

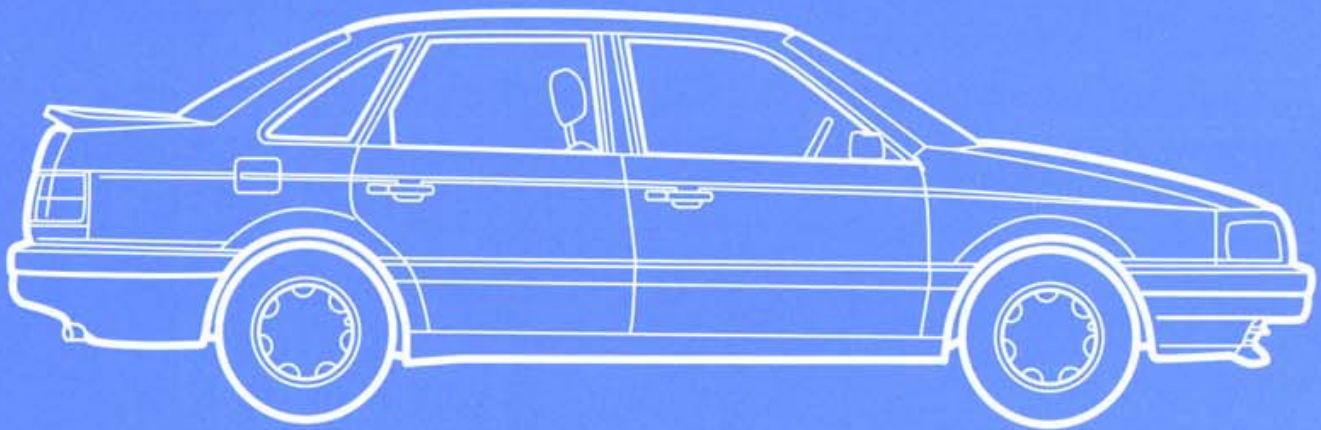


Volkswagen Passat

Official Factory Repair Manual

1990, 1991, 1992, 1993, 1994

4-cylinder (16V, G60, and diesel), 6-cylinder (VR6)
including wagon and Syncro



Bentley Publishers

Contents:

Version 96.01

General, Engine

- 2.0L 16V 4-cylinder (code 9A)
- 2.8L VR6 (code AAA)
- 1.9L Diesel (Canada) (code AAZ)
- 1.8L 4-cylinder G60 (code PG)
- Engine Electrical

Fuel Supply, Turbocharger, Fuel Injection, Exhaust, Ignition

- 2.0L 16V 4-cylinder (CIS-E Motronic)
- 2.8L VR6 (Motronic)
- 1.9L Diesel (Canada)
- 1.8L 4-cylinder G60 Syncro (Canada) (Digifant)

Transmission

- Manual Transmission 02A
- Manual Transmission 02C Syncro (Canada)
- Automatic Transmission 096

Suspension, Brakes, Wheels, Steering

- Suspension-Wheels-Brakes-Steering
- Suspension-Wheels-Brakes-Steering Syncro (Canada)

Body

- Body Exterior
- Body Interior

Heater & Air Conditioning

- Heater-Air Conditioner (R12)
- Air Conditioner (R-134a)

Electrical Equipment

- Radio-Wipers-Lights-Switches-Wiring

Troubleshooting

- Using VAG Diagnostic Testers

Wiring Diagrams

**Volkswagen B3 Passat
General-Engine 4 CYL.
10 Engine - Assembly (Page GR-10)**

Engine removing and installing

- [removing](#)
- [installing](#)

Engine and transmission mounts

- [adjusting](#)

Transmission mount

- [tightening torques](#)

Vehicles with Air Conditioning

- [additional assembly steps and notes](#)

Volkswagen B3 Passat General-Engine 4 CYL. Engine, removing/installing (Page 10-1)

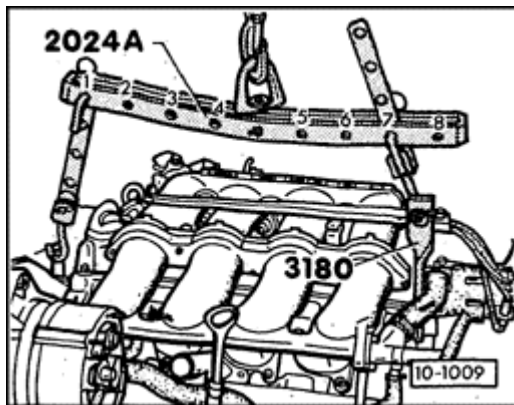
Removing

- Remove the battery from the vehicle
- Remove the lock support
- Remove the engine/transmission as an assembly from the top
- Deactivate the radio using the anti-theft code supplied by the customer

Note

All tiewraps that are loosened or cut during engine removal must be reinstalled in the exact same place and orientation

- Unbolt the power steering pump bracket



- Attach engine sling 2024A using bracket 3180 as follows and then lift slightly using crane
 - drivebelt side: 4th hole of hook in position 1
 - flywheel side: 1st hole of hook in 7th position

CAUTION!

Always install safety pins in the hook and alignment pins.

**Volkswagen B3 Passat
General-Engine 4 CYL.
Engine, removing/installing (Page 10-2)**

Note

- *holes marked 1 through 4 on the bracket point towards the pulley*
- *the holes in the bar are numbered starting at the hook*
- *the engine/transmission assembly must be guided carefully out of the engine compartment to avoid causing damage to the body*
- *if performing repair work to the engine, attach the block to an engine stand using VW 540 engine mounting adaptor*

Installing

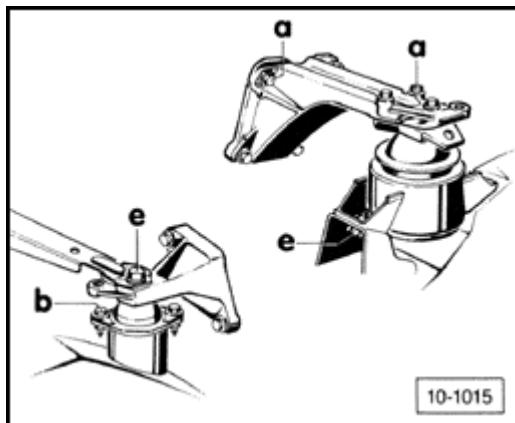
- Check the clutch release bearing for wear, replace if necessary
- Lubricate the clutch release bearing, guide sleeve for the clutch release bearing and drive shaft gears using G 000 100
- Check if fitted sleeves for centering engine/ transmission are installed, install if necessary

Volkswagen B3 Passat
General-Engine 4 CYL.
Engine, removing/installing (Page 10-3)

- First tighten the rear engine mount, then tighten the transmission support
- Loosen the rubber bonded bushing at the front of the engine, align (free of tension) then tighten to engine mount and bracket
- Fill engine with new coolant, ⇒ [Repair Group 19](#)
- Adjust throttle cable, ⇒ [Repair Group 20](#)
- Install power steering pump, ⇒ [Repair Group 48](#)
- Install A/C compressor, ⇒ Repair Group 87
- Check ignition timing point and adjust if necessary, ⇒ [Repair Group 28](#)
- Check idle speed, ⇒ [Repair Group 25](#)
- Route and connect wiring, ⇒ [Repair Group 97](#)
- Check headlamp aim, correct as necessary
- Check adjustment of cable switch, ⇒ [Repair Group 34](#)

**Volkswagen B3 Passat
General-Engine 4 CYL.
Transmission mount, tightening torques (Page 10-4)**

Tightening torques:	
Engine to transmission	M10: 60 Nm (44 ft lb)
Engine to transmission	M12: 80 Nm (59 ft lb)
Flywheel shield	M7: 10 Nm (7 ft lb)
Steering shaft to flange shaft	45 Nm (33 ft lb)
Exhaust pipe to elbow	40 Nm (30 ft lb)
Power steering pump bracket	25 Nm (18 ft lb)



Tightening torques (threads coated with oil):

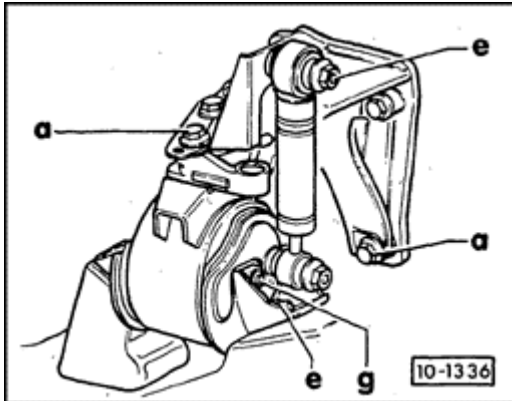
- left view = transmission mount
- right view = rear engine mount

a = 25 Nm (18 ft lb)

b = 30 Nm (22 ft lb)

c = 60 Nm (44 ft lb)

Volkswagen B3 Passat
General-Engine 4 CYL.
Transmission mount, tightening torques (Page 10-5)

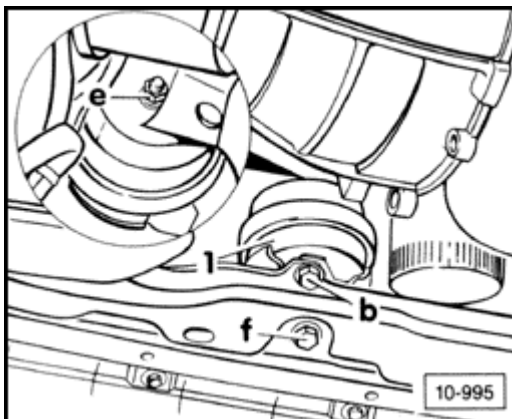


Rear engine mount with rubber bonded bushing and vibration damper

a = 25 Nm (18 ft lb).

b = 60 Nm (44 ft lb)

c = 80 Nm (59 ft lb)



Front engine mount

b = 30 Nm (22 ft lb)

e = 60 Nm (44 ft lb)

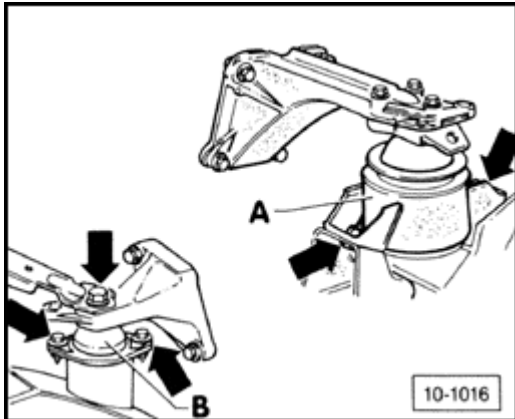
f = 70 Nm (52 ft lb)

Engine mount to side member (M19 x 62): 80 Nm (59 ft lb)

Note

To repair the nut for the rear engine mount mounting bolt, ⇒ [Repair Group 40](#)

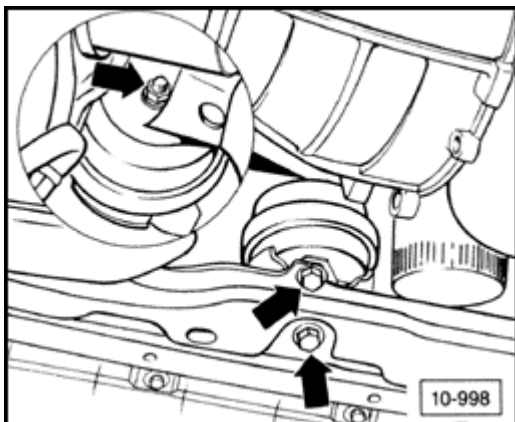
Volkswagen B3 Passat
General-Engine 4 CYL.
Engine and transmission mounts, adjusting (Page 10-6)



Note

Adjustment is necessary if the engine and transmission have been removed or if the bonded rubber bushing has been loosened from the mounts.

- Loosen rubber bushing **A** on engine mount
- Loosen rubber bushing **B** on transmission mount



- Loosen rubber bushing on front engine mount and bracket
- Adjust mounts by shaking engine without tension then re-tighten bolts in same sequence as loosening, for torques ⇒ [page 10-4](#)

Volkswagen B3 Passat

General-Engine 4 CYL.

Vehicles with A/C, additional assembly steps and notes (Page 10-7)

CAUTION!

For normal engine removal and installation, do not open the A/C circuit.

To remove and install the engine without opening the A/C circuit, remove the A/C compressor and fasten to one side such that the hoses are relieved of any stress. Coolant lines are sensitive to kinking.

The coolant lines may only be opened in shops having trained personnel and the proper tools and equipment. See Repair Group 87 for additional information regarding the Air conditioning system.