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October 7,2013

CERTIFICATE OF TRANSLATION

TO WHOM IT MAY CONCERN;

We, SunFlare, hereby certify that we translated the document below from Japanese into English.

The translations are accurate and complete translations of relevant portions of the original document.

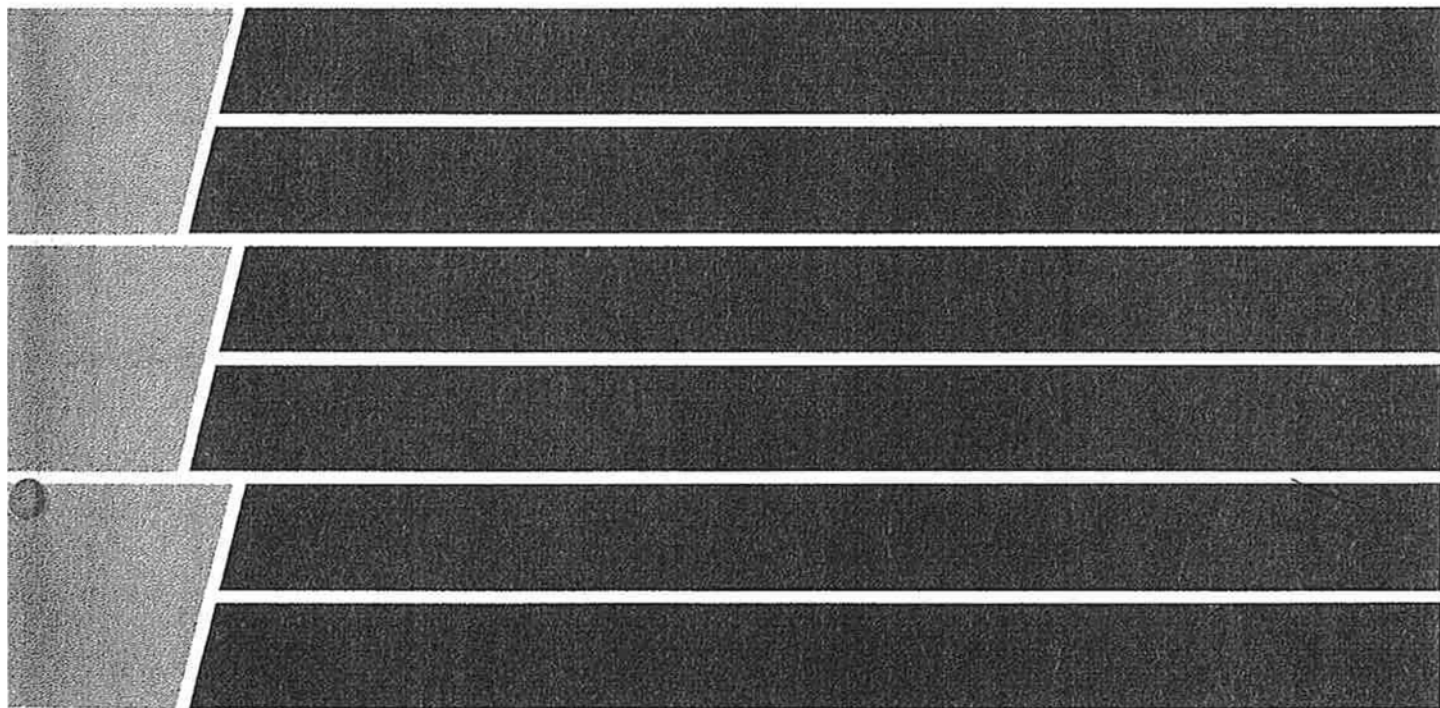Translated Material: "Mitsubishi DIAMANTE Structure and Maintenance of Preview Distance Control"
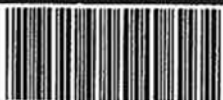
SunFlare CO., LTD.

Hiroyuki SASAI

President

MITSUBISHI
DIAMANTE

プレビューディスタンスコントロールの
構造と整備

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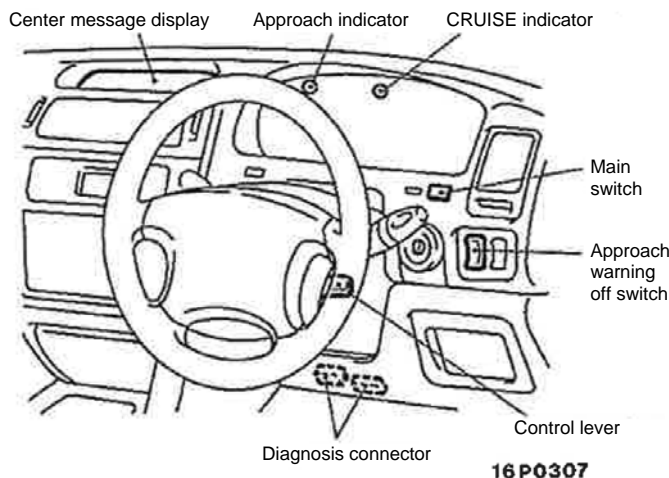No.1038P31

Preview distance control

Overview

Preview distance control is the first system in the world capable of detecting and judging the vehicle ahead and the condition of the driving lane as well as properly controlling the throttle and applying the engine brakes in place of the driver, thereby allowing you to maintain an appropriate distance between your vehicle and the vehicle ahead (vehicle-to-vehicle distance).   The laser radar emits narrow laser beams to scan side-to-side and detect the distances to multiple vehicles as well as their running directions.   In addition, based on the fact that a white line on a road is brighter than the road itself, the system processes images captured by the camera on the computer to detect the driving lane.

The preview distance control ECU controls vehicle-to-vehicle distance to maintain an appropriate distance based on your vehicle speed in addition to the detected vehicle-to-vehicle distance.   Therefore, it controls vehicle speed with the throttle actuator and reduces speed by downshifting the A/T.   If the vehicle ahead decelerates abruptly, the system issues a warning (turns on or flashes the warning lamp and beeps a warning) to alert you.
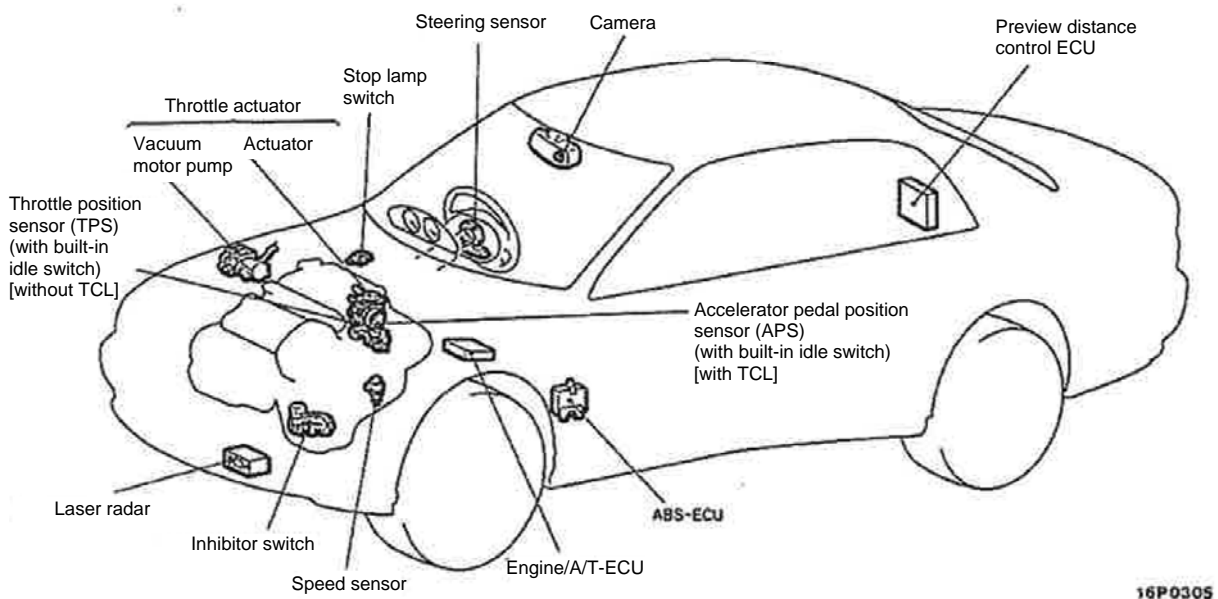
Note
• Even when not using preview distance control, unless the "approach warning off" switch has been turned off, the distance warning (approach warning system) functions.
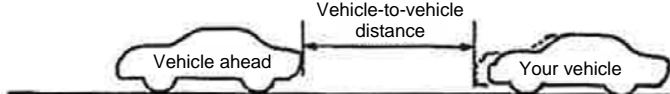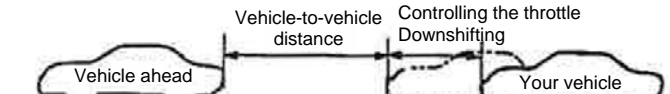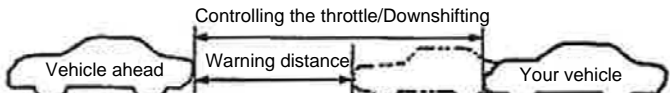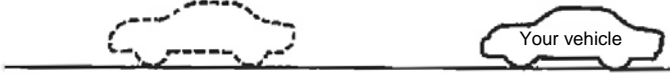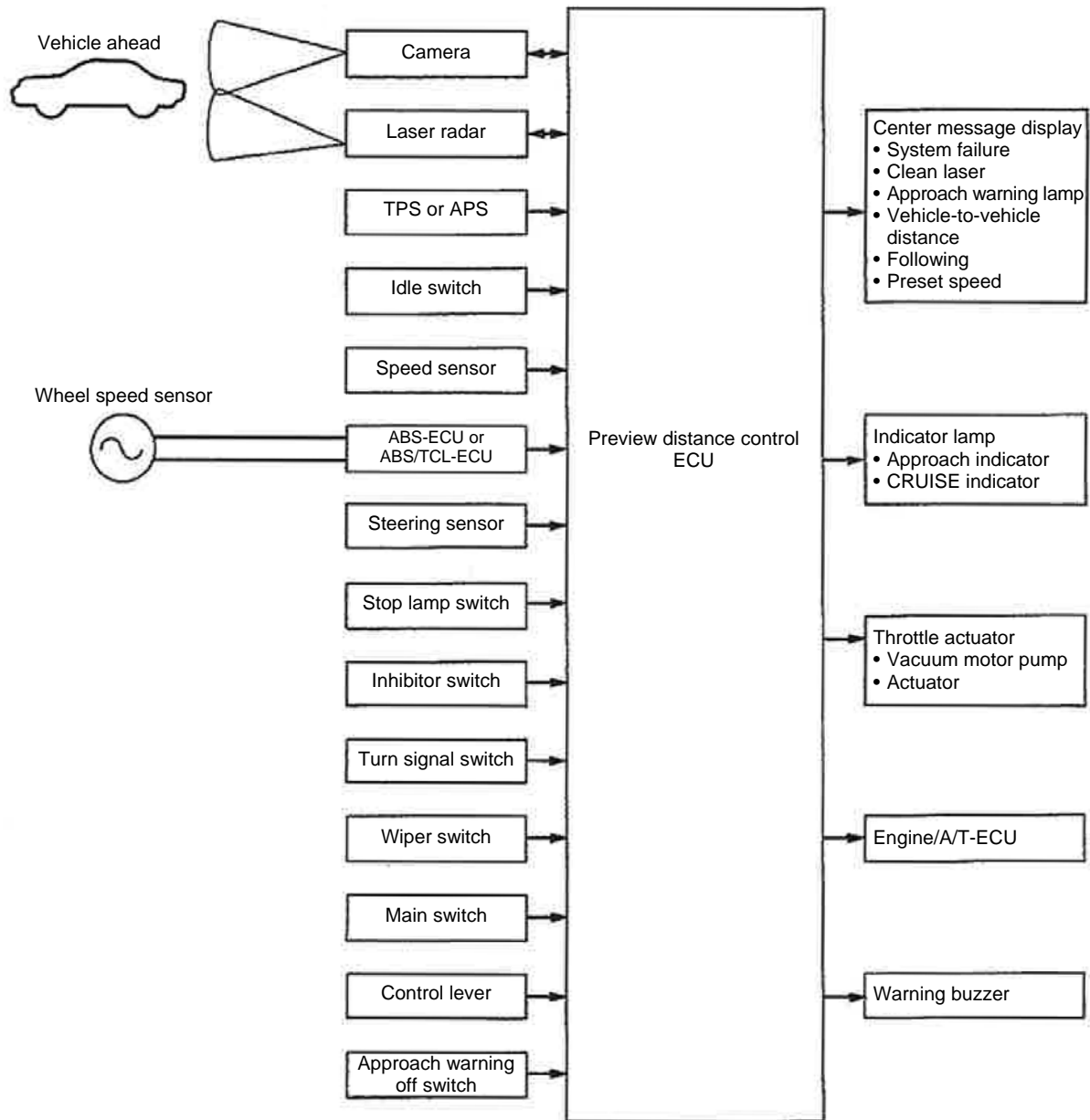
○ Diagram

16P0307

Note
(1) The main switch is also used as the main switch for cruise control.
(2) The control lever is also used as the control lever for cruise control.

16P0305

○ System operations under various driving conditions

	Driving condition	System operation
1	No vehicle ahead	• The system maintains the speed preset by the driver. Your vehicle 16P0343
2	When approaching a vehicle at a low relative speed	• The system controls the throttle to decelerate and adjusts the vehicle-to-vehicle distance. Vehicle-to-vehicle distance Vehicle ahead — Your vehicle 16P0344
3	When approaching a vehicle at a somewhat high relative speed	• The system controls the throttle and downshifts to decelerate as well as adjusts the vehicle-to-vehicle distance. Vehicle-to-vehicle distance — Controlling the throttle / Downshifting Vehicle ahead — Your vehicle 16P0345
4	When approaching a vehicle at a high relative speed	• The system controls the throttle and downshifts to decelerate as well as issues a warning to urge you to depress the brake. Controlling the throttle/Downshifting Vehicle ahead — Warning distance — Your vehicle 16P0346
5	When the vehicle ahead leaves the lane	• The system gradually accelerates the vehicle to the preset speed and starts cruising. The vehicle ahead has left — Your vehicle 16P0347
6	When the vehicle ahead accelerates	• The system accelerates the vehicle to the preset speed to follow the vehicle ahead and then starts cruising at the preset speed. Accelerating — Following Vehicle ahead — Your vehicle 16P0348
7	When you depress the brake	• Vehicle-to-vehicle distance control is canceled (identical to cruise control). Your vehicle 16P0343

○ System schematic diagram

Vehicle ahead

Input	ECU	Output
Camera ⟷		
Laser radar ⟷		Center message display • System failure • Clean laser • Approach warning lamp • Vehicle-to-vehicle distance • Following • Preset speed
TPS or APS →		
Idle switch →		
Speed sensor →		
ABS-ECU or ABS/TCL-ECU →	Preview distance control ECU	Indicator lamp • Approach indicator • CRUISE indicator
Steering sensor →		
Stop lamp switch →		
Inhibitor switch →		Throttle actuator • Vacuum motor pump • Actuator
Turn signal switch →		
Wiper switch →		Engine/A/T-ECU
Main switch →		
Control lever →		Warning buzzer
Approach warning off switch →		

Wheel speed sensor

16P0349

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