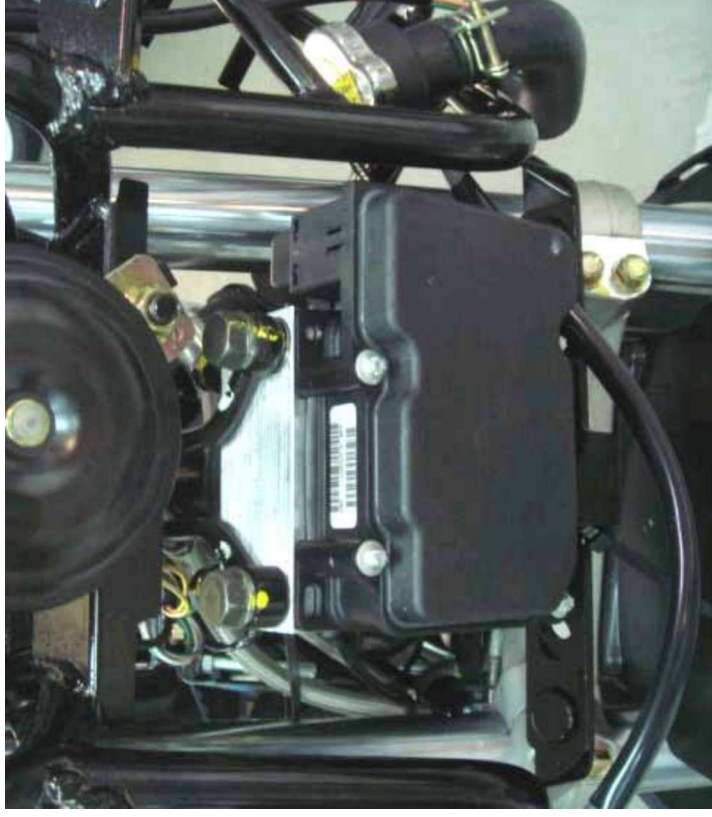


# XCITING 500RiABS

## Service Manual



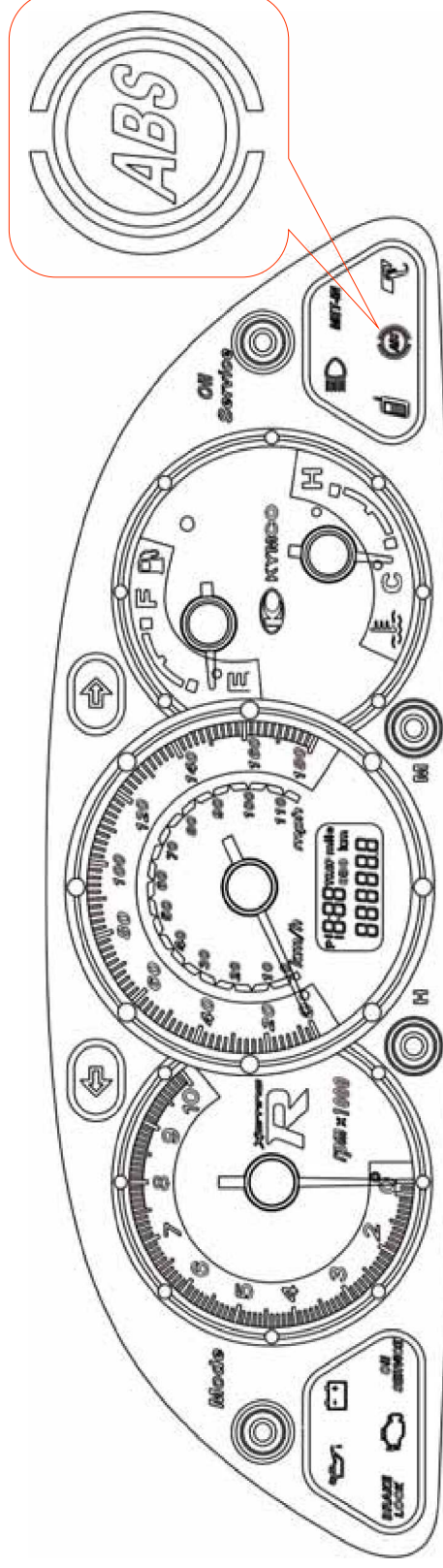
# Contexts

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# KYMCO 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 come 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**

# KYMCO Anti-Lock Brake System(ABS) Introduction 1

**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.

# KYMCO Anti-Lock Brake System(ABS) Introduction 2

- 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)

# KYMCO Anti-Lock Brake System(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)

# XCITING 500 Ri ABS DIAGNOSTIC TOOL

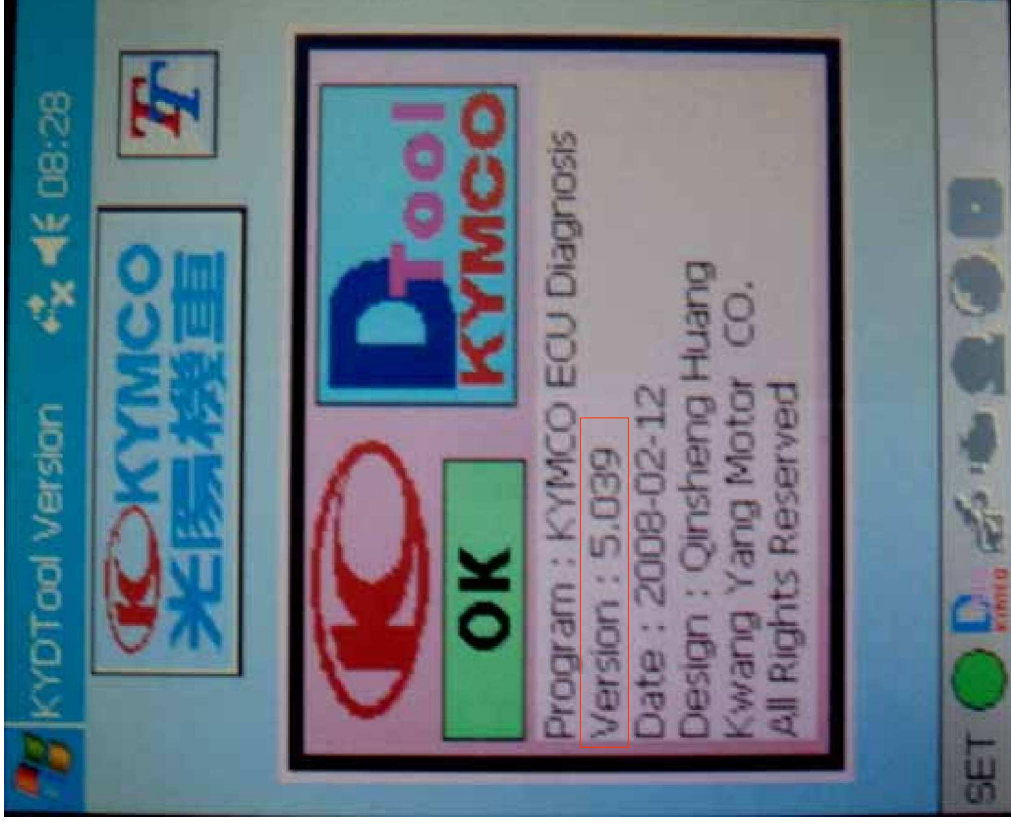


**Diagnostic tool (PDA)**

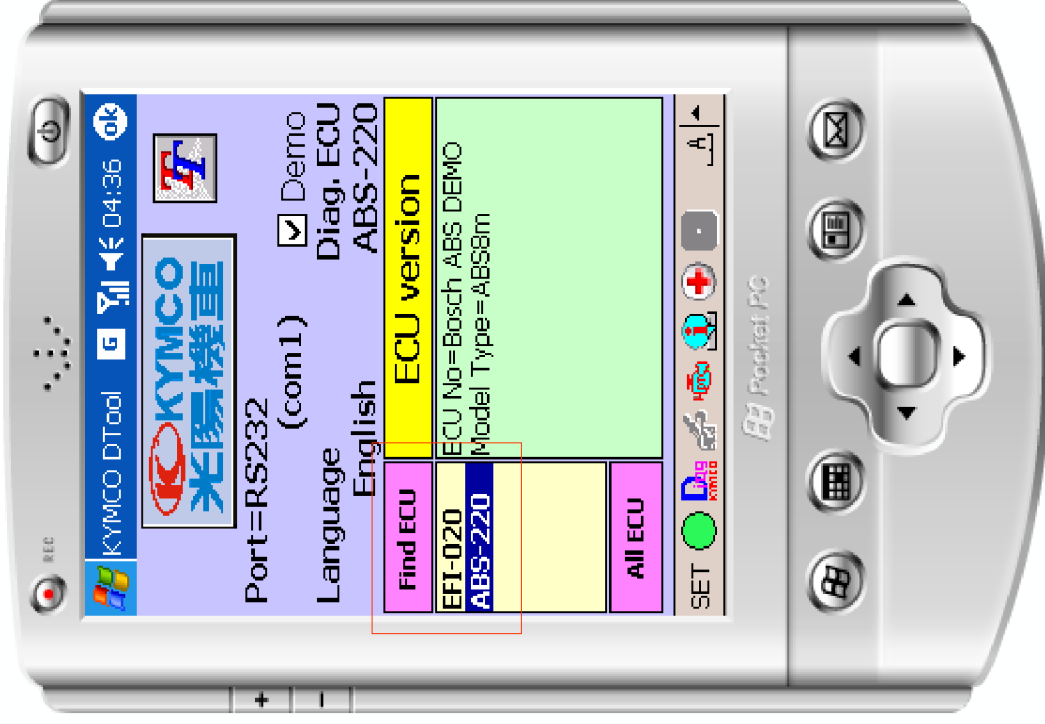


**Diagnostic tool connector**

# XCITING 500 Ri ABS(1) DIAGNOSTIC TOOL(PDA)



Only use the Dtool 5039  
Version



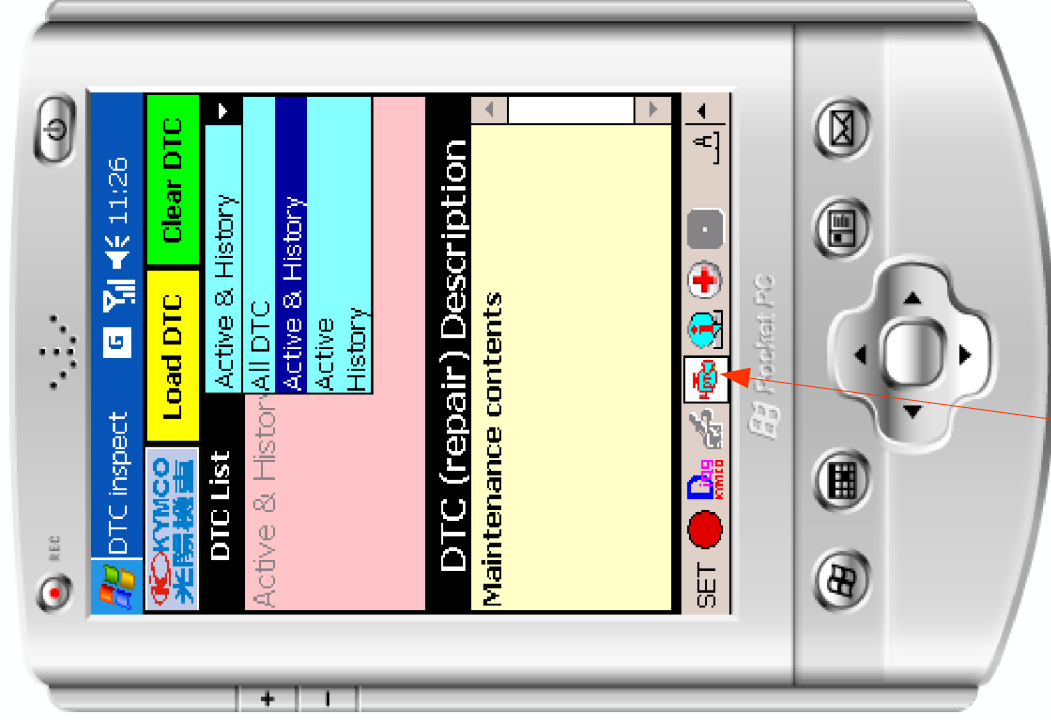
Select ABS Version or EFI  
Version P-6



# XCITING 500 Ri ABS (2) (PDA)



ABS model main



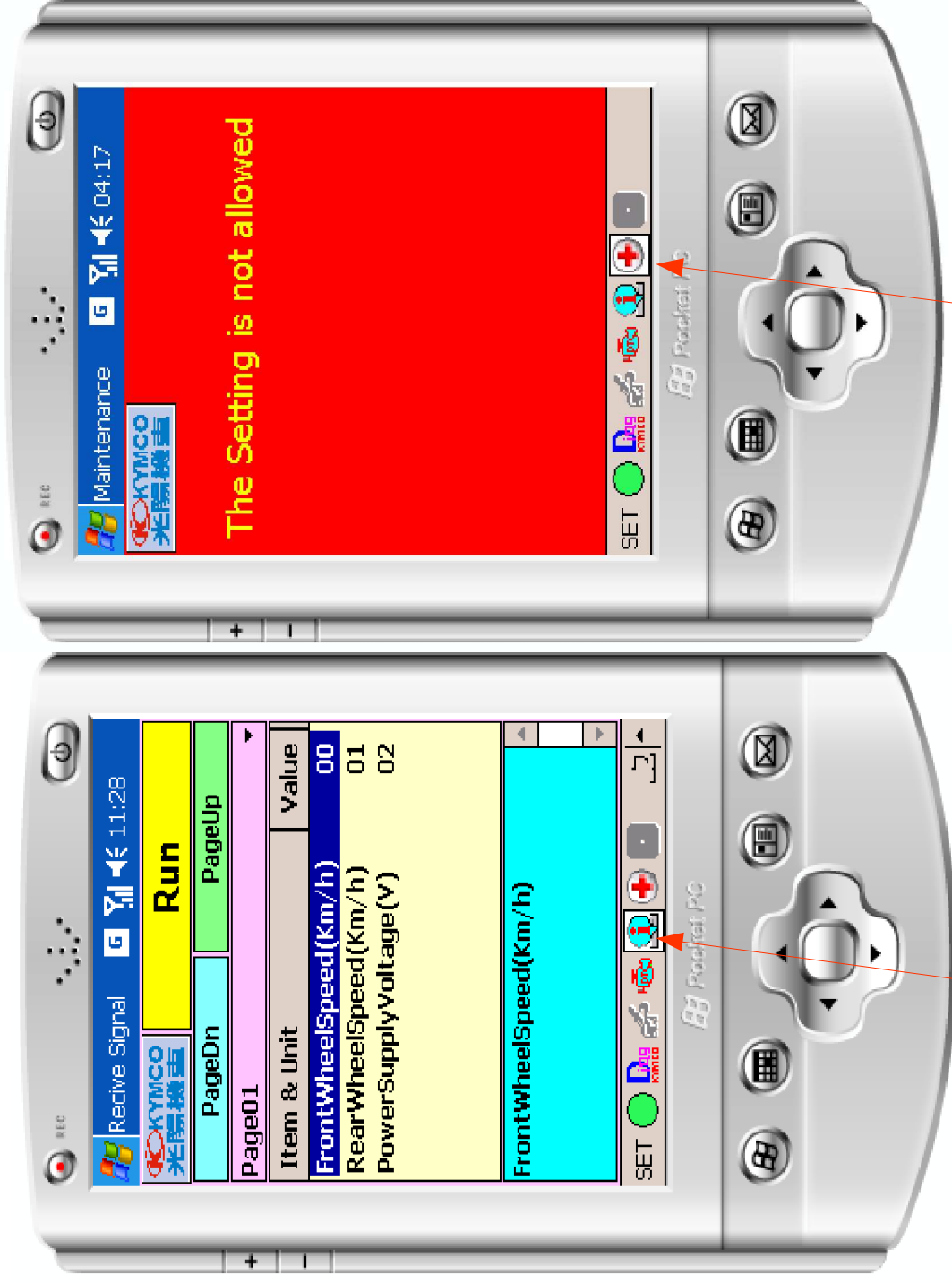
ABS model DTC

# XCITING 500 Ri ABS(3) (PDA)

1. Front wheel speed
2. Rear wheel speed
3. Power supply voltage

Standard: 9.6~16.7V

ABS operation normal



ABS model signal data

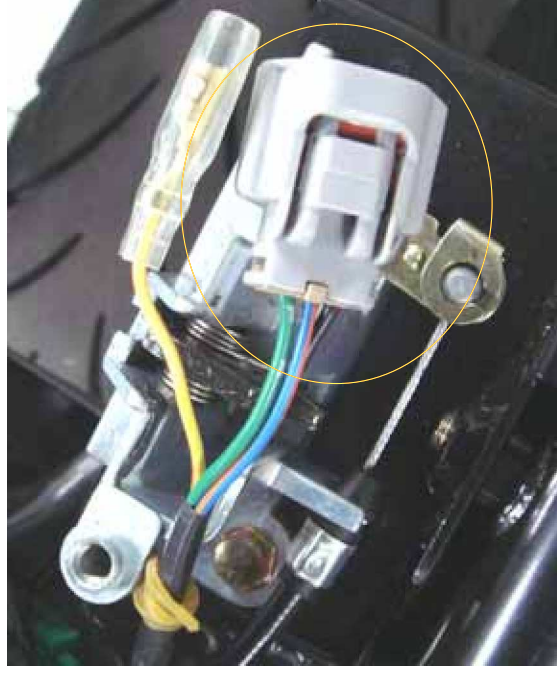
ABS model Adjust

# DIAGNOSTIC PROCEDURES USING

DIAGNOSTIC TOOL(KYMCO Fi Diagnostic tool )

## DIAGNOSTIC PROCEDURES

- 1.Connect the KYMCO Fi Diagnostic tool
- 2.Put the side stand and ENG. stop switch is at “RUN”
- 4.Connect the diagnostic tool connector (KYMCO Fi Diagnostic tool Power come from vehicle's Battery)



Self-diagnostic tool connector

# KYMCO Fi Diagnostic tool Introduce 1

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



ECU Version

DTC Inspect

DATA Analyze

Adjust

UP Button

Down Button

Power

Enter or Exit

DTC

(Failure codes)

P-10

## KYMCO Fi Diagnostic tool Introduce 2



Model  
name: KKES  
ECU  
No: 0825294848  
Calib-  
rate: 6J600000  
Soft-  
ware: K6I186J6000



Set First Diagnose  
Previous  
1. Jet Engine ECU  
2. ABS SYS ECU #



ECU Version ABSM  
MIC Inspect  
DATA Analyze  
Adjust



Model  
name: ABSM  
ECU  
No: LFH1-E00  
Calib-  
rate:  
Soft-  
ware:

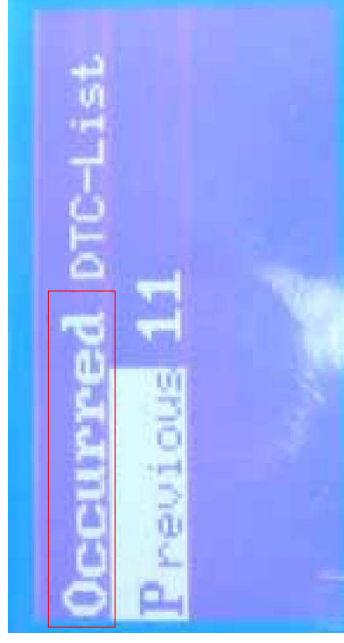
1. Choose FI ECU Version then pushing Down button 3 times
2. Choose 2.ABS SYS ECU then pushing UP button to Previous .
3. Reading ECU Version again then tool change to ABS diagram.

## KYMCO Fi Diagnostic tool Introduce 3



1. Choose ECU Version then pushing enter button
2. Checked for ABS ECU Version was LFH1-E00

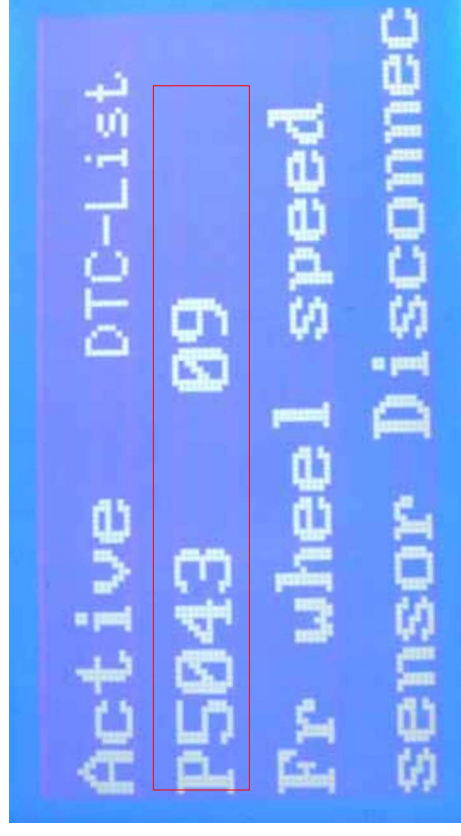
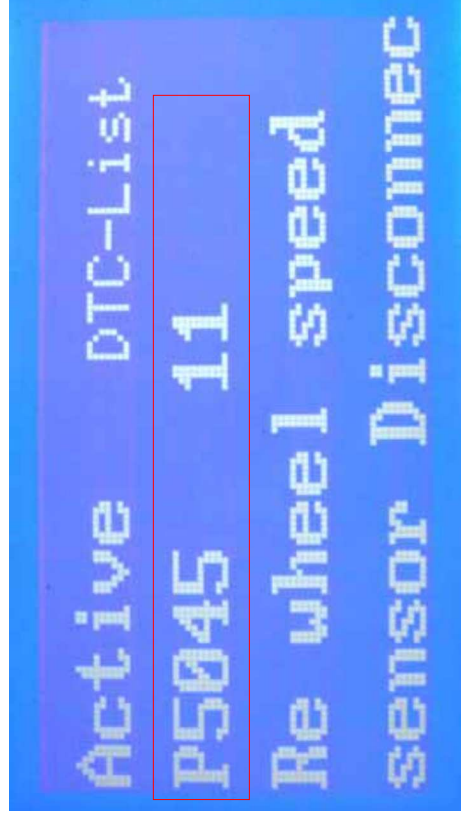
# KYMCO Fi Diagnostic tool Introduce 4



1. Choose DTC Inspect

2. Load DTC(Active Occurred History)

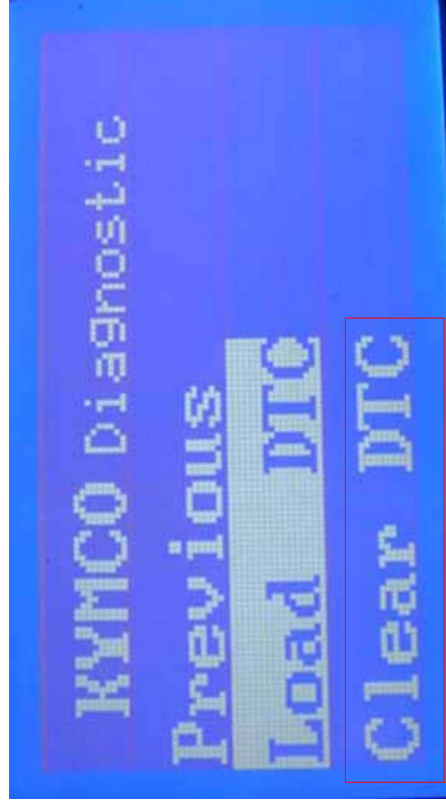
## KYMCO Fi Diagnostic tool Introduce 5



1. Choose DTC Number then pushing enter button
2. Showing the PDA DTC number and DTC number fail item.

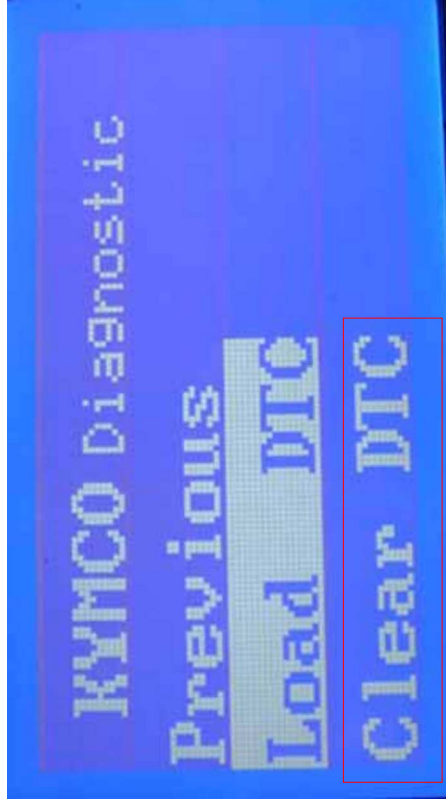


## KYMCO Fi Diagnostic tool Introduce 6



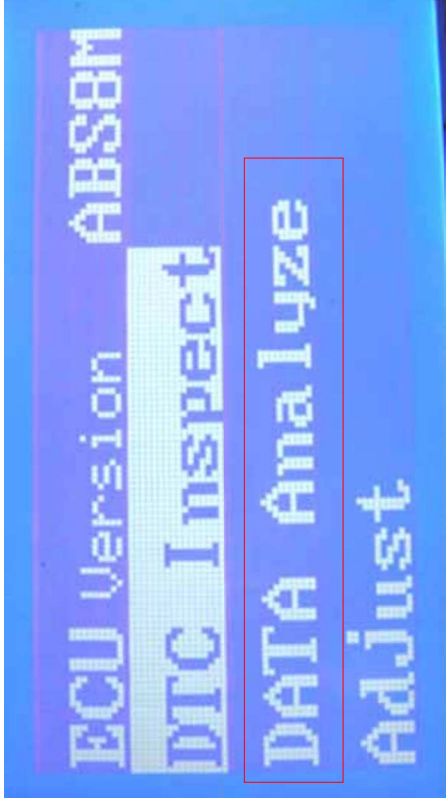
1. Choose **Clear DTC** Number then pushing enter button
2. Clearing DTC completed then DTC red lamp was not.

## KYMCO Fi Diagnostic tool Introduce 7



1. Choose **Clear DTC** Number then pushing enter button
2. Clearing DTC completed then DTC red lamp was not.

## KYMCO Fi Diagnostic tool Introduce 8



<b>KYMCO Diagnosis 01</b>
<b>Fr Speed</b> 5 km/hr
<b>Re Speed</b> 5 km/hr
<b>Battery Volt</b> 12.6V

1. Choose **DATA Analyze** then pushing enter button
2. **DATA** have Front speed sensor & Re speed sensor & Battery volt.

**Note:**

1. If you had turn the front or rear wheel shall produce speed's data. It sensors is normal.
2. **Battery volt: Standard: 9.6~16.7V ABS operation normal**

## KYMCO Fi Diagnostic tool Introduce 9



**The adjust function setting is not allowed**

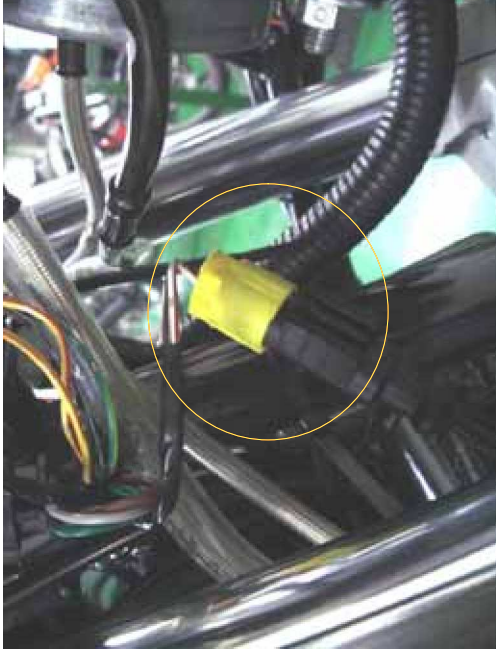
# ABS PARTS INSPECTION SPECIFICATIONS

## Front wheel speed sensor remove & install

Remove the screw



Disconnect the connector



Install the sensor in the reverse order of removal

# ABS PARTS INSPECTION SPECIFICATIONS

Rear wheel speed sensor remove & install

Remove the screw



Disconnect the connector

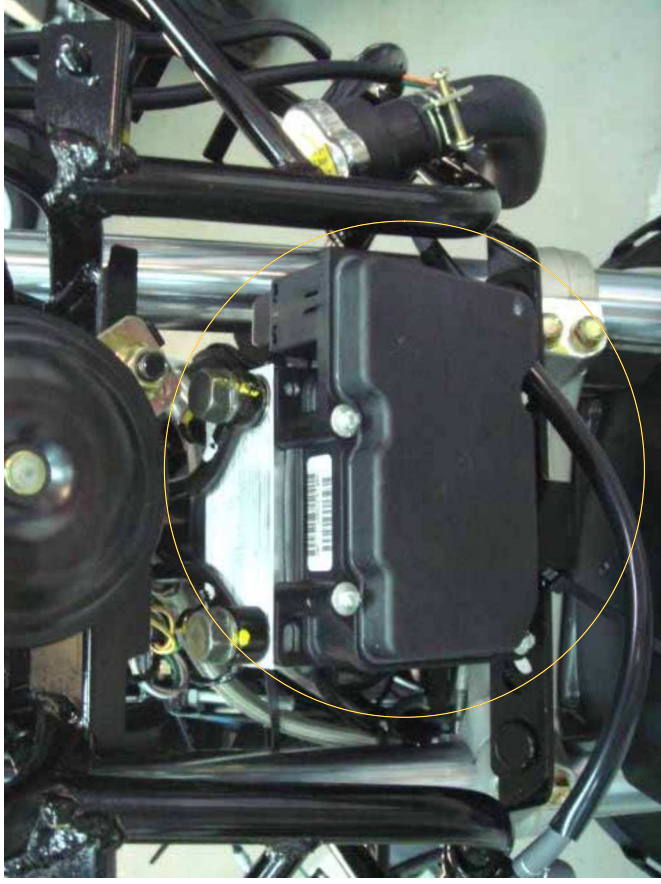


Install the sensor in the reverse order of removal

# ABS PARTS INSPECTION SPECIFICATIONS

## ABS ECU & Hydraulic Unit parts

**Caution :** Do not Remove the ECU 4 screws. Maybe possible let it damage.



**Warning :** If you Remove the ABS ECU 4 screws. Let it disconnect. Cause ECU or Hydraulic Unit parts damage. kymco do not guarantee the parts.

# ABS PARTS INSPECTION SPECIFICATIONS

ABS ECU & Hydraulic Unit parts remove & install

Disconnect the connector



Step 01



Step 02



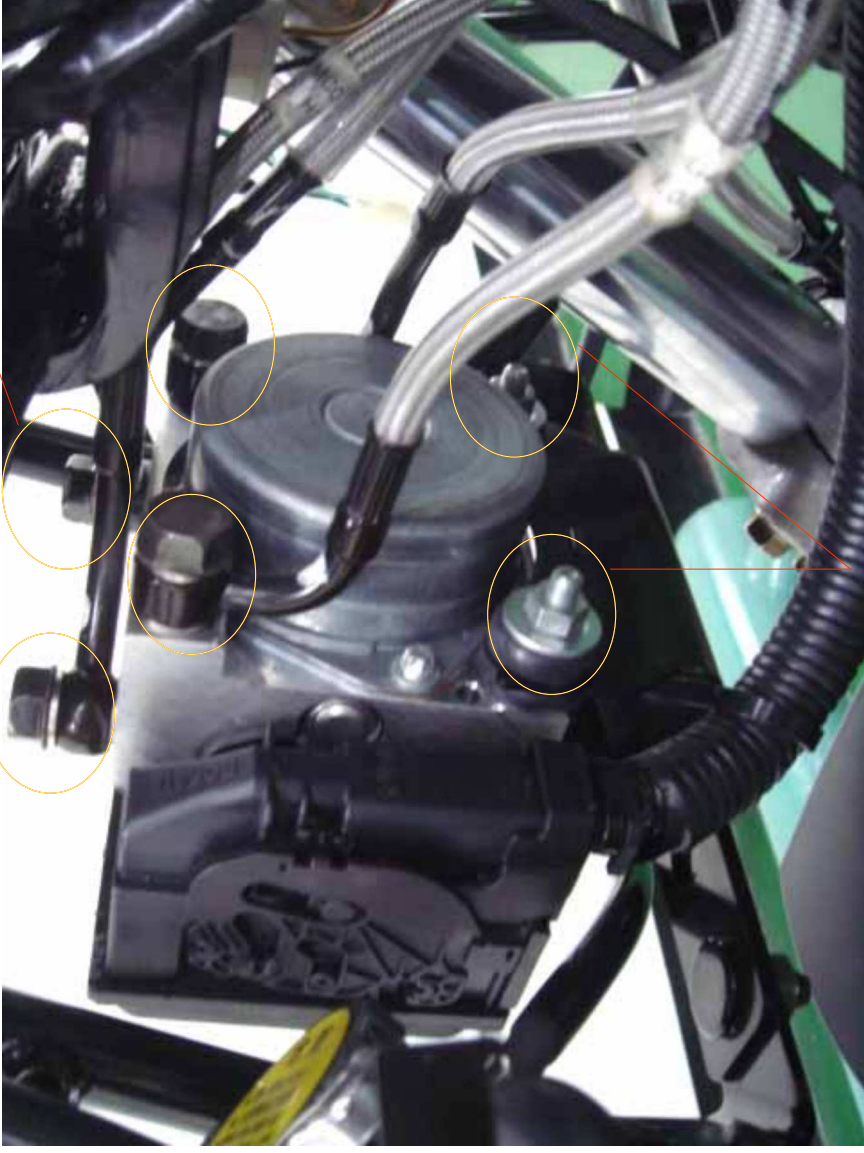
Step 03



# ABS PARTS INSPECTION SPECIFICATIONS

## ABS ECU & Hydraulic Unit parts remove & install

Remove the Hydraulic Unit screws (1)



**Caution :** Replace the new Hydraulic Unit do not drain brake oil (KYMCO new part inside full brake oil. So immediate install it).

To install the sensor in the reverse order of removal  
(1) Oil bolts X4  
Torque: 35N.m (3.5kgf.m)  
(2) Nut x 2: 8N.m (0.8 kgf.m)

(2)

## Bosch ABS8m DTC LIST

Code NO (Diagnostic Tool ) 3620A-LEB2- E00	DTC (PDA)	description
01	5013	Rear Inlet Valve malfunction(EV)
02	5014	Rear Outlet Valve malfunction (AV)
03	5017	Front Inlet Valve malfunction (EV)
04	5018	Front Outlet Valve malfunction (AV)
05	5019	Valve Relay malfunction (Failsafe relay)
06	5025	Deviation between Wheel speeds (WSS_GENERIC)
07	5035	Pump Motor Malfunction
08	5042	Front wheel speed sensor malfunction-Plausibility
09	5043	Front wheel speed sensor Disconnection/gnd Short/Uz Short
10	5044	Rear wheel speed sensor malfunction – Plausibility
11	5045	Rear wheel speed sensor Disconnection/gnd Short/Uz Short
12	5052	Power Supply Malfunction (Under Voltage)
13	5053	Power Supply Malfunction (Over Voltage)
14	5055	ECU malfunction



**KYMCO**