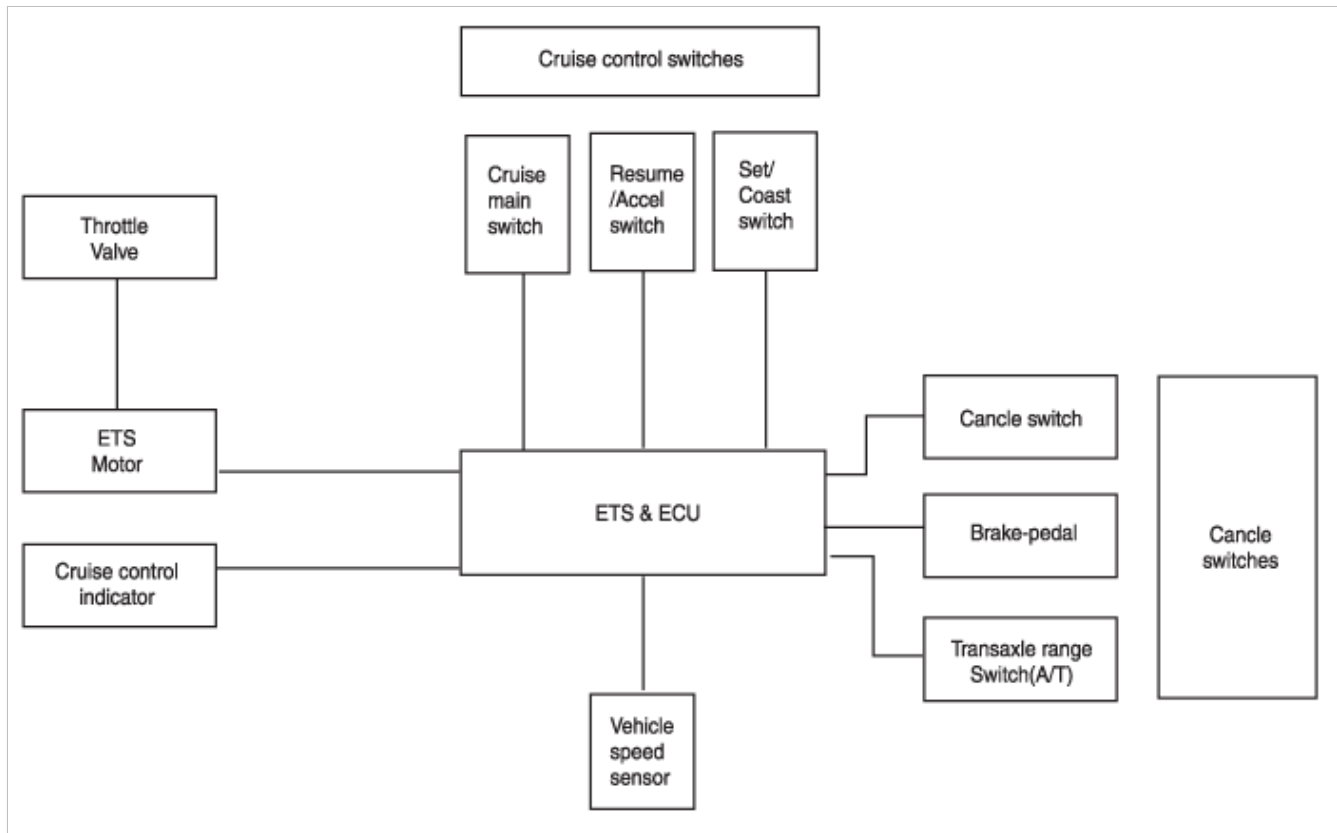


System Block Diagram



Component Parts And Function Outline

| Component part | | Function |
|-----------------------------|------------------------------|--|
| Vehicle-speed sensor | | Converts vehicle speed to pulse. |
| Engine control module (ECM) | | Receives signals from sensor and control switches; |
| Cruise control indicator | | Illuminate when CRUISE main switch is ON (Built into cluster) |
| Cruise Control switches | CRUISE main switch | Switch for automatic speed control power supply. |
| | Resume/Accel switch | Controls automatic speed control functions by Resume/Accel switch (Set/Coast switch) |
| | Set/Coast switch | |
| Cancel switch | Cancel switch | Sends cancel signals to ECM |
| | Brake-pedal switch | |
| | Transaxle range switch (A/T) | |
| | Clutch switch (M/T) | |
| ETS motor | | Regulates the throttle valve to the set opening by ECM. |

* ETS : Electronic Throttle System

Cruise Control

Cruise control system is engaged by the "ON. OFF" main switch located on right of steering wheel column. The system has the capability to cruise, coast, resume speed, and accelerate, and raise "tap-up" or lower "tap-down" set speed.

It also has a safety interrupt, engaged upon depressing brake or shifting select lever.

The ECM is the control module for this system

The main components of cruise control system are mode control switches, transaxle range switch, brake switch, vehicle speed sensor, ECM and ETS motor that connect throttle body.

The ECM contains a low speed limit which will prevent system engagement below a minimum speed of 40km/h (25mph). The operation of the controller is controlled by mode control switches located on steering wheel.

Transaxle range switch and brake switch are provided to disengage the cruise control system. The switches are on brake pedal bracket and transaxle. When the brake pedal is depressed or select lever shifted, the cruise control system is electrically disengaged and the throttle is returned to the idle position.

Cruise main switch

Cruise control system is engaged by pressing the "ON. OFF" push button. Releasing the "ON.OFF" push button release throttle, clears cruise memory speed, and puts vehicle in a non-cruise mode.

Coast/Set switch

COAST.SET switch located on right of steering wheel column has two positions - "Normal" and "Depressed". The set position - With COAST.SET switch depressed and then released the cruise speed will be set at the speed the vehicle was going when COAST.SET switch was released. The coast position - With COAST.SET switch fully depressed, driver can lower cruise speed. To decrease cruise speed, COAST.SET switch is held in, disengaging cruise control system. When vehicle has slowed to required cruise speed, releasing COAST.SET switch will re-engage speed at new selected speed. The tap down - To lower vehicle speed, cruise must be engaged and operating. Tap down is done by quickly pressing and releasing COAST.SET switch. Do not hold COAST.SET switch in depressed position.

Tap down is a function in which cruise speed can be decreased by 1mph (1.6km/h)

Resume/Accel switch

RES.ACCEL switch located on right of steering wheel column has two positions - "Normal" and "Depressed".

The resume position - With RES.ACCEL switch depressed and then release, this switch also returns cruise control operation to last speed (Which is temporarily disengaged by Cancel switch or Brake pedal), setting when momentarily operating RES.ACCEL switch by constant acceleration.

The accel position - With RES.ACCEL switch depressed and held in, disengaging cruise control system, when vehicle has accelerated to required cruise speed, releasing RES.ACCEL switch will re-engage speed at new selected speed.

The tap up - To increase vehicle speed, the cruise must be engaged and operating.

Tap up is done by quickly pressing and releasing RES.ACCEL switch less than 0.5 second. Do not hold RES.ACCEL switch in depressed position. Tap up is a function in which cruise speed can be increased by 1mph (1.6km/h).

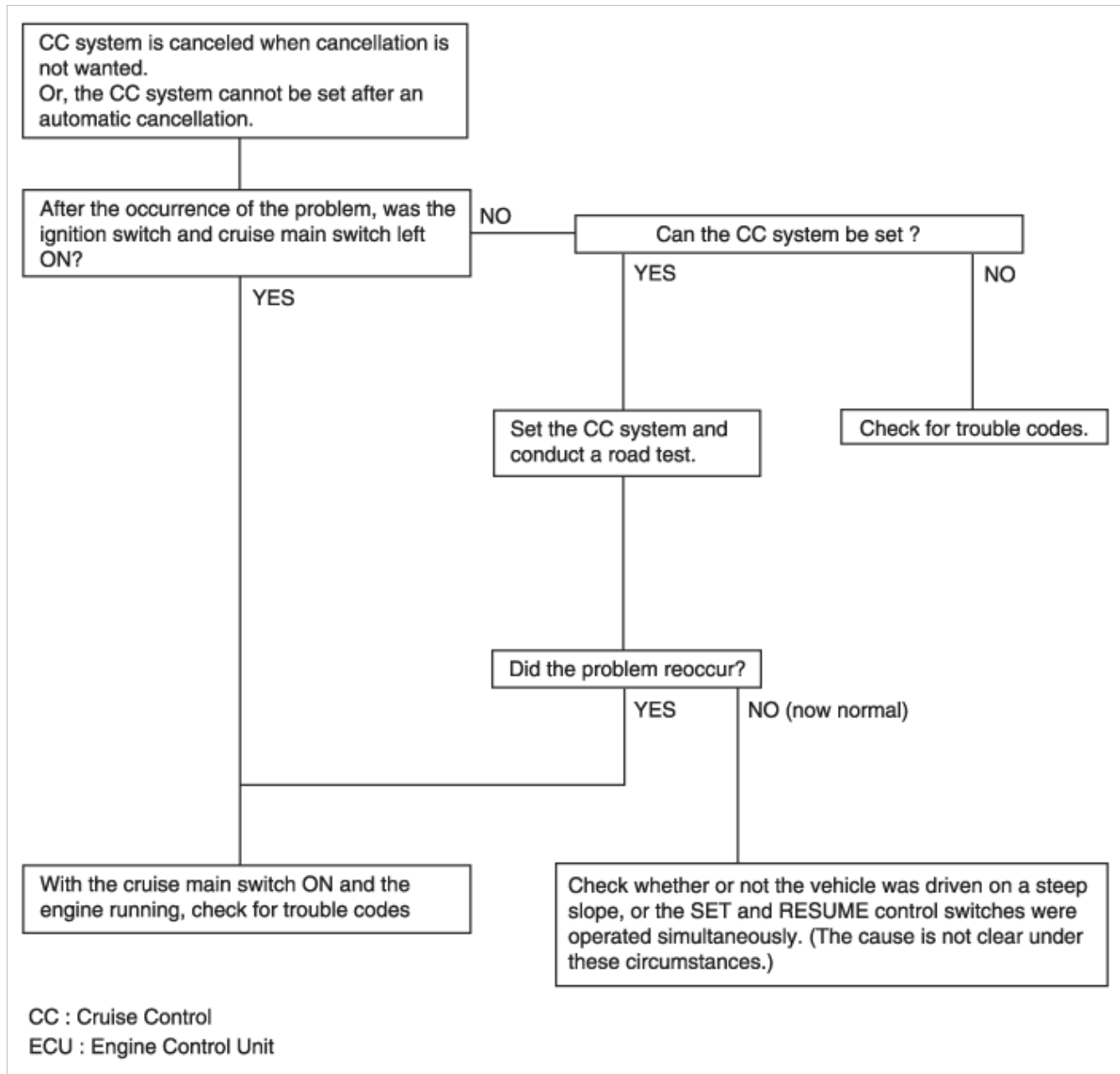
Cancel switch

Cruise control system is temporarily disengaged by pressing "CANCEL" switch.

Cruise speed canceled by this switch will be recovered by RES.ACCEL switch

Trouble Symptom Charts

Trouble Symptom 1



Trouble Symptom 2

| Trouble symptom | Probable cause | Remedy |
|--|---|---|
| The set vehicle speed varies greatly upward or downward "Surging" (repeated alternating acceleration and deceleration) occurs after setting | Malfunction of the vehicle speed sensor circuit | Repair the vehicle speed sensor system, or replace the part |
| | Malfunction of ECM | Replace the ECM |

Trouble Symptom 3

| Trouble symptom | Probable cause | Remedy |
|-----------------|---------------------------------------|---|
| | Damaged or disconnected wiring of the | Repair the harness or replace the brake |

| | | |
|---|------------------------|-----------------|
| The CC system is not canceled when the brake pedal is depressed | brake pedal switch | pedal switch |
| | Malfunction of the ECM | Replace the ECM |

Trouble Symptom 4

| Trouble symptom | Probable cause | Remedy |
|--|--|--|
| The CC system is not canceled when the shift lever is moved to the "N" position (It is canceled, however, when the brake pedal is depressed) | Damaged or disconnected wiring of inhibitor switch input circuit | Repair the harness or repair or replace the inhibitor switch |
| | Improper adjustment of inhibitor switch | |
| | Malfunction of the ECM | Replace the ECM |

Trouble Symptom 5

| Trouble symptom | Probable cause | Remedy |
|---|--|--|
| Cannot decelerate (coast) by using the SET switch | Temporary damaged or disconnected wiring of SET switch input circuit | Repair the harness or replace the SET switch |
| | Malfunction of the ECM | Replace the ECM |

Trouble Symptom 6

| Trouble symptom | Probable cause | Remedy |
|--|--|---|
| Cannot accelerate or resume speed by using the RESUME switch | Damaged or disconnected wiring, or short circuit, or RESUME switch input circuit | Repair the harness or replace the RESUME switch |
| | Malfunction of the ECM | Replace the ECM |

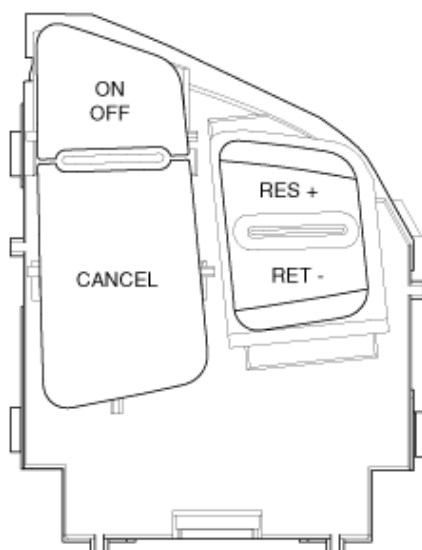
Trouble Symptom 7

| Trouble symptom | Probable cause | Remedy |
|--|---|---|
| CC system can be set while driving at a vehicle speed of less than 40km/h (25mph), or there is no automatic cancellation at that speed | Malfunction of the vehicle-speed sensor circuit | Repair the vehicle speed sensor system, or replace the part |
| | Malfunction of the ECM | Replace the ECM |

Trouble Symptom 8

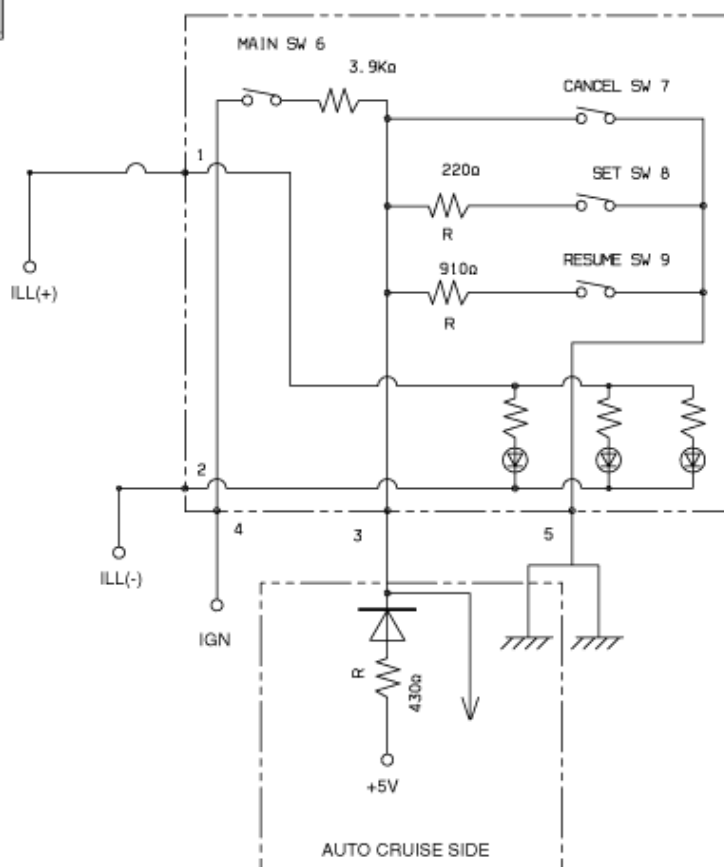
| Trouble symptom | Probable cause | Remedy |
|---|---|---|
| The cruise main switch indicator lamp does not illuminate (But CC system is normal) | Damaged or disconnected bulb of cruise main switch indicator lamp | Repair the harness or replace the part. |
| | Harness damaged or disconnected | |

Circuit Diagram



CONNECTOR

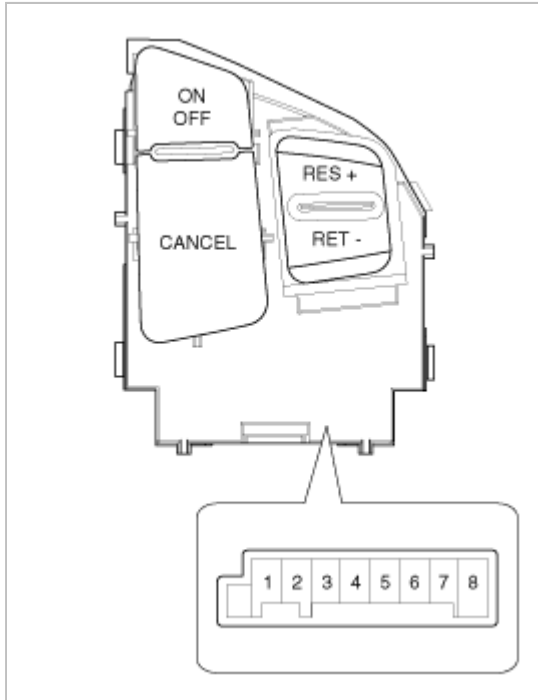
| NO | CONNECTOR |
|----|------------|
| 1 | ILL(+) |
| 2 | ILL(-) |
| 3 | ACC(+) |
| 4 | ACC ON/OFF |
| 5 | ACC(-) |
| 6 | - |
| 7 | - |
| 8 | - |



Inspection

Measuring Resistance

1. Disconnect the cruise control switch connector from the control switch.



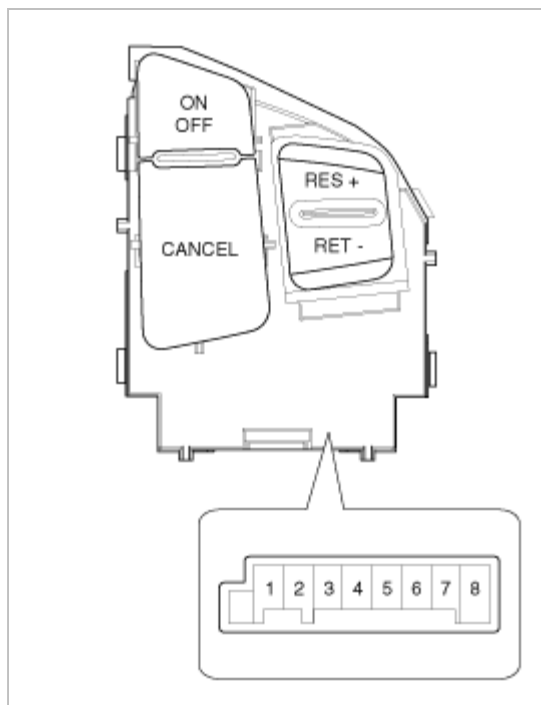
2. Measure resistance between terminals on the control switch when each function switch is ON (switch is depressed).

| Function switch | Terminal | Resistance |
|-----------------|----------|----------------------|
| Cruise Main | RH 3-4 | $3.9k\Omega \pm 1\%$ |
| Cancel | RH 3-5 | $0\Omega \pm 1\%$ |
| Set/Coast | RH 3-5 | $220\Omega \pm 1\%$ |
| Resume/Accel | RH 3-5 | $910\Omega \pm 1\%$ |

3. If not within specification, replace switch.

Measuring Voltage

1. Connect the cruise control switch connector to the control switch.



2. Measure voltage between terminals on the harness side connector when each function switch is ON (switch is depressed).

| Function switch | Terminal | Voltage |
|-----------------|----------|------------------|
| Cruise Main | RH 3-4 | - |
| Cancel | RH 3-5 | $0.0V \pm 0.22V$ |
| Set/Coast | RH 3-5 | $1.5V \pm 0.22V$ |
| Resume/Accel | RH 3-5 | $3.0V \pm 0.22V$ |

3. If not within specification, replace switch.