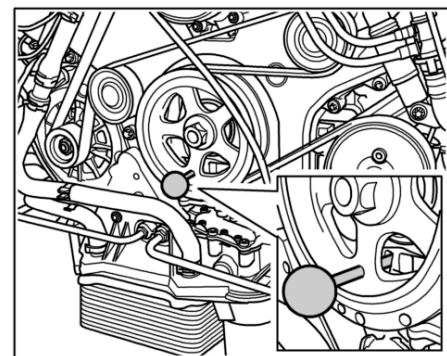
- A second fitter is required to unscrew or screw in the converter screws.
- The converter screws must be replaced.

**Note**

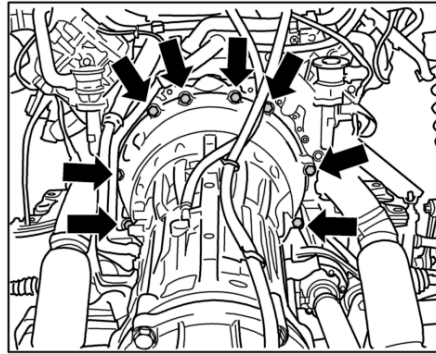
- The adaptation values must be reset using the Porsche System Tester when the transmission is renewed/replaced. → Removing and installing Tiptronic control unit

**Note**

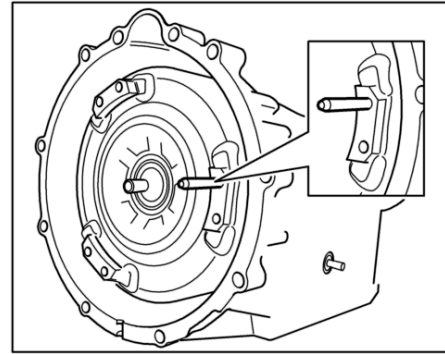
- Because of the limited space between the engine and the radiator, the fixing pin can only be inserted at one point.
- Insert special tool in front of the fixing point in the belt pulley and then turn towards the fixing point. To remove, turn engine back slightly and remove fixing pin.

*Disconnecting the crankshaft*

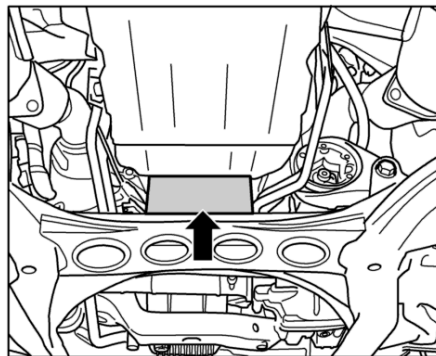
1. Fix crankshaft with special tool **fixing pin 95951**.
2. Insert special tool **centring pin 96890** in converter.
3. Gradually run in transmission. Thread centring pin through and replace bleeder line.
4. Screw in engine transmission flange screws **-Arrow-** and two screws on the underside. → **Tightening torque: 59 ftlb.**
5. Remove special tool **centring pin 96890** through opening in the engine block.



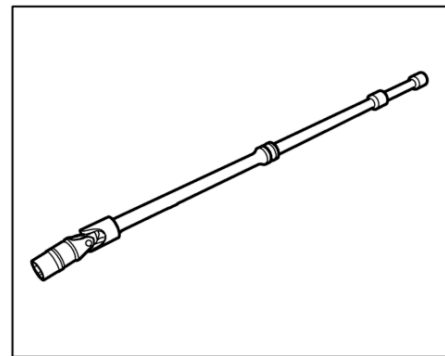
Fastening screws for securing transmission to engine



Converter centring pin



Supporting the engine/transmission aggregate



Tool recommendation

6. Support transmission with a **(material) 00000** between converter bell housing and suspension subframe.

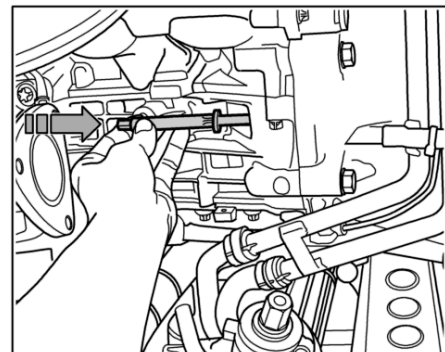


ATTENTION

Damage to converter screws due to excessive tightening torque.

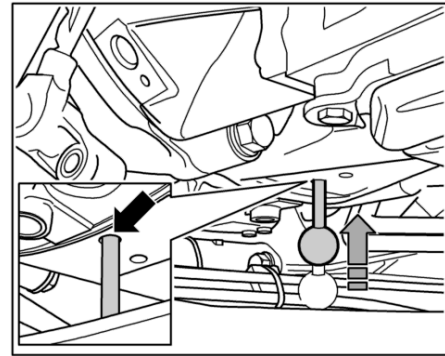
→ Observe adjusting value for torque wrench. 65 Nm (48 ftlb.) on torque wrench = 85 Nm (63 ftlb.) on the screw.

7. Screw in new converter screws:
8. Place screws on special tool **insert bit 96880** and screw in first screw.
9. Position bit snap-on head and special tool **insert 96870** and tighten screws. → **Tightening torque : 63 ftlb.**
10. Remove special tool **fixing pin 95951** on the crankshaft.
11. Turn crankshaft clockwise with special tool **socket wrench insert 97140**.



Opening for converter screws

12. Insert special tool **fixing pin 95950** into the opening on the converter bell housing **-Arrow-** and hold with light pressure until it engages when the crankshaft is turned.
13. Pull out special tool **fixing pin 95950** before tightening to the specified tightening torque.
14. Complete the steps described above for the other screws.



Disconnecting converter screws

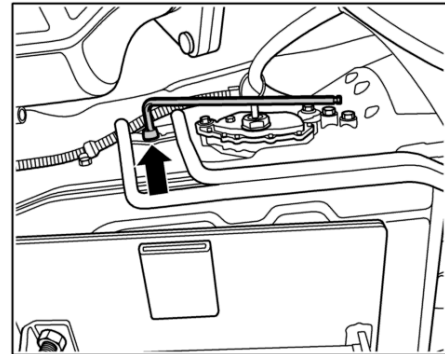


WARNING

Danger of scalding and chemical burns from hot ATF

- Allow ATF to cool down
- Wear personal protective gear (goggles, gloves)

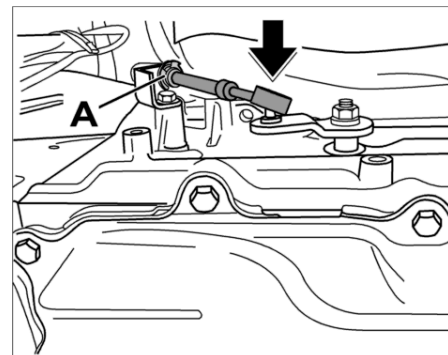
15. Position ATF lines on transmission and screw on tightly. → **Tightening torque: 19 ftlb.**



ATF line to transmission

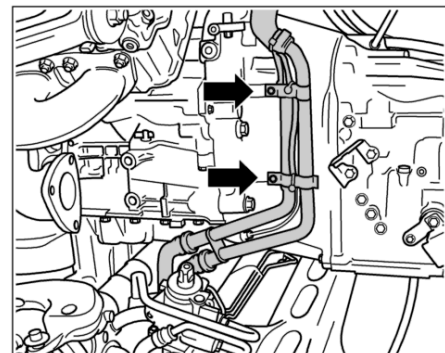
16. Replace converter lever cable on holder and insert safety clip **-A-**

17. Press selector lever cable on to ball head **-Arrow-** .



Selector lever cable connection

18. Screw in fastening screws for coolant pipe holder **-Arrow-** on the converter bell housing. → **Tightening torque: 6.5 ftlb.**

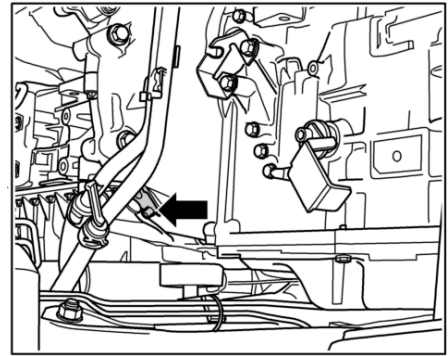


Coolant pipes to converter bell housing

19. Install reference mark sender on the converter bell housing **-Arrow-** . → **Tightening torque: 7.5 ftlb.**

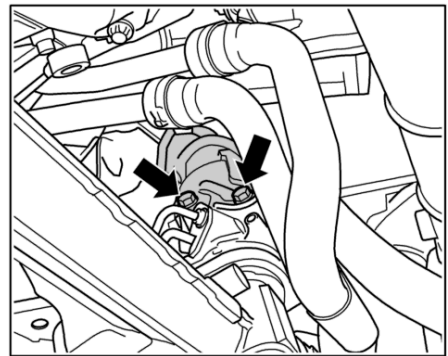
20. Install catalytic converters on left side. → 267619 Removing and installing primary catalytic converter - chapter on "Installing" [9PAAE1] → 267619 Removing and installing primary catalytic converter - chapter on "Installing" [9PAAF1] → 267619 Removing and installing primary catalytic converter - Cayenne Turbo - chapter on "Installing" [9PAAE1] → 267619 Removing and installing primary catalytic converter - Cayenne Turbo - chapter on "Installing" [9PAAF1]

21. Move oxygen sensor cable behind catalytic converter upwards.



Reference mark sender to converter bell housing

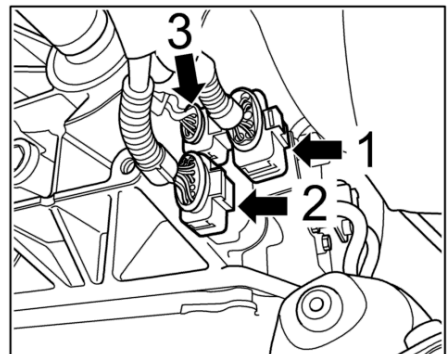
22. Install shield panel on the steering gear. → **Tightening torque: 7.5 ftlb.**



Shield panel to steering gear

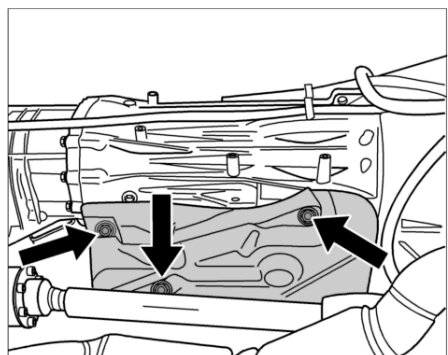
23. Connect plug connections on the Tiptronic transmission **-1,2,3-**.

24. Install transfer box → Removing and installing transfer box.



Tiptronic plug connections

25. Install shield on the right of the transmission. To do this, screw in three fastening screws **-Arrow-**. → **Tightening torque: 7.5 ftlb.**

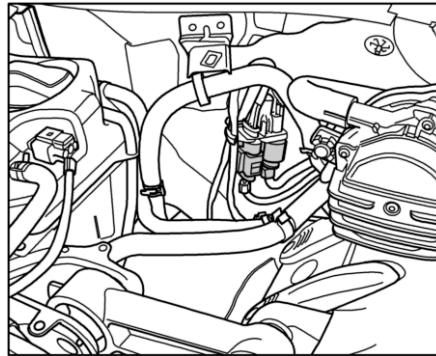


Right shield

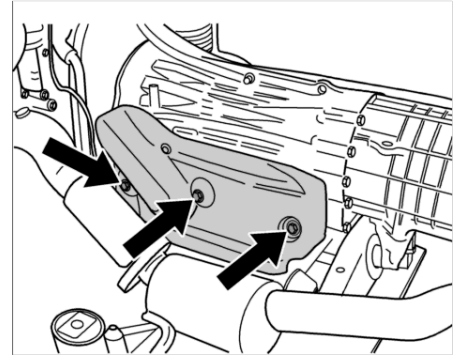
26. Install shield on the left of the transmission. To do this, screw in three fastening screws **-Arrow-**. → **Tightening torque: 7.5 ftlb.**

27. Connect oxygen sensor cable to the radiator tank.

28. Flange torque converter support on engine side. → **Tightening torque: 44 ftlb.**



Cable for oxygen sensors



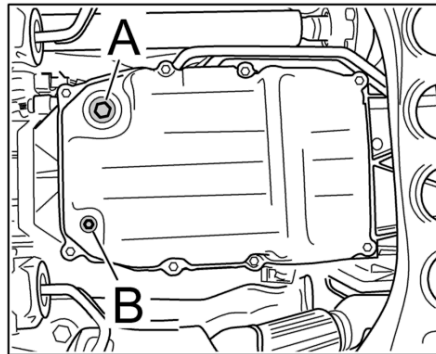
Left shield

**WARNING**

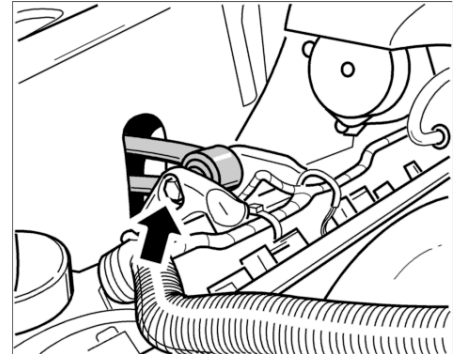
Danger of scalding and chemical burns from hot ATF

- Allow ATF to cool down
- Wear personal protective gear (goggles, gloves)

29. Unscrew ATF control screw **-A-** and fill in ATF until a constant discharge is visible at the lifting tube.



ATF pan check screw/filler screw



Torque converter support screw

30. Screw in ATF check screw **-A-** . → **Tightening torque: 52 ftlb.**

Subsequent work

Reworking for installing transmission

1. Fit engine guard. → 108019 Removing and installing engine guard - chapter on "installing"
2. Install front cardan shaft. → 390219 Removing and installing front cardan shaft - chapter on "Installing"
3. Install rear cardan shaft. → 393519 Removing and reinstalling rear cardan shaft - chapter on "Installing"
4. Install the exhaust system. → 260119 Removing and installing exhaust system - chapter on "Installing"
5. Install engine compartment cover on right and rear. → 700219 Removing and reinstalling front cover (engine compartment) - chapter on "Installing"
6. Check and if necessary, top up the ATF. → 370235 Checking and topping up the ATF

9PAAE1, 9PAAF1

as of MY 2003

Country C00, C02, C05, C07, C08, C09, C10, C11, C12, C13, C14, C15, C16, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C32, C33, C34, C35, C36, C37, C38, C39, C45, C46, C98, C99