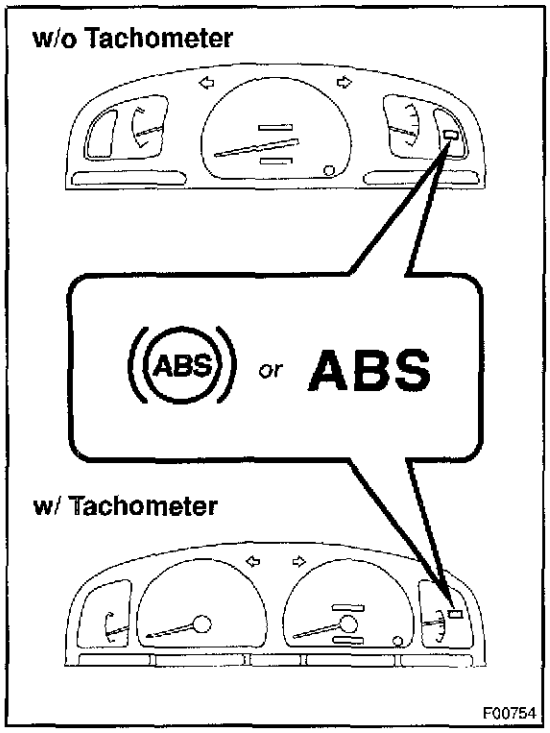
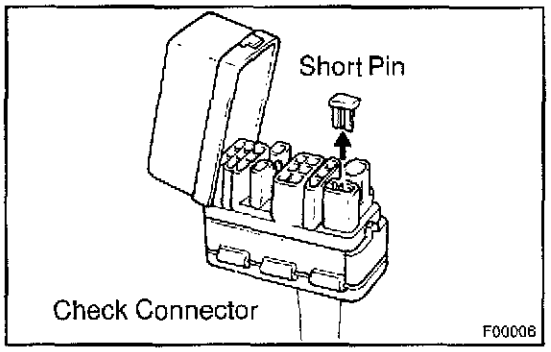


PRE–CHECK

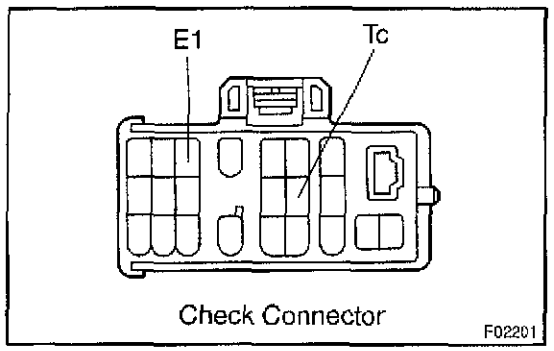
1. DIAGNOSIS SYSTEM

(a) Check the indicator.
When the ignition switch is turned ON, check that the ABS warning light goes on for 3 seconds.

HINT:
If the indicator check result is not normal, proceed to troubleshooting for the ABS warning light circuit (See page DI–98).

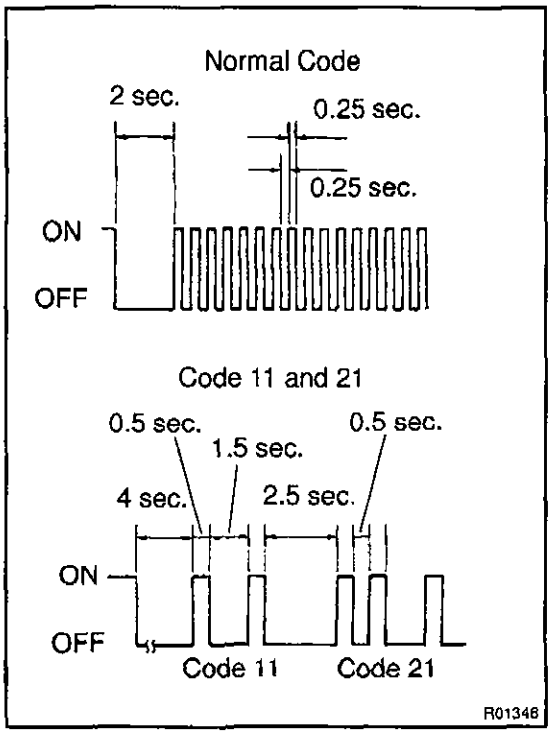


(b) Check the DTC.
(1) Turn the ignition switch ON.
(2) Disconnect the short pin from check connector.



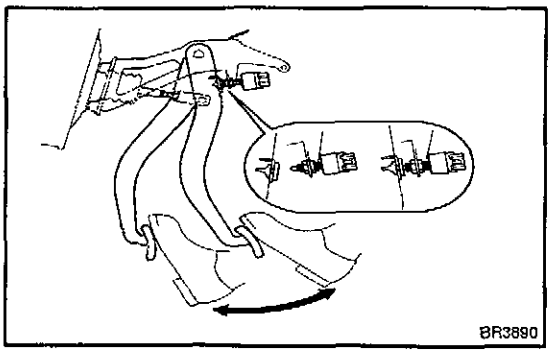
(3) Using SST, connect terminals Tc and E_1 of check connector.
SST 09843–18020
(4) Read the DTC from the ABS warning light on the combination meter.

HINT:
- If no code appears, inspect the diagnostic circuit or ABS warning light circuit (See page DI–102 or DI–98).

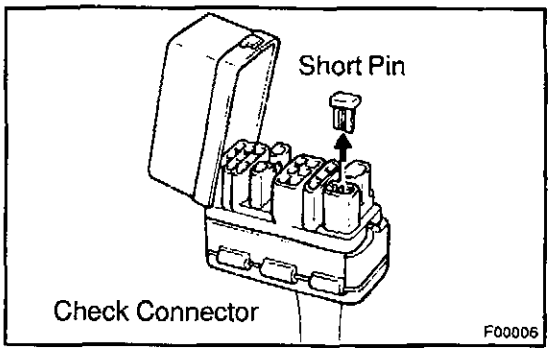


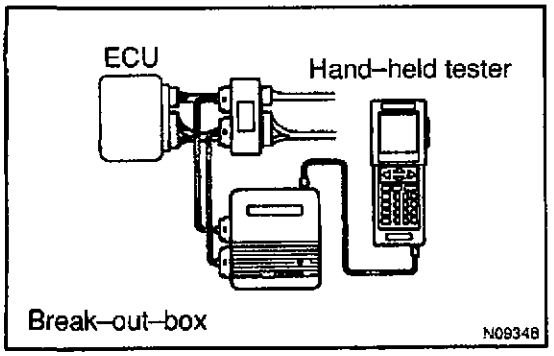
- As an example, the blinking patterns for normal code and codes 11 and 21 are shown on the left.
  (5) Codes are explained in the code table on page DI–58.
  (6) After completing the check, disconnect terminals Tc and E_1, and turn off the display.

If 2 or more malfunctions are indicated at the same time the lowest numbered DTC will be displayed 1st.



(c) Clear the DTC.
  (1) Using SST, connect terminals Tc and E_1 of check connector and remove the short pin from check connector.
  SST 09843–18020
  (2) IG switch ON.
  (3) Clear the DTC stored in ECU by depressing the brake pedal 8 or more times within 5 seconds.
  (4) Check that the warning light shows the normal code.
  (5) Remove the SST from the terminals of check connector.
  SST 09843–18020
  (6) Connect the short pin to check connector.

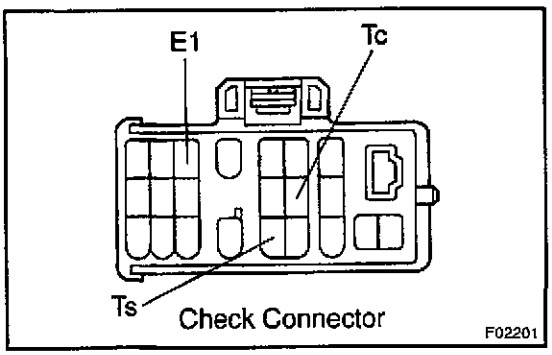




(d) Using break–out–box and hand–held–tester, measure the ECU terminal values.
  (1) Hook up the hand–held tester and break–out–box to the vehicle.
  (2) Read the ECU input/output values by following the prompts on the tester screen.

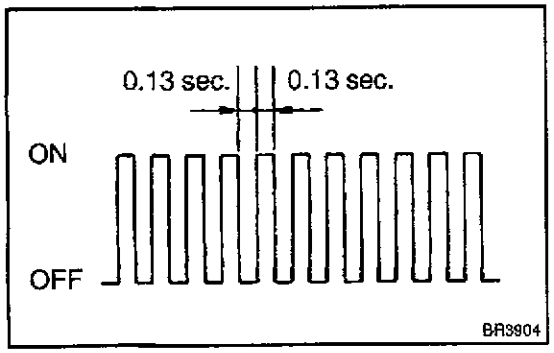
HINT:

- Hand–held tester has a "Snapshot" function. This records the measured values and is effective in the diagnosis of intermittent problems.
- Please refer to the hand–held tester/ break–out–box operator's manual for further details.



2. SPEED SENSOR SIGNAL AND DECELERATION SENSOR (4WD) CHECK

(a) Check the speed sensor signal.
  (1) Turn the ignition switch OFF.
  (2) Using SST, connect terminals Ts and E_1 of check connector.
  SST 09843–18020
  (3) Start the engine.



  (4) Check that the ABS warning light blinks.

HINT:

If the ABS warning light does not blink, inspect the ABS warning light circuit (See page DI–98).

  (5) Drive vehicle straight forward.

HINT:

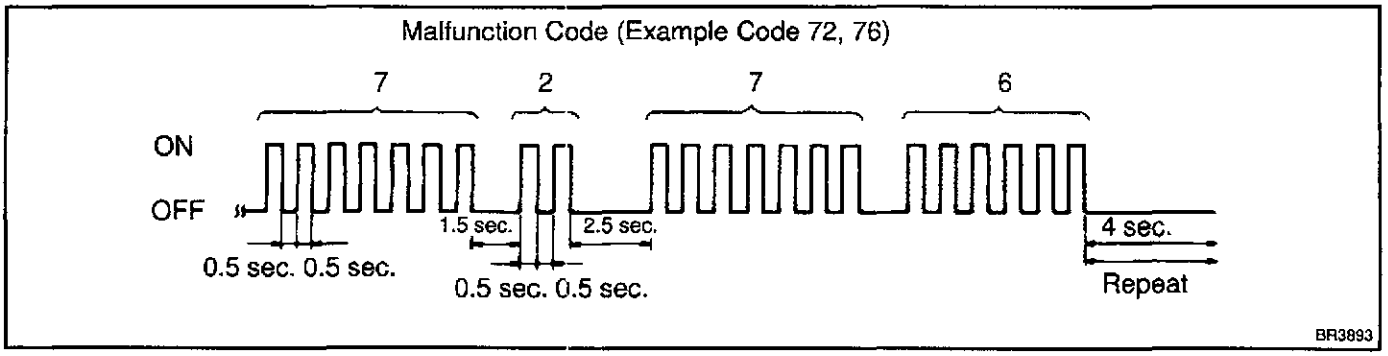
Drive vehicle faster than 45 km/h (28 mph) for several seconds.

  (6) Stop the vehicle.
  (7) Using SST, connect terminals Tc and E_1 of check connector.
  SST 09843–18020
  (8) Read the number of blinks of the ABS warning light.

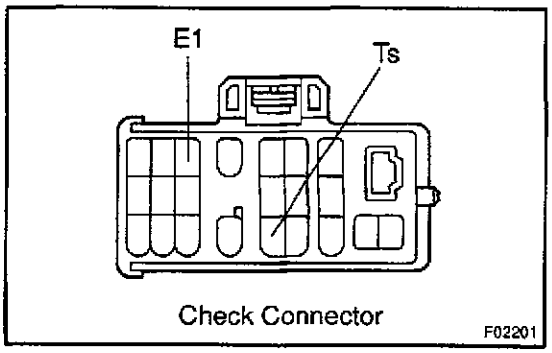
HINT:

See the list of DTC in step 2 – (d).

- If every sensor is normal, a normal code is output (A cycle of 0.25 sec. ON and 0.25 sec. OFF is repeating).
- If 2 or more malfunction are indicated at the same time, the lowest numbered code will be displayed 1st.



(9) After doing the check, disconnect terminals Ts and E_1, Tc and E_1 of check connector, and turn off the ignition switch.



(b) 4WD:

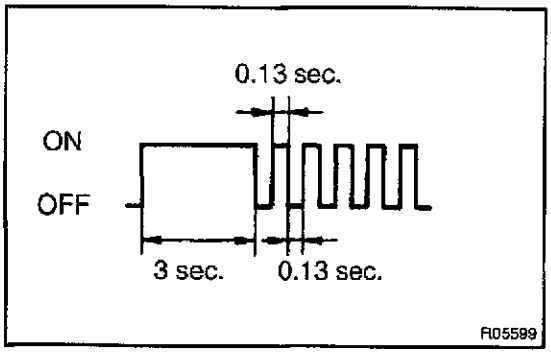
Check the deceleration sensor detection point.

(1) Turn the ignition switch OFF.

(2) Using SST, connect terminals Ts and E_1 of check connector.

SST 09843–18020

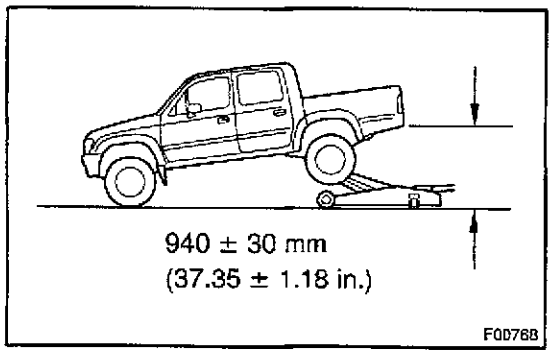
(3) Start the engine.



(4) Check that the ABS warning light blinks.

HINT:

If the ABS warning light does not blink, inspect the ABS warning light circuit (See page DI–98).



(5) Jack up the rear side of the vehicle slowly.

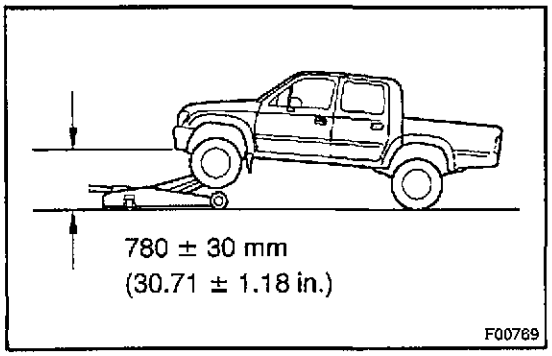
HINT:

When measuring the height, measure at the center of the lower body of the vehicle.

(6) Check that the warning light blinks.

If the warning light turns on, inspect the deceleration sensor installation. If the sensor installation is OK, replace the deceleration sensor.

(7) Jack down the vehicle slowly.



(8) Jack up the front side of the vehicle slowly, as shown.

HINT:
When measuring the height, measure at the center of the lower body of the vehicle.

(9) Check that the warning light blinks.

If the warning light turns on, inspect the deceleration sensor installation. If the sensor installation is OK, replace the deceleration sensor.

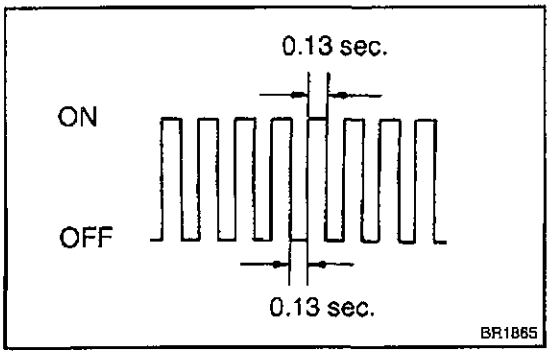
(10) Jack down the vehicle slowly.

(c) 4WD:

Check the deceleration sensor operation.

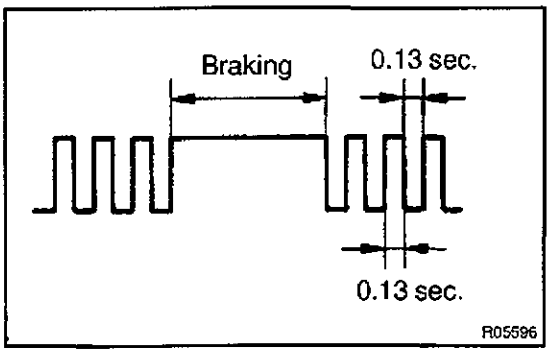
(1) Drive the vehicle straight ahead at about 20 km/h (12.4 mph) or more, lightly depress the brake pedal.

(2) Check that there is no change in the warning light pattern.



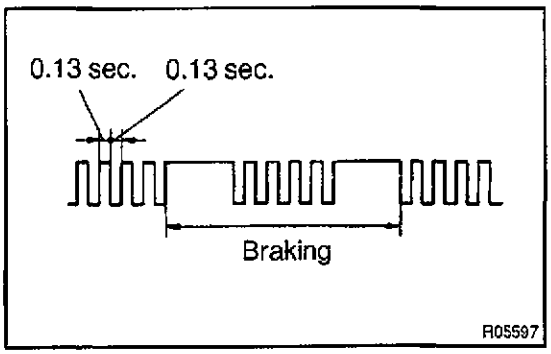
(3) Drive the vehicle straight ahead at about 20 km/h (12.4 mph) or more, and depress the brake pedal moderately.

(4) Check that the warning light turns on while braking.



(5) Drive the vehicle straight ahead at about 20 km/h (12.4 mph) or more, and depress the brake pedal strongly.

(6) Check that the warning light pattern changes while braking, as shown.



If the operation is not as specified, inspect the deceleration sensor installation. If the sensor installation is OK, replace the deceleration sensor.

(7) Stop the vehicle and turn the ignition switch OFF.

(8) Remove SST from the terminals Ts and E_1 of the check connector.

SST 09843–18020

(d) Check the DTC of speed sensor function.

DTC No.	Detection Item	Trouble Area
71	Low output voltage of right front speed sensor	• Right front speed sensor • Sensor installation
72	Low output voltage of left front speed sensor	• Left front speed sensor • Sensor installation
73	Low output voltage of right rear speed sensor	• Right rear speed sensor • Sensor installation
74	Low output voltage of left rear speed sensor	• Left rear speed sensor • Sensor installation
75	Abnormal change in output voltage of right front speed sensor	• Right front speed sensor rotor
76	Abnormal change in output voltage of left front speed sensor	• Left front speed sensor rotor
77	Abnormal change in output voltage of right rear speed sensor	• Right rear speed sensor rotor
78	Abnormal change in output voltage of left rear speed sensor	• Left rear speed sensor rotor
79*	Deceleration sensor is faulty	• Deceleration sensor • Sensor installation

*: 4WD models