PIAGGIO

WORKSHOP MANUAL

633225

Fly 125 - 150 4T

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PIAGGIO & C. S.p.A. - After-Sales
V.le Rinaldo Piaggio, 23 - 56025 PONTEDERA (Pi)

WORKSHOP MANUAL
Fly 125 - 150 4T

This workshop manual has been drawn up by Piaggio & C. Spa to be used by the workshops of Piaggio-Gilera dealers. This manual is addressed to Piaggio service mechanics who are supposed to have a basic knowledge of mechanics principles and of vehicle fixing techniques and procedures. Any important changes made to the vehicles or to specific fixing operations will be promptly reported by updates to this manual. Nevertheless, no fixing work can be satisfactory if the necessary equipment and tools are unavailable. It is therefore advisable to read the sections of this manual relating to specific tools, along with the specific tool catalogue.

N.B. Provides key information to make the procedure easier to understand and carry out.

CAUTION Refers to specific procedures to carry out for preventing damages to the vehicle.

WARNING Refers to specific procedures to carry out to prevent injuries to the repairer.

Personal safety Failure to completely observe these instructions will result in serious risk of personal injury.

Safeguarding the environment Sections marked with this symbol indicate the correct use of the vehicle to prevent damaging the environment.

Vehicle intactness The incomplete or non-observance of these regulations leads to the risk of serious damage to the vehicle and sometimes even the invalidity of the guarantee.

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INDEX OF TOPICS

Rules

This section describes general safety rules for any maintenance operations performed on the vehicle.

Safety rules

- If work can only be done on the vehicle with the engine running, make sure that the premises are well-ventilated, using special extractors if necessary; never let the engine run in an enclosed area. Exhaust fumes are toxic.
- The battery electrolyte contains sulphuric acid. Protect your eyes, clothes and skin. Sulphuric acid is highly corrosive; in the event of contact with your eyes or skin, rinse thoroughly with abundant water and seek immediate medical attention.
- The battery produces hydrogen, a gas that can be highly explosive. Do not smoke and avoid sparks or flames near the battery, especially when charging it.
- Fuel is highly flammable and it can be explosive given some conditions. Do not smoke in the working area, and avoid open flames or sparks.
- Clean the brake pads in a well-ventilated area, directing the jet of compressed air in such a way that you do not breathe in the dust produced by the wear of the friction material. Even though the latter contains no asbestos, inhaling dust is harmful.

Maintenance rules

- Use original PIAGGIO spare parts and lubricants recommended by the Manufacturer. Non-original or non-conforming spares may damage the vehicle.
- Use only the appropriate tools designed for this vehicle.
- Always use new gaskets, sealing rings and split pins upon refitting.
- After removal, clean the components using non-flammable or low flash-point solvent. Lubricate all the work surfaces except the tapered couplings before refitting.
- After refitting, make sure that all the components have been installed correctly and work properly.
- For removal, overhaul and refit operations use only tools with metric measures. Metric bolts, nuts and screws are not interchangeable with coupling members with English measurement. Using unsuitable coupling members and tools may damage the scooter.
- When carrying out maintenance operations on the vehicle that involve the electrical system, make sure the electric connections have been made properly, particularly the ground and battery connections.

Vehicle identification

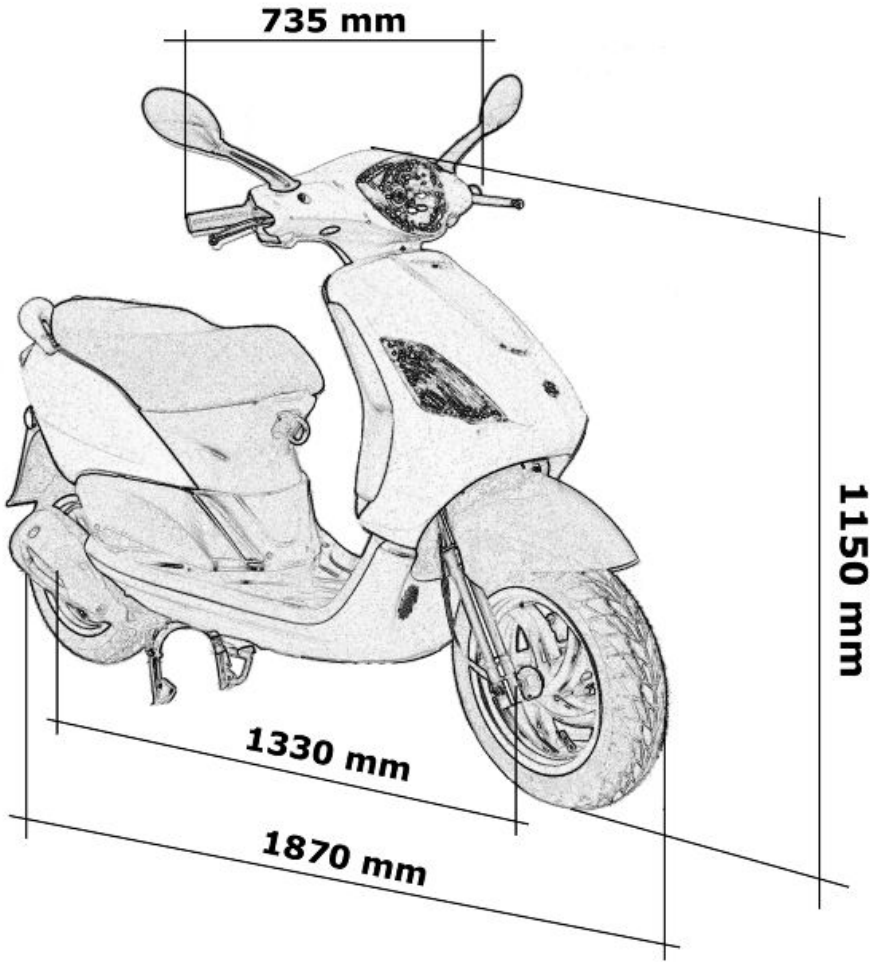
VEHICLE IDENTIFICATION

Specification	Desc./Quantity
Chassis prefix (125)	ZAPM42100 ÷ 1001
Engine prefix (125)	M421M ÷ 1001
Chassis prefix (150)	ZAPM42200 ÷ 1001
Engine prefix (150)	M422M ÷ 1001

Dimensions and mass

WEIGHT AND DIMENSIONS

Specification	Desc./Quantity
Dry weight	112 kg
Overall height	1150 mm
Seat height	785
Width	735
Wheel base	1330
Lenght	1870



Engine

ENGINE

Specification	Desc./Quantity
Engine	Single-cylinder, 4-stroke Piaggio LEADER
Timing system	Single overhead camshaft (SOHC) with 2 valves
Valve clearance	intake 0.10 outlet 0.15
Bore x stroke (125)	57 x 48.6 mm
Bore x stroke	62,6 x 48.6 mm
Cubic capacity (125)	124 cm^3
Cubic capacity	150,46 cm^3
Compression ratio (125)	10.6 : 1
Compression ratio	10.5: 1
Carburettor	KEIHIN CVEK26
Engine idle speed	approx. 1600 ÷ 1800 rpm
Start-up	Electric
Maximum power to crankshaft (125)	10.5 CV at 8000 rpm
Max. power	11.6 hp at 7750 rpm
Cooling	Forced air circulation.

Transmission

TRANSMISSION

Specification	Desc./Quantity
Transmission	With automatic expandable pulley variator with torque server, V belt, automatic clutch, gear reduction unit and transmission housing with forced air circulation cooling.

Capacities

CAPACITY

Specification	Desc./Quantity
Engine oil	61 in³ (1,000 cm³)
Rear hub oil	~ 200 cm³
Fuel tank capacity	~ 7.2 litres (of which 1.5 l is reserve)

Electrical system

ELECTRICAL COMPONENTS

Specification	Desc./Quantity
Start-up	Electric
Spark plug (125)	Champion RG6YC- NGK CR7EB
Spark plug	Champion RG6YC

Frame and suspensions

FRAME AND SUSPENSION

Specification	Desc./Quantity
Chassis	Steel tube chassis
Front suspension	Ø 32 Hydraulic telescopic fork - travel: 76 mm
Rear suspension	Single hydraulic shock-absorber with spring preload adjustable on 4 positions; 64 mm travel.

Brakes

BRAKE

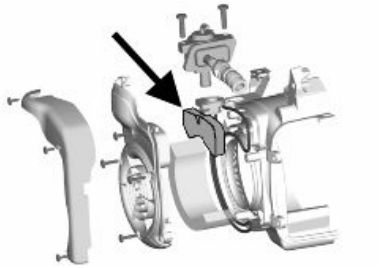
Specification	Desc./Quantity
Front brake	Disc brake (Ø 200 mm) with hydraulic control (lever on the far right of the handlebar) and floating calliper.
Rear brake	Ø 140 mm drum brake

Wheels and tyres

WHEELS AND TYRES

Specification	Desc./Quantity
Front wheel rim	Die-cast aluminium alloy; 3.50 x 12"
Front tyre	Tubeless 120/70-12"
Rear wheel rim	Die-cast aluminium alloy: 3.00"x12"
Rear tyre	Tubeless 120/70 - 12"
Front tyre pressure	1.8 bar
Rear tyre pressure	2 bar
Rear wheel pressure (rider and passenger):	2.3 bar

Secondary air



In order to reduce polluting emissions, the vehicle is furnished with a catalytic converter in the muffler.

To favour the catalytic process, an extra amount of oxygen is added via a secondary air system (SAS).

This system allows more oxygen to be added to the unburned gases before they reach the converter, thus improving the action of the catalytic converter.

The air enters the exhaust duct from the head, and is purified by a black filter.

The system is fitted with a control valve that disables operation while decelerating to avoid unwanted noise.

To ensure the best functioning of the SAS system, every 12,000 km the scooter should be taken to an **Authorised Piaggio Service Centre** to have the filter cleaned (Scheduled maintenance operations section).

The filter sponge should be cleaned with water and mild soap, then it should be dried with a cloth and slight blows of compressed air.

CAUTION

CONTACT AN AUTHORISED PIAGGIO SERVICE CENTRE TO CARRY OUT THESE OPERATIONS.

Carburettor

125cc Version

Kehin

CARBURETTOR SETTING

Specification	Desc./Quantity
Type	CVEK26
Throttle valve diameter	Ø 26.5
Diffuser diameter	Ø 26.4
Setting stamping	262A
Maximum jet	82
Maximum air jet (on the body)	85
Tapered pin stamping	NELA
Throttle valve spring	130 ÷ 180 gr.
Minimum jet	35
Idle air jet (on the body)	150
Idle mixture adjustment screw initial opening	1 ¾
Starter jet	42
Starter air jet (on the body)	Ø 1.5
Starter pin travel	10 mm (at 24°)
Starter resistance	20 Ohm (at 24°)

150cc Version

Kehin

CARBURETTOR SETTING

Specification	Desc./Quantity
Type	CVEK26
Throttle valve diameter	Ø 26.5
Diffuser diameter	Ø 26.4
Setting stamping	265A
Maximum jet	82
Maximum air jet (on the body)	85
Tapered pin stamping	NELA
Throttle valve spring	130 ÷ 180 gr.
Minimum jet	35
Idle air jet (on the body)	150
Idle mixture adjustment screw initial opening	1 ¾
Starter jet	42
Starter air jet (on the body)	Ø 1.5
Starter pin travel	10 mm (at 24°)

Specification	Desc./Quantity
Starter resistance	20 Ohm (at 24°)

Tightening Torques

LUBRICATION

Name	Torque in Nm
Hub oil drainage cap	15 ÷ 17
Oil filter	4 ÷ 6
Oil pump cover screws	5 - 6
Oil pump screws	5 - 6
Pump control pulley screw	10 ÷ 14
Chain cover screws	4 ÷ 6
Oil sump screws	10 ÷ 14
Minimum oil pressure sensor	12 ÷ 14
Blow-by recovery duct fixing screws	3 - 4

HEAD AND CYLINDER

Name	Torque in Nm
Ignition spark plug	12 ÷ 14
Head cover screws	11 ÷ 13
Nuts fixing head to cylinder (*)	28 ÷ 30
Head fixing screws (external)	11 ÷ 13
Starter ground screw	7 ÷ 8.5
Flywheel cover screw	1 ÷ 2
Flywheel air manifold screw	3 ÷ 4
Pressure reducer counterweight retainer	7 ÷ 8.5
Camshaft pulley screw	12 ÷ 14
Timing chain tensioner slider screw	10 ÷ 14
Starter ground support screw	11 ÷ 15
Tensioner screws	11 ÷ 13
Timing chain tensioner central screw	5 - 6
Camshaft retention plate screw	5 - 6
Nut fixing muffler to cylinder head	16 ÷ 18
Head intake manifold screw	11 ÷ 13

TRANSMISSION

Name	Torque in Nm
Drive pulley nut	75 ÷ 83
Transmission cover screw	11 ÷ 13
Driven pulley shaft nut	54 ÷ 60
Rear hub cap screw	24 ÷ 27
Clutch unit nut on driven pulley	45 ÷ 50

FLYWHEEL

Name	Torque in Nm
Flywheel fan screws	3 ÷ 4
Stator assembly screws (°)	3 ÷ 4
Flywheel nut	52 ÷ 58
Pick-up screw	3 ÷ 4

(°) Apply LOCTITE 243 threadlock

CRANKCASE AND CRANKSHAFT

Name	Torque in Nm
Internal engine crankcase bulkhead (transmission-side half shaft) screws	4 ÷ 6
Oil filter on crankcase fitting	27 ÷ 33
Rear brake cam tightening screw	11 ÷ 13
Engine-crankcase coupling screws	11 ÷ 13
Pre-filter cap	24 ÷ 30
Starter motor fixing screw	11 ÷ 13
Muffler to crankcase fixing screws	24 ÷ 27
Engine oil drainage cap	24 ÷ 30

STEERING ASSEMBLY

Name	Torque in Nm
Steering upper ring nut	35 ÷ 40
Steering lower ring nut	8 ÷ 10
Handlebar fixing screw	50 ÷ 55

FRAME

Name	Torque in Nm
Engine arm bolt - frame arm	33 ÷ 41
Engine-swinging arm bolt	33 ÷ 41
Frame arm-engine arm bolt	60 ÷ 64
Centre stand pin	32 ÷ 40
Bolts mounting rocker arm silent-block	36 ÷ 44

FRONT SUSPENSION

Name	Torque in Nm
Lower fork fixing screw	15 ÷ 20
Front wheel axle nut	45 - 50

FRONT BRAKE

Name	Torque in Nm
Brake fluid pump - hose fitting	16 ÷20 Nm
Brake fluid tube- calliper fitting	19 ÷ 24
Calliper tightening screw	24 ÷ 27
Disc tightening screw	8 ÷ 10
Oil bleed screw	7 ÷ 10

REAR SUSPENSION

Name	Torque in Nm
Rear wheel axle	104 ÷ 126
Lower shock absorber clamp	33 ÷ 41
Shock absorber/frame nut:	20 ÷ 25
shock absorber to crankcase clamping bracket	20 - 25

Overhaul data

Assembly clearances

Cylinder - piston assy.

Version 150

COUPLING BETWEEN (AXIS-WERKE) PISTON AND CYLINDER (150)

Name	Initials	Cylinder	Piston	Play on fitting
Coupling	A	62.580 ÷ 62.587	62.533 ÷ 62.540	0.040 ÷ 0.054
Coupling	B	62.587 ÷ 62.594	62.540 ÷ 62.547	0.040 ÷ 0.054
Coupling	C	62.594 ÷ 62.601	62.547 ÷ 62.554	0.040 ÷ 0.054
Coupling	D	62.601 ÷ 62.608	62.554 ÷ 62.561	0.040 ÷ 0.054
Coupling 1st over-size	A1	62.780 ÷ 62.787	62.733 ÷ 62.740	0.040 ÷ 0.054
coupling 1st over-size	B1	62.787 ÷ 62.794	62.740 ÷ 62.747	0.040 ÷ 0.054
Coupling 1st over-size	C1	62.794 ÷ 62.801	62.747 ÷ 62.754	0.040 ÷ 0.054
Coupling 1st over-size	D1	62.801 ÷ 62.808	62.754 ÷ 62.761	0.040 ÷ 0.054
Coupling 2nd over-size	A2	62.980 ÷ 62.987	62.933 ÷ 62.940	0.040 ÷ 0.054
Coupling 2nd over-size	B2	62.987 ÷ 62.994	62.940 ÷ 62.947	0.040 ÷ 0.054
Coupling 2nd over-size	C2	62.994 ÷ 63.001	62.947 ÷ 62.954	0.040 ÷ 0.054
Coupling 2nd over-size	D2	63.001 ÷ 63.008	62.954 ÷ 62.961	0.040 ÷ 0.054
Coupling 3rd over-size	A3	63.180 ÷ 63.187	63.133 ÷ 63.140	0.040 ÷ 0.054
Coupling 3rd over-size	B3	63.187 ÷ 63.194	63.140 ÷ 63.147	0.040 ÷ 0.054
Coupling 3rd over-size	C3	63.194 ÷ 63.201	63.147 ÷ 63.154	0.040 ÷ 0.054
Coupling 3rd over-size	D3	63.201 ÷ 63.208	63.154 ÷ 63.161	0.040 ÷ 0.054

COUPLING BETWEEN (RIGHT WAY) PISTON AND CYLINDER (150)

Name	Initials	Cylinder	Piston	Play on fitting
Coupling	A	62.580 ÷ 62.587	62.541 ÷ 62.548	0.032 ÷ 0.046
Coupling	B	62.587 ÷ 62.594	62.548 ÷ 62.555	0.032 ÷ 0.046
Coupling	C	62.594 ÷ 62.601	62.555 ÷ 62.562	0.032 ÷ 0.046
Coupling	D	62.601 ÷ 62.608	62.562 ÷ 62.569	0.032 ÷ 0.046

COUPLING BETWEEN PISTON AND ALUMINIUM CYLINDER WITH CAST IRON LINER (125)

Name	Initials	Cylinder	Piston	Play on fitting
Coupling	A	56.980 ÷ 56.987	56.933 ÷ 56.940	0.040 - 0.054
Coupling	B	56.987 ÷ 56.994	56.940 ÷ 56.947	0.040 - 0.054
Coupling	C	56.994 ÷ 57.001	56.947 ÷ 56.954	0.040 - 0.054
Coupling	D	57.001 ÷ 57.008	56.954 ÷ 56.961	0.040 - 0.054
Coupling 1st increase	A1	57.180 ÷ 57.187	57.133 ÷ 57.140	0.040 - 0.054

Name	Initials	Cylinder	Piston	Play on fitting
Coupling 1st increase	B1	57.187 ÷ 57.194	57.140 ÷ 57.147	0.040 - 0.054
Coupling 1st increase	C1	57.194 ÷ 57.201	57.147 ÷ 57.154	0.040 - 0.054
Coupling 1st increase	D1	57.201 ÷ 57.208	57.154 ÷ 57.161	0.040 - 0.054
Coupling 2nd increase	A2	57.380 ÷ 57.387	57.333 ÷ 57.340	0.040 - 0.054
Coupling 2nd increase	B2	57.387 ÷ 57.394	57.340 ÷ 57.347	0.040 - 0.054
Coupling 2nd increase	C2	57.394 ÷ 57.401	57.347 ÷ 57.354	0.040 - 0.054
Coupling 2nd increase	D2	57.401 ÷ 57.408	57.354 ÷ 57.361	0.040 - 0.054
Coupling 3rd oversize	A3	57.580 ÷ 57.587	57.533 ÷ 57.540	0.040 - 0.054
Coupling 3rd oversize	B3	57.587 ÷ 57.594	57.540 ÷ 57.547	0.040 - 0.054
Coupling 3rd oversize	C3	57.594 ÷ 57.601	57.547 ÷ 57.554	0.040 - 0.054
Coupling 3rd oversize	D3	57.601 ÷ 57.608	57.554 ÷ 57.561	0.040 - 0.054

PISTON TO CAST IRON CYLINDER COUPLING (125)

Name	Initials	Cylinder	Piston	Play on fitting
Coupling	M	56.997 ÷ 57.004	56.944 ÷ 56.951	0.046 ÷ 0.060
Coupling	N	57.004 ÷ 57.011	56.951 ÷ 56.958	0.046 ÷ 0.060
Coupling	O	57.011 ÷ 57.018	56.958 ÷ 56.965	0.046 ÷ 0.060
Coupling	P	57.018 ÷ 57.025	56.965 ÷ 56.972	0.046 ÷ 0.060
Coupling 1st oversize	M1	57.197 ÷ 57.204	57.144 ÷ 57.151	0.046 ÷ 0.060
Coupling 1st oversize	N1	57.204 ÷ 57.211	57.151 ÷ 57.158	0.046 ÷ 0.060
Coupling 1st oversize	O1	57.211 ÷ 57.218	57.158 ÷ 57.165	0.046 ÷ 0.060
Coupling 1st oversize	P1	57.218 ÷ 57.225	57.165 ÷ 57.172	0.046 ÷ 0.060
Coupling 2nd oversize	M2	57.397 ÷ 57.404	57.344 ÷ 57.351	0.046 ÷ 0.060
Coupling 2nd oversize	N2	57.404 ÷ 57.411	57.351 ÷ 57.358	0.046 ÷ 0.060
Coupling 2nd oversize	O2	57.411 ÷ 57.418	57.358 ÷ 57.365	0.046 ÷ 0.060
Coupling 2nd oversize	P2	57.418 ÷ 57.425	57.365 ÷ 57.372	0.046 ÷ 0.060
Coupling 3rd oversize	M3	57.597 ÷ 57.604	57.544 ÷ 57.551	0.046 ÷ 0.060
Coupling 3rd oversize	N3	57.604 ÷ 57.611	57.551 ÷ 57.558	0.046 ÷ 0.060
Coupling 3rd oversize	O3	57.611 ÷ 57.618	57.558 ÷ 57.565	0.046 ÷ 0.060
Coupling 3rd oversize	P3	57.618 ÷ 57.625	57.565 ÷ 57.572	0.046 ÷ 0.060

Piston rings

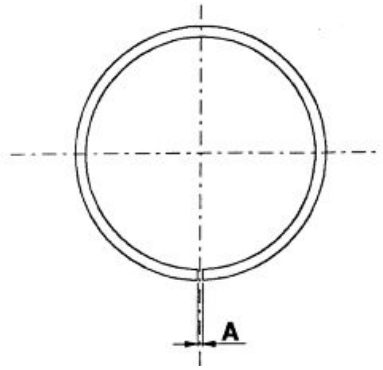
SEALING RINGS (125)

Name	Description	Dimensions	Initials	Quantity
Compression ring		57 x 1	A	0.15 ÷ 0.30
Oil scraper ring		57x1	A	0.10 ÷ 0.30
Oil scraper ring		57x2.5	A	0.10 ÷ 0.35
Compression ring 1st oversize		57.2 x 1	A	0.15 ÷ 0.30
Oil scraper ring 1st oversize		57.2x1	A	0.10 ÷ 0.30
Oil scraper ring 1st oversize		57.2x2.5	A	0.10 ÷ 0.35
Compression ring 2nd oversize		57.4x1	A	0.15 ÷ 0.30
Oil scraper ring 2nd oversize		57.4x1	A	0.10 ÷ 0.30
Oil scraper ring 2nd oversize		57.4x2.5	A	0.10 ÷ 0.35
Compression ring 3rd oversize		57.6x1	A	0.15 ÷ 0.30
Oil scraper ring 3rd oversize		57.6x1	A	0.10 ÷ 0.30
Oil scraper ring 3rd oversize		57.6x2.5	A	0.10 ÷ 0.35

Maximum clearance after use: 1 mm

SEALING RINGS (150)

Name	Description	Dimensions	Initials	Quantity
Compression ring		62.6x1	A	0.15 ÷ 0.30
Oil scraper ring		62.6x1	A	0.20 ÷ 0.40
Oil scraper ring		62.6x2.5	A	0.20 ÷ 0.40
Compression ring 1st oversize		62.8x1	A	0.15 ÷ 0.30
Oil scraper ring 1st oversize		62.8x1	A	0.20 ÷ 0.40
Oil scraper ring 1st oversize		62.8x2.5	A	0.20 ÷ 0.40
Compression ring 2nd oversize		63.0 x 1	A	0.15 ÷ 0.30
Oil scraper ring 2nd oversize		63.0 x 1	A	0.20 ÷ 0.40
Oil scraper ring 2nd oversize		63.0 x 2.5	A	0.20 ÷ 0.40
Compression ring 3rd oversize		63.2 x 1	A	0.15 ÷ 0.30
Oil scraper ring 3rd oversize		63.2 x 1	A	0.20 ÷ 0.40
Oil scraper ring 3rd oversize		63.2 x 2.5	A	0.20 ÷ 0.40



Crankcase - crankshaft - connecting rod

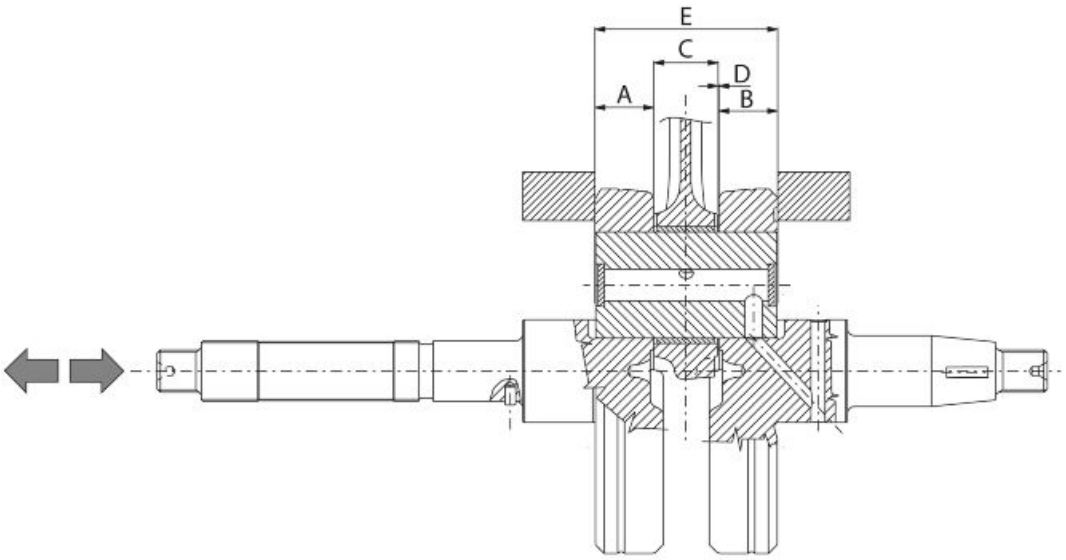
AXIAL CLEARANCE BETWEEN CRANKSHAFT AND CONNECTING ROD

Name	Description	Dimensions	Initials	Quantity
Half-shaft, transmission side		16.6 +0-0.05	A	D = 0.20 - 0.50
Flywheel-side half-shaft		16.6 +0-0.05	B	D = 0.20 - 0.50
Connecting rod with PP		18 -0.10 -0.15	C	0.20 ÷ 0.50
Crank pin width		51.400	E	

AXIAL CLEARANCE BETWEEN CRANKSHAFT AND CRANKSHAFT HALF-BEARINGS

Name	Description	Dimensions	Initials	Quantity
Crankshaft			Category 1	28.998 ÷ 29.004
Crankshaft			Class 2	29.004 ÷ 29.010
Crankcase			Category 1	32.953 ÷ 32.959
Crankcase			Category 2	32.959 ÷ 32.965
Crankshaft half-bearing			Category B - blue	1.973 ÷ 1.976
Crankshaft half-bearing			Type C - yellow	1.976 ÷ 1.979
Crankshaft half-bearing			Category E - green	1.979 ÷ 1.982
Crankshaft category 1 - Crankcase category 1			E - E	
Crankshaft category 1 - Crankcase category 2			C - C	
Crankshaft category 2 - Crankcase category 1			C - C	
Crankshaft category 2 - Crankcase category 2			B - B	

Crankshaft/crankcase axial clearance: 0.15 ÷ 0.40



Slot packing system

- Provisionally fit the piston into the cylinder, without any base gasket.
- Fit a dial gauge on the specific tool
- Set the dial gauge to zero at a contrast plane with an average precharge, for example 5 mm. Keeping the zero setting position, fit the tool on the cylinder and lock it with 2 nuts, as shown in the figure.
- Rotate the crankshaft until TDC (the inverted point of the dial gauge rotation)
- Calculate the difference between the two measurements: use the chart below to identify the thickness of the cylinder base gasket to be used for refitting. By correctly identifying the cylinder base gasket thickness, an adequate compression ratio is maintained.
- Remove the specific tool and the cylinder.

Characteristic

Compression ratio (125)

10.6 : 1

Compression ratio

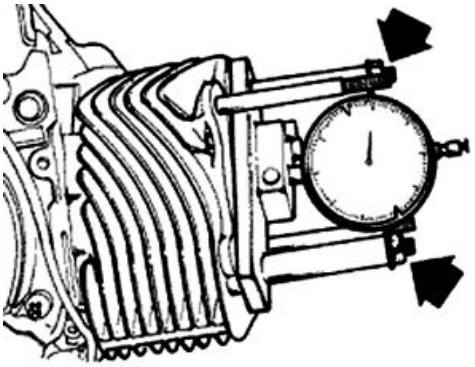
10.5: 1

SHIMMING SYSTEM (125)

Specification	Desc./Quantity
Value measured	0 ÷ 0.1
Thickness	0.8 ± 0.05
Value measured	0.1 ÷ 0.3
Thickness	0.6 ± 0.05
Value measured	0.3 - 0.4
Thickness	0.4 ± 0.05

SHIMMING SYSTEM (150)

Specification	Desc./Quantity
Value measured	1 ÷ 1.1
Thickness	0.8 ± 0.05
Value measured	1.1 ÷ 1.3
Thickness	0.6 ± 0.05
Value measured	1.3 ÷ 1.4
Thickness	0.4 ± 0.05



Products

TABLE OF RECOMMENDED PRODUCTS

Product	Description	Specifications
AGIP ROTRA 80W-90	rear oil hub	SAE 80W/90 Oil that exceeds the requirements of API GL3 specifications
AGIP CITY HI TEC 4T	Oil to lubricate flexible transmissions (brakes, throttle control and odometer)	Oil for 4-stroke engines
AGIP FILTER OIL	Oil for air filter sponge	Mineral oil with specific additives for increased adhesiveness
AGIP GP 330	Grease (brake control levers, throttle grip)	Calcium complex soap-based grease with NLGI 2; ISO-L-XBCIB2
AGIP CITY HI TEC 4T	Engine oil	SAE 5W-40, API SL, ACEA A3, JASO MA Synthetic oil
AGIP GREASE MU3	Grease for odometer transmission gear case	Soap-based lithium grease with NLGI 3; ISO-L-XBCHA3, DIN K3K-20

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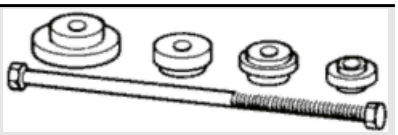
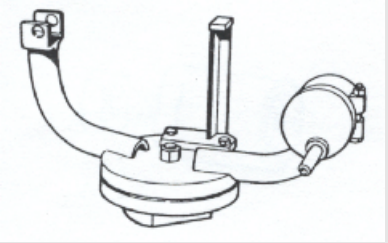
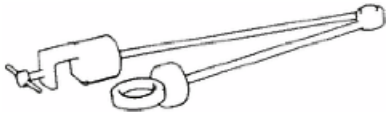
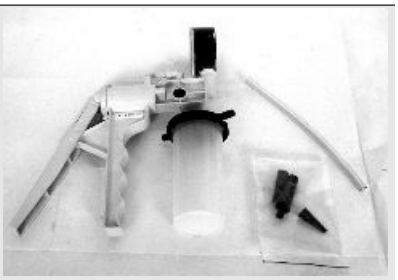
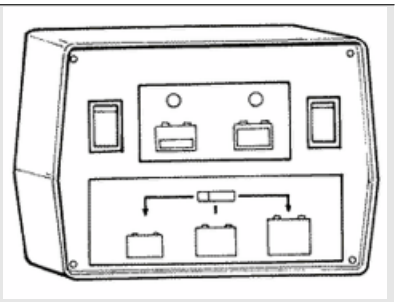
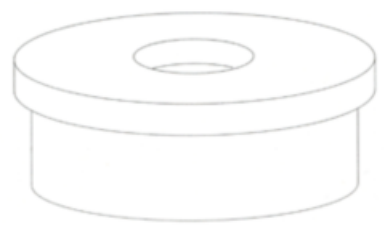
TOOLS

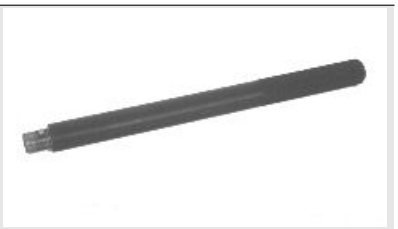
Stores code	Description	
001330Y	Tool for fitting steering seats	
001467Y009	Driver for OD 42 mm bearings	
001467Y013	Pliers to extract ø 15-mm bearings	
002465Y	Pliers for circlips	
005095Y	Engine support	
008564Y	Flywheel extractor	

Stores code	Description	
020004Y	Punch for removing fifth wheels from headstock	
020055Y	Wrench for steering tube ring nut	
020074Y	Support base for checking crank-shaft alignment	
020150Y	Air heater support	
020151Y	Air heater	
020193Y	Oil pressure gauge	

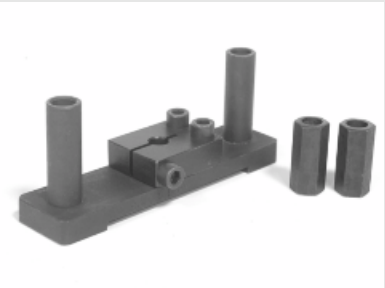
Stores code	Description	
020262Y	Crankcase splitting strip	
020263Y	Sheath for driven pulley fitting	
020287Y	Clamp to assemble piston on cylinder	
020306Y	Punch for assembling valve seal rings	
020329Y	MityVac vacuum-operated pump	
020330Y	Stroboscopic light for timing control	

Stores code	Description	
020331Y	Digital multimeter	
020332Y	Digital rev counter	
020333Y	Single battery charger	
020334Y	Multiple battery charger	

Stores code	Description	
020335Y	Magnetic support for dial gauge	
020357Y	32 x 35 mm adaptor	
020359Y	42x47-mm adaptor	
020360Y	Adaptor 52 x 55 mm	
020363Y	20 mm guide	
020364Y	25-mm guide	

Stores code	Description	
020368Y	driving pulley lock wrench	
020375Y	Adaptor 28 x 30 mm	
020376Y	Adaptor handle	
020382Y011	adapter for valve removal tool	
020409Y	Multimeter adaptor - Peak voltage detection	

Stores code	Description	
020412Y	15 mm guide	
020414Y	28-mm guide	
020423Y	driven pulley lock wrench	
020424Y	Driven pulley roller casing fitting punch	
020425Y	Punch for flywheel-side oil seal	
020426Y	Piston fitting fork	

Stores code	Description	
020427Y	Piston fitting band	
020428Y	Piston position check support	
020430Y	Pin lock fitting tool	
020431Y	Valve oil seal extractor	
020434Y	Oil pressure control fitting	
020444Y	Tool for fitting/ removing the driven pulley clutch	

Stores code	Description	
020565Y	Flywheel lock calliper spanner	
020622Y	Transmission-side oil guard punch	
494929Y	Exhaust fumes analyser	
020625Y	Kit for sampling gas from the exhaust manifold