	D	Änderungen bezüglich Konstruktion, Ausstattung, Farbe sowie intum vorbehalten. Angaben und Abbildungen unverbindilch.	D	Einbauanleitung
X	GB	Subject to change in terms of construction, equipment and colour, and may contain errors. The information and illustrations are non-binding.	B	Installation instructions
	F	Sous réserve de modifications de la construction, de équipement, de la couleur et sous réserve d'erreurs. Les indications et les illustrations sont sans engagement.	F	Consignes de montage
	N	Wijzigingen met betrekking tot constructie, uitvoering en kleur evenale vergissingen voorbehouden. Gegevens en albeeldingen niet bindend.	NL	Montagehandleiding
	œ	Ændringer med hensyn til konstruktion, udstyr, farver semt føjl forbeholdes. Oplysninger og illustrationer er uforpligtende.	Œ	Montagevejledning
		Endringer angående konstruksjon, utetyr, farge og felitagelse forbeholdes. Opplysninger og lliustrasjoner uforbindtlig.		Monteringsinstruksjon
	\$	Med reservation för Andringar vad det gäller konstruktion, utrustning, färg samt för misstag. Uppgifterna och bilderna är inte bindande.	S	Installationsanvisning
	FIN	Pidätämme olkeuden rakennette, varustusta, väriä koskeviin sekä ershdyksestä johtuviin muutoksiin. Tiedot ja kuvat elvät ole sitovia.	FN	Asennusohje
		Con riserva di modifiche relative a progettazione, dotazione, colore ed errori. Le indicazioni e figure sono fornite sensa impegno.		Istruzioni per il montaggio
	E	Reservadas las modificaciones respecto a diseño, equipamiento, color, así como error. Indicaciones y figuras ein compromiso.	E	Instrucciones de montaje
	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
	(CR)	Διατυπώνουμε κάθε επιφύλαξη ως προς αλλαγές σε σχέση με κατασκευή, εξοπλισμό, διαρρύθμιση, χρωματισμούς και λάθη παραδρομής.	GR	Οδηγίες εγκατάστασης
	CZ)	Změny, týkající se konstrukce, vybavení, barvy, jakož i omyly jsou vyhrazeny. Údeje a vyobrazení jsou nezávazné.	CZ	Návod k montáži
	PL	Zastrzega się prawo do zmlan dot. konstrukcji, wykończenia, kolorystyki oraz pomyłek. Dane i liustracje niewiążące.	PL	Instrukcja montażu
	R	Tasarım, donanım ve renk bakımından değişiklik yapma hakkı ve hata ve eksiklik mahfuzdur. Veriler ve resimler bağlayıcı değildir.	TR	Montaj talimati
	H	A szerkezet, a kivitel és a szín változtalása, valamint a változások joga fenntartva. Az adatok és az ábrák nem köteleiző érvényűek.	H	Beépítési útmutató
	HR	Pravo promjena u svezi konstrukcije, opreme, boje kao i zabune oridžavamo. Podaci i liustracije su neobavezne.	HR	Upute o ugradnji
	<b>BU</b>	Залазени права по отношение на конструкцията, обзавеждането, џвета и грешки. Данните и изображенията не са обвързващи.	BUD	Инструкция эа монтаж
	RO	Ne rezervăm dreptul unor modificări ale construcțieu, dotării, culorii și dreptul la erori Datele indicate și imaginile sunt orientative.	RO	Instrucțiuni de montaj
	RUS	Права на внесение изменений относительно конструкции, оснащения, окраски, а также на ошибки сохраняютоя. Данные и иллюстрации имеют примерный характер.	RUS	Инструкция по монтажу и установке
	Ĵ	Pasiliekama konstrukcijos, įrangos bei reikmenų, spalvos pakeitmų ir klaidų teisė. Duomenys ir ilistracijos neįpareigojantys.	Ū	Montavimo informacija
		Tiek paturētas tiesības uz konstrukcijas, iekārtu, krāsu izmaiņām, kā arī kļūdīšanos. Dati un attāli bez salstībām.		lemontēšanas pamācība
	B	Konstruktsiooni, varustuse ja værvi osas muudatused ning eksimine lubatud. Andmed ja joonised on mittesiduvad.	<b>EST</b>	Paigaldusjuhend
	<u>SLO</u>	Zadržana pravica do sprememb glede konstrukcije, opreme, barve ter pomote. Podatki in slike so neobvezne.	(SLO)	Navodilo za vgradnjo
	<u>SK</u>	Zmeny, ktoré sa týkajú konštrukcie, vybavenia, farby, ako aj omyly sú vyhradené. Údeje a zobrazenia sú nezáväzné.	ŚK	Montážny návod

## **Air Heater Unit**

Air Top 3500 ST D Additional Heater

## **Installation Instructions**

## **Opel Movano**

Diesel from Model Year 2007 Left-hand drive vehicle Vehicles without partition wall



WARNING!

Hazard warning:

Incorrect installation or repair of Webasto heating systems may cause a fire or result in the emission of carbon monoxide, which can be fatal. Serious or fatal injuries can be caused as a result.

Specialist company training, technical documentation, specialized tools and equipment are required to install and repair Webasto heating and cooling systems.

NEVER attempt to install or repair Webasto heating or cooling systems if you have not successfully completed the company training and thereby acquired the required technical skills, or if you do not have access to the required technical documentation, tools and equipment needed to carry out correct installation and repairs.

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

Webasto does not accept any liability for defects and damage that are attributable to installation by untrained staff.



## Table of Contents

Validity	2	Recirculating air intake	12
Heater Unit/Delivery Scope	3	Exhaust system	14
Foreword	3	Combustion air	15
General Instructions	3	Fuel Connection	16
Special Tools	3	Electrical Connections	19
Explanatory Notes on Document	4	Connection Diagram for Combination	Timer and
Preliminary Work	5	Telestart	20
Heater unit installation location	5	Remote option (Telestart)	22
Preparing installation location	6	Heater control option	21
Preparing heater unit	7	Remote option (Telestart)	22
Installing heater unit	7	Installing trim parts	22
Preparing hot air ducting	8	Final Work	24
Preassembling hot air ducting	9	Template for Heater Unit	25
Installing hot air ducting	9	·	
Installing hot air distribution	10		

## Validity

Manufacturer	Model	Туре	EG-BE No./ABE
Opel	Movano	J9	e2 * 98/14 * 0130 *
Opel	Movano	F9	K155
Opel	Movano	N9	L393

Engine type	Engine model	Output in kW	Displacement in cm <sup>3</sup>
G9U	Diesel	74	2463
G9U	Diesel	88	2463
G9U	Diesel	107	2463

#### Heater Unit/Delivery Scope

Quantity	Description	Order No.:
1	Opel-specific delivery scope AT3500ST D 12V	1311388A

#### Also required:

Quantity	Description	Order No.:
1	Installation kit for Opel Movano AT3500ST	1311389A

#### Optional heater control either:

Quantity	Description	Order No.:
1	Telestart T90 Opel (Opel OSV, Egerland)	1311462A
or		
1	Telestart T90 Opel (Opel aftersales)	9010818A
1	Y-cable of Telestart for Air Top devices (Opel aftersales)	1311677A

#### Foreword

These installation instructions apply to OpelMovano vehicles with a Diesel engine - for validity, see page 2 - from model year 2007 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the version and the equipment variants of the vehicle, changes may be necessary relative to these "installation instructions" during installation and must be adjusted accordingly.

However, where this is the case the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Air Top 3500 ST* should be observed.

The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

The installation location of heater controls and the routing of the air ducting parts must be coordinated with the final customer prior to installation!

#### WARNING!

Original load-bearing components of the vehicle and/or component used for crash safety may not be modified for the hot air and recirculating air ducting!

#### **General Instructions**

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.

Sharp edges should be fitted with edge protectors (split-open plastic hose).

Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

#### **Special Tools**

- Metric thread-setter kit
- Hole circle bit, 83 mm dia.
- Hole circle bit, 92 mm dia.

### **Explanatory Notes on Document**

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

Mechanical work Electrical system Hot air system Fuel connection

**Exhaust system** 

**Combustion air** 











Special features are highlighted using the following symbols:



!





Specific risk of injury or fatal accidents.

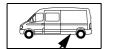
Specific risk of damage to components.

Specific risk of fire or explosion.

Reference to general installation instructions of Webasto components or to the manufacturer's vehiclespecific documents.



Reference to a special technical feature.



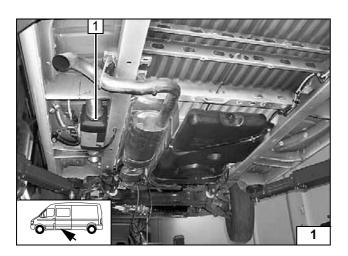


The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

### **Preliminary Work**

#### WARNING!

- Disconnect the battery "earth" or "ground" connection.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- If installed, remove the rear seat row behind the driver's seat
- If installed, remove the floor covering behind the driver's seat
- Remove the trim of the A-pillar on the driver's side
- Remove the sun vizor on the driver's side
- Remove the front left side trim in the cargo space (only with cargo space trim)



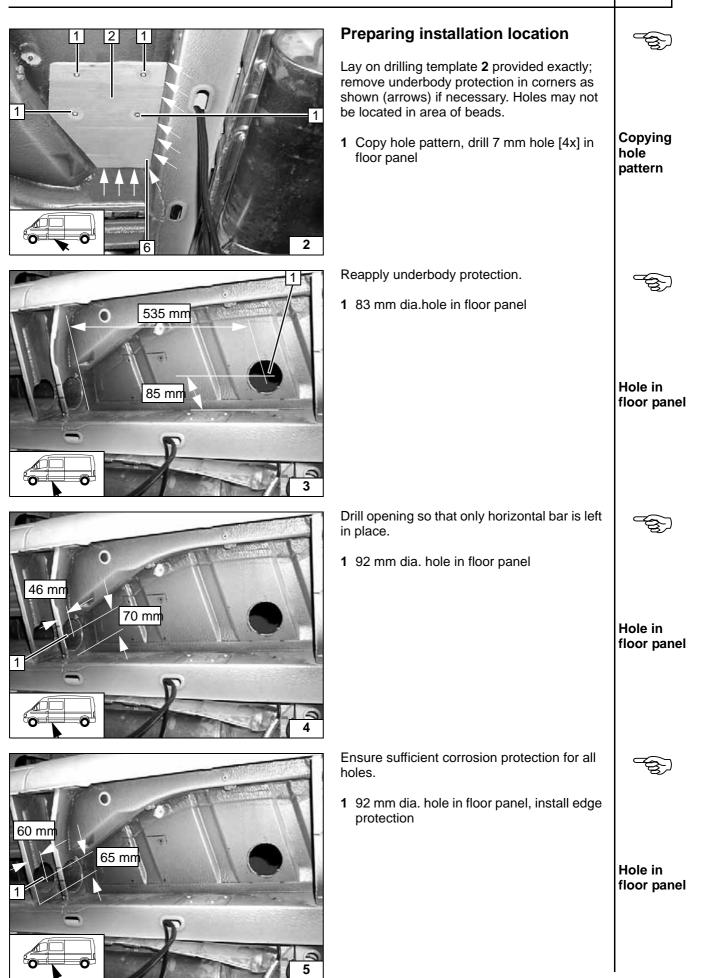
### Heater unit installation location

1 Heater unit

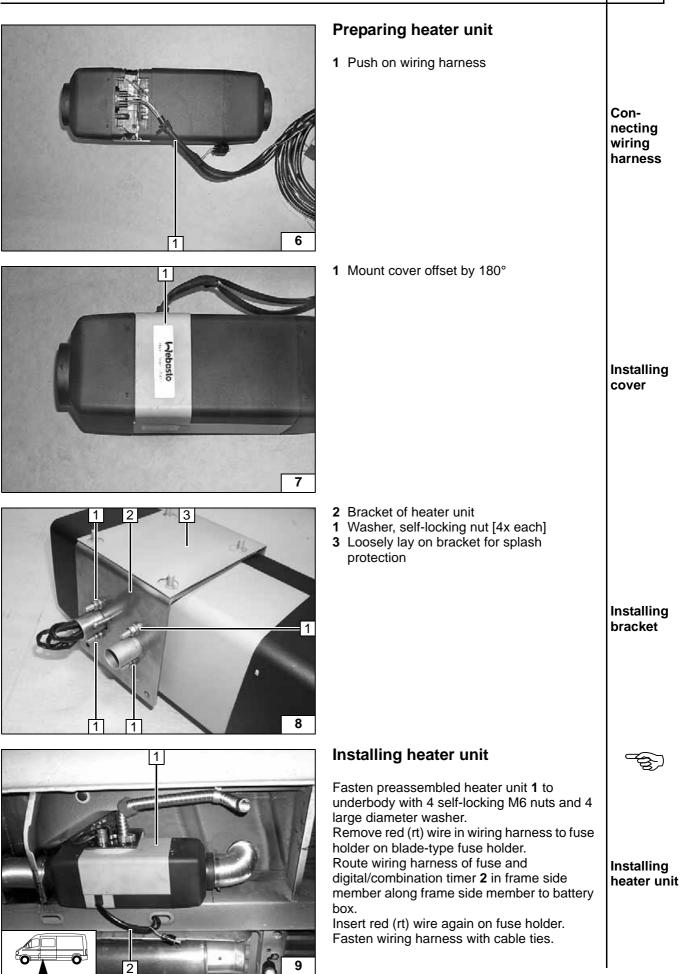
Installation location



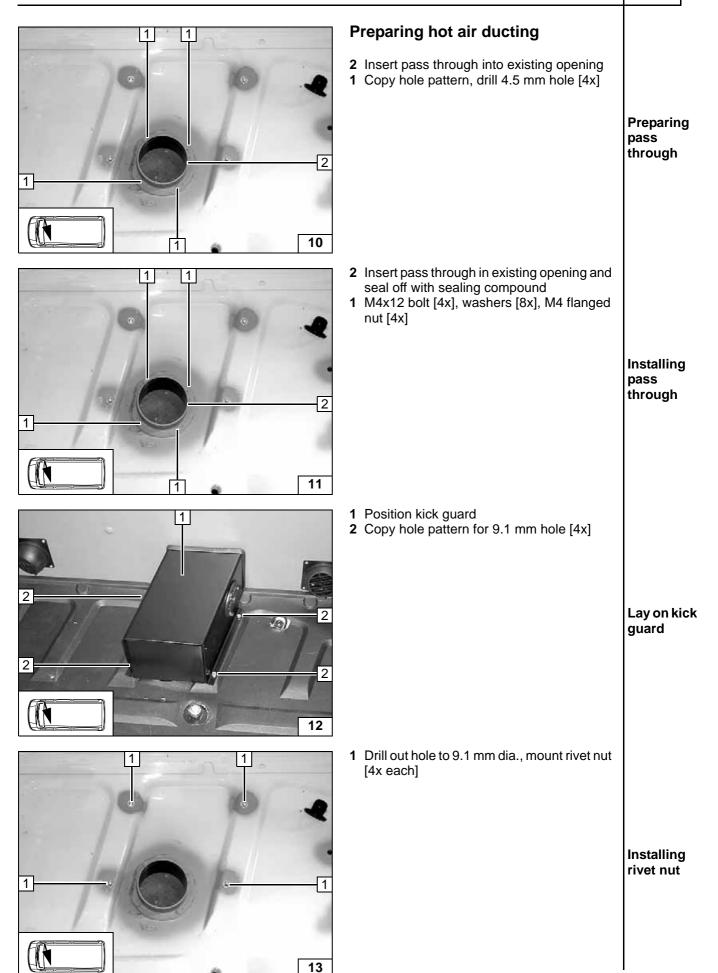
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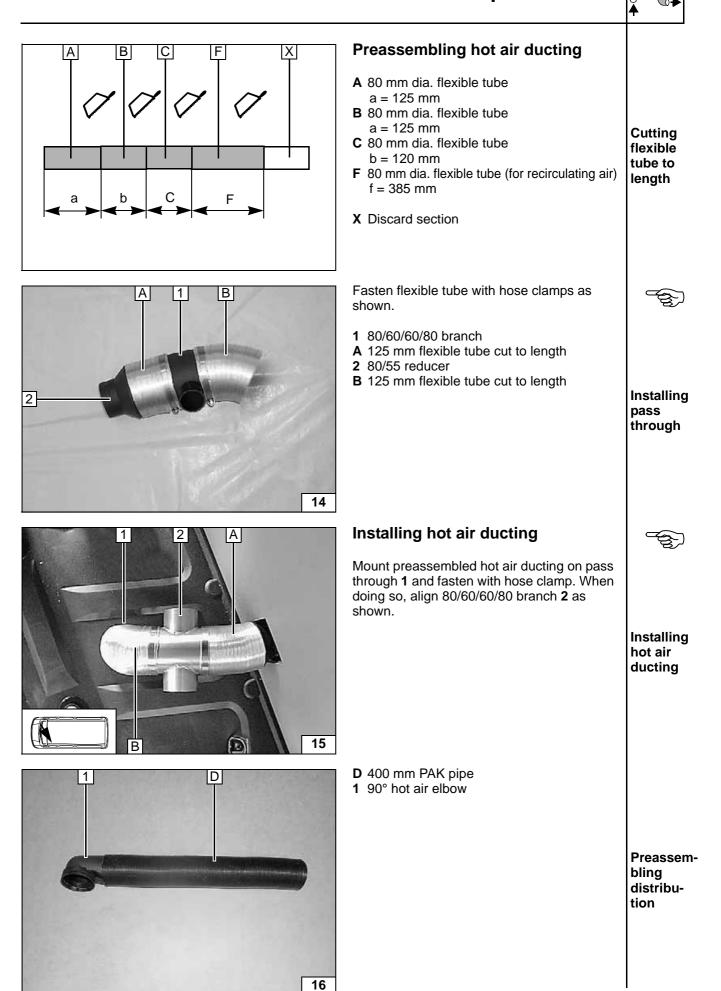


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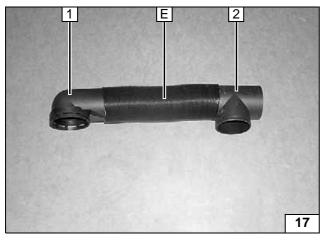


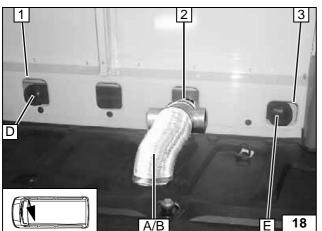


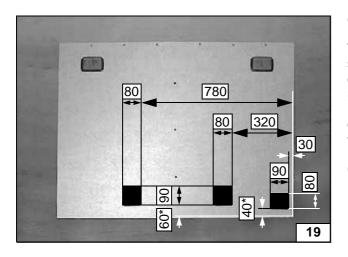












## Installing hot air distribution

E 200 mm PAK pipe

1 90° hot air elbow 2 60/60/60 distributor

Insert preassembled hot air distribution **D** into existing opening **3** with 90° hot air elbow first and route to left-hand opening **1**. Insert preassembled hot air distribution **E** into existing opening **3** with 60/60/60 distributor first and push onto preassembled hot air distribution **D** as far as possible.

#### On vehicles without side trim:

Push preassembled hot air ducting **A/B** with 80/55 reducer onto distributor **2**. Drill 2.5 mm hole through reducer and distributor. Connect reducer and distributor with self-tapping screw.

#### On vehicles with side trim:

The dimensions 40 mm and 60 mm are specifications for a side panel that reaches down to the floor panel. Should a side panel be installed that does not reach down to the floor panel, these dimensions must be calculated in accordance with the distance to the floor panel.

Cut out side trim as shown



Preassembling distribution

#### Installing distribution



Cutting out side trim

6

4

1

A/B

1

З

1

2

1

## **Opel Movano**



Mount side trim. Push preassembled hot air ducting **A/B** with 80/55 reducer onto distributor **1**. Drill 2.5 mm hole through reducer and distributor. Connect reducer and distributor with self-tapping screw.



÷S



20

2

21

3

2

23

Shorten connection piece from air outlet by approx. 10 mm on vehicles without side trim. Mount cover piece 2 on air outlet 3. Mount air outlet 3 with cover piece 2 on each hot air elbow. Drill 2 2.5 mm dia. holes 1 each through reducer and distributor. Connect reducer and distributor with self-tapping screw.



5

3

Installing grids

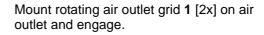
Installing

air outlet

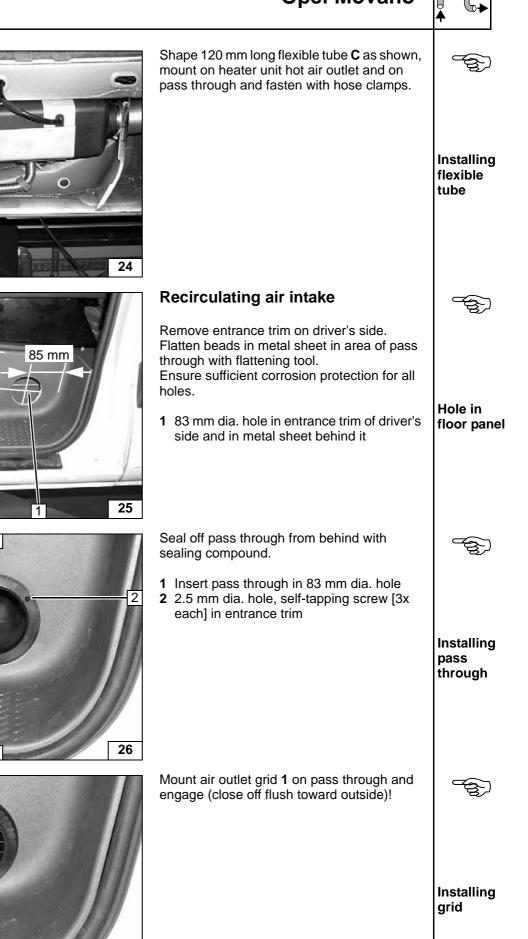
When drilling, watch components located behind!

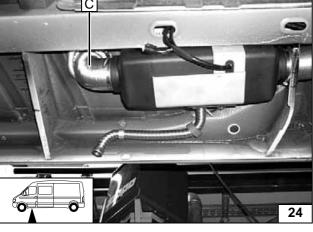
Copy hole pattern 1 from cover piece 3 to side panel or trim in each case. Copy hole pattern 2 from air outlet 4 to cover piece 3 in each case.

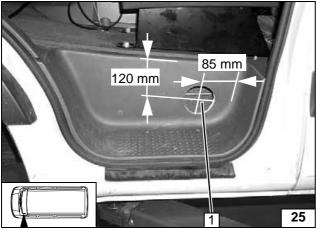
- 1 2.5 mm dia. hole, self-tapping screw [4x each]
- 2 2.5 mm dia. hole, self-tapping screw [3x each] air outlet

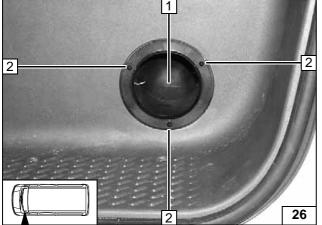


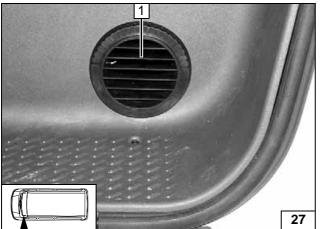














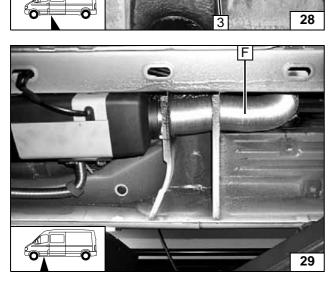
Z S

Mount hot air elbow 90° **1** on pass through **3**, align downward and fasten with 3 self-tapping screws **2**.

Installing hot air elbow

Guide 385 mm long flexible tube **F** through prepared hole, mount on heater unit inlet and on hot air elbow and fasten with hose clamps.

Installing flexible tube

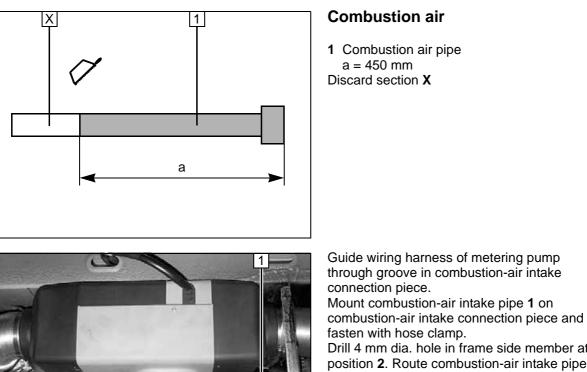


1 2

Opel Movano	
Exhaust system 1 Exhaust pipe a = 450 mm Discard section X	Preparing exhaust pipe
<ul> <li>3 Exhaust pipe</li> <li>1 Hose clamp</li> <li>2 Push on red (rt) rubber isolator and position</li> <li>4 P-clamp, M6x20 bolt on existing threaded hole</li> <li>5 Shape end section as shown</li> </ul>	Installing exhaust pipe



Preparing combustion air pipe



Drill 4 mm dia. hole in frame side member at position **2**. Route combustion-air intake pipe **1** as shown and fasten on frame side member with p-clamp and self-tapping screw **2**. Mount end cap **3** on combustion-air intake pipe.



## Installing intake pipe

#### Note:

2

31

When using a Webasto water heater and a Webasto air heater together, the exhaust pipe of the water heater must be routed along the left-hand side sill.

Ensure sufficient spacing between the exhaust pipe of the water heater and the combustion-air intake pipe of the air heater.

#### **Fuel Connection**

#### **CAUTION!**

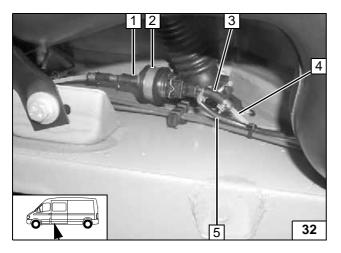
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

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 in as shown in the wiring harness routing diagram.



Ensure proper installation position of metering pump 1, see "Installation Instructions".

Remove original vehicle screw of fuel-tank line bracket and discard. Insert silent block into threaded hole.

Fuel line from heater unit 4 on pressure side of metering pump [side with connector].

- 2 Rubber-coated p-clamp, flanged nut on silent block
- **3** Hose section, 10 mm dia. hose clamps [2x]
- 5 Wiring harness of metering pump, singlewire seal, tab connector, connector housing

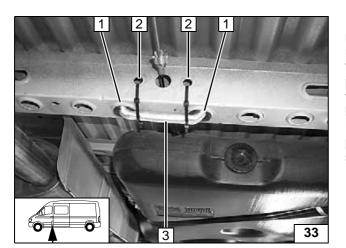
Route Mecanyl fuel line and wiring harness of metering pump along right-hand frame side member to cross member and fasten to existing clips of brake lines. Cut off 1,200 mm of protective hose provided. Install Mecanyl fuel line together with wiring harness of metering pump in 1,200 mm protective hose.



#### Installation location of metering pump



Installing lines



Route Mecanyl fuel line and wiring harness of metering pump in protective hose **3** in cross member behind fuel tank to left-hand side of vehicle. When doing so, route protective hose past parking brake guide by routing out through openings in cross member and then back in again. Insert cut-open protective rubber plugs in both openings 1. Fasten protective hose with cable ties 2 [2x] as shown.

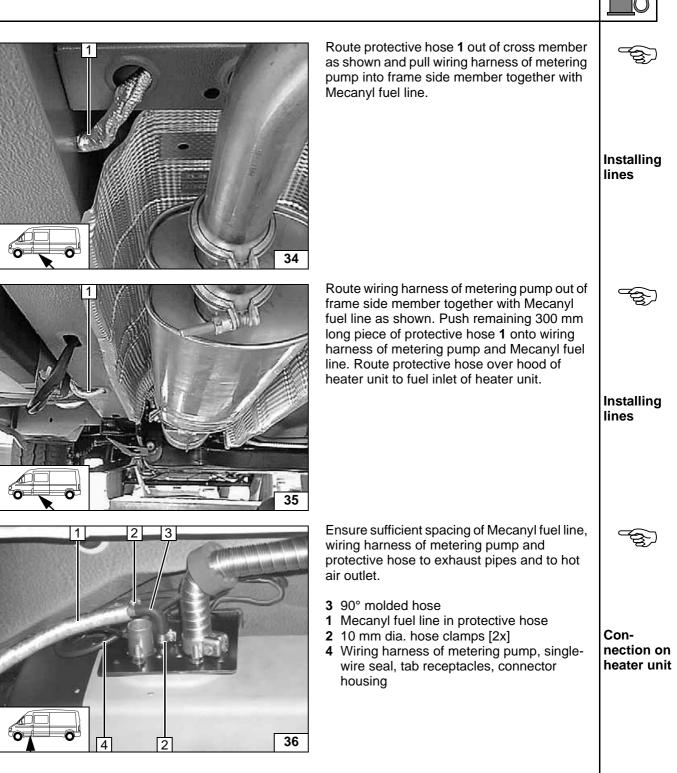


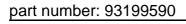
Installing lines









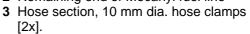


1

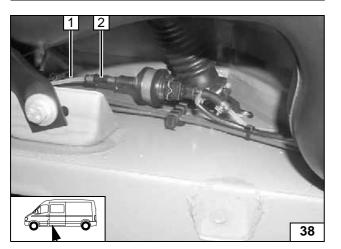
Cut off fuel return line as shown.

1Fuel return line, 8 mm dia. hose clamps [2x]4 Fuel standpipe

2 Remaining end of Mecanyl fuel line



Removing fuel



37

Fuel line from fuel standpipe **1** on intake side of metering pump [side without connector]. Check the position of the components; adjust if necessary. Check that they have free clearance.

**2** Hose section, 10 mm dia. hose clamps [2x].

Connection to metering pump

\$



## **Electrical Connections**

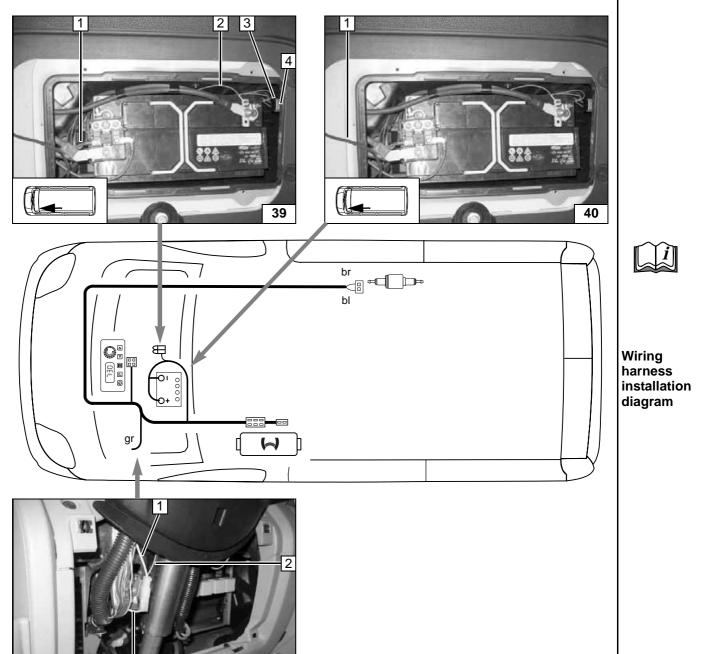
#### Fuse holder

- 4 2.5 mm dia. hole, retaining plate for fuse holder, 3.5x13 self-tapping screw
- 3 Fuse holder mounted
- 2 Ground wire on negative battery terminal
- 1 Positive wire on positive battery terminal

#### Wiring routing

Route wiring harness of heater unit from underbody through existing opening in battery box (rear left).

Route wiring harness of digital timer **1** under floor cover to center console.



41

Connection to lighting of digital timer

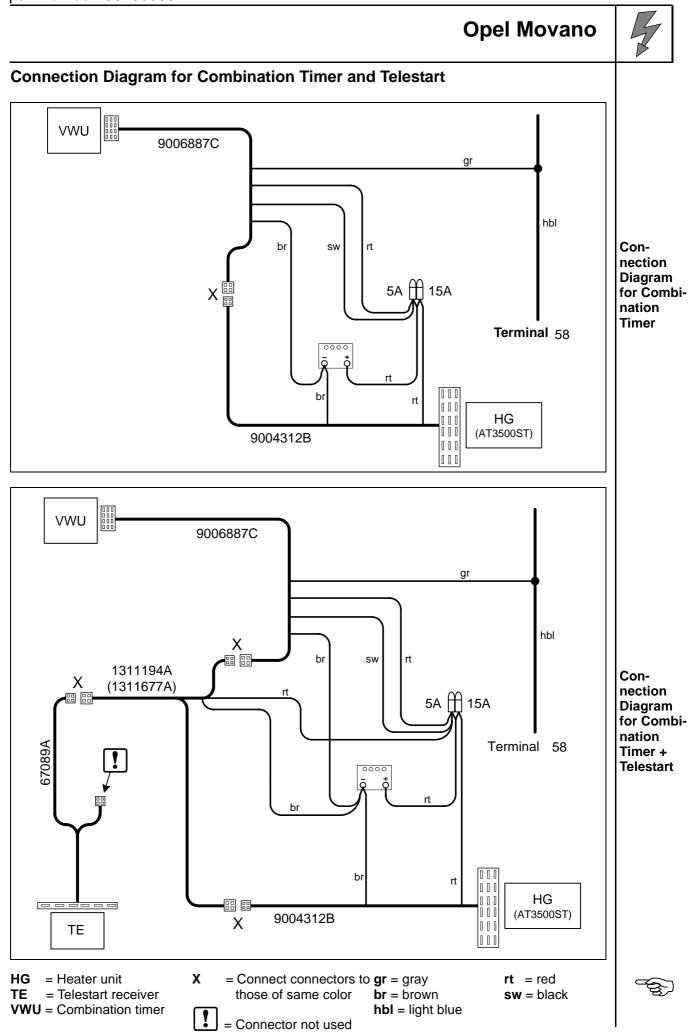
with blade connectors provided.

(terminal 58)

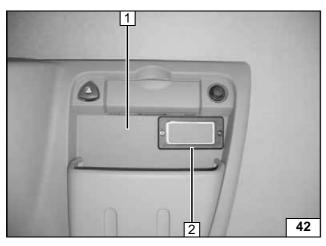
Make connections as shown in wiring diagram

1 Light blue (hbl) wire from parking light switch

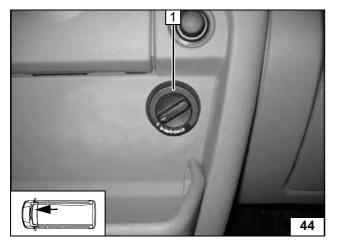
2 Gray (gr) wire from preassembled wiring harness











## Digital/combination timer

Use installation frame 2 as template. Copy hole pattern [2x] for screwing on and cutout to center console 1.

Cut out 2 4 mm dia. holes in center console and hole pattern for combination timer insert



timer

1 Combination timer

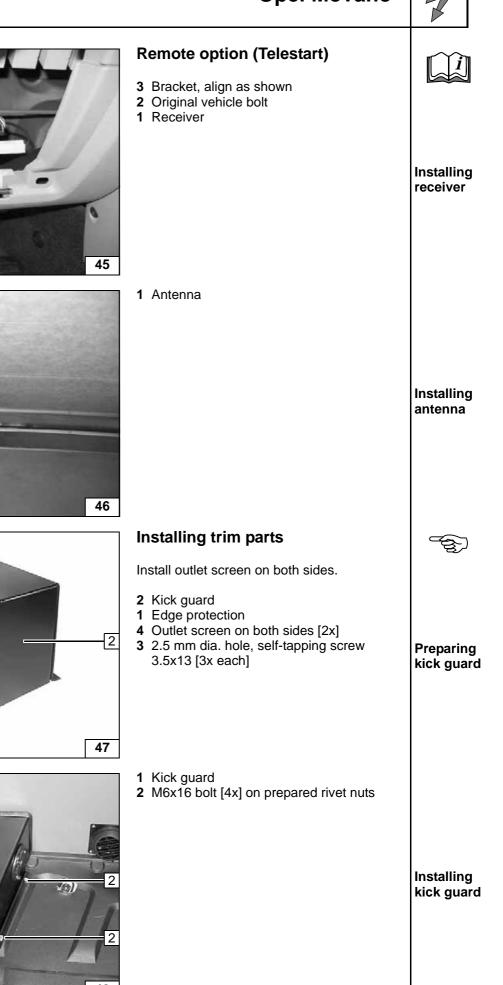
Installing combination timer

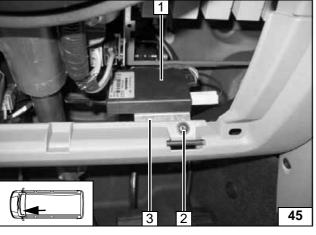
## Heater control option

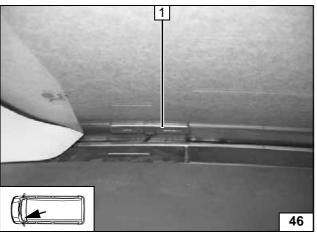
1 12 mm dia. hole, heater control in center console

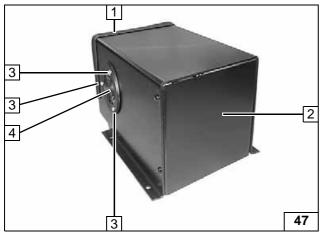


Installing heater control









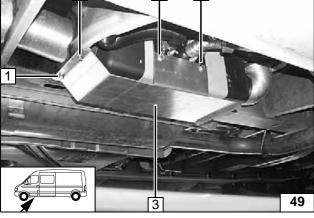
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1

## **Opel Movano**

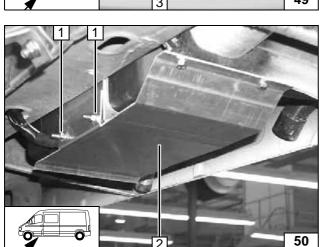


- 3 Heater unit trim
- 2 Mount M6x12 bolt, spring lockwasher [2x each] on rivet nuts
- 1 Drill out 4 mm dia. hole, self-tapping screw 5.5x13; spring lockwasher [2x each]



2

2



Installing		
heater	unit	
trim		

- 2 Heater unit trim
- **1** Flanged nut [2x] on existing stud bolt

Installing heater unit trim

### **Final Work**

#### WARNING!

Reassemble the disassembled components in reverse order.

Check all hoses, hose, spring and Caillau clamps, as well as all electrical connections for firm seating. Secure all loose cables using cable ties.

Spray the heater unit components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- Connect the battery
- Set the digital timer, teach the Telestart if installed
- Check the proper operation of the air heater, see the operating instructions/installation instructions.
- Attach the "Switch off additional heater before refueling" sticker to the left-hand B-pillar.





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