POWER METER

APEXi, a complete line of customized car and automotive parts developed with stats of the technology art and new ideas.

POWER METER Instruction Manual

1. Preface

Thank You for Purchasing the APEXi Power Meter.

This unit is a highly precise meter that is able to read the engine output in real time.

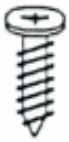
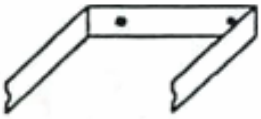
Setting and tuning a complete car cannot be accomplished with only one specific type of driving pattern in mind because many various conditions arise under different driving conditions and styles. Setting up the vehicle to accommodate torque and engine power for ever driving style requires the real time display of engine output.

The APEXi Power Meter is the new generation of high precision set-up meters.

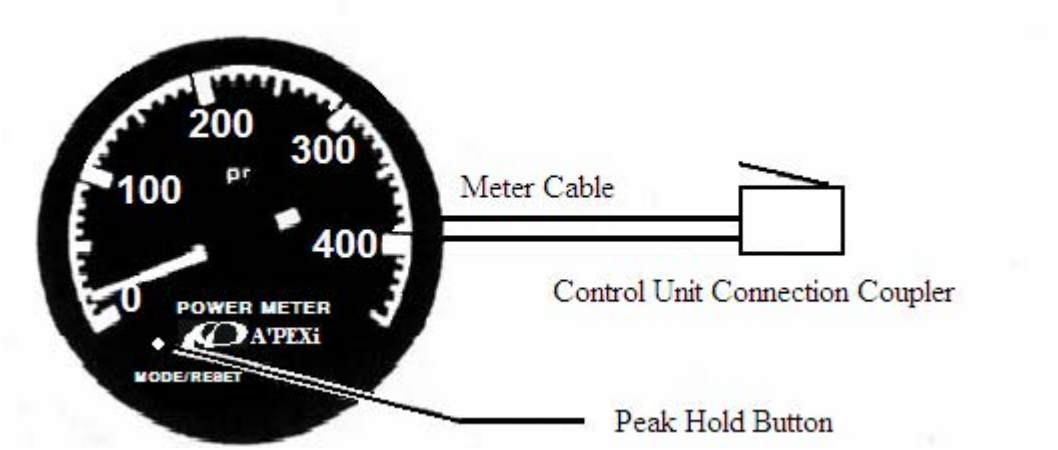
⚠ CAUTION

- **This unit may not be used on any vehicle that is not listed on the vehicle specific setting table.**
- **Please do not use this unit for any other purposes than the ones stated above.**

2. Parts List

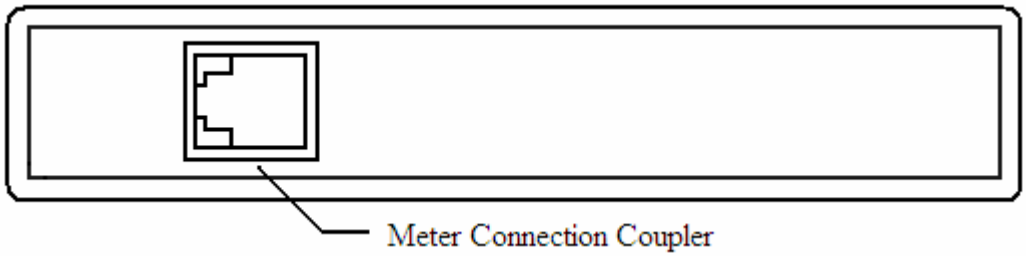
Meter Unit  450 CA010010 250 CA010011 — 1	Electrotaps  CA010060 — 4
Control Unit  450 CA010020 250 CA010021 — 1	Tapping Screw  CA010070 — 2
Signal Harness  CA010030 — 1	Washer  CA010080 — 2
Meter Panel  CA010040 — 1	Instruction Manual  CA010090 — 1
Meter Panel Bracket  CA010050 — 1	

3. Part Names

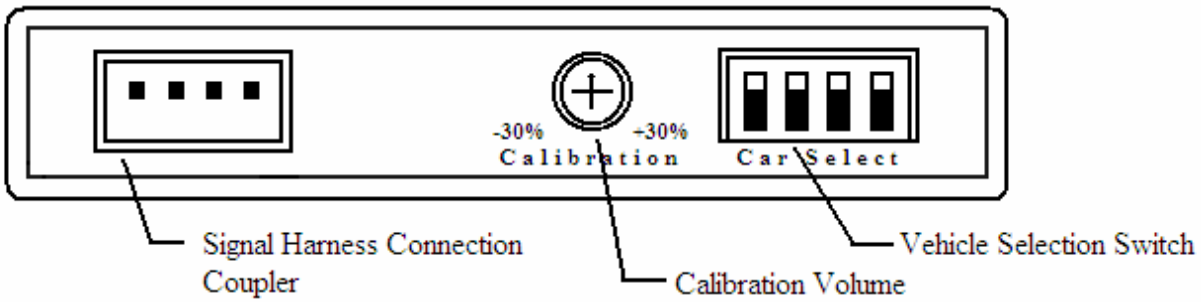


Meter Unit

Control Unit Front Side



Control Unit Back Side



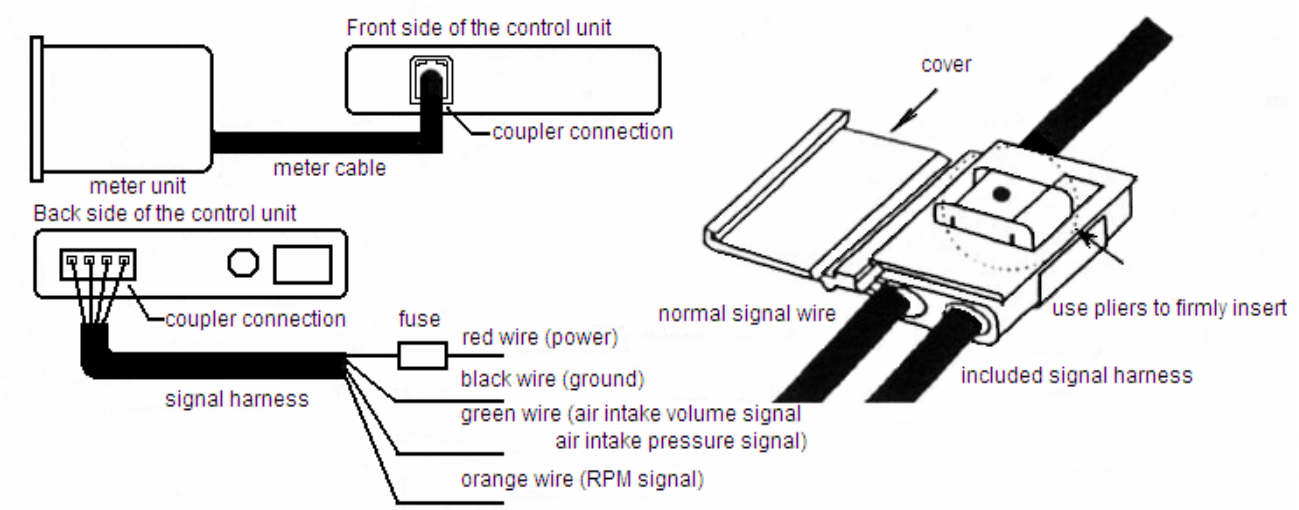
4. Operation Instructions

WARNING

- **Be sure to disconnect the negative terminal of the battery before starting the installation procedures.**
- **Please mount the control unit in a position where the driver of the vehicle can not adjust the unit while driving. (At least 50 cm or farther from the driver)**

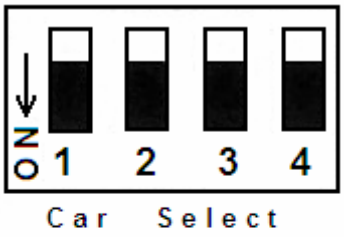
[1] Begin with wiring
1) Disconnect the negative (-) terminal of the battery
2) Locate the vehicle engine control computer. (Use the Vehicle Specific Setting Table)
3) While referring to the vehicle specific computer wiring diagrams, connect the included signal harness to the harness connecting to the factory engine control unit (ECU). (Please be sure that the wires have been connected properly.)
4) Connect the signal harness and meter cable to the control unit.
5) Connect the negative terminal (-) of the battery and installation is complete.

How to use the Electro taps



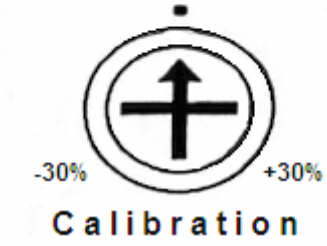
[2] Adjust the vehicle selection switch according to the specified vehicle application.

1) Move the dip switches on the back side of the control unit according to the vehicle specific setting table.
(When shipped, the default setting is as shown on the right.)



[3] Check the direction of the arrow on the calibration volume.

1) For normal vehicles, make sure the arrow is pointed straight upwards.
(When shipped, the default setting is straight upwards.)
2) If the vehicle has been tuned, adjust the volume.
(Refer to calibration setting.)



[4] Turning on the engine will now allow the display of real Time engine power.

5. Functions

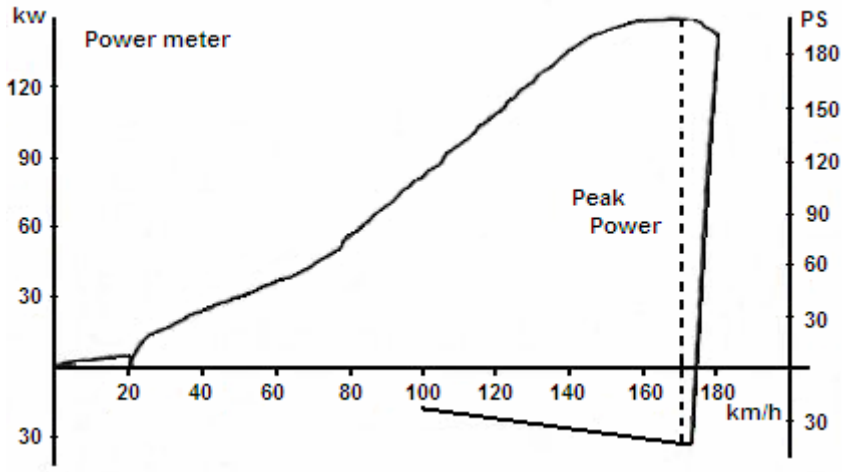
1) Peak hold function
Pressing the peak hold button will toggle between real time power and peak hold power.
Peak hold power is the highest point of power the engine has produced since started. This peak will be stored in the memory of the unit until the engine has been shut off or until the reset button has been pressed.
2) Peak hold reset
Pressing the peak hold button for longer than 2 seconds will reset the existing peak hold memory.
3) Calibration
When using a tuned vehicle, some applications may cause the power reading to Be inaccurate. It is necessary under these circumstances to use the calibration volume to readjust the meter to display accurate power readings. (refer to calibration setting)

6. Calibration Setting

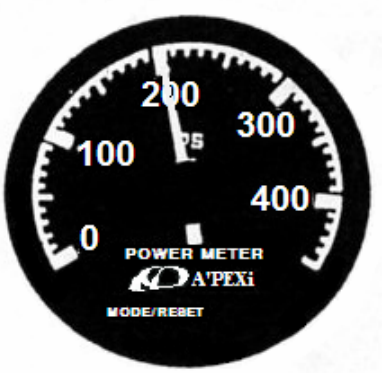
- This operation is not necessary for normal applications. In certain tuned vehicle, the needle may read slightly off the actual power output. When the power reading is extremely inaccurate from actual output, please use a chassis dynometer and adjust the meter according to the steps below.

1) Reset the peak hold setting of the meter.
2) Measure the vehicle horsepower on the chassis dynometer.
3) Read the peak power off of the dynometer graph.
4) Press the peak hold power button and adjust the needle to the point in (3) by using the this specific vehicle tuned application.
5) The meter will now measure accurate power output under with the new calibration setting for this specific vehicle tuned application.

- Please do not shut off the engine from the time the vehicle has been tested on the chassis dynometer to the time the calibration volume has been set. Shutting off the Engine will reset the peak hold function.

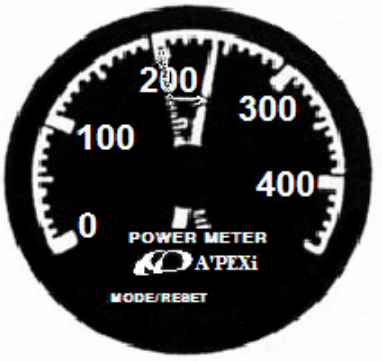


chassis dynometer graph



Power Meter Display

For example, if the chassis dynometer display 240 PS and the meter only show 200 PS, turn the calibration volume towards the + side while the meter is in peak hold mode until the needle hits 240 PS. (figure on right)



Vehicle Specific Setting Table

D250 PS Meter

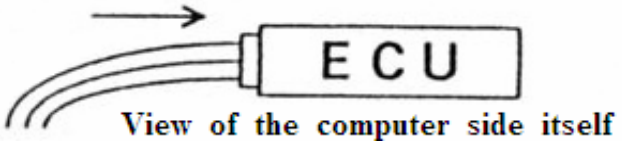
Engine	Vehicle Name	Model Type	Year	ECU Location	Vehicle Setting Switch	CP
2JZ-GE	ARISTO	JZS147	91/10~	Passenger Side Foot Rest		T6
	MAJESTA	JZS149	91/10~	Passenger Side Foot Rest		T6
1JZ-GE	MARKII	JZX81	90/08~	Above Glove Box		T7
4A-GZE	LEVIN TRUENO	AE101	91/05~	Behind Center Console		T8
		AE92	89/05~	Behind Center Console		T8
4A-GE	LEVIN TRUENO	AE92	87/05~	Behind Center Console		T9
		AE92	89/05~	Behind Center Console		T11
		AE86	83/05~	Passenger Side Foot Rest Left or Right Side		T9
	MR-2	AW11	84/06~	Trunk		T9
	COROLLA	AE82	83/05~	Behind Center Console		T9
4E-FTE	STARLET	EP82	89/12~	Behind Center Console		T10
			92/01~	Behind Center Console		AT T11 MT T10
2E-TE	STARLET	EP71	86/01~	Behind Center Console		T9
RB20DE	SKYLINE	R32	89/05~	Passenger Side Foot Rest Left or Right Side		N1
		R31	87/08~	Passenger Side Foot Rest Left or Right Side		N3
	CEFIRO	A31	88/09~	Passenger Side Foot Rest Left or Right Side		N1
SR20DE	SILVIA 180SX	RS13 RPS13	91/01~ 91/01~	Passenger Side Foot Rest Left or Right Side		N4
	PRIMERA	P10	89/02~	Behind Center Console		N4
CA18DE	SILVIA	S13	88/05~	Passenger Side Foot Rest		N1
	BLUE BIRD	U12	87/09~	Behind Center Console		N1
MA09ERT	MARCH	EK10	88/08~	Above Glove Box		N5
H22A	PRELUDE	BB1 BB4	90/10~	Passenger Side Foot Rest		w/ TRC H1 w/o TRC H2
B16A	CIVIC	EG6	91/09~	Passenger Side Foot Rest Left or Right Side		H2
	CR-X	EG2	92/03~	Passenger Side Foot Rest Left or Right Side		H2
	CIVIC	EF9	89/09~	Passenger Side Foot Rest		H3
	CR-X	EF8	89/09~	Passenger Side Foot Rest		H3
ZC	CIVIC	EF3	87/09~	Passenger Side Foot Rest		H3
	CR-X	EF7	87/09~	Passenger Side Foot Rest		H3

Vehicle Specific Setting Table

D450 PS Meter

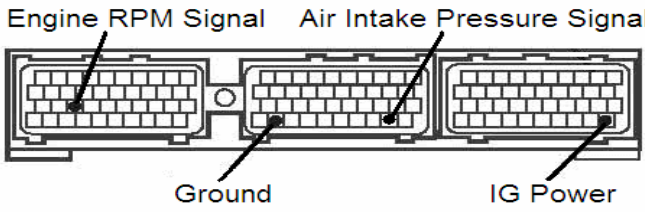
Engine	Vehicle Name	Model Type	Year	ECU Location	Vehicle Setting Switch	CP
2JZ-GTE	ARISTO	JZS147	‘91/10~	Passenger Side Foot Rest		T1
	SUPRA	JZA80	‘93/05~	Passenger Side Foot Rest		T1
1JZ-GTE	SOARER	JZZ30	‘91/05~	Passenger Side Foot Rest		T2
	SUPRA	JZA70	‘90/08~	Above Glove Box		T3
	MARKII	JZX81	‘90/08~	Above Glove Box		T3
		JZX90	‘91/10~	Behind Center Console		T2
3S-GTE	CELICA	ST185	‘89/10~	Behind Center Console		T4
			‘90/04~	Behind Center Console		T5
	MR-2	SW20	‘89/10~	Trunk		T4
			‘92/02~	Trunk		T5
VG30DETT	FAIRLADY	Z32	‘89/07~	Passenger Side Foot Rest		N1
VG30DET	CIMA	PY31	‘88/01~	Passenger Side Foot Rest Left or Right Side		N2
			‘89/08~	Passenger Side Foot Rest Left or Right Side		N1
	CEDRIC GLORIA	Y32	‘91/06~	Passenger Side Foot Rest Left or Right Side		N1
RB26DETT	SKYLINE	R32	‘89/08~	Passenger Side Foot Rest Left or Right Side		N1
RB20DET	SKYLINE	R31 Late Model	‘87/08~	Passenger Side Foot Rest Left or Right Side		N3
		R32	‘89/05~	Passenger Side Foot Rest Left or Right Side		N1
	CEFIRO	A31	‘88/09~	Passenger Side Foot Rest Left or Right Side		N1
SR20DET	SILVIA 180SX	PS13 RPS13	‘91/01~ ‘91/01~	Passenger Side Foot Rest Left or Right Side		N4
	BLUE BIRD	U13	‘91/09~	Behind Center Console		N4
		U12	‘89/10~	Behind Center Console		N4
	PULSAR	N14	‘90/08~	Behind Center Console		N4
CA18DET	SILVIA 180SX	S13 RS13	‘88/05~ ‘89/03~	Passenger Side Foot Rest Left or Right Side		N1
	BLUE BIRD	U12	‘87/09~	Behind Center Console		N1
13B-REW	RX-7	FD3S	‘91/11~	Passenger Side Foot Rest Left or Right Side		M1
13B	RX-7	FC3S	‘85/09~	Passenger Side Foot Rest		M2
		FC3S	‘89/03~	Passenger Side Foot Rest		M3

8. Vehicle Specific Computer Wiring Diagram



(1)TOYOTA

T1



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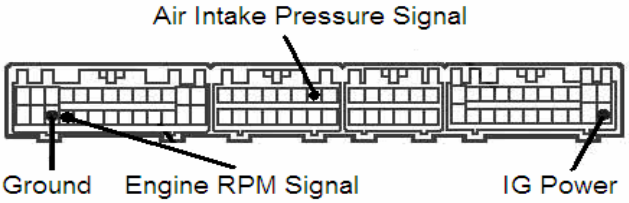

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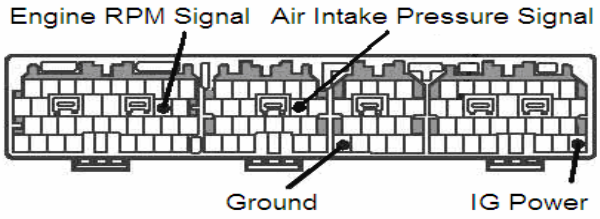

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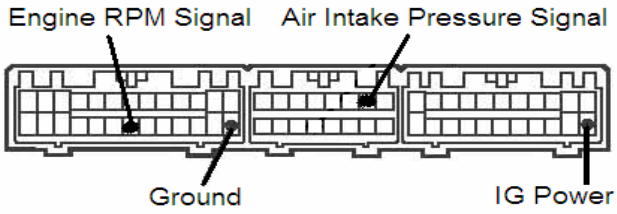
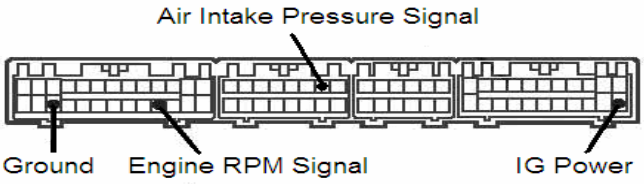


T3



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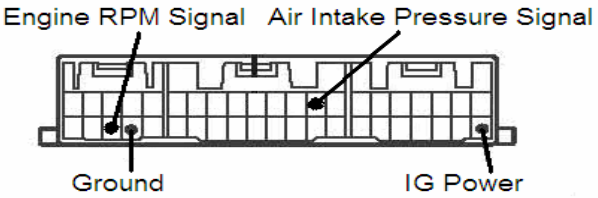

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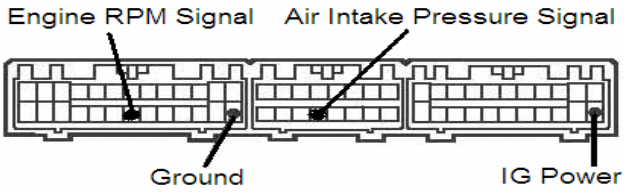

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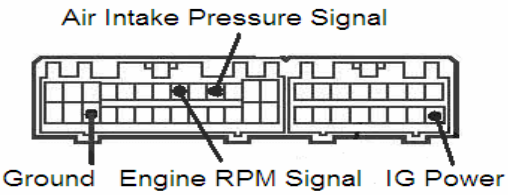

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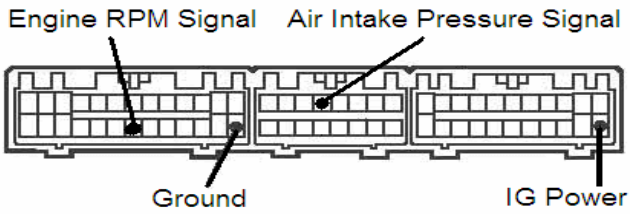

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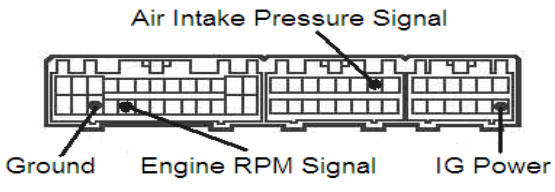

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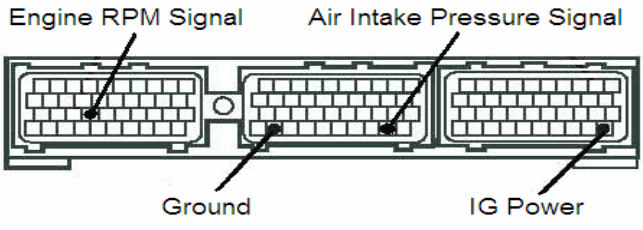
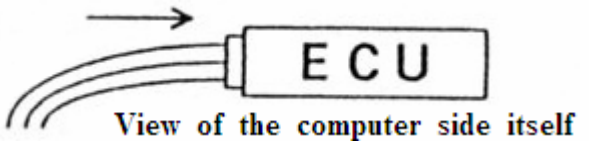
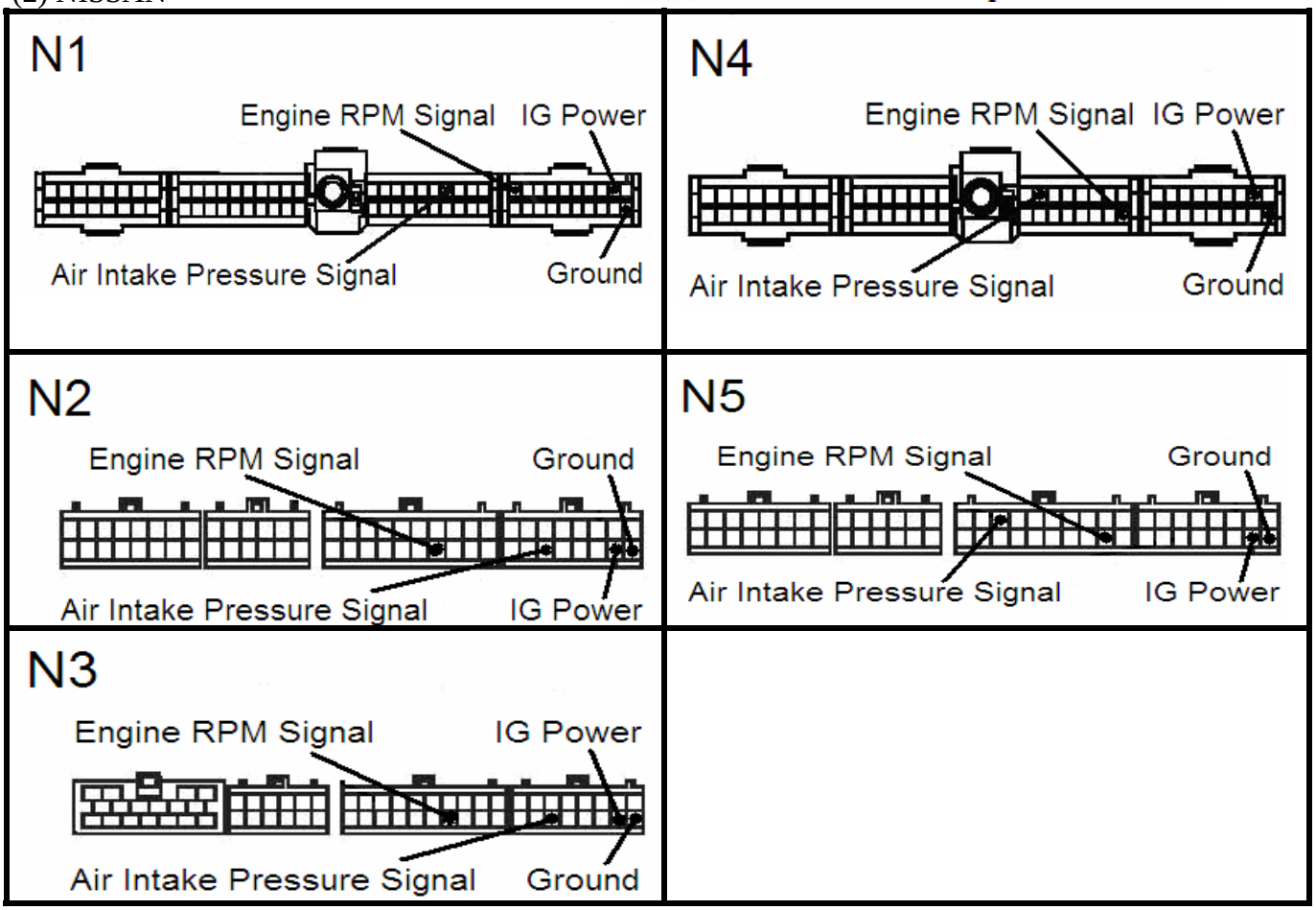


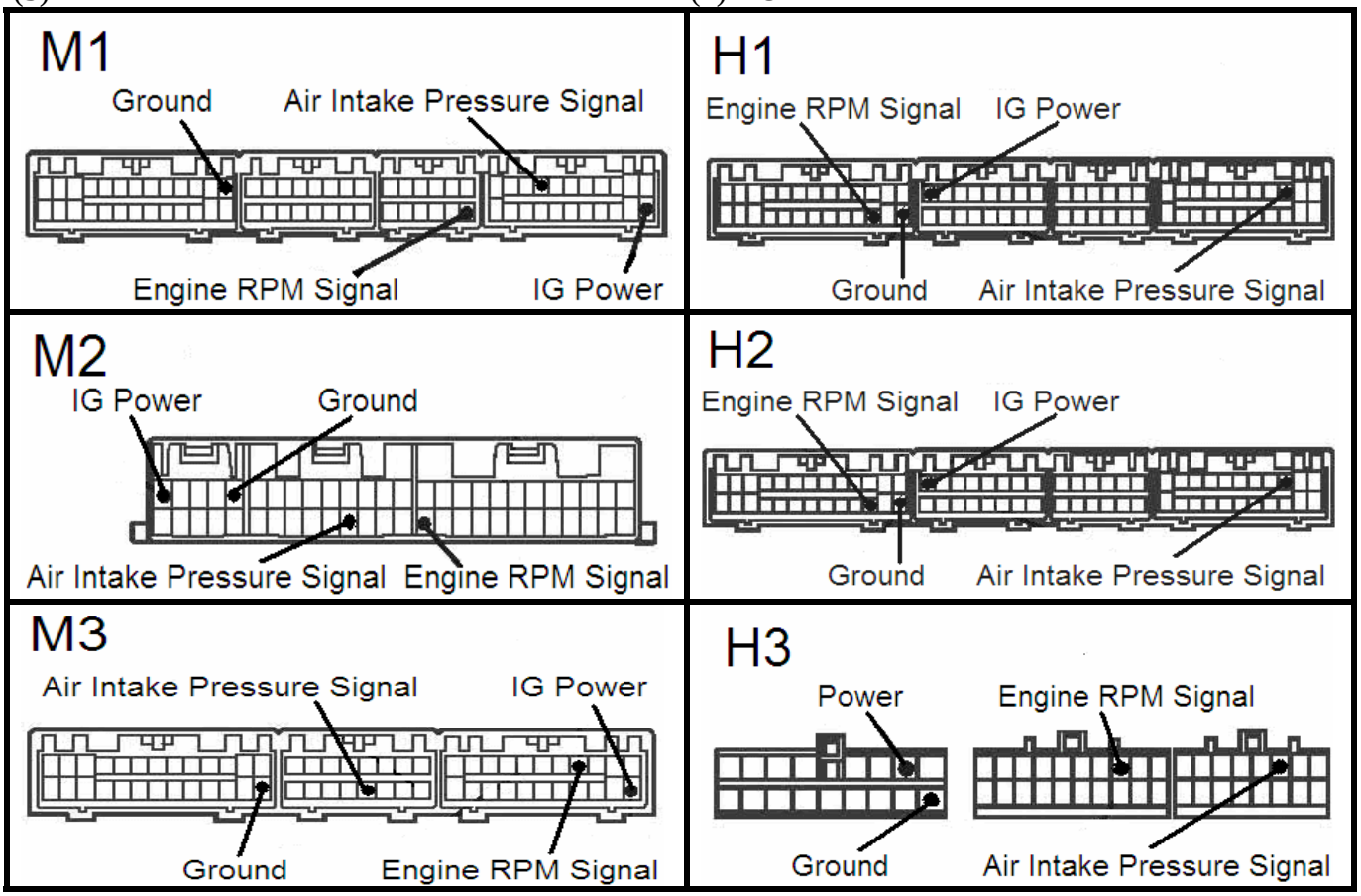


(2) NISSAN



(3) MAZDA

(4) HONDA



ATTENTION! This wiring diagrams can have mistakes, because this first version of manual!

9. Cautions

⚠ DANGER

- **If driving becomes a necessity for setting purposes, be sure never to be an obstruction to traffic and follow all the rules of the highway.**
- **Never adjust the knobs on the controller unit while driving as it is extremely dangerous.**

⚠ CAUTION

- **Improper settings may lead to engine failure. Please perform setting procedures with caution.**
- **Never disassemble this product.**
- **If any unusual engine characteristics arise during use of this unit, discontinue use immediately and contact our office.**

1) About Wiring
   - Be sure to disconnect the negative (-) terminal of the battery before performing any wiring.
   - Be sure to connect the signal harness properly.
   - When using any device that changes the air flow meter signal (also fuel cut prevention devices) connect the green wire of the unit (air intake volume signal wire) to the inbound side wire (air flow side) of the device.

2) About the Vehicle Setting Switch
   - Do not adjust the vehicle setting switch while the engine is under operation.

3) About the Calibration Volume
   - Changing the air filter on some vehicles may cause the air flow meter to read a different air flow volume than the actual air flow volume. On these applications where the actual air flow volume is extremely different from detected air flow volume, adjustment of the calibration volume may not produce accurate readings.

4) About Installation Locations
   - Please mount the unit and meter out of direct sunlight.
   - Do not mount the control unit under the floor mat or in any place where it may be stepped on or crushed by passengers.