GENERAL INFORMATION

NOTES ON HANDLING REFRIGERANT R134A - AH83.30-N-0003-01A

Air conditioning with refrigerant R134a

The refrigerant R134a is colorless and odorless.

At normal temperatures it is neither toxic nor flammable, and will not explode in the air, no matter what its mixing ratio.

The R134a refrigerant may only be used in air conditioning systems for which R134a has been specifically approved.

i The refrigerant R134a must not be mixed with other refrigerants (e.g. R12).

The refrigerant R134a does not contain any chlorofluorocarbons (CFC). In contrast to other refrigerants (e.g. R12) it is not hazardous to the environment at normal temperatures. The refrigerant R134a does not damage the earth's ozone layer.

Despite these benefits, refrigerant R134a may only be extracted by experts with suitable extraction, recycling and filling equipment that includes integral disposal and reprocessing capabilities.

CONDUCT IF AIR CONDITIONING SYSTEM IS DAMAGED OR LEAKING - AH83.30-N-0004-01A

All models

The air conditioning system should never be operated if it is damaged or when there is evidence of refrigerant loss.

In the event that refrigerant is lost, lubrication can fail. This will lead to damage of the refrigerant compressor.

Evacuate damaged and/or leaking air conditioning refrigerant circuits as quickly as possible using extraction, processing and recharging equipment with integral disposal and reprocessing capabilities.

PROTECT AIR CONDITIONING CIRCUIT AND COMPONENTS FROM MOISTURE WHEN CARRYING OUT REPAIR WORK - AH83.30-N-0005-01A

All models fitted with air conditioning

i Do not carry repair operations out on the air conditioning circuit in the open air during moist weather.

Moisture in the refrigerant circuit reduces the system's refrigeration output and leads to damage to the components. The acidic substances produced by moisture within the system decompose the desiccant in the fluid reservoir and damage the entire system.

After separating/unscrewing refrigerant lines, immediately seal off the connection openings so that they are airproof using suitable stop plugs (parts kit).

Replace the fluid reservoir every time you open up the refrigeration circuit.

Always store all spare components in a dry, sealed-off area. Do not remove stop plugs in new components until just before they are installed. Use special care when handling the receiver/dryer with its integral desiccation unit.

When a receiver/dryer is left open, the dryer unit quickly becomes saturated with moisture, rendering it useless.

Check drier cartridge packaging for damage. Dispose of drier cartridges with damaged packaging.

Install the desiccant cartridge no later than 20 minutes after opening the packaging.

Further protection against moisture is provided by carefully evacuating the air conditioning system following repair operations. By generating vacuum in the system, the evacuation process removes any moisture that might have penetrated into the system.

PROTECT AIR CONDITIONING CIRCUIT AND COMPONENTS FROM MOISTURE WHEN CARRYING OUT REPAIR WORK - AH83.30-P-0005-01P

Model 164, 199, 209, 251

Model 203 with code (580a) Automatic air conditioning

Model 203 with CODE (581b) Convenience automatic air-conditioning

i Do not carry repair operations out on the air conditioning circuit in the open air during moist weather.

Moisture in the refrigerant circuit reduces the system's refrigeration output and leads to damage to the components. The formation of acid in the circuit, which is caused by moisture, decays the desiccant cartridge in the condenser and damages the entire system.

After disconnecting or unscrewing refrigerant lines, immediately seal all connection apertures air tight with suitable plugs (parts kit).

Install a new desiccant cartridge every time you open up the refrigeration circuit.

Always store all spare components in a dry, sealed-off area. Do not remove plugs in new components until just before they are installed.

Check drier cartridge packaging for damage. Dispose of drier cartridges with damaged packaging.

Install the desiccant cartridge no later than 20 minutes after opening the packaging.

Further protection against moisture is provided by carefully evacuating the air conditioning system following repair operations. By generating suction within the system, the vacuum evacuation process removes any moisture that might have penetrated into the system during servicing.

BASIC KNOWLEDGE

VENTILATION SYSTEM, FUNCTION - GF83.10-P-2000

Ventilation system, function - GF83.10-P-2000GZ

MODEL 164 except CODE (582) Rear air conditioner

Shown on model series 164.1 with comfort automatic air conditioning, code 581

Function

The ventilation system prevents windows from misting up, provides oxygen to the occupants and ensures that uniform and pleasant temperatures in the interior are reached quickly.

In the normal mode, when the vehicle is stationary or in order to increase the air flow, the ventilation of the interior is achieved with assistance of the blower. Fresh air is drawn into the air conditioner housing via the air inlet in the engine hood and via the fresh/recirculated air flap (fresh air position).

Fig. 1: Identifying Ventilation System - Model 164
Courtesy of MERCEDES-BENZ OF NORTH AMERICA.

The air can be guided through the air ducts and through the air outlet into the interior compartment, depending on the settings on the AAC control and operating unit (N22) or comfort AAC control and operating unit (N22/7). In the air recirculation mode, air is drawn out of the vehicle interior through the fresh air and air recirculation flaps (recirculated air position) and blown into the air conditioner housing.

In order to prevent the windows from fogging up, the defroster flaps, as well as the air recirculation flap, are closed and the footwell flaps opened completely 2 min after switching off the ignition. After starting the engine, the defroster flaps and footwell flaps remain in this position for 30 s. The air recirculation flap is immediately adjustable.

Blower, component description		**GF83.10-P-2050GZ**
Blower regulator, component description	With automatic air conditioning, code 580	**GF83.10-P-2051GZ**
	With comfort automatic air conditioning, code 581	**GF83.10-P-2051GZK**
Actuator motors, component description	With automatic air conditioning, code 580	**GF83.10-P-2201GZ**
	With comfort automatic air conditioning, code 581	**GF83.10-P-2201GZK**
Automatic air conditioning pushbutton control unit, component description	Except USA version, code 494, With automatic air conditioning, code 580	GF83.40-P-3000GZE
	With USA version, code 494, With automatic air conditioning, code 580	**GF83.40-P-3000GZU**
Comfort automatic air conditioning control and operating unit, component description	Except USA version, code 494, With comfort automatic air conditioning, code 581	GF83.40-P-3010GZE
	With USA version, code 494, With comfort automatic air conditioning, code 581	**GF83.40-P-3010GZU**

Ventilation system, function - GF83.10-P-2000RTK

MODEL 251.1 /0 with CODE (581) Comfort automatic air conditioning with CODE (582) Rear air conditioner

MODEL 164.8 with CODE (581) Comfort automatic air conditioning with CODE (582) Rear air conditioner

Shown on model series 251

Function

The ventilation system prevents windows from misting up, provides oxygen to the occupants and ensures that uniform and pleasant temperatures in the interior are reached quickly.

During normal operation, when the vehicle is stationary or to increase the air volume, ventilation is carried out with the assistance of the front blower, the rear blower and, in the case of additional rear systems, with a well "rear blower".

Fig. 2: Identifying Ventilation System - Model 251.1
Courtesy of MERCEDES-BENZ OF NORTH AMERICA.

Fresh air is drawn into the air conditioner housing via the air inlet in the engine hood and via the fresh/recirculated air flap (fresh air position).

Depending on the preselection at the comfort AAC [KLA] control and operating unit (N22/7), the air is directed through air ducts and via air outlets into the vehicle interior. In the air recirculation mode, air is drawn out of the vehicle interior through the fresh air and air recirculation flaps (recirculated air position) and blown into the air conditioner housing.

In order to prevent the windows from fogging up, the defroster flaps and the air recirculation flap are closed and the footwell flaps opened completely 2 min after switching off the ignition. After starting the engine, the defroster flaps and footwell flaps remain in this position for 30 s. The air recirculation flap is immediately adjustable.

Blower, component description	Except model 164.8	GF83.10-P-2050RT **GF83.10-P-2050RTH**
Blower regulator, component description	Except model 164.8	GF83.10-P-2051RTK **GF83.10-P-2051RTH**
Actuator motors, component description		**GF83.10-P-2201RTK**
Comfort automatic air conditioning control and operating unit, component description	Model 251 except code 494 USA version Model 251.1 with code 494 USA version, Model 164.8 with code 494 USA version	GF83.40-P-3010RT **GF83.40-P-3010RTU**

BOOSTER BLOWER, COMPONENT DESCRIPTION - GF83.10-P-2040GZ

MODEL 164 with CODE (581) Comfort automatic air conditioning

Shown on model series 164.1

1 *Booster blower*

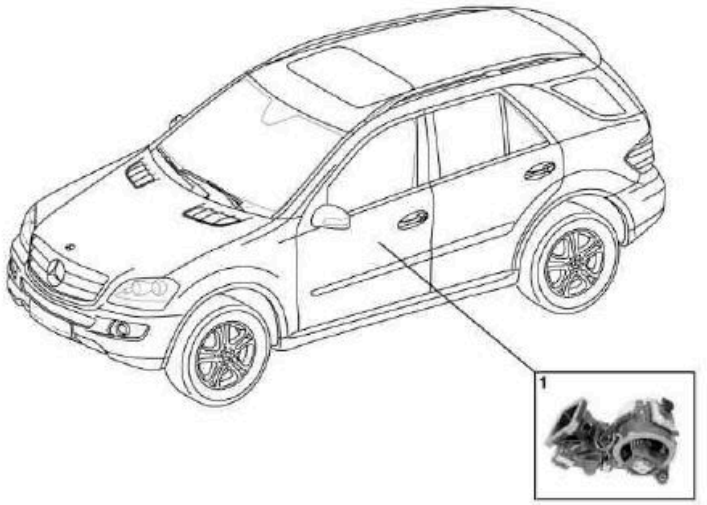

Fig. 3: Identifying Booster Blower Component Location - Shown On Model Series 164.1
Courtesy of MERCEDES-BENZ OF NORTH AMERICA.

Location

The booster blower is located between the two front seats below the center tunnel.

Design

- Booster adapter
- Booster blower motor (M2/1)
- Rear air distribution flap actuator motor (M2/21)
- Booster blower electronic blower controller (N29/2)
- Center rear interior temperature sensor (B10/7)

Task

The booster blower is used to improve the aeration of the rear passenger compartment.

BOOSTER ADAPTER, COMPONENT DESCRIPTION - GF83.10-P-2041GZ

MODEL 164 with CODE (580) Automatic air conditioning

Shown on model 164.1

1 Booster adapter

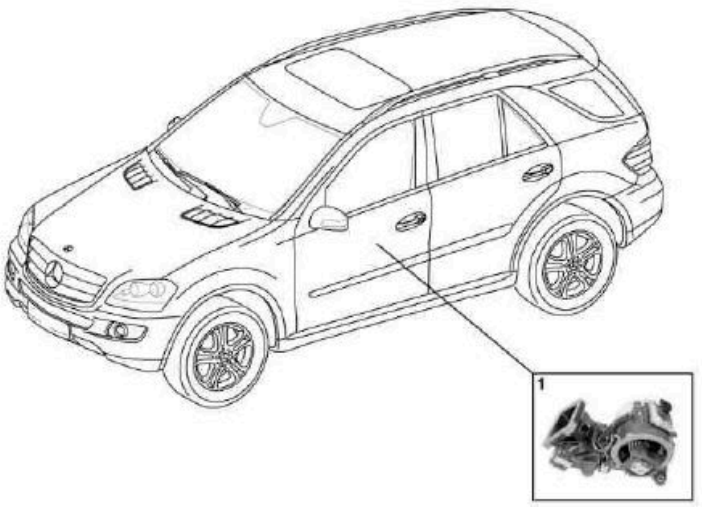

Fig. 4: Identifying Booster Adapter Component Location - Shown On Model 164.1
Courtesy of MERCEDES-BENZ OF NORTH AMERICA.

Location

The booster adapter is located between the two front seats below the center tunnel.

Design

- Booster adapter
- Rear air distribution flap actuator motor (M2/21)

Task

The rear air distribution flap actuator motor in the booster adapter serves for selected guidance of the air flow in the rear passenger compartment.

BLOWER, COMPONENT DESCRIPTION - GF83.10-P-2050

Blower, component description - GF83.10-P-2050GZ

MODEL 164

A32m1 Blower motor

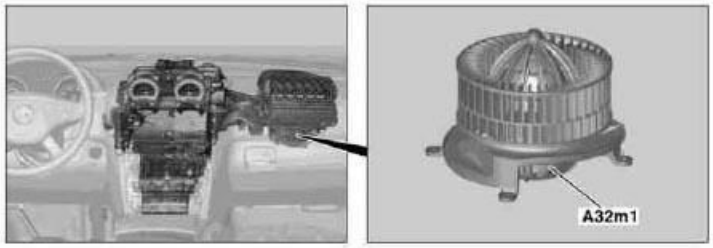

Fig. 5: Identifying Blower Component Location - Model 164
Courtesy of MERCEDES-BENZ OF NORTH AMERICA.

Location

The blower motor is located on the right below the glove compartment in the A/C housing.

Task

The blower motor blows fresh air or air from the interior compartment through the A/C housing into the vehicle interior.

Function

Depending on the blower stage:

- the AAC control and operating unit (N22) or
- the comfort AAC control and operating unit (N22/7) sends a control signal, via the Local Interconnect Network (LIN), to the blower regulator (A32n1).

The blower regulator then regulates the operating voltage for the blower regulator, depending on the control signal.

Blower, component description - GF83.10-P-2050RTH

MODEL 251.1 /0 with CODE (581) Comfort automatic air conditioning with CODE (582) Rear air conditioner

MODEL 164.8 with CODE (581) Comfort automatic air conditioning with CODE (582) Rear air conditioner

Shown on model series 251

M2/29 Rear air conditioning blower motor

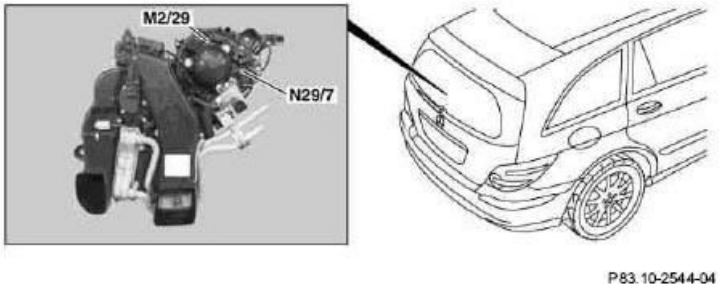

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Fig. 6: Identifying Blower Component Location - Shown On Model Series 251
Courtesy of MERCEDES-BENZ OF NORTH AMERICA.

Location

The rear air conditioning blower motor is located in the left rear directly at the rear air conditioner.

Task

The rear air conditioning blower motor blows fresh air or air from the interior compartment through the rear AC housing into the vehicle interior.

Function

Depending on the blower stage:

- the comfort AAC [KLA] control and operating unit (N22/7) or
- the RCP [HBF] control unit (N72/2) sends a control signal via the local interconnect network (LIN) to the rear air conditioning blower regulator (N29/7).

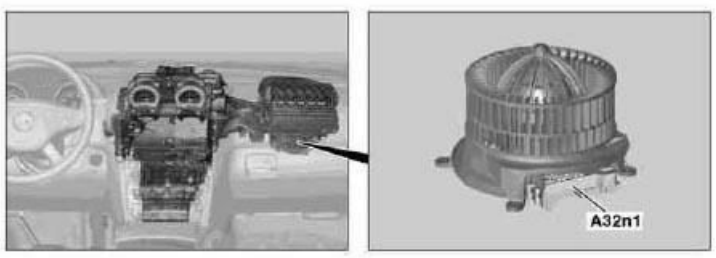
The rear air conditioning blower regulator then regulates the operating voltage for the rear air conditioning blower motor depending on the control signal.

BLOWER REGULATOR, COMPONENT DESCRIPTION - GF83.10-P-2051

Blower regulator, component description - GF83.10-P-2051GZ

MODEL 164 with CODE (580) Automatic air conditioning

A32n1 Blower regulator



P83.10-2481-04