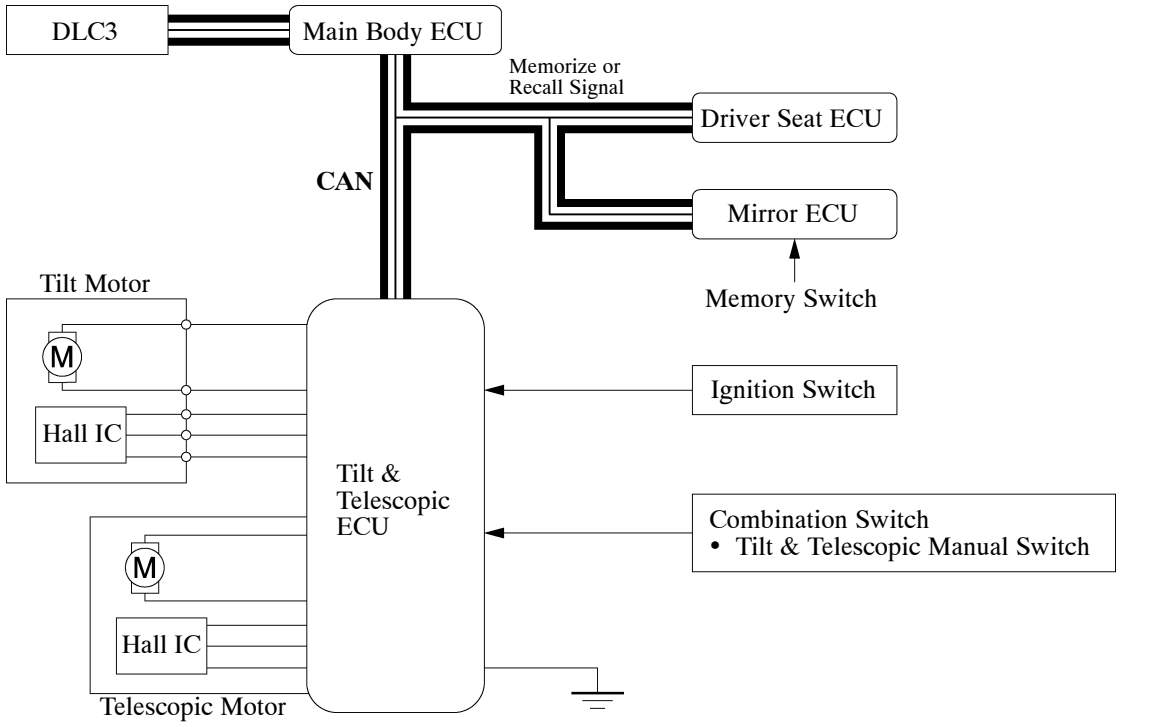
■POWER TILT AND POWER TELESCOPIC SYSTEM

1. General

The power tilt and power telescopic system consists of the Tilt & Telescopic ECU, tilt and telescopic manual switch, tilt motor, and telescopic motor.

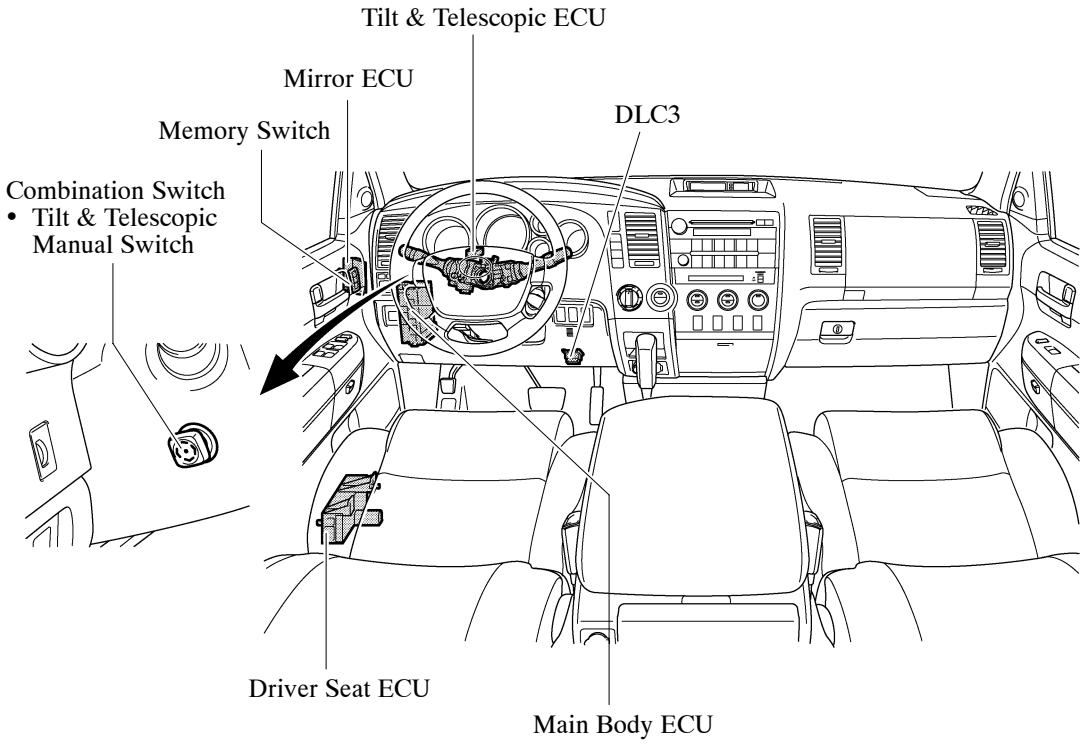
- The Tilt & Telescopic ECU controls this system.

▶ System Diagram ◀



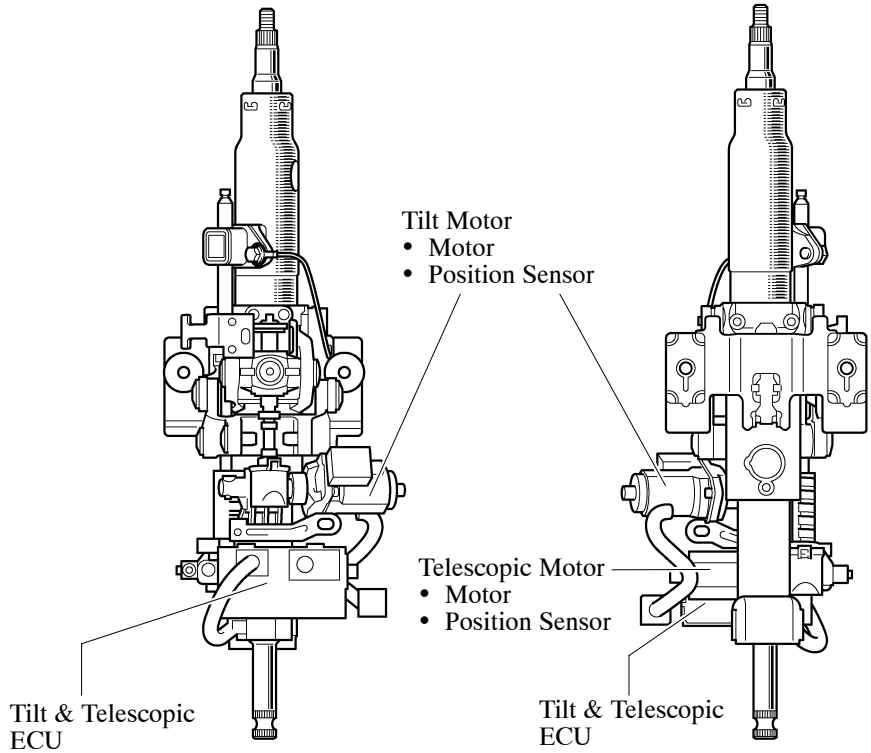
04E0CH25C

2. Layout of Main Components



04E0CH26C

▶ Steering Column Assembly ◀



04E0CH27Z

3. System Control

General

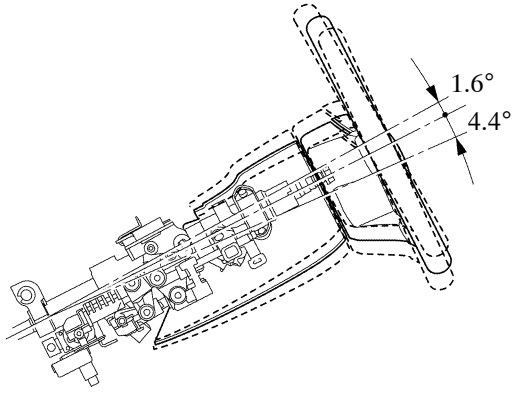
This system has the following control functions, thus providing excellent ease of operation and entry/exit.

Control		Outline
Manual		The tilt and telescopic positions can be adjusted using the tilt and telescopic manual switch.
Automatic*	Auto Away	The steering wheel automatically tilts up and retracts all the way when the ignition switch is changed from ACC or IG-ON to OFF.
	Auto Return	When the ignition switch is changed from OFF to ACC or IG-ON, the steering wheel automatically returns to the previous position which was set before the ignition switch was turned off.
Memory (See page BE-178)		Two steering wheel positions can be memorized, allowing different positions to be restored by the memory system.
Fail-Safe		When the Tilt & Telescopic ECU detects a malfunction in the power tilt and telescopic system, the ECU switches to a fail-safe mode.
Diagnosis		When the Tilt & Telescopic ECU detects a malfunction in the power tilt and telescopic system, the ECU stores the malfunction data in memory.

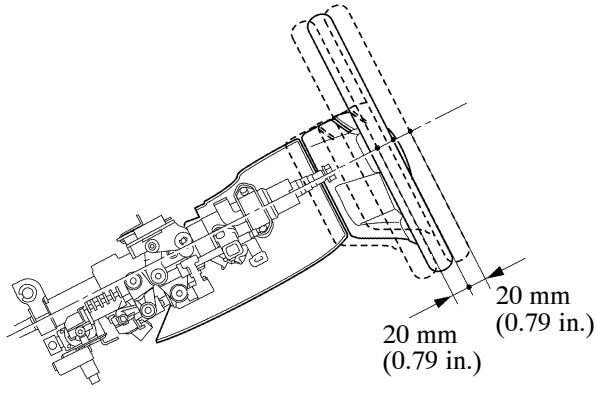
*: Customization settings can be changed.

Manual Control

A stepless tilt adjustment allows the steering wheel to be tilted 6° vertically, and the telescopic mechanism allows it to be moved in and out 40 mm (1.58 in.).



Tilt



Telescopic

04E0CH28Z

Fail-Safe

When the Tilt & Telescopic ECU detects a malfunction in the power tilt and telescopic system, the ECU changes the control mode to a fail-safe mode as follows:

Detection Item	Fail-safe
Tilt Position Sensor or Tilt Motor Circuit Malfunction	Tilt operation is suspended.
Telescopic Position Sensor or Telescopic Motor Circuit Malfunction	Telescopic operation is suspended.
ECU Power Source Circuit Malfunction	Tilt and Telescopic operations are suspended.

- The table below shows operations that are possible even when there is a problem with communication among ECUs related to the Tilt & Telescopic ECU and the power tilt and telescopic system.

×: Not Possible ○: Possible

Operation	ECU or Switch for which communication is lost			
	Main Body ECU (Ignition Signal)	Driver Seat ECU	Mirror ECU	Related ECU & Switch
Manual	×*	○	○	×*
Automatic Away	×	○	○	×
Automatic Return	×*	○	○	×*
Memory	×	×	×	×
Recall	×*	×	×	×

*: When the power (Ignition Switch Signal) for the Tilt & Telescopic ECU is ON, the operation is possible. When it is OFF, the operation is not possible.

Diagnosis

If the Tilt & Telescopic ECU detects a malfunction in the power tilt and telescopic system, the ECU stores the malfunction data in memory. Then, by connecting a hand-held tester or Techstream* to the DLC3 terminal, the DTCs (Diagnostic Trouble Codes) can be accessed and an active test can be performed to test the operation of the tilt motor and the telescopic motor.
For details, see the 2007 TOYOTA TUNDRA Repair Manual (Pub. No. RM04E2U).

*: Techstream is the name for the diagnostic tester in the North America, but other countries will continue to use the hand-held tester.