








The image shows a presentation slide titled "Section 2 Topics" with a sub-header "Air Distribution". The slide is from Lexus College. It lists three topics with associated resources: "Air Flow and Outlet Modes" with a "Presentation", "Air Flow Dampers" with a "Presentation", and "Air Distribution Testing" with a "Worksheet" and a "Discussion". At the bottom, there are three icons for "Presentation/Discussion", "Classroom Activity", and "Shop Activity". The footer of the slide reads "L752 Air Conditioning and Climate Control" and "29".

Section 2 Topics

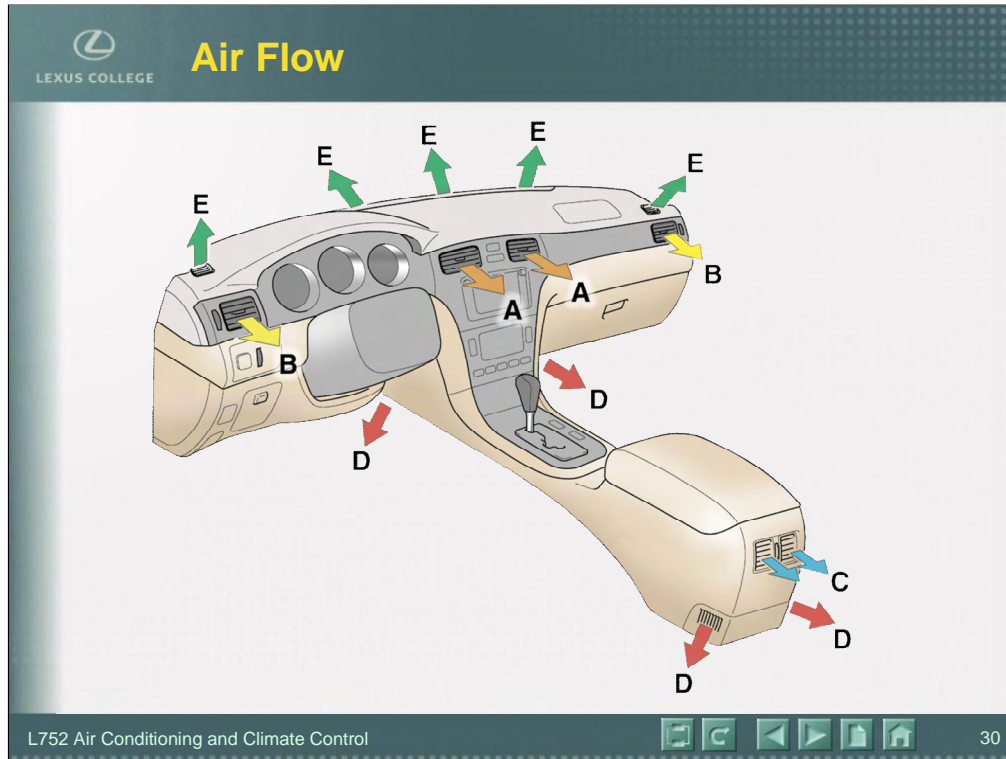
Air Distribution

- Air Flow and Outlet Modes  [Presentation](#)
- Air Flow Dampers  [Presentation](#)
- Air Distribution Testing  [Worksheet](#)  [Discussion](#)

 Presentation/Discussion  Classroom Activity  Shop Activity

L752 Air Conditioning and Climate Control 29

- Section Overview**
- Air Flow
 - Air Outlet Modes
 - Air Inlet Damper
 - Blower Motor
 - Air Mix Blend Doors
 - Max Cool Damper
 - Outlet Mode Dampers
 - Film Dampers






















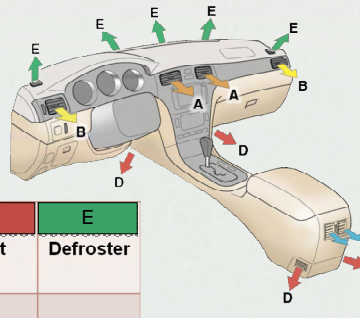
Air Flow and Outlet Modes


The way conditioned air is distributed inside the vehicle has a great effect on the passengers' perception of comfort. For this reason, a network of ducts and vents distribute air in the cabin according to driver and passenger selections.

The term "outlet modes" refers to the various combinations of vents the driver or occupant can select for delivering conditioned air.

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Air Outlet Modes

Air Outlet	A	B	C	D	E
	Center Face	Side Face	Rear Face	Foot	Defroster
FACE 					
BI-LEVEL 					
FOOT 					
FOOT/DEF 					
DEF 					



 The size of the circle indicates the proportion of airflow volume.

L752 Air Conditioning and Climate Control
31

Air Outlet Modes

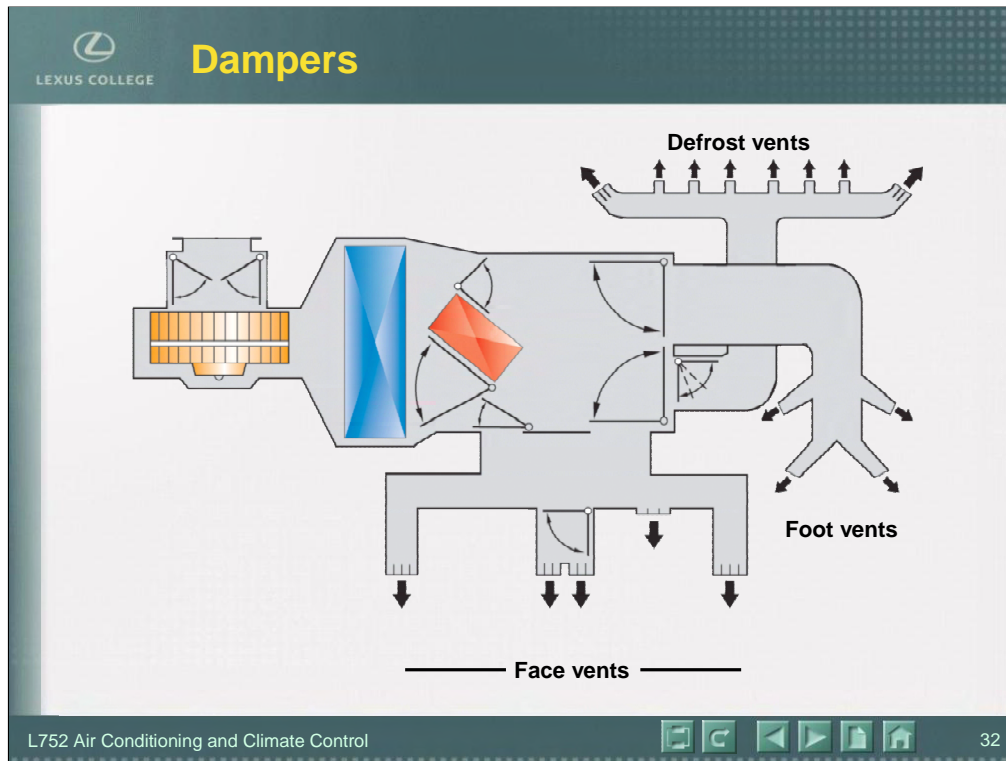
Air outlet modes enable occupants to direct air flow to the vents or combination of vents that will provide the greatest comfort. The following air outlets are standard in automotive A/C systems:

- **Face** – Dashboard ducts with adjustable directional vanes that can direct air toward the face or body
- **Foot** – Ducts exiting below the dash and directed toward the floor
- **Defrost** – Ducts on top of the dash directed toward the interior windshield

In addition, two selectable modes that provide air flow to a specific combination of vents are also fairly standard:

- **Bi-Level** – Directs air through both the face and foot vents
- **Foot/Defrost** – Directs air through the defrost and foot vents

Notice in the chart above that the Foot and Foot/Def modes automatically direct air through ducts other than the ones specifically selected.



Air Inlet Damper

In FRESH mode, the air inlet damper allows fresh air into the system. In RECIRC mode, it pulls air from inside the cabin. The A/C can switch between FRESH and RECIRC as needed to keep the cabin air clean.

Blower Motor

A multispeed blower motor moves the incoming air through the evaporator.

Air Mix Temp.

Control

The air mix blend doors combine cold air from the evaporator with hot air from the heater core to achieve the selected temperature.

MAX Cool

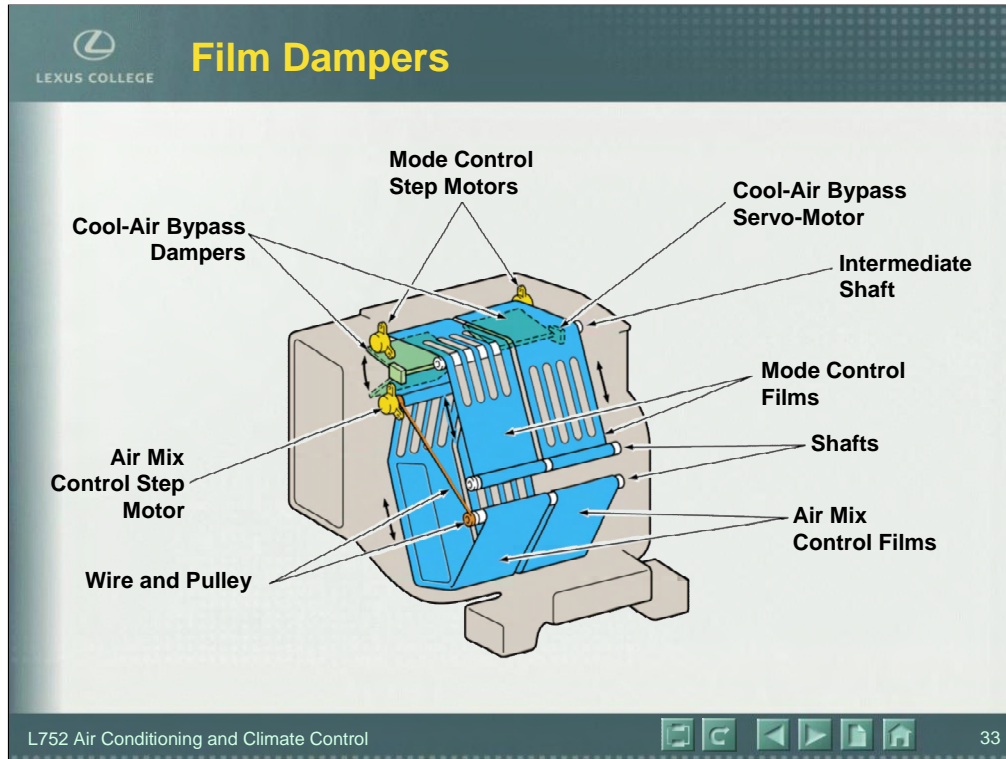
Damper

MAX Cool opens an additional air flow passage that increases air volume through the evaporator. It may also set the air inlet door position to RECIRC to take advantage of the pre-cooled and dehumidified interior air, and close the heater control valve to improve cooling.

Outlet Mode

Dampers

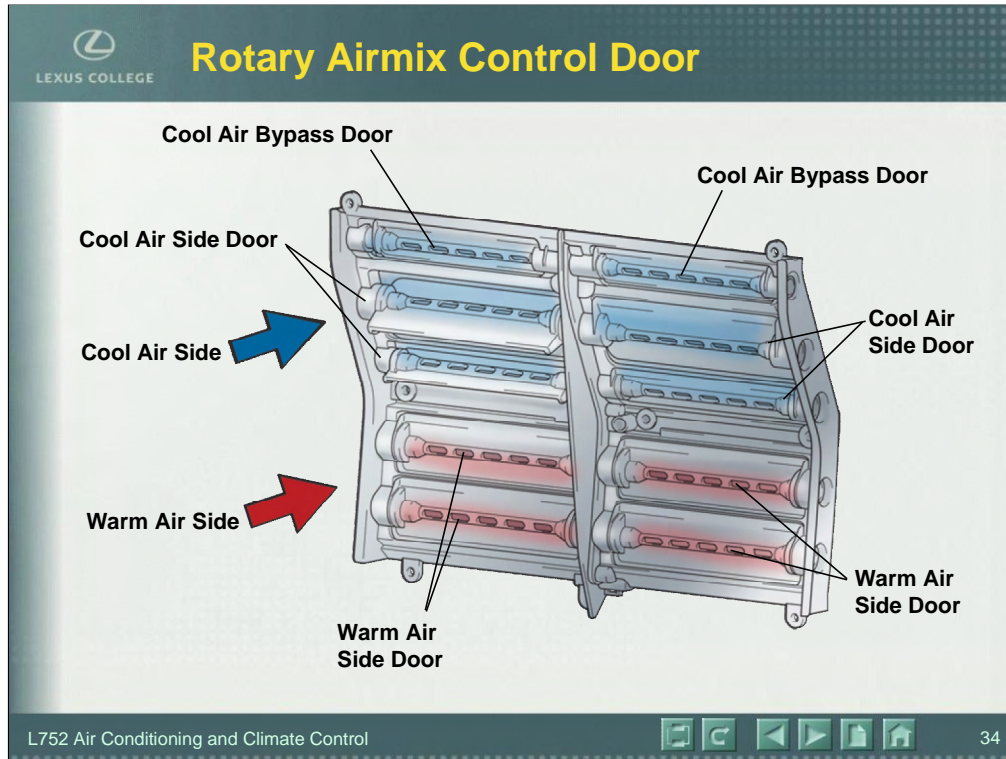
The outlet mode dampers adjust airflow to the vents to select between DEFROST, FACE, BI-LEVEL and FOOT modes.



Film Dampers


Instead of using swinging damper doors to direct airflow through the ducts, some Lexus vehicles use a film damper mechanism. This mechanism contains a thin film material with openings in it similar to a camera shutter or player piano. Servomotors roll and unroll the sheet into position so the correct openings align with the various ducts to provide the desired airflow.

Some vehicles use two film dampers: one that mixes fresh and recirculated air to regulate the air temperature, and the other to control the air distribution modes (Face, Foot, Defrost, etc.).



Rotary Airmix Control Door

Some A/C systems use a compact, light-weight rotary airmix control door.



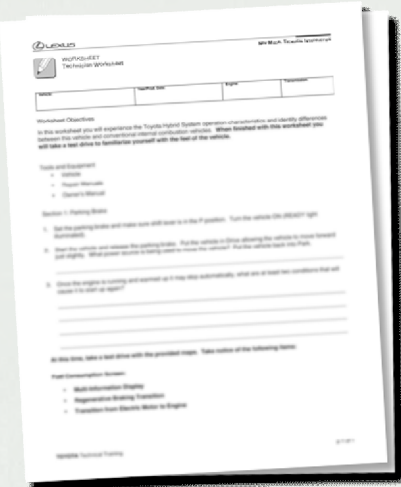
Worksheet

Air Distribution Testing

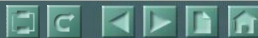
In this worksheet, you will operate and test the air conditioning system air distribution controls and replace the air filter.

Key Points

- Check air outlet mode operation
- Check blower motor operation
- Check for air leaks (integrity test)
- Perform step tests
- Remove and replace air filter



L752 Air Conditioning and Climate Control



35

Use this space to write down any questions you may have for your instructor.

NOTES: