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Installation instructions

BHW 400 002

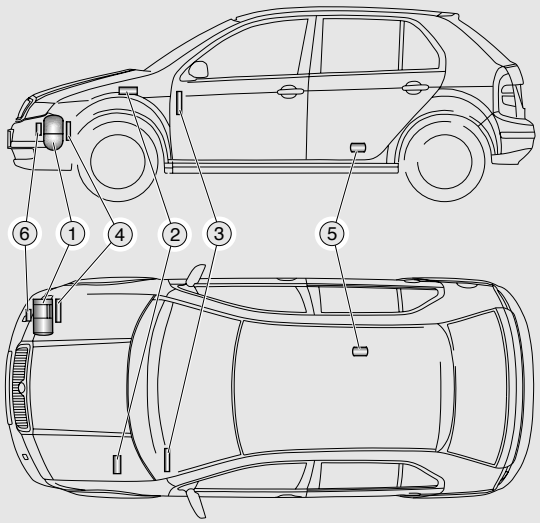
WATER HEATER - WEBASTO

ADDITIONAL HEATING *THERMO TOP E* e1 00 0003

SKODA FABIA - PETROL

LEFT-HAND DRIVE VEHICLES ONLY - VALIDITY SEE PAGE 2

Vehicle types, engine types and equipment variants not listed in these installation instructions were not tested. Installation based on these installation instructions may, however, be possible.



Legend

1. Heater Thermo Top E -B
2. Flat fuse holder
3. Telestart receiver
4. Exhaust silencer
5. Dosing pump
6. Combustion air intake pipe

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Special tools

Torque wrench for 2.0 - 10 Nm
Riveting tool
Pinch-off pliers

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Heater/Installation Kit

Quantity	Designation		Ordering N°
1	**Scope of delivery Thermo Top E *Petrol***		**13 014 16A**
		Skoda Ordering No.	**BHW400 002**
Addtional control elements required:			
1	**3-time timer**		**13 011 22A**
		Skoda Ordering No.	**BHW000 001**
	and/or		
1	**Telestart T70**		**670 80A**
		Skoda Ordering No.	**BHW000 002**

Validity

Manufacturer	Trade Name	Typ	EG-BE-No.
Skoda	Fabia	1U	e11*98/14*0123*..

Engine type	Power	Output in kW	Capacity in v cm^3
AUB	Petrol / 4	74	1390
AUA	Petrol / 4	55	1390

Preface

These installation instructions apply to Skoda Fabia - petrol passenger cars - validity see title page - model year 2001 and later, insofar as technical modifications to the vehicle do not affect the installation as a result of which any liability claims would be rendered null and void. Depending on the version and equipment of the vehicle, the actual installation may differ from the procedure described in these installation instructions. The specifications contained in the „Installation Instructions“ and „Operating and Maintenance Instructions“ for ***Thermo Top E*** must, however, always be strictly adhered to. The installation must be carried out in accordance with the applicable workmanship standards.

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General Recommendations

- Provide naked body parts, e.g. drilled holes, with anticorrosion agent
- Secure hoses, lines and cable looms with cable clips and provide with protective hose at scuff marks
- Provide sharp edges with edge protection (cut-up fuel hose)
- Unless otherwise specified, all length dimensions are indicated in mm

Preliminary Works

- Remove the non-applicable year on the duplicate type label
- Place the duplicate type label in a suitable and clearly visible position

CAUTION:
Disconnect battery!

Engine compartment

- Bleed pressure of cooling system
- Remove engine compartment cover

Exterior

- Open tank cap, bleed tank
- Close tank cap
- Loosen wheelhouse lining right of bumper
- Loosen wheelhouse lining left of bumper
- Remove front bumper

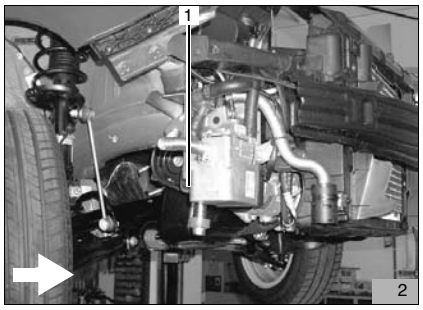
Interior

- Remove dashboard lining on driver's side
- Loosen central electrics
- Loosen fuse holder
- Fold down rear seat and open service lid

Heater installation location

- The heater (2/1) is installed at the front right between wheelhouse and bumper as shown in Fig. 2. It is installed vertically and transversely to the direction of driving

NOTE:
The front right headlight has only be removed to obtain a better view!



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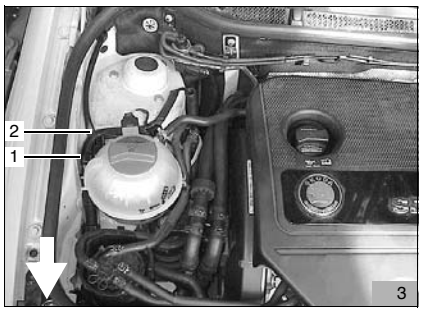
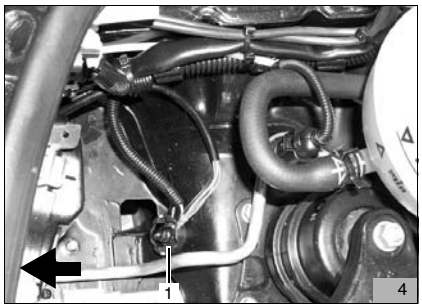
Integration into Central Electrics

CAUTION:
For all cable passages pay attention to scuff protection!

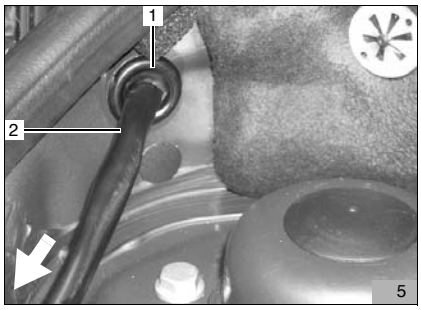
- Lay out cable loom with originating node of dosing pump cable loom (3/2) as shown in Fig. 3
- Route heater cable loom and ground support (3/1) down to heater installation position



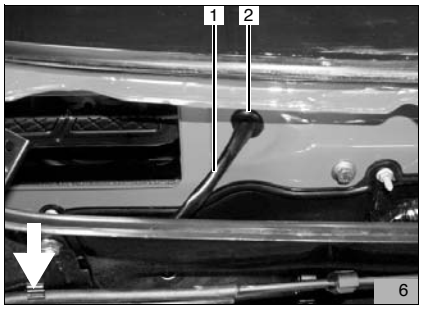
- Connect heater ground support (4/1) to vehicle ground support as shown in Fig. 4



- Route fuse side of heater cable loom (5/2) through passage (5/1) provided in water box
- Insert rubber grommet (5/1) in passage provided as shown in Fig. 5



- Route heater cable loom (6/1) through passage provided in interior and from there to fuse holder in driver's footwell as shown in Fig. 6
- Insert cable grommet (6/2) on cable loom into passage provided as shown in Fig. 6



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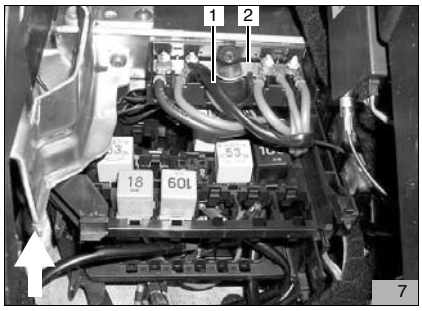
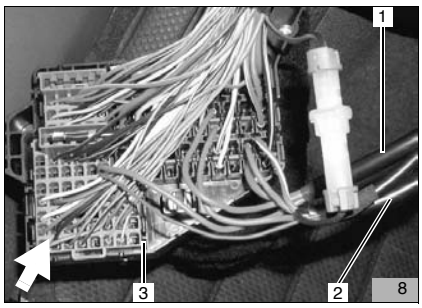
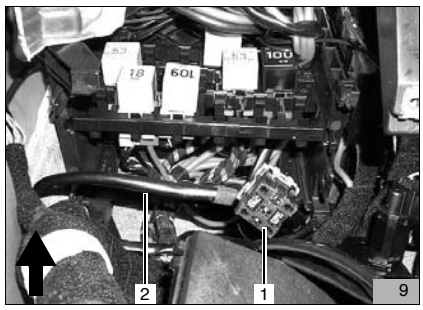
- Connect positive distributor cable (7/1; 8/1) to positive bus bar (7/2) of central electrics as shown in Fig. 7



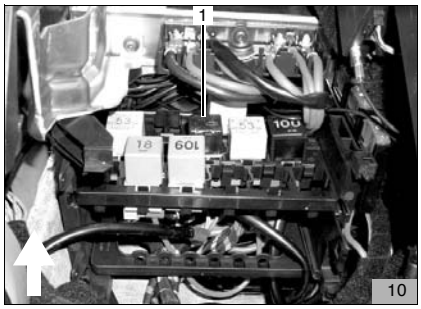
- Route plus distributor cable (8/1; 7/1) to fuse holder (8/3) as shown in Fig. 8



- Route fan control cable loom (9/2; 8/2) from relay holder to fuse holder (8/3) as shown in Fig. 9



- Insert prepared base (9/1) of fan relay K3 (10/1) into relay holder as shown in Fig. 10
- Clip fan relay K3 onto prepared base as shown in Fig. 10



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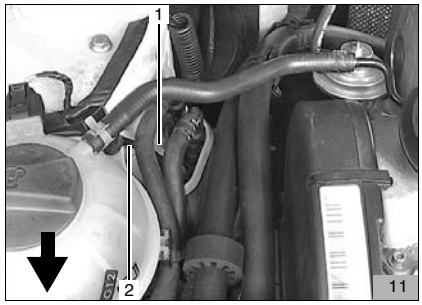
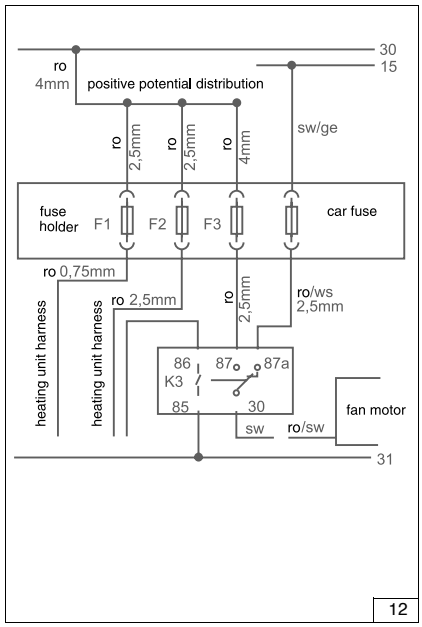
- Route dosing pump cable loom (11/2) and Mecanyl fuel line (11/1) from node at suspension strut dome through vehicle fuel line duct to underbody as shown in Fig. 11
- Secure cable looms and lines with cable clips

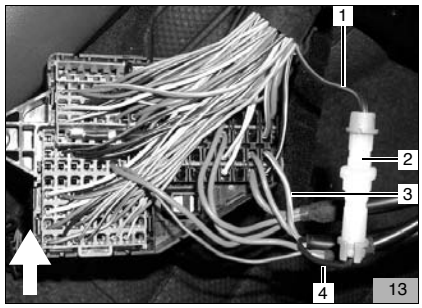


Fan Control

- Make connections as shown in circuit diagram, Fig. 12



- Click red/black line (13/1) out of vehicle fan fuse and connect with prepared lance-type connector (13/2) to black line (13/4) of fan relay K3/30 as shown in Fig. 13
- Click red/white line (13/3) of fan relay K3/87a into vehicle fan fuse as shown in Fig. 13



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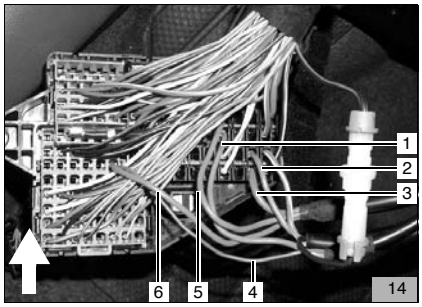
- Click red 2.5 mm^2 line (14/2) of fan relay K3/87 into fuse F3 as shown in Fig. 14
- Click red 4.0 mm^2 line (14/3) of positive bar into fuse F3 as shown in Fig. 14
- Click red 2.5 mm^2 line (14/1) from heater cable loom into fuse F2 as shown in Fig. 14
- Click red 2.5 mm^2 line (14/5) of positive bar into fuse F2 as shown in Fig. 14
- Click red 0.75 mm^2 line (14/4) from heater cable loom (timer) into fuse F1 as shown in Fig. 14
- Click red 2.5 mm^2 line (14/6) of positive bar into fuse F1 as shown in Fig. 14
- Reinsert fuse holder
- Insert fuse F1 (5 Amp)
- Insert fuse F2 (20 Amp)
- Insert fuse F3 (25 Amp)
- Secure cables and lines with cable clips



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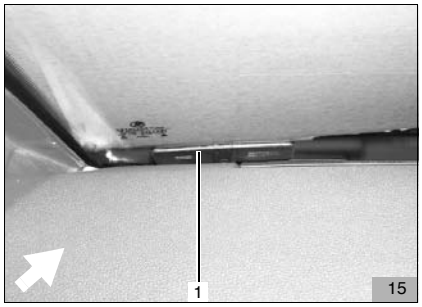
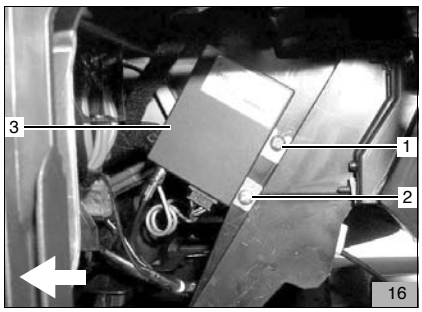
Telestart T70

NOTE:
Consult the attached general installation instruction for Telestart T70!

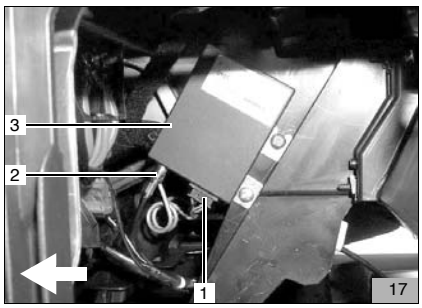
NOTE:
Before mounting the antenna make sure to clean/degrease the adhering surfaces for the antenna!
- Stick antenna (15/1) on the front window in the bottom left corner as shown in Fig. 15
- Route antenna cable downwards through lining of A-pillar into foot well on the driver's side up to receiver installation location (16/3)



- Transfer hole pattern (16/1,2) of receiver mount to plastic crossrail of dashboard as shown in Fig. 16
- Drill holes ø 5.5 mm
- Secure receiver mount with screws M5x16 (16/1,2) and nuts provided as shown in Fig. 16
- Clip on receiver (16/3)



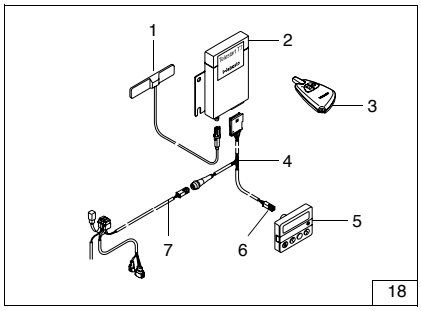
- Make all connections as indicated in the installation instructions provided or as shown in Fig. 18
- Insert antenna connector (17/2) in receiver (17/3) and secure
- Connect Y-adapter (18/4) with timer cable loom (18/7)
- Route Y-adapter (18/4) to receiver (17/3)
- Snap Y-adapter connector (17/1) into receiver (17/3)



NOTE:
If no timer is installed, connector (18/6) on Y-adapter (18/4) will not be used.
- Secure all cable looms with cable clips

Legend Fig. 18:

1 Antenna
2 Receiver
3 Transmitter
4 Y-adapter
5 Optional timer
6 Timer connection (Y-adapter)
7 Timer cable loom



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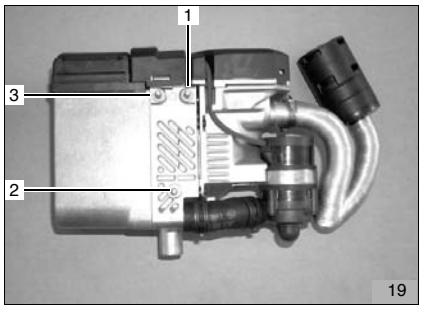
Optional Timer

If the timer is to be installed, determine the installation location in consultation with the customer prior to installation.
Installation of the timer is carried out in accordance with the timer operating instructions.

Installing heater

Preassembling heater

CAUTION:
To secure the mount to the heater, use only the special EJOT PT screws provided! (tightening torque 10 Nm)
- Screw 3 EJOT studs (19/1,2,3) into heater as shown in Fig. 19 (tightening torque 10 Nm)



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Preparing combustion air intake pipe

NOTE:
Note the installation position of the air intake silencer, see “Installation Instructions”

- Clip combustion air intake pipe (20/2) with slotted side onto heater combustion air mount and secure with hose clamp
- Insert air intake silencer (20/1) into combustion air intake pipe as far as the stop
- Form combustion air intake pipe as shown in Fig. 20

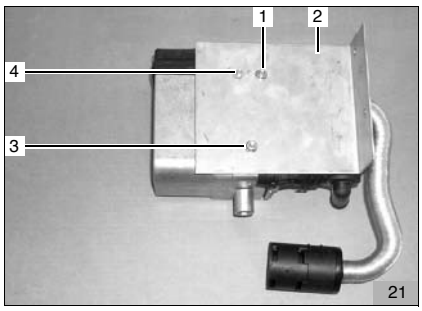


20

Preassembling mount

NOTE:
Insert 2 washers B6.4 between mount and heater at position (21/3)!

- Place mount (21/2) on studs (21/1,3,4) of heater
- Secure mount using collar nut (21/1) as shown in Fig. 21 (tightening torque 10 Nm)
- Secure mount using collar nut (21/3) as shown in Fig. 21, at the same timing inserting 2 washers B6,4 between mount and heater (tightening torque 10 Nm)



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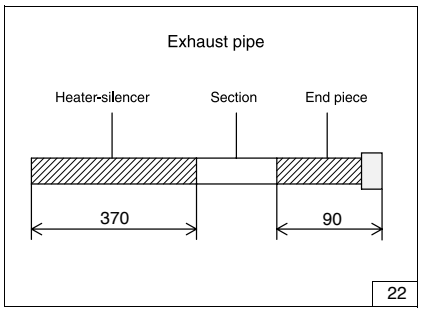
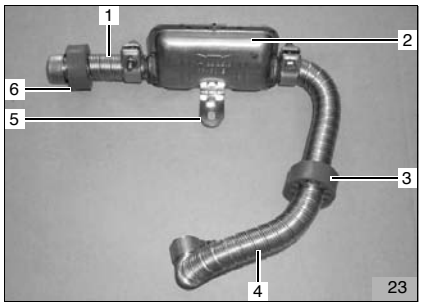
Preparing exhaust system

CAUTION:
When installing the exhaust system make sure there is sufficient clearance with respect to hoses and lines!

- Cut exhaust pipe and exhaust pipe end piece to length as shown in Fig. 22

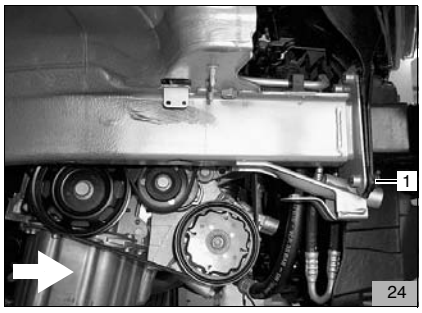


- Secure angle bracket (23/5) to exhaust silencer (23/2) using screw M6 x 20 and collar nut as shown in Fig. 23
- Clip 370 mm long exhaust pipe (23/4) onto exhaust silencer and secure with hose clamp
- Fit red rubber profile (23/3) on 370 mm long exhaust pipe
- Clip exhaust pipe end piece (23/1) onto exhaust silencer (23/2) and secure with hose clamp
- Fit red rubber profile (23/6) on exhaust pipe end piece



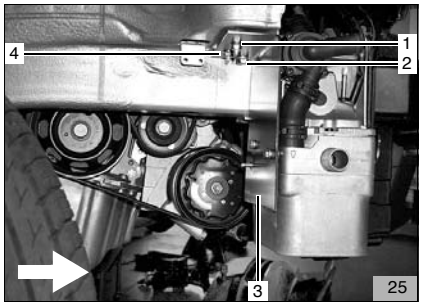
Installing heater

- Unscrew vehicle screw (24/1)



NOTE:
Insert 5 mm spacer between mount and lamp holder at positions (25/1) and (25/4)!

- Secure preassembled heater (25/3) to vehicle studs using two collar nuts M6 (25/1,4), at the same time inserting a 5 mm spacer between mount and lamp holder
- Secure mount (25/3) in vehicle threaded hole using screw M8 x 30 (25/2) and washer B8,4 and secure at the top with nut M8



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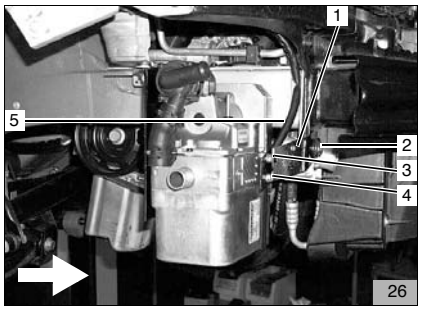
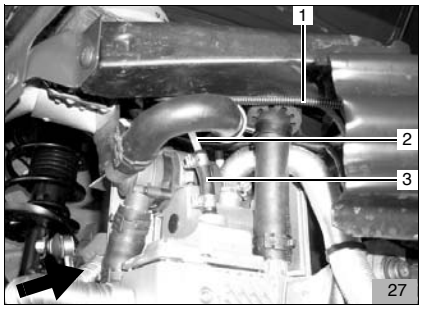
- Secure strut (22/1) to heater using 2 special screws type EJOT (26/3,4) (tightenting torque 10 Nm)
- Secure strut with vehicle screw (26/2) as shown in Fig. 26
- Clip heater cable loom (26/5) onto heater and secure with cable clip to drilled hole provided in strut as shown in Fig. 26

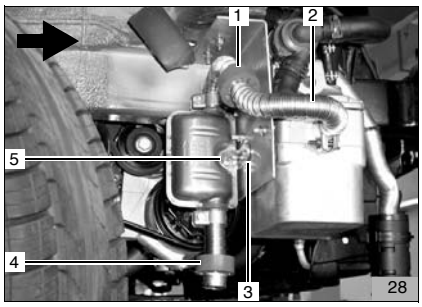


- Provide edge protection (27/1) as shown in Fig. 27
- Secure Mecanyl fuel line (27/2) to heater using hose piece (27/3) and hose clamps as shown in Fig. 27

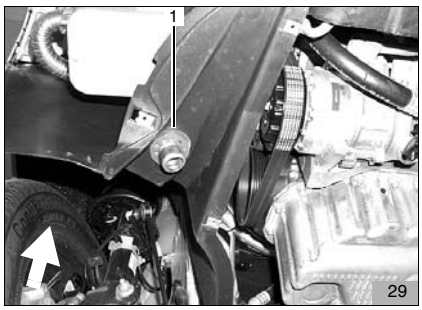


Installing Exhaust System

- Secure angle bracket (28/3) to bottom EJOT studs (28/5) using collar nut M6 as shown in Fig. 28 (tightening torque 10 Nm)
- Clip 370 mm long exhaust pipe (28/2) onto heater, form and secure with hose clamp as shown in Fig. 28
- Position red rubber profile (28/1) and red rubber profile (28/4) as shown in Fig. 28



- Cut out wheelhouse lining and insert red rubber profile (29/1; 28/4) as shown in Fig. 29



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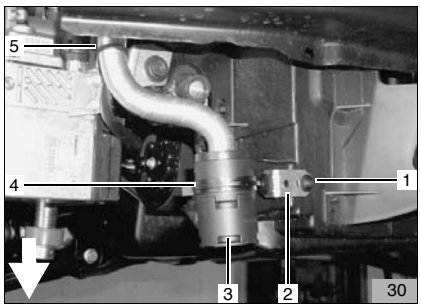
Combustion air intake pipe

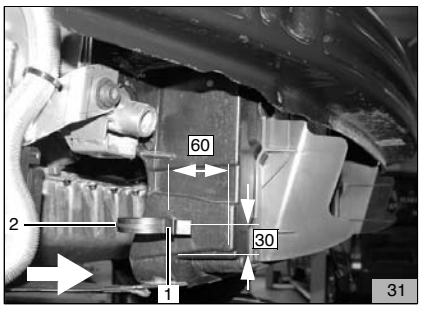
Variant 1 (with screw 30/1)

- Loosen vehicle screw (30/1)
- Secure angle bracket (30/2) with vehicle screw (30/1) as shown in Fig. 30
- Insert retaining clip (30/4) of air intake silencer (30/3) into angle bracket (30/2) as shown in Fig. 30 and secure with stud
- Clip in air intake silencer (30/3) as shown in Fig. 30
- Secure combustion air intake pipe to strut with cable cable clip (30/5) as shown in Fig. 30

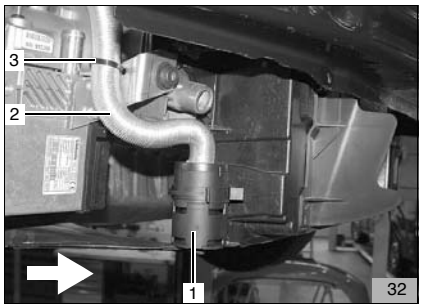


Variant 2 (no screw 30/1)

- Drill hole 6 mm dia. for retaining clip of air intake silencer in position (31/1) in front central part as shown in Fig. 31
- Insert retaining clip (31/2) for air intake silencer in drilled hole and secure with stud as shown in Fig. 31



- Clip in air intake silencer (32/1) as shown in Fig. 32
- Form combustion air intake pipe (32/2) and secure to strut with cable clip (32/3) as shown in Fig. 32



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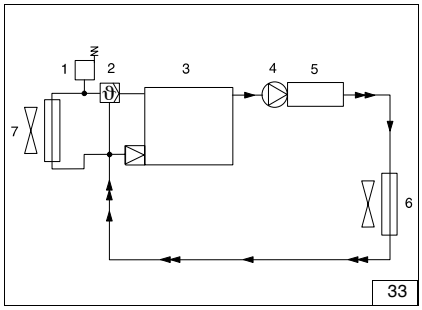
Integration into the Water Circuit

NOTE:
Tighten all hose clamps to torque 2.0 + 0.5 Nm!
Collect dripping cooling water in an appropriate receptacle!
The following section describes the inline integration of the heater into the vehicle cooling water circuit (Fig. 33)

Legend Fig. 33:

1 Expansion tank
2 Cooler thermostat
3 Vehicle engine
4 Heater circulating pump
5 Heater
6 Vehicle heat exchanger
7 Cooler

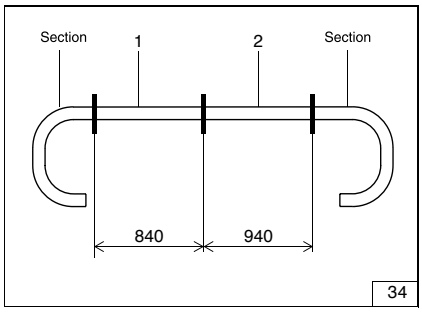


33

- Cut 2 hose ends from the water hose provided as shown in Fig. 34:

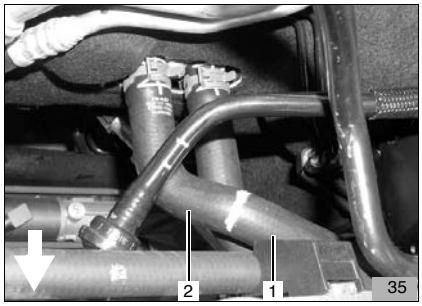
1 x 840 mm (34/1)
(from 90° bend form hose provided to vehicle heat exchanger water inlet hose)

1 x 940 mm (34/2)
(from 180° bend water hose provided vehicle engine outlet hose)



34

- Pinch off vehicle water hose (35/1,2) from engine outlet to heat exchanger water inlet using pinch-off pliers
- Disconnect vehicle water hose (35/1,2) at marking as shown in Fig. 35



35

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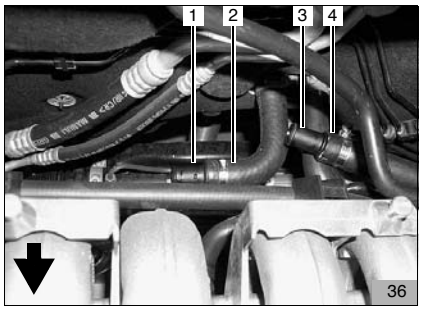
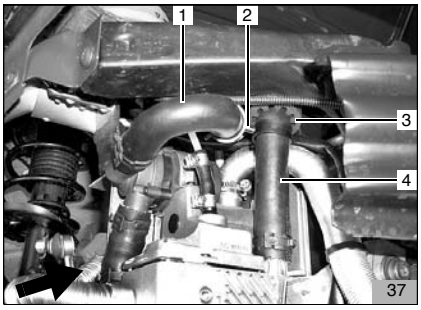
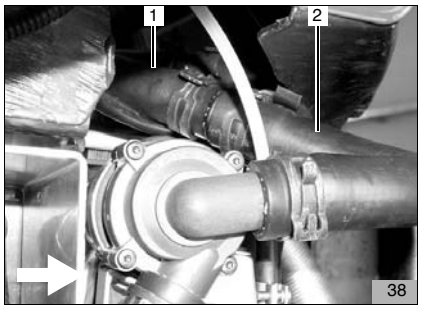
- Turn vehicle 90° bend (36/2) from heat exchanger water inlet to right vehicle side as shown in Fig. 36
- Insert connecting pipe 18 x 20 (36/1,3) in both vehicle water hoses (36/2,4) and secure with spring band steel clamps



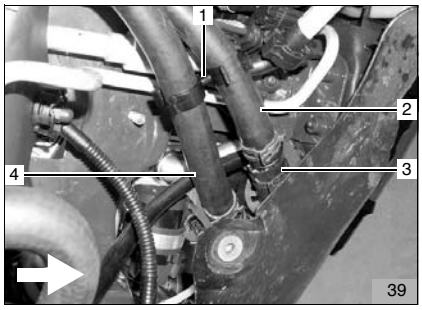
- Clip 180° bend form hose provided (37/1) onto heater water inlet, align with frame side rail as shown in Fig. 37 and secure with spring band steel clamp
- Clip black rubber profile (37/3) onto 90° bend form hose (37/4)
- Clip 90° bend form hose (37/4) with long end onto heater water outlet, align with frame side rail as shown in Fig. 37 and secure with spring band steel clamp
- Insert spacer (37/2) between 180° bend form hose (37/1) and 90° bend form hose (37/4) as shown in Fig. 37



- Connect 940 mm long water hose (38/1) and 180° bend form hose (38/2; 37/1) using connecting pipe 18 x 20 and spring band steel clamps as shown in Fig. 38



- Connect 840 mm long water hose (39/2) and 90° bend form hose (39/3; 37/1) using connecting pipe 18 x 20 and spring band steel clamps as shown in Fig. 39
- Insert spacer (39/1) between 840 mm long water hose (39/2) and 940 mm long water hose (39/4) as shown in Fig. 39
- Route 840 mm long water hose (39/2) and 940 mm long water hose (39/4) to separating point



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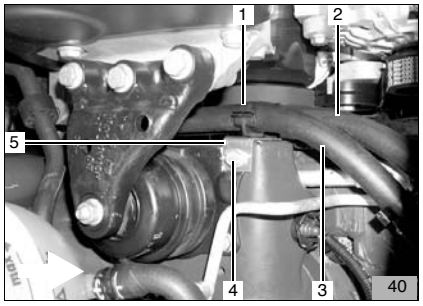
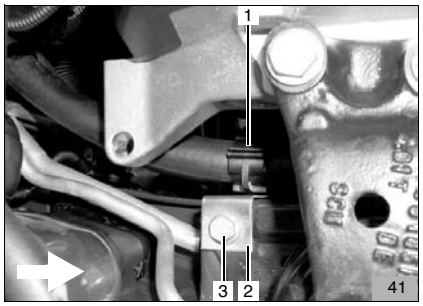
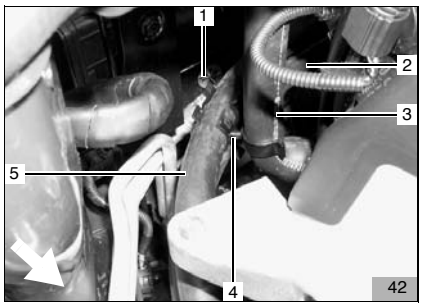
- Loosen vehicle screw (40/4) on engine suspension
- Secure mount provided (40/5) with vehicle screw (40/4) as shown in Fig. 40
- Insert hose support provided (40/1) into mount (40/5)
- Secure 840 mm long water hose (40/2) and 940 mm long water hose (40/3) with hose support (40/1) as shown in Fig. 40



- Loosen vehicle screw (41/3) on engine suspension
- Secure mount provided (41/2) with vehicle screw (41/3) as shown in Fig. 41
- Insert hose support provided (41/1) into mount (41/2)
- Secure 840 mm long water hose and 940 mm long water hose with hose support (41/1) as shown in Fig. 41

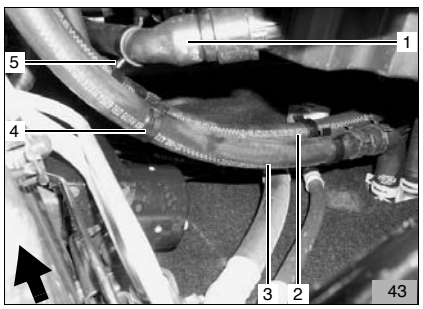


- Insert spacer (42/4; 43/5) between 940 mm long water hose (42/5; 43/2) and vehicle hose (42/3; 43/1) as shown in Fig. 42 and Fig. 43



NOTE:
Fig. 43 and Fig. 44 are bottom views!

- Insert spacer (43/4; 42/1) between 940 mm long water hose (43/2; 42/5) and 840 mm long water hose (43/3; 42/2) as shown in Fig. 42 and Fig. 43



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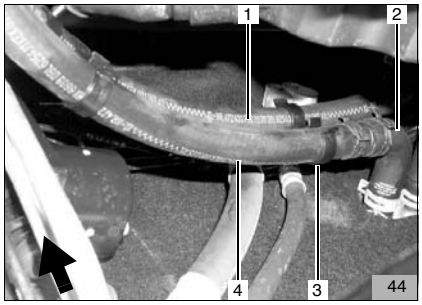
- Clip 840 mm long water hose (44/4) of heater water outlet onto connecting pipe 18 x 20 in vehicle hose piece of heat exchanger water inlet and secure with spring band steel clamp as shown in Fig. 44
- Clip 940 mm long water hose (44/1) onto connecting pipe 18 x 20 in vehicle hose piece of engine outlet and secure with spring band steel clamp as shown in Fig. 44
- Insert spacer (44/3) between 840 mm long water hose (44/4) and 940 mm long water hose (44/1) as shown in Fig. 44



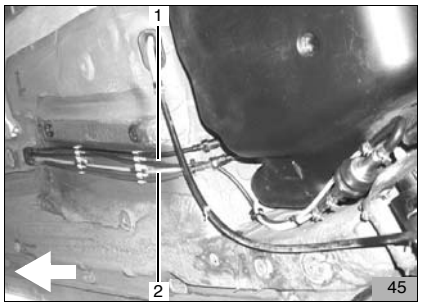
Fuel integration

CAUTION:
Open tank cap, bleed tank and close tank cap again!
Collect escaping fuel in a suitable receptacle!
Route fuel line so as to protect it against stone impact! Provide sharp edges of the fuel line and cable loom with scuff protection!

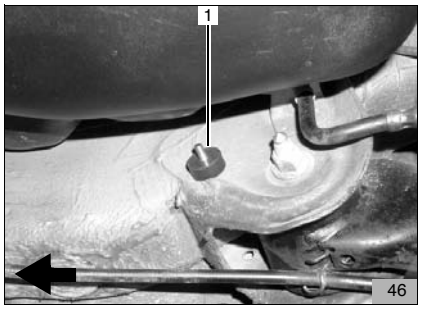
Dosing pump

NOTE:
Note installation position of dosing pump, see “Installation Instruction”

- Route Mecanyl fuel line (45/2) together with dosing pump cable loom (45/1) in clips provided along vehicle lines at underbody to dosing pump as shown in Fig. 45



- Insert silentblock (46/1) into drilled hole provided and secure with washer A7,4 and collar nut as shown in Fig. 46



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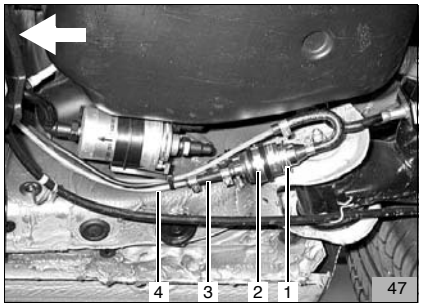
- Secure dosing pump (47/1) to silentblock (47/1) with rubber tube clamp (47/2) and collar nut
- Cut Mecanyl fuel line (47/4) at dosing pump (47/1) to length
- Connect Mecanyl fuel line (47/4) to pressure side of dosing pump (side with plug) using hose piece (47/3) and hose clamps
- Cut dosing pump cable loom to length, slide on rubber grommet, crimp on lance-type connector, complete connector housing and clip cable loom onto dosing pump
- Secure Mecanyl fuel line and dosing pump cable loom with cable clips as shown in Fig. 47



47

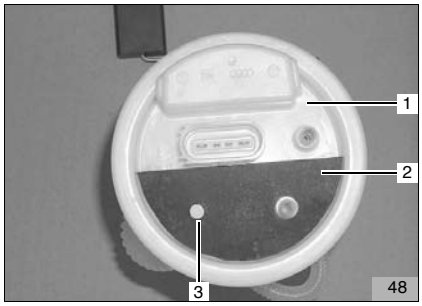
Fuel tapping

NOTE:
Observe the general installation instructions for the tank tap!

NOTE:
When disassembling the tank fittings take special care to ensure absolute cleanliness!
Observe the safety instructions!
Remove chippings!

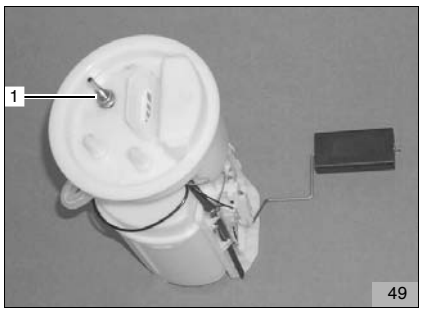
CAUTION:
During drilling pay attention to any lines located behind the holes!

- Remove tank fitting (48/1) in accordance with the manufacturer's instructions
- Place template (48/2) on tank fitting as shown in Fig. 48 and transfer hole pattern (48/3)
- Remove template (48/2) and drill hole ø 6 mm (48/2) in position (48/3)



48

- Cut tank tap (49/1) to length according to template provided



49

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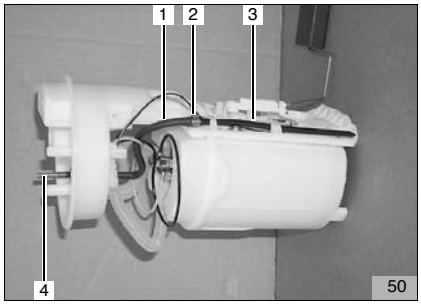
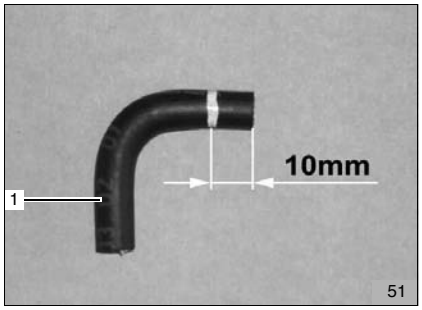
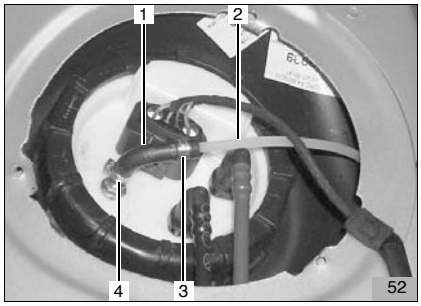
- Cut fuel hose provided (50/1) according to template provided
- Cut riser provided (50/3) according to template provided
- Connect tank tap (50/4) and fuel hose (50/1) according to template provided and secure with 6.6 mm one-ear clamp provided
- Connect riser (50/3) and fuel hose (50/1) according to template provided and secure with 8 mm one-ear clamp provided (50/2)
- Insert prepared tank tap (50/4; 49/1) into tank fitting and secure according to installation instruction and Fig. 49 and Fig. 50
- Insert riser (50/3) in tabs provided, aligning and positioning the fuel hose (50/1) as shown in Fig. 50



- Shorten 90° form hose provided (51/1) (inside ø increasing from 3.5 mm to 4.5 mm) on the side with inside ø 3.5 mm by 10 mm as shown in Fig. 51



- Install tank fitting according to manufacturer's instructions
- Clip 90° form hose (52/1) with shortened side onto tank tap, align as shown in Fig. 52 and secure with 9 mm Cailau clamp (52/4)
- Insert Mecanyl fuel line (52/2) into 90° form hose (52/1) and secure with 10 mm Cailau clamp as shown in Fig. 52
- Route Mecanyl fuel line (52/2) downwards before tank up to suction side of dosing pump



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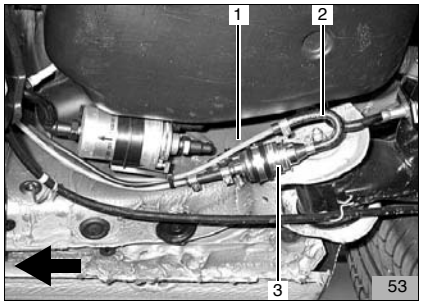
- Route Mecanyl fuel line (53/1) before tank to installation position of dosing pump and cut to length
- Shorten 180° form hose provided on short side by 10 mm
- Secure 180° form hose (53/2) with shortened side to suction side of dosing pump (53/3) using 10 mm hose clamp as shown in Fig. 53
- Insert Mecanyl fuel line (53/1) into 180° form hose (53/2) as shown in Fig. 53 and secure with 10 mm hose clamp



CAUTION:
Make sure there is sufficient clearance with the brake hose!

Finishing Works

- Install and connect vehicle battery
- Enter radio code, set vehicle clock
- Reassemble disassembled parts in reverse order
- Check whether all hose lines, hose and tube clamps as well as all electrical connections are connected properly
- Secure all loose lines with cable clips
- Remove any tools, e.g. pinch-off pliers etc. from the engine compartment
- Provide heater components with anti-corrosion wax (Tectyl ML, ordering No. 111329)
- Start engine, bleed water circuit according to manufacturer's instructions, top up cooling water
- Set vehicle heater to "warm" and fan to stage "1 -2"
- Select "Defrost" position
- Switch on Webasto heater, see "Operating and Maintenance Instructions"

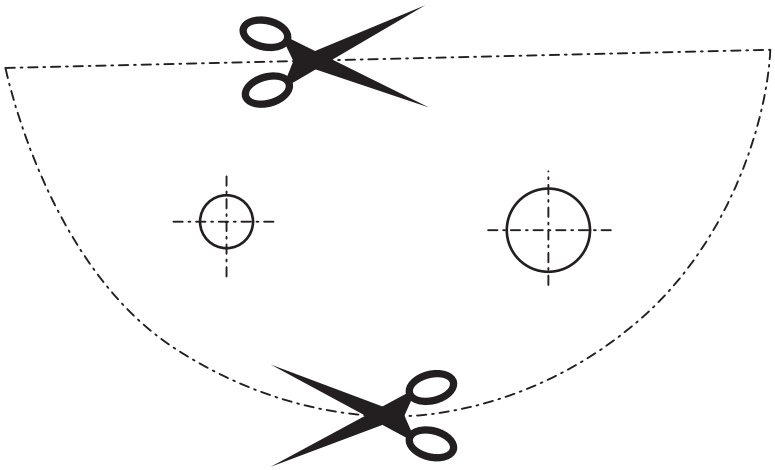
NOTE:
Complete the installation certification on the back of the EC-type approval form provided and hand to the customer!

Black process 45.0° 141.0 LPI

GB

Thermo Top E **Fabia**

Template of tank fitting
Skoda Fabia Petrol



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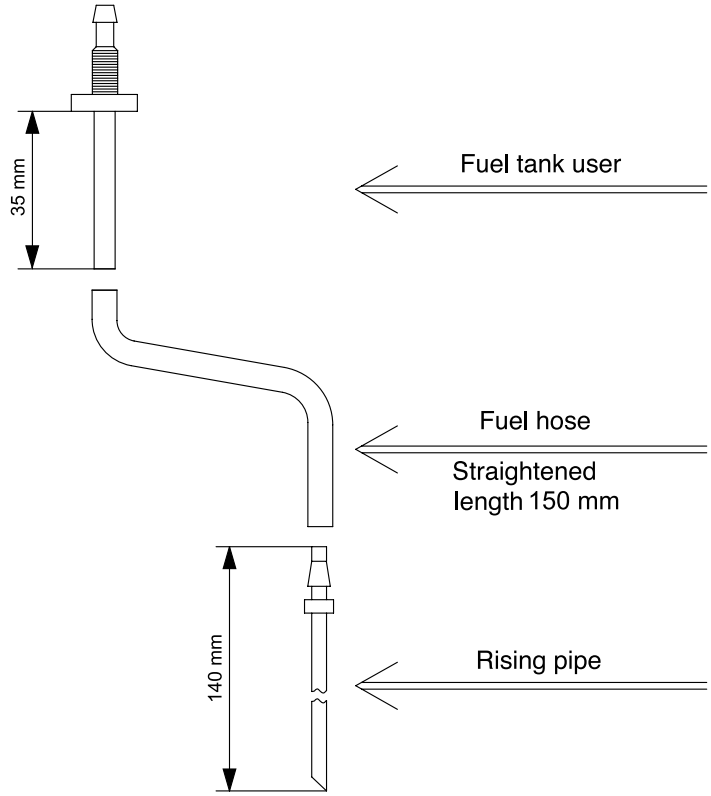
Fuel tank user
Skoda Fabia Petrol



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The information on the technical data, design, equipment, materials, guarantees and outside appearance refer to the period when the mounting instructions are sent to print.
The manufacturer reserves the right to changes (including the change in technical parameters with reference to the individual model measures).

BHW 400 002/ 10. 2002

Id-Nr.: 13 014 28A

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