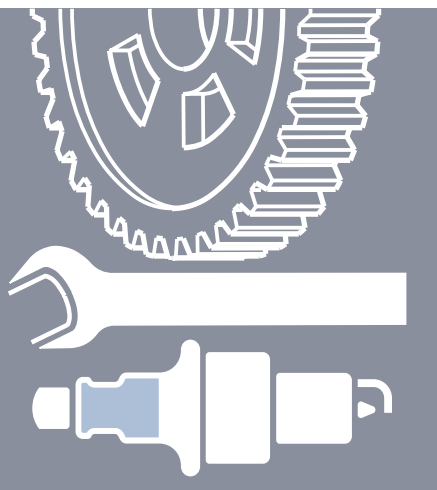
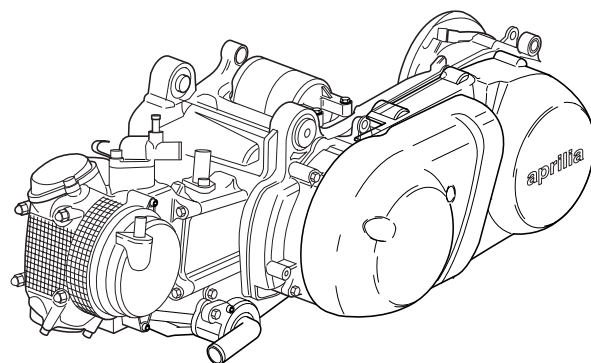


**aprilia**



# QUICK WORKSHOP HANDBOOK

YP 250 4T Motor



**GENERAL INDEX****General safety norms****1****Technical data****2****Oil chart****3****Special engine tools****4****Carburettor****5****Engine timing  
Adjusting valve play****6****Technical observations****7****Disassembly/Reassembly  
sequence****8**

Produced by  
Training and Documentation Department  
**Aprilia Consumer Service s.p.a.**  
via Noalese, 156 - 30036 Santa Maria di Sale (Venice) - Italy  
Tel. \*\*39 - 041 57 86 101  
Fax \*\*39 - 041 57 86 100  
[www.serviceaprilia.com](http://www.serviceaprilia.com)  
[www.aprilia.com](http://www.aprilia.com)

Produced and printed by  
**Studio Gallo** (Engineering)  
Vicolo Perazzolo,5  
35012 Camposampiero (PD)  
tel. \*\*39 - 049 - 5794676  
fax.\*\*39 - 049 - 5794676  
Italy  
[www.stgallo.it](http://www.stgallo.it)  
e-mail: [grafica@stgallo.it](mailto:grafica@stgallo.it)

**INTRODUCTION**

- This manual contains all the essential information for carrying out routine vehicle procedures.
- The information and diagrams in the manual are up-to-date at the time of publication.
- This publication is intended for use by **Aprilia** dealers and their trained mechanics. A large number of procedures do not require explanation and therefore have been omitted. It has not been possible to give detailed mechanical data for every procedure. All personnel consulting this manual must therefore possess the basis skills of a mechanic and be thoroughly familiar with the most common motor cycle repair procedures. Without these skills and the necessary familiarity any repair or routine maintenance/INTRODUCTION operation may be ineffective or even dangerous.
- Given the fact that it is not possible to provide detailed descriptions of all procedures, special care must be taken for whatever repair or maintenance work is done, in order to prevent damage to the vehicle and injury to persons.
- In order to provide the best level of customer satisfaction, **Aprilia s.p.a.** constantly improves its products and relevant documentation. All important technical changes and alterations to procedures are notified to all **Aprilia** dealers, branches and points of sale throughout the world. All changes will be included in later editions of this manual.
- If you have any doubts or queries about the procedures described in this manual, please contact the Aprilia Consumer Service (A.C.S.) Department, who will be pleased to give you all the information and explanations you require, and to bring you up to date with any changes.  
For further information see:
- SPARE PARTS CATALOGUE no. 655X

Without alteration to the basic features of its models as described and illustrated in this manual, **Aprilia s.p.a.** may carry out modifications to any of the models without notice.

Unauthorized electronic retrieval or reproduction of any part of this manual is unlawful in all countries. Products or services manufactured or provided by third parties are quoted merely as examples and do not constitute a recommendation; **Aprilia s.p.a.** is not liable for the performance or use of such products and services.

Second edition. May 2000.

**GENERAL SAFETY STANDARDS****CARBON MONOXIDE**

If the engine must be switched on to carry out certain operations make sure the room is well ventilated or open to the outside. Never switch on the engine in a closed room, unless there is a smoke and fume removal system installed and the operating.

 **DANGER**

Exhaust fumes contain carbon monoxide, a poisonous gas which make cause loss of consciousness and can be lethal.

Switch on the engine only in an open space or in a closed room if fitted with a fully operating smoke and fume removal system.

**FUEL**

Make sure the room is well ventilated. Extinguish all cigarettes, keep fuel containers away from flames and possible sources of sparks.

 **DANGER**

Fuel is highly flammable and may explode.  
**KEEP OUT OF THE REACH OF CHILDREN**

**HIGH TEMPERATURE COMPONENTS** **DANGER**

The engine and parts of the exhaust system reach very high temperatures and remain hot for a certain period after switching off the engine. Handle these components only after putting on protective gloves or waiting for the engine and parts to fully cool down.

**USED ENGINE OIL** **DANGER**

Use latex gloves for maintenance operations involving contact with oil. If left in contact with the skin for long periods, used engine oil can cause skin cancer. Although this is unlikely, unless handled every day, wash your hands with soap and water after handling used engine oil.  
**KEEP OUT OF THE REACH OF CHILDREN**

**GENERAL PRECAUTIONS AND INFORMATION**

For repair and disassembly and reassembly operations follow this instructions.

 **DANGER**

Do not carry out any operation in the presence of naked flames.

Before starting any maintenance or inspection operation, switch off the engine and remove the ignition key. Wait for the engine and exhaust system to cool down. Place the motor cycle, if possible, in a raised position on a level, even surface. Take special care of heated parts (engine and the exhaust) in order to avoid burns.

The vehicle is made with parts which cannot be swallowed. Do not bite, chew, suck or otherwise attempt to carry out operations using the teeth or mouth.

Unless otherwise specified, to reassemble parts, reverse the order for disassembly operations. Some operations may involve disassembling parts previously disassembled for other operations to be carried out. Consult the various pages of the manual where each operation is described in order to avoid unnecessary work. Never use fuel as a solvent for cleaning the vehicle.

If welding operations are to be carried out, disconnect the negative pole (-) of the battery. If more than one person is working on the vehicle make sure both are in a safe position whatever the work being done.

**BEFORE DISASSEMBLY**

- Before separating pipes or wires etc. (joints and junctions) mark each part with a unique marking. Each piece should be clearly marked for reassembly purposes.
- Clean and wash the disassembled components with close to non-inflammable detergent.
- Keep paired parts together, because normal wear and tear create a natural pairing. In some cases, where one part is replaced the other must also be replaced. Keep away from sources of heat.

**DISASSEMBLY**

- Before separating pipes or wires etc. (joints and junctions) mark each part with a unique marking. Each piece should be clearly marked for reassembly purposes.
- Clean and wash the disassembled components with close to non-inflammable detergent.
- Keep paired parts together, because normal wear and tear create a natural pairing. In some cases, where one part is replaced the other must also be replaced. Keep away from sources of heat.

REASSEMBLY

 **WARNING**

Never re-use an elastic ring. If removed, replace it with a new ring. If a new ring is fitted, do not stretch more than necessary when fitting it to the shaft. Afterwards, check that the ring is properly fitted to the housing.

Do not clean bearings with compressed air.

**IMPORTANT** Bearings must rotate freely, without sticking or noise. Replace if necessary.

- Use only ORIGINAL **Aprilia** SPARE PARTS.
  - Stick to the oil chart and recommended wearing parts.
  - Wherever possible, lubricate parts before reassembling them.
  - When tightening screws and nuts begin with the largest diameters, or inner nuts and screws, and tighten diagonally. Tighten each before finally tightening to the specified torque.
  - Always replace gaskets, seal rings, elastic rings, O rings and split pins with new ones.
  - Clean all joint surfaces, oil guard edges and gaskets before reassembling.
  - Lightly smear the edges of oil guards with lithium based grease.
  - Refit the oil guards and bearings with the trademark or manufacturer's serial number facing outwards (so it is visible).
  - Grease the bearings fully before fitting.
  - Check that all components have been reassembled properly.
- After a maintenance or repair operation, carry out preliminary checks and commission the vehicle on private property or in a low traffic area.

REFRIGERATION LIQUID

 **DANGER**

Refrigeration liquid is dangerous if swallowed; contact with the skin or eyes could cause irritation. For contact of this kind, wash with plenty of water and see a doctor immediately. If swallowed, it causes vomiting: rinse the mouth and throat with plenty of water and see a doctor immediately.

THIS LIQUID AND CONTAINER SHOULD BE PROPERLY DISPOSED OF.

KEEP OUT OF THE REACH OF CHILDREN.

Be careful not to pour any refrigeration liquid onto hot engine parts; it could catch fire. The flames are invisible.

Wear latex gloves during maintenance operations.



Do not use the motor cycle if the refrigeration liquid is below the minimum required level.

Refrigeration liquid consists of one part water (50%) for one part anti-freeze (50%) . This mixture is suitable for most operating temperatures and also guarantees good rust protection.

The use of the same blend is recommended during the summer, because this reduces evaporation and the need for frequent top ups. It also reduces mineral salt deposits in the radiator left by evaporated liquid and maintains the cooling system.

If the outside temperature is below 0° C, check the refrigeration circuit frequently, adding anti-freeze if required (for greater concentration). Max 60% anti-freeze. Use distilled water in the refrigerating liquid, in order not to damage the engine.

**Refrigeration liquid for the engine (recommended):**

 ECOBLU - 40°C or  Agip COOL

On the basis of the freezing point of the refrigeration liquid required, add water in the percentage given below:

Freezing point °C	Refrigeration liquid % by volume
-20°	35°
-30°	45°
-40°	55°

**IMPORTANT:** Features vary from anti-freeze to anti-freeze. Consult the label for the degree of protection provided.

 **WARNING**

Use only nitrite free anti-freeze and anti-corrosion liquid, guaranteeing protection to at least -35°C.

## TECHNICAL INFORMATION

### ENGINE

Engine type	4-stroke, water-cooled, overhead camshaft
Cylinders	Single cylinder, tilted forwards
Engine size	0,249l (249 cc)
Bore	69,0 x 66,8 mm
Compression ratio	10 :1
Pressure (STD)	1400 kPa (14 Kg/cc, 14 bar) at 500 rpm
Ignition	electric starter motor
Lubrication	oil sump

### OIL TYPE AND GRADE

Engine oil (STANDAR APISE or higher grade)	<p>The chart shows temperature ranges in degrees Celsius for four oil grades: 10W/30 (approx. -15 to 30°C), 10W/40 (approx. -10 to 35°C), 20W/40 (approx. 0 to 40°C), and 20W/50 (approx. 10 to 50°C).</p>
Routine oil change	1,2L
Total capacity	1,4L
Total capacity transmission oil	0,25L
Air filter : carburettor side Cover side	moist filter element dry filter element

### CARBURETTOR

Type/Quantity	Y28V - 1A/1
Manufacturer	TEIKEI

### SPARK PLUG

Type	DR 8 EA
Manufacturer	NGK
Distance between electrodes	0,6 ~ 0,7 mm

### TRANSMISSION

Primary reduction	helical gears
Reduction ratio	40/15 (2,666)
Secondary reduction	cylindrical gears
Rapporto di riduzione secondaria	38/15 (2,533)
Type of transmission	Automatic "single speed" (trapezoidal belt)
Functioning	automatic centrifuge
Automatic single speed	2,34 ~ 0,82 : 1

### CLUTCH

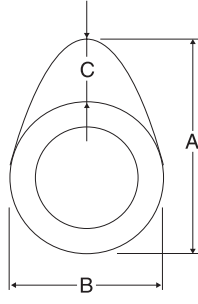
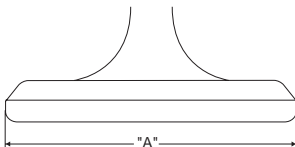
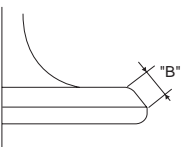
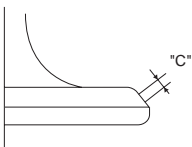
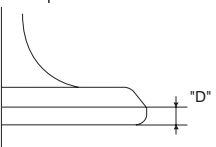
Clutch type	dry automatic centrifuge
-------------	--------------------------

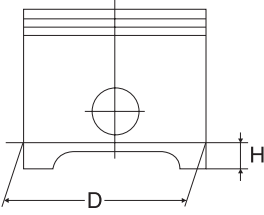
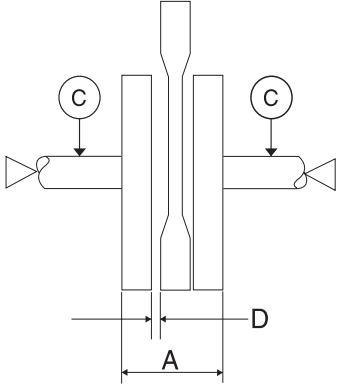
### ELECTRIC PLANT

Ignition	T.C.I. (digital)
Generator	Magnet A.C.

**TIGHTENING TORQUES**

Component to tighten	Name of part	Thread size	Q.ty	Torque	
				Nm	Kgm
Oil control bolt	-	M6	1	7	0,7
Exhaust stud bolt	-	M8	2	13	1,3
Spark plug	-	M12	1	18	1,8
Cam pinion cap	Bolt	M6	2	10	1,0
Cylinder head and cylinder	Nut	M8	4	22	2,2
Cylinder head and cylinder (Cam chain side)	Bolt	M6	2	10	1,0
Valve cap	Bolt	M6	5	10	1,0
Rotor	Nut	M16	1	80	8,0
Valve adjustment lock nut	Nut	M6	2	14	1,4
Camshaft bearing plug	Bolt	M6	2	8	0,8
Cam pinion	Bolt	M10	1	60	6,0
Distribution chain stretcher (Casing)	Bolt	M6	2	10	1,0
(Plug)	Bolt	M8	1	8	0,8
Guide plug 2	Bolt	M6	1	10	1,0
Water pump housing cap	Bolt	M6	3	10	1,0
Coupling joint	-	M6	2	7	0,7
Thermostat valve cap	Bolt	M6	2	10	1,0
Fuel filler support	Bolt	M5	1	5	0,5
Oil pump	Screw	M6	2	7	0,7
Oil pump cap	Bolt	M3	1	1	0,1
Discharge plug	Bolt	M35	1	32	3,2
Carburettor joint	Bolt	M6	2	10	1,0
Carburettor joint and carburettor	Nut	M6	2	10	1,0
Air filter unit	Bolt	M6	2	7	0,7
Air filter cap	Screw	M5	5	1	0,1
Fuel pump	-	M6	2	10	1,0
Exhaust pipe	Nut	M8	2	20	2,0
Muffler	Bolt	M10	3	53	5,3
Muffler ands exhaust pipe	Bolt	M8	1	20	2,0
Guard (muffler)	Screw	M6	3	10	1,0
Guard (exhaust pipe)	Screw	M6	2	10	1,0
Half-cover (left and right)	Bolt	M6	9	10	1,0
Exhaust bolt	Bolt	M8	1	22	2,2
Oil filler inlet	Bolt	M14	1	3	0,3
Transmission cover	Bolt	M8	6	16	1,6
Cover cap (left)	Bolt	M6	11	10	1,0
Filter cover cap	-	M6	3	7	0,7
Cover cap guard	Bolt	M6	2	7	0,7
Magnet cap	-	M6	10	10	1,0
Cap (oil pump)	Bolt	M6	2	12	1,2
Ignition control plug	Cap	M16	1	8	0,8
Single direction clutch	-	M8	3	30	3,0
Clutch housing	Bolt	M14	1	60	6,0
Grease (primary pulley)	-	M4	4	3	0,3
Fixed primary plug	-	M14	1	60	6,0
Clutch unit	-	M36	1	90	9,0
Stator	-	M5	3	7	0,7
Collection coil	-	M5	2	7	0,7
Starter motor	Bolt	M6	2	10	1,0
Heating switch	-	M16	2	23	2,3
Heating unit	-	P/t 1/8	1	8	0,8

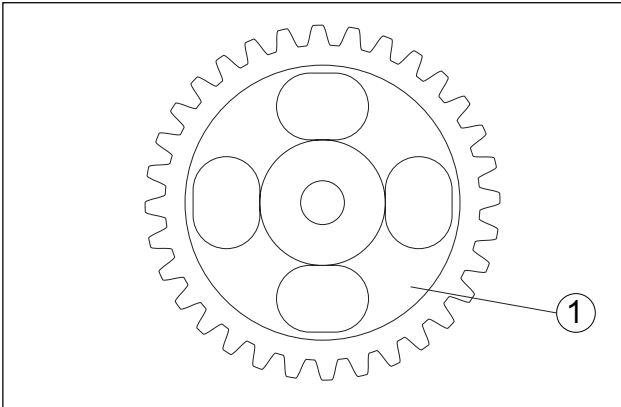
Component	Rating	Limit
<b>Cylinder head:</b> Deformation limit	***	0,03 mm
<b>Cylinder:</b> Bore Out-of-oval limit	69,000-69,005 mm ***	69,1 mm 0,03 mm
<b>Camshaft:</b> Cam dimensions Aspiration Discharge Off-center limit	 "A" "B" "C" "A" "B" "C" *** ***	36,545 ~ 36,645 mm 36,45 mm 30,021 ~ 30,121 mm 29,92 mm 6,524 mm *** 36,547 ~ 36,647 mm 36,45 mm 30,067 ~ 30,167 mm 29,97 mm 6,48 *** 0,03 mm
<b>Distribution chain:</b> Type/Number of meshes	DID SC *A-0404A SDH/104	***
<b>Rocker arm/rocker arm shaft:</b> Rocker arm inner diameter Rocker arm shaft outer diameter Shaft/rocker arm play	12,000 ~ 12,018 mm 11,981 ~ 11,991 mm 0,009 ~ 0,012 mm	12,03 mm 11,995 mm ***
<b>Valves, valve housings, valve guides:</b> Valve play (cold) Valve dimensions	ASP SCAR 0,08 ~ 0,12 mm 0,16 ~ 0,20 mm	*** ***
 Head diameter  Face length  Housing width  Margin thickness	ASP SCAR ASP SCAR ASP SCAR ASP SCAR ASP SCAR ASP SCAR	33,9 ~ 34,1 mm *** 28,4 ~ 28,6 mm *** 3,394 ~ 3,960 mm *** 3,394 ~ 3,960 mm *** 0,9 ~ 1,1 mm *** 0,9 ~ 1,1 mm *** 0,8 ~ 1,2 mm *** 0,8 ~ 1,2 mm *** 5,975 ~ 5,990 mm 5,94 mm 5,960 ~ 5,975 mm 5,92 mm 6,000 ~ 6,012 mm 6,05 mm 6,000 ~ 6,012 mm 6,05 mm

Component	Rating	Limit
Play between stud bolt and guide	ASP SCAR	0,010 ~ 0,037 mm 0,025 ~ 0,052 mm
Guide off-center limit	***	0,01 mm
Valve housing width	ASP SCAR	0,9 ~ 1,1 mm 0,9 ~ 1,1 mm
<b>Valve spring:</b>		
Free length (inner)	ASP/SCAR	38,1 mm
(Outer)	ASP/SCAR	36,93 mm
Dimensions when fitted (valve closed)		
(Inner)	ASP/SCAR	30,1 mm
(Outer)	ASP/SCAR	31,6 mm
Negative pressure		
(Inner)	ASP/SCAR	7,8 ~ 9,0 kg
(Outer)	ASP/SCAR	37,22 ~ 42,83 kg
Limite inclinazione		
(Inner)	ASP/SCAR	***
(Outer)	ASP/SCAR	***
<b>Piston:</b>		
Play between piston and cylinder		0,02 ~ 0,04 mm
Piston diameter "D"		68,965 ~ 68,980 mm
Measurement "H"		5 mm
Piston pin housing bore		17,004 ~ 17,015 mm
Piston pin outer diameter		16,991 ~ 17,000 mm
		
<b>Piston segments:</b>		
<b>Upper segment:</b>		
Type	Rectangular	***
Distance to edge (fitted)	0,15 ~ 0,30 mm	0,45 mm
Side play (fitted)	0,04 ~ 0,08 mm	0,12 mm
<b>2<sup>nd</sup> segment:</b>		
Type	Tapered	***
Distance to edge (fitted)	0,30 ~ 0,45 mm	0,7 mm
Side play (fitted)	0,30 ~ 0,07 mm	0,12 mm
<b>Scraper ring:</b>		
Distance to edge (fitted)	0,2 ~ 0,7 mm	***
<b>Engine shaft:</b>		
		
Crank width "A"		59,95 - 60,0 mm
Off-axis limit "C"		0,03 mm
Connecting rod side play "D"		0,35 - 0,85 mm

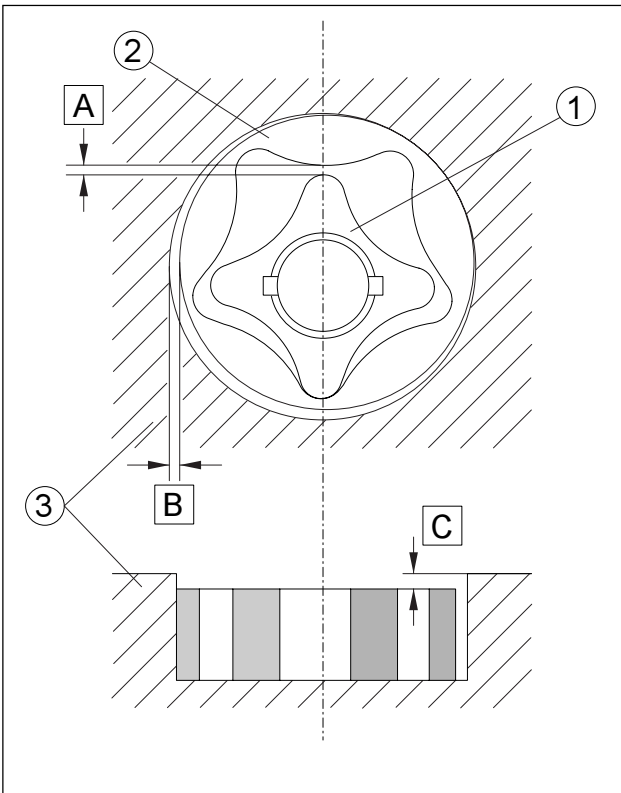


OIL PUMP

CONTROL OF OIL PUMP



- 1 Examination:
  - Driving gear (oil pump)
  - Driven gear (oil pump) (1)
  - Oil pump housing
  - Oil pump float cap
  - For wear/cracking/damage: replace



- 2 Measurement
  - Play between rotors [A]
  - (between inner rotor (1) and outer rotor (2))
  - Side play [B]
  - (between outer rotor (2) and the pump housing (3).  
Out of spec: replace the oil pump
  - Play between housing and rotor [C]  
(between the pump housing (3) and rotors (1) (2)  
Out of spec: replace the oil pump.



Play between rotors [A]

0,10 ~ 0,34 mm

<Limit: 0,40 mm>

Side play [B]

0,013 ~ 0,036 mm

<Limit: 0,15 mm>

Play between housing and rotor

[C]

0,04 ~ 0,09 mm

<Limit: 0,15 mm>

Component	Rating	Limit
<b>Clutch and automatic centrifuge:</b>		
Clutch block thickness	3,0 mm	2,0 mm
Clutch bell inner diameter	135 mm	135,5 mm
Brake spring fre length	28,1 mm	***
Weight outer diameter	20 mm	19,5 mm
Clutch - mesh rpm	2.100 ~ 2.700 rpm	***
Clutch - block rpm	3.700 ~ 4.700 rpm	***
<b>Trapezoidal belt:</b>		
Belt width	22,6 mm	21,0 mm
<b>Carburettor:</b>		
Type	Y28V-1A	
Serial number	4UC 03[4UD 00 (CH)]	***
Venturi pipe outer diameter	Ø28	***
Main jet (M.J.)	#130	***
Main air jet (M.A.J.)	Ø0.9	***
Cone-shaped pin (J.N.)	5D32-3/5	***
Butterfly valve dimension (Th.V.)	11°	***
Minimum air jet (P.A.J.1)	Ø1,2	***
Atomization (N.J.)	#85	***
Minimum output (P.O.)	Ø0,8	***
Minimum jet (P.J.)	#44	***
Bypass (B.P.)	0,7 x 4	***
Idling screw (P.S.)	1 7/8	***
Valve housing measurement (V.S.)	1,4	***
Starter jet 1 (G.S.1)	Ø 0,45	***
Starter jet 2 (G.S.2)	Ø 0,5	***
Float height (F.H.)	27 mm	***
Idling rpm	1.350 - 1.450 rpm	***
Aspiration negative pressure	220-260 mmHg	***
Oil temperature	65-75° C	***
Cooling liquid temperature	80° C	***
<b>Oil pump:</b>		
Type	Trochoid	***
End play	0,1-0,34 mm	0,4 mm
Side play	0,013 - 0,036 mm	0,15 mm
Play between housing and rotor	0,04 - 0,09 mm	0,15 mm

Component	Rating
<b>Thermostat valve :</b> Type/manufacturer. Valve opening temperature. Full valve opening temperature. Full valve opening stroke.	4HC/NIHON THERMOSTAT 80,5 ~ 83,5 °C 95 °C 3 mm

Component	Dimension
<b>Bearings and oil guard:</b> Connecting rod bearing Engine shaft bearing (left) Engine shaft bearing (right) Engine shaft oil guard (left) Engine shaft oil guard (right) Water pump bearing Water pump seal ring Primary shaft bearing (left) Primary shaft bearing (right) Secondary shaft bearing (left) Secondary shaft bearing (right) Secondary shaft oil guard Camshaft bearing (left) Camshaft bearing (right) Primary transmission bearing (left) Primary transmission bearing (right) Primary transmission oil guard	32 x 40 x 20 (pin bearing) 6306 63/28 SD - 30 - 45 - 5 S7 - 14 - 27 - 6 6000 S - 10 - 21 -5 15NQ2815 15NQ2815 6303 6272 SD8 - 32 - 52 -7 6005 6202Z 6205 6302 SD8 - 32 - 52 -7

**OIL CHART**

**Engine oil (recommended):**  SUPERBIKE 4, SAE 5W - 40.

 Agip 4T Formula Racing

Or alternatively branded oils with equivalent or better performance than CCMC G-4, A.P.I. SG.

**Transmission oil (recommended):**  F.C SAE 75W - 90.

 Agip Gear Synth

Or alternatively branded oils with equivalent or better performance than A.P.I. GL4.

**Bearings and other grease points (recommended):**  AUTOGREASE MP.

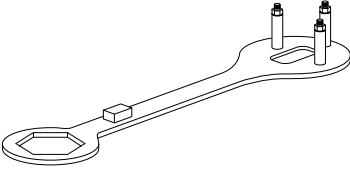
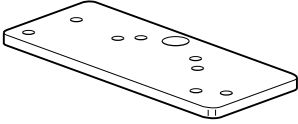
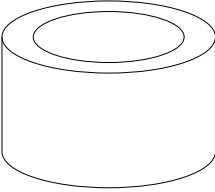
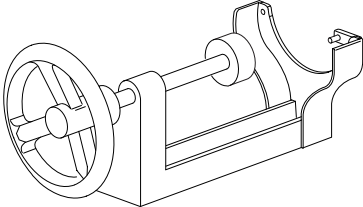
 Agip Grease 30

Or alternatively branded grease for revolving bearings with temperature range of -30 °C to +140 °C, dripping point 150 °C + 230 °C, with high protection and anti corrosion properties, good resistance to water and oxidation.

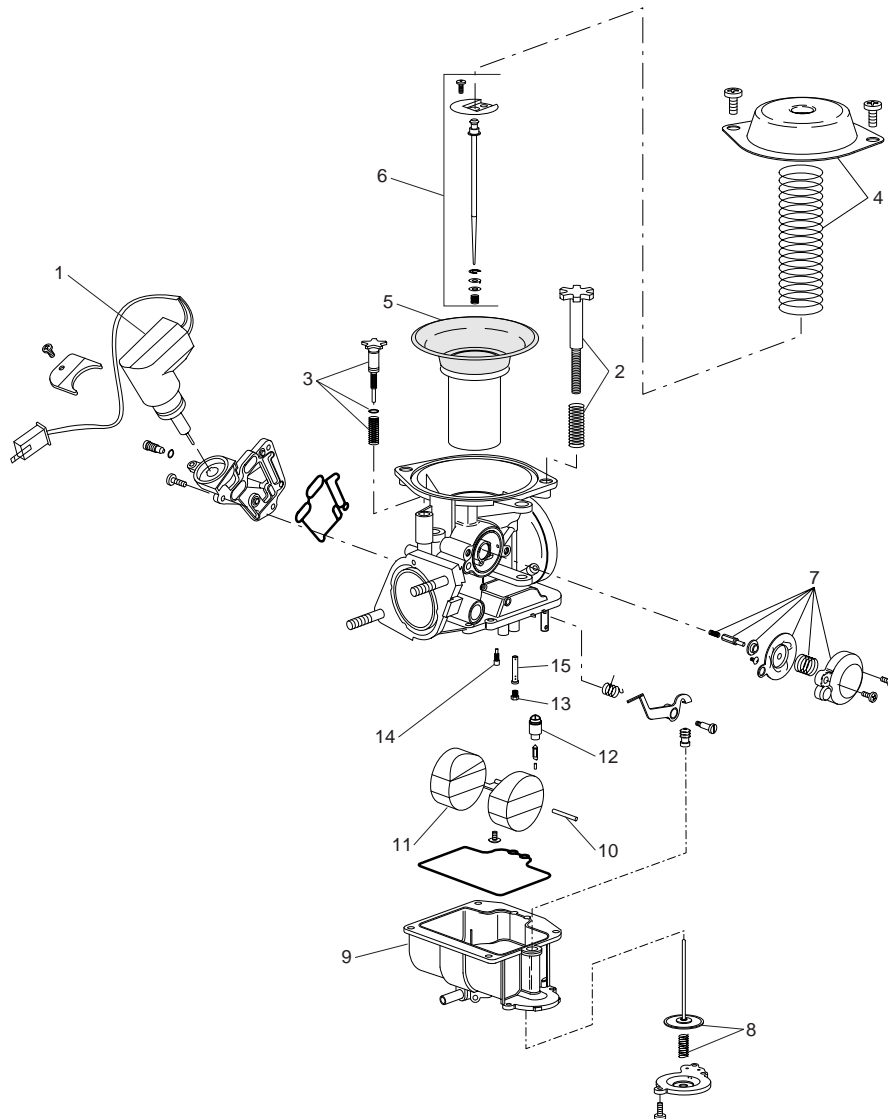
**Refrigeration liquid for the engine (recommended):**

 ECOBLU - 40°C or  Agip COOL

**SPECIAL ENGINE TOOLS**

Drawing	Tool code	Name/function
	<p><b>8140252</b></p>	<p>Multi-purpose tool for Yamaha 250/Piaggio/Leonardo for disassembly of the ignition clutch Unit.</p>
	<p><b>8140228</b></p>	<p>Plate for extracting the flywheel (YP 250 + Aprilia 50).</p>
	<p><b>8140393</b></p>	<p>Tool for protection of the drive shaft, flywheel side</p>
	<p><b>8140259</b></p>	<p>Tool for disassembly and assembly of clutch unit universal joints</p>

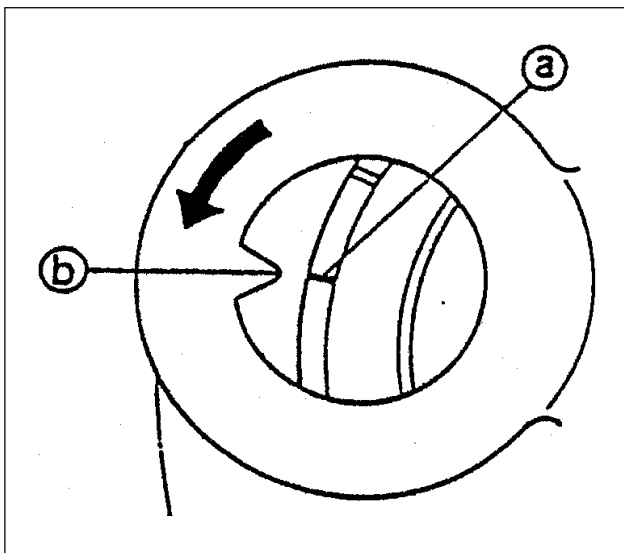
**CARBURETTOR**



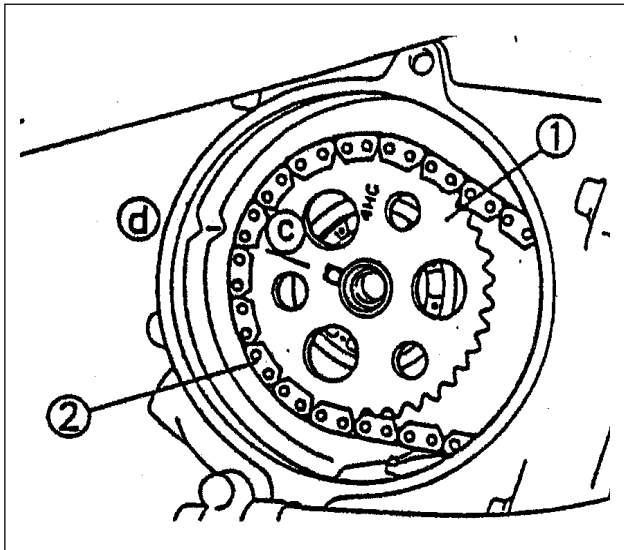
DISASSEMBLY SEQUENCE	ITEM NAME
1	Cold starter (automatic)
2	Accelerator block screw
3	Idling adjustment screw
4	Diaphragm cap/spring
5	Piston valve
6	Cone-shaped pin unit
7	Enrichment diaphragm
8	Acceleration pump
9	Float tank
10	Float pin
11	Float
12	Pin valve
13	Max. jet
14	Min. jet
15	Atomizer

ENGINE TIMING

SETTING THE ENGINE TIMING



Turn the primary pulley in anti-clockwise direction until point (a) is lined up with point (b).

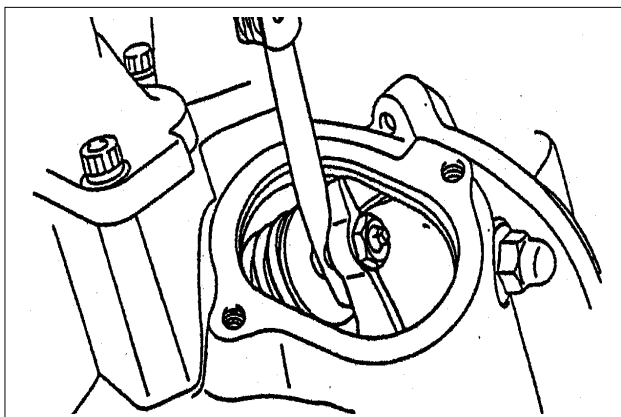


Line up point "c" on the camshaft pinion with point (d) on the cylinder head.

Fit the distribution chain to the camshaft pinion, make sure the distribution chain on the discharge side is as tight as possible.

**N.B.** When fitting the camshaft pinion, make sure the distribution chain on the discharge side is as tight as possible.

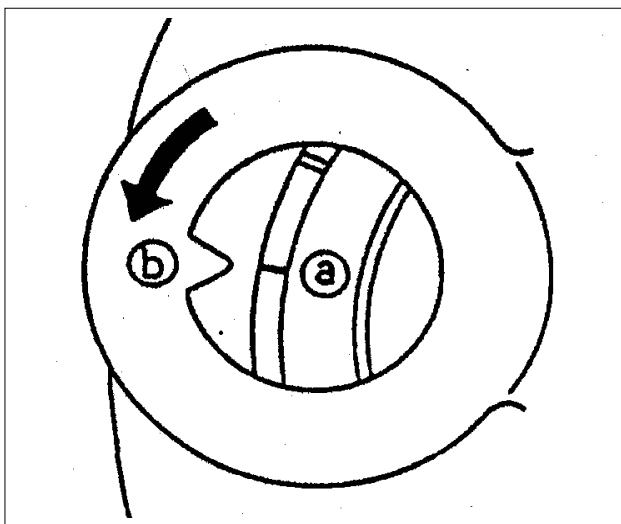
**ADJUSTING VALVE PLAY**



**VALVE PLAY** (cold)

**ASPIRATION** 0.08 – 0.12 mm

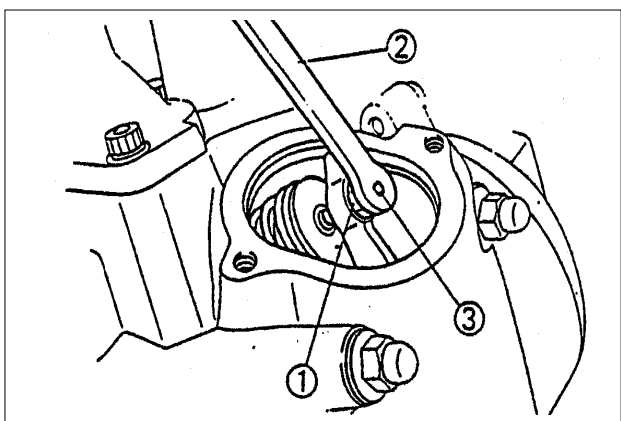
**DISCHARGE** 0.16 – 0.20 mm



**CONTROL PROCEDURE**

Turn the primary pulley in an anti-clockwise direction so that notch "a" on the rotor is lined up with point "b" on the engine cap when the piston is in the upper dead center position.

Measure valve play with a thickness gauge. Adjust if it is out of spec.



**ADJUSTMENT PROCEDURE**

Loosen the lock nut (1).

Tighten or loosen the adjuster (3) until the play is as specified.



**TECHNICAL OBSERVATIONS**

Communication no: <b>11 / 1999</b>	Info classification	Date: <b>29/04/99</b>	Page: <b>1/10</b>
------------------------------------	---------------------	-----------------------	-------------------

<b>Model:</b>  <b>New models 1999</b> <b>LEONARDO 250</b>	<b>Currently with: Signature</b>		
	Dealer manager		
<u>Re:</u>  <b>INFORMAZIONI UTILI PER LA MANUTENZIONE E L'ASSISTENZA</b> <b>NUOVI VEICOLI</b> <b>Ref. Training course ITP9901</b>	Workshop manager		
	Warranty manager		

**Technical information:** This document contains information about the 1999 models discussed during the recent IT NP 9901 training course.

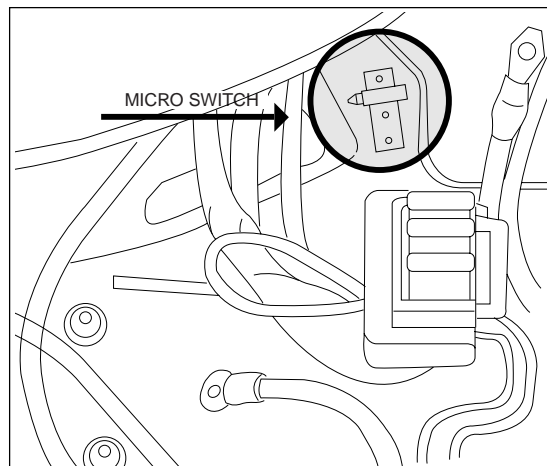
MODEL LEONARDO 250

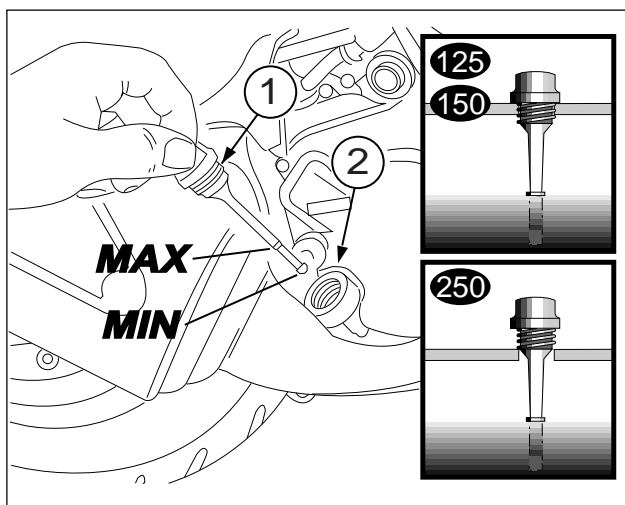
**OIL WARNING SERVICE LIGHT:**

The engine oil light on the Leonardo 250 is a service light. It is not connected to a pressure gauge and does not come on if the oil pressure goes down to a critical level.

The light comes on occasionally on the basis of engine drive shaft rotations as measured by the electronic pick-up. See the operations and maintenance handbook for details (chart shown on this fax).

To reset the light, press the hidden pushbutton under the saddle, on the right side of the battery housing, as shown in diagram 1. The operations and maintenance handbook DOES NOT include this information (it is therefore a service operation). Press the pushbutton until the light goes off.





How to check the OIL

For the Leonardo 125 e150, the oil level rod should be tightened.

For the Leonardo 250 the oil level rod should be as shown in the diagram.

For any further information contact Technical Services at the following numbers:

**Fax: \*\*39 - 041 - 5786260**

**Tel: \*\*39 - 041 - 5786262 / 6264**

**aprilia consumer service  
 Technical and Training Services  
 Santa Maria di Sala (Venice)**

Information: Technical communications are numbered in chronological order. File them in the same order. For back Numbers contact the numbers shown above.



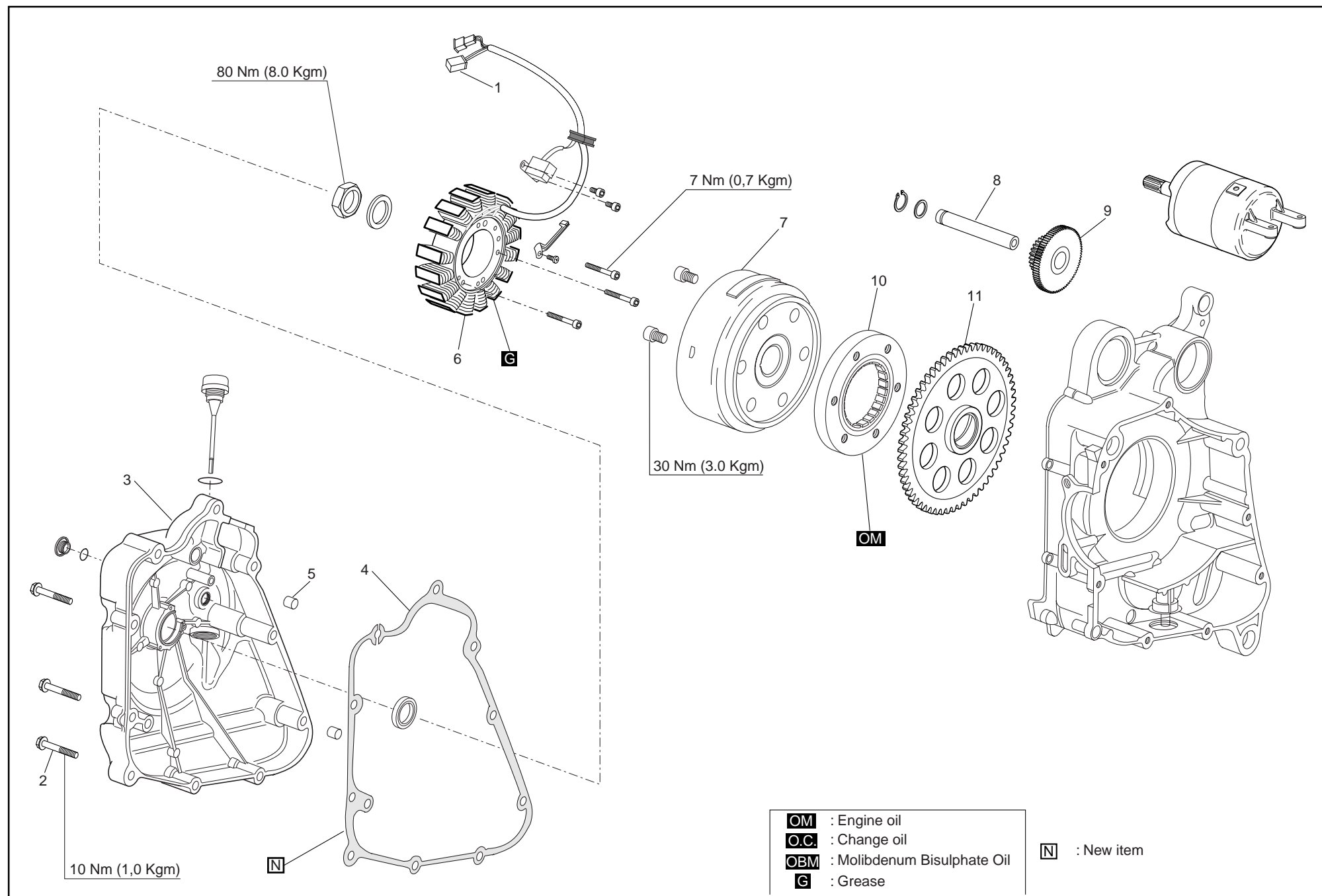




## DISASSEMBLY SEQUENCE

### GENERATOR C.A AND CLUTCH STARTER

- Disconnect the connectors (1)
- Remove the screws (2) and flywheel cap (3)
- Remove the gasket (4) and the centering pins (5)
- Remove the complete stator (6)
- Remove the rotor (7)
- Slide off the shaft (neutral gear) (8) and remove the neutral gear (9)
- Remove the free wheel (10) and free wheel gear (11)



## CHECKING WEAR LIMITS

Chart references	Component	Wear limit
6	Stator	Advance ignition: 10° at 1500 rpm 32° at 5000 rpm (max advance)
6	Pick - up	Resistance: 168-252 Ω between yellow and black at 20° C
6	Primary coil winding	Resistance: 3.6 – 4.8 Ω at 20° C
6	Secondary coil winding	Resistance: 10.7 – 14.5 KΩ at 20° C

### REASSEMBLY

Reverse the order of disassembly instructions, making sure tightening torques are correct, and all components requiring grease are greased or, if necessary, replaced with components specified in the table.

RELEASE 02 2000 - 05 YP 4T

GENERATOR  
TABLE 03

