

SECTION 7:

ENVIRONMENT CONTROL

- Air Conditioning	141
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Air Conditioning

The air conditioning system controls the environment inside the vehicle to the comfort levels selected by the driver. Using simple controls the desired levels of distribution, temperature and humidity of air inside the vehicle can be maintained.

A sophisticated control system operated by a microprocessor, constantly monitors and compensates for the temperature variations of incoming air. A unique solar sensor also further adjusts the temperature to moderate the effects of direct sunlight.

Humidity Control

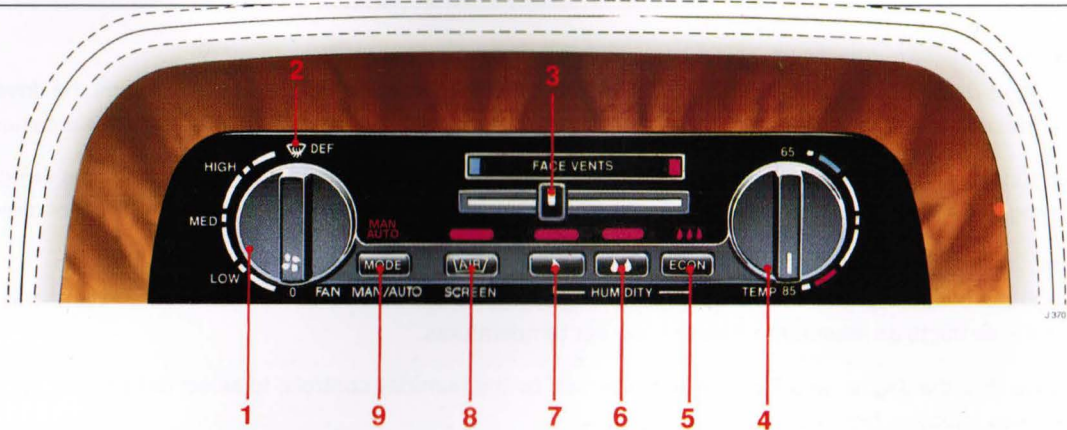
Air drawn through the evaporator of a normal air conditioning system is cooled and de-humidified, the resultant dry-cooled air is then supplied to the air ducts as required to maintain the set temperatures.

To further enhance this, the Jaguar air conditioning can be set, by the humidity controls, to select different air conditioning levels that will take less moisture from the incoming air.

This is achieved by raising the operating temperature of the system by two increments, corresponding to the one or two teardrop settings on the humidity control. A third push button 'ECON' cuts out the air conditioning compressor enabling maximum fuel economy and humidity to be achieved. Where maximum cooling is required all the humidity push buttons should be 'OFF', a 'STATE' light above each button illuminates when the push button is 'ON'.

The effect of the humidity control will be more noticeable to people who are susceptible to dry air, for instance in de-humidified centrally heated premises. When travelling on long journeys, it is more comfortable with a fairly high humidity level. Conversely, when making a short journey in very hot conditions, the highest level of cooling may be required and for this the humidity level should be low. People who wear contact lenses may wish to keep the humidity level high.

Should the system be operated in ECON mode for lengthy periods, then the button should be released for five minutes every week.



1. Fan speeds.
2. Defrost.
3. Face level control. Adjusts the temperature of the air being delivered through the face level vents relative to the footwell outlets.
4. Temperature selector.
5. Select ECON to switch off the compressor to save fuel – use only when ambient air is cool and dry.
6. Select to provide MID HUMIDITY air.
7. Select to provide LOW HUMIDITY air.
Note: De-select all three buttons (5, 6 and 7) to provide MINIMUM HUMIDITY air (max cooling) – All lights extinguished.
8. Select to boost windscreen demisting.
9. Select AUTO to provide automatic control of in-car temperature.
 Select MAN to provide fixed temperature air from vents.

The system has the following features:

- * **Two modes of temperature control**
 - a) Automatic control of the interior temperature.
 - b) Manual control of the duct outlet temperature.
- * **Solar sensing** – automatically compensates the interior temperature during changing sunlight conditions.
- * **Humidity control** – allows the moisture content of the air entering the vehicle and the overall air conditioning performance to be adjusted to suit the occupants.
- * **Heater only** – assists improved fuel economy by cutting out the air conditioning compressor while still allowing precise temperature control above the ambient temperature.
- * **Defrost** – use to clear the screen quickly of ice and moisture.
- * **Demist** – a fast demisting facility whilst still retaining full air conditioning and temperature control.
- * **Face Level Control** – enabling variable temperature control of the face level vents relative to the footwell outlets.
- * **Side Window Demisting** – air is ducted to the front side windows via the door ‘top rolls’.
- * **Fascia Vents** – the vents on the fascia may be closed manually if desired.


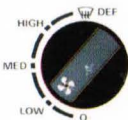
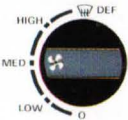
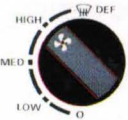
The use of these features are described in this section of the handbook. Five sample settings of the air conditioning controls are displayed; these will enable a starting condition in widely varying weather conditions to be easily set. Together with each setting are suggestions on varying them to suit the individual preference.

Air Conditioning Controls

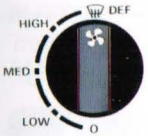
With the exception of the rear compartment controls and the outlet ducts on the fascia, all controls are mounted centrally within reach of the driver.

Blower Fan Switch


The blower fan control switch has five positions which are described as follows:

SWITCH	POSITION	FUNCTION	CONDITION
	OFF	SYSTEM OFF	The system is off and all the ducts closed. No air enters the vehicle through the system and all other controls are inoperative.
	LOW	RAPID TEMPERATURE CHANGE NOT REQUIRED	This position is used when a rapid in-car temperature change is not required, the fans operate in the programmed low speed range. The fan speed gradually reduces as the selected temperature is reached.
	MEDIUM (MED)	FOR NORMAL OPERATION OF THE SYSTEM	This is the suggested position of the switch for normal operation. The fan speed gradually reduces as the selected temperature is reached.
	HIGH	TO OBTAIN MAXIMUM AIR-FLOW	With the switch in this position the temperature is rapidly adjusted to that selected. A vehicle which has been left in the heat of the sun, can be quickly cooled using the HIGH setting.



Blower Fan Switch (continued)

SWITCH	POSITION	FUNCTION	CONDITION
 <p>The image shows a circular blower fan switch with a vertical slider. The slider is positioned at the top, labeled 'DEF'. The dial has markings for 'HIGH', 'MED', 'LOW', and '0'. A fan icon is visible in the center of the dial.</p>	DEFROST	TO CLEAR SCREEN QUICKLY	<p>This position is used to defrost or demist the front screen rapidly. In this position the fans are at maximum speed, the vents to the windscreen are open and with the exception of the fascia end vents the other vents are closed. This ensures that the maximum volume of air is directed onto the windscreen at the highest temperature available.</p> <p>A period of up to 30 seconds can elapse before this function is fully operational.</p>

Temperature Selector Switch





SWITCH	FUNCTION	CONDITION
 <p>The image shows a circular temperature selector switch with a vertical slider. The dial has markings for '65' and 'TEMP 85'. The slider is positioned between these two markings.</p>	TEMPERATURE SELECTOR	<p>This control is used to select the desired in-car temperature in automatic mode, and the duct outlet temperature in manual mode.</p> <p>When heating is required the system will not operate until the engine coolant reaches a predetermined temperature.</p>

In addition to the two rotary controls, five push buttons, each with a 'STATE' lamp, control the following functions. These are inoperative when the left hand rotary control is in the 'OFF' position.

BUTTON	DISPLAY	CONDITION
		The MODE button is used to select the control of air conditioning required. The system is either in Automatic Control when AUTO will be displayed above the MODE button or in Manual Control when MAN will be displayed above the MODE button.
	AUTO	In AUTOMATIC the system is under microprocessor control to quickly adjust the in-car temperature and humidity to the levels selected. The system will, by constantly monitoring maintain the comfort levels selected.
	MANUAL	In MANUAL the temperature and humidity of air entering the vehicle through the ducts is constant at the temperature and fan speed selected.
	STATE LIGHT 'ON'	<p>PRESS FOR SCREEN DEMISTING</p> <p>To introduce air to the front screen and improve demisting. Press for ON, press again for OFF.</p> <p>Note: In cooling mode (warm humid environments) selection of this mode could cause exterior condensation.</p>

HUMIDITY

The three humidity control push buttons enable four humidity conditions to be achieved. Press button for 'ON', press again for 'OFF'.

BUTTON	DISPLAY	CONDITION
ALL OFF	STATE LIGHTS 'OFF'	Minimum humidity level with maximum cooling performance for hot climate conditions.
	STATE LIGHT 'ON'	Low humidity level with good cooling performance, adequate for all but the hottest conditions.
	STATE LIGHT 'ON'	Mid humidity level with cooling performance adequate for most temperature conditions.
		Highest humidity with no cooling performance below ambient incoming air, enabling maximum fuel economy to be achieved. In ECON the system will operate as a heater, if required, in both AUTO and MANUAL modes.

When the ECON button is selected the air conditioning is switched OFF. Pressing the ECON button again will start the air conditioning at maximum performance. Pressing either of the teardrop buttons switches the air conditioning ON (provided the L.H. rotary control is not in the OFF position) at the humidity level described above. Careful use of the ECON and humidity controls can improve fuel economy as operation of the compressor is reduced with the consequent reduction of engine power requirements.

Face Vent Temperature Control Slider

SLIDER POSITIONS



CONDITION

The slider control can be used to adjust the temperature of the air being delivered through the fascia end vents.

When the control is at the full right position, the air being delivered to the fascia vents will be at a similar temperature to that of the footwell ducts.

Moving the control to the left, reduces the temperature of the air to the fascia vents, at the full left position the air is at its coolest relative to that of the footwell outlets. This control allows the vehicle occupants to select a suitable and comfortable temperature differential between fascia vents and the footwells.

When the system is in a heating mode, this control allows warmer air to the feet than to the face.

Rear Passenger Controls

By using the slider control located in the rear of the centre console, the rear seat passengers can control the amount and distribution of air to this area.

SLIDER CONTROL

POSITION

CONDITION



OFF

No air is supplied to the rear area.



FOOTWELL

Air is supplied only to each of the rear footwell ducts.



FACE AND FOOTWELL

Air is supplied to both the footwell ducts and the adjustable face vents.



FACE

The air is supplied to the adjustable face vents only.

Front Driver and Passenger Vents

Four face level vents are available in the fascia for controlling the direction and supply of air to the front of the vehicle interior. In addition two ducts supply air to the driver and front passenger footwells.

Centre Vents

The distribution of air to these vents is automatically controlled supplying only unheated or cooled air. They are dependent on the position of the R.H. rotary temperature control.

The flow of air may be controlled by using the vertical wheels and by aligning the grille the air flow may be directed as required.

Fascia End Vents

These vents can be closed, if required, by moving the vertical wheel upwards. Open the flap to regulate the flow of air to the amount required, by moving the wheel downwards.

By aligning the grille, the air flow may be directed as required.

The temperature of air through the vents may be adjusted, by the face vent control, to be cooler than the footwell ducts providing it is within the normal operating range.

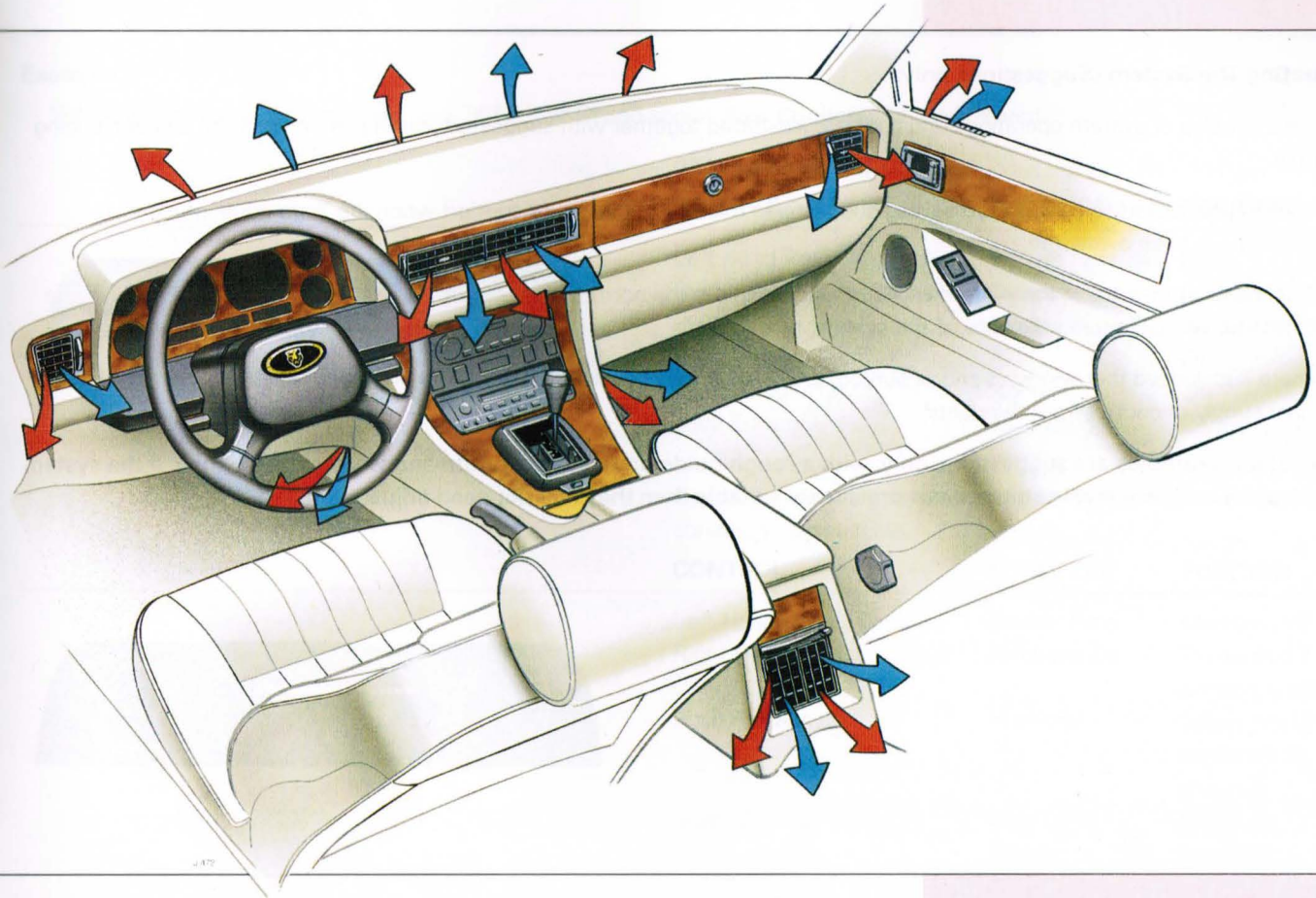
Footwell Ducts

The flow of air through these ducts is automatically controlled by the requirements of the system as set on the main control panel.

Front Screen and Side Window Ducts

Ducts to the side windows ensure that a small constant supply of air is supplied to prevent misting of the side windows.

The supply is automatically controlled but can be augmented by the DEFROST setting on the left-hand rotary control when all air at the highest available temperature and fan speed is directed through these ducts. Alternatively the AIR push button will introduce air flow to the front screen without affecting the normal operation of the system. Useful for demisting in very humid conditions.



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Operating The System (Suggestions only)

Five examples of system operating conditions are illustrated together with suggested starting settings for the air conditioning controls.

Following each starting position are setting suggestions to achieve maximum comfort when the 'hard edge' of extreme conditions have been overcome.

All of the examples are of the system in 'Automatic' as this is the normal operating mode with windows and sunroof (where fitted) closed, i.e. maximum efficiency of the system.

Where it is desired that windows and/or sunroof are open, it may be preferable to use the system in Manual mode with a constant supply of cool air from the ducts.

All of the examples are suggestions only, with a rough guide on the temperature and weather conditions. If the system temperature and face level settings were previously suitable then they will not need adjustment.

Example 1

Vehicle in hot, dry and sunny conditions 90° F (32° C) and above, Fast Cooling first requirement:

STARTING SETTINGS

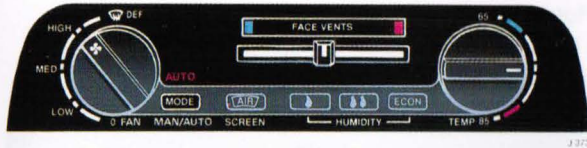
CONTROL	FUNCTION	POSITION
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Left Hand Rotary Control.	Blower Fans.	High.
Right Hand Rotary Control.	Temperature.	Midway.
Push Button.	Mode.	Auto.
Push Button.	Air.	Off.
Push Buttons (3).	Humidity.	Off.
Slide Control.	Face Level Vents.	Centre.

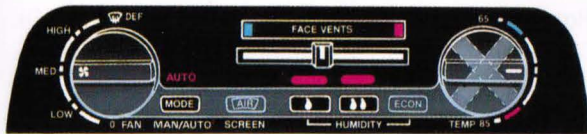
Adjust the following to the desired comfort levels when the conditions are suitable.

CONTROL	FUNCTION	POSITION
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Left Hand Rotary Control.	Blower Fans.	Medium (MED).
Right Hand Rotary Control.	Temperature.	To required comfort level.
Push Buttons (3).	Humidity.	Select one or two teardrops as required.
Slide Control.	Face Level Vents.	Adjust for comfort.



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Example 2

Vehicles in hot humid conditions 90° F (32° C) and above, **Fast Cooling** and **Demisting** required.

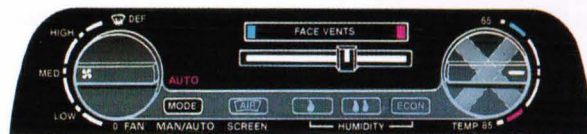
STARTING SETTINGS



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CONTROL	FUNCTION	POSITION
Left Hand Rotary Control.	Blower Fans.	High.
Right Hand Rotary Control.	Temperature.	Midway.
Push Button.	Mode.	Auto.
Push Button.	Air.	Off.
Push Buttons (3).	Humidity.	Off.
Slide Control.	Face Level Vents.	Centre.

Adjust the following to the desired comfort levels when the conditions are suitable.



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CONTROL	FUNCTION	POSITION
Left Hand Rotary Control.	Blower Fans.	Medium (MED).
Right Hand Rotary Control.	Temperature.	To required comfort level.
Push Button.	Air.	Off.
Slide Control.	Face Level Vents.	Adjust for comfort.

Example 3

Vehicle in dry temperate conditions 60° F to 75° F (15° C to 24° C) approximately.

STARTING SETTINGS

CONTROL

FUNCTION

POSITION

Left Hand Rotary Control.	Blower Fans.	Medium (MED).
Right Hand Rotary Control.	Temperature.	Midway.
Push Button.	Mode.	Auto.
Push Button.	Air.	Off.
Push Buttons (3).	Humidity.	One teardrop.
Slide Control.	Face Level Vents.	Full right.

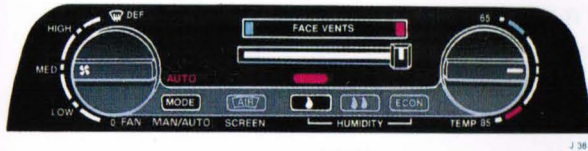
Adjust the following to the desired comfort levels:

CONTROL

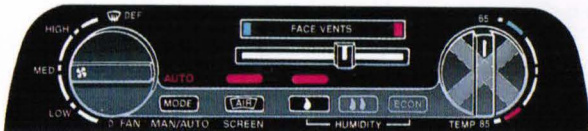
FUNCTION

POSITION

Left Hand Rotary Control.	Blower Fans.	Medium (MED).
Right Hand Rotary Control.	Temperature.	To required comfort level.
Push Button.	Air.	If screen demisting is required – On.
Push Buttons (3).	Humidity.	One teardrop.
Slide Control.	Face Level Vents.	Adjust for comfort.



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Example 4

Vehicle in cold conditions 41° F (5° C) approximate – raining. Heating and Demisting required.

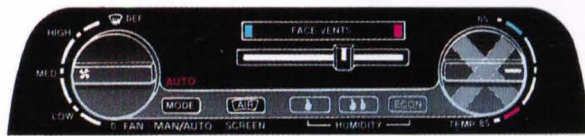
STARTING SETTINGS



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CONTROL	FUNCTION	POSITION
Left Hand Rotary Control.	Blower Fans.	Medium (MED).
Right Hand Rotary Control.	Temperature.	Midway.
Push Button.	Mode.	Auto.
Push Button.	Air.	On.
Slide Control.	Face Level Vents.	Full right.

Adjust the following to the desired comfort levels once demisting is complete.



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CONTROL	FUNCTION	POSITION
Left Hand Rotary Control.	Blower Fans.	Medium (MED).
Right Hand Rotary Control.	Temperature.	To required comfort level.
Push Button.	Air.	Off.
Slide Control.	Face Level Vents.	Adjust for comfort.

Example 5

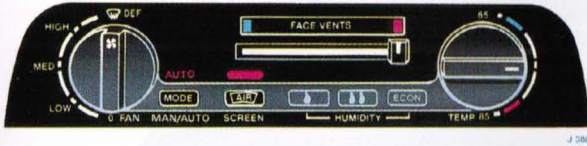
Vehicle in cold dry condition 23° F (-5° C) and below. Defrosting required.

STARTING SETTINGS

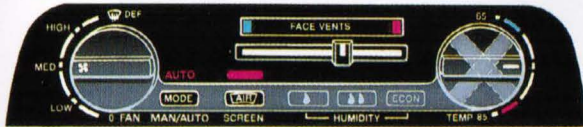
CONTROL	FUNCTION	POSITION
Left Hand Rotary Control.	Blower Fans.	Defrost.
Right Hand Rotary Control.	Temperature.	Midway.
Push Button.	Mode.	Auto.
Push Button.	Air.	On.
Push Buttons (3).	Humidity.	Off.
Slide Control.	Face Level Vents.	Full right.

Adjust the following to the desired comfort levels once defrosting is complete:

CONTROL	FUNCTION	POSITION
Left Hand Rotary Control.	Blower Fans.	Medium (MED).
Right Hand Rotary Control.	Temperature.	To required comfort level.
Push Button.	Mode.	Auto.
Push Button.	Air.	On (or Off if preferred).
Slide Control.	Face Level Vents.	Adjust for comfort.



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