

part number: 13437791

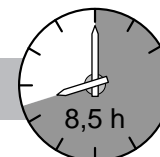
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(GB)	Subject to change in terms of construction, equipment and colour, and may contain errors. The information and illustrations are non-binding.	(GB)	Installation instructions / Dealer installation only
(F)	Sous réserve de modifications de la construction, de l'équipement, de la couleur et sous réserve d'erreurs. Les indications et les illustrations sont sans engagement.	(F)	Consignes de montage / Montage uniquement par le concessionnaire
(NL)	Wijzigingen met betrekking tot constructie, uitvoering en kleur evenals vergissingen voorbehouden. Gegevens en afbeeldingen niet bindend.	(NL)	Montagehandleiding / Montage alleen door dealers
(DK)	Ændringer med hensyn til konstruktion, udstyr, farver samt fejl forbeholdes. Oplysninger og illustrationer er uforpligtende.	(DK)	Montagevejledning / Montage kun hos forhandleren
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(S)	Med reservasjon för ändringar vad det gäller konstruktion, utrustning, färg samt för misstag. Uppgifterna och bilderna är inte bindande.	(S)	Installationsanvisning / Får endast monteras av återförsäljaren
(FIN)	Pidätämme oikeuden rakennetta, varustusta, väriä koskeviin sekä erehdyksestä johtuviin muutoksiin. Tiedot ja kuvat eivät ole sitovia.	(FIN)	Asennusohje / Asennus vain myyntiliikkeen toimesta
(I)	Con riserva di modifiche relative a progettazione, dotazione, colore ed errori. Le indicazioni e figure sono fornite senza impegno.	(I)	Istruzioni per il montaggio / Installazione solo presso la concessionaria
(E)	Reservadas las modificaciones respecto a diseño, equipamiento, color, así como error. Indicaciones y figuras sin compromiso.	(E)	Instrucciones de montaje / Instalación exclusiva por el distribuidor
(P)	Reservamos o direito de alterações relativamente ao desenho, equipamento, cor, bem como de erro. Os dados e as gravuras não implicam compromisso da nossa parte.	(P)	Instruções de montagem / Montagem só no concessionário
(GR)	Διατηρούμε κάθε επιφύλαξη ως προς αλλαγές σε σχέση με κατασκευή, εξοπλισμό, διαρρύθμιση, χρωματισμούς και λάθη παραδρομής.	(GR)	Οδηγίες εγκατάστασης / Συναρμολόγηση μόνο από εμπόρους
(CZ)	Změny, týkající se konstrukce, vybavení, barvy, jakož i omyly jsou vyhrazeny. Údaje a vyobrazení jsou nezávazné.	(CZ)	Návod k montáži / Montáž pouze prodejcem
(PL)	Zastrzegam prawo do zmian dot. konstrukcji, wykończenia, kolorystyki oraz pomyłek. Dane i ilustracje niewiążące.	(PL)	Instrukcja montażu / Montaż tylko u dealera
(TR)	Tasarım, donanım ve renk bakımından değişiklik yapma hakkı ve hata ve eksiklik mahfuzdur. Veriler ve resimler bağlayıcı değildir.	(TR)	Montaj talimatı / Sadece satıcı tarafında monte edilir
(H)	A szerkezet, a kivétel és a szín változtatása, valamint a változások joga fenntartva. Az adatok és az ábrák nem kötelező érvényűek.	(H)	Beépítési útmutató / Csak a kereskedő építheti be
(HR)	Pravo promjena u svezi konstrukcije, opreme, boje kao i zabune oridžavamo. Podaci i ilustracije su neobavezne.	(HR)	Upute o ugradnji / Ugradnja samo od strane trgovca
(BUL)	Запазени права по отношение на конструкцията, оборудването, цвета и грешки. Данните и изображенията не са обвързващи.	(BUL)	Инструкция за монтаж / Монтажът може да се извърши само от търговеца
(RO)	Ne rezervăm dreptul unor modificări ale construcției, dotării, culorii și dreptul la erori. Datele indicate și imaginile sunt orientative.	(RO)	Instrucțiuni de montaj / Se va monta numai de către dealer
(RUS)	Права на внесение изменений относительно конструкции, оснащения, окраски, а также на ошибки сохраняются. Данные и иллюстрации имеют примерный характер.	(RUS)	Инструкция по монтажу и установке / Устанавливать только у дилера
(LT)	Pasilikama konstrukcijos, įrangos bei reikmenų, spalvos pakeltimų ir klaidų teisė. Duomenys ir iliustracijos nepareigojantys.	(LT)	Montavimo informacija / Montuoja tik prekybininkas
(LV)	Tiek paturētas tiesības uz konstrukcijas, iekārtu, krāsu izmaiņām, kā arī kļūdīšanās. Dati un attēli bez saistībām.	(LV)	Iemontēšanas pamācība / Tikai pārdevēja iebūve
(EST)	Konstruktsioonid, varustuse ja värvi osas muudatused ning eksimised lubatud. Andmed ja joonised on mitteisiduvad.	(EST)	Paigaldusjuhend / Paigaldab ainult müüja
(SLQ)	Zadržana pravica do sprememb glede konstrukcije, opreme, barve ter pomote. Podatki in slike so neobvezne.	(SLQ)	Navodilo za vgradnjo / Vgradnja le od trgovca
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(J)	構造、装備、色に關しての変更、または間違ひがある可能性が有ります。記載事項および図に關して責任を負いません。	(J)	取り付け説明書 / 販売業者取り付けのみ
(ROK)	구조, 장치, 색채와 그의 오류점의 변경 보류함. 지시 사항과 사진들에 관해 책임을 지지 않음.	(ROK)	장치 지시사항 / 오직 전문상인이 장치
(THA)	อาจมีการเปลี่ยนแปลงแก้ไขในแง่ของโครงสร้าง อุปกรณ์ และสี และอาจมีข้อผิดพลาดได้ ข้อมูลและภาพประกอบไม่ถือเป็นข้อผูกมัด	(THA)	คู่มือการติดตั้ง / ติดตั้งโดยตัวแทนจำหน่ายเท่านั้น
(VR)	保留設計、配置、顏色以及錯誤的修改權。給出的資料和插圖均沒有法律約束力。	(VR)	安裝說明書 / 僅供銷售商安裝用
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Water Heater

Thermo Top Evo Parking Heater



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Installation Documentation Opel Astra

Validity

Manufacturer	Model	Type	EG-BE-No. / ABE
Opel	Astra	P-J	e1 * 2007 / 46 * 0141 * ...
Opel	Astra	P-J	e4 * 2007 / 46 * 0204 * ...
Opel	Astra	P-J	e4 * 2007 / 46 * 0308 * ...
Opel	Astra	P-J	e4 * 2007 / 46 * 0309 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
1.4 B	Petrol	6-speed SG	88	1362	A14NEL
1.4 B	Petrol	6-speed SG	103	1362	A14NET
1.4 B	Petrol	6-level AT	103	1362	A14NET
1.6 B	Petrol	6-speed SG	132	1598	A16LET
1.7D	Diesel	6-speed SG	81	1686	A17DTC
1.7D	Diesel	6-speed SG	81	1686	A17DTE
1.7D	Diesel	6-speed SG	96	1686	A17DTS
1.7D	Diesel	6-speed SG	96	1686	A17DTF
2.0D	Diesel	6-speed SG	121	1956	A20DTH
2.0D	Diesel	6-level AT	121	1956	A20DTH
2.0D	Diesel	6-level SG	143	1956	A20DTR

SG = Manual transmission

AT = Automatic transmission

from Model Year 2011

Left-hand drive vehicle

Verified equipment variants: Manual / automatic air-conditioning system

Front fog light

Start-Stop

Opel Astra

Table of Contents

Validity	1	Electrical System	16
Necessary Components	2	Vehicle-Specific Wiring Harness	17
Installation Overview	2	Telestart	22
Notes on Total Installation Time	2	Fuel	23
Information on Operating and Installation Instructions	3	Coolant Circuit 1.4, 1.6 B and 1.7 D	27
Notes on Validity	4	Coolant Circuit 2.0 D	32
Technical Instructions	4	Exhaust Gas	35
Explanatory Notes on Document	4	Combustion Air	38
Preliminary Work	5	Final Work	39
Heater Installation Location	5	Template for Fuel Standpipe	40
Preparing Electrical System	6		
Preparing Installation Location	9		
Preparing Heater	11		
Installing Heater	15		

Necessary Components

- Specific delivery scope of *Thermo Top Evo* Petrol or diesel:
GM parts No. for petrol: 13 437 784
GM parts No. for Diesel: 13 437 785
- Installation kit Opel Astra 2011 Petrol and diesel
GM parts No.: 13 437 791

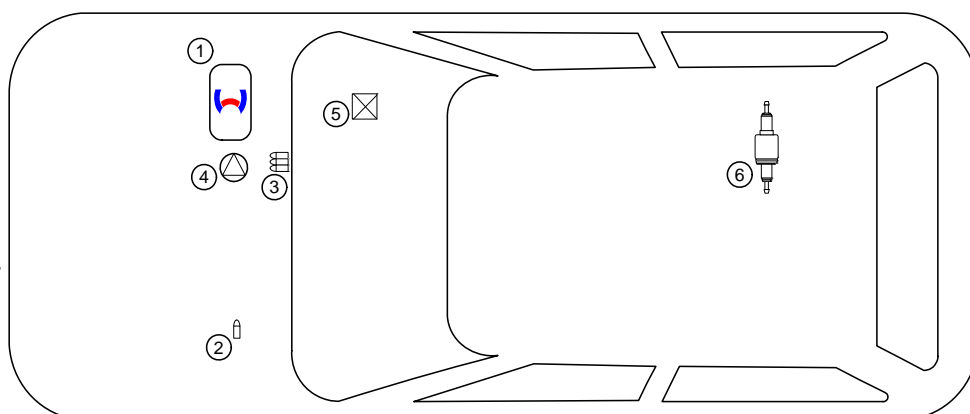
Note:

Heater control, Telestart T100 and push button are included in the installation kit.

Installation Overview

Legend:

1. Heater
2. Fuse F1
3. Fuses F2-4
4. Circulating pump
5. Temperature sensor/ Telestart / push button / SVM-Module
6. Metering pump



Notes on Total Installation Time

The total installation time includes the time needed for mounting and demounting of the vehicle-specific components, the heater specific installation time and all other times required for the system integration and initial start-up of the heater.

The total installation time may vary for vehicle equipment other than provided.

Opel Astra

Information on Operating and Installation Instructions

1 Important Information (not complete)

1.1 Installation and Repair



The improper installation or repair of Webasto heating and cooling systems can cause fire or the leakage of deadly carbon monoxide, leading to serious injury or death.



To install and repair Webasto heating and cooling systems you need to have completed a special company training course and have the appropriate technical documentation, special tools and special equipment.



Installation and repair may ONLY be carried out by persons trained and certified in a Webasto training course. NEVER try to install or repair Webasto heating or cooling systems if you have not completed a Webasto training course, you do not have the necessary technical skills and you do not have the technical documentation, tools and equipment available to ensure that you can complete the installation and repair work properly.

Only use genuine Webasto parts. See the Webasto air and water heaters accessories catalogue for this purpose.

1.2 Operation

To ensure safe operation, we recommend having the heater checked every two years by an authorised Webasto dealer, especially when used over a long period and/or under extreme environmental conditions.

Do not operate the heater in closed rooms due to the danger of poisoning and suffocation.

Always switch off the heater before refuelling.

The heater may only be used with the prescribed fuel Diesel (DIN EN 590) or petrol (DIN EN 227).

The heater may not be cleaned with a high-pressure cleaner.

1.3 Please note

ALWAYS follow all Webasto installation and operating instructions and observe all warnings.

To become familiar with and understand all functions and properties of the heater, the operating instructions must be read carefully and observed at all times.

For proper, safe installation and repair work, the installation instructions with all warnings and safety information must be carefully read and observed at all times. Please always contact a workshop authorised by Webasto for all installation and repair work.

IMPORTANT

Webasto shall assume no liability for defects, damage and injuries resulting from a failure to observe the installation, repair and operating instructions of the information contained in them.

This liability exclusion particularly applies to improper installations and repairs, installations and repairs by untrained persons or in the case of a failure to use genuine spare parts.

The liability due to culpable disregard to life, limb or health and due to damage or injuries caused by a wilful or reckless breach of duty remain unaffected, as does the obligatory product liability.

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties. Insulate loose wire ends and tie back.

Sharp edges should be fitted with rub protection (split-open fuel hose)! Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

Observe the instructions and guidelines of the respective vehicle manufacturer for demounting and mounting vehicle specific components!

The initial startup is to be executed with the Webasto Thermo Test Diagnosis.

When installing an IPCU, the corresponding settings must be checked or adjusted before the installation.

2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 03 5627

NOTE

The regulations of these guidelines are binding in the scope of the Directive 70/156/EEC and/or 2007/46/EC (for new vehicle models from 29/04/2009) and should also be observed in countries in which there are no special regulations.

IMPORTANT

Failure to follow the installation instructions will result in the invalidation of the type approval for the heater and therefore invalidation of the general **homologation of the vehicle**.

NOTE

For vehicles with an EU permit, no entry in accordance with § 19 Sub-Section 4 of Annex VIII b to the Road Traffic Act is required.

2.1 Excerpt from the directive 2001/56/EC Appendix VII for the installation of the heater

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

1.7.1. A clearly visible tell-tale in the operator's field of view shall inform when the combustion heater is switched on or off.

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

2.1.1. Subject to paragraph 2.1.2. combustion heaters shall be installed according to the requirements of this Annex.

2.1.2. Vehicles of category O having liquid fuel heaters are deemed to comply with the requirements of this Annex.

2.2. Positioning of heater

2.2.1. Body sections and any other components in the vicinity of the heater must be protected from excessive heat and the possibility of fuel or oil contamination.

2.2.2. The combustion heater shall not constitute a risk of fire, even in the case of overheating. This requirement shall be deemed to be fulfilled if the installation ensures an adequate distance to all parts and suitable ventilation, by the use of fire resistant materials or by the use of heat shields.

2.2.3. In the case of M2 and M3 vehicles, the heater must not be positioned in the passenger compartment. However, an installation in an effectively sealed envelope which also complies with the conditions in paragraph 2.2.2 may be used.

2.2.4. The label referred to in paragraph 1.4 or a duplicate, must be positioned so that it can be easily read when the heater is installed in the vehicle.

2.2.5. Every reasonable precaution should be taken in positioning the heater to minimise the risk of injury and damage to personal property.

2.3. Fuel supply

2.3.1. The fuel filler must not be situated in the passenger compartment and must be provided with an effective cap to prevent fuel spillage.

2.3.2. In the case of liquid fuel heaters, where a supply separate to that of the vehicle is provided, the type of fuel and its filler point must be clearly labelled.

2.3.3. A notice, indicating that the heater must be shut down before refuelling, must be affixed to the fuelling point. In addition a suitable instruction must be included in the manufacturer's operating manual.

2.4. Exhaust system

2.4.1. The exhaust outlet must be located so as to prevent emissions from entering the vehicle through ventilators, heated air inlets or opening windows.

2.5. Combustion air inlet

2.5.1. The air for the combustion chamber of the heater must not be drawn from the passenger compartment of the vehicle.

2.5.2. The air inlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

2.6. Heating air inlet

2.6.1. The heating air supply may be fresh or recirculated air and must be drawn from a clean area not likely to be contaminated by exhaust fumes emitted either by the propulsion engine, the combustion heater or any other vehicle source.

2.6.2. The inlet duct must be protected by mesh or other suitable means.

2.7. Heating air outlet

2.7.1. Any ducting used to route the hot air through the vehicle must be so positioned or protected that no injury or damage could be caused if it were to be touched.

2.7.2. The air outlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

End of excerpt.

In multilingual versions the German language is binding.

Opel Astra

Notes on Validity

This installation documentation applies to the vehicles Opel Astra Petrol and diesel - for validity, see page 1 - from model year 2011 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

Vehicle and engine types, equipment variants and other specifications not listed in this installation documentation have not been tested. However, installation according to this installation documentation may be possible.

Technical Instructions

Special Tools

- Hose clamp pliers for self-clamping hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper 0.2 - 6mm²
- Crimping pliers for cable lug / tab connector 0.5 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Webasto Thermo Test diagnosis with current software

Dimensions

- All dimensions are in mm.

Tightening torque values

- Tightening torque values of 5x13 heater bolts = 8Nm.
- Tightening torque of 5x15 bolt of water connection piece retaining plate = 7Nm.
- Tighten other bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art-technology.

Explanatory Notes on Document

You will find an identification mark on the outside top right corner of the page in question to provide you with a quick overview of the individual working steps.

Special features are highlighted using the following symbols:

Mechanical system



Electrical system



Coolant circuit



Combustion air



Fuel



Exhaust gas



Software



Specific risk of injury or fatal accidents



Specific risk of damage to components



Specific risk of fire and explosion



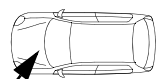
Reference to general installation instructions of the Webasto components or to the manufacturer's vehicle-specific documents



Reference to a special technical feature



The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle



Opel Astra

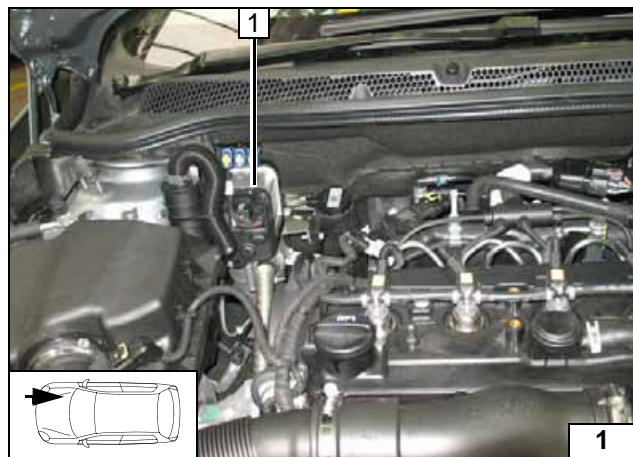
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery.
- Completely remove the air filter.
- Remove the windscreen wiper.
- Remove the coolant reservoir cap.
- Remove the coolant reservoir.
- Remove the windscreen wiper motor with linkage.
- Remove the upper engine cover (diesel only).
- Remove the insulation mat of the firewall on the right.
- Remove the right wheel.
- Loosen the right wheel-well inner panel.
- Remove the fuel-tank (petrol only).
- Remove the fuel-tank sending unit in accordance with the manufacturer's instructions (petrol only).
- Remove the footwell trim on the front passenger's side.
- Remove the glove compartment.
- Remove the driver's side storage compartment.
- Remove the lateral instrument panel trim of the centre console on the driver's and the front passenger's side.
- Remove the A-pillar trim on the front passenger's side.

Heater

- Remove years that do not apply from the type and duplicate label.

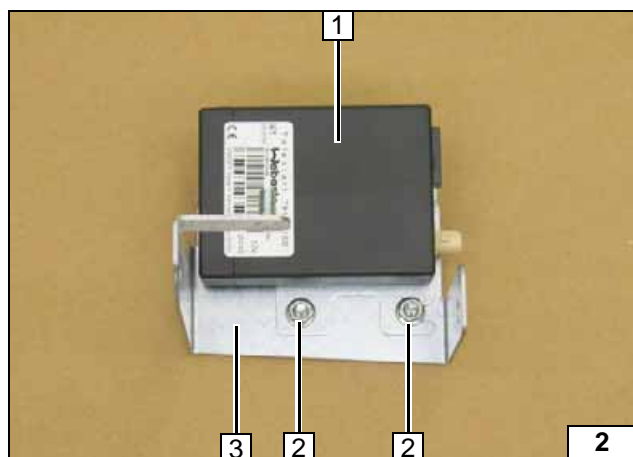
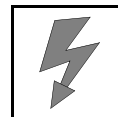


Heater Installation Location

Image shows diesel vehicle.

1 Heater

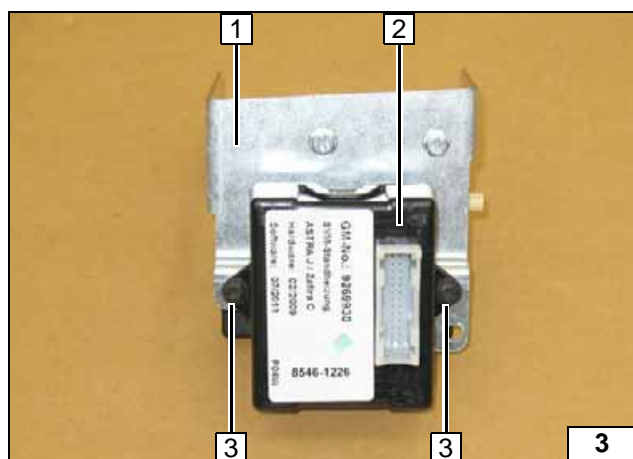
Installation
location



Preparing Electrical System

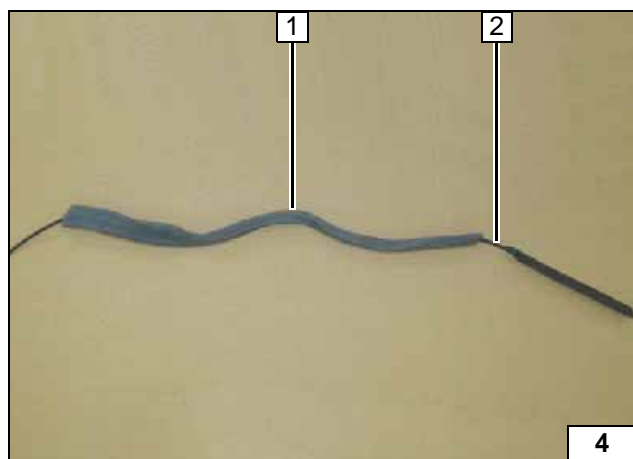
- 1 Receiver
- 2 M5x12 bolt, flanged nut [2x each]
- 3 Bracket of SVM-Module

Mounting receiver



- 1 Bracket of SVM-Module
- 2 SVM-Module
- 3 3.5x13 self-tapping screw [2x]

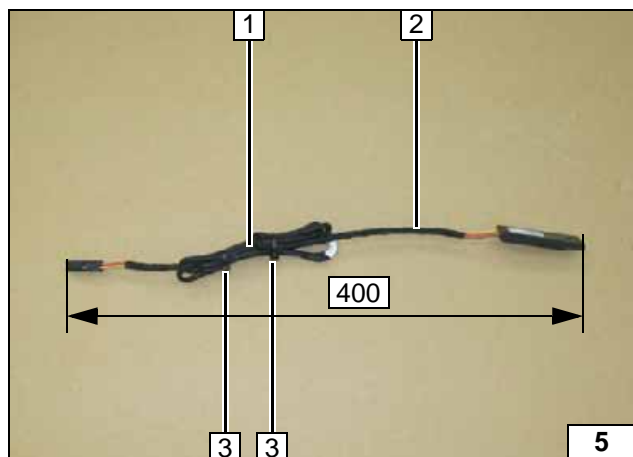
Installing SVM-Module



Glue 400mm of foam 1 around antenna cable 2.



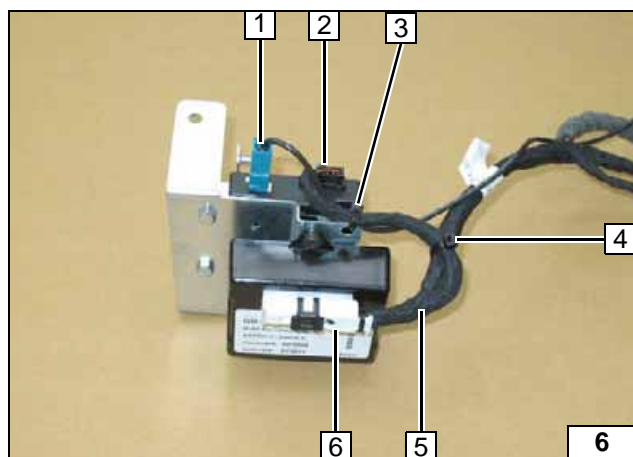
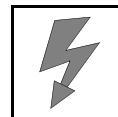
Preparing antenna



Lump together wiring harness of temperature sensor 2 at position 1 and fasten it using cable tie 3.

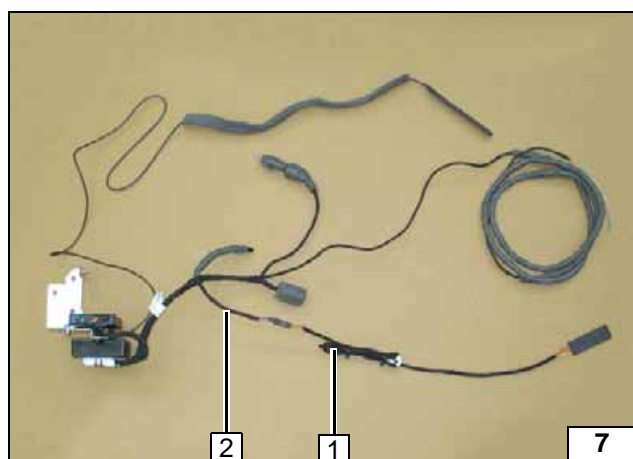


Preparing temperature sensor



- 1 Connector of antenna
- 2 Connector of receiver
- 3 Cable tie through hole of bracket
- 4 Cable tie
- 5 Wiring harness of passenger compartment
- 6 Connector of SVM-Module

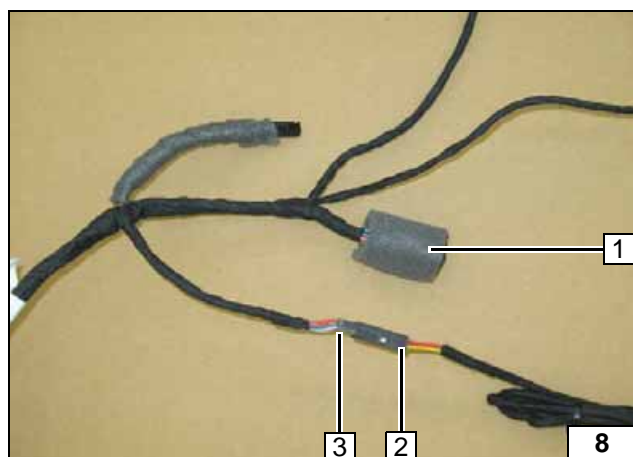
Attaching wiring harness of passenger compartment



Attach temperature sensor 1 to wiring harness of passenger compartment 2 (see figure 8).



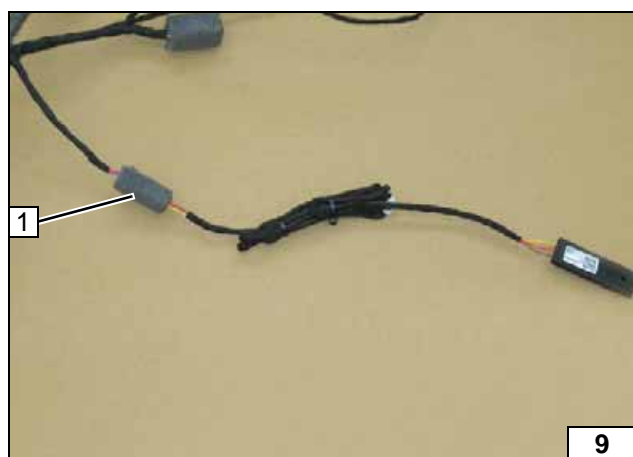
Connecting wiring harness of passenger compartment



Glue 40mm of foam 1 around connector of wiring harness of passenger compartment with wiring harness of engine compartment.



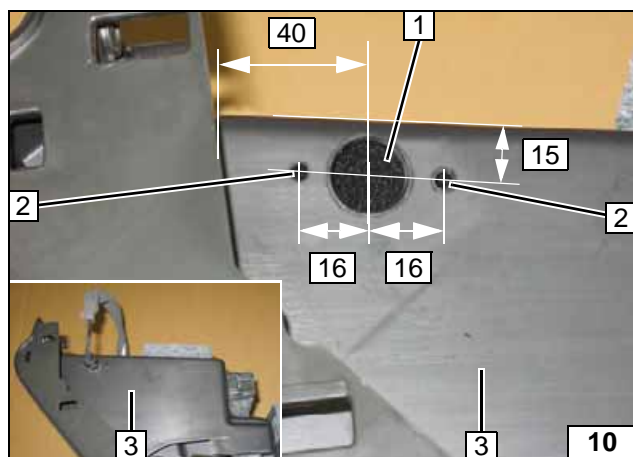
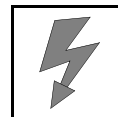
Connecting wiring harness of passenger compartment



Glue 40mm of foam 1 around connector of temperature sensor.

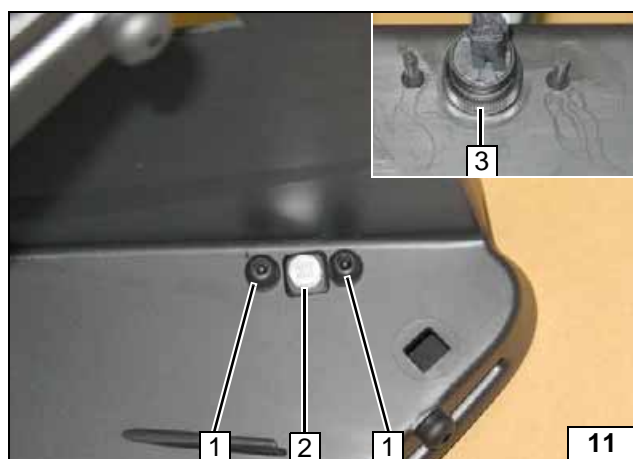


Preparing wiring harness of passenger compartment



- 1 16mm dia. hole
- 2 4mm dia. hole [2x]
- 3 Glove compartment

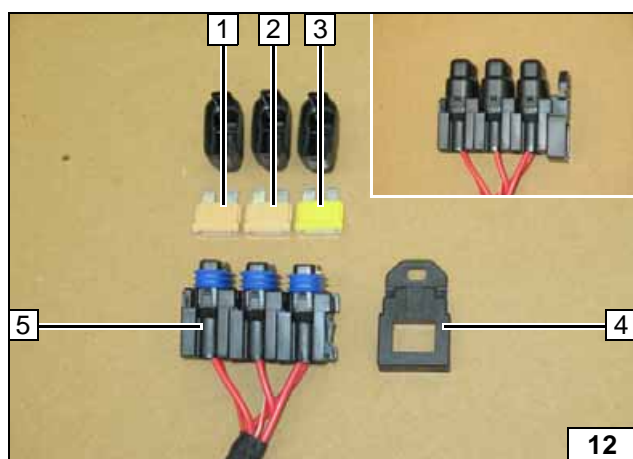
Preparing glove compartment



Glue foam around wiring harness of push button.

- 1 Rubber plug [2x]
- 2 Push button
- 3 Nut of push button

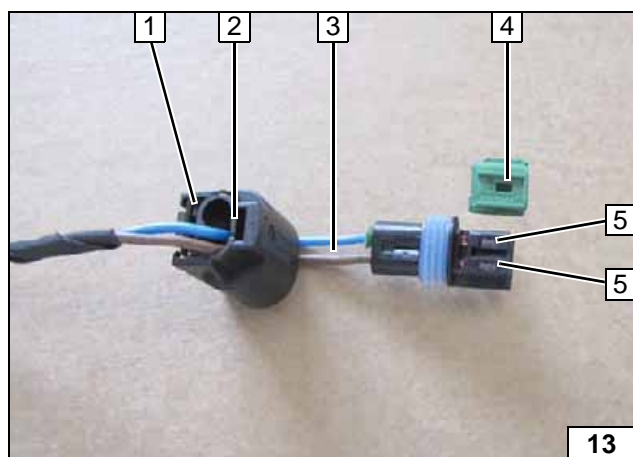
Installing push button



Remove fuses 1; 2; 3 from fuse holder.

- 1 5A fuse
- 2 5A fuse
- 3 20A fuse
- 4 Retaining plate for fuse holder
- 5 Fuse holder

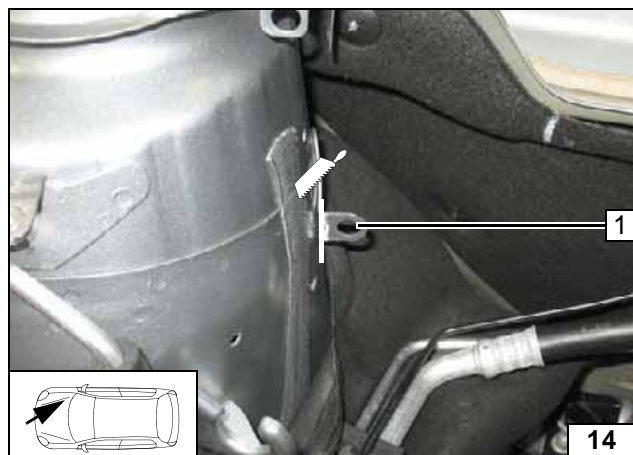
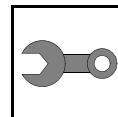
Preparing wiring harness of heater



Complete connector of metering pump again after routing. Pin assignment is not relevant.

- 1 Connector housing
- 2 Lock
- 3 Blue/brown (bl / br) wires
- 4 Coding
- 5 Timer lock

Removing connector

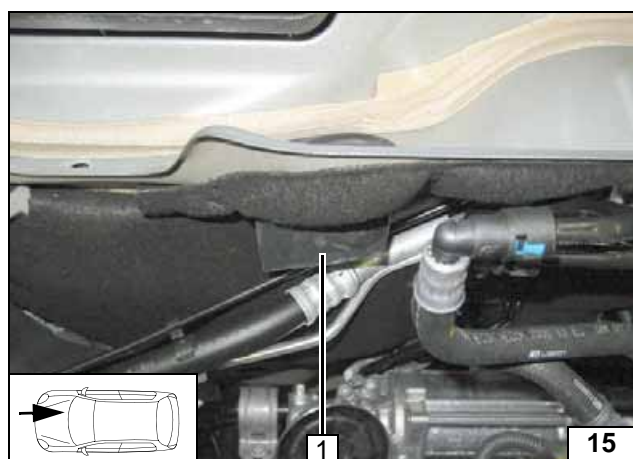


Preparing Installation Location

Saw off tab 1 at the marking.



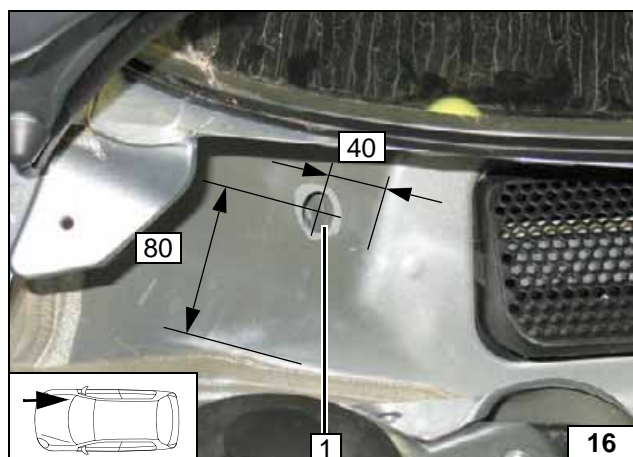
**Sawing off
tab**



Replace plastic coolant reservoir drain with rubber coolant reservoir drain at position 1.

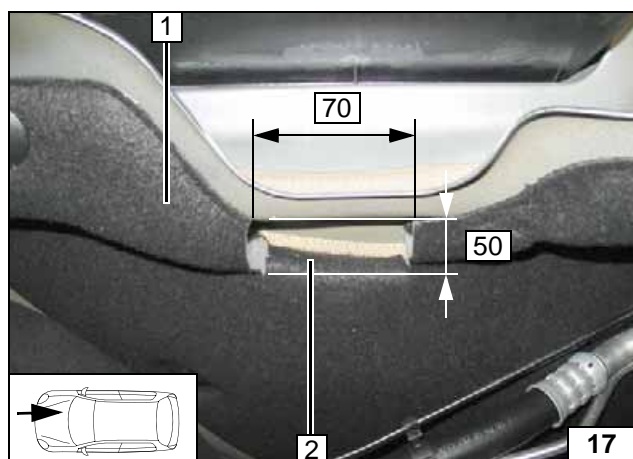


**Preparing
coolant
reservoir**



1 20mm dia. hole

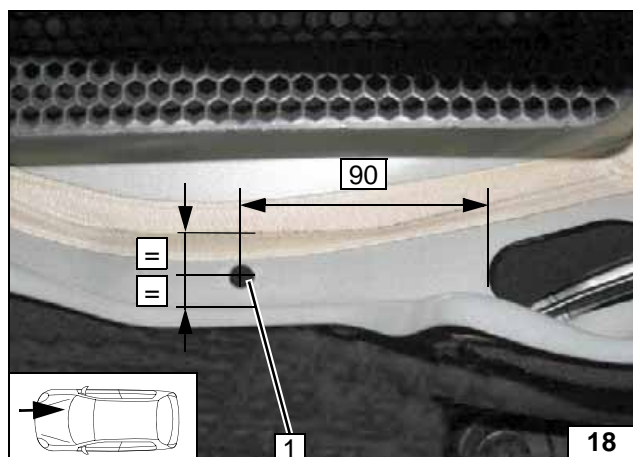
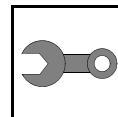
**Hole in fire-
wall**



Cut out insulation mat 1 at position 2.

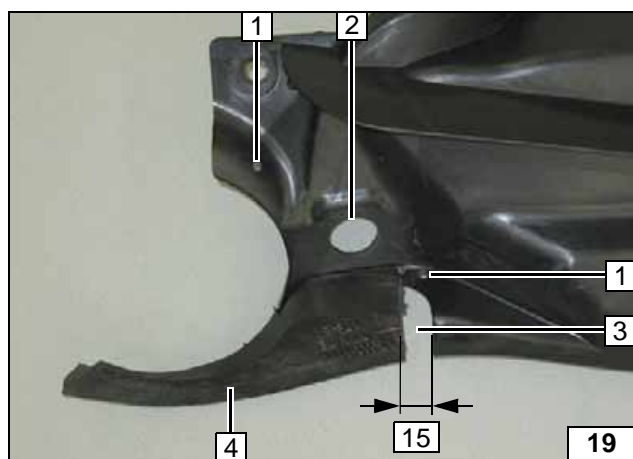


**Cutting out
insulation
mat**



1 10mm dia. hole

Hole in
coolant
reservoir

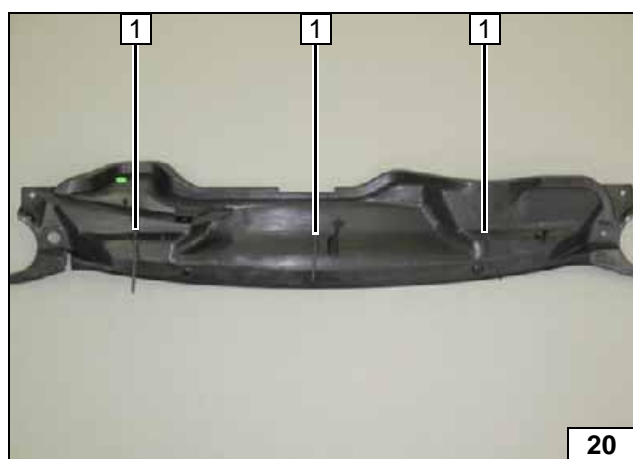


Cut out foam 4 from coolant reservoir cap at position 3.

- 1 5 mm dia. hole [2x]
- 2 Drill out hole to 18mm dia.



Preparing
coolant
reservoir
cap



1 6mm dia. hole, insert hole cable tie [3x]

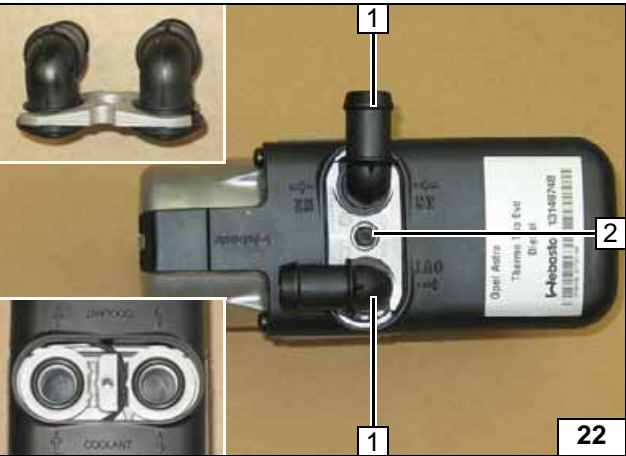
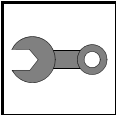
Preparing
coolant
reservoir
cap



Cut out coolant reservoir cap 1 at the marking.



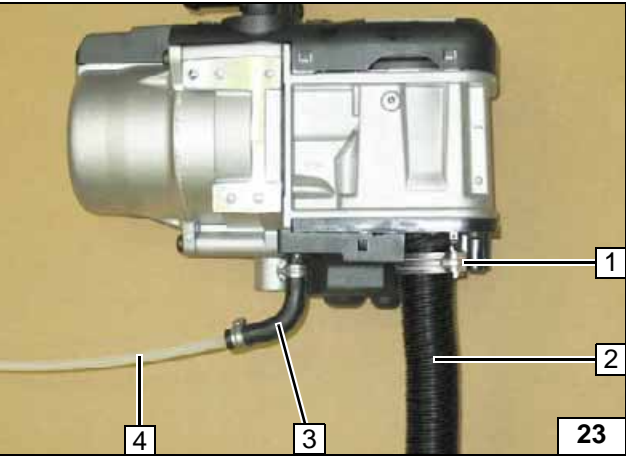
Preparing
coolant
reservoir
cap



Preparing Heater

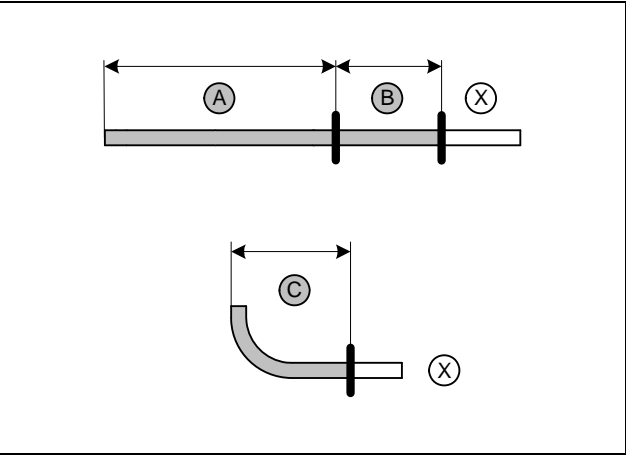
- 1 Water connection piece, sealing ring [2x each]
- 2 5x15 self-tapping bolt, retaining plate of water connection pieces

Installing water connection pieces



- 1 25mm dia. Caillau clamp
- 2 Combustion air pipe
- 3 90° moulded hose, clamp [2x]
- 4 Fuel line

Premounting heater

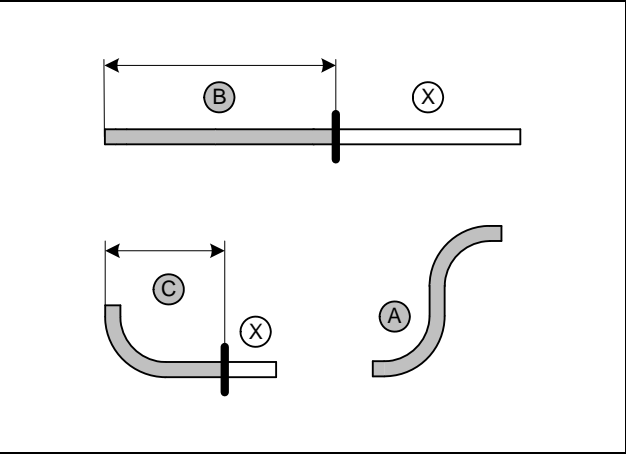


1.4, 1.6 B and 1.7 D

Discard section X.
Hose C = 90° moulded hose

	1.4 B	1.6 B	1.7 D
A =	380	410	410
B =	70	70	70
C =	550	610	550

Cutting hoses to length



2.0 D

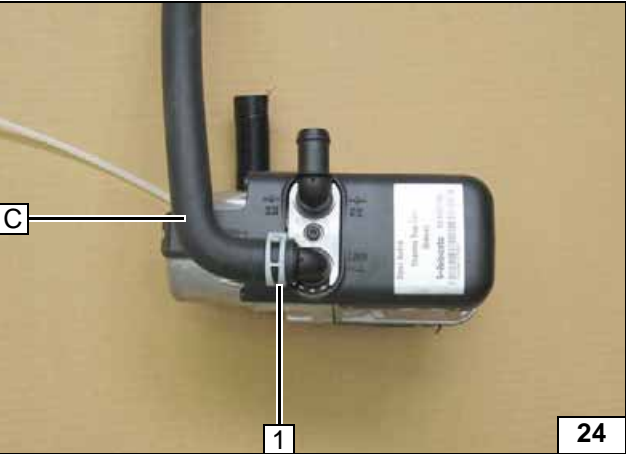
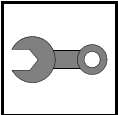
Discard section X.
Hose A = 180° moulded hose
Hose C = 90° moulded hose

- B = 410
- C = 610

Cutting hoses to length



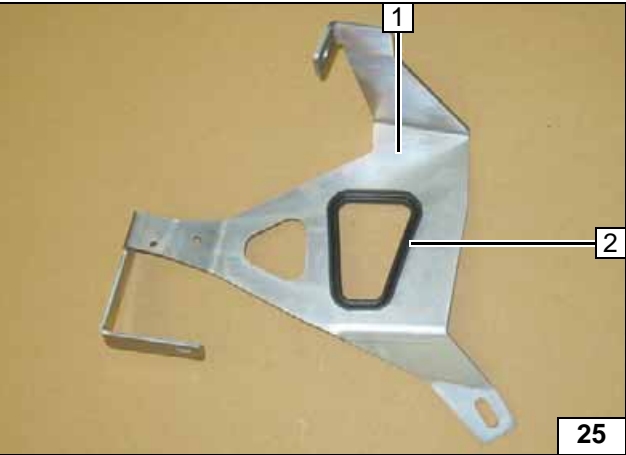
Opel Astra



All vehicles

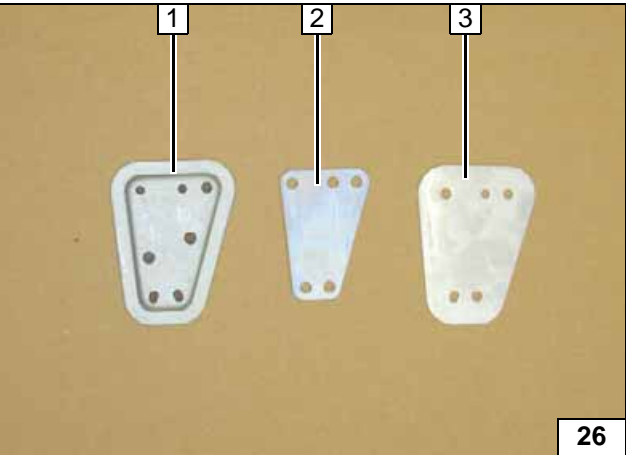
- 1 27 mm dia. spring clip

Mounting
coolant
hose



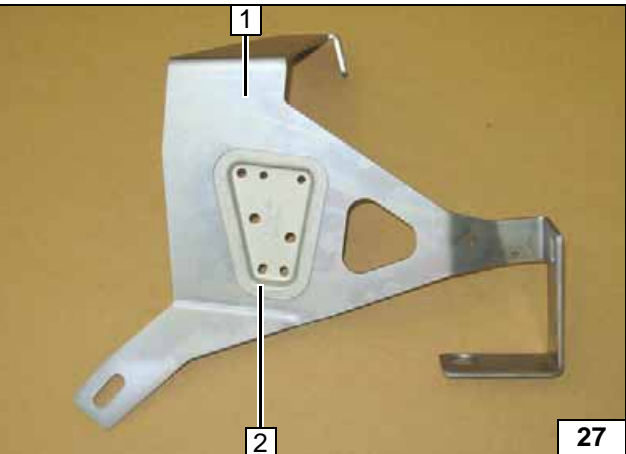
- 1 Bracket
- 2 Decoupling rubber

Preparing
bracket



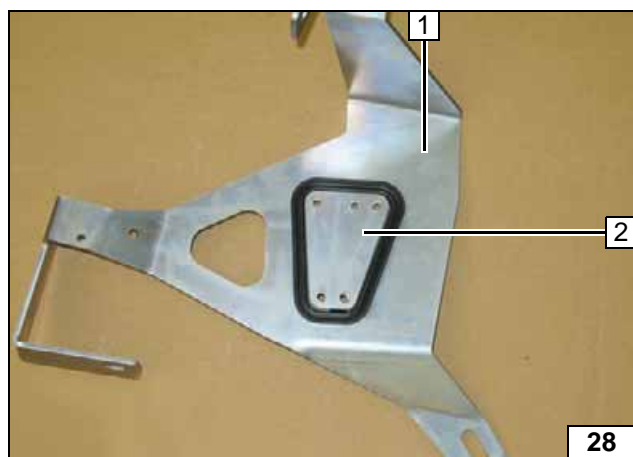
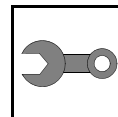
- 1 Clamping plate part 1
- 2 Intermediate plate
- 3 Clamping plate part 2

Preparing
bracket



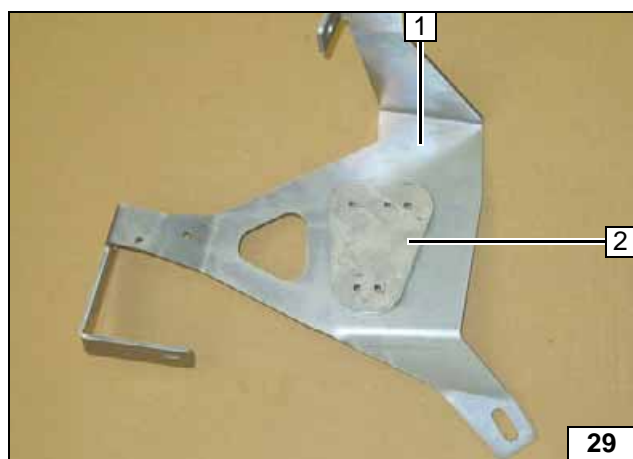
- 1 Bracket
- 2 Clamping plate part 1

Preparing
bracket



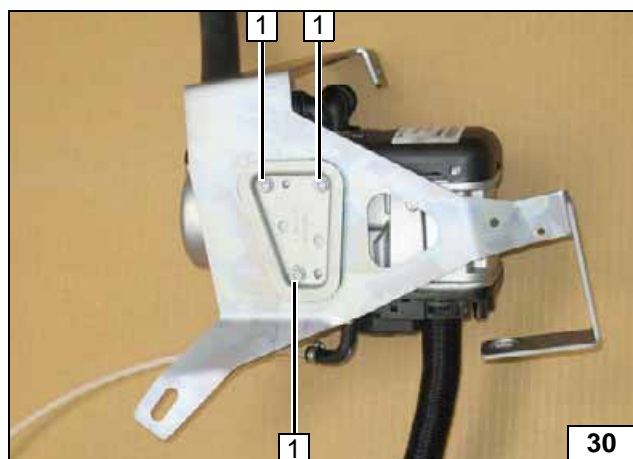
- 1 Bracket
- 2 Intermediate plate

**Preparing
bracket**



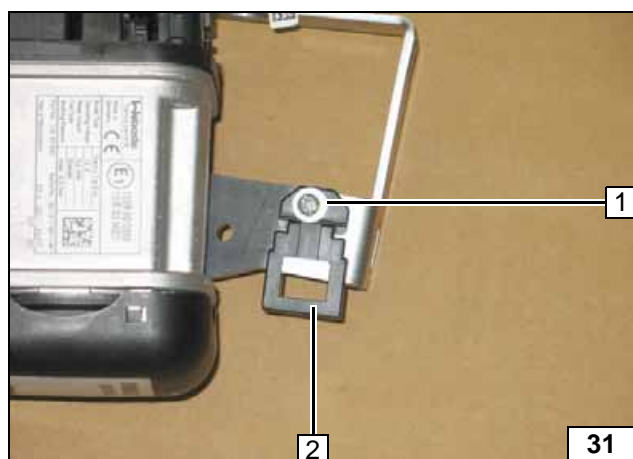
- 1 Bracket
- 2 Clamping plate part 2

**Preparing
bracket**



- 1 5x13 self-tapping bolt [3x]

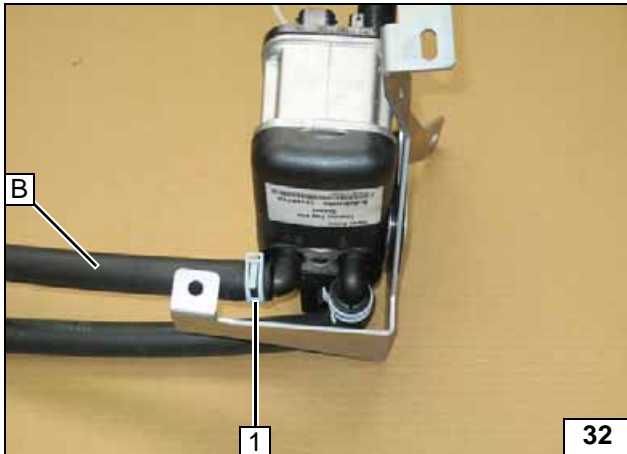
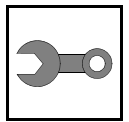
**Installing
bracket**



- 1 M4x12 bolt, large diameter washer [2x], nut
- 2 Retaining plate for fuse holder

**Installing
retaining
plate of
fuse holder**

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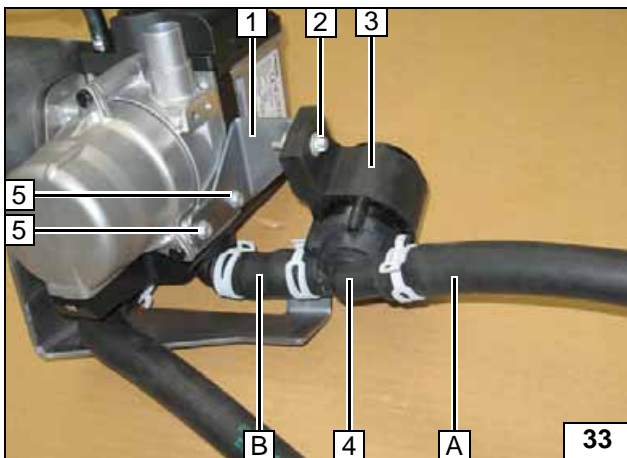


2.0 D

- 1 27 mm dia. spring clip



**Mounting
coolant
hose**



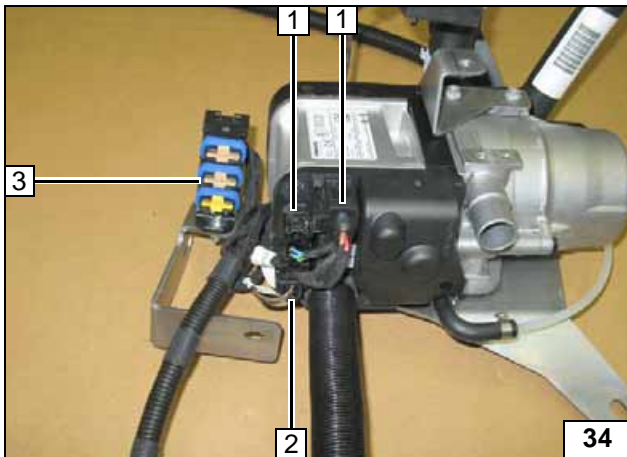
1.4, 1.6 B and 1.7 D

All spring clips = 27 mm dia.

- 1 Bracket of circulating pump
- 2 M6x25 bolt
- 3 Mounting of circulating pump
- 4 Circulating pump
- 5 5x13 self-tapping bolt [2x]



**Mounting
coolant
hoses**

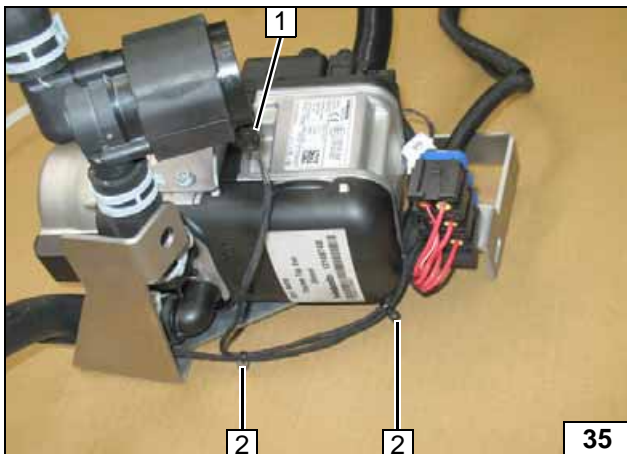


All vehicles

- 1 Mount wiring harness of heater [2x]
- 2 Mount wiring harness of circulating pump
- 3 Fuse holder on retaining plate



**Installing
wiring har-
ness**



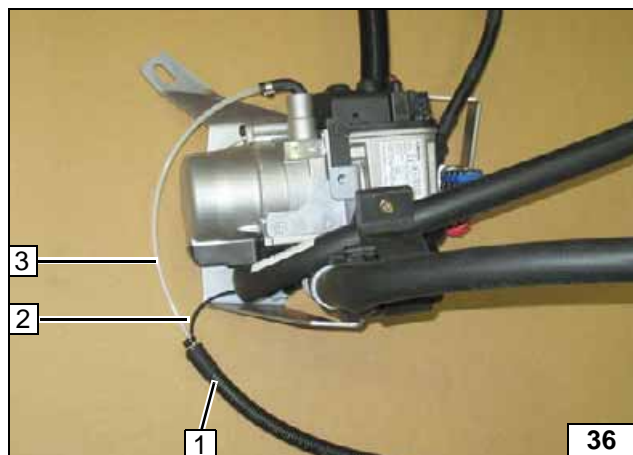
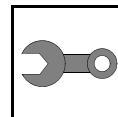
Attach wiring harness of circulating pump 1, all vehicles except 2.0I D.

- 2 Cable tie (wiring harness of metering pump and wiring harness of circulating pump)



**Installing
hoses**

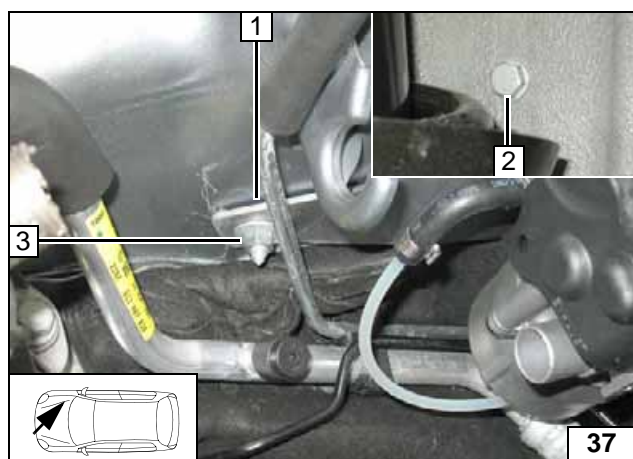
Opel Astra



Pull fuel line **3** and wiring harness of metering pump **2** into corrugated tube **1**.



Preparing heater



Installing Heater

Insert between bracket and body at position **1** one large diameter washer each.

- 2** M8x20 bolt, large diameter washer, existing hole
- 3** Large diameter washer, flanged nut

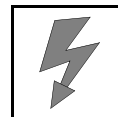


Mounting heater



- 1** M8x20 bolt, large diameter washer [2x], flanged nut

Mounting heater

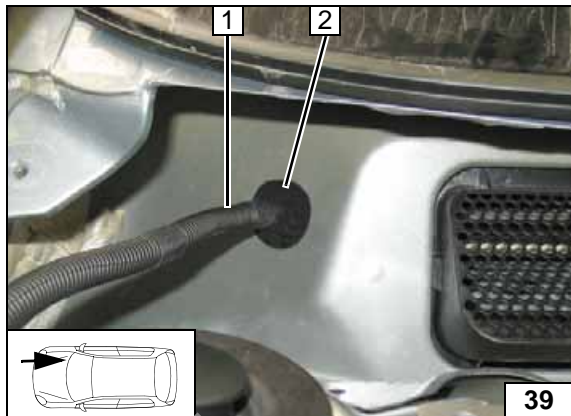


Electrical System



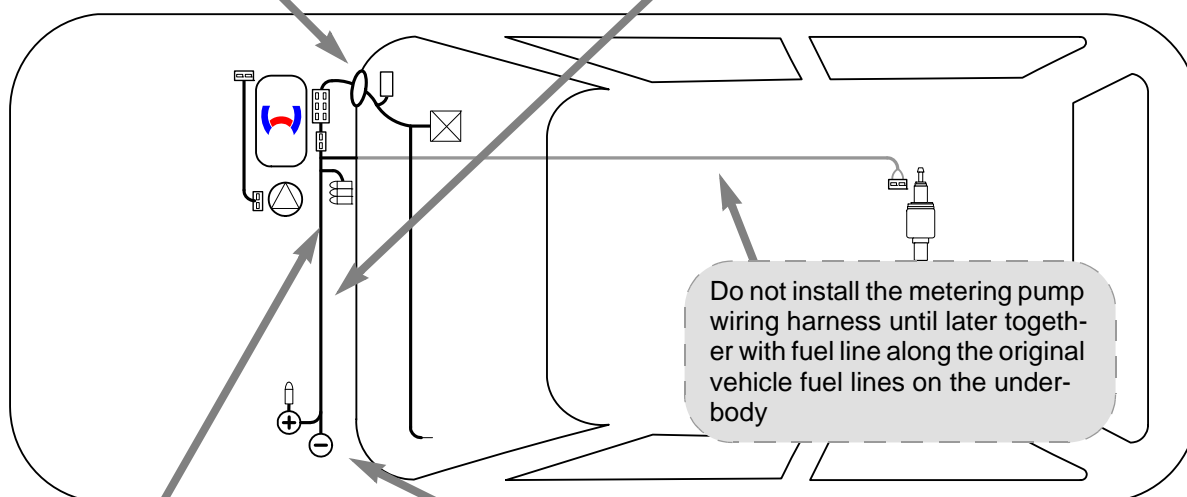
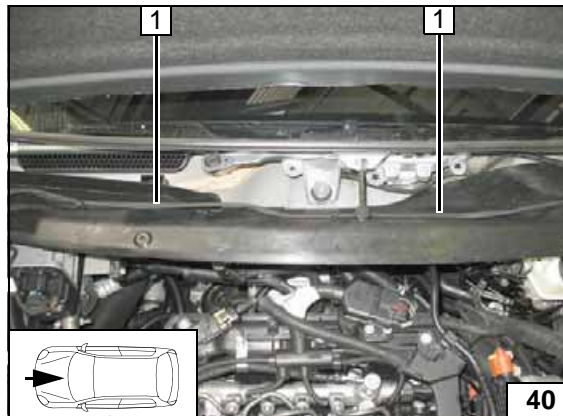
Wiring harness pass through

- 1 Wiring harnesses of Telestart, SVM-Module
- 2 Protective rubber plug

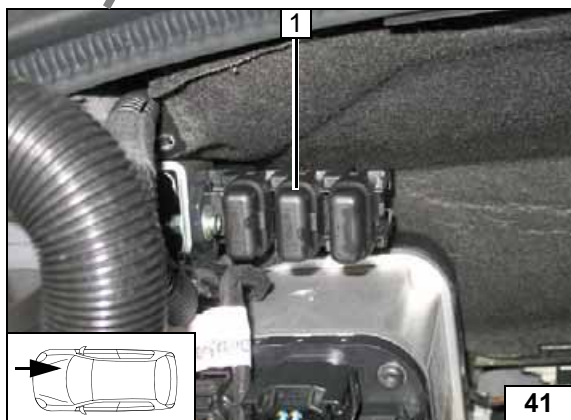


Wiring harness routing

- 1 Fasten wiring harness of heater to coolant reservoir cap using hole cable tie

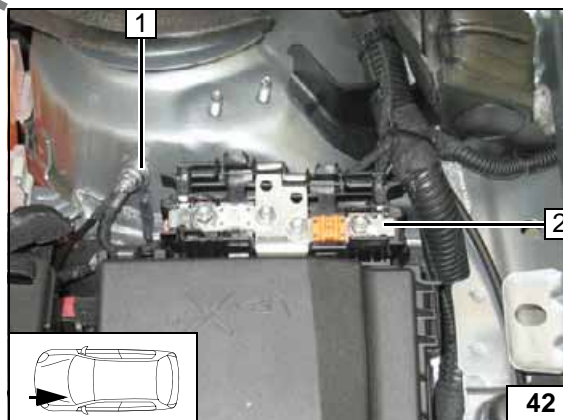


Wiring harness routing diagram



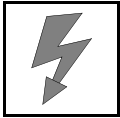
Engine compartment fuse holder

- 1 Fuses F2-4 (will be inserted later)



Positive and earth wire

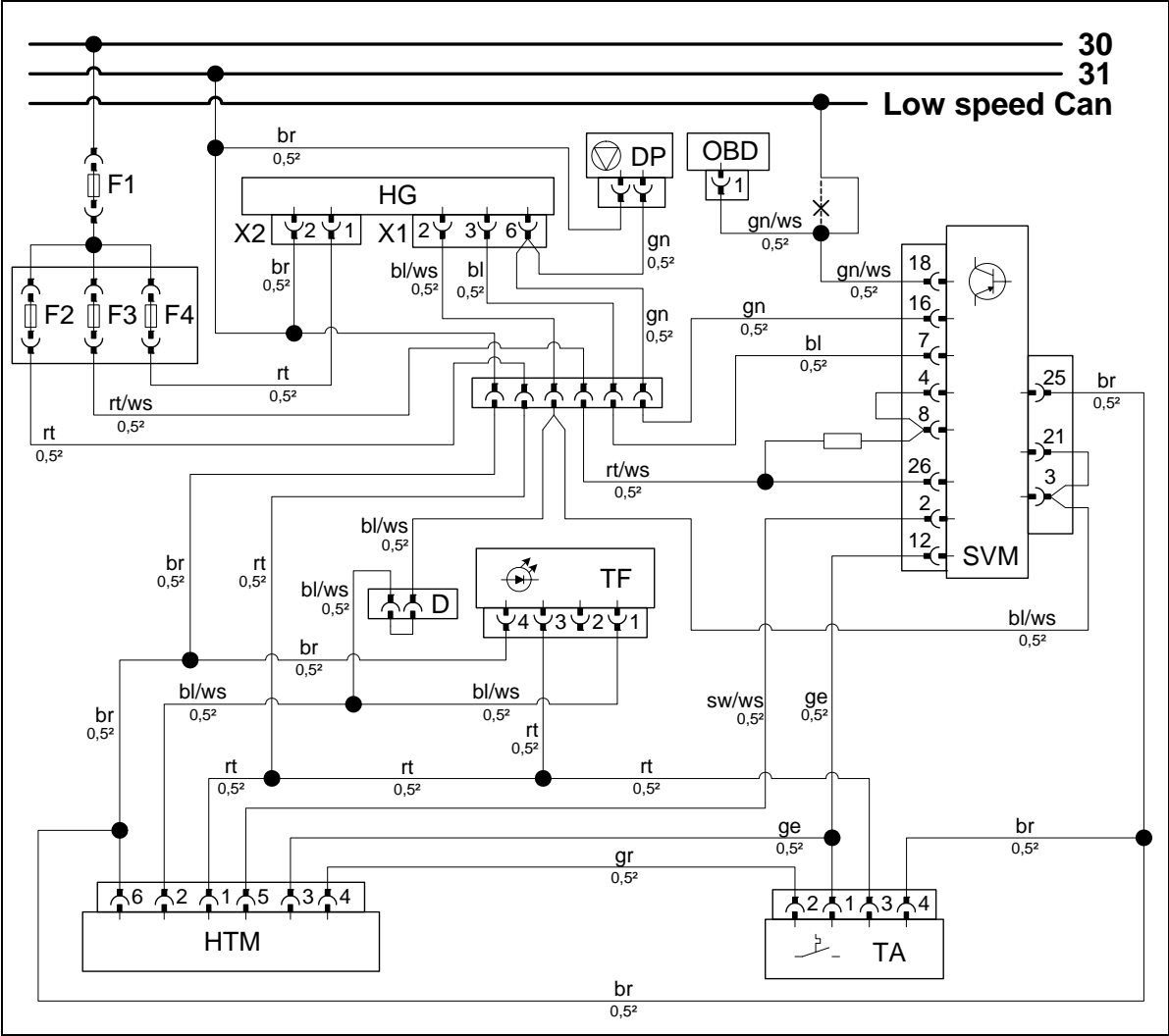
- 1 Earth wire at original vehicle earth support point
- 2 Positive wire on positive support point



Vehicle-Specific Wiring Harness

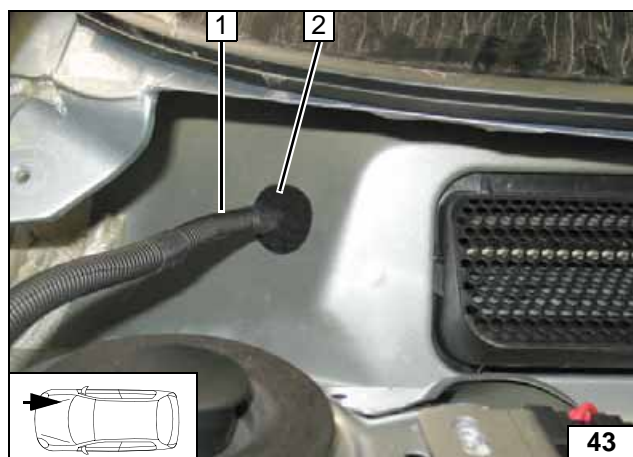
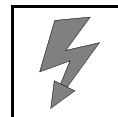


Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	SVM	Special Vehicle Module	rt	red
X1	6-pin heater connector			sw	black
X2	2-pin heater connector			ge	yellow
HTM	Telestart HTM 100			gn	green
TF	Temperature sensor			gr	grey
TA	Push button			ws	white
D	Diagnosis connector			bl	blue
F1	Fuse 30A			br	brown
F1	Fuse 30A				
F2	Fuse 5A				
F3	Fuse 5A				
F4	Fuse 20A				
				X	Cutting point
				Wiring colours may vary.	

Legend



- 1 Wiring harness of passenger compartment
- 2 Protective rubber plug

Wiring harness pass through



Prior to installation of coolant reservoir, install windscreen wiper motor. Insert large diameter washer [3x] at position 1 to serve as a height adjustment.

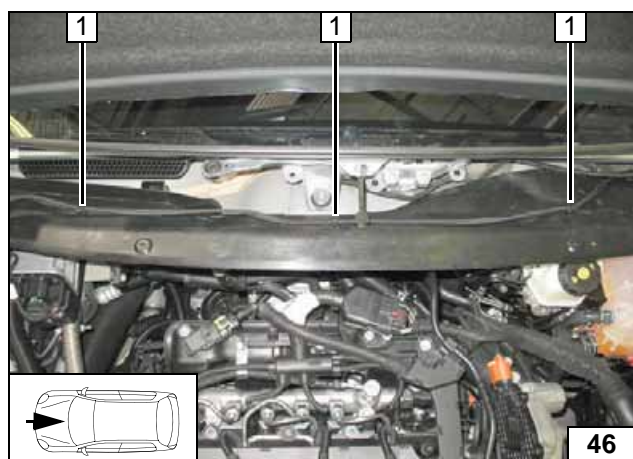
- 1 Original vehicle bolt, large diameter washer [3x]

Installing coolant reservoir cap



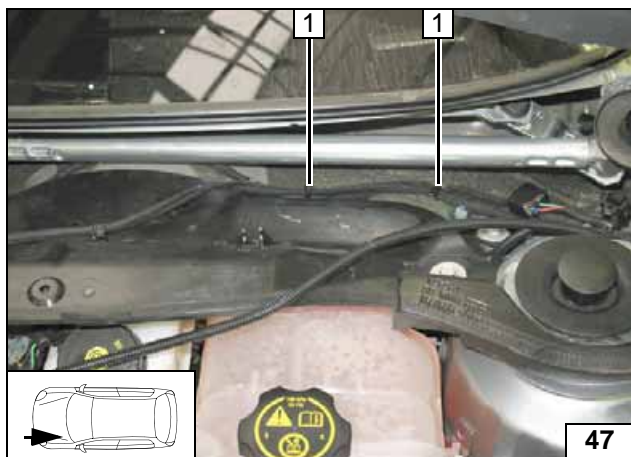
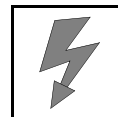
- 1 Cable tie on wiring harness of heater and through 5mm dia. hole of coolant reservoir cap [2x]
- 2 Cable tie on wiring harness of heater and windscreen wiper linkage

Wiring harness routing



- 1 Wiring harness of heater, hole cable tie [3x]

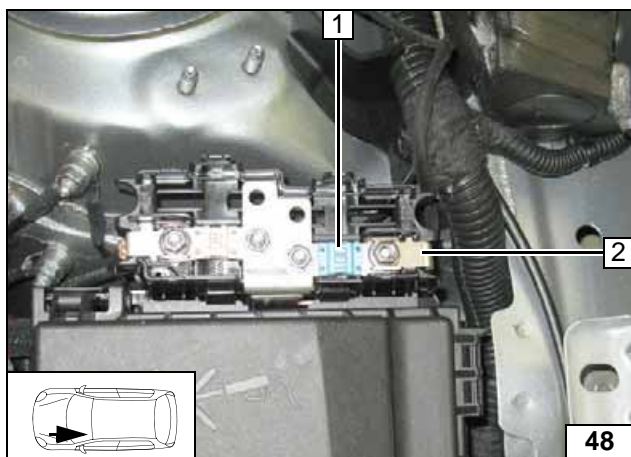
Wiring harness routing



Fasten wiring harness of heater **1** to original vehicle wiring harness with cable tie.



Wiring har-
ness rout-
ing

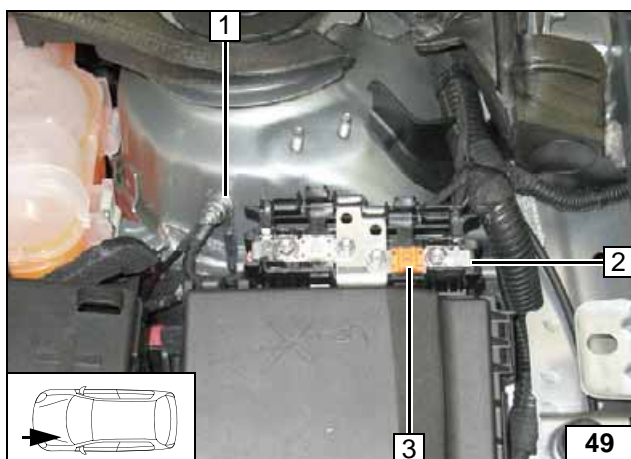


Only In Case of Vehicles with Electrical Auxiliary Heater

- 1 Remove 100A fuse
- 2 Remove wire of electrical auxiliary heater, insulate and tie it back

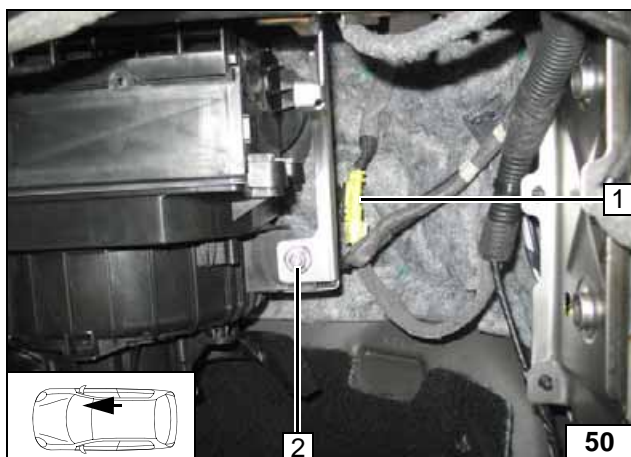


Connec-
tion of pos-
itive
support
point



- 1 Earth wire at original vehicle earth support point
- 2 Positive wire on positive support point
- 3 F1 30A fuse

Positive
and earth
connection

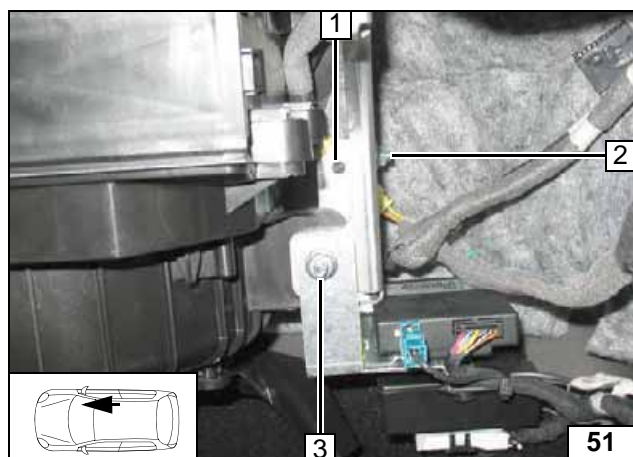
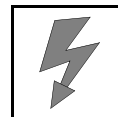


Replace original vehicle bolt at position **2** with M6x25 bolt and large diameter washer.

- 1 Detach connector of airbag from bracket.
- 2 M6x25 bolt, large diameter washer



Preparing
installation
location of
SVM-Mod-
ule

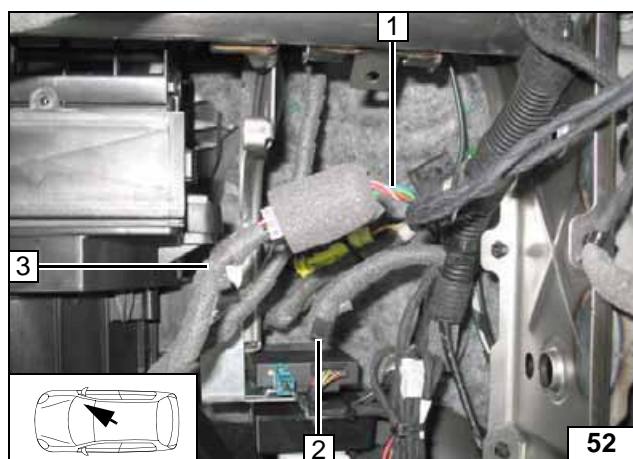


Insert stud bolt of SVM-Module bracket through hole of airbag connector and fasten it using flanged nut **2**. Clip connector of airbag **1** into bracket of SVM-Module.

3 Flanged nut



Installing SVM-Module

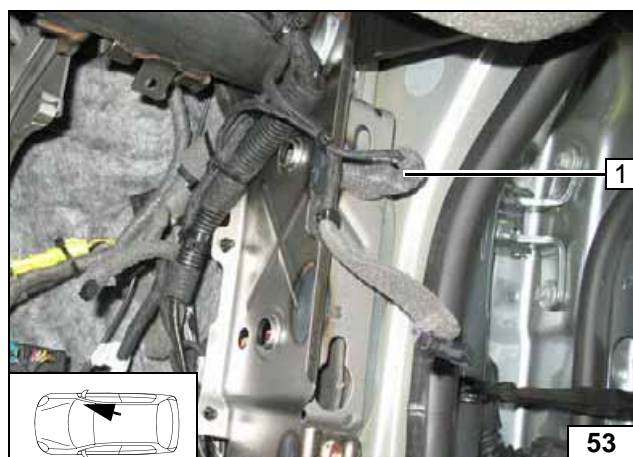


Connect wiring harness of heater **1** to wiring harness of passenger compartment **3** and fasten it to original vehicle wiring harness using cable tie.

2 Connector of push button

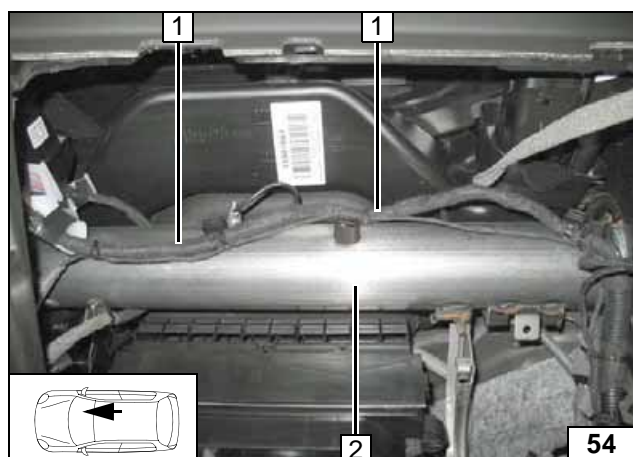


Connecting the wiring harnesses



1 Diagnosis connector

Wiring harness routing



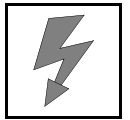
Fasten green/white (gn/ws) wire of SVM-module/OBD-socket outlet **1** to original vehicle wiring harness with cable tie.

2 Carrier of instrument panel



Wiring harness routing

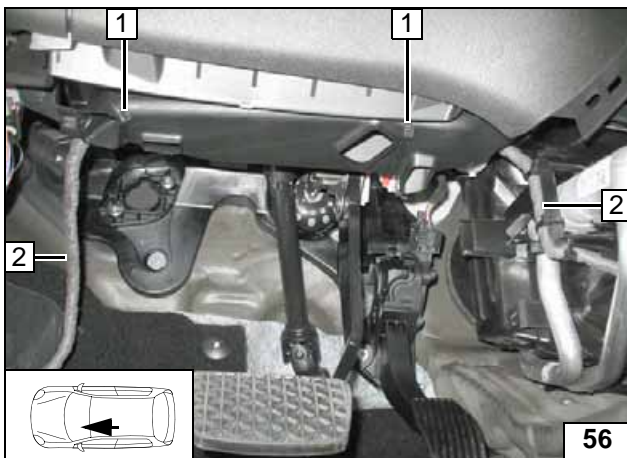
Opel Astra



Fasten green/white (gn/ws) wire of SVM-module/OBD-socket outlet **1** to original vehicle wiring harness with cable tie **2** and route it to the left side of the vehicle.



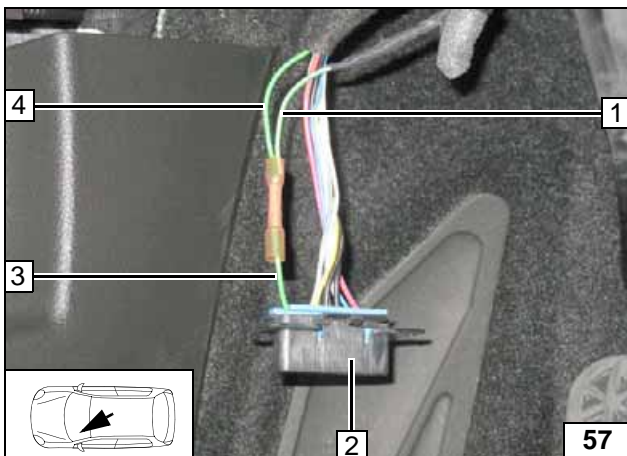
Wiring harness routing



Fasten green/white (gn/ws) wire of SVM-module/OBD-socket outlet **2** to ventilation duct with cable tie **1**.



Wiring harness routing

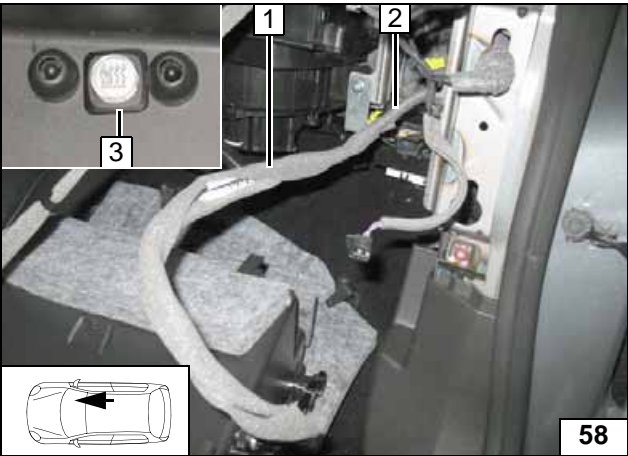
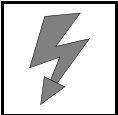


Connection to OBD-socket outlet **2**. Produce connections as shown in wiring diagram (crimp and shrink connectors).



Connection of OBD-socket outlet

- 1** Green/white (gn/ws) wire of SVM-module
- 3** Green (gn) wire of OBD-socket outlet, pin 1
- 4** Green (gn) wire of Low Speed Can



Telestart

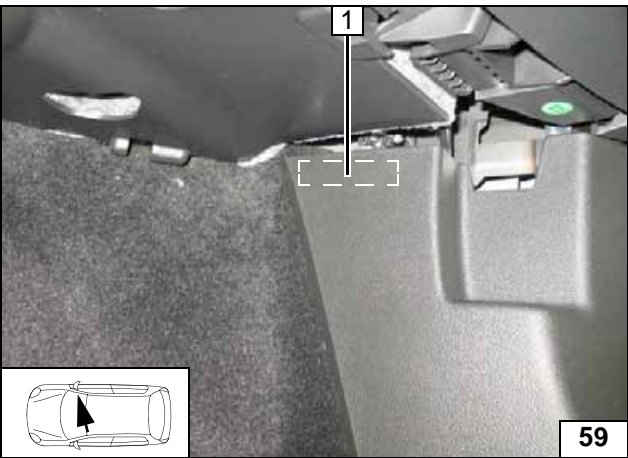
Push button

Connect wiring harness of push button 1 to wiring harness of passenger compartment 2.

- 3 Push button



Installing push button

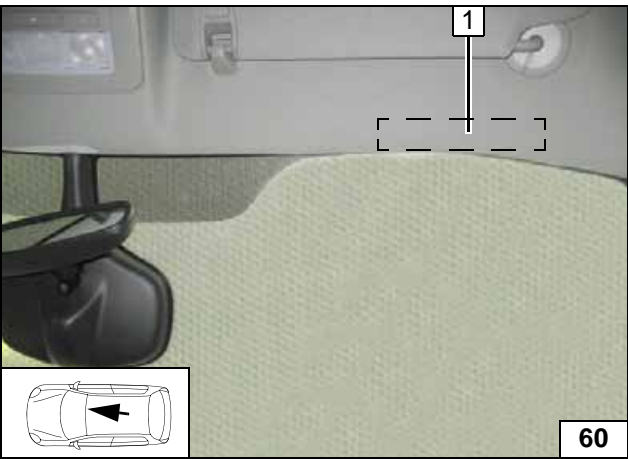


Installing T100 HTM temperature sensor

Fasten temperature sensor 1 (hidden) with adhesive tape.



Installing temperature sensor



- 1 Antenna (hidden)

Mounting antenna

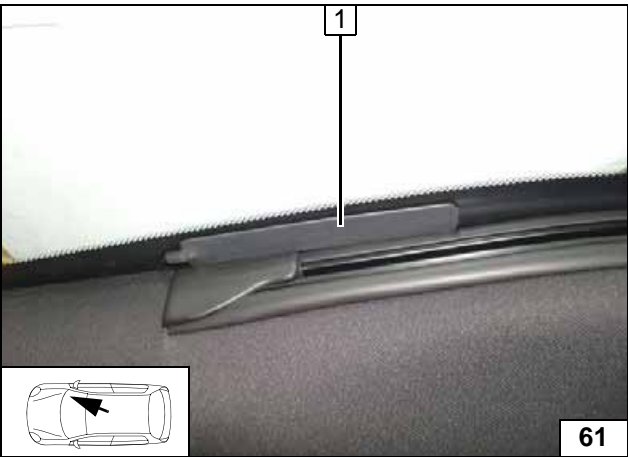


Image shows vehicle with panorama window.

- 1 Antenna



Mounting antenna

Opel Astra

Fuel

CAUTION!

Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

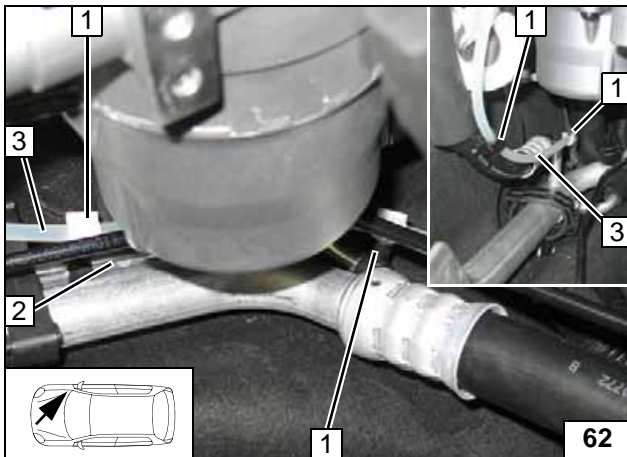
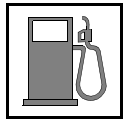
Catch any fuel running off with an appropriate container.

Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.

Mount the fuel line and wiring harness with rub protection on sharp edges.

WARNING!

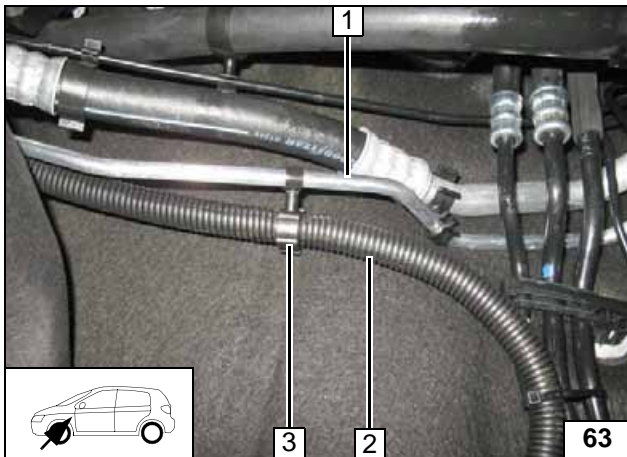
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



Small image shows GTC.

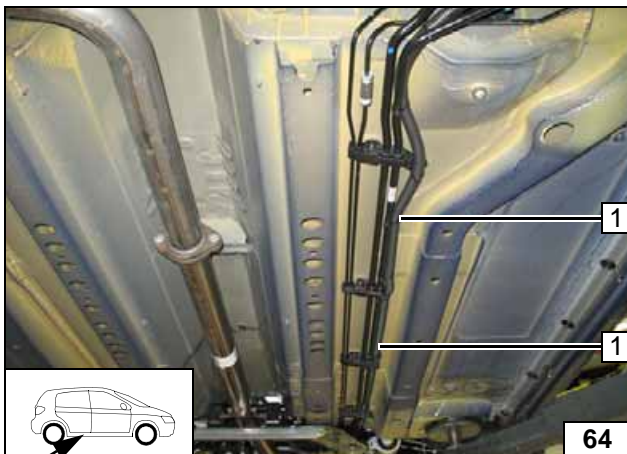
- 1 5x8mm hose bracket [2x]
- 2 A/C line
- 3 Fuel line

Routing lines



- 1 A/C line
- 2 Fuel line, wiring harness of metering pump in corrugated tube
- 3 9x13mm hose bracket

Routing lines

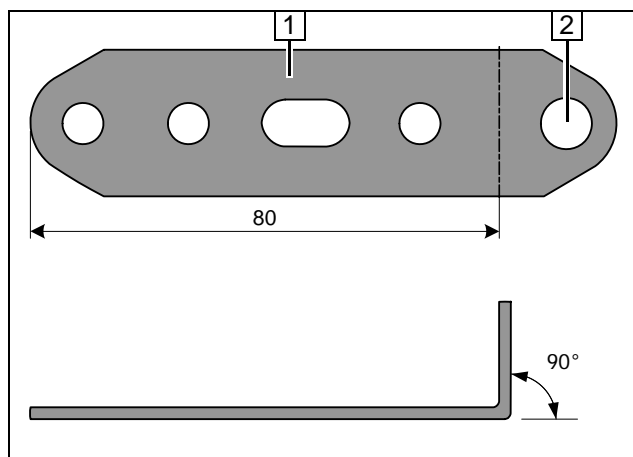
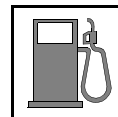


Fasten fuel line and wiring harness of metering pump in corrugated tube 1 to the original vehicle fuel lines with cable tie.



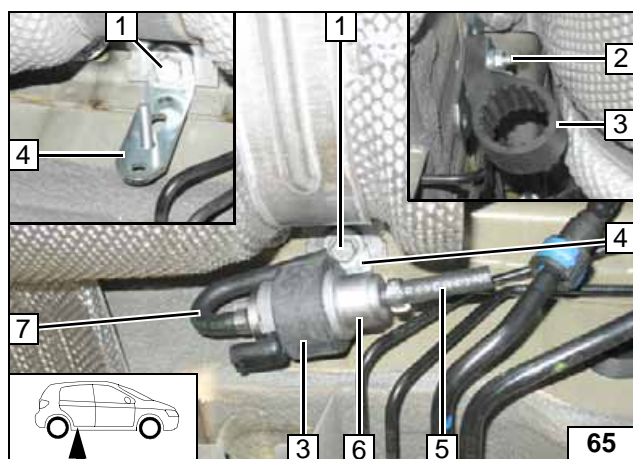
Routing lines

Opel Astra



- 1 Perforated bracket
- 2 Drill 8.5 mm dia. hole

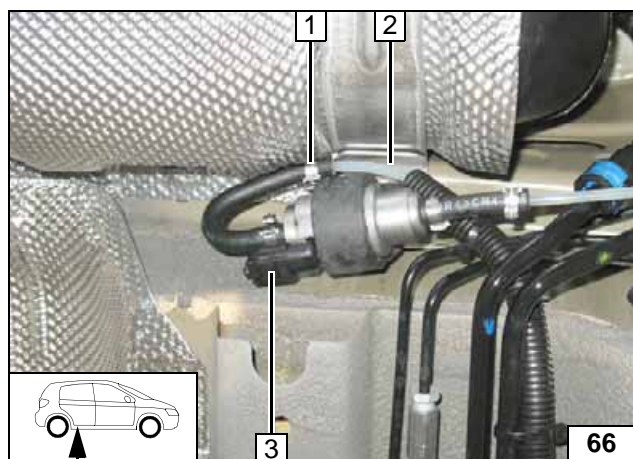
Preparing perforated bracket



Prior to installation, insert M6x25 bolt into perforated bracket 4 as shown.

- 1 Original vehicle bolt for fuel tank fastening
- 2 M6x25 bolt, support angle, flanged nut
- 3 Mounting of metering pump
- 4 Hose section, 10 mm dia. clamp
- 5 Metering pump
- 6 180° moulded hose, 10 mm dia. clamp

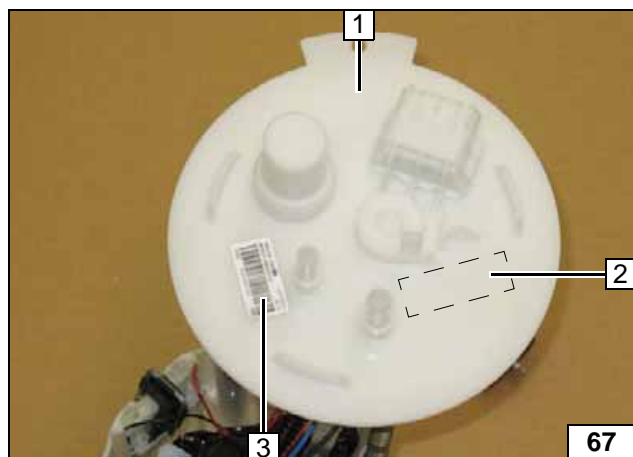
Mounting metering pump



- 1 10 mm dia. clamp
- 2 Fuel line
- 3 Wiring harness of metering pump, connector mounted



Removing fuel

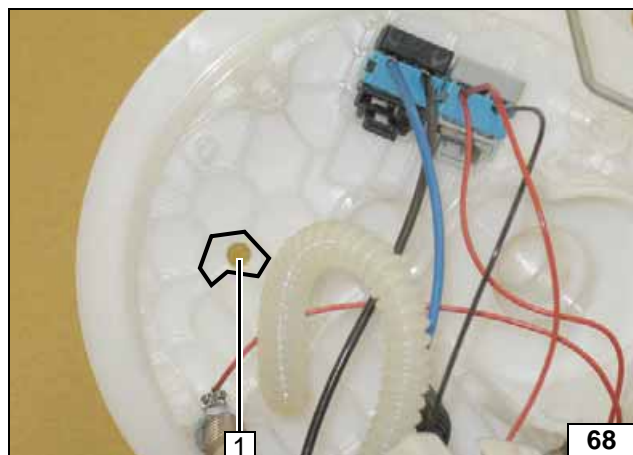
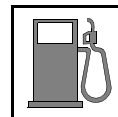


Petrol

Remove fuel-tank sending unit 1 in accordance with manufacturer's instructions. Move label 3 from position 2 to position 3.

Preparing fuel-tank sending unit

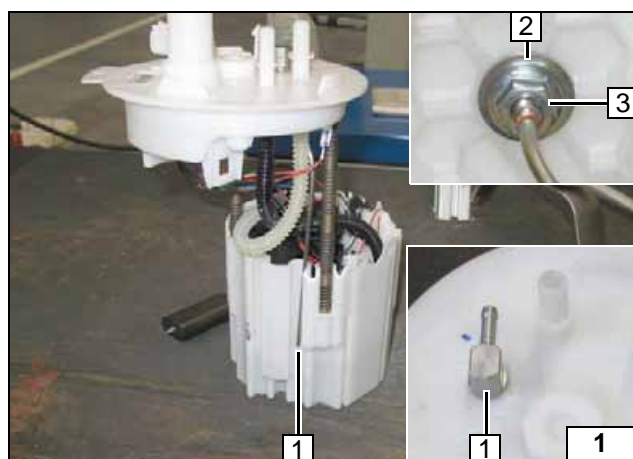
Opel Astra



1 Copy hole pattern, 6 mm dia. hole



Removing
fuel



Shape fuel standpipe **1** according to template, cut to length and install.

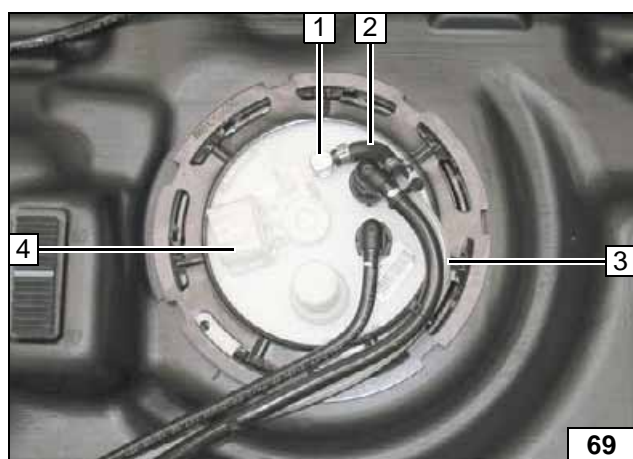


Caution

Use clamp nut **3** provided with the kit. The nut with plastic safeguard supplied with the fuel standpipe will not be inserted.

Installing
fuel stand-
pipe

2 Washer outer dia. = 21.6mm



Install fuel-tank sending unit **4** in accordance with manufacturer's instructions.



- 1 Fuel standpipe
- 2 90° moulded hose, 10 mm dia. clamp [2x]
- 3 Fuel line

Installing
fuel stand-
pipe

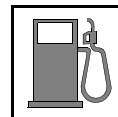


Fasten fuel line **1** to original vehicle fuel lines with cable tie.

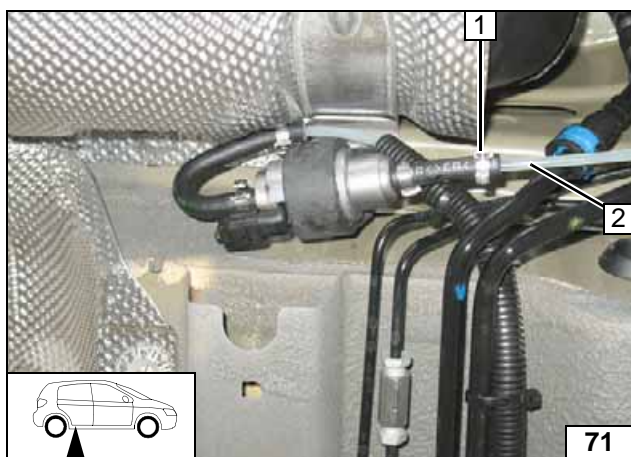


Routing
fuel line

Opel Astra



Connect- ing meter- ing pump

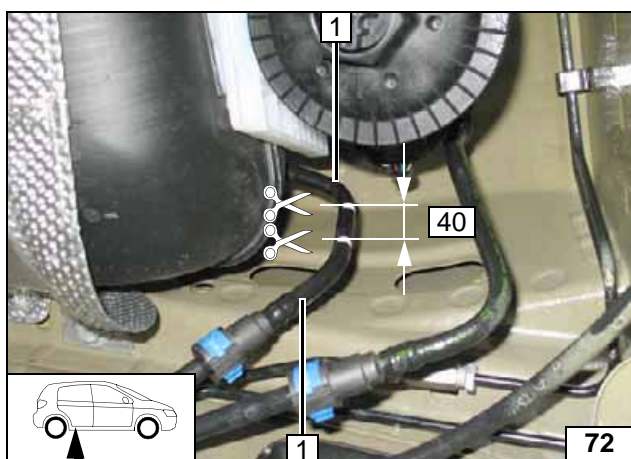


Check the position of the components; adjust if necessary. Check that they have freedom of movement.

- 1 10 mm dia. clamp
- 2 Fuel line



Removing fuel

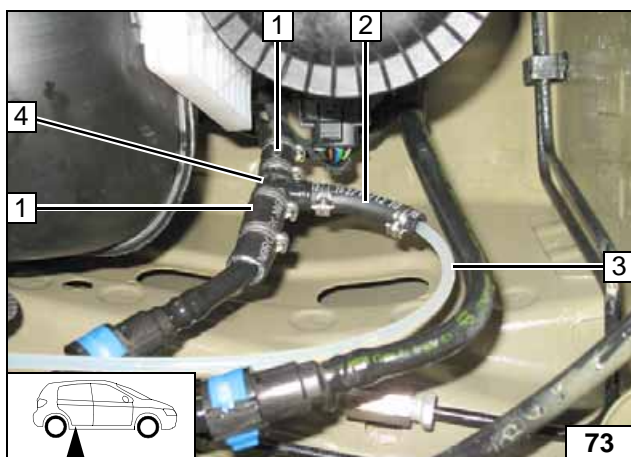


Diesel

Separate fuel return line 1 at the markings [2x]. Discard section. Insert 8mm dia. support sleeve [2x] into both wire ends.



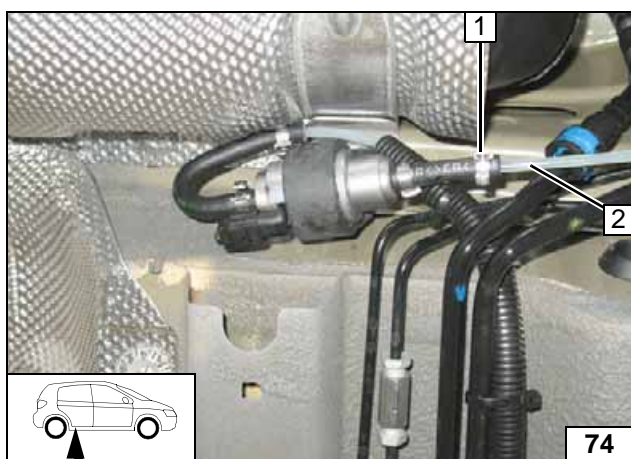
Mounting fuel stand- pipe



- 1 Hose section inner dia. = 9.5mm; support sleeve, clamp 15.5mm dia. [2x each]
- 2 Hose section, 10 mm dia. clamp [2x]
- 3 Fuel line
- 4 10x5x10mm fuel standpipe

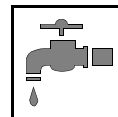


Connect- ing meter- ing pump



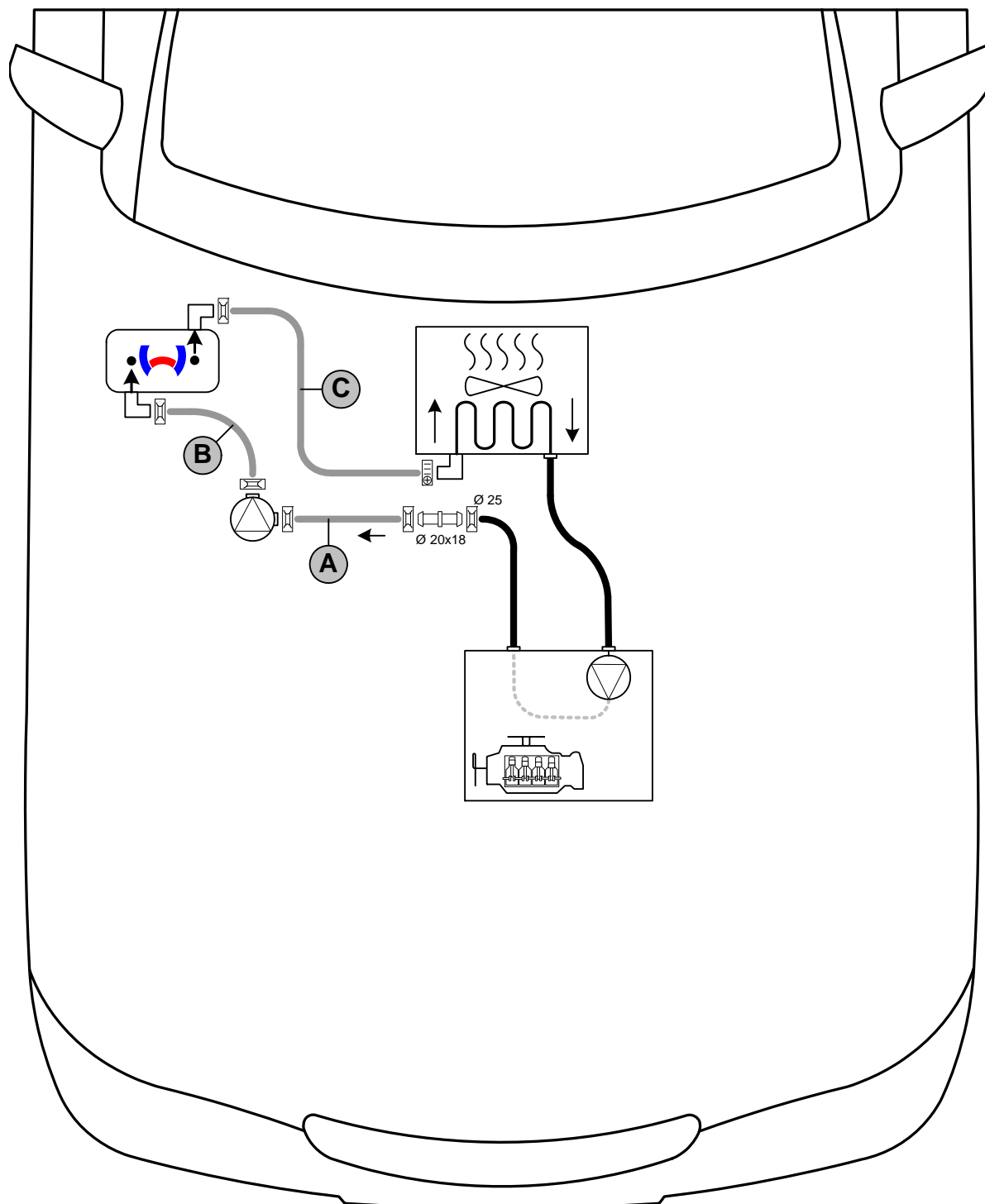
Check the position of the components; adjust if necessary. Check that they have freedom of movement.

- 1 10 mm dia. clamp
- 2 Fuel line




Opel Astra**Coolant Circuit 1.4, 1.6 B and 1.7 D****WARNING!**

Any coolant running off should be collected using an appropriate container. Route coolant hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hose cannot be damaged. The heater must be filled with coolant when installing the hoses.

The connection should be "inline" based on the following diagram:

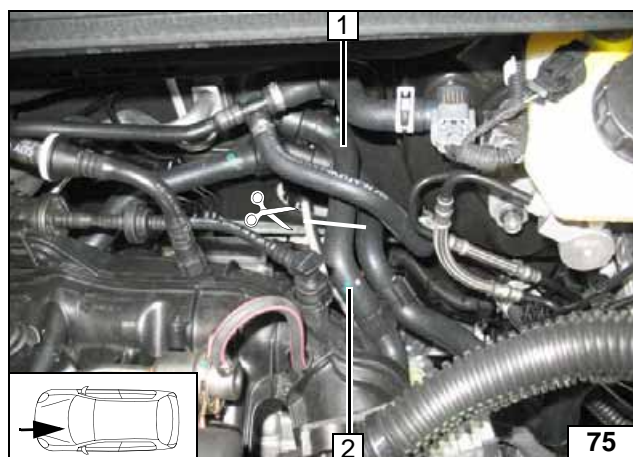
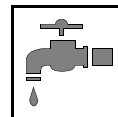


**Hose in-
stallation
diagram**

All spring clips without a specific designation  = 27 mm dia. Hose clamp  = dia. 28x35mm. All connecting pipes without a specific designation  = 20x20mm dia. All hose brackets not designated in the following section = lockable twice 25-27.



Opel Astra

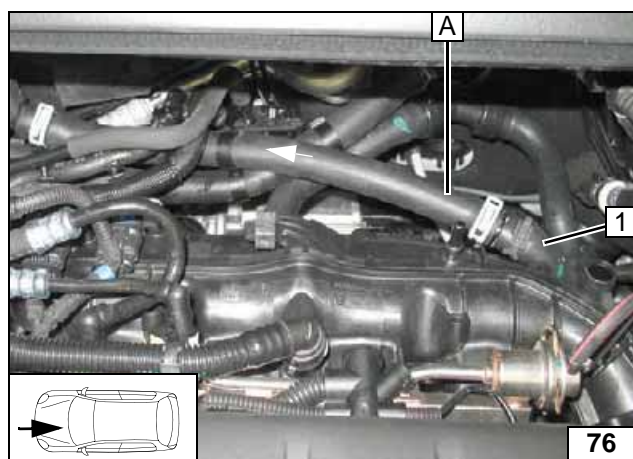


1.4 Litre Petrol

Cut hose of engine outlet / heat exchanger inlet at the marking. Remove hose section of heat exchanger inlet 1 and discard.

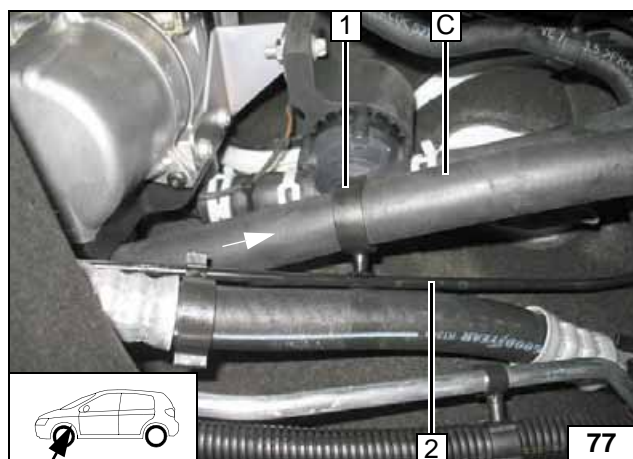
2 Engine outlet hose section

Cutting point



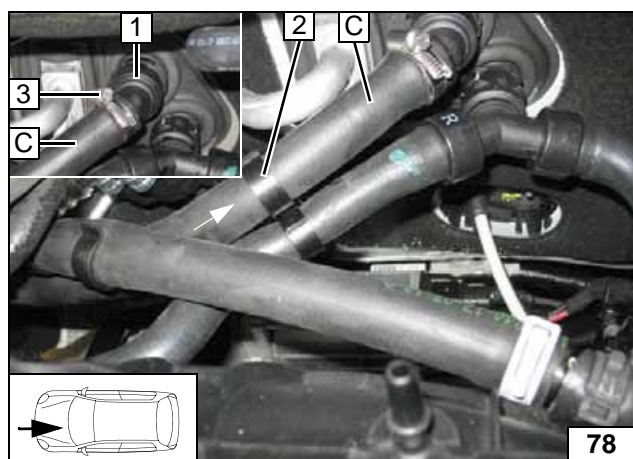
1 Engine outlet hose section

Connecting engine outlet



1 4.5x27mm hose bracket
2 Brake line

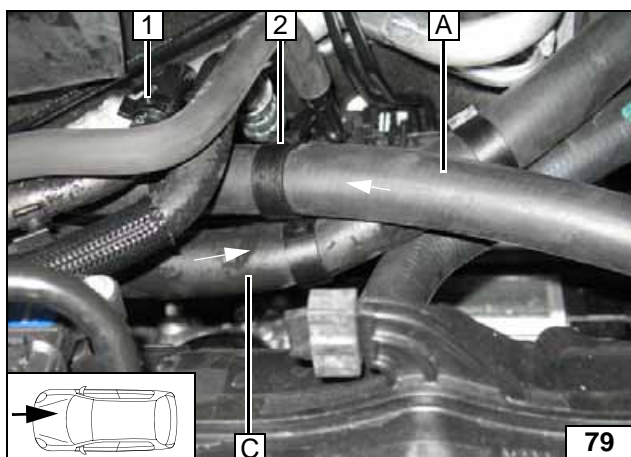
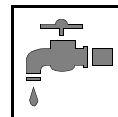
Routing in engine compartment



1 Coupling of heat exchanger inlet
2 Hose bracket
3 Clamp 28-35

Connecting heat exchanger inlet

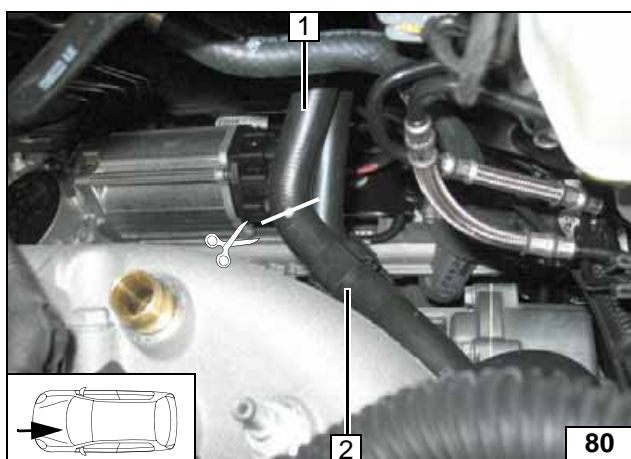
Opel Astra



Align hoses. Ensure sufficient distance from adjacent components; correct if necessary.

- 1 14x27mm hose bracket on fuel line and hose A
- 2 Hose bracket

Routing in engine compartment

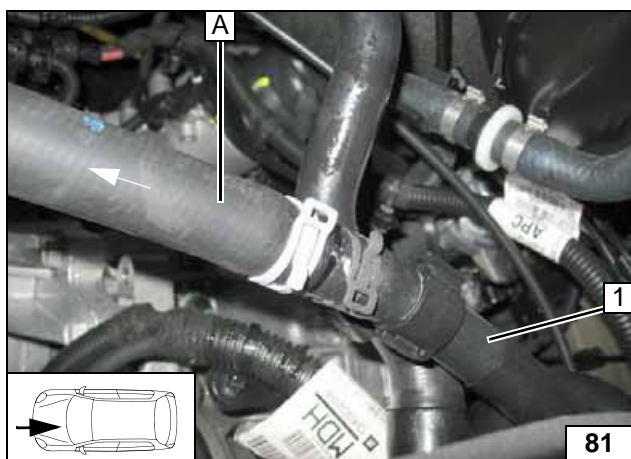


1.6 Litre Petrol

Cut hose of engine outlet / heat exchanger inlet at the marking. Remove hose section of heat exchanger inlet 1 and discard.

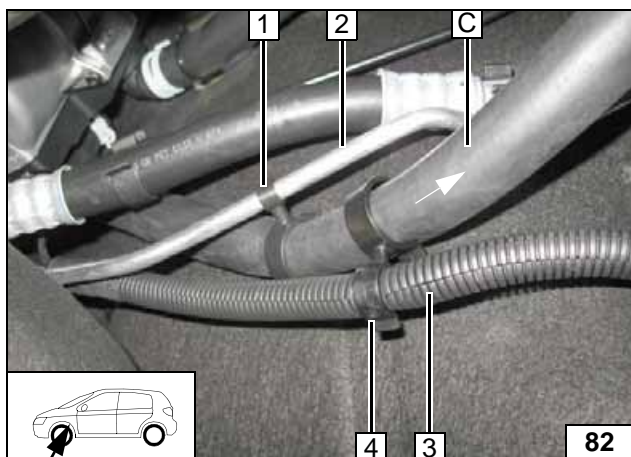
- 2 Engine outlet hose section

Cutting point



- 1 Engine outlet hose section

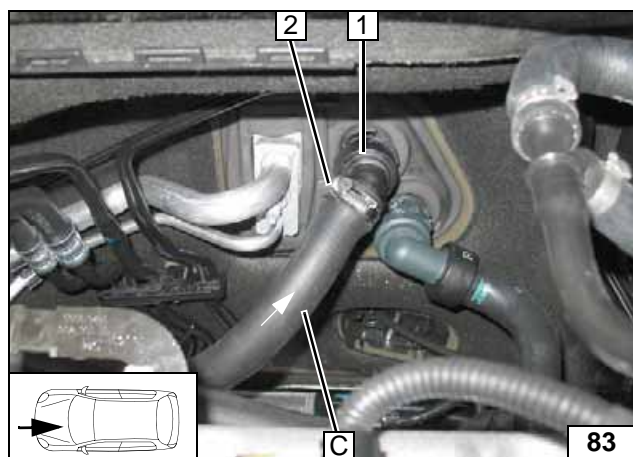
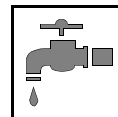
Connect-
ing engine
outlet



- 1 8x27mm hose bracket
- 2 A/C line
- 3 Fuel line and wiring harness of metering pump in corrugated tube
- 4 14x27mm hose bracket

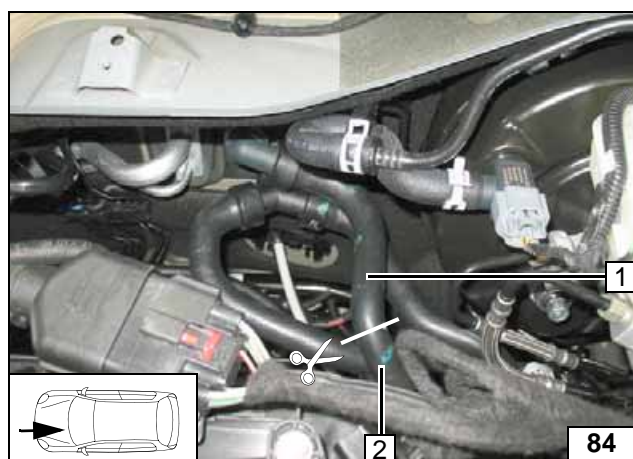
Routing in engine compartment

Opel Astra



- 1 Coupling of heat exchanger inlet
- 2 Clamp 28-35

Connect-
ing heat ex-
changer
inlet

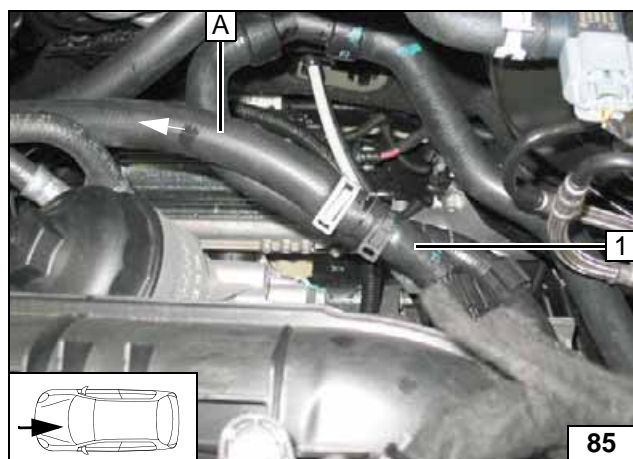


1.7 Litre Diesel

Cut hose of engine outlet / heat exchanger in-
let at the marking. Remove hose section of
heat exchanger inlet 1 and discard.

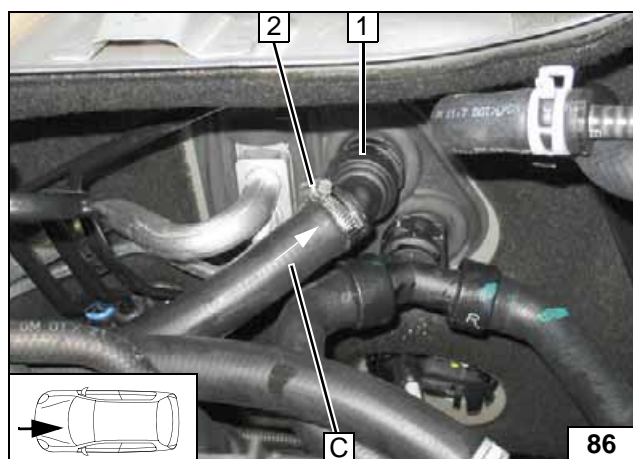
- 2 Engine outlet hose section

Cutting
point



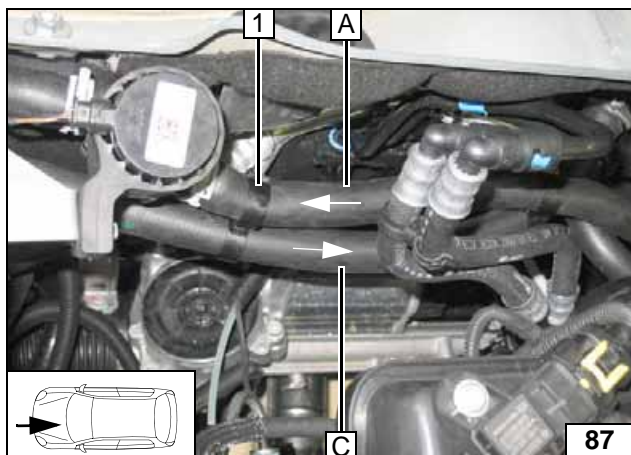
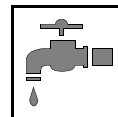
- 1 Engine outlet hose section

Connect-
ing engine
outlet



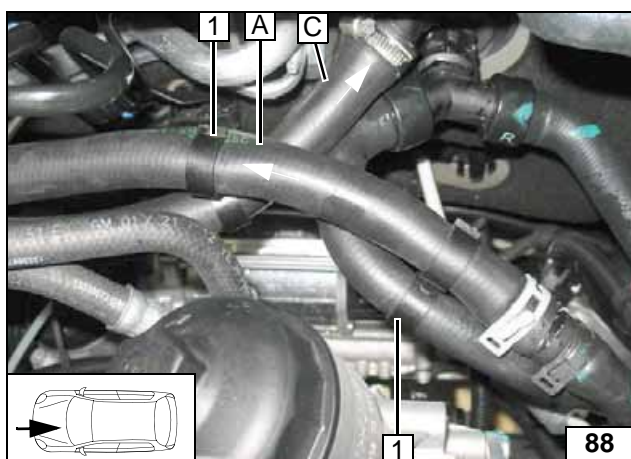
- 1 Coupling of heat exchanger inlet
- 2 Clamp 28-35

Connect-
ing heat ex-
changer
inlet



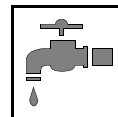
1 Hose bracket

Routing in
engine
compartment



1 Hose bracket [2x]

Routing in
engine
compartment

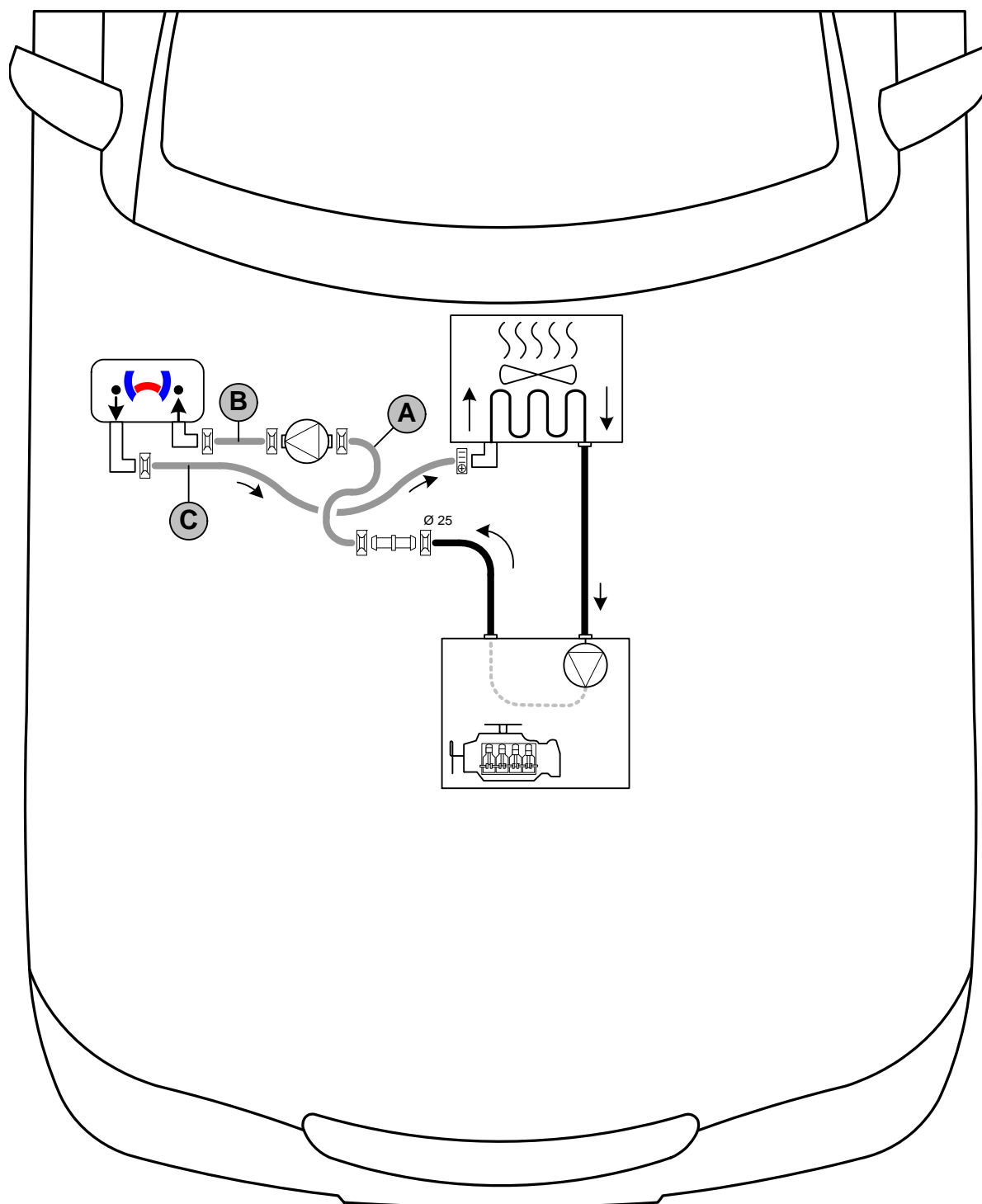
Opel Astra**Coolant Circuit 2.0 D****WARNING!**




Any coolant running off should be collected using an appropriate container. Route coolant hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hose cannot be damaged. The heater must be filled with coolant when installing the hoses.

The connection should be "inline" based on the following diagram:

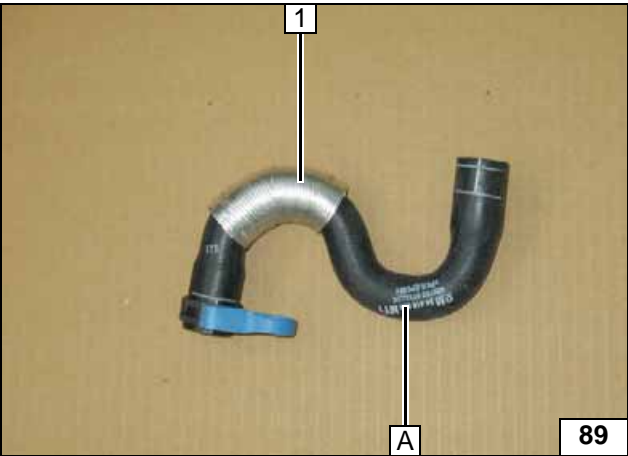
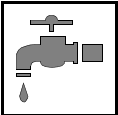


Hose installation diagram



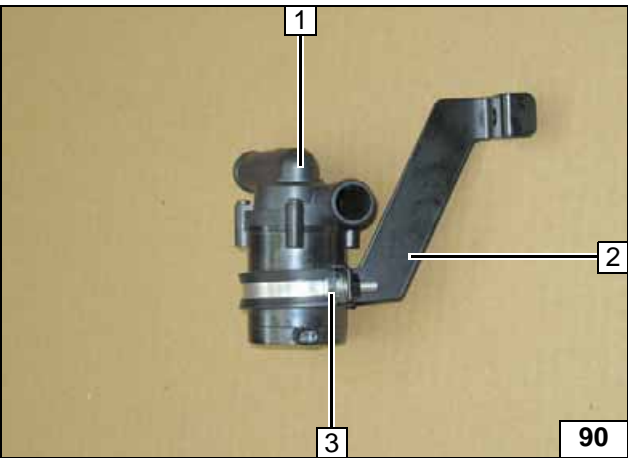
All spring clips without a specific designation  = 27 mm dia. Hose clamp  = dia. 28x35mm. Connecting pipe  = 18x20mm dia. All hose brackets not designated in the following section = lockable twice 25-27.





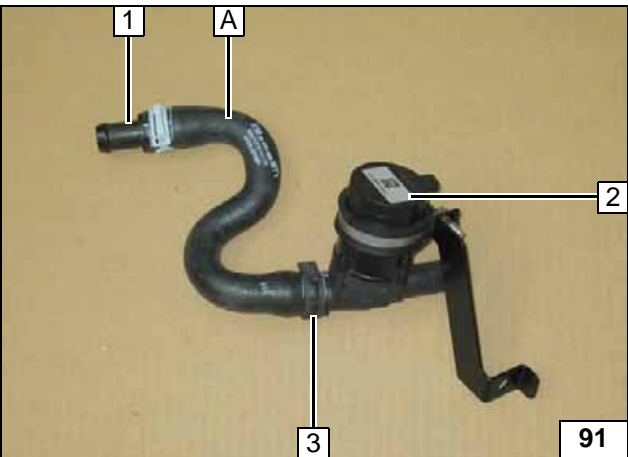
1 Remove protective hose

Preparing
hose A



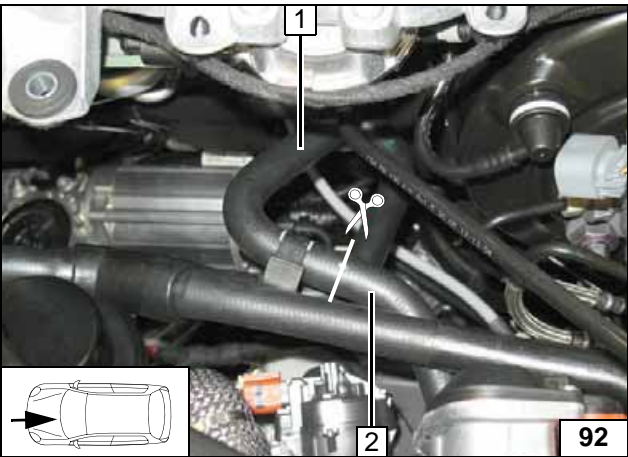
- 1 Circulating pump
- 2 Bracket of circulating pump
- 3 Rubber-coated 48mm dia. pipe clamp, M6x16 bolt

Premount-
ing circu-
lating
pump



- 1 18x20mm connecting pipe, 27 mm dia. spring clip
- 2 Circulating pump premounted
- 3 27 mm dia. spring clip

Premount-
ing circu-
lating
pump



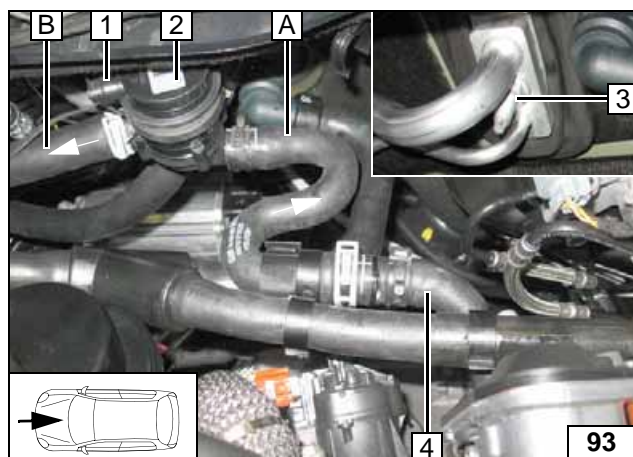
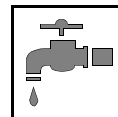
Cut hose of engine outlet / heat exchanger inlet at the marking. Remove hose section of heat exchanger inlet 1 and discard.

2 Engine outlet hose section



Cutting
point

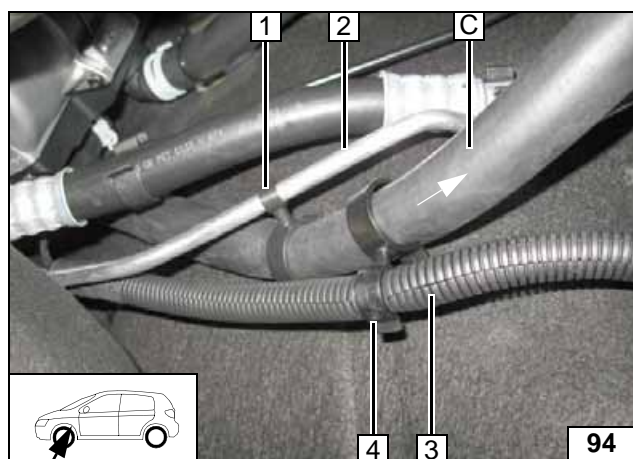
Opel Astra



Fasten circulating pump 2 to stud bolt of air conditioning firewall connection 3 with M8 flanged nut (hidden).

- 1 Connector of circulating pump
- 4 Engine outlet hose section

**Connect-
ing engine
outlet**



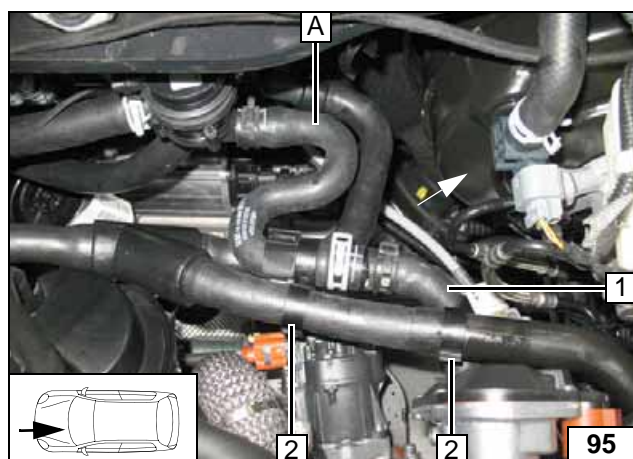
- 1 8x27mm hose bracket
- 2 A/C line
- 3 Fuel line and wiring harness of metering pump in corrugated tube
- 4 14x27mm hose bracket

**Routing in
engine
compart-
ment**



- 1 Coupling of heat exchanger inlet
- 2 Clamp 28-35

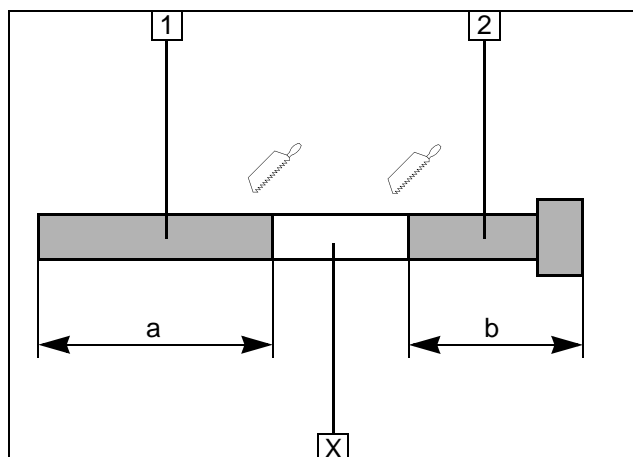
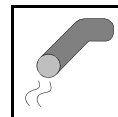
**Connect-
ing heat ex-
changer
inlet**



- 1 Engine outlet hose section
- 2 Hose bracket [2x]

**Routing in
engine
compart-
ment**

Opel Astra



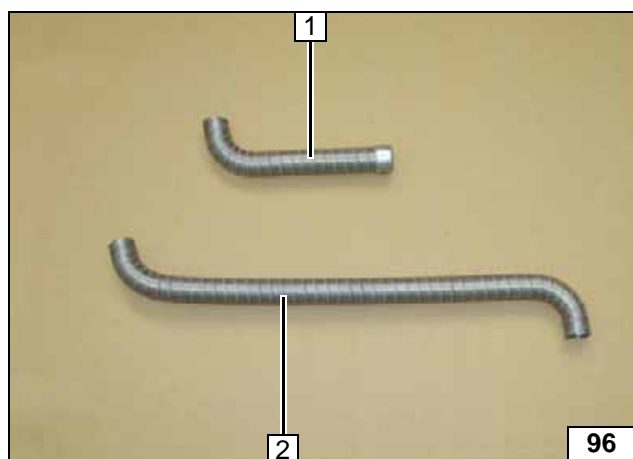
Exhaust Gas

Discard section **X**.

- 1 Exhaust pipe
a = 490
- 2 Exhaust end section
b = 200

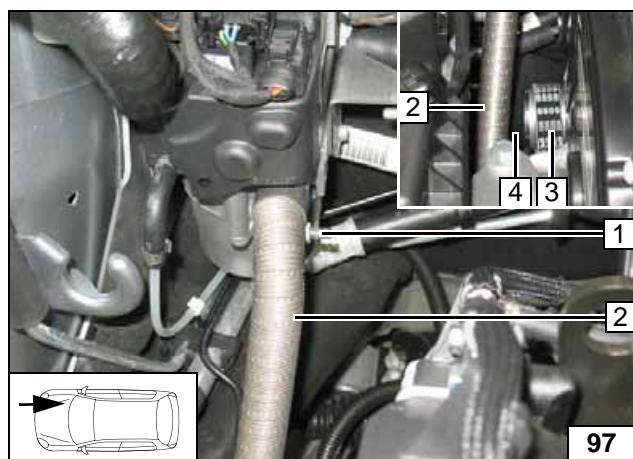


Preparing exhaust pipe



- 1 Exhaust end section
- 2 Exhaust pipe

Shaping exhaust pipe and end section

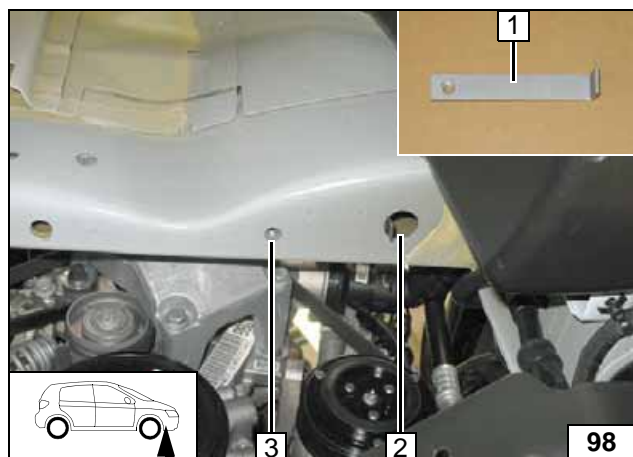


In case of 2.0l Diesel, ensure freedom of movement (at least 20mm) between exhaust pipe 2 and belt drive 3 at position 4.

- 1 Hose clamp
- 2 Exhaust pipe



Mounting exhaust pipe

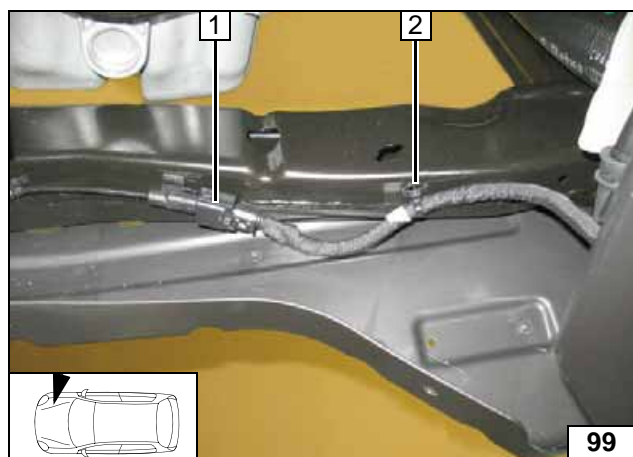
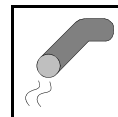


Insert bracket 1 into hole 2 and align with threaded hole at position 3.



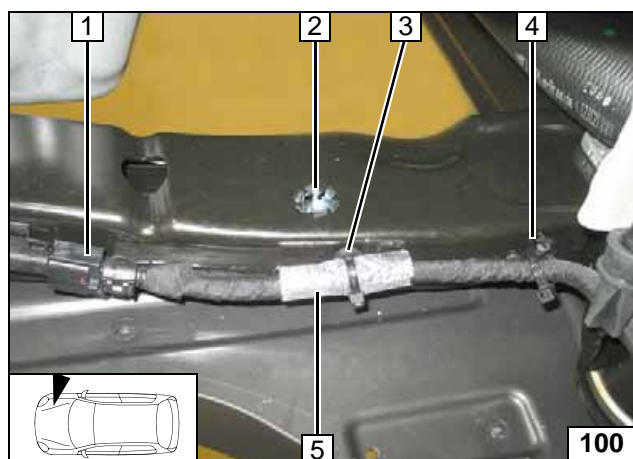
Mounting exhaust end section

Opel Astra



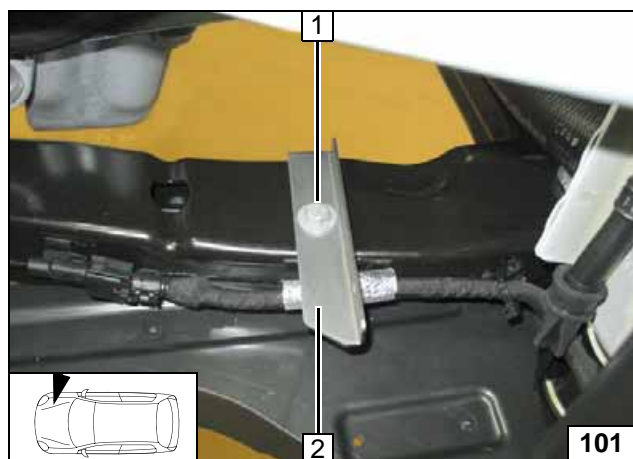
- 1 Separate ABS connector
- 2 Remove hole cable tie

Preparing ABS wire



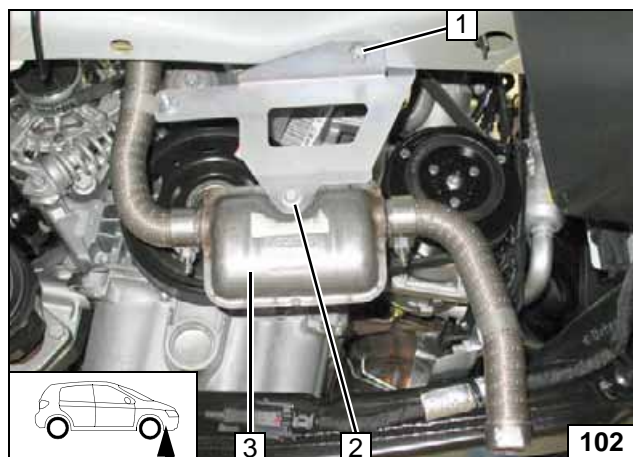
- 1 Connecting ABS connector
- 2 Cage nut, existing hole
- 3 Cable tie with hole
- 4 Only tighten hole cable tie slightly (serves as ducting)
- 5 Insulation on ABS wire

Insulating ABS wire



- 1 M8x20 bolt, spring lockwasher, washer in cage nut
- 2 Bracket of exhaust end section

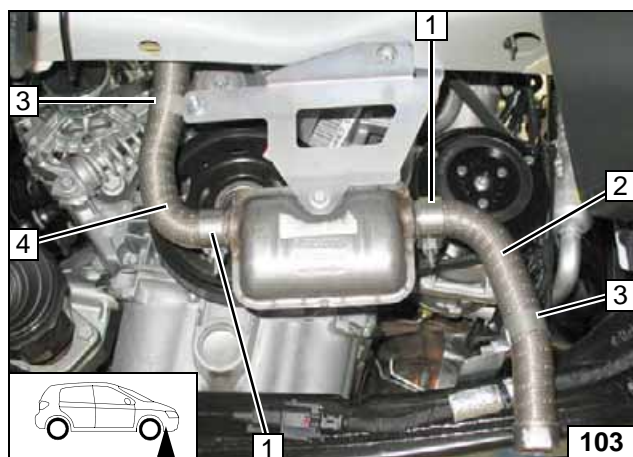
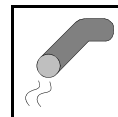
Installing bracket of exhaust end section



- 1 M6x25 bolt in threaded hole of bracket
- 2 M6x16 bolt, flanged nut
- 3 Silencer

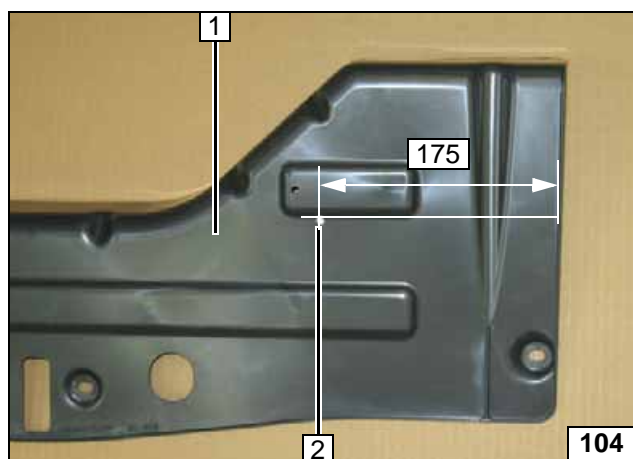
Installing silencer

Opel Astra



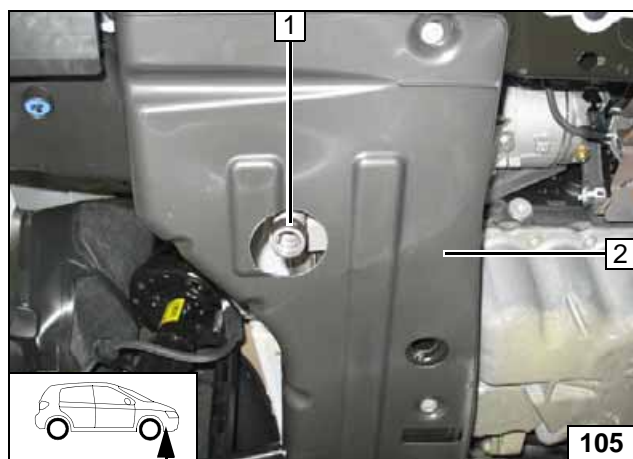
- 1 Hose clamp [2x]
- 2 Exhaust end section
- 2 M6x16 bolt, pipe clamp, flanged nut [2x each]
- 4 Exhaust pipe

Mounting exhaust pipe and end section



- 1 Underride protection
- 2 60 mm dia. hole

Hole in underride protection

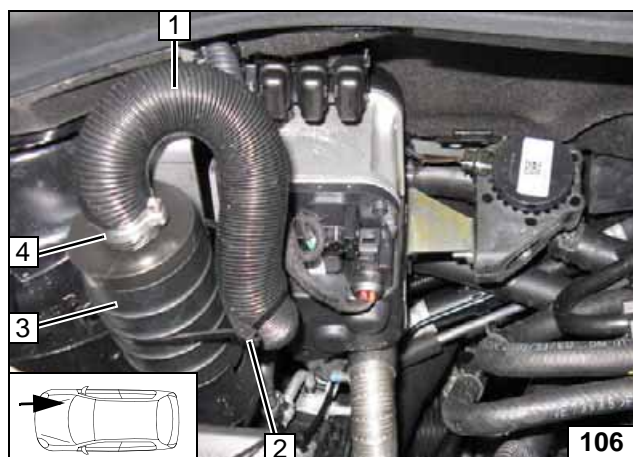
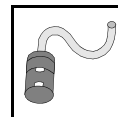


Align exhaust end section 1 in the middle of the hole and flush on underride protection 2.



Aligning exhaust end section

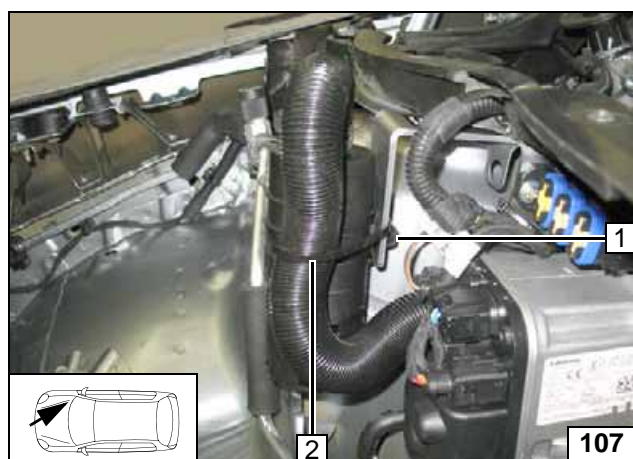
Opel Astra



Combustion Air

- 1 Combustion air pipe
- 2 Cable tie
- 3 Silencer
- 4 25mm dia. Caillau clamp

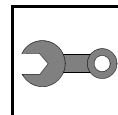
**Installing
silencer**



- 1 Retaining clip of silencer in hole
- 2 Cable tie



**Installing
silencer**



Final Work

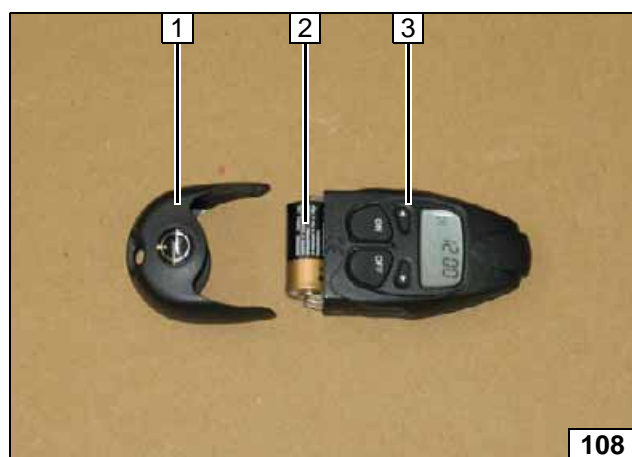
WARNING!

Mount removed parts in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose wires.

Only use manufacturer-approved coolant. Spray heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).



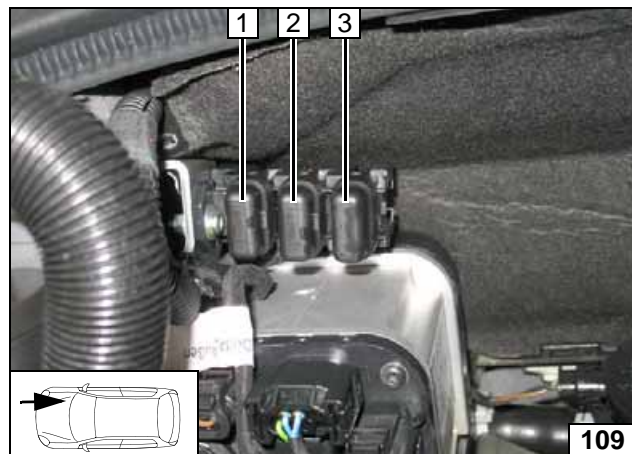
- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's instructions.**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place the "Switch off parking heater before refuelling" signboard in the area of the filler neck.**
- **For initial start-up and function check, see installation instructions.**



When inserting the battery **2**, ensure correct polarity!

- 1 Cover of battery compartment
- 2 Battery
- 3 Transmitter

Preparing transmitter

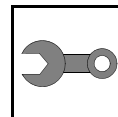


Transmitter and push button are to be taught prior to insertion of fuse F2 **3**.

- 1 Fuse F4 - 20A
- 2 Fuse F3 - 5A
- 3 Fuse F2 - 5A



Inserting fuses



Template for Fuel Standpipe

Topview

