

Auxiliary Heating System Retrofit Kit 00 0003

MINI One, MINI Cooper (R50) and Mini Convertible (R52) LHD (not for cars with automatic gearbox)

The installation time is approx. 6.0 - 7.0 hours, but this may vary depending on the condition of the car and the equipment in it.

Retrofit kit No. 82 30 0 137 563

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Important information

The retrofit kit is only for use within the dealership organisation.

Installation information

Ensure that the cables/lines are not kinked or damaged as you install them in the car.

Tie back any cables/connections that are not needed and place insulating tape over them to prevent short circuits.

If the specified PIN numbers are occupied, bridges, double crimps or twin-lead terminals must be used.

Deburr holes and treat them with the approved anti-corrosion coatings.

Ordering instructions

On cars with an automatic air conditioning system (IHKA) a voltage divider is required to control the blower, and this must be ordered separately (see EPC for part number).

The control element required to operating the auxiliary heating system is not included in the basic auxiliary heating system kit and must be ordered separately as required by the customer (see EPC for part numbers).

The following control elements are available and can be fitted individually or in combination:

- Multifunctional clock
- Remote control T70 or T80
- Thermo Call

Special features and instructions are set out in the enclosed MINI supplementary owner's manual for the auxiliary heating system.

Target group

The target group for these installation instructions is specialist personnel trained on MINI cars with the appropriate specialist knowledge.

All work must be completed using the latest repair manuals, circuit diagrams, servicing manuals and work instructions in a rational order using the prescribed tools (special tools) and observing current health and safety regulations.

Information about operating the auxiliary heating system

Operating the auxiliary heating system places a strain on the car's battery. To avoid starting problems and to stabilise the car's electrical system we recommend that you drive the car adequately in the period when you use the auxiliary heating system so that the battery remains well charged.

Recommendation: 30 minutes auxiliary heating system use = 30 minutes driving time.



Danger of poisoning! The auxiliary heating system must not be operated in enclosed areas such as garages or workshops, not even using the time switch, remote control or Thermo Call.

Danger of explosion. The auxiliary heating system must be switched off at filling stations. ◀

Special tools required

Pin spanner 16 1 020, to remove and install immersion tube sensor

1. Legal requirements

Type licences pursuant to EC Directives 72/245/EEC (EMC) and 2001/56/EC (heating systems) have been awarded for the Thermo Top C and Thermo Top E heaters with the following EC licence numbers:

e1* 72/245*95/54*1232*02

e1*2001/56*0002*00

e1*2001/56*0003*00

The installation is primarily governed by the regulations of Appendix VII of Directive 2001/56/EC.

If you comply with these regulations and notes in these installation instructions, no special acceptance test pursuant to § 19 of the German Road Traffic Licensing Directive and no special entry in the vehicle registration document is necessary. Print out the certificates supplied with these installation instructions, complete the document showing that the system has been installed correctly and give both to the customer. Tell the customer that these documents must be kept in the car.



The regulations of these directives are binding within the area in which EU Directive 70/156/EEC is valid and should also be observed in countries where there are no specific regulations. ◀

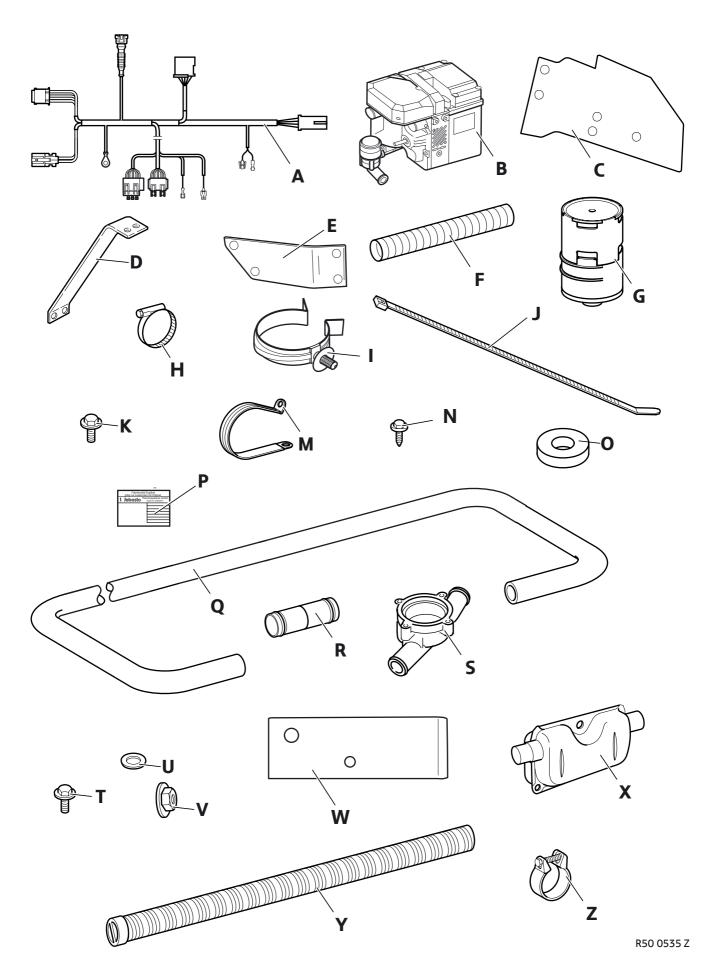


Failure to follow these installation instructions and the information contained therein will lead to the liability of the manufacturer being rendered void. The same also applies for repairs that have not been carried out by an expert or using original spare parts. This will result in the invalidation of the type licence for the heater and therefore the general operating licence/EC type licence. ◀

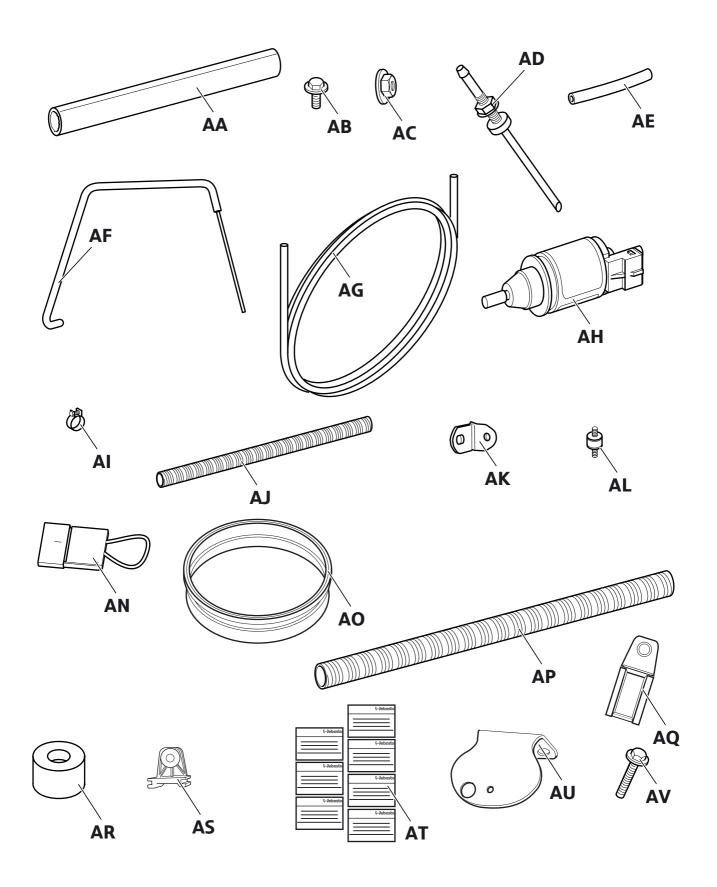
2. Preparations

	TIS instruction No.
Refer to the safety instructions for handling the airbag system.	32 34
Conduct a brief test	
Disconnect the negative pole of the battery	12 00
The following components must be removed first of all:	
Rear seat bench (mounting)	52 20 010
Fuel intake assembly at the rear left	16 14 080
Power unit bottom guard	51 47
Front left wheel	36 10 300
Wheel arch trim on the front left	51 71
Oddments box on the driver's side	51 16
A pillar trim at the front left	51 43 201
(only if you plan to fit a remote control T70/T80 or cars after 03/03)	
Fuse holder II, A pillar at the bottom left	
(only cars after 03/03)	
Interior mirror	51 16 060
(only if you plan to fit a remote control T70/T80)	
Door sill cover strip on the left (for IHKA only)	51 47 000
Heating controller (control, for IHKA only)	64 11

3. Parts list



3. Parts list

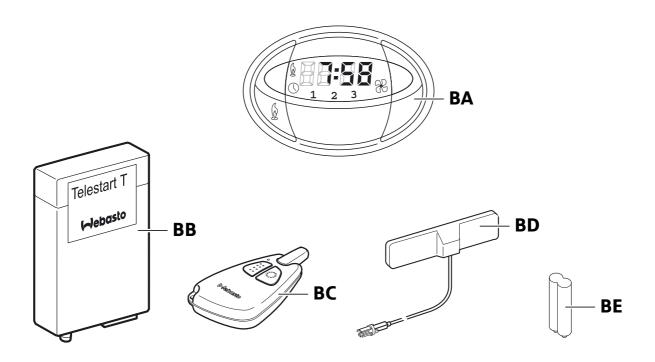


R50 0536 Z

3. Parts list

Auxiliary heating system wiring harness	Υ	Flexible exhaust pipe
Heater	Z	Pipe clip (3x)
Holder	AA	Insulation
Holder	AB	Hexagonal screw M6 x 30 mm (5x)
Holder	AC	Flanged nut M6 (10x)
Intake hose for combustion air	AD	Fuel extractor
Air intake silencer	ΑE	Connection part (4x)
Hose clip (8x)	ΑF	Angle part
Retaining clip	AG	Fuel line
Cable tie (30x)	АН	Fuel metering pump
Hexagonal screw M6 x 10 mm (2x)	ΑI	Hose clip (8x)
Pipe clip (3x)	AJ	Insulation
Self-tapping screw (5x)	ΑK	Angle bracket
Spacer washer 20 mm	AL	Buffer
Duplicate sticker	ΑN	Bridge
Water hose	AO	Gasket
Hose connector 20/15 (2x)	ΑP	Insulation
Pump cover	AQ	Holder
Hexagonal screw M5 x 25 mm (4x)	AR	Spacer washer 30 mm
Washer A5 (4x)	AS	Holder
Flanged nut M5 (4x)	ΑT	Tank information sticker (for each country)
Angle bracket	AU	Holder
Exhaust silencer	ΑV	Hexagonal screw M6 x 40 mm
	Heater Holder Holder Intake hose for combustion air Air intake silencer Hose clip (8x) Retaining clip Cable tie (30x) Hexagonal screw M6 x 10 mm (2x) Pipe clip (3x) Self-tapping screw (5x) Spacer washer 20 mm Duplicate sticker Water hose Hose connector 20/15 (2x) Pump cover Hexagonal screw M5 x 25 mm (4x) Washer A5 (4x) Flanged nut M5 (4x) Angle bracket	Heater Z Holder AA Holder AB Holder AC Intake hose for combustion air AD Air intake silencer AE Hose clip (8x) AF Retaining clip AG Cable tie (30x) AH Hexagonal screw M6 x 10 mm (2x) AI Pipe clip (3x) AJ Self-tapping screw (5x) AK Spacer washer 20 mm AL Duplicate sticker AN Water hose AO Hose connector 20/15 (2x) AP Pump cover AQ Hexagonal screw M5 x 25 mm (4x) AR Washer A5 (4x) Flanged nut M5 (4x) Angle bracket AU

4. Control elements parts list

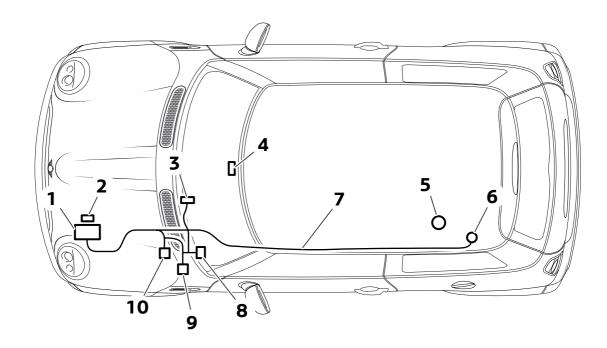


R50 0537 Z

- BA Multifunctional clock
- BB Remote control receiver
- BC Transmitter

- **BD** Aerial
- **BE** Batteries

5. Installation and cabling diagram

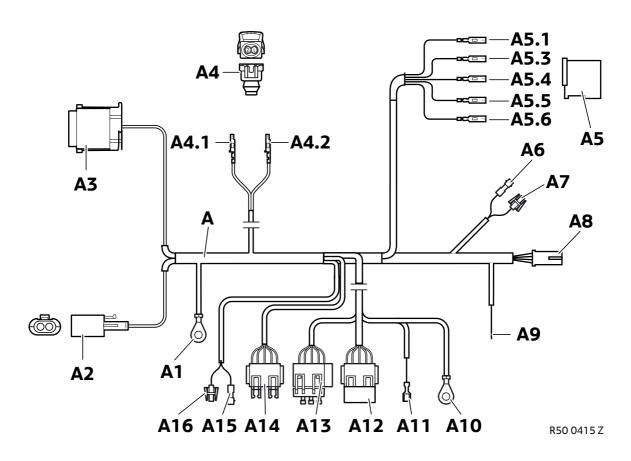


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Legend

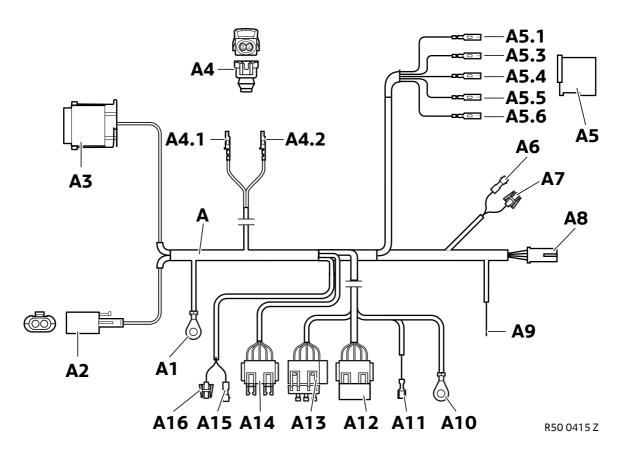
- 1 Heater
- 2 Exhaust silencer
- 3 Blower speed controller connector (for IHKA only)
- 4 Radio receiver aerial
- 5 Fuel extractor
- 6 Fuel metering pump
- 7 Auxiliary heating system wiring harness
- 8 Multifunctional clock
- 9 Fuse holder A pillar left (blower control connection, cars after 03/03)
- 10 Fuse box engine compartment (blower control connection, cars before 03/03)

6. Auxiliary heating system wiring harness connection diagram



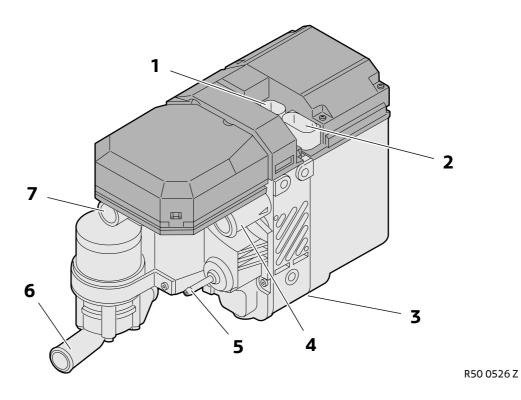
Item	Description	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation/ Slot
Α	Auxiliary heating system wiring harness				
A1	Cable lug	Terminal 30	RT, 4.0 mm ²	On positive pole of the car battery	
A2	Plug			On heater, 2-pin black plug	X642
A3	Plug			On heater, 6-pin black plug	X764
A4	Socket casing			On fuel metering pump, 2-pin black plug	X997
A4.1	Socket contact	DP +	BL, 0.5 mm ²	On fuel metering pump, 2-pin black plug	X997, PIN 1
A4.2	Socket contact	DP -	BR, 0.5 mm ²	On fuel metering pump, 2-pin black plug	X997, PIN 2
A5	Socket casing			On receiver, black 6-pin plug	X18830
A5.1	Socket contact	Terminal 30	RT, 0.5 mm ²	On receiver, black 6-pin plug	X18830, PIN 1
A5.3	Socket contact	SH ON	SW, 0.5 mm ²	On receiver, black 6-pin plug	X18830, PIN 3
A5.4	Socket contact	SH ON (TIMER)	GR, 0.5 mm ²	On receiver, black 6-pin plug	X18830, PIN 4
A5.5	Socket contact	Auxiliary ventilation	VI, 0.5 mm ²	On receiver, black 6-pin plug	X18830, PIN 5
A5.6	Socket contact	Earth	BR, 0.5 mm ²	On receiver, black 6-pin plug	X18830, PIN 6

6. Auxiliary heating system wiring harness connection diagram

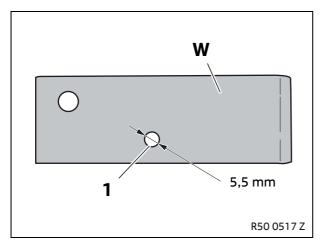


Abbreviation / Slot
PIN 18
PIN 18
X10130
X811
X2021
X3263
X2798
X1024
X10201
X10201

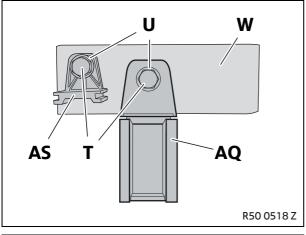
7. Connections to the heater



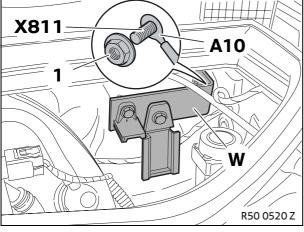
Item	Description
1	Plug X642, 2-pin (connect before installing the heater)
2	Plug X764, 6-pin (connect before installing the heater)
3	Exhaust outlet (connection not visible, it is on the underside of the heater)
4	Coolant outlet (connected to the connector on the heating system heat exchanger)
5	Fuel connector
6	Coolant inlet (connected to the connector, coming from the engine)
7	Combustion air connector



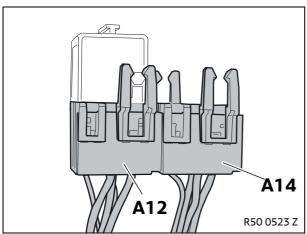
Enlarge the hole (1) in angle bracket **W** to a diameter of 5.5 mm.



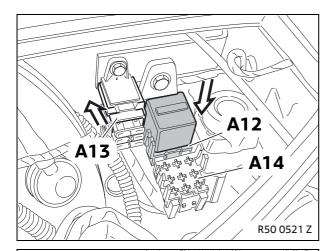
Secure holders ${\bf AS}$ and ${\bf AQ}$ to angle bracket ${\bf W}$ using hexagonal screws ${\bf T}$ and washers ${\bf U}$ as well as flanged nuts ${\bf V}$.



Remove the existing nut (1) from connector **X811**. Connect angle bracket **W** to connector **X811**. Secure branch **A10**, brown cable, to connector **X811** using the nut (1).



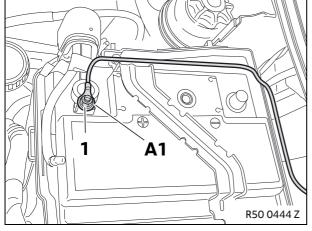
Connect relay sockets A12 and A14.



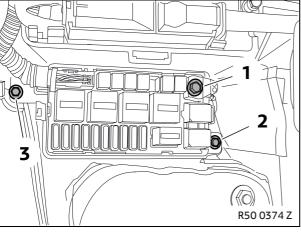
Connect fuse box A13 and relay sockets A12/A14 in the appropriate direction as shown by the arrows.

Route branches **A4.1** and **A4.2** to the installation site of the fuel metering pump.

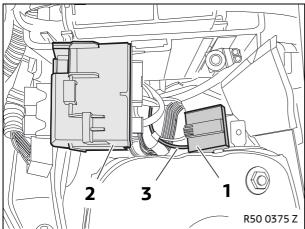
Route branches **A2** and **A3** to the installation site of the heater.



Screw branch A1, red cable, to the positive pole (1) of the battery.



Remove the screws (1, 2 and 3).

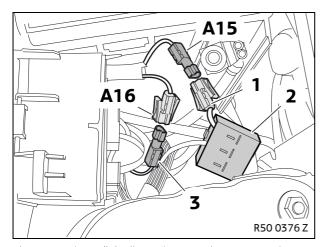


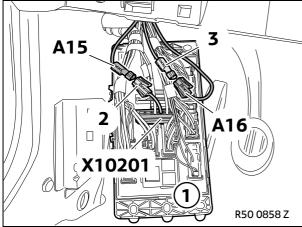
Cars before 03/03 only

Swing the fuse box (2) to the side.

Remove the 3-pin white plug (1).

Cut the red/green cable (3) at a suitable point.





Fit a socket contact and casing (1) to the cut cable (at the plug end).

Fit a plug contact and casing (3) to the cut cable (at the wiring harness end).

Connect branch **A15**, green/red cable, to the socket contact (1).

Connect branch **A16**, green/yellow cable, to the pin contact (3).

Reconnect the plug (2) to the fuse box.

Only cars after 03/03

Route branches **A15** and **A16** to the fuse holder (1), A pillar at bottom left.



If necessary, the cables of branches A15 and A16 must be extended. ◀

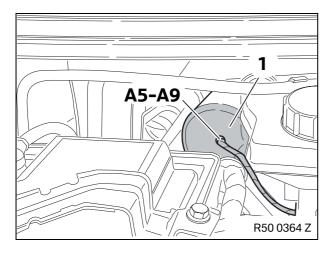
Cut through the red/green cable from PIN 4 of plug **X 10201** at a suitable point.

Fit a socket contact and casing (2) to the cut cable (at the plug end).

Fit a plug contact and casing (3) to the cut cable (at the wiring harness end).

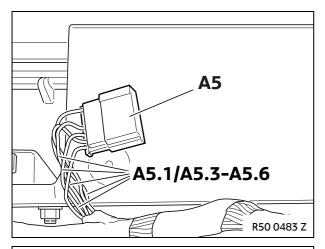
Connect branch **A15**, green/red cable, to the socket contact (2).

Connect branch **A16**, green/yellow cable, to the pin contact (3).



All cars

Route branches **A5** – **A9** through the grommet (1) into the interior.



Connect branches **A5.1** – **A5.6** into plug casing **A5** as follows:

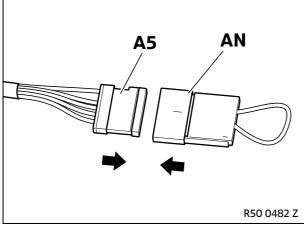
A5.1, red cable to PIN 1

A5.3, black cable to PIN 3

A5.4, grey cable to PIN 4

A5.5, violet cable to PIN 5

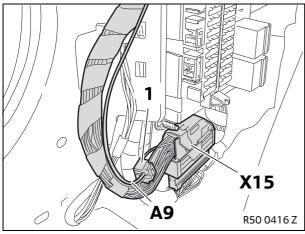
A5.6. brown cable to PIN 6



Only cars that are not fitted with a remote control: Connect bridge AN to plug A5.



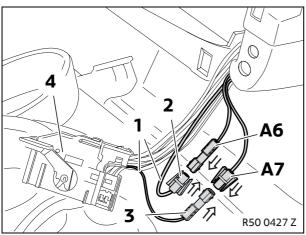
The auxiliary heating system will not work without bridge **AN**. ◀



Cars with IHKA only:

Route branch A9, black/yellow cable, to plug X15.

Connect branch **A9** using a miniature connector (1) to the black/yellow cable coming from plug **X15**, PIN 17.



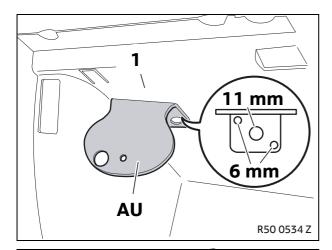
Disconnect the 26-pin plug (4) from the IHKA control.

Cut the red/white cable (1) coming from the 26-pin plug (4) PIN 18 at a suitable point.

Fit a socket contact and casing to the cut cable, going to the IHKA output stage. Connect the connector (2) to branch **A6**, red/white cable.

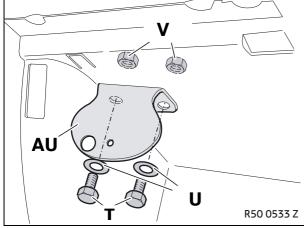
Fit a plug contact and casing to the cut cable, coming from the 26-pin plug (4). Connect the connector (3) to branch A7, red/yellow cable.

9. To install the multifunctional clock

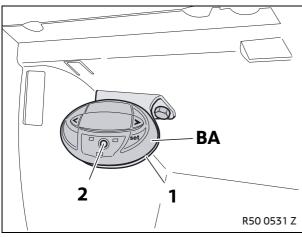


Position holder **AU** on the oddments box (1) and mark the holes.

Drill the holes as shown.

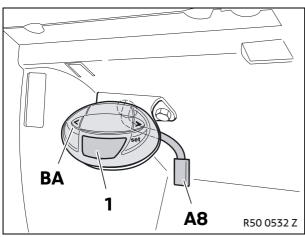


Secure holder $\boldsymbol{A}\boldsymbol{U}$ using hexagonal screws $\boldsymbol{T},$ washers \boldsymbol{U} and flanged nuts $\boldsymbol{V}.$



Affix the foam seal (1).

Secure multifunctional clock **BA** with a self-tapping screw (2).



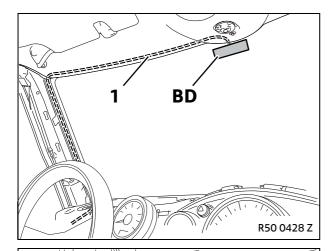
Fit the cover (1) on multifunctional clock **BA**.

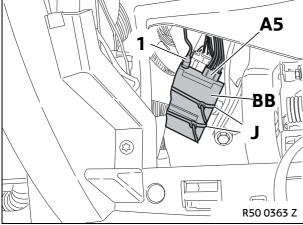
Thread branch **A8** through the 11 mm hole.

Connect branch **A8** to multifunctional clock **BA**.

Install the oddments box.

10. To install the components of the remote control T70/T80







Airbag! Secure the aerial cable (1) to the existing wiring harness with cable ties. ◀

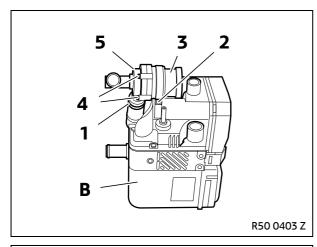
Clean the windscreen in the area where the aerial is to be affixed. The gluing temperature must be at least 20 °C.

Affix aerial **BD** to the windscreen.

Route the aerial cable (1) to the installation site of the receiver.

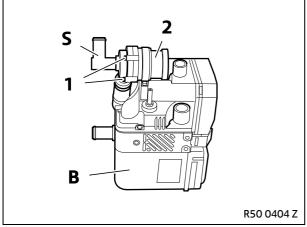
Connect the aerial cable (1) and branch **A5** to receiver **BB**. Secure receiver **BB** with cable ties **J** as shown.

11. To install the heater



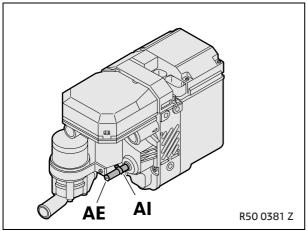
Prepare heater **B** as follows:

Compress the clip (1) and push it to one side.
Undo the Torx bolt (2) and remove the water pump (3).
Undo the Torx bolts (4) and remove the pump cover (5).

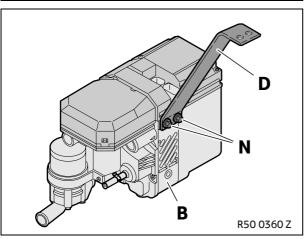


Ensure that the O-ring is positioned correctly. ◀

Fit pump cover **S** using new Torx bolts (1). Install the water pump (5) on auxiliary heater **B**.

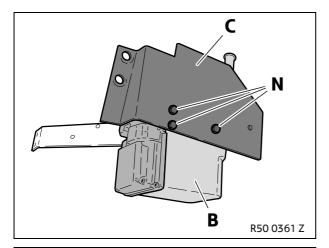


Install connector **AE** using a hose clip **AI**.

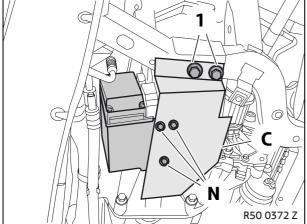


Secure holder ${\bf D}$ to heater ${\bf B}$ using self-tapping screws ${\bf N}$.

11. To install the heater



Secure holder **C** to heater **B** using self-tapping screws **N** but do not tighten them yet.



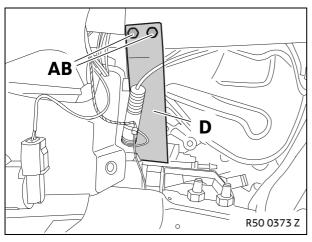
Before inserting the heater, connect branches A2 and A3 to it. ◀

Remove the screws (1).

Insert the heater and holder **C** and secure it with the screws (1).

Align heater **B** so that it is not in contact with the air conditioning lines. ◀

Tighten the self-tapping screws N.



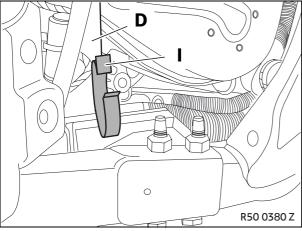
Mark the holes for holder **D** on the body.

Release the heater again.

Drill the holes with a diameter of 6.5 mm.

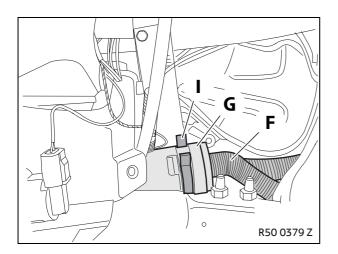
Secure the heater again.

Secure holder **D** using hexagonal screws **AB** and flanged nuts **AC**.



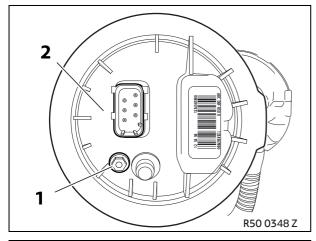
Clip retaining clip I into holder D.

11. To install the heater



Insert air intake silencer **G** into retaining clip **I**.

Turn the combustion air intake hose **F** onto air intake silencer **G**, route it to the heater and install it there on the combustion air connector using a hose clip **H**.



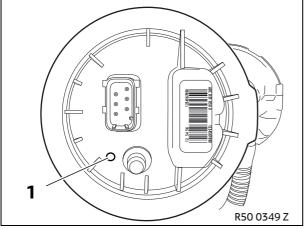


Comply with the safety regulations for handling fuels. Maintain strict cleanliness. Remove all drill shavings. ◀

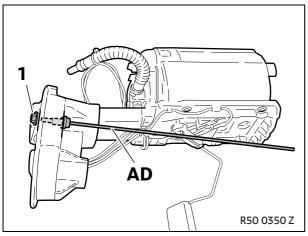
Unscrew the flanged nut (1) from the fuel intake assembly **AD**.

Position the flanged nut (1) on the level sensor (2) in the area shown.

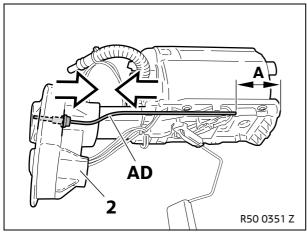
Mark the hole.



Drill the hole with a diameter of 6 mm.



Insert the fuel intake assembly **AD** and secure it with a flanged nut (1).

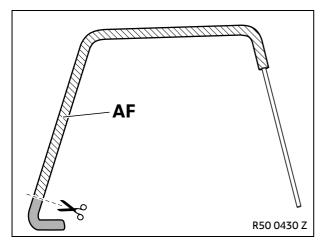


Bend the fuel intake assembly AD as shown.

Compress the level sensor (2) (see arrows) and measure dimension **A**.

Nominal dimension A = 5 mm

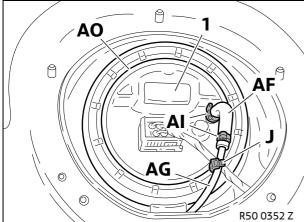
Cut the fuel intake assembly **AD** to length if necessary.



Nip off the area of the angle bracket AF shaded grey.



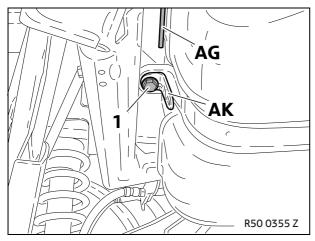
The hatched area of the angle bracket **AF** is not required. ◀



Replace seal **AO**. Ensure that the level sensor (1) is positioned correctly. ◀

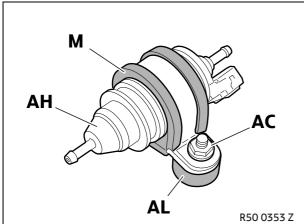
Insert and secure the level sensor (1). Install angle bracket **AF** using a hose clip **AI**.

Connect fuel line **AG** to angle bracket **AF** using a hose clip **AI**, secure it with a cable tie **J** and route it to the floor of the car.



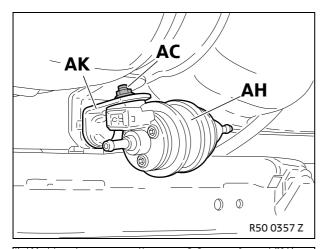
Remove the screw (1) from the tank mounting. Install angle bracket **AK**.

Cut fuel line **AG**.

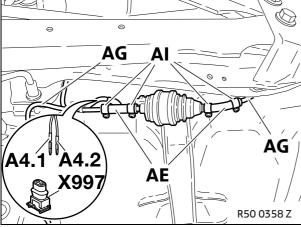


Check the installation direction of the fuel metering pump. The plug side is the fuel outlet side. ◀

Slide pipe clip **AM** onto fuel metering pump **AH**. Secure buffer **AL** using a flanged nut **AC**.



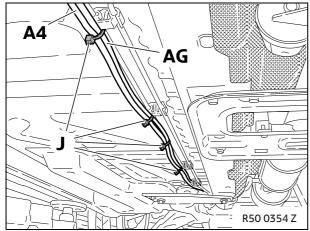
Secure fuel metering pump **AH** to angle bracket **AK** with a flanged nut **AC**.



Install connectors AE using hose clips AI.

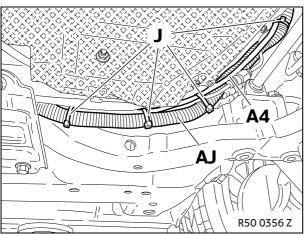
Connect fuel line **AG** to connectors **AE** using hose clips **AI**.

Connect branch **A4.1**, BL cable, to plug **X997**, PIN 1 and branch **A4.2**, BR cable, to plug **X997**, PIN 2. Connect branch **A4** to the fuel metering pump.



Route fuel line **AG** along branch **A4** to the front.

Secure fuel line **AG** and branch **A4** with cable ties **J** to the existing cables.

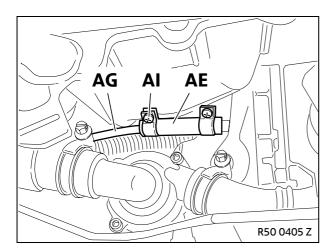


Slide insulation **AJ** onto the fuel line.

Secure the fuel line and branch **A4** with cable ties **J**.

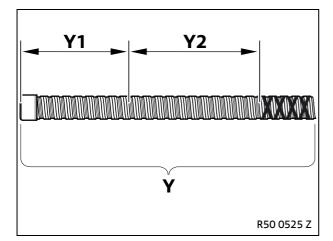
Route the fuel line along the brake lines to the heater.

Do not place the fuel line on hot components since otherwise it may malfunction when the heater is operational. ◀



Connect fuel line **AG** to connector **AE** using a hose clip **AI**.

13. To install the exhaust system



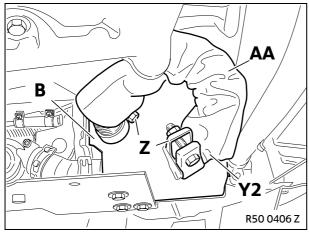
Saw flexible exhaust pipe Y as follows:

Y1 = 80 mm

Y2 = 300 mm

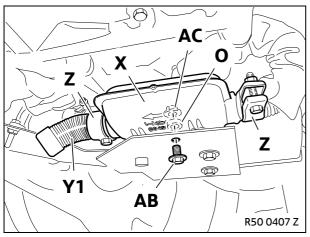


The remainder of flexible exhaust pipe **Y** is not required. ◀



Cut insulation **AA** to size and slide it onto flexible exhaust pipe **Y2**.

Connect pipe clips **Z** and fit flexible exhaust pipe **Y2** to heater **B**.

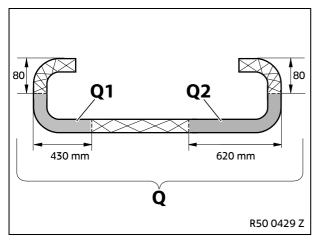


Push pipe section **Y1** onto exhaust silencer **X** and secure it with pipe clips **Z**.

Secure exhaust silencer **X** using a hexagonal screw **AB**, spacer washer **O** and flanged nut **AC**.

Bend pipe section Y1 downwards slightly.

14. To install / connect the water hoses



Cut the water hose to length **Q** as shown.

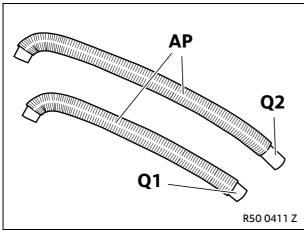
Water hose **Q1** = From the engine to the heater inlet (water pump).

Water hose **Q2** = From the heater outlet to the heat exchanger (standard heating system).



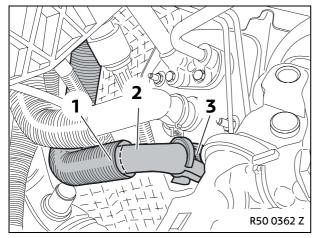
The hatched pieces of the hose will not be needed. ◀

Cut insulation **AP** to size and slide it onto water hoses **Q1** and **Q2**.



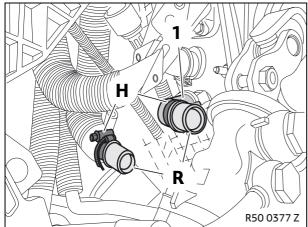
Push the insulation (1) on the car's own water hose back slightly.

Saw through the water hose (2) along the dotted line. Loosen the clip (3).

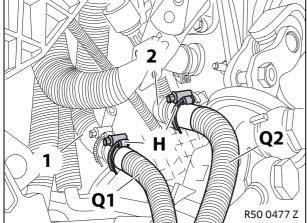


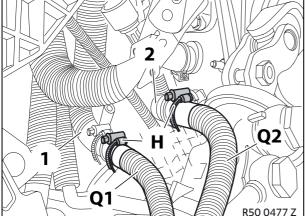
Turn the water hose (1) through 180° and secure it again.

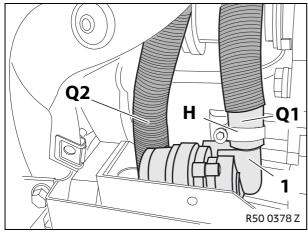
Install hose connector **R** with hose clips **H**.

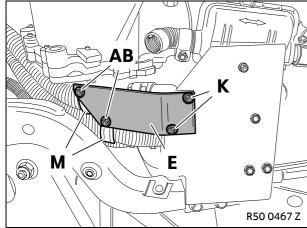


14. To install / connect the water hoses











Install the water hoses so that they cannot kink or chafe. Secure them at suitable points with cable ties. ◀

Connect water hose Q1 to the water hose (1), coming from the engine, with a hose clip **H**.

Connect water hose **Q2** to the water hose (2), going to the heating system heat exchanger, with a hose clip H.

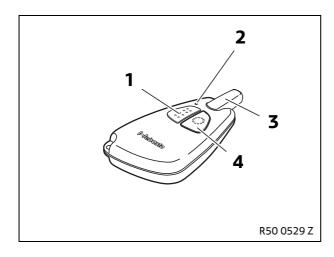
Connect water hose Q1 to the water pump (1) using a hose clip **H**.

Connect water hose Q2 to the heater outlet using a hose clip **H**.

Secure holder **E** using hexagonal screws **K** and flanged nuts AC.

Push pipe clips **M** over the two water hoses and secure them using hexagonal screws AB and flanged nuts AC.

15. Control elements





Details of how to use the Thermo Call are given in the MINI supplementary owner's manual for the auxiliary heating system. ◀

T70/T80 transmitter:

1 = ON button

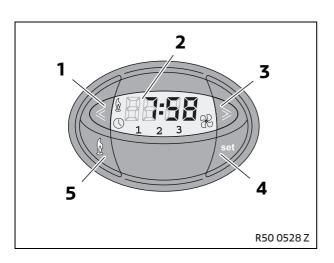
2 = Diode

3 = Aerial

4 = OFF button



Details of how to use the transmitter are given in the MINI supplementary owner's manual for the auxiliary heating system. ◀



Multifunctional clock:

1 = Clock setting button backwards

2 = Display

3 = Clock setting button forwards

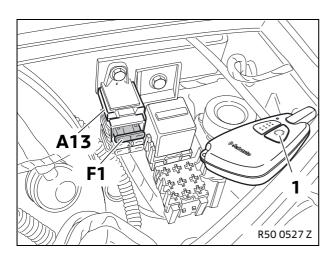
4 = Program selection button

5 = Immediate heat button



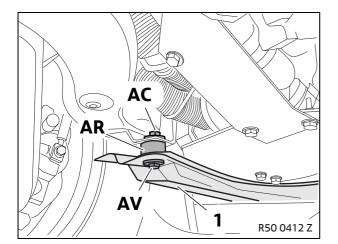
Details of how to use the multifunctional clock are given in the MINI supplementary owner's manual for the auxiliary heating system. ◀

16. To program the transmitter of the remote control T70/T80



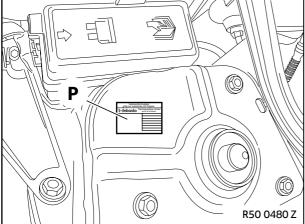
- During the programming process cover the aerial with your hand or complete the process with a partner who is some distance from the car.
- Pull fuse F1 (1 A) out of fuse box A13
- Wait for at least 5 seconds
- Insert fuse **F1** again
- Press the OFF key (1) on the transmitter for at least 1 second within 5 seconds
- This ends the programming process
- Other transmitters (up to a total of three) can be programmed using the same method. ◀

17. Concluding work



Fit the power unit bottom guard (1).

Place a spacer washer **AR** with a hexagonal screw **AV** and flanged nut **AC** between the power unit bottom guard and the front axle.



Re-assemble the car

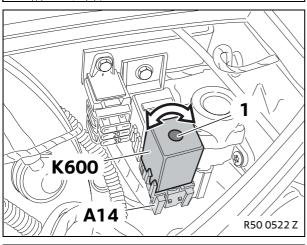
Fill and bleed the cooling system as per the instructions.

Affix duplicate sticker **P** on the front left MacPherson strut tower.



The date of installation must remain legible, in other words only the irrelevant dates may be removed or overwritten. ◀

Mark the date of installation on duplicate sticker **P**.



Cars with IHKA only

Connect relay K600 to relay socket A14.



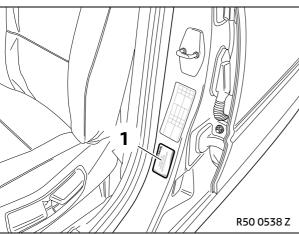
The blower is not activated by the heater until the coolant reaches a temperature of 30 °C. ◀

Start the auxiliary heating system.

Remove the cover (1).

Set the blower speed to approx. 30 – 40% of the maximum speed using the potentiometer.

Fit the cover (1) again.



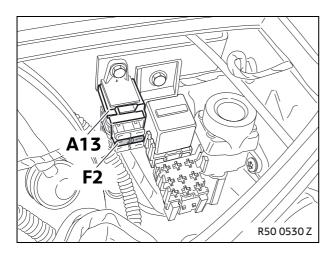
All cars:

Affix the tank information sticker (1) to the left B pillar.



Use the tank information sticker (1) in the appropriate language. ◀

18. To reset after a fault



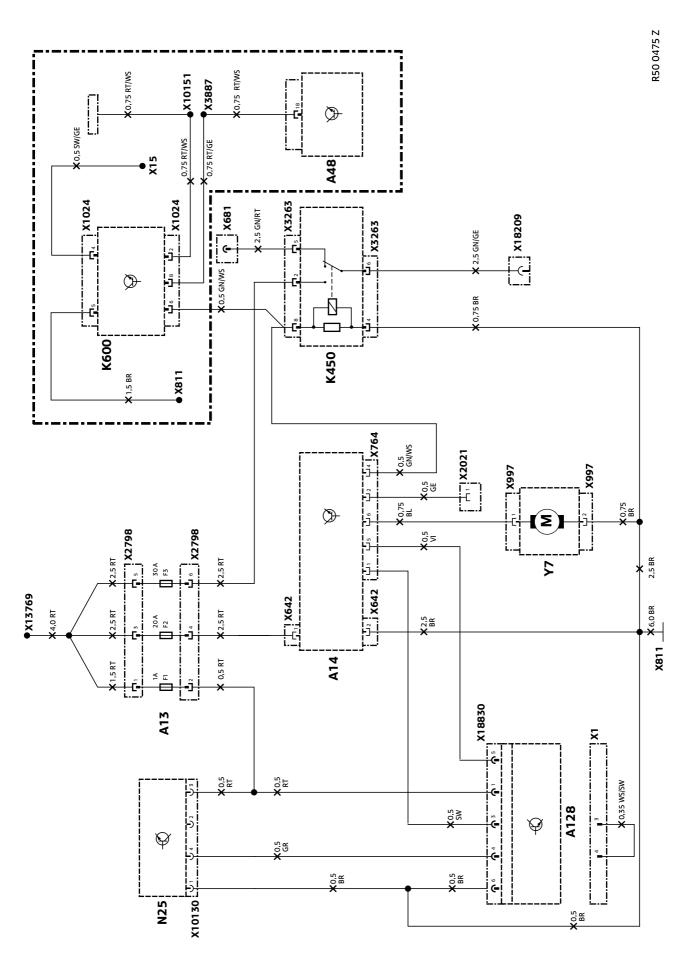


In the event of overheating or if various faults are identified several times the error cut-out will take effect and you will not be able to start the heater. The error cut-out can be controlled using the diagnostic adapter (see EPC for part number) or as follows.

To cancel the error cut-out

- Switch on the auxiliary heating system
- Pull fuse **F2** (20 A) out of the fuse box
- Wait for approx. 30 seconds
- Switch off the auxiliary heating system
- Insert fuse **F2** again
- This will cancel the error cut-out

19. MINI auxiliary heating system circuit diagram



19. MINI auxiliary heating system circuit diagram

Legend

A13	Fuse box for auxiliary heating system
A14	Auxiliary heating system control unit
A48	Heating controller (control) IHKA
A128	Receiver for remote control T70/T80
K450	Blower control relay
K600	Blower speed controller (for IHKA only)
N25	Multifunctional clock
X1	Bridge if only the multifunctional clock is fitted
X15	Black 42-pin plug
X642	2-pin connection plug for auxiliary heating system
X681	1-pin plug connector for the blower control
X764	6-pin connection plug for auxiliary heating system
X811	Earth post
X997	2-pin connection plug for metering pump
X1024	Relay socket for blower speed relay
X2021	Socket contact for diagnostics
X2798	8-pin connection plug for fuse holder A13
X3263	Relay socket for blower controller
X3887	1-pin plug connector
X10130	4-pin connection plug for multifunctional clock
X10151	1-pin plug connector
X13769	Battery positive pole
X18209	1-pin plug connector for the blower control
X18830	6-pin connection plug for receiver

Y7 Metering pump

Cable colours

RT	red	BL	blue
SW	black	OR	orange
GN	green	VI	violet
BR	brown	GR	grey
GE	yellow	WS	white

The section of the circuit diagram enclosed by the dotted line is only valid for cars with an automatic air conditioning system (IHKA). \blacktriangleleft