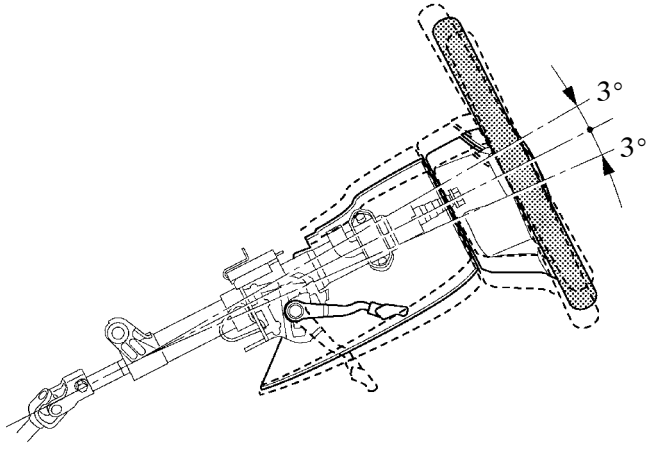
■ STEERING COLUMN

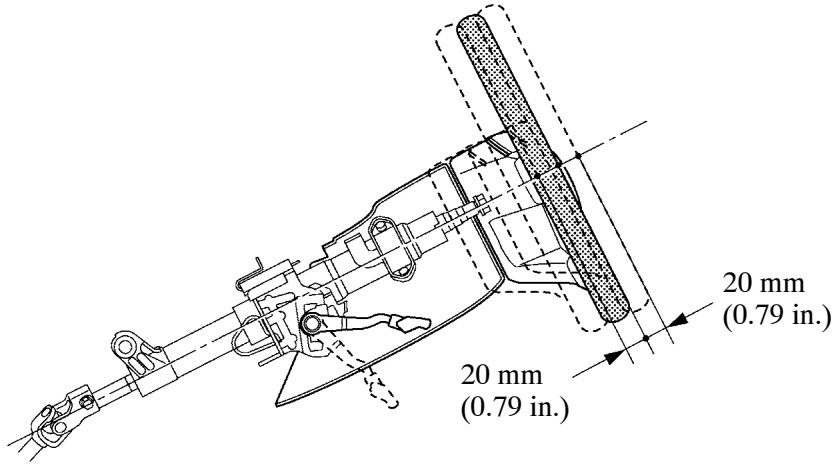
1. Manual Tilt and Telescopic Mechanism

The manual tilt and telescopic mechanism allows adjustment of the steering wheel position in the vertical and longitudinal (extending and retracting) directions through lever operation. This provides the driver with the most comfortable driving position.

- The tilt and telescopic mechanism is locked using the tilt and telescopic lever.
- The tilt adjustment range is 6°.
- The telescopic adjustment range is 40 mm (1.58 in.).



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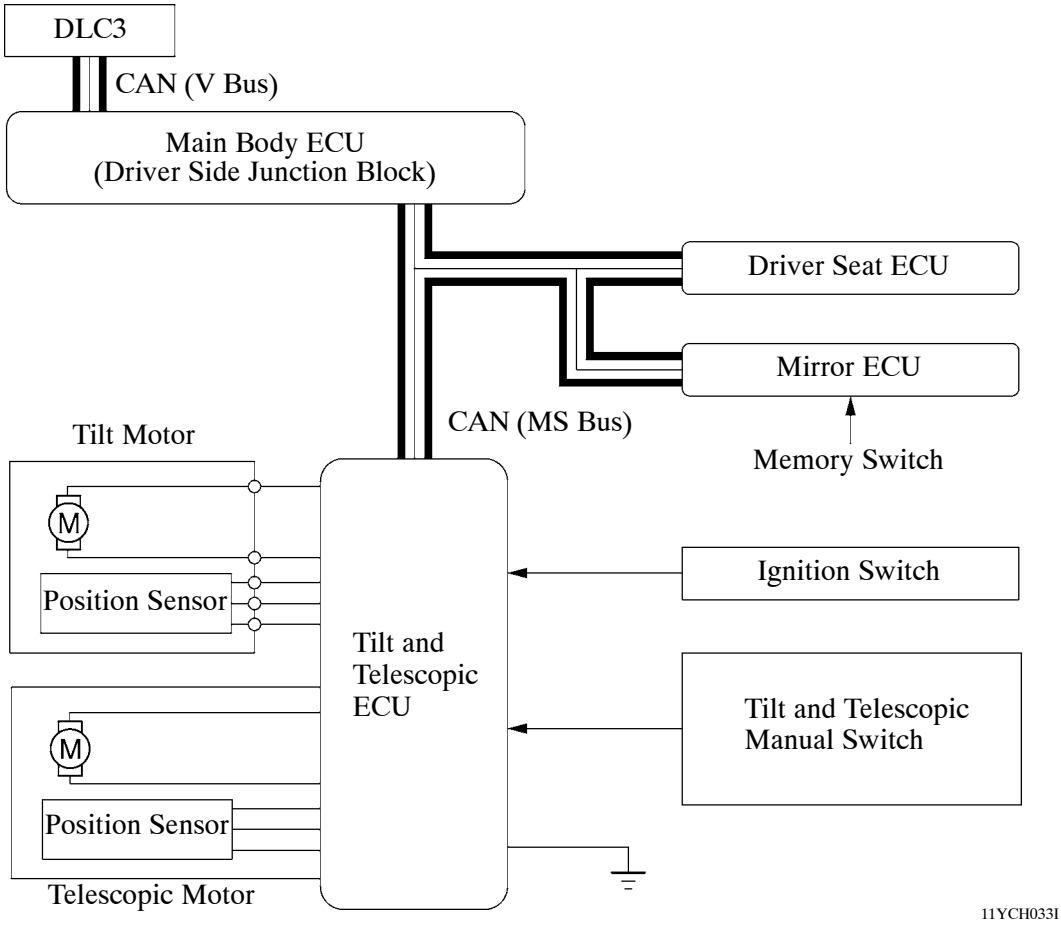
2. Power Tilt and Power Telescopic Mechanism

General

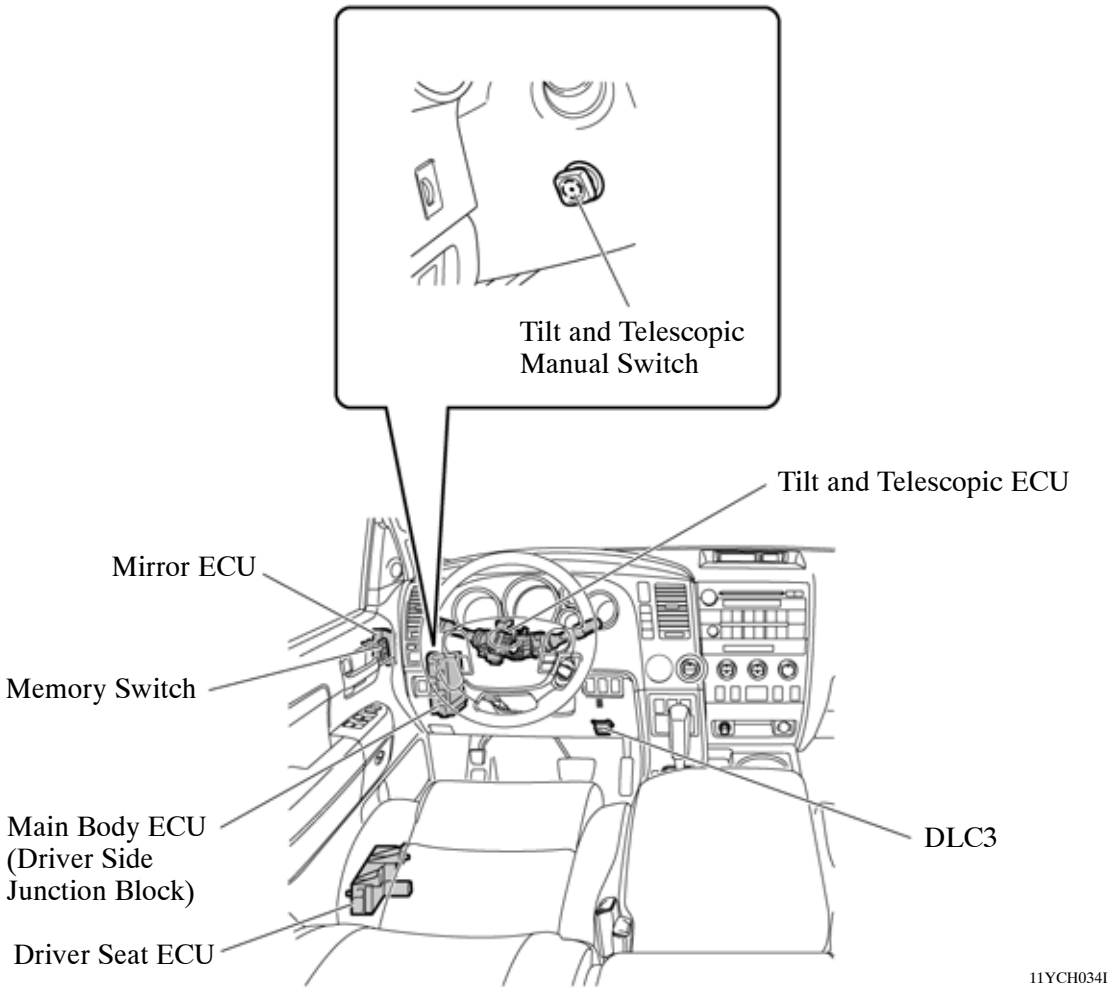
The power tilt and power telescopic system consists of the tilt and telescopic ECU, tilt and telescopic manual switch, tilt motor, and telescopic motor.

- The tilt and telescopic ECU controls this system.

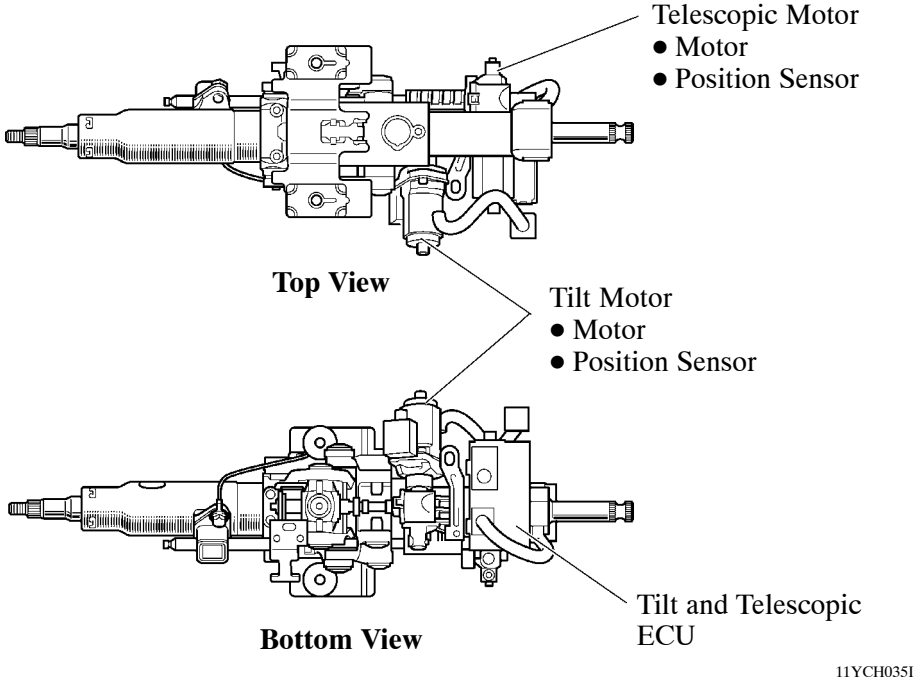
▶ System Diagram ◀



Layout of Main Components



▶ Steering Column Assembly ◀



System Control

1) General

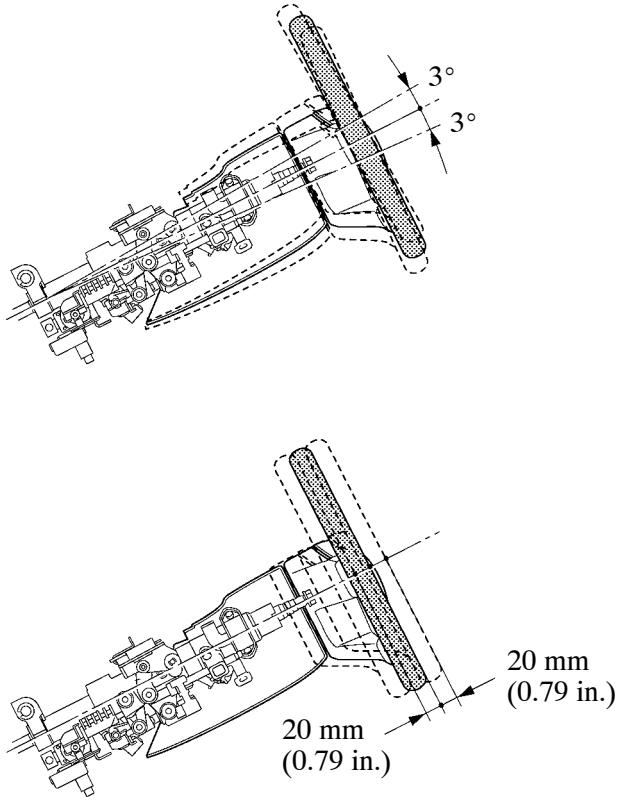
This system has the following control functions, thus providing excellent ease of operation and entry/exit.

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 ON to off.
	Auto Return	When the ignition switch is changed from off to ACC or ON, the steering wheel automatically returns to the previous position which was set before the ignition switch was turned off.
Memory		2 steering wheel positions can be memorized, allowing different positions to be restored by the memory system.
Fail-safe		When the tilt and telescopic ECU detects a malfunction in the power tilt and telescopic system, the ECU switches to a fail-safe mode.
Diagnosis		When the tilt and 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.

2) 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.).



3) Fail-safe

- When the tilt and 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	The tilt operation is suspended.
Telescopic Position Sensor or Telescopic Motor Circuit Malfunction	The telescopic operation is suspended.
ECU Power Source Circuit Malfunction	The 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 and 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 and Switch
Manual	×*	○	○	×
Automatic Away	×	○	○	×
Automatic Return	×	○	○	×
Memory	×	×	×	×
Recall	×*	×	×	×

*: When the power (ignition switch signal) for the tilt and telescopic ECU is on, the operation is possible. When it is off, the operation is not possible.

4) Diagnosis

If the tilt and telescopic ECU detects a malfunction in the power tilt and telescopic system, the ECU stores the malfunction data in memory. Then, by connecting an intelligent tester II to the DLC3 terminal, the Diagnostic Trouble Code (DTC) can be accessed and an active test can be performed to test the operation of the tilt motor and the telescopic motor.
For details, refer to the SEQUOIA Repair Manual (Pub. No. RM11Y0E).