

Fan Controller

Installation Manual

This manual assumes that you have and know how to use the tools and equipment necessary to safely perform service operations on your vehicle. This manual assumes that you are familiar with typical automotive systems and basic service and repair procedures. Do not attempt to carry out the operations shown in this manual unless these assumptions are correct. Always have access to a factory repair manual. To avoid injury, follow the safety precautions contained in the factory repair manual.



Pursuing the Ultimate in Engine Performance and Efficiency.
HKS Company Limited.

E05151-K00080-00
Ver. 020305

Parts List

1 Fan Controller Unit 45007-AK001 1	2 Female Connector 14	3 Male Connector 14
4 Female Sleeve 14	5 Male Sleeve 14	6 Double Sided Tape 1
7 Tie Wrap (100mm) 5	8 Spade Terminal 1	9 Operations Manual 1
10 Instillation Manual 1	11 Extension Harness 1	

INSTALLATION:

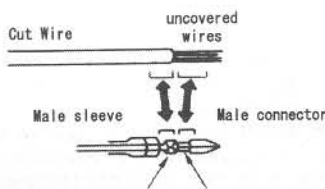
1. Disconnect the negative battery cable from the battery

2. 1. How to install a male / female connector

● Male Connector

- ① Cut the wire to install.
- ② Strip the cover of the wire.
- ③ Put the male sleeve into the wire.
- ④ Snap the male connector into the uncovered wire.
- ⑤ Snap the male connector into the capsule.
- ⑥ Insulate the settled portion with the sleeve.

* If there are 2 wires, put 2 wires together as 1 wire and follow the procedure above.



Snap the male connector into the capsule.

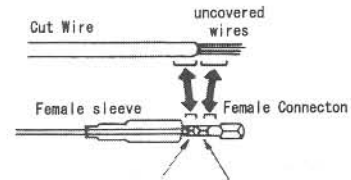
Snap the male connector into the uncovered wire.

- 1 -

● Female Connector

- ① Cut the wire to install.
- ② Strip the cover of the wire.
- ③ Put the female sleeve into the wire.
- ④ Snap the female connector into the uncovered wire.
- ⑤ Snap the female connector into the capsule.
- ⑥ Insulate the settled portion with the sleeve.

* If there are 2 wires, put 2 wires together as 1 wire and follow the procedure above.



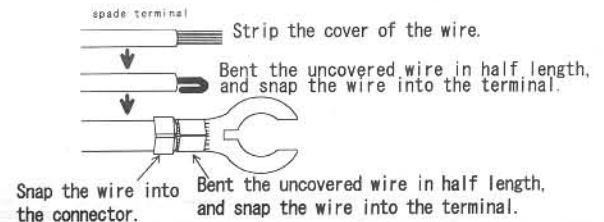
Snap the female connector into the capsule.

Snap the female connector into the uncovered wire.

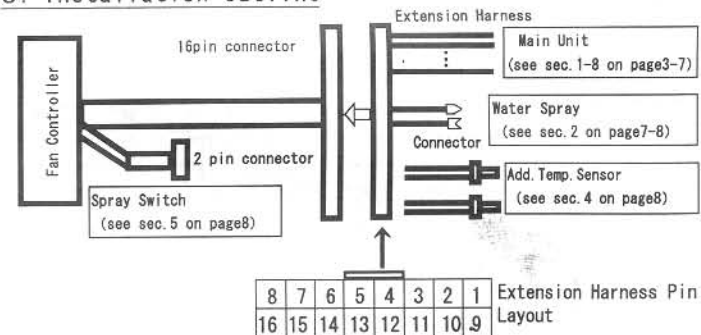
2. 2. How to install a spade terminal

- ① Refer to the installation procedure for the main unit, cut the extension harness to the appropriate length.
- ② Strip the cover of the wire.
- ③ Bent the uncovered wire in half length, and snap the wire into the terminal.
- ④ Snap the wire into the connector.

* If there are 2 wires, put 2 wires together as 1 wire and follow the procedure above.



3. Installation Outline



4. Installation

- ① See the procedure below.

5. After Installation

- ① Reinstall all removed stock parts.
- ② Reconnect the negative battery cable to the battery.

* See the list on page 12.

Installing the Main Unit

1. Installing Fan

1. 1. Basic Procedure

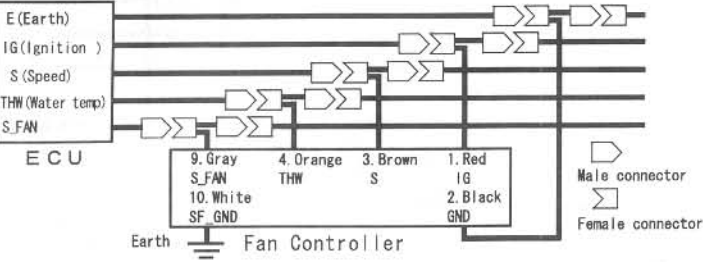
- ① Select an appropriate procedure for your vehicle referring to the application list on page 9 to 11.
- ② Refer to the installation instructions on page 3-7 and the connectors' layout, find the following wiring: IG Power Source, Speed, and so on. After finding these wires, cut them and install connectors.
- ③ Cut the extension harness to the appropriate length and install connectors and the spade terminal.
- ④ Attach the spade terminal to a chassis ground.
(Make sure no rust or paint on the ground surface.)
- ⑤ Install the extension harness.

Note: Insulate and bundle wires not connect to the extension harness.

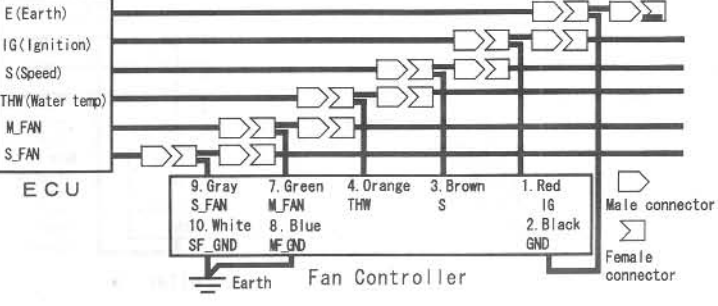
- 2 -

1. 2. Vehicle Specific Installation

Installation 1 Vehicles with One Fan



Installation 2 Vehicles with Speed Adjustable Fan or 2 Fans Independently Controllable



Depending on the way of the fan control, types of vehicle are classified as follows:

- 2.1 Vehicles with 2 fans independently controllable.
- 2.2 Vehicles with a fan is controlled at high and low speed.
 - The low speed starting temperature is controlled by Fan Controller's sub-fan starting temperature. The high speed starting temperature is controlled by Fan Controller's main fan starting temperature.
- 2.3 Vehicles with 2 fans are simultaneously switched to the high, mid, and low speed and controlled at each speed range. (Mazda RX-7 FD3S)
 - HKS Fan Controller can control the fan only at 2 levels. Select one of the following control ranges:

●Mid-Low Speed Range: The low speed starting temperature of a fan is controlled by Fan Controller's sub-fan starting temperature. The mid speed starting temperature is controlled by Fan Controller's main fan starting temperature.

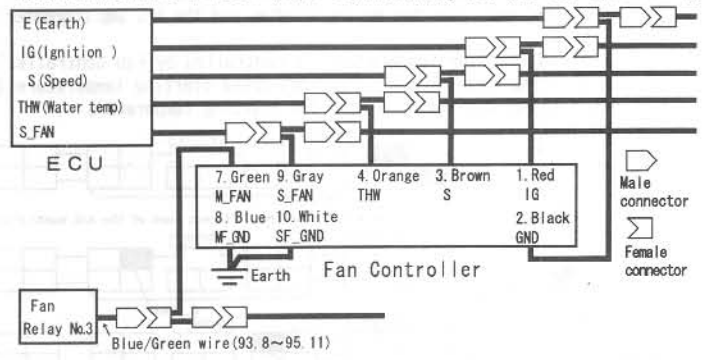
For FD3S (91/11-93/7・95/12-) refer to the installation 2 on page 3.
For FD3S (93/8-95/11) refer to the installation 2-3-1 below.

- In this case, if you turn on A/C at the mid speed range, the fan will work in high speed.

The mid speed starting temperature of a fan is controlled by Fan Controller's sub-fan starting temperature. The high speed starting temperature is controlled by Fan Controller's main fan starting temperature.

- For FD3S (91/11-93/7・95/12-) refer to the installation 2 on page 3.
For FD3S (93/8-95/11) refer to the installation 2-3-1 below.
- In this case, if you turn on A/C at the mid speed range, the fan will work in high speed.

Installation 2-3-1: FD3S (93/8-95/11)Wiring for Mid-Low Speed Range

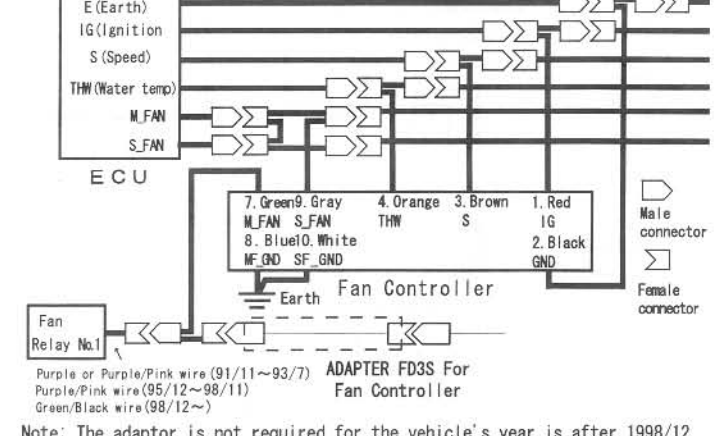


●High-Mid Speed Range: The mid speed starting temperature of a fan is controlled by Fan Controller's sub-fan starting temperature. The high speed starting temperature is controlled by Fan Controller's main fan starting temperature.

- For FD3S (91/11-93/7・95/12-) refer to the installation 2-3-2 below.
For FD3S (93/8-95/11) refer to the installation 2-3-3 below.
- In this case, both HKS Fan Controller and the factory controller cannot let the fan work in low speed.

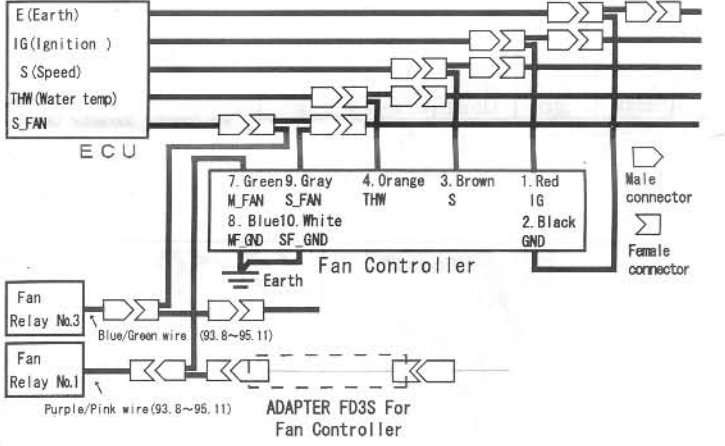
Note: For controlling RX-7 in the high-mid speed range, the adaptor is required. The adaptor is available separately.

Installation 2-3-2: FD3S (91/11-93/7, 95/12-)Wiring for High-Mid Speed Range

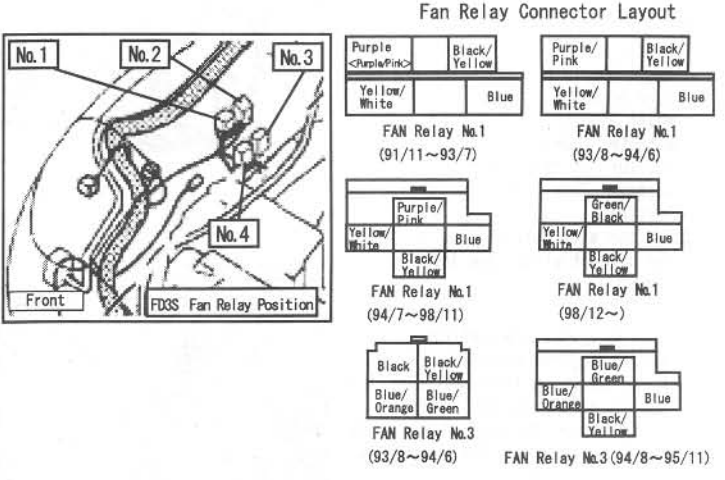


Note: The adaptor is not required for the vehicle's year is after 1998/12.

Installation 2-3-3: FD3S (93/8-95/11)Wiring for High-Mid Speed Range

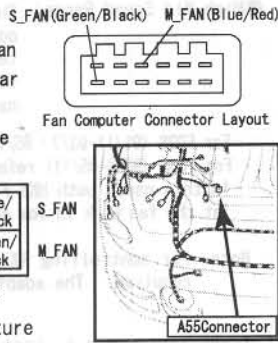
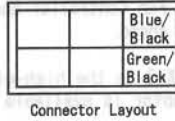


●For wiring, refer to the FD3S fan relay connector layout and the fan relay position below.

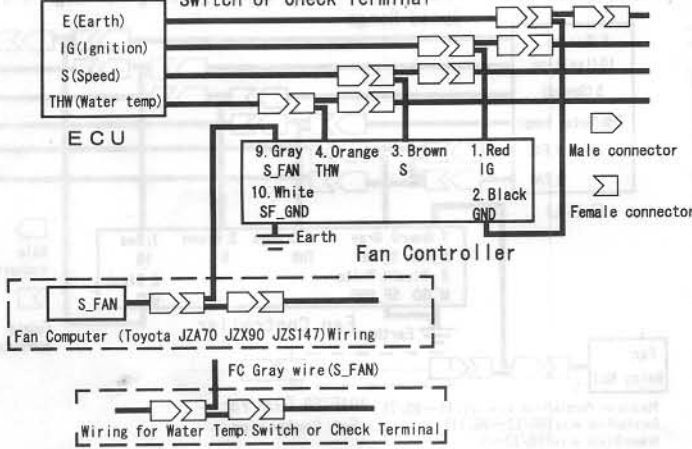


2.4 Wiring 2 fans to a fan computer

- Honda NSX NA1 (90/9-97/1): Wiring to the fan computer. (The fan computer is located near the ECU.) Honda NSX NA1 (90.9~97.1)
- Mitsubishi GTO (90/10-93/7): Wiring to the engine room A55 connector.



Installation 3: Wiring for Water Temperature Switch or Check Terminal

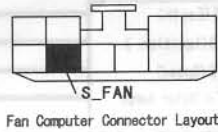


3.1 Wiring for Fan Computer

Make sure the position of the fan computer referring to the application list and the fan computer connector layout. Connect wires referring to the installation 3 below.

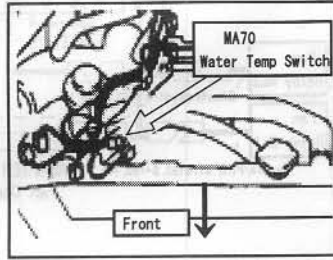
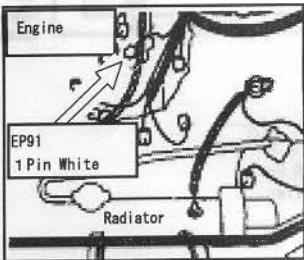
Application

Vehicle	Model	Engine	Year	
MARK II	JZX90	1JZ-GTE	92.10~96.8	①
ARISTO	JZS147	2JZ-GTE	91.10~97.7	③
SUPRA	JZA70	1JZ-GTE	90.8~93.4	④



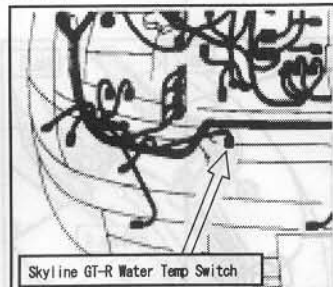
3.2 Toyota Starlet EP91 and Supra MA70 (Wiring for the water temp switch)

- ① Position the water switch referring to the diagrams below.
- ② Connect wires referring to the installation 3.



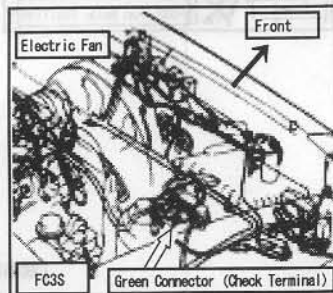
3.3 Nissan Skyline HCR32, ECR33, BNR32, BCNR33 (Wiring for the water temp switch)

- ① There is a green connector as shown in the diagram of the radiator lower tank. Remove the connector and make sure which wire carries voltage, which should be about 12V, using a tester. (Connect the battery once, and turn on the IG key to test the voltage. Remove the battery after testing.)
- ② Cut the wire carrying the voltage, and connect wires. (See Installation 3 above.)

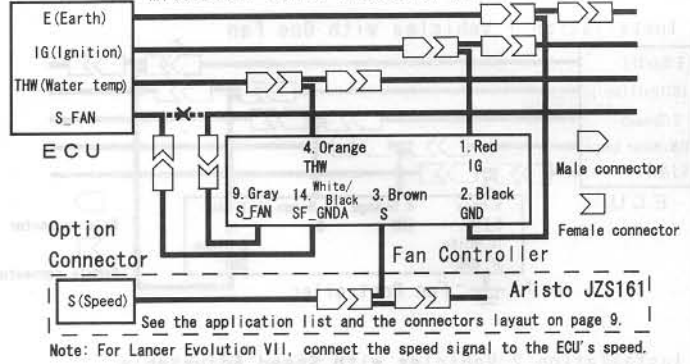


3.4 Mazda RX-7 FC3S (89/3-91/10) (Wiring to Check Terminal)

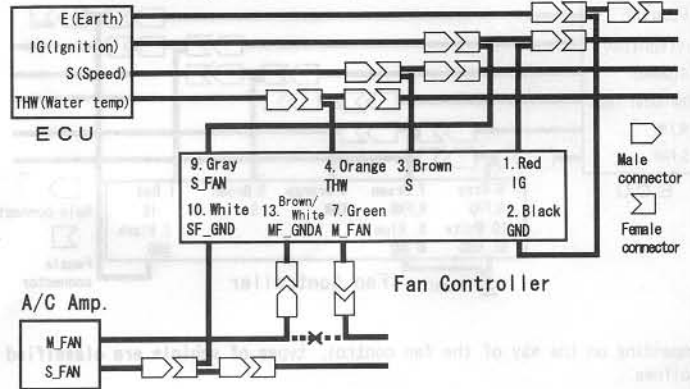
- ① Find the check terminal referring to the diagram on the right. (Green connector. When shorting the check terminal to the ground, the fan will work.)
- ② For wiring, refer to Installation 3.



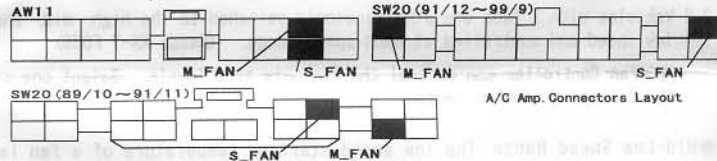
Installation 4: Toyota Aristo JZS161, Mitsubishi Lancer Evolution VII



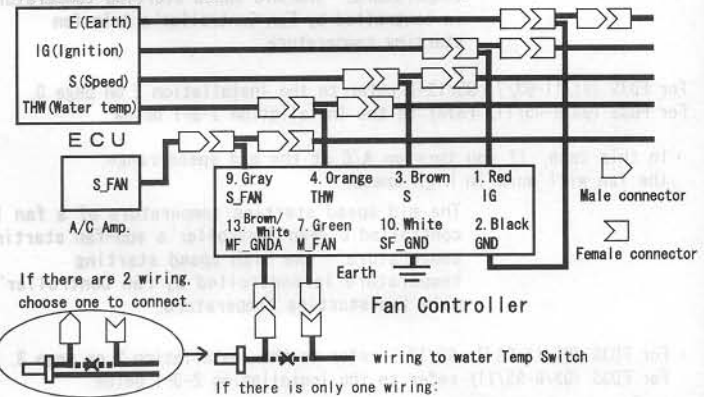
Installation 6: Toyota MR2, AW11, SW20 (Speed Adjustable Fan)



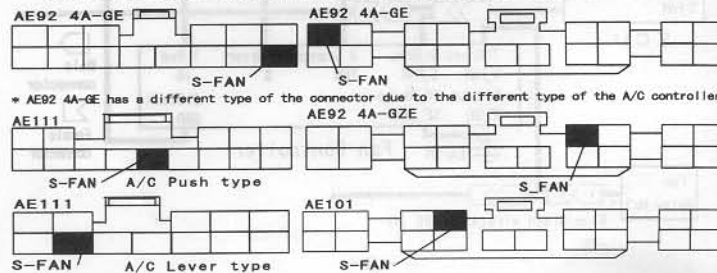
- ① Connect the A/C amp. (See the wiring diagram above and the A/C amp connector's layout below.)
- ② The low speed starting temperature is controlled by Fan Controller's sub-fan starting temperature. The high speed starting temperature is controlled by Fan Controller's main fan starting temperature.

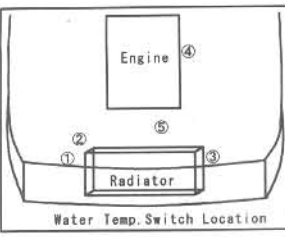


Installation 7: Toyota Levin·Trueno AE92, AE101, AE111



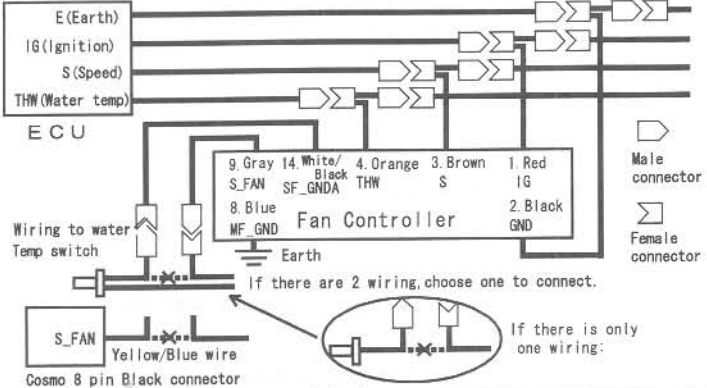
- ① Find the water temp switch referring to the location diagram below. To find the switch, disconnect the connector for the switch; then the electric fan will start moving.
- ② Connect the water temp switch. (See the wiring diagram.)
- ③ Connect the A/C amp. (See the wiring diagram and the A/C amp connector's layout below.)
- ④ The low speed starting temperature is controlled by Fan Controller's sub-fan starting temperature. The high speed starting temperature is controlled by Fan Controller's main fan starting temperature.





Vehicle	Model	Engine	Year	Water Temp. Switch Location	Number of Pin
LEVIN TRUENO	AE111	4A-GE	95.5~'01.7	④	1or2
	AE101	4A-GZE	91.6~'94.4	④	
	AE92	4A-GZE 4A-GE	87.5~'91.5	④	
MARK II	JZX100	1JZ-GTE	96.9~'00.9	①	2
	JZX90	1JZ-GZE	92.10~'96.8	②	
STARLET	EP82	4E-FTE	89.12~'95.11	④	1
ARISTO	JZS147	2JZ-GZE	91.10~'97.7	③	2
SUPRA	JZA80	2JZ-GTE	93.5~	③	2
SOARER	JZZ30	1JZ-GTE	91.5~'01.3	③	2
CELICA	ST205	3S-GTE	94.2~'99.8	②	2
	ST202	3S-GE	90.10~'97.11	②	
CURRENT	ST206	3S-GE	94.1~'98.12	②	2
RX-7	FC3S	13BT	85.9~'89.2	⑤	1

Installation 8: Wiring for Water Temperature Switch

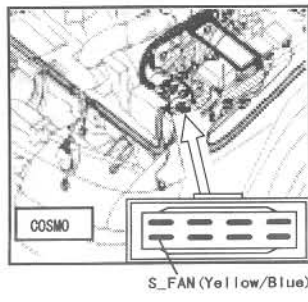


8.1 Wiring for Water Temperature Switch

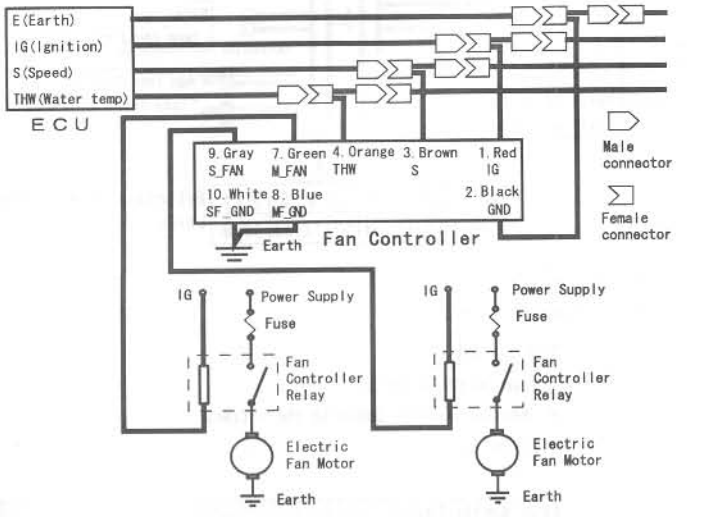
- Find the water temp switch referring to the location diagram above. To find the switch, disconnect the connector for the switch; then the electric fan will start moving.
- Connect the water temp switch. (See the wiring diagram above.)

8.2 Mazda Eunos Cosmo JC3SE (Wiring for the 8 pin connector)

- Find the yellow/blue wire and make sure the connector's position. (See the diagram right)
- Connect the wire. (See the wiring diagram above.)



1. 3. Installing Electric Fan



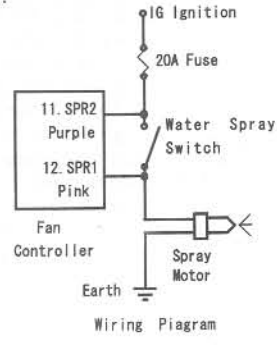
- For 1 fan, connect to 9, 10 pin S_FAN.
 - To use Fan Controller with the water temp. sensor, Fan Controller's serial number must be newer than F022****.
- Note: Fan Controller does not include wiring relays and fuses.

2. Installing Water Spray

2. 1. For Vehicles Equipped with Water Sprays

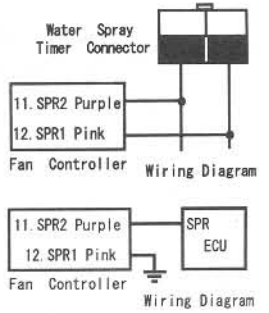
The water spray piping is not necessary; electrical wiring is only required.

① Wiring for Manual Switch
(Wiring to run the spray motor.)
As shown in the diagram on the right, Fan Controller's control wire and a vehicle's manual switch are wired in parallel.



② Wiring for Water Spray Timer

For Impreza (GC8, GDB) equipped with the automatic spray function, wiring must be done as shown in the diagram on the right. The location of the water spray timer is as follows: GC8(-98/8) ECU①, GC8/GDB(98/9-) ECU③.



③ Wiring to ECU

Applicable Vehicles:
Mitsubishi Lancer Evolution VII,VIII/CT9A
Subaru Impreza / GDB (2004/6-)

2. 2. Vehicles NOT equipped with Water Sprays

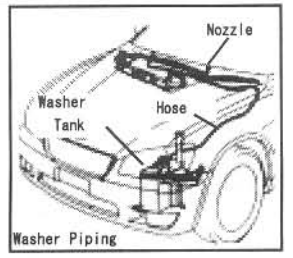
(Use Window Washer Tank)

⚠ Caution

●When the front window washer tank is used as the spray tank, the window washer liquid cannot be sprayed to the window. This may violate the safety regulations.

① Piping:

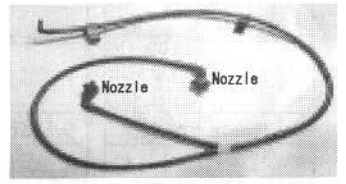
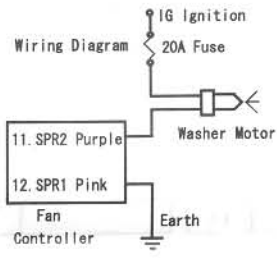
- Remove the hose of the washer tank. (the end of the tank or the one-way valve of the hose)
- Connect the nozzle or the recommended hose to the washer tank.
- Position the nozzle where water is sprayed to the radiator (or intercooler).



② Electric Wiring:

- Remove the connector of the washer tank.
- Connect it as shown below.

Note: Fan Controller does not include the wiring materials.



3. Recommended Parts for Water Spray

- See the diagram right above for connecting.
- These recommended parts do not include a water tank, a electric wiring materials, or fixtures.
- The length of hoses may not be long enough for certain vehicles.

Recommended Parts List

Parts	Part Number	Qt.
Nozzle	86636FA120	2
Hose, Intercooler Left	86663FE020	1
Hose, Intercooler Right	86663FE010	1
Hose, Intercooler Assy	8663FE000	1

4. Installing Spray Switch

* Spray Switch is available separately.

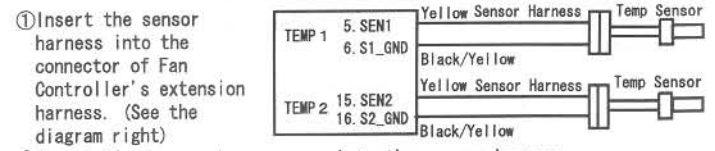
Part Number	Product	Remarks
45999-AK001	Spray Switch	Harness (L=2000mm) & double sided tape are included.

- Install the spray switch to the 2 pin connector of Fan Controller.
- Using Spray Switch makes the operation easier.

5. Installing Additional Temperature Sensor

* Temperature Sensor is available separately.

Part Number	Product
45999-AK002	Temperature Sensor



- Insert the sensor harness into the connector of Fan Controller's extension harness. (See the diagram right)
- Insert the temperature sensor into the sensor harness.
The following type of temperature can be measured:
 - Oil Temp: Vehicles using M12xP1.25 drain bolts need to remove the drain bolt on the oil pan and use attached fitting to measure the temperature.
 - Water Temp: Use Water Temp Joint Pipe (available separately) and attached fitting to measure the temperature from the radiator upper hose.
 - Intake Air Temp: Install the sensor inside the air cleaner box to measure the temperature.
 - Room Temp, Outside Temp

Fan Controller

Operations Manual

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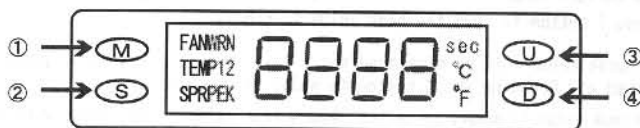
Pursuing the Ultimate in Engine Performance and Efficiency.
HKS Company Limited.

E05151-K00070-00
Ver. 020105

The HKS Fan Controller improves cooling control efficiency, optimizes temperature management, and prevents engine overheating. It displays water temperature, controls one or two electric cooling fans, and a water sprayer for the intercooler. It has following functions.

- Real time display of water temperature with peak hold and over-temp warning. (Use factory coolant temperature sensor.)
- Two additional temperature inputs with peak hold, and over-temp warning. (Additional sensors required.)
- Independent control function of main and sub electric fans. If an external fan is connected, a high voltage 20/30 amp relay must be used.
- User adjustable start and stop temperatures.
- Water spray function.
(Extra components required for the water spray function)
- ◎ Spray patterns: manual spray, auto spray with 2 user selectable patterns, and three of fixed spray patterns.
- ◎ Auto spray temperature ranges are between 40-120 degrees C. (1degree increments)
- ◎ Select function of spray condition.
The water spray can be activated by:
 - Water temp or an additional HKS Temperature Sensor (Part # 45999-AK002).
 - Vehicle speed.
 - Manual switch.
- ◎ Manual operation can be activated by the unit's switch or optional HKS Scramble Switch (Part # 45999-AK001).
- ◎ The Fan Controller can also control the factory vehicle's water spray. (If equipped).
- For use on 12V negative ground vehicles only.
- Connection to vehicles with 24V systems will result in damage to the unit.

Display Buttons

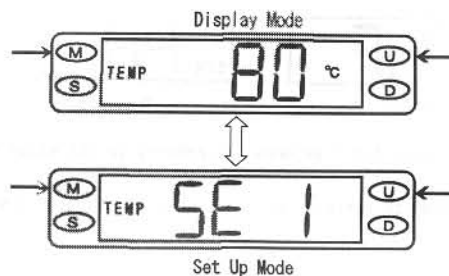


- ① M : Mode
- ② S : Select
- ③ U : Up
- ④ D : Down

Operations

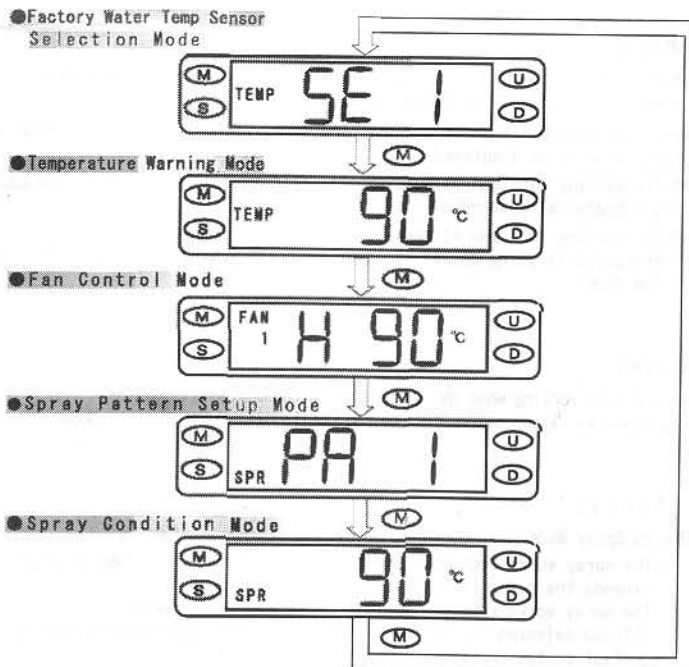
The Fan Controller has a display setup mode and a setting mode for function number change.

- Change of display mode and setup mode
Simultaneously press buttons M and U to change from the Display Mode to the Setup Mode.



- After setup is complete, press the M and U buttons at the same time to return to the display mode. If the ignition is turned off without returning to the display mode, the setup will be invalid.

Flow Chart of Setup Modes



1. Water Temperature Sensor Select Mode

Functions:

- Selecting the type of the factory water temperature sensor.
 - You can choose the appropriate type of the sensor for your vehicle.
 - Selecting the type of temperature unit, Centigrade(°C) or Fahrenheit(°F).

Procedure:

- Simultaneously press the M and U buttons if not already in the setup mode.
- Press the U button to select the appropriate sensor referring to the chart below.
- Press the S button to change to the temperature unit display.
 - Press the U button to select Centigrade or Fahrenheit unit display.

- Verify that the Fan Controller displays the correct engine temperature. Otherwise incorrect fan operation may occur possibly overheating and damaging the engine.



Centigrade temperature unit display



Fahrenheit temperature unit display

NOTE: To select the type of the factory water temp. sensor for Toyota and Mazda, refer to the installation manual.



Sensor Type	Make
1	Toyota
2	Nissan
3	Honda
4	Mitsubishi
5	Subaru
6	Mazda1
7	Toyota2
8	Mazda2

Factory Temp Type

2. Temperature Warning Mode

Functions:

- Setting the water temperature warning value.
 - Setting 2 warning values.
 - TEMP 1: Setting the warning value from the additional temperature sensor 1.
 - TEMP 2: Setting the warning value from the additional temperature sensor 2.
- +Using the additional temperature sensor can display other temperature (e.g. Oil temp).
You can connect up to 2 sensors. The sensor is available separately.

Procedure:

- Press M to switch to the Temperature Warning Mode
 - Set temperature to trigger warning by pressing the U or D button.
 - Pressing the S button will select the TEMP1 and TEMP2 warning functions. This is used for extra warning alerts if additional temperature sensors are connected.
- Initial Warning Setting Value 100°C (212° F).
 - Water Temperature Warning Setting Range 60~120°C (140~248° F)
 - Temperature 1, Temperature 2, Warning Setting Range 20~150°C (68~302° F)
 - Setting Temp Step 1°C (1° F)



Temperature Warning Mode.



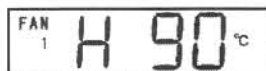
3. Fan Control Mode

Functions:

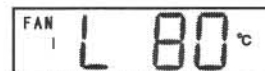
- Setting the starting temperature (H) of FAN 1 and 2.
- Setting the stopping temperature (L) of FAN 1 and 2.
- Selecting the fan control method, by the stock ECU or by Fan Controller.

Procedure:

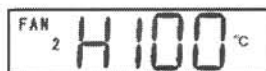
- Press M to select the Fan Control Mode.
- Set Fan turn on (H) temperature by pressing the U or D button.
- Press S to select the fan turn off (L) temperature. Use U or D to adjust.



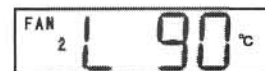
FAN1 Starting Temp



FAN1 Stopping Temp



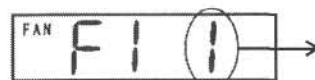
FAN2 Starting Temp



FAN2 Stopping Temp

- Press S again to setup fan on and off temps for a second fan.
- Pressing S once more selects the fan control method.
 - Press the U button to select fan control by the stock ECU, or by the Fan Controller.
 - 0 - fans controlled by stock ECU
 - 1 - fans controlled by Fan Controller

- Start and Stop Temperature Range 40~100°C (104~212° F).
- Temp Setting Step 1°C (1° F).
- Fan 2 starting temperature cannot be set below Fan 1's starting temperature.
- Stopping temperature cannot be set less than 3°C (3° F) from starting temperature.



Select the fan control method.

0	Control by the stock ECU
1	Control by HKS Fan Controller
2	Control by Temp Sensor 1
3	Control by Temp Sensor 2

- Initial setting: 1.

4. Spray Pattern Setup Mode

Function:

- Setup interval time and spray time of manual spray pattern and auto spray setting 1~5.
- Spray Pattern: spray intermittently following below.

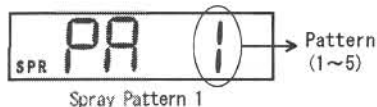


Spray Patterns:

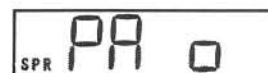
- Pattern 1 (PA1): Auto Spray 1:
 - Spray - 1 sec, Stop-0.5 sec, Number of Spray - 1-20 times, Initial Value - 5 times
 - Pattern 2 (PA2): Auto Spray 2:
 - Spray - 1.5 sec, Stop-1.0 sec, Number of Spray - 1-20 times, Initial Value - 5 times
 - Pattern 3 (PA3): Auto Spray 3:
 - Spray - 1.5 sec, Stop-1.5 sec, Number of Spray - 1-20 times, Initial Value - 5 times
 - Pattern 4 / 5 (PA4 · PA5): Auto Spray 4 / 5:
 - Time of spray and stop can be set between 0 to 10 sec. (Default time is 1.0 sec.)
 - Number of Spray - 1-20 times, Initial Value - 5 times
 - Pattern 6: Manual Spray
 - The sprayer works while pressing the button.
- Manual spray by Auto Spray mode:
Under Auto Spray mode, the sprayer can work while pressing the button and for the set time after releasing the button. Spray time can be set between 0-10 sec. (Default time is 2.0 sec.)

Setting of Spray Pattern:

- Select spray pattern by pressing the S button.
 - Pattern # 1-5
 - Auto Spray Mode
 - Manual Spray Mode
 - Spray OFF



Spray Pattern 1

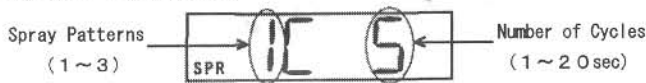


Manual Spray

② Press the D button to select a spray pattern.

③ Spray Pattern 1, 2, and 3

The number of the spray pattern and the number of the spray times are displayed on the monitor.



Press the U button to set the number of the spray times.

Spray Pattern 4 and 5

The number of the spray pattern and the time of spray are displayed on the monitor.



Press the U button to set the spray time.
Press the D button to select the time to stop the spray.



Press the U button to set the time to stop the spray.
Press the D button to select the number of the spray times.
Press the U button to set the number of the spray times.
(The illustrations above are showing Spray Pattern 1.)

④ Pressing the S button shows next spray pattern. Pressing the D button starts setting.

⑤ For manual spray under Auto Spray mode, press the U button to set the spray time.



Under Auto Spray mode, the spray will work when pressing the switch. The spray keeps working while the switch is pressed and for the time set beforehand after the button was released.

5. Spray Function Condition Select Mode

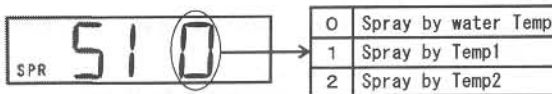
In this mode, you can:

- Setup auto spray start temperature
- Select water temperature and temperature 1 and 2 for spray.
- Setup spray to turn on when vehicle is stopped.
- Setup spray to turn on at a certain vehicle speed
- Setup pulse number of vehicle speed.



Operation:

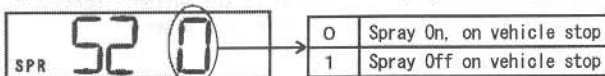
- Press the M button to select spray mode. Press the U or D button to set temperature to start spray function. Auto Spray Start Temperature Setting Range: 40~120°C (104~248° F) Initial Value: 90°C (194° F)
- Press the S button to select which temp sensor to control spray. Press the U or D button to select control by water temperature, or temperature 1 or 2. Initial setting is water temperature



Initial Setting: 0.

③ Press S to select water spray on vehicle stop.

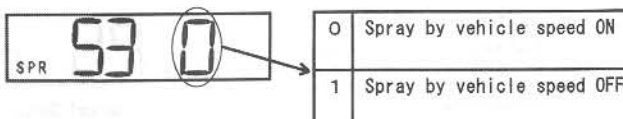
- Select On or Off by U switch.
- Initial setting is spray on vehicle stop. If it set to off, there is no spray on vehicle stop even if it exceeds the spray start temperature.



Initial Setting: 0.

④ Press the S button to setup spray by vehicle speed.

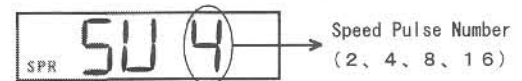
- Press the U button to turn on or off.



0 = ON, 1 = OFF
Initial setting is ON

⑤ Press S to set up of the vehicle's speed pulse number

- Press the U button to select speed pulse 2, 4, 8, or 16. (Initial setting is 4)
- Most Toyotas will have a speed pulse of 4, Nissans 2. Incorrect speed pulse number will not read correct vehicle speed.



Initial Setting: 4

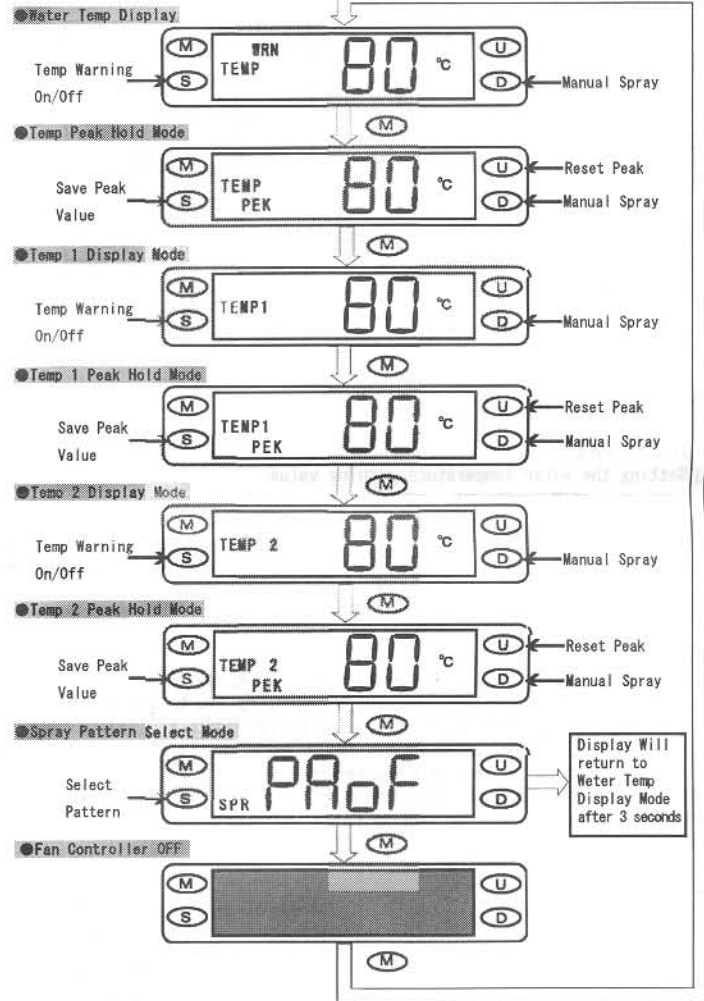
⑥ Press S to select function of spray start vehicle speed.

- Press the U or D button to set vehicle speed.
- Setting Range of Spray Start Vehicle Speed: 20~180km/h



Initial Set Up: 120km/h

Display Mode



1. Temperature Display

- Water temperature mode takes water temperature signal from vehicle ECU, and displays the engine cooling water temperature in real time.
- Temperature 1, temperature 2 display modes (e.g. Oil temperature) can be displayed by additional temperature sensors (optional).
- Temperature Display Range: Water Temperature 0~130°C (32~266° F), Temperature 1 and 2 -30~150°C (-22~302° F)
- If no temperature sensor is attached, there is no reading, and display shows bars.



2. Warning ON/OFF

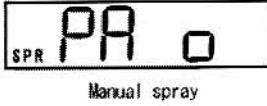
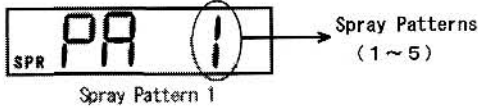
- Warning can be turned on or off by the S button in the temperature display mode.
- WRN will be displayed if turned on.
- When the temperature exceeds the setup value, the display will flash red and a buzzer sounds.
- Warning can be turned on or off for each of the temperature sensors.

3. Temperature Peak Hold Display

- ① Pressing the U button in the peak hold mode resets the peak value to the current temp.
- ② Press S button to save the peak value to memory.
- The peak value will be displayed and will be erased if ignition power is turned off. Pressing the S button to saves it to memory.
- The peak value in memory is called "Memory Peak Value." This value will not be deleted if the ignition is turned off.
- When the ignition is turned on, the memory peak value will be displayed.
- Fan Controller reads the displayed peak value as a temporarily value, and the memory peak value as a past peak value while the ignition is on.
- The initial setting value is 0°C (32° F).

4. Spray Pattern Selection

- ① Select spray off, auto spray 1~5, or manual spray by the S button.



- If left in this mode for 3 seconds, it returns to the water temperature display.
- The spray is ready to activate when turned on and flashes SPR in the display.

5. OFF Mode

- All displays disappear.
- Fan control changes to the stock EQU.
- Spray is off.

Note: The setting of the fan and spray control returns to the setting before OFF mode when the mode is switched to Display Mode.

《Warning》

- Warning function activates when the warning function is on and the temperature exceeds the setup value.
- While Warning function is working, the temperature activated the warning function will be displayed.
- While Warning function is working, the display will flash showing **WRN** and a buzzer will sound.
- While Warning function is working, if the display flashes red, the temperature is going up; if the display flashes blue, the temperature is going down.

《Fan》

- Fan starts working when the temperature exceeds the setup value. You have to select controlling by Fan Controller in Fan Control Mode.

《Spray》

- Auto Spray Mode
 - The spray works when the selected temperature (water, Temp 1 or 2) exceeds the setup value.
 - The spray works when the speed exceeds the setup speed. (If you selected to spray by speed, the temperature setting has no effect on the spray function.)

Note: The spray works while pressing the D button or the spray switch even if Auto Spray Mode is selected. (The spray switch is available separately.)

The spray also works while pressing the button and for the setup time after releasing the switch.

● Manual Mode

- The spray works while pressing the D button or the spray switch. (The spray switch is available separately.)

- Display
- ◎ Auto Spray



- The display shows a countdown of the setup time.
- While spraying, the display turns red, and when the spray stops, the display turns blue.

◎ Manual Spray



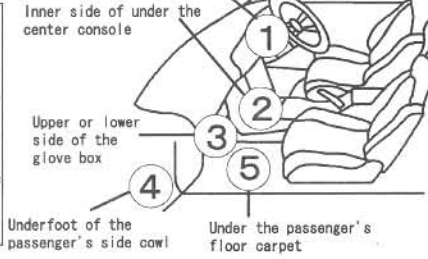
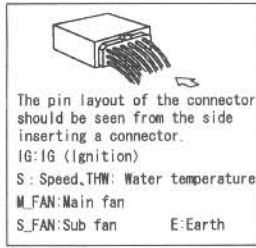
- The display shows a count-up of the setup time while pressing the D button or the spray switch.
- When releasing the button before the setup time, the display shows a countdown of the setup time.

- While the spray is working, the display switches to the spray mode showing "SPR."

- To stop the spray under the auto spray mode, press the S button. The mode will switch to the spray off mode.

ECU Location & Connector's View

Direction of the connector's view & Abbreviation in the diagram.
Under the driver's dashboard

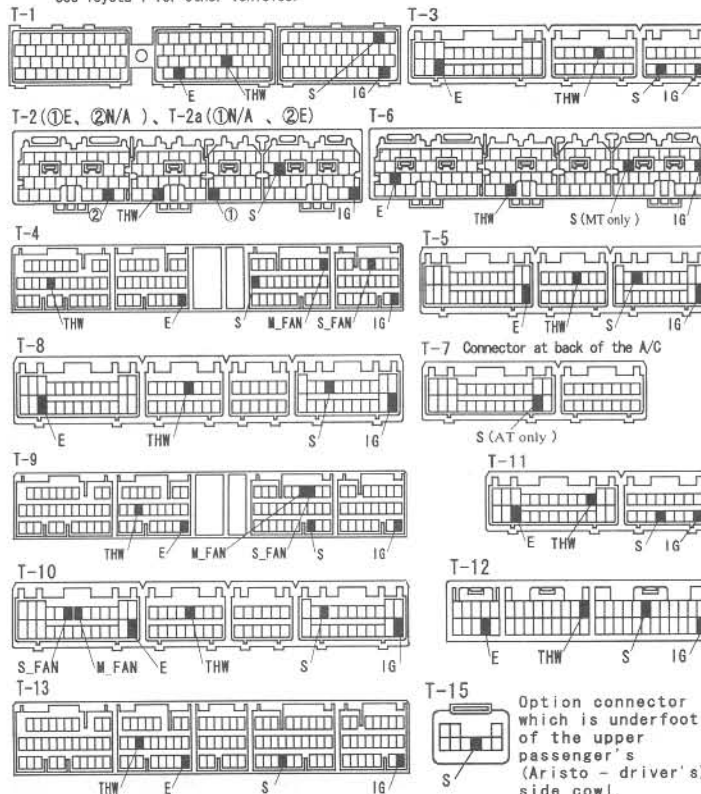


Application List/ECU Location

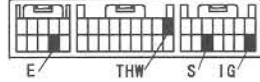
TOYOTA/Connector's Layout

Vehicle	Model	Engine	Year	ECU	Installation	Connector
MARK II	JZX100	1JZ-GTE	96.9~'00.9	②	8	T-6 T-7
	JZX90	1JZ-GTE	94.9~'98.8	②	3 (3.1)	T-2a
ALTEZZA	SXE10	3S-GE(M/T)	98.10~	Engine Room	2 (2.2)	T-4
	SW20	3S-GTE	93.10~'99.9	Rear Trunk	6	T-5
MR2	AW11	4A-GZE	88.8~'89.6	Rear Trunk	8	T-5
	EP91	4E-FTE	95.12~'99.10	Rear Trunk	8	T-3
STARLET	EP82	4E-FTE(M/T)	89.12~'95.11	②	8	T-11
	EP82	4E-FTE(A/T)	92.1~'95.11	②	8	T-3
ARISTO	JZS161	2JZ-GTE	97.8~	Engine Room	4	T-14 T-15
	JZS147	2JZ-GTE	91.10~'97.7	⑤	3 (3.1)	T-1
SUPRA	JZA80	2JZ-GTE	97.8~	⑤	8	T-13
	JZA70	1JZ-GTE	93.5~'97.7	⑤	8	T-1
SOARER	MA70	7M-GTEU	90.8~'93.4	③	3 (3.1)	T-8
	JZZ30	1JZ-GTE	88.8~'90.7	③	3 (3.2)	T-5
LEVIN/TRUENO	AE111	4A-GE	96.8~'01.3	⑤	8	T-6 T-7
	AE101	4A-GE(M/T)	91.5~'96.7	⑤	8	T-2
CELIGA	ST205	3S-GTE	95.5~'00.7	②	7	T-5
	ST202	3S-GE	91.6~'95.4	②	7	T-3
CURREN	ST208	3S-GE	91.6~'95.4	②	7	T-5
	ST208	3S-GE	91.6~'95.4	②	7	T-3
VITZ	NCP1#	1/2NZ-FE	89.5~'91.5	②	7	T-5
	NCP3#	1/2NZ-FE	87.5~'89.4	②	7	T-12
CALDINA	bB	1/2ZZ-FE	89.5~'91.5	②	7	T-3
	bB	1/2ZZ-FE	87.5~'89.4	②	7	T-16
MR-S	ZZW30	1ZZ-FE	99.9~	Engine Room	2 (2.2)	T-9
	ZZW30	1ZZ-FE	94.2~'99.8	②	8	T-5
VITZ	SCP10	1SZ-FE	93.10~'97.11	②	8	T-8
	NCP1#	1/2NZ-FE	94.1~'98.12	②	8	T-8
FIT	GD3	L15A	01.12~	③	2 (2.2)	T-18 ①
	GD3	L15A	01.12~	③	2 (2.2)	T-10 ②
LIFE DUNK	JB3/4	E07Z	99.1~'01.11	③	2 (2.2)	T-10
	JB3/4	E07Z	02.8~	③	2 (2.2)	T-18
S-MX	RH1/2	B20B	00.10~'02.7	④	2 (2.2)	T-10
	RH1/2	B20B	02.9~	④	3 (3.1)	T-19
FIT	GD3	L15A	00.2~	③	2 (2.2)	T-10
	GD3	L15A	00.2~	③	2 (2.2)	T-10
S2000	AP1	F20C	99.10~	④	1	H-5 H-8
	AP1	F20C	99.4~	④	1	H-5 H-8
NSX	NA1	C30A	90.9~'97.1	Behind the driver's seat	2 (2.4)	H-4
	NA1	C30A	90.9~'97.1	Behind the driver's seat	2 (2.4)	H-4
ACCORD EURO-R	CL1	H22A	00.6~	③	1	H-9
	CL1	H22A	00.6~	③	1	H-9
ACCORD	CD3/4/5/6/7/8	H22A/22B	93.9~'97.8	⑤	1	H-2
	CD3/4/5/6/7/8	H22A/22B	93.9~'97.8	⑤	1	H-2
LIFE DUNK	JB3/4	E07Z	00.12~'03.8	⑥	1	H-10
	JB3/4	E07Z	00.12~'03.8	⑥	1	H-10
S-MX	RH1/2	B20B	96.5~	②	1	H-11
	RH1/2	B20B	96.5~	②	1	H-11
FIT	GD3	L15A	02.9~	③	1	H12
	GD3	L15A	02.9~	③	1	H12

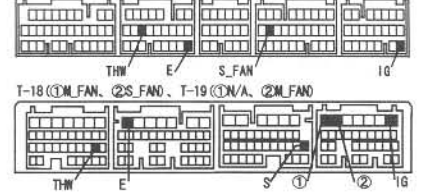
① Vehicles without Stop-and-Go system ② Vehicles with Stop-and-Go system
Note: For the factory water temp. sensor for Supra/MA70, use Toyota 2.
Use Toyota 1 for other vehicles.



T-16

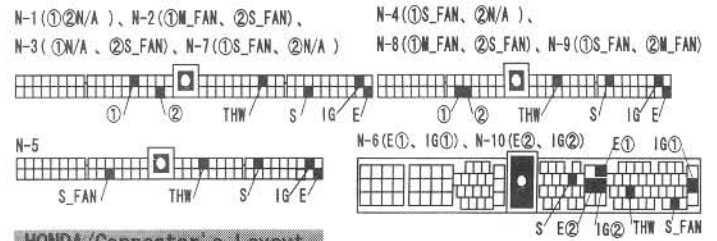


T-14



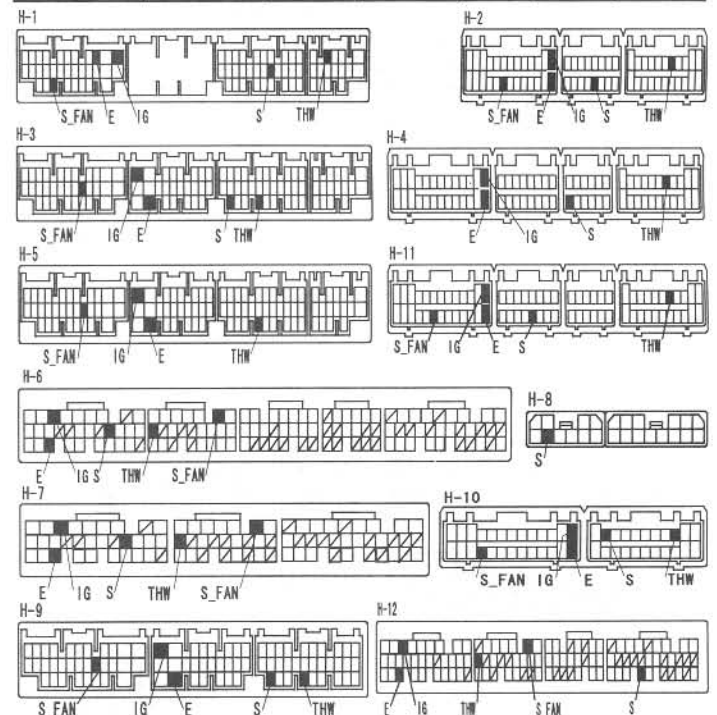
NISSAN/Connector's Layout

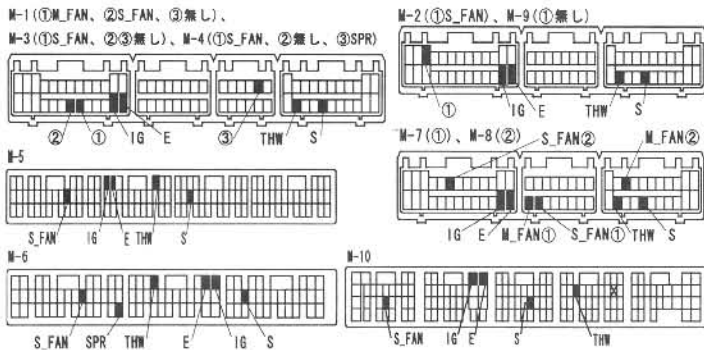
Vehicle	Model	Engine	Year	ECU	Installation	Connector
SKYLINE GT-R	BNR34	RB26DETT	99.1~'02.8	④	1	N-7
	BCNR33	RB26DETT	95.1~'98.12	④	3 (3.3)	N-1
SKYLINE	BNR32	RB26DETT	89.8~'94.12	④	3 (3.3)	N-1
	ER34	RB25DET	98.5~'01.5	④	1	N-6
	ECR33	RB25DET	93.8~'98.4	④	3 (3.3)	N-1
	HCR32	RB20DET	89.5~'93.7	④	3 (3.3)	N-1
	S15	SR20DE/DET	99.1~'02.8	④	1	N-4
SILVIA	S14	SR20DE/DET	96.8~'98.12	④	1	N-4
		SR20DET	93.10~'96.5	④	1	N-3
180SX	RPS13	SR20DE/DET	93.10~'96.5	④	1	N-4
		SR20DE/DET	96.8~'98.12	④	1	N-4
FAIRLADY Z	Z32	SR20DET	94.1~'96.8	④	1	N-5
		VG30DETT	89.7~'02.6	⑤	2 (2.1)	N-2
PULSAR	JN15	SR18VE (N1 Specification)	97.9~	②	1	N-8
		SR18VE (Standard)	97.9~	②	1	N-4
		SR18DE(4WD)	96.5~	②	2 (2.2)	N-9
		SR18DE	95.1~	②	1	N-4
PRIMERA	P11	SR20DET	90.8~'94.12	②	1	N-4
		SR18/20DE(4WD A/T)	95.9~	②	2 (2.2)	N-9
LAUREL	C35	SR18/20DE(4WD A/T Except)	95.9~	②	1	N-4
		RB25DET	99.8~	④	1	N-10



HONDA/Connector's Layout

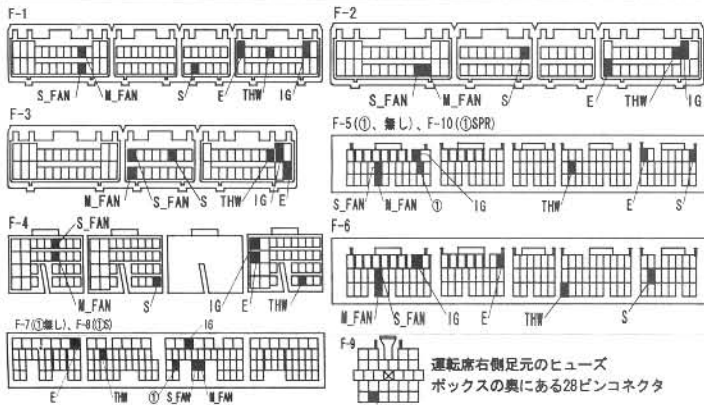
Vehicle	Model	Engine	Year	ECU	Installation	Connector
INTEGRA	DC5	K20A(M/T)	01.7~	③	1	H-8
	DB8-DC2	B18C(M/T)	95.9~'01.6	④	1	H-1
CIVIC	EP3	K20A	01.12~	③	1	H-2
			01.12~	③	1	H-7
	EK9	B16B	98.9~'00.8	④	1	H-3
			97.8~'98.8	④	1	H-1
S2000	AP1	F20C	99.4~	④	1	H-5 H-8
			99.4~	④	1	H-5 H-8
NSX	NA1	C30A	90.9~'97.1	Behind the driver's seat	2 (2.4)	H-4
ACCORD EURO-R	CL1	H22A	00.6~	③	1	H-9
ACCORD	CD3/4/5/6/7/8	H22A/22B	93.9~'97.8	⑤	1	H-2
LIFE DUNK	JB3/4	E07Z	00.12~'03.8	⑥	1	H-10
S-MX	RH1/2	B20B	96.5~	②	1	H-11
FIT	GD3	L15A	02.9~	③	1	H12





スバル 適合表とコネクタ図

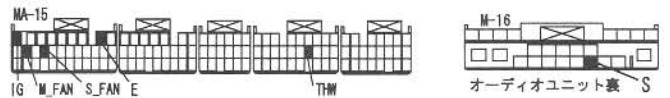
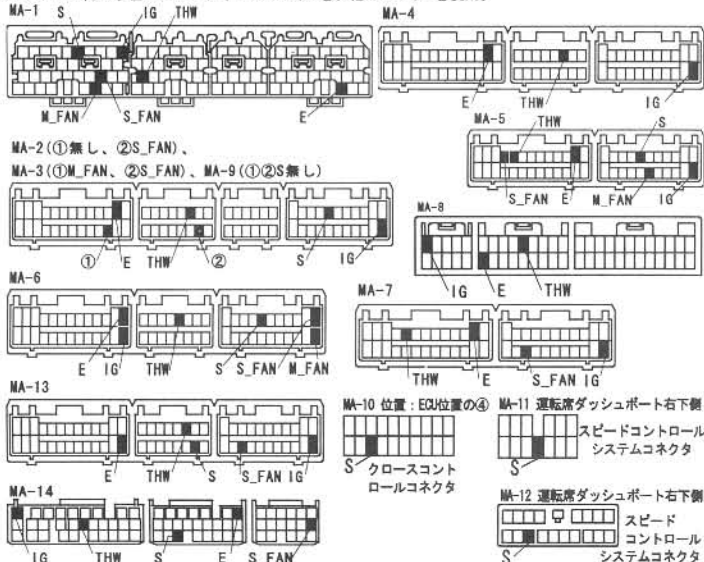
車両名	車両形式	エンジン形式	年式	ECU位置	取付方法	コネクタ図
インプレッサ	GDB	EJ207	04.2~	⑤	2 (2.2)	F-10
	GDA	EJ205	00.10~04.1	⑤	2 (2.2)	F-5
	GC8	EJ207	98.9~'00.10	⑤	2 (2.2)	F-4
		EJ20K	96.9~'98.8	⑤	2 (2.2)	F-3
レガシィ レガシィB4	BL5/BP5	EJ20Y(X)	03.5~	⑤	2 (2.2)	F-7 F-9
		EJ206	01.5~03.4	⑤	2 (2.1)	F-5
	BE5/BH5	EJ208	98.6~'01.4	⑤	2 (2.1)	F-4
		EJ20R	96.6~'98.11	⑤	2 (2.2)	F-3
	BG5	EJ20H(M/T)	93.10~'96.5	⑤	2 (2.2)	F-2
フォレスタ	SG9	EJ25(T/O)	04.2~	⑤	2 (2.2)	T-8
	SG5	EJ20(T/C M/T)	02.2~	⑤	2 (2.2)	F-5
		EJ20(T/C A/T)	02.2~	⑤	2 (2.2)	F-6



マツダ 適合表とコネクタ図

車両名	車両形式	エンジン形式	年式	ECU位置	取付方法	コネクタ図
RX-8	SE3P	13B-MPS	03.2~	エンジンルーム	2 (2.2)	MA-15 MA-16
RX-7	FD3S	13B-REW	98.12~03.3	④	2 (2.3)	MA-1
			95.12~'98.11	④	2 (2.3)	MA-1
			93.8~'95.11	④	2 (2.3)	MA-2
			91.11~'93.7	④	2 (2.3)	MA-3
			89.3~'91.10	④	3 (3.4)	MA-4 MA-12
ロードスター	NB8CE	BP-VE	00.7~	⑤	1	MA-14
			97.12~'00.6	⑤	1	MA-13
			97.12~02.6	⑤	1	MA-13
			95.8~'97.11	⑤	1	MA-6
			93.8~'95.7	⑤	2 (2.1)	MA-5
			89.9~'93.7	⑤	1	MA-7
ユーノスコスモ	JC3SE	13B-REW	90.3~	⑤	8	MA-9 MA-10

注: RX-8の純正水温センサータイプはマツダ2を、他はマツダ1を使用。



取付後の確認

本商品の取付後、下記の項目に従って取付作業に関連のないことを確認してください。

1. 取付後の作業

確認項目	確認
ボルト・ナット類を締め忘れていないか。	
ハーネス及び取付けた部分が、他の部分と干渉していないか。	
ハーネスは確実に固定されているか。	
接続箇所は間違っていないか。	
ギボシ、クワ端子は指定のものを使用し、確実に噛み込ませているか。	
本商品及び付属品が、運転の妨げにならないように確実に固定されているか。	
バッテリーのマイナス端子のターミナルを元通りに取付けてあるか。	

2. エンジン始動後の確認 (アイドリング運転を行ってください。)

確認項目	確認
部品による干渉音はないか。	
ハーネスが引っ張られていないか。	
エンジンが停止した後、各部が緩んでいないか。	

オプションパーツリスト (別売)

管理コード	商品名	希望小売価額	説明
45999-AK007	オプションスイッチ	¥2,940	ウォータースプレー操作
45999-AK002	追加温度センサーセット	¥6,090	ファンコントローラ専用
45999-AK015	ファンコントローラ RX-7用アダプター	¥1,575	RX-7専用

改訂の記録

Ver.	年/月	記載変更された内容
3-1. 01	2002/5	初版
3-1. 02	2002/6	適合車種追加、誤記修正
3-1. 03	2002/8	誤記修正
3-1. 04	2002/8	適合車種追加
3-1. 05	2003/11	誤記修正
3-1. 06	2005/2	適合車種追加

ご連絡先一覧

株式会社 エッチ・ケー・エス
〒418-0192 静岡県富士宮市北山7181
http://www.hks-power.co.jp/
＜一般お客様向け＞ ●お客様相談室 TEL 0544-29-1100
＜業者様向け＞ ●受注センター TEL 0544-29-1234
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保証について

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- ①保証書の提示がない場合。
- ②誤った取付及び取扱い、又は改造や分解・修理等による故障。
- ③自然災害、交通事故による故障。

お買い上げ年月日	年 月 日	保証期間	1年
製品名	ファンコントローラ		
製品番号	*	コードNo.	45007-AK001
*車両名	*車両形式	*年式	
お	*ご住所		
客	*TEL		
様	*お名前		
販売店名	TEL		
住所	TEL		

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FD3S RX-7 installation notes

Unfortunately, the part of the wiring install manual for the FD3S is in Japanese. Here is a few notes to make the install easier.

First, double-check with the shop manual on wiring location. Here are the pins according to the shop manual that I found for installation –

Ignition (switched 12v) – 1B

Ground – 4C

Speed sensor (if needed for water spray) – 1M

Water temp – 3E

S-Fan (Low speed fan output) – 3D

The M-Fan (Medium speed output) should go to the white plug by the ECU that the fan control module is plugged into. I tapped my wire into the wiring on the fan recall module's wiring – it was a black/yellow wire, according to my notes.

HKS sells an FD3S adapter for the fan controller. **DO NOT BUY THIS!** It's simply a diode that you buy for \$30 – what a gyp! It's only if you want to tap into the AC circuit for turning the fans on, which is **TOTALLY unnecessary UNLESS** you have a full-out car with no AC, then you probably don't need the diode anyhow.

With this setup, you basically have full control of the fans. Here's my setup in the controller itself –

Warning temp – 100 deg. C

Water temperature type – SE 6

Fan 1 – High 85, Low 81

Fan 2- High 90, Low 85

FI is set to 1 so the fan controller uses the ECU's temp sender to set fan speed.

With this setup, the fans will switch on low at 85 deg. C and switch off of low speed at 81. On a hot day, or restarting when heat soaked, if the temps are over 90 the fans will be on at medium speed, and will switch to low at 85.

Best part is the AC. When you have the AC on, it will bump the fan speed up one notch. The fans are always at low speed with the AC on. With it on, at 85 the fans will go to medium speed, and at 90 the fans will go to high speed.

With this setup, I see temps in the '80s on HOT muggy Florida summer with the AC on full blast in stop and go traffic. This is on a STOCK RADIATOR. Before the fan controller, temps into the 100's were not out of the question!

Also, the temp display on the fan controller is DEAD ON accurate with my Greddy temp gauge and the PowerFC display. The fan controller could totally be used as a water temp gauge – heck, it will even flash and beep if temps get past the warning point you set!