

Original BMW Accessory. Installation Instructions.

64 0105135



Independent Heating Retrofit

BMW X5 (E70) LHD

BMW X6 (E71) LHD



00 0018

Retrofit kit No.:	✱ 64 50 0 415 948 ✱	Independent heating retrofit kit (M57 engine)
	64 50 0 415 949	Independent heating retrofit kit (N52 engine)
	64 50 0 415 950	Independent heating retrofit kit (N62 engine)
	64 50 0 444 445	Independent heating retrofit kit (N54 engine)
	64 50 0 444 446	Independent heating retrofit kit (N63 engine)

Installation time

The installation time is **approx. 9 to 10 hours**. This may vary depending on the condition of the car and the equipment in it.

In general the car must be upgraded to the latest I stage status by flashing before starting the work. Depending on the production age of the car and the work already carried out on the car, the programming times will vary, which means that we cannot quote a specific time at this point. The installation time does not include any time for programming/encoding, as this depends on the age of the car and the equipment in it.

Important information

These installation instructions are primarily designed for use within the BMW dealership organisation and by authorised BMW service companies.

In any event, the target group for these installation instructions is specialist personnel trained on BMW cars with the appropriate specialist knowledge.

All work must be completed using the latest BMW 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.

In the event of any installation or function problems, restrict the troubleshooting session to about 0.5 hours for mechanical work or 1 hour for electrical work.

In order to reduce costs and avoid any additional expense, send a query immediately to the Technical Parts Support via the Aftersales Assistance Portal (ASAP).

Specify the following information:

- Chassis number
- Part number of the retrofit kit
- A precise description of the problem
- Work steps already carried out

Do not archive the hard copy of these installation instructions since daily updates are made by ASAP!

Pictograms



Denotes instructions that draw your attention to dangers.



Denotes instructions that draw your attention to special features.



Denotes the end of the instruction or other text.

Installation information

Ensure that the cables and/or lines are not kinked or damaged as you install them in the car. The costs thereby incurred will not be reimbursed by BMW AG.

When routing cables and/or lines, it is also important to ensure they are at a sufficient distance from the exhaust pipe **D** after installation.

The mecanyl pipe **T** must be wrapped with corrugated tube **R**.

Additional cables/lines that you install must be secured with cable ties.

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

After the installation work the retrofit must be programmed / coded using SSS (software service station) via the **CIP** path.

Ordering instructions

If the car is not fitted with an AGM battery, this must be replaced with a more powerful 90 Ah battery (see EPC for part number and further details).

List of special equipment

The following special equipment must be taken into consideration when installing the retrofit kit (only for E70):

SA 534 Automatic air conditioning, 2 zones ✓

SA 4NB Automatic air conditioning, 4 zones

Legal requirements

The Thermo Top V heater is homologated under EC Directives 2001/56/EC and 2004/78/EC with the following EC homologation numbers:

e1*2001/56*0018*00


e1*2001/56*0018*01


e1*2001/56*0018*02

e1*2001/56*2004/78*0018*03

e1*2001/56*2004/78*0018*04

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 (Section 26), 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 EC Directive 2001/56/EC 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. ◀

Information about operating the independent heating

Operating the independent heating 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 independent heating so that the battery remains well charged.

Recommendation: After 30 minutes independent heating use, at least 30 minutes driving time.

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

The independent heating must be switched off at filling stations and/or filling points to eliminate the risk of explosions. ◀

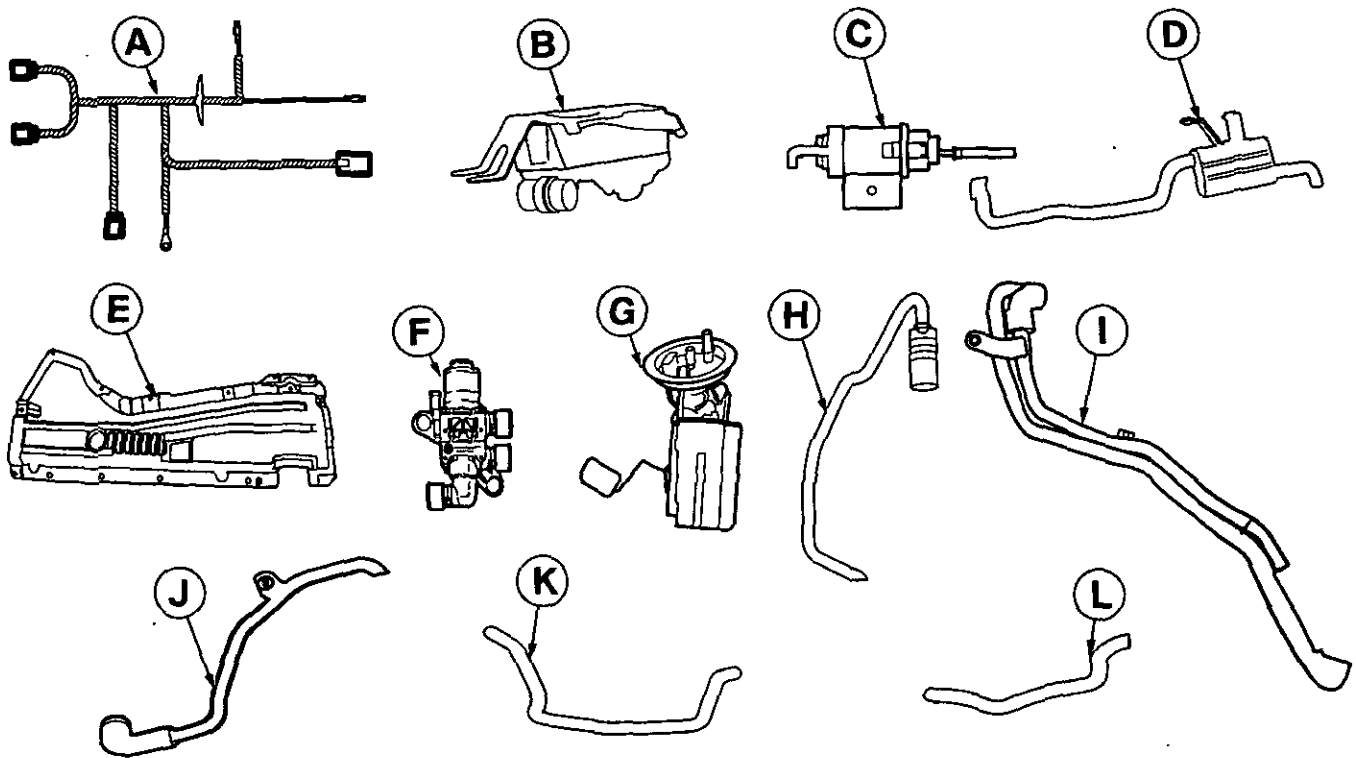
Special tools required

None

Table of contents

Section	Page
1. Independent heating parts list	4
2. Preparatory work	7
3. Connection diagram	8
4. Installation and cabling diagram	9
5. To install the independent heater	10
6. To modify the coolant system (only for cars with M57 engine without SA 534 and without SA 4NB) . . .	13
7. To modify the coolant system (only for cars with M57 engine and with SA 534 or with SA 4NB)	15
8. To modify the coolant system (only for cars with N52 engine without SA 534 and without SA 4NB) . . .	17
9. To modify the coolant system (only for cars with N52 engine and with SA 534 or with SA 4NB)	19
10. To modify the coolant system (cars with an N62 engine only)	21
11. To modify the coolant system (cars with an N54 engine only)	23
12. To modify the coolant system (cars with an N63 engine only)	25
13. To install and connect the retrofit cable.	27
14. Connecting the fuel supply	39
15. Concluding work and coding	31
16. Circuit diagram	32
17. EC model homologation	34

1. Independent heating parts list

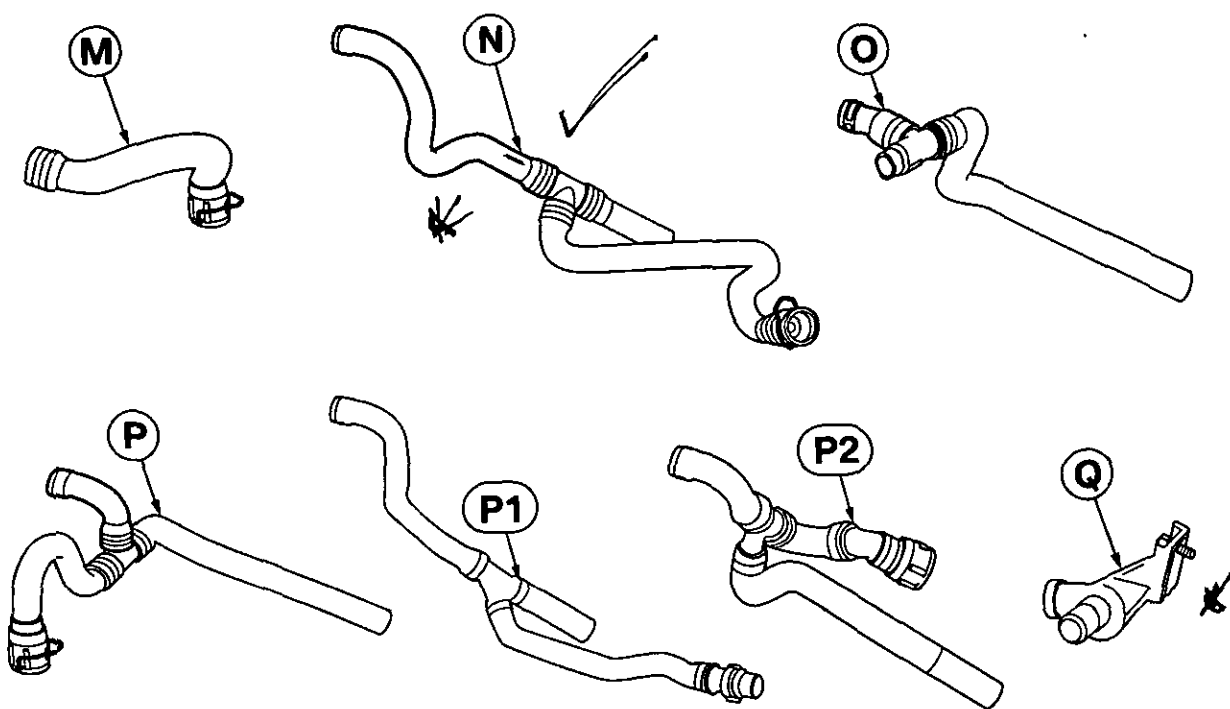


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Legend

- A** Retrofit cable
- B** Auxiliary heater
- C** Fuel metering pump
- D** Exhaust pipe
- E** Underbody trim
- F** Changeover valve
- G** Tank sensor unit
- H** Air intake hose
- I** Double tube
- J** Return pipe
- K** Coolant hose
- L** Coolant hose

1. Independent heating parts list

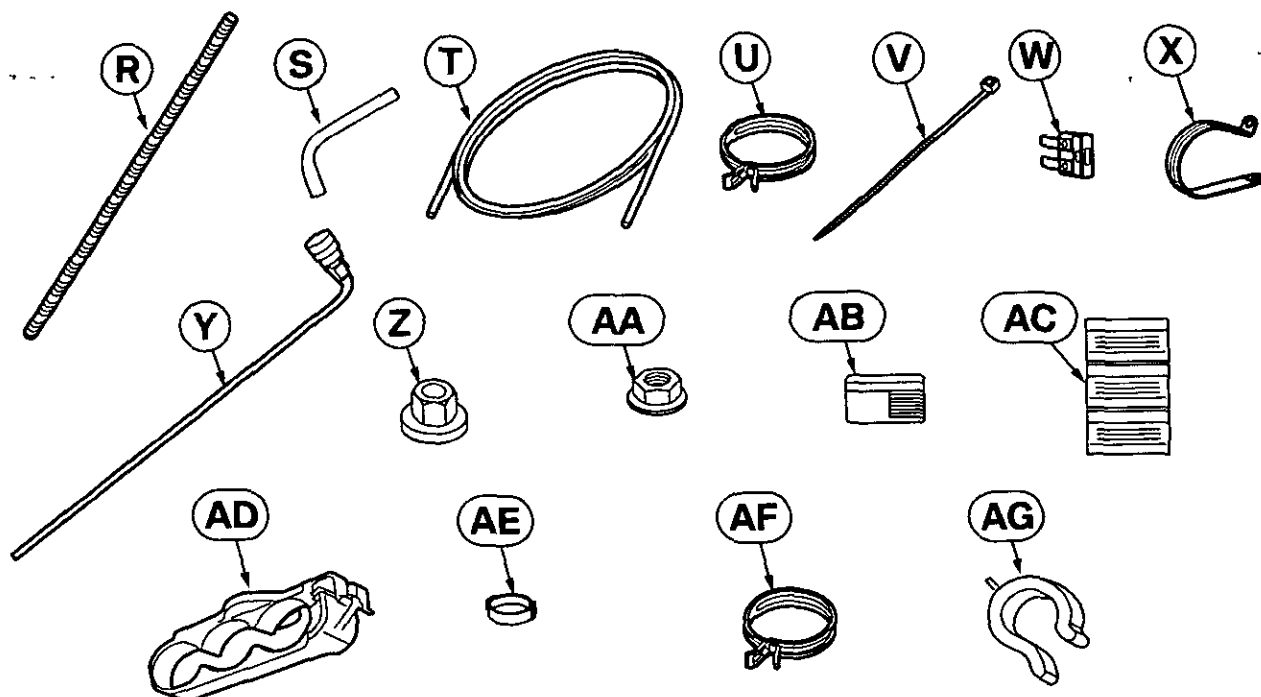


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Legend

- M** Independent heating coolant supply hose
- N** Coolant return hose (M57 engines only) ✓
- O** Coolant return hose (N52 engines only)
- P** Coolant return hose (N62 engines only)
- P1** Coolant return hose (M54 engines only)
- P2** Coolant return hose (N63 engines only)
- Q** Adapter (only M57 high, N62 high)

1. Independent heating parts list



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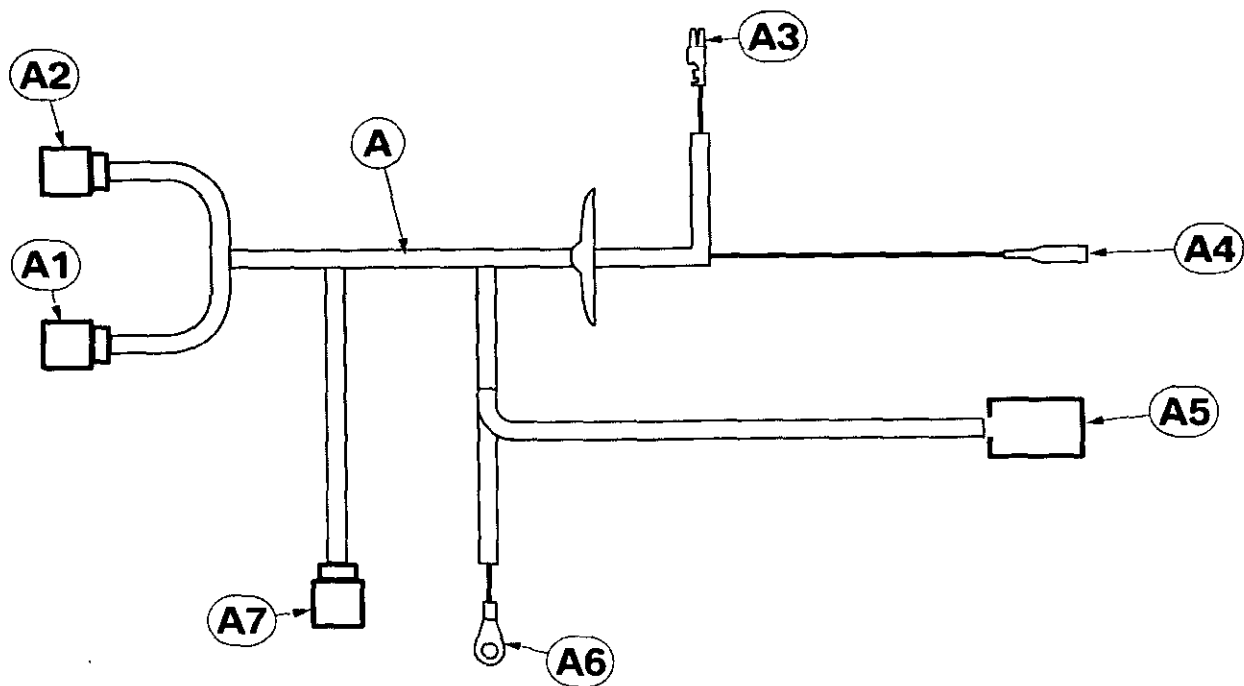
Legend

- R** Corrugated tube (3x)
- S** Fuel hose 90° bend
- T** Mecanyl pipe
- U** Spring band clip D27 (6x)
- V** Cable tie (20x)
- W** Fusible link 20 A
- X** Clip
- Y** Fuel line
- Z** Plastic nut (8x)
- AA** Hexagonal nut M6 (3x)
- AB** Duplicate sticker
- AC** Tank information sticker
- AD** Hose holder
- AE** Clip 66/100 (5x)
- AF** Spring band clip D25 (3x)
- AG** Securing clip (N52, N62 engines only)

2. Preparatory work

	ISTA No..
Conduct a brief test	---
Disconnect negative pole of battery	12 00 ...
The following components must be removed first of all	
Wheel arch trim on the front left	51 71 038
Right underbody shield	51 47 ...
Underbody shield on the left	51 47 ...
Engine acoustic cover	---
Drain the coolant	17 00 ...
Undo the coolant expansion tank	---
Rear seat bench	52 24 005
Control for the heating/air-conditioning system	64 11 376
Trim at the bottom right of the dashboard	51 45 181
Undo the fuse holder on the front right	---
Pedal trim	51 45 185
Remove fuel	16 00 005
Fuel pump and level indicator on the right	16 12 000
Lower fuel tank to cardan shaft	16 11 030

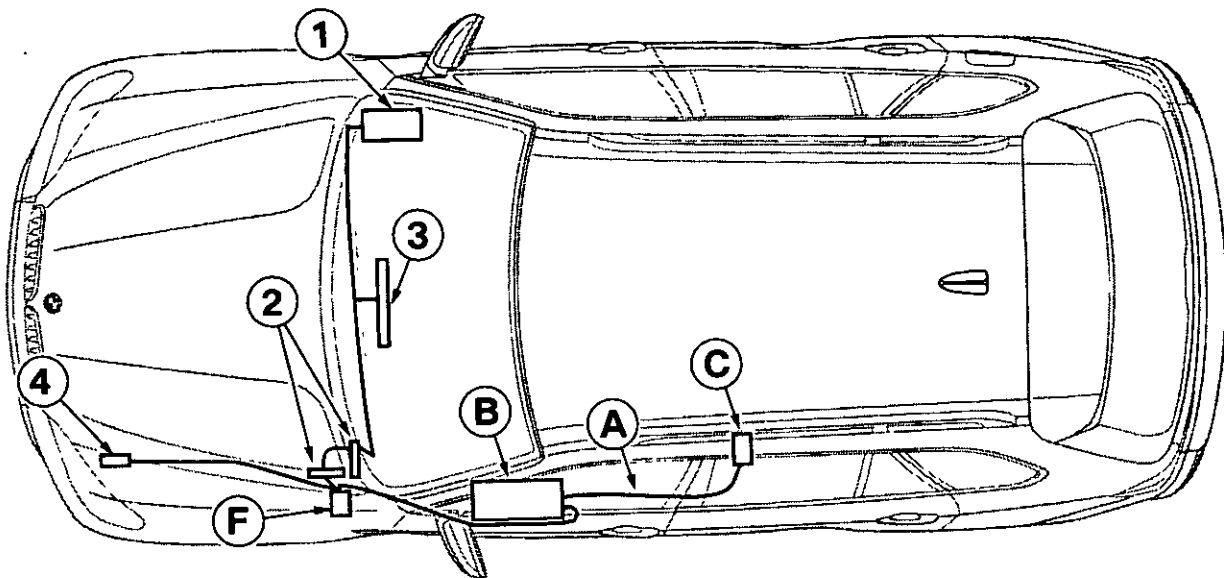
3. Connection diagram



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Item	Designation	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
A	Retrofit cable kit	---		---	---
A1	SW 8-pin socket casing	---		To auxiliary heater B	X764
A2	SW 2-pin socket casing	---		To auxiliary heater B	X642
A3	Socket contact	30<11	RT/BL 2.50 mm²	To SPEG A4010 Fuse F11	X11001 PIN 5
A4	Blade terminal contact	LIN	WS/BR 0.50 mm²	To IHKA A115	X608 PIN 8
A5	SW 2-pin socket casing	SHUV		To the changeover valve F in the wheel arch	X785
A6	Eyelet	31	BR 2.50 mm²	To the side member joint connector at the front left	X165
A7	SW 2-pin socket casing	---		To fuel metering pump C	X997

4. Installation and cabling diagram

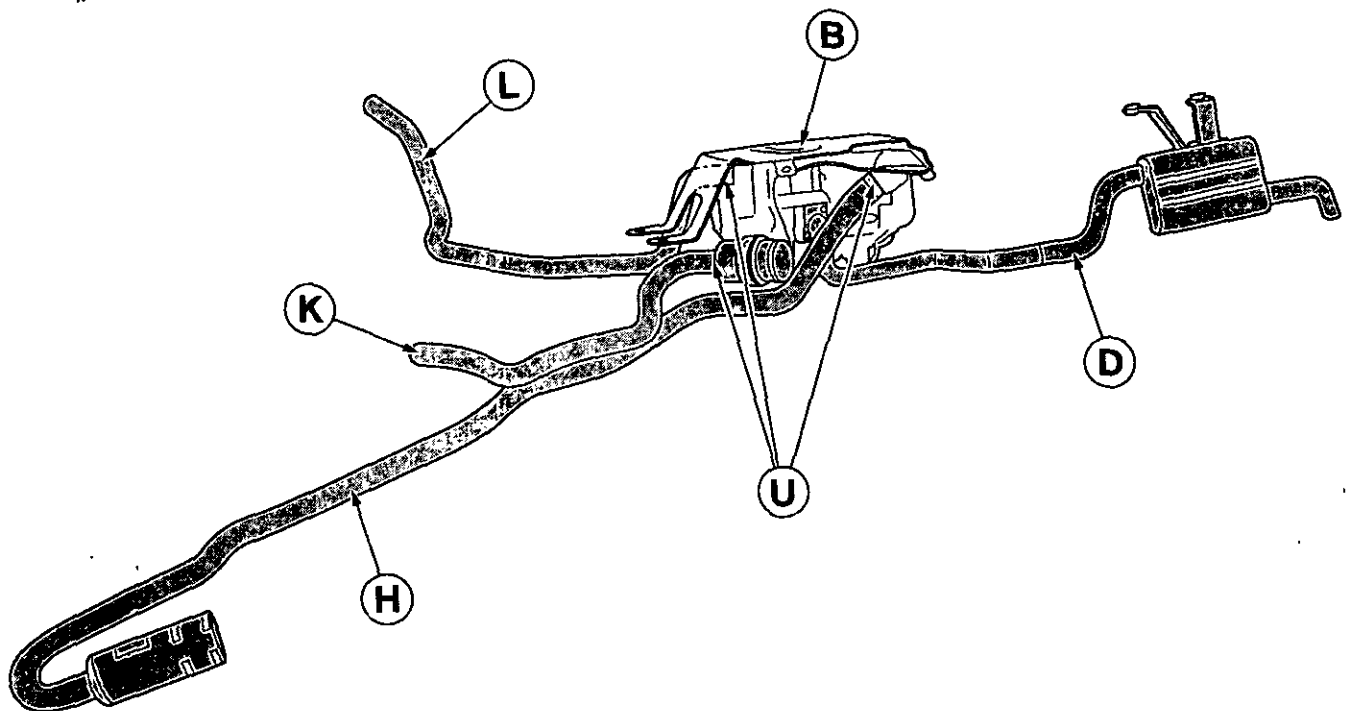


Legend

- A** Retrofit cable
- B** Auxiliary heater
- C** Fuel metering pump
- F** Changeover valve

- 1** Fuse holder
- 2** Rubber grommets
- 3** IHKA control
- 4** Earth post **X165**

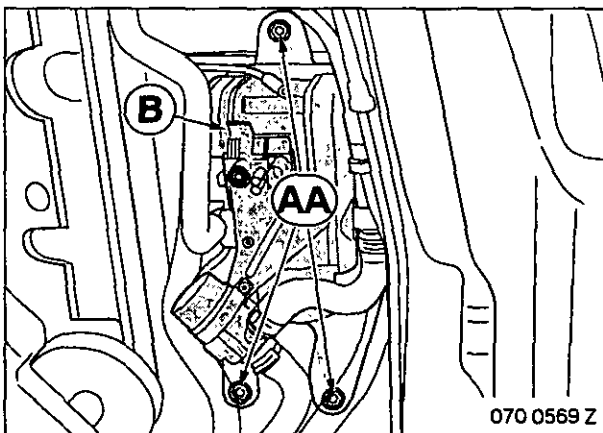
5. To install the independent heater



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Secure air intake hose **H** and coolant hoses **K** and **L** to independent heater **B** with spring band clips **U**.

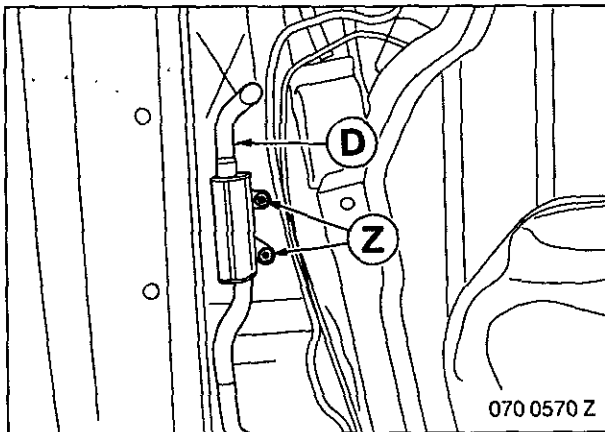
Align exhaust pipe **D** to the coarse stud bolts on the underfloor and secure to independent heater **B** with pre-installed clip.



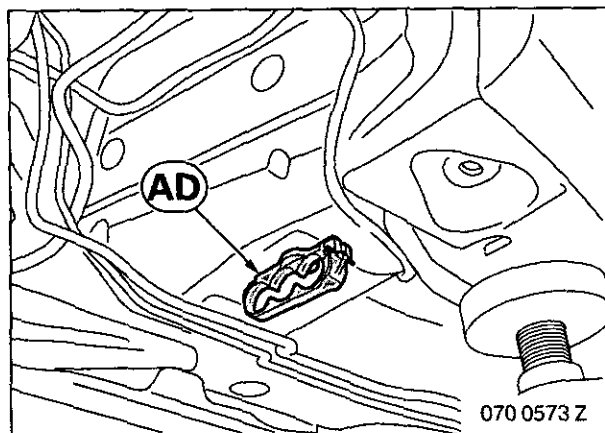
070 0569 Z

Use hexagonal nuts **AA** to screw independent heater **B** to stud bolts on the left of the underfloor.

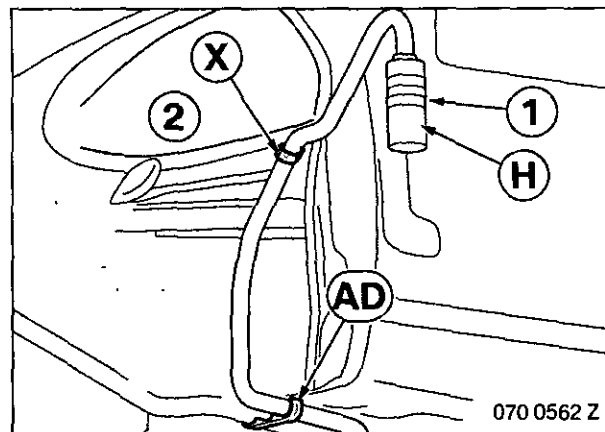
5. To install the independent heater



Screw exhaust pipe **D** to stud bolts using plastic nuts **Z**.

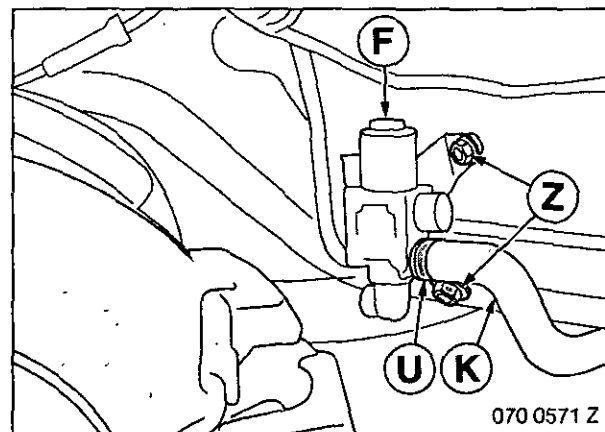


Screw holder **AD** to stud bolts next to the wheel arch at the front left.



Route air intake hose **H** through holder **AD** to fastening point (1) and clip in.

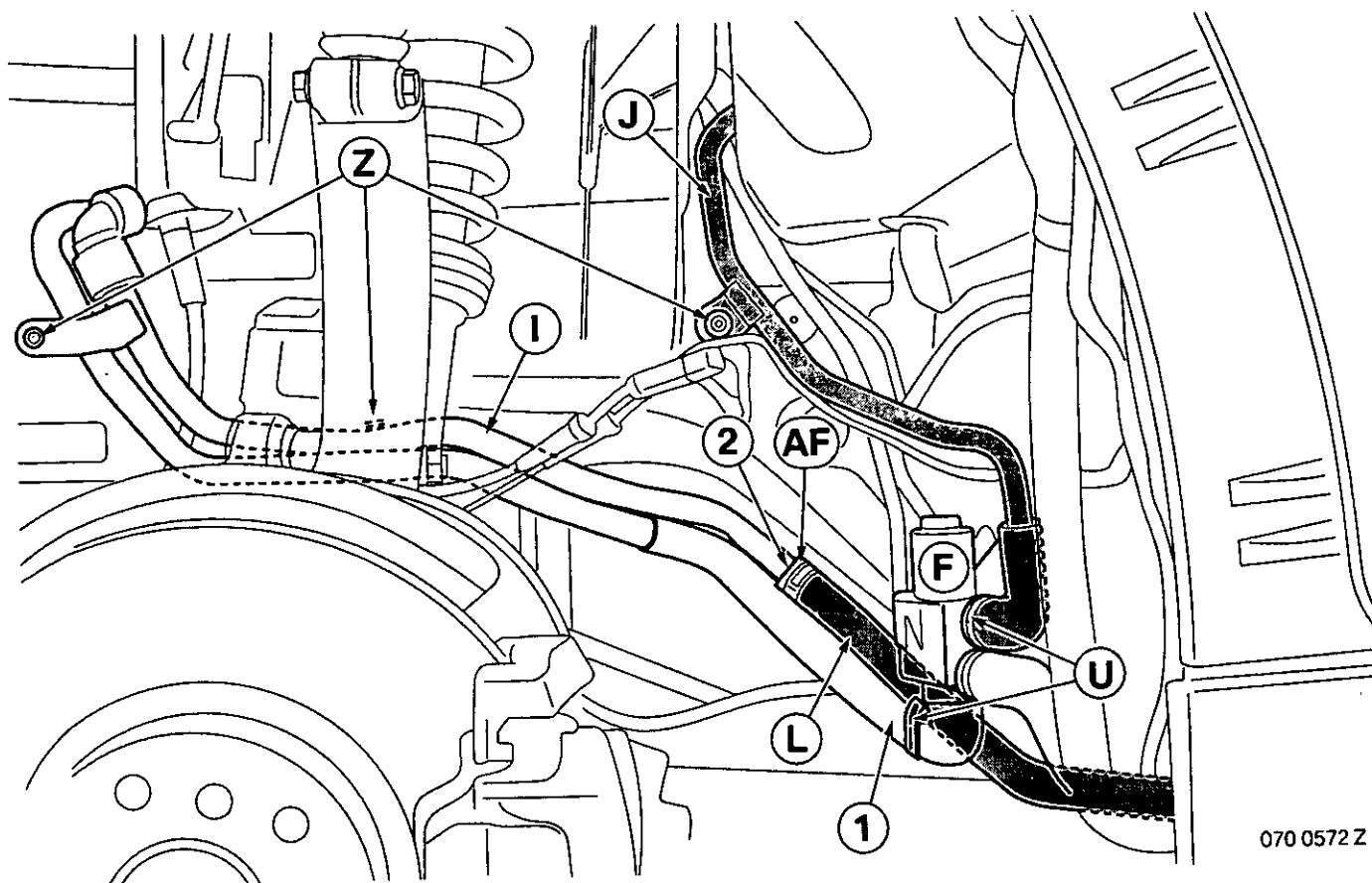
Secure air intake hose **H** additionally with clip **X**. Use screw of trim (2) to do this.



Screw changeover valve **F** to coarse stud bolts using plastic nuts **Z**.

Connect water hose **K** to changeover valve **F** with clip **U**.

5. To install the independent heater



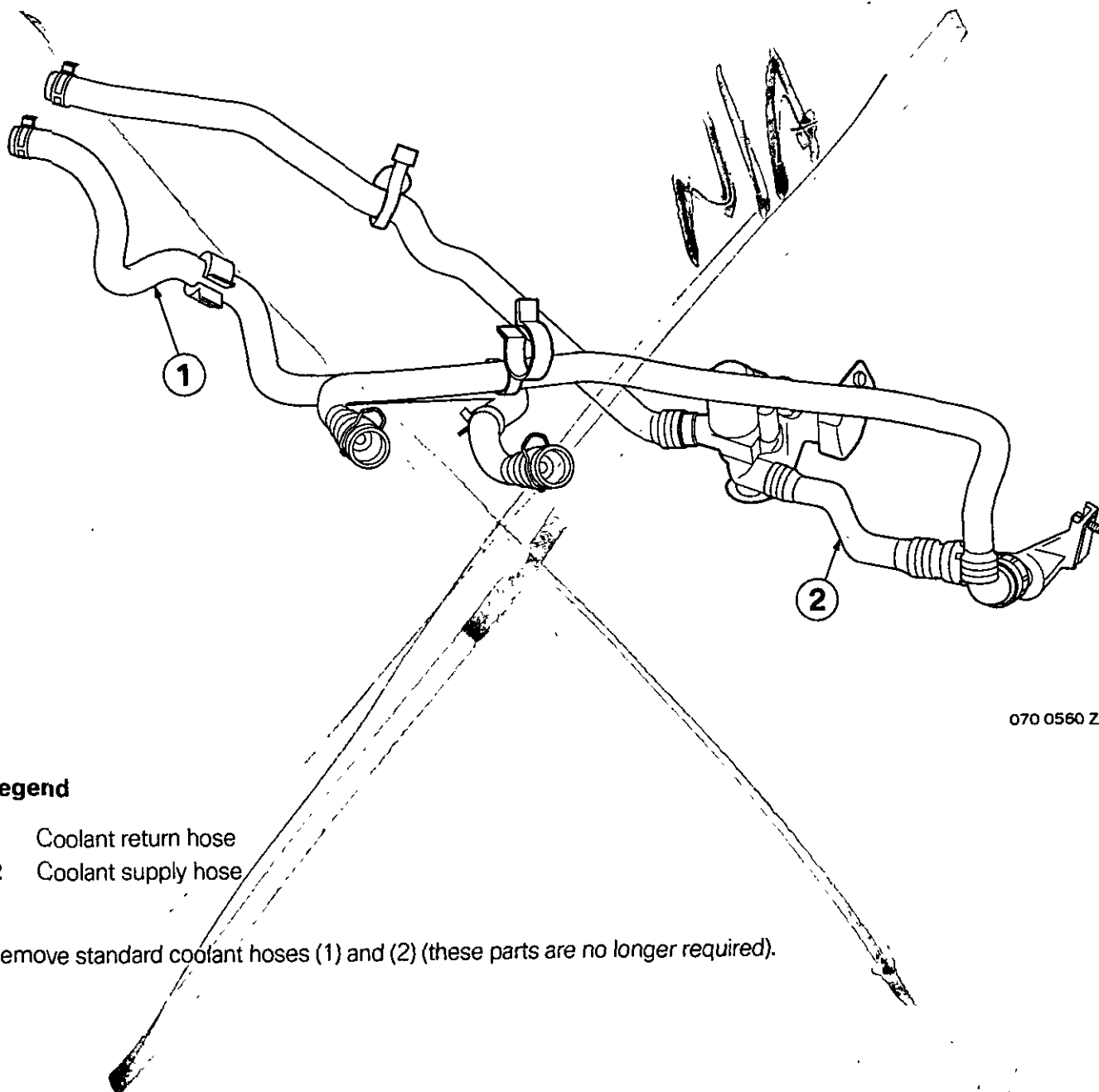
070 0572 Z

Install return pipe **J** in the wheel arch and secure to the car with hexagonal nut **Z**. Connect return pipe **J** to changeover valve **F** with clip **U**.

Install double tube **I** in the wheel arch and secure to the car with hexagonal nuts **Z**.

Connect outflow (1) to changeover valve **F** with clip **U** and outflow (2) to coolant hose **L** with clip **AF**.

**6. To modify the coolant system
(only for cars with M57 engine without SA 534 and without SA 4NB)**



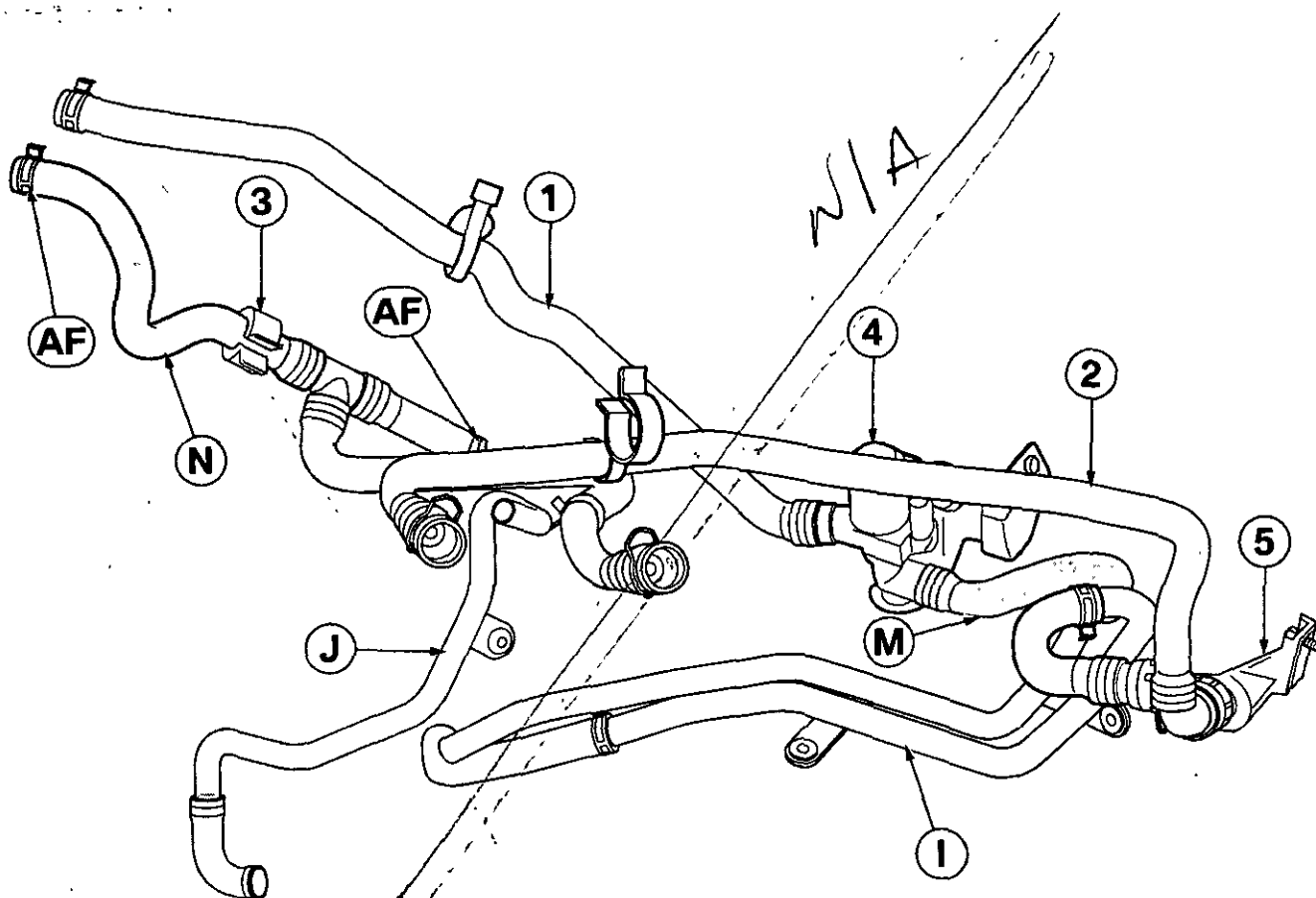
070 0560 Z

Legend

- 1** Coolant return hose
- 2** Coolant supply hose

Remove standard coolant hoses (1) and (2) (these parts are no longer required).

**6. To modify the coolant system
(only for cars with M57 engine without SA 534 and without SA 4NB)**



070 0561 Z

Legend

- | | |
|--|---|
| I Double tube | 1 Heat exchanger coolant supply hose |
| J Return pipe | 2 Engine coolant supply hose |
| M Independent heating coolant supply hose | 3 Securing clip |
| N Independent heating coolant return hose | 4 Water valve |
| AF Spring band clip | 5 Adapter |

⚠ Ensure that the securing clips for the quick-release couplings engage correctly.
The water hoses must be installed in the position shown in the figure.
All water hoses must be installed so they cannot chafe. ◀

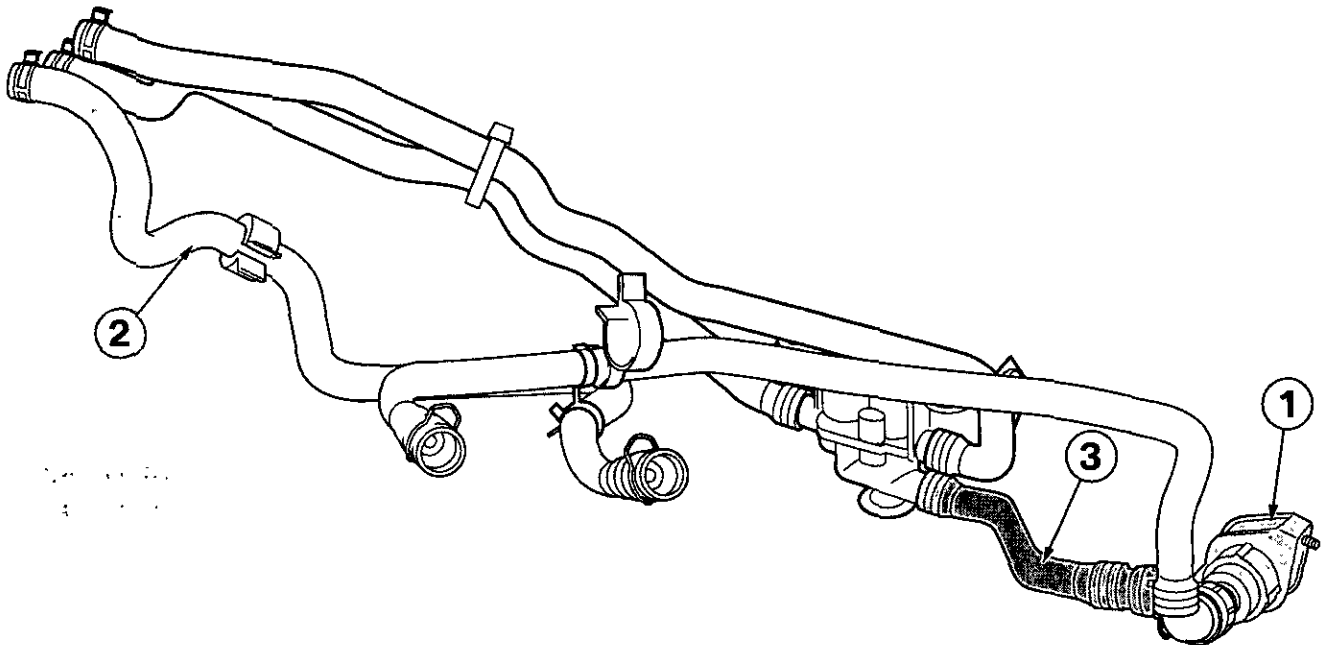
Install coolant hoses **M** and **N**.

Secure coolant hose **M** to water valve (4) and double tube **I** with previously removed clip.
Connect double tube **I** to the idle circuit of the adapter (5).

Connect coolant hose **N** to the engine outlet and clip into securing clip (3).

Connect coolant hose **N** to heat exchanger and return pipe **J** with spring band clips **AF**.

7. To modify the coolant system
(only for cars with M57 engine and with SA 534 or with SA 4NB)



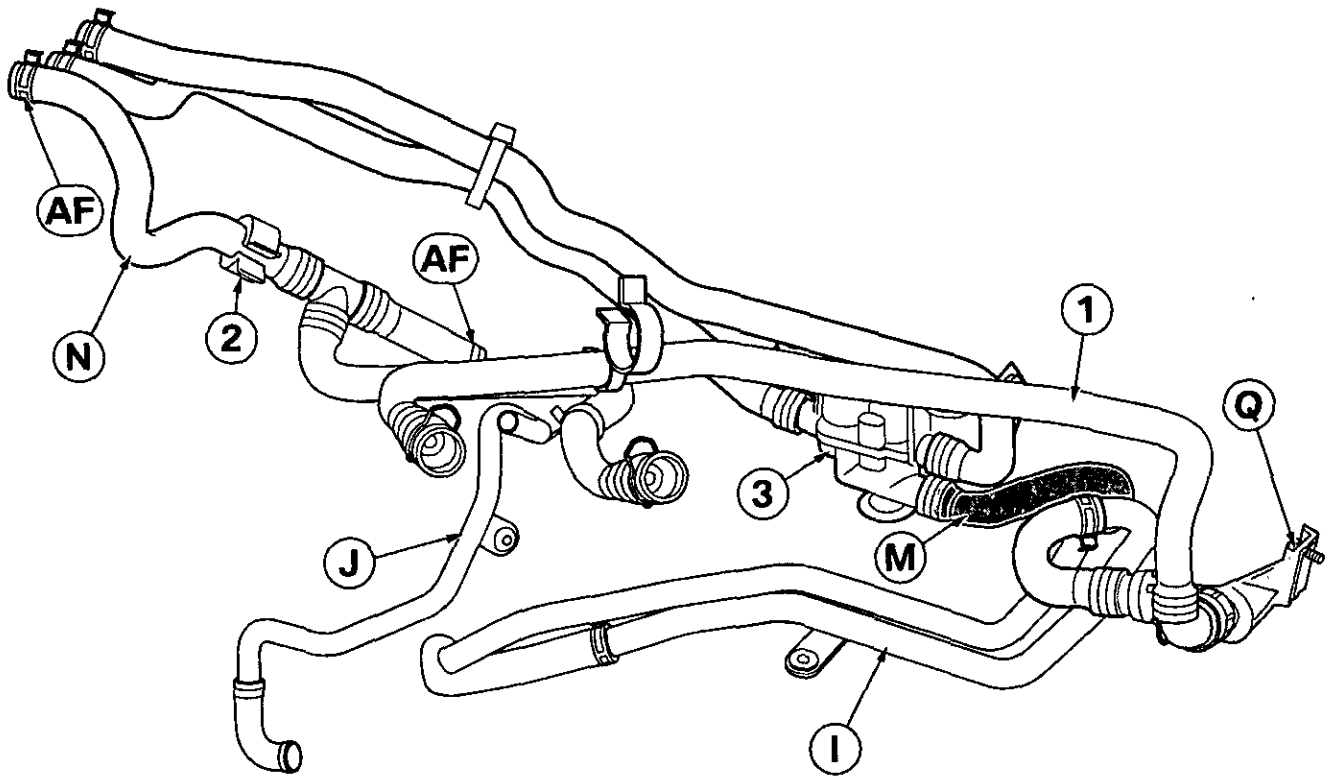
070 0553 Z

Legend

- | | |
|---|------------------------------|
| 1 Additional water pump (ZWP) | 3 Coolant supply hose |
| 2 Heat exchanger coolant return hose | |

Remove the additional water pump (1) (part no longer required).
Remove standard coolant hoses (2) and (3) (these parts are no longer required).

7. To modify the coolant system
(only for cars with M57 engine and with SA 534 or with SA 4NB)



070 0552 Z

Legend

- | | |
|--|-------------------------------------|
| I Double tube | 1 Engine coolant supply hose |
| J Return pipe | 2 Securing clip |
| M Independent heating coolant supply hose | 3 Water valve |
| N Independent heating coolant return hose | |
| Q Adapter | |
| AF Spring band clip | |

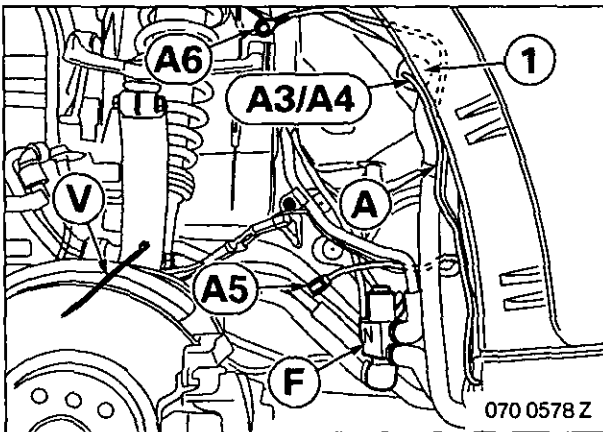


Ensure that the securing clips for the quick-release couplings engage correctly.
 The water hoses must be installed in the position shown in the figure.
 All water hoses must be installed so they cannot chafe. ◀

Install coolant hoses **M** and **N**. Install adapter **Q** at the installation site of the additional water pump. Secure coolant hose **M** to water valve (3) and double tube **I** with previously removed clip. Secure adapter **Q** at the installation site of the additional water pump with screw of additional water pump. Connect coolant hose (1) and double tube **I** to adapter **Q**.

Connect coolant hose **N** to the engine outlet and clip into securing clip (2).
 Connect coolant hose **N** to heat exchanger and return pipe **J** with spring band clips **AF**.

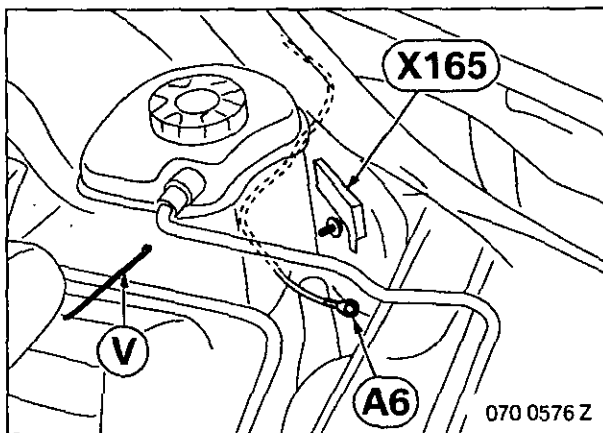
13. To install and connect the retrofit cable



Connect branch **A5**, 2-pin SW socket casing, of the retrofit cable **A** to the changeover valve **F**. Route branch **A6**, cable colour BR, along the standard wiring harness to the earth post **X165**.

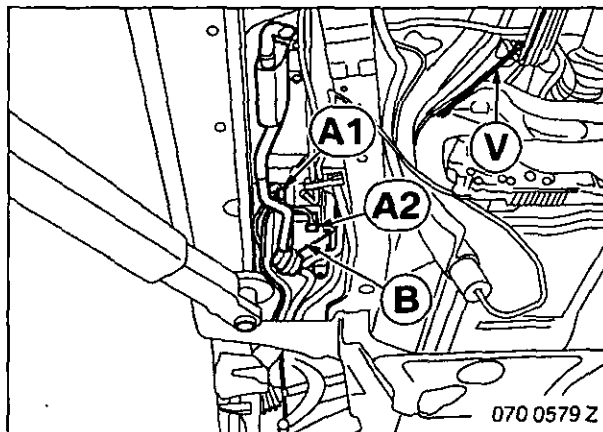
Route branches **A3**, cable colour RT/BL, and **A4**, cable colour WS/BR, through rubber grommet (1) into the engine compartment and through rubber grommet located behind this into the driversfootwell.

Secure cables with cable ties **V** to prevent them slipping.



Connect branch **A6** to joint connector **X165**.

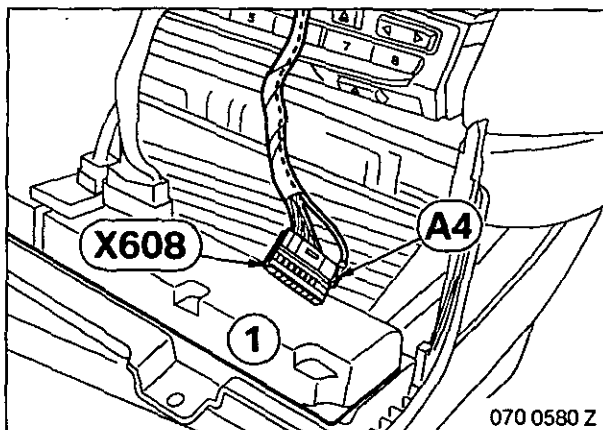
Secure cables with cable ties **V** to prevent them slipping.



⚠ Make sure that no cables are lying against the exhaust pipe. ◀

Route and connect branches **A1**, SW 8-pin socket casing, and **A2**, SW 2-pin socket casing, to the installation site of independent heater **B**.

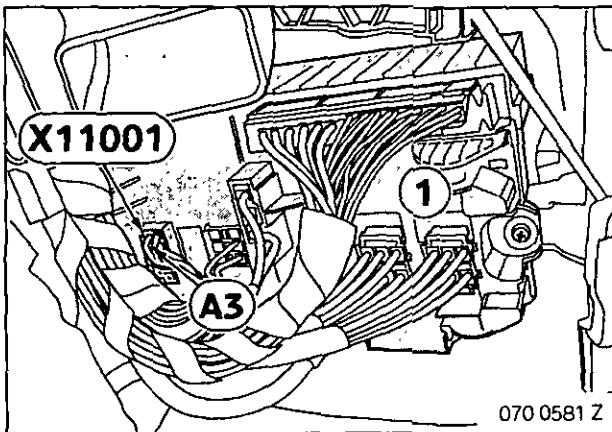
Secure cables with cable ties **V** to prevent them slipping.



Route branch **A3**, cable colour RT/BL, along the standard wiring harness into the passenger footwell and branch **A4**, cable colour WS/BR, to the IHKA control.

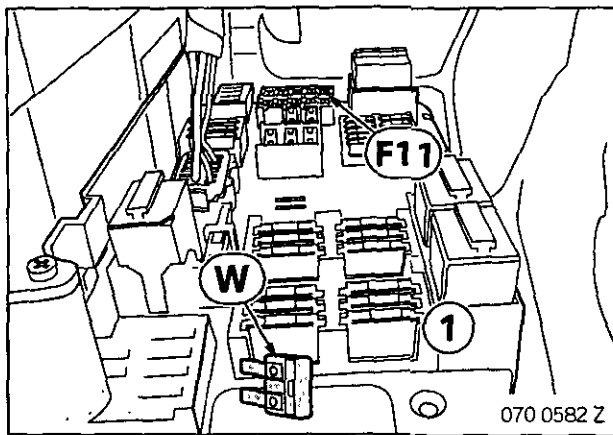
Connect branch **A4**, cable colour WS/BR, to PIN 8 of plug **X608** of the IHKA control (1).

13. To install and connect the retrofit cable



⚠ Ensure that no fuses fall out of their slots. ◀

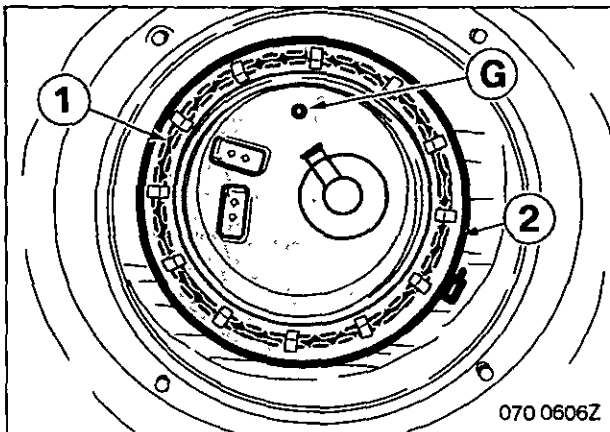
Connect branch **A3**, cable colour RT/BR, to PIN 5 of plug **X11001** of the SPEG (1).



Insert fusible link **W** into slot **F11**.

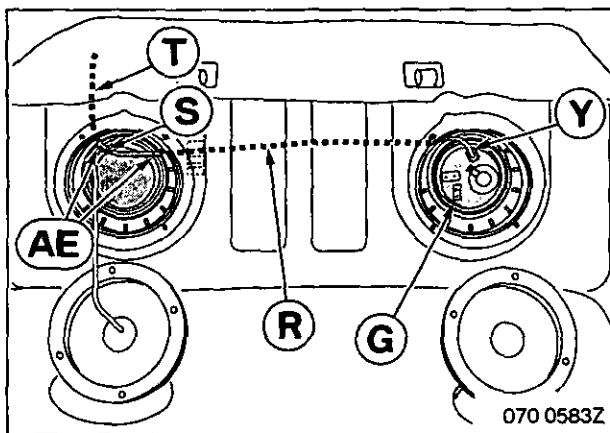
Re-attach SPEG (1).

14. Connecting the fuel supply



When you install the tank sensor unit, the seal (1) and clip (2) must be replaced by those supplied with the tank sensor. ◀

Install tank sensor unit **G** in the right-hand side of the tank (see ISTA-RA 16 12 000) and tighten it in accordance with the regulations.

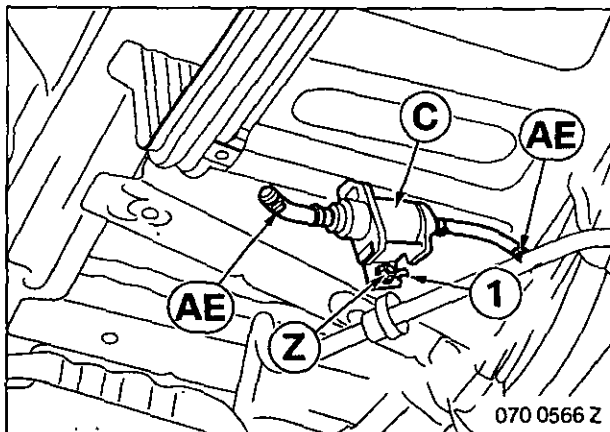


Do not secure fuel line **Y** to the engine fuel lines. ⚠

Extend fuel line **Y** with fuel hose **S** and clip **AE** and pull corrugated tube **R** over it.

Route fuel line **Y** from the right to the left tank fittings and connect to the right-hand tank sensor unit **G** (extractor pipe).

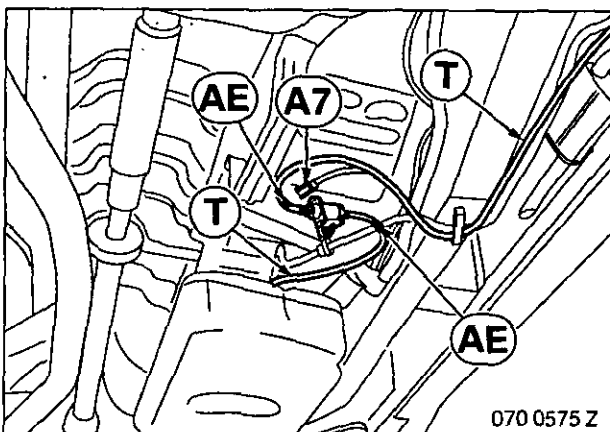
Extend shaped hose **S** with mecanyl pipe **T** and clip **AE** and route to the installation site of the fuel metering pump.



Straighten lug (1) on the holder using suitable tool.

Secure fuel metering pump **C** to the underfloor of the car with plastic nut **Z**.

Push clips **AE** onto shaped hose sections of fuel metering pump.

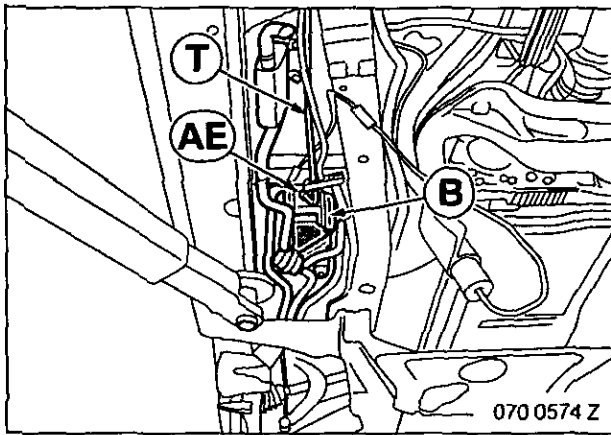


Connect mecanyl line **T** coming from the tank to fuel metering pump inlet with clip **AE**.

Connect mecanyl line **T** to fuel metering pump outlet with clip **AE** and route to the installation site of the independent heater.

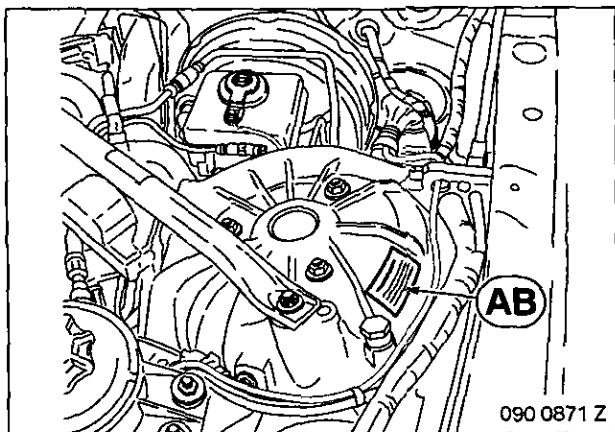
Route and connect branch **A7**, SW 2-pin socket casing, along the standard wiring harness to the installation site of the fuel metering pump.

14. Connecting the fuel supply



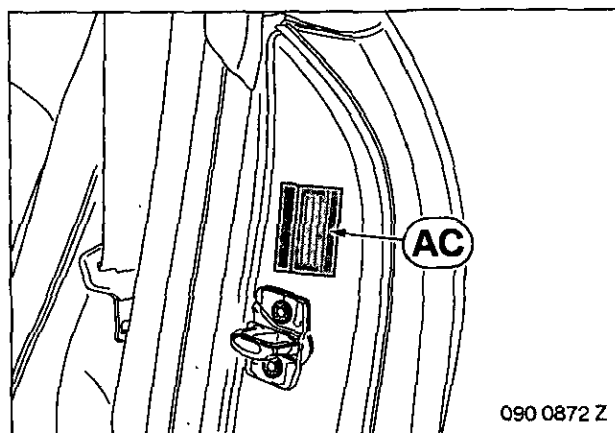
Connect mecanyl line **T** of fuel metering pump outlet to fuel inlet of the independent heater **B** with clip **AE**.

15. Concluding work and coding



▶ Make the inapplicable year figures illegible with a marker pen. The date of installation must remain legible. ◀

Affix the duplicate sticker **AB** to the left MacPherson strut tower.



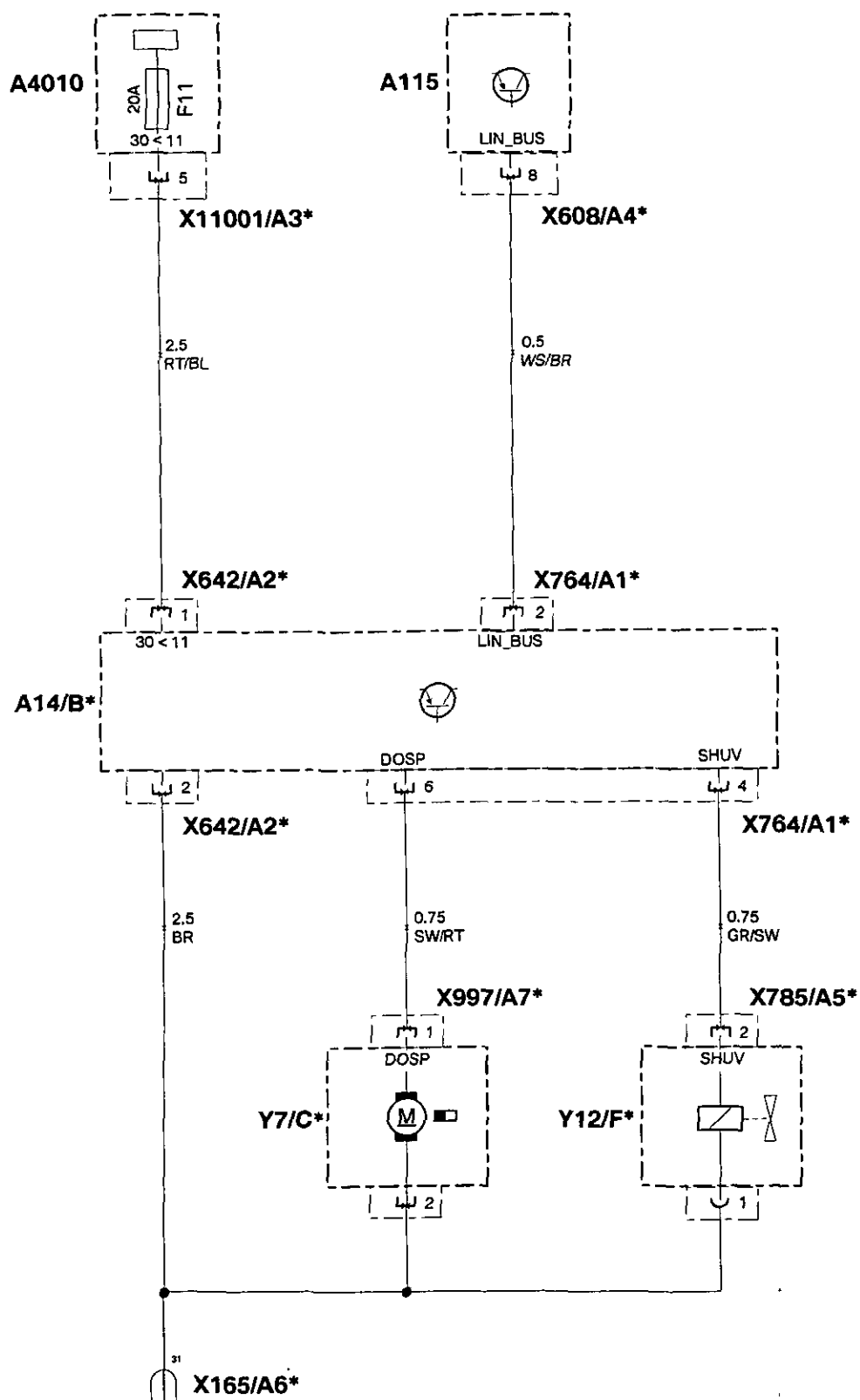
▶ Ideally affix tank information sticker **AC** inside filler cap cover. ◀

If there is insufficient space in the tank filler cap, affix tank information sticker **AC** to the B pillar on the driver's side.

This retrofit system requires coding.

- Connect the battery
- Conduct a brief test
- Fill and bleed the cooling system as directed and check the coolant system for leaks (ISTA-No. 17 00 005)
- Encode the retrofit with SSS (software service station) via the **CIP** path
- Conduct a function test of the independent heating in the car
- Re-assemble the car. Use underfloor trim **E** instead of the removed underfloor trim.

16. Circuit diagram



070 0591 Z

16. Circuit diagram

Legend

A6*	Eyelet
A14/B*	Auxiliary heater
A115	IHKA
A4010	SPEG
X165	Earth post
X608/A4*	SW 18-pin socket casing
X642/A2*	SW 2-pin socket casing
X764/A1*	SW 8-pin socket casing
X785/A5*	SW 2-pin socket casing
X997/A7*	SW 2-pin socket casing
X11001/A3*	SW 15-pin socket casing
Y7/C*	Fuel metering pump
Y12/F*	Changeover valve

All the designations marked with an asterisk (*) apply only to these installation instructions or this circuit diagram.

Cable colours

BL	Blue
BR	Brown
GR	Grey
RT	Red
SW	Black
WS	White