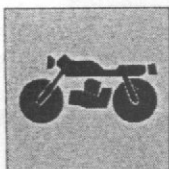


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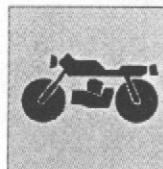
**A**





## GENERAL

Engine .....	A.7
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Lubrication .....	A.7
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Ignition .....	A.7
Starting .....	A.7
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**ENGINE**

Single-cylinder, two-stroke engine, with lamellar suction and electronic control C.T.S. valve on the exhaust system.

Bore .....	2.204 in.
Stroke .....	1.992 in.
Capacity .....	7.602 cu.in.
Compression ratio (with closed lights) .....	6,3:1

**FUEL FEEDING**

Intake setting by lamellar valve.

**DISTRIBUTION DIAGRAM**

TRANSFER: ..... 124°

**EXHAUST:**

With closed valve ..... 170°

With open valve ..... 192°

Carburetor ..... Dell'Orto PHBH 28 RD

**LUBRICATION****ENGINE**

Through variable delivery pump.

**SHIFTING and MAIN TRANSMISSION**

Through the oil contained in the engine block.

**COOLING**

With liquid circulation through a pump.

Big bent radiator, constrained to the frame.

**IGNITION**

Electronic.

Make ..... KOKUSAN

Ignition advance: ..... 14° 30' before T.D.C.  
(corresponding to 0.039 in. of piston stroke before T.D.C.)

Spark plug ..... type CHAMPION N2C

Electrode gap ..... 0.019 in.

**STARTING**

Electric.

**TRANSMISSION**

Cluster constant-mesh gears.

Primary ratio ..... Z 20/65=1:3.25

**Gear ratios**

1st ..... 2,727

2nd ..... 1,857

3rd ..... 1,411

4th ..... 1,142

5th ..... 0,956

6th ..... 0,863

7th ..... 0,818

Final drive ratio ..... Z 14/43=1:3,071

Gearing chain ..... 5/8"x1/4"

**Total ratios**

1st ..... 27,224

2nd ..... 18,538

3rd ..... 14,092

4th ..... 11,408

5th ..... 9,548

6th ..... 8,621

7th ..... 8,167

Oil-bath multi-disc clutch type.

**BRAKES****Front brake**

Perforated fixed disc, with hydraulic control and floating caliper.

Disc diameter ..... 12.59 in.

Brake caliper ..... BREMBO

Pad area ..... 6.076 sq.in.

**Rear brake**

Perforated fixed disc, with hydraulic control and fixed caliper.

Disc diameter ..... 9.055 in.

Brake caliper ..... BREMBO

Pad area ..... 3.41 sq.in.

**FRAME**

Double cross-member with extruded tubular and aluminium melted parts; rear tailpiece with square steel pipes.

Steering angle ..... 30° for side

Steering axis angle ..... 25°

Front fork caster ..... 3.858 in.

**SUSPENSIONS****Front suspension**

Tele-hydraulic fork with possible adjustment of the inner spring preload.

Producer ..... MARZOCCHI

Legs diameter ..... 1.496 in.

Front wheel bump position (on the sliding axis) ..... 4.842 in.

**Rear suspension**

Light alloy floating fork with "banana" shaped R.H. arm. Progressive leverage suspension (SOFT DAMP system) and hydraulic mono-damper with helical spring. The spring preload can be adjusted.

Damper make ..... MARZOCCHI

Rear wheel vertical travel ..... 5.255 in.

**WHEELS**

Three-spoke light alloy **front** rim.

Make ..... GRIMECA

Dimensions ..... 2,75"x17"

Three-spoke light alloy **rear** rim.

Make ..... GRIMECA

Dimensions ..... 4,00"x17"

**TYRES****Front (\*)**

Manufacturer and type ..... PIRELLI TUBELESS MT75

Dimensions ..... 100/80-17"

or:

Manufacturer and type ..... MICHELIN TUBELESS RADIAL

Dimensions ..... 110/70-17"

Inflation pressure (in cold condition)

driver only ..... <sup>26</sup> 2,0 bar PIRELLI; 1,9 bar MICHELIN

with passenger ..... <sup>30</sup> 2,1 bar PIRELLI; 2,0 bar MICHELIN

<sup>28</sup>



**Rear (\*)**

Manufacturer and type ..... PIRELLI TUBELESS MT75

Dimensions ..... 140/70-S17"

or:

Manufacturer and type ..... MICHELIN TUBELESS RADIAL

Dimensions ..... 150/60-ZR17"

Inflation pressure (in cold condition)

driver only ..... 2,1 bar PIRELLI; 2,0 bar MICHELIN

with passenger ..... 2,3 bar PIRELLI; 2,2 bar MICHELIN

(\*) In alternative, **PIRELLI** and **MICHELIN** on model without fairing.  
**MICHELIN** on model with fairing.

**ELECTRIC SYSTEM**

The ignition system is composed by:

- Generator: 12V-120W for a full battery recharge;
- Starting motor 12V-500W;
- Electronic coil;
- Electronic device;
- Voltage rectifier;
- Solenoid starter;
- Starting control system;
- Ignition spark plug.

The electronic control of the exhaust valve is composed by the following parts:

- Opening valve control system;
- Valve control motor 12V-3,3 W.

The components of the electric system are:

- Double headlight with bilux lamps 12V-25/25W and parking light bulbs 12V-5W;
- Dashboard with instruments bulbs 12V-2W and warning lights 12V-1,2W;
- Blinker with bulb 12V-10W;
- Battery 12V-9A;
- NO. 4 fuses 15A, two spare-fuses;
- Tail light with stop light 12V-21 W and parking light bulb 12V-5W.

**PERFORMANCES**

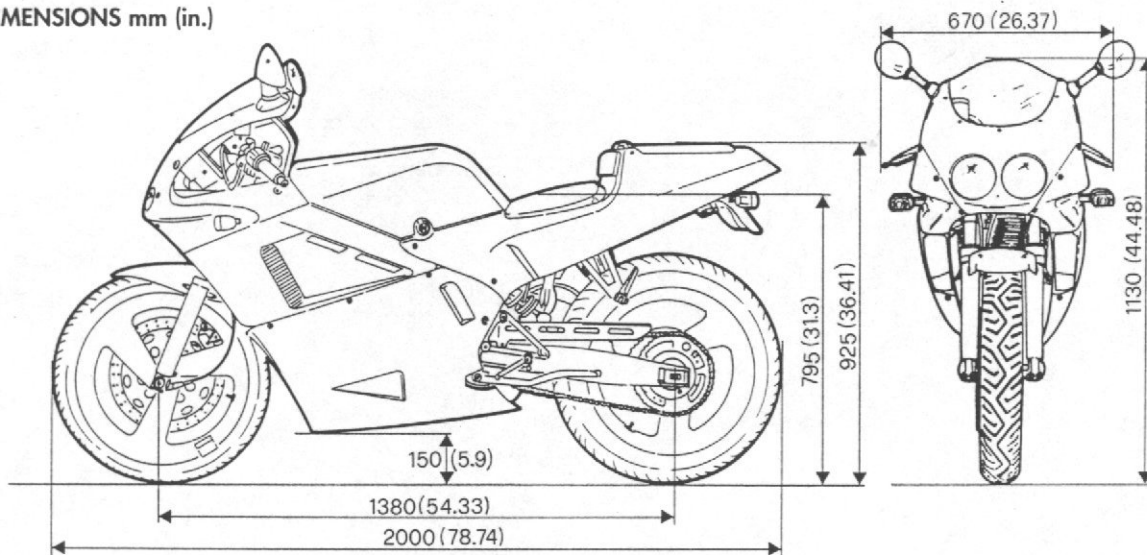
Max. actual speed ..... 96.1 mile/h

Fuel average consumption ..... 9.3 mile/l

**WEIGHTS**

Total dry weight (model with fairing) ..... 266.75 lb.

Total dry weight (model without fairing) ..... 259.04 lb.

**OVERALL DIMENSIONS mm (in.)****SUPPLY****TYPE****QUANTITY  
(liters)**

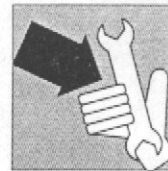
Fuel tank	Super fuel 98-100 ON (min)	18
Reserve	(warning lamp comes ON)	4
Fuel mixture oil	AGIP 2T RACING PLUS	1
Change gear and main transmission oil	AGIP F.1 SUPERMOTOROIL SAE 15W50	0,800
Front fork oil	Specific "MARZOCCHI" SAE 7,5	(see page I.5)
Cooling system fluid	AGIP NUOVO PERMANENT EXTRA	1,5
Hydraulic brake fluid	AGIP BRAKE FLUID DOT 4	—
Drive chain lubrication	AGIP CHAIN AND DRIVE SPRAY	—
Flexible connections	AGIP GREASE 30	—



**REMARK** - At temperature lower than  $-5^{\circ}\text{C}$  fill up the fuel tank with 1% mixture rather than petrol only.



**WARNING!** - Use of additives in fuel or lubricants is not allowed.



Section

**B**







	Mileage																
	1000	1500	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	14000	15000	16000
Spark plug	CP				CP	S			CP		S			CP		S	
Gearbox oil	S				C		S			C		S			C		S
Air filter						P					P					P	
Carburettor						P					PC					P	
Cleaning of exhaust opening, valve						P					P (*)					P	
Cleaning of combustion chamber, piston, piston rings						P					P					P	
Clutch assembly	C				C			C			C			C			C
Tyres	C				C			C			C			C			C
Hydraulic brake fluid	C		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Braking system											X						
Pad wearing				C			C			C			C			C	
Nuts and bolts locking	C				C			C			C			C			C
Speedometer cable drive				L			L			L			L			L	
Flexible drives				CL			CL			CL			CL			CL	
Side leg axis						L					L					L	
Fuel and oil tanks											P					P	
Oil filters						P					P					P	
Fuel filters and pipes	P					P					P					P	
Steering column bearings	C											C					
Wheel hub bearings											C						
Front fork oil											S						
Sprocket, crown gear	C					C					S					C	
Secondary transmission chain	CL		CL	CL	CL	CL	CL	CL	CL	CL	S	CL	CL	CL	CL	CL	CL
Chain tensioner				L			L			L			L			L	
Throttle control	C				CL			CL			CL			CL			CL
Cooling fluid		C		C		C		C		C	S		C		C		C

P = Cleaning.


C = Check and eventually adjust.


L = Lubrication.

S = Replacement.

X = Air bleeding, checking of disc wearing.

(\*) = Replace the exhaust valve (replacement should be made every 10,000 km).

 Operations suggested at 1000 and 3000 Kms. are mentioned on Service Coupons included in the Maintenance and Warranty booklet.

 After the first 1.000 Km, check the driving torque of the rotor fastening nut which must be: 6,7 + 7,1 Kgm (65,7 + 70 Nm).

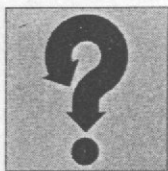




Section

C





## ENGINE

Trouble	Cause	Remedy
Engine won't start or starts with difficulty	<b>Inadequate compression</b>	
	1. Piston seizure	Replace
	2. Con-rod small or big end seized	Replace
	3. Piston rings worn	Replace
	4. Cylinder worn	Replace
	5. Low torque cylinder head nuts	Tighten to correct torque settings
	6. Spark plug loose	Tighten
	<b>No or weak spark</b>	
	1. Spark plug faulty	Replace
	2. Spark plug dirty or wet	Clean or dry
	3. Spark plug gap too large	Adjust
	4. Ignition coil faulty	Replace
	5. H.T. leads damaged or short circuiting	Check
	6. Ignition switch faulty	Replace
	<b>Fuel not reaching carburettor</b>	
	1. Tank breather pipe clogged	Clean
Engine cuts out easily	2. Automatic cock locked	Replace
	3. Vacuum piping clogged	Clean
	4. Carburettor fuel filter dirty	Clean
	5. Float valve faulty	Replace
	6. Rocker blocking float valve	Free
	<b>Carburettor flooding</b>	
	1. High fuel level in float bowls	Adjust
	2. Float valve worn or stuck open	Replace or free
	1. Spark plug dirty	Clean
	2. Electronic control unit faulty	Replace
	3. Carburettor jets blocked	Clean
Engine noisy	<b>Piston noise</b>	
	1. Excessive play between piston and cylinder	Replace
	2. Excessive coke in combustion chamber or on piston crown	Clean
	3. Piston rings or ring seats worn	Replace
	<b>Crankshaft noise</b>	
	1. Main bearings worn	Replace
	2. High radial and axial play at con-rod big end	Replace
	3. The countershaft is not installed properly	Arrange it right
	4. Drive shaft and countershaft gears are damaged	Replace them
	<b>Clutch noise</b>	
	1. Plates worn	Replace
	2. Excessive free play between clutch drum and drive plates	Replace
	<b>Gearbox noise</b>	
	1. Gears worn	Replace
	2. Gear splines worn	Replace
	<b>Drive chain noise</b>	
	1. Chain stretched or badly adjusted	Replace or adjust
	2. Engine sprocket and rear wheel sprocket worn	Replace





Trouble	Cause	Remedy
<b>Clutch slip</b>	1. Insufficient clutch adjuster free play 2. Clutch springs weak 3. Clutch plates worn	Adjust Replace Replace
<b>Clutch drag (it is not disengaged)</b>	1. Excessive clutch adjuster free play 2. Spring tension uneven 3. Clutch plates bent	Adjust Replace Replace
<b>Gears not engaging</b>	1. Clutch not releasing 2. Gearshift forks' bent or seized 3. Gearchange pawls worn 4. Gearshift forks control pins damaged	Adjust Replace Replace Replace
<b>Gearchange lever doesn't return</b>	1. Selector return spring weak or broken	Replace
<b>Slips out of gear</b>	1. Sliding dogs worn 2. Gear splines worn 3. Sliding dog seats on gears worn 4. Splines gearshift forks' control shaft worn 5. Gearshift forks control pins worn 6. Gearshift forks worn	Replace Replace Replace Replace Replace Replace
<b>Engine lacks power</b>	1. Air filter dirty 2. Carburettor main jet blocked or wrong size 3. Poor quality fuel 4. Breather union loose 5. Spark plug gap too large 6. Ignition advance too low 7. Inadequate compression 8. Deposits on the exhaust valve	Clean (foam filter) Clean or replace Replace Tighten Adjust Adjust Find cause Clean it
<b>Engine overheating</b>	1. Excessive coke on combustion chamber and/or piston crown 2. Insufficient engine oil, or wrong oil used 3. Radiator air flow blocked 4. Poor seal at cylinder head gasket 5. Ignition advance too high 6. Clutch slipping	Clean Top up or replace Clean Replace Adjust Adjust
<b>Drops of coolant on spark plugs electrodes</b>	1. Faulty cylinder head gasket seal 2. Cylinder head leaking	Replace Replace
<b>Oil sump level increases due to presence of coolant</b>	1. Faulty water pump rotor shaft seal	Check





## FRAME, WHEELS AND SUSPENSION

Trouble	Cause	Remedy
Difficult to turn handlebars	1. Low tyre pressure 2. Bent steering head pillar 3. Steering head bearings worn or seized	Inflate Replace Replace
Handlebar vibrates	1. Front fork legs bent 2. Front wheel spindle bent 3. Frame bent 4. Front wheel rim buckled 5. Front wheel bearings worn	Replace Replace Replace Replace Replace
Suspension too hard	1. Fork backstroke too fast 2. Too much oil in the fork legs 3. Fork legs oil too thick 4. Too much pressure in the tires	Adjuste Drain excess Replace Deflate
Suspension too soft	1. Fork backstroke too slow 2. Insufficient oil in front fork stanchions 3. Front fork stanchion oil of too low a viscosity 4. Weak front fork springs 5. Weak rear shock absorber spring	Adjuste Top up Replace Replace Replace
Wheel (front and rear) vibrates	1. Wheel rim buckled 2. Wheel hub bearings worn 3. Wheel spindle nut loose 4. Rear swinging arm bearings worn 5. Chain tensioner incorrectly set	Replace Replace Tighten Replace Adjust
Rear suspension noisy	1. Link rod bearings or spacers worn 2. Shock absorber ball joints worn 3. Shock absorber faulty	Replace Replace Replace
Poor (front and rear) braking	1. Air in the brake system 2. Insufficient fluid in reservoir 3. Pads and/or disc worn 4. Disc damaged 5. Brake pedal incorrectly adjusted	Bleed Top up Replace Replace Adjust



## ELECTRICS

Trouble	Cause	Remedy
<b>Spark plug becomes dirty too frequently</b>	1. Mixture too rich 2. Air filter dirty 3. Piston rings worn 4. Piston or cylinder worn	Adjust carburettor Clean (foam filter) Replace Replace
<b>Spark plug overheats</b>	1. Mixture too lean 2. Spark plug gap too small	Adjust carburettor Adjust
<b>Generator charging too low or not at all</b>	1. Wires to voltage regulator connected incorrectly or short circuiting 2. Faulty voltage regulator 3. Generator coil faulty 4. Battery fluid level low	Connect correctly or replace Replace Replace Top up with distilled water
<b>Generator charging too high</b>	1. Voltage regulator faulty	Replace
<b>Battery corrosion</b>	1. Charging voltage too high or too low (When not in use the battery should be recharged at least once a month) 2. Too much or too little battery fluid; incorrect specific gravity	Replace the battery Return to correct level; replace electrolytic fluid
<b>The battery is discharged fast</b>	1. Battery terminals dirty 2. Battery fluid low 3. Impurities in battery fluid or specific density too high	Clean Top up with distilled water Replace electrolytic fluid
<b>Start motor won't start or slips</b>	1. Battery flat 2. Control button on right hand switch unit faulty 3. Starter solenoid faulty 4. Starter motor faulty 5. Control gear or flywheel crown worn	Recharge Replace Replace Repair or replace Replace

