

Functions of the SFC-VTEC

SFC Functions

- Compatible with stock & modified ECU's, and can modify fuel mapping for 8 RPM settings (1000, 2000, 3000, 4000, 5000, 6000, 7000, 8000), and can change the fuel delivery up to +/- 30%, in 1% increments.
- In "Realtime mode," the fuel delivery can be monitored in 100 RPM increments.
- When maximum fuel mapping of the SFC is reached, a (OF) display will appear.
- Can modify fuel settings on the fly, during constant RPM instances.

VTEC Functions

- Can modify the VTEC and/or MIVEC's hi-cam changeover point in 100 RPM intervals. (minimum 2000 RPM)
- When changing over to hi-cam mode, the "HI-CAM" indicator changes from green to red.
- Can modify hi-cam changeover settings on the fly, during constant RPM instances.

Other

- Speed limiter removal (certain models excepted)
- Speedometer displays up to 999km. ("Speedometer mode")
- Digital tachometer. ("VTEC mode")
- For racing on the circuit, there is also a buzzer that can be set to shift points or your redline.
- If there is no input for 5 seconds during "Setting mode," it will automatically return to "Realtime Mode."
- Custom wire-harness couplers are sold seperately for users who do not want to splice the stock wires.



SFC-VTEC Compatibility List & Wiring Diagrams

HONDA *NOTE* - There is no application for 3-stage VTEC and VTEC-E.

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Model		Chassis Type	Engine Name	Year Model	Instructions	Coupler Item #
Accord		CD6	H22A	9/93 ~	<u>H2</u>	VT-H2
Prelude		BB1, BB4	H22A	9/91 ~ 10/96	<u>H2</u>	VT-H2
		BB6, BB8	H22A	11/96 ~	<u>H4</u>	VT-H4
CR-X		EF8	B16A	9/89 ~ 3/92	H1	VT-H1
DelSol		EG1, EG2	D15B, B16A	3/92 ~	<u>H2</u>	VT-H2
		DA6, DA8	B16A	4/89 ~ 9/91	<u>H1</u>	VT-H1
		DAO, DAO	B16A	10/91 ~ 5/93	<u>H2</u>	VT-H2
Integra	(AT)		B18C	6/93 ~	<u>H3</u>	VT-H3
micgia	(MT)	DC2, DB8	B18C	6/93 ~ 8/95	<u>H2</u>	VT-H2
	(MT w/minor change)	DC2, DB0	B18C	9/95 ~	<u>H4</u>	VT-H4
	Type-R		B18C	10/95 ~	H4	VT-H4
		EF9	B16A	9/89 ~ 9/91	<u>H1</u>	VT-H1
		EG4, EG6	D15B, B16A	9/91 ~ 9/95	<u>H2</u>	VT-H2
Civic	Coupe	EJ1	B16A	10/92 ~ 9/95	<u>H2</u>	VT-H2
	Ferio	EG8, EG9	D15B, B16A	9/91 ~ 9/95	<u>H2</u>	VT-H2
		EK4	B16A	9/95 ~	<u>H4</u>	VT-H4
Accord Wagon		CE1, CF2	F22B, H22A	3/94 ~	<u>H2</u>	VT-H2

MITSUBISHI *NOTE* - There is no application for MIVEC-MD.

Model	Chassis Type	Engine Name	Year Model	Wiring Diagram	Coupler Item #
Mirage	CB4A	4G92	10/92 ~ 10/95	<u>M1</u>	VT-M1
	CK4A	4G92	10/95 ~	<u>M2</u>	VT-M2
Cyborg	CA4A	4G92	10/92 ~ 10/95	<u>M1</u>	VT-M1
	CJ4A	4G92	10/95 ~	<u>M2</u>	VT-M2
Asti	CA4A	4G92	1/94 ~ 1/96	<u>M1</u>	VT-M1
Asu	CJ4A	4G92	1/96 ~	<u>M2</u>	VT-M2
Lancer	CB4A	4G92	10/92 ~ 10/95	M1	VT-M1
	CK4A	4G92	10/95 ~	<u>M2</u>	VT-M2
Aeterna	E54A	6A12	10/93 ~	<u>M2</u>	VT-M2
Emeraude	E54A	6A12	10/94 ~	<u>M2</u>	VT-M2
Galant	E54A	6A12	10/93 ~	<u>M2</u>	VT-M2
Diamante	F36A	6G72	1/95 ~	<u>M2</u>	VT-M2
FTO	DE3A	6A12	10/94 ~	<u>M2</u>	VT-M2



SFC-VTEC Wiring for H1 Cars

Compatible Cars (H1)	Chassis Type	Engine Name	Year Mode l	ECU Location
CR-X	EF8	B16A	9/89 ~ 3/92	Foot area of Passenger- side seat
Integra	DA6, DA8	B16A	4/89 ~ 9/91	Foot area of Passenger- side seat
Civic	EF9	B16A	9/89 ~ 9/91	Foot area of Passenger- side seat

Instructions:

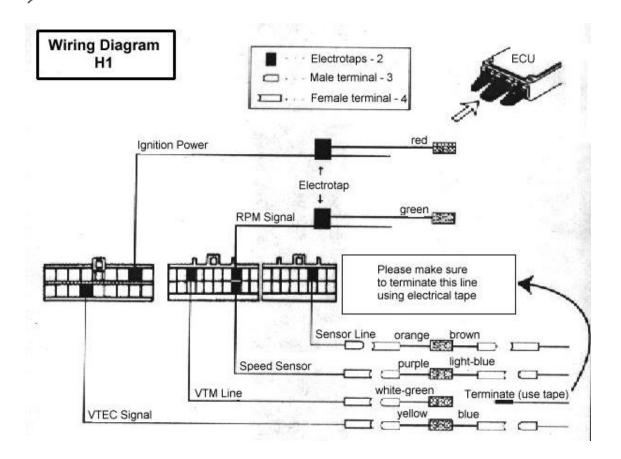
- 1. Turn off the Engine, and remove the (-) negative ground from your battery
- 2. Remove all covers, etc., and locate your ECU
- 3. Following the diagram below, wire your unit accordingly.

4

- Use pliers to securely fasten the electrotaps.
- Use proper crimping tools to fasten the terminals securely.
- o If you see wire that originally had a ring-shaped connector, please make sure that it gets properly grounded.
- On some models, there will be wires that are not used, or left disconnected. Please use electrical tape to terminate properly.
- 5. Once the wiring is complete, set the dipswitches to the following configuration, and install the unit in your desired location.
- 6. Re-connect your battery terminal, and confirm operation of the device.







SFC-VTEC Wiring for H2 Cars

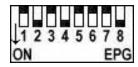
Compatible Cars (H2)	Chassis Type	Engine Model	Year Model	ECU Location
Accord	CD6	H22A	9/93 ~	Foot area of Passenger-side seat
Prelude	BB1, BB4	H22A	9/91 ~ 10/96	Foot area of Passenger-side seat
DelSol	EG1, EG2	D15B, B16A	3/92 ~	Left foot area of Passenger-side seat
Integra	DA6, DA8	B16A	10/91 ~ 5/93	Foot area of Passenger-side seat
Integra (MT)	DC2, DB8	B18C	6/93 ~ 8/95	Left foot area of Passenger-side seat
Civic	EG4, EG6	D15B, B16A	9/91 ~ 9/95	Left foot area of Passenger-side seat
Civic Ferio	EG8, EG9	D15B, B16A	9/91 ~ 9/95	Left foot area of Passenger-side seat
Civic Coupe	EJ1	B16A	10/92 ~ 9/95	Left foot area of Passenger-side seat
Accord Wagon	CE1, CF2	F22B, H22A	3/94 ~	Foot area of Passenger-side seat

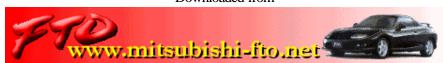
Instructions:

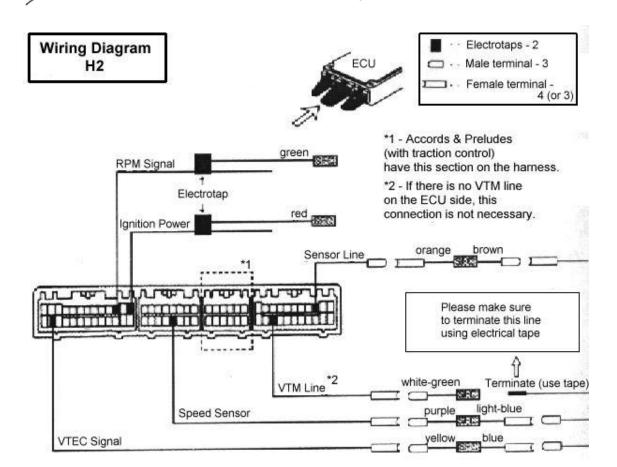
- 1. Turn off the Engine, and remove the (-) negative ground from your battery
- 2. Remove all covers, etc., and locate your ECU
- 3. Following the diagram below, wire your unit accordingly.

4.

- Use pliers to securely fasten the electrotaps.
- Use proper crimping tools to fasten the terminals securely.
- If you see wire that originally had a ring-shaped connector, please make sure that it gets properly grounded.
- On some models, there will be wires that are not used, or left disconnected. Please use electrical tape to terminate properly.
- 5. Once the wiring is complete, set the dipswitches to the following configuration, and install the unit in your desired location.
- 6. Re-connect your battery terminal, and confirm operation of the device.









SFC-VTEC Wiring for H3 Cars

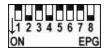
Compatible Cars (H3)	Chassis Type	Engine Name	Year Model	ECU Location
Integra (AT)	DC2, DB8	B18C	6/93 ~	Left foot area of Passenger- side seat

Instructions:

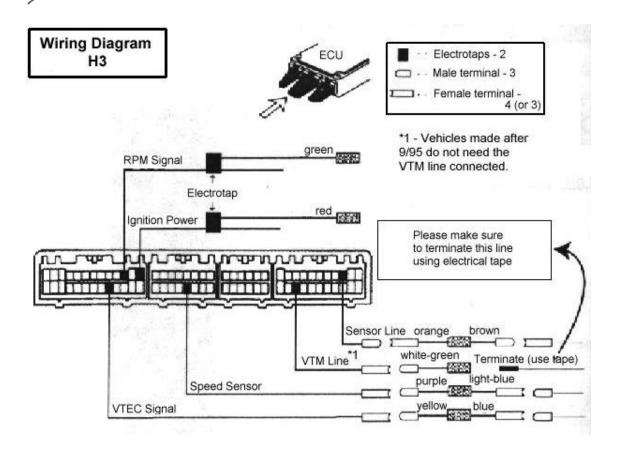
- 1. Turn off the Engine, and remove the (-) negative ground from your battery
- 2. Remove all covers, etc., and locate your ECU
- 3. Following the diagram below, wire your unit accordingly.

4.

- Use pliers to securely fasten the electrotaps.
- Use proper crimping tools to fasten the terminals securely.
- If you see wire that originally had a ring-shaped connector, please make sure that it gets properly grounded.
- On some models, there will be wires that are not used, or left disconnected. Please use electrical tape to terminate properly.
- 5. Once the wiring is complete, set the dipswitches to the following configuration, and install the unit in your desired location.
- 6. Re-connect your battery terminal, and confirm operation of the device.







SFC-VTEC Wiring for H4 Cars

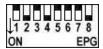
Compatible Cars (H4)	Chassis Type	Engine Name	Year Model	ECU Location
Prelude	BB6, BB8	H22A	11/96 ~	Foot area of Passenger- side seat
Integra (MT w/minor change)	DC2, DB8	B18C	9/95 ~	Left foot area of Passenger-side seat
Integra Type-R		B18C	10/95 ~	Left foot area of Passenger-side seat
Civic	EK4	B16A	9/95 ~	Left foot area of Passenger-side seat
Civic Ferio	EK4	B16A	9/95~	Left foot area of Passenger-side seat

Instructions:

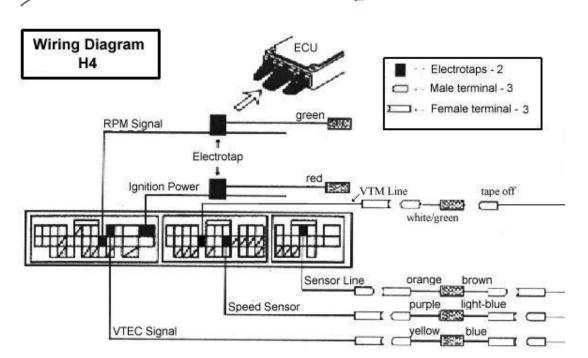
- 1. Turn off the Engine, and remove the (-) negative ground from your battery
- 2. Remove all covers, etc., and locate your ECU
- 3. Following the diagram below, wire your unit accordingly.

4

- o Use pliers to securely fasten the electrotaps.
- Use proper crimping tools to fasten the terminals securely.
- If you see wire that originally had a ring-shaped connector, please make sure that it gets properly grounded.
- o On some models, there will be wires that are not used, or left disconnected. Please use electrical tape to terminate properly.
- 5. Once the wiring is complete, set the dipswitches to the following configuration, and install the unit in your desired location.
- 6. Re-connect your battery terminal, and confirm operation of the device.







SFC-VTEC Wiring for M1 Cars

Compatible Cars (M1)	Chassis Type	Engine Name	Year Model	ECU Location
Mirage	СВ4А	4G92	10/92 ~ 10/95	Left foot area of Passenger-side seat
Cyborg	CA4A	4G92	10/92 ~ 10/95	Left foot area of Passenger-side seat
Asti	CA4A	4G92	1/94 ~ 1/96	Left foot area of Passenger-side seat
Lancer	СВ4А	4G92	10/92 ~ 10/95	Left foot area of Passenger-side seat

Instructions:

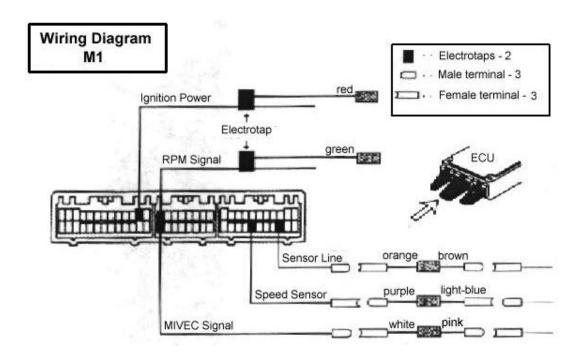
- 1. Turn off the Engine, and remove the (-) negative ground from your battery
- 2. Remove all covers, etc., and locate your ECU
- 3. Following the diagram below, wire your unit accordingly.

4

- o Use pliers to securely fasten the electrotaps.
- o Use proper crimping tools to fasten the terminals securely.
- o If you see wire that originally had a ring-shaped connector, please make sure that it gets properly grounded.
- On some models, there will be wires that are not used, or left disconnected. Please use electrical tape to terminate properly.
- 5. Once the wiring is complete, set the dipswitches to the following configuration, and install the unit in your desired location.
- 6. Re-connect your battery terminal, and confirm operation of the device.







SFC-VTEC Wiring for M2 Cars

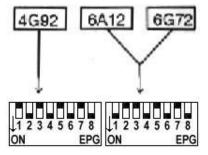
Compatible Cars (M2)	Chassis Type	Engine Name	Year Model	ECU Location
Mirage	CK4A	4G92	10/95 ~	Left foot area of Passenger-side seat
Cyborg	CJ4A	4G92	10/95 ~	Left foot area of Passenger-side seat
Asti	CJ4A	4G92	1/96 ~	Left foot area of Passenger-side seat
Lancer	CK4A	4G92	10/95 ~	Left foot area of Passenger-side seat
Aeterna	E54A	6A12	10/93 ~	Rear of Center Console
Emeraude	E54A	6A12	10/94 ~	Rear of Center Console
Galant	E54A	6A12	10/93 ~	Rear of Center Console
Diamante	F36A	6G72	1/95 ~	Rear of Center Console
FTO	DE3A	6A12	10/94 ~	Left foot area of Passenger-side seat

Instructions:

- 1. Turn off the Engine, and remove the (-) negative ground from your battery
- 2. Remove all covers, etc., and locate your ECU
- 3. Following the diagram below, wire your unit accordingly.

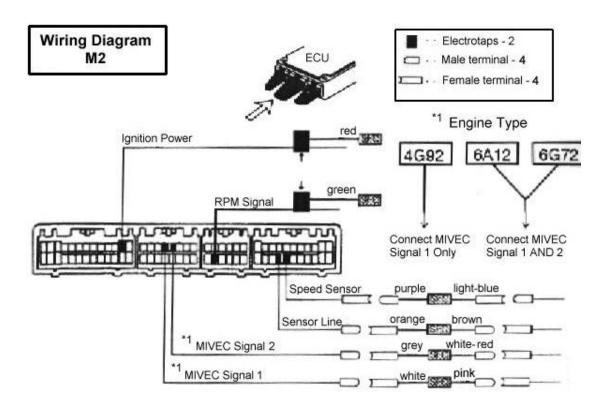
4.

- Use pliers to securely fasten the electrotaps.
- Use proper crimping tools to fasten the terminals securely.
- o If you see wire that originally had a ring-shaped connector, please make sure that it gets properly grounded.
- On some models, there will be wires that are not used, or left disconnected. Please use electrical tape to terminate properly.
- 5. Once the wiring is complete, set the dipswitches to the configuration that matches your engine, and install the unit in your desired location.
- 6. Re-connect your battery terminal, and confirm operation of the device.

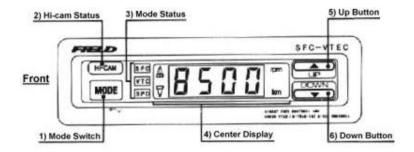


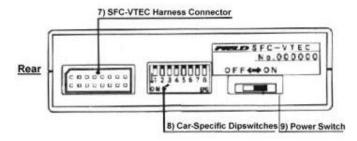
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Basic Introduction to the SFC-VTEC





1) Mode Switch

Depending on how long you depress this switch, you can change the display information, or change modes.

Switch Definitions

Short Hold - (< 0.5 seconds) Long Hold - ($0.5 \sim 2.0$ seconds) Continued Hold- (> 2.0 seconds)

"Realtime Mode" (MODE switch lights up green)

Short Hold - (Switch to "Setting Mode")
Long Hold - (Change functions within "Realtime Mode")
Continued Hold - (Returns to normal)

"Setting Mode" (MODE switch lights up green)

Used only to adjust SFC Functions, the **MODE** switch will move your fuel mapping to the next RPM level. After adjusting the 8000RPM mark, it will return you to "Realtime Mode"



2) Hi-cam Status

Once you pass your pre-set Hi-cam setting point (VTEC / MIVEC switchover), the display will turn red.

This function will work regardless of what mode you're in.

3) Mode Status

This display will show you what mode you're in:

SFC = SFC Mode (Fuel delivery control)

VTC = VTEC Mode (Hi-cam changeover control)

SPD = Speedometer Mode

4) Center Display

It will display different things depending on what mode you're in:

SFC Mode

Fuel control increases and decreases in real-time, or current fuel delivery settings

VTEC Mode

Tachometer display, or current Hi-cam switchover setting.

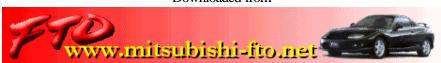
Speedometer

Will display your current speed up to 999km/h.

5) Up Button (used only during "Setting Mode")

SFC Mode

Will increase fuel delivery in 1% increments (maximum +30%)



VTEC Mode

Will increase the Hi-cam switchover point in 100 RPM increments.

6) Down Button (used only during "SettingMode")

SFC Mode

Will decrease fuel delivery in 1% increments (maximum -30%)

VTEC Mode

Will decrease the Hi-cam switchover point in 100 RPM increments. (minimum 2k RPM

7) SFC-VTEC Harness Connector

The connector to connect your SFC-VTEC harness.

8) Car-Specific Dipswitches

The position on these dipswitches will determine the make and model of your car.

9) Power Switch (forced "reset" switch)

By switching this switch to the "OFF" position, you will cut all current to the SFC-VTEC and reset all presets.



Steps to properly testing your unit.

Switch Definitions

```
Short Hold - (< 0.5 seconds)
Long Hold - (0.5 \sim 2.0 seconds)
Continued Hold-(> 2.0 seconds)
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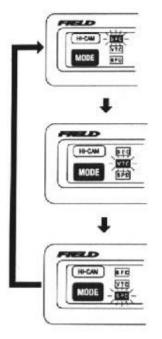
- 1) Leaveyour SFC-VTEC unit's main switch in the OFF position, and startand warm your car.
 - During this time, check for any "check engine" lights, and make sure that the engine is running smoothly.
 - Turn the engine off, and put your ignition key to the OFF position.
- 2) Check the dipswitchsettings one last time before turning the SFC-VTEC's main switchto the ON position, and then turn on your engine.
 - During this time, check for any "check engine" lights, and make sure that the engine is running smoothly.
- **3**) Check the display on the SFC-VTEC unit.
 - Confirm that the various switches (MODE, UP, DOWN) are illuminated green.
 - Turn on the SFC-VTEC by depressing the MODE switch, and confirm that the mode status light is shining at "SFC."
 - Following theinstructions in the second half of this page, please change the mode to "VTC"
- **4)** Step on theaccelerator, and confirm that the SFC-VTEC's tachometer ismatched with the tachometer in your dash.
 - For cars with driveshaft-tachometers, the readouts will be slightly differ at higher RPM's, but this is quite normal.
- 5) Take your car out on test run.
 - During this time, check for any "check engine" lights, and make sure that the engine is running smoothly.
 - The default setting for the VTEC / MIVEC switch-over point is at 4500 RPM.
- **6)** After your test run, turn off your engine and turn your ignition to the OFF position
 - Confirm that there is no power going to the SFC-VTEC unit.
 - The SFC-VTEC will stay on for several seconds after turning the ignition to OFF, but this is normal.



Switching between modes

Switch Definitions

Short Hold - (< 0.5 seconds) Long Hold - ($0.5 \sim 2.0$ seconds) Continued Hold- (> 2.0 seconds)



1) While in "Realtime Mode," give the MODE button a long hold.

You should hear an electronic "beeep," indicating that the mode has changed.

Once you hear the sound and the mode changes, please let go of the MODE button. If you continue to press it, the SFC-VTEC will turn off.

2) Repeating the instructions from above, one can switch from SFC to VTC to SPD mode.

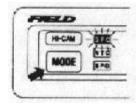
SFC - SFC Mode VTC - VTEC Mode SPD - Speedometer

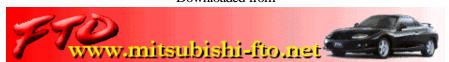
* - changing between modes can only be done during "Realtime Mode"

How to use the SFC-mode (fuel mapping)

Switching modes within "Realtime Mode"

SFC Mode allows you to adjust your fuel delivery in 1% increments. After a



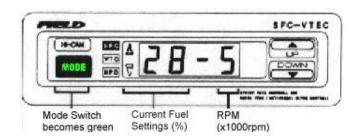


Switch Definitions

Short Hold - (<0.5 seconds)Long Hold - $(0.5 \sim 2.0 \text{ seconds})$ Continued Hold - (>2.0 seconds)

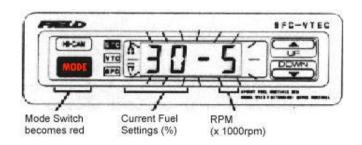
"Realtime Mode"

Shows the current fuel settings for the given RPM.

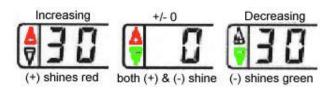


"Setting Mode"

Can adjust the fuel delivery by +/- 30% in 1% increments.



Percentage Display



Percentage Adjustment (while vehicle is not moving)

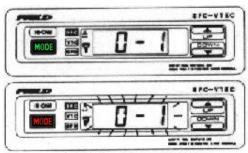


Example: Increase fuel delivery at 5000rpm by 15%.

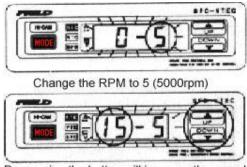
- 1. While in "Realtime Mode," change the display mode to "SFC Mode"
- After a short hold on the MODE, you will hear a "beep" sound, and will see the MODE switch change to red. Your are now in "Setting Mode."
- 3. Every push on the MODE button will change the RPM. (1000 RPM increments)
- 4. Once your desired RPM shows up, use the UP and DOWN switches to increase or decrease the fuel delivery percentage. (1% increments)

If there is no input for 5 seconds, the SFC-VTEC will automatically return to "Realtime Mode"

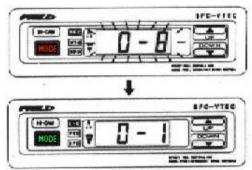
When you press the MODE button at 8000 RPM, the SFC-VTEC will return to "Realtime Mode"



The Center Display blinks



Depressing the button will increase the speed



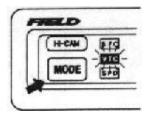
The Center Display will stop blinking



How to use the VTEC-mode (hi-cam switchover)

Switching modes within "Realtime Mode"

SFC Mode allows you to adjust your fuel delivery in 1% increments. After a long hold on the MODE button, the "SFC Mode" light should light up.

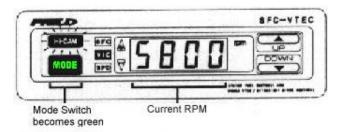


Switch Definitions

Short Hold - (< 0.5 seconds) Long Hold - ($0.5 \sim 2.0$ seconds) Continued Hold-(>2.0 seconds)

"Realtime Mode"

Shows the current fuel settings for the given RPM. (100 RPM increments)
If the Hi-cam point is passed, the HI-CAM display will change from green to red.



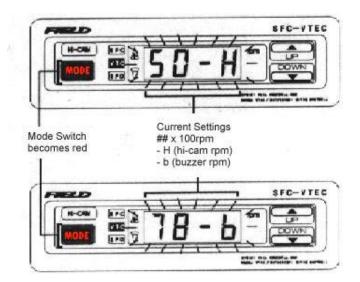


"Setting Mode"

Can adjust the hi-cam switchover point in 100 RPM increments, and can also adjust the RPM buzzer (warning tone).

The hi-cam switchover point has a range of 2000 RPM to 9000 RPM. (* - The default setting is 4500 RPM)

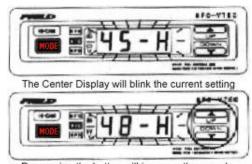
The RPM warning tone can be adjusted from 0 to 9900 RPM. When the RPM passes the set number, a continuous beeping sound will sound. (* - The default setting is 9900 RPM)



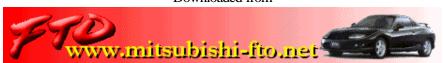
Hi-cam Switchover-point Adjustment (while vehicle is not moving)

Example: Hi-cam switchover point to 5000 RPM.

- 1. Switch to VTC Mode.
- After a short hold on the MODE, you will hear a "beep" sound, and will see the MODE switch change to red. Your are now in "Setting Mode."
- 3. Use the UP and DOWN buttons to set the hi-cam switchover point -- keeping in mind that the number to the left is the RPM in 100 RPM incremetns.



Depressing the button will increase the speed



Buzzer (RPM alarm) Point Setting

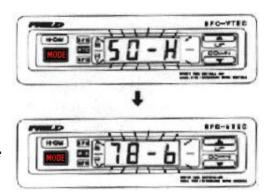
Example: RPM alarm point to 7800 RPM

4. After setting the hi-cam switchover point, a short hold on the MODE switch will change the SFC-VTEC to "Buzzer Mode" (the "H" on the right-hand side of the center display becomes a "b")

Please apply the same instructions as the hi-cam switchover instructions.

If there is no input for 5 seconds, the SFC-VTEC will automatically return to "Realtime Mode"

 After a short hold on the MODE button, you will hear a electronic "beep," and your SFC-VTEC will return to "Realtime Mode."







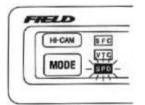
How to use the Speedo & Speed Limit removal

Switching modes within "Realtime Mode"

After a long hold on the MODE button, the "SPD Mode" light should light up.

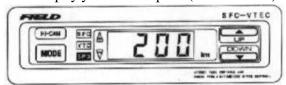
Switch Definitions

Short Hold - (< 0.5 seconds) Long Hold - ($0.5 \sim 2.0$ seconds) Continued Hold- (> 2.0 seconds)



"Realtime Mode"

It will display your current speed. (max 999 km/h)

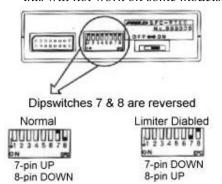


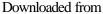
Speed Limiter Removal Function

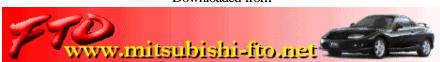
When racing on the circuit, it may be necessary to remove thespeed limiter on your car. Such a function is included in the SFC-VTEC.

The unit is shipped with this function disabled, so the userwill have to change the dipswitch settings manually.

* - this will not work on some models.







Other Functions of the SFC-VTEC

Quick-Setting Function

- SFC Mode During "Realtime Mode," if you find a RPM range that you
 would like to modify the settings for without keeping your eye on the
 tachometer, a short hold on the MODE switch will send you to "Setting
 Mode."
- VTEC Mode During "Realtime Mode," if you find a RPM point at which
 you would like to set the hi-cam switchover point to, a short hold on the
 MODE switch will send you to "Setting Mode."
 - * These features are meant for the user to jump to "Setting Mode," in order to adjust them later Please do not adjust the settings while driving, as it is dangerous.

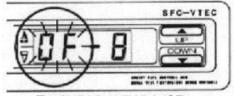
Various "Buzzer Mode" Uses

(use during VTEC mode)

During track races, the user can set-up the SFC-VTEC to soundan alarm at shift-points, rev-limits, or at the hi-cam switchoverpoints.

Fuel Delivery Maximized

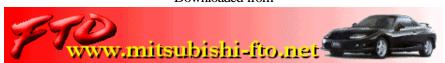
When the fuel delivery goes beyond the capability of the SFC-mode, then the display will show OF. Lowering the fueldelivery at approximately that RPM range is recommended.



The % display will blink (OF)

Power Off Status

During "Realtime Mode," pressing the MODE switch formore than 2 seconds will turn off the unit - with the exception of the illuminated switches.





Pressing the MODE switch again will turn on the unit andrestore back to the last used function.





Troubleshooting the SFC-VTEC

The unit doesn't turn on even when the ignition key is at the ON position.

- Check the harness in the rear of the SFC-VTEC to ensure its connection
- Make sure that the electrotap connection to the ignition is secure.
- You may have grounded the unit to a non-chassis component. Please re-check.
- Make sure your unit is not simply turned off. Press the MODE button to see if it will turn on.
- The main switch on the rear of the SFC-VTEC must be in the ON position.

Although my engine revs up, the unit doesn't displayincreasing RPM's.

- Check the harness in the rear of the SFC-VTEC to ensure its connection
- Make sure that the electrotap connection to the RPM signal wire is secure.
- You may have wired the unit incorrectly. Please re-check with the correct wiring diagram.
- Make sure your unit is not simply turned off. Press the MODE button to see if it will turn on.
- The main switch on the rear of the SFC-VTEC must be in the ON position.

My "Check Engine" lamp comes on.

Scenario One - no "Check Engine" lamp when the unit is OFF, but appears when unit is ON.

 Your sensor line may be switched between positions IN and OUT. Please re-check.

Scenario Two - "Check Engine" lamp appears at all times.

• Check all crimpings, electrotaps, and harnesses to ensure that there is a secure connection.



My engine stalls, and in general, it doesn't feel right.

- Perhaps your fuel settings are too high or too low? Please test out various settings and adjust accordingly. Also, if you drastically adjust the hi-cam switchover point on a relatively stock car, the acceleration will feel awkward.
- Are you using spark plugs with the appropriate heat settings? If you ran your
 car hard on the tracks without using the correct plugs, you may shorten the life
 of your plugs, and not get the proper performance out of your car.

