

# Cruise Control (1ZZ-FE, 3ZZ-FE)

## System Outline

The cruise control system is a fixed speed driving control function that, when you want to drive your car on a highway at a fixed speed, automatically adjusts the opening of the throttle valve simply by manually operating the cruise control SW without stamping on the accelerator pedal.

### 1. Set Operation

When the ON-OFF SW is turned on, the system starts preparations necessary for the cruise control and turns on the CRUISE indicator light in the combination meter.

### 2. Set Speed Control

When the - SET SW is operated with the ON-OFF SW turned on during travelling, the constant vehicle speed is controlled.

### 3. Coast Control

When the - SET SW is kept on during cruise control driving, this system reduces the requested cruise control opening to 0 to decelerate the car (However, the throttle valve is not fully closed by the ISC, etc.), and stores the car speed at the time the SW is turned off, and provides fixed speed control.

### 4. Accel Control

When the + RES SW is kept on during cruise control driving, this system performs fixed acceleration control by running the electronic throttle motor in the opening direction of the throttle valve, and stores the car speed at the time the SW is turned off, and provides fixed speed control.

### 5. Resume Control

If the driving speed is still above the lower speed limit after cruise control by signals is canceled with the stop lamp SW on, the cruise control clutch SW off, the CANCEL SW of the cruise control SW on, and the VSC activated (w/ VSC), fixed acceleration control is performed by setting the + RES SW from off to on to reset the car speed to the speed stored at the time of cancellation.

### 6. Tap-Up Control Function

This function increases the stored car speed by approximately 1.6 km/h each time the + RES SW is instantaneously (For approximately 0.6 seconds) turned on.

However, if the difference between the stored and actual car speeds is 5 km/h or more, the stored car speed cannot be changed by this operation.

### 7. Tap-Down Control Function

This function reduces the stored car speed by approximately 1.6 km/h each time the - SET SW is instantaneously (For approximately 0.6 seconds) turned on.

However, if the difference between the stored and actual car speeds is 5 km/h or more, the car speed at the time the SW is turned off is stored for fixed speed control by tap-down operation.

### 8. Manual Cancel Mechanism

If any of the following signals is input during cruise control travelling, the cruise control is cancelled.

- \* The stop lamp SW is turned on.
- \* The cruise control clutch SW is turned off.
- \* The CANCEL SW is turned on.
- \* The ON-OFF SW is turned off.

### 9. Auto Cancel Function

A) If either of the following problems occurs, the stored speed will be cleared, and control will be canceled.

In this case, the CRUISE indicator will remain flickering until the ON-OFF SW is turned off, and control will stay disabled until the ON-OFF SW is turned on.

- \* The stop lamp SW is disconnected or shorted.
- \* The vehicle speed signal is faulty.
- \* The electronically controlled throttle malfunctions.

B) If any of the following problems occurs, the stored speed will be cleared, and control will be canceled.

In this case, the CRUISE indicator will remain flickering until the ON-OFF SW is turned off, and control will stay disabled until the engine start/stop SW is turned off.

- \* The stop lamp SW input circuit is malfunctioning.
- \* The cancel circuit is malfunctioning.

C) If any of the following conditions occurs during cruise control operation, the set speed is erased and the cruise control is released.

- \* When the vehicle speed falls below the minimum speed limit (Approx. 40 km/h, 25 mph).
- \* The driving speed is more than 16 km/h below the stored car speed.

## Service Hints

### E4 (A), E5 (B), E6 (C), E7 (D) Engine ECU

- (A) 3, (B) 6—Ground : Always approx. 12 volts  
 (A) 9—Ground : Approx. 12 volts with the engine start/stop SW at IG ON position  
 (A)15, (C) 3, (C) 7, (D) 5, (D) 6, (D) 7—Ground : Always continuity  
 (B) 19—Ground : Approx. 12 volts with the brake pedal depressed  
 (B) 24—Ground : Continuity with the ON—OFF SW at on  
 Approx. 1540  $\Omega$  with the CANCEL SW on in cruise control SW  
 Approx. 240  $\Omega$  with the + RES SW on in cruise control SW  
 Approx. 630  $\Omega$  with the – SET SW on in cruise control SW

### S13 Spiral Cable

- 5–4 : Approx. 1540  $\Omega$  with the CANCEL SW on  
 Approx. 240  $\Omega$  with the + RES SW on  
 Approx. 630  $\Omega$  with the – SET SW on

## ○ : Parts Location

Code		See Page		Code		See Page		Code		See Page			
A18		44 (LHD)		E7	D	45 (LHD)		J19		55 (RHD)			
		54 (RHD)				55 (RHD)		J22		55 (RHD)			
B8		44 (LHD)		E8		45 (LHD)		J23		55 (RHD)			
		54 (RHD)				55 (RHD)		J28		55 (RHD)			
C1		40 (*1)		I8		45 (LHD)		M1		46 (LHD)			
		50 (*3)				55 (RHD)				56 (RHD)			
C7		40 (*1)		J3		45 (LHD)		N1		41 (*1)			
		50 (*3)		J9    A		45 (LHD)				51 (*3)			
C13		44 (LHD)		J10		B		S5		A		41 (*1)	
		54 (RHD)		J11		A						51 (*3)	
C14		44 (LHD)								J12		B	
		54 (RHD)		45 (LHD)		51 (*3)							
C18		44 (LHD)		J13		55 (RHD)		S13		47 (LHD)			
		54 (RHD)				45 (LHD)				57 (RHD)			
E4	A	45 (LHD)		J16		45 (LHD)		S17		47 (LHD)			
		55 (RHD)		J17		A				57 (RHD)			
E5	B	45 (LHD)						J18		B		T2	
		55 (RHD)		51 (*3)									
E6	C	45 (LHD)		J19		55 (RHD)		T16		47 (LHD)			
		55 (RHD)				45 (LHD)				57 (RHD)			

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	24 (*5)	Engine Room R/B No.1 (Engine Compartment Left)
4	27	Engine Room R/B No.4 (Left Side of the Suspension Tower)
5	28	Fuse Block (Lower Finish Panel)

\* 1 : LHD 1ZZ-FE, 3ZZ-FE   \* 2 : LHD 1CD-FTV   \* 3 : RHD 1ZZ-FE, 3ZZ-FE   \* 4 : RHD 1CD-FTV   \* 5 : 1ZZ-FE, 3ZZ-FE   \* 6 : 1CD-FTV

## Cruise Control (1ZZ-FE, 3ZZ-FE)



### : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
CA	36 (LHD)	Instrument Panel Wire and Center J/B (Behind the Combination Meter)
	36 (RHD)	Instrument Panel Wire and Center J/B (Instrument Panel Reinforcement RH)
CC	36 (LHD)	Instrument Panel Wire and Center J/B (Behind the Combination Meter)
	36 (RHD)	Instrument Panel Wire and Center J/B (Instrument Panel Reinforcement RH)
CF	36 (LHD)	Instrument Panel Wire and Center J/B (Behind the Combination Meter)
	36 (RHD)	Instrument Panel Wire and Center J/B (Instrument Panel Reinforcement RH)
CH	37 (LHD)	Instrument Panel Wire and Center J/B (Behind the Combination Meter)
	37 (RHD)	Instrument Panel Wire and Center J/B (Instrument Panel Reinforcement RH)
CJ	37 (LHD)	Instrument Panel Wire and Center J/B (Behind the Combination Meter)
	37 (RHD)	Instrument Panel Wire and Center J/B (Instrument Panel Reinforcement RH)
DA	32	Instrument Panel Wire and Instrument Panel J/B (Left Side of the Instrument Panel)
DB		
DC		
DH		



### : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB1	60 (*1)	Engine Wire and Engine Room Main Wire (Left Side of the Suspension Tower)
	70 (*3)	
IA1	64 (LHD)	Engine Room Main Wire and Instrument Panel Wire (Behind the Combination Meter)
	74 (RHD)	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
IA2	64 (LHD)	Engine Room Main Wire and Instrument Panel Wire (Behind the Combination Meter)
	74 (RHD)	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
IA4	64 (LHD)	Engine Room Main Wire and Instrument Panel Wire (Behind the Combination Meter)
IA8	64 (LHD)	Engine Room Main Wire and Instrument Panel Wire (Behind the Combination Meter)
	74 (RHD)	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
IA9	74 (RHD)	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
IE1	64 (LHD)	Instrument Panel Wire and Floor Wire (Left Kick Panel)
IE2	64 (LHD)	
	74 (RHD)	
IE3	64 (LHD)	
IF1	66 (LHD)	Instrument Panel Wire and Switch Wire (Instrument Panel Brace LH)
IJ1	66 (LHD)	Engine Wire and Instrument Panel Wire (Behind the Glove Box)
	76 (RHD)	
IJ2	66 (LHD)	
	76 (RHD)	
IO1	76 (RHD)	Instrument Panel Wire and Switch Wire (Right Side of the Instrument Panel)



### : Ground Points

Code	See Page	Ground Points Location
ED	60 (*1)	Engine Compartment Left
	70 (*3)	
EE	60 (*1)	Left Side of the Cylinder Head
	70 (*3)	
EF	60 (*1)	
	70 (*3)	
II	64 (LHD)	Left Kick Panel
	74 (RHD)	
IM	64 (LHD)	Right Kick Panel
	74 (RHD)	

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**: Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	66 (LHD)	Engine Wire	I9	76 (RHD)	Engine Wire