



XCITING 300i TRAINING MATERIALS

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SPECIFICATIONS XCITING 300i

ENGINE

Bore and stroke	72.7 X65.2 mm
Compression ratio	10.6:1
Displacement	270 cm ³
Spark plug	DPR6EA-9
Standard(XCITING 300 AFI)	
Idle speed	

XCITING 300 AFI

1500~1700 min⁻¹ (rpm)

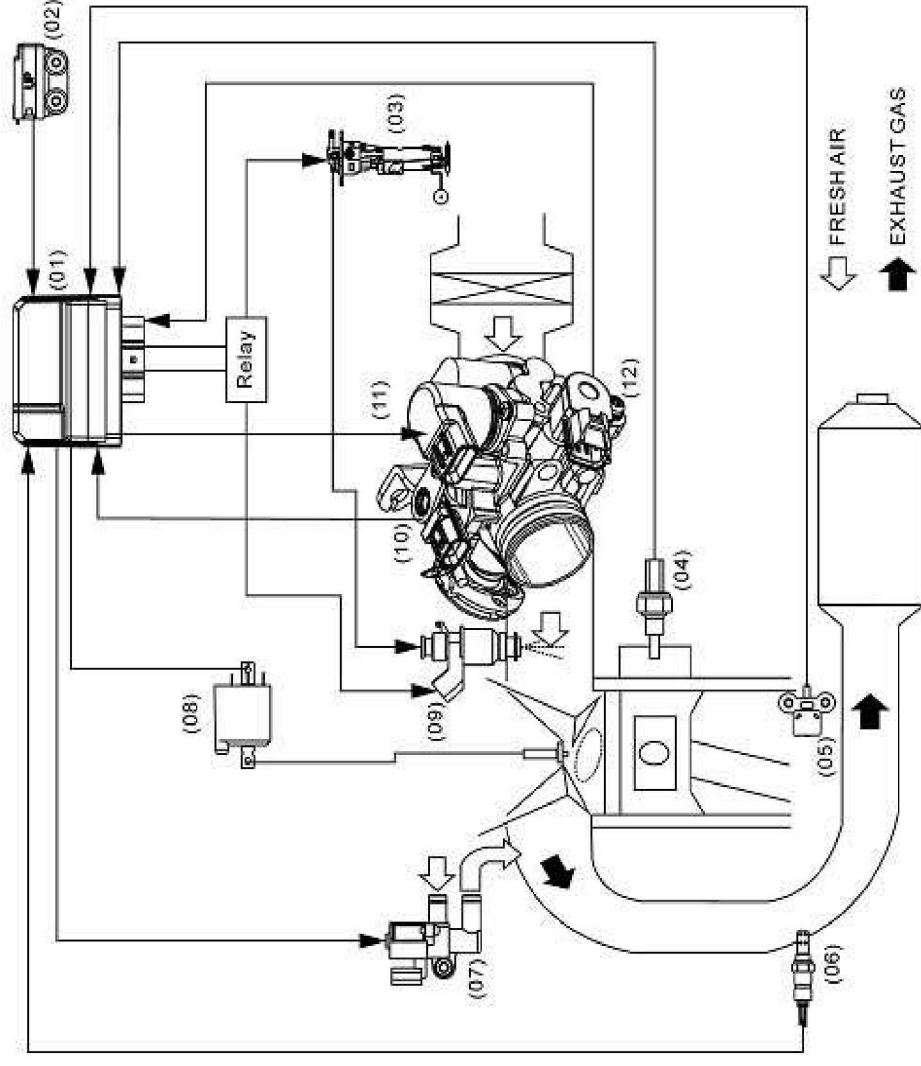
CHASSIS TRANSMISSION

Tire size, front	120/70-15
Tire size , rear	150/70-14

ELECTRICAL

Battery	12V-12 Ah
Headlight	12V60W/12V55W
Tail/brake light	LEDX45(12V0.47W)/LEDX45(12V4.4W)
Turn signal light	12V10W X 4
Position light	12V5W(front)/LEDX45(12V0.47W)
Fuse	
Main fuse	15A
Other fuses	10A, 15A, 30A

KEIHIN FI SYSTEM LAYOUT



No.	FULL NAME	ABBREVIATIONS
(01)	Electrical control unit	ECU
(02)	Tilt switch	ROLL
(03)	Fuel pump	FP
(04)	Water temperature sensor	WTS sensor
(05)	Crank position sensor	CPS
(06)	Oxygen sensor	O2 sensor
(07)	Air idle speed valve (Secondary air valve)	AISV
(08)	Inductive ignition coil	IG
(09)	Fuel injector	INJ
(10)	Intake pressure sensor	MAP sensor
(11)	Idle air bypass valve	ISC
(12)	Throttle position sensor	TPS

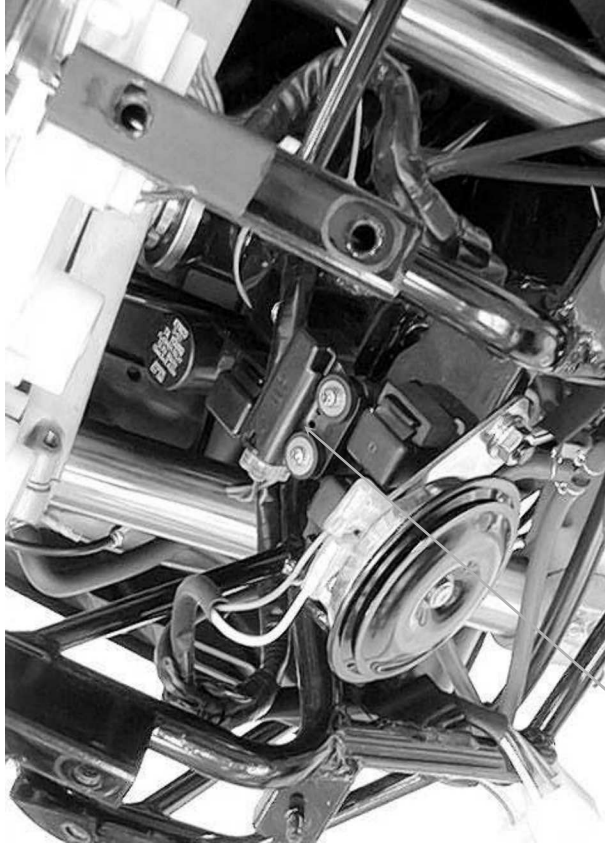
XCITING 300i PARTS LOCATION



No 1

*But for 500i, ECU is located under the front cover.

- No 1: ECU(for 300i)
- No 2: Tilt switch
- No 3: Fuel pump
- No 4: WTS sensor
- No 5: CPS
- No 6: O2 sensor
- No 7: AISV
- No 8: IG
- No 9: INJ
- No 10: MAP sensor
- No 11: ISC
- No 12: TPS



No 2



No 5

No 6

XCITING 300i PARTS LOCATION

No 1: ECU

No 2: Tilt switch

No 3: Fuel pump

No 4: WTS sensor

No 5: CPS

No 6: O2 sensor

No 7: AISV

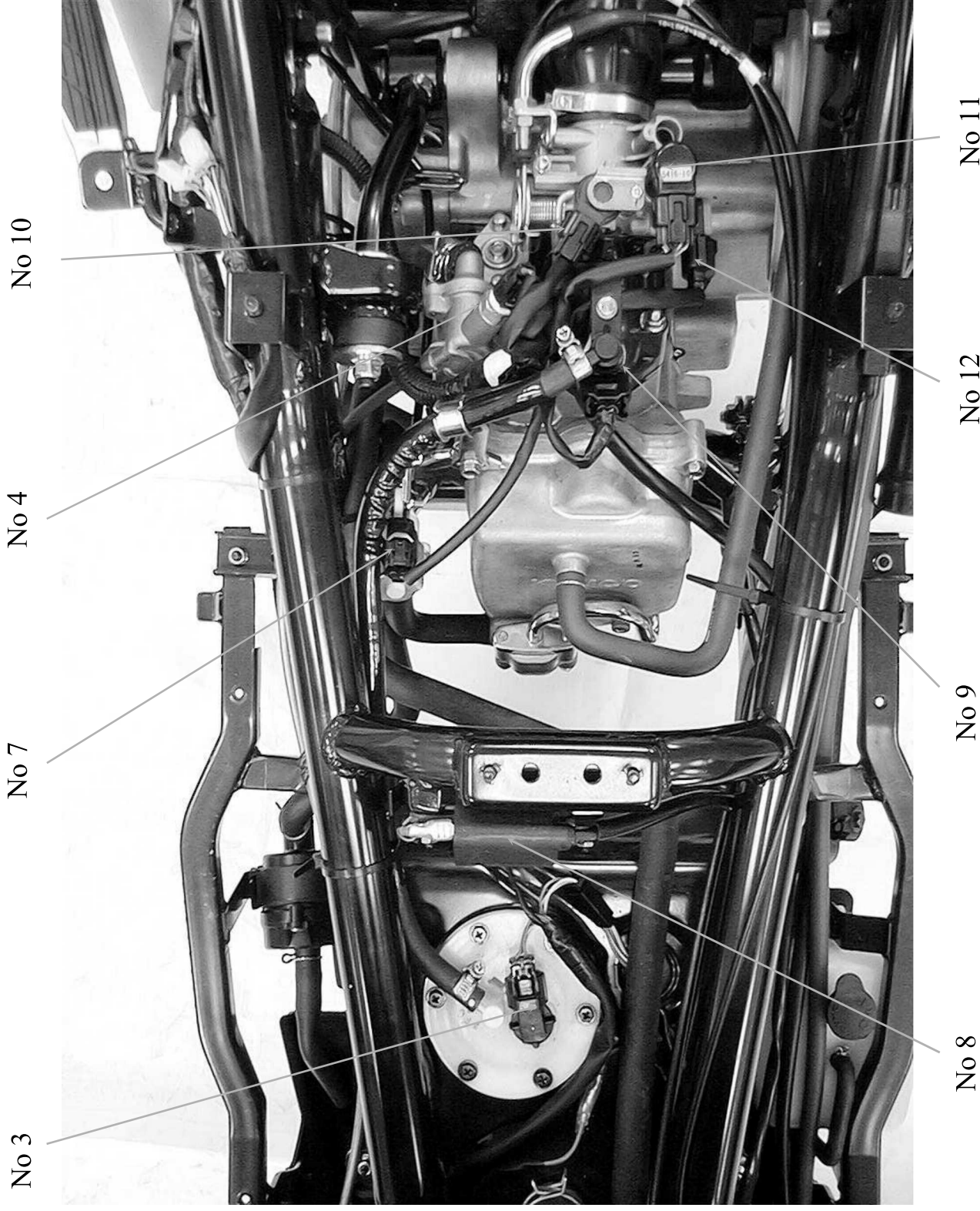
No 8: IG

No 9: INJ

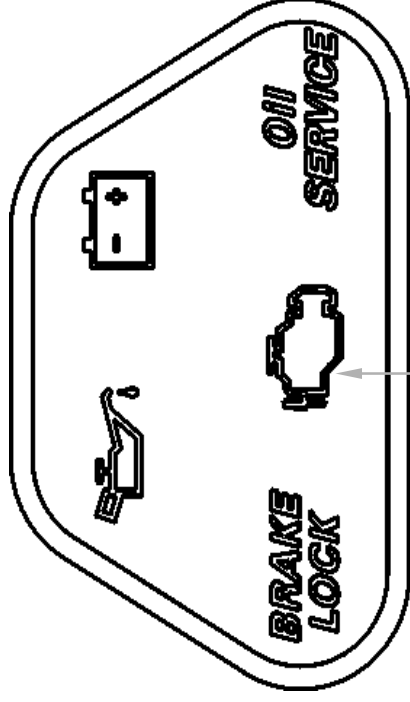
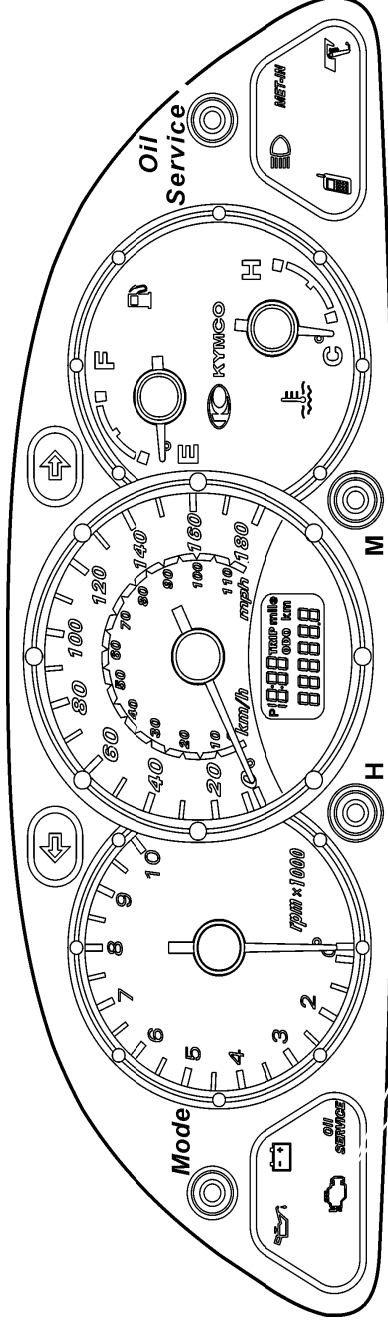
No10: MAP sensor

No11: ISC

No12: TPS



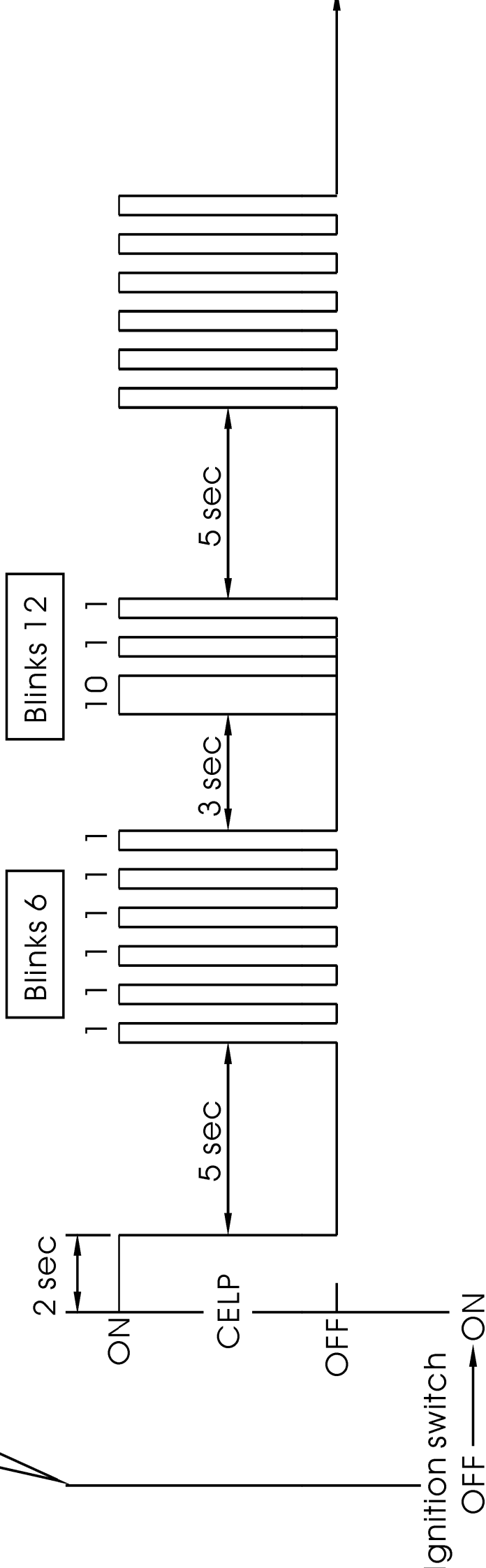
SELF-DIAGNOSTIC PROCEDURES



1. Turn key to On position
2. The engine check indicator light will blink twice.

FAILURE CODES READ ON THE CELP INDICATOR

Put the side stand up and engine stop switch is at "RUN"



DTC FAILURE CODES LIST

Blinks (Fi tool)	Failure Codes (PDA)	Contents	Causes	Symptoms
06	P0120	Faulty TPS	<ul style="list-style-type: none"> ; TPS range fault ; Loose or poor contacts on TP Sensor ; Open or short circuit in TPS wire ; Faulty TPS 	<ul style="list-style-type: none"> ; Engine operates normally
09	P0105	Faulty MAP	<ul style="list-style-type: none"> ; Loose or poor contacts on MAP ; Open or short circuit in MAP wire ; Faulty MAP 	<ul style="list-style-type: none"> ; Engine operates normally
11	P0195	Faulty ECT (oil temperature)	<ul style="list-style-type: none"> ; No this equipment 	
12	P0115	Faulty WTS (water temperature)	<ul style="list-style-type: none"> ; Loose or poor contacts on WTS ; Open or short circuit in WTS wire ; Faulty WTS 	<ul style="list-style-type: none"> ; Engine operates normally

DTC FAILURE CODES LIST

13	P0110	Faulty IAT	<ul style="list-style-type: none"> ; No this equipment 	
15	P1630	Faulty Tilt switch (Roll)	<ul style="list-style-type: none"> ; Loose or poor contacts on tilt switch ; Open or short circuit in tilt switch wire ; Faulty tilt switch 	<ul style="list-style-type: none"> ; Engine operates normally
17	P0130	Faulty O2 sensor	<ul style="list-style-type: none"> ; Loose or poor contacts on O2 sensor ; Open or short circuit in O2 sensor wire ; Faulty O2 sensor 	<ul style="list-style-type: none"> ; Engine operates normally
33	P0201	Faulty injector (Nozzle)	<ul style="list-style-type: none"> ; Loose or poor contacts on injector ; Open or short circuit in injector wire ; Faulty fuel injector 	<ul style="list-style-type: none"> ; Engine does not start ; Engine does not operate

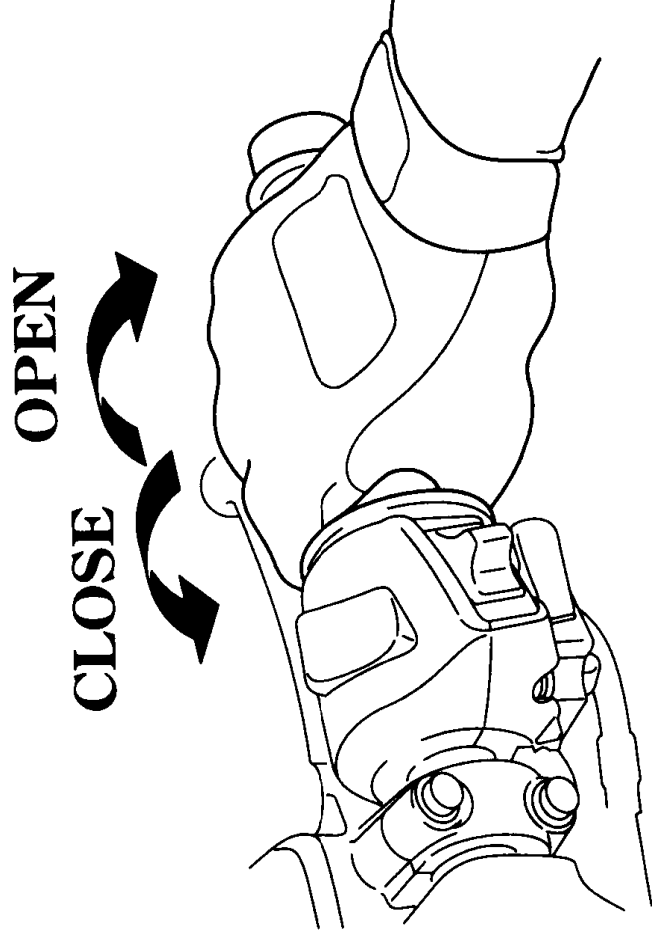
DTC FAILURE CODES LIST

Blinks (Fi tool)	Failure Codes (PDA)	Contents	Causes	Symptoms
37	P0351	Faulty inductive ignition coil	<ul style="list-style-type: none"> ; Loose or poor contacts on inductive ignition coil ; Open or short circuit in inductive ignition coil wire ; Faulty inductive ignition coil 	<ul style="list-style-type: none"> ; Engine does not start ; Engine does not operate
41	P0230	Faulty fuel pump	<ul style="list-style-type: none"> ; Loose or poor contacts on fuel pump ; Open or short circuit in fuel pump wire ; Faulty fuel pump 	<ul style="list-style-type: none"> ; Engine does not start ; Engine does not operate
45	P0135	Faulty O2 sensor heater	<ul style="list-style-type: none"> ; Loose or poor contacts on O2 sensor heater ; Open or short circuit in O2 sensor heater wire ; Faulty O2 sensor heater 	<ul style="list-style-type: none"> ; Engine starts normally ; Engine does not operate

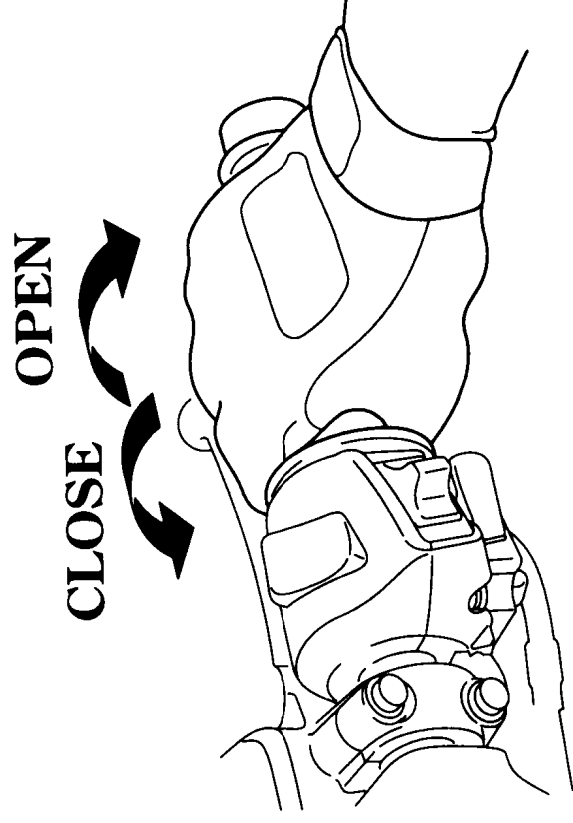
DTC FAILURE CODES LIST

Blinks (Fi tool)	Failure Codes (PDA)	Contents	Causes	Symptoms
49	P1505	Faulty ISC	<ul style="list-style-type: none"> ; Loose or poor contacts on ISC ; Open or short circuit in ISC wire ; Faulty ISC 	<ul style="list-style-type: none"> ; Engine operates normally
54	P1410	Faulty AISV	<ul style="list-style-type: none"> ; Loose or poor contacts on AISV ; Open or short circuit in AISV wire ; Faulty AISV 	<ul style="list-style-type: none"> ; Engine operates normally
66	P0335	Faulty CPS	<ul style="list-style-type: none"> ; Loose or poor contacts on CPS ; Open or short circuit in CPS wire ; Faulty CPS 	<ul style="list-style-type: none"> ; Engine does not start ; Engine does not operate

FAILURE CODES RESET PROCEDURES



RESET TPS/ISC PROCEDURE



RECHECK TPS/ISC WITH FI DIAGNOSTIC TOOL

1. Turn to page 2 on Fi diagnostic tool
2. Release the throttle
3. Refer to standard specifications as below,
 - “ Throttle position ” : 1% below
 - “ Throttle position sensor output voltage ” : 0.5 ± 0.10 Volt.



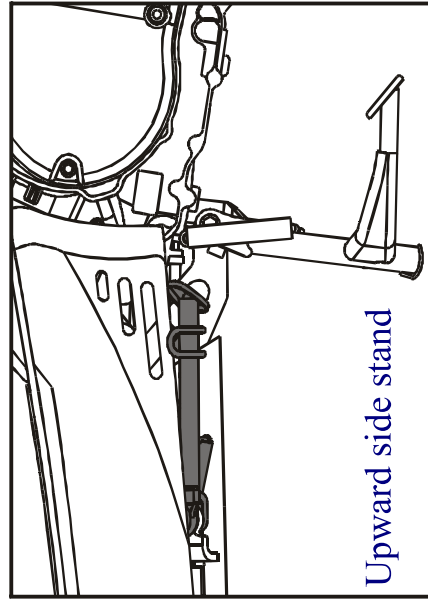
RECHECK TPS/ISC WITH FI DIAGNOSTIC TOOL

1. Fully open the throttle.
2. Refer to standard specifications as below,
 “Throttle position (TP) ”: 96% over
 “Throttle position sensor output voltage ”: 3.5--3.9 Volt.



FI DIAGNOSTIC TOOL CONNECTION

1. Upward the side stand
2. Turn the engine stop switch to the "RUN" position



Diagnostic Tool Connector

THROTTLE BODY/MAP/ISC REMOVAL / INSTALLATION

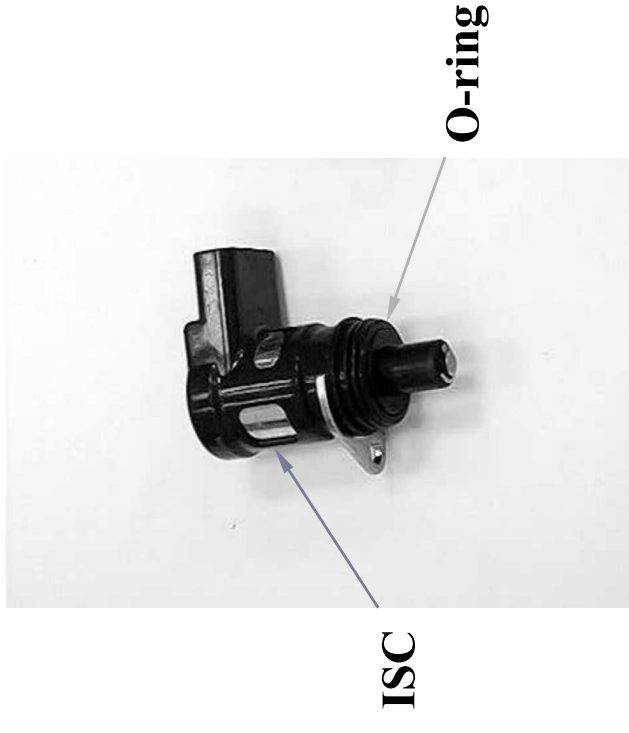
TPS and ISC have to be reset after the throttle body MAP, TPS, ISC or ECU has been reinstalled .



ISC seat

Remove the screw of the ISC seat.

Carefully install the ISC and seat into the hole of throttle body after using the engine oil onto the O-ring.



ISC

O-ring

THROTTLE BODY/MAP/ISC REMOVAL / INSTALLATION

Remove the screw of the MAP.

Carefully install the MAP into the hole of throttle body after using the engine oil onto the O-ring.

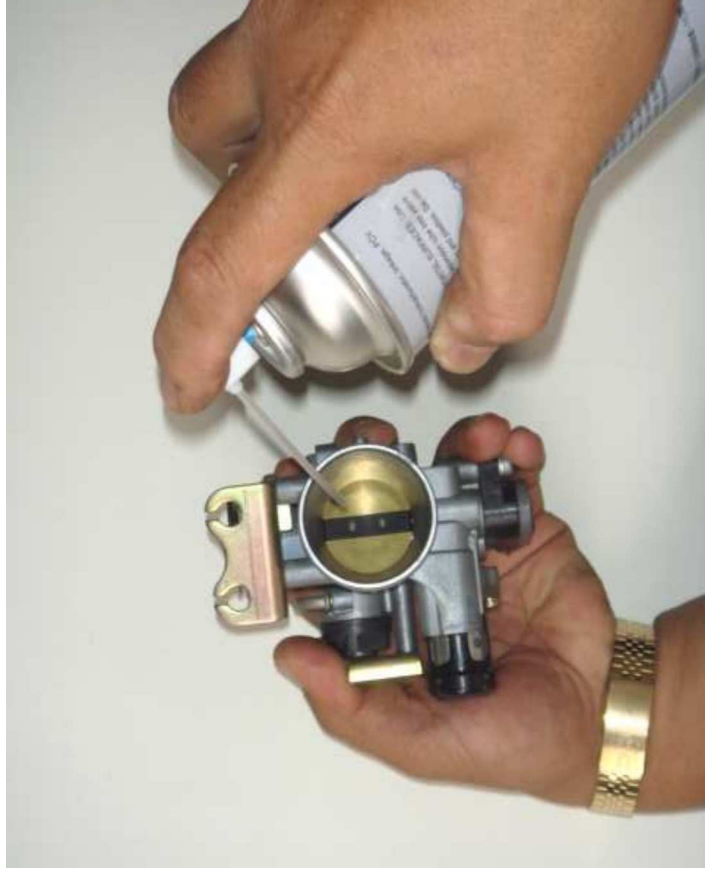
MAP



O-ring

Clean the THROTTLE BODY

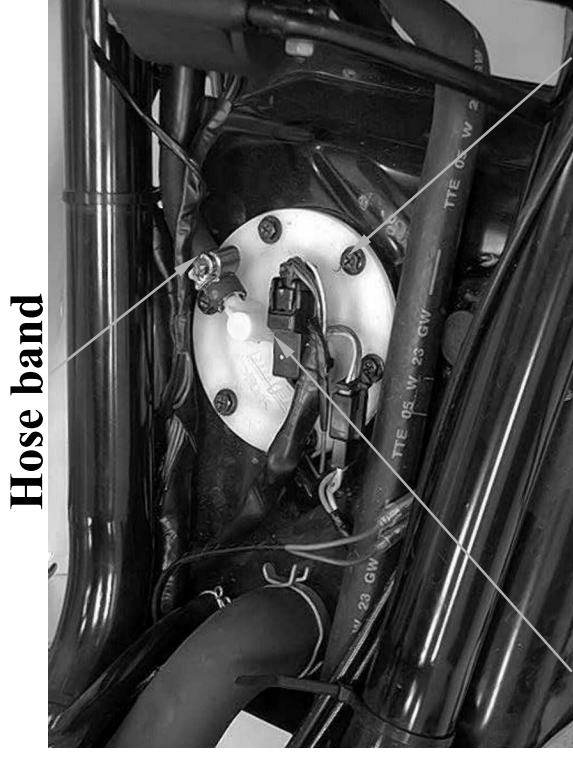
1. Remove the throttle body.
2. Use the carburetor cleaner to clean the throttle body's butterfly valve.
3. Waiting for ten minutes.
4. Blow the throttle body with a air gun.
5. Install the throttle body.



FUEL PUMP REMOVAL / INSTALLATION

REMOVAL

1. Disconnect the connector and fuel band from the fuel pump.
2. Remove the six screws onto the fuel pump.
3. Remove the fuel pump and O-ring.



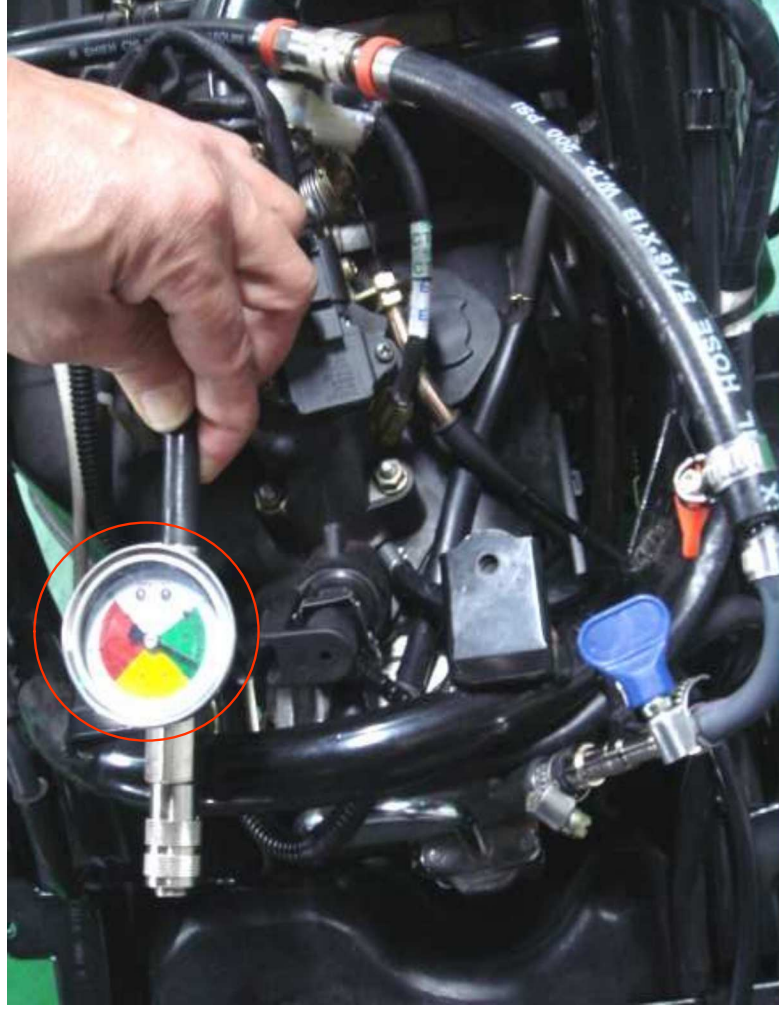
INSTALLATION

1. Replace a new O-ring on the fuel tank.
2. Be careful not to damage the fuel pump wire and ensure the connector rearward.
3. Tighten the six screws.



FUEL PRESSURE INSPECTION

1. Turn the key to the OFF position.
2. Use the fuel hose clamp.
3. Disconnect the fuel hose from the fuel injector.
4. Connect the fuel pressure gauge.
5. Turn the key to the ON position.
5. Check the fuel pressure. **Standard:3.0 Bar**



Caution

If the fuel pressure is less than three bar, may fail to start the engine or in trouble in case of riding.

FUEL INJECTOR REMOVAL / INSTALLATION

REMOVAL

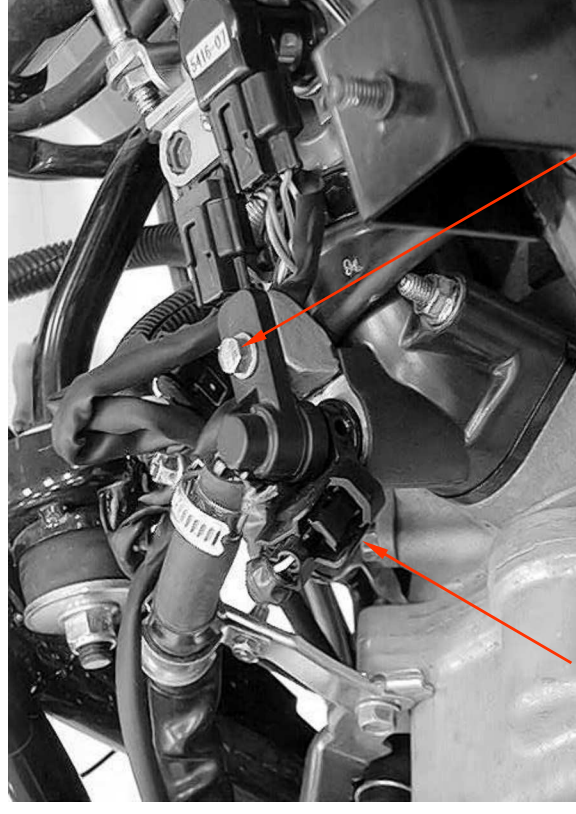
1. Disconnect the connector from the fuel injector.
2. Remove the bolt of the fuel injector.
3. Take out of the fuel pipe and fuel injector from the Inlet pipe.
4. Remove the fuel injector from the fuel pipe

Caution

Ensure the fuel pipe without any pressure, then remove the fuel injector.

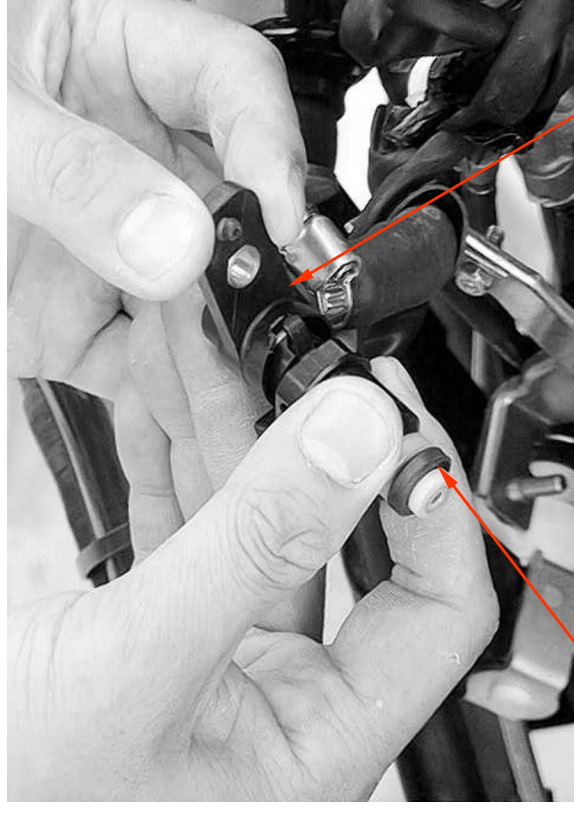
STEP 1 : Disconnect the fuel pump relay or fuel pump connector.

STEP 2: Turn the key to the ON position. Starting the engine till the engine stop working.



Connector

Bolt



O-ring

Fuel Injector

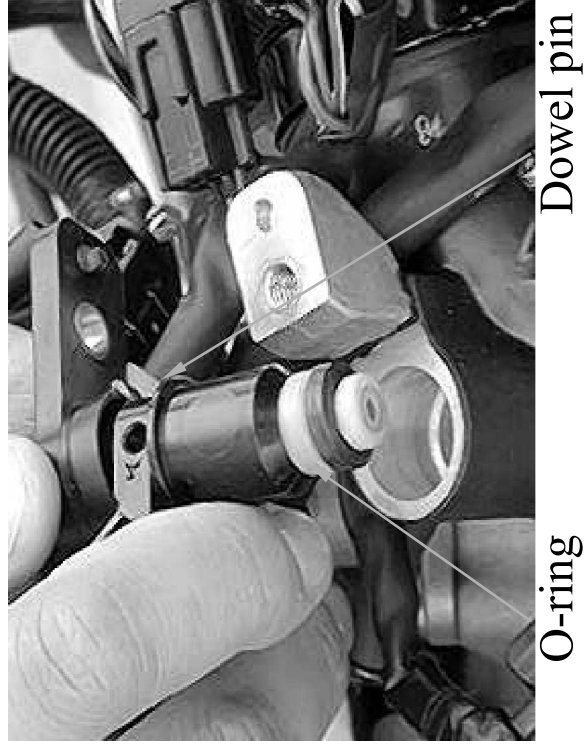
FUEL INJECTOR REMOVAL / INSTALLATION

INSTALLATION

1. Apply the engine oil to a new O-ring.
2. Install the fuel injector into the fuel pipe.
3. Ensure the tab of the fuel injector inserted into the groove of the fuel pipe.



4. Install the fuel pipe into the intake manifold by aligning the dowel pin.
5. Be careful not to damage the O-ring.
6. Tighten the fuel pipe mounting bolt.



FUEL INJECTOR CLEANING PROCEDURE

Problem:

1. Fuel Injector cannot output the fuel.
2. The Fuel injector operation time (ms) is shorter or longer.

Standard: less than 1.6ms

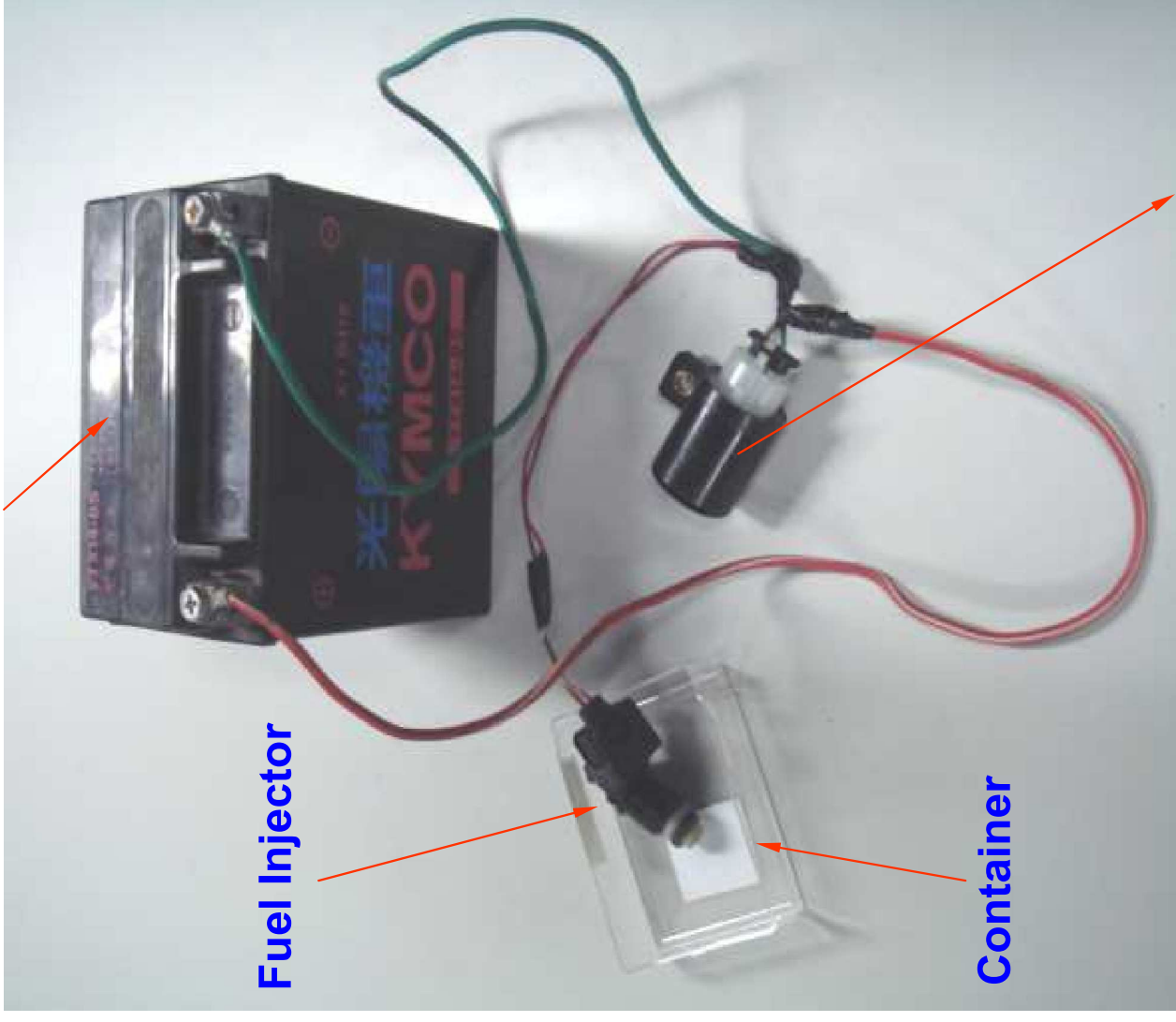
Analysis:

Injector block (With some carbons).

Troubleshooting:

1. Use the specified injector cleaner.
2. Pouring the liquid of carburetor cleaner until half container .
3. Connect the battery as picture.
4. The injector cleaner with the flash relay.
5. Keeping the fuel Injector operation.
6. Waiting for 20-30 minutes.
7. Cleaning the carbons completely.

Battery

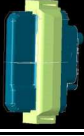







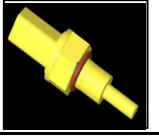

Fuel Injector




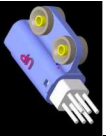
Container

Flash relay

EMS PARTS INSPECTION SPECIFICATIONS

O.	Part Name	INSPECTION WAY			Item	Specification	Remark	Temperature
		Drawing	PDA	Multimeter				
1.	ECU		V	X	<ol style="list-style-type: none"> 1. Outlook checking 2. Performance confirmed 3. Voltage inspection 4. MAP content (edition issue no.) 	<ol style="list-style-type: none"> 1. Confirm by drawing chart code 2. Connection for Harness and wire connector 3. Voltage = 5V±0.1V 4. Follow the diagnosis record list 	-15℃ ±70℃ J	
2.	IDLE AIR BYPASS VALVE (ISC)		V	X	<ol style="list-style-type: none"> 1. Air leak test (low and high pressure) 2. Opening setting 3. Confirm if performance is smooth 4. Outlook (with joint) 5. VALVE setting 6. ISC flow rate 7. MAP Function 	<ol style="list-style-type: none"> 1. Low pressure: 49kpa (0.5kg/cm²) High pressure: 343kpa (3.5kg/cm²) 2. IDLE opening: 0.6V±0.02V WOT opening: 3.77V 3. Confirm if performance is smooth? 4. Confirm if outlook is broken (with joint)? 5. Follow the KTW final inspection list. 6. Follow the KTW final inspection list. 7. 13.332 kpaABS(1V) ~119.990kpaABS(4.2V) 	-15℃ ±120℃ J	
3.	MAP SENSOR		V	V			-15℃ ±60℃ J	
4.	THROTTLE POSITION SENSOR (TPS)		V	V		Resistance: 3500~6500 Ω Voltage: 0°~105° (0.3~4.5V) 5KΩ ±30%	-30℃ ±110℃ J	

5.	FUEL PUMP		V	V	<p>1. Leakage test</p> <p>2. Outlook (with joint)</p> <p>3. Insulation resistance</p> <p>4. Leakage test for Fuel tube</p> <p>5. Noisy</p> <p>6. Fuel Level Resistance</p>	<p>1. Leakage= 3.92kpa (0.4kg/cm²)</p> <p>2. No rust and damaged</p> <p>3. >1M£ [</p> <p>4. Leakage= 343kpa (3.5kg/cm²)</p> <p>5. Noisy?</p> <p>6. FUEL LEVEL F:7£ F#3 E:95£ [±5</p>	PUMP Coil: about 1.9£ [-15¢ J+60¢ J
6.	FUEL INJECTOR		V	V	<p>1. Flow rate</p> <p>2. Resistance Value</p>	<p>1. Follow the KTW final inspection list.</p> <p>2. 9.945~13.5£ [</p>	11.7£ F#15%	-15¢ J+60¢ J
7.	WATER TEMPERATURE SENSOR (WTS)		V	V	<p>1. Resistance Value</p> <p>2. Insulation resistance</p>	<p>-20¢ J 18.8K£ [</p> <p>+40¢ J 1.136K£ [</p> <p>+100¢ J 0.1553K£ [</p>	Normal 25¢ J (Estimation) 2.076K£ F#10%	-30¢ J+120¢ J
8.	INDUCTIVE IGNITION COIL		V	V	<p>1. Resistance Value</p>	<p>Primary: 3.57 ~ 4.83£ [</p> <p>Secondary: 10.42~14.49 K.£ [</p>	4.2±15% 12.6±15%	-15¢ J+60¢ J

2.	OXYGEN SENSOR		V	V	<p>1. Resistance Value</p> <p>2. Output voltage</p> <p>3. Outlook</p>	<p>1. Heater resistance : 6.7£ f9.5£ [</p> <p>2. Sensor output voltage : A/F: < when 14.7, > 0.8V(RICH) A/F: > when 14.7, < 0.18V(LEAN)</p> <p>3. Confirm outlook no rust and damaged.</p> <p>4. Confirm length of protect tube</p>	<p>Heater: 6.7£ f9.5£ [</p> <p>Measure after the engine is warm</p>	<p>-40¢ f+900¢ J (Centre electrode)</p>
0.	CRANK POSITION SENSOR (CPS)		V	V	<p>1. Resistance Value</p>	<p>Resistance: 100~130£ £</p>	<p>115£ £15£ £</p>	<p>-15¢ f130¢ J</p>
1.	AIR INJECTION SOLENOID VALVE		V	V	<p>1. Resistance Value</p>	<p>Resistance: 25.95~29.55£ [</p>		<p>-20¢ f+80¢ J</p>
2.	TILT SWITCH		V	V	<p>1. Output voltage at normal</p> <p>2. Output voltage when the vehicle fall down</p>	<p>1. Normal = 0.4V~1.4V</p> <p>2. Fall down = 3.7V~4.4V</p>		<p>-20¢ f+80¢ J</p>

Thank you for your attendance

