WORKSHOP MANUAL

ludix 4T
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# PRODUCTS DANGER SYMBOLS USED

Protection of individuals and of the environment.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Safety Precaution</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Image of Möbius band]</td>
<td>Recyclable.</td>
<td>Means that the product or the package can be recycled. However, this does not guarantee that the product will be recycled.</td>
</tr>
<tr>
<td>[Image of Irritant]</td>
<td>The product can irritate the skin, eyes and respiratory organs.</td>
<td>Avoid contact with skin and clothes. Wear gloves, safety glasses and appropriate clothing such as a cotton overall. Do not breath fumes. If in contact, wash thoroughly with water.</td>
</tr>
<tr>
<td>[Image of Flammable]</td>
<td>The product is flammable.</td>
<td>Keep it away from flames or any heat source (barbecue, radiator, heating, etc.). Do not leave the product in the sun.</td>
</tr>
<tr>
<td>[Image of Corrosive]</td>
<td>The product can damage living tissues or other surfaces.</td>
<td>Avoid contact with skin and clothes. Wear gloves, safety glasses and appropriate clothing such as a cotton overall. Do not breath fumes.</td>
</tr>
<tr>
<td>[Image of Hazardous to the environment]</td>
<td>The product affects fauna and flora. Do not dump it in dustbins, sinks or in the environment.</td>
<td>The ideal solution is to bring this product to your nearest household waste recycling centre.</td>
</tr>
<tr>
<td>[Image of Toxic]</td>
<td>The product can seriously affect health if it is inhaled, ingested or in contact with skin.</td>
<td>Avoid direct contact with the body, even by inhalation. If you feel unwell, seek medical advice immediately.</td>
</tr>
<tr>
<td>[Image of Do not throw away into a garbage can]</td>
<td>One of the product's component is toxic and can be hazardous to environment. i.e.: Used batteries.</td>
<td>This symbol informs the consumer that the used product shall not be thrown away into a garbage can, but shall be brought back to the merchant or dropped at a specific collection point.</td>
</tr>
<tr>
<td>[Image of Compulsory gloves]</td>
<td>Operation that can be dangerous for people.</td>
<td>People's safety can be seriously affected if the recommendations are not fully respected.</td>
</tr>
<tr>
<td>Symbol</td>
<td>Description</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td>⚠️</td>
<td>People's safety</td>
<td>Operation that can be dangerous for people. People's safety can be seriously affected if the recommendations are not fully respected.</td>
</tr>
<tr>
<td>⚠️</td>
<td>Important</td>
<td>Operation that can be hazardous to the vehicle. Indicate the specific procedures that shall be followed in order not to damage the vehicle.</td>
</tr>
<tr>
<td>⚠️</td>
<td>Good operating condition of the vehicle</td>
<td>The operation must be carried out in strict compliance with the documents. Serious damage to the vehicle and in certain cases a cancellation of the warranty can be involved if the recommendations are not fully respected.</td>
</tr>
<tr>
<td>✓</td>
<td>Note</td>
<td>Operation that can be difficult. Indicate a note which gives key information to make the procedure easier.</td>
</tr>
<tr>
<td>🥟</td>
<td>Lubricate</td>
<td>Lubricate the parts to be assembled. Indicate the specific procedures that shall be followed in order not to damage the vehicle.</td>
</tr>
<tr>
<td>🥧</td>
<td>Grease</td>
<td>Grease the parts to be assembled. Indicate the specific procedures that shall be followed in order not to damage the vehicle.</td>
</tr>
<tr>
<td>🧧</td>
<td>Glue</td>
<td>Glue the parts to be assembled. Indicate the specific procedures that shall be followed in order not to damage the vehicle.</td>
</tr>
<tr>
<td>☑️</td>
<td>New part</td>
<td>Use a new part. Indicate the specific procedures that shall be followed in order not to damage the vehicle.</td>
</tr>
</tbody>
</table>
CHARACTERISTICS

### Engine

<table>
<thead>
<tr>
<th>Engine marking</th>
<th>XS1P37QMA-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>4-stroke single-cylinder</td>
</tr>
<tr>
<td></td>
<td>2 valves per cylinder with chain driven overhead camshaft</td>
</tr>
<tr>
<td>Cooling</td>
<td>By a circulation of forced air by means of a turbine on the flywheel magneto</td>
</tr>
<tr>
<td>Bore x stroke</td>
<td>37 x 46 mm</td>
</tr>
<tr>
<td>Cubic capacity</td>
<td>49 cc</td>
</tr>
<tr>
<td>Max. power output</td>
<td>3 kW at 8300 rpm</td>
</tr>
<tr>
<td>Max. torque rating</td>
<td>3.7 Nm at 6500 rpm</td>
</tr>
<tr>
<td>Compression</td>
<td>9.5 bars at 550 rpm</td>
</tr>
<tr>
<td>Fuel supply</td>
<td>Carburettor. KEIHIN NCV</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Pressurised wet sump lubrication. Trochoid pump driven by a chain from the crankshaft</td>
</tr>
<tr>
<td>Transmission</td>
<td>By 2 variable pulleys and V-type belt</td>
</tr>
<tr>
<td>Clutch</td>
<td>Centrifugal automatic</td>
</tr>
<tr>
<td>Exhaust</td>
<td>Catalytic</td>
</tr>
<tr>
<td>Starter motor</td>
<td>By kick starter or electric starter</td>
</tr>
<tr>
<td>Spark plug</td>
<td>NGK CR6HSA</td>
</tr>
<tr>
<td></td>
<td>Electrode gap: 0.6 - 0.7 mm</td>
</tr>
<tr>
<td>Magneto flywheel</td>
<td>80 W</td>
</tr>
<tr>
<td>Standards</td>
<td>Euro 2</td>
</tr>
</tbody>
</table>

### Capacities

| Relay box               | 0.1 l SAE 80W90 |
|                        | Minimum grade: API GL4 |
|                        | (0.09 l at oil change) |
| Crankcase              | 0.8 l SAE 5W40 |
|                        | Minimum grade: API SL/SJ |
|                        | (0.65 l at oil change) |
| Fuel tank              | 5.3 l |

### Chassis

<table>
<thead>
<tr>
<th>Chassis</th>
<th>Tubular chassis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front suspension</td>
<td>Upside down telescopic front fork</td>
</tr>
<tr>
<td></td>
<td>Travel: 73 mm</td>
</tr>
<tr>
<td>Rear suspension</td>
<td>Combined spring and hydraulically-damped shock absorber</td>
</tr>
<tr>
<td></td>
<td>Travel: 65 mm</td>
</tr>
</tbody>
</table>
### Dimensions and weight

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall length</td>
<td>1750 mm</td>
</tr>
<tr>
<td>Width at handlebar</td>
<td>670 mm</td>
</tr>
<tr>
<td>Height (without rear-view mirrors)</td>
<td>1080 mm</td>
</tr>
<tr>
<td>Wheelbase</td>
<td>1280 mm</td>
</tr>
<tr>
<td>Unladen weight</td>
<td>78 kg</td>
</tr>
</tbody>
</table>

### Tyres

<table>
<thead>
<tr>
<th>Tyre Type</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front wheel rim</td>
<td>14 inch aluminium alloy</td>
</tr>
<tr>
<td>Front tyre</td>
<td>80/80 - 14</td>
</tr>
<tr>
<td>Front tyre pressure</td>
<td>2.5 bars</td>
</tr>
<tr>
<td>Rear wheel rim</td>
<td>14 inch aluminium alloy</td>
</tr>
<tr>
<td>Rear tyre</td>
<td>170/70 - 14</td>
</tr>
<tr>
<td>Rear tyre pressure</td>
<td>2.8 bars</td>
</tr>
</tbody>
</table>

### Brakes

<table>
<thead>
<tr>
<th>Brake Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front brake</td>
<td>Single disc type, hydraulic control</td>
</tr>
<tr>
<td></td>
<td>Fixed calliper with 2 pistons</td>
</tr>
<tr>
<td>Disc diameter and thickness</td>
<td>190 mm - 3 mm</td>
</tr>
<tr>
<td>Rear brake</td>
<td>Single-cam drum type, controlled by cable</td>
</tr>
<tr>
<td>Brake drum diameter</td>
<td>110 mm</td>
</tr>
<tr>
<td>Brake lining thickness</td>
<td>4 mm</td>
</tr>
</tbody>
</table>

### Chassis markings

- **(1)** number and manufacturer’s plate

### Engine marking

- **(2)** Engine number

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### SERVICE SCHEDULE AND COMMISSIONING

Heavy duty servicing is for vehicles used under "harsh" conditions: door-to-door deliveries, intensive urban use (courier), short journeys with engine cold, dusty areas, ambient temperature over 30°C.

<table>
<thead>
<tr>
<th>Service operations</th>
<th>500</th>
<th>2000</th>
<th>5000</th>
<th>10000</th>
<th>15000</th>
<th>20000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy duty servicing</td>
<td>500</td>
<td>1000</td>
<td>2500</td>
<td>5000</td>
<td>7500</td>
<td>10000</td>
</tr>
<tr>
<td>Minimum servicing</td>
<td>1 months</td>
<td>6 months</td>
<td>12 months</td>
<td>24 months</td>
<td>36 months</td>
<td>48 months</td>
</tr>
</tbody>
</table>

#### To be checked at each service

<table>
<thead>
<tr>
<th>Check, clean, adjust.</th>
<th>Clean.</th>
<th>Change.</th>
<th>Inspect and change if necessary.</th>
<th>Depending on equipment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>N</td>
<td>R</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

**Service operations**

- **Steering column play**: V V V V V V V
- **Wheel bearing play**: C C C C C C C
- **Throttle cable play**: V V V V V V V
- **Operation of electrical equipment**: V V V V V V
- **Condition of the front brake hydraulic control**: V V V V V V V
- **Brake fluid level**: V V V V V V V
- **Front brake pad wear**: C C C C C C C
- **Rear brake lining wear**: C C C C C C C
- **Condition of petrol pipes**: C C C C C C C
- **Tyre condition, pressure and wear**: C C C C C C C
- **State of front suspension, State of rear suspension**: V V V V V V V
- **Battery electrolyte level, Battery charge**: V V V V V V V
- **Engine oil level**: Every 1000 kms
- **Headlight height adjustment**: V V V V V V V
- **Tightness of nuts and bolts**: V V V V V V V
- **Overall operation, Road test**: V V V V V V
## Service operations

<table>
<thead>
<tr>
<th>Service operations</th>
<th>500</th>
<th>2000</th>
<th>5000</th>
<th>10000</th>
<th>15000</th>
<th>20000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy duty servicing</td>
<td>500</td>
<td>1000</td>
<td>2500</td>
<td>5000</td>
<td>7500</td>
<td>10000</td>
</tr>
<tr>
<td>Minimum servicing</td>
<td>1 months</td>
<td>6 months</td>
<td>12 months</td>
<td>24 months</td>
<td>36 months</td>
<td>48 months</td>
</tr>
</tbody>
</table>

### Spark plug
- V: Check, clean, adjust.
- R: Change.
- G: Check, clean, lubricate.

### Air filter
- R: Change.

### Intake silencer drain
- N: Clean.

### Drive pulley bearings and guides
- V: Check, clean, adjust.
- C: Inspect and change if necessary.

### Transmission belt
- R: Change.
- C: Inspect and change if necessary.

### Driven pulley caged needle bearing
- G: Check, clean, lubricate.

### Kick starter mechanism
- G: Check, clean, lubricate.

### Valve clearances
- V: Check, clean, adjust.
- V: Inspect and change if necessary.

### Setting the carburettor
- V: Check, clean, adjust.

### Joints. (Central stand, Brake levers)
- G: Check, clean, lubricate.

### Petrol filter
- R: Change.

### Engine oil (+ clean strainer)
- R: Change.

### Relay box oil
- R: Change.

### Petrol pipe
- Once every 5 years

### Brake fluid
- Once every 2 years

## Time required for maintenance

<table>
<thead>
<tr>
<th>Code</th>
<th>9100</th>
<th>9150</th>
<th>9300</th>
<th>9400</th>
<th>9500</th>
<th>9600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servicing time in tenths of an hour (0.5 h = 30 mn)</td>
<td>1.3</td>
<td>2.2</td>
<td>3.3</td>
<td>4.0</td>
<td>3.3</td>
<td>4.2</td>
</tr>
</tbody>
</table>

V: Check, clean, adjust.  
R: Change.  
G: Check, clean, lubricate.  
N: Clean.  
C: Inspect and change if necessary.  
* Depending on equipment.
**Battery preparation (Except battery without maintenance)**

Remove the battery.
Remove the 6 filler caps and the vent plug.
Fill all the battery cells with electrolyte to the upper level shown on the battery "UPPER LEVEL".
Electrolyte: (35% sulfuric acid = 1.28g/cm³). 0.5 litre can P/N 739733.
Leave the battery to stand for around half an hour.
Top up if necessary.
Charge the battery for at least 2 hours with a current of 0.4 A.
Refit the battery and connect the vapour vent pipe.
Connect the red wire lug to the battery’s + terminal, and the green wire lug to the battery’s - terminal.
Then, the battery level should be topped up if necessary, after fully charging, using distilled water only.

* Depending on equipment.

**New machine preparation**

Check the tightness of the carburettor float chamber drain screw.
Check the wheel nuts are tight.
Check nuts and bolts are tight.
Check brake adjustment and efficiency.
Check the tyre pressures cold.
Check operation of the lights, flashers, horn, and brake light.
Check the different warning lights work.
Carry out a road test.
SPECIAL IMPORTANT POINTS

Fuel

This engine is designed to run on 95 or 98 unleaded fuel only.

Fuel pipes must absolutely be changed if there are any signs of wear, cracks, etc...
The air pipe between the air pump and the exhaust is specific owing to its heat resistance properties.
Should it be changed, replace it with a genuine pipe.

Petrol is highly inflammable, do not smoke in the working area and avoid proximity to flames or sparks.
Before carrying out any work, leave the engine to cool for at least 2 hours.
# TIGHTENING TORQUES

## Engine part

<table>
<thead>
<tr>
<th>Part</th>
<th>Torque (Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spark plug</td>
<td>12</td>
</tr>
<tr>
<td>Engine drain plug</td>
<td>20</td>
</tr>
<tr>
<td>Screen</td>
<td>15</td>
</tr>
<tr>
<td>Cylinder head</td>
<td></td>
</tr>
<tr>
<td>• Nut</td>
<td>20</td>
</tr>
<tr>
<td>• Screw</td>
<td>12</td>
</tr>
<tr>
<td>Camshaft gear cover</td>
<td>10</td>
</tr>
<tr>
<td>Camshaft gear</td>
<td>20</td>
</tr>
<tr>
<td>Valve clearance covers</td>
<td>15</td>
</tr>
<tr>
<td>Automatic tensioner</td>
<td>10</td>
</tr>
<tr>
<td>Automatic tensioner plug</td>
<td>8</td>
</tr>
<tr>
<td>Chain tensioner</td>
<td>10</td>
</tr>
<tr>
<td>Inlet manifold</td>
<td>10</td>
</tr>
<tr>
<td>Crankcase</td>
<td>12</td>
</tr>
<tr>
<td>RH casing cover</td>
<td>12</td>
</tr>
<tr>
<td>Freewheel</td>
<td>90</td>
</tr>
<tr>
<td>Oil pump</td>
<td>10</td>
</tr>
<tr>
<td>Transmission cover</td>
<td>10</td>
</tr>
<tr>
<td>Relay box cover</td>
<td>22</td>
</tr>
<tr>
<td>Relay box drain plug</td>
<td>10</td>
</tr>
<tr>
<td>Relay box filler cap</td>
<td>10</td>
</tr>
<tr>
<td>Starter motor</td>
<td>10</td>
</tr>
<tr>
<td>Rotor</td>
<td>50</td>
</tr>
<tr>
<td>Turbine</td>
<td>10</td>
</tr>
<tr>
<td>Stator</td>
<td>10</td>
</tr>
<tr>
<td>Engine speed sensor</td>
<td>10</td>
</tr>
<tr>
<td>Drive pulley</td>
<td>55</td>
</tr>
<tr>
<td>Driven pulley</td>
<td>55</td>
</tr>
<tr>
<td>Clutch plate and shoes</td>
<td>55</td>
</tr>
</tbody>
</table>
### Body panels

<table>
<thead>
<tr>
<th>Component</th>
<th>Torque (Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor panel</td>
<td>4</td>
</tr>
<tr>
<td>Handlebar cover</td>
<td>1</td>
</tr>
<tr>
<td>Front shield panel</td>
<td>1</td>
</tr>
<tr>
<td>Rear shield</td>
<td>1</td>
</tr>
<tr>
<td>Side panels</td>
<td>1</td>
</tr>
<tr>
<td>Front mudguard</td>
<td>8</td>
</tr>
</tbody>
</table>

### Cycle part

<table>
<thead>
<tr>
<th>Component</th>
<th>Torque (Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front wheel spindle</td>
<td>65</td>
</tr>
<tr>
<td>Rear wheel spindle nut</td>
<td>110</td>
</tr>
<tr>
<td>Linkrod to engine pivot</td>
<td>50</td>
</tr>
<tr>
<td>Linkrod to frame pivot</td>
<td>50</td>
</tr>
<tr>
<td>Shock absorber top mount</td>
<td>45</td>
</tr>
<tr>
<td>Shock absorber bottom mount</td>
<td>22</td>
</tr>
<tr>
<td>Exhaust to cylinder head mounting nut</td>
<td>15</td>
</tr>
<tr>
<td>Exhaust to casing mounting bolt</td>
<td>20</td>
</tr>
<tr>
<td>Upper cone (in 2 operations)</td>
<td>40/23</td>
</tr>
<tr>
<td>Upper cone locknut</td>
<td>Hand tightened</td>
</tr>
<tr>
<td>Steering locknut</td>
<td>70</td>
</tr>
<tr>
<td>Front brake caliper</td>
<td>30</td>
</tr>
<tr>
<td>Front brake disc</td>
<td>22</td>
</tr>
<tr>
<td>Handle bar</td>
<td>40</td>
</tr>
<tr>
<td>Fuel tank</td>
<td>22</td>
</tr>
<tr>
<td>Luggage carrier</td>
<td>25</td>
</tr>
</tbody>
</table>

### Standard

<table>
<thead>
<tr>
<th>Component</th>
<th>Torque (Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nut and bolt 5 mm diameter</td>
<td>6</td>
</tr>
<tr>
<td>Nut and bolt 6 mm diameter</td>
<td>10</td>
</tr>
<tr>
<td>Nut and bolt 8 mm diameter</td>
<td>22</td>
</tr>
<tr>
<td>Nut and bolt 10 mm diameter</td>
<td>35</td>
</tr>
</tbody>
</table>
## SPECIAL TOOLS

<table>
<thead>
<tr>
<th>Tool N°</th>
<th>Designation</th>
<th>Used with</th>
<th>Tool N°</th>
<th>Designation</th>
<th>Used with</th>
</tr>
</thead>
<tbody>
<tr>
<td>752127</td>
<td>Clutch compression tool</td>
<td></td>
<td>756607</td>
<td>Steering head cup push tool</td>
<td></td>
</tr>
<tr>
<td>752237</td>
<td>Adjustable pin wrench</td>
<td></td>
<td>757860</td>
<td>Steering tool</td>
<td></td>
</tr>
<tr>
<td>752361</td>
<td>39 mm pipe wrench</td>
<td></td>
<td>759788</td>
<td>Steering head cup push tool</td>
<td></td>
</tr>
<tr>
<td>755996</td>
<td></td>
<td></td>
<td>766062</td>
<td>Spark plug spanner</td>
<td></td>
</tr>
</tbody>
</table>
### STANDARD TOOLS

<table>
<thead>
<tr>
<th>Tool Description</th>
<th>Model</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrenches with interchangeable end fittings for valve clearance adjustment.</td>
<td></td>
<td>Set of shims</td>
</tr>
<tr>
<td>Type: Marolotest P/N 500140</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slide calipers</td>
<td></td>
<td>Multimeter</td>
</tr>
<tr>
<td>Automatic resetting type torque wrench 5 to 25 Nm</td>
<td></td>
<td>Automatic resetting type torque wrench 40 to 200 Nm</td>
</tr>
<tr>
<td>Type: Facom R.306A25</td>
<td></td>
<td>Type: Facom S.208A200</td>
</tr>
<tr>
<td>Automatic resetting type torque wrench 10 to 50 Nm</td>
<td></td>
<td>Inertia extraction tool and sockets with internal grip</td>
</tr>
<tr>
<td>Type: Facom J.208A50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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1. CDI unit
2. Battery
3. Magneto flywheel
4. Fuse
5. HT coil
6. Regulator
7. Starter motor relay
8. Switch "Reserve"
9. Horn
10. Starter resistor
11. Resistor warming carburator
12. Temperature control unit
**Removal of the front shield panel**

Procedure 1.
- Disconnect the speedometer driver control cable.
- Unclip the control cable from the front mudguard.
- Remove the front shield panel (4 screws) (A).
- Disconnect the headlight.
- Disconnect the instrument cluster.

**Removal of the rear shield panel**

Procedure 2.
- Remove the front shield panel. See: Procedure 1 page 16.
- Remove the utility hanger (1).
- Remove the 3 screws (B) that secure the rear shield panel.

- Unclip the rear shield panel from the footboard (C).
- Remove the rear shield panel.
**Removal of the footboard**

**Procedure 3.**
- Remove the rear shield panel. See: **Procedure 2** page 16.
- Remove the shock absorber trim (2).
- Remove the side fairings (2 screws each) (D).
- Remove the 2 clips (E) in order to avoid scratching the frame.
- Remove the footboard (2 screws) (F).

**Removal of the under body panel**
- Remove the footboard. See: **Procedure 3** page 17.
- Unclip the under body panel.
- Swivel the bottom panel to the right of the vehicle in order to unlock the front chassis fastener (G).

**Removal of the fuel tank**

**Procedure 4.**
- Remove the saddle (1 screw) (A).

**Tightening torque: 22 Nm.**
- Remove the luggage carrier (4 screws) (B).

**Tightening torque: 25 Nm.**
- Remove the plastic cover (1).
- Lift the fuel tank (1 nuts) (C).

- Disconnect the fuel gauge (D).
- Disconnect the vacuum hose (E).
- Disconnect the fuel supply hose (F).
- **Removal of handlebar fairing**
  
  **Procedure 5.**
- Remove the handlebar front cover (4 screw) (A).

- Remove the rear handlebar fairing (3 screw) (B).
Changing the engine oil

- Place the vehicle on its central stand on flat ground.
- Remove the engine's oil filler cap (1).

Remove the drainage cap and its seal (2) and allow the oil to drip into a recipient.

Replace the copper seal every time you change oil.

- Remove the strainer cap (3) and clean the strainer (4).

Every time oil is changed, the filter (4) must be cleaned and the O-ring changed (5).

- Put back the drainage cap and strainer cap, fitted with a new seal.

Tightening torques:

  - Filler cap: 20 Nm.
  - Screen: 15 Nm.

Pour the required quantity of oil corresponding to the manufacturer's standards into the filler hole.

Quantity: 0.65 l.
- Start the engine and let it run for a short while.
- Remove the engine’s oil filler cap/gauge.
- Wipe dry the filler cap/gauge and fit it back but do not screw it into the filler hole.
- Remove the filler cap/gauge and check the oil level.
  A. Minimum level.
  B. Maximum level.
- Add oil if necessary.

! Check the level with the machine parked on its centre stand, on level ground.

■ Draining the relay box

The gearbox must be drained when the engine is warm so that the oil will run easier.
Wear gloves in order not to get burnt.

- Place the vehicle on its central stand on flat ground.
- Remove the relay box filler cap (1).

Remove the drainage cap and its seal (2) and allow the oil to drip into a recipient.

- Insert the drain plug fitted with a new seal.

**Tightening torque: 10 Nm.**

- Pour the required quantity of oil corresponding to the manufacturer’s standards into the filler hole.

**Quantity: 0.09 l.**

- Fit the filler cap (1).

**Tightening torque: 10 Nm.**
- **Replacing the air filter**
  - Remove the air filter cover (7 bolts) and its seal.
  - Remove the air filter.
  - Clean inside the air filter box.

**Reassembly**

- Fit a new air filter.
- Fit the gasket.
- Install the air filter cover.

> Check the condition of the seals and make sure they are properly positioned.

- Remove the inlet silencer drain plug to let humidity and oil drip out (A).
■ Removal of the spark plug
- Disconnect the suppressor (1).
- Remove the spark plug using tool P/N 766062.
- Measure the distance between the electrodes and correct it if necessary.

Electrode gap: 0.6 to 0.7 mm.

![Suppressor (1)]

Essential precautions: When re-installing, screw in the spark plug (a few turns) by hand.

- Tighten the spark plug.

Tightening torque: 12 Nm.

■ Transmission
- Remove the transmission cover (10 screw).

Tightening torque: 10 Nm.

![Transmission cover (10 screw)]

Remove the paper gasket and the two centering pins.

- Hold the fixed flange with tool P/N 752237.
- Remove the fixed flange nut and washer.
- Remove the fixed flange.

Tightening torque: 55 Nm.
- Remove the belt (1).
- Remove the plastic spacer (2).
- Remove the drive pulley (3) together with the guide hub.

- Lock the clutch drum with the pin wrench P/N 752237.
- Remove the clutch drum and the clutch and drive pulley assembly.

**Tightening torque: 55 Nm.**

**Checking the drive pulley**
- Remove the holder (3) and its 4 plastic guides.
- Remove the moving flange (5)
  6 bearings (4).
- The bearings must be changed if they show major signs of wear.
- The guides shall be replaced if they show signs of wear.
- When refitting, respect the way the rollers are installed.
- Grease the moving flange bore lightly (high temperature grease).

Checking the drive belt

- Measure the width of the belt (A).

**Minimum width: 17.2 mm.**

- Make sure the belt is not cracked.

Checking the clutch linings

- Using the depth calliper, measure the thickness of the clutch linings.

**Mini. thickness: 2 mm.**

- Make sure surface of the plates in contact with the belt does not show any cracks or signs of abnormal wear.
Replacing the clutch lining assembly

- Compress the clutch drive pulley and driven pulley assembly with the tool P/N 752127 clamped in the jaws of a vice.
- Remove nut (1) using spanner P/N 752361.

Tightening torque: 55 Nm.

- Slacken tool P/N 752127.

- Remove the clutch lining assembly (2).
- When re-installing the driven pulley, lubricate the needle bearing (3).
Installing the valve clearance
- Remove the power unit (See page 50).
- Remove the valve clearance adjustment covers.

Apply the correct tightening torque to the valve clearance adjustment covers.

Tightening torque: 15 Nm.

- Rotate the engine by hand in the operating direction in order to bring the rocker pads on the back of the cams (A).
- Using the set of feeler gauges, measure the clearance of each valve.
- Clearances:
  - Intake: 0.05 mm ±0.02 mm.
  - Exhaust: 0.10 mm ±0.02 mm.

- If the clearance is not correct, adjust by means of the cam follower screw.
- Use a wrench to adjust the valve clearance. Type: Marolotest, P/N 500140.

Checking the valve clearance.
- At the intake a 0.10 mm feeler gauge shouldn't go.
- At the exhaust a 0.15 mm feeler gauge shouldn't go.
- On the contrary, if the feeler gauge goes, reset the clearances.
Idle setting
- The engine must be at its operating temperature.
- Switch off the engine.
- Park the vehicle on its stand.
- Check the operating clearance in the throttle.
- Start the engine.
- Screw or unscrew the engine speed adjuster screw (1) to alter the idle speed.
- The rear wheel should not turn.

Idle setting: 2000 to 2200 rpm.

Removal of the fuel filter
- Remove the fuel tank. See: Procedure 3 page 18.
- Remove the fuel filter (1).

Respect the direction of mounting of the filter shown by an arrow indicating the direction of flow of the fuel.

Brake inspection
- If one of the 2 brake pads is worn down to the minimum dimensions (A), the 2 brake pads must be changed.

A. Mini. thickness: 1.5 mm.
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**Replacing the brake pads**
- Remove the brake pad clips and pin (1).
- Remove the brake pad spring (2).
- Remove the brake pads (3).

> When refitting the brake pads, push the piston all the way into its housing.

Always use a new clip when refitting. After refitting, actuate the brake levers several times to bring the brake pads against the brake disc.

**Checking the brake fluid level**
- Position the handlebars so that the master cylinder will be horizontal.
- Check the brake fluid level and if necessary top up in the master cylinder.

A. Maximum level.
B. Minimum level.

- Remove the cover and the diaphragm from the master cylinder (2 screws).
- Add brake fluid until it reaches the maximum level.
**Rear brake linings**

**Check:**

- Actuate the brake control lever and check the position of the wear mark on the cam tierod (A) compared to the mark (B) on the engine housing.
- If the cam tierod mark is lined up with or passes the wear mark on the engine housing, the brake lining must be replaced.

**Disassembly:**

- Disconnect the air hose from the exhaust (1).
- Remove the 2 screws from the exhaust.

**Tightening torque: 20 Nm.**

- Remove the 2 screws that secure the muffler.

**Tightening torque: 15 Nm.**

- Remove the exhaust assembly.

Use a new exhaust gasket.
- Remove the wheel spindle nut and washer.

**Tightening torque: 110 Nm.**

![Image of brake components]

When re-installing, use a new nut.

- Remove the brake linings (2).
- Remove the adjusting nut, the barrel (3) and the brake control cable (4).
- Remove the brake arm (5), the brake cam (6) and the spring (7).

**Reassembly**

- Lubricate the brake cam spindle and fit it into the casing.

- Slightly lubricate the brake cam and pin.
- Install the brake linings (3).
- Install the spring (7).
- Install the brake control cable, the barrel and the adjusting nut (4).
- Refit the other items in the reverse order to disassembly.

- Fit the brake arm (5) by aligning it with the brake cam axis (6).

**Tightening torque: 8 Nm.**
- Measure the free travel of the rear brake control lever.
- Adjust the lever free travel using the adjusting nut.

**B. Brake control free travel: 10 to 20 mm.**
MISCELLANEOUS OPERATIONS

■ Removal of the fork

■ Replacing the bearings of the steering system
  - Remove the rear shield panel. See: Procedure 2 page 16.
  - Suspend or immobilize the machine securely.
  - Remove the front brake caliper from the fork tube (2 screws).

Tightening torque: 30 Nm.
  - Remove the front mudguard (3 screws).
  - Remove the front wheel.

Tightening torque: 65 Nm.

When re-installing, use a new gasket.
  - Remove the handlebars from the fork tube (1 screw and 1 nut) (1).

Tightening torque: 40 Nm.

When re-installing, use a new gasket.
  - Using tool P/N 757860 remove the steering locknut.
  - Remove:
    • The brake washer.
    • The nut.
    • The rubber washer.
    • The adjustable cone.

  - Remove the fork.
  - Remove the caged ball bearings.
- Using a drift, remove the steering head cups.

- Using a drift, remove the steering headset cone.

Reassembly

- Fit a new steering head cone (2).
- Using push tool P/N 756607, fit a new upper cup into the steering tube.
- Using push tool P/N 759788, fit a lower cup into the steering tube.

- Grease the cup bearing races.
- Install new ball cage bearings (3).
- Fit the fork into the steering column.

- Install new ball cage bearings (4).

**Steering system tightening method**
- Install the adjustable cone and tighten it (5).

**Tightening torque: 40 Nm.**
- Loosen and then retighten the adjustable cone.

**Tightening torque: 23 Nm.**
- Install the rubber washer (6).
- Fit and finger tighten the nut (7) so that its notches are aligned with those of the nut.
- Fit the lock washer (8) in the notches of the locknut and adjustable cone.

- Use the tool ref. 757860 to tighten the steering locknut (9).

**Tightening torque: 70 Nm.**

- Refit the other items in the reverse order to disassembly.

### Wheel bearing replacement

- Remove the wheel.
- Use an inertia extractor to remove the bearings.
- Remove the spacer.

**Reassembly**

- Use a drift driver to fit the first bearing.
- Fit the spacer.
- Insert the wheel spindle to guide the spacer with the bearings.
- Use a drift driver to fit the second bearing.

Use new bearings when refitting.  
Fit the bearings, pressing against the outer cage.
ELECTRICITY

- Ignition principle schematic/Carburetor heater

1. Ignition switch
2. Battery
3. CDI unit
4. Spark plug socket
5. Spark plug
6. HT coil
7. Resistor warming carburator
8. Temperature control unit
9. Choke
10. Magneto flywheel
11. Regulator
■ Checking the ignition system
- Remove the battery access door.
- Disconnect and remove the battery.
- Remove the battery bracket.

Disconnect the ignition unit and take the measurements on the harness side.

- If the values are correct, replace the ignition module.
- If the values are incorrect, check:
  • The harness.
  • The ignition switch.
  • The ignition sensor.
  • The high voltage coil.

<table>
<thead>
<tr>
<th>Component</th>
<th>Connector</th>
<th>Wire colours</th>
<th>Standard values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground</td>
<td>A</td>
<td>Green</td>
<td>R=0Ω</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To the ground</td>
<td></td>
</tr>
<tr>
<td>Ignition sensor</td>
<td>A</td>
<td>Yellow/blue</td>
<td>R=115 Ω±20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To the ground</td>
<td></td>
</tr>
<tr>
<td>Battery positive power</td>
<td>B</td>
<td>Black</td>
<td>Ignition on: U=12V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To the ground</td>
<td>Ignition off: U=0V</td>
</tr>
<tr>
<td>HT coil:</td>
<td>A</td>
<td>Yellow/black and Green</td>
<td>R=0.2 Ω±20%</td>
</tr>
<tr>
<td>Primary</td>
<td></td>
<td>High tension wire and Green</td>
<td>R=3 KΩ±20%</td>
</tr>
<tr>
<td>Secondary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spark plug socket</td>
<td></td>
<td></td>
<td>R=5 KΩ±20%</td>
</tr>
</tbody>
</table>
Checking the carburettor heating circuit
- Power supply range of the carburettor heating resistor: between $10^{±2}$ and $20^{±2}$ °C.
- Remove the luggage carrier (4 screws).

Tightening torque: 25 Nm.
- Remove the plastic cover.

Disconnect the temperature control unit and take the measurements on the harness side.
- If the values are correct, replace the temperature control unit.
- If the values are incorrect, check:
  • The harness.
  • The ignition switch.
  • The carburettor heating resistor.
  • Regulator.
  • The magneto.

<table>
<thead>
<tr>
<th>Component</th>
<th>Connector</th>
<th>Wire colours</th>
<th>Standard values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground</td>
<td>A</td>
<td>Green</td>
<td>$R=0\Omega$</td>
</tr>
<tr>
<td>Ground</td>
<td>A</td>
<td>To the ground</td>
<td></td>
</tr>
<tr>
<td>Resistor warming carburator</td>
<td>A</td>
<td>Yellow/white</td>
<td>$R=8.5,\Omega^{±20%}$</td>
</tr>
<tr>
<td>Resistor warming carburator</td>
<td>A</td>
<td>To the ground</td>
<td></td>
</tr>
<tr>
<td>Battery positive power</td>
<td>A</td>
<td>Black</td>
<td>Ignition on: $U=12,V$ Ignition off: $U=0,V$</td>
</tr>
<tr>
<td>Battery positive power</td>
<td>A</td>
<td>To the ground</td>
<td></td>
</tr>
<tr>
<td>Regulated alternating current</td>
<td>A</td>
<td>Yellow</td>
<td>The engine is running: $U=13.5,V$</td>
</tr>
</tbody>
</table>
- **Regulator/Starter motor relay/Ignition unit/Starter resistor/HT coil**
  - Remove the battery access door.
  - Disconnect and remove the battery.
  - Remove the battery bracket.
  - Disconnect and remove the electrical components.
    - The ignition unit, starter relay and lighting resistance are attached to a removable holder.
    - The regulator and high tension coil are attached to the chassis.

- **Checking the starter motor relay**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Operation</th>
<th>Measurement</th>
<th>Standard values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disconnect and remove the starter motor relay.</td>
<td>Between terminals A</td>
<td>( \text{R} = 3.6 , \Omega \pm 10% )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Between terminals B</td>
<td>( \text{R} = \infty , \Omega )</td>
<td></td>
</tr>
<tr>
<td>Apply a voltage of 12 V to the A terminals on the relay. The relay must trip.</td>
<td>Between terminals B</td>
<td>( \text{R} = 0 , \Omega )</td>
<td></td>
</tr>
</tbody>
</table>
- Checking the starter resistance
  - Resistance: 12 $\Omega \pm 10\%$

- Checking the high tension coil

<table>
<thead>
<tr>
<th>Condition</th>
<th>Measurement</th>
<th>Standard values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disconnect the high voltage coil. Disconnect the suppressor.</td>
<td>Between terminals A and B</td>
<td>$R=0.2 \ \Omega \pm 20%$</td>
</tr>
<tr>
<td></td>
<td>Between terminals B and C</td>
<td>$R=3 \ \kOmega \pm 20%$</td>
</tr>
</tbody>
</table>
Vacuum-operated cock
- Remove the fuel tank. See: Procedure 3 page 18.
- Remove the vacuum-operated cock.

Checking the fuel reserve contact

A. Full fuel tank: $\infty \Omega$.
B. Empty fuel tank: $0 \Omega$.

When refitting, position the vacuum-operated cock as shown
Check the condition of the O-ring.
FUEL SYSTEM

Removal of the carburettor
- Remove the side fairings.
- Remove the fuel tank. See: Procedure 3 page 18.

- Disconnect:
  • The throttle control (1).
  • The fuel inlet pipe (2).

- Disconnect the carburettor heater (3).
- Remove the intake silencer (1 collar and 2 screws).
- Disconnect the electric choke.
- Loosen the collar.
- Remove the carburettor.

Removal of the choke
- Remove the choke cap.
- Remove the screw and the holder plate.
- Locate the position of the choke (1) and then remove it.
FUEL SYSTEM

Removal of the starter holder and its gasket
- Remove the choke holder and its gasket (2 screws).

⚠️ Check the condition of the O-ring.

Removal of the throttle valve
- Remove the chamber cap (2 screws).
- Remove the spring.
- Remove the needle, valve and membrane assembly.

⚠️ Check that the membrane is in good condition.

- Remove the needle stop (1).
- Remove the spring (2).
- Remove the needle (3).

⚠️ The height of the needle is factory set and cannot be modified.
Removal of the float, needle valve and jets

- Remove the float chamber and its O-ring (4 screws).

| ! | Check the condition of the float chamber O-ring. |

- Loosen the float pin clamping screw (2).
- Remove the float (3), its pin (4) and the needle valve (5).

- Remove the idle jet (6).
- Remove the main jet (7).
- Remove the needle well (8).
Check the condition of the needle valve and the needle valve seat (A).

Removal of the mixture screw
- Turn clockwise the mixture control screw (1) while counting the number of turns until it is screwed home.

When re-fitting, this operation allows you to put it back to its initial adjustment position.

Removal of the pick-up pump
- Remove the 2 screws from the sheathing holder plate.
- Remove the bushing (1) and the protective rubber (2).

Check the condition of the bushing and the rubber protection.
- Remove the piston (3).
Removal of the pick-up pump suction valve

- Remove the jet.
- Remove the spring.
- Remove the ball.

Removal of the deceleration enrichment device

- Remove the cover (2 screws).
- Remove the spring.
- Remove the membrane.
- Remove the O ring.

Check that the membrane is in good condition.
Check the condition of the O-ring.

Removal of the carburetor heater

- Remove the carburator warming resistor (1).
- Remove the heater earthing connection (2).
- Clean the carburettor body with Biosane cleanser ref. 754748 or use an ultrasonic cleaning tank.
- Blow into every jet and duct of the carburettor body with compressed air.

Do not use any metal tool which can damage the ducts of these items.

- Re-install all the other components and, if necessary, when starting the engine, readjust according to the values indicated on the technical data card.

- When refitting the carburettor, adjust the throttle tensioner to obtain a clearance on the handlebar of:
  A. 4 to 6 mm.
The carburettor and its components

1. Choke.
2. Piston.
3. Sump.
4. Float.
5. Idle jet.
6. Main jet.
7. Needle well.
8. Needle valve.
10. Pick-up pump (10a and 10b).
11. Idle screw.
12. Pick-up pump suction valve.
13. Deceleration enrichment device.
Removal of the power unit

Note: To remove the cylinder head, remove the power propulsion unit.

For removal of the cylinder head, cylinder and piston, see the workshop manual.

- Disconnect the battery.
- Remove the side fairings. See: Procedure 3 page 17.
- Disconnect:
  - The magneto (1).
  - The starter motor (2).
  - The choke (3).
  - The carburettor heater (4).
  - The suppressor.
- Disconnect:
  - The throttle control (5).
  - The fuel inlet pipe (6).
  - The vacuum pressure hose (7) (Pulsair).
  - The vacuum pressure hose (8) (Petrol tap).
- The pulsair reed valve hose (9).
- The rear brake control cable (10).

- Remove the linkrod-to-engine connecting pin (11).

**Tightening torque: 50 Nm.**

<table>
<thead>
<tr>
<th><img src="9.png" alt="Image" /></th>
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<td><strong>N</strong></td>
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<tr>
<td>When re-installing, use a new nut.</td>
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</tbody>
</table>

- Remove the shock absorber upper mount (12).

**Tightening torque: 45 Nm.**

- Lift the rear of the machine.
- Remove the power propulsion unit from the frame.
- Remove the covers from the power unit.
In our permanent concern to make improvements PEUGEOT MOTOCYCLES reserves the right to suppress, modify, or add any reference mentioned.

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