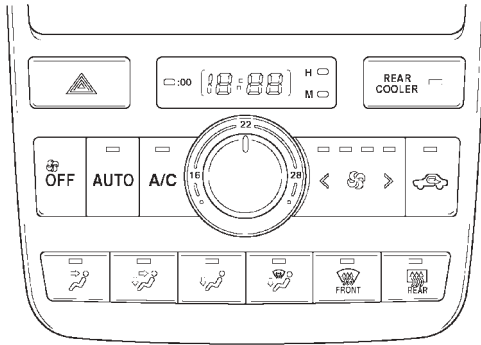


## 4. Construction and Operation

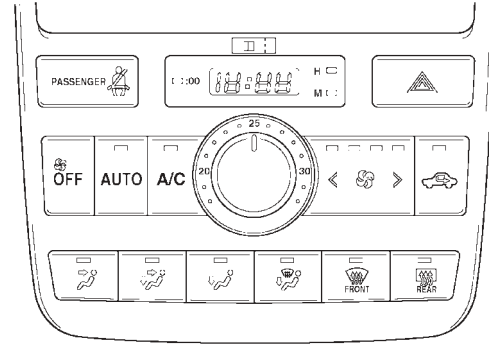
### Heater Control Panel

In accordance with the adoption of the automatic air conditioner, the heater control panel has been changed.



Model for Europe

258AS08

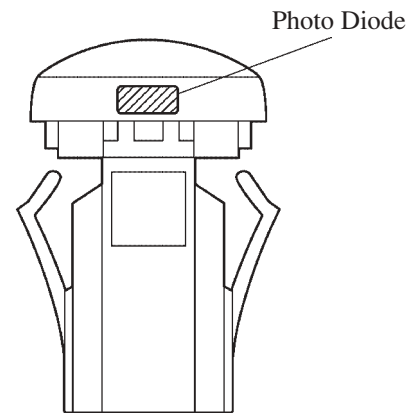


Models for Europe and General Countries

258AS07

### Solar Sensor

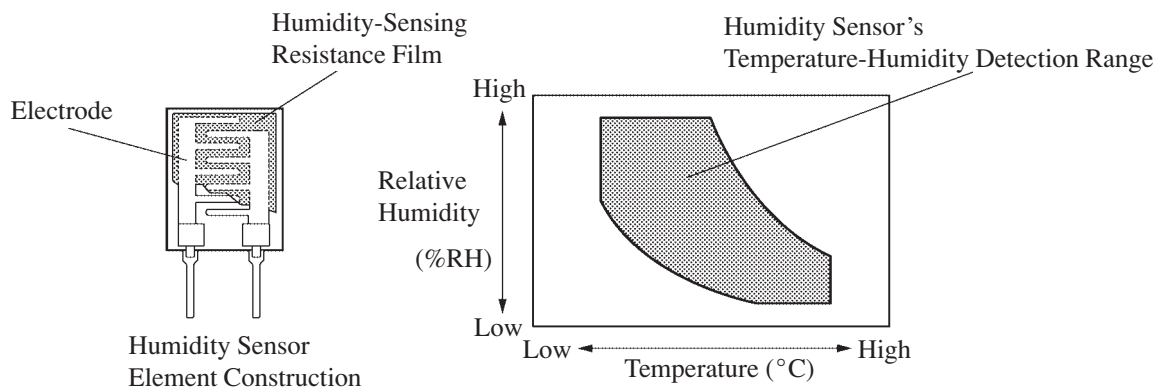
- This sensor detects the changing of the amount of solar as a changing of voltage supplied in the built-in photo diode.
- This sensor is located in the driver side above the instrument panel.



258AS57

### Temperature-Humidity Integrated Sensor (only on models for Australia)

- This sensor has a built-in thermister to sense the vehicle interior temperature and output it to the A/C ECU.
- It also contains a humidity-sensing resistance film that absorbs and releases the humidity in the vehicle interior. During the absorption and releasing processes, the humidity-sensing resistance film expands (while absorbing humidity) and contracts (while drying). The clearance between the carbon particles in the humidity-sensing resistance film expands and contracts during absorption and drying, thus changing the resistance between the electrodes. The humidity sensor senses the change in the resistance within the sensor's temperature-humidity detection range, and outputs it to the A/C ECU.



258AS13

## Compressor

### 1) General

This compressor is continuously variable capacity type (6SEU16) in which its capacity varies in accordance with the cooling load of the air conditioner.

- A solenoid control valve that adjusts the suction pressure so that the suction pressure can be controlled as desired is provided.
- A/C pulley has been adopted the plastic DL (Damper Limiter) type.

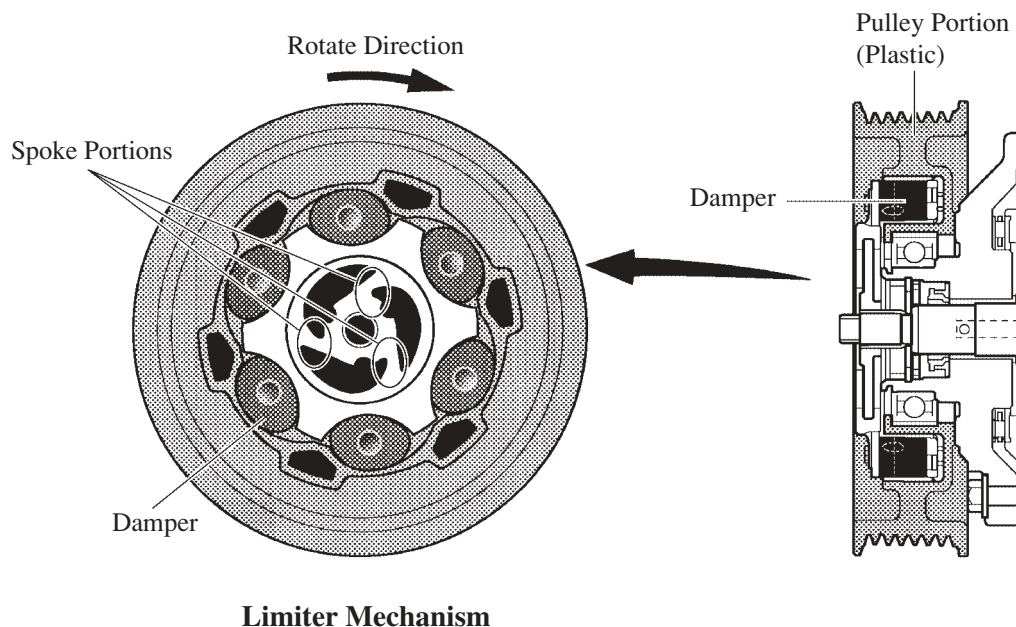
#### Service Tip

The compressor cannot be disassembled, so it must be replaced as an assembly.

### 2) Construction and Operation

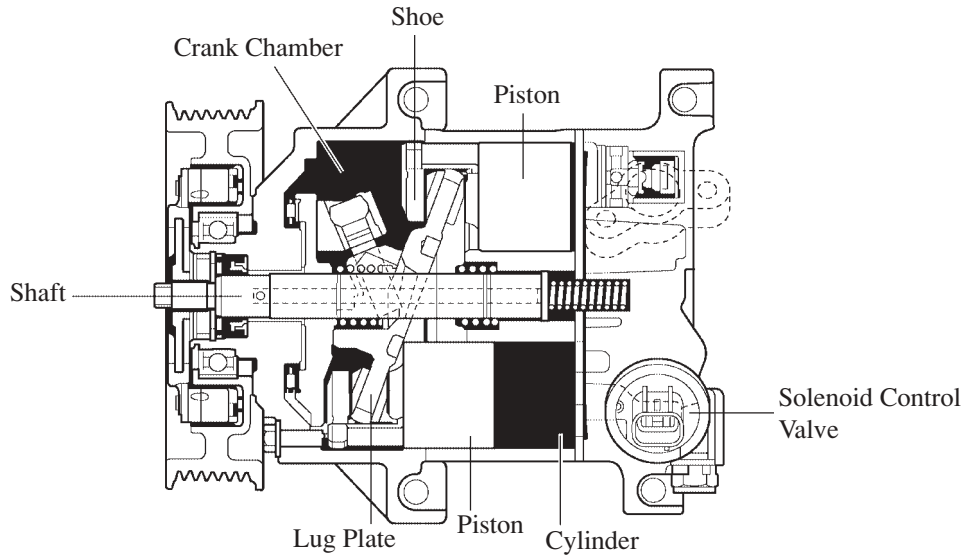
#### a. Plastic DL Type A/C Pulley

This pulley contains a damper to absorb the torque fluctuations of the engine and a limiter mechanism to protect the drive belt in case the compressor locks. In the event that the compressor locks, the limiter mechanism causes the spoke portion of the pulley to break, thus separating the pulley from the compressor. To reduce weight, the pulley portion is made of plastic.



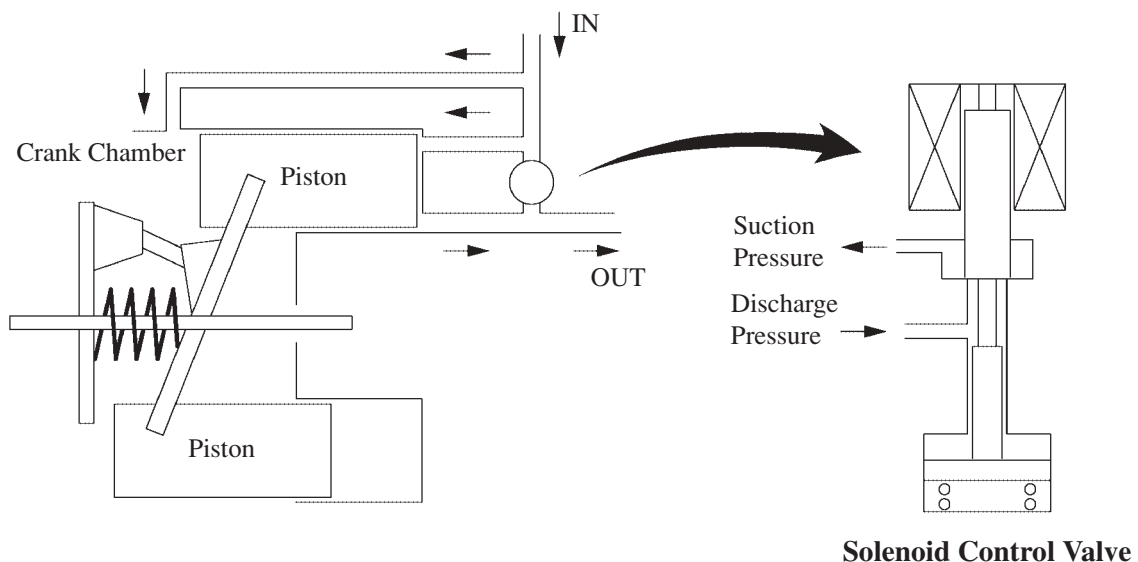
## b. Compressor

- This compressor consists of the shaft, lug plate, piston, shoe, crank chamber, cylinder, and solenoid control valve. When the shaft rotates, this movement is transmitted via the lug plate that is connected to the shaft to rotate the swash plate. This rotational movement of the swash plate is transmitted via the shoe to the reciprocal movement of the piston in the cylinder, which performs the suction, compression, and discharge of the refrigerant.



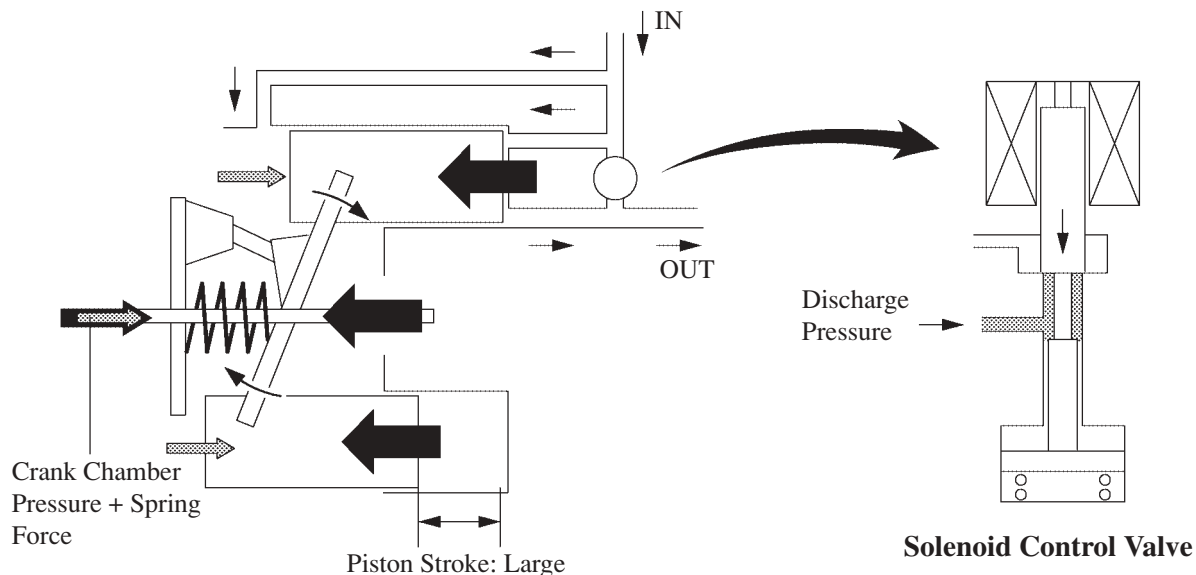
240BE93

- The crank chamber is connected to the suction passage. A solenoid control valve is provided between the suction passage (LO pressure) and the discharge passage (HI pressure). The solenoid control valve operates under duty cycle control in accordance with the signals from the A/C ECU. Duty cycle control, which changes linearly between 0 to 100%, varies the discharge capacity.



240BE94

- When the solenoid control valve closes (solenoid coil is energized), a difference in pressure is created and the pressure in the crank chamber decreases. Then, the pressure that is applied to the right side of the piston becomes greater than the pressure that is applied to the left side of the piston. This compresses the spring and tilts the lug plate. As a result, the piston stroke increases and the discharge capacity increases.



- When the solenoid control valve opens (solenoid coil is not energized), the difference in pressure disappears. Then, the pressure that is applied to the left side of the piston becomes the same as the pressure that is applied to the right side of the piston. Thus, the spring elongates and eliminates the tilt of the lug plate. As a result, there is no piston stroke and the discharge capacity turns to 0.

