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Corrosion protection

- engine 10.27

Engine

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- tightening torques 10.25

Transmission

- aligning 10.26

Engine code 3B-20V Turbo

Corrosion protection

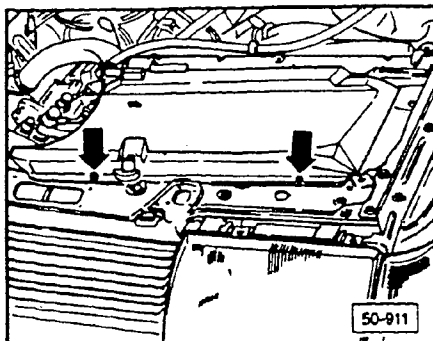
- engine 10.27

Engine

- installing 10.33
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Note

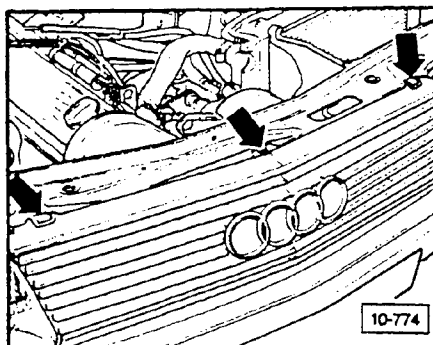
Remove engine from top without transmission.



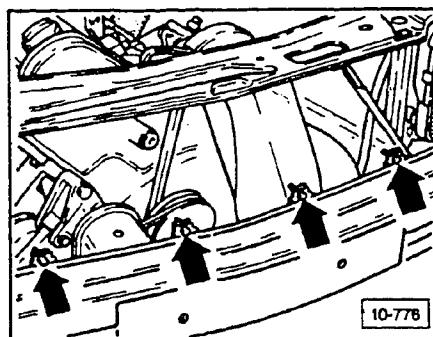
Engine, removing

Engine code MC

- disconnect battery ground strap
 - battery located under cover in right side plenum chamber.
- remove upper radiator cover (**arrows**)

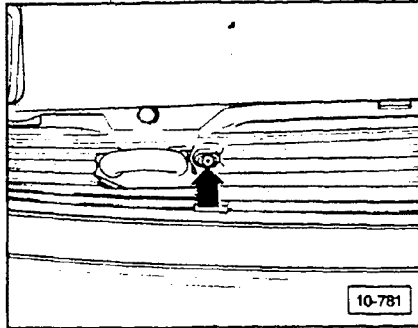


- unclip (**arrows**) and remove radiator grille

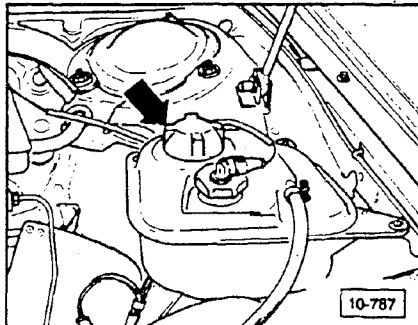


- unclip (**arrows**) and remove bumper strip

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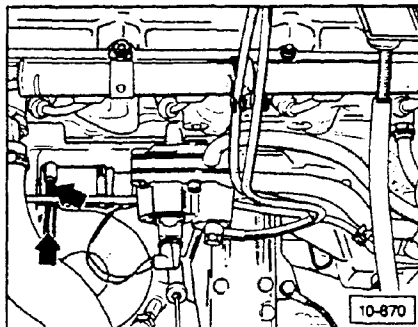
- unscrew (**arrow**) and remove ventilation grille under bumper
- disconnect wiring harness inside bumper
- disconnect wires for turn signals and headlights
- remove bumper (see Repair Group 63)



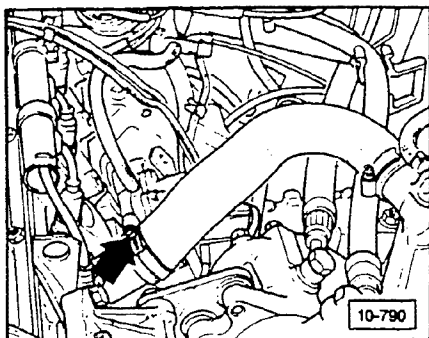
- remove cap (**arrow**) on coolant expansion tank

CAUTION

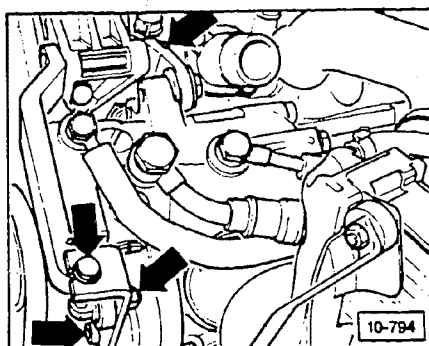
Coolant/antifreeze **must not** be reused when replacing engine, cylinder head, cylinder head gasket, radiator and heater core.



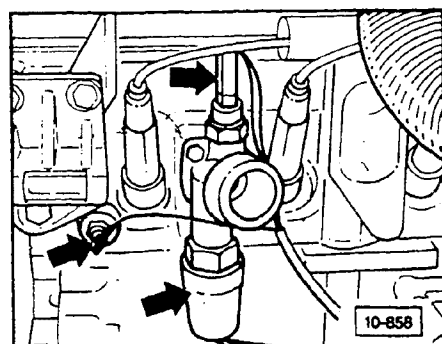
- drain coolant by loosening clamps (**arrows**) and pulling off hoses
 - save coolant for reuse (see **CAUTION**)



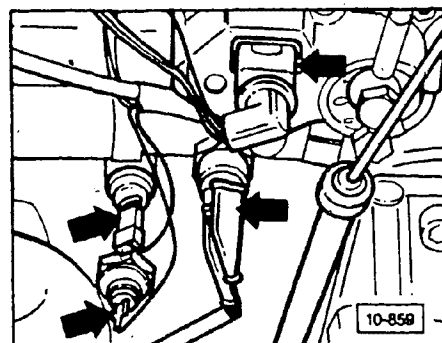
- remove upper radiator hose (arrow)
- pull out windshield washer fluid reservoir and place in plenum chamber



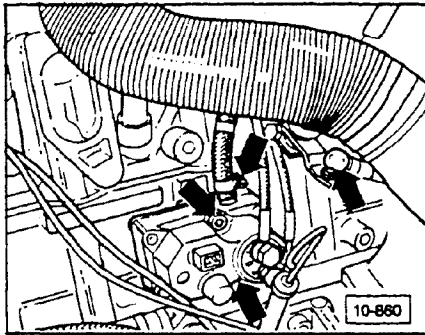
- loosen V-belt for power steering pump (arrows)
- remove power steering pump (with hoses connected)



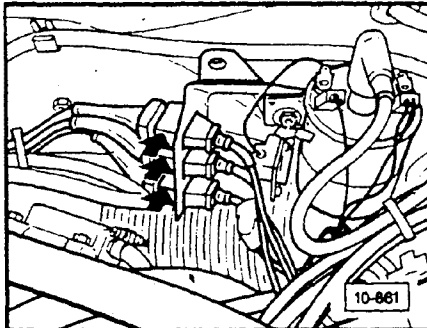
- disconnect thermoswitch (arrows)



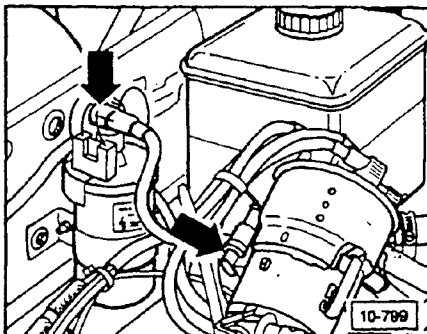
- disconnect oil pressure switch, warm up regulator (arrows)
- lay wires to one side



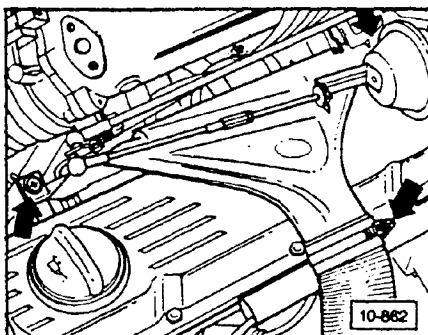
- remove vacuum hose (**top arrow**) from warm-up regulator
- remove warm-up regulator (**left, bottom arrows**) and lay to one side
- pull off ball socket of accelerator linkage (**right arrow**)



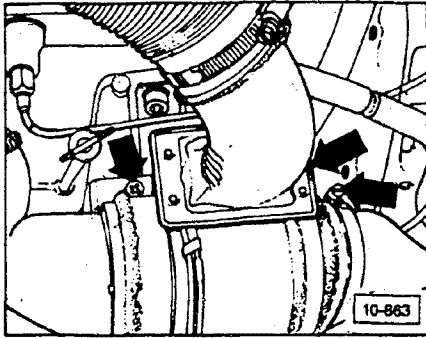
- disconnect engine speed sensor (gray wire), reference mark sensor (black wire), and knock sensor (red wire) from cross panel (**arrows**)



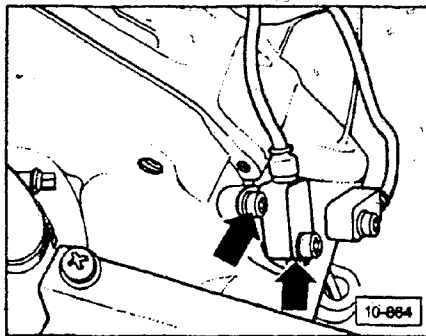
- disconnect terminal 4 from ignition coil (**top arrow**)
- remove distributor cap
- press securing clip on connector and disconnect Hall sending unit (**bottom arrow**)



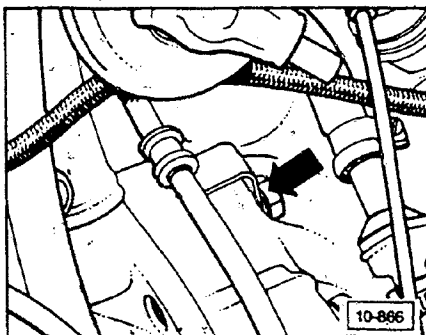
- remove air guide-plate for injector cooling (**arrows**)



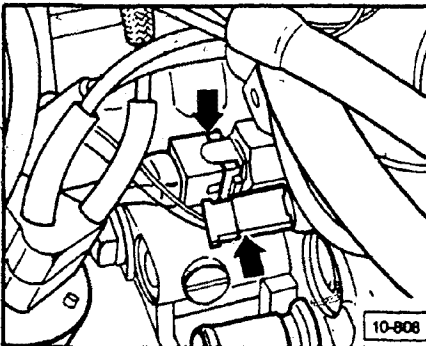
- remove fan for injector cooling (**arrows**)



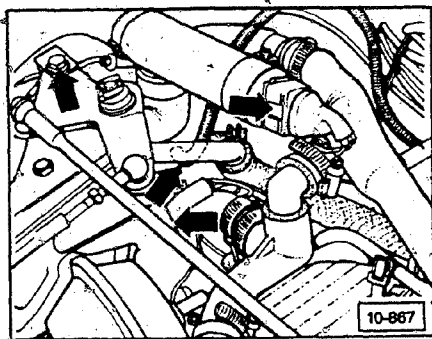
- remove mount for engine-speed and reference-mark sensor (**arrows**)
- loosen ground strap on left engine mount, under fan mounting
- loosen hoses on coolant tube (not shown)



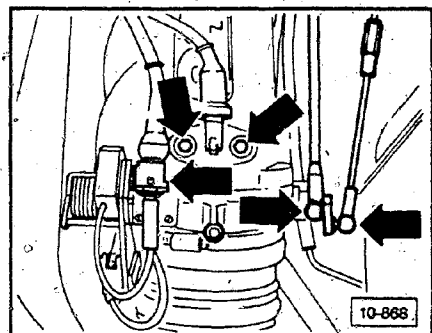
- loosen bracket for coolant tube (**arrow**), remove coolant tube



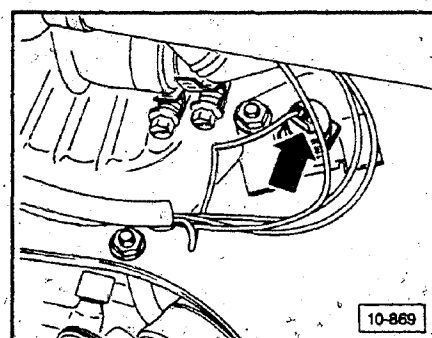
- disconnect thermo time switch, temperature sensor (**arrows**)



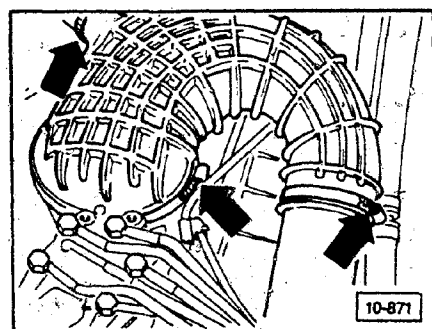
- remove cruise control vacuum line (center arrow)
- disconnect cold start valve and idle stabilizer
- disconnect electrical ground lead and retainer attached to accelerator linkage (left arrow)
- disconnect vacuum line to electronic control unit
- remove cold start valve



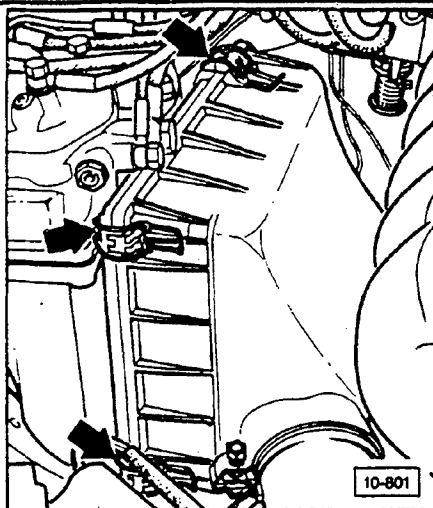
- detach linkage for cruise control and accelerator cable (bottom right arrows)
- disconnect throttle valve switch (lower left arrow)
- remove air temperature sensor (top arrow)
- cover opening in intake manifold and intercooler
- lay wiring to one side



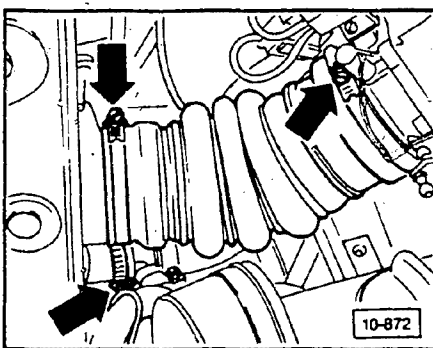
- disconnect thermoswitch (arrow) on deflection shield of bleeder valve
- lay wire to one side
- remove injectors from cylinder head
- remove air hose from cylinder head



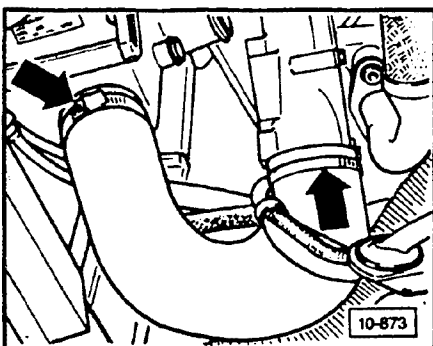
- loosen clamps (arrows) and remove air duct



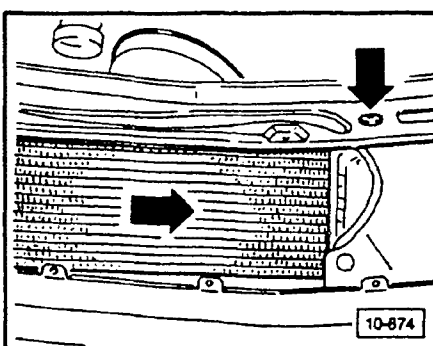
- unclip air cleaner cover (arrows)



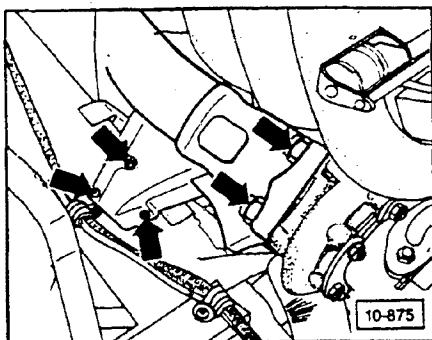
- loosen clamps (**top arrows**) and remove hose between throttle valve and intercooler
- loosen clamp (**bottom arrow**) and remove hose for idle stabilizer on intercooler



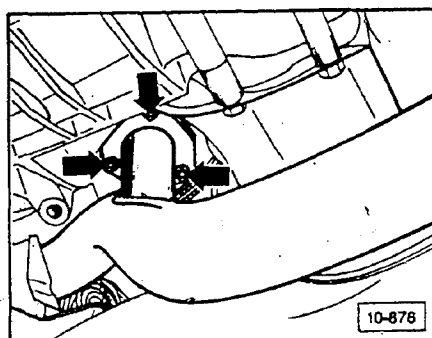
- loosen clamps (**arrows**) and remove hose between turbocharger and intercooler



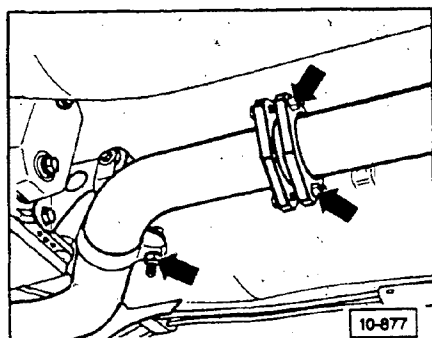
- remove intercooler (**arrows**)



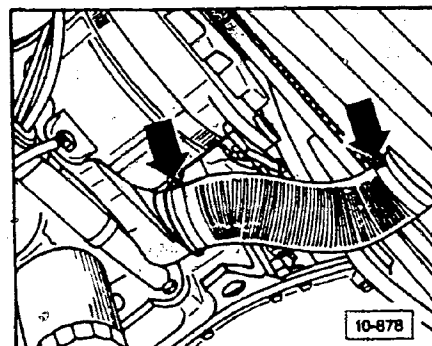
- remove exhaust pipe (right arrows) from turbocharger
- remove heat shield (left arrows)



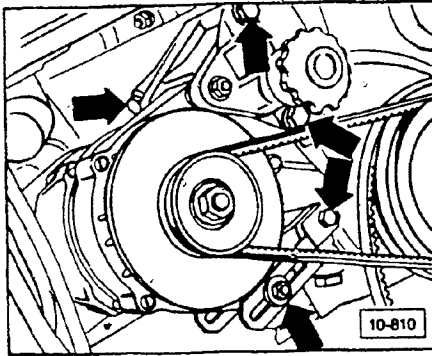
- disconnect exhaust pipe from corrugated tube (arrows)



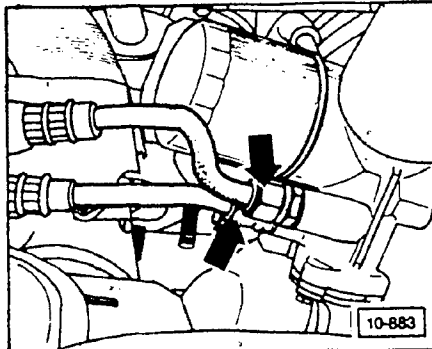
- disconnect exhaust pipe from transmission mount (left arrow) and muffler (right arrow)



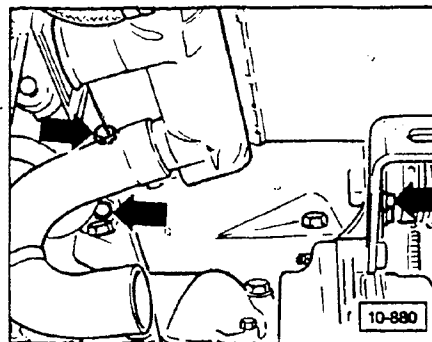
- loosen clamps (arrows) and remove cooling air hose for alternator



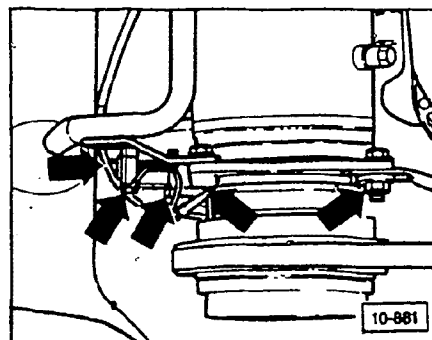
- loosen alternator V-belt (**arrows**)
- remove alternator and tie back with wire (leave wires connected)
- remove starter and tie back with wire (leave wires connected)



- remove oil cooler hoses from oil filter housing (**arrows**)

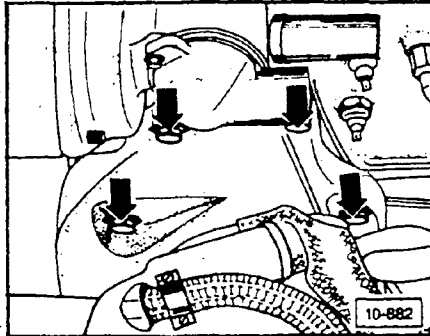


- loosen bolts (**arrows**) on A/C compressor bracket and loosen A/C compressor belt

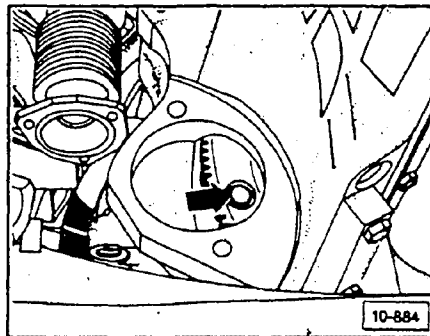


- loosen lower A/C compressor bracket bolts (**right arrows**)
- disconnect (**left arrows**) A/C magnetic clutch
- remove A/C compressor V-belt
- evacuate freon (see Group 87) and remove A/C compressor

Engine – Assembly

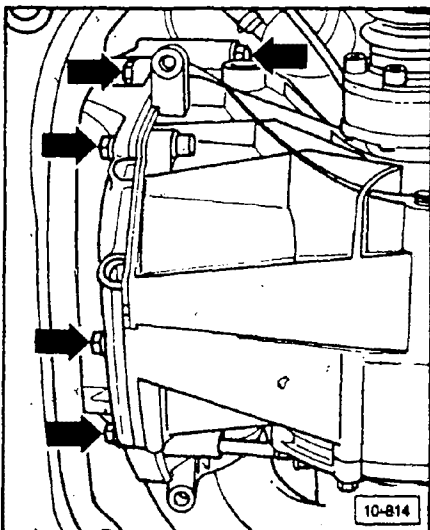


- remove A/C compressor bracket (arrows)



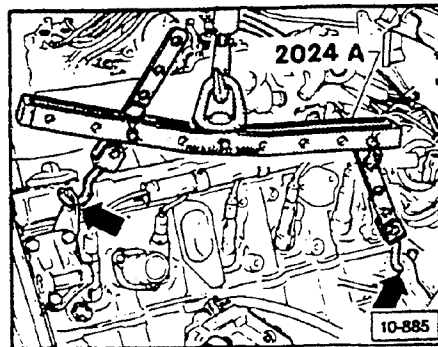
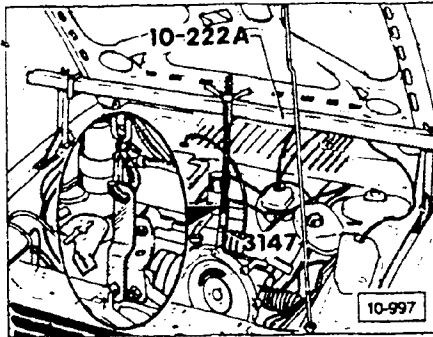
Vehicles with automatic transmission

- remove three bolts from torque converter (arrow)



- remove lower engine/transmission bolts (arrows)
- remove left upper engine/transmission bolt
- remove distributor cap, lay to side

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CAUTION

Use cotter pins on hooks and holding pins (**arrows**) to secure.

- position tool 10-222A
- place tool 3147 into position without damage to ignition wires
- insert tool 3147 into empty hole
- position support bar 10-222A on inner fender mounting area
- attach draw hook (**Insert**)
- raise/lower transmission with wing nut to desired height
- disconnect left/right engine mounts
- remove engine/transmission connecting bolts

- attach engine sling (**as shown**) and take weight with crane

Pulley side (**left arrow**)

First hole in vertical at position 3

Flywheel side (**right arrow**)

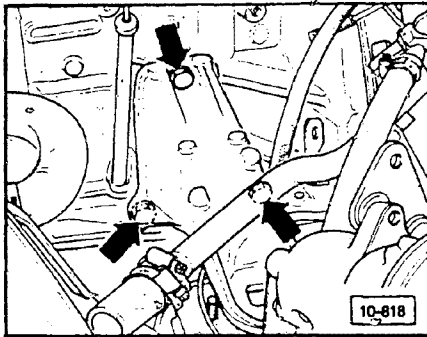
Fourth hole in vertical bar at position 8

The positions marked 1-4 on the bar must be towards the pulley side. The holes in the hooks are counted **upwards** from the hook.

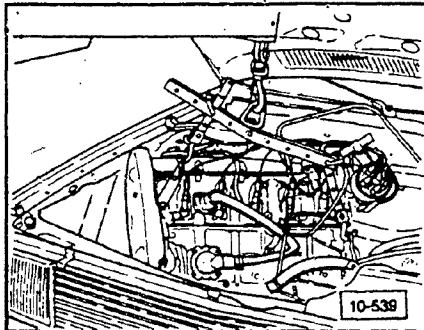
CAUTION

Guide engine carefully when lifting to avoid damage to body.

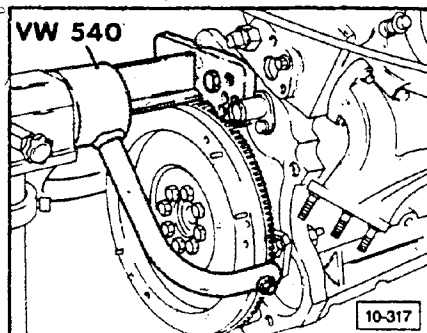
Engine – Assembly



- lift engine until load is taken off engine mounts
- remove left engine mount (**arrows**)
- raise/lower transmission with wing nut to desired height
- pry engine/transmission apart



- lift out engine



- attach engine to stand with engine mount **VW 540**

CAUTION

Do not measure cylinder bore when cylinder block is mounted to work bench with engine mount **VW 540** (see Repair Group 13).

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Tightening torques

Engine/transmission

M 8	20 Nm (15 ft lb)
M 10	45 Nm (33 ft lb)
M 12	60 Nm (44 ft lb)

Torque

converter to driven plate 35 Nm (26 ft lb)

Exhaust pipe to transmission mount 25 Nm (18 ft lb)

Exhaust pipe to exhaust manifold 30 Nm (22 ft lb)

Engine mount to body 70 Nm (52 ft lb)

Torque stay rod to engine 45 Nm (33 ft lb)

Engine support to engine bearing 45 Nm (33 ft lb)

Connecting piece to engine 20 Nm (15 ft lb)

Stop to cross member, lower 45 Nm (33 ft lb)

Alternator to engine M8 20 Nm (15 ft lb)

Alternator to bracket M8 20 Nm (15 ft lb)

Power steering pump 20 Nm (15 ft lb)

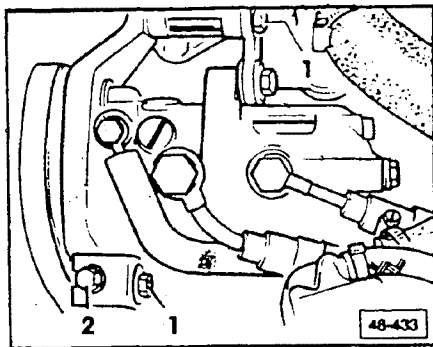
Vibration damper on crankshaft 350 Nm (258 ft lb)

Vibration damper to V-belt pulley 20 Nm (15 ft lb)

Engine, installing

Install in reverse order of removal. Note the following:

- check and ensure that the dowels for centering engine/transmission are in cylinder block
- check clutch release bearing for wear, replace if necessary
- lubricate clutch release bearing, driveshaft splines lightly with **MoS₂** grease
- replace self-locking nuts
- adjust accelerator cable (see Repair Group 20)
- refill coolant (see Repair Group 19)
- adjust exhaust system, without tension (see Repair Group 26)
- adjust alternator V-belt (see Repair Group 13)



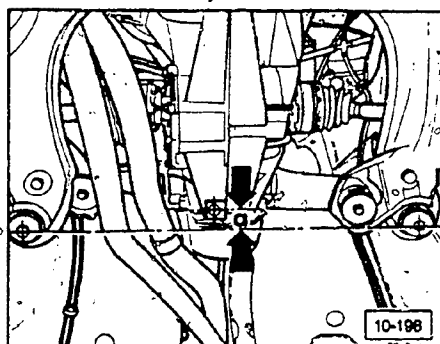
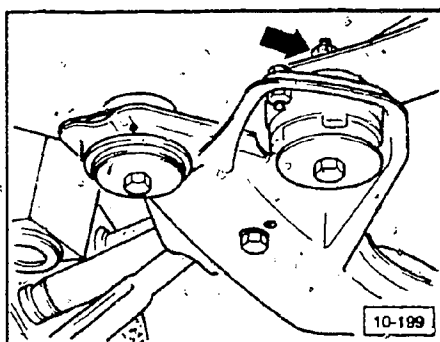
- adjust power steering pump V-belt (see Repair Group 48)
- 1 — securing nuts
- 2 — adjusting nut

Note

The V-belts for the A/C compressor and alternator must be removed before the power steering pump V-belt can be changed.

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Engine/transmission, aligning



Note

Realignment is only necessary if engine and transmission were removed. If only engine was removed, tighten engine mounts while engine is running at idle speed.

Engine and transmission cannot be adjusted laterally or vertically.

- loosen both transmission support mounting nuts (**arrow**) on bonded rubber mounts
- loosen both mounting nuts at left and right engine mounts
- move transmission and engine backward or forward into correct position

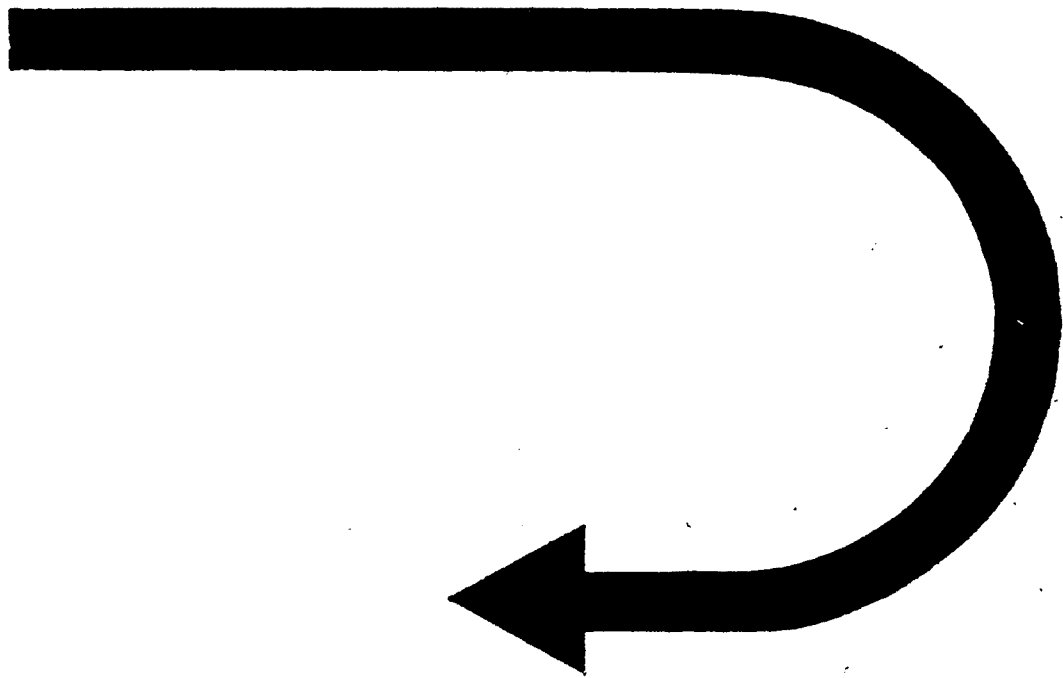
Manual transmission

- $a = 29.4 \text{ mm} \pm 1.5 \text{ mm}$
($1 \frac{3}{32} \pm \frac{1}{16} \text{ in.}$)

Automatic transmission

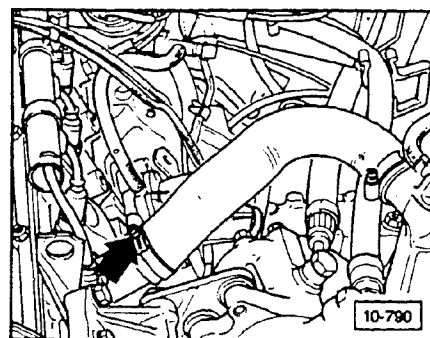
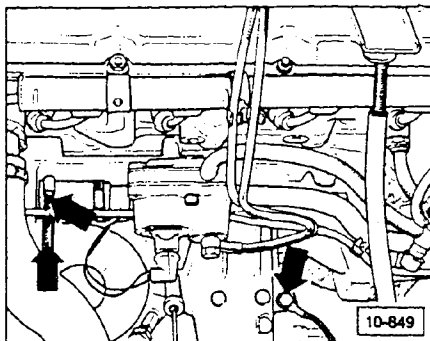
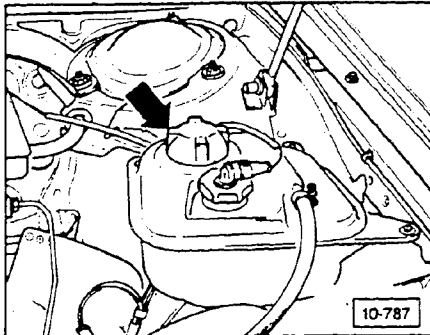
- $a = 127.4 \text{ mm} \pm 1.5 \text{ mm}$
($4 \frac{61}{64} \pm \frac{1}{16} \text{ in.}$)

CONTINUED IN THE
BEGINNING OF NEXT ROW



Note

Remove engine from top without transmission.



Engine, removing

Engine code NF

- disconnect battery ground strap
 - battery is located under cover in right side plenum chamber
- remove upper radiator cover
- remove cap (**arrow**) on expansion tank

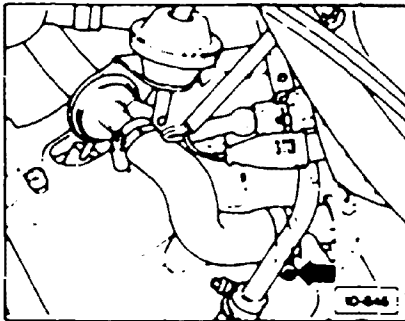
- drain coolant by loosening clamps (**arrows**) and pulling off hoses
 - save coolant for reuse (see **CAUTION**)

CAUTION

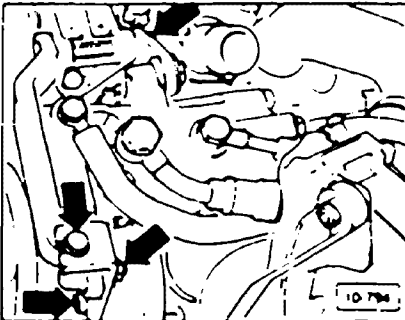
Coolant/antifreeze must not be reused when replacing engine, cylinder head, cylinder head gasket, radiator and heater core.

- remove rear mounting bolt for coolant tube
- loosen ground strap from left engine mount (**right arrow**)
- disconnect warm-up regulator
- remove upper radiator hose (**arrow**)
- pull out windshield washer fluid reservoir and place in plenum chamber

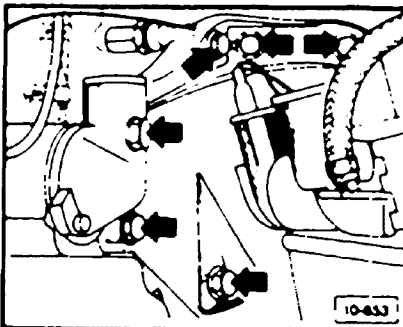
Engine – Assembly



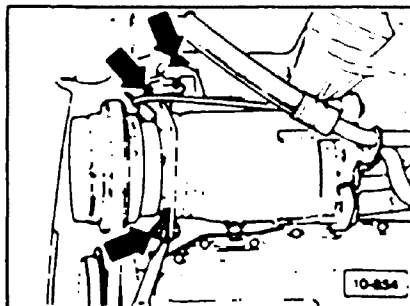
- loosen coolant hose to heater at rear of engine block (arrow)



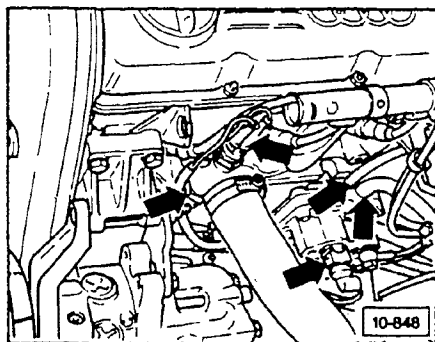
- loosen V-belt for power steering pump (arrows)



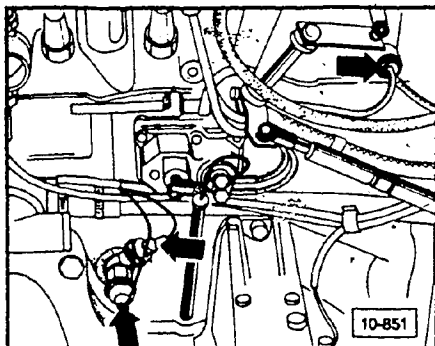
- remove power steering pump (leave hoses connected)



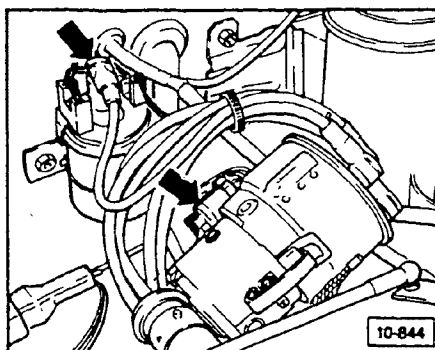
- remove A/C compressor V-belt
- remove A/C compressor (arrows) and tie back with wire (leave hoses connected)



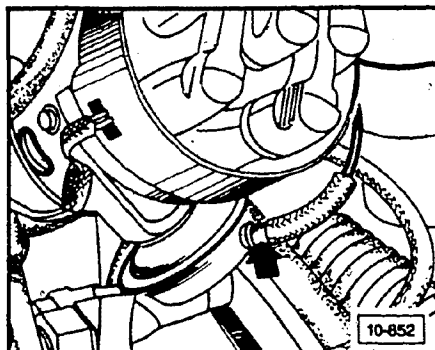
- disconnect and remove thermoswitch (arrow)
- disconnect warm-up regulator and remove hoses (right arrows)



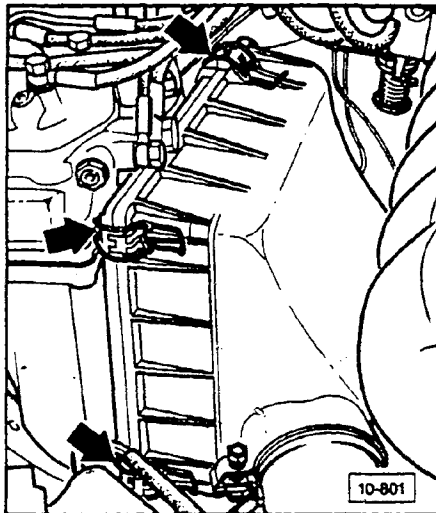
- remove vacuum hoses from thermo-pneumatic valve (slanted green connector, straight connector to T-piece) (top arrow)
- remove thermo-pneumatic valve
- disconnect oil pressure switches (lower arrows)
- lay wiring to one side



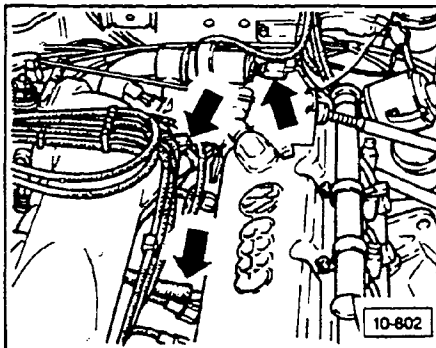
- disconnect terminal 4 from ignition coil (arrow)
- remove distributor cap
- press securing clip on connector (arrow) and disconnect Hall sending unit



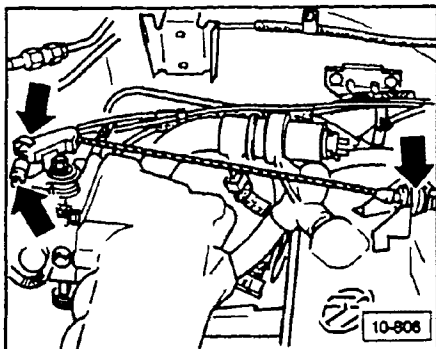
- remove vacuum hose from ignition distributor (arrow)



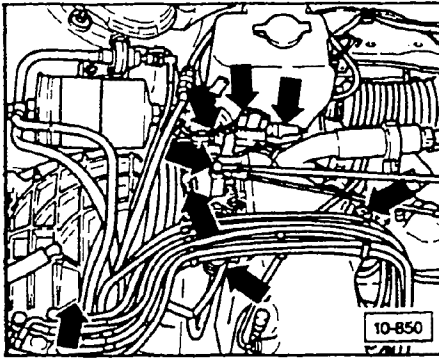
- unclip air cleaner cover (arrows)



- remove injectors from cylinder head
- remove air hose from cylinder head (lower arrow)
- disconnect control valve for idle stabilizer (top right arrow)
- lay wire to one side

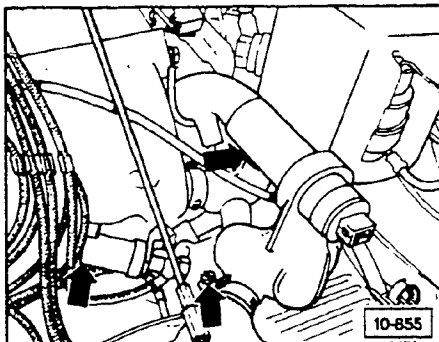


- disconnect and remove accelerator cable at throttle valve (left arrow). Pull through support, remove safety clip on cam disc (right arrow)

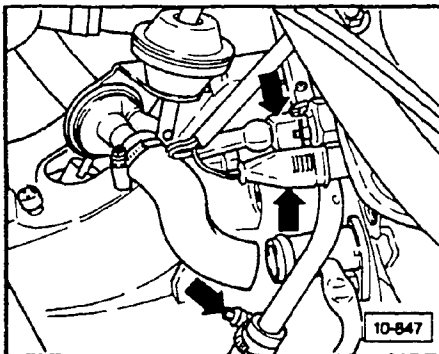


Vehicles with automatic transmission

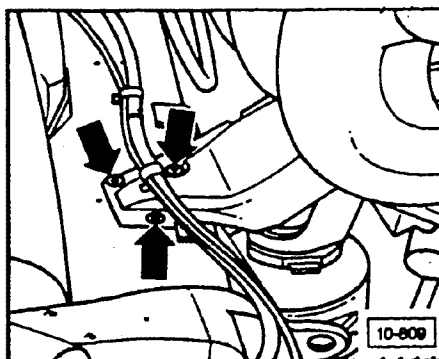
- disconnect cold start valve, throttle switch, Lambda sensor, and full-load switch (**top arrow**)
- disconnect accelerator linkage (**center arrow**)
- remove vacuum hose on throttle valve (**bottom right arrow**)
- remove air shroud (**bottom left arrow**)



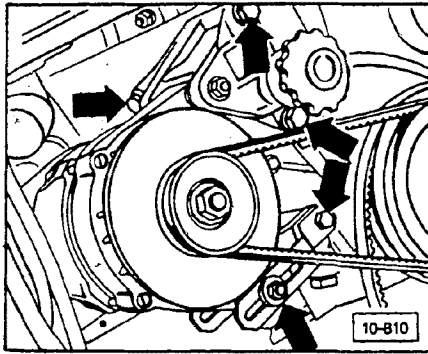
- remove crankcase ventilation hose from cylinder head cover (**top arrow**)
- remove hoses from idle stabilizer control valve (**bottom right arrow**)
- lay hoses to one side
- remove cold start valve (**do not disconnect, left arrow**)



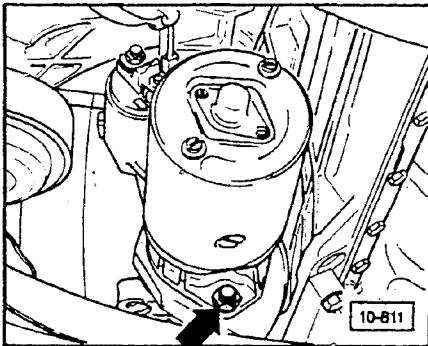
- disconnect thermo-time switch and temperature sensor
- remove upper engine/transmission connecting bolts
- remove upper starter bolt
- remove hoses from transmission oil cooler (**automatic transmission vehicles only — lower arrow**)



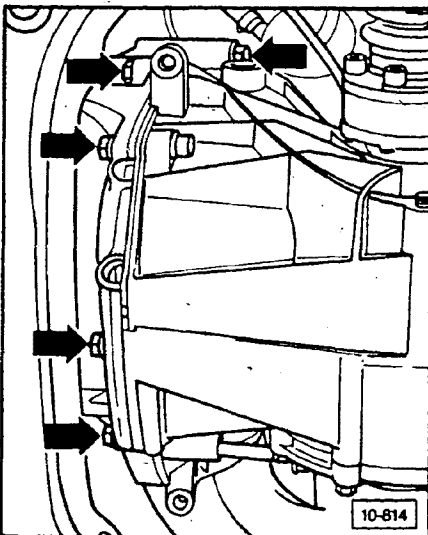
- remove right side engine mount cover (**arrow**)



- loosen alternator V-belt (**lower arrow**)
- remove alternator and tie back with wire (**leave wires connected**)

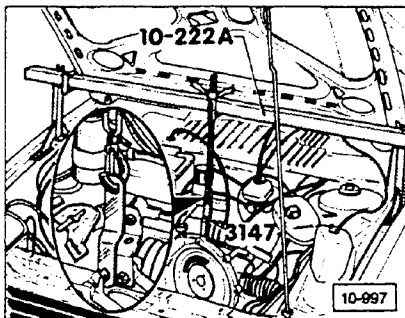


- remove starter (**arrow**) and tie back with wire (**leave wires connected**)
- remove front exhaust pipe from exhaust manifold and transmission mount



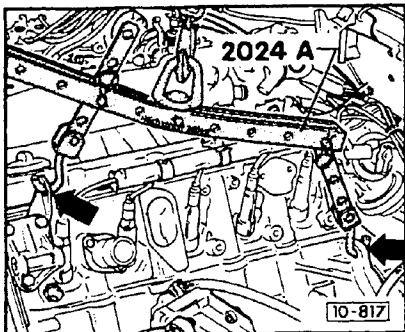
- remove lower engine/transmission bolts (**arrows**)
- remove left upper engine/transmission bolt
- remove distributor cap and lay to side

Engine – Assembly



CAUTION

Use cotter pins on hooks and holding pins (**arrows**) to secure.



- position tool **10-222A**
- place tool **3147** into position without damage to ignition wires
- insert tool **3147** into empty hole
- position support bar **10-222A** on inner fender mounting area
- attach draw hook (**Inset**)
- raise/lower transmission with wing nut to desired height
- disconnect left/right engine mounts
- remove engine/transmission connecting bolts

- attach engine sling (**as shown**) and take weight with crane

Pulley side (**left arrow**)

Second hole in vertical bar at position 3

Flywheel side (**right arrow**)

Fourth hole in vertical bar at position 8

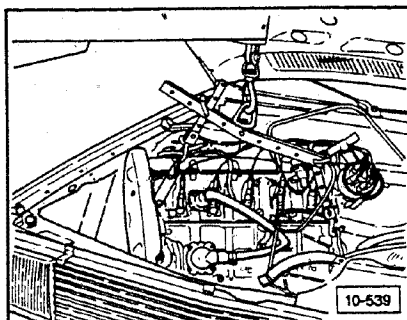
The positions marked 1-4 on the bar must be towards the pulley side. The holes in the hooks are counted **upwards** from the hook.

CAUTION

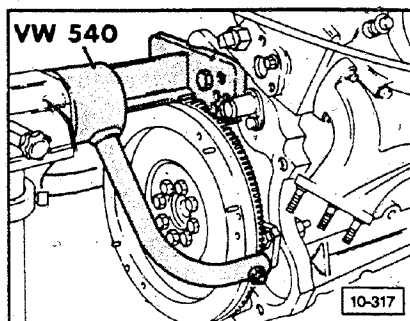
Guide engine carefully when lifting to avoid damage to body.

- lift engine until load is taken off engine mounts
- remove left engine mount
- tighten holding device, remove engine/transmission bolt, and rear clutch lever (**manual transmission only**)
- pry engine/transmission apart

Engine – Assembly



- lift out engine



- attach engine to stand with engine mount VW 540

CAUTION

Do not measure cylinder bore when cylinder block is mounted to work bench with engine mount VW 540 (see Repair Group 13).

Tightening torques

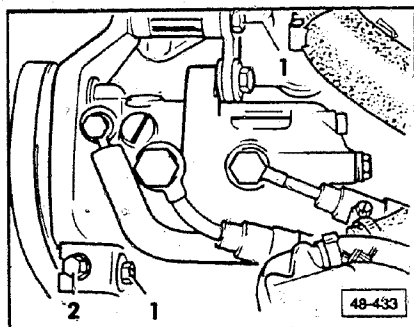
engine/transmission bolts	
M 8	20 Nm (15 ft lb)
M 10	45 Nm (33 ft lb)
M 12	65 Nm (48 ft lb)
torque converter to drive plate	
	30 Nm (22 ft lb)
exhaust pipe to transmission mount	
	25 Nm (18 ft lb)
exhaust pipe to exhaust manifold	
	30 Nm (22 ft lb)
power plant mount to body	
	70 Nm (52 ft lb)
torque stay rod to engine	
	45 Nm (33 ft lb)
engine bracket to engine bearing	
	45 Nm (33 ft lb)
connecting piece to engine	
	20 Nm (15 ft lb)
stop to cross member (lower)	
	45 Nm (33 ft lb)
alternator to engine M8	
	20 Nm (15 ft lb)
alternator to bracket M8	
	20 Nm (15 ft lb)
central hydraulic pump	
	20 Nm (15 ft lb)
vibration damper to crankshaft	
	350 Nm (258 ft lb)
vibration damper to V-belt pulley	
	20 Nm (15 ft lb)

Engine, installing

Install in reverse order of removal. Note the following:

- check and ensure that the dowels for centering engine/transmission are in cylinder block
- check clutch release bearing for wear, replace if necessary
- lubricate clutch release bearing, driveshaft splines lightly with MoS₂ grease
- replace self locking nuts
- adjust accelerator cable (see Repair Group 20)
- refill coolant (see Repair Group 19)
- adjust exhaust system, without tension (see Repair Group 26)
- adjust alternator V-belt (see Repair Group 13)

Engine – Assembly



- adjust power steering pump V-belt (see Repair Group 48)
- 1 — securing nuts
- 2 — adjusting nuts

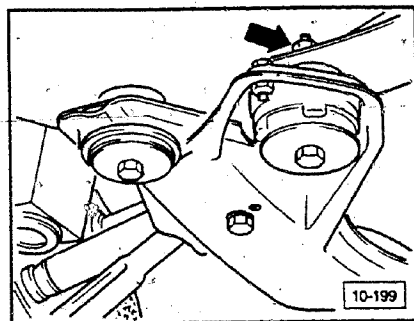
Note

The V-belts for the A/C compressor, and alternator must be removed before the power steering pump V-belt can be changed.

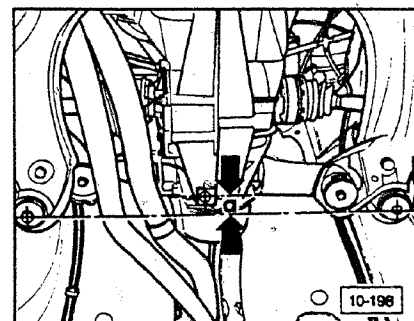
Engine/transmission, aligning

Note

Realignment is only necessary if engine and transmission were removed. If only the engine was removed, tighten engine mounts while engine is running at idle speed. Engine and transmission cannot be adjusted laterally or vertically.



- loosen both transmission support mounting nuts (**arrow**) on bonded rubber mounts
- loosen both mounting nuts at left and right engine mounts
- move transmission and engine backward or forward into correct position



Manual transmission

- $a = 29.4 \text{ mm} \pm 1.5 \text{ mm}$
($1 \frac{3}{32} \pm 1/16 \text{ in.}$)

Automatic transmission

- $a = 127.4 \text{ mm} \pm 1.5 \text{ mm}$
($4 \frac{61}{64} \pm 1/16 \text{ in.}$)

Corrosion protection, engine

WARNING

Follow all application and safety instructions on labels.

Note

When washing the engine compartment, only use commercially available grease cutting solvents made especially for this purpose.

If it becomes necessary to steam clean or wash the engine compartment, the wax-based protective coating is usually lost.

Reapply wax-based protective coating using Preservative wax **AKR 321 M15 4** (transparent), **AKR 321 M16 10** (transparent) or equivalent, to all engine compartment panels, seams, flanges, cavities and engine assembly surfaces.

CAUTION

Part numbers are for reference only.
Always check with your Parts Department for latest parts information.

THIS FRAME INTENTIONALLY LEFT

BLANK

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Engine, removing/installing

Removing

Engine code 3B

CAUTION

When working on the fuel supply/ injection system, carefully observe the following rules:

- 1 Thoroughly clean connection and surrounding areas before loosening connection.
- 2 After removing components, place in clean area and cover with foil or paper. Avoid using rags!
- 3 Components which have been opened or disassembled must be carefully covered or sealed if repair cannot be carried out immediately.

Note

Remove engine from top without transmission.

CAUTION

Always switch off ignition when disconnecting/reconnecting battery, or any part of Motronic ignition wiring system, to prevent damage to Motronic control unit.

CAUTION

Always obtain radio security code before disconnecting battery ground strap.

Engine – Assembly

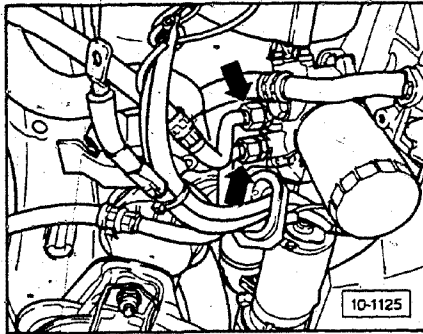
- disconnect battery ground strap
- remove engine hood
- remove radiator grille
- remove outside temperature sensor from upper apron (left side)
- remove bumper
- remove brake cooling air ducts

CAUTION

Coolant/antifreeze must not be reused when replacing engine, cylinder head, cylinder head gasket, radiator and heater core.

- drain coolant into an approved container
 - save coolant for reuse (**see CAUTION**)
- disconnect coolant hoses from auxiliary radiator
- remove auxiliary radiator from side mounting
- loosen wiring on front cross member
- remove pressure pipe from intercooler and pressure hose
- remove front cross member with auxiliary radiator and pressure pipe
- remove lower mountings between front panel and fenders
 - two self tapping screws on each side
- remove both lower radiator mounting bolts
- remove left lower bracket for horn and radiator
- remove lower side cowl
- remove lower radiator cowl
- unclip wiring harness from both sides of front panel
- remove rear alternator guard
- disconnect wiring from alternator and starter

Engine – Assembly



- remove and plug oil cooler hoses from oil filter housing (**arrows**)
- remove starter motor
- remove A/C compressor from mounting bracket, secure to left side member

CAUTION

Do not disconnect A/C freon lines.

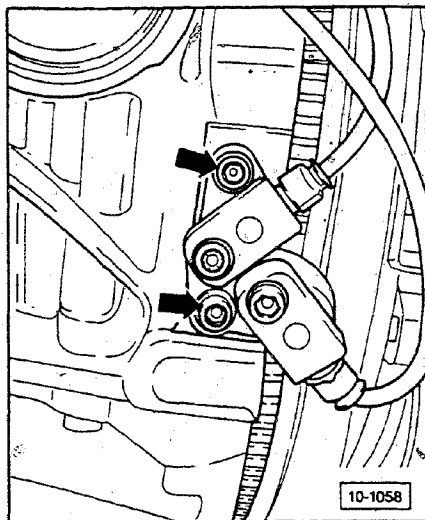
- disconnect wiring from oil pressure switch
- pull wiring harness for starter and alternator from between turbocharger and intercooler hose
- unscrew mountings between exhaust pipe and catalytic converters
- loosen lower engine mounting nuts on both sides
 - do not unscrew completely
- loosen lower engine/transmission mounting bolts
- disconnect intake hose from air mass sensor
- cover open end of intake hose with tape
- remove air cleaner housing
- remove mountings between front panel and side member
- remove upper radiator cover
- disconnect radiator side cowl from front panel
- disconnect upper radiator support at front panel
- disconnect hose to intercooler/intake pipe at intake pipe
- unhook front hood bowden cable
- disconnect wiring at headlight
- remove front panel with intercooler and headlight assemblies from fenders
- remove coolant hose at side of turbocharger coolant pump

Engine – Assembly

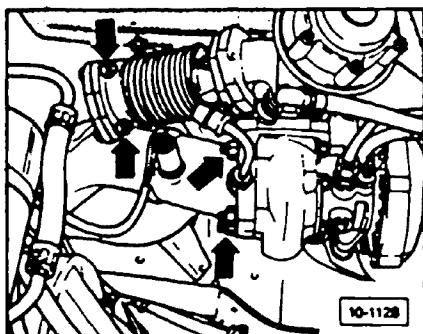
CAUTION

Do not kink power steering hoses.

- disconnect power steering pump hoses
- remove power steering pump
- disconnect wiring from oil pressure sender
- remove connector from oil pressure switch
- remove connector from temperature switch for radiator fan afterrun, coolant pump for turbocharger
- disconnect electronic thermoswitch
- remove knock sensors
- disconnect plug at coolant pump for turbocharger
- disconnect vacuum line from cruise control vacuum unit
- remove both ground cables from cruise control vacuum control unit bracket
- remove intake air temperature sender from intake manifold
- disconnect, remove idle stabilizer valve
- remove mounting for engine speed, reference mark sensor (arrows)
- cut tie wrap securing wiring to coolant hose
- remove clip from cruise control vacuum unit bracket
- remove ground strap at engine support
- pull out wiring harness toward rear between engine and crankcase breather hose
- disconnect Hall sending unit
- disconnect coil high tension lead
- disconnect coolant temperature sensor at rear of cylinder head



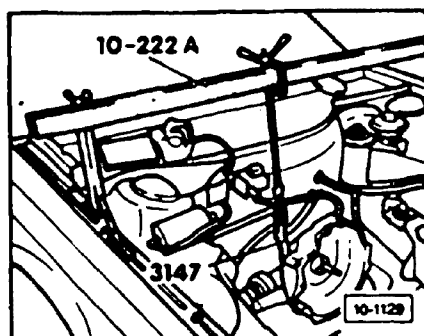
- remove carbon filter (blue) solenoid valve from crankcase breather hose
 - located at rear of cylinder head
- disconnect throttle potentiometer
- disconnect injectors
- carefully pry off cover for injector lines toward intake manifold side
- carefully pull out injector lines towards rear between intake manifold and cylinder head
- disconnect green vacuum line for Motronic control unit
- place approved container under engine to catch drained coolant
- pull off heater hoses from coolant pipe (left side), crankcase (right side)
- cut tie wrap securing oxygen sensor wire
- disconnect oxygen sensor probe, oxygen sensor heater from mounting brackets
- disconnect oxygen sensor, oxygen sensor heater
- disconnect exhaust pipe, corrugated tube from turbocharger (arrows)
- detach fuel supply line from collector line



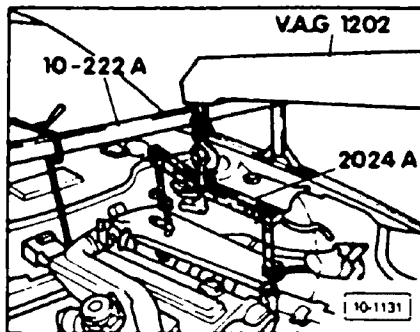
Note

Replace sealing rings. Keep banjo bolt clean, and store carefully.

- disconnect fuel return line from pressure regulator
- disconnect accelerator cable at throttle housing
- pull accelerator cable from support
- remove heat deflector plates from right front side member
- remove left/right engine support nuts
- remove upper engine/transmission mounting bolts
 - only loosen last bolt
- place tool 3147 into top right hole (as shown)
- position support bar 10-222A onto inner fender mounting area
- attach draw hook
- raise/lower transmission with wing nut to desired height



Engine – Assembly



- attach and secure engine sling 2024A at front left, and on throttle support bracket (as shown)

CAUTION

Use cotter pins on hooks and holding pins to secure.

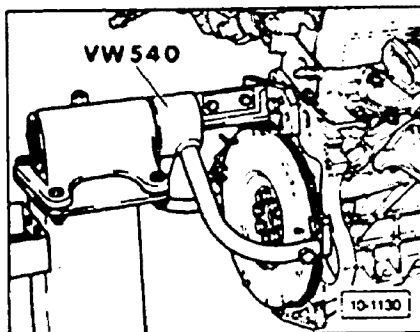
- take weight with crane VAG 1202 or equivalent
- tighten tool 3147
- remove last engine/transmission mounting bolt at top

- mark right/left engine mounts
- remove right/left engine mounts from bottom
- remove left engine support from crankcase
- pry engine/transmission apart

CAUTION

Guide engine carefully when lifting to avoid damage to condenser, radiator, input shaft and body.

- lift out engine
- attach engine to stand with engine mount VW 540



CAUTION

Do not measure cylinder bore when cylinder block is mounted to work bench with engine mount VW 540 (see Repair Group 13).

Installing

Install in reverse order of removal. Note the following:

- check and ensure that the dowels for centering engine/transmission are in cylinder block
- replace all self-locking nuts

Engine – Assembly

Tightening torques

Engine/transmission

M 8	20 Nm (15 ft lb)
M 10	45 Nm (33 ft lb)
M 12	60 Nm (44 ft lb)

Engine support to Engine 45 Nm (33 ft lb)

A/C Compressor see Repair Group 87

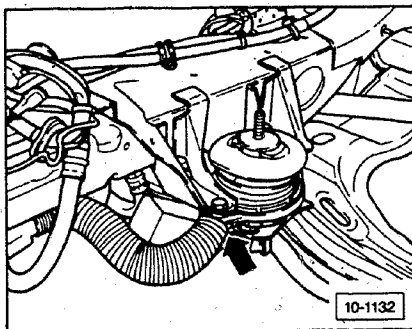
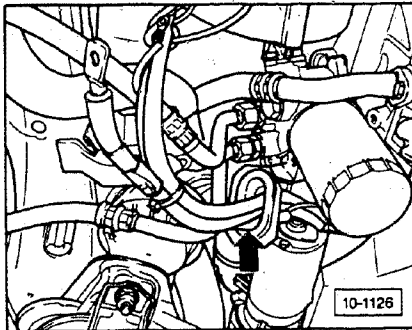
Exhaust pipe to turbocharger 30 Nm (22 ft lb)

Exhaust pipe to corrugated hose 25 Nm (18 ft lb)

Engine mount to engine support 45 Nm (33 ft lb)

Engine mount to body 45 Nm (33 ft lb)

Knock sensor to crankcase 20 Nm (15 ft lb)



- route wiring harness for starter and alternator back through guide (**arrow**) on oil cooler pipe

- when reinstalling wiring to oil pressure sender, connect blue wire to terminal **WK** and black wire to terminal **G**

- if reversed, engine oil pressure warning will come on

- secure bracket for hydraulic lines with nut - on left engine support

- secure cooling hose for right engine mount to side member with right engine mount (**arrow**)

- adjust accelerator cable (see Repair Group 20)

Note

Ensure all electrical wiring, tie wraps are reinstalled and positioned as originally placed.

- loosen bolts securing torque reaction stop

- let stop rest on rubber buffer of torque reaction stop under its own weight

- tighten nuts 45 Nm (33 ft lb)

- adjust exhaust system, without tension (see Repair Group 26)

- check and adjust engine oil level

- adjust power steering pump V-belt (see Repair Group 48)