SYSTEM OUTLINE

This system consists of a pneumatic cylinder which has pressured air in an air chamber, an ECU which automatically switches vehicle height between two ranges (Normal and high) according to the driving conditions and also two (2) modes (Normal and high) which the driver can choose from according to preference.
Also, the damping force of the shock absorber is automatically switched by the ECU among nine levels (Soft to hard).
Combined control of vehicle height and damping force suppresses changes in the vehicle's attitude such as roll, nose dive and squat to provide outstanding riding comfort and controllability.

1. INPUT SIGNALS

(1) Steering sensor signal
Rotation angle of the steering wheel is input to TERMINALS SS2+ and SS2− of the air suspension ECU.

(2) Throttle position sensor signal
The throttle valve opening angle is detected and the signal is input to TERMINAL L1 of the air suspension ECU via the engine control module.

(3) Vehicle speed sensor signal
The vehicle speed is detected by the vehicle speed sensor and the signal is input to TERMINAL VH of the air suspension ECU.

(4) Height control SW signal
Whether the height control SW is in normal or high mode is detected and the signal is input to TERMINAL HSW of the air suspension ECU.

(5) Height control sensor signal
The vehicle height and the different levels of the road surface are detected by the height control sensor and the signal is input to the air suspension ECU.

2. AIR SUSPENSION OPERATION

* High position
Signals from the vehicle speed sensor, height control sensor and so on are input to the air suspension ECU, which operates so that the current flows from the air suspension ECU to front and rear height control valve to open the pneumatic cylinder valve.
As a result, the passage is opened as far as the height control dryer. Then, the current flowing to the AIR SUS relay flows to the height control compressor. Control of this current by the air suspension ECU causes the compressor to operate and air flows into the pneumatic cylinder to raise the vehicle height.

* Low position
Signals from the vehicle speed sensor, height control sensor and so on are input to the air suspension ECU, which operates so that current flows from the air suspension ECU to front and rear height control valve to open the pneumatic cylinder valve.
As a result, the passage is opened as far as the height control dryer. Then, the current flows to the height control exhaust valve installed in the height control dryer. Control of this current by the air suspension ECU causes the valve to open so that the air inside the pneumatic cylinder is expelled and the vehicle height is lowered.

3. BASIC OPERATION OF SUSPENSION CONTROL ACTUATOR

The suspension control actuator controls the damping force of the shock absorber inside the pneumatic cylinder in 9 steps. Based on signals from the acceleration sensors, vehicle speed sensor and stop light switch, etc., the suspension ECU controls the suspension control actuator to adjust the damping force of the shock absorber.
As the following table shows, the damping force of the shock absorber is changed by the current flowing from TERMINAL 2, 3, 4 and 5 of the suspension control actuators to TERMINAL 1 to GROUND.

B +	Ground	Position
Terminal 2 and 3	1	Soft 1 to 2
Terminal 3 and 4	1	2 to 3
Terminal 4 and 5	1	3 to 4
Terminal 5 and 2	1	4 to 5
Terminal 2 and 3	1	5 to 6
Terminal 3 and 4	1	6 to 7
Terminal 4 and 5	1	7 to 8
Terminal 5 and 2	1	8 to 9 Hard

SERVICE HINTS

A25 (C) AIR SUSPENSION ECU

(C) 11–GROUND : Approx. **12** volts with ignition SW at **ON** or **ST** position

(C) 22–GROUND : Always continuity

○ : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A14	116 (LHD)	G1	117 (LHD)	J29 B	121 (LHD)
A21	116 (LHD)	H11	113 (LHD)	P3 A	118 (LHD)
A23 A	116 (LHD)	H12	113 (LHD)	R15	122 (LHD)
A24 B	116 (LHD)	H13	113 (LHD)	R16	122 (LHD)
A25 C	116 (LHD)	H14	113 (LHD)	R20	122 (LHD)
A27	116 (LHD)	H18	117 (LHD)	S6	115 (LHD)
A35	120 (LHD)	H21	117 (LHD)	S7	115 (LHD)
C6	116 (LHD)	H22	121 (LHD)	S9 A	119 (LHD)
C12	116 (LHD)	J3 A	114 (LHD)	S10 B	119 (LHD)
D1	117 (LHD)	J4 B	114 (LHD)	S12 B	119 (LHD)
D2	117 (LHD)	J11	117 (LHD)	S13 C	119 (LHD)
D12	120 (LHD)	J13 A	117 (LHD)	S17	119 (LHD)
D13	120 (LHD)	J14 B	117 (LHD)	S18	119 (LHD)
D14	120 (LHD)	J17 A	117 (LHD)	S21	119 (LHD)
D15	120 (LHD)	J18 B	117 (LHD)	S36	123 (LHD)
D25	120 (LHD)	J19	117 (LHD)	S37	123 (LHD)
E3	112 (LHD)	J24	121 (LHD)	T5	119 (LHD)
F5	113 (LHD)	J27	121 (LHD)	T9	119 (LHD)
F17	120 (LHD)	J28 A	121 (LHD)		

⬭ : RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	82	Engine Room No.2 R/B (Engine Compartment Left)
4	84 (LHD)	Fusible Link Block (Engine Compartment Right)

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
DC	88 (LHD)	Engine Room Main Wire and Driver Side J/B (Left Kick Panel)
DE	87 (LHD)	Instrument Panel Wire and Driver Side J/B (Left Kick Panel)
DF		
DG		
DH		
DI	89 (LHD)	Floor No.2 Wire and Driver Side J/B (Left Kick Panel)
LA	110	Floor No.2 Wire and Luggage Room J/B (Luggage Room Left)
PC	93 (LHD)	Engine Room Main Wire and Passenger Side J/B (Right Kick Panel)
PE	94 (LHD)	Instrument Panel Wire and Passenger Side J/B (Right Kick Panel)
PF		
PG		
PH		
PI	95 (LHD)	Floor Wire and Passenger Side J/B (Right Kick Panel)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	142 (LHD)	Front Door LH Wire and Floor No.2 Wire (Left Kick Panel)
IB3	142 (LHD)	Instrument Panel Wire and Engine Room Main Wire (Cowl Side Panel LH)
IC2	142 (LHD)	Instrument Panel Wire and Floor No.2 Wire (Cowl Side Panel LH)
IG1	144 (LHD)	Instrument Panel Wire and Floor Wire (Cowl Side Panel RH)
IH2	144 (LHD)	Instrument Panel Wire and Engine Room Main Wire (Cowl Side Panel RH)
IJ1	144 (LHD)	Front Door RH Wire and Floor Wire (Right Kick Panel)
BA2	146 (LHD)	Rear Door No.2 Wire and Floor No.2 Wire (Left Center Pillar)
BB2	146 (LHD)	Rear Door No.1 Wire and Floor Wire (Right Center Pillar)
BC1	146 (LHD)	Floor No.2 Wire and Floor Wire (Rear Floor Partition Panel LH)
BE2	146 (LHD)	Floor No.2 Wire and Floor Wire (Lower Back Panel RH)

: GROUND POINTS

Code	See Page	Ground Points Location
EA	140 (LHD)	Radiator Side Support RH
EB	140 (LHD)	Under the Fusible Link Block
EC	140 (LHD)	Radiator Side Support LH
EF	140 (LHD)	LH Side of Cylinder Head
IG	142 (LHD)	Left Side of Instrument Panel
IH	142 (LHD)	Right Side of Shift Lever
II		
IK	142 (LHD)	Cowl Side Panel RH
BM	146 (LHD)	Quarter Panel LH
BN	146 (LHD)	Rear Floor Partition Panel RH

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E5	140 (LHD)	Engine Room Main Wire	I4	144 (LHD)	Instrument Panel Wire