

**Volkswagen of America, Inc.**



3800 Hemin Road  
Auburn Hills, MI 48326  
Tel. (248) 754-5000

May 3, 2004

Ms. Patricia Wallace  
Recall Analyst for Safety Assurance  
National Highway Traffic Safety Administration  
NSA-11  
U.S. Department of Transportation  
400 Seventh Street, S.W.  
Washington, DC 20590

**Subject: Recall Campaign JA (04V-007)  
2004 Model Year Audi TT 3.2L Direct Shift Automatic Transmission Vehicles  
Replace Dual Clutch**

Dear Ms. Wallace:

Pursuant to the requirements set forth in Part 573.6 of Title 49 of the Code of Federal Regulations, we are submitting three (3) copies of the following communications:

- Dealer Notification with Draft Customer Letter
- Customer Notification
- Work Procedure
- Accounting Procedure

Sincerely,

A handwritten signature in black ink that reads 'Maria Cotter'.

Maria Cotter  
Product Compliance

Enclosures

RECEIVED  
MAY 11 2004  
NHTSA

**Audi of America, Inc.**



3600 Hamlin Road  
Auburn Hills, MI 48328

April 2004

**Subject: Safety Recall JA**

Dear Audi Dealer:

This letter is to inform you of the initiation of a safety recall involving some 2004 model year Audi TT 3.2L direct shift vehicles. This safety recall involves the replacement of the clutch on affected vehicles. We will be notifying customers of this service action via first-class mail on or about April 29, 2004.

Section 154 (d) of the National Traffic and Motor Vehicle Safety Act of 1966 mandates that dealers correct, prior to delivery for the sale or lease, any vehicle which fails to comply with an applicable Federal Motor Vehicle Safety Standard or which contains a defect relating to motor vehicle safety. **It is therefore imperative that any vehicle in your inventory that is affected by this recall is corrected prior to delivery for sale or lease.**

Please refer to **Safety Recall Circular JA** posted on web AESIS and on AccessAudi for additional information, and please be sure to share this information with all personnel with campaign-related responsibilities.

As there are a small number of vehicles affected by this action, there may not be any vehicles in your AOR requiring this campaign be performed.

Thank you for your cooperation and assistance in this important matter.

Sincerely,

Maria Cotter  
Product Compliance

**Important! Please Provide A Copy To All Personnel With Campaign-Related Responsibilities!**



# Safety Recall Circular

**Code: JA**

April 2004

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**Subject: 2004 Model Year Audi TT 3.2L Direct Shift  
Automatic Transmission Vehicles  
Replace Dual Clutch**

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This is to inform you of the initiation of a voluntary safety recall involving some 2004 model year Audi TT vehicles with a 3.2 liter engine and 6-speed direct shift automatic transmission.

**Problem Description** During production, a seam at the clutch was not welded to specifications on affected vehicles. This could lead to degraded performance of the clutch inside the transmission after an indefinite period of use. The clutch could lose its ability to provide input torque to the transmission without prior warning, which could allow the vehicle to roll.

**Remedial Action** Replace the dual clutch on affected vehicles.

**Vehicle Identification Number Range** The vehicles affected by this recall action are within the following vehicle identification number range:

**2004 Audi TT 3.2L Direct Shift Automatic Transmission**

TRU \_\_\_ 8N\_41007026 - TRU \_\_\_ 8N\_41014072

*Please note that the above VINs represent the lowest and highest serial numbers of affected vehicles. Use of the OTIS View Campaign Inquiry system will allow you to determine whether or not a particular vehicle, within the above VIN range, requires the corrective work.*

*Note: Audi will not reimburse under this recall any duplicate recall repair work or a repair outside the VIN range.*

**Limitation of Sale or Lease of Certain Vehicles** Section 154 (d) of the National Traffic and Motor Vehicle Safety Act of 1966 mandates that dealers correct, prior to delivery for the sale or lease, any vehicle which fails to comply with an applicable Federal Motor Vehicle Safety Standard or which contains a defect relating to motor vehicle safety. It is therefore imperative that any vehicle in your new or used car inventory and affected by this recall is corrected prior to delivery for sale or lease.

**Owner Notification Mailing** All known owners of affected vehicles will be notified directly by first-class mail on or about April 30, 2004. A sample copy of the owner letter is enclosed for your information.

**Vehicles Allocation**

Enclosed is a computer list containing the VINs including the owner names and addresses of vehicles that, according to our records, are located within your area of responsibility (AOR) and require the JA recall action to be performed.

**Parts Information**

There will not be an initial allocation of repair kit, 02E 398 998. Kits must be ordered through Special Services, using the applicable e-mail address below.

<u>PDC</u>	<u>E-mail Address</u>
402	VWoA402SpecialServices@vw.com
405	VWoA405SpecialServices@vw.com
410	VWoA410SpecialServices@vw.com
414	VWoA414SpecialServices@vw.com
422	VWoA422SpecialServices@vw.com

The remaining additional parts, however, will not be blocked and should be ordered through your facing Parts Distribution Center.

**Time Requirements/  
Reimbursement**

To ensure prompt and proper payment, be sure to enter, immediately upon completion of the repair work, the applicable reimbursement code listed below. Claims will only be paid for vehicles that show the JA code in the OTIS View Campaign inquiry screen on the day of repair.

**JA Data Entry Procedure**

<u>Repair Code</u> (Damage Code Field)	<u>Time</u> Units	<u>Work Scope</u>
JA 12	950 T.U.	- Replace dual clutch
	1	02E 398 998 Repair kit
	2	N 908 861 01 Bolt - Selector bracket to transmission
	2	N 908 083 01 Nut - Ball joint
	2	N 907 528 01 Bolt - Sub-frame
	2	N 907 349 01 Bolt - Sub-frame
	3	N 100 135 06 Bolt - Steering gear to sub-frame
	1	N 105 266 02 Bolt - Steering gear to sub-frame
	2	N 102 681 02 Bolt - Pendulum
	1	N 102 466 05 Bolt - Pendulum
	1	N 905 970 01 Bolt - Pendulum
	2	N 015 081 4 Nut - Sway bar attach
	4	N 905 970 02 Bolt - Transmission support to transmission
	3	N 102 096 03 Bolt - Transmission support to transmission mounting

The system automatically enters part number and labor applicable to the above listed code.

**SUBLETS At-A-Glance**

	<u>SUB_LBR</u>	<u>SUB PARTS</u>	<u>LOANER</u>
<b>Vehicles Vacuum/Wash</b>			
<b>Loaner vehicles (ONE DAY)</b>			

**TO BE PROPERLY REIMBURSED, IT IS IMPERATIVE THAT APPLICABLE SUBLET ITEMS ARE CLAIMED IN THE PROPER SUBLET FIELD and THAT SUBLET EXPENSE COPY REMAIN ATTACHED TO YOUR COPY OF THE REPAIR ORDER.**

For vehicles that, according to your information, cannot be corrected or resolved, and one of the codes below best describe the reason, please enter one of the applicable codes into the system:

- JA 20 Customer Refused Repairs
- JA 30 Total Loss
- JA 40 Vehicle Stolen
- JA 50 Vehicle Exported

**Additional Campaigns** Some of the affected vehicles may be involved in an additional corrective action. Please check your OTIS View Campaign inquiry screen so that any additional required work can be done simultaneously.

**Campaign Verification** For verification, always check the OTIS View Campaign inquiry screen. The OTIS system is the only binding campaign inquiry and verification system; other systems are not valid and may result in non-payment of a claim.

**Service Help** If you have a question regarding this or any other campaign, please call (800) 741-2919.

**Dealer Personnel Information** Please inform and/or provide a copy of this communication to every person in your dealership who has campaign-related responsibilities, including parts and accounting personnel.

Thank you for your cooperation.



Maria Cotter  
Product Compliance

**Audi of America, Inc.**



2000 Harshbarger Road  
Auburn Hills, MI 48326

April 2004

**Subject: Safety Recall JA  
2004 Model Year Audi TT 3.2L Direct Shift Vehicles  
Replace Dual Clutch**

Dear Audi Owner:

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act.

Audi has decided that a safety defect exists in some 2004 model year Audi TT vehicles with a 3.2 liter engine and -6-speed direct shift automatic transmission. Our records show that you are the owner of one of these vehicles.

**What Is The Problem?**

The clutch in affected vehicles was not welded to specifications. This could lead to degraded performance of the clutch inside the transmission after an indefinite period of use, causing the clutch to lose its ability to provide input torque to the transmission without prior warning. If this happens, the vehicle could roll, putting you at risk for a crash.

**What Will Audi Do?**

We will replace the dual clutch in your vehicle.

**What We Would Like You To Do**

Please contact your authorized Audi dealer and arrange for an appointment so that the clutch on your vehicle can be replaced without delay. This service will take about ten hours and will be free of charge.

**Reimbursement of Expenses**

If you have previously paid for replacement of the clutch, the enclosed form explains how to request reimbursement. We would be pleased to review your reimbursement request.

**Service Help from Us**

If your authorized Audi dealer fails or is unable to remedy the defect free of charge within a reasonable time, please call or write to:

*Audi of America, Inc.  
Attn: Customer Relations (JA)  
3499 West Hamlin Road  
Rochester Hills, MI 48309  
1-800-822-2834*

If you still cannot obtain satisfaction, you may file a complaint with: Administrator, National Highway Traffic Safety Administration, U.S. Department of Transportation, 400 Seventh Street, SW, Washington, DC 20590. Telephone: (888) 327-4236.

We regret any inconvenience this matter may cause. Thank you for your continued loyalty.

Sincerely,

Maria Cotter  
Product Compliance

Enclosure

**Parts:**

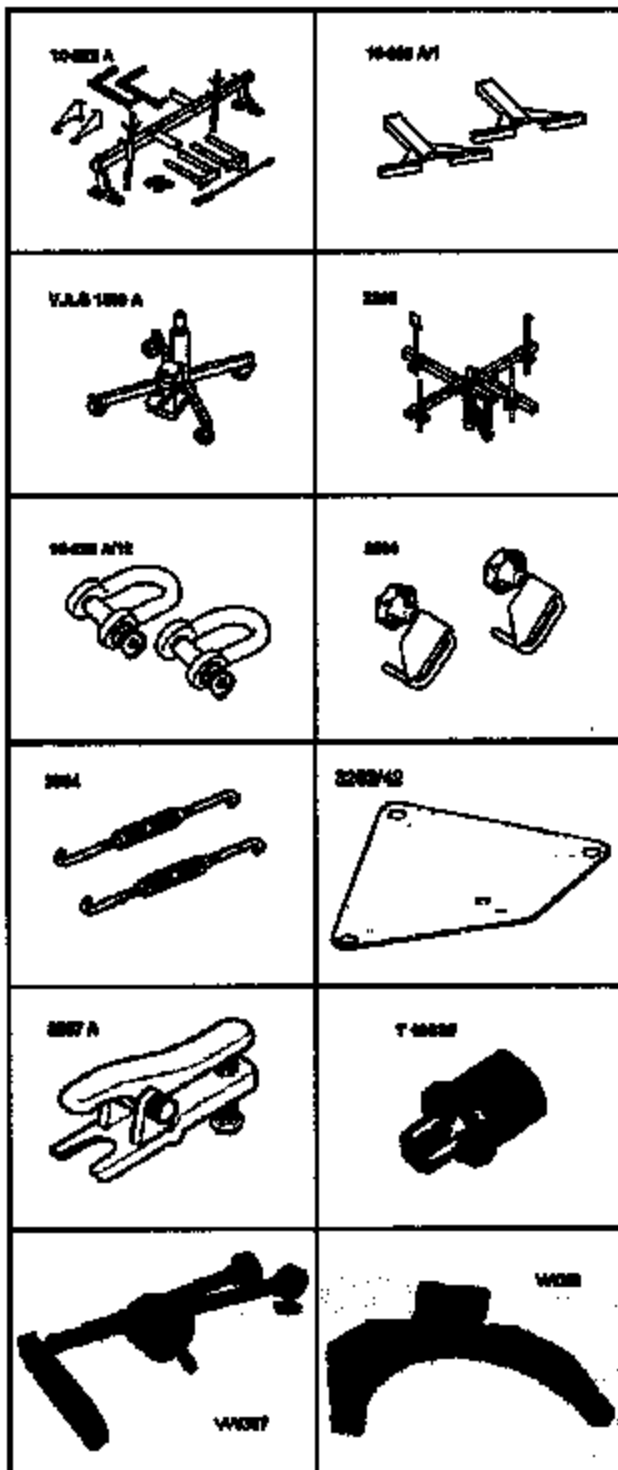
<u>Quantity</u>	<u>Part Number</u>	<u>Part Name</u>
1	02E 398 998	Repair kit
2	N 909 861 01	Bolt – Selector bracket to transmission
2	N 908 088 01	Nut – Ball joint
2	N 907 528 01	Bolt – Sub-frame
2	N 907 349 01	Bolt – Sub-frame
3	N 100 155 06	Bolt – Steering gear to sub-frame
1	N 105 266 02	Bolt – Steering gear to sub-frame
2	N 102 683 02	Bolt – Pendulum
1	N 102 466 05	Bolt – Pendulum
1	N 905 970 01	Bolt – Pendulum
2	N 015 081 4	Nut – Sway bar attach
4	N 905 970 02	Bolt – Transmission support to transmission
3	N 102 096 03	Bolt – Transmission support to transmission mounting
0.15	G 052 182 A2	Transmission fluid (not supplied)
	G 000 100	Assembly grease (not supplied)

**Parts in repair kit 02E 398 998:**

<u>Part Number</u>	<u>Part Name</u>
02E 141 029E	Dual clutch
02E 301 205B	Clutch end cover
02E 301 859A	Circlip for clutch end cover
012 301 474A	Cap for breather tube
02E 311 321F	Circlip
02E 311 321G	Circlip
02E 311 321H	Circlip
02E 311 321J	Circlip
02E 311 321K	Circlip
02E 311 321L	Circlip
02E 311 321M	Circlip
02E 311 321N	Circlip
02E 311 321P	Circlip
02E 311 321Q	Circlip
---	Assembly tool for setting clutch
---	Assembly tool for end cover

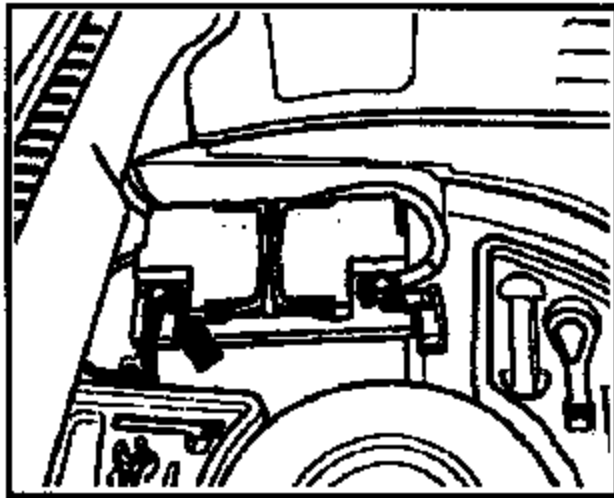


**Special Tools:**



- ⇐ Support bracket 10-222 A
- ⇐ Bracket 10-222 A/1
- ⇐ Engine/transmission jack V.A.G. 1383 A
- ⇐ Transmission support 3282
- ⇐ Shackle 10-222 A/12
- ⇐ Hose clamps, up to 25 mm diameter 3094
- ⇐ Hooks 3004
- ⇐ Adjustment plate 3282/42
- Universal attachment for jack V.A.G. 1359/2 (or equivalent)
- ⇐ Ball joint puller 3287 A
- ⇐ Multi-point tool T 10035
- Tensioning strap T 10038 or equivalent
- ⇐ VW387 Dial gauge holder
- ⇐ VW353 Transmission support
- VW313 Support clamp
- VW309 Support plate
- Dial indicator
- Electronic wheel alignment machine V.A.G. 1813 or equivalent

## Work Sequence



## Section A - Transmission Removal

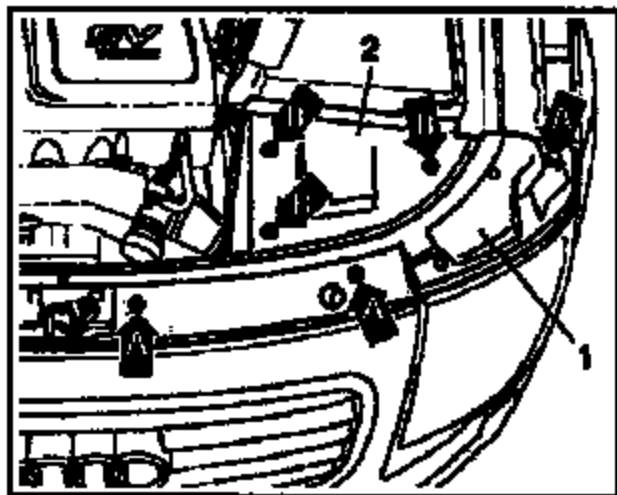
Obtain the anti-theft radio security code

- Switch off all electrical consumers
- Move gear selector into park "P" position
- Switch ignition off and remove ignition key
- Open rear hatch and fold luggage compartment floor panel forward
- ⇐ Disconnect the negative (-) terminal (GND) -arrow- from the battery

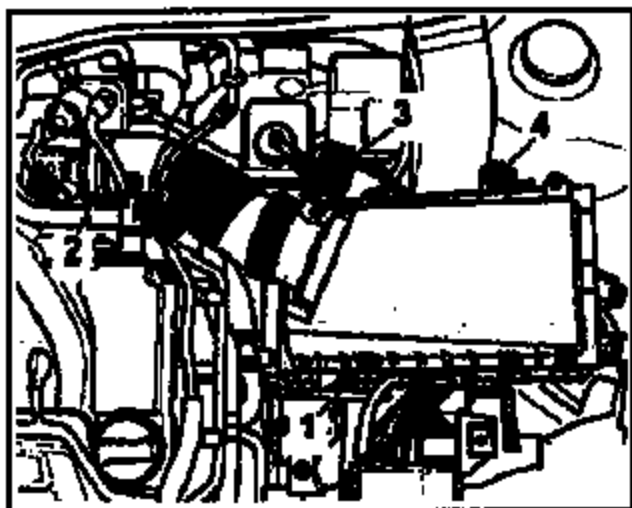
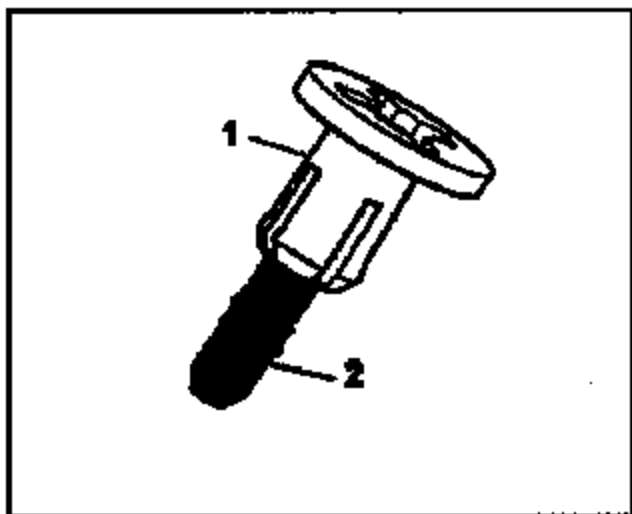
Note: Battery is in the left rear portion of the vehicle

**THE COOLING SYSTEM IS UNDER PRESSURE WHEN THE ENGINE IS WARM. IF NECESSARY, REDUCE PRESSURE BEFORE REPAIR**

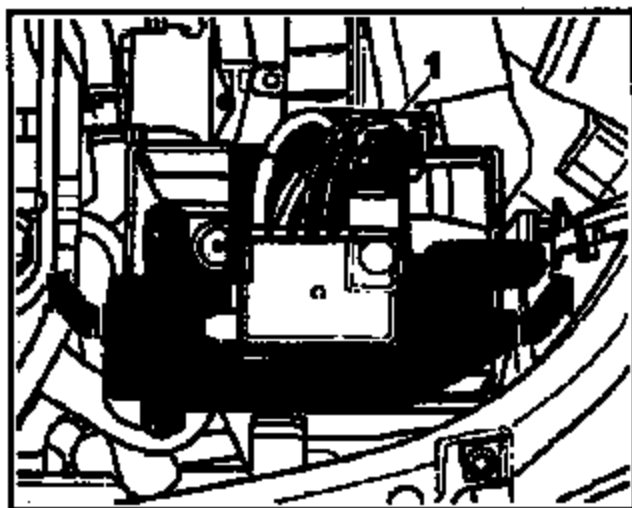
**COVER CAP OF EXPANSION TANK WITH A RAG AND OPEN IT CAREFULLY, AS HOT STEAM, E.G., HOT COOLANT, MAY ESCAPE WHEN OPENING**



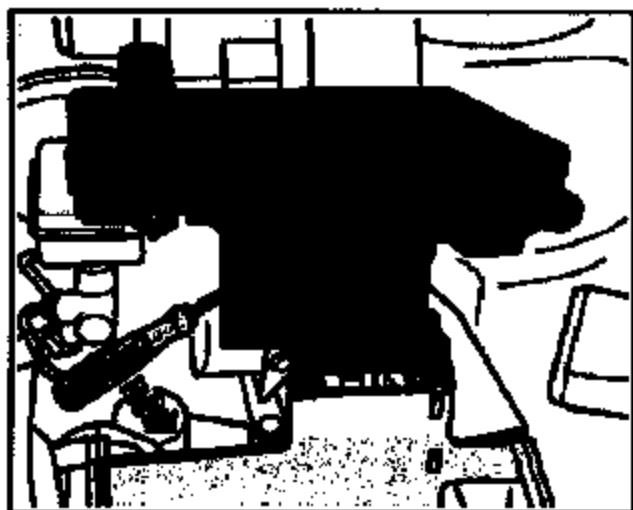
- Open hood and slowly open cap from the coolant expansion tank to relieve the pressure in the system
- ⇐ Remove clips -arrow A- from left side lock carrier cover -1- and remove cover
- ⇐ Remove screws -arrow B- from fuse box cover -2- and remove cover
- Remove clips from right side lock carrier cover and remove cover



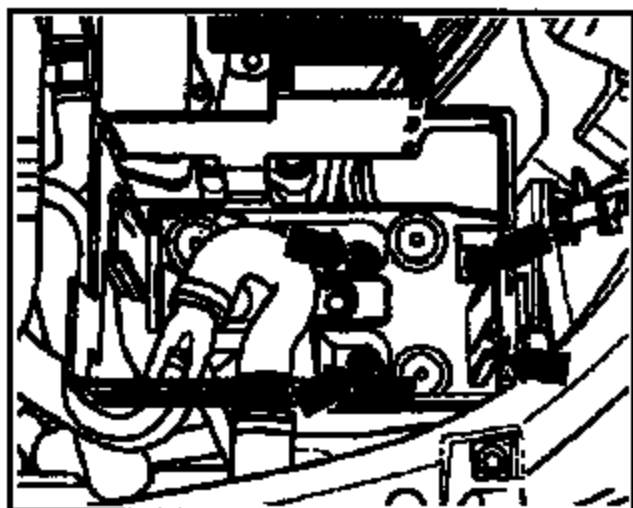
- ⇐ Loosen clamp -2- and remove air hose from the throttle body housing
- ⇐ Disconnect the electrical connector -3- from the Mass Airflow Sensor (MAF)
- ⇐ Remove bolts -1- and -4-
- ⇐ Move wiring harness -arrow- aside
- Remove the air cleaner housing with MAF and air hose



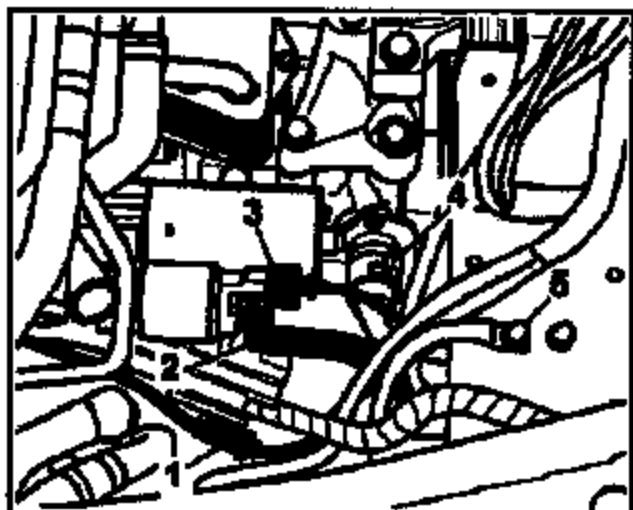
- ⇐ Unclip protective cover -1- for wiring
- ⇐ Raise fuse box carrier lid -arrows-



- ⇐ Depress the retainers with a screwdriver -arrow- and remove the fuse box from the carrier



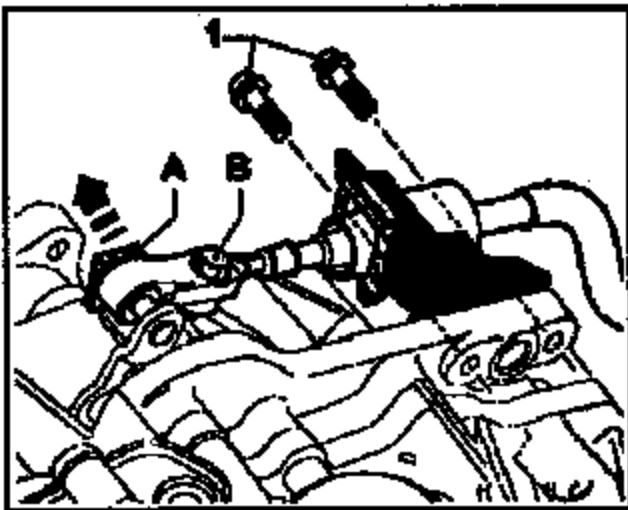
- ⇐ Remove bolts -arrows-
- Remove fuse box carrier
- Touch vehicle ground with your hand (without gloves) to discharge any static electricity



- ⇐ Disconnect electrical connectors -3- and -4-
- ⇐ Remove the nut at the starter solenoid terminal B+ -2- and remove the connector eyelet from the terminal
- ⇐ Remove connector -1- from the wire guide
- Unclip guide from wires
- Remove wire guide

**CAUTION: DO NOT LOOSEN OR REMOVE GROUND (GND) CONNECTION -5-**

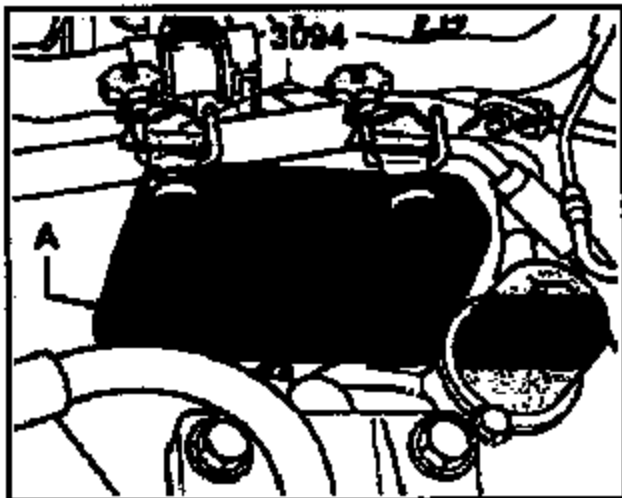
- Remove the nut securing the power steering pressure line bracket from the upper starter bolt and swivel bracket upwards
- Remove the upper starter bolt
- Remove bolt on clamp securing power steering pressure line next to transmission oil cooler



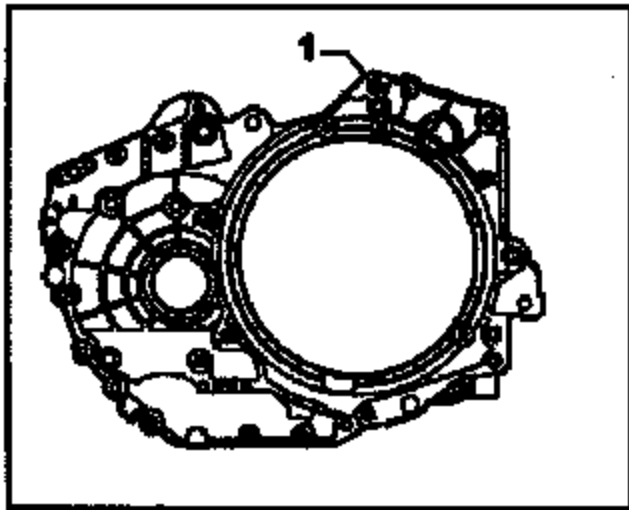
- ⇐ Slide circlip -A- upward and remove it in direction of arrow
- ⇐ Remove selector lever cable off selector shaft lever in direction of arrow and place on top

- ⇐ Remove torx bolts -1-

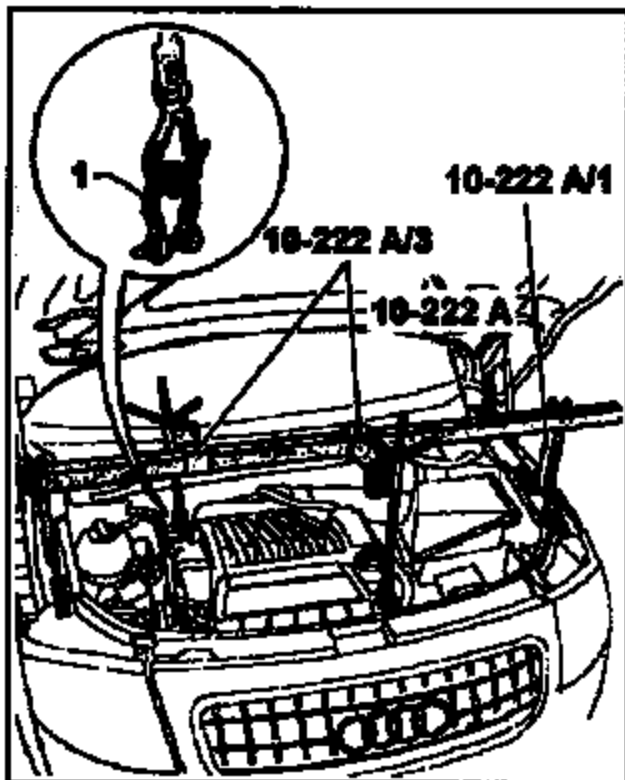
**CAUTION: DO NOT KINK SELECTOR LEVER CABLE**



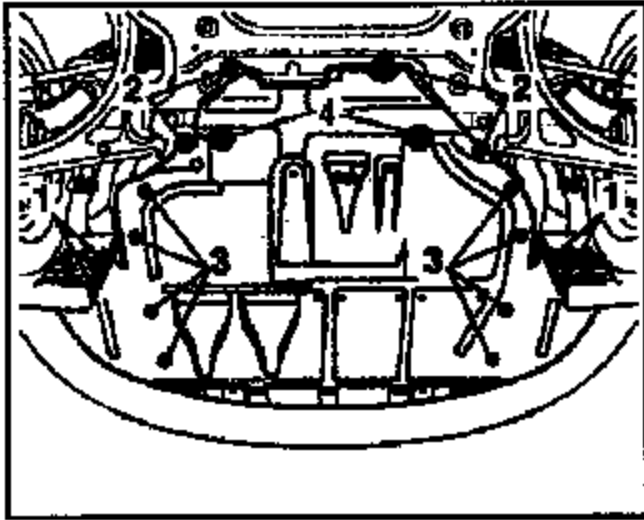
- ⇐ Clamp off transmission oil cooler hoses using hose clamps -3094- and disconnect at transmission oil cooler -A-
- Seal off transmission oil cooler with clean plugs



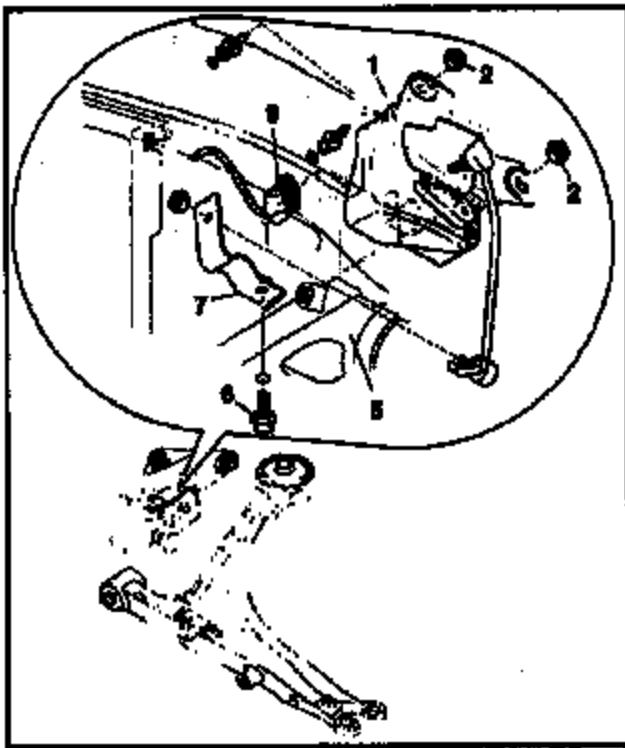
- ⇐ Remove engine/transmission connecting bolt  
-1-



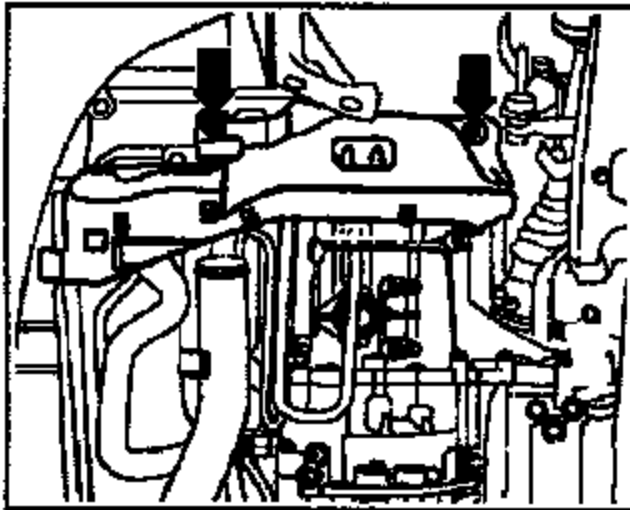
- ⇐ Assemble support bracket 10-222 A together with brackets 10-222 A/1 and 10-222 A/3
- ⇐ Position support bracket on wheel housing flange
- ⇐ If there are hoses and cable connections in area of engine lifting eye for support bracket 10-222 A, move them aside
- ⇐ On right side, attach hook of spindle to engine lifting eye with a shackle 10-222 A/12 -1-
- Take up the weight of engine/transmission assembly via spindles on the support bracket
- Raise vehicle on hoist



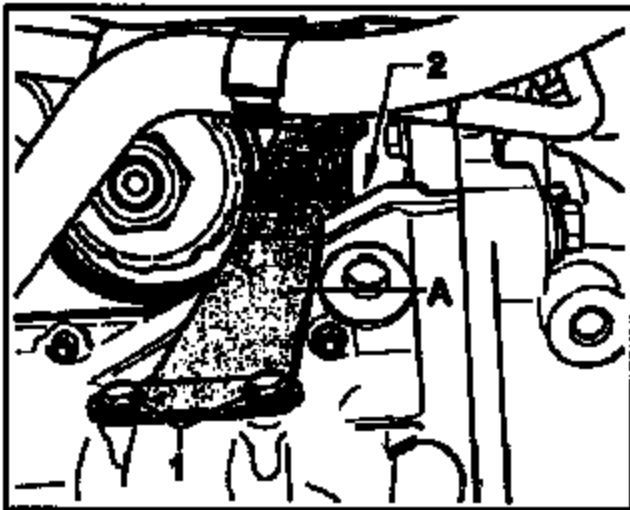
- ⇐ Unclip clips -1-
- ⇐ Remove screws -2- and -3-
- ⇐ Use tool T 10035 and remove screws -4-
- ⇐ Remove center sound insulation panel and set aside



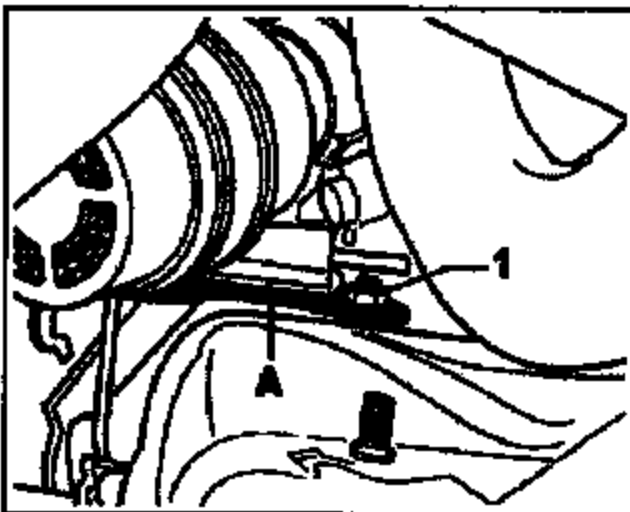
- Remove front wheels
- If the vehicle is equipped with automatic headlight control, disconnect connector -9- from the sensor -1-
- Remove bolt -6- and disconnect linkage arm bracket -7- from the lower control arm -5-
- ⇐ Remove nuts -2- and remove sensor with mounting bracket



- ⇐ Remove fasteners -arrows- and left side sound insulation panel

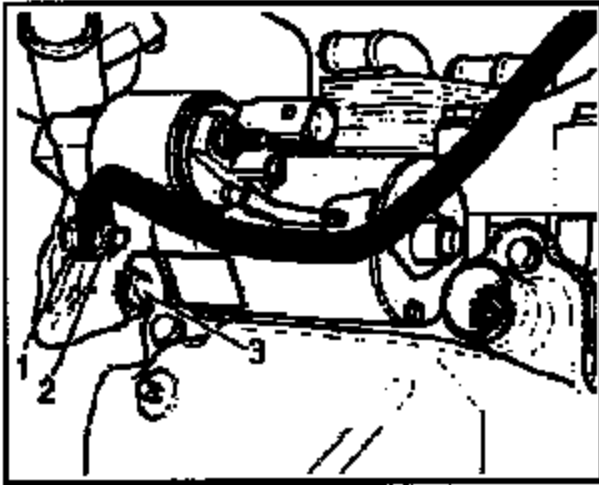


- ⇐ Remove bolts -1- and -2- and remove coolant hose bracket -A-
- Remove clamp on the power steering line



- ⇐ Remove nut -1- and other nut securing the secondary air pump air filter holding bracket -A-
- Disconnect air hose from the air filter and remove air filter



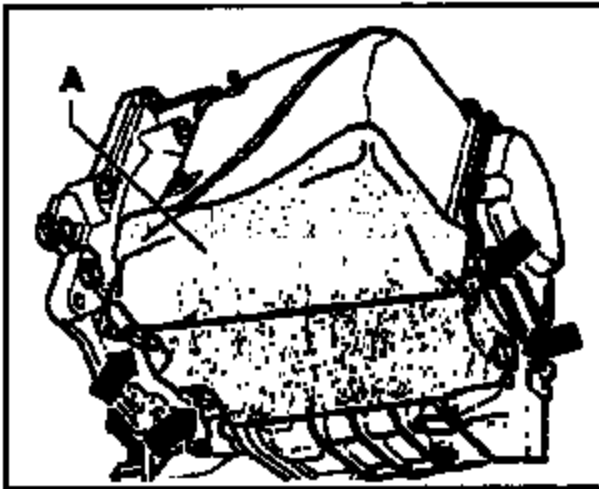


← Remove lower starter bolt -3- with bracket for cable guard

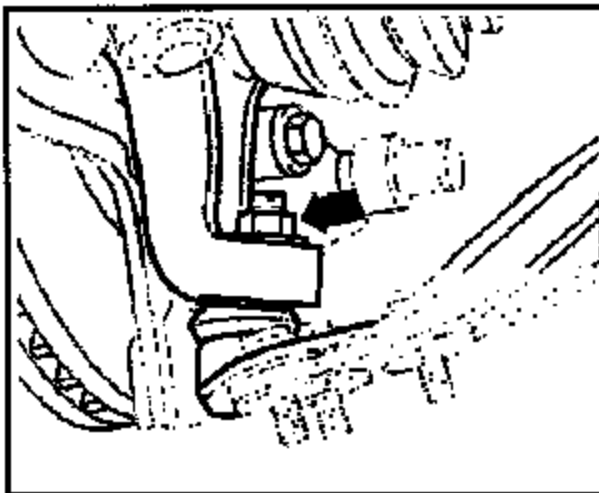
← Remove nut -2- and remove the ground connector eyelet

**Note:** To see bolt -1-, nut -2- and bolt -3- look upward through opening made when the air filter for the secondary air pump was removed.

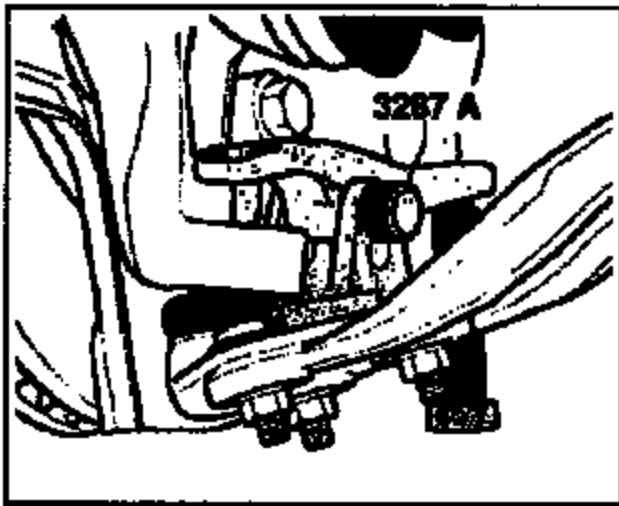
← Remove bolt -1- securing transmission to the engine



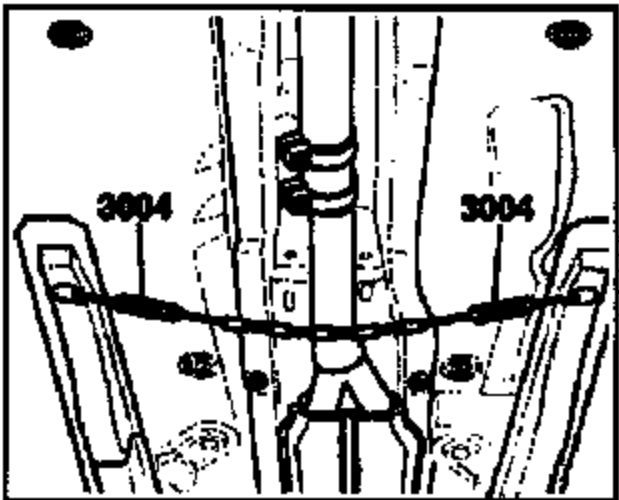
← If installed, remove torx bolts -arrows- and protective plate -A- from the bottom of the transmission



← Unscrew and remove upper nut -arrow- from both front ball joints



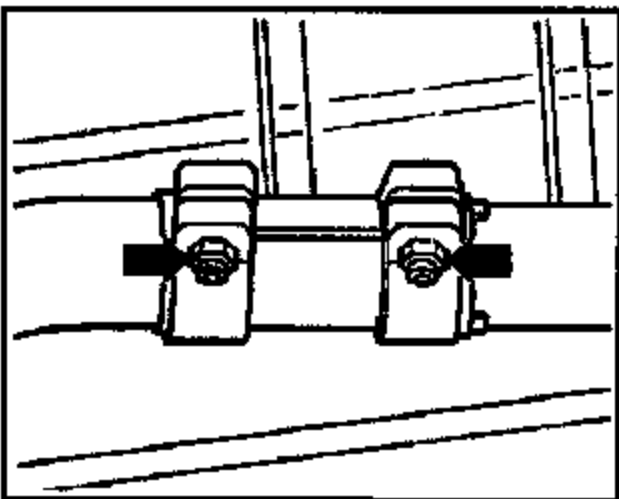
- ⇐ Use ball joint puller 3287 A and press out ball joints on the right and left control arms
- Remove ball joint puller



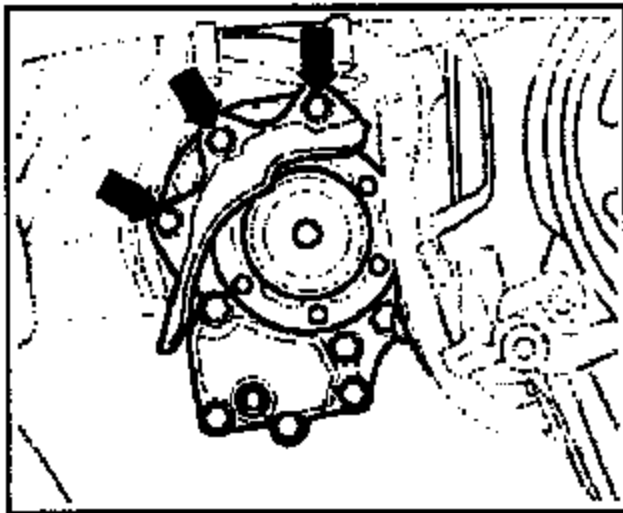
- ⇐ Insert the 3004 hooks into openings in the underbody; with a small piece of chain support exhaust system



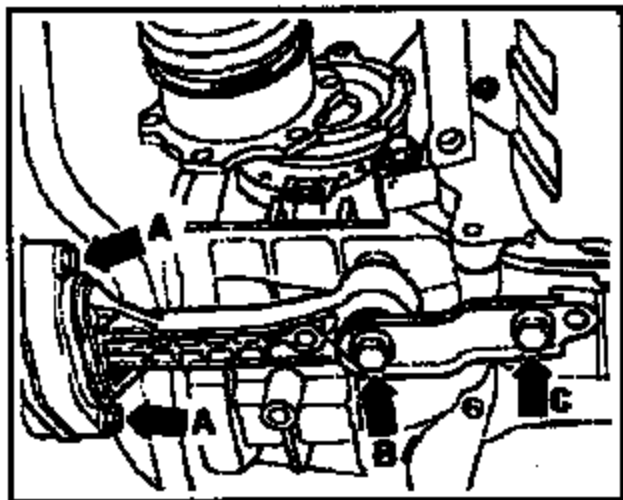
**CAUTION: THE FLEXIBLE PIPE CONNECTION (DE-COUPLING ELEMENT) OF THE EXHAUST SYSTEM MUST NOT BE BENT MORE THAN 10°; OTHERWISE, IT CAN BE DAMAGED**



- ⇐ Loosen nuts -arrows- and disconnect exhaust system at clamp
- ⇐ Slide clamp rearward onto exhaust pipe



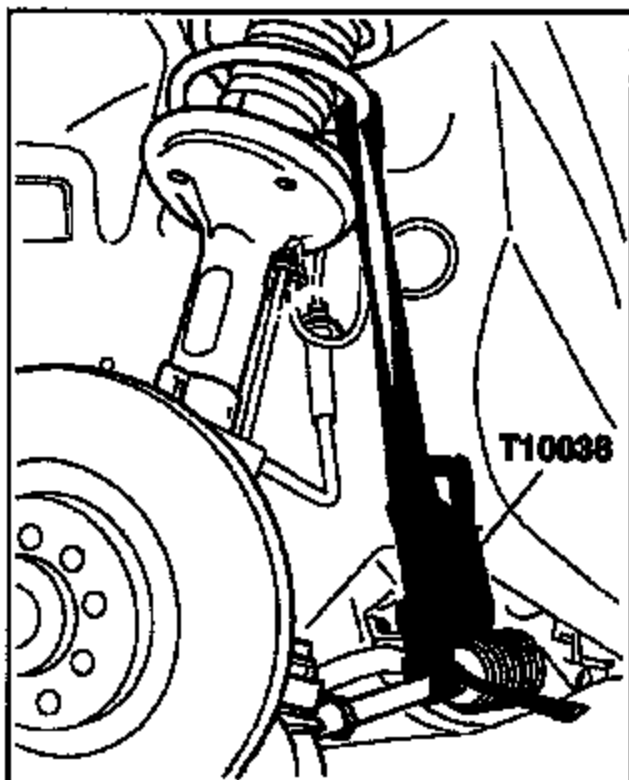
- ⇐ Remove allen head nuts -arrows- and remove the axle shaft heat shield from the bevel box
- Remove bolts securing right axle to flange on the bevel box
- Remove bolts securing left axle to flange on the transmission
- Lift axle shaft (right side) up and secure with wire



- ⇐ Remove bolts -A- and then bolts -B- and -C- and remove the pendulum support

**CAUTION: LOOSENING BOLTS FOR THE PENDULUM SUPPORT TO SUB-FRAME CAUSES THE ENGINE/TRANSMISSION ASSEMBLY TO SWING FORWARD SLIGHTLY**

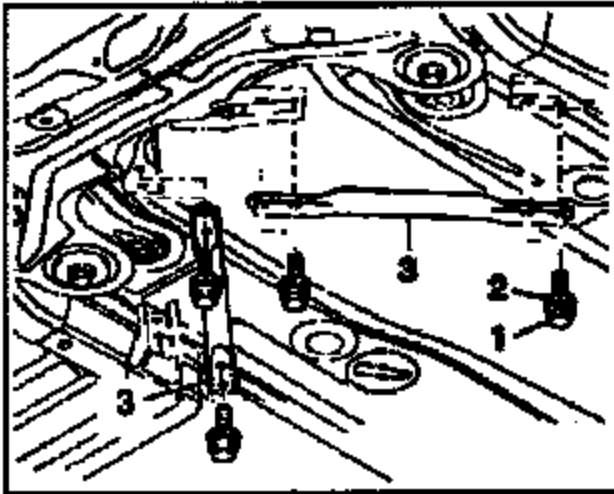
- Push engine/transmission assembly forward slightly and then pull drive shaft off bevel box
- Place drive shaft above bevel box and secure it to prevent it falling



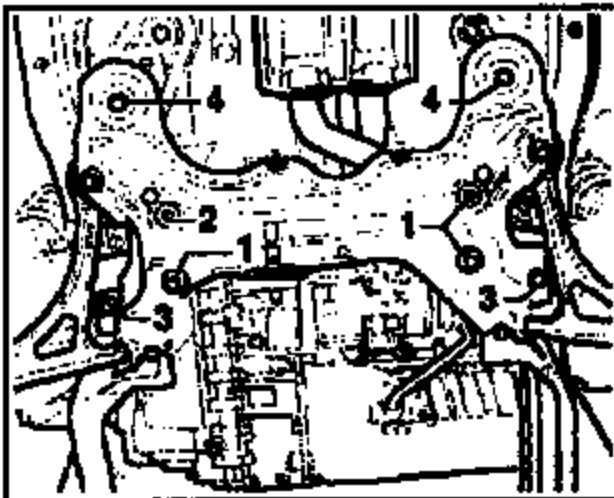
- ⇐ Secure the tie rods to the suspension strut just in front of the inner rubber boot using tensioning strap T 10038, to prevent the steering column from sliding off the splines of the steering gear



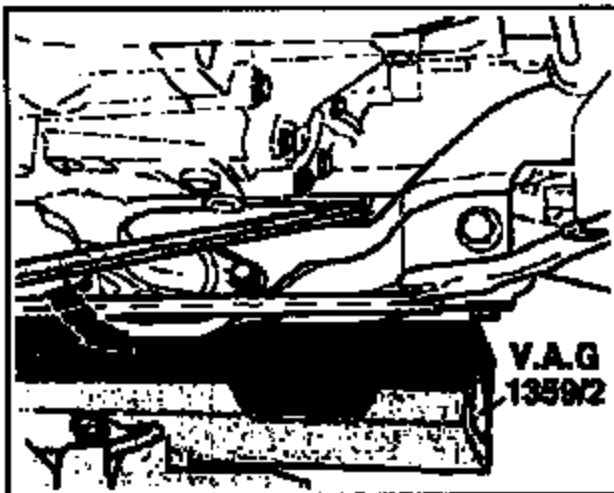
- ⇐ Remove nuts securing the right and left coupling rods to the stabilizer bar



- ⇐ Remove eight bolts -1- with locking washer -2- and remove reinforcement -3-



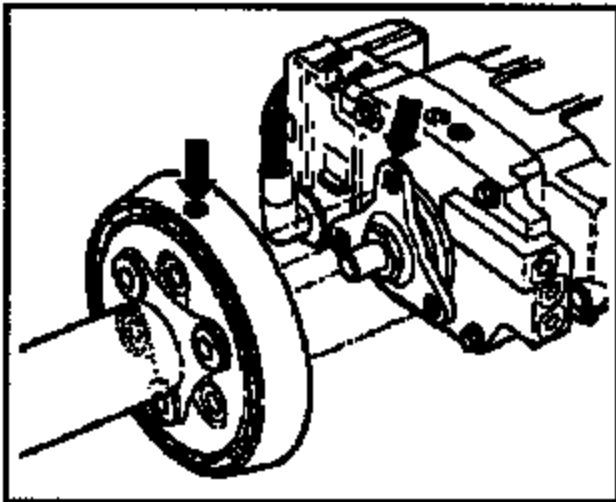
- ⇐ Remove bolts -1- securing steering gear
- Remove nut above bolt -2- securing brake booster vacuum pump bracket
- ⇐ Remove bolt -2- securing steering gear
- Remove bolt securing bracket for brake booster vacuum pump located above the left rear area of the sub-frame
- Position V.A.G. 1383 A with universal mount 1359/2 under sub-frame
- ⇐ Remove bolts -3- and -4- for sub-frame



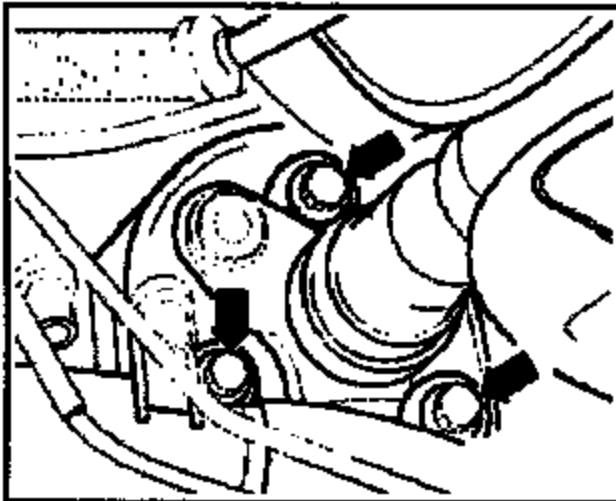
- ⇐ Carefully pry off the sub-frame for steering gear using a pry bar



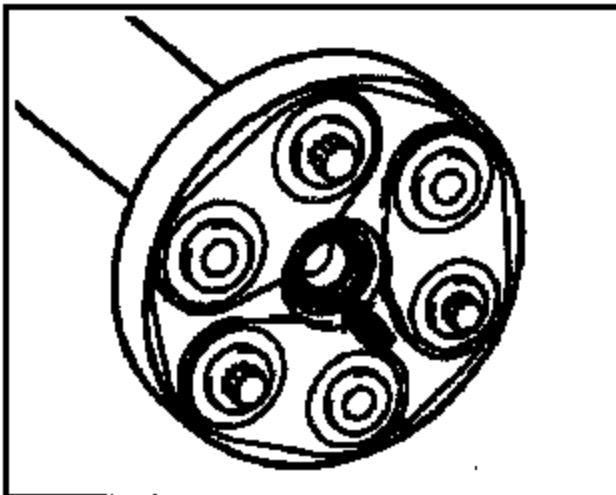
- Carefully lower the sub-frame and set aside
- Move left drive shaft clear toward rear and secure with wire



⇐ Mark position -arrows- of drive shaft with flexible coupling in relation to bevel box flange

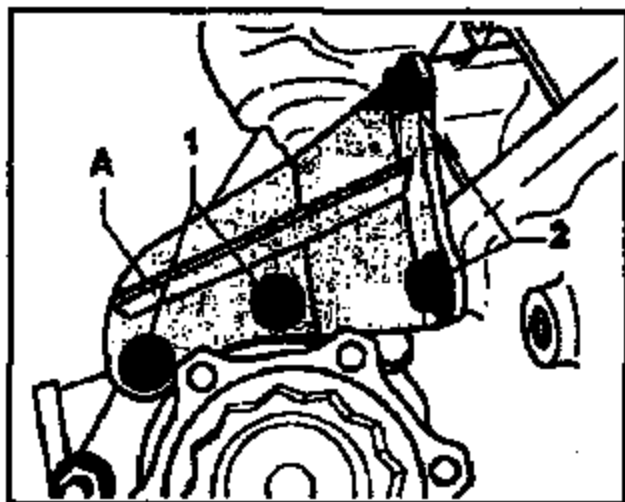


⇐ Remove bolts -arrows- and remove drive shaft with flexible coupling from bevel box flange



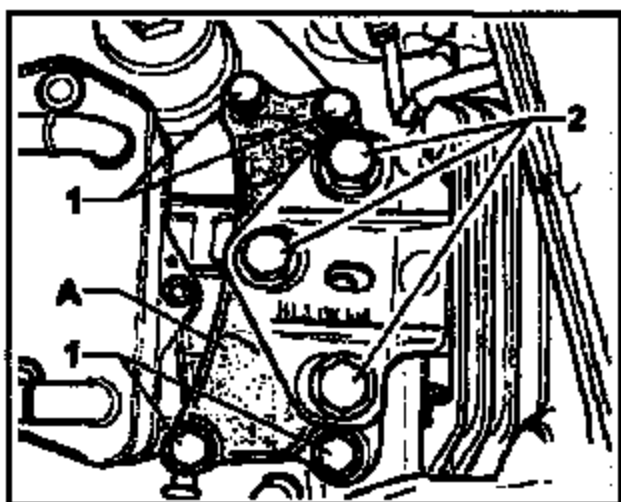
• Move drive shaft horizontally to rear as far as possible

**CAUTION: WHEN REMOVING THE TRANSMISSION, MAKE SURE THE SEAL -ARROW- IN THE DRIVE SHAFT FLANGE IS NOT DAMAGED. IF THE SEAL IS DAMAGED, THE DRIVE SHAFT MUST BE REPLACED.**



⇐ Remove bolts -1- and -2- and remove bracket for bevel box

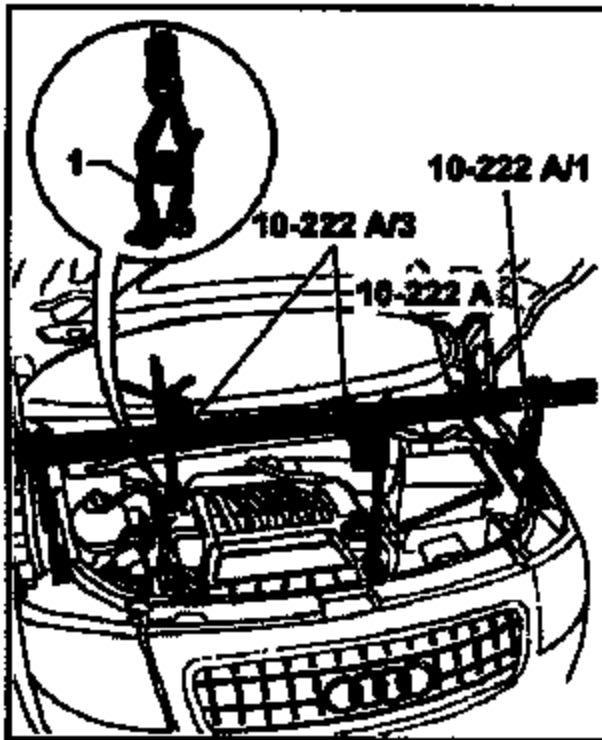
- Lower vehicle on hoist



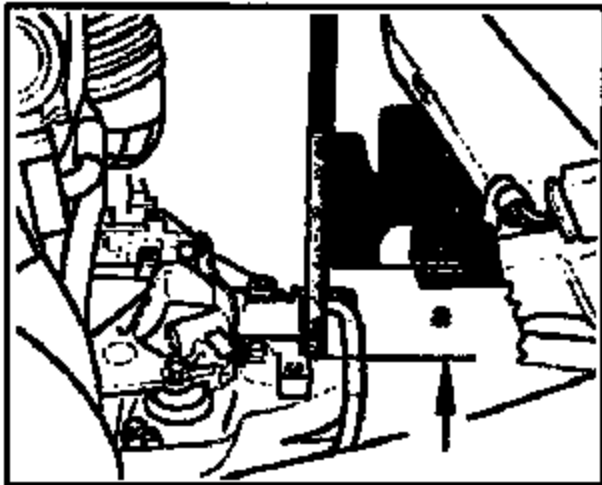
- From above in the engine compartment remove starter in an upward direction

⇐ Remove bolts -2- then bolts -1-

⇐ Remove transmission mounting bracket -A-



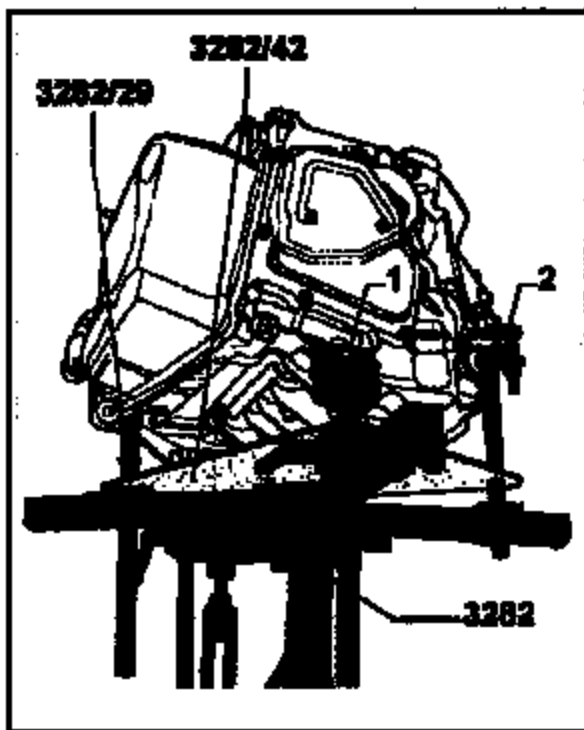
⇐ Carefully lower engine/transmission assembly using spindles 100 to 110 mm (3.9 to 4.3 inches) see next illustration for location of measurement



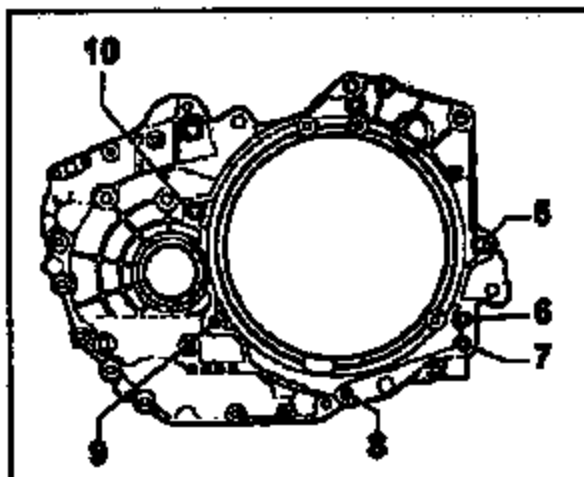
⇐ Distance -a- = 100 to 110 mm (3.9 to 4.3 inches) measured between transmission housing and mounting

- To remove the direct shift transmission 02E the transmission support 3282 is set up together with the adjustment plate 3282/42
- Align arms of transmission support according to holes in adjustment plate
- Bolt support elements as illustrated to adjustment plate 3282/42
- Place transmission jack under vehicle at arrow symbol on adjustment plate points in direction of travel/to front of vehicle
- Align adjustment plate parallel with transmission





- ⇐ Secure support element to transmission using bolt -1-
- ⇐ Screw support element 3282/29 into transmission
- ⇐ Insert support element -2- into transmission; secure by tightening nut



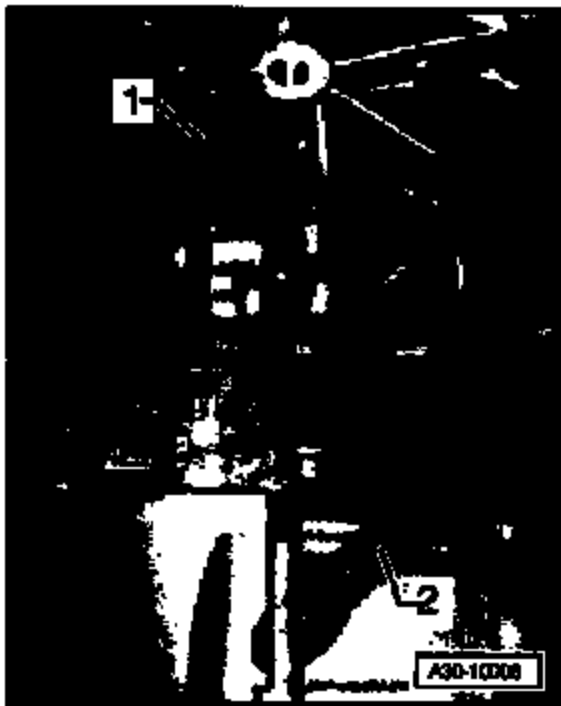
- Support transmission by lifting transmission jack from below
- ⇐ Remove bolts -5-, -6-, -7-, -8-, -9- and -10- securing transmission to the engine

- Pry transmission off dowel sleeves
- Pull transmission off engine first from bevel box side and then from front side
- Carefully lower transmission, making sure wires are not trapped
- When lowering, change position of transmission by using the spindles on transmission support 3282.
- Proceed to Section B

## Section B – Dual Clutch Removal and Installation

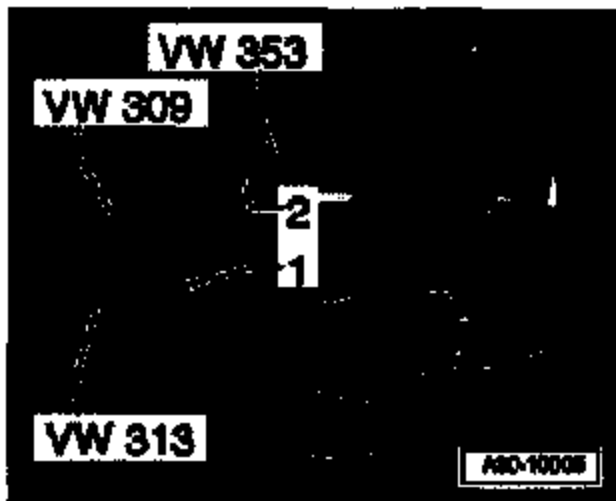


← Remove caps from breather openings on the direct shift transmission -A- and bevel box



← Seal off breather opening -1- on direct shift transmission using suitable plug

← Seal off breather opening -2- on the bevel box using suitable plug



#### **Securing Transmission to Assembly Stand in the Vertical Position**

- ⇐ Remove transmission from the 3282 holding tool on transmission jack and using bolts -1- and -2-, secure transmission to the VW353 transmission support
- ⇐ Bolt the VW353 transmission support to the VW309 support plate
- ⇐ Attach the transmission to the VW313 support clamp



#### **Removing Clutch End Cover**



- ⇐ Using a screwdriver -A-, pry off circlip securing the clutch end cover



⇐ Working through the starter opening, pry off the clutch end cover with a screwdriver -A- (alternatively pry off clutch end cover with a pry bar)



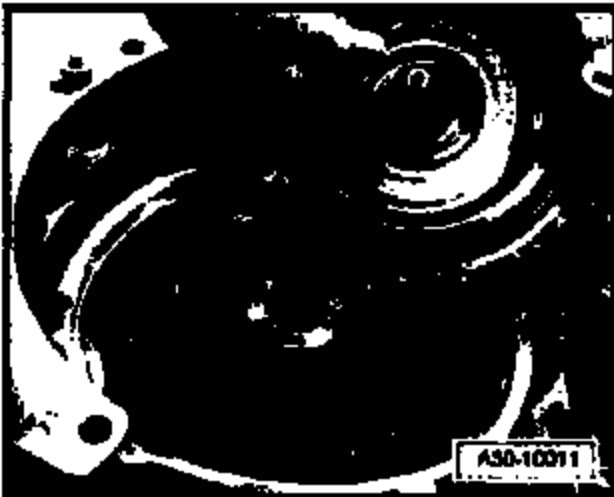
⇐ Remove clutch end cover together with circlip

## Removing the Dual Clutch



⇐ Using a screwdriver, remove the circlip securing the drive plate

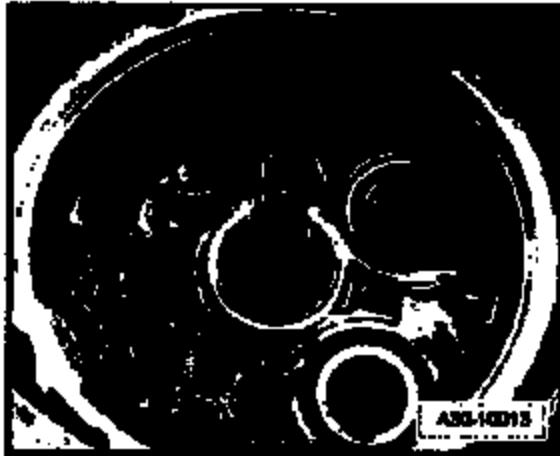
- Remove the drive plate



⇐ Remove circlip on input shaft 1



⇐ Lift up and remove the dual clutch



⇐ After removing the dual clutch, check the clutch bell housing for damage caused during removal



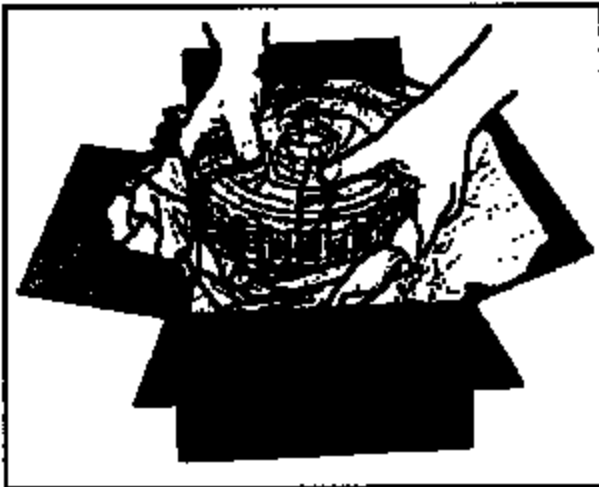
⇐ Remove pump shaft -A-

## Installing the Dual Clutch

**CAUTION: WHILE CARRYING OUT THE FOLLOWING STEPS, YOU MUST PRESS THE DRIVE PLATE INTO THE OUTER PLATE CARRIER WITH BOTH THUMBS.**

**THE DRIVE PLATE MUST REMAIN ENGAGED BETWEEN THE SPLINES OF THE OUTER PLATE CARRIER.**

**IF THE DRIVE PLATE COMES LOOSE, THE CLUTCH PLATES CAN SLIP OUT OF POSITION INSIDE THE DUAL CLUTCH UNIT. THIS COULD CAUSE INCORRECT ADJUSTMENT TO THE DUAL CLUTCH DURING INSTALLATION.**

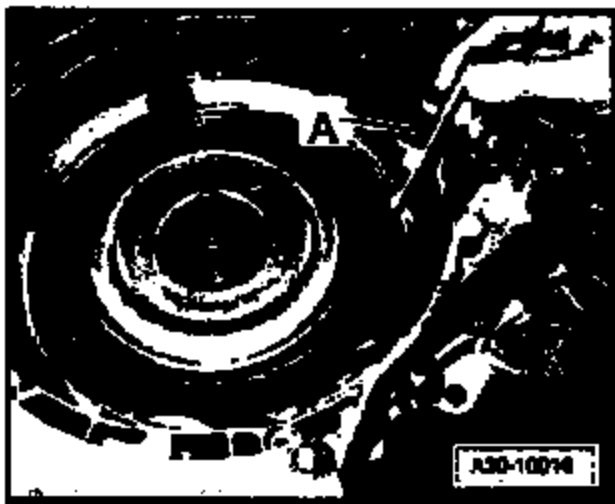


- Take the retaining ring out of the packaging
- ⇐ Obtain new dual clutch (02E 141 029E) from repair kit; remove packaging while pressing the drive plate into the outer plate carrier with both thumbs



**CAUTION: DURING THE FOLLOWING STEPS, YOU MUST KEEP PRESSING THE DRIVE PLATE INTO THE OUTER PLATE CARRIER WITH BOTH THUMBS TO ENSURE THAT IT REMAINS IN POSITION BETWEEN THE SPLINES OF THE OUTER PLATE CARRIER.**

⇐ Check that the four oil seals -B- on the hub on the under side of the dual clutch are correctly seated; engage in position, if necessary

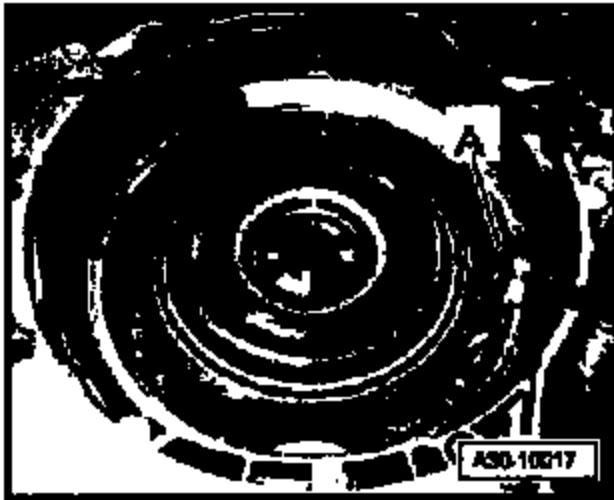


⇐ While turning the new dual clutch in both directions, as well as moving it slightly up and down, lower it slightly onto the input shaft and at the same time insert the assembly tool -A- between the dual clutch and the bell housing. Turn it to a position at the edge of the housing so that it holds the dual clutch at a defined height.

**CAUTION: DO NOT LET THE DUAL CLUTCH DROP DOWN WITHOUT HAVING THE ASSEMBLY TOOL IN PLACE.**

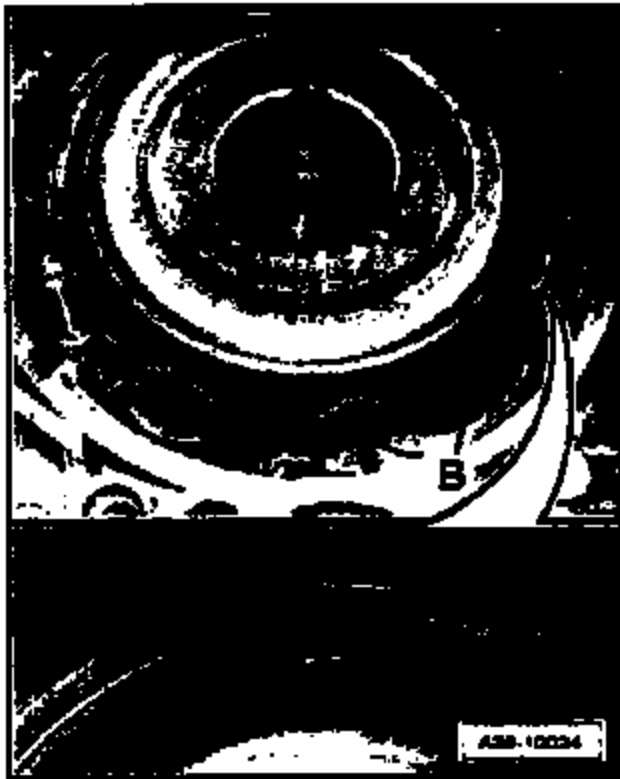
**Assembly tool must be in place during the entire time of set-up**





- ⇐ Correct position of tool -A- shows it in place on the step area -arrow- of the bell housing and holding the dual clutch at the correct height for doing measurements

The illustration shows tool -A- in position and the drive plate already installed. See the illustration for drive



- ⇐ The drive plate -A- is fitted in a specific position in relation to the outer plate carrier -B-

**CAUTION: THE CORRECT POSITION FOR THE DRIVE PLATE TO BE INSTALLED IS WITH THE PROJECTING LUG ALIGNED BETWEEN THE COLOR-MARKED SPLINES ON THE OUTER PLATE CARRIER.**

**IF PARTS ARE NOT COLOR-MARKED, USE A WATERPROOF PEN TO MARK THEM AT THIS TIME SO THEY CAN BE REASSEMBLED TO THE EXACT SAME POSITION. PARTS MUST BE MARKED BEFORE REMOVING THE DRIVE PLATE.**



- ⇐ If circlip is already installed and securing the drive plate, it needs to be removed; use a screwdriver to remove the circlip



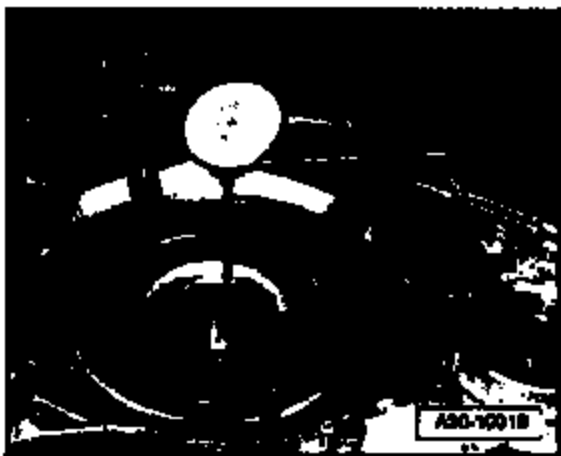
- Lift out drive plate, if necessary, pry it carefully out of the splines on the outer plate carrier using a screwdriver



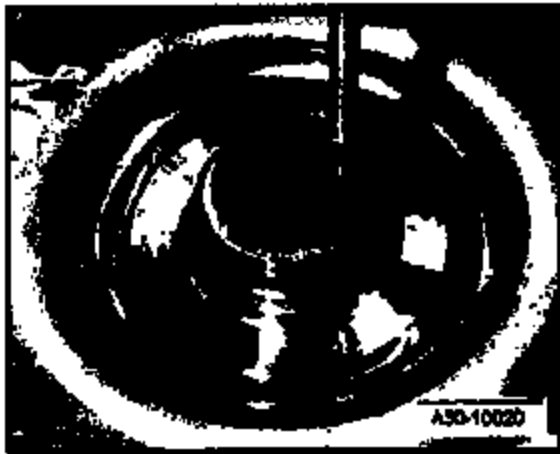
- ⇐ Obtain circlip (02E 311 321H) from the repair kit with a thickness of " $T_{\text{circlip}}$ " = 2.0 mm and install onto flange



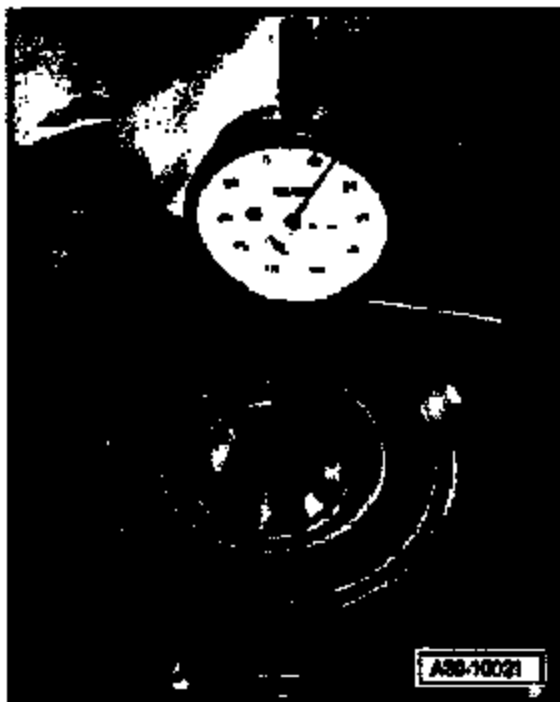
#### Preparations For Measuring Axial Play "E<sub>w1</sub>" of Transmission Input Shaft 1



- ⇐ Set up the VW387 universal dial indicator bracket with dial indicator on the transmission flange



← Position tip of dial indicator vertically to transmission input shaft 1



← Lift clutch assembly up as far as it will go and read axial play "E<sub>w1</sub>" of transmission input shaft 1 indicated on the dial indicator

For the high speed transmission, it is possible to have a small axial play.

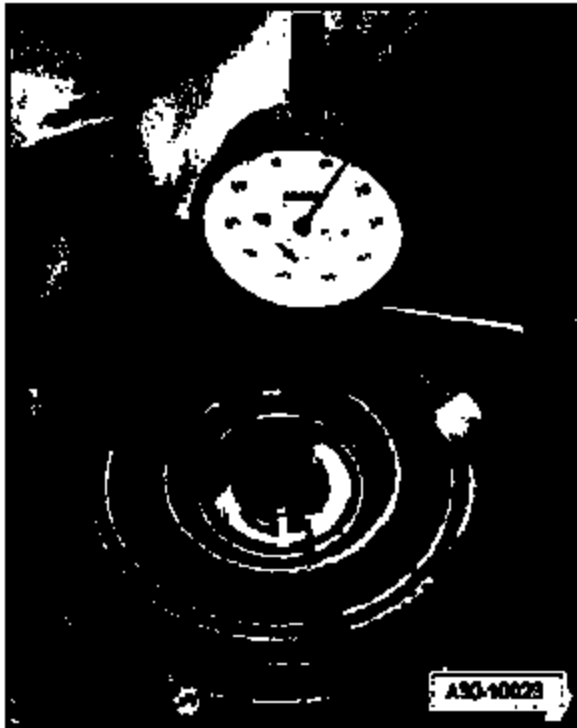


**Preparations for For Measuring Total  
Play "S<sub>1</sub>"**



← Position tip of the dial indicator vertically to  
the hub of the inner plate carrier

**Note:** The dial follower point is positioned on  
the surface of the hub of the inner plate carrier.



← Lift clutch assembly as far as it will go and read total play "S<sub>1</sub>" indicated on the dial indicator gauge

#### Calculating the Thickness of the New Circlip: "T<sub>circlip new</sub>"

Symbol	Definition
"T <sub>circlip new</sub> "	Thickness of new circlip
"S <sub>1</sub> "	Total internal play (as measured)
"E <sub>w1</sub> "	Axial play of input shaft 1 (as measured)

~~Note: All dimensions are in millimeters~~

- Use the formula → "T<sub>circlip new</sub>" = "S<sub>1</sub>" - "E<sub>w1</sub>" + 1.85 mm and calculate the thickness of the new circlip

**Selecting the New Circlip of the Required Thickness: " $T_{\text{circlip new}}$ "**

**Circlip in repair kit**

Part Number	Thickness
02E 311 321 F	1.8 mm
02E 311 321 G	1.9 mm
02E 311 321 H	2.0 mm
02E 311 321 J	2.1 mm
02E 311 321 K	2.2 mm
02E 311 321 L	2.3 mm
02E 311 321 M	2.4 mm
02E 311 321 N	2.5 mm
02E 311 321 P	2.6 mm
02E 311 321 Q	2.7 mm



**Examples:**

Calculated value " $T_{\text{circlip new}}$ " = 2.27 mm =  
→ select circlip of thickness 2.3 mm

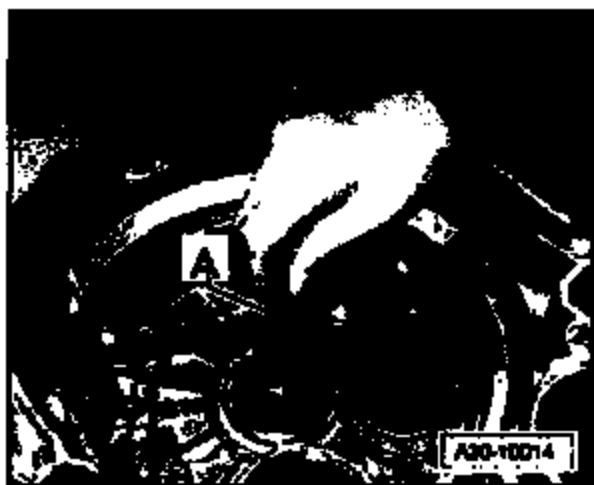
Calculated value " $T_{\text{circlip new}}$ " = 2.24 mm =  
→ select circlip of thickness 2.2 mm



- ← Remove the circlip of thickness " $T_{\text{circlip new}}$ " = 2.0 mm previously installed for making the initial measurements

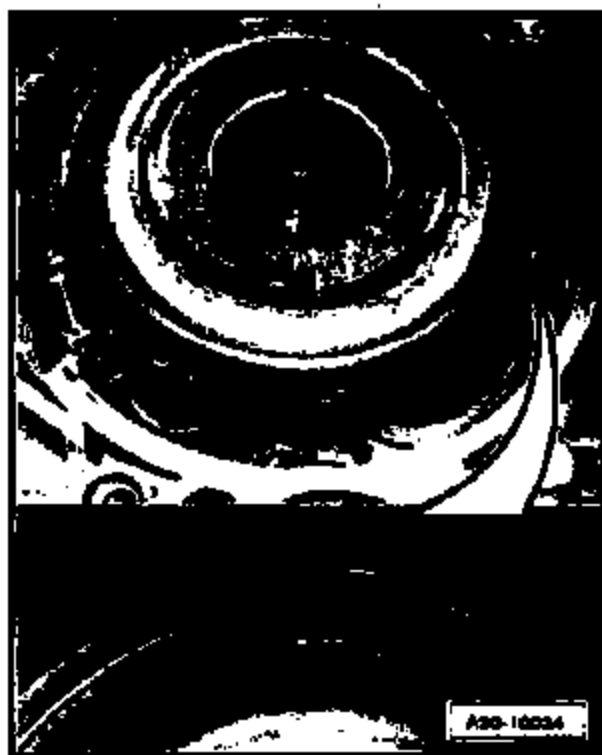


- Install new circlip with the required thickness as previous calculated (always use a new circlip)



← Reinstall pump shaft -A-

**IMPORTANT!** Lift the shaft and turn it slightly while installing to get it fully seated into the splines

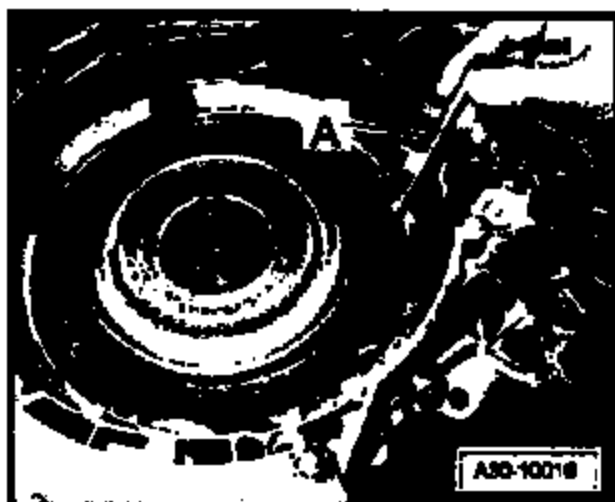


← Install drive plate onto the dual clutch making certain the lug on the drive plate is positioned opposite the color marked splines on the outer plate carrier and between the two ends of the circlip

**CAUTION:** TO ENSURE THAT THE DRIVE PLATE IS INSTALLED IN THE CORRECT POSITION, OBSERVE THE COLORED MARKINGS IDENTIFYING THE POSITION OF THE DRIVE PLATE RELATIVE TO THE OUTER CARRIER

**Requirements:**

- The projecting lug on the drive plate must be positioned between the color marked splines on the outer plate carrier
- The circlip must be installed so that the lug on the drive plate and the color-marked splines on the outer plate carrier are located between the two ends of the circlip



- ⇐ Install circlip securing the drive plate

**CAUTION: MAKE CERTAIN THE CIRCLIP IS FULLY SEATED**

- ⇐ Using a screwdriver, check that the circlip is properly seated and fully engaged
- ⇐ Remove assembly tool -A- from between the dual clutch and the housing
- ⇐ Pour 0.15 liter of transmission oil (G 052 182 A2) for direct shift transmission into clutch housing

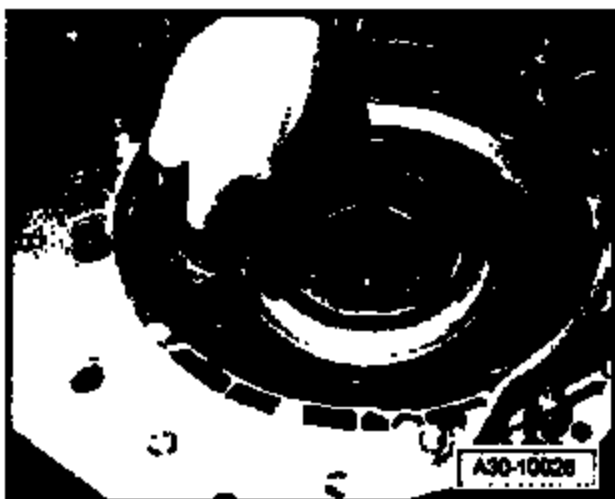
#### Installing dual clutch end cover

- ⇐ Thoroughly degrease the running surface of the seal using a *cleaning solvent*

**CAUTION: THE CONTACT SURFACES OF THE END COVER MUST BE CLEANED THOROUGHLY; OTHERWISE, LEAKS CAN OCCUR**



- ⇐ Clean the bell housing surface where the outer seal of the end cover will contact it

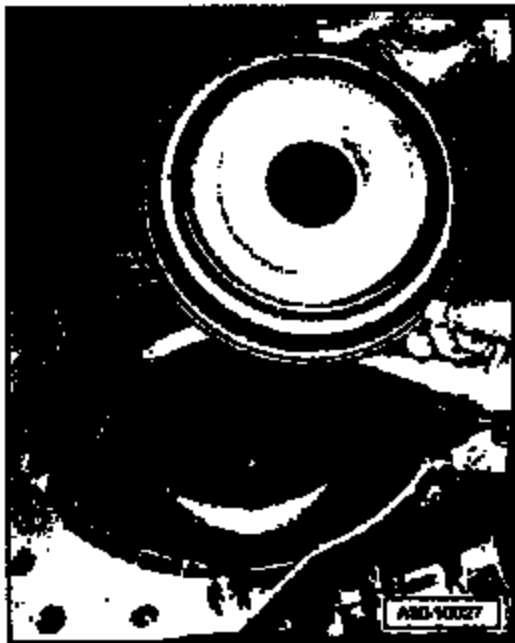




## Preparing the End Cover

**CAUTION: DO NOT TOUCH THE SEAL INSIDE THE OPENING IN THE END COVER. THIS SEAL WILL ONLY SEAL PROPERLY IF THE RUNNING SURFACE IS ABLOLUTELY FREE OF GREASE WHEN IT IS INSTALLED.**

**DO NOT APPLY HAMMER BLOWS DIRECTLY TO THE END COVER. ANY FORCES APPLIED TO THE INSIDE RING WILL CAUSE MALFUNCTIONS.**

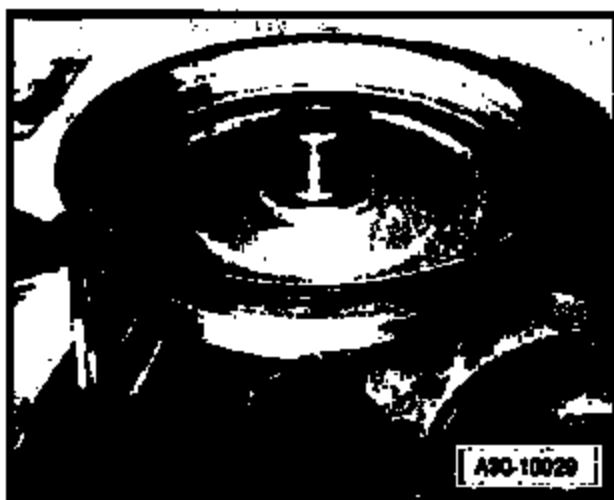


← Remove packaging material from around the new end cover (02E 301 205 B) in the repair kit

**Note:** Do not touch the seal inside the opening of the end cover.



- ⇐ Using the assembly tool from the repair kit, fit the clutch end cover on the tool



- ⇐ The end cover must be in full contact with the assembly tool



- ⇐ Lift off the tapered sleeve -2- from the assembly tool



← Insert the end cover with the assembly tool into the clutch bell housing, at the same time turning slightly

**IMPORTANT!** Make certain that the end cover is positioned uniformly in the clutch bell housing



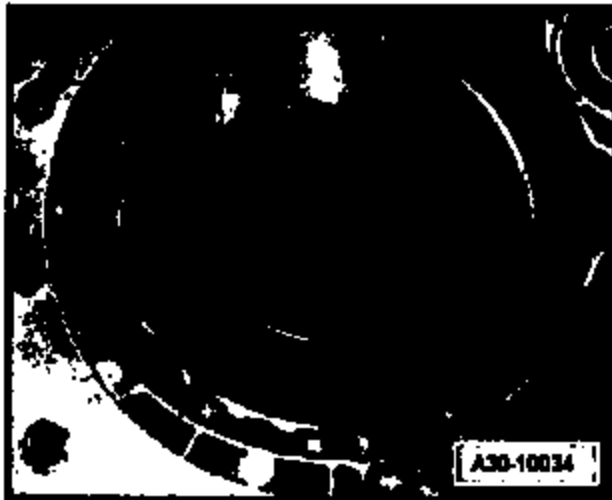
← Tap the end cover into position with a plastic hammer



**CAUTION:** DO NOT APPLY HAMMER BLOWS DIRECTLY TO THE PUMP COVER. THE END COVER CONSISTS OF TWO PARTS AND ANY FORCE APPLIED TO THE INSIDE RING WILL CAUSE MALFUNCTIONS



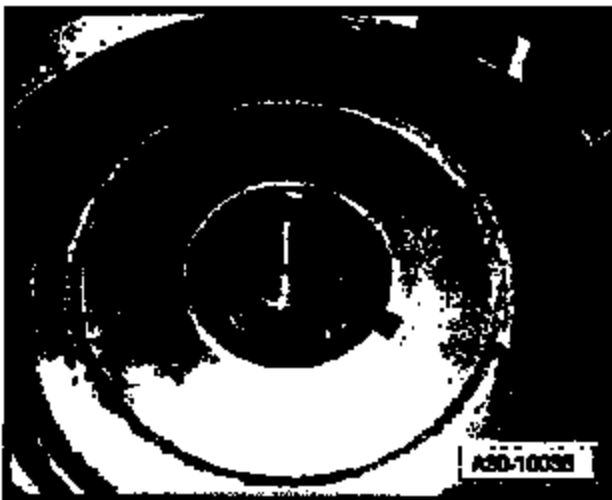
⇐ Remove the assembly tool



⇐ Install new circlip (02E 301 859 A) from the repair kit for the end cover



⇐ Check that the circlip is seated correctly, if necessary, press the outer ring of the cover down slightly using a metal bar or suitable tool to enable the circlip to fully engage



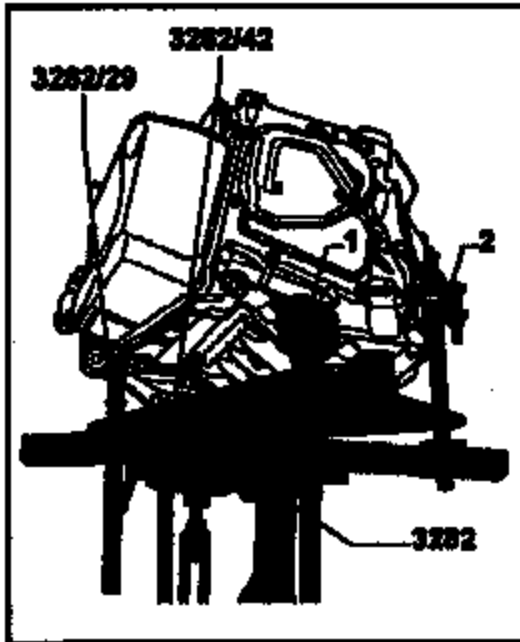
⇐ Lubricate the splines -arrow- for the dual-mass flywheel with a small quantity of assembly grease (G 000 100)

⇐ Rotate the transmission support clamp, VW 313, to the normal position, e.g. with the breather openings facing upwards

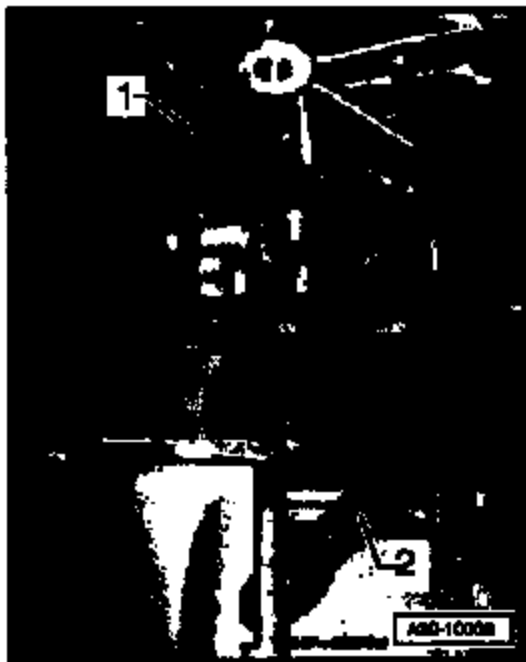
● Carefully remove the transmission from the VW353 holding plate and place on the 3282 transmission support

● Proceed to Section C

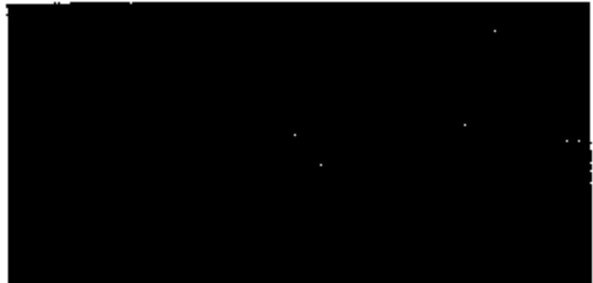
### Section C – Transmission Reinstallation



- Align arms of transmission support according to holes in adjustment plate
- Bolt support elements as illustrated to adjustment plate 3282/42
- Align adjustment plate parallel with transmission
- ⇐ Secure support element to transmission using bolt -1-
- ⇐ Screw support element 3282/29 into transmission
- ⇐ Insert support element -2- into transmission and secure by tightening nut

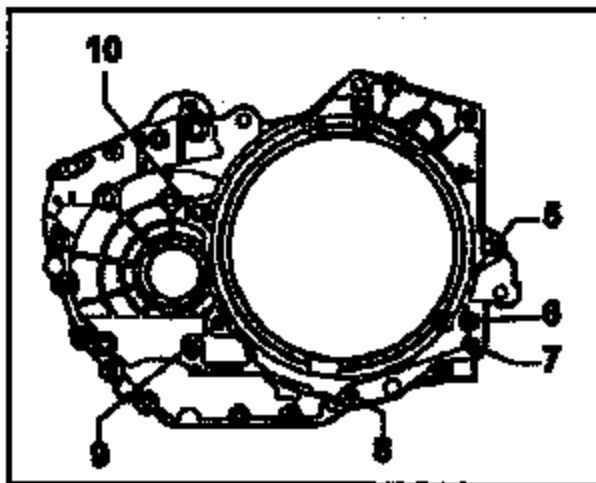


- Ensure that dowel sleeves are correctly seated in engine block
- ⇐ Remove plug from the breather opening -1- on the transmission
- ⇐ Remove plug from the breather opening -2- on the bevel box -2-
- ⇐ Reinstall cap for breather opening on the bevel box

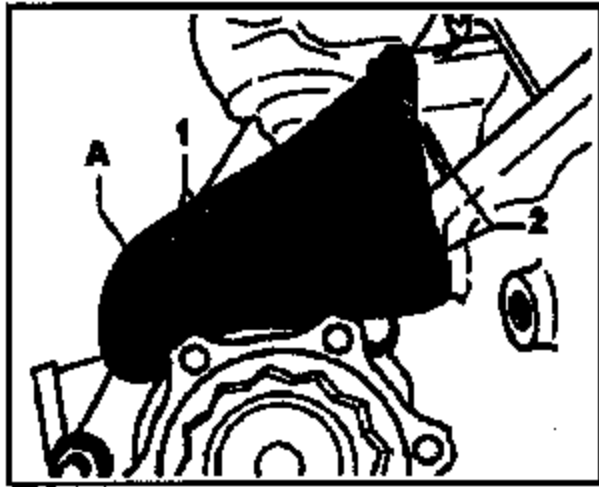




- ⇐ Install new cap for the breather pipe (transmission breather) (012 301 474A) for breather openings on the direct shift transmission
- Before installing transmission, check needle bearing in crankshaft
- Raise transmission carefully and move to installation position using transmission support 3282
- Connect transmission to the engine and make sure no wires or hoses get pinched or get caught



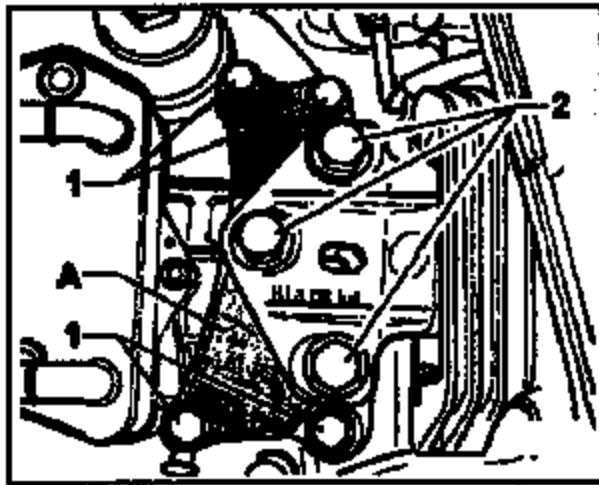
- ⇐ Install M12x65 bolt -5- and tighten to 80 Nm (59 ft. lbs.)
- ⇐ Install M12x55 bolt -6- and tighten to 80 Nm (59 ft. lbs.)
- ⇐ Install M10x50 bolt -7- & -8- and tighten to 40 Nm (30 ft. lbs.)
- ⇐ Install M10x45 bolt -9- and tighten to 40 Nm (30 ft. lbs.)
- ⇐ Install M 12x70 bolt -10- and tighten to 80 Nm (59 ft. lbs.)
- Remove transmission jack with 3282 support tool



⇐ Reinstall bracket -A- on bevel box with bolts -1- and -2- and hand tighten

⇐ Tighten bolts -1- and -2- in the following sequence:

- Bolt -1- initially to 3 Nm (2 ft. lbs.)
- Bolt -2- to 35 Nm (26 ft. lbs.)
- Bolt -1- to 45 Nm (33 ft. lbs.)



⇐ Lower vehicle and place transmission support -A- between transmission and transmission mounting

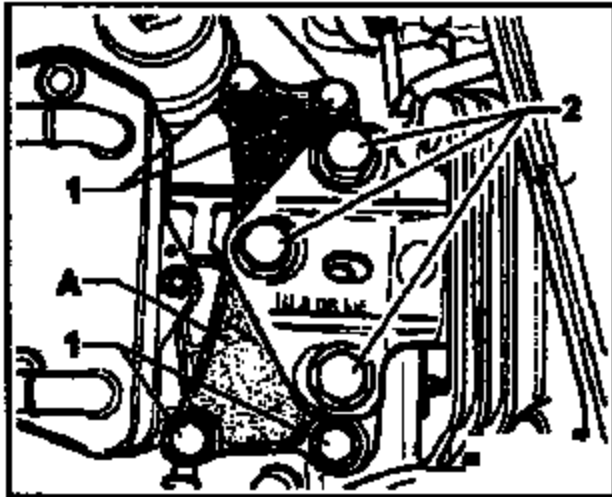
⇐ Using new bolts -1- (N 905 970 02) secure transmission support (hand tighten only)

• Pull transmission up to transmission mounting using spindle on support bracket

⇐ Using new bolts -2- (N 102 096 03) secure transmission support to transmission mounting (hand tighten only)

⇐ Tighten bolts -1- to 50 Nm (37 ft. lbs) plus turn an additional 90°

⇐ Tighten bolts -2- to 100 Nm (74 ft. bs.)

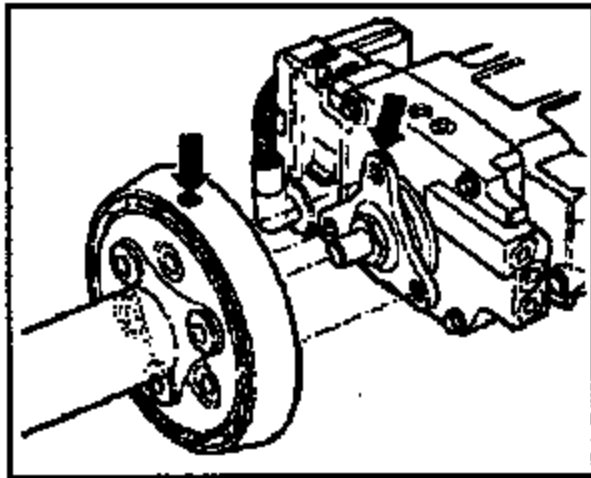


**CAUTION: BEFORE TIGHTENING BOLTS BETWEEN THE TRANSMISSION MOUNTING AND THE TRANSMISSION SUPPORT, THE MOUNTING AND SUPPORT MUST BE ALIGNED IN AN ABSOLUTELY PARALLEL POSITION; OTHERWISE, THE THREADS WILL BE DAMAGED. IF NECESSARY, PUSH THE TRANSMISSION UP AT THE REAR WITH A JACK.**

- Reinstall starter and secure in position with upper starter M10x40 bolt with M8 stud and tighten to 40 Nm (29 ft. lbs)
- Raise vehicle on the hoist

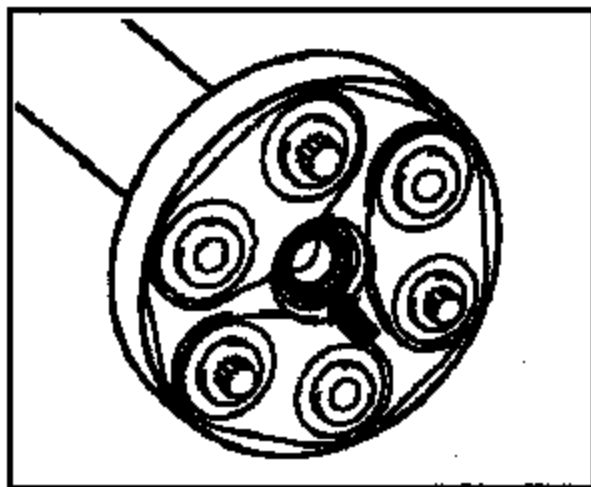
**CAUTION: ONLY REMOVE SUPPORT BRACKET 10-222 A AFTER ALL BOLTS FOR THE ASSEMBLY MOUNTING ARE TIGHTENED TO SPECIFIED TORQUE AND THE SUB-FRAME IS INSTALLED.**





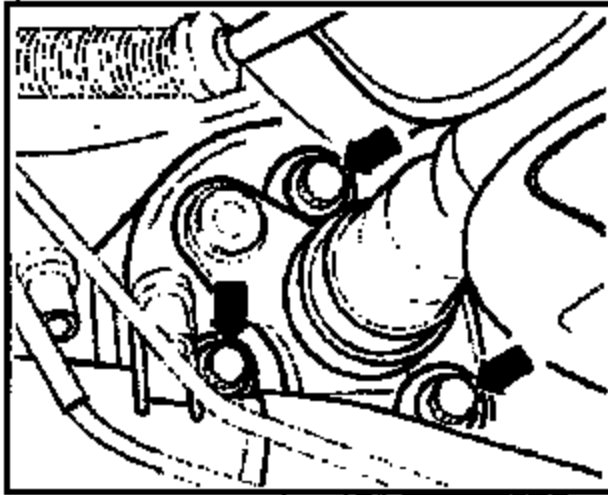
⇐ Ensure that the drive shaft is reconnected to the bevel box in the previously marked position -arrows-

- Move engine/transmission assembly forward. Bevel box pin must be guided carefully into drive shaft flange when doing this

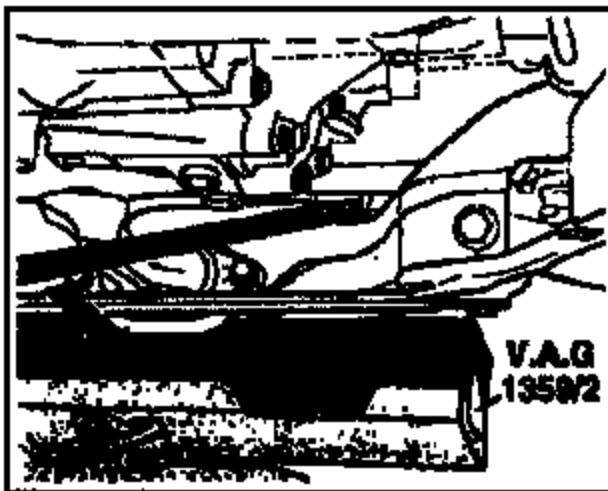


⇐ When installing drive shaft, do not damage the seals in the flanges. If the seals are damaged, the drive shaft must be replaced

**IMPORTANT!** Ensure the drive shaft is horizontal when pushing it onto the guide pin

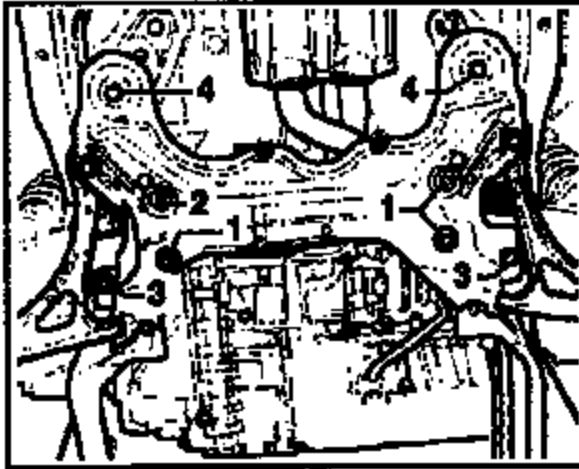


- ⇐ Secure drive shaft flexible coupling to the bevel box flange with bolts -arrows- and tighten to 60 Nm (44 ft. lbs.)

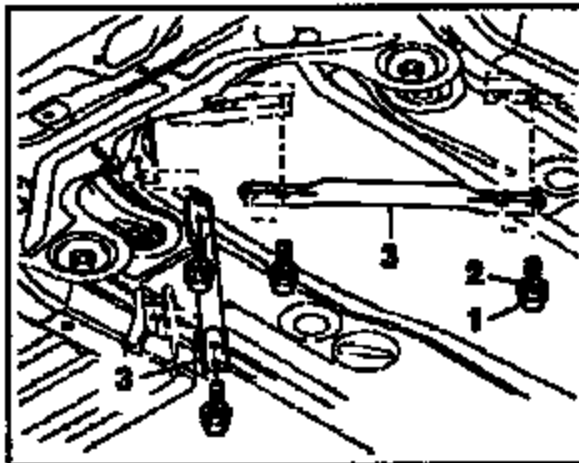


- ⇐ Place sub-frame on VAG 1359/2 and carefully raise
- Move left and right axle shafts into position
- Locate steering gear into correct position on sub-frame

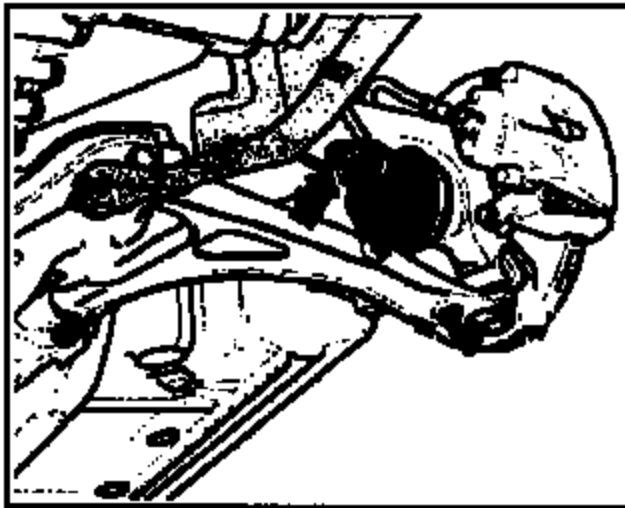




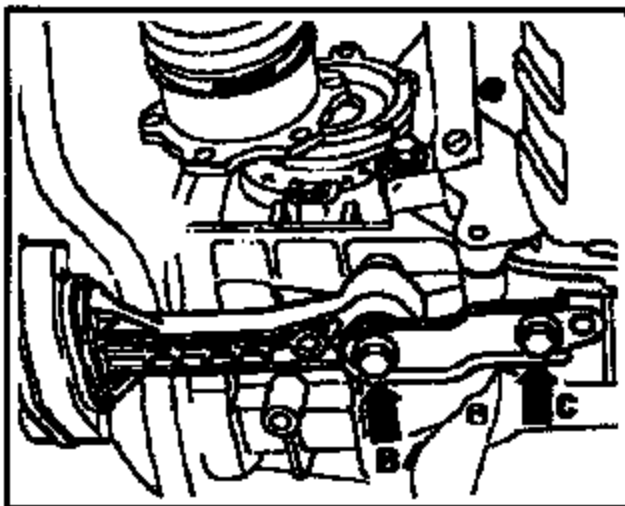
- ⇐ Secure sub-frame with new bolts -3- (N 907 349 01) and -4- (N 907 528 01) and hand tighten
- ⇐ Tighten bolt -3- and -4- to 100 Nm (74 ft. lbs.) plus turn an additional 90°
- ⇐ Install new bolts -1- (N 100 155 06) to secure the steering gear and tighten to 20 Nm (15 ft. lbs.) plus turn an additional 90°
- ⇐ Install new bolt -2- (N 105 266 02) to secure steering gear and tighten to 20 Nm (15 ft. lbs.) plus turn an additional 90°
- ⇐ Reposition bracket for vacuum pump and secure with nut over bolt -2-
- At rear of sub-frame, secure bracket for vacuum pump to sub-frame with bolt



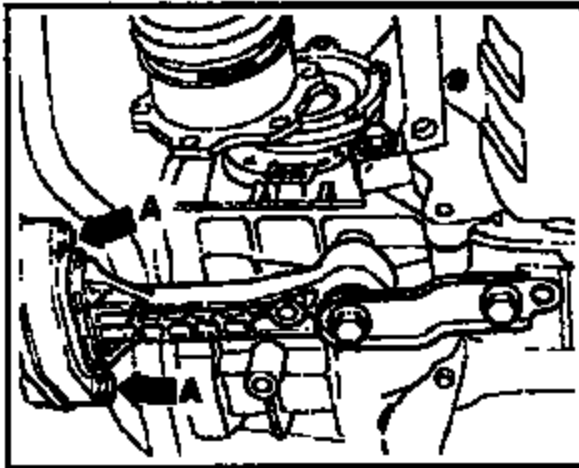
- ⇐ Reinstall reinforcements -3- and secure with bolts -1- and tighten to 35 Nm (26 ft. lbs.)



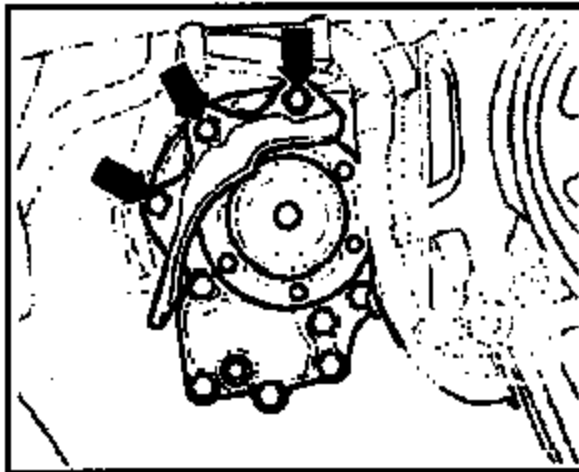
- ⇐ Secure right and left couplings to the stabilizer bar using new nut -arrow- (N 015 081 4) and tighten to 90 Nm (66 ft. lbs.)
- Remove strap tool T10038 holding tie rods and steering gear box



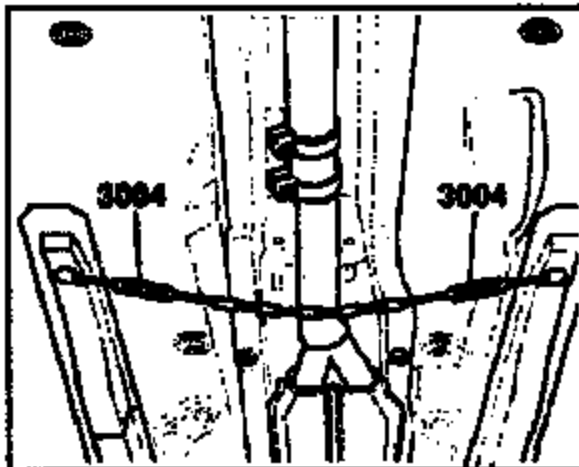
- ⇐ Reinstall pendulum and secure with new bolt -B- (N 905 970 01) and new bolt -C- (N 102 466 05)
- ⇐ Tighten new bolts -B- and -C- to 50 Nm (37 ft. lbs)



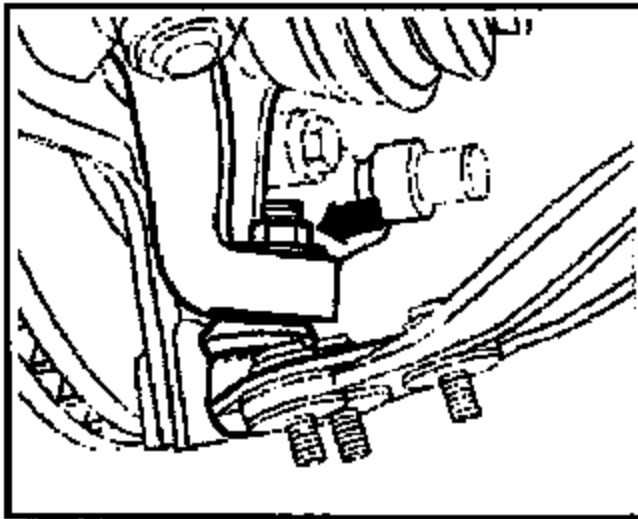
- ⇐ Secure pendulum to sub-frame with new bolts -A- (N 102 683 02) and tighten to 25 Nm (18 ft. lbs.)



- Secure right axle to flange on the bevel box and left axle to the flange on the transmission and tighten bolts first to 10 Nm (7 ft. lbs.) then final torque all bolts to 70 Nm (52 ft. lbs.)
- ⇐ Reinstall heat shield over right axle shaft and secure with allen nuts and tighten to 25 Nm (18 ft. lbs.)

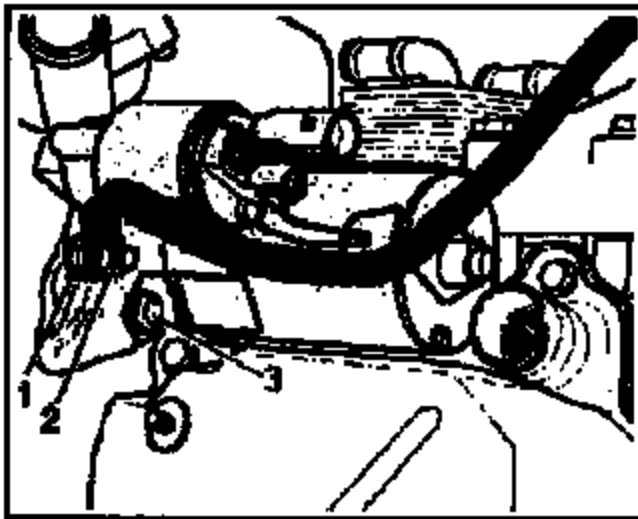


- Reposition clamp to connect exhaust pipes and tighten nuts on clamps to 40 Nm (30 ft. lbs.)
- ⇐ Remove hook tool 3004



⇐ Reinstall ball joint use a new nut -arrow- (N 908 088 01) and tighten to 75 Nm (55 ft. lbs.)

- Reinstall protective plate on bottom of transmission and tighten Torx bolts to 45 Nm (33 ft. lbs.)

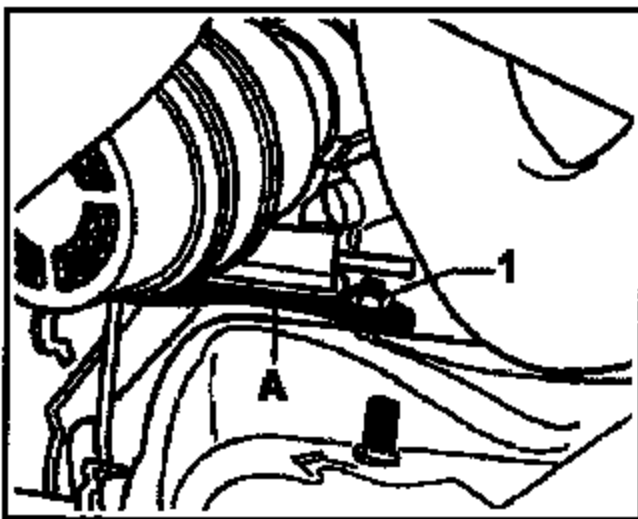


⇐ Reinstall M12x55 bolt -1- with M8 stud and tighten to 80 Nm (59 ft. lbs.)

⇐ Secure battery cable to bolt -1- with nut -2- and tighten to 20 Nm (15 ft. lbs.)

⇐ Reposition harness holder bracket and reinstall lower starter M10x45 bolt and tighten to 40 Nm (29 ft. lbs.)

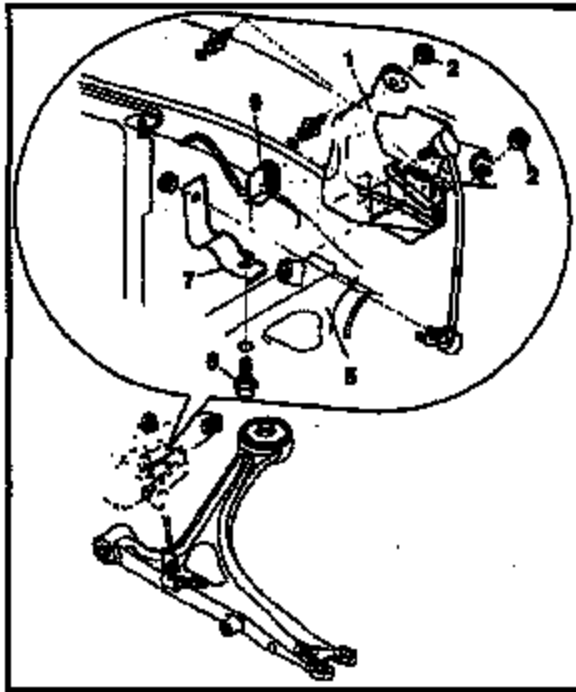
⇐ Reposition power steering pressure bracket and secure with bolt



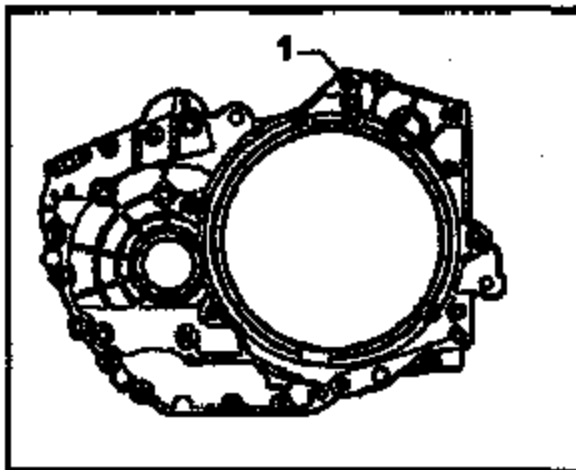
- Reconnect air filter to secondary air pump

⇐ Secure air filter bracket -A- with nuts -1-

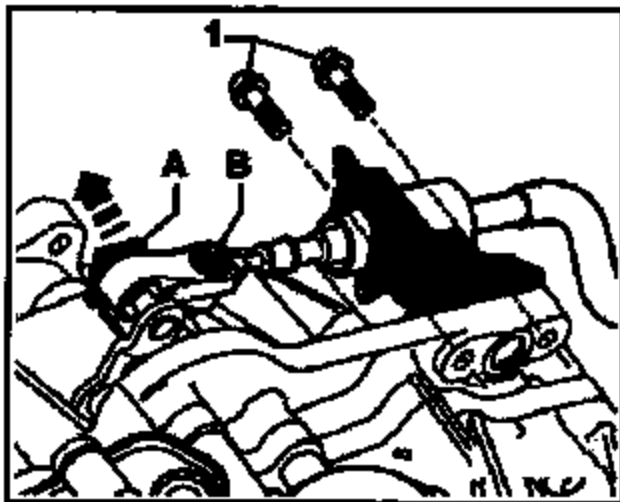
- Reinstall coolant hose bracket



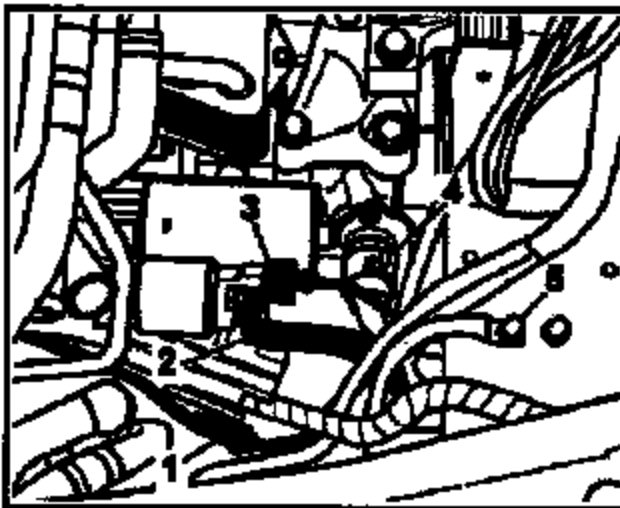
- Reinstall left side sound insulation panel
- ⇐ If removed, reinstall automatic headlight control sensor -1-, secure with nuts -2- and tighten to 10 Nm (7 ft. lbs.)
- ⇐ Reconnect connector -9- to sensor
- ⇐ Secure linkage arm bracket -7- to lower control arm using bolt -6- and tighten to 20 Nm (15 ft. lbs.)
- Reinstall center sound insulation panel
- Reinstall wheels and tighten wheel lug bolts diagonally to 50 Nm (37 ft. lbs.)
- Lower vehicle and torque wheel lug bolts diagonally to 120 Nm (89 ft. lbs.)



- Remove engine/transmission support bracket 10-222 A
- ⇐ Reinstall top center engine/ transmission securing M12x55 bolt -1- and tighten to 80 Nm (59 ft. lbs.)
- Reconnect hoses to transmission oil cooler and remove 3094 clamps

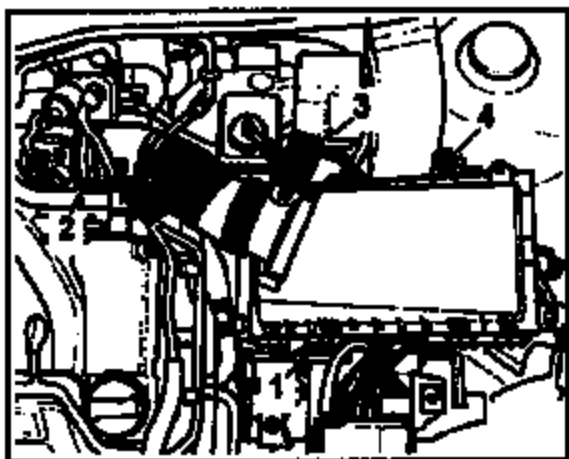


- ⇐ Using new Torx bolts (N 909 861 01) secure selector cable bracket to the transmission and tighten bolts to 20 Nm (15 ft. lbs.) plus turn an additional 90°
- ⇐ Carefully press selector lever cable onto selector shaft lever on transmission in opposite direction of arrow
- ⇐ Install circlip -A- and press downward to secure



- ⇐ Reinstall wire guide and insert connector -1-
- ⇐ Reconnect connector eyelet -2- and secure with nut
- ⇐ Reconnect electrical connectors -3- and -4-





- Reinstall carrier for fuse box and secure with bolts
- Clip the fuse box to the carrier lid and close clips
- Clip protective cover for wire harness into position

⇐ Reinstall air cleaner with MAF and hose and secure with screws -1- and -4-

⇐ Reconnect electrical connector -3-

⇐ Reposition clamp -2-

- Reinstall left and right side look carrier covers
- Reinstall fuse box cover
- Reconnect the negative (-) battery cable to the battery and tighten nut to 6 Nm (53 in. lbs.)
- Reposition luggage compartment floor covering
- Perform battery restoration procedure
- Check transmission oil level and add as required
- Check gear selector cable adjustment and adjust as required
- Check coolant level and add, if necessary
- Use electronic wheel alignment machine V.A.G. 1813 to check/adjust wheel alignment
- Destroy and properly dispose of removed parts