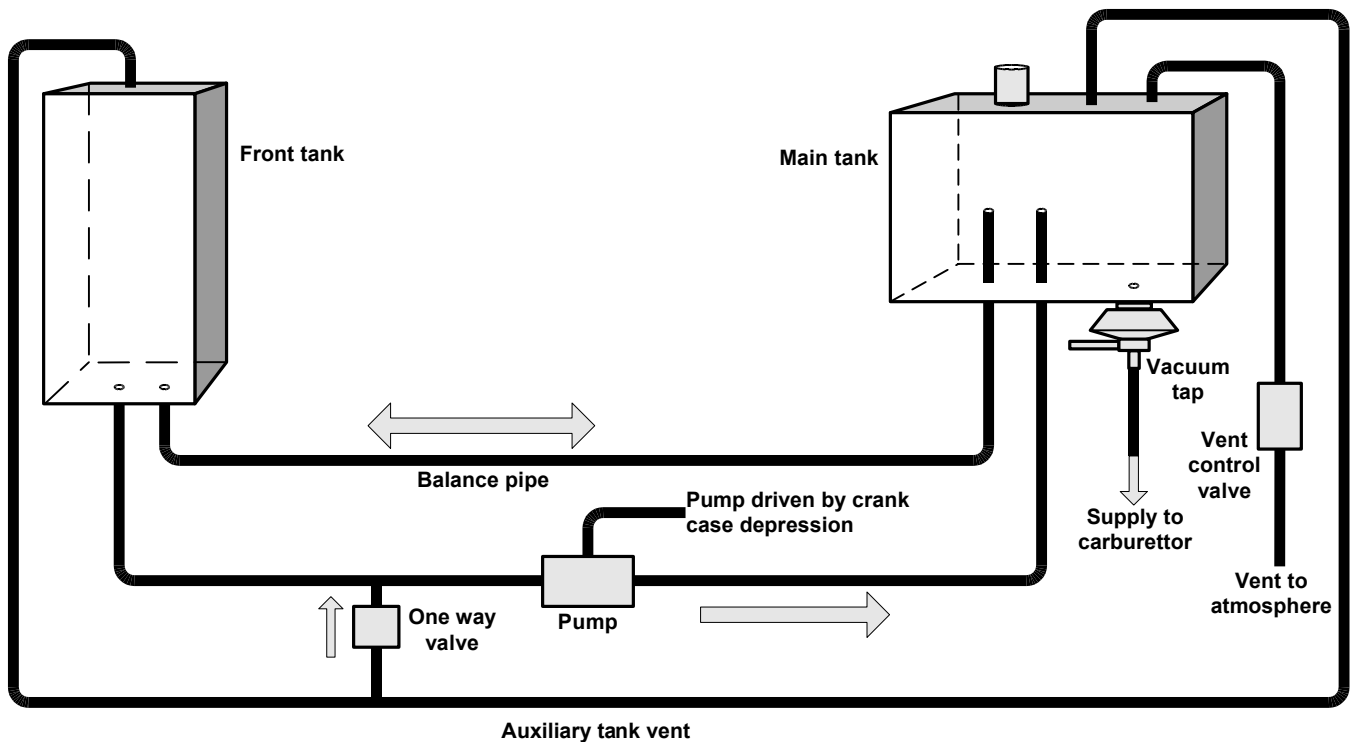


TYPHOON 80 - 125 FUEL SYSTEM

Piaggio Ltd.

16/10/2003

Piaggio Ltd.



Typhoon 80 and 125 have an auxiliary fuel tank located under the front panel. The plumbing for this fuel system looks complicated. The Typhoon parts catalogue contains an illustration which should help you locate the components on the vehicle. The diagram above is intended to help explain the operation of the system and should prove useful when fault finding.

VENT TO ATMOSPHERE The system has only one vent which you will find exiting under the rear mudguard.

VENT CONTROL VALVE Controls venting to prevent loss of fuel from full tank. Air can enter the tank without restriction but a slight pressure is required before vapour can exit.

AUX TANK VENT Auxiliary tank vents to the main tank via a pipe that has to run under the foot boards. Because this pipe gets lower than the tank level it can become full of fuel and so the auxiliary tank will not vent. To prevent this a limited flow **ONE WAY VALVE** allows any fuel to be sucked out.

A large diameter **BALANCE PIPE** lets petrol flow between the two tanks.

A smaller diameter pipe passes through the **PETROL PUMP** which pumps petrol from the auxiliary tank to the main tank.

PETROL PUMP is driven by the vacuum/pressure pulses from the crank case.

Note that the **BALANCE PIPE** stands up into the main tank so once the fuel level reaches that point the pump will drain the auxiliary tank and all the remaining fuel will be in the main tank. Because of this layout the fuel gauge does not drop at a steady linear rate. If you start with a full tank, fuel is used in the following three phases:

1. Fuel used from main and auxiliary tanks equally - Gauge will drop from full to $\frac{1}{4}$.
2. Level remains constant in main tank while auxiliary is drained - Gauge remains at $\frac{1}{4}$.
3. Fuel is used only from main tank - Gauge drops from $\frac{1}{4}$ to empty.

VACUUM TAP is operated by vacuum from the inlet manifold.

TYPHOON 80 - 125 FUEL SYSTEM

Piaggio Ltd.

16/10/2003

Piaggio Ltd.

FAULT FINDING

If you suspect that the fault is due to lack of fuel. Firstly prove that the carburettor is running out of fuel.

Attach a piece of clear tube to the float bowl drain and turn it up the side of the carburettor.

Open the drain screw. you will now be able to view the fuel level. It should remain about 3.5mm below the float bowl joint. If you find it is low or it drops during running then you should explore the fuel supply.

If you have a problem that suggests a poor supply of fuel to the carburettor.

1. Check that you have fuel in the main tank. If you have fuel then you can forget about the front tank and its associated plumbing, this can not affect the supply to the carburettor.

Not able to get 7 litres of fuel in scooter with a nearly empty tank.

Auxiliary tank is not being used for some reason.

1. Check pump. With engine running you should see the pumped fuel coming out of the pipe in the main tank.
2. Check for pinched pipes particularly under foot boards and helmet compartment.
3. Check auxiliary tank vent is clear of fuel (one way valve not working).

Scooter cuts out probably through lack of fuel.

1. Check vent pipe is clear. Blow through it with filler cap removed.
2. In the vent pipe you will find a grey and orange valve. This is a flow control valve. It should offer no resistance to air entering the tank and some resistance should be felt if you blow through it from the tank side.

Do not drill a hole in the filler cap to cure a venting problem.

Fuel comes out of vent when scooter is parked in sun or on a slope.

1. Vent pipe valve is faulty.
2. Early 80's did not have this valve, a modification kit is available from Piaggio.

Scooter runs ok on bench but customer says it cuts out when ridden.

1. Pipe trapped under helmet compartment is squashed by weight of rider.

DNA FUEL SYSTEM

Piaggio Ltd.

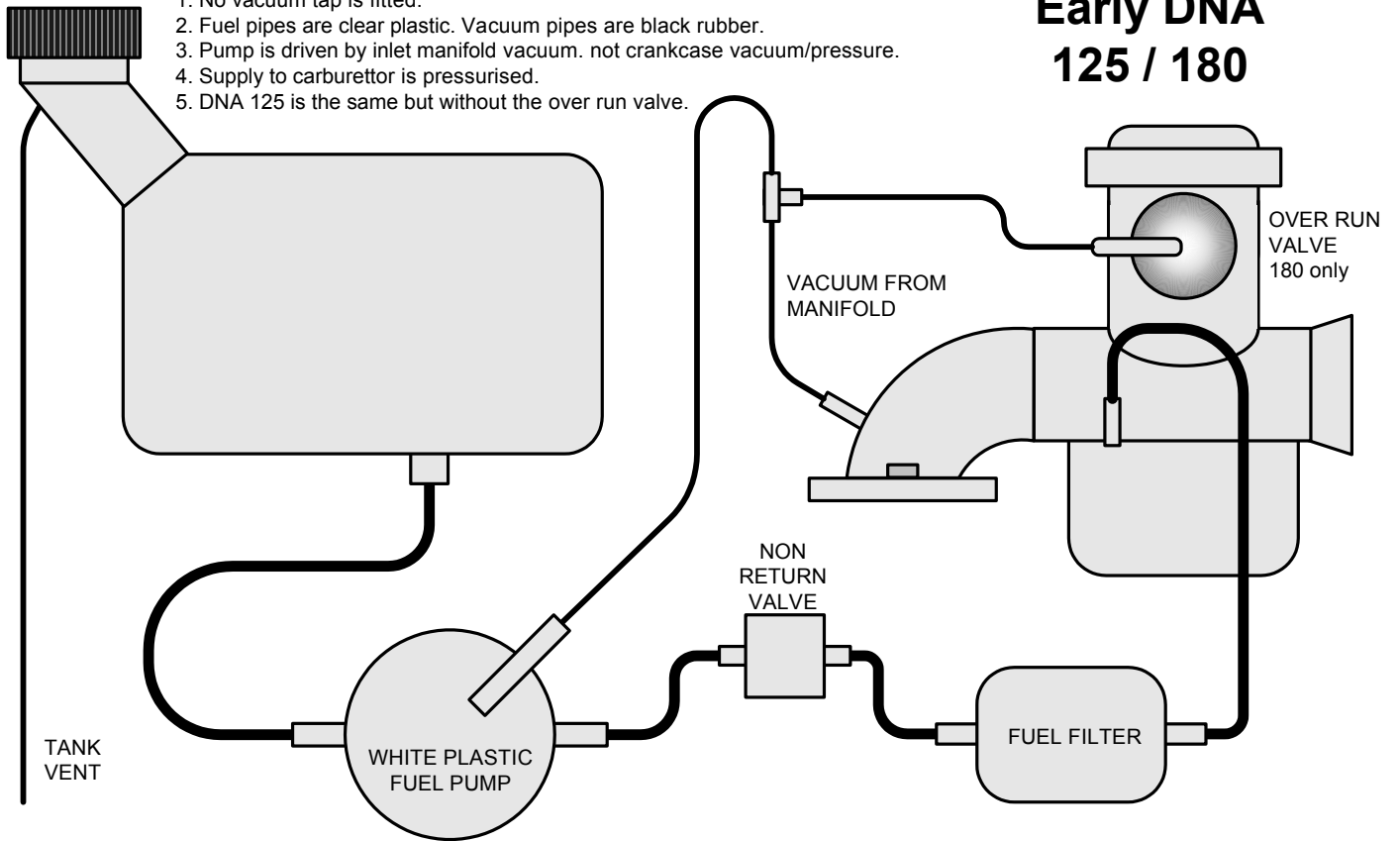
16/10/2003

PAGE 1 OF 2

125 / 180 NOTES:

1. No vacuum tap is fitted.
2. Fuel pipes are clear plastic. Vacuum pipes are black rubber.
3. Pump is driven by inlet manifold vacuum. not crankcase vacuum/pressure.
4. Supply to carburettor is pressurised.
5. DNA 125 is the same but without the over run valve.

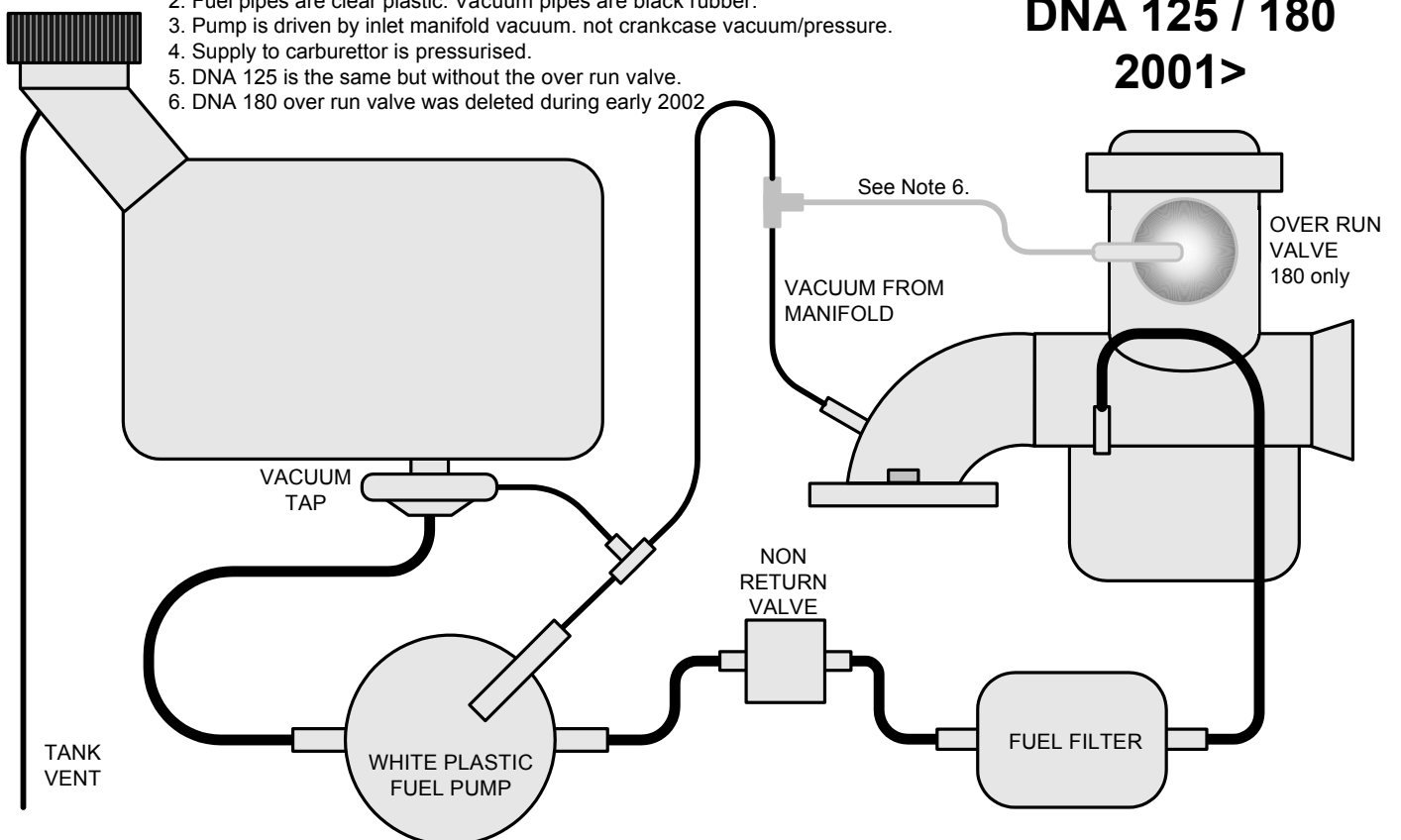
Early DNA 125 / 180



125 / 180 NOTES:

1. Vacuum tap is fitted to main tank.
2. Fuel pipes are clear plastic. Vacuum pipes are black rubber.
3. Pump is driven by inlet manifold vacuum. not crankcase vacuum/pressure.
4. Supply to carburettor is pressurised.
5. DNA 125 is the same but without the over run valve.
6. DNA 180 over run valve was deleted during early 2002

DNA 125 / 180 2001>

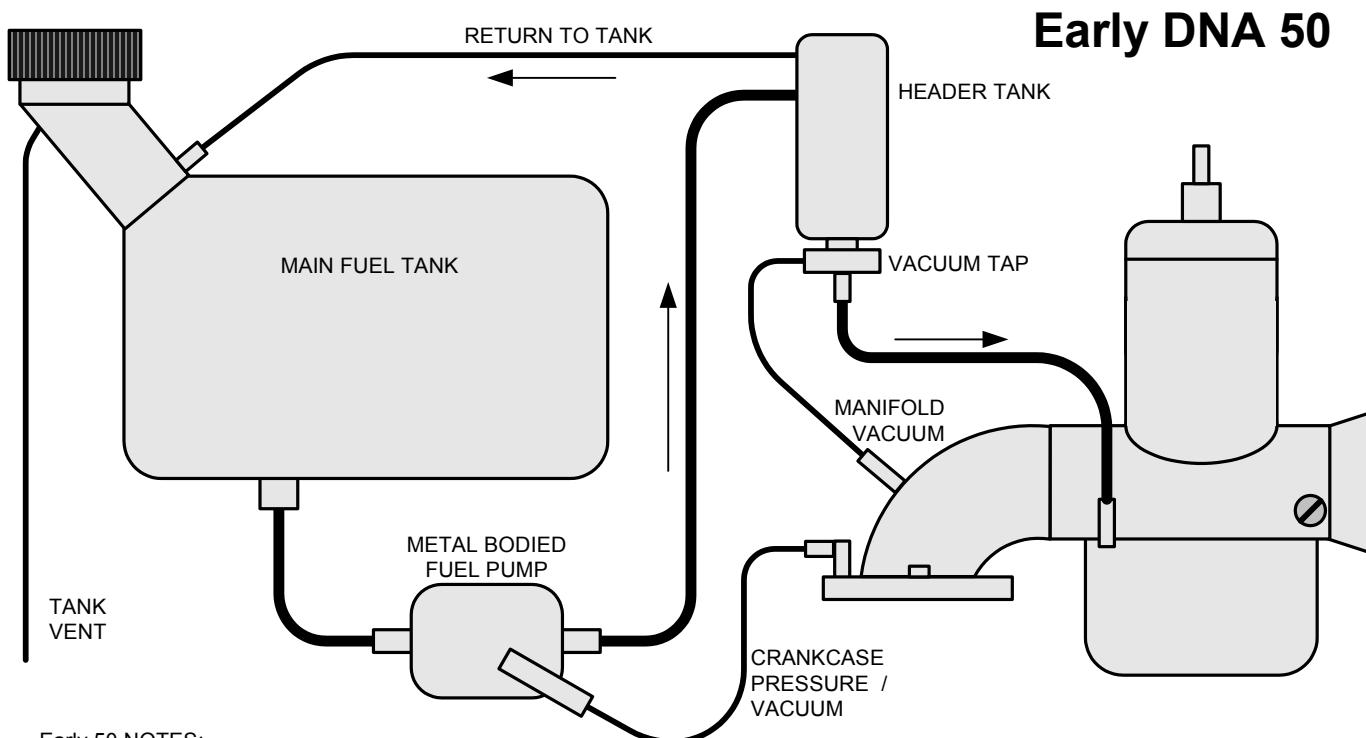


DNA FUEL SYSTEM

Piaggio Ltd.

16/10/2003

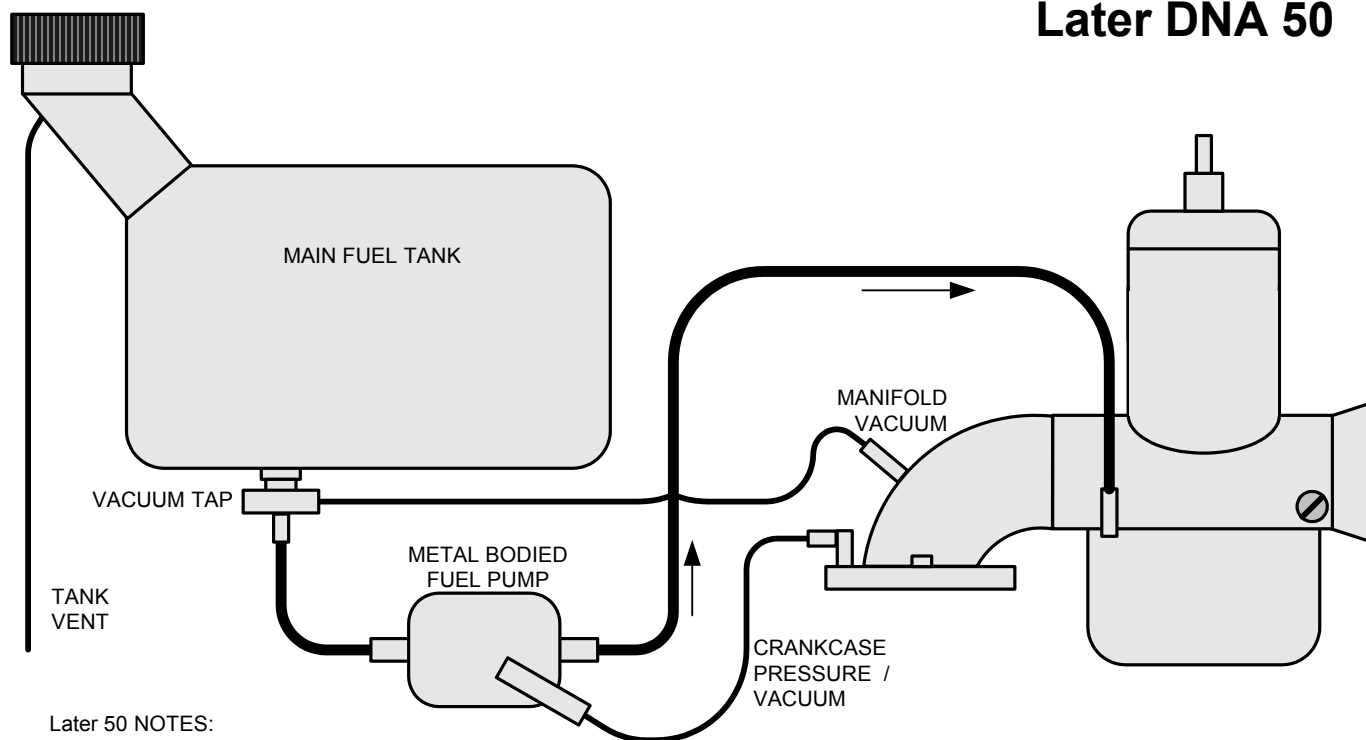
PAGE 2 OF 2



Early DNA 50

Early 50 NOTES:

1. Carburettor is gravity fed not pressure fed.
2. Fuel pipes are clear plastic. Vacuum pipes are black rubber.
3. Pump is driven by crankcase vacuum/pressure. Not manifold vacuum
4. Slow running adjustment is "air bleed". Turn in to richen

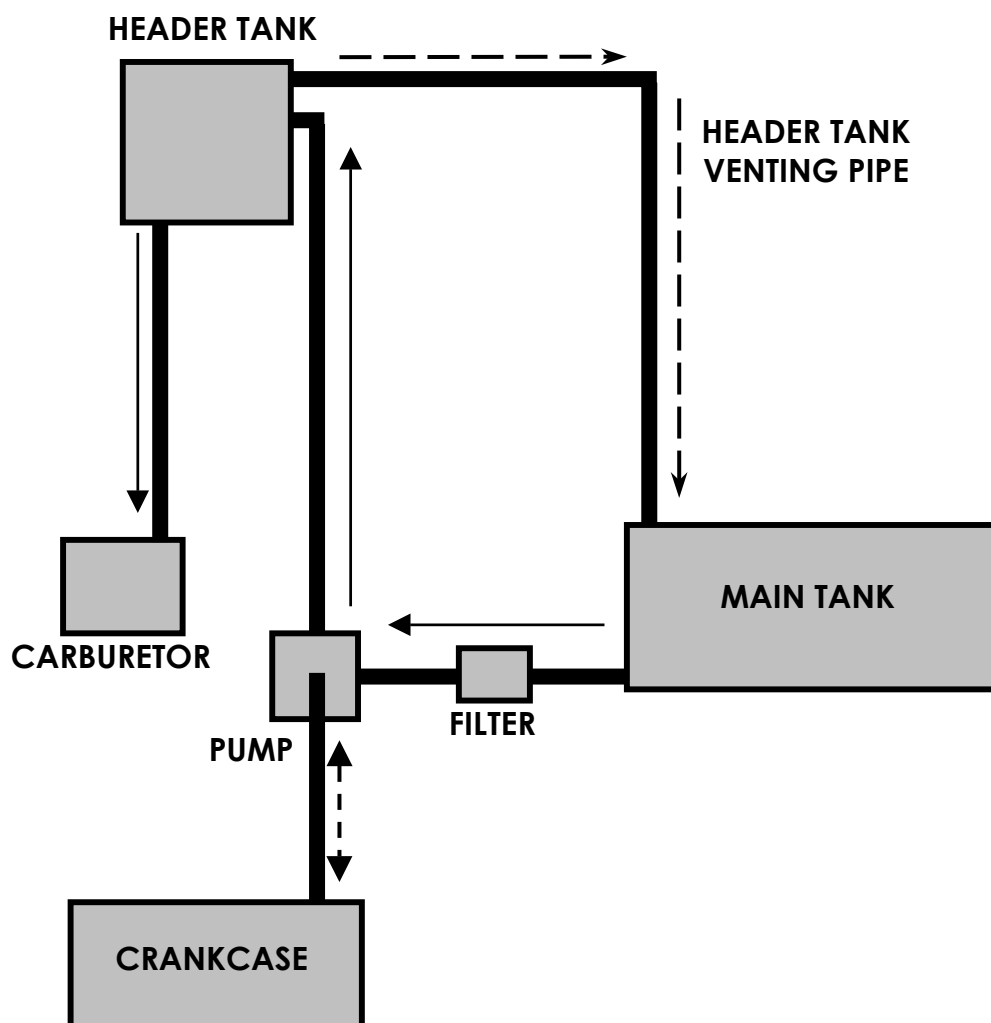


Later DNA 50

Later 50 NOTES:

1. Carburettor is pressure fed.
2. Fuel pipes are clear plastic. Vacuum pipes are black rubber.
3. Pump is driven by crankcase vacuum/pressure. Not manifold vacuum
4. Slow running adjustment is "air bleed". Turn in to richen

HEXAGON EXS1T fuel system.



- All Hexagons have a pressurised fuel supply.
- The original EXS1T had a feed direct from the pump to the carburettor. Most EXS1T Hexagons have the system shown here.
- The return line from the header tank to the main tank is only there to allow the header tank to fill up. The connection in the header tank has a very small hole in it so air can escape but the system pressure will be maintained. It is very important that this hole is not enlarged.
- If system pressure is lost the scooter will still run but the mixture will now be very weak.
- The carburettor should be fitted with a float needle seat marked #1 to denote a 1mm hole. If a seat with a larger hole is used the float will not be able to shut off the fuel. The carburettor will flood and the engine will run rich.

PUMPED FUEL SYSTEMS

Explanation of differences on Piaggio and Gilera scooters

These scooters all have a carburettor and pumped fuel supply:

B 125

DNA 50.

DNA 125.

DNA 180.

Hexagon 125.

Hexagon 125 LX.

Hexagon 180 LXT.

Hexagon 250 GT.

Hexagon GTX 125

Runner 50

Runner FX.

Runner FXR

Runner VX.

Runner VXR.

Typhoon 80

Typhoon 125

Vespa GT 125 / 200

X8 125 / 200

X8 250

X9 125.

X9 250.

B 125 / 200 All have a pressurised fuel system.

Pump operates from the inlet manifold vacuum.

Pump is near the tank and supplies fuel directly to the carburettor via an inline fuel filter and a non return valve.

DNA 50 2 stroke. TWO different fuel systems.

EARLY VEHICLES: Do not have a pressurised fuel system.

The pump operates by crankcase pressure/vacuum. It feeds fuel to a header tank that supplies the carburettor by gravity. Normal vacuum tap in header tank operated by vacuum from inlet manifold.

The return from the header to the main tank is not restricted and fuel circulates freely.

If the header tank is not full then a fuel supply problem must be suspected.

LATER VEHICLES: Have a pressurised fuel system.

The pump operates by crankcase pressure/vacuum. It feeds fuel directly to the carburettor.

A vacuum tap is fitted to the bottom of the tank. This is opened by inlet manifold vacuum.

DNA 125 / 180 4 stroke. All have a pressurised fuel system.

Pump operates from inlet manifold vacuum.

Pump is attached to the bottom of the tank and supplies fuel directly to the carburettor via an inline fuel filter and a non return valve.

From late 2001 all vehicles had a vacuum tap fitted to the bottom of the tank. The tap is connected by a "T" piece to the vacuum pipe near the fuel pump.

Note that the early 180 also uses the vacuum line to supply vacuum to an over run valve on the carburettor.

HEXAGON 2 stroke. All have a pressurised fuel system. Pump operates by crankcase pressure/vacuum.

EXS1T early. Pump supplies fuel directly to the carburettor.

EXS1T late. Same as early system but with a header tank to ensure a head of fuel to help starting after a period. The header tank has a return pipe, the connector on the tank has a very small hole so system pressure is maintained, it is important this hole is not enlarged.

ZAPM05000 (125). Pump supplies fuel directly to the carburettor.

ZAPM06000 (180). Same as 125 but with a limited flow return that controls the supply pressure. This is a "T" piece in the carburettor supply pipe and a pipe that returns to the tank, there is a restrictor in that pipe to limit the return and maintain the system pressure.

Refer to the separate sheet for a more detailed explanation (Hexagon LX / LXT fuel system)

HEXAGON 4 stroke. All have a pressurised fuel system.

GTX 125 / 180. Pump operates from inlet manifold vacuum.

Fuel is pumped direct to the carburettor.

GT 250. (Honda engine) Electrically operated pump that is controlled by the ECU

RUNNER 2 stroke. Do not have a pressurised fuel system.

The pump operates by crankcase pressure/vacuum. It feeds fuel to a header tank that supplies the carburettor by gravity. Normal vacuum tap in header tank, vacuum from inlet manifold.

The return from the header to the main tank is not restricted and fuel circulates freely.

If the header tank is not full then a fuel supply problem must be suspected.

RUNNER 4 stroke. All have a pressurised fuel system.

Pump operates from inlet manifold vacuum.

Pump is attached to the bottom of the tank and supplies fuel directly to the carburettor via an inline fuel filter and a non return valve.

Note that the 180 also uses the vacuum line to supply vacuum to an over run valve on the carburettor.

TYPHOON 80 & 125. Do not have pressurised feed to the carburettor.

They have a second tank under the front panel to increase the capacity.

Fuel is pumped from the front (auxiliary) tank into the rear (main tank). The rear tank functions like all conventional gravity feed systems.

The system is not pressurised and fuel will circulate freely between front to rear tank until the front tank is empty and the rear tank is about half full.

If the pump / front tank system fails the only problem is that the scooter will have a reduced fuel capacity.

Refer to the separate explanation sheets for more detailed operation and fault finding information. (Typhoon 80-125 fuel system & Typhoon 80-125 fuel system fault finding)

VESPA GT 125 / 200 All have a pressurised fuel system.

Pump operates from the inlet manifold vacuum.

Pump is near the tank and supplies fuel directly to the carburettor via an inline fuel filter and a non return valve.

X9. All models have a pressurised fuel system.

X9 125. Leader Engine.

Pump is operated by inlet manifold vacuum. Fuel is supplied directly to the carburettor.

X9 250. (Honda engine)

Electrically operated pump that is controlled by the ECU. Fuel is supplied directly to the carburettor.

X9 250. Quasar Engine. Have a pressurised fuel system.

Pump operates from inlet manifold vacuum.

Pump is near the tank and supplies fuel directly to the carburettor via an inline fuel filter and a non return valve.

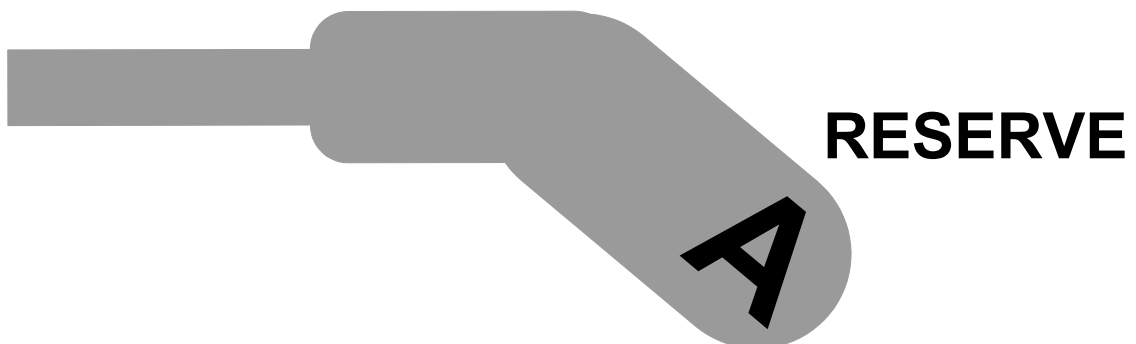
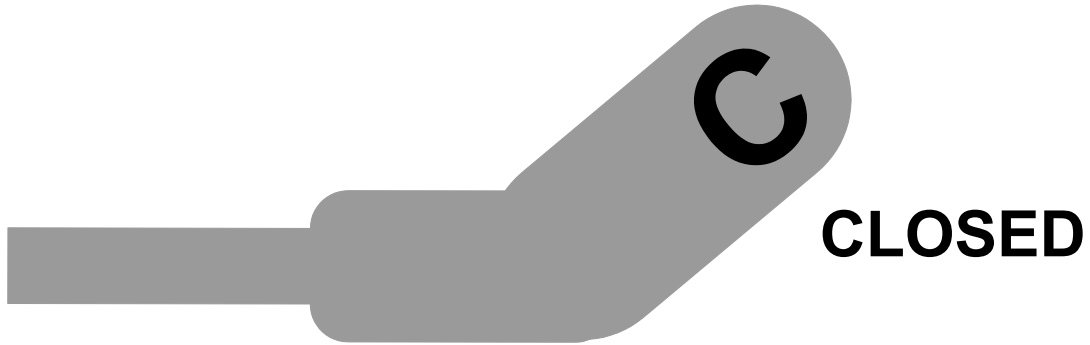
VESPA PX FUEL TAP

Piaggio Ltd.

16/10/2003

Piaggio Ltd.

Viewed from above. ie Sitting on the scooter



FITTING NEW MAIN BEARINGS TO TWO STROKE AUTO'S

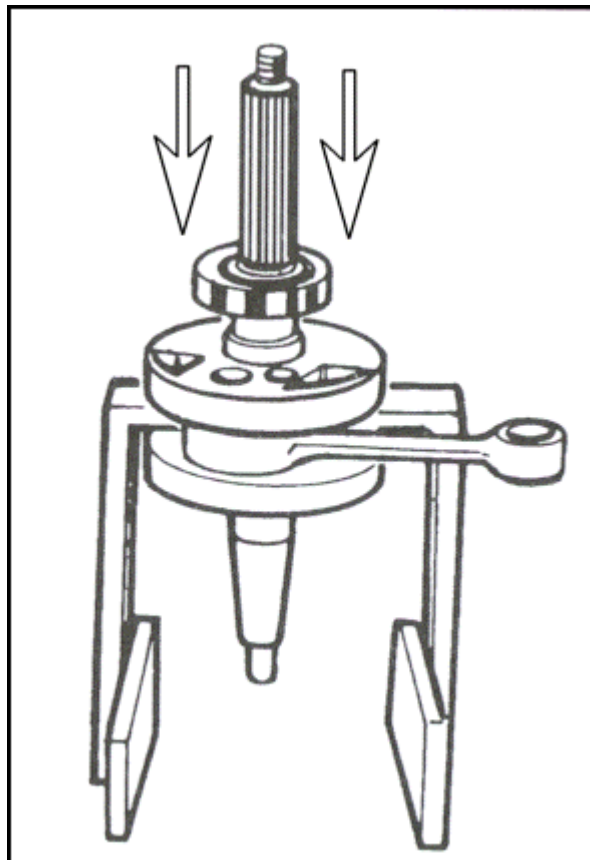
Replacing the main bearings is not a difficult job but it **MUST** be done the correct way to ensure success.

The problem can be that you do not achieve the correct end float in the crank so the bearings are being side loaded. This will cause a bearing failure within a very short time (200 miles max!)

It is **vital** that the end float is checked with a dial gauge once the cases have been bolted together.

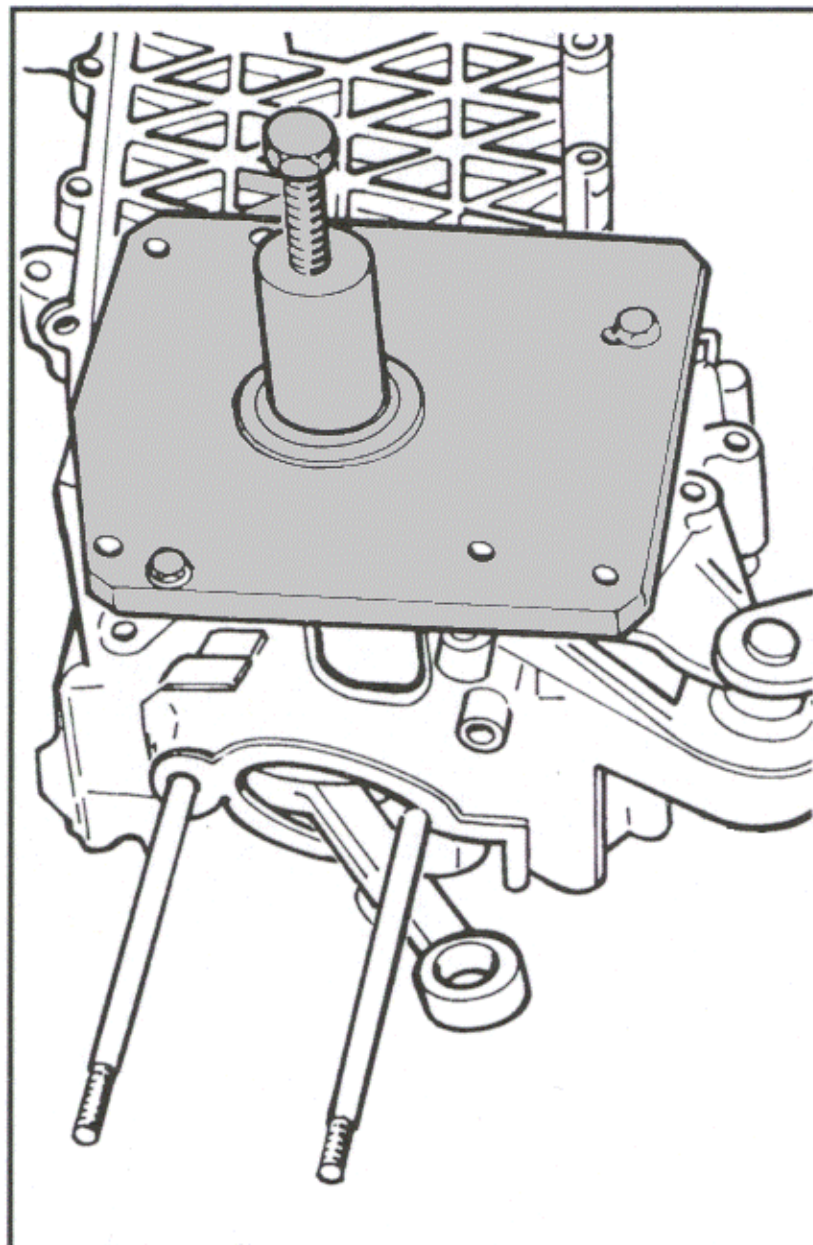
The following assembly procedure is the best way to do the job. It is the quickest and easiest. Also it almost guarantees correct tolerance. Please do it this way:

1. Heat the bearings in engine oil. First signs of smoke from the oil is hot enough!
About 100 degrees
2. Support the crankshaft vertically. Drop one bearing onto crank. If it will not drop on (by gravity) it is not hot enough. If you have to tap it home, **ONLY** use a piece of tube to act on the centre race. **NEVER** hit the outer race. Once it is on leave it to cool.



3. Turn crank over and drop other bearing on. Leave it to cool completely.
4. Position the drive side crankcase half on its side with inside facing up. Support it on blocks of wood so the crank can be dropped in (again, just using gravity).

5. Heat the case with a hot air gun, mostly heat it around the area where the bearing will fit. Don't try to hurry this. It is hot enough when the rear end of the case is too hot to keep you hand on.
6. When it is hot enough then drop the crank / bearing in and leave it to cool. If it will not drop in easily then the case is not hot enough yet.
7. Once it is completely cold turn the case over so the crank is hanging down and then fit the crank removal tool 20163Y (50cc) or 20262Y (125 & 180cc) as if you were going to press the crank back out of the case.
8. Tighten the extractor bolt as tight as you can by hand. This will push the crank out against the bearing so all the free play in the bearing has been removed and the crank is pushed out as far as it can go. Do not use a spanner to tighten the bolt or you may move the bearing. Tightening it by hand can not move the bearing (you ain't that strong). Now put the case back on it's blocks of wood.



9. Heat the other (small) case half and prepare to drop it onto the crank / case.
10. Fit the cases together with liquid gasket (not silicon). Don't forget the water pump impeller on water cooled engines. Bolt it up and leave it to cool.
11. Once it is completely cold remove the special tool. Now use a dial gauge to measure the end float. Pull the crank one way, notice the gauge reading and then push it the other way. You MUST have 0.03 - 0.09mm free play.
12. If you have nearly got the free play try tapping each end of the crank with a nylon hammer and check again.
13. If you have not got enough free play there is no point carrying on. Take it apart and do it again (I would recommend using new bearings just in case the others have been damaged!).

The reason for establishing the end float is to ensure that there is no side load on the bearings. Ball races do not like side load and they will fail very quickly. Checking the free play guarantees that the bearing is not side loaded and the balls can run centrally in the bearing tracks.

The benefits of this method include:

- We only heat each part once. No wasted time re-heating
- We only used gravity to fit it together. No risk of damage and it must be together properly.
- The bearings have only been heated in oil. No risk of damage.

Please do not try and improvise. Make sure you have all the correct tools for the job. They are a very good investment for time saved and stress avoided.

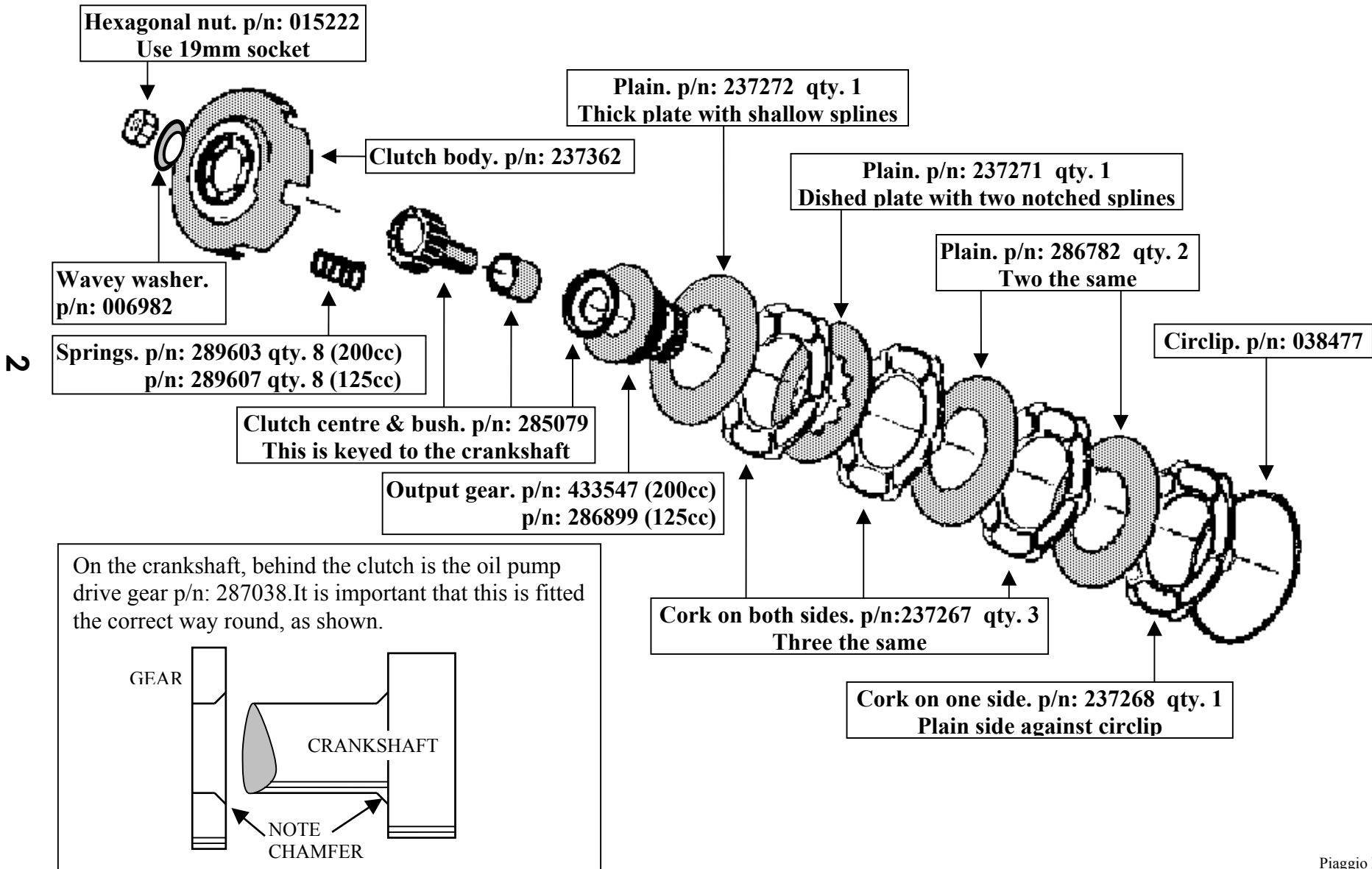
If you have any questions please give your Regional After Sales Manager a call.



PX 200 / 125 "COSA" TYPE CLUTCH

The COSA type clutch is now fitted to the PX 200 & PX125.

It can replace the old type clutch as a complete assembly. p/n 433548 (200cc) p/n 288650 (125cc)



PISTONS AND SMALL END BEARINGS

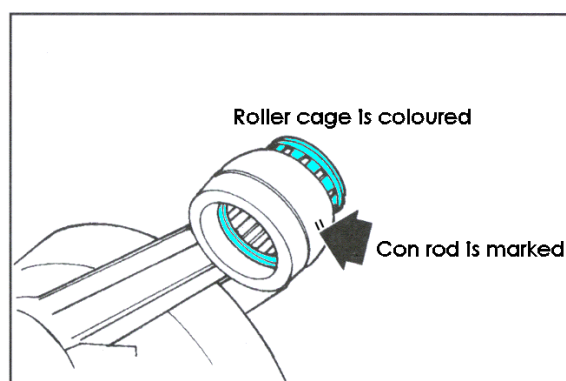
Small End Bearing sizes.

Small end needle roller bearings fitted to two stroke twist and go engines and PX engines are supplied in four sizes they are colour coded for identification. The end of the con rod will either be colour coded or it will be marked with a series of lines.

Bearing colour	Con rod marking
Copper	I
Blue	II
White	III
Green	IIII

Parts catalogues will show four part numbers the lowest number will be the first in this list.

Service Station manuals specify the con rod small end diameters so you can determine the correct bearing size by measurement.



Piston sizes.

Piaggio use alloy or cast iron barrels on different engines. Alloy barrels can not be re-bored and over size pistons are not available. Oversize pistons are available for cast iron barrels. These are listed as 1M, 2M, 3M.

In addition to oversize there will be four pistons listed for all engines as "FC" or FC1, FC2 etc. These are tolerance fittings.

Pistons can be matched to barrels in two ways. Either by referring to the tolerance data page near the front of the appropriate Service Station Manual or by referring to the marking on the crown of the piston and the top of the barrel. On some engines barrel and piston will both have a letter stamped into them. Both letters should match. The lowest (first) part number will be the smallest piston and first in this list.

Piston marking	Size
E	FC 1
F	FC 2
G	FC 3
H	FC 4

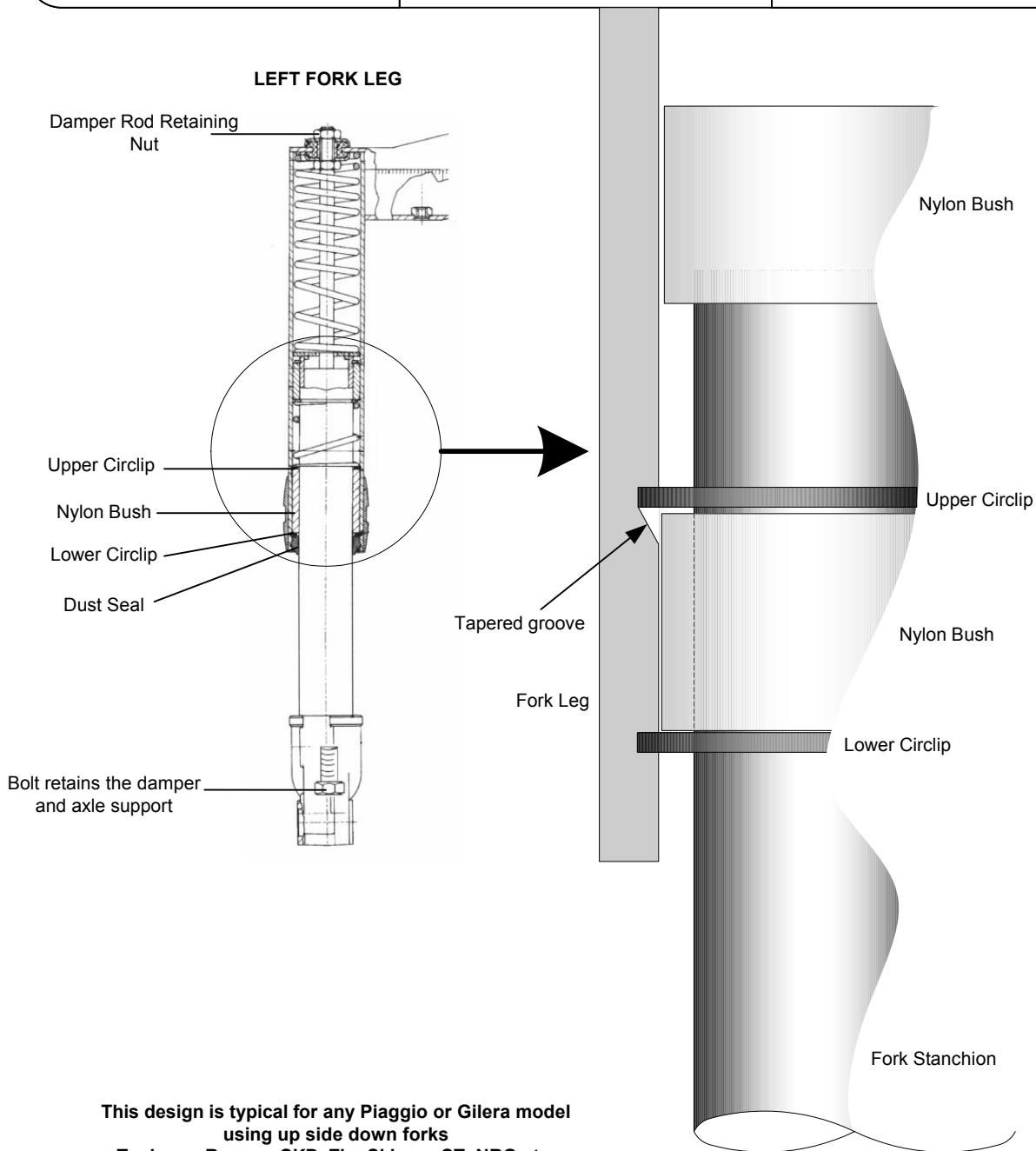
Remember, if you are measuring barrel and piston you should always measure in line with the gudgeon pin because they will have worn oval. Most wear occurs at right angles to the gudgeon pin.

Up side down Forks

Piaggio Ltd.

07/08/2002

Typhoon / Runner etc.



This design is typical for any Piaggio or Gilera model using up side down forks Typhoon, Runner, SKP, Zip, Skipper ST, NRG etc.

Forks are grease filled for lubrication. The grease can be expected to work past the nylon bush so the chrome stanchion will get a dirty ring round it.

Damping is by a sealed hydraulic damper cartridge in the left leg. The cartridge is held at the bottom by a bolt that will be found in the bottom of the axle mounting. The top of the damper rod is held by a nut on top of the top yoke. If the seals in this unit fail you will find oil dripping from the bottom of the left leg.

Some 50's did not have the damper. To check if a damper is fitted: look for the nut on top of the left leg, no nut means no damper.

To separate the fork leg:

1. Remove damper top nut (from left leg only).
2. Remove the dust seal.
3. Remove the bottom circlip.

4. Pulling the stanchion hard will force the upper circlip out of the tapered groove, the circlip and bush will be pulled out.

On very early forks the top circlip groove was not tapered so it will be necessary to pull the bush out to get to the circlip.

To pull the bush out:

1. Lubricate the bush with WD40 or similar.
2. Carefully screw two small self tapping screws into the nylon bush and pull it out using two pairs of pliers.

Note that there are several manufactures of these forks and although they look the same the internal components may not be interchangeable between makes.

SPARK PLUGS

PIAGGIO / VESPA	mm	NGK	Champion
B 125 (Beverly) 125 four stroke	0.7-0.8	CR8 EB	RG4 HC
B 500 (Beverly) 500 four stroke	0.7-0.8	CR7 EKB	RG6 YC
Cosa 125 , 150	0.6	B9 ES (BR9 ES)	N2C (RN2C)
Cosa 200	0.6	B7 ES (BR7 ES)	N4C (RN4C)
Fly 50 two stroke	0.5-0.6		RGN2C
Fly 125 Leader four stroke	0.8	CR9 EB	RG4HC
Free 50 (all versions)	0.5-0.6	BR9 ES	RN2C
Hexagon 125 &180 two stroke (all versions)	0.5-0.6	BR9 ES	RN2C
Hexagon GT250 & GTX 250 (Honda 4 stroke)	0.8-0.9	DPR6 EA9	
Hexagon GTX 125 four stroke	0.7-0.8	CR9 EB	RG4 HC
Liberty 50 two stroke (all versions)	0.5-0.6	BR9 ES	RN2C
Liberty 125 four stroke (original version)	0.7-0.8	CR9 E	RG4 HC
Liberty 125 Leader four stroke	0.7-0.8	CR7 EB	RG6 YC
Liberty 125 Leader four stroke (heavy use)	0.7-0.8	CR8 EB	RG4 HC
Liberty 125 RST (2004>) Leader four stroke			
NRG 50 water cooled (heavy use)	0.5-0.6	BR10 ES	RN1C
NRG 50 (air or water cooled. All versions)	0.5-0.6	BR9 ES	RN2C
Quartz 50	0.5-0.6	BR9 ES	RN2C
Sfera 125 four stroke	0.5-0.6	CR9 E	RG4 HC
Sfera 50 & Sfera 80 (all versions)	0.5-0.6	BR9 ES	RN2C
Skipper ST 125 four stroke (all versions)	0.7-0.8	CR9 E	RG4 HC
Skipper 125 two stroke (all versions)	0.6-0.7	BR9 ES	RN2C
Velofax 50 two stroke	0.5-0.6	BR9 ES	RN2C
Vespa 50 Special & PK50S	0.6	B6 HS	L86
Vespa ET2 50 two stroke (carburettor)	0.5-0.6	BR9 ES	RN2C
Vespa ET4 50 four stroke	0.7-0.8	CR9 E	RG4 HC. RG4 PHP
Vespa ET4 125 four stroke (all versions)	0.7-0.8	CR9 E	RG4 HC
Vespa LX 50 four stroke	0.7-0.8	CR8EB	
Vespa LX 50 two stroke	0.6-0.7		RGN2C
Vespa LX 125 four stroke	0.7-0.8	CR7EB	RG6YC
Vespa GT 125	0.7-0.8	CR8 EB	RG4 HC
Vespa GT 200	0.7-0.8	CR7 EB	RG6 YC
Vespa GTS 250 injection	0.7-0.8		RG4 PHP
Vespa Primavera ET3	0.6	B7 HS	
Vespa Primavera & PK 125	0.6	B6 HS	
Vespa PX 125	0.5-0.6	B7 HS	L82C
Vespa PX 200	0.5-0.6	B7 ES (BR7 ES)	N4C (RN4C)
Vespa T5 Classic 125	0.6	B9ES (BR9 ES)	N2C (RN2C)
X9 125 (Piaggio 4 stroke engine)	0.7-0.8	CR8 EB	RG4 HC
X9 250 evolution (Piaggio 4 stroke engine with carburettor)	0.7-0.8	CR8 EB	RG4 HC
X9 250 (Honda 4 stroke engine)	0.8-0.9	DPR7 EA9	
X9 500 (Piaggio 4 stroke engine)	0.7-0.8	CR7 EKB	RG6 YC
Zip 50 four stroke	0.7-0.8	CR9 E	RG4 HC. RG4 PHP
Zip 50 2 stroke (all versions, inc. catalytic)	0.6-0.7	BR9 ES	RN2C
Zip 125 four stroke	0.7-0.8	CR7 EB	RG6 YC
GILERA			
Coguar 125 (Honda 4 stroke engine)	0.8-0.9	DPR8 EA9	
DNA 125 & DNA 180 four stroke	0.7-0.8	CR8 EB	
DNA 50 two stroke (catalytic)	0.6-0.7	BR9 ES	RN2C
H@K & GSM 50 2 stroke (Gilera engine)	0.5-0.6	BR9 ES	RN2C
H@K & GSM 50 2 stroke (Derbi engine)	0.-0.		
ICE 50 two stroke catalytic	0.6-0.7	BR9 ES	RN2C
Nexus 500 four stroke	0.7-0.8	CR7 EKB	RC6 YC
RCR 50 2 stroke (Derbi engine)	0.5	B9 ES (BR9 ES)	N2C (RN2C)
Runner VX125 & VXR180 four stroke	0.7-0.8	CR8 EB	
Runner VXR 200 four stroke	0.7-0.8	CR7 EKB	RG6 YC
Runner 50, 125 & 180 two stroke (all versions)	0.6-0.7	BR9 ES	RN2C
Runner 50 "Purejet" direct injection 2 stroke	0.6-0.7		RG6 YCA
Stalker & SKP 50 two stroke	0.5-0.6	BR9 ES	RN2C
OLDER GILERA MOTORCYCLES			
Saturno 350 / 500 four stroke	0.6-0.7	DPR8 EA9	A5YC
Dakota 350 / 500 four stroke	0.6-0.7	DPR8 EA9	A5YC
Nordwest 600 four stroke	0.6-0.7	DPR9 EA9	
RC 600 four stroke	0.6-0.7	DPR8 EA9	
CX 125 & Apache & Crono & Free-Style 125 cc two stroke	0.6-0.7	B10 EG - BR9 EG	N82 - C55
GFR 125 two stroke	0.6-0.7	B10 EGV	C55C

7-6 Oil list.xls

Make/Model		Engine			Gearbox			Final Drive		Forks		Coolant	
Vespa ET2 50	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	75cc	sealed unit	-	Air	-
Vespa ET4 50	4 str.	5W-40 synthetic API SJ or higher	850cc	CVT	-		Gear	80W-90 light gear GL3 or higher	80cc	sealed unit	-	Air	-
Vespa LX 50 4t	4 str.	5W-40 synthetic API SJ or higher	850cc	CVT	-		Gear	80W-90 light gear GL3 or higher	85cc	sealed unit	-	Air	-
Vespa ET4 125	4 str.	20W-50 synthetic API SG or higher	850cc	CVT	-		Gear	80W-90 light gear GL3 or higher	90cc	sealed unit	-	Air	-
Vespa LX 125 & ET4 125 Leader	4 str.	5W-40 synthetic API SJ or higher	1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	100cc	sealed unit	-	Air	-
Vespa GT 125 & GT 200	4 str.	5W-40 synthetic API SJ or higher	1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	150cc	sealed unit	-	Ethelyne Glycol Cuna NC 956-16	2.1 - 2.5
Vespa GTS 250 injection	4 str.	5W-40 synthetic API SJ or higher	1.3 ltr.	CVT	-		Gear	75W-80 light gear GL4 or higher	250cc	sealed unit	-	Ethelyne Glycol Cuna NC 956-16	2.1 - 2.5
Vespa PX 125 / 150 / 200	2 str.	Synthetic 2 stroke API TC or higher	-	4 spd	80W GL4 or higher	250cc	n/a	-	-	sealed unit	-	Air	-
Piaggio B 125 & B 125 RST	4 str.	5W-40 synthetic API SJ or higher	1.1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	250cc	10W	102cc	Ethelyne Glycol Cuna NC 956-16	-
Piaggio B 500	4 str.	5W-40 synthetic API SJ or higher	1.7 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	250cc	10W	233cc	Ethelyne Glycol Cuna NC 956-16	1.7 ltr.
Piaggio Deisis 100	2 str.	Hi Scooter 2 Tech	-	CVT	-		Gear	80W-90 light gear GL3 or higher	110cc	sealed unit	-	Air	-
Piaggio Fly 50	2 str.	Synthetic 2 stroke API TC++ or higher	1.2 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	85cc	20W	30cc	Air	-
Piaggio Fly 125	4 str.	5W-40 synthetic API SJ or higher	1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	200cc	20W	30cc	Air	-
Piaggio Hexagon 125	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	85cc	sealed unit	-	Ethelyne Glycol Cuna NC 956-16	-
Piaggio Hexagon LX125 / LXT180	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	80cc	sealed unit	-	Ethelyne Glycol Cuna NC 956-16	-
Piaggio Hexagon GT 250	4 str.	20W-50 synthetic API SG or higher	800cc	CVT	-		Gear	80W-90 light gear GL3 or higher	150cc	sealed unit	-	Ethelyne Glycol Cuna NC 956-16	1.82 ltr.
Piaggio Hexagon GTX 125 / 180 (11")	4 str.	5W-40 synthetic API SJ or higher	1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	150cc	sealed unit	-	Ethelyne Glycol Cuna NC 956-16	-
Piaggio Hexagon GTX 125 / 180 (12")	4 str.	5W-40 synthetic API SJ or higher	1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	150cc	10W	102cc	Ethelyne Glycol Cuna NC 956-16	-
Piaggio Liberty 50	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	100cc	20W	30cc	Air	-
Piaggio Liberty 125	4 str.	20W-50 synthetic API SG or higher	850cc	CVT	-		Gear	80W-90 light gear GL3 or higher	95cc	20W	90cc	Air	-
Piaggio Liberty 125 Leader	4 str.	5W-40 synthetic API SJ or higher	1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	200cc	20W	90cc	Air	-
Piaggio NRG 50 water cooled models	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	85cc	sealed unit	-	Ethelyne Glycol Cuna NC 956-16	900cc
Piaggio NRG 50 air cooled models	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	85cc	sealed unit	-	Air	-
Piaggio Sfera 50	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	85cc	sealed unit	-	Air	-
Piaggio Sfera 125	4 str.	20W-50 synthetic API SG or higher	850cc	CVT	-		Gear	80W-90 light gear GL3 or higher	90cc	sealed unit	-	Air	-
Piaggio Skipper 125	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	80cc	sealed unit	-	Air	-
Piaggio Skipper ST 125	4 str.	5W-40 synthetic API SJ or higher	1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	150cc	sealed unit	-	Air	-
Piaggio Typhoon 50	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	85cc	sealed unit	-	Air	-
Piaggio Typhoon 125	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	100cc	sealed unit	-	Air	-
Piaggio X8 125 / 200	4 str.	5W-40 synthetic API SJ or higher	1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	150cc	10W	125cc	Ethelyne Glycol Cuna NC 956-16	2.1 ltr.
Piaggio X8 250	4 str.	5W-40 synthetic API SJ or higher	1.3 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	250cc	10W	133cc	Ethelyne Glycol Cuna NC 956-16	2.1 ltr.
Piaggio X9 125 & 125 Evolution	4 str.	5W-40 synthetic API SJ or higher	1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	150cc	20W	90cc	Ethelyne Glycol Cuna NC 956-16	1.2 ltr.
Piaggio X9 250 (Honda engine)	4 str.	20W-50 synthetic API SG or higher	1.1-1.3	CVT	-		Gear	80W-90 light gear GL3 or higher	200cc	20W	90cc	Ethelyne Glycol Cuna NC 956-16	-
Piaggio X9 250 (Piaggio engine) 2004>	4 str.	5W-40 synthetic API SG or higher	1.3 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	150cc	20W	90cc	Ethelyne Glycol Cuna NC 956-16	1.8 ltr.
Piaggio X9 500 & 500 Evolution	4 str.	5W-40 synthetic API SJ or higher	1.7 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	250cc	20W	125cc	Ethelyne Glycol Cuna NC 956-16	1.8 ltr.
Piaggio Zip 50	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	75cc	20W	25cc	Air	-
Piaggio Zip 50 4t	4 str.	5W-40 synthetic API SJ or higher	850cc	CVT	-		Gear	80W-90 light gear GL3 or higher	80cc	20W	25cc	Air	-
Piaggio Zip 125 (single sided fork)	4 str.	5W-40 synthetic API SJ or higher	1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	100cc	sealed unit	-	Air	-
Piaggio Zip 125 (telescopic fork)	4 str.	5W-40 synthetic API SJ or higher	1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	100cc	20W	60cc	Air	-
Gilera Coguar 125	4 str.	20W-50 synthetic API SG or higher	1.2 ltr.	5 spd.	integral with engine	-	Chain	-	-	10W	280cc	Air	-
Gilera DNA 125 / 180	4 str.	5W-40 synthetic API SJ or higher	1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	150cc	20W	280cc	Ethelyne Glycol Cuna NC 956-16	-
Gilera DNA 50	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	100cc	20W	280cc	Ethelyne Glycol Cuna NC 956-16	-
Gilera GSM / H@K 50 (Gilera engine)	2 str.	Synthetic 2 stroke API TC or higher	-	6 spd.	80W GL4 or higher	500cc	Chain	-	-	10W	200CC	Ethelyne Glycol Cuna NC 956-16	-
Gilera Ice 50	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	75cc	10W	90cc	Air	-
Gilera Ice 50 (front fork marked "TH")	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	75cc	10W	72cc	Air	-
Gilera RCR 50 (Paoli forks)	2 str.	Synthetic 2 stroke API TC or higher	-	6 spd.	80W GL4 or higher	650cc	Chain	-	-	10W	285cc	Ethelyne Glycol Cuna NC 956-16	0.85 ltr.
Gilera Runner 50	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	75cc	sealed unit	-	Ethelyne Glycol Cuna NC 956-16	-
Gilera Runner 50 Purejet Direct injection	2 str.	Synthetic 2 stroke API TC++ or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	75cc	sealed unit	-	Ethelyne Glycol Cuna NC 956-16	0.9 ltr.
Gilera Runner FX125 / FXR180 (early)	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	80cc	sealed unit	-	Ethelyne Glycol Cuna NC 956-16	-
Gilera Runner FX125 / FXR180 (late)	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	80cc	20W	80cc	Ethelyne Glycol Cuna NC 956-16	-
Gilera Runner VX125 / VXR180	4 str.	5W-40 synthetic API SJ or higher	1 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	150cc	20W	80cc	Ethelyne Glycol Cuna NC 956-16	-
Gilera Nexus 500	4 str.	5W-40 synthetic API SJ or higher	1.7 ltr.	CVT	-		Gear	80W-90 light gear GL3 or higher	250cc	-	-	Ethelyne Glycol Cuna NC 956-16	-
Gilera SKP (Stalker) 50	2 str.	Synthetic 2 stroke API TC or higher	-	CVT	-		Gear	80W-90 light gear GL3 or higher	75cc	sealed unit	-	Air	-
Gilera GFR 125	2 str.	Synthetic 2 stroke API TC or higher	-	6 spd.	80W GL4 or higher	1.3 ltr.	Chain	-	-	10W	400cc	Ethelyne Glycol Cuna NC 956-16	-
Gilera Saturno 350 / 500	4 str.	15W-40 synthetic	2.2 ltr.	5 spd.	integral with engine	-	Chain	-	-	><7.5W	310cc	Ethelyne Glycol Cuna NC 956-16	1.3 ltr.
Gilera Nordwest 600	4 str.	15W-40 synthetic	2.2 ltr.	5 spd.	integral with engine	-	Chain	-	-	10W	400cc	Ethelyne Glycol Cuna NC 956-16	1.3 ltr.
Gilera RC 600	4 str.	15W-40 synthetic	2.2 ltr.	5 spd.	integral with engine	-	Chain	-	-	10W	640cc	Ethelyne Glycol Cuna NC 956-16	1.3 ltr.

VESPA TYRES & WHEELS

MODEL		FRONT				REAR				
	chassis prefix	wheel	tyre		bar	wheel	tyre		Solo-2up	
Cosa 2 125 / 200	VNR2T / VSR2T	2.50 x 10	100 / 90 - 10		T	1.5	2.50 x 10	100 / 90 - 10.	T	1.75 - 2.0
Vespa ET2 50 two stroke	ZAPC16 / ZAPC381	2.50 x 10	100 / 80 - 10, 53L		T/L	1.3	3.00 x 10	120 / 70 - 10, 54L	T/L	1.8-2.0
Vespa ET4 50 four stroke	ZAPC26	2.50 x 10	100 / 80 - 10, 53L		T/L	1.3	3.00 x 10	120 / 70 - 10, 54L	T/L	1.8-2.0
Vespa ET4 125 four stroke	ZAPM04	2.50 x 10	100 / 80 - 10, 53L		T/L	1.3	2.50 x 10	130 / 70 - 10, 62L	T/L	1.8-2.0
Vespa ET4 Leader 125cc four stroke	ZAPM19	2.50 x 10	100 / 80 - 10, 53L		T/L	1.3	3.00 x 10	120 / 70 - 10, 54L	T/L	1.8-2.0
Vespa LX 50 2T	ZAPC38101	2.50 x 11	110 / 70 - 11, 45L		T/L	1.4	3.00 x 10	120 / 70 - 10, 54L	T/L	2.0
Vespa LX 50 4T	ZAPC383	2.50 x 11	110 / 70 - 11, 45L		T/L	1.4	3.00 x 10	120 / 70 - 10, 54L	T/L	2.0
Vespa LX 125	ZAPM441	2.50 x 11	110 / 70 - 11, 45L		T/L	1.6	3.00 x 10	120 / 70 - 10, 54L	T/L	2.2
Vespa PX 125	VNX2T or ZAPM093	2.10 x 10	3.50 - 10, 51J		T	1.25	2.10 x 10	3.50 - 10, 51J	T	1.75-2.3
Vespa PX 150	ZAPM09401	2.10 x 10	3.50 - 10, 51J		T	1.25	2.10 x 10	3.50 - 10, 51J	T	1.75-2.3
Vespa PX 200	VSX1T or ZAPM18	2.10 x 10	3.50 - 10, 59J		T	1.25	2.10 x 10	3.50 - 10, 59J	T	1.75-2.3
Vespa GT 125 / 200 four stroke	ZAPM311 / ZAPM312	3.00 x 12	120 / 70 - 12, 51P		T/L	1.8	3.00 x 12	130 / 70 - 12, 62P	T/L	2.2
Vespa GTS 250	ZAPM451	3.00 x 12	120 / 70 - 12, 51P		T/L	1.8	3.00 x 12	130 / 70 - 12, 62P	T/L	2.2
Vespa T5 Classic	VNX5T	2.10 x 10	3.50 - 10, 59J		T	1.25	2.10 x 10	3.50 - 10, 59J	T	1.75 - 2.3

Bold type denotes a current model. This list was last updated on 01 February 2006. Identify a vehicle by its chassis prefix AND model name.

PIAGGIO TYRES & WHEELS

MODEL		FRONT				REAR			
	chassis prefix	wheel	tyre		bar	wheel	tyre		Solo-2up
B 125 (Beverly 125)	ZAPM281	3.00 x 16	110 / 70 - 16, 52P	T/L	2.0	3.50 x 16	140 / 70 - 16, 65P	T/L	2.2 - 2.5
B 500 (Beverly 500)	ZAPM341	3.00 x 16	110 / 70 - 16, 52S	T/L	2.2	4.50 x 14	150 / 70 - 14, 66S	T/L	2.5
Diesis 100 (also Diesis 50)	ZAPM301 (ZAPC34)	3.00 x 12	120 / 70 - 12, 56J	T/L	1.7	3.00 x 12	120 / 70 - 12, 56J	T/L	1.9 - 2.1
Fly 50	ZAPC441	3.50 x 12	120 / 70 - 12, 58P	T/L	1.8	3.50 x 12	120 / 70 - 12, 58P	T/L	2.0 - 2.3
Fly 125	ZAPM421	3.50 x 12	120 / 70 - 12, 58P / 60L	T/L	1.8	3.50 x 12	120 / 70 - 12, 58P / 60L	T/L	2.0 - 2.3
Free 50	FCS1T & FCS2T	1.85 x 14	80 / 80 - 14, 43J	T/L	2.0	1.85 x 14	80 / 80 - 14, 43J	T/L	2.5-3.0
Hexagon 125	EXS1T	2.50 x 10	100 / 80 - 10, 58J	T/L	1.8	3.00 x 10	130 / 70 - 10, 62J	T/L	2.3-2.5
Hexagon GT 250, GTX 250	ZAPM14	3.00 x 11	120 / 70 - 11, 50L	T/L	1.8	3.00 x 11	130 / 70 - 11, 60L	T/L	2.2-2.5
Hexagon GTX 125 (11 inch wheels)	ZAPM20	3.00 x 11	120 / 70 - 11, 50L	T/L	1.8	3.50 x 11	130 / 70 - 11, 60L	T/L	2.0-2.5
Hexagon GTX 125 (12 inch wheels)	ZAPM20	3.50 x 12	120 / 70 - 12, 51L	T/L	1.8	3.50 x 12	140 / 60 - 12, 62L	T/L	2.0-2.5
Hexagon LX / LXT	ZAPM05 / ZAPM06	3.00 x 11	120 / 70 - 11, 50L	T/L	1.8	3.50 x 11	130 / 70 - 11, 60L	T/L	2.0-2.5
Liberty 125	ZAPM11 / ZAPM22	1.60 x 16	80 / 80 - 16, 46J	T/L	1.8	2.50 x 14	110 / 80 - 14, 56J	T/L	2.0-2.2
Liberty 125 RST	ZAPM381	2.15 x 16	90 / 80 - 16, 51J	T/L	2.0	2.75 x 14	110 / 80 - 14, 59J	T/L	2.5
Liberty 50	ZAPC15 / ZAPC371	1.60 x 16	70 / 90 - 16, 42J 80 / 80 - 16, 46J ('98>)	T/L	1.8	2.15 x 11	90 / 80 - 16, 52J	T/L	2.0
NRG / NRG Mc2	ZAPC04 / ZAPC18	3.50 x 13	130 / 60 - 13, 53J	T/L	1.3	3.50 x 13	130 / 60 - 13, 53J	T/L	1.8-2.0
NRG Extreme air / water cooled	ZAPC21 / ZAPC22	3.50 x 13	130 / 60 - 13, 53J	T/L	1.3	3.50 x 13	130 / 60 - 13, 53J	T/L	1.8-2.0
NRG Mc3 air / water cooled	ZAPC21/ZAPC32	3.50 x 13	130 / 60 - 13, 53J	T/L	1.3	3.50 x 13	130 / 60 - 13, 53J	T/L	1.8-2.0
NRG Power liquid & air cooled	ZAPC451 / ZAPC453	3.00 x 13	120 / 70 - 13, 57L	T/L	1.2	3.50 x 13	140 / 60 - 13, 57L	T/L	1.9
Quartz 50	NSP1T	2.50 x 10	100 / 80 - 10, 52J	T	1.2	2.50 x 10	100 / 80 - 10, 52J	T	1.7-2.5
Sfera 125 four stroke	ZAPM01	2.50 x 10	100 / 80 - 10, 52J	T/L	1.5	2.50 x 10	130 / 70 - 10, 62J	T/L	1.8-2.3
Sfera 50 / 80	NSL1T / NS81T	2.15 x 10	90 / 90 - 10, 50J	T/L		2.15 x 10	90 / 90 - 10, 52J	T/L	
Sfera RST 50 / 80	ZAPC01 / ZAPM03	2.50 x 10	100 / 80 - 10, 52J / 53J	T/L	1.5	2.50 x 10	110 / 80 - 10, 58J	T/L	1.8-2.3
Skipper 125	CSM1T	2.50 x 10	100 / 80 - 10, 52J	T	1.3	2.50 x 10	110 / 80 - 10, 58J	T	1.8-2.3
Skipper LX 125	ZAPM12	3.50 x 12	120 / 70 - 12, 51J	T/L	1.4	3.50 x 12	130 / 70 - 12, 56L	T/L	1.6-1.8
Skipper ST 125 four stroke	ZAPM21	3.50 x 12	120 / 70 - 12, 51L	T/L	1.4	3.50 x 12	130 / 70 - 12, 56L	T/L	1.6-1.8
Typhoon 125	ZAPM02	3.50 x 10	120 / 90 - 10, 56J	T/L	1.3	3.50 x 10	120 / 90 - 10, 56J	T/L	1.8-2.5
Typhoon 50 / Typhoon 50 RST	TEC1T / ZAPC19	3.50 x 10	120 / 90 - 10, 56J	T/L	1.3	3.50 x 10	120 / 90 - 10, 56J	T/L	1.8-2.5
Typhoon 80	TE81T	3.50 x 10	120 / 90 - 10, 56J	T/L	1.3	3.50 x 10	120 / 90 - 10, 56J	T/L	1.8-2.5
Velofax 50	VTAC02	1.60 x 17	70 / 90 - 17, 43M	T/L	2.0	1.85 x 16	80 / 90 - 16, 46M	T/L	2.5-3.0
X8 125 / X8 250	ZAPM363 / ZAPM364	3.50 x 14	120 / 70 - 14, 55P	T/L	2.3	3.00 x 12	130 / 70 - 12, 62P	T/L	2.6
X9 125	ZAPM23	3.50 x 14	120 / 70 - 14, 55 P	T/L	2.1	3.50 x 14	140 / 60 - 14, 64 P	T/L	2.3 - 2.5
X9 250 (Honda engine)	ZAPM23	3.50 x 14	120 / 70 - 14, 55 P	T/L	2.0	3.50 x 13	140 / 60 - 13, 63P	T/L	2.2 - 2.5
X9 250 Evolution (Piaggio engine)	ZAPM 23	3.50 x 14	120 / 70 - 14, 55 P	T/L	2.1	3.50 x 14	140 / 60 - 14, 64 P	T/L	2.3 - 2.5
X9 500 and X9 500 Evolution	ZAPM27	3.50 x 14	120 / 70 - 14, 55 S	T/L	2.2	3.50 x 14	140 / 70 - 14, 68 S	T/L	2.3 - 2.6
X9 500 fitted with dedicated top box	>	>	>	>	2.4	>	>	>	2.3 - 2.6
Zip 50 Cat 2 stroke & 4 stroke	ZAPC25 / LBMC25	2.50 x 10	100 / 80 - 10, 53L	T/L	1.3	3.00 x 10	120 / 70 - 10, 54L	T/L	1.8 - 2.0
Zip 50 two stroke	SSL1T	2.15 x 10	90 / 90 - 10, 50J	T/L	1.2	2.15 x 10	90 / 90 - 10, 50J	T/L	1.7 - 2.5
Zip RST 50 two stroke	ZAPC06	2.50 x 10	100 / 80 - 10, 52J	T/L	1.4	2.50 x 10	100 / 80 - 10, 52J	T/L	1.8
Zip SP 50 two stroke	ZAPC11	2.50 x 10	100 / 80 - 10, 52J	T/L	1.4	2.50 x 10	110 / 80 - 10, 52J	T/L	1.8
Zip 125 four stroke	ZAPM25	2.50 x 10	100 / 80 - 10, 53L	T/L	1.6	3.00 x 10	120 / 70 - 10, 54L	T/L	2.0

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GILERA TYRES & WHEELS

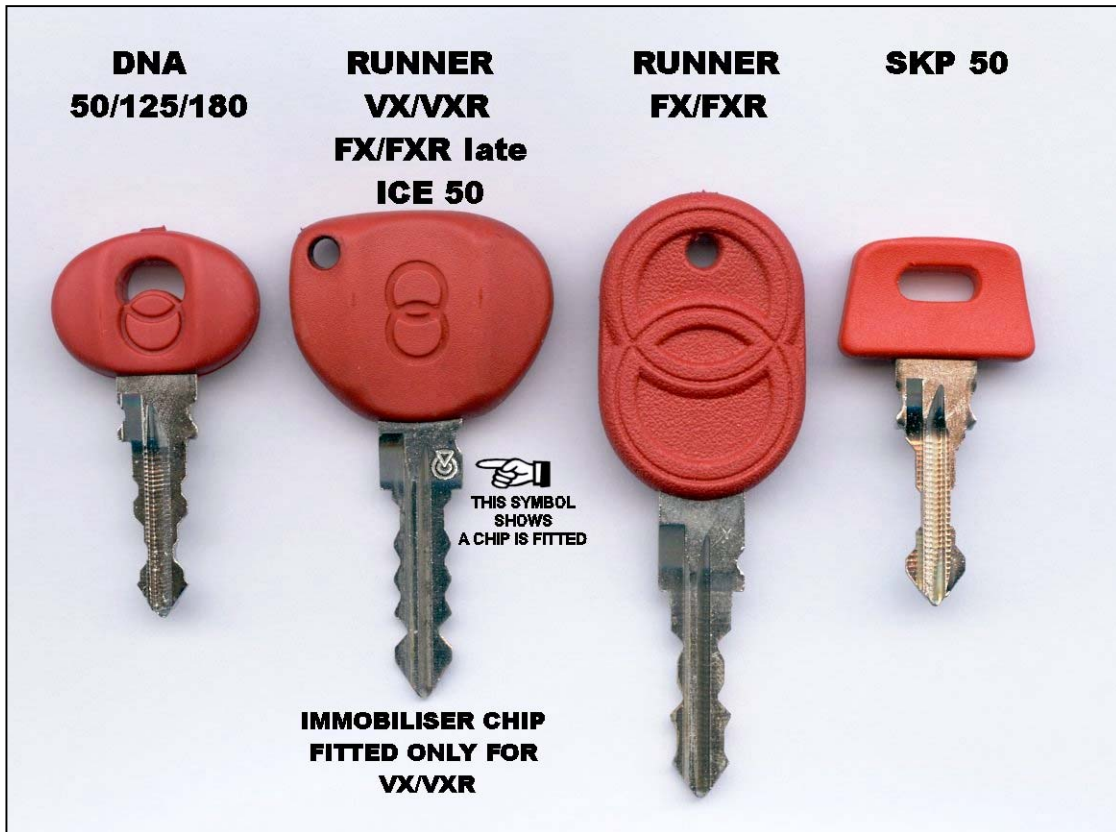
2000 / 2001 / 2002 / 2003 / 2004 / 2005

MODEL		FRONT				REAR			
	chassis prefix	wheel	tyre		bar	wheel	tyre		solo-2up
Coguar 125 custom	ZAPM17	2.50 x 17	100 / 80 - 17, 52 S	T	1.8	3.00 x 17	130 / 70 - 17, 62 T	T	2.0-2.2
DNA 125 / 180 four stroke	ZAPM26	3.50 x 14	120 / 70 - 14, 55 P	T/L	2.0	3.50 x 14	140 / 60 - 14, 64 P	T/L	2.2-2.5
DNA 50	ZAPC27	3.50 x 14	120 / 70 - 14, 55 L	T/L	1.8	3.50 x 14	140 / 70 - 14, 62	T/L	2.0
DNA 50 RST	ZAPC27	3.00 x 15	120 / 70 - 15, L or 56P	T/L	1.8	3.50 x 14	140 / 70 - 14, 62L or 68P	T/L	2.0
GSM 50 super motard	VTBC08	2.50 x 17	110 / 80 - 17, 52 T	T	1.4	3.50 x 17	130 / 70 - 17, 62 T	T	1.6
H@K 50 trail bike	VTBC08	1.40 x 21	80 / 90 - 21, 48 P	T	1.4	1.85 x 18	110 / 80 - 18, 58 P	T	1.6
Nexus 500	ZAPM35	3.50 x 15	120 / 70 - 15, 56 H	T/L	2.2	4.50 x 14	160 / 60 - 14, 65H	T/L	2.5
Ice 50	ZAPC30	3.00 x 10	120 / 90 - 10, 56 J	T/L	1.3	3.00 x 10	120 / 90 - 10, 56 J	T/L	1.8
RCR 50 trail bike	VTHSDR1EB	1.60 x 21	80 / 90 - 21, 48 P	T	1.0-1.1	2.15 x 18	110 / 80 - 18, 58P	T	1.2-1.3
Runner 50	ZAPC14 / ZAPC362	3.50 x 12	120 / 70 - 12, 51L (or J)	T/L	1.6	3.50 x 12	130 / 70 - 12, 56L (or J)	T/L	1.8
Runner 50 Purejet	ZAPC361	3.50 x 12	120 / 70 - 12, 51L (or J)	T/L	1.6	3.50 x 12	130 / 70 - 12, 56L (or J)	T/L	1.8
Runner 50 RST & Purejet RST	ZAPC461 / 462	3.00 x 14	120 / 70 - 14, 55L	T/L	1.7	3.50 x 13	140 x 60 - 13, 57L	T/L	2.10
Runner FX125 / FXR180 (rear drum)	ZAPM07 / ZAPM08	3.50 x 12	120 / 70 - 12, 51L (or J)	T/L	1.4	3.50 x 12	130 / 70 - 12, 56 L	T/L	1.6-2.2
Runner FX125 / FXR180 DD	ZAPM07 / ZAPM08	3.50 x 12	120 / 70 - 12, 51L (or J)	T/L	1.4	3.50 x 13	130/60-13, 60 P	T/L	1.6-2.2
Runner VX125 / VXR180	ZAPM24	3.50 x 12	120 / 70 - 12, 51 L	T/L	1.4	3.50 x 12	130 / 70 - 12, 56 L	T/L	1.6-2.2
Runner VX 125 rst	ZAPM461	3.00 x 14	120 / 70 - 14, 55P	T/L	1.8	3.50 x 14	140 / 60 - 13, 63P	T/L	2.2
Runner VXR200	ZAPM24	3.50 x 12	120 / 70 - 12, 51 P	T/L	1.4	3.50 x 12	130 / 70 - 12, 56 P	T/L	1.6-2.2
SMT 50 super motard	VTHSDR1FB		110 / 80 - 17	T	1.7-1.8		130 / 70 - 17		2.0-2.1
Stalker 50 (previously SKP)	ZAPC13 / ZAPC401	3.50 x 10	120 / 90 - 10, 56 J	T/L	1.2	3.50 x 10	130 / 90 - 10, 61 J	T/L	1.6-2.0
Below are older motorcycles									
GFR 125 race replica	167	3.00 x 17	110 / 70 - 17, 54 T	T/L	1.8	4.00 x 17	150 / 60 - 17, 65 T	T/L	2.0-2.2
Nordwest 600 super motard	228	3.50 x 17	120 / 70 - 17, 60 R	T/L	2.1	4.50 x 17	160 / 60 - 17, 60 R	T/L	2.3-2.4
RC 600 trail	228	1.85 x 21	90 / 90 - 21, 54 T	T	1.8	2.50 x 17	130 / 80 - 17, 65 T	T	2.0-2.2
Saturno 350 & 500 café racer	222	3.00 x 17	110 / 70 - 17, 53 H	T/L	2.1	4.00 x 17	160 / 60 - 17, 68 H	T/L	2.3
XRT 350 / 600 trail	224 / 218	1.85 x 21	90 / 90 - 21, 54 T	T	1.8	2.50 x 17	130 / 80 - 17, 65 T	T	2.0-2.2
Chrono 125 race replica	164	2.50 x 16	100 / 80 ZR 16	T/L	1.8-2.0	3.00 x 17	130 / 70 ZR 17	T/L	2.0-2.2
Apache 125 trail		1.85 x 21	90 / 90 - 21, 54 R	T	1.8	2.50 x 18	120 / 80 - 18, 62 R	T	2.0-2.2
Freestyle 125 super motard		2.50 x 16	100 / 80 - 16, 50 S	T/L	1.8-1.9	3.00 x 17	130 / 70 - 17, 62 S	T/L	2.0-2.2
CX 125 race replica	158	3.50 x 17	120 x 60 ZR 17	T/L	2.1-2.2	4.00 x 17	150 / 60 ZR 17	T/L	2.3-2.4

Bold type denotes a current model. This list was last updated on 13 December 2005. Identify a vehicle by its chassis prefix AND model name.

GILERA KEYS

The following photograph shows the different types of keys used on the recent Gilera models.



Only the Runner VX / VXR has an immobiliser. Note the symbol on the key that denotes an immobiliser chip is fitted.

Later Runner FX / FXR keys look the same as the VX / VXR key but they do not have an immobiliser chip and the symbol is not on the key.

KEY PART NUMBERS

DNA 50 / 125 / 180 = 970239

Runner VX / VXR = 576232 with immobiliser chip

Runner FX / FXR = the shape shown in the picture is 563585 this has been superseded to 576719 this looks like the VXR key but does not have an immobiliser chip.

SKP 50 = 574690

ICE 50 = 576719

SERVICE LIMITS

		NEW	LIMIT	Or change at:
50cc 2T				
(Inc. Purejet)	Belt	-	17.5mm	15,000 km
	Rollers	-	18.5mm	-
	Oil Pump Belt	-	-	20,000 km
	Fuel Filter	-	-	10,000 km (Purejet)
50cc 4T				
	Oil	850cc		6000 km
	Belt	-	17.5mm	12,000 km
	Rollers	18.9mm	18.5mm	-
125cc 2T				
	Belt	-	21.0mm	12,000 km
	Rollers	-	18.5mm	-
	Oil Pump Belt	-	-	30,000 km
125cc 4T orig.				
	Oil	850cc		5000 km
	Belt		17.2mm	10,000 km
	Rollers		18.5mm	-
125cc Leader.				
	Oil	1 ltr.		6000 km
	Belt	22.5mm	21.5mm	12000 km (check at 6000 km)
	Rollers	19.0mm	18.5mm	-
B 125	Brake Disks	4.00mm	3.50mm	-
180cc 2T				
	Belt	-	20.5mm	12,000 km
	Rollers	-	19.5mm	-
	Oil Pump Belt	-	-	30,000 km
180 / 200cc Leader.				
	Oil	1 ltr.		6000 km
	Belt	20.5mm	19.5mm	12000 km (check at 6000 km)
	Rollers	20.6mm	20.0mm	-
250cc 4T Hexagon (Honda engine)				
	Oil	800cc		3000 km
	Belt		21mm	18000 km
	Rollers	23.8mm	23.2mm	-
250cc 4T X9 (Honda engine)				
	Oil	1 ltr.		3000 km
	Belt	23.3	22.3	18000 km
	Rollers	>< 23mm	22.5mm	-
500cc Master				
	Oil	1.7 ltr.		6000 km
	Belt	26.2mm	25mm	12000 km
	Rollers	24.9mm	24.5mm	Check 12000 km
	Front Disk	4.00mm	3.50mm	-
	Rear Disk	5.00mm	4.50mm	-
250cc Quasar				
	Oil	1.3 ltr.		10000 km
	Belt	26.2mm	25mm	15000 km
	Rollers	24.9mm	24.5mm	10000 km
	Front Disk	4.00mm	3.50mm	-
	Rear Disk	5.00mm	4.50mm	-

Restriction Notes

Never discuss the technicalities of how to de-restrict with end users.

- ❑ Piaggio have never supplied any information about how vehicles are restricted or how to make them go faster.
- ❑ Piaggio can not advocate de-restriction for any reason.
- ❑ Vehicles will only have been homologated as Mopeds so will be technically illegal if they are de-restricted.
- ❑ Piaggio have never offered any tuning parts.
- ❑ If a 50 is de-restricted the licensing requirements will be the same as a 125, so Piaggio's official line is "Do not de-restrict, if you want to go faster get a 125"

125cc engines are not restricted, they are designed to produce no more than 11 kw. So they will be learner legal.

50cc engines are always restricted and are only sold as 45 km/h mopeds. There is no "full power" option. Most countries in Europe have the same 45 km/h category.

Restriction of 50cc 2 stroke twist and go engines.

Non catalysed engines.

All engines will have:

- ❑ A spacer between the front pulley halves. (stops it obtaining the highest top gear ratio)
- ❑ A branch pipe on the exhaust. (stops the engine revving beyond a certain point)

In addition, **water cooled** engines will have:

Older engines, starting with the first Runner and NRG MC2.

- ❑ Have a tube spot welded into the inlet end of the silencer.

Newer engines.

- ❑ Have a tube seam welded into the out let end of the exhaust pipe.

All these restrictions can be removed without the need to re-jet the carburettor.

Catalysed engines.

- ❑ Have the spacer and the branch pipe. These engines will need a larger main jet, four sizes up on standard. Piaggio do not supply larger jets.
- ❑ Do not remove the brass baffle plate from the carburettor bell mouth if one is fitted.
- ❑ It is worth blanking off the "secondary air pipe" going to the exhaust just to ensure reliability.

Restriction of 50cc 4 stroke twist and go engines. See Chapter 3 page 11

All engines:

- ❑ A spacer between the front pulley halves.
- ❑ An electrical restriction in the CDI unit.
- ❑ They will need a larger main jet if de-restricted. Fowlers can supply this.

Restriction of 50cc 2 stroke geared engines. H@K & GSM. See Chapter 4 page 2

- ❑ Only restriction is a restrictor in the inlet end of the exhaust pipe.
- ❑ A two size larger main jet will be needed. A standard DellOrto part.

Restriction of 50cc 2 stroke geared engines. RCR. See Chapter 4 page 9.

- ❑ Only restriction is a tube in the inlet end of the exhaust pipe.
- ❑ Increase main jet by at least four sizes.
- ❑ Raise needle one notch.

If de-restriction is carried out by an authorised dealer, Piaggio are happy that the warranty will not be affected. Any tuning or fitting of after market parts by the end user or the dealer will affect the warranty.

50cc Moped restriction information

What is a moped?

A Moped is a two wheel vehicle of no more than 50cc with a design top speed of 45 km/h (28 mph) All current Piaggio, Vespa and Gilera 50cc two-wheel vehicles are restricted and are only supplied as Moped's. They are only tested and homologated as mopeds.

Piaggio do not recommend de-restricting or modifying for any reason.

If the vehicle may be used on a public road. The person carrying out the modification must take full responsibility for the possible implications of their actions.

If a Moped is de-restricted.

1. It becomes a 50cc Motorcycle.

DVLA should be informed and the vehicle re-registered.

2. It may not conform to motorcycle requirements and may not be legal.

For example; Lighting requirements are different for Mopeds and Motorcycles.

Piaggio can not give any assurance that a de-restricted vehicle will be technically legal.

3. A motorcycle licence will be required.

A 50cc motorcycle has the same licence requirement as a 125cc.

A Motorcycle can not be ridden on a provisional motorcycle licence before basic training is completed (CBT).

A full car licence allows a moped to be ridden but not a 50cc motorcycle.

4. A rider must be at least 17 years old.

A 16 year old can ride a Moped but not a 50cc Motorcycle.

5. The Insurance company who are insuring the vehicle should be informed.

The premium will probably be un-affected but any modification should be notified to the insurer in writing. Insurance will be invalid if the vehicle is modified and the insurer not informed.

Remember that if the vehicle or the rider is not legal then the insurance will be invalid.

6. Piaggio Ltd. Are happy that the warranty will remain valid if the de-restriction is carried out by an authorised dealer.

If any "tuning" or fitting of non Piaggio parts is carried out then the warranty will be invalid.

Piaggio's advice has to be: If you want to go faster, get a 125.

Recently a 16 year old was stopped for speeding, when the Police realised his age they immediately charged him with.

1. Exceeding the speed limit.

2. Riding a motorcycle with no motorcycle licence (he was under age).

3. Riding a motorcycle without valid insurance (insurance is invalid because he is riding illegally).

The dealer who did the de-restriction was charged and found guilty of aiding and abetting!

The boy's father attempted to sue the dealer!

A disclaimer may be of little use as a defence. Be warned! If someone rides to your shop and asks you to de-restrict then rides away they will be breaking the law and they have only been able to break the law because you helped them.

If you get a disclaimer signed one of the conditions should be "I do not intend to use this vehicle on public roads" and another should be "I am fully aware of the legal implications of having my vehicle de-restricted and I am prepared to take full responsibility for this".

PIAGGIO / VESPA / GILERA CHASSIS NUMBER LOCATION.

Traditional Vespa. PX 125 / 150 / 200. T5 Classic. Etc.

- ❑ Lift the seat. Remove engine cover (off side) by turning the off side lever near the seat hinge, outwards. Chassis number is stamped into the chassis near the rear.

Vespa ET4, ET2, GT 125 / 200, GTS 250, Vespa LX.

- ❑ Lift seat. Lift out helmet storage compartment. Chassis number is stamped into the frame across the scooter just in front of the battery.

Hexagon 125, 180 & 250.

- ❑ Remove seat by unscrewing the knob in the boot. Chassis number is stamped into the frame toward the rear.

Fly 50 / 125, NRG, Skipper, Sfera, Typhoon, Zip. Gilera Runner & SKP (Stalker).

- ❑ Chassis number is stamped into a plate on the off side below the foot boards. You do not need to remove anything, just look under the scooter.

Ice 50

- ❑ Remove the black central cover over the oil tank filler. The Chassis number is stamped into the main chassis tube on the off side just below the oil filler cap.

Liberty, Free

- ❑ Chassis number is stamped onto a plate attached to the frame on the off side above the cooling fan cover.

Velofax

- ❑ Chassis number is stamped into the underside of the rear carrier (part of the frame).

X9 125, 180, 250 & 500. B 125, 200 & 500. Nexus 500, X8 125 / 250.

- ❑ Lift seat. Pull up the internal carpet at the rear. Remove the small panel in the floor toward the rear. Chassis number is directly below.

DNA, H@K, GSM, RCR, Coguar and older Gilera motorcycles, Nordwest, GFR etc.

- ❑ The chassis number is stamped into the right hand side (off side) of the head stock.

Diesis 50, 100

- ❑ The chassis number is stamped into the right hand side frame tube, underside near the rear of the scooter and beside the frame cross tube.

A duplicate of the chassis number will not be found in any other location. If the number has been removed it will not be possible to identify the vehicle.

QUICK REFERENCE GUIDE

FIRST SERVICE is always at 1000 km (625 miles)

If details here contradict the Service Station Manual you should trust this information.

125 4t. (Original) air cooled

Check oil level by sight glass.

Engine Oil: 10w40 synthetic. 850 cc.

Oil Change: 3000 km

Service: 6000 km.

Rear Hub: 80w Light Gear. 90 cc.

Fuel: Min 95. Unleaded.

Tappets: 0.15 mm.

Ign. Timing: 10° @ 1500. 32° @ 6000 rpm.

Idle: 1600 – 1800 rpm

Slow running: 3.5 turns out. (out to richen)

CO: 3.5% (hose on exhaust outlet)

Spark Plug: 0.7 - 0.8 mm
Champion RG4HC
NGK CR8E (colder)

Rollers wear limit: 18.5 mm min. dia.

Belt wear limit: 17.2mm (min width)

Change Belt: 10,000 km (24 mths)

125/180/200 4t LEADER 2v & 4v

Check oil level with dipstick screwed IN

Engine Oil: 1 ltr 5w40 synthetic SJ

Oil change: 6000 km (check @ 3000 km)

Service: 6000 km (12mths)

Rear Hub: 80/90 light gear oil. Quantity varies, check manual

Coolant: 50 / 50 mix

Check manual for quantity.

Tappets: in: 0.10mm. ex: 0.15 mm

Ign. Timing: 10° @ 2000. 34° > 4500 (125)

10° @ 2000. 30° > 4000 (180)
35° > 7000 (180)

Idle: > <1600 rpm.

Slow running: 3 turns out (out to richen)

CO: 3.1- 4.5% (40x500mm
long tube on exhaust)

Spark Plug: 0.8 - 0.9mm

Check manual for correct plug

Rollers wear limit: 18.5 mm min.dia. 125

20.0 mm min.dia. 180

Belt wear limit: 21.5 mm width 125

19.5 mm 180, 200

Belt Change: 12,000 km or 24 mths

check at 6000 / 12 mths

Hexagon GT 250/GTX 250(Honda Helix)

Check oil level with dipstick screwed OUT

Engine Oil: 800cc (1ltr after strip) 10w40

Oil change: 3000 km

Service: 6000 km

Rear Hub: 150cc 10w40

Coolant: 1.82 ltr.

50/50 with distilled water

Tappets: Back off one division

Ign. Timing: 12° @ 1500. 27° @ 7000 rpm

Idle: 1500 rpm.

Slow running: 2 ¾ turns out (out to richen)

CO: not quoted

Spark Plug: 0.8 - 0.9mm

NGK DPR6EA9

Pulley wear limit: 0.4mm

Belt wear limit: 21mm (min width)

Belt Change: 12,000 km (24 mths)

X9 250 (Honda Foresight engine)

Check oil level with dipstick screwed OUT

Engine Oil: 1.1ltr (1.3 at strip) 20w50

Oil change: 3000km

Service: 6000km

Rear Hub: 160cc (200cc at strip)

80/90 light gear oil

Coolant: 1.2 lt 50 / 50 mix

Tappets: 0.12mm 1 division inwards

Ign. Timing: 1500 = "F" mark

Idle: 1500 rpm

Slow running: 2 1/8 turns out

(out to richen)

Fuel Level: 18.5mm ± 1mm

CO: not quoted

Spark Plug: 0.8 - 0.9mm

NGK; DPR7 EA9.

Rollers wear limit: 22.5 mm min.dia.

Belt wear limit: 22.3 mm min. width

Belt Change: 18,000km. 36 mths

125 / 180 2t Water cooled.

Service: 5000 km (12 mths)
Hub Oil: 80cc - 80w90 light gear oil
Spark Plug: 0.6 - 0.7 mm
Champion RN2C
NGK BR9 ES
Belt Change: width 20.5mm min - 180
width 21mm min - 125
12,000 km (24 mths)
Oil pump belt: 20,000 km (36 mths)

125 2t Air cooled.

Service: 5000 km (12 mths)
Hub Oil: 80w90 light gear oil
Typhoon 100cc
Skipper 80cc
Spark Plug: 0.6 - 0.7 mm
Champion RN2C
NGK BR9 ES
Belt change: 12,000 km (24mths)
Oil pump belt: 20,000 km

50 2t Air cooled.

Service: 5000 km (12mths)
Hub Oil: 75cc - 80w90 light gear oil
NRG 85cc
Liberty 100cc
Spark Plug: 0.5 - 0.6 mm
Champion RN2C
NGK BR9 ES
Belt width: 17.5 mm min width
Belt change: 15,000 km (36mths)
Oil pump belt: 20,000 km

50 2t Water cooled.

Service: 5000 km (12mths)
Hub Oil: 80w90 light gear oil
Runner 75cc
DNA 100cc
NRG 85cc
Spark Plug: 0.5 - 0.6 mm
Champion RN2C
NGK BR9 ES
Belt width: 17.5 mm min width
Belt change: 15,000 km (36mths)
Oil pump belt: 20,000 km

50 2t Velofax.

Service: 4000 km (12mths)
Hub Oil: fill to level (48cc?)
80w90 light gear oil
Spark Plug: 0.5 - 0.6 mm
Champion RN2C
NGK BR9 ES
Belt width: not quoted
Roller dia: not quoted
Oil pump belt: 20,000 km (36 mths)

50 4t Air cooled.

Check oil level by sight glass.
Engine Oil: 850cc. 5w40 synthetic SJ
Oil change: 6000 km (check 3000 km)
Service: 6000 km
Rear Hub: 80cc. 80/90 light gear oil.
Tappets: in: 0.10mm. ex: 0.15 mm
Ign. Timing: 8° @ 1500. 24° > 5000
Idle: 1900-2000 rpm.
Slow running: 3 turns out (out to richen)
CO: 3.2% ± 0.5 (40-50 mm
long tube on exhaust)
Spark Plug: 0.8 - 0.9mm
NGK CR 9EB
Champion RG 4HC
Rollers wear limit: 18.5 mm min.dia.
Belt wear limit: 17.5 mm min width
Belt Change: 12,000 km or 24 mths

Vespa PX 125 / 150 / 200.

Service: 5000 km (12 mths)
Gear box oil: 250cc - 80w light gear oil
or 10w40 4 stroke engine oil
Spark Plug: 0.5 - 0.6mm
PX200 - Champion N4C
NGK B7 ES
PX150 } Champion RL82C
PX125 } NGK BR7 HS
Ignition timing:
Between "A" & "IT" marks when new
Set to "IT" 18° btdec

125 4t Coguar. Honda XL125 engine

Check oil level with dipstick screwed OUT.

Engine Oil: 1.2 ltr. 20w50 synthetic SG**Oil change:** 3000 km**Service:** 6000 km**Tappets:** in:0.10 mm. ex: 0.10 mm**Ign. Timing:** 15° @ 1400. 32° @ 3450**Idle:** 1400 rpm.**Slow running:** 2 turns out (out to richen)**CO:** 5% ± 0.5%**Spark Plug:** 0.8 - 0.9 mm

NGK DPR8 EA9

Chain size:**500 4t Master**

Check oil level with dipstick screwed IN

Engine Oil: 1.7 ltr 5w40 synthetic SJ**Oil change:** 6000 km (check @ 3000 km)**Service:** 6000 km (12mths)**Rear Hub:** 250cc 80/90 light gear oil.**Coolant:** 1.8 ltr. 50 / 50 mix**Tappets:** in: 0.15mm. ex: 0.15 mm**Idle:** 1450 rpm. ± 50 rpm.**CO:** 1.25% ± 0.25%**CO²:** 14.5% ± 1%**Spark Plug:** 0.7 - 0.8mm

Champion RG6YC

NGK CR7 EKB

Rollers wear limit: 24.5 mm min.dia.**Belt wear limit:** 25 mm width.**Belt Change:** 12,000 km or 24 mth.**Air Filter Change:** 18,000 km or 36 mth.**Fuel Filter Change:** 48,000 km**100 2t. Diesis.** Derbi engine**Service:** 5000 km (12 mths)**Hub Oil:** 110cc - 80w90 light gear oil**Spark Plug:** 0.6 - 0.7 mm

Champion RN2C

NGK BR9 ES

Belt change: min width = 16mm

5000 km (12 mths)

Then every 10,000 km

50 2t H@K, GSM. Gilera engine**Service:** 5000 km (12 mths)**Gearbox Oil:** 650cc - 10w40 4t engine oil**Spark Plug:** 0.5 - 0.6 mm

Champion RN2C

NGK BR9 ES

Chain size: 415 x 124 links**50 2t RCR.** Derbi engine**Service:** 5000 km (12 mths)**Gearbox Oil:** 500cc - 10w40 4t engine oil**Spark Plug:** 0.5 - 0.6 mm

Champion RN2C

NGK BR9 ES

Chain size: x 130 links**50 2t PUREJET.** Direct injection**Service:** 5000 km (12mths)**Hub Oil:** 75cc - 80w90 light gear oil**2T Oil:** Fully Synthetic API TC++**Spark Plug:** 0.5 - 0.6 mm

Champion RG6 YCA

NGK ?

Belt width: 17.5 mm min width**Belt change:** 15,000 km (36mths)**Rollers:** 18.5 mm min.dia.**Fuel Filter:** 10,000 km (24 mths)**Mixer belt:** 20,000 km

250 4T QUASAR (carburettor)

Check oil level with dipstick screwed IN

Engine Oil: 1.3 ltr 5w40 synthetic SJ

Oil change: 10000 km

Service: 10000 km (12mths)

Rear Hub: 150cc 80/90 light gear oil (X9)

Coolant: 1.2 ltr. 50 / 50 mix

Tappets: in: 0.10mm. ex: 0.15 mm

Idle: 1650 rpm. \pm 50 rpm.

CO: 3.8 \pm 0.7 @1650 rpm
(with SAS valve closed)

Spark Plug: 0.7 - 0.8 mm
Champion RG4 HC
NGK CR8 EB

Rollers wear limit: 20 mm min.dia.

Belt wear limit: 19.5 mm width.

Belt Change: 12,000 km or 24 mth.

Air Filter: Clean at service

250 4T QUASAR (injection)

Check oil level with dipstick screwed IN

Engine Oil: 1.3 ltr 5w40 synthetic SJ

Oil change: 10,000 km (check @ 5000 km)

Service: 10,000 km

Rear Hub: 250cc 75/85 light gear oil GL4

Coolant: 2.1 ltr. 50 / 50 mix

Tappets: in: 0.10mm. ex: 0.15 mm

Idle: 1650 rpm. \pm 50 rpm.

CO: N/A

Spark Plug: 0.7 - 0.8 mm
Champion RG4 PHP
NGK ?

Rollers wear limit: 20 mm min.dia.

Belt wear limit: 19.5 mm min width.

Belt Change: 15,000 km.

Air Filter clean: 10,000 km

- ❑ If there is ever any doubt about service intervals for a vehicle, always use the intervals shown in the owners handbook.
- ❑ Piaggio recommend fully synthetic oil for all engine applications.
- ❑ Older engines used variator rollers that needed greasing. Later greaseless rollers can be fitted to early variators. If greased rollers are used lubricate sparingly at every service (except first): Use only "Jota" grease p.n. 494643
- ❑ Piaggio have never offered any tuning parts for any vehicles and we will never recommend tuning or de-restricting a vehicle for any reason.
- ❑ All 50cc vehicles are only available as "mopeds" restricted to 45 kmh (28mph).
- ❑ All current 125cc vehicles are "Learner Legal" producing less than 15 hp (11kw). They are not restricted. If they are tuned they will not be learner legal and warranty will be affected.

KEYS.

All Leader engined vehicles with immobilisers

Notes:

- ❑ Only the Service key should be used day to day. The Master key should be kept safely at home.
- ❑ Use the Service key for testing and fault finding. Only use the Master key for programming.
- ❑ It is not possible to programme a replacement master key to a previously programmed immobiliser.
- ❑ It is possible to programme new Service keys only if you have the original Master key.
- ❑ Original Service keys with a chip fitted can be recognised by this symbol etched into the metal near the top.



If new locks are fitted:

- ❑ Lock set will be supplied with one Master and one Service key.
- ❑ If you do not have any original keys then you must also change the CDI / Immobiliser unit.
- ❑ If you have the original Master key:
Use a screwdriver to prying the Master key apart so the Chip can be removed. Remove the chip from the new key and replace it with the original. Now the immobiliser will not know that anything has changed.
Now the system is working and you can programme the new Service keys.

Programming new Service keys:

Programming is easy but be aware that precise timing can be important.

- ❑ 1. Master key in and turn on for TWO seconds
- ❑ 2. Service key in and turn on for TWO seconds
- ❑ 3. If you have a second Service key : In and turn on for TWO seconds
- ❑ 4. Master key in and turn on for TWO seconds
- ❑ You have up to ten seconds to change keys over.
- ❑ If you are adding an extra Service key you must re-programme all the Service keys together, you can not just add a key.
- ❑ The system can remember up to seven keys at a time. If you programme an eighth key then the first one will be forgotten.

Obtaining spare keys from an automotive lock smith:

The system we use is also used by a lot of cars. Most automotive locksmiths will be able to supply spare Service keys. They can not supply new Master keys.

- ❑ Give the locksmith the Master or Service key.
- ❑ They should have a suitable blank to cut.
- ❑ They will scan the key to identify the chip type fitted.
- ❑ They fit the appropriate chip to the new key.
- ❑ This chip will be a clone of the original so, programming will not be necessary.

Keys Galore – London – 020 7586 9741
Express Keys – Kent – 01689 850008

First Access – Herts - 0115 967 6466
Auto Keys – London – 020 7586 9741