



TECHNICAL TRAINING MATERIALS

Xciting Series



Specification Xciting 500i

ENGINE

Bore and stroke	92 X75 mm (3.68 X 3 in)
Compression ratio	10.5:1
Displacement	498.5 cm ³ (30.4 cu-in)
Spark plug Standard (XCITING 500i/Ri)	CR7E
Idle speed	1300~1500 min ⁻¹ (rpm)

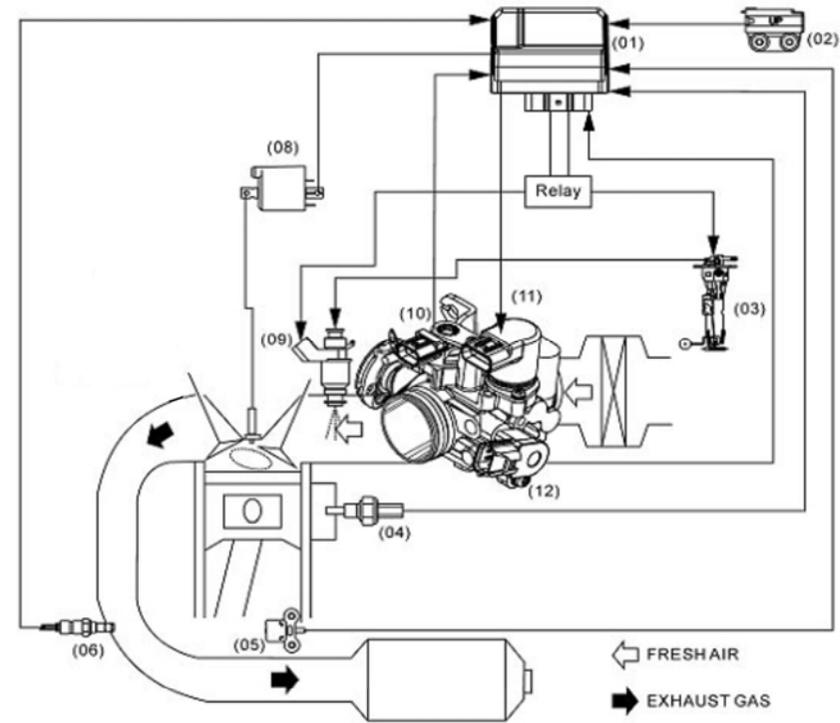
CHASSIS TRANSMISSION

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 SYSTEM



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
(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/500i FI PARTS LOCATION



ECU---300i



ROLL Sensor

※500i ECU is located under the front cover



CPS

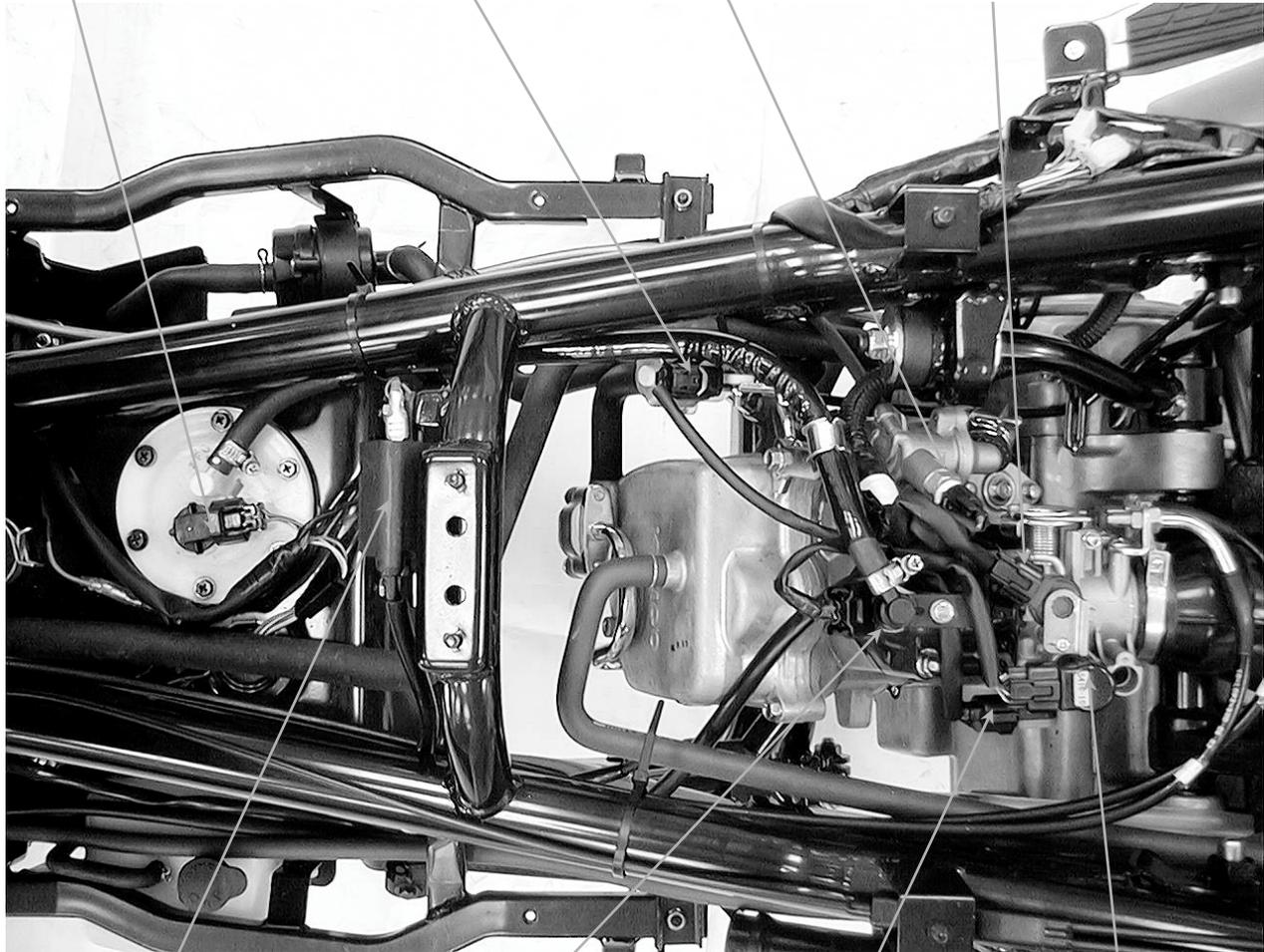
O2 sensor

FUEL PUMP

AISV

WTS

MAP SENSOR



IGNITION COIL

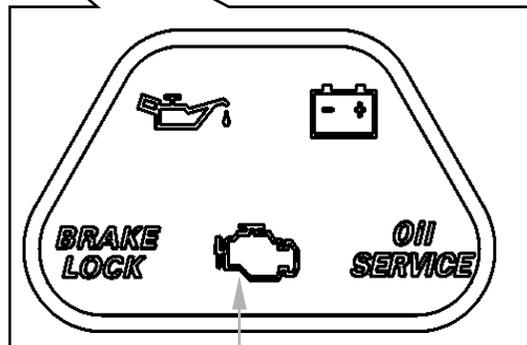
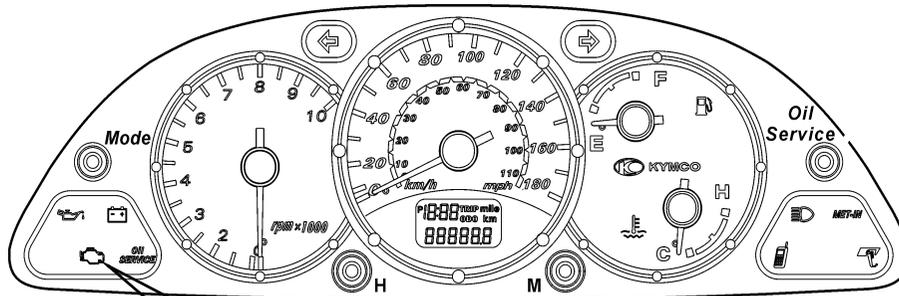
INJECTOR

TPS

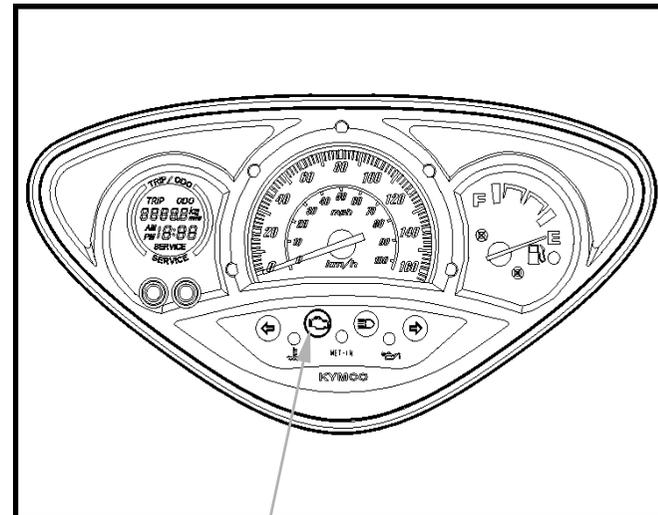
ISC

SELF-DIAGNOSTIC PROCEDURE

Turn the ignition switch “ON” without start the engine , The CELP lamp will light for two second then off. It shows the lamp work normal.

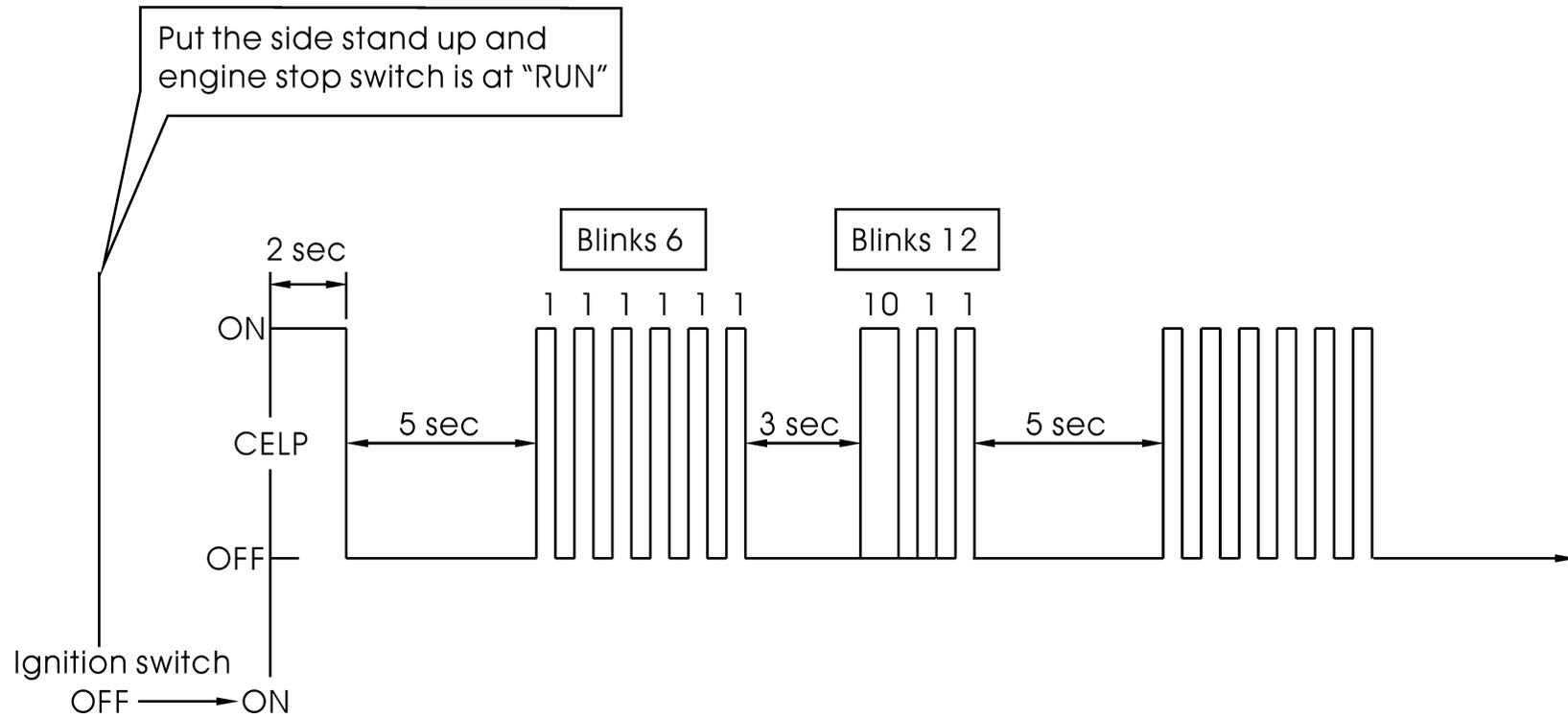


XCITING Check Engine Lamp (CELP)



PEOPLE S Check Engine Lamp (CELP)

SELF-DIAGNOSIS CELP FAILURE CODES



DTC LIST FOR KEIHIN

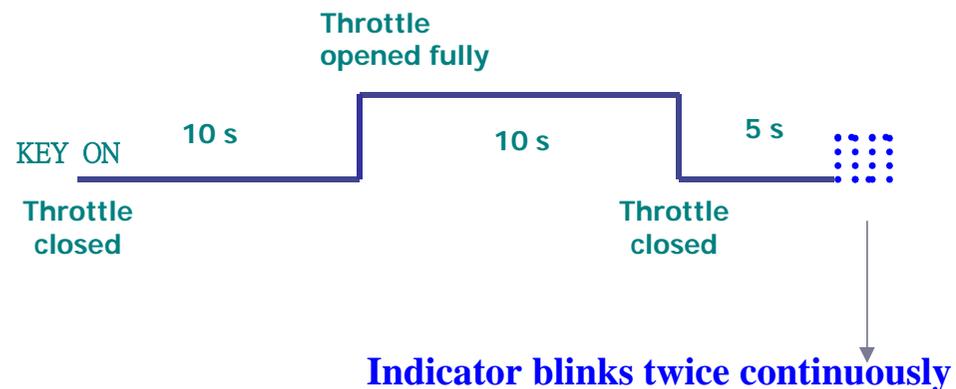
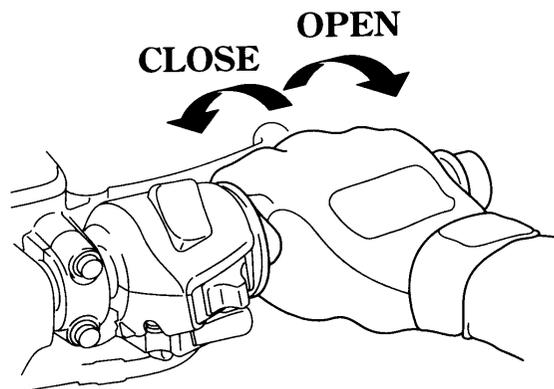
Blinks	Failure Codes	Contents	Causes	Symptoms
06	P0120	Faulty TPS	<ul style="list-style-type: none"> ● Faulty TPS voltage range (0.3~4.5 V) ● Loose or poor connection on TPS Sensor ● Open or short circuit on the TPS wire ● Faulty TPS itself. 	Engine operates normally
09	P0105	Faulty MAP	<ul style="list-style-type: none"> ● Faulty MAP voltage range (1~4.2 V) ● Loose or poor connection on MAP Sensor ● Open or short circuit on MAP wire ● Faulty MAP itself 	Engine operates normally
12	P0115	Faulty WTS (water temperature)	<ul style="list-style-type: none"> ● Faulty ECT Ω range (-20°C: 18.8 Ω/40°C: 1.136 Ω/100°C: 0.1553 Ω) ● Loose or poor connection on ECT ● Open or short circuit on ECT wire ● Faulty ECT 	Engine operates normally
15	P1630	Faulty Tilt switch (Roll)	<ul style="list-style-type: none"> ● Faulty Tilt switch voltage range (inclined angle <65°: 0.4~1.4 V/ Inclined angle >65°: 3.7~4.4 V) ● Loose or poor connection on Tilt switch ● Open or short circuit in Tilt switch wire ● Faulty tilt switch 	Engine operates normally
17	P0130	Faulty O ² Sensor	<ul style="list-style-type: none"> ● Faulty O² sensor voltage range (A/F below 14.7: > 0.7V/ A/F over 14.7: < 0.18 V) ● Loose or poor connection on O² sensor ● Open or short circuit on O² sensor wire ● Faulty O² sensor 	Engine operates normally
33	P0201	Faulty Injector (Nozzle)	<ul style="list-style-type: none"> ● Faulty Fuel injector Ω range (9.945~13.5 Ω) ● Loose or poor connection on injector ● Open or short circuit on injector wire ● Faulty fuel injector 	Engine fail to be operated

Blinks	Failure Codes (diagnostic tool)	Contents	Causes	Symptoms
37	P0351	Faulty inductive ignition coil	<ul style="list-style-type: none"> • Inductive ignition coil Ω range (4.2 $\Omega \pm 15\%$) fault • 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"> • Fuel pump Ω range (80 $\Omega \pm 10\%$) fault • 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"> • O2 sensor heater Ω range (7.7 $\Omega \pm 2 \Omega$) fault • 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
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 AICV (EXAI)	<ul style="list-style-type: none"> • AICV Ω range (> 23 Ω) fault • Loose or poor contacts on AICV • Open or short circuit in AICV wire • Faulty AICV 	<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 CLEARED

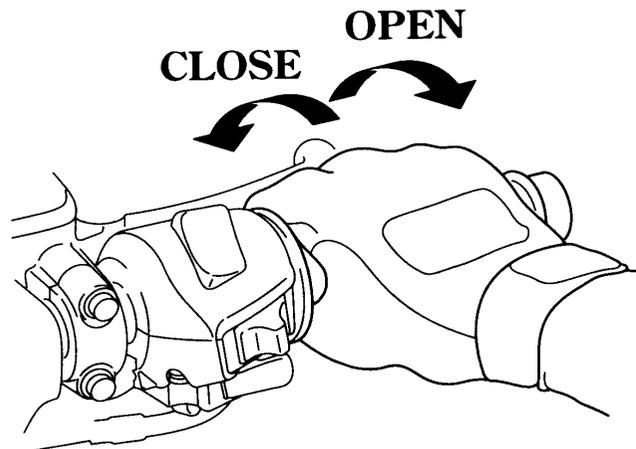
1. Turn the key to the ON position and wait for ten seconds.
2. Fully open the throttle and wait for ten seconds.
3. Release the throttle.
4. The indicator will blink twice (0.5 second) quickly.

NOTE: The self-diagnosis could not be reset if there's still trouble in Fi system.



TPS/ISC RESET

1. Turn the key to the OFF position.
2. Fully open the throttle .
3. Turn the key to the ON position.
4. Release the throttle after waiting for 8 seconds.
5. Turn the key to the OFF position.
6. Turn the key to the ON position.
7. TPS and ISC have been reset successfully.





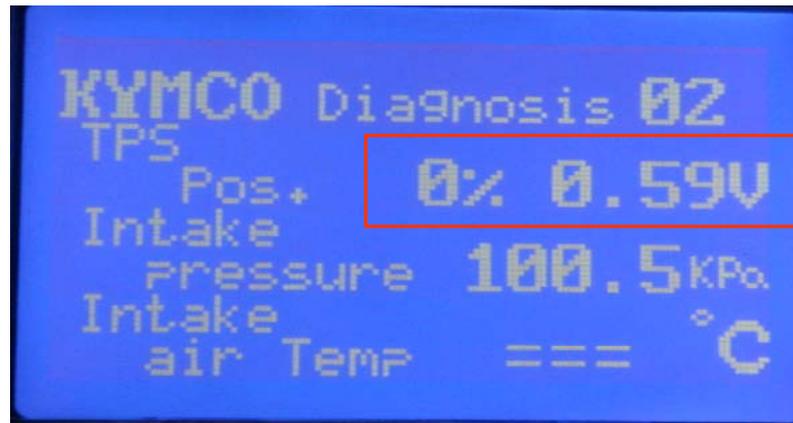
KYMCO Fi Diagnostic tool





RECHECK TPS/ISC WITH FI DIAGNOSTIC TOOL

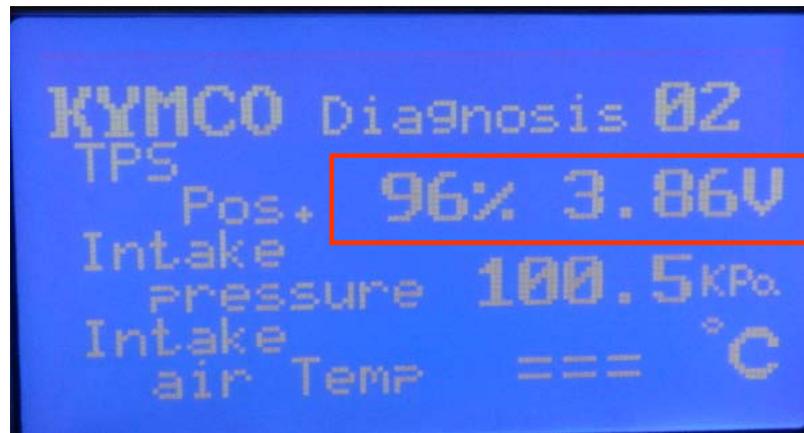
1. Turn to page 02 on Fi diagnostic tool
2. Release the throttle
3. Refer to standard specifications as below,
 - “ Throttle position ” : 1% below
 - “ Throttle position sensor output voltage ” : 0.5 ± 0.10 Volt.





RECHECK TPS/ISC WITH FI DIAGNOSTIC TOOL

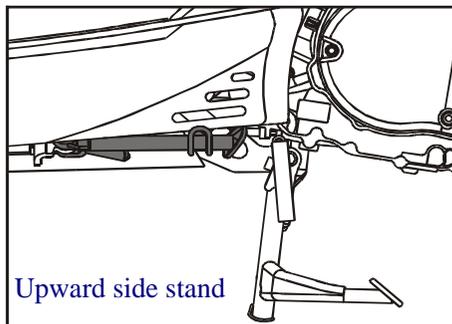
- 1. Fully open the throttle.**
- 2. Refer to standard specifications as below,**
 - “Throttle position (TP) ”: 94% over**
 - “Throttle position sensor output voltage ”: >3.78 Volt.**





FI DIAGNOSTIC TOOL CONNECTION

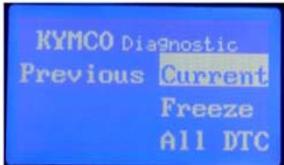
1. Upward the side stand
2. Turn the engine stop switch to the “RUN” position

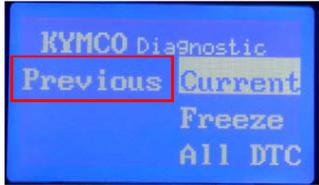
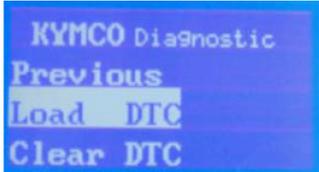
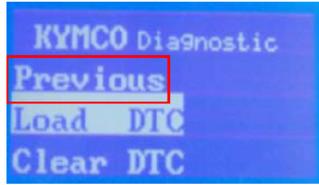


Diagnostic Tool Connector

DTC inspection

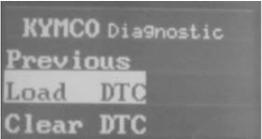
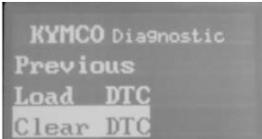
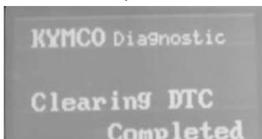
No.	Description	Button	Picture
1	<p>Connect Fi diagnostic tool with the connector of harness wire located beside the Battery.</p> <p>For Xciting 300i, 500i, Downtown 300i, 1) Side stand: UP position 2) Engine stop switch: RUN position</p>		 <p>Diagnostic Tool Connector</p>
2	Check the software version		
3	Press the " Enter " button	Enter	
4	Press the " Enter " button and then turn to the first page.	Enter	

No.	Description	Button	Picture
5	Press the " Down " button to check the DTC number	Down	
6	Press the " Enter " button	Enter	 
7	Press the " Enter " button	Enter	 
8	Display what's DTC number on this DTC-List. Refer to service manual. Press the " Enter " button and then turn to the previous page	Enter	 
9	Press the " UP " button	UP	 

No.	Description	Button	Picture
10	Press the " Enter " button and then turn to the previous page with red color.	Enter	
11	Press the " UP " button	UP	
12	Choose " Previous " with red color Press the " Enter " button and then turn to the first page.	Enter	 

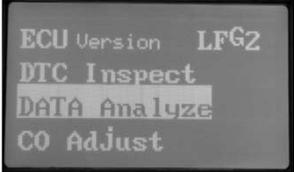
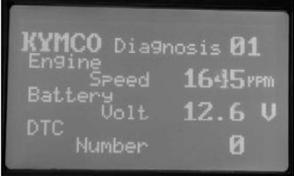
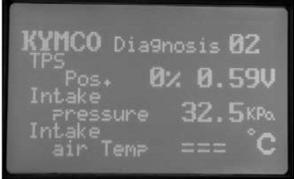
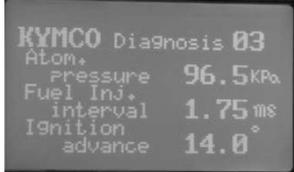


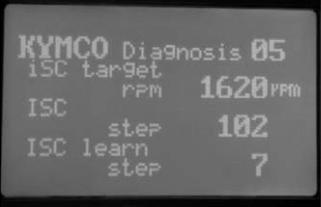
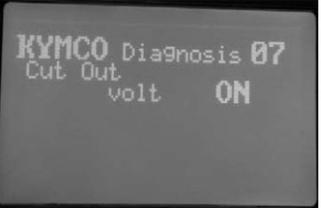
DTC cleared

No.	Description	Button	Picture
1	Check the DTC	Down	
2	~ Press the " Enter "	Enter	
3	Choose " Load DTC "		
4	Press the " Down " The indicator is lighting.	Down	 
5	Press the " Enter " Clearing DTC completed if the indicator is off.	Enter	 



Data Analysis

No.	Description	Button	Picture
1	Press the " Down " twice times.	Down	
2	Press the " Enter "	Enter	
3	Downpage 01		
3.1	Download the specification at http://kydms.kymco.com/		
3.2	Downpage	Down	
3.3	Including of Engine speed, Battery voltage and DTC number.		
4	Downpage 02	Down	
4.1	Including of TPS position, Intake pressure and Intake air temperature.		
5	Downpage 03	Down	
5.1	Including of Atmosphere pressure, Fuel Injector interval and Ignition advance timing.		

No.	Description	Button	Picture
6 6.1	Downpage 04 Including of Engine temperature, O2 sensor voltage and O2 heater activation.	Down	
7 7.1	Downpage 05 Including of ISC target, ISC step and ISC learn step.	Down	
8 8.1	Downpage 06 Including of ISC motor state.	Down	
9 9.1	Downpage 07 Including of Cut Out voltage.	Down	
	Press the " UP " to the privious page.	UP	

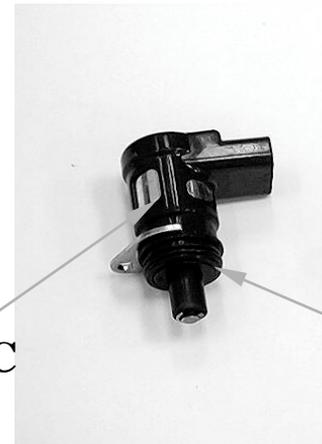
The (TPS) and (ISC) have to reset, when the throttle body MAP, TPS, ISC or ECU has been reinstalled .

Remove the screw, then remove the ISC and set plate.

Install the ISC and set plate onto the throttle body(Applly oil to new O-ring). Be careful not damage O-ring.



**ISC/Set
Plate**



ISC

O-ring

MAP

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.

INSPECTION

Support the scooter on a level surface.

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

Turn the ignition switch to "ON" position.

Measure if the ECU voltage outputs to the MAP between the following terminals of the MAP connector.

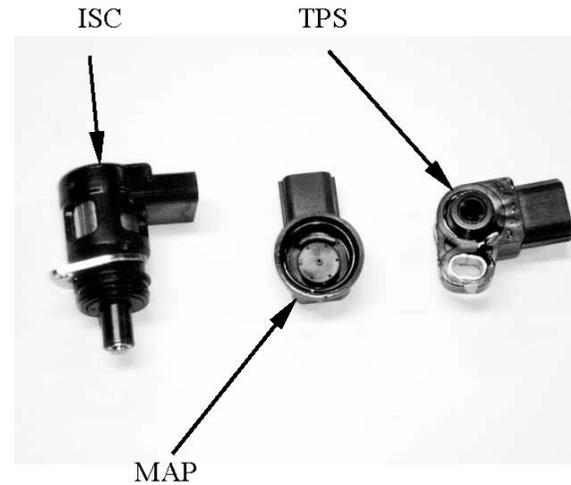
Terminal	Normal
Violet/Red (+) – Green/Pink (-)	5 V



O-ring

TPS

* The throttle position sensor (TPS) and idle air bypass valve (ISC) have to reset when the throttle body MAP, TPS, ISC or ECU has been reinstalled.



INSPECTION

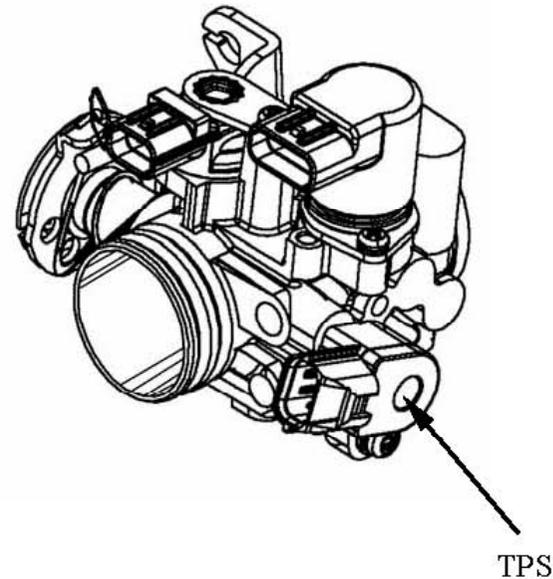
Put the side stand up and engine stop switch is at "RUN".

Turn the ignition switch to "ON".

Measure if the ECU voltage outputs to TPS between the following terminals of the TPS connector.

Terminal	Normal
Violet/Red (+) – Green/Pink (-)	5 V

Throttle position sensor (TPS) resistance (at 20°C/68°F) 3500~6500 Ω



THROTTLE BODY CLEANING



- 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 RELAY

INSPECTION

Remove the fuel cut-off relay.
Connect the ohmmeter to the fuel cut-off relay connector terminals.

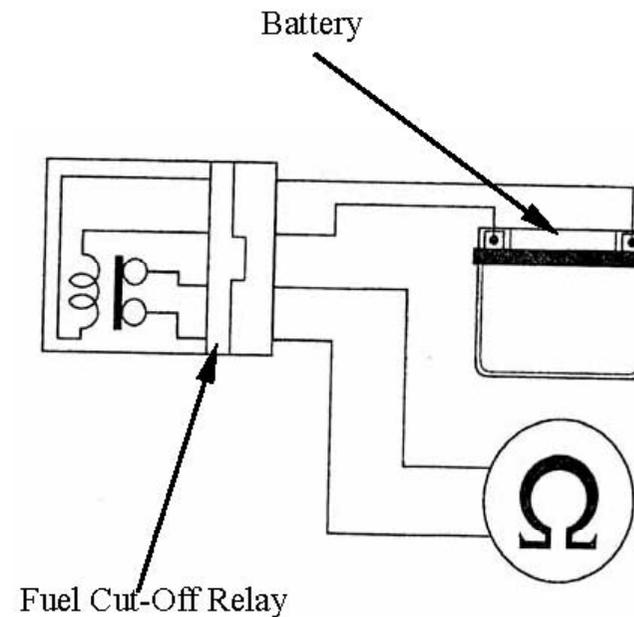
Connection: Black – Red/Black

Connect 12 V battery with the fuel cut-off relay connector.

Connection: Blue/Black – Black

There should be continuity only when 12 V battery connected.

If there is not continuity when the 12 V battery is connected, replace a fuel cut-off relay.





FUEL PUMP REMOVAL / INSTALLATION

REMOVAL

Disconnect the fuel pump connector and fuel hose from fuel pump.

Remove the six screws, then remove the fuel pump and O-ring.

INSTALLATION

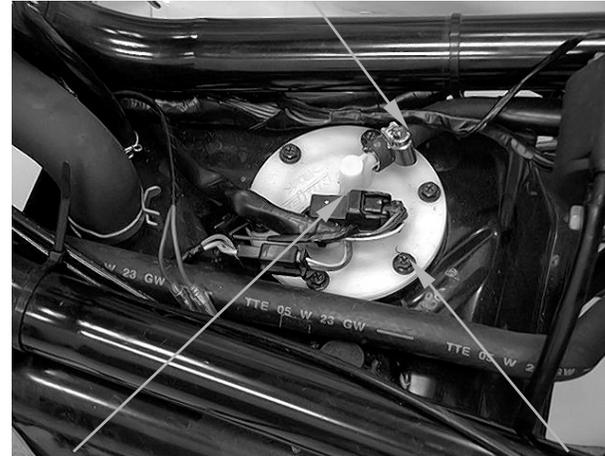
Place a new O-ring onto fuel tank.

Be careful not damage the fuel pump wire and make sure of the connector rearward.

Install and tighten the screws

Torque: 0.35 kgf-m (3.5 N-m, 2.5 lbf-ft)

Hose band



Fuel pump connector

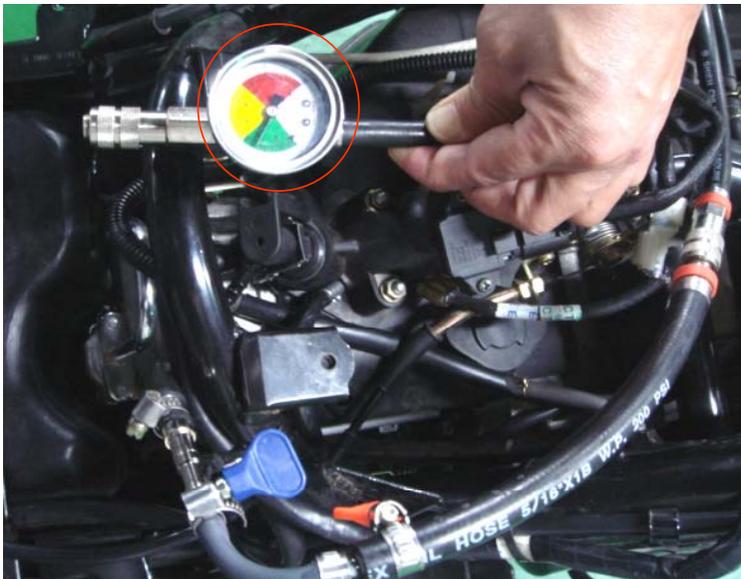
Screw



O-ring

FUEL OUTPUT 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**



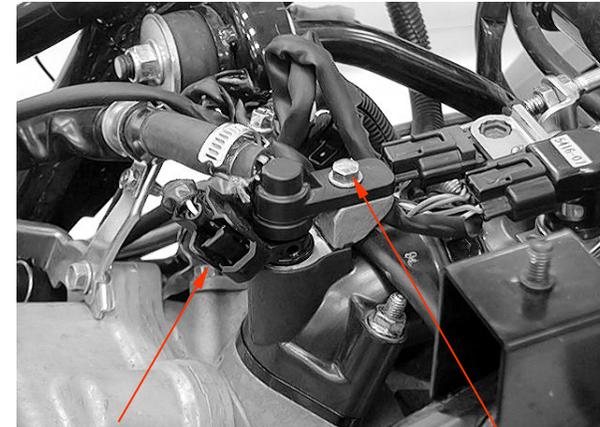
Caution !

If the fuel output pressure is less than 3.0 bar, may fail to start the engine or in trouble in case of riding.

FUEL INJECTOR

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



Connector

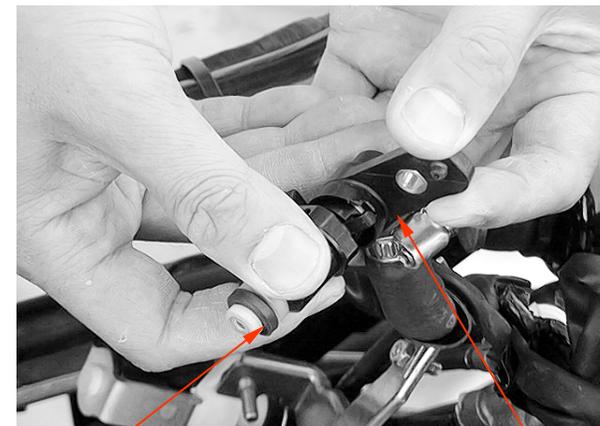
Bolt

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.



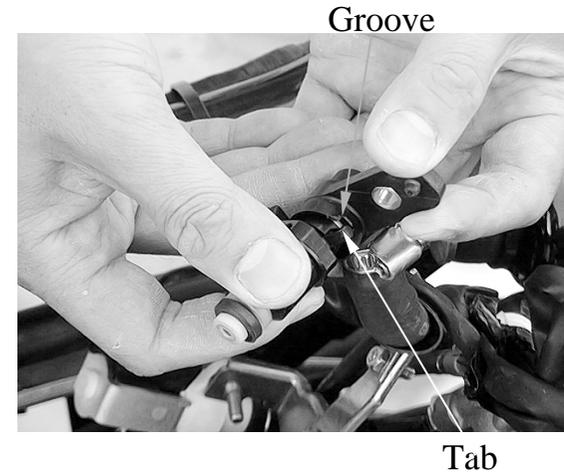
O-ring

Fuel Injector

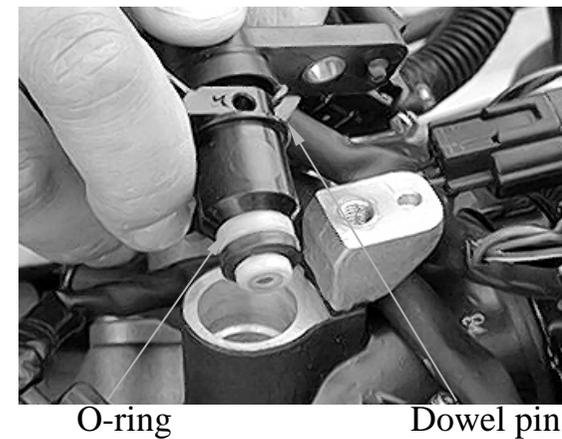
FUEL INJECTOR REMOVAL / INSTALLATION

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

Problem:

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

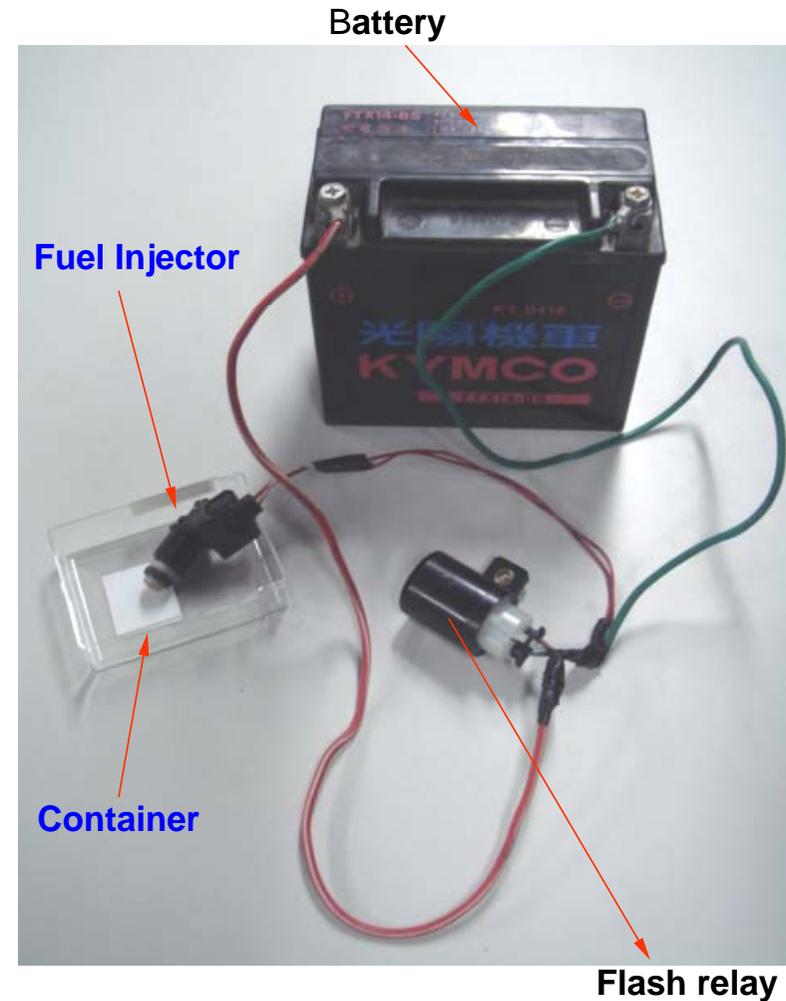
Standard: < 1.6ms

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.



TILT SWITCH

INSPECTION

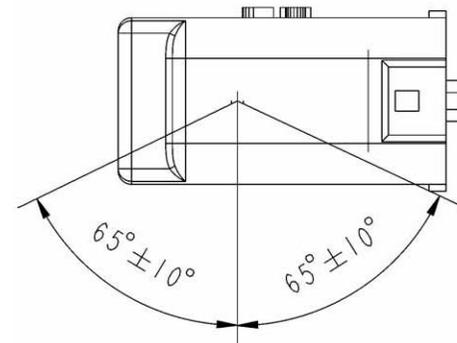
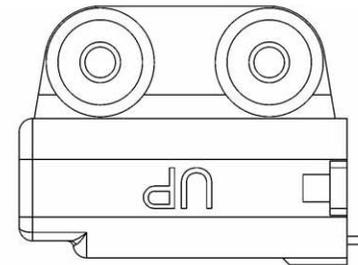
Measure the voltage between the following terminals of the tilt switch connector with the connector connected.

Terminal	Normal
Violet/Red (+) – Green/Pink (-)	5 V (ECU voltage)
Black/Blue (+) – Green/Pink (-)	0.4~1.4 V

Incline the tilt switch 65 ± 10 degrees to the left or right with the ignition switch turned to “ON”.

Measure the voltage between the following terminals of the tilt switch connector with the connector connected.

Terminal	Normal
Violet/Red (+) – Green/Pink (-)	5 V (ECU voltage)
Black/Blue (+) – Green/Pink (-)	3.7~4.4 V

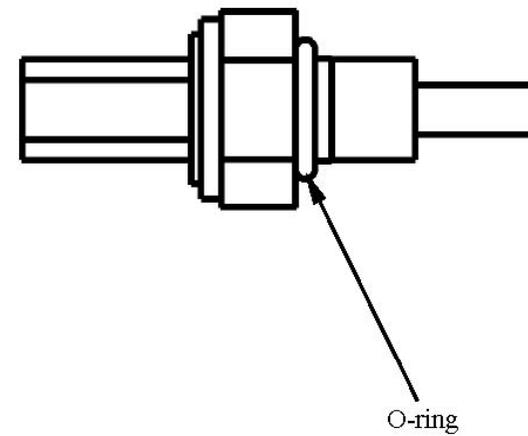


WATER TEMPERATURE SENSOR

RESISTANCE

STANDARD

°C	-20	40	100
KΩ	18.8	1.136	0.1553

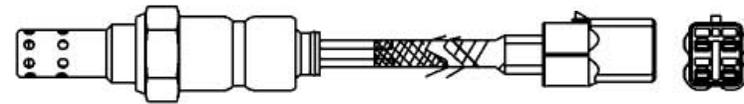


O² SENSOR

The O² sensor issues signal to ECU when the temperature is over 350°C during the engine is working.

The temperature is up to 350°C earlier than the muffler for O² heater sensor. So the O² sensor begins performance.

The function of O² sensor only controls the fuel injector operation.



INSPECTION

Disconnect the O² sensor connector.

Measure the resistance between each White wire terminals of the O² sensor side connector.

Standard: 7.7±1.2 Ω (at 20°C/68°F)

Specification for Keihin EMS Parts

NO.	Item	Photo	Tool	Specification
1.	39200-LDF2-8000 (ECU)		D	1. Check the label 2. Check if the connector is loosen 3. Check if the voltage is within $5V \pm 0.1V$ 4. Check the MAP version
2.	1610K-LDF2-8000 (IDLE AIR BYPASS VALVE /ISC)		D	According to the diagnosis report
3	MAP SENSOR		D	13.332kpaABS(1V) ~ 119.990kpaABS(4.2V)
4	THROTTLE POSITION SENSOR/TPS		D	IDLE opening: $0.5V \pm 0.1V$ WOT opening: $> 3.78V$
5.	FUEL PUMP		D,M	1. To hear if any noisy 2. FUEL LEVEL F: $7\Omega \pm 3$ E: $95\Omega \pm 5$
6.	FUEL INJECTOR		D,M	10.17~12.43 Ω
7.	WATER TEMPERATURE SENSOR/WTS		D,M	~ 18.8K Ω when temperature $-20^{\circ}C$ ~ 1.136K Ω when temperature $40^{\circ}C$ ~ 0.1553K Ω when temperature $100^{\circ}C$
8.	INDUCTIVE IGNITION COIL		D,M	Primary coil: 3.57 ~ 4.83 Ω Secondary coil: 10.42 ~ 14.49K Ω
9.	OXYGEN SENSOR		D,M	1. Heater : 6.7 Ω ~ 9.5 Ω 2. A/F: <14.7 Voltage: $>0.8V$ (Mixture is rich) A/F: >14.7 Voltage: $<0.18V$ (Mixture is lean)
10.	CRANK POSITION SENSOR/CPS		D,M	100 ~ 130 Ω
11.	AIR INJECTION SOLENOID VALVE/AISV		D,M	27.75 $\Omega \pm 1.8\Omega$
12.	TILT SWITCH		D,M	Normal position = 0.4V ~ 1.4V Fall down = 3.7V ~ 4.4V

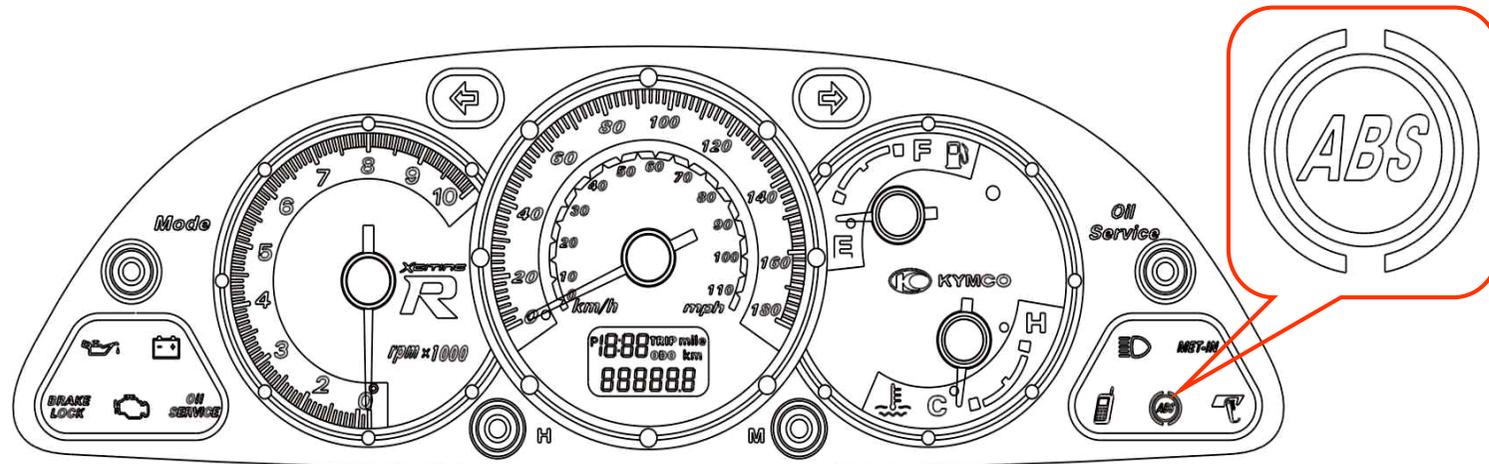


XCITING 500Ri ABS



Anti-Lock Brake System(ABS) Indicator Light

- **Meter instruments(For models equipped with ABS)**
- The ABS indicator light in the meter position .This light will comes on when the ignition switch is turned on and goes off shortly after the vehicle starts moving.it stays off.
- If something is wrong with the ABS,the indicator comes on and remains it. When the indicator light is on,the ABS doesn't function but if the ABS fails,the conventional brake system will still work normally.



ABS Indicator Light Location



- **ABS** is designed to help prevent the wheels from locking up when the brakes are applied hard while running straight. The ABS automatically regulates brake force. Intermittently gaining gripping force and braking force helps prevent wheel lock-up and allows stable steering control while stopping. Brake control function is identical to that of conventional vehicle. The brake lever is used for the front brake and rear brake. Although the ABS provides stability while stopping by preventing wheel lock-up, remember the following characteristics:
- **ABS** can not compensate for adverse road conditions, misjudgment or improper application of brakes. You must take the same care as with vehicle not equipped with ABS.
- **ABS** isn't designed to shorten the braking distance. On loose, uneven or downhill surfaces, the stopping distance of a vehicle with ABS may be longer than that of an equivalent vehicle without ABS. Use special caution in such areas.
- **ABS** will help prevent wheel lock-up when braking in straight line but it cannot control wheel slip which may be caused by braking during cornering. When turning a corner, it is better to limit braking to the light application of both brakes or not to brake at all. Reduce your speed before you get into the corner.



- The computers intergrade in the ABS compare vehicle speed with wheel speed. Since non-recommended tires can affect wheel speed, they may confuse, Which can extend distance.

- **⚠CAUTION**

- **Use of non- recommended tires may cause malfunctioning of ABS and lead to extended braking distance. The rider could have an accident as a result. Always use standard for this recommended vehicle .**

- **NOTICE:**

- When the ABS is functioning, you may feel a pulsing in the brake lever. this is normal.
- You need not suspend applying brakes.

- **ABS does not function at speeds of approx. 10 km/h or below.**

- ABS does not function if battery is discharged or battery power supply malfunction. Light will come on

ABS Parts Location



1. Front Wheel speed Sensor
2. Front Wheel speed Sensor Rotor
3. Rear Wheel speed Sensor
4. Rear Wheel speed Sensor Rotor
5. ABS Indicator Light
6. ABS Hydraulic Unit
7. ABS diagnosis tool Connector (Near battery position)



DIAGNOSTIC PROCEDURE

1. Connect the KYMCO Fi Diagnostic tool
2. Put the side stand and engine stop switch is at “RUN” position.
3. Connect the diagnostic tool connector



Diagnostic tool connector



Fi Diagnostic Tool

Vehicle's Model
(R&D Drawing NO.)

ECU Version

DTC Inspect

DATA Analyze

Adjust

UP Button



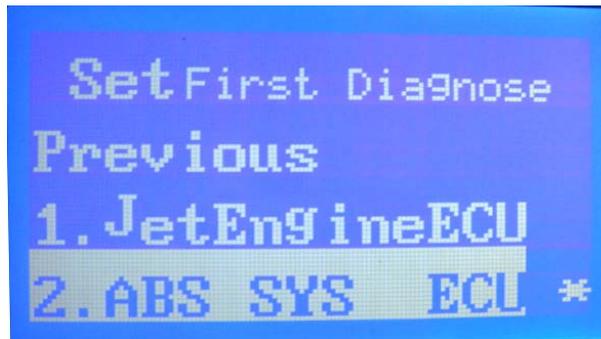
Power

Enter or Exit

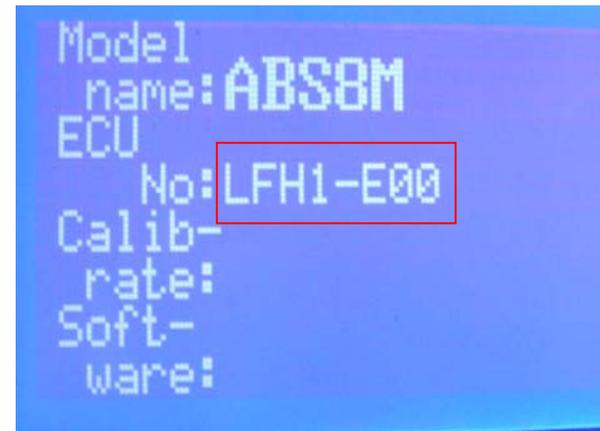
DTC

(Failure codes)

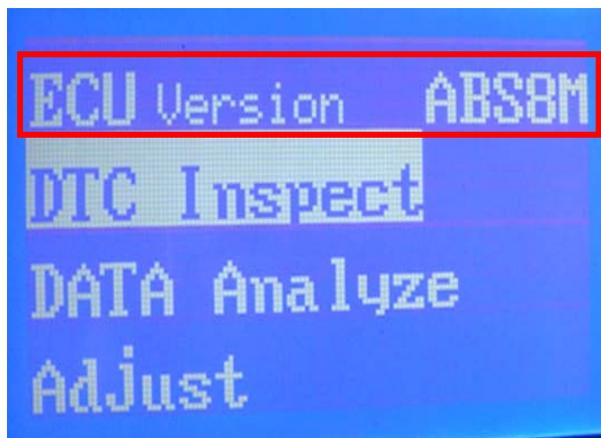
Down Button



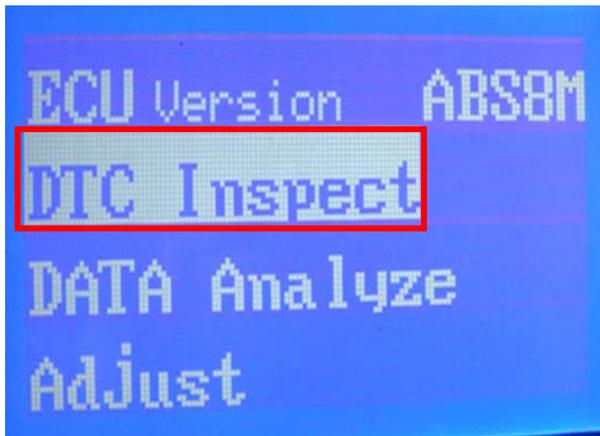
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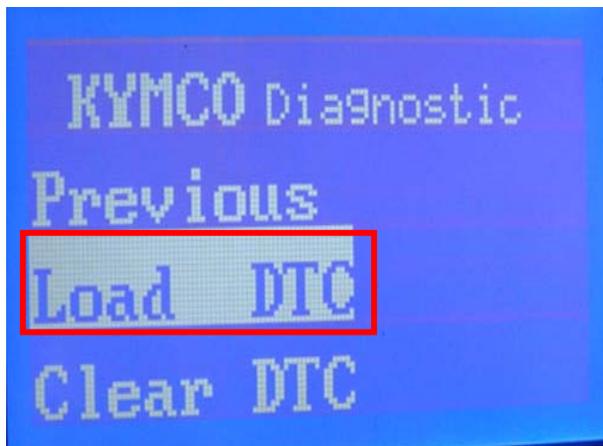
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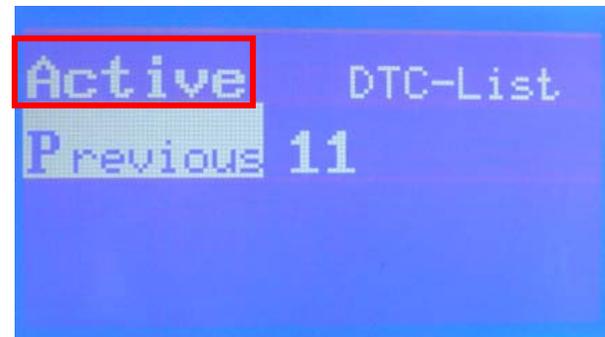
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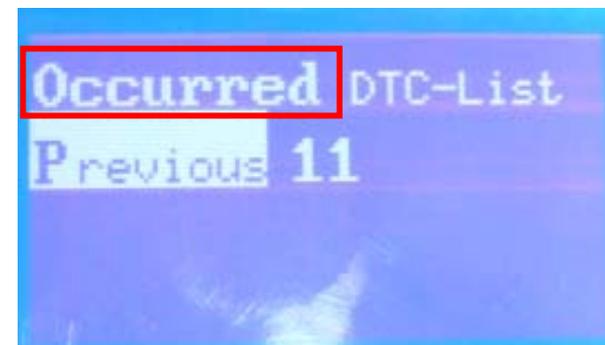
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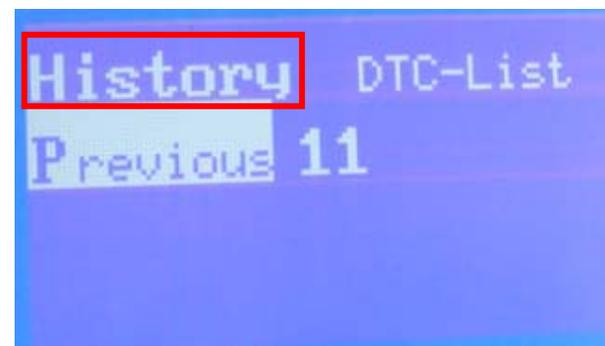
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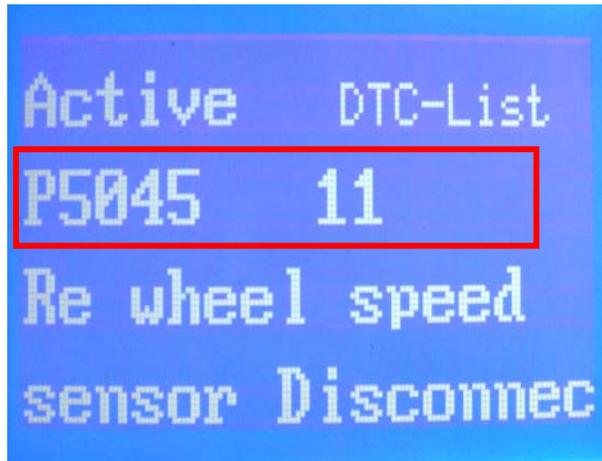
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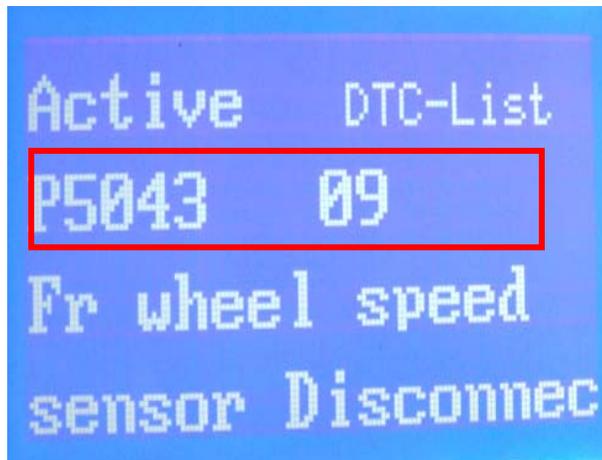
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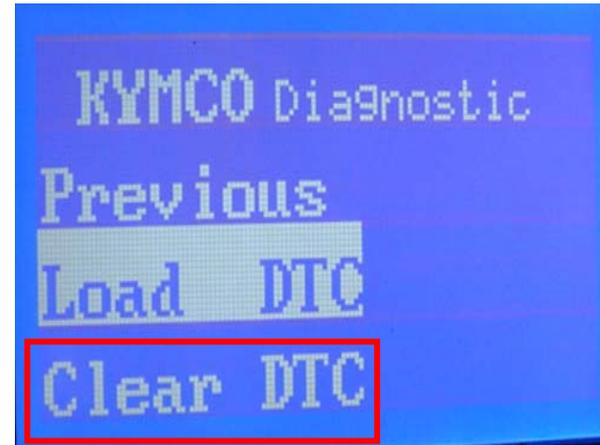
<Picture 8>



<Picture 9>



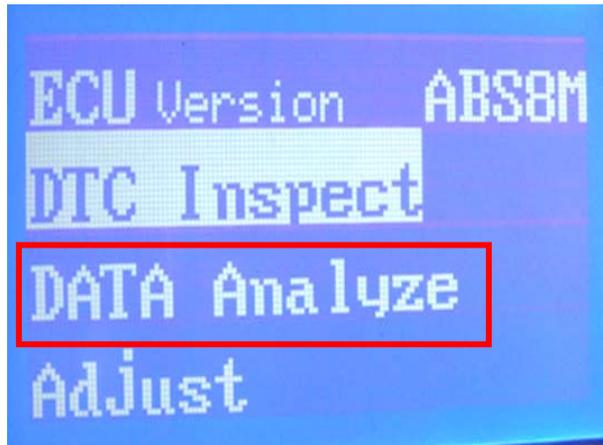
<Picture 10>



<Picture 11>



<Picture 12>

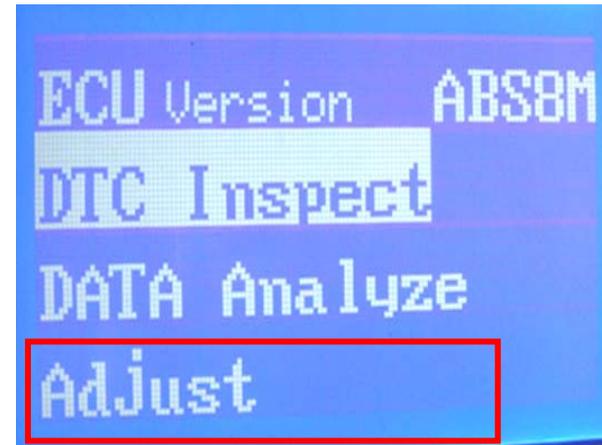


<Picture 13>



<Picture 14>

Battery volt: 9.6~16.7V keep function



<Picture 15>

The adjust is without function

Wheel Speed Sensor Removal And Installation



Remove the screw for front wheel



Remove the screw for rear wheel



Disconnect the connector
for front wheel

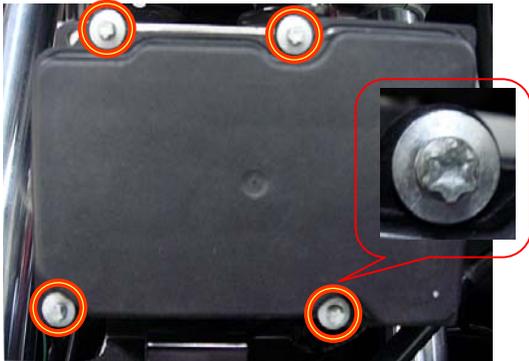


Disconnect the connector
for rear wheel

Standard clearance between Sensor and Rotor: 0.8 ~ 1.0mm

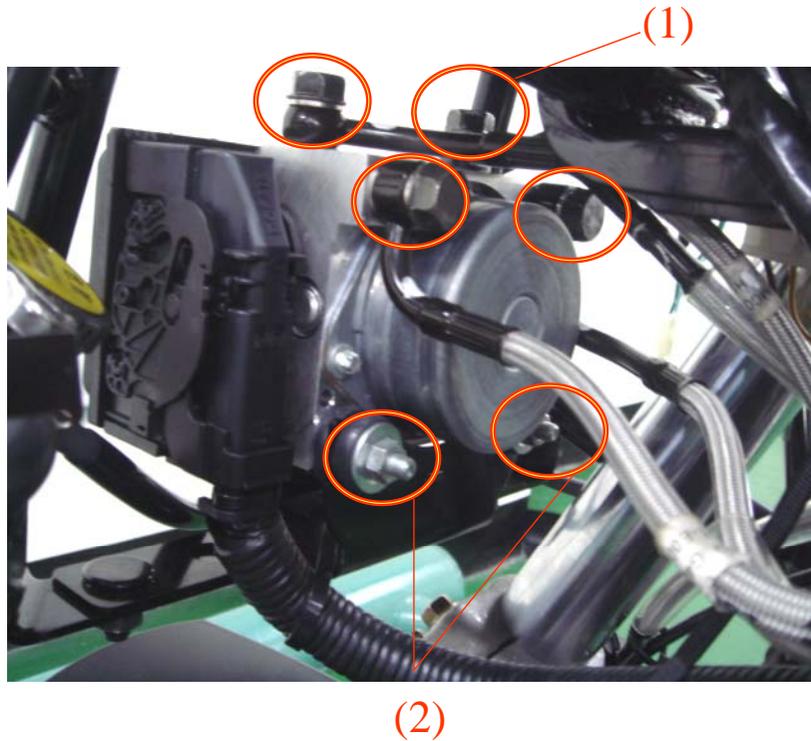


ABS ECU & Hydraulic Unit



Warning :

If remove the ABS ECU screws cause to damage the ECU or Hydraulic Unit parts.
Kymco do not guarantee the parts.



NOTE :

Do not drain brake oil when replacing the new Hydraulic Unit. Because brake oil is fully inside.

TORQUE:

(1) Oil bolts *4: 35.0N.m (3.5kgf.m)

(2) Nut *2 : 8.0N.m (0.8 kgf.m)

WHEEL SPEED SENSOR INSPECTION



Front wheel speed



Rear wheel speed sensors

Standard: 3500~6500Ω



FI Diagnostic Software For PC Version

Double click to change the serial port.

PORT : RS232

Start not Auto Link

OK

Language

English

Font

Not Select

Diagnose

Connect ECU to begin diagnosis

Ver 2.18
2007.08.01

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Function Introduction

The screenshot shows the KYMCO Diagnostic System interface. Callouts point to various features:

- Exit software**: Points to the 'X' icon in the top left.
- Start to diagnosis**: Points to the 'Start Diagnose' button.
- Command message**: Points to the 'command message' text.
- Throttle Position**: Points to the 'Throttle.P.S(%)' gauge.
- Change port**: Points to the port selection icon.
- ECU version**: Points to the ECU version icon.
- RPM condition**: Points to the 'EngSpeed(rpm)' gauge.
- Automatically detect and show the model photo**: Points to the motorcycle image.
- Failure code list**: Points to the 'DTC Inspection Information' table.
- Failure item**: Points to a specific DTC entry.
- Showing failure part location photo automatically**: Points to the engine part photo.
- Maintenance contents**: Points to the 'Maintenance contents' section.
- Vehicle running condition signal showing**: Points to the 'Data Analyze' table.
- Show how to figure out the failure code and possible defect cause**: Points to the bottom of the interface.

DTC Inspection	All DTC	Active+History	Histor
	1 / 7	Active	Occurre
P0105 Atmospheric Pressure Sensor/Circuit Malfunc P0110 Intake air temperature circuit malfunc P0141 O2 sensor heater circuit malfunc P0115 Engine temperature circuit malfunc P1121 Throttle position sensor range prot			

SET	Record, Graph	pDn	pUp
Engine speed (rpm)			0
Engine Temp. (°C)			70
ABV AngDurMech (°)			0
Throttle Position (%)			0
Ign. Advance (°)			8.00
Fuel Inject Interval(ms)			0.62
MAPSample (kPa)			9.5
Air Temp. (°C)			35
Idle speed setpoint (rpm)			1884
Fuel pump state			OFF
Cut Out switch (V)			4.10
AirflowAd (g/s)			0.00
Engine running hour			0.0
Oil water			Off
(hV)			0
()			101.8