



## ■ DOOR LOCK CONTROL SYSTEM

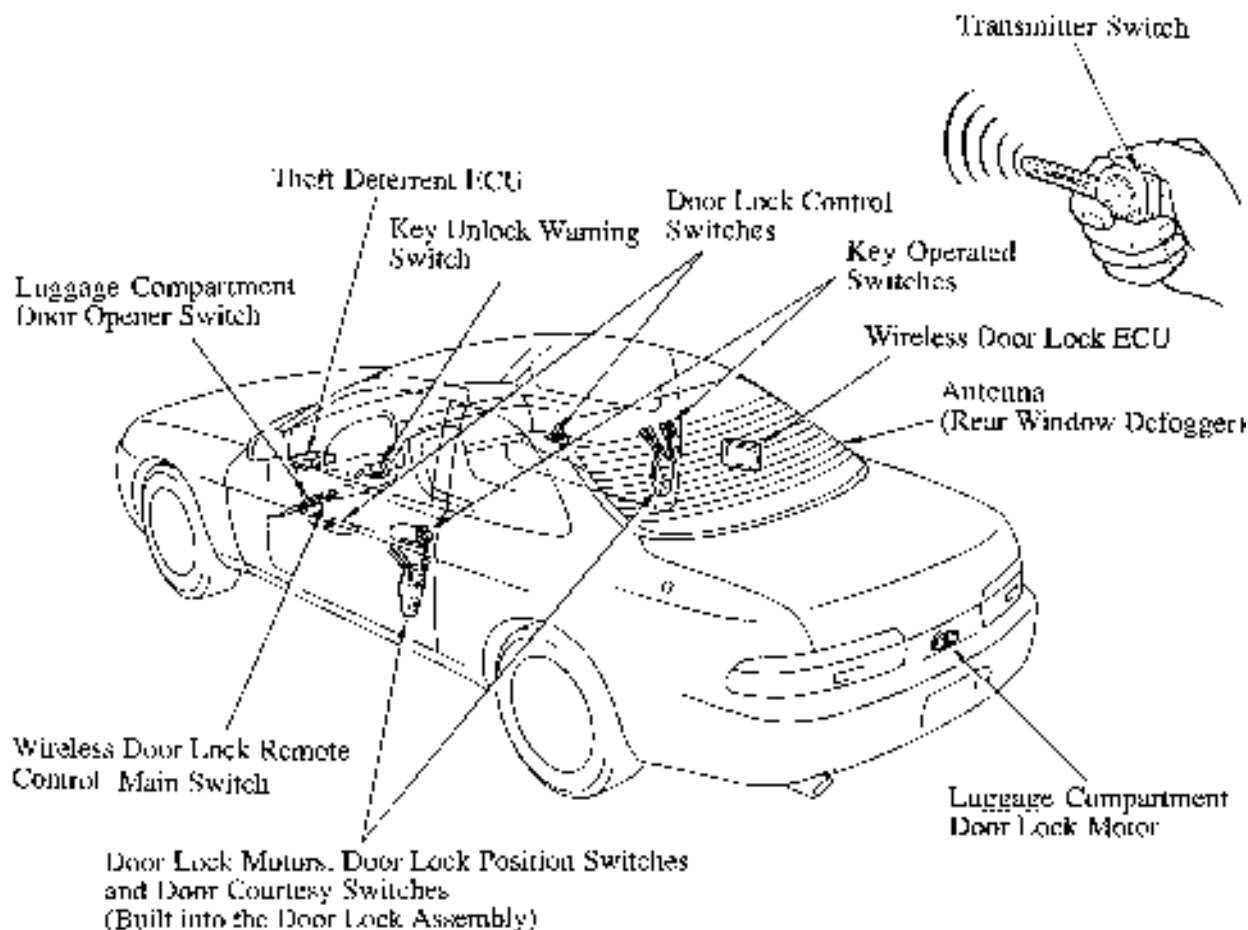
### 1. Description

The door lock control system is controlled by the theft deterrent ECU as in the LS400. This system includes the following functions which are the same as in the LS400.

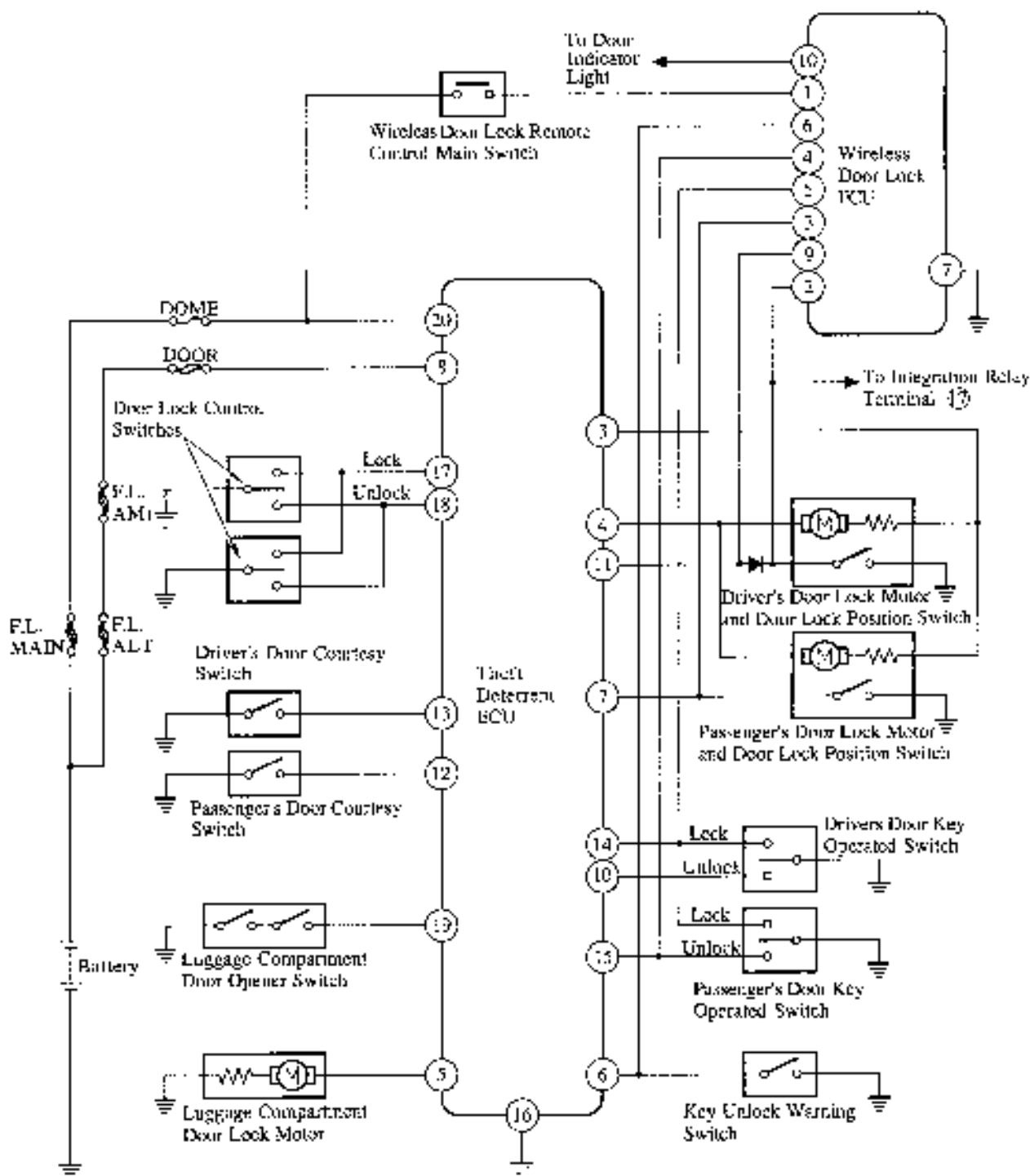
Function	Details
Door Lock Control Switch Function	Lock and unlock by operating the door lock control switches.
Key-Linked Lock and Unlock Function	Lock and unlock linked with the door key cylinder operation. When the driver's door key cylinder is operated, it is necessary to turn the key two times in succession in order to unlock the passenger's door.
Key-Confine Prevention Function	While the ignition key is inserted in the ignition key cylinder, and the driver's or passenger's door is open, all doors are kept automatically unlocked.
Wireless Remote Control Function	Locking and unlocking is accomplished by operation of the transmitter switch built into the master key.
Luggage Compartment Door Open Function	The luggage compartment door is opened by operation of the luggage compartment door opener switch.

The basic construction and operation of this system are the same as in the LS400. For details, see NCF054U, page 332 (Door Lock Control System) and page 345 (Wireless Door Lock Remote Control System).

### 2. Layout of Components



## 3. Wiring Diagram



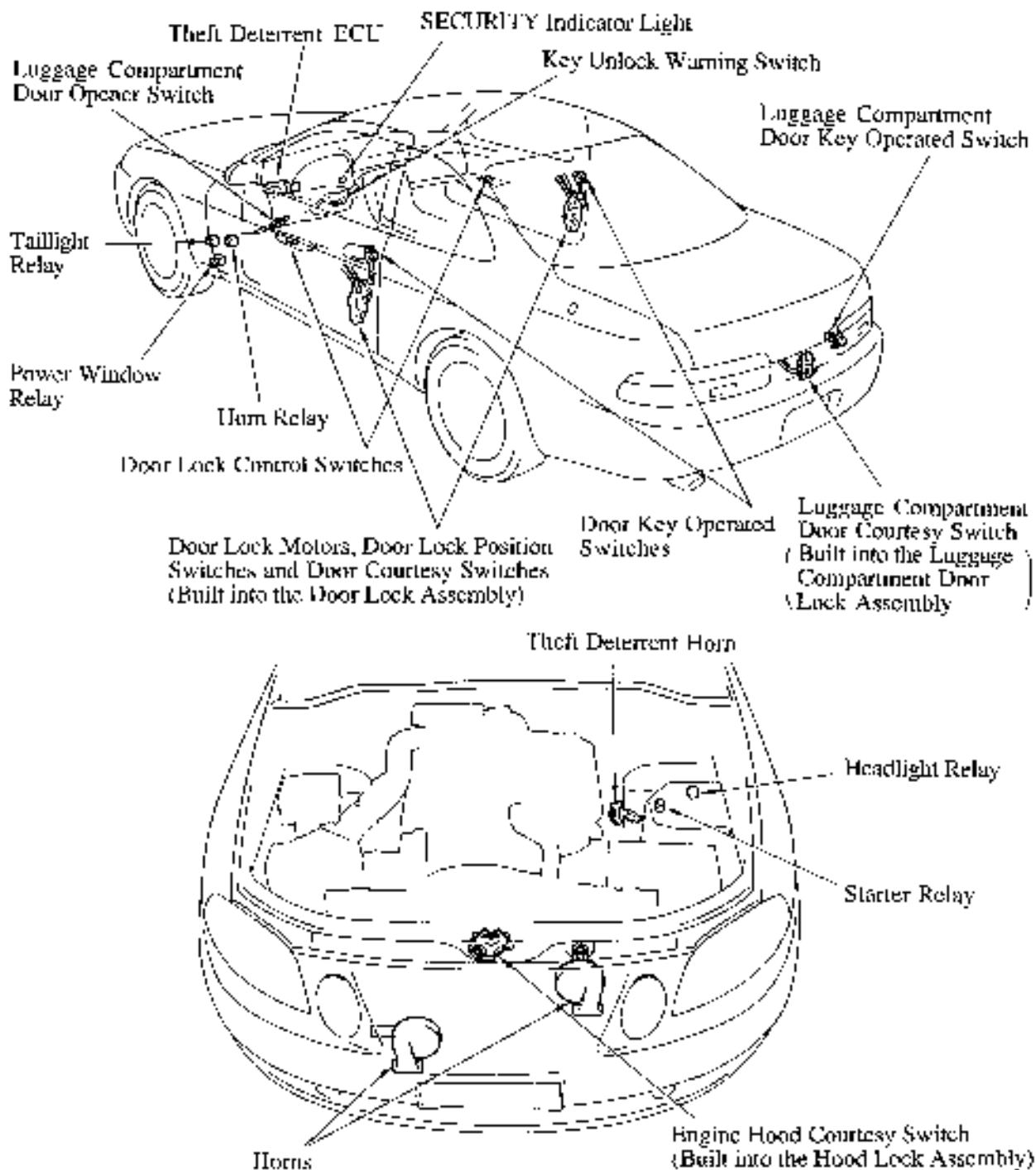
## THEFT DETERRENT SYSTEM

### 1. Description

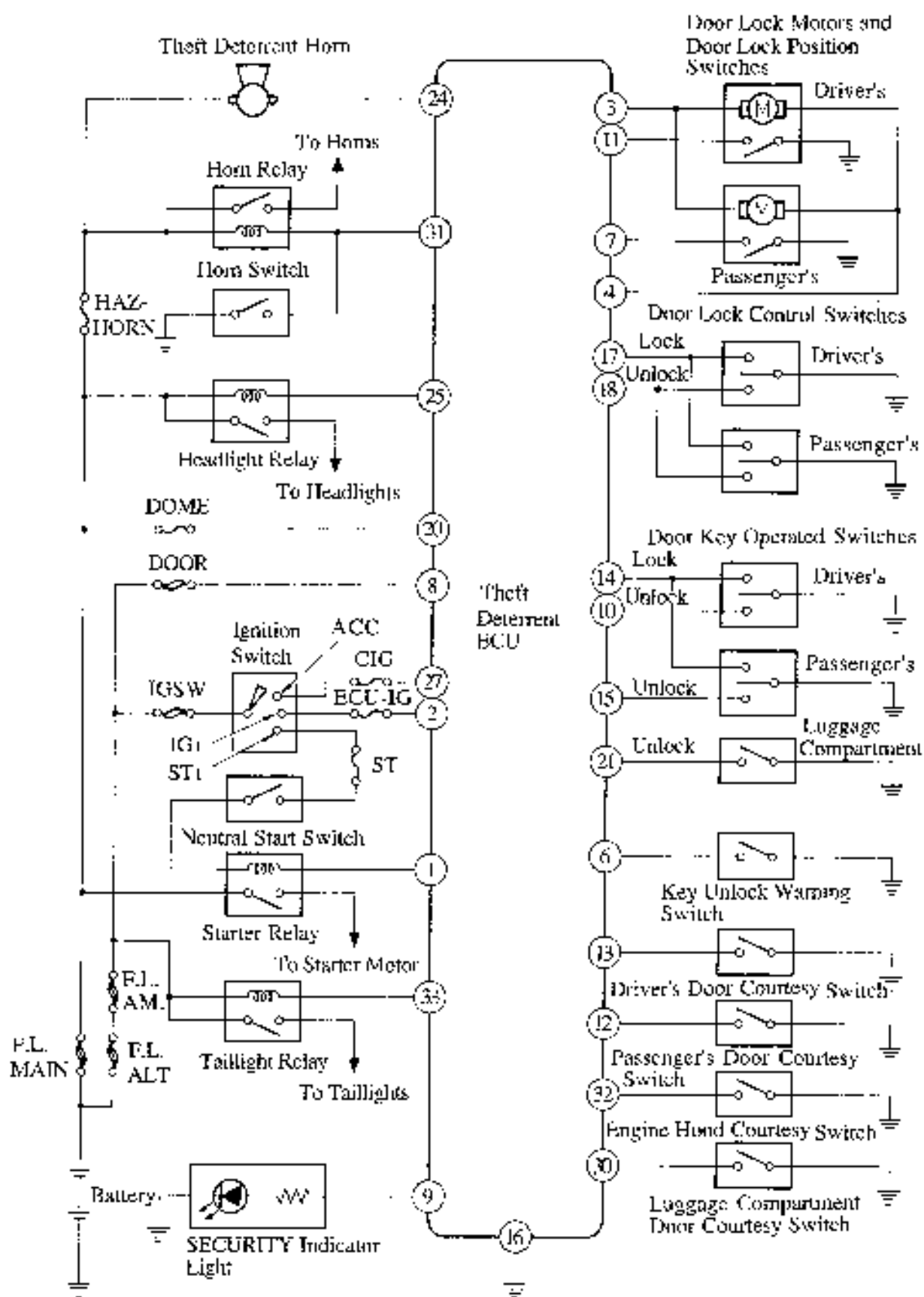
As in the LS400, when an attempt is made to forcibly enter the vehicle or open the engine hood or luggage compartment door without a key, or when the battery terminals are removed and reconnected, this system sounds the horn and flashes the headlights and taillights for about one minute to alert the owner. At the same time, it locks all the doors and electrically disconnects the starter.

For details of system operation, see NCF054U, page 341.

### 2. Layout of Components



## 3. Wiring Diagram



## ■ POWER SEAT

### 1. Description

The front seats are power assisted by electric motors. The seat positions can be adjusted easily by simple switch operation.

Driver's seat adjustment functions include 7 functions as in the LS400. The driving position automatic adjustment system is standard in the SC400, but the headrest height adjustment is not power assisted.

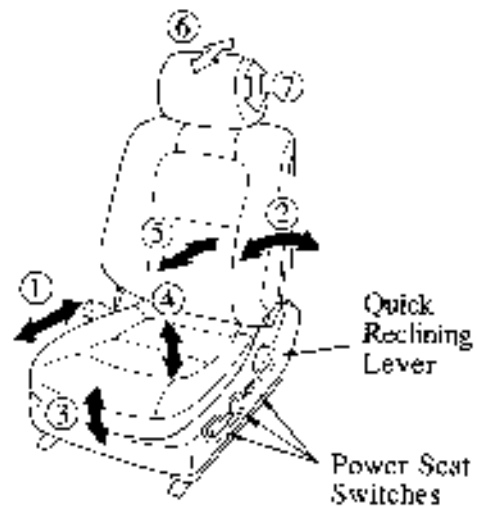
In order to make entry and exit easier for the rear passengers, a power walk-in mechanism is included for the front passenger's seat. This mechanism automatically slides the seat forward if the quick reclining lever or release pedal is operated and the seat back is reclined to the most forward position. Then when the seat back is returned, the seat slides backward to a predetermined extent.

The driver's seat and passenger's seat are controlled by separate ECUs.

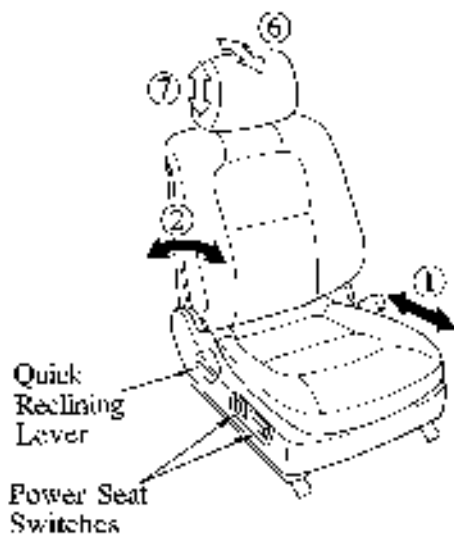
#### ►Adjustment Functions◀

Seat		D	P
Functions		D	P
①	Fore-and-aft sliding adjustment	●	●
②	Front vertical adjustment	●	—
③	Rear vertical adjustment	●	—
④	Reclining adjustment	●	●
⑤	Lumbar support adjustment	●	—
⑥	Headrest fore-and-aft adjustment	○	○
⑦	Headrest Height adjustment	○	○

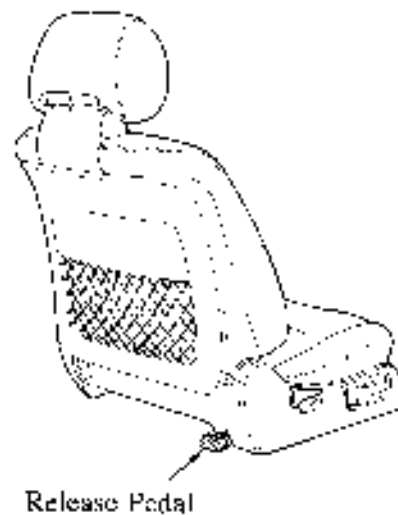
D : Driver's, P : Passenger's, ○ : Manual, ● : Power



Driver's Seat



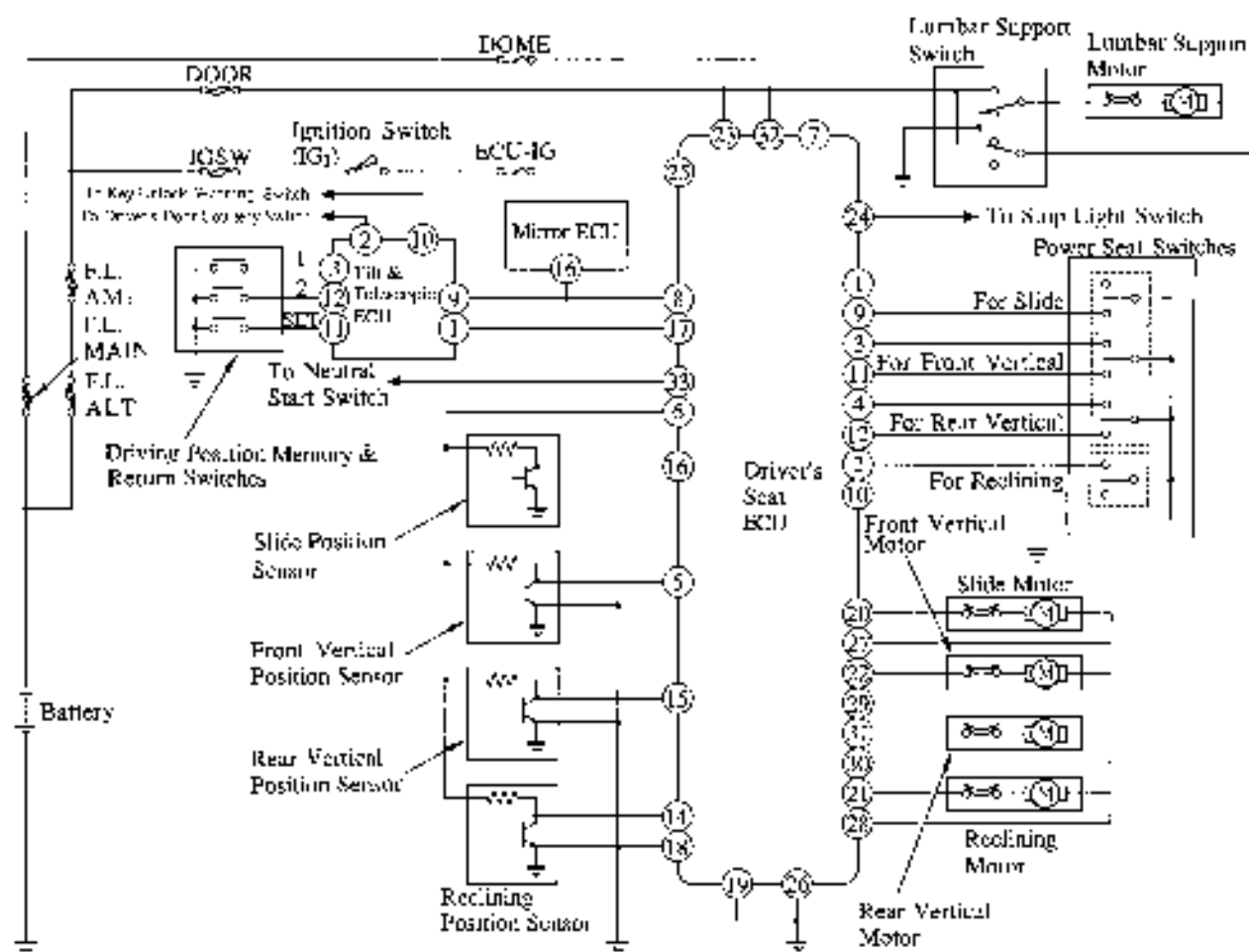
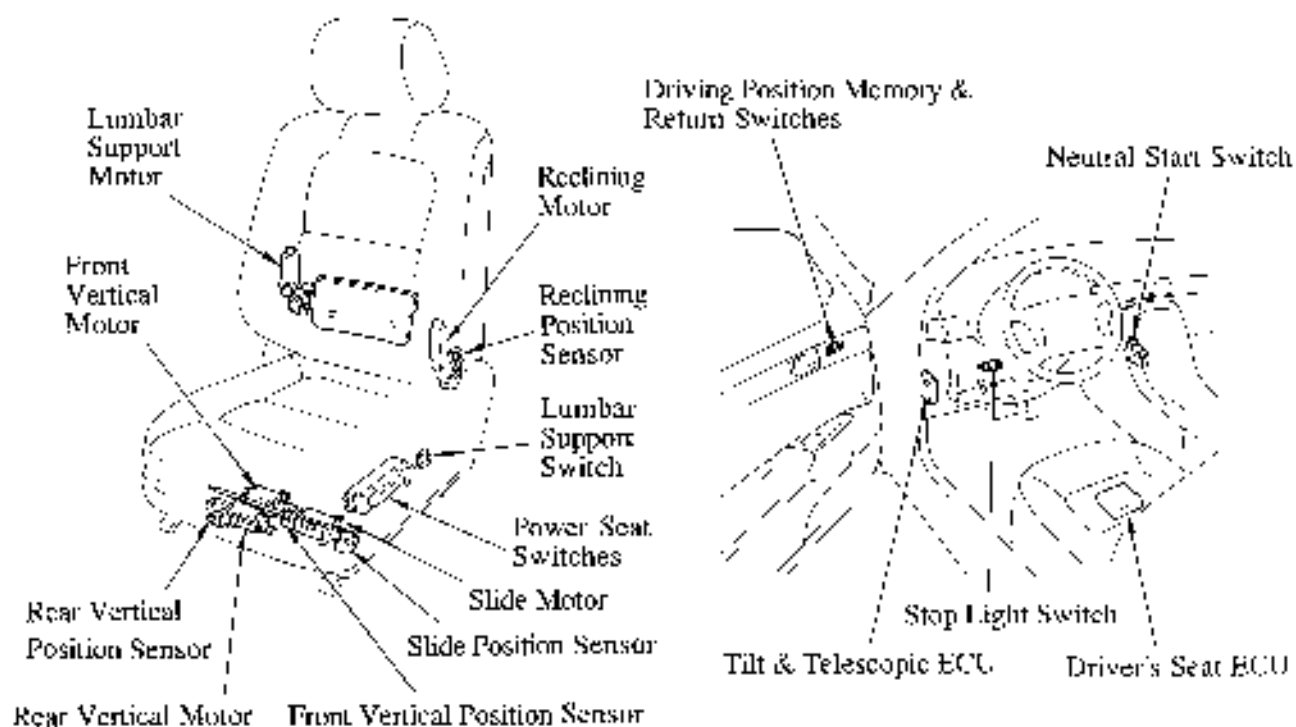
Passenger's Seat



Release Pedal

## 2. Layout of Components and Wiring Diagram

### For Driver's Seat





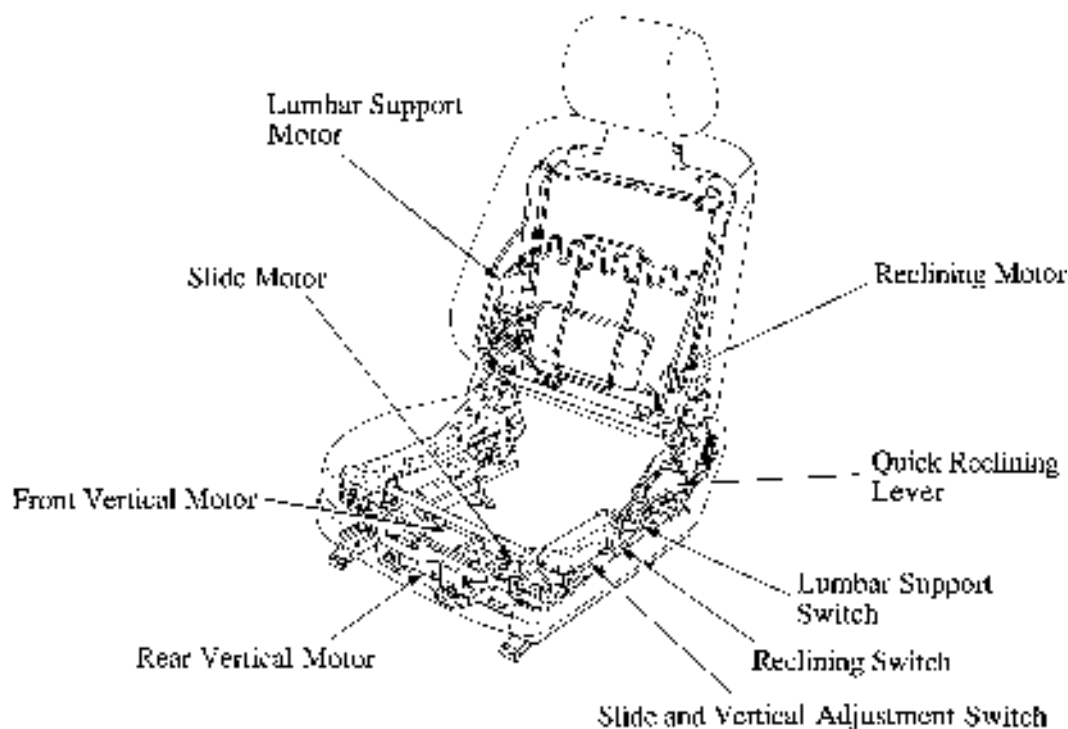


### 3. Construction and Operation

#### Driver's Seat

The basic construction of the driver's seat is the same as that of the standard seat in the LS400. Operation is the same as in a LS400 with the optional driving position automatic adjustment system. For details, see NCF054U, page 358.

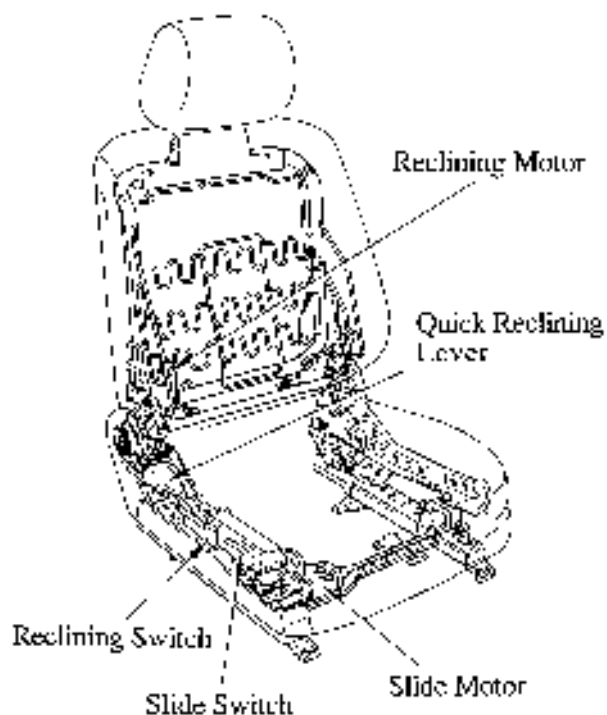
The seat back quick forward reclining mechanism is the same as for the passenger's seat. However, the quick backward reclining mechanism is not included. For details, see the section on the passenger's seat.



#### Passenger's Seat

The basic construction and operation of the adjusting mechanism are the same as in the LS400, but the following points differ.

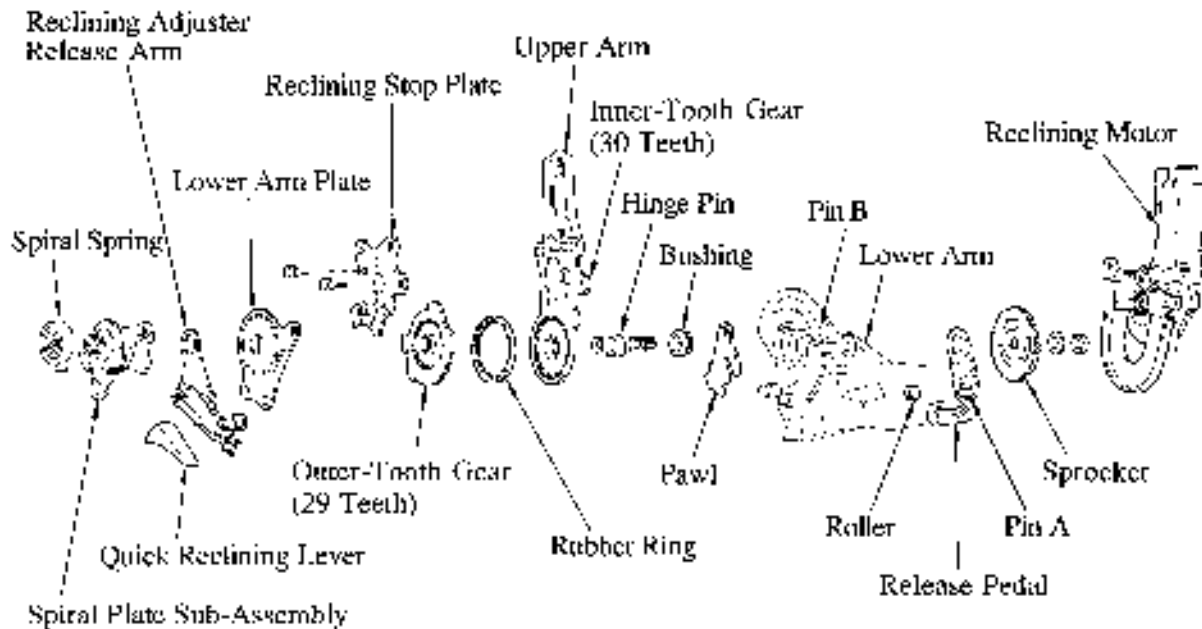
- A quick reclining mechanism for forward and backward reclining of the seat back is provided and is operated by the quick reclining lever or release pedal.
- The seat slide motor is controlled by the passenger's ECU.
- A power walk-in system is used to improve the ease of entry and exit for rear passengers.



### 1) Quiet Reclining Mechanism

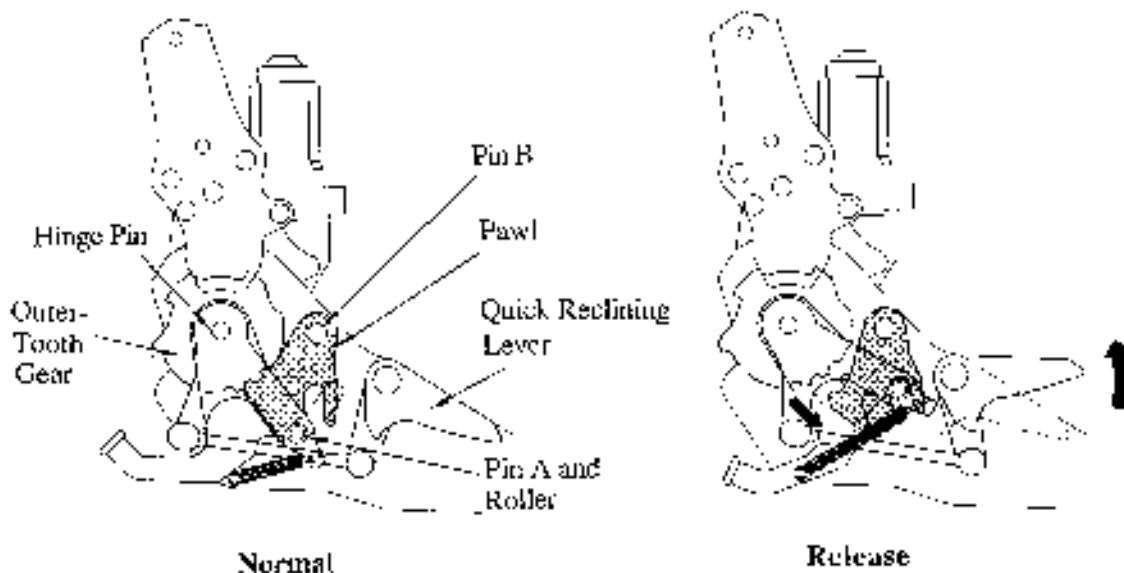
Ordinarily, the pawl is engaged in the outer-tooth gear, which locks the gear in place. In this condition, when the reclining motor turns, an inner-tooth gear, joined to the upper arm by a hinge pin, rotates about the outer-tooth gear, reclining the seat back.

When activated by the quick reclining lever or the release pedal, the quick reclining mechanism releases the pawl from the outer-tooth gear latch. This frees the motion of the outer-tooth gear, making forward and backward reclining very fast. The driver's seat has only one type of outer-tooth gear latch, so it is not capable of quick backward reclining.



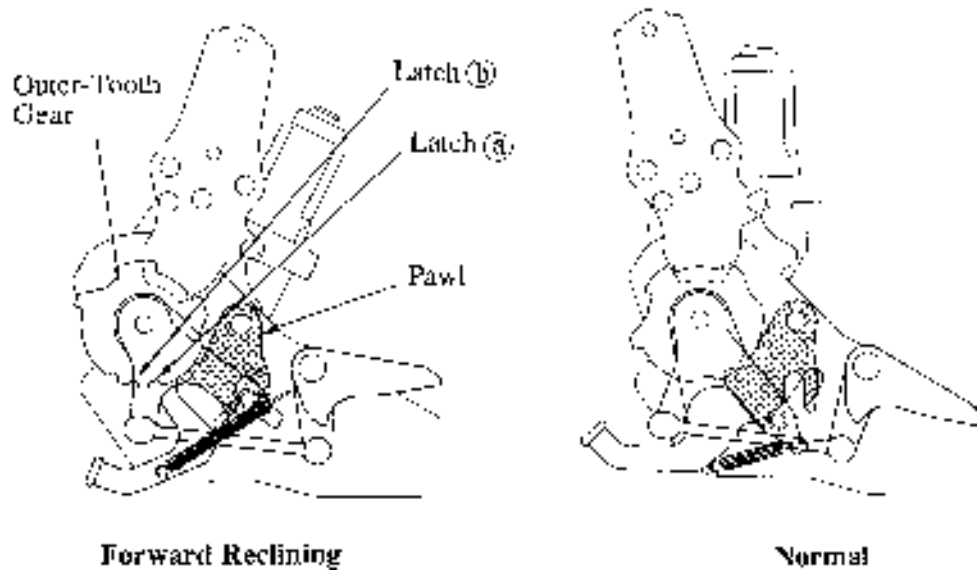
#### a. Quick Forward Reclining Function

When the quick reclining lever or release pedal is operated, pin A and the roller rotate counterclockwise about the hinge pin. This causes the roller to engage with the groove in the pawl and causes the pawl to rotate counterclockwise about pin B, releasing the outer-tooth gear's latch. At this time, if no backward force is applied to the seat back, the force of the spiral spring causes it to recline forward.



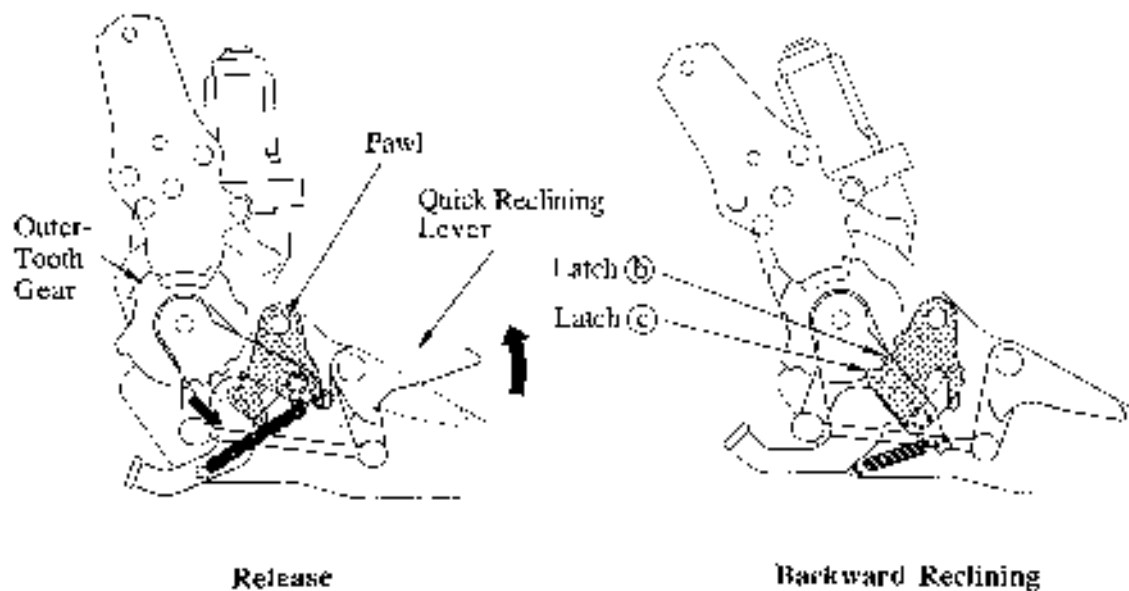
### b. Return Function

If the seat back is returned from the most forward reclining position, the outer-tooth gear rotates counterclockwise while it is making contact with the pawl. When the normal lock position is reached, the pawl engages in latch (a) and latch (b), locking the outer-tooth gear.



### c. Quick Backward Reclining Function

When the quick reclining lever is pulled up and the pawl is released from latches (a) and (b) of the outer-tooth gear, if backward force is applied to the seat back, the seat back reclines backward. If the quick reclining lever is released when the seat back is in the rearmost reclining position, the pawl engages in latches (b) and (c) and locks the outer-tooth gear.



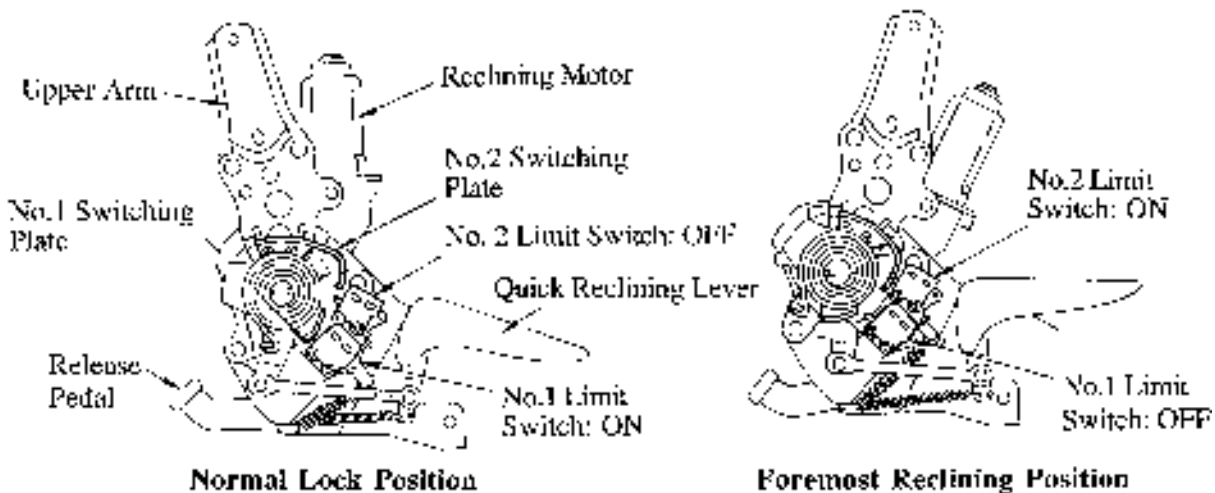
## 2) Power Walk-In System

This system senses the condition of the seat back from the two reclining limit switches fixed to the spiral plate sub-assembly and slides the seat forward and backward.

### a. Walk-In Operation

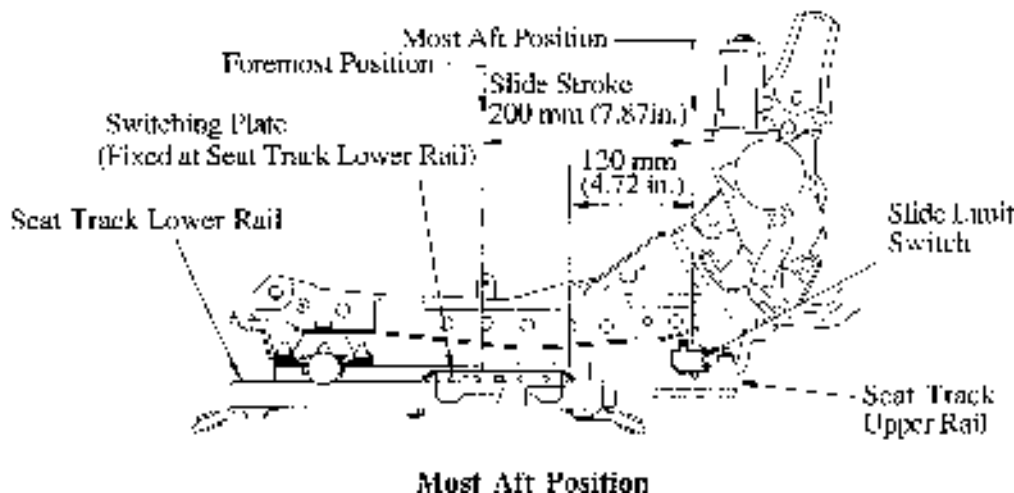
If the seat belt is not fastened, and if the seat back is reclined to the foremost reclining position from the normal lock or backward reclining lock position using the quick reclining lever or the release pedal, the No. 2 limit switch is turned on (switch pushed in) by the No. 2 switching plate fixed to the reclining stop plate, and the ECU drives the seat slide motor, sliding the seat 100 mm (3.94 in.) forward. However, if the seat reaches the foremost position, the ECU stops the motor even though the seat has not moved forward 100 mm (3.94 in.). If the slide switch is operated during this sliding operation, operation changes to manual operation.

Detection of the slide distance is accomplished by a position sensor which uses a Hall IC, the same as for the driver's seat.



### b. Return Operation

When the seat back is returned from the walk-in position and the No. 1 limit switch is turned on (switch pushed in) by the No. 1 switching plate which is integrated with the spiral plate, the ECU drives the seat slide motor, sliding the seat in the aft direction. However, in order to provide leg room for the rear passengers, it will not slide the seat to a position nearer than 120 mm (4.72 in.) from the most aft position. The motor stops when the seat reaches a position 120 mm (4.72 in.) from the most aft position and the slide limit switch goes off (switch released). If the slide switch is operated during this sliding operation, operation changes to manual operation.

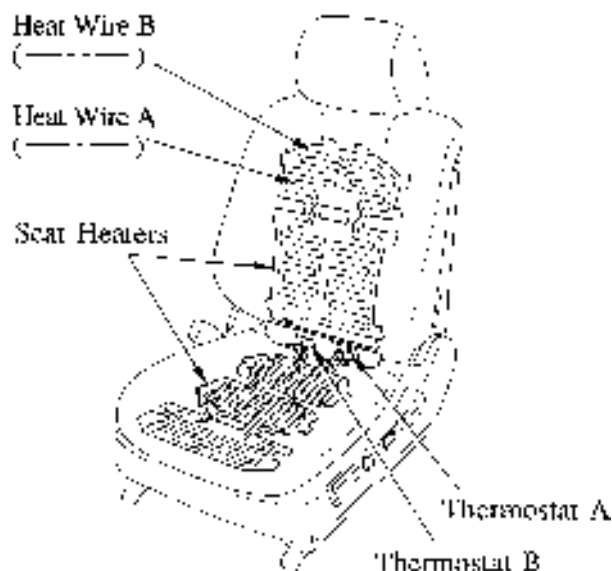


## SEAT HEATER

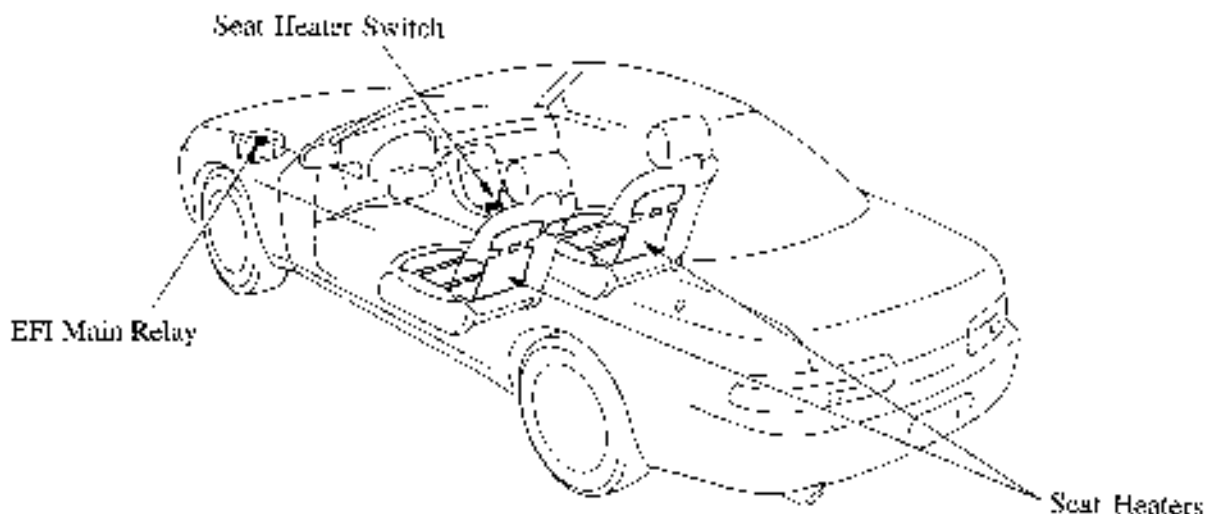
### 1. Description

As in the LS400, 2 heat wire systems are provided. The heat output by these two systems is controlled by 2 thermostats.

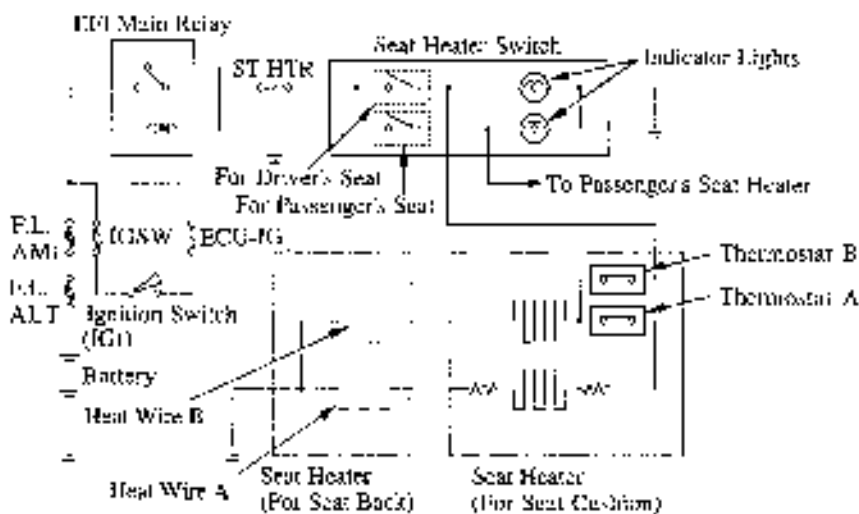
When the seat heater switch is turned on, both heat wires A and B are heated. When the temperature of the seats rises and becomes approx. 40°C (104°F) thermostat A goes off. This stops the heating of heat wire A. As the seat continues to warm, and the temperature around thermostat B reaches approximately 50°C (122°F), thermostat B goes off, stopping heating by heat wire B. This causes the temperature of the seat heater to drop. When the temperature around the thermostats reaches approx. 30°C (86°F), both thermostats A and B go on and heat wires A and B are heated.



### 2. Layout of Components



### 3. Wiring Diagram



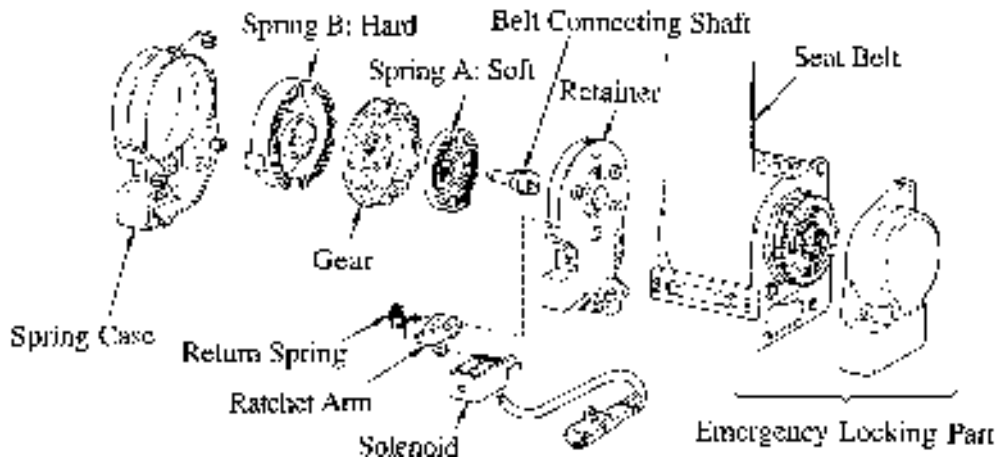
## ■ ELECTRIC TENSION REDUCER SYSTEM

### 1. Description

As in the LS400, a tension reducer which lightens the feeling of pressure on the front seat belts while they are being worn is included in the front seat belts.

This system uses a belt retracting spring which consists of 2 kinds of spring with different tensions connected together in the seat belt retractor, so that the force of the weak spring only acts on the belt while the belt is being worn.

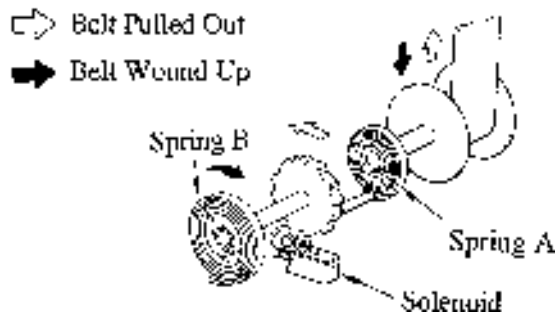
In the SC400, since the power walk-in system is used for the passenger's seat, the circuit for the tension reducer system is connected to the buckle switch from the solenoid via the passenger's seat ECU. However, the solenoid operating conditions are the same as in the LS400.



### 2. Operation

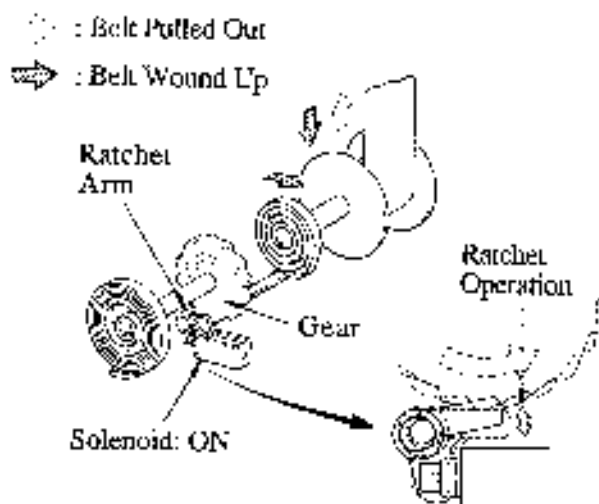
#### When the Ignition Key is Turned to the LOCK or ACC Position with the Seat Belt Fastened or Not Fastened.

The solenoid is off at this time. Therefore the ratchet arm connected to the solenoid is not engaged in the gear, and spring A is in the fully retracted state and rotates together with the gear. For this reason, the tension of spring B is applied to the belt.

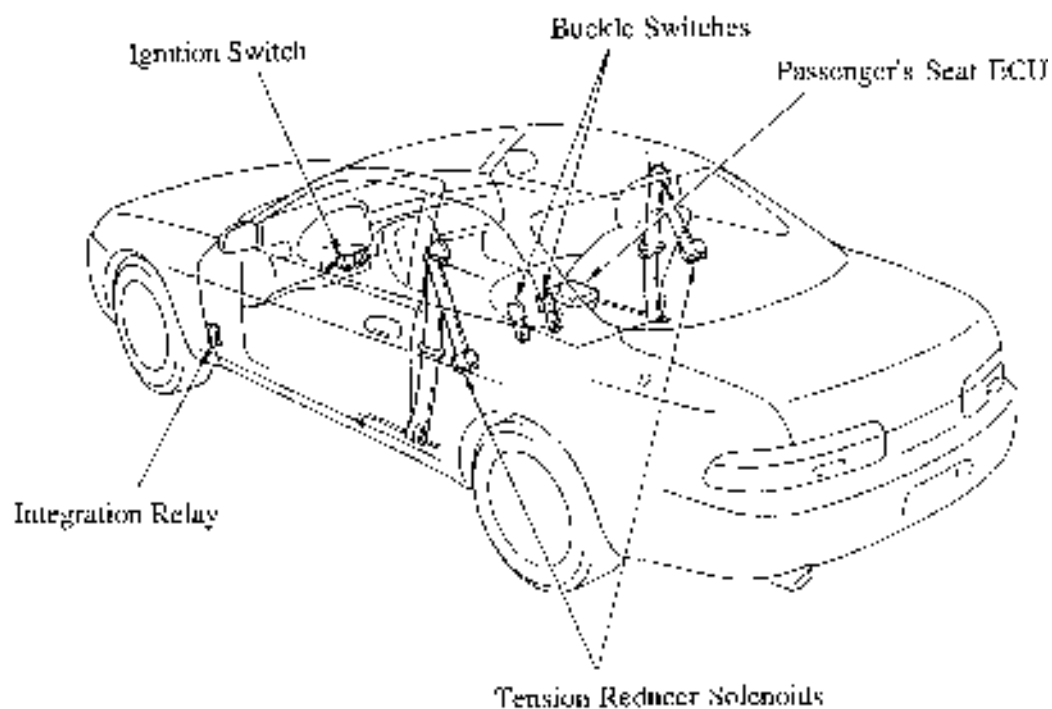


#### When the Ignition Key is Turned to the ON Position while the Seat Belt is being Worn.

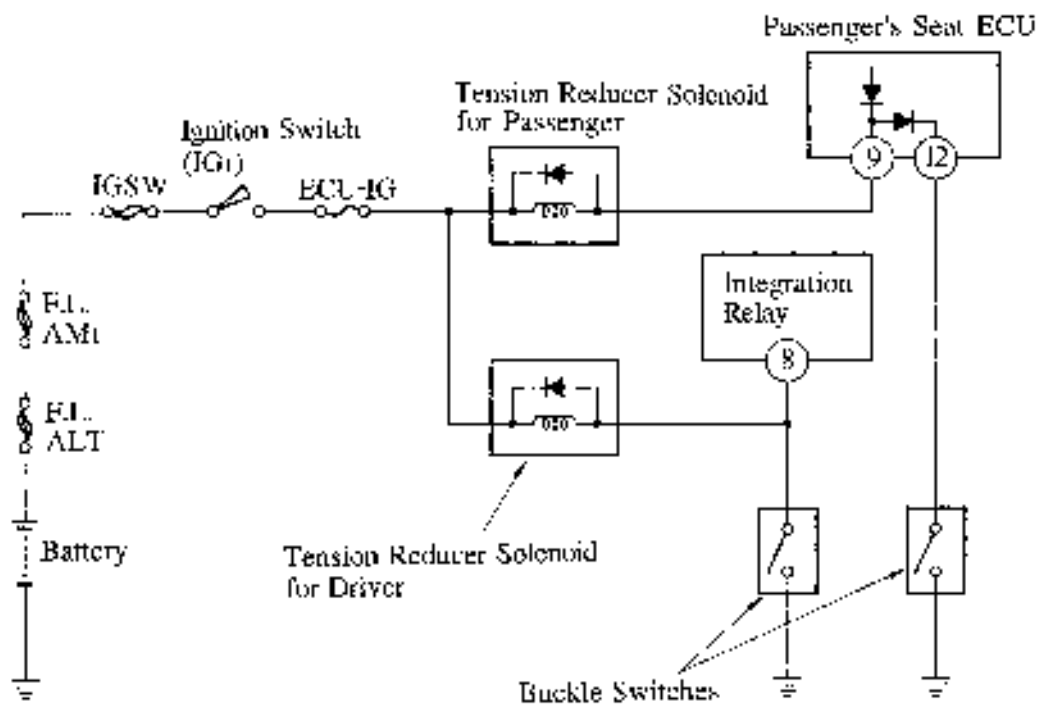
When the seat belt is being fastened while the ignition key is turned to the ON position, the solenoid goes on as soon as the tongue plate is inserted in the buckle. This causes the ratchet arm to engage in the gear, making it impossible for the gear to rotate in the winding direction. As a result, the tension of spring A only is applied to the belt. Also, if the belt is pulled while in this condition, the gear is rotated with the ratchet against it. When the gear stops rotating, the ratchet again locks the gear, preventing it from rotating in the winding direction and again causing the tension of only spring A to be exerted on the belt.



### 3. Layout of Components



### 4. Wiring Diagram



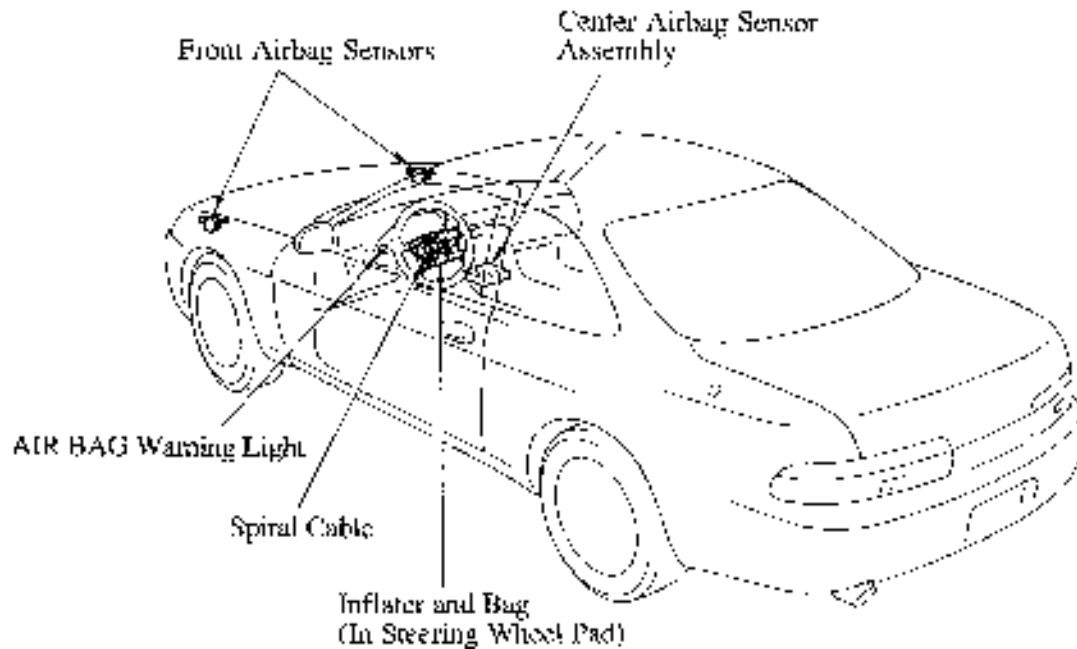
## ■ SRS AIRBAG

### 1. Description

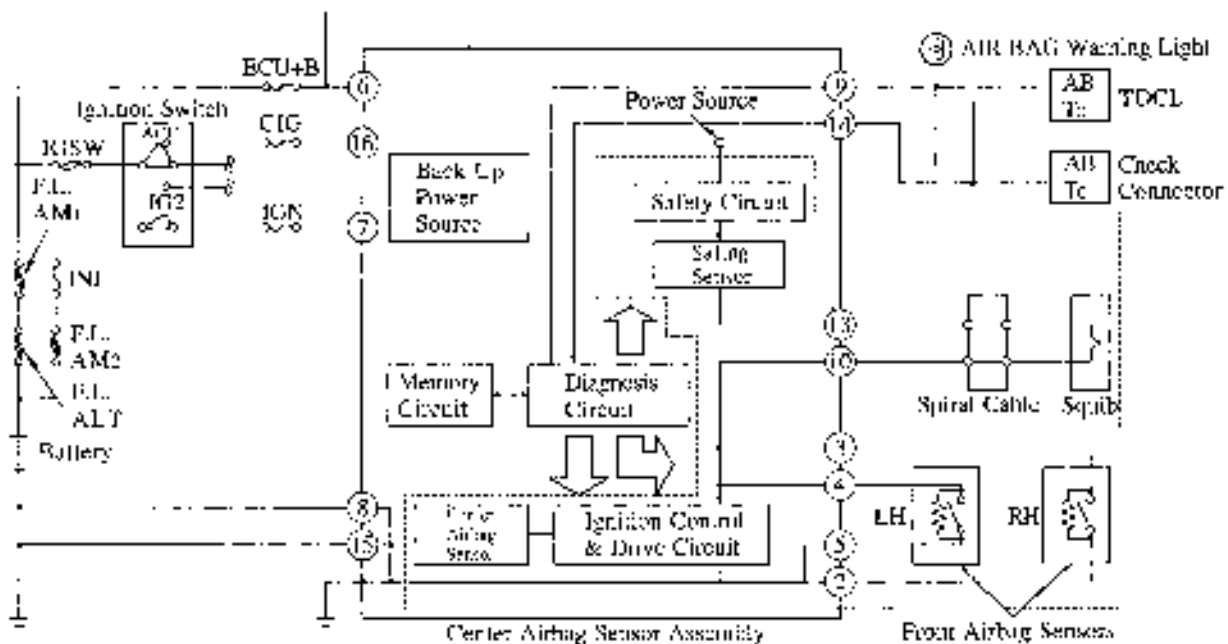
As in the LS400, this system uses front airbag sensors and a center airbag sensor assembly to detect when a collision occurs. If the shock of the impact exceeds a specified value, the airbag in the steering wheel pad inflates and, together with the seat belt, helps to reduce the shock to the driver.

For details on the construction and operation of this system, see NCF054U, page 380.

### 2. Layout of Components



### 3. Wiring Diagram



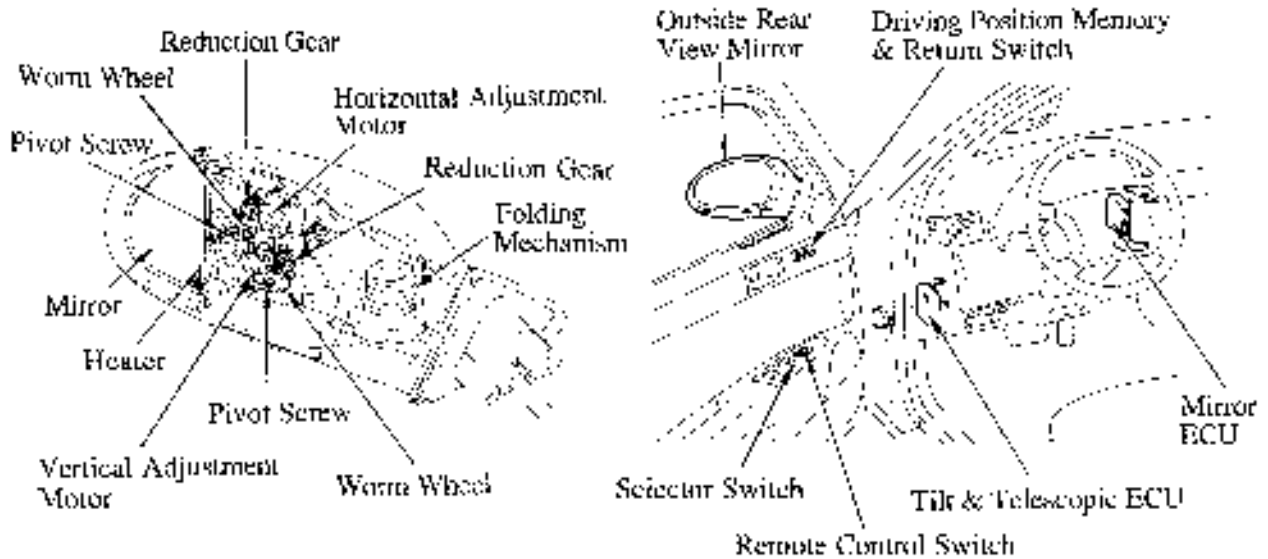


## ■ OUTSIDE REAR VIEW MIRRORS

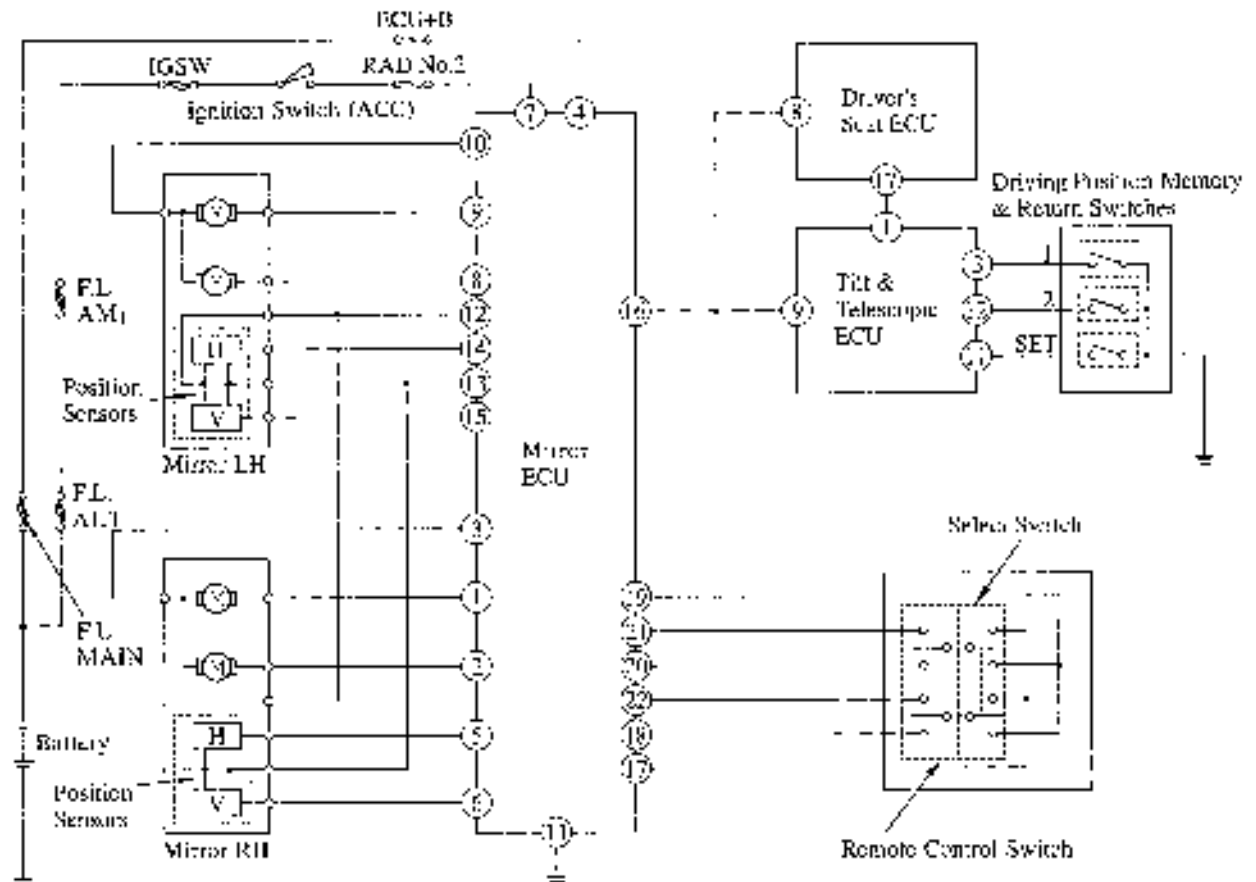
### 1. Description

The outside rear view mirrors are the remote control type, the same as in the LS400, which uses 2 motors to adjust the position of the mirrors in the vertical and horizontal direction. Heaters are also included in the outside rear view mirrors which are linked to the rear window defogger.

In addition, these mirrors include a driving position automatic adjustment system, which can store up to 2 mirror positions in memory and return to those positions. For details on the construction and operation of this system, see NCF054U, page 371.



### 2. Wiring Diagram

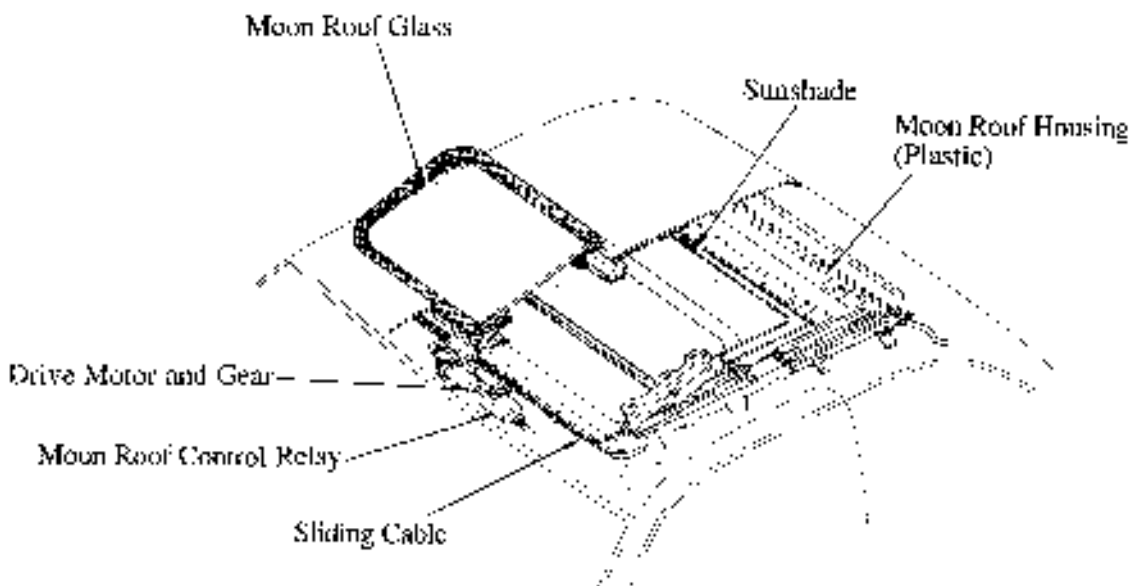


## MOON ROOF

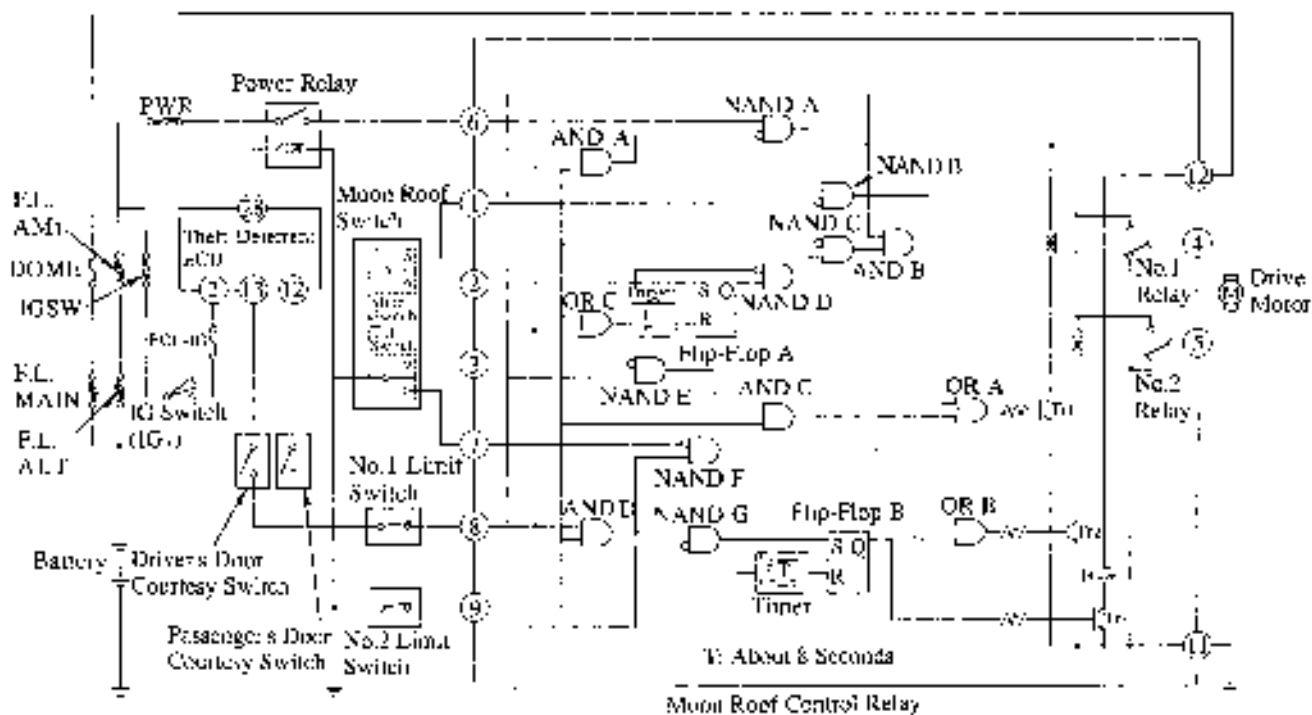
### 1. Description

The moon roof is a tilt-up and sliding type, the same as in the LS400. The amount of tilt-up is about 41 mm (1.61 in.) and the sliding stroke is about 390 mm (15.35 in.)

The basic construction and operation of the moon roof are the same as in the LS400. For details, see NCF054U, page 316. This system includes “key-off operation”, which is the same as with the power window system.



### 2. Wiring Diagram

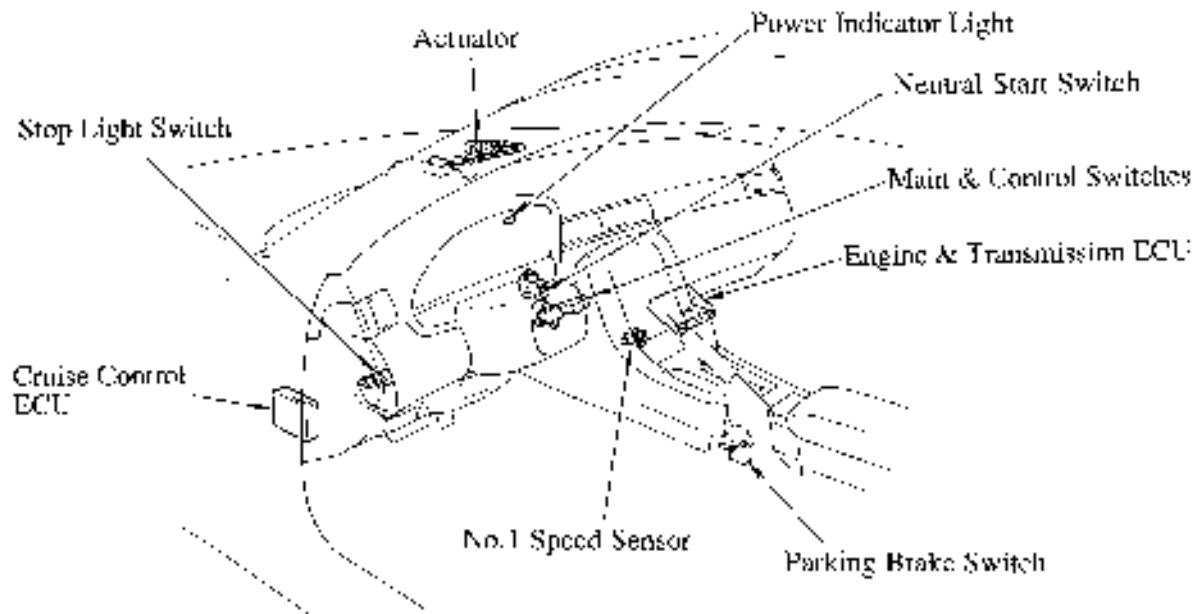


## ■ CRUISE CONTROL SYSTEM

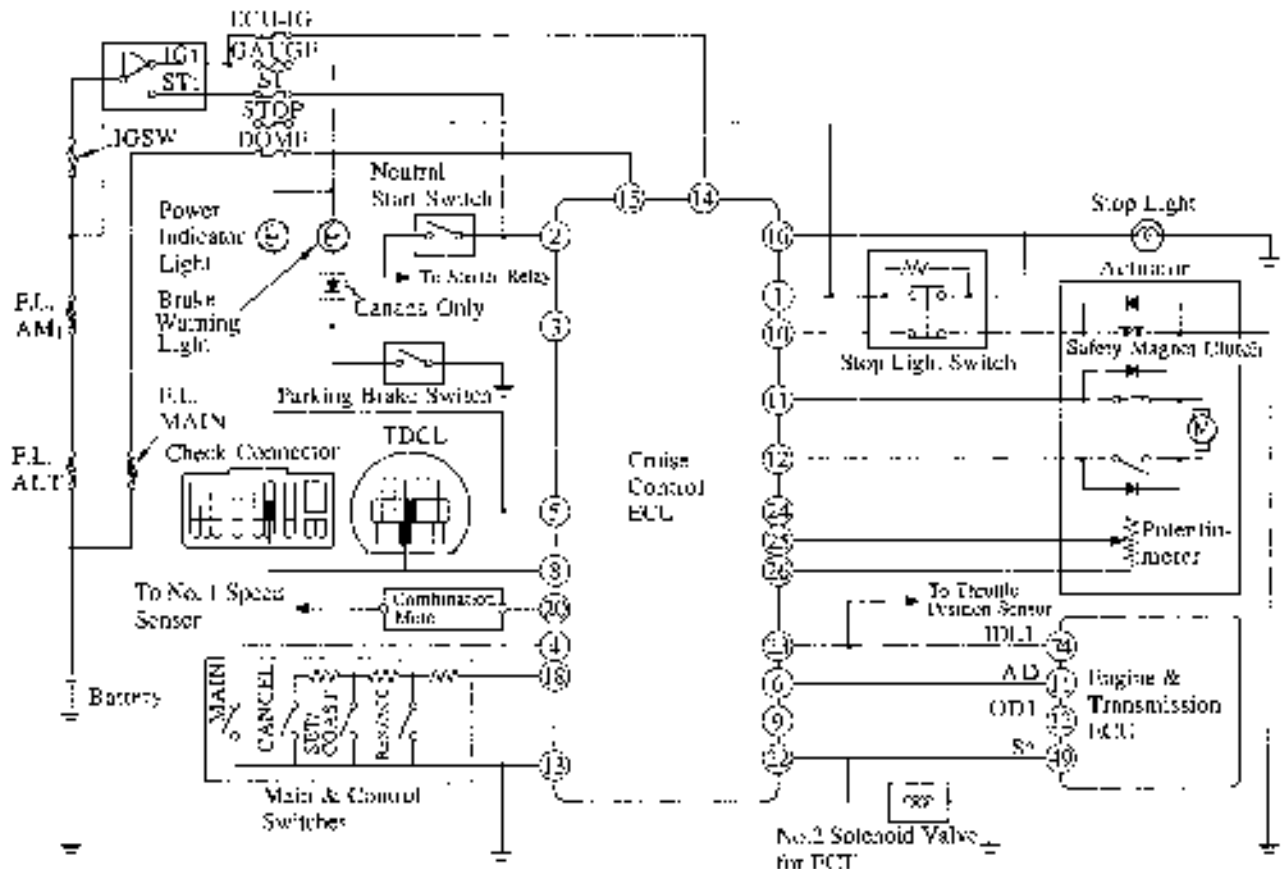
### 1. Description

Once it has been set at the desired vehicle speed, this system automatically adjusts the engine throttle position to maintain the vehicle speed at the desired speed without operating the accelerator pedal. The basic construction and operation of this system are the same as in the LS400. However, changes have been made to some functions of the cruise control ECU. For details, see NCF054U, page 393.

### 2. Layout of Components



### 3. Wiring Diagram



## 4. Functions of Cruise Control ECU

The basic functions are the same as in the LS400, but the diagnosis functions are changed as follows:

- A function has been added to diagnose and indicate malfunction of the cruise control ECU (Code No. 41), and Code No. 31 has been discontinued.
- During checking of cancellation signals by the input signal check function, the blinking pattern of the power indicator light has been changed so that it now remains off.
- The cancel signal check function is discontinued.

The items heavily outlined below differ from the LS400.

### ►Self-Diagnostic Items◀

: Newly Added     : Discontinued

Code No.	Diagnosis
11	<ul style="list-style-type: none"> <li>• Motor on throttle opening side is energized continuously.</li> <li>• Excessive current flowed to motor drive circuit.</li> </ul>
12	<ul style="list-style-type: none"> <li>• Open circuit in safety magnetic clutch.</li> <li>• Excessive current flowed to safety magnetic clutch drive circuit.</li> </ul>
13	<ul style="list-style-type: none"> <li>• Potentiometer output signal is abnormal.</li> <li>• Open circuit in motor output circuit.</li> </ul>
21	Vehicle speed signal not sent for 140 msec. or longer.
23	Vehicle speed dropped 16km/h (10mph) or more below the set speed during cruising.
31	RES/ACC switch is on already when MAIN switch is turned on.
32	Short circuit in control switch circuit (to ground).
34	Control switch does not turn off before switching.
41	Malfunction of ECU.

### ►Input Signal Check Function◀

Check Item	Operation Method	Power Indicator Light Blinking Pattern
SET/COAST Signal	SET/COAST switch is turned on.	
RES/ACC Signal	RES/ACC switch is turned on.	
Cancellation Signals	<ul style="list-style-type: none"> <li>• CANCEL switch is turned on.</li> <li>• Stop light switch is turned on.</li> <li>• Parking brake switch is turned on.</li> <li>• Neutral start switch is turned on (to N or P range).</li> </ul>	
Vehicle Speed Signals	Drive at 36km/h (22mph) or below.	
	Drive at 36km/h (22mph) or higher.	