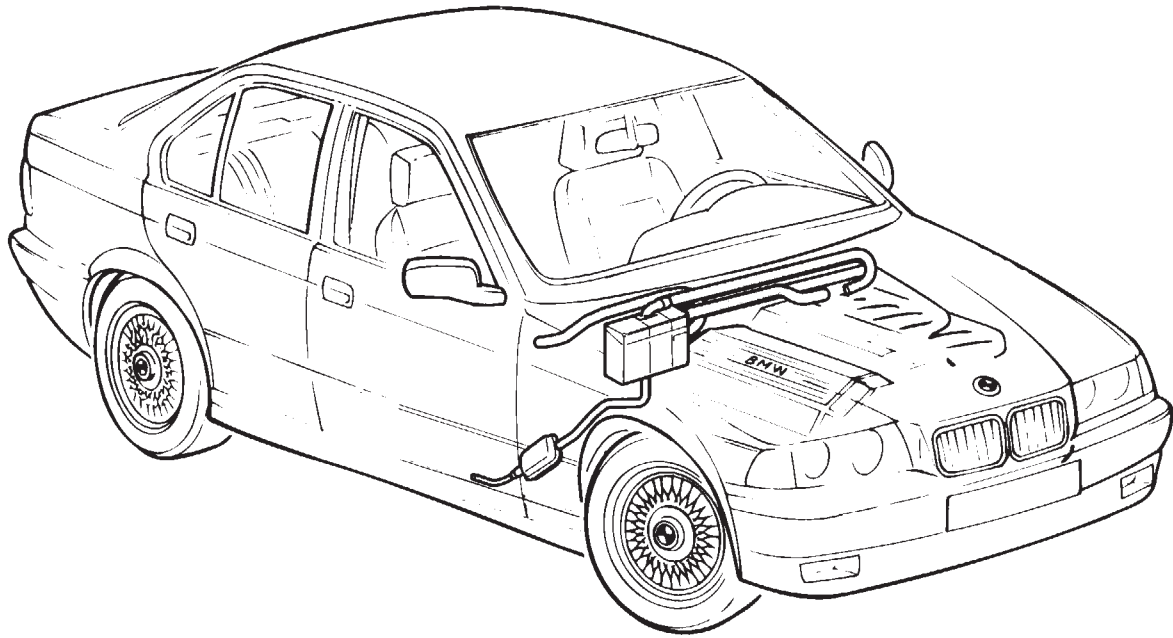




# Parts and Accessories - Installation Instructions (Binding installation instructions)



F 36 64 951 R

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## **"Inline" Independent heating/Independent Ventilation** **BMW 3 Series (E36) left-hand drive models** **All models with 6-cylinder engine M51 (diesel) or M50, M52 (petrol)**

These installation instructions are to be given to the client.  
Technical knowledge is required.

Installation time approx. 5 - 6 hours, which may vary according to the condition and fittings of the vehicle.

If the park ventilation system and/or the time switch options are included, the installation time will increase by 0.5 hours for each option.

**Thermo Top Z/C additional heating system**  
**Test symbol ~~~ S 292 / ~~~ S 289**

**Binding installation instructions for BMW vehicles with the following model code numbers:**

	<b>Manual transmission</b>	<b>Automatic transmission</b>
<b>E36/2 Coupé</b>	<b>LHD</b>	<b>LHD</b>
320i	M50	BF11 BF21
325i	M50	BF31 BF41
320i	M52	BF51 BF61
323i	M52	BF71 BF81
328i	M52	BG11 BG21
<b>E36/3 touring</b>	<b>LHD</b>	<b>LHD</b>
320i	M52	CE51 CE61
323i	M52	CE71 CE81
328i	M52	CF11 CF21
325tds	M51	CF91 CF01
<b>E36/4 Saloon</b>	<b>LHD</b>	<b>LHD</b>
320i	M50	CB11 CB21
325i	M50	CB31 CB41
320i	M52	CB51 CB61
323i	M52	CB71 CB81
328i	M52	CD11 CD21
325td	M51	CC11 CC21
325tds	M51	CC31 CC41
<b>E36/5 compact</b>	<b>LHD</b>	<b>LHD</b>
323ti	M52	CG71 CG81
<b>E36/C Convertible</b>	<b>LHD</b>	<b>LHD</b>
325i	M50	BJ51 BJ61
320i	M52	BJ31 BJ41
323i	M52	BJ71 BJ81
328i	M52	BK71 BK81

**With the following engines:**

<b>M50</b>	<b>B20</b>	<b>110 KW</b>	<b>M51</b>	<b>TD</b>	<b>85 KW</b>	<b>M52</b>	<b>B20</b>	<b>110 KW</b>
	<b>B25</b>	<b>141 KW</b>		<b>TDS</b>	<b>105 KW</b>		<b>B25</b>	<b>125 KW</b>
							<b>B28</b>	<b>142 KW</b>

**With the following EC licences:**

- EG: e1 \* 93/81 \* 0015 \* ..**
- EG: e1 \* 93/81 \* 0016 \* ..**
- EG: e1 \* 93/81 \* 0017 \* ..**



**The conditions of the licence are to be complied with. ◀**

In the Federal Republic of Germany retrofitting the Thermo Top C additional heating system as described in these installation instructions does not require a separate acceptance test since a special supplement to the general licence has been granted. Exemption from the obligation to subject the installation to an acceptance test only applies if the installation work complies with all the requirements in the following, binding installation instructions. If you do not follow these installation instructions to the letter, an installation approval test pursuant to § 19 of the Road Traffic Act will be required. In addition to these installation instructions, the operating instructions and installation manual apply. The general licence and the operating/installation manual supplied with these installation instructions are to be kept in the vehicle.

### Important notes on installation

Before disconnecting the battery and on completing the installation work for the independent heating system, read the error memory.

In the course of our developments it may be that connections or pin assignments are changed.

Therefore the latest test instructions are always to be used for the installation work.

All hose lines and electric cables are to be laid in such a way that they cannot sag or chafe. Cables which are too long are to be tied up and secured to suitable points using cable ties.

Ensure that they all move easily.

All hose clips are to be fitted in such a way that they do not come into contact with or chafe against electric cables.

Deburr holes, remove drilling chips and treat the areas with the customary BMW corrosion protection product.

For all vehicles with IHKA the heating/air conditioning unit must be coded (Change the central coding key, see also page 18).

### Important notes on operating the independent heating system (please read carefully)

To prevent starting problems caused by operating the independent heating system, we recommend that the vehicle be driven 15 - 20 km every day to ensure that the battery is recharged adequately.



**The heater must not be operated (even with preset time or by radio remote control) in enclosed spaces such as garages or workshops without an exhaust fume extraction system. The heating system must be switched off at filling stations and/or fuel installations. ◀**

When the weather is warm and the heater is not required it should be run for 10 minutes every four weeks when the engine is cold to avoid starting problems when the weather grows colder again and the heater is needed (see also BMW operating manual).



If the customer requires a time switch or the independent ventilation function, additional parts are necessary which must be ordered separately (see spare parts list for part numbers). ◀

### Necessary tools and materials

Slot screwdriver

Phillips screwdriver

1/2 inch torque wrench

1/2 inch reversible ratchet

1/2 inch extension

1/2 inch socket wrench 10 mm and 13 mm inserts

1/4 inch reversible ratchet

1/4 inch extension

1/4 inch socket wrench 6 mm, 7 mm, 8 mm,

10 mm and 13 mm inserts

Ring spanners 7 mm, 8 mm, 10 mm and 13 mm

Open-ended spanners, 8 mm, 10 mm and 13 mm

Torx T10 socket wrench insert

MoDic or DIS (for vehicles with IHKA only)

Drill

Twist drill bits, Ø 2 mm, Ø 3.5 mm, Ø 6 mm and Ø 6.5 mm

Stepped drill bits Ø 4-38 mm

Water pump pliers

Combination pliers

Universal knife

Hose shears

Hammer

Tape measure

Tester (for testing the pressure of the coolant system)

Special tool 161020 for tank fittings box nut (tightening torque 55 Nm)

Crimping pliers for AMP round contacts

Hose clip or pressure test pliers

**Blind rivet nut pliers (for models prior to 9/93 only)**

**Three standard M6 blind rivet nuts (for models prior to 9/93 only)**

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## 1. Preparatory work

- Print error memory
- Check the amount of fuel in the tank (max. 1/2 full, otherwise drain off some of the fuel)
- Disconnect the battery
- Remove the glove compartment
- Remove the rear seat
- Remove the A-pillar casing on the right-hand side
- Remove the connection trim for the heating system
- Remove the bottom casing on the engine (if fitted)
- Remove the bottom casing on the steering wheel (vehicles with IHKA only)
- Remove the tray from the central console (vehicles with IHKA or with the independent ventilation option or time switch option only)
- Remove the ASC control unit (if fitted)

## 2. Installation and cabling diagram

F 36 64 934 R

### Key

1. Independent heater
2. Silencer
3. Adhesive aerial for telestart
4. Coolant hoses
5. Metering pump
6. Fuse box / Blower relay
7. Fuel extractor

## 3. Connection diagram for independent heater wiring harness

F 36 64 935 R

Item	Description	Cable colour	Cable cross-section	Connection point in vehicle
A1	Triple fuse holder	-----	-----	On stand heater supp. in the engine compart., right
A2	Terminal 30	Red	4 mm <sup>2</sup>	On the ext. starter supp. point in the eng. compart., right
B1/B2/ B3/B4	Terminal 31	Brown	-----	On stand heater support in the engine compartment, on the right
D1	Independent ventilation system*	Violet	0.75 mm <sup>2</sup>	On independent ventilation switch in the central console
D2	Independent ventilation system*	Brown	0.75 mm <sup>2</sup>	On independent ventilation switch in the central console
E	Time switch plug*	-----	-----	On time switch in the tray
F1**	Blower controller <b>(vehicles with IHR or IHKR only)</b>	Black	2.5 mm <sup>2</sup>	On blower resistor R11, 4-pole plug X904, slot No. 2 (green cable) <b>Note</b> If the vehicle has an air-conditioning controller (IHKR), slot 2 is to be changed to slot 1
F1	Blower controller <b>(vehicles with IHKA only)</b>	Black	2.5 mm <sup>2</sup>	On plug X671, pin 2, going to heating blower maximum setting
F2**	Blower controller <b>(vehicles with IHR or IHKR only)</b>	Red	2.5 mm <sup>2</sup>	On connection cable (green cable), coming from blower switch S75
F2	Blower controller <b>(vehicles with IHKA only)</b>	Red	2.5 mm <sup>2</sup>	On connection cable (green-and-brown cable), going to relay socket X58
G1/G2	Indep. heating sys. controller	-----	-----	On the electronic controller for the independent heater
H1	Not used, insulate and tie back	Black	0.75 mm <sup>2</sup>	On stand heater support in the engine compart., right
H2	Diagnostic connector	Yellow	0.75 mm <sup>2</sup>	On stand heater support in the engine compart., right
K1	Blower relay	-----	-----	On stand heater support in the engine compart., right
I1	Metering pump	Blue	1.0 mm <sup>2</sup>	Under the vehicle floor, on the left in front of the fuel tank on the metering pump
I2	Metering pump	Brown	1.0 mm <sup>2</sup>	Under the vehicle floor, on the left in front of the fuel tank on the metering pump

\* The time switch and the independent ventilation function are optional, see note on page 3.

\*\*For E36/5 the blower connection is made in the power distributor to blower fuse slot **F20**.

## 4. To fit the telestart aerial

### F 36 64 943 R

Clean the windscreen where you wish to fit the aerial (on the right-hand side).

Remove backing foil and affix adhesive aerial (1).

**Dimensions:** A = 200 mm  
B = 40 mm

Fit the aerial lead (2) along the A-pillar downwards and from there along the vehicle wiring harness to the installation site of the heater in the engine compartment.



Gluing temperature at least 20°C. ◀

## 5. To prepare the support plate for the independent heater

### F 36 64 936 R

Fit the support (1) for the fuse box on the support plate (3) using a self-tapping screw, size 2.9 x 9,5 (2).

### F 36 64 937 R

Engage the fuse box (1). Secure the relay (2) using a bolt, size M5 x 14 (4), toothed washer, size A5, washer, size A5 and nut, size M5 (3). Secure the comb connector (5) to the support plate (8) using a screw, size M6 x 12 (7), washer, size A6 and nut, size M6 (6).

### F 36 64 938 R

Cut the positive battery cable (1) to a length of 250 mm and crimp a cable lug, size A6 on to it. Secure the independent heater (2) to the support plate (4) using the special self-tapping screws (3) provided.

## 6. To connect the wiring harness

### F 36 64 948 R

Connect the aerial lead (1). Lay the wiring harness (2) without the branch **I1/I2** (metering pump) through the grommet (3) into the interior of the vehicle.



For vehicles with IHKA the independent heating diode cable with branches **D1, D2, E, F1** and **F2** must be laid into the footwell on the driver's side (see operation F 36 64 939 R). ◀

### F 36 64 953 R

Undo the nut (2). Secure the positive battery cable branch **A2** (1) to the positive support point (3). Cut off the stop (4) using a side cutter.

## E36/2/3/4/C with integral heating system controller (IHR) only

### F 36 64 994 R

Lay branches **F1** and **F2** for the blower controller on the independent heating system wiring harness to the central console on the right-hand side of the heater.

Cut the branches to the required length.

Cut and strip the connection cable (green cable) on plug **X904** for the heating system blower controller, level II as shown in the drawing, crimp jack contacts to it and plug in the plug casing. Crimp pin contacts on to branches **F1** and **F2** and plug in the plug casing.

**F1** Connect branch (black cable) to connector (1) coming from the blower resistor.

**F2** Connect branch (red cable) to connector (2) coming from the blower resistor.

## E36/2/3/4/C with integral heating and air-conditioning system controller (IHKR) only

### F 36 64 995 R

Lay branches **F1** and **F2** along the vehicle wiring harness to the left-hand side of the heater/air-conditioning unit.

Cut the branches to the required length.

Disconnect 4-pole plug **X904** (1) from the blower resistor, release it and push out the green cable on pin No. 1.

**F1** Fit branch (black cable) (2) with a jack contact and connect it to pin No. 1 on the 4-pole plug (1).

**F2** Fit branch (red cable) (3) with a pin contact and 1-pole plug casing (4). Connect a 1-pole jack casing (5) to the contact of the green cable you have pressed out and then connect this to branch **F2**, (red cable).

## E36/2/3/4/C with integral automatic heating and air-conditioning system (IHKA) only

### F 36 64 939 R

Cut green-and-white cable (1) from relay **K1**, terminal 86 at a suitable point, strip it and fit it with a 1-pole jack or pin contact. Plug in casing (2 and 3).

Connect the independent heating system diode cable(4) from the installation kit as shown. Only lay the independent heating system diode cable to the heater/air-conditioning unit inside the vehicle.



Ensure that the conducting direction of the diode is correct. ◀

### F 36 64 940 R

Cut the green-and-brown cable (1) (coming from the 26-pole blue plug **X1527**, pin No. 20). Strip the

ends of the cable and crimp one jack contact and one pin contact to each end. Connect plug casing (2 and 3). Connect the independent heating system diode cable between these ends.

#### **F 36 64 955 R**

Lay branches **F1** and **F2** along the vehicle wiring harness on the left-hand side of the heater/air-conditioning unit.

Cut the branches to the required length.

Cut the green-and-brown cable coming from plug **X671** (4) for the maximum heater blower level (1) at a suitable point.

**F1** Fit the green-and-brown cable (2) coming from the maximum heater blower level (1) with a pin contact and a 1-pole casing. Fit branch **F1** (3) (black cable) with a jack contact and a 1-pole casing. Connect the green-and-brown cable (2) and branch **F1** (3).

**F2** Fit the green-and-brown cable (4) coming from blower relay socket **X50** with a jack contact and a 1-pole casing. Fit branch **F2** (5) (red cable) with a pin contact and a 1-pole casing. Connect the green-and-brown cable (4) and branch **F2** (5).

## **7. To install the time switch (optional)**

### **Vehicles with clock**

#### **F 36 65 113**

Carefully lever out the clock (1) using a small screwdriver.

Disconnect the cable plug on the clock (1). Lift out the tray (2).

### **Vehicles with multi-information display (MID)**

#### **F 36 65 023**

Carefully lift out the MID (1).

#### **F 36 64 006**

Release the locking bar (1) for the plug (2) in the direction indicated by the arrow. Disconnect the plug (2) from the MID.

### **All vehicles**

#### **F 36 65 024**

Lift out the tray. Disconnect the cable plug and cigar lighter light.

#### **F 36 64 247**

Drill two holes (1) with a diameter of 5 mm and one hole (2) with a diameter of 10 mm as shown in the drawing.

**Dimensions:** a = 25 mm  
b = 40 mm  
c = 15 mm  
d = 25 mm  
e = 20 mm

#### **F 36 64 988 R**

Drill holes with a diameter of 3 mm through the existing holes (1 and 2) in the tray (3) into the holder for the time switch.

Lay branch **E** to the central console and thread it through the hole (4) in the tray.

Screw the self-tapping screws with washers into items 1 and 2.

#### **F 36 64 591 R**

Cut out and smooth the edge strips on the base of the tray (1).

Insert the base of the tray (1) into the tray.

**Dimensions:** a = 50 mm  
b = 2 mm

#### **F 36 64 592 R**

Secure the detent (3) in the holder (2) for the time switch using a self-tapping screw as shown in the drawing. Remove the marking plate for the detent (3).

Insert the holder (2) into the tray (1) as shown in the drawing and align it.

#### **F 36 64 250**

Plug branch **E** into the time switch (2) and press the time switch (2) on to the detent in the holder in the tray (1). Align the time switch.



When installing the time switch, do not press on the display. ◀

### **E36/5 vehicles only**

#### **F 36 64 992 R**

Drill holes (5) and (6) using the template. Secure the detent (3) using a self-tapping screw (2). Plug branch **E** into the time switch (2) and press the time switch (2) on to the detent (3).



When installing the time switch, do not press on the display. ◀

## **8. To connect the independent ventilation system (optional)**

#### **F 36 64 941 R**

### **E36/2/3/4/C only**

Lift the cover (2) out of the tray (1) and drill a hole with a diameter of 12 mm using the twist drill bit through the centre of it.

## F 36 64 942 R

Lay branches **D1** and **D2** from the independent heating system wiring harness to the tray (1). Thread the branches through the hole in the cover. Crimp branch **D1** (violet cable) to a 2.8 mm flat plug sleeve.

**On vehicles with IHKA, D1 (violet cable) must be crimped to the free end of the independent ventilation system diode cable (black-and-white cable).**

Fit branch **D2** (brown cable) with a 2.8 mm flat plug sleeve.

Plug branches **D1** and **D2** to the top contact lugs (2) of the independent ventilation system switch (3).



The connections must be made as described, otherwise the independent ventilation system will not function. ◀



If the switch strip on the tray (1) does not have a free switch cover, another site for the switch must be selected by agreement with the customer. ◀

**E36/2/3/4/C with integral automatic heating and air-conditioning system (IHKA) only**

## F 36 64 988 R

Cut cable (1) (black-and-white-and-yellow cable) coming from 26-pole blue plug **X1527**, pin No. 8. Strip the ends of the cable and crimp one jack contact and one pin contact to the ends. Connect plug casing (2 and 3). Connect the independent ventilation system diode cable between these ends.



Ensure that the conducting direction of the diode is correct. ◀

**E36/5 only**

## F 36 64 993 R

Lay branches **D1** (3) and **D2** (4) for the independent ventilation system wiring harness to the central console. Fit 2.8 mm flat plug sleeves to branch **D1** (violet cable) and **D2** (brown cable). Plug branches **D1** and **D2** to the top contact lugs (2) of the independent ventilation system switch (1).



The connections must be made as described, otherwise the independent ventilation system will not function. ◀

## 9. To install the independent heater

### F 36 64 947 R

Cut the exhaust pipe (1) to the specified dimensions.

**Dimensions:** A = 470 mm  
B = 300 mm

### F 36 64 945 R

Bolt exhaust pipe section (1) (470 mm long) to the stead heater (2) using a clip (3).

### F 36 64 950 R

Secure the independent heater (1) using two hexagonal screws, size M6 x 12 mm and washers (2).

Connect plugs **G1** and **G2** (3) to the independent heater (1).



Vehicles built prior to 9/93 do not have an M6 thread in the battery mounting plate. In this case hold the independent heater in position and mark the holes in the independent heater support. Drill the hole using a twist drill bit. Rivet blind rivet nuts, size M6 into the hole and screw the independent heater into position using hexagonal screws, size M6 x 12 mm. ◀

### F 36 64 949 R

Place the black sealing cap (3) on the intake air hose (1), fit it on the heater (2) and secure it with a hose clip and cable tape.

## 10. To fit the fuel line and metering pump

### F 36 64 612 R



Before releasing the fuel line ensure that the tank is maximum half-full. Otherwise fuel may leak. Drain some of the fuel if necessary. Follow safety regulations for dealing with fuels.! ◀

Remove the **right-hand cover plate** (1) from the tank fittings (2). Disconnect the fuel lines (3 and 4).



Vehicles built after 1/95 only have a single fuel line (4). ◀


Undo the box nut (5) using the special BMW tool No. 161020 and remove it. Carefully pull out the tank fittings.



When replacing the tank fittings it is essential to use the new sealing ring and the new box nut from the installation kit. Tightening torque 55 Nm. ◀


### F 36 64 613 R

Seal the fuel port (1) with insulating tape. Place the washer (2) for the tank extractor from the installation kit on the tank fittings (3) as shown. Mark the hole with a felt tip pen on the tank fittings (3). Drill a hole at the point you have marked using an 8 mm twist drill bit.


 Drill the hole vertically. Do not damage the fuel pump. Clean the chipping off the fittings with compressed air. ◀

#### F 36 64 614 R

Insert the tank extractor (1) with the seals (2), washer (3) and hexagonal nut, size M8 (4). Tighten the hexagonal nut.

 When tightening the M8 nut (4), hold the tank extractor (1) at the rear using water pump pliers. ◀

#### F 36 64 615 R

 To make it easier to lay the line (1), remove the left-hand cover plate. ◀

Cut a length of 1.20 m off the white fuel line supplied. Thread the fuel line (1) through the aperture under the floor of the vehicle to the left-hand side.

#### F 36 64 617 R

Fit the tank fittings (1) with the new seal and new box nut (2) and secure them.  
Secure the fuel hoses (3 and 4) with hose clips as shown.  
Secure the hose section (5) with a 10 mm hose clip on the tank extractor (6).  
Secure the fuel line (7) to the hose section (5) with a 10 mm hose clip.  
Fix the fuel line (7) to the fuel hose (4) using a cable tie (8).

#### F 36 64 619 R


Lay the fuel line (1) together with the branches **I1** and **I2** (metering pump) from the position of the independent heater along the bulkhead to the left-hand side and from there along the vehicle's fuel lines. Secure the fuel line (1) and branches **I1** and **I2** with cable tape (3).

#### F 36 64 620 R

If there is one, remove the plastic nut (1) and take off the floor lining.


#### F 36 64 621 R

Fit the fuel line (1) as shown into the cable support (2) and lay it to the rear.  
Fix the connection line (3) along the fuel line as shown, using cable tape (4).

 It is essential that the connection line and the fuel line do not sag. ◀


#### F 36 64 622 R

Mount the metering pump (1) using the rubberised pipe clip (2), hexagonal screw, size M6 x 16 mm (3) and hexagonal nut, size M6 (4) on the existing hole in the left-hand fuel tank support (5).

 To make it easier to insert the screw (3), undo the securing screw for the support (5). Turn the metering pump so that the electrical connector is at the top. ◀

#### F 36 64 623 R

Cut the fuel line (1) for the independent heater to the required length, insert it into the connection manifold (2) and secure it with a 10 mm hose clip (3).  
Fit the connection manifold (2) to the port on the metering pump (6) and secure it with a 10 mm hose clip (4).

 Ensure that the flow direction is correct. The connection is to be made to the fuel port on the same side as the connecting plug (5). ◀

Turn the metering pump through 10 - 15° from the horizontal with the electric plug at the top.

#### F 36 64 959 R

Lay the fuel line (1) to the metering pump (2) and secure it with cable ties.  
Secure the hose section (3) to the fuel line (1) using a 10 mm hose clip (4).  
Push the fuel line on to the metering pump (2).  
Secure the fuel line with a 10 mm clip (4).

Cut branches **I1** and **I2** (5) to the required length. Push a rubber grommet over branches **I1** and **I2** (5). Crimp contacts on to branches **I1** and **I2** (5), plug them into the 2-pole casing and connect the casing to the metering pump (2).


## 11. To install the coolant hoses

#### F 36 64 954 R

Remove the coolant hose between the engine and the heating valve and cut it as shown.

**Dimensions:** A = 60 mm

 In the following installation overview, this hose is known as **C**. ◀

 To ensure that the coolant system can be bled more easily after the installation work, the coolant hose must be sealed between the engine and the heater/air-conditioning unit with a hose clamp or pliers. ◀

#### F 36 64 944 R

Fit the holder (1) with cable ties (2) as shown.

#### F 36 64 946 R

Fit the holder (1) loosely on the coolant hoses (2), push the assembly between the cable duct and the partition and secure it with self-tapping screws (3). Tighten the cable ties.






## Installation overview of coolant hoses

### F 36 64 952 R

Prepare the coolant hoses as shown, fit them with connectors (1 and 2) and install them as shown in the installation diagram (see note on page 3).  
Coolant hose **C** comes from the engine  
Coolant hose **A6** is to be connected to the heating valve.

After fitting the coolant hoses remove the hose clamp or pliers.

-  = Independent heating system infeed coolant hoses
-  = Independent heating system outfeed coolant hoses
-  = Hose sections not required

- 1 = Connector 18/20 mm
- 2 = Connector 20/20 mm


## 12. To install the exhaust system

### F 36 64 956 R

Bend the holder (1) as shown and secure it to the exhaust silencer (3) using the hexagonal screw (2), size M6 x 12 mm, washer, toothed washer and hexagonal nut, size M6.

### F 36 64 957 R

Secure the exhaust pipes (1, 470 mm and 4, 300 mm) to the exhaust silencer (3) using clips and bolt it to the existing coarse threaded pin (6).


 If the coarse threaded pin (6) is missing, secure the clip (7) with a suitable self-tapping screw (see drilling instructions on page 3). ◀

## 13. Coding (for vehicles with IHKA only)

After completing all the work, the retrofit independent heating system must be encoded on vehicles with IHKA.  
This is possible as from coding software version 13.0.

### Selection:

- Series E36
- Retrofit
- 5) Independent heating system/Independent ventilation system

 The coding procedure is essential on vehicles with IHKA since otherwise the valve program will not work and the heating blower will not function. ◀


**During the coding process the central coding key is changed.**

**Delete the old coding label beneath the left-hand side of the rear seat and replace it with the new label.**

## 14. Concluding work

### F 36 64 961 R


Affix the duplicate factory plate (2) as shown on the right-hand spring strut dome (1) and mark the date of installation.

 The date of installation must be legible, in other words only the irrelevant data must be removed. ◀

Fill the coolant system, start the engine and set the vehicle's heating system to hot (maximum).  
Run the engine for approximately five minutes at 3000 rpm. Switch on the independent heating system after approximately five minutes, leaving the engine running (on vehicles without a time switch the telestart remote control must first be initialised, see section 15). Leave the engine and independent heating system on until hot air is fed out of the air outfeed nozzles into the interior of the vehicle.  
Switch off the engine, test the pressure of the coolant system and check for leaks.

## 15. To initialise the telestart remote control

Each telestart receiver can be assigned up to two remote controls.

 Do not extend the aerial if you are close to the vehicle (less than 3 m). ◀

### F 36 64 963 R

Break the voltage supply to the telestart receiver for at least ten seconds by removing the 15A fuse in the fuse box for the independent heating system.

Replace the fuse and press the Off key (2) on the remote control briefly (one second) within three seconds.

Wait for three seconds.  
Then press the Start key (1) briefly (one second) within a further five seconds.

The On control LED starts to flash.  
Wait for three seconds.

Then press the Off key (2) briefly (one second) within a further five seconds.

The On control LED stops flashing.  
This concludes the initialisation procedure.

If you exceed one of the above intervals or press the key before the full time has elapsed, the initialisation must be repeated in full. Any other remote control is initialised in exactly the same way.

## 16. Maintenance for the remote control

F 36 64 111 R

### To insert batteries

Open the battery compartment on the remote control. Insert two conventional 1.5 V batteries (type LR 1) in the battery compartment as shown. Close the battery compartment again.

### To check the batteries

Press the Off key on the remote control.

Batteries OK:

The On control LED flashes three times.



Dispose of discharged batteries at a collection point or at your BMW Service outlet.

## 17. To operate the independent heating system



The heater must not be operated (even with preset time or by radio remote control) in enclosed spaces such as garages or workshops without an exhaust fume extraction system.

The heating system must be switched off at filling stations and/or fuel installations. ◀



If you have fitted the independent ventilation option, the independent ventilation/independent heating switch is to be set to "Independent heating". ◀

### To operate the system using the remote control



The range is best if the remote control is held vertically. The average range allowed by the receiver is approximately 350 m. ◀

### To switch on the system using the remote control

Fully extend the aerial for the remote control. Press the On key

#### Indicator

The On control LED flashes three times and then starts to flash for the entire period during which the system is operating.

Retract the remote control aerial again but not until the three flashes have been completed.

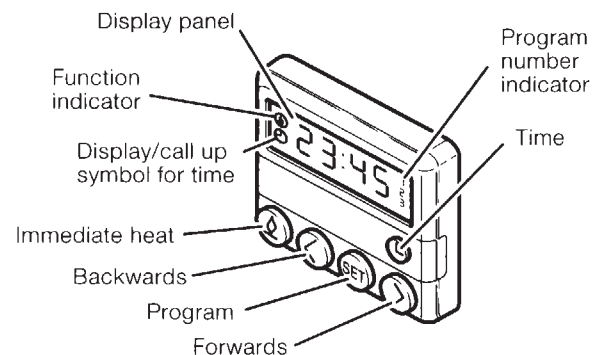
### To switch off the system using the remote control

Fully extend the aerial for the remote control. Press the Off key

The On control LED flashes three times and then goes out.

Retract the remote control aerial again.

### To operate the system using the time switch (optional)



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### To switch on the system using the time switch

**Manual:** Press the **Immediate heat** (⊕) key

**Automatic:** Program the heating start time.

#### Function indicator

**Function indicator** (⊕) and indicator light.

### To switch off the system using the time switch

**Manual:** Press the **Immediate heat** (⊕) key

**Automatic:** Program operating limit time (60 minutes). The indicator panel goes out.

If the independent heating system has been switched on using the remote control, it can be switched off by pressing the **Immediate heat** (⊕) key twice.

### To set the time switch

#### To set the time

Press the **Time** (⌚) key briefly, then press the **Forwards** (⏩) or **Backwards** (⏪) keys.



The longer the keys are pressed, the faster the clock numbers will run. ◀

#### To call up the time

Press the **Time** (⌚) key briefly. The display will go out after ten seconds.

#### To program the heating start time

Three start times can be programmed.

Press the (SM) key once and program the first start time as described below:

"--:--" or a time will appear on the display panel.

Press the **Forwards** (⏩) or **Backwards** (⏪) keys until the desired time appears on the display panel. The start time will go out, the program number remains in the display.

If the **Forwards** (⏩) or **Backwards** (⏪) keys are not pressed for more than ten seconds, the displayed time will be deemed to have been selected. Press the (SM) key and program the second start time.



The start time has been programmed if the program number is display and the display light is lit. ◀

**To delete the programmed time**

Press the key briefly.  
The start time disappears from the display panel.

**To select a programmed time**

Press the key within ten seconds until the program number with the desired start time appears.

**Independent ventilation (optional)**

Set the Independent heating/Independent ventilation switch to Independent ventilation. If a manual or automatic start command is given, the vehicle blower will start without the independent heater being started (summer mode).

**Slow-down time**

After the independent heating system has been switched off, the fuel combustion is stopped and the slow down time starts. The circulation pump and the combustion air blower continue to run for approximately 120 seconds to cool the independent heater (slow down time). The independent heater may be switched on again during the slow down time.

**18. Troubleshooting**

If a malfunction occurs, the fuses and the plug connectors are to be checked to ensure that they are in good working order and firmly secured.



The fuses are on the front right or the independent heater support. ◀

**Heater cuts out automatically (malfunction shut-down)**

Possible cause

No fuel combustion after the start and repeat start  
Flame is extinguished during operation

Remedy

Switch off the heater and then switch it on again

**Heater will not switch on**

Possible cause

No power supply to the heater

Remedy

Check the power supply to the heater and the earth connections (see circuit diagram)

**Heater starts briefly and then cuts out**

Possible cause

Fuel metering pump does not start

Remedy

Check the power supply to the fuel metering pump (see circuit diagram) and replace fuel metering pump if necessary.

**Heater will not light**

Possible cause

Spark plug malfunction or air in the fuel line

Remedy

Check spark plug power supply, replace spark plug if necessary. Bleed fuel line.

**Heater cuts out during the heating time (malfunction shut-down)**

Possible cause

Heater is overheating because it has insufficient coolant

Remedy

Top up the coolant as instructed by the vehicle manufacturer, seal any leaks.

**Blower will not start**

Possible cause

Blower controller or blower defective

## Remedy

Check connections for blower controller (see circuit diagram) and check blower function.



If the heater automatic malfunction shut-down system is active it must be deactivated. To do this, remove the 15 A fuse and wait for at least ten seconds before replacing it. The remote control may have to be re-initialised. ◀

## 19. Maintenance for the independent heater

The independent heater should be checked by your BMW Service outlet at regular intervals, at the latest when the weather starts turning colder.

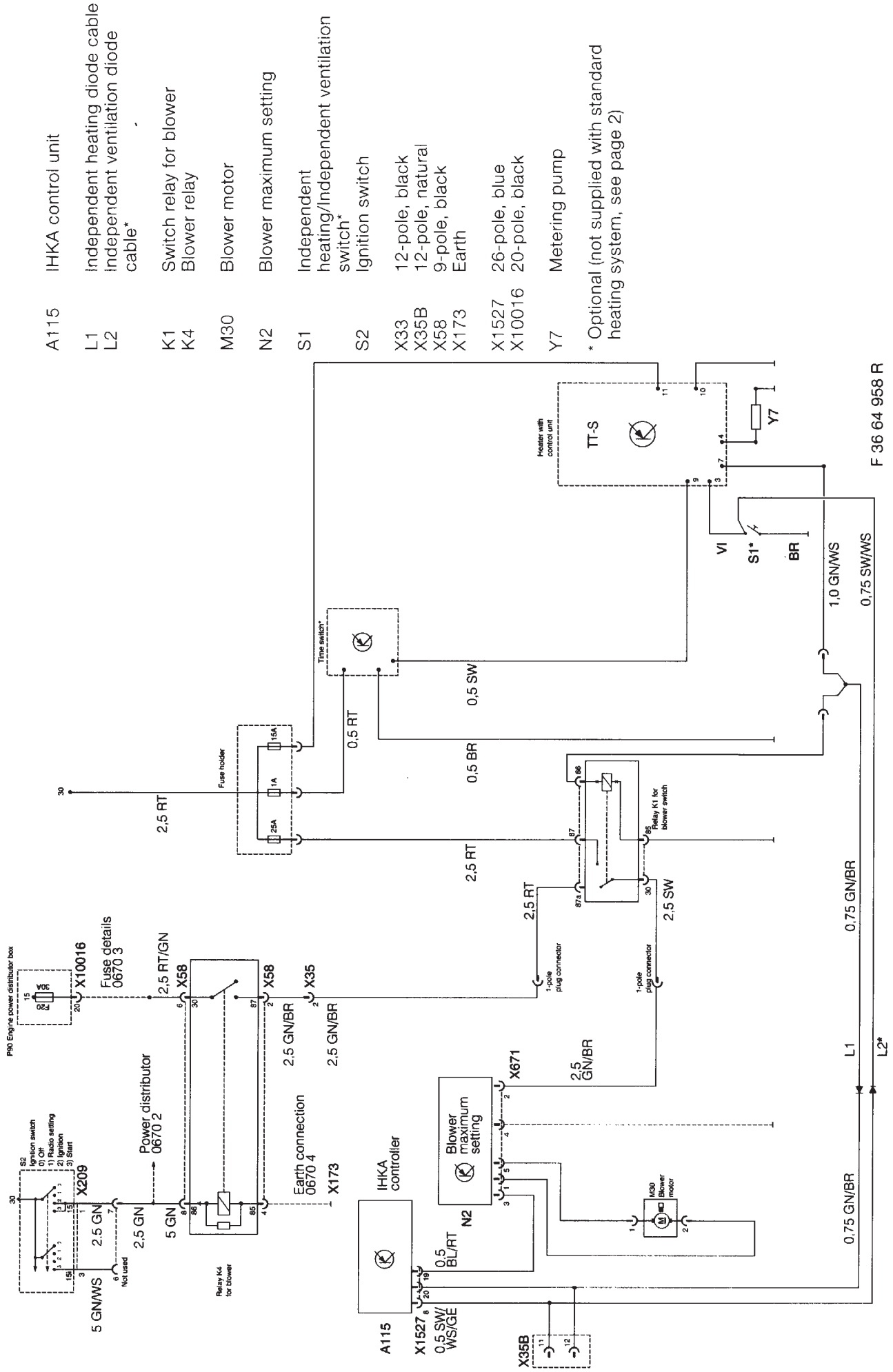


Follow the instructions in the operating manual.

To prevent starting problems caused by operating the independent heating system, we recommend that the vehicle be driven 15 - 20 km every day to ensure that the battery is recharged adequately. We reserve the right to make technical modifications. ◀



21. Circuit diagram for the independent heating system E36 - M50, M51 and M52 with IHKA



F 36 64 958 R

A115 IHKA control unit

L1 Independent heating diode cable  
L2 Independent ventilation diode cable\*

K1 Switch relay for blower  
K4 Blower relay

M30 Blower motor

N2 Blower maximum setting

S1 Independent heating/Independent ventilation switch\*

S2 Ignition switch

X33 12-pole, black

X35B 12-pole, natural

X58 9-pole, black

X173 Earth

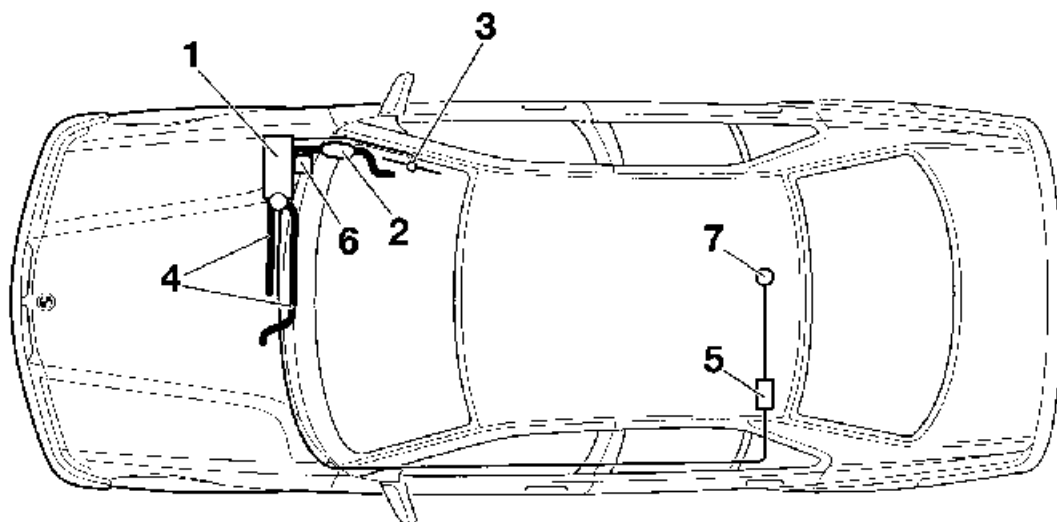
X1527 26-pole, blue

X10016 20-pole, black

Y7 Metering pump

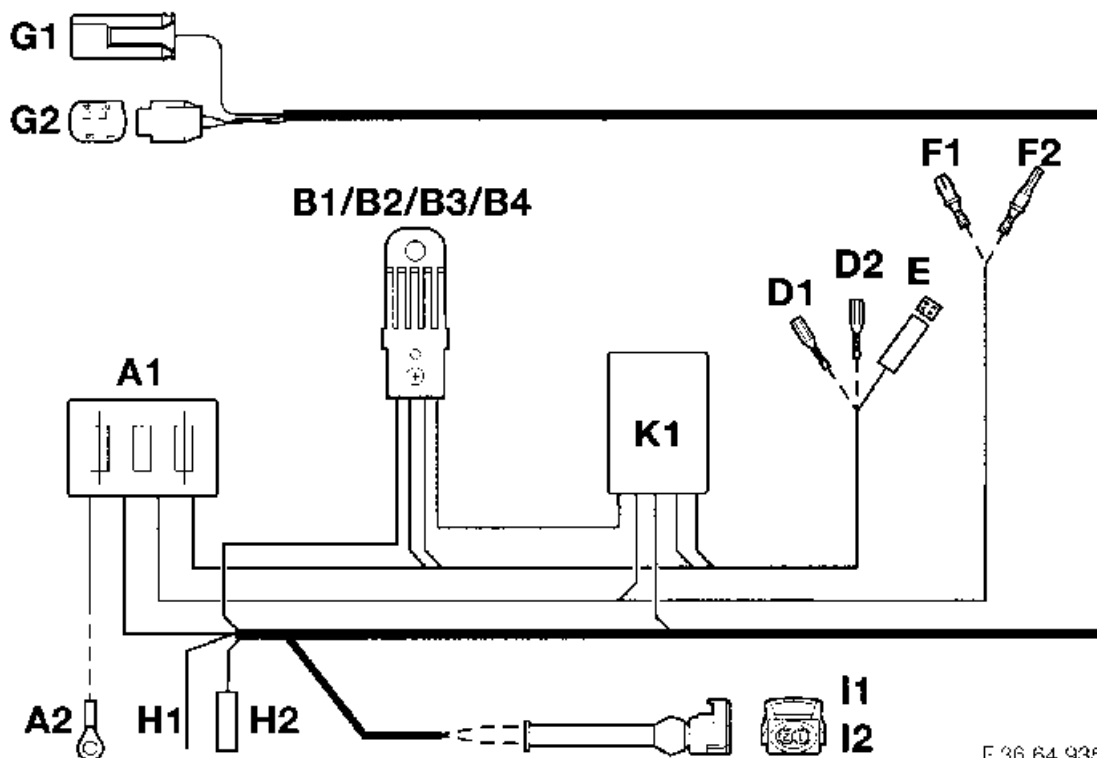
\* Optional (not supplied with standard heating system, see page 2)

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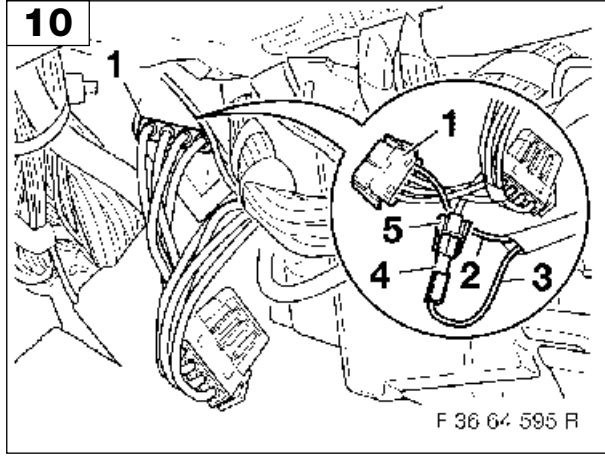
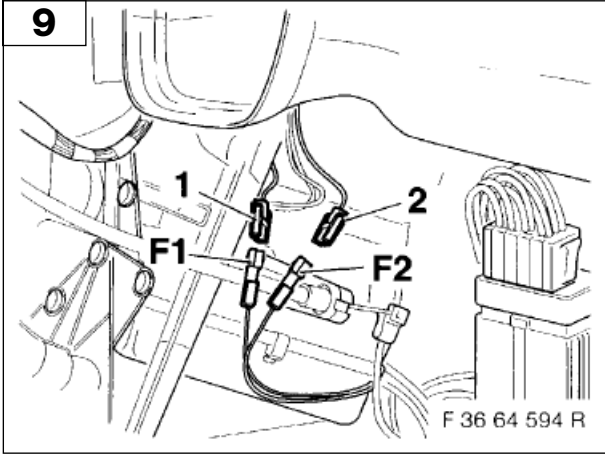
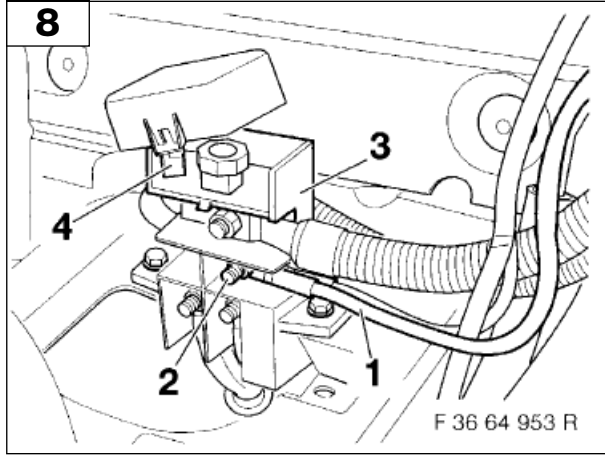
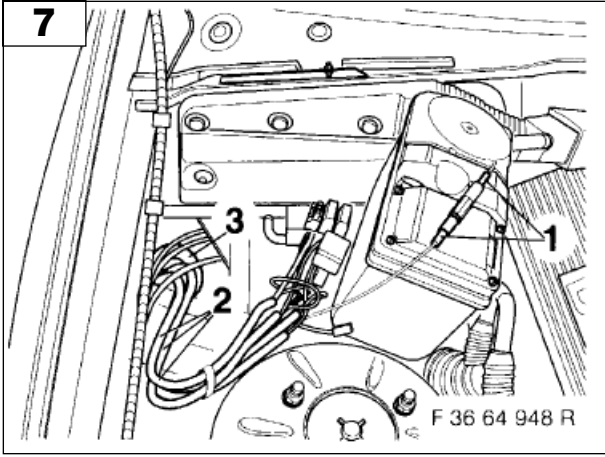
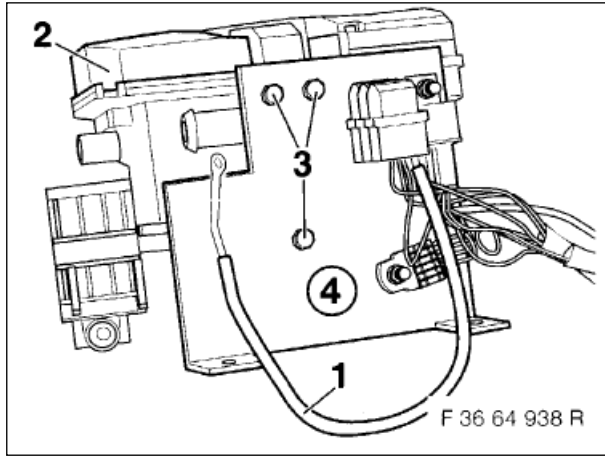
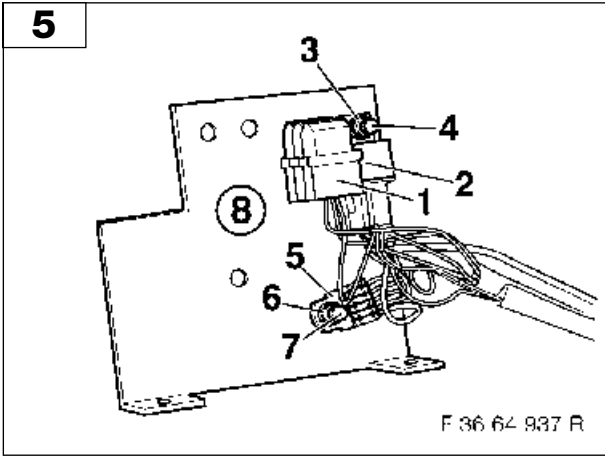
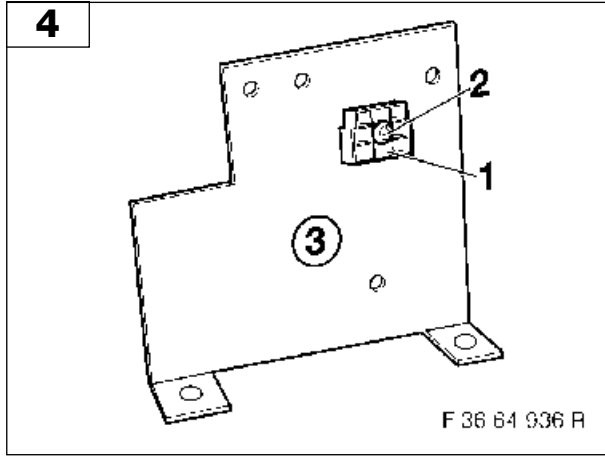
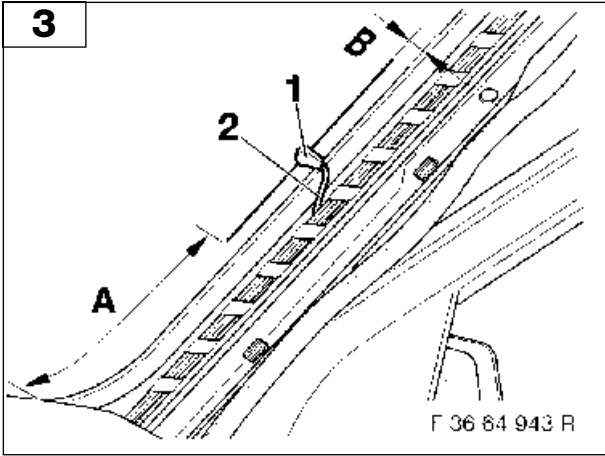


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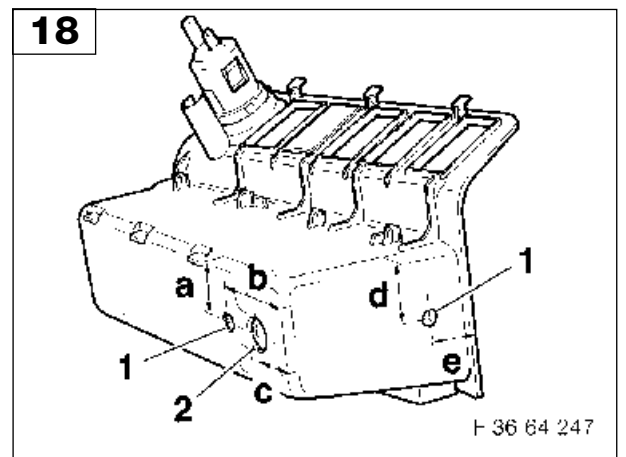
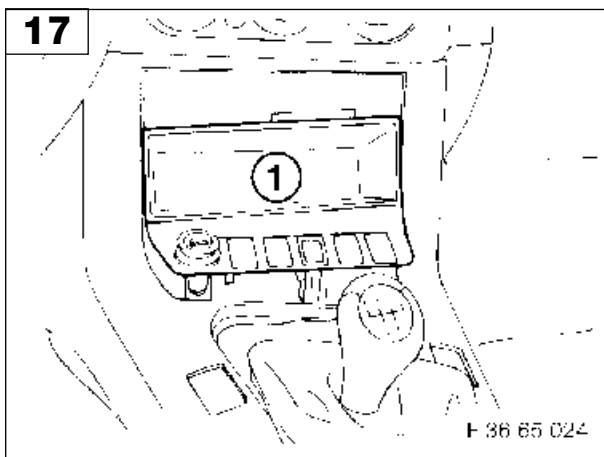
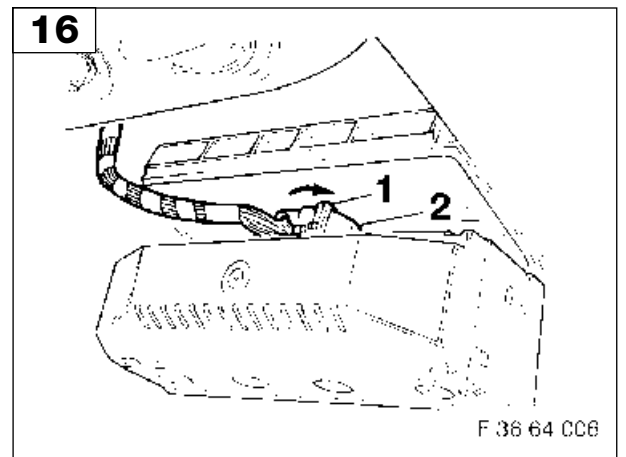
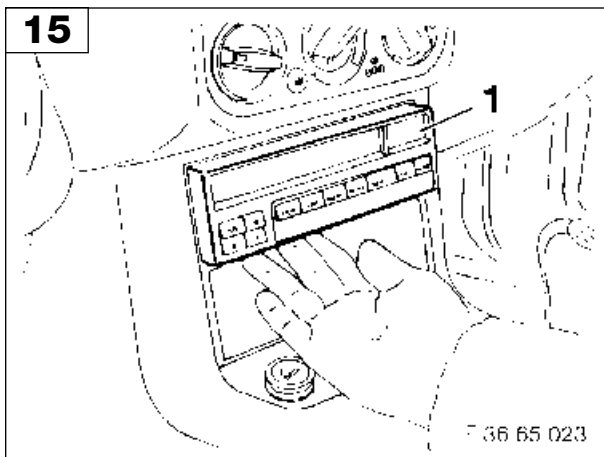
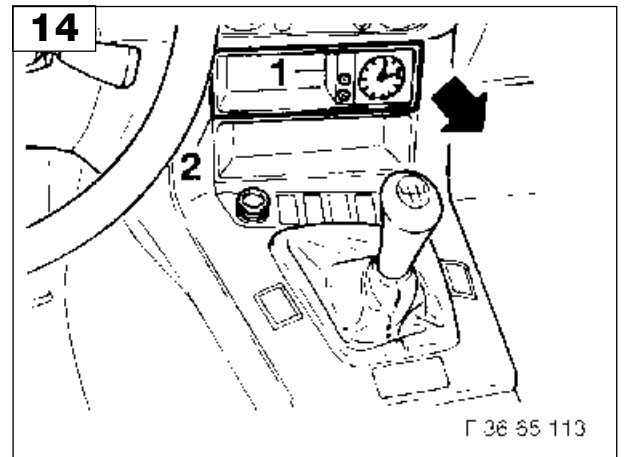
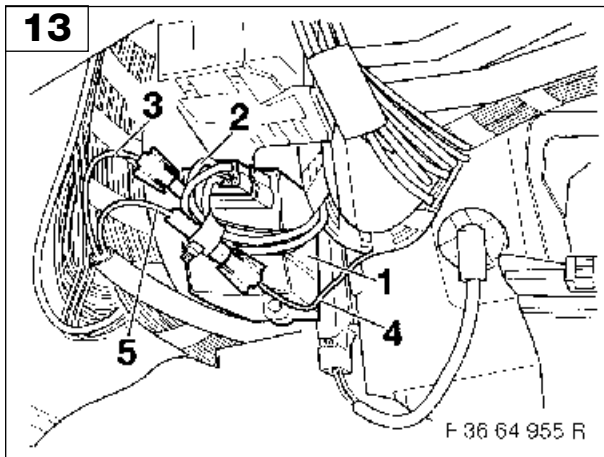
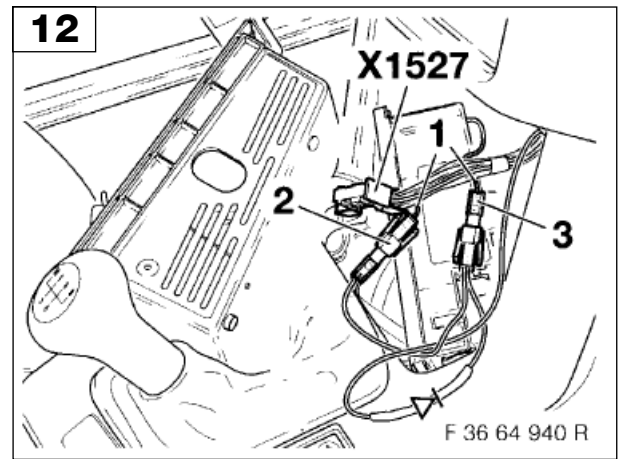
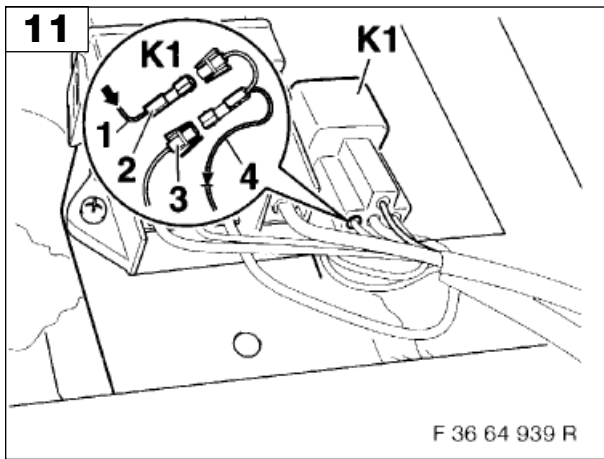
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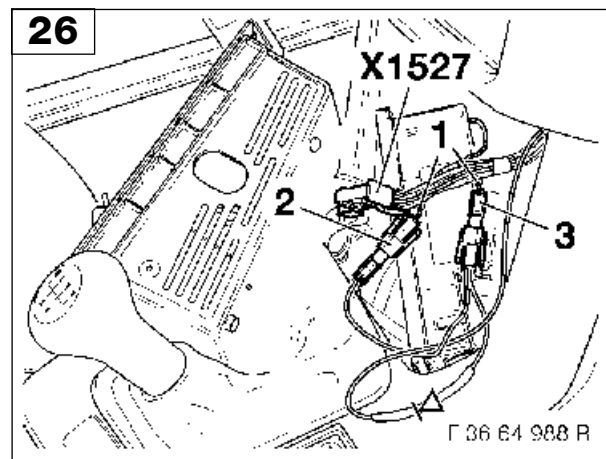
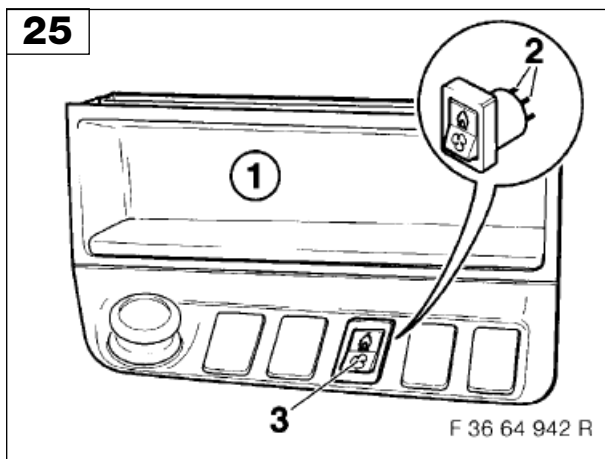
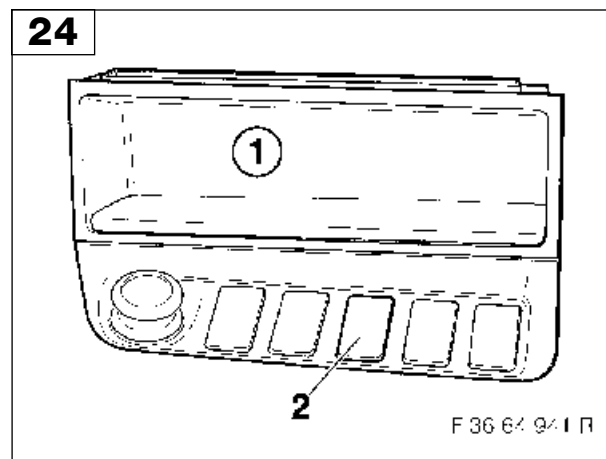
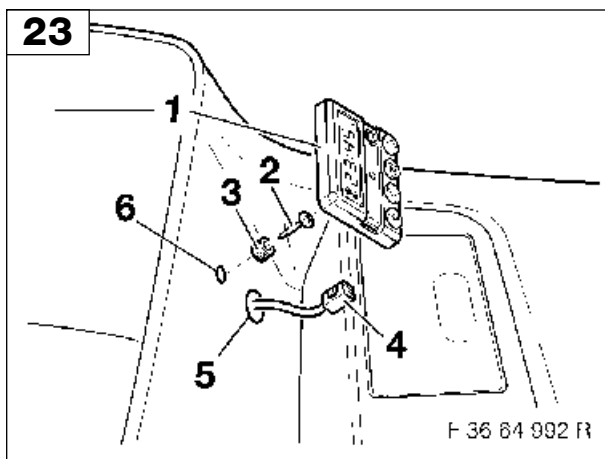
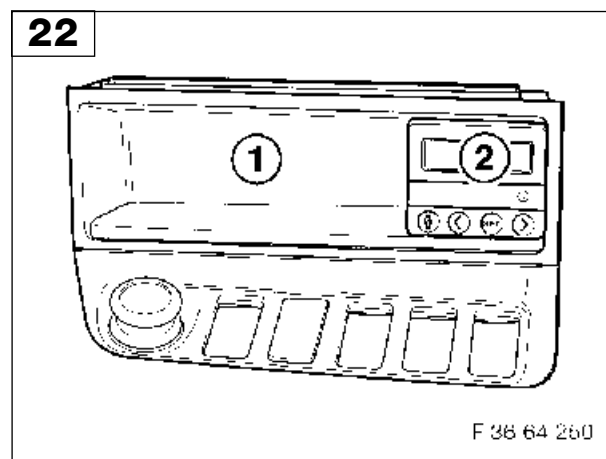
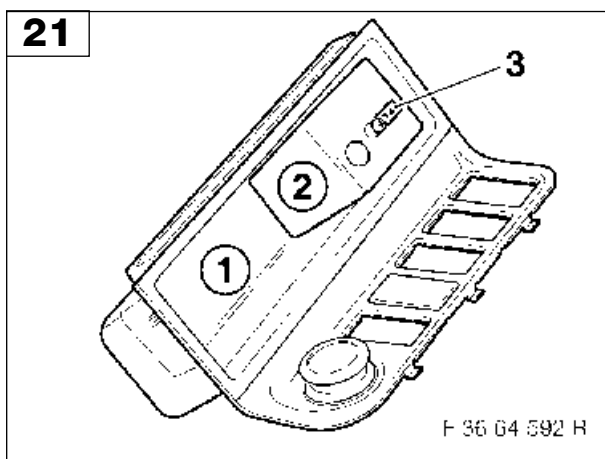
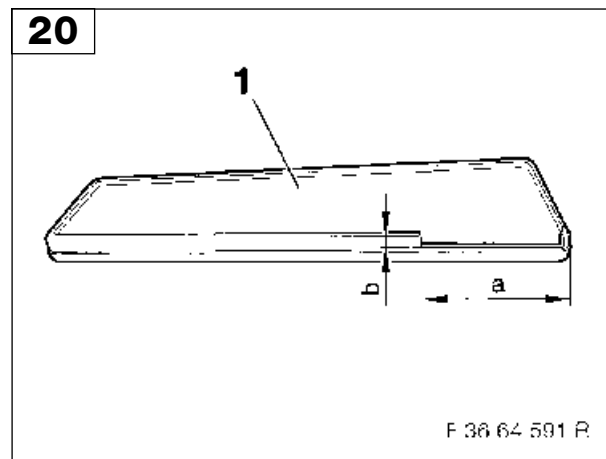
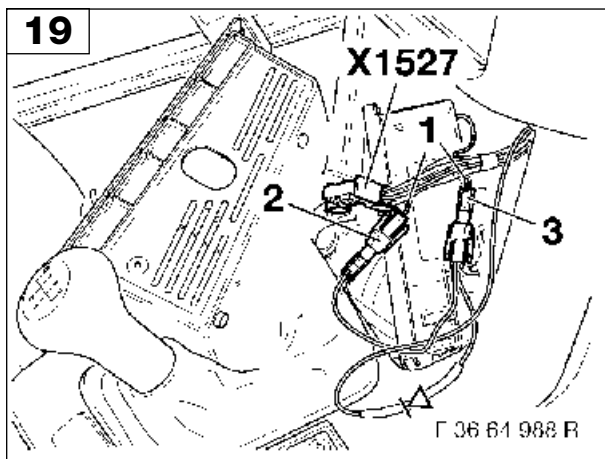


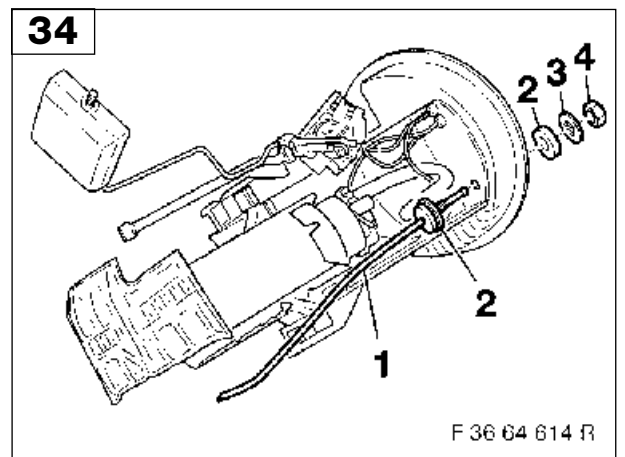
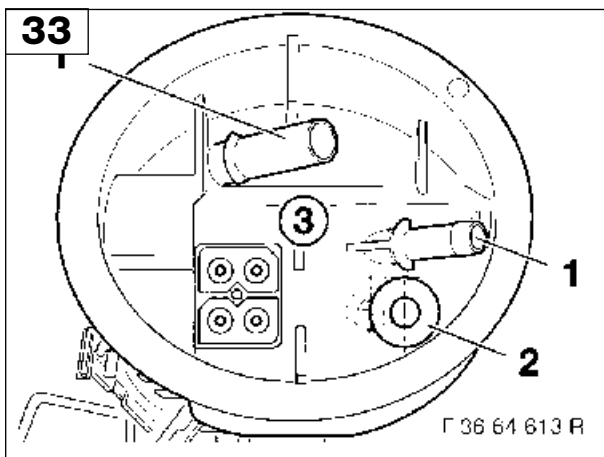
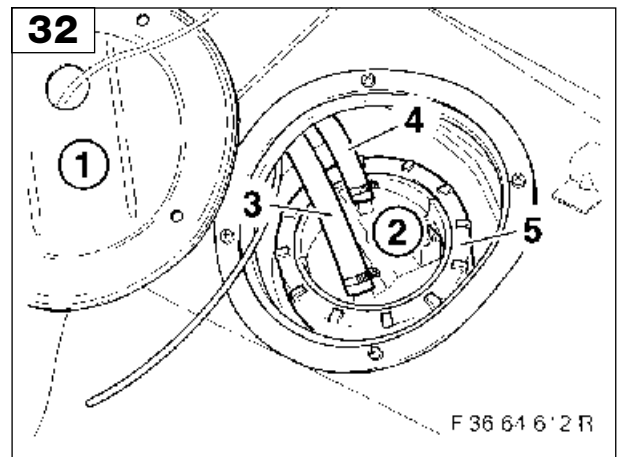
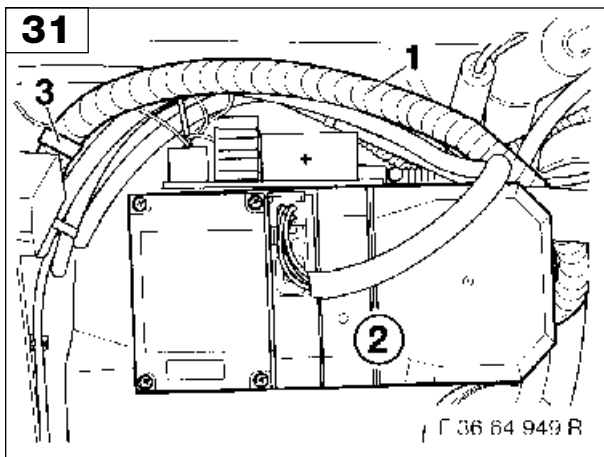
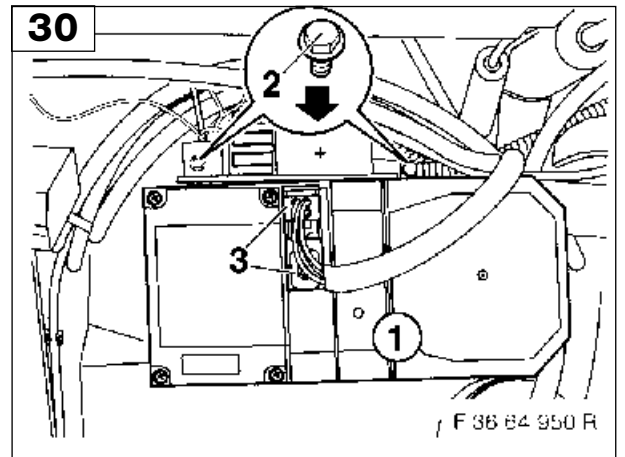
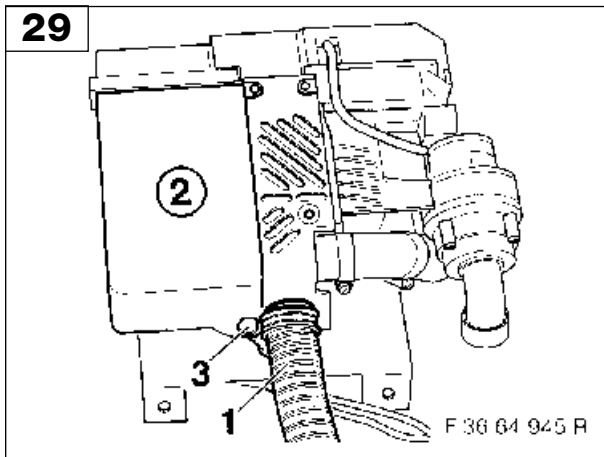
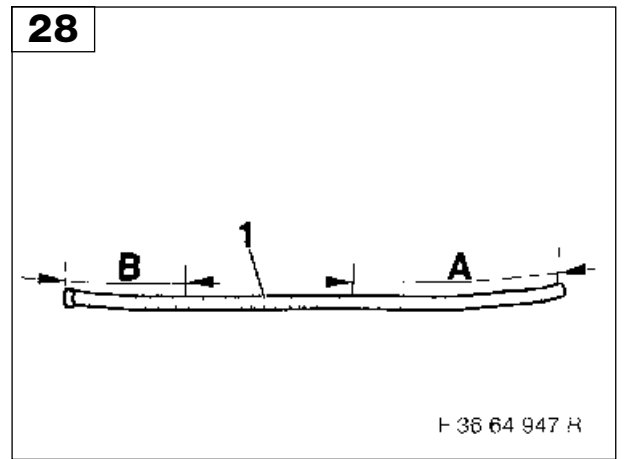
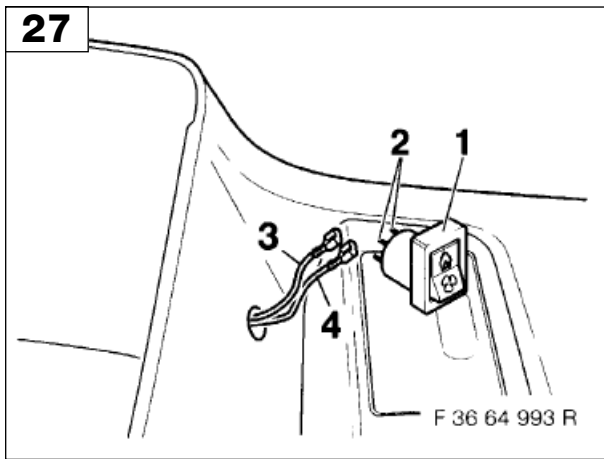
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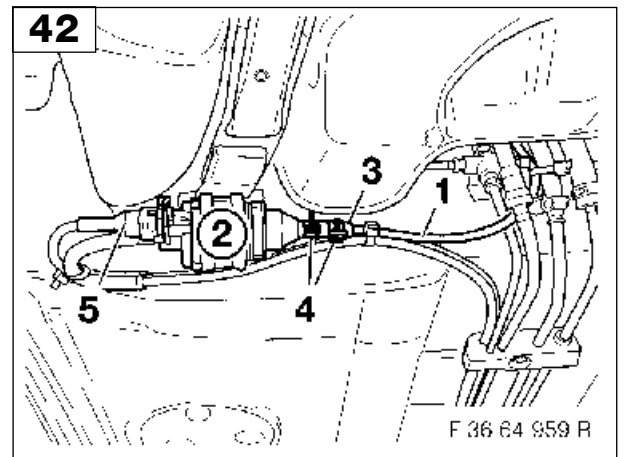
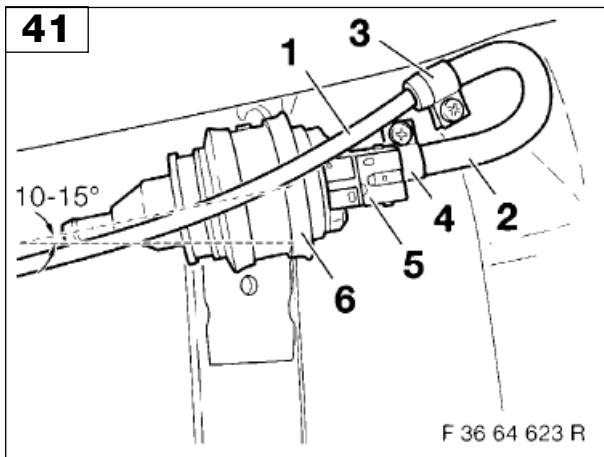
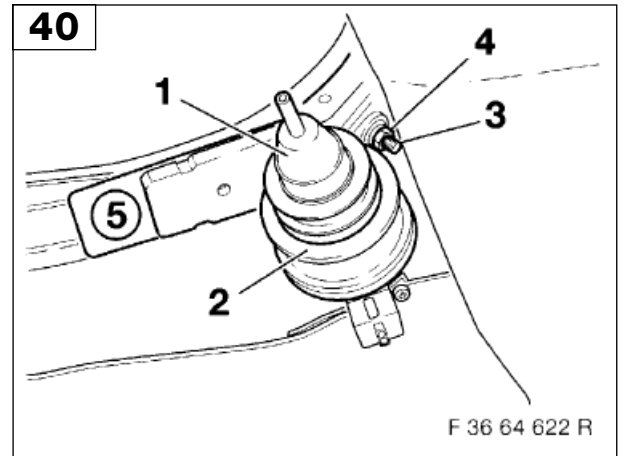
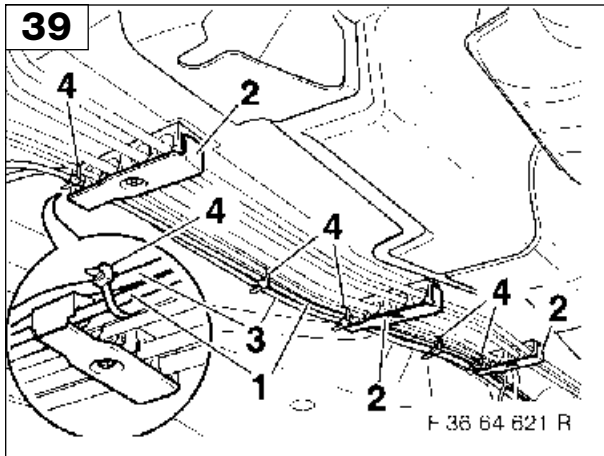
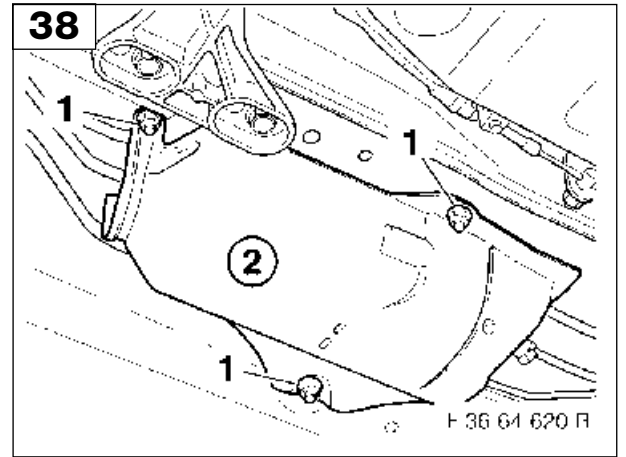
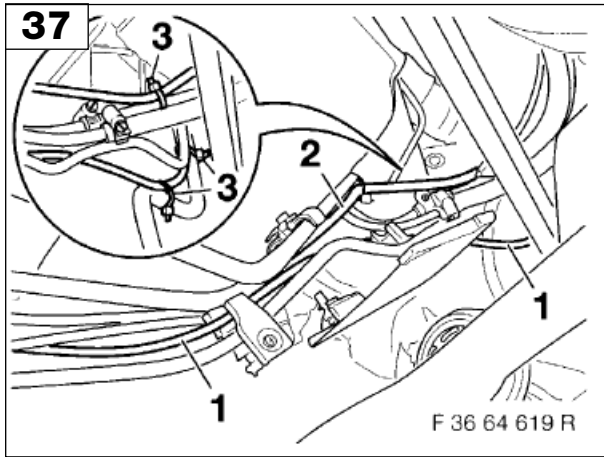
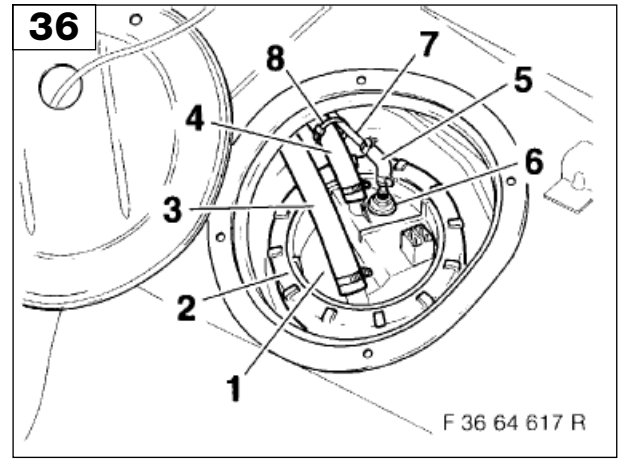
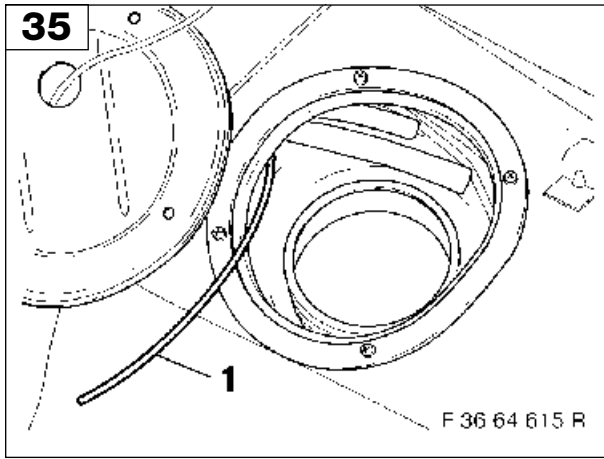




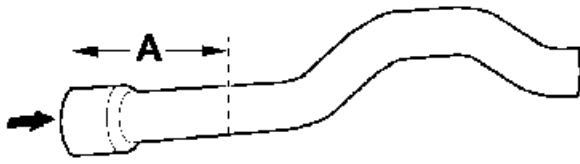






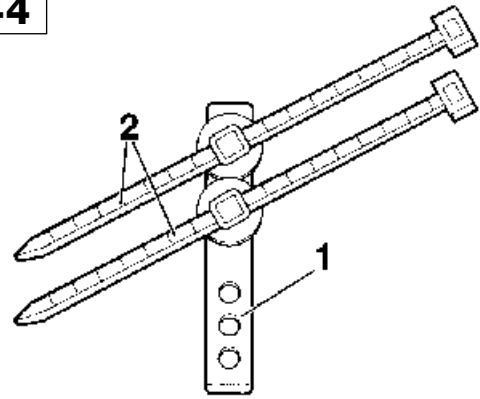


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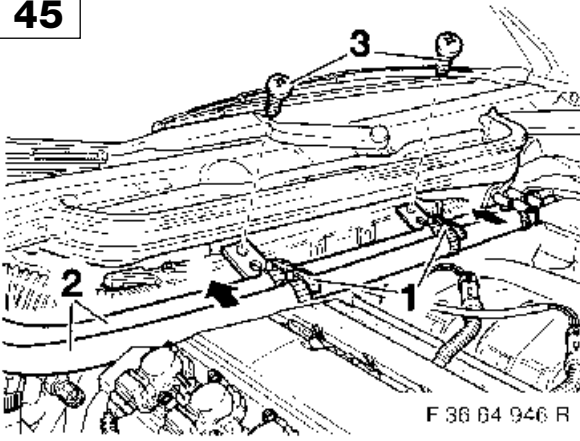
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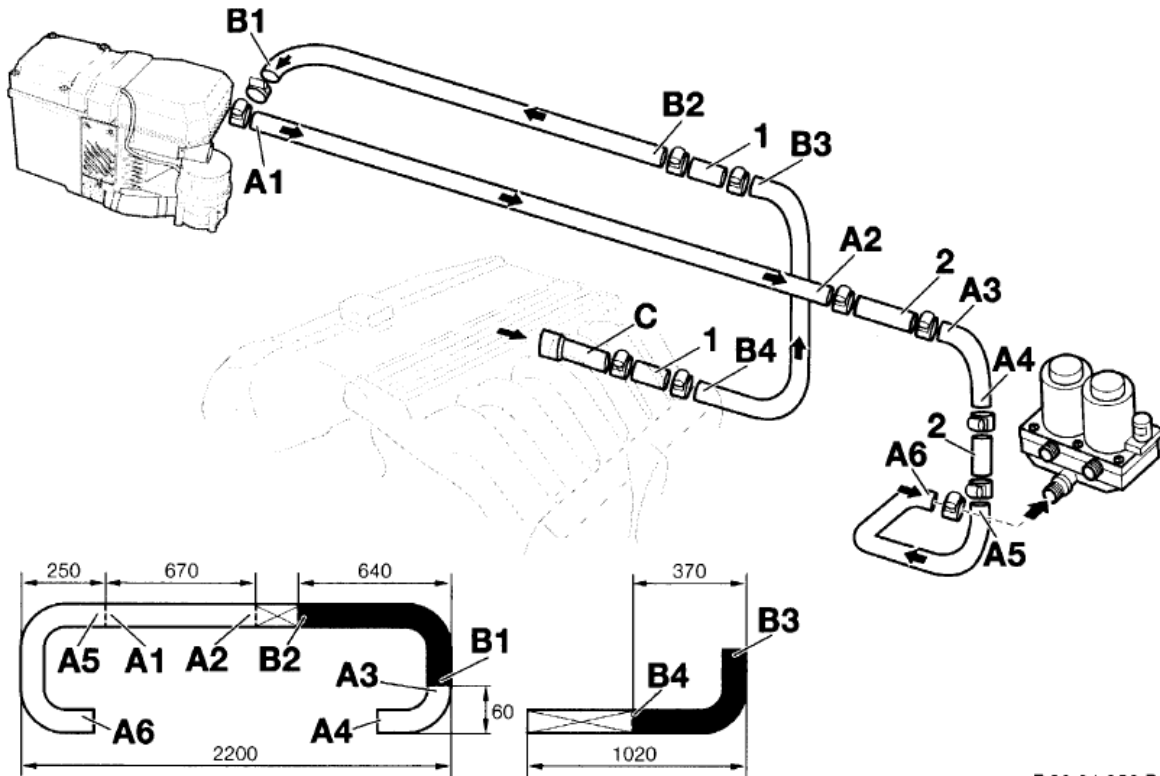
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