

**Brake Booster Seal at the Firewall Changed**

Vehicle Type: 911 Carrera (996) / 911 Carrera 4 (996)

Model Year: From 1999 (X) to 2000 (Y)

Concern: Brake booster seal at firewall has changed.

Information: Due to a modification in the body firewall, the brake booster bellows and seal at the body fire wall was changed during model year '00 (Y). Replacement brake boosters are only available with the latest style bellows.

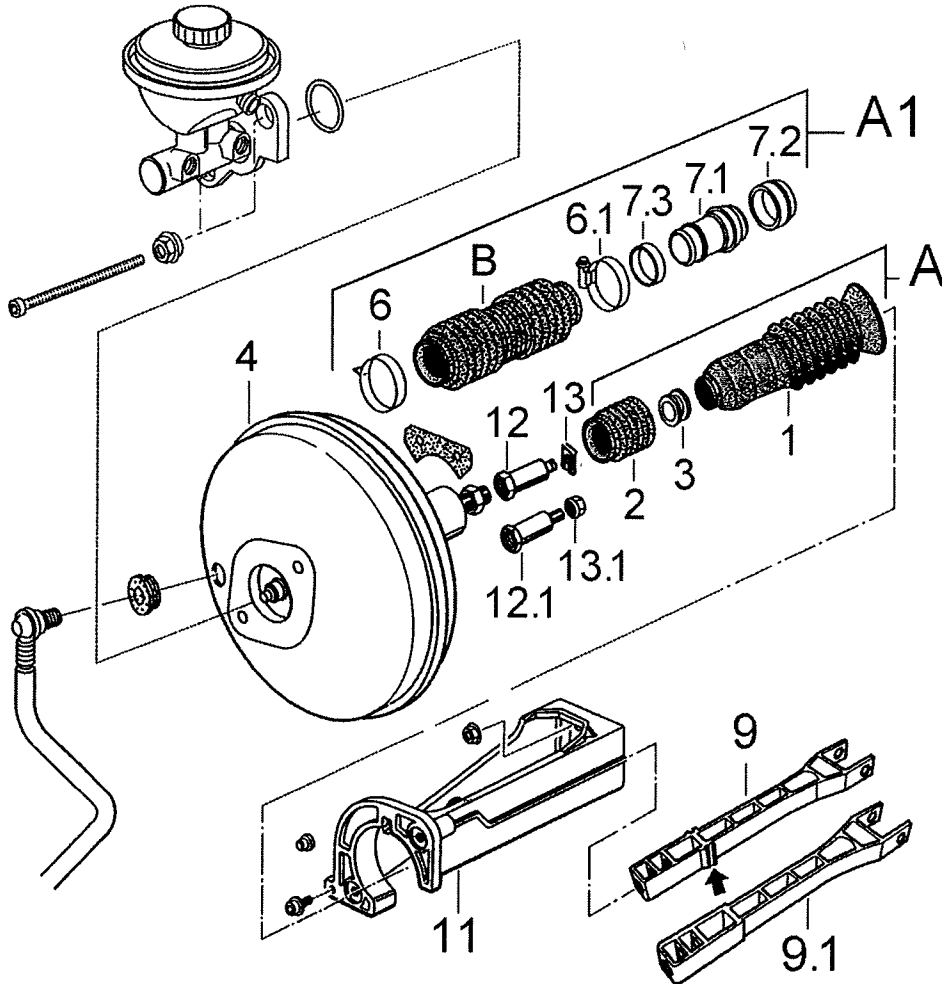
The vehicles that will require modification when replacing the brake booster were produced **before** September 13, 1999, with the following VIN numbers:

- 99 1YS 62 0337 (Coupe)
- 99 5YS 65 0546 (Cabriolet)

In order to install the brake booster with the latest style bellows in these vehicles, you must order the parts listed below (**in bold**).

Part Numbers: The following parts are identified by the corresponding item number in figure 1.

Item No.	Part Number	Description
4	<b>996 355 923 00</b>	<b>Brake booster</b>
—	<b>000 043 204 66</b>	<b>Seal set</b> – consisting of the parts marked with *
*6	999 512 672 00	Clamp (scope of brake booster)
*B	996 423 269 05	Bellows (scope of brake booster)
*6.1	999 512 478 00	Hose clamp
*7.1	996 355 909 00	Connecting piece
*7.2	996 355 907 00	Sealing ring
*7.3	996 355 911 00	Sealing ring
*12.1	996 355 927 01	Push rod
*13.1	900 380 015 09	Hexagon nut M6
9.1	<b>996 423 165 05</b>	<b>Brake push rod</b>
—	<b>996 423 307 00</b>	<b>Threaded bushing (for fastening push rod to the brake pedal)</b>
—	<b>996 423 308 00</b>	<b>Pin (for fastening push rod to the brake pedal)</b>



**Figure 1**

A Previous firewall seal setup.

A1 New firewall seal setup.

Parts 1, 2, 3, 9, 12 and 13 may not be used after the conversion date and are no longer supplied.

Vehicles produced before the introduction date specified need these additional parts to install a new brake booster on Page 1.

**Work Procedure:** When installing a brake booster (996 355 923 00) with new bellows and seal in a vehicle produced before the introduction date specified on Page 1, the vehicle must be converted to the new seal. The procedure is outlined in (soon to be released) supplement 61 for the 911 Carrera (996) Technical Manual, in Group 47 70 31. The corresponding chapter from the Technical Manual (included in supplement 61) is enclosed with this Technical Information. Please use that for the bases of the repair.

The following procedure is a short overview of the work to be carried out. Use the enclosed work procedure from supplement 61 to perform the repairs.

1. Position vehicle on lifting platform and raise.
2. Remove all wheels (after conversion, the brakes must be completely bled).
3. Remove battery.
4. Remove brake booster (Fig.1 item 4) with brake master cylinder. To do so, the hydraulic unit, and in the case of vehicles with PSM, the booster pump must also be removed.
5. Remove bellows and rubber grommet (Fig.1 item 1, 2, 3), brake push rod (Fig.1 item 9) and intermediate piece (Fig.1 item 11).
6. If necessary, completely remove the sealing ring at the opening in the body firewall.
7. Insert the sealing ring (Fig.1 item 7.2) without lubricant in the opening in the body firewall.
8. Insert the connecting piece (Fig.1 item 7.1) with rubber lubricant into the sealing ring (Fig.1 item 7.2).
9. Mount the sealing ring (Fig.1 item 7.3) onto the connecting piece (Fig.1 item 7.1).
10. Install the intermediate piece (Fig.1 item 11).
11. Install a new brake push rod (Fig.1 item 9.1), using a new pin and a new threaded bushing. The brake push rod must be replaced because the double rib (Fig.1 item 9, arrow) for the grommet uptake on the previous brake push rod brushes against the new seal.
12. Mount the new push rod (Fig.1 item 12.1) with hexagon nut M6 (Fig.1 item 13.1) on the brake booster (Fig.1 item 4). It is only necessary to replace the push rod (Fig.1 item 12) when the tab washer (Fig.1 item 13) is installed. Set the push rod on the brake booster to the basic setting.
13. Install brake booster (Fig.1 item 4) and brake master cylinder with mounted bellows (Fig.1 item B) and tightly fastened clamp (Fig.1 item 6).
14. Connect the brake push rod (Fig.1 item 9.1) and the push rod (Fig.1 item 12.1). To do so, mount the hexagon nut (Fig.1 item 13.1). Overview of work to be carried out (ctd.; Fig.1 item nos. see Page 2):
15. Check or adjust the position of the brake pedal. Check the stop light switch setting.

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Technical Information

- Work Procedure cont'd. **16.** Position the bellows (Fig.1 item B) on the connection sleeve (Fig.1 item 7.1) and secure with the hose clamp (Fig.1 item 6.1).
- 17.** Install hydraulic unit and booster pump (in vehicles with PSM).
- 18.** Install battery.
- 19.** Bleed brake, ensure that the vehicle is correctly re-equipped, and perform the necessary tests (see 911 Carrera (996) Technical Manual or details in the enclosure to this TI, Group 47 70 31, Supplement 61.
- 20.** Perform the work made necessary by disconnection of the battery (Technical Manual = Repair group 9: Work instruction after disconnecting the battery).
- 21.** Remove vehicle from the lifting platform.
- 22.** Perform function test on brakes before leaving the lift vehicle hoist area.

Working Time:	<b>Labor Operation</b>	<b>Time Units</b>	<b>Description</b>
	47 70 31 00	270 TU	Brake booster removed and installed and converted to the seal <b>without</b> PSM.
	47 70 31 03	300 TU	Brake booster removed and installed and converted to the seal - <b>without</b> PSM. Includes (applicable to 47 70 19 00 and .. 03): Replacing the brake booster, conversion to the new seal with replacement of the brake push rod according to the information in this Technical Information. <b>Without</b> bleeding the brake system.

Literature: 911 Carrera (996) Technical Manual, Groups 4 and 9:  
 Repair: 47 70 31 - Converting brake booster (Supplement 61)  
 Group 9 - Work instruction after disconnecting the battery (Page 9 - 1).

Attachment: Excerpt from 911 Carrera (996) Technical Manual:  
 47 70 31 - Supplement 61 "Converting brake booster (bellows)" (See Page 5.)

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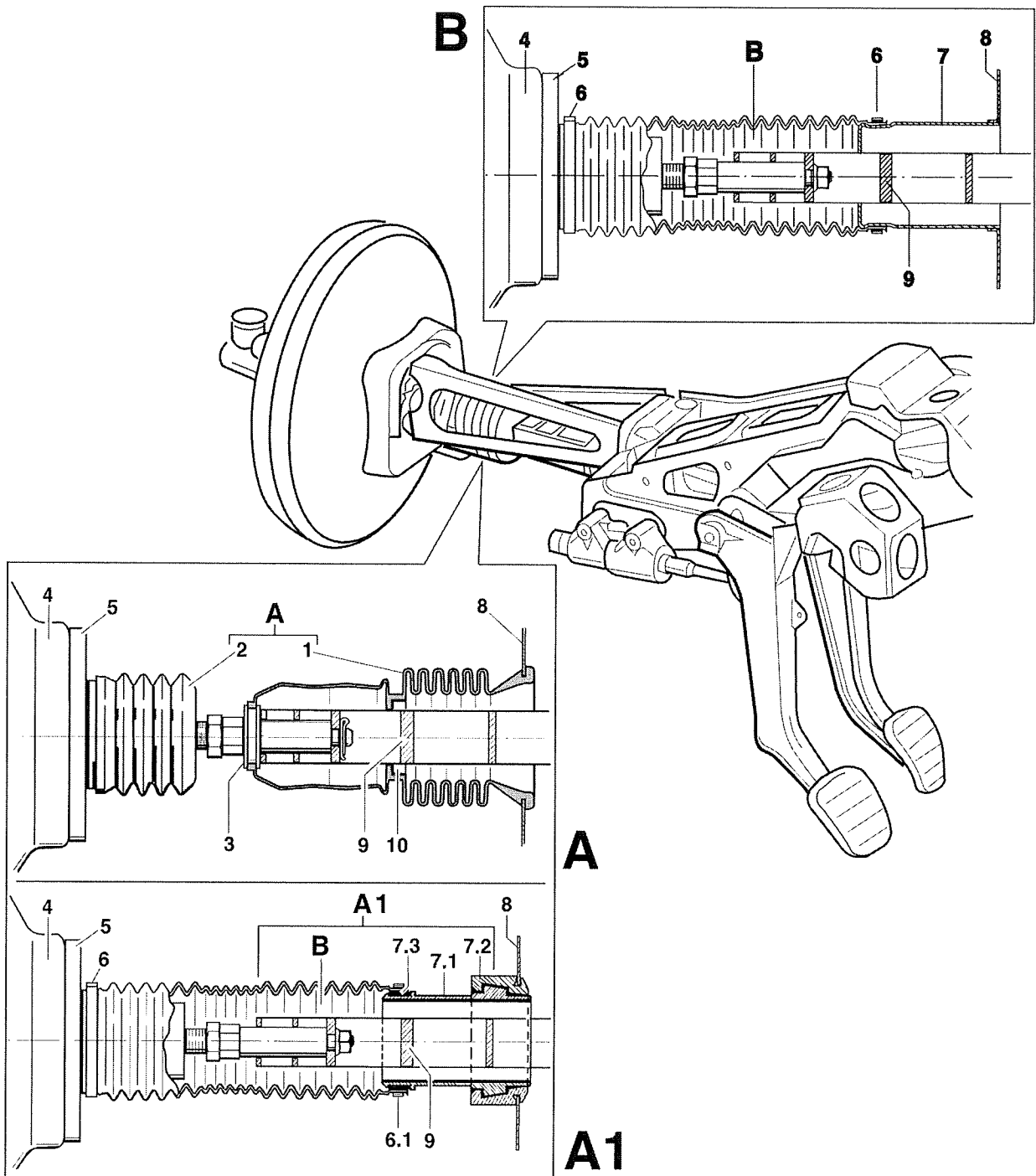
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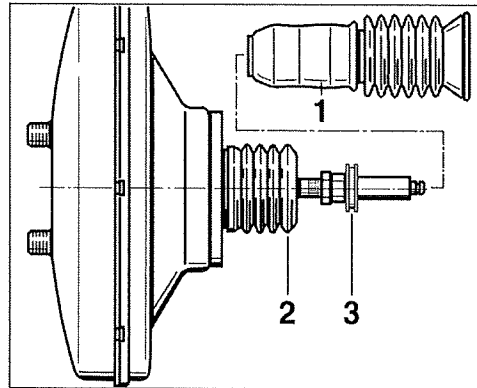
### Converting brake booster (bellows)

- ◆ 2 bellows variants have been installed as standard in the 911 Carrera (996) (first version **-A-** and new/current version **-B-**).
- ◆ The bellows variant of the first version **-A-** is no longer available as a spare part. The version must be installed in the event of repair **-A1-** (conversion described in the following).



**i Note!**

The conversion described in the following only applies for vehicles in which the bellows first version A (with 2 rubber bellows **-1** and **2-**) is installed! ▶



### Overview of bellows conversion

- To convert the bellows variant **-A-** to version **-A1-**, the hydraulic unit, the brake booster **-4-** with brake master cylinder and the intermediate piece **-11-** must be removed.
- The assembly of the brake master cylinder with the brake booster **-4-** must not be disconnected for removal and installation if both parts should be continued to be used!
- To remove the intermediate piece **-11-**, the battery must be removed! This will prevent damage of the components in the surrounding area.
- The following parts must be exchanged or replaced for first installation of variant **-A1-** (replacement Ausführung):
  - Remove short bellows **-2-** on the brake booster and the long bellows **-1-** on the firewall.
  - Remove the grommet (rubber groove ring) **-3-** for mounting the long (former) bellows (not replaced).
  - The following parts are used in place of the removed parts **-1 / 2 / 3-**: Bellows **-B-** (already mounted on new brake boosters), connection sleeve **-7.1-** with sealing ring **-7.3-**, the seal for the firewall **-7.2-** and the hose clamps (clamps) **-6** and **6.1-**.
  - The two push rods **-12** and **9-** are to be replaced with the modified version **-12.1** and **9.1-**.

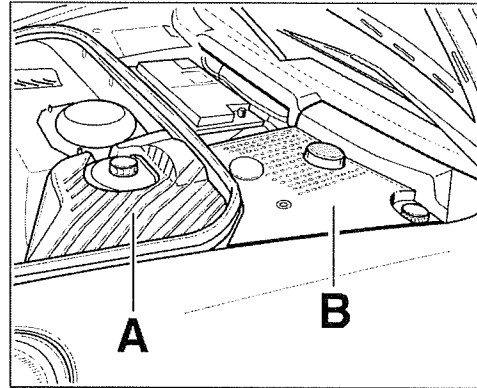
Difference in the push rods:

- ♦ Push rods **-12.1-** with thread and fastening nut **-13.1-** in place of push rod **-12-** with retainer **-13-**.
- ♦ A guide for the bellows **-arrow-** is present in the previous push rod **-9-**. A guide is not present and not permissible in the new push rod **-9.1-**!



## Removal

1. Switch off ignition. Remove cover **-A + B-** and battery cover. ▶
2. Remove spare wheel (if present).

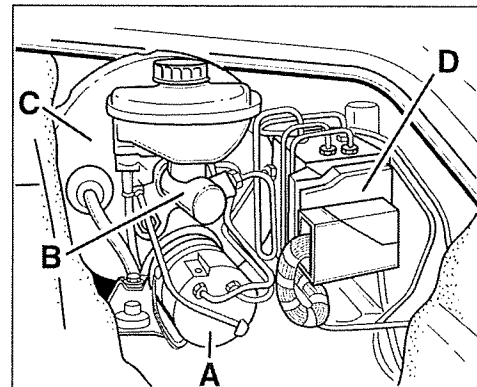


3. Remove brake booster **-C-** ⇒ 47-10 "Removing and installing brake booster". ▶

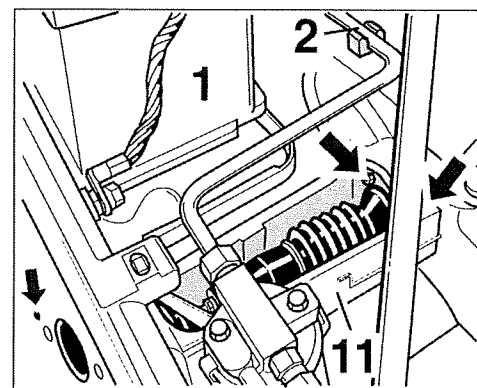


### Note!

- ♦ To remove and install brake booster **-C-**, the brake master cylinder **-B-**, the hydraulic unit **-D-** and the booster pump **-A-** in vehicles with PSM must be removed!
- ♦ The assembly of the brake master cylinder **-B-** with the brake booster **-C-** must not be disconnected for removal and installation if both parts should be continued to be used!



4. Remove battery **-1-** (necessary to remove intermediate piece no. 11)! Remove alarm horn on the intermediate piece **-11-**. ▶
5. Undo intermediate piece **-11-** **-arrow-** (2 M8 nuts and hexagon socket head bolt) and remove in the direction of the battery. Unclip air-conditioning line **-2-** from the holder.

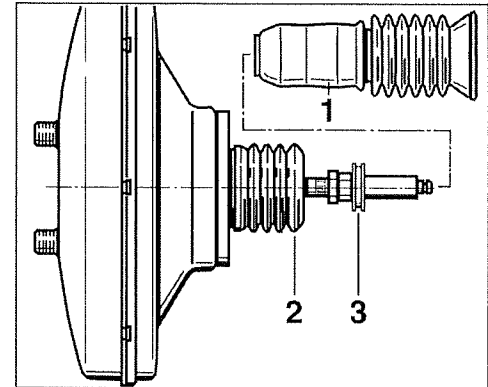




6. Remove the bellows **-1-** on the fire wall and the bellows **-2-** on the brake booster. Pull off the grommet (rubber groove ring) **-3-**.

**i** **Note!**

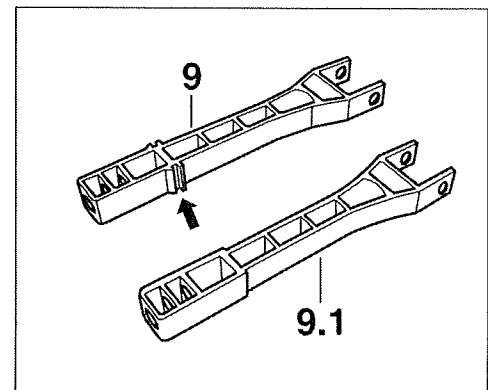
The grommet **-3-** is not replaced!



7. Undo brake pushrod **-9-** on the brake pedal and remove.

**i** **Note!**

The former brake pushrod **-9-** with guide (double rib) **-arrow-** is to be replaced with the brake pushrod **-9.1-** without guide!



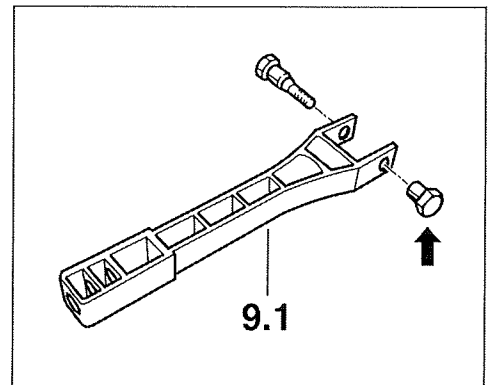
## Fitting

**!** **Caution!**

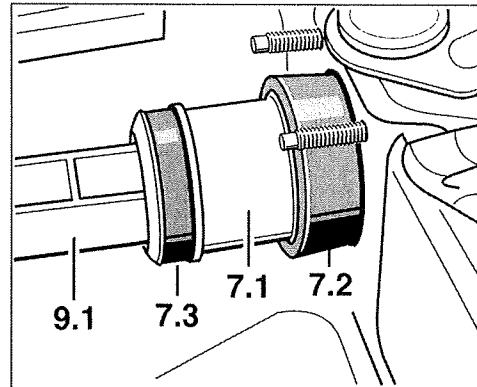
**Material damage to the connection to the brake pedal if the tightening torque used on the connecting pin is too great!**

- **It is essential to observe the specified tightening torque on the connection thread bushing/pin!**

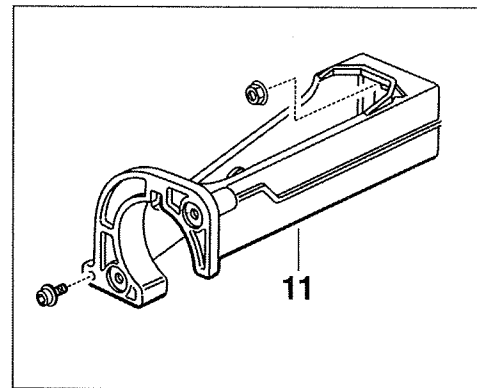
1. Install new brake pushrod **-9.1-**. Tighten the threaded bushing **-arrow-** of the pin to 10 Nm (7.5 ftlb.) (Please observe!) ▶



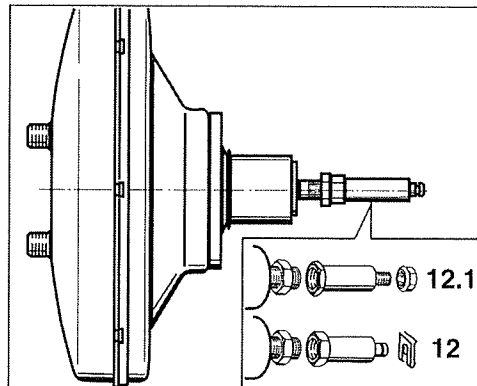
2. Insert seal **-7.2-** (without lubricant) into the firewall. It is essential to ensure correct seating! Then insert (push in) the connection sleeve **-7.1-** into the seal **-7.2-** using rubber sliding compound for example Capella or tyre mounting paste. Recheck that it is seated correctly and correct if necessary!
3. Mount seal **-7.3-** and coat with Capella or tyre mounting paste.



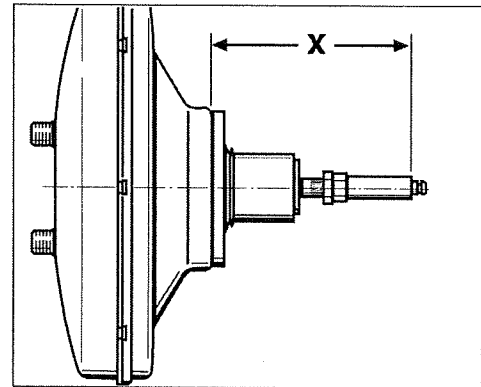
4. Mount intermediate piece **-11-** (2 M8 nuts and hexagon socket head bolt). Tightening torque of the 2 M8 nuts = 23 Nm (17 ftlb.)
5. Install battery.



6. Install new pushrod (if not already present) **-12.1-** in place of **-12-**. When doing so, observe installation dimension X (138 mm).



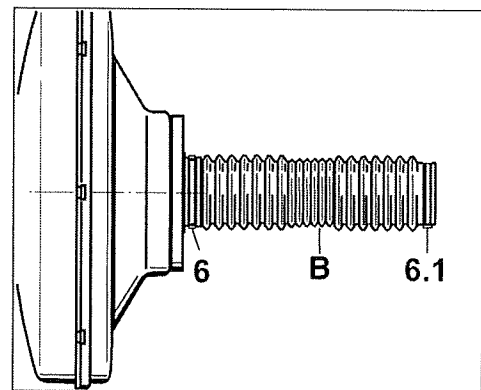
Basic setting of the push rod **-dimension X-** is 138 mm (set in new brake boosters)! If necessary, correct during the relevant work! ▶



7. Install brake booster and brake master cylinder with mounted bellows **-B-** and tightened clamps **-6-**. ▶

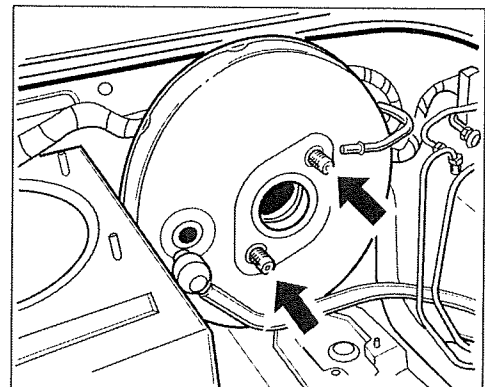
**i Note!**

*Before using the brake booster, push the screw clamp **-6.1-** onto the bellows **-B-** or onto the brake pushrod!*



8. Tighten fastening screws of brake booster (Torx T 45) **-arrow-** to 23 Nm (17 ftlb.). Fit the vacuum line for the brake booster. ▶

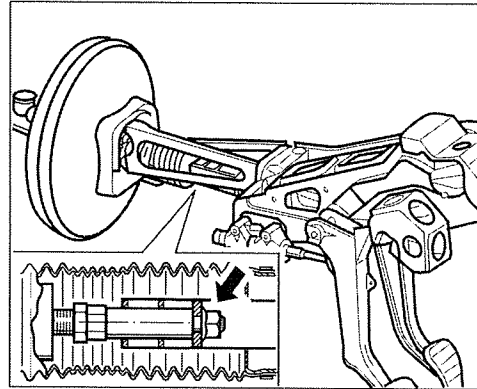
– If the brake master cylinder has been removed, tighten the fastening nuts (M14) to 49 Nm (36 ftlb.).



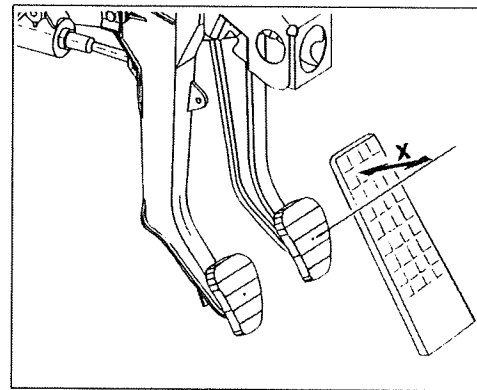
9. Connect the 2 push rods. To do so, mount the fastening nuts **-arrow-** ▶

**i Note!**

- ◆ Adjusting the brake pushrod length changes the position of the brake pedal.
- ◆ Perform a fine adjustment of the brake pushrod if the correct position of the brake pedal is not given!
- ◆ After the brake pushrod is adjusted, check the brake light switch adjustment!



10. Check the position of the brake pedal **-Dimension X = 45 + 5 mm-** ▶ Perform measurement between the centre of the brake pedal plate and the accelerator. Perform a fine adjustment of the brake pushrod if the correct position of the brake pedal is not given.



- Precise adjustment of brake pushrods: Undo the lock nut for this purpose and the turn the push rod accordingly at the hexagon **-arrow-** until **-dimension X = 45 + 5 mm-** has been achieved. Subsequently re-tighten the the lock nut. ▶

