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<td>5-30</td>
</tr>
</tbody>
</table>
SERVICE INFORMATION

GENERAL INSTRUCTIONS

● Scooter services can be done with the engine installed in the frame.
● Be sure to relieve the fuel pressure before fuel pump or fuel hose removal.
● Bending or twisting the control cables will affect operation and could cause the cables to stick or bind, resulting in loss of vehicle control.
● Work in a fully ventilated area. Smoking or allowing flames or sparks in the work area or where gasoline is stored can cause a fire or explosion.
● Do not apply the Carburetor Cleaners to the inside of the throttle body, which is coated with molybdenum.
● Do not snap the throttle valve from fully open to fully close after the throttle cable has been removed; it may cause incorrect idle speed.
● Do not loosen or tighten the painted bolts and screws of the throttle body. Loosening or tightening them can cause throttle and idle valve synchronization failure.
● Seal the cylinder head intake ports with tape or a clean towel to prevent dirt and debris from entering the intake ports after the throttle body has been removed.
● Do not damage the throttle body. It may cause incorrect throttle and idle valve synchronization.
● Do not take the fuel pump on the ground downward.
● Always replace the packing when the fuel pump is removed.
● The electronic fuel injection system is equipped with the self-diagnostic system. If the Check Engine Lamp “CELP” illuminate while riding, follow the self-diagnostic procedures to solve the problem.
● A faulty AFI problem is often related to poorly connected or corroded connectors. Check those connections before proceeding.
● When disassembling the fuel injection parts, note the location of the O-rings. Replace them with new ones upon reassembly.
● Do not disconnect the battery negative (-) or positive (+) cable while engine is running, it may cause ECU damage.
● **Do not disconnect or connect the ECU connector during the ignition switch “ON”; it may cause the ECU damage.**
## 5. FUEL INJECTION SYSTEM

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Throttle body identification number</td>
<td>PTA1</td>
</tr>
<tr>
<td>Idle speed</td>
<td>1400±100 rpm</td>
</tr>
<tr>
<td>Throttle grip free play</td>
<td>2 ～ 6 mm (1/16 ～ 1/4 in)</td>
</tr>
<tr>
<td>Fuel injector resistance (at 20°C/68°F)</td>
<td>10.6~15.9 Ω</td>
</tr>
<tr>
<td>Fuel pump resistance (at 20°C/68°F)</td>
<td>Float at full position</td>
</tr>
<tr>
<td></td>
<td>About 101 Ω</td>
</tr>
<tr>
<td></td>
<td>Float at empty position</td>
</tr>
<tr>
<td></td>
<td>About 3 Ω</td>
</tr>
<tr>
<td>Fuel pump standard pressure (at 80 L/Hr)</td>
<td>300±10 kPa (3 Bar)</td>
</tr>
<tr>
<td>Water temperature sensor resistance</td>
<td>At -20°C/-4°F: 28.6 KΩ</td>
</tr>
<tr>
<td></td>
<td>At 40°C/104°F/20°C: 1.46 KΩ/3.51 KΩ±10%</td>
</tr>
<tr>
<td></td>
<td>At 100°C/212°F: 0.176 KΩ</td>
</tr>
<tr>
<td>T-MAP sensor resistance (20°C)</td>
<td>1613~2544 Ω (1.2 pin)</td>
</tr>
<tr>
<td>Inductive ignition coil</td>
<td>Primary: 0.55~0.75 Ω</td>
</tr>
<tr>
<td>Throttle position sensor (TPS) resistance (at 20°C/68°F)</td>
<td>3500~6500 Ω (1.2 pin)</td>
</tr>
<tr>
<td>Crank position sensor resistance</td>
<td>96~144 Ω</td>
</tr>
<tr>
<td>Roll sensor voltage</td>
<td>Standard</td>
</tr>
<tr>
<td></td>
<td>0.4~1.4 V</td>
</tr>
<tr>
<td></td>
<td>Over 65° (fall down)</td>
</tr>
<tr>
<td></td>
<td>3.7~4.4 V</td>
</tr>
</tbody>
</table>
PARTS LOCATION

ECU

ECU Connector

Roll Sensor
5. FUEL INJECTION SYSTEM

- Inductive Ignition Coil
- WTS
- SW Power/Fuel relay
- Start Relay
- Battery
- Fan/Start Relay
TROUBLESHOOTING

Engine won't start
• Battery voltage too low
• Fuel level too low
• Pinched or clogged fuel hose
• Faulty fuel pump operating system
• Clogged fuel injector
• Faulty spark plug or wrong type
• Clogged Airflow Bypass Valve
• Wet spark plug

Backfiring or misfiring during acceleration
• Ignition system malfunction

Poor performance (drive ability) and poor fuel economy
• Pinched or clogged fuel hose
• Faulty fuel injector

Engine stall, hard to start, rough idling
• Intake air leak
• Fuel contaminated/deteriorated
• Pinched or clogged fuel hose
• Idle speed miss adjusted
• Wet spark plug
CHECK ENGINE LAMP (CELP)

- Turn the ignition switch to “ON” position
- The CELP indicator will be lighting until the engine starting
- If no failure code, the CELP indicator would be turned off.
- If the failure code happens, the CELP indicator would be turned on.

- Turn the ignition switch to “ON” position
- The indicator will be lighting until the engine starting
- If no failure code, the indicator would be turned off.
- If the failure code happens, the indicator would be turned on.

CELP (Check Engine Lamp)

EFI system electric parts fault indicator
How To Show Failure Code

You can read the failure code by Diagnostic tool.
### CELP FAILURE CODES LIST

<table>
<thead>
<tr>
<th>Blinks</th>
<th>Failure Codes</th>
<th>Fault description</th>
<th>Priority</th>
<th>Fault management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>P0217</td>
<td>Engine temperature overheat</td>
<td>1</td>
<td>1. Slow down the vehicle and go to workshop for checking immediately.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2. Confirm if the engine temperature sensor or electric circuit is abnormality.</td>
</tr>
<tr>
<td>2</td>
<td>P0335</td>
<td>Crankshaft position sensor or circuit malfunction</td>
<td>2</td>
<td>1. Check if the connector of crankshaft position sensor is loosen.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2. Check if the Rotor is align with Crankshaft position sensor during the crankshaft running.</td>
</tr>
<tr>
<td>3</td>
<td>P1120</td>
<td>Throttle position sensor setting value problem</td>
<td>2</td>
<td>1. Make sure if the connector of Throttle position sensor is connected correctly.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2. Check if the Throttle position sensor is adjusted.</td>
</tr>
<tr>
<td>4</td>
<td>P1121</td>
<td>Throttle position sensor output range problem</td>
<td>2</td>
<td>1. Make sure if the connector of Throttle position sensor is connected correctly.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2. Check if the Throttle position sensor is adjusted.</td>
</tr>
</tbody>
</table>
### 5. FUEL INJECTION SYSTEM

<table>
<thead>
<tr>
<th>Blinks</th>
<th>Failure Codes</th>
<th>Fault description</th>
<th>Priority</th>
<th>Fault management</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>P1122</td>
<td>Throttle position sensor movement speed problem</td>
<td>2</td>
<td>1. Make sure if the connector of Throttle position sensor is connected correctly.  2. Check if the Throttle position sensor is adjusted.</td>
</tr>
<tr>
<td>6</td>
<td>P0560</td>
<td>Battery voltage malfunction</td>
<td>1</td>
<td>1. Check if the battery voltage is lower or higher.  2. Check if the charge system is malfunction.</td>
</tr>
<tr>
<td>7</td>
<td>P0110</td>
<td>Intake air temperature circuit malfunction</td>
<td>2</td>
<td>Inlet air temperature sensor or electric circuit malfunction</td>
</tr>
<tr>
<td>8</td>
<td>P0410</td>
<td>Idle air valve circuit malfunction</td>
<td>2</td>
<td>1. Check if the connector of Idle air valve is loosen.  2. Check if the resistance of valve is normal.</td>
</tr>
<tr>
<td>9</td>
<td>P0505</td>
<td>Idle speed volume control range problem</td>
<td>3</td>
<td>1. Check if the ISC steps range over 65 steps.</td>
</tr>
<tr>
<td>10</td>
<td>P0251</td>
<td>Injector or electric circuit problem</td>
<td>2</td>
<td>1. Check if the connector of Injector is loosen.  2. Check if the ECU send signal to Injector.  3. Check if the power source and resistance of Injector are malfunction.</td>
</tr>
<tr>
<td>Blinks</td>
<td>Failure Codes</td>
<td>Fault description</td>
<td>Priority</td>
<td>Fault management</td>
</tr>
<tr>
<td>--------</td>
<td>---------------</td>
<td>--------------------------------------------------------</td>
<td>----------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>11</td>
<td>P0350</td>
<td>Ignition coil or electric circuit malfunction</td>
<td>2</td>
<td>1. Check if the connector of ignition coil is loosen. 2. Check if the ECU send signal to Ignition coil. 3. Check if the power source and resistance is malfunction</td>
</tr>
<tr>
<td>12</td>
<td>P0230</td>
<td>Fuel pump relay or electric circuit malfunction</td>
<td>2</td>
<td>1. Check if the connector of relay is loosen. 2. Check if the ECU send signal to relay. 3. Check the fuel pump relay resistance</td>
</tr>
<tr>
<td>13</td>
<td>P0219</td>
<td>Engine speed is over than top speed</td>
<td>2</td>
<td>Check if the belt of CVT is broken.</td>
</tr>
<tr>
<td>14</td>
<td>P1560</td>
<td>Sensor don’t receive power source from ECU</td>
<td>2</td>
<td>1. Check if ECU output DC5V to sensor. 2. Check if the power source of all sensor is DC5V. 3. Replace a new ECU if the CELP still blinks even the output power source of ECU is normal.</td>
</tr>
<tr>
<td>15</td>
<td>P0700</td>
<td>Engine starting speed exceed CVT speed limited</td>
<td>2</td>
<td>Don’t use it at present.</td>
</tr>
<tr>
<td>16</td>
<td>P0115</td>
<td>Engine temperature sensor or electric circuit malfunction</td>
<td>2</td>
<td>1. Check if the connector of sensor is loosen. 2. Check if ECU pin is broken. 3. Check if the resistance of sensor is malfunction.</td>
</tr>
<tr>
<td>17</td>
<td>P1561</td>
<td>Temperature gauge electric circuit malfunction</td>
<td>2</td>
<td>Don’t use it at present.</td>
</tr>
<tr>
<td>Blinks</td>
<td>Failure Codes</td>
<td>Fault description</td>
<td>Priority</td>
<td>Fault management</td>
</tr>
<tr>
<td>--------</td>
<td>---------------</td>
<td>------------------------------------</td>
<td>----------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 18     | P0650         | CELP electric circuit malfunction  | 3        | 1. Check if the lamp of CELP is broken.  
2. Check if wires of CELP is broken. |
| 21     | P0105         | Atmospheric Pressure Sensor/Circuit Malfunction | 2        | 1. Check if the connector of sensor is loosen.  
2. Check if ECU pin is broken.  
3. Check if voltage of sensor is fit in specification. |
| 22     | P0110         | Roll sensor or electric circuit malfunction | 2        | 1. Check if the sensor installation direction is correct.  
2. Check if voltage of sensor is fit in specification.  
3. Check if ECU pin is broken. |
TPS/ISC RESET

- If close or open the throttle grip randomly, the ECU may record the incorrect TPS when the ECU or the throttle body has been reinstalled. It can cause hard to start engine or idling speed is not smooth when engine installation.
- ISC has a motor inside, which controls ISC valve to obtain smooth idling speed. The ECU may record the incorrect ISC position during the engine speed isn’t working when the ECU or the throttle body has been reinstalled. It can cause engine stop, hard to start engine or rough idling speed.

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

TPS/ISC RESET PROCEDURE

Start the engine till engine temperature to 85°C over on idle condition.

ECU will automatic learn engine new condition.
FUEL PUMP

INSPECTION

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

Disconnect the fuel pump/fuel unit connector. Connect the multimeter (+) probe to the Gray terminal and the multi-meter (-) probe to the Gray terminal.

Turn the ignition switch to “ON” and measure the voltage between the terminals. It should be shown the current battery voltage for a few seconds.

If there is still battery voltage, replace the fuel pump.
If there is not any battery voltage, inspect the following:
- Fuse
- Fuel pump relay
- ECU

Measure the resistance between the both Gray terminals of the fuel pump side connector.
**Standard** (at 20°C/68°F): About 10.7 Ω

Fuel level sensor inspection

Measure the resistance between the Gay and Gray terminals of fuel pump side connector.

**Standard** (at 20°C/68°F):

<table>
<thead>
<tr>
<th>Float at full position</th>
<th>About 101Ω</th>
</tr>
</thead>
<tbody>
<tr>
<td>Float at empty position</td>
<td>About 3Ω</td>
</tr>
</tbody>
</table>
5. FUEL INJECTION SYSTEM

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

INSTALLATION
Replace a new O-ring on the fuel tank.
Don’t damage the fuel pump wire and ensure the connector rearward carefully.

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

FUEL OUTPUT PRESSURE INSPECTION
Turn the key to the OFF position.
Use the fuel hose clamp.
Disconnect the fuel hose from the fuel injector.
Connect the fuel pressure gauge.
Turn the key to the ON position.
Check the fuel pressure.

Standard: 3.0 Bar

* 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 PUMP RELAY

INSPECTION

Remove the fuel pump relay.
Connect the ohmmeter to the fuel pump relay connector terminals.

Connection: R/L-B/R

Connect 12 V battery with the fuel pump relay connector.

Connection: R/Y-O/R

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 pump relay.

REMOVAL

Disconnect the fuel pump relay connector and remove it from frame.
5. FUEL INJECTION SYSTEM

TILT SWITCH (ROLL SENSOR)

INSPECTION
Support the ATV level surface.

Turn the ignition switch to “OFF”
Remove the screws, washers and tilt switch.

* Do not disconnect the tilt switch connector during inspection.

Place the tilt switch vertical as shown, and turn the ignition switch to “ON”.
Measure the voltage between the following terminals of the tilt switch connector with the connector connected.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>V/R (+) - G(-)</td>
<td>5 V (ECU voltage)</td>
</tr>
<tr>
<td>B/W (+) – G(-)</td>
<td>0.4~1.4 V</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>V/R (+) – G(-)</td>
<td>5 V (ECU voltage)</td>
</tr>
<tr>
<td>B/W (+) – G(-)</td>
<td>3.7~4.4 V</td>
</tr>
</tbody>
</table>

If repeat this test, first turn the ignition switch to “OFF”, then turn the ignition switch to “ON”.

REMOVAL/INSTALLATION
Disconnect the connector and remove two screws.
Remove the Tilt switch.
Installation is in the reverse order of removal.

* Install the tilt switch with its “UP” mark facing up.

Tighten the mounting screws securely.
5. FUEL INJECTION SYSTEM

ELECTRIC CONTROL UNIT (ECU)

REMOVAL/INSTALLATION

* Do not disconnect or connect the ECU connector during the ignition switch “ON”; it may cause the ECU damaged.
* The throttle position sensor (TPS) and idle air bypass valve (ISC) have to be reset when throttle body, MAP, TPS, ISC or ECU has been reinstalled.

Disconnect the ECU connector and remove the ECU from the frame.
Installation is in the reverse order of the removal.

ECU connector remove procedure
(Same as DOWNTOWN 125i)

ECU connector install procedure
(Same as DOWNTOWN 125i)
INSPECTION

Outlook checking
Checking for ECU pin(1-48) if has damage.
Checking for ECU part number if is correct. **3920A-LKA8-E00 is correct**

Voltage inspection
Connect the meter (+) probe to the B4(R/W)wire and the meter (-) probe to the M3(G/B) wire to measure the voltage.

MAP content (edition issue no.)

Performance confirmed
5. FUEL INJECTION SYSTEM

FUEL INJECTOR

INSPECTION
Disconnect the fuel injector connector.
Measure the resistance between 2 pins of the fuel injector connector.

**Standard**: 10.6~15.9 Ω (at 20°C/68°F)

REMOVAL
Disconnect the connector from the fuel injector.
Remove the bolts of the fuel injector.
Take out of the fuel pipe and fuel injector from the Inlet pipe.
Remove the fuel injector from the fuel pipe.

* 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.
5. FUEL INJECTION SYSTEM

INSTALLATION
Apply the engine oil to a new O-ring.
Install the fuel injector into the fuel pipe.
Ensure the clip of the fuel injector inserted into the groove of the fuel pipe.

Install the fuel pipe into the intake manifold

Be careful not to damage the O-ring.
Tighten the fuel pipe mounting bolts.

FUEL INJECTOR CLEANING

PROBLEM
1. Fuel Injector cannot output the fuel.
2. The Injector injection time (ms) is shorter or longer.
Standard: See the KYMCO Diagnostic report

ANALYSIS
Injector block (With some carbons).

TROUBLESHOOTING
1. Use the specified injector cleaner.
2. Pouring the liquid of injector 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.
5. FUEL INJECTION SYSTEM

WTS SENSOR (Water Temperature Sensor)

REMOVAL / INSTALLATION
Drain the coolant from the cooling system.
Disconnect the WTS sensor connector from the sensor.
Remove the WTS sensor and O-ring.

Install a new O-ring and WTS sensor.

* Always replace an O-ring with a new one.

Tighten the WTS sensor to the specified torque.

Torque: 1.2 kgf-m (12 N-m, 8.6 lbf-ft)

Connect the WTS sensor connector.

Fill the cooling system with the recommended coolant.

INSPECTION
Measure the resistance at the WTS sensor terminals.

STANDARD

<table>
<thead>
<tr>
<th>°C</th>
<th>-20</th>
<th>40</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>KΩ</td>
<td>28.6</td>
<td>1.46</td>
<td>0.176</td>
</tr>
</tbody>
</table>

Standard: 3.51±10% KΩ (at 20°C/68°F)
5. FUEL INJECTION SYSTEM

THROTTLE BODY
/T-MAP SENSOR/ISC/TPS

- Turn off the ignition switch while replacement.
- Check and confirm if the voltage is over 12V by a voltmeter after replacement.
- Check and confirm if the other connectors are installed correctly after replacement.
- Do not damage the throttle body, it may cause the throttle and idle valve isn’t synchronization.
- The throttle body is preset in KYMCO factory, do not disassemble it by a wrong way.
- Do not loosen or tighten the painted bolts and screws for the throttle body. Loosen or tighten them can cause the throttle and idle valve to synchronization failure.
- TPS and ISC have to be reset after the throttle body T-MAP, TPS, ISC or ECU has been reinstalled.

T-MAP SENSOR 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 T-MAP sensor between the following terminals of the MAP connector.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>V/R (+) -V/G (-)</td>
<td>5 V</td>
</tr>
</tbody>
</table>

TPS Sensor  T_MAP Sensor
ISC
5. FUEL INJECTION SYSTEM

TPS INSPECTION
Support the ATV on a level surface.

Turn the ignition switch to “ON”.
Measure if the ECU voltage outputs to TPS between the following terminals of the TPS connector.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>V/R (+) -V/G(-)</td>
<td>5 V</td>
</tr>
</tbody>
</table>

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

REMOVAL
Loosen the throttle cables with the adjusting nuts.
Disconnect the throttle cable ends from throttle seat.

Disconnect the TPS, ISC and T- MAP sensor connectors.
Loosen the air cleaner connecting hose band screw.
Loosen the intake manifold band screw.
Remove the throttle body, T-MAP sensor, TPS sensor and ISC sensor as a set.
5. FUEL INJECTION SYSTEM

DISASSEMBLY

Remove the screws and then remove the ISC.
Remove the screw.
Remove the T-MAP sensor.
Remove the screw and then remove the TPS.

ASSEMBLY

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

Apply oil onto a new O-ring.

When install the TPS onto the throttle body, being careful not to damage the O-ring. Install and tighten the screw securely.
Apply oil onto a new O-ring.

When install the T-MAP sensor onto the throttle body, being careful not to damage the O-ring.

* Always replace an O-ring with a new one.

Install the set plate and tighten the screw securely.

Apply oil onto a new O-ring.
When install the ISC and T-MAP sensor onto the throttle body, being careful not to damage the O-ring.

**DIAGNOSTIC TOOL CONNECTOR**

**INSPECTION**

Remove front cover
Make sure moving the shift lever into the N or P position.
Remove diagnostic tool connector protect sheath.
Turn the ignition switch to “ON”
Measure the voltage between the following terminals of the diagnostic tool connector.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>BR/L (+) G/B (-)</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>B/L (+) W/L (-)</td>
<td>Battery voltage – 1 V</td>
</tr>
</tbody>
</table>

Front cover
Diagnostic Connector
Diagnostic Connector Protect sheath.
## 5. FUEL INJECTION SYSTEM

### MXU 500i

**Reason of repair:**
- [ ] Maintenance
- [ ] Repair

<table>
<thead>
<tr>
<th>Item</th>
<th>Date</th>
<th>Reference</th>
<th>Mem</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECU No</td>
<td></td>
<td>LKA8</td>
<td></td>
</tr>
<tr>
<td>Hardware Ver</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software Ver</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calibration Ver</td>
<td></td>
<td>QK111010</td>
<td></td>
</tr>
<tr>
<td>Model Name</td>
<td></td>
<td>A4LKA8QKA4</td>
<td></td>
</tr>
<tr>
<td>Active</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occurred</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Temp.(℃)</td>
<td></td>
<td>environ.temp &gt; 2</td>
<td></td>
</tr>
<tr>
<td>Engine Temp.(Coiling)</td>
<td></td>
<td>environ.temp &gt; 2</td>
<td></td>
</tr>
<tr>
<td>Atom. Pressure(Kpa)</td>
<td></td>
<td>101.3 ± 3 kPa</td>
<td></td>
</tr>
<tr>
<td>Throttle Position(%)</td>
<td></td>
<td>0% / 90% over</td>
<td></td>
</tr>
<tr>
<td>Throttle Position (V)</td>
<td></td>
<td>0.67V ± 0.05 V / &gt;3.6V</td>
<td></td>
</tr>
<tr>
<td>TPIIdleMean (V)</td>
<td></td>
<td>0.67 ± 0.05</td>
<td></td>
</tr>
<tr>
<td>Battery Volt (V)</td>
<td></td>
<td>&gt;12 V</td>
<td></td>
</tr>
<tr>
<td>Idle speed setpoint (rpm)</td>
<td></td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>ISCAdapMean(?)</td>
<td></td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Roll Sensor volt (V)</td>
<td></td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Accumulated ECU run time(M)</td>
<td></td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>EngineSpeed IDLE(rpm)</td>
<td></td>
<td>1400 ±100 rpm</td>
<td></td>
</tr>
<tr>
<td>MAPSample (kPa)</td>
<td></td>
<td>30 ~ 40 kPa</td>
<td></td>
</tr>
<tr>
<td>Injection duration (ms)</td>
<td></td>
<td>2.6 ~ 3.8ms</td>
<td></td>
</tr>
<tr>
<td>Ign. Advance (?)</td>
<td></td>
<td>12 ~ 16 ETTC</td>
<td></td>
</tr>
<tr>
<td>Ign.Dwell duration (ms)</td>
<td></td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Air Temp.(℃)</td>
<td></td>
<td>&gt;45 ℃</td>
<td></td>
</tr>
<tr>
<td>Engine Temp. (℃)</td>
<td></td>
<td>&gt;80 ℃</td>
<td></td>
</tr>
<tr>
<td>O2 sensor voltage (V)</td>
<td></td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>O2 sensor heater (Yes/no)</td>
<td></td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>O2 sensor</td>
<td></td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>IDLE</td>
<td></td>
<td>1.5 ~ 4.5 %</td>
<td></td>
</tr>
<tr>
<td>ISC Step</td>
<td></td>
<td>&lt; 65</td>
<td></td>
</tr>
<tr>
<td>EngineSpeed IDLE(rpm)</td>
<td></td>
<td>1400 ±100 rpm</td>
<td></td>
</tr>
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<td>MAPSample (kPa)</td>
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ATV FI DIAGNOSTIC TOOL
OPERATION INSTRUCTIONS
3620A-LEB2-E00(ENGLISH VERSION)

version: V1.0.7
1. FI DIAGNOSTIC TOOL

- This tool is developed by KYMCO and for KYMCO vehicle only.
- Please refer to the specification when serving this vehicle.
- This tool is without battery inside. The power is provided from vehicle.
- This software can be updated with computer for new model through the USB cable. The power required of tool is connected with 12V battery.
- For connection, please connect this tool with the connector of ECU. It’s available when turning on the ignition switch.

- The function includes ECU version, model name, data analysis.
  - ECU version: includes model name, ECU number, identifications number and software version.
  - Failure codes: DTC reading, DTC clearing and troubleshooting.
  - Data analysis: For ECU’s software inspection.
  - Adjust: The adjust function setting is not allowed
2. DTC INSPECTION PROCEDURE

Showing four functions on the screen when switching on power.

A). ECU version: Including of model name, ECU number, identifications number and software version. Press the Enter button

Press the "Enter" button
B). Press the "Down" button and then turn to the first page.

C). Press the "Enter" button to check the DTC failure code.
D). Press the "Enter" button

E). Press the "Enter" button

F). Display what's DTC number on this DTC-List.
   Press the "Enter" button and then turn to the previous page
5. FUEL INJECTION SYSTEM

G). Press the " UP " button

H). Press the " Enter " button and then turn to the previous page.

I). Press the " UP " button
J). Press the "Enter" button and then turn to the first page.
3. DTC CLEAR PROCEDURE

A). Check the DTC

B). Press the " Enter " button

C). Choose " Load DTC 

Press the " Down " button
D). Press the " Enter " button and the indicator is lighting.

E). Clearing DTC completed if the indicator is off.
4. DATA ANALYSIS PROCEDURE

A). Press the " Down " twice

![Display showing diagnostic interface]

B). Choose “ Data Analyze”
   Press the " Enter " button to enter page 01

![Display showing diagnostic interface]

C). Down-page 01
   The measure figures including of Engine speed, Battery voltage and Engine speed.
   Press the " Down " button to enter page 02.

![Display showing diagnostic interface]
D). Down-page 02

The measure figures including of TPS position, TPI idle adapted and ISC step.

Press the “Down” button to enter page 03.

E). Down-page 03

The measure figures including of engine temperature, air temperature and intake pressure. Press the “Down” button to enter page 04.

F). Down-page 04

The measure figures including of atmosphere temperature, fuel injector interval and ignition advance. Press the “Down” button to enter page 05.
G). Down-page 05
  The measure figures including of gear position and gear ratio.
  Press the “Down” button to enter page 06.

H). Down-page 06
  The measure figures including of rollover voltage(The function setting is not allowed).
  Press the “Down” button to enter page 07.

I). Down-page 07
  The measure figures including of ECU counter.

J). Press the "UP" to the previous page.