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LIVING WITH YOUR SCOOTER

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The Peugeot Story

Peugeot celebrated its 100th automotive anniversary in 1998 but its history stretches back a further 88 years and encompasses an incredibly diverse range of products.

Now part of the massive PSA industrial conglomerate that includes Citroën and Peugeot, the Peugeot dynasty has classically humble beginnings.

Brothers, Jean-Pierre and Jean-Frederic Peugeot decided to manufacture cold rolled steel in the family mill on the Doubs river in eastern France. A far cry from the high-profile World Rally Championship, Le Mans and Formula One with which Peugeot has latterly become known. Fine steel strips and springs were sold to the nearby Swiss clock-making industry and by 1818 the brothers had moved into producing steel for tools, mainly saw blades. By 1824, 70 workers toiled in the factory at Herimoncourt and in 1850 the famous Peugeot trademark, the rampant Lion, was being used to mark their top grade of steel. The king of beasts was formerly registered as a trademark in 1858.

In a manner which reflected the innovative industrial production of Victorian Britain, Peugeot further diversified into coffee mills made of wood or metal, some for grocers' shops and cafes, others for the home. There followed pepper mills, washing machines, furniture, wireless sets, sewing machines, crinolines, umbrellas, irons and even shotguns. Much later, the first modern food processor, the Peugimix, was the talisman in a whole range of kitchen appliances.

The First Motor Vehicles

The first bicycles were made in 1882 at Beaulieu-Mandeure after Armand Peugeot was inspired by this new form of locomotion during his stay in England as a student.

In 1889, Peugeot took a leap of faith with its first 'car', actually a tricycle powered by a steam engine. From this inauspicious start they designed a four-wheeler the following year which used a Panhard-produced Daimler 565 cc V-twin engine. Cooled by water circulating in the frame tubes, it weighed 500 kg and produced 1hp at 1000 rpm. Top speed was little more than stationary.

The type 3 car of 1891 introduced mass production techniques for the day – 64 were made in four years. Six years on, the type 15 was the first car powered by an all-Peugeot engine.

The first Peugeot motor-bicycle appeared in 1902, a 1.5 bhp single cylinder engine in a cycle frame, and the company found itself in the heady position, repeated elsewhere across Europe, as newcomers to both car and motorcycle manufacturing.

The 100cc Speedfight 2

The first Peugeot motor-bicycle appeared in 1902

A 5 hp machine was produced in tandem with the Bebe car designed by Ettore Bugatti. In 1905, a 12 hp racing motorcycle emerged to set two world records including the level kilometre at 76.612 mph. Peugeot's also featured in the first TT races on the Isle of Man in 1907.

After the First World War Peugeot won various Grands Prix races with a 500 cc machine and in 1925 rider Pean set a new world speed record at 103.15 mph on a 750 cc machine.

By 1929 Peugeot embarked on its first truly mass-produced car, the 201, and Peugeot motorcycles were selected for use by the French army, Gendarmerie and the national postal service. A new Peugeot bicycle was also coming off the assembly line every 45 seconds.

The motorcycle range expanded to include 175, 250, 350 and 500 cc machines but after the Second World War production focussed on smaller machines with the first scooters being made in 1955. Racing had taken a back seat but Peugeot won the 175 cc class at the 1952 Bol d'Or leading to the launch of the 175 cc Grand Sport road model.

By 1970 their range had grown to include 23 models, mainly cycle-motors. It was not until 1982 that the first recognisably modern scooters were made with the SC/SX range and these were the first machines in Europe to use plastic bodywork. The formation of Peugeot Motocycles in 1987 acted as the catalyst for the new era of modern scooter production.

Scooter Production

Scooter and cycle-motor production at Peugeot is centred on two contrasting manufacturing plants close to the small town of Sochaux famous as the heartland of the Peugeot dynasty and the faded glory of a once famous football team.

Less than an hour's drive from Basle airport on the Franco-Swiss border, Beaulieu-Mandeure is home to the Peugeot Motocycles assembly plant. Here, tubes are bent into frames, electrical wire is made into looms, silencers are fabricated, bodywork and chassis are painted and largely home-produced components are assembled by the workforce of over 1000 people. Approximately 60% of the machines produced are for export, with the remainder consumed by the home market.

Back along the autoroute towards Basle, Peugeot's modern engine plant at Dannemarie produce the company's four-stroke engines fitted to the Elystar and Elyseo 125 and 150 luxury scooters, using technology from Peugeot's car engine division. At Dannemarie, where the legend 'Honda Engineering' adorns many a high tech machine tool, they produce seven different types of engine, but in a

The 50cc Speedfight 2 X-Race

The 50cc Speedfight 2 X-Team

The 50cc Trekker Road

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The 50cc Trekker Off Road

bewildering 190 different specifications. This compact facility has the capacity to produce 2000 engines per day and has its own pressure and gravity die-casting plants.

Many engine components are sourced from Mahle, Mikuni and Dell'Orto and parts such as pistons, clutches, cylinders and crankshafts are machined on site. The factory has its own nickel and zinc coating facility and heat-treating plant.

While Peugeot's success in Britain has been meteoric it's not without parallel as Peugeot seeks an ever larger share of the massive European scooter market. The Italian 50 cc scooter sector alone accounts for 570,000 machines a year; together with Spain, Germany, France and Holland the total tops a million.

Peugeot leads markets in France, Finland, Belgium, Holland and Denmark and is aggressively pursuing the German and Italian markets where it established subsidiaries in 1997. Despite stiff competition from Piaggio, Aprilia and Malaguti, Peugeot see the Italian market as the key to its greatest expansion.

Speedfight, Trekker and Vivacity

The mainstay of Peugeot's twist-and-go scooter range are the Speedfight 50 and 100 cc models. Unveiled in the UK in late 1996 as a 50 cc, and then joined by a 100 cc model the following summer, the Speedfight's success was responsible for Peugeot becoming the most popular scooter marque in the UK market.

The 50cc Trekker Streetboard

The 50cc Vivacity

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The original Speedfight was superseded by the Speedfight 2 in 2000, most noticeable by its sharper body styling with V-shaped air intake grille in the front panel with asymmetric headlights above. Technical improvements were also made to the steering, suspension and instrumentation.

All models use a two-stroke engine and are either air- or liquid-cooled. Special editions included the Prost model, the multi-coloured X-Team, the X-Race, and the WRC 206 to commemorate Peugeot's success in the World Rally Championship. Reflecting the customising trend amongst scooter owners, the Furious model features exposed motorcycle-style handlebars with a mini all-electronic instrument cluster, carbon fibre-look mirrors and a piggy-back competition style exhaust system. Meanwhile, the model's sporting aspirations are maintained by sharp styling accentuated by a variety of two-colour paint options.

The Trekker superseded the Squab model in 1997 and was aimed at the adventure scooter market, being a machine suitable for road and gentle off-road use. It had the rugged looks of an off-road machine, with knobbly tyres on certain models. All Trekker models use an air-cooled two-stroke engine.

Special versions of the Trekker are the Streetboard, Urban Black, Metal-X, Street Zone and WRC 206, broadening the models appeal with a variety of styling options and colour schemes.

The Vivacity was introduced to the range in 1999 in 50 and 100 cc sizes, and provided a softer less radical styling to the Speedfight. The Vivacity range was supplemented by the Sportline model in 2000 which featured electronic instrumentation and restyled graphics. Special editions of the Vivacity include the VS/X and X-Race. The Vivacity Compact was introduced in 2003 – with shortened front suspension and smaller diameter wheels it boasts a seat height of only 76 cm - and while the standard Vivacity 50 remained in the line-up, the Silver Sport continued the sports trend of the earlier X-Race.

The 50cc Vivacity Sportline

Peugeot have addressed the problem of security on their machines, with the fitting of an integral Boa lock and ignition immobiliser system fitted either as standard or available as optional equipment.

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About this Manual

The aim of this manual is to help you get the best value from your scooter. It can do so in several ways. It can help you decide what work must be done, even if you choose to have it done by a dealer; it provides information and procedures for routine maintenance and servicing; and it offers diagnostic and repair procedures to follow when trouble occurs.

We hope you use the manual to tackle the work yourself. For many simpler jobs, doing it yourself may be quicker than arranging an appointment to get the scooter into a dealer and making the trips to leave it and pick it up. More importantly, a lot of money can be saved by avoiding the expense the shop must pass on to you to cover its labour and overhead costs. An added benefit is the sense of satisfaction and accomplishment that you feel after doing the job yourself.

References to the left or right side of the scooter assume you are sitting on the seat, facing forward.

We take great pride in the accuracy of information given in this manual, but motorcycle manufacturers make alterations and design changes during the production run of a particular motorcycle of which they do not inform us. No liability can be accepted by the authors or publishers for loss, damage or injury caused by any errors in, or omissions from, the information given.

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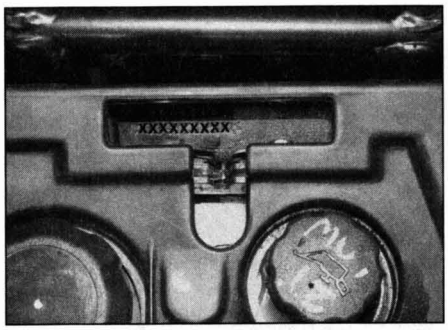

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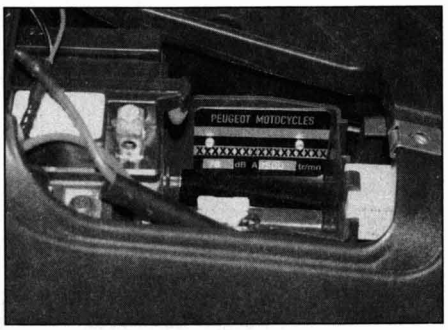

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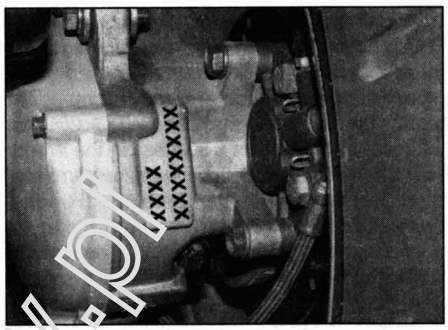

The engine number is stamped into the rear of the transmission casing

Identification numbers

Frame and engine numbers

The frame serial number, or VIN (Vehicle Identification Number) as it is often known, is stamped into the frame, and also appears on the identification plate. The engine number is stamped into the rear of the transmission casing. Both of these numbers should be recorded and kept in a safe place so they can be furnished to law enforcement officials in the event of a theft.

The frame and engine numbers should also be kept in a handy place (such as with your driving licence) so they are always available when purchasing or ordering parts for your scooter.

Each model type can be identified by its engine and frame number prefix – refer to '*Model identification*' in the service schedule pages of Chapter 1. A full list of the models covered in this manual is given in the table below.

Models covered	Capacity	Introduced
Speedfight 50	50 cc	Dec 1996
Speedfight 100	100 cc	Aug 1997
Speedfight 50 LCD and LCDP	50 cc	Nov 1997
Speedfight 50 M and MP	50 cc	Nov 1998
Speedfight Prost 50 LCD and LCDP	50 cc	Nov 1998
Speedfight Prost 100	100 cc	May 1999
Speedfight X-Team	50 cc	May 1999
Speedfight 50 LBD and LBDP	50 cc	Nov 1999
Speedfight 50 B and BP	50 cc	Nov 1999
Speedfight Prost 50	50 cc	Nov 1999
Speedfight X-Team BP and LBDP	50 cc	Nov 1999
Speedfight 100 P	100 cc	Nov 1999
Speedfight 2 50 M and MP	50 cc	Mar 2000
Speedfight 2 50 B and BP	50 cc	Mar 2000
Speedfight 2 50 LCDP and LBDP	50 cc	Mar 2000
Speedfight 2 100 P	100 cc	Mar 2000
Speedfight 2 50 N, NP and X-Team NP	50 cc	Nov 2000
Speedfight 2 50 LNDP and X-Team LNDP	50 cc	Nov 2000
Speedfight 2 X-Race 50 NP and LNDP	50 cc	Nov 2000
Speedfight 2 100 NP	100 cc	Nov 2000
Speedfight 2 X-Team 100	100 cc	Nov 2000
Speedfight 2 X-Race 100	100 cc	Nov 2000
Speedfight 2 WRC 206 50	50 cc	Nov 2001
Speedfight 2 WRC 206 100	100 cc	Nov 2001
Speedfight 2 50 E, EP and LEDP	50 cc	2002
Speedfight 2 100 EP	100 cc	2002
Speedfight 2 Furious	50 cc	2003
Speedfight 2 Furious	100 cc	2003
Speedfight 2 Silver Sport	50 cc	2004
Speedfight 2 Silver Sport	100 cc	2005

Models covered	Capacity	Introduced
Trekker Road	50 cc	Nov 1997
Trekker Off Road	50 cc	Nov 1997
Trekker 100	100 cc	Nov 1997
Trekker Urban Black	50 cc	Nov 1999
Trekker Streetboard	50 cc	Nov 1999
Trekker Metal-X	50 cc	Nov 2001
Trekker Metal-X 100	100 cc	2002
TKR Street Zone	50 cc	2003
TKR WRC 206	50 cc	2003
Metal-X Furious	50 cc	2003
Vivacity 50	50 cc	Feb 1999
Vivacity 100	100 cc	Feb 1999
Vivacity Sportline	50 cc	Feb 2000
Vivacity X-Race	50 cc	Nov 2001
Vivacity VS/X	50 cc	2002
Vivacity VS/X 100	100 cc	2002
Vivacity Compact	50 cc	2003
Vivacity Silver Sport	50 cc	2004
Vivacity 100 T	100 cc	2005

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Buying spare parts

When ordering replacement parts, it is essential to identify exactly the machine for which the parts are required. While in some cases it is sufficient to identify the machine by its title e.g. 'Speedfight 50', any modifications made to components mean that it is usually essential to identify the scooter by its year of production, or better still by its frame or engine number prefix.

To identify your own scooter, refer to the engine and frame number prefix information in refer to '*Model identification*' in the service schedule pages of Chapter 1.

To be absolutely certain of receiving the correct part, not only is it essential to have the scooter's engine or frame number prefix to hand, but it is also useful to take the old part for comparison (where possible). Note that where a modified component has superseded the original, a careful check must be made that there are no related parts which have also been modified and must be used to enable the replacement to be correctly refitted; where such a situation is found, purchase all the necessary parts and fit them, even if this means renewing apparently unworn items.

Purchase replacement parts from an authorised Peugeot dealer or someone who specialises in scooter parts; they are more likely to have the parts in stock or can order them quickly from the importer. Pattern parts are available for certain components; if used, ensure these are of recognised quality brands which will perform as well as the original.

Expendable items such as lubricants, spark plugs, some electrical components, bearings, bulbs and tyres can usually be obtained at lower prices from accessory shops, motor factors or from specialists advertising in the national motorcycle press.

Trekker model development

Trekker Road, Trekker Off Road and TKR

The 50 cc Trekker models were introduced in November 1997, replacing the Squab model. All were fitted with an air- cooled two-stroke engine.

The Trekker Road featured 12 inch wheels, 32 mm Paioli front forks and a rear spoiler. It was available in metallic black, Grenade Red and Magic Blue, although the metallic black colour option was dropped in November 1999.

The Trekker Off Road featured 10 inch wheels and upside-down front forks. It was available in amber, metallic black, Excaliber Silver and Torero Red. The Excaliber Silver colour option was dropped in November 1998 and the colour options were further revised in November 1999 to amber and Manganese.

The Urban Black (matt black) and Streetboard (Technium Satin) variants of the Off Road were introduced in November 1999. At the same time, all 50 cc Trekker models were fitted with an ignition immobiliser and Boa lock as standard equipment and redesignated with a 'P' suffix.

In November 2000, the colour range for the Trekker Off Road was revised to black, Torero Red and Acid Green and the Boa lock became an optional extra.

The Metal-X variant was introduced in November 2001, featuring revised body styling, a separate front mudguard mounted directly above the wheel, motorcycle-style handlebars and a digital instrument display. An ignition immobiliser and Boa lock were fitted as standard equipment. Available in either graphite/blue or graphite/red colour options.

The TKR model replaced the Trekker in 2003, with Street Zone and WRC 206 variants, and the Metal-X Furious was introduced at the same time. All models had air-cooled two-stroke engines, 10 inch wheels and upside-down front forks.

Trekker 100

The Trekker 100 was introduced at the same time as the Trekker 50. It was fitted with an air-cooled two-stroke engine and was available as an 'On-road' variant only.

Available in Excaliber Silver, Grenade Red and Magic Blue. The Magic Blue colour option was dropped in November 1999.

Redesignated Trekker 100 P in November 1999.

The Metal-X was introduced for 2002. It has the same features as the 50 cc Metal-X, plus a sidestand.

Vivacity model development

Vivacity 50 and Vivacity 100

The Vivacity 50 and Vivacity 100 were introduced in February 1999. Both models were fitted with an air-cooled two-stroke engine, a single headlight and upside-down front forks. A steering lock, ignition immobiliser and Boa lock were standard equipment.

Available in Night Blue, Grenade Red, Oxo Yellow, amber and metallic black. Additional colour options (Mint Green and Plumb) were introduced in November 1999.

The ignition immobiliser was dropped from the Vivacity 50 in November 1999, but remained standard equipment on the Vivacity 100. The Boa lock became an optional extra on both models. Machines fitted with an ignition immobiliser and Boa lock as standard were identified with the model suffix 'P'.

In November 2000, the colour range for both models was revised to black, Night Blue, Grenade Red and Technium Grey and the 50 cc model was also available in Atoll Blue. The X-Race model was introduced in November 2001.

The Vivacity VS/X 50P and VS/X 100P were introduced in 2002. They differ from the standard models in the fitting of a rear spoiler and alloy footboards and have distinctive white stripes running through their Pulsar blue bodypanels.

The Vivacity Compact was introduced in 2003. It had a 50 cc air-cooled two-stroke engine, disc front brake, shortened front suspension and 10 inch wheels. The Compact was available in Maori Green and Technium Silver.

Vivacity Sportline

Introduced in February 2000. It had the same size engine and specification as the Vivacity 50, with the addition of a rear spoiler and restyled mirrors. A revised Sportline was introduced in November 2000, differing from the original model in having an electrically operated speedometer, digital odometer, clock and fuel gauge. The Sportline models were available in Torero red, Magic Blue/Technium Grey and Torero Red/Technium Grey. The Silver Sport colour option was introduced in 2004 for the 50 cc variant.

Speedfight model development

Speedfight 50

The first Speedfight model was the Speedfight 50 introduced in December 1996. It was available with a liquid-cooled, 50 cc two-stroke engine, monolever front suspension, disc front brake and drum rear brake.

Available in four colours: Excaliber Silver, Torero Red, metallic black and blue/yellow.

Speedfight 50 LCD and LCDP

Introduced in November 1997. It was fitted with a liquid-cooled two-stroke engine, but differed from the original Speedfight 50 model in its use of a rear disc brake. New style mirrors were fitted.

The LCDP had a steering lock, transponder ignition immobiliser and Boa lock as standard equipment. The Boa lock was available as an optional extra on the LCD model.

Available in six colours: Excaliber Silver, Torero Red, metallic black, blue/yellow, Grenade Red/silver and amber/silver.

The model was redesignated Speedfight 50 LBD and LBDP in November 1999.

Speedfight 50 MP

Introduced in November 1998. It was fitted with an air-cooled two-stroke engine and drum rear brake, but was otherwise a similar specification to the LCDP model.

Initially available in Torero Red, Excaliber Silver, Night Blue and metallic black, then the colours were revised in November 1999 in line with LCD and LCDP models.

The model was redesignated Speedfight 50 BP in November 1999.

Speedfight 50 M

Introduced in November 1998. Same specification and colours as the MP model but without the immobiliser – Boa lock available as an optional extra. Redesignated Speedfight 50 B in November 1999.

In November 1999, the colour range for all the 50 cc Speedfight models, with the exception of the Prost and X-Team, was revised to amber/silver, metallic black/silver, Night Blue/silver and Grenade Red/silver.

Speedfight Prost 50 LCD and LCDP

Introduced in November 1998. Prost model was based on the existing LCD and LCDP models, with the addition of a competition style exhaust, rear spoiler and aluminium footboard trims. It was available in Pulsor Blue with Prost decals.

An air-cooled variant, the Prost 50 AC, was introduced in November 1999 and the liquid-cooled variant was redesignated the Prost 50 LC.

Speedfight X-Team

Introduced in May 1999. Same specification as the MP model with blue, white and red colour scheme. Competition style exhaust, rear spoiler and aluminium footboard trims.

A liquid-cooled variant with disc rear brake, the X-Team LBDP, was introduced in November 1999 and the air-cooled variant was redesignated the X-Team BP.

Speedfight 100

The Speedfight 100 was introduced in August 1997. It has an air-cooled 100 cc two-stroke engine, disc brakes front and rear, an immobiliser and Boa lock, and was available in metallic black, Excaliber Silver, Torero Red and Night Blue.

New mirrors and an additional colour option (Grenade Red) were introduced November 1997.

In November 1999, the colour range was revised to Night Blue and Grenade Red and the model was redesignated the Speedfight 100 P.

Speedfight Prost 100

Introduced in May 1999. Same specification as the Speedfight 100 plus rear spoiler and aluminium footboard trims. Same colour scheme as the Prost 50.

Speedfight 2

The entire Speedfight range was revised in March 2000 with new body styling, headlights and instrument panel, re-engineered monolever front suspension and uprated shock absorbers front and rear. The 50 cc models continued to be available in air- and liquid-cooled two-stroke engine variants, and the 100 cc models were available with air-cooled two-stroke engines only.

Machines fitted with a transponder ignition immobiliser and Boa lock as standard continued to be identified with the model suffix 'P'.

Colour options for the 50 cc models were Torero Red, Magic Blue, Technium Grey and Formula Yellow. Colour options for the 100 cc model were Night Blue, Grenade Red and Technium Grey.

In November 2000, an additional colour option (Acid Green) was introduced for the 50 cc models, and the colour range for the 100 cc models was revised to Pulsar Blue, Black and Technium Grey. At the same time, air-cooled models previously designated M(P) and B(P) were redesignated N(P), and liquid-cooled models previously designated LCDP and LBDP were redesignated LNDP. 2002 models were designated S(P) and LEDP. The Silver Sport colour option was introduced in 2003 for both 50 cc and 100 cc variants.

Speedfight 2 X-Race 50 NP and 50 LNDP

Introduced in November 2000 in air-cooled (NP) and liquid-cooled (LNDP) variants. Apart from the different engines, both models had the same specification as the X-Team LNDP (formerly LBDP), with a new Pulsar Blue/orange colour scheme.

Speedfight 2 X-Team 100 and X-Race 100

Introduced in November 2000. Both models had the same engine and specification as the Speedfight 2 100, with the addition of a rear spoiler and aluminium footboard trims. The X-Team 100 had the same colour scheme as the 50 cc X-Team and the X-Race 100 had the new Pulsar Blue/orange colour scheme.

Speedfight 2 WRC 206

Introduced in November 2001 in both 50 cc and 100 cc variants to commemorate Peugeot's success in the World Rally Championship.

The 50 cc model had the same specification and liquid-cooled engine as the X-Race 50, and the 100 cc model had the same engine and specification as the X-Race 100. Both models had a new Technium Silver colour scheme and 206 graphics.

Speedfight 2 Furious

Introduced in November 2001 in both 50 cc and 100 cc variants, the Furious featured motorcycle-style handlebars and digital instrument display. The 50 cc model was available with either an air- or liquid-cooled engine, the 100 cc model had an air-cooled engine.

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Professional mechanics are trained in safe working procedures. However enthusiastic you may be about getting on with the job at hand, take the time to ensure that your safety is not put at risk. A moment's lack of attention can result in an accident, as can failure to observe simple precautions.

There will always be new ways of having accidents, and the following is not a comprehensive list of all dangers; it is intended rather to make you aware of the risks and to encourage a safe approach to all work you carry out on your bike.

Asbestos

● Certain friction, insulating, sealing and other products - such as brake pads, clutch linings, gaskets, etc. - contain asbestos. Extreme care must be taken to avoid inhalation of dust from such products since it is hazardous to health. If in doubt, assume that they do contain asbestos.

Fire

● Remember at all times that petrol is highly flammable. Never smoke or have any kind of naked flame around, when working on the vehicle. But the risk does not end there - a spark caused by an electrical short-circuit, by two metal surfaces contacting each other, by careless use of tools, or even by static electricity built up in your body under certain conditions, can ignite petrol vapour, which in a confined space is highly explosive. Never use petrol as a cleaning solvent. Use an approved safety solvent.

● Always disconnect the battery earth terminal before working on any part of the fuel or electrical system, and never risk spilling fuel on to a hot engine or exhaust.

● It is recommended that a fire extinguisher of a type suitable for fuel and electrical fires is kept handy in the garage or workplace at all times. Never try to extinguish a fuel or electrical fire with water.

Fumes

● Certain fumes are highly toxic and can quickly cause unconsciousness and even death if inhaled to any extent. Petrol vapour comes into this category, as do the vapours from certain solvents such as trichloro-ethylene. Any draining or pouring of such volatile fluids should be done in a well ventilated area.

● When using cleaning fluids and solvents, read the instructions carefully. Never use materials from unmarked containers - they may give off poisonous vapours.

● Never run the engine of a motor vehicle in an enclosed space such as a garage. Exhaust fumes contain carbon monoxide which is extremely poisonous; if you need to run the engine, always do so in the open air or at least have the rear of the vehicle outside the workplace.

The battery

● Never cause a spark, or allow a naked light near the vehicle's battery. It will normally be giving off a certain amount of hydrogen gas, which is highly explosive.

● Always disconnect the battery ground (earth) terminal before working on the fuel or electrical systems (except where noted).

● If possible, loosen the filler plugs or cover when charging the battery from an external source. Do not charge at an excessive rate or the battery may burst.

● Take care when topping up, cleaning or carrying the battery. The acid electrolyte, evenwhen diluted, is very corrosive and should not be allowed to contact the eyes or skin. Always wear rubber gloves and goggles or a face shield. If you ever need to prepare electrolyte yourself, always add the acid slowly to the water; never add the water to the acid.

Electricity

● When using an electric power tool, inspection light etc., always ensure that the appliance is correctly connected to its plug and that, where necessary, it is properly grounded (earthed). Do not use such appliances in damp conditions and, again, beware of creating a spark or applying excessive heat in the vicinity of fuel or fuel vapour. Also ensure that the appliances meet national safety standards.

● A severe electric shock can result from touching certain parts of the electrical system, such as the spark plug wires (HT leads), when the engine is running or being cranked, particularly if components are damp or the insulation is defective. Where an electronic ignition system is used, the secondary (HT) voltage is much higher and could prove fatal.

Remember...

✘ **Don't** start the engine without first ascertaining that the transmission is in neutral.

✘ **Don't** suddenly remove the pressure cap from a hot cooling system - cover it with a cloth and release the pressure gradually first, or you may get scalded by escaping coolant.

✘ **Don't** attempt to drain oil until you are sure it has cooled sufficiently to avoid scalding you.

✘ **Don't** grasp any part of the engine or exhaust system without first ascertaining that it is cool enough not to burn you.

✘ **Don't** allow brake fluid or antifreeze to contact the machine's paintwork or plastic components.

✘ **Don't** siphon toxic liquids such as fuel, hydraulic fluid or antifreeze by mouth, or allow them to remain on your skin.

✘ **Don't** inhale dust - it may be injurious to health (see Asbestos heading).

✘ **Don't** allow any spilled oil or grease to remain on the floor - wipe it up right away, before someone slips on it.

✘ **Don't** use ill-fitting spanners or other tools which may slip and cause injury.

✘ **Don't** lift a heavy component which may be beyond your capability - get assistance.

✘ **Don't** rush to finish a job or take unverified short cuts.

✘ **Don't** allow children or animals in or around a vehicle being worked on.

✘ **Don't** inflate a tyre above the recommended pressure. Apart from overstressing the carcass, in extreme cases the tyre may blow off forcibly.

✔ **Do** ensure that the machine is supported securely at all times. This is especially important when the machine is blocked up to aid wheel or fork removal.

✔ **Do** take care when attempting to loosen a stubborn nut or bolt. It is generally better to pull on a spanner, rather than push, so that if you slip, you fall away from the machine rather than onto it.

✔ **Do** wear eye protection when using power tools such as drill, sander, bench grinder etc.

✔ **Do** use a barrier cream on your hands prior to undertaking dirty jobs - it will protect your skin from infection as well as making the dirt easier to remove afterwards; but make sure your hands aren't left slippery. Note that long-term contact with used engine oil can be a health hazard.

✔ **Do** keep loose clothing (cuffs, ties etc. and long hair) well out of the way of moving mechanical parts.

✔ **Do** remove rings, wristwatch etc., before working on the vehicle - especially the electrical system.

✔ **Do** keep your work area tidy - it is only too easy to fall over articles left lying around.

✔ **Do** exercise caution when compressing springs for removal or installation. Ensure that the tension is applied and released in a controlled manner, using suitable tools which preclude the possibility of the spring escaping violently.

✔ **Do** ensure that any lifting tackle used has a safe working load rating adequate for the job.

✔ **Do** get someone to check periodically that all is well, when working alone on the vehicle.

✔ **Do** carry out work in a logical sequence and check that everything is correctly assembled and tightened afterwards.

✔ **Do** remember that your vehicle's safety affects that of yourself and others. If in doubt on any point, get professional advice.

● **If** in spite of following these precautions, you are unfortunate enough to injure yourself, seek medical attention as soon as possible.

Note: *The daily (pre-ride) checks outlined in your owner's manual covers those items which should be inspected on a daily basis.*

Engine oil level check

Before you start:

✔ Make sure you have a supply of the correct oil available.

✔ Support the machine in an upright position whilst checking the level. Make sure it is on level ground.

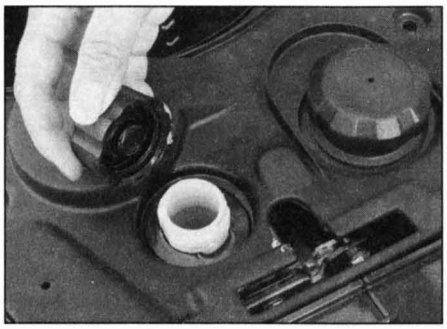
The correct oil:

● Modern engines place great demands on their oil. It is very important that the correct oil for your bike is used.

● Always top up with a good quality oil of the specified type. Peugeot specify a semi-synthetic, JASO FC SAE20 oil for two-stroke engines with separate lubrication.

● If the oil level warning light comes on the oil tank requires topping up immediately or at the earliest opportunity. However, do not rely on the oil warning light to tell you that the oil tank needs topping up. Get into the habit of checking the oil level in the oil tank regularly, such as at the same time as you fill up with fuel.

● If the engine is run without oil, even for a short time, engine damage and very soon engine seizure will occur. It is advised that a bottle of two-stroke oil is carried in the storage compartment for such emergencies.



1 Remove the filler cap to check the oil level; it should be up to the bottom of the filler neck when full.

2 If the level is low, top the tank up with the recommended oil, then fit the filler cap securely.

Coolant level check (liquid-cooled models)

⚠ ***Warning: DO NOT leave open containers of coolant about, as it is poisonous.***

⚠ ***Warning: Do not remove the reservoir cap when the engine is hot. It is good practice to cover the cap with a heavy cloth and turn the cap slowly anti-clockwise. If you hear a hissing sound (indicating that there is still pressure in the system), wait until it stops, then continue turning the cap until it can be removed.***

Before you start:

✔ Make sure you have a supply of coolant available (a mixture of 50% distilled water and 50% Procor 3000 anti-freeze is needed). Peugeot state that other anti-freeze products will not mix with Procor 3000. If you are in any doubt about the type of coolant already in the system, it is advised that you drain and flush the cooling system (see Chapter 3) and refill with the specified coolant mixture.

✔ Always check the coolant level when the engine is cold.

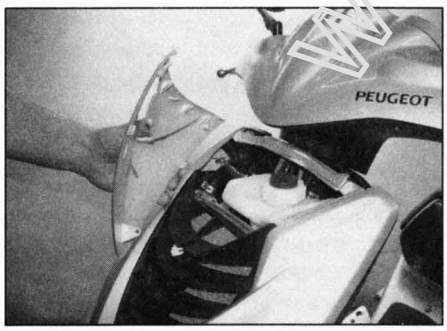
✔ Support the machine in an upright position whilst checking the level. Make sure it is on level ground.

Bike care:

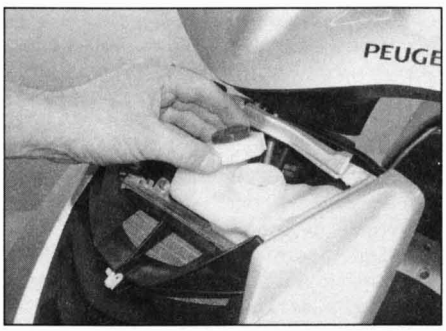
● Use only the specified coolant mixture. It is important that anti-freeze is used in the system all year round, and not just in the winter. Do not top-up the system with water only, as the coolant will become too diluted.

● Do not overfill the reservoir tank, which is located behind the front panel on all models. The coolant level should be just below the bottom of the filler neck. Any surplus should be siphoned or drained off to prevent the possibility of it being expelled.

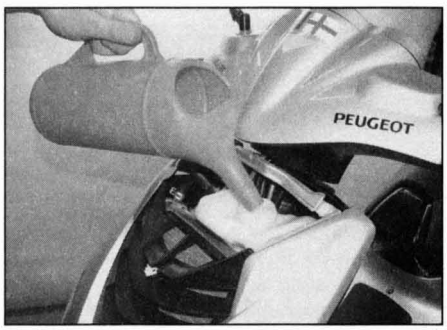
● If the coolant level falls steadily, check the system for leaks (see Chapter 1). If no leaks are found and the level continues to fall, it is recommended that the machine is taken to a Peugeot dealer for a pressure test.



1 Undo the screws securing the front panel and remove the panel.



2 Unscrew the reservoir cap – see ***Warning*** above. The reservoir should be at least half full.



3 Top-up if necessary with the specified coolant mixture.

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Brake fluid level check (disc braked models)

Warning: Brake hydraulic fluid can harm your eyes and damage painted surfaces, so use extreme caution when handling and pouring it and cover surrounding surfaces with rag. Do not use fluid that has been standing open for some time, as it absorbs moisture from the air which can cause a dangerous loss of braking effectiveness.

Before you start:

✔ Support the machine in an upright position on level ground and turn the handlebars until the hydraulic reservoir is as level as possible – remember to check both reservoirs if your scooter is equipped with front and rear disc brakes.

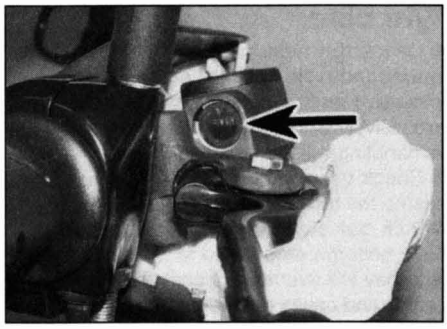
✔ Make sure you have a supply of DOT 4 hydraulic fluid.

✔ Access to the reservoir is restricted on most models by the upper handlebar cover. Remove the cover if the reservoir requires topping-up.

✔ Wrap a rag around the reservoir to ensure that any spillage does not come into contact with painted or plastic surfaces. If any fluid is spilt wash it off immediately with cold water.

Bike care:

- The fluid in the hydraulic reservoir will drop slightly as the brake pads wear down.
- If the reservoir requires repeated topping-up this is an indication of a fluid leak somewhere in the system, which should be investigated immediately.
- Check for signs of fluid leakage from the brake hoses and components – if found, rectify immediately.
- Check the operation of the brake before riding the machine; if there is evidence of air in the system (a spongy feel to the lever), it must be bled as described in Chapter 8.



1 The brake fluid level is visible through the sightglass in the reservoir body – it must be half way up the glass when the reservoir is level.

2 Remove the reservoir cap screws and remove the cover, the diaphragm plate and the diaphragm.

3 Top-up with new DOT 4 hydraulic fluid until the level is half way up the sightglass. Do not overfill and take care to avoid spills (see **Warning** above).

4 Ensure that the diaphragm is correctly seated before installing the plate and cover. Tighten the cover screws securely.

Fuel check

- This may seem obvious, but check that you have enough fuel to complete your journey. Do not wait until the fuel gauge or warning light to tell you that the level in the tank is low before filling up.
- If you notice signs of leakage you must rectify the cause immediately.
- Ensure you use the correct grade unleaded petrol, minimum 95 octane. Note that the use of unleaded petrol will increase spark plug life and have obvious benefits to the environment.

Suspension and steering checks

- Check that the front and rear suspension operates smoothly without binding.
- Check that the steering moves smoothly from lock-to-lock.

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Tyre checks

The correct pressures:

● The tyres must be checked when **cold**, not immediately after riding. Note that low tyre pressures may cause the tyre to slip on the rim or come off. High tyre pressures will cause abnormal tread wear and unsafe handling.

● Use an accurate pressure gauge.

● Proper air pressure will increase tyre life and provide maximum stability and ride comfort.

● Refer to *Service specifications* in Chapter 1 for the correct tyre pressures for your model.

Tyre care:

● Check the tyres carefully for cuts, tears, embedded nails or other sharp objects and excessive wear. Operation of the scooter with excessively worn tyres is extremely hazardous as handling will be directly affected.

● Check the condition of the tyre valve and ensure the dust cap is in place.

● Pick out any stones or nails which may have become embedded in the tyre tread. If left, they will eventually penetrate through the casing and cause a puncture.

● If tyre damage is apparent, or unexplained loss of pressure is experienced, seek the advice of a tyre fitting specialist without delay. Peugeot do not recommend the use of tyres repaired after a puncture.

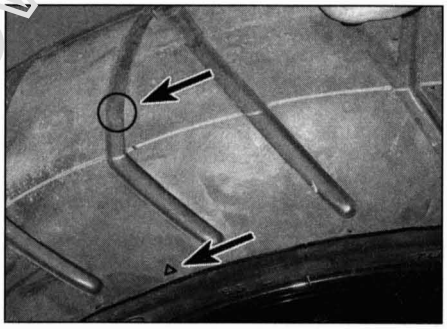
Tyre tread depth:

● At the time of writing UK law for machines over 50 cc requires that tread depth must be at least 1 mm over 3/4 of the tread breadth all the way around the tyre, with no bald patches. Many riders, however, consider 2 mm tread depth minimum to be a safer limit. Note that UK law for machines of 50 cc and under only requires that the original tyre tread is visible, although in the interest of safety owners may wish to apply the above limit.

● Many tyres now incorporate wear indicators in the tread. Identify the triangular pointer on the tyre sidewall to locate the indicator bar and renew the tyre if the tread has worn down to the bar.

1 Check the tyre pressures when the tyres are **cold** and keep them properly inflated.

2 Measure tread depth at the centre of the tyre using a tread depth gauge.



3 Tyre tread wear indicator bar and its location marking (usually either an arrow, a triangle or the letters TWI) on the sidewall (arrowed).

Legal and safety checks

Lighting and signalling:

● Take a minute to check that the headlight, tail light, brake light, instrument lights and turn signals all work correctly.

● Check that the horn sounds when the switch is operated.

● A working speedometer graduated in mph is a statutory requirement in the UK.

Safety:

● Check that the throttle grip rotates smoothly and snaps shut when released, in all steering positions.

● Check that stand return spring holds the stand securely up when retracted.

● Check that both brakes work correctly when applied and free off when released.

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Chapter 1
Routine maintenance and servicing

Contents

Degrees of difficulty

Easy, suitable for novice with little experience

Fairly easy, suitable for beginner with some experience

Fairly difficult, suitable for competent DIY mechanic

Difficult, suitable for experienced DIY mechanic

Very difficult, suitable for expert DIY or professional

Introduction

1 This Chapter is designed to help the home mechanic maintain his/her scooter for safety, economy, long life and peak performance.

2 Deciding where to start or plug into the service schedule depends on several factors. If the warranty period on your machine has just expired, and if it has been maintained according to the warranty standards, you may want to pick up routine maintenance as it coincides with the next mileage or calendar interval. If you have owned the machine for some time but have never performed any maintenance on it, then you may want to start at the nearest interval and include some additional procedures to ensure that nothing important is overlooked. If you have just had a major engine overhaul, then you may want to start the maintenance routine from the beginning. If you have a used machine and have no knowledge of its history or maintenance record, you may desire to combine all the checks into one large service initially and then settle into the maintenance schedule prescribed.

3 Before beginning any maintenance or repair, the machine should be cleaned thoroughly, especially around the engine and transmission covers. Cleaning will help ensure that dirt does not contaminate the engine and will allow you to detect wear and damage that could otherwise easily go unnoticed.

4 Certain maintenance information is sometimes printed on decals attached to the machine. If the information on the decals differs from that included here, use the information on the decal.

Note 1: *The daily (pre-ride) checks detailed at the beginning of this Manual cover those items which should be inspected on a daily basis. Always perform the pre-ride inspection at every maintenance interval (in addition to the procedures listed).*

The intervals listed below are the intervals recommended by the manufacturer for each particular operation during the model years covered in this manual. Your owner's manual may have different intervals for your model.

Note 2: *An initial service should be performed by a Peugeot dealer after the first 300 miles (500 km) from new. Thereafter, the machine should be serviced according to the intervals specified in the service schedules which follow.*

Note 3: *Refer to the Maintenance Plan in the maintenance booklet supplied with the machine for the correct intervals.*

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Speedfight 50

Model identification

Engine	49 cc single cylinder liquid-cooled two-stroke
Transmission	Variable speed automatic, belt driven
Ignition	Capacitor discharge ignition (CDI)
Front suspension	Leading link monolever
Rear suspension	Swingarm and single shock
Front brake	180 mm disc
Rear brake	110 mm drum
Front tyre size	120/70 x 12
Rear type size	140/70 x 12
Engine no. suffix	FL1
Frame no. prefix	VGAS1B
Wheelbase	1225 mm
Overall length	1730 mm
Overall width (excl. mirrors)	700 mm
Overall height (excl. mirrors)	1155 mm
Weight (dry)	90 kg
Fuel tank capacity	7.2 litres

Servicing specifications and lubricants

Spark plug type	NGK BR7HS
Spark plug electrode gap	0.6 mm
Idle speed	1500 rpm
Front tyre pressure	19 psi (1.3 Bar)
Rear tyre pressure	23 psi (1.6 Bar)
Disc brake pad minimum thickness	1.5 mm
Rear drum brake lever freeplay	10 to 20 mm
Throttle twistgrip freeplay	2 to 5 mm
Fuel	Unleaded petrol (gasoline) min 95 octane
Engine oil	JASO FC, SAE 20 semi-synthetic
Engine oil tank capacity	1.3 litres
Relay box oil	80W-90 scooter gear oil
Relay box oil capacity	120 ml
Brake fluid	DOT 4
Coolant	50% distilled water and 50% Procor 3000 anti-freeze is needed). Peugeot state that other anti-freeze products will not mix with Procor 3000.

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Service intervals – Speedfight 50

Note: *Always perform the Daily (pre-ride) checks before every service interval – see the beginning of this Manual. Severe conditions are regarded as intensive urban use, short journeys with cold engine or use in dusty conditions.*

	Text section in this Chapter	Every 3000 miles (5000 km) or 1500 miles (2500 km) for severe conditions	Every 6000 miles (10,000 km) or 3000 miles (5000 km) for severe conditions
Air filter – clean/renew	1	✔	
Battery – check	2	✔	
Brake cable – check and lubricate	5	✔	
Brake fluid – check*	6	✔	
Brake hose – check*	7	✔	
Brake levers – lubricate	4	✔	
Brake pads – check	8	✔	
Brake shoes – check	9	✔	
Brake system – check	3	✔	
Carburettor – clean	16		✔
Clutch pulley and bearing – check and lubricate	26		✔
Cooling system – check**	19	✔	
Cylinder head – decarbonise	23		✔
Drive belt – check	24	✔	
Drive belt – renew	25		✔
Engine oil system – check	11	✔	
Engine oil filter – change	12		✔
Fuel system – check	14	✔	
Headlight, brake light and horn – check	21	✔	
Idle speed – check and adjust	15	✔	
Kickstart gear and spindle bush – check	27		✔
Nuts and bolts – tightness check	20	✔	
Oil pump cable – check and adjust	13	✔	
Rear drum brake cam – check and lubricate	29		✔
Stand – check and lubricate	22	✔	
Spark plug – gap check and adjust	17	✔	
Spark plug – renew	18		✔
Throttle cable – check and adjust	10	✔	
Relay box oil level – check	28		✔
Variator pulley and rollers – check and lubricate	24	✔	
Wheels and tyres – check	30	✔	

** The brake fluid must be changed every 2 years and the brake hose renewed every 3 years, irrespective of mileage*
***Drain and refill with fresh coolant every 2 years, irrespective of mileage*

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Speedfight 50 LCD/LBD/Prost, LCDP/LBDP/Prost, Prost 50 LC, X-Team LBDP

Model identification

Engine	49 cc single cylinder liquid-cooled two-stroke
Transmission	Variable speed automatic, belt driven
Ignition	Capacitor discharge ignition (CDI)
Front suspension	Leading link monolever
Rear suspension	Swingarm and single shock
Front brake	180 mm disc
Rear brake	180 mm disc
Front tyre size	120/70 x 12
Rear tyre size	140/70 x 12
Engine no. suffix	FL1
Frame no. prefix	VGA5TB
Wheelbase	1235 mm
Overall length	1730 mm
Overall width (excl. mirrors)	700 mm
Overall height (excl. mirrors)	1155 mm
Weight (dry)	90 kg
Fuel tank capacity	7.2 litres

Servicing specifications and lubricants

Spark plug type	NGK BR7HS
Spark plug electrode gap	0.6 mm
Idle speed	1500 rpm
Front tyre pressure	17 psi (1.3 Bar)
Rear tyre pressure	19 psi (1.6 Bar)
Disc brake pad minimum thickness	1.5 mm
Throttle twistgrip freeplay	2 to 5 mm
Fuel	Unleaded petrol (gasoline) min 95 octane
Engine oil	JASO FC, SAE 20 semi-synthetic
Engine oil tank capacity	1.3 litres
Relay box oil	80W-90 scooter gear oil
Relay box oil capacity	120 ml
Brake fluid	DOT 4
Coolant	50% distilled water and 50% Procor 3000 anti-freeze is needed). Peugeot state that other anti-freeze products will not mix with Procor 3000.

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Service intervals – Speedfight 50 LCD/LBD/Prost, LCDP/LBDP/Prost, Prost 50 LC , X-Team LBDP

Note: *Always perform the Daily (pre-ride) checks before every service interval – see the beginning of this Manual. Severe conditions are regarded as intensive urban use, short journeys with cold engine or use in dusty conditions.*

	Text section in this Chapter	Every 3000 miles (5000 km) or 1500 miles (2500 km) for severe conditions	Every 6000 miles (10,000 km) or 3000 miles (5000 km) for severe conditions
Air filter – clean/renew	1	✔	
Battery – check	2	✔	
Brake fluid – check*	6	✔	
Brake hoses – check*	7	✔	
Brake levers – lubricate	4	✔	
Brake pads – check	8	✔	
Brake system – check	3	✔	
Carburettor – clean	16		✔
Clutch pulley and bearing – check and lubricate	26		✔
Cooling system – check**	19	✔	
Cylinder head – decarbonise	23		✔
Drive belt – check	24	✔	
Drive belt – renew	25		✔
Engine oil system – check	11	✔	
Engine oil filter – change	12		✔
Fuel system – check	14	✔	
Headlight, brake light and horn – check	21	✔	
Idle speed – check and adjust	15	✔	
Kickstart gear and spindle bush – check	27		✔
Nuts and bolts – tightness check	20	✔	
Oil pump cable – check and adjust	13	✔	
Stand – check and lubricate	22	✔	
Spark plug – gap check and adjust	17	✔	
Spark plug – renew	18		✔
Throttle cable – check and adjust	10	✔	
Relay box oil level – check	28		✔
Variator pulley and rollers – check and lubricate	24	✔	
Wheels and tyres – check	30	✔	

** The brake fluid must be changed every 2 years and the brake hose renewed every 3 years, irrespective of mileage*
***Drain and refill with fresh coolant every 2 years, irrespective of mileage*

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Speedfight 50 M/B, 50 MP/BP, Prost 50 AC, X-Team, X-Team BP

Model identification

Engine	50 cc single cylinder air-cooled two-stroke
Transmission	Variable speed automatic belt driven
Ignition	Capacitor discharge ignition (CDI)
Front suspension	Leading link monolever
Rear suspension	Swingarm and single shock
Front brake	180 mm disc
Rear brake	110 mm drum
Front tyre size	120/70 x 12
Rear tyre size	130/70 x 12
Engine no. suffix	FB4
Frame no. prefix	VGAS1A
Wheelbase	1225 mm
Overall length	1730 mm
Overall width (excl. mirrors)	700 mm
Overall height (excl. mirrors)	1150 mm
Weight (dry)	94 kg
Fuel tank capacity	7.2 litres

Servicing specifications and lubricants

Spark plug type	NGK BR7HS
Spark plug electrode gap	0.6 mm
Idle speed	1500 rpm
Front tyre pressure	19 psi (1.3 Bar)
Rear tyre pressure	23 psi (1.6 Bar)
Disc brake pad minimum thickness	1.5 mm
Rear drum brake lever freeplay	10 to 20 mm
Throttle twistgrip freeplay	2 to 5 mm
Fuel	Unleaded petrol (gasoline) min 95 octane
Engine oil	JASO FC, SAE 20 semi-synthetic
Engine oil tank capacity	1.3 litres
Relay box oil	80W-90 scooter gear oil
Relay box oil capacity	120 ml
Brake fluid	DOT 4

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Service intervals – Speedfight 50 M/B, 50 MP/BP, Prost 50 AC, X-Team, X-Team BP

Note: *Always perform the Daily (pre-ride) checks before every service interval – see the beginning of this Manual. Severe conditions are regarded as intensive urban use, short journeys with cold engine or use in dusty conditions.*

	Text section in this Chapter	Every 3000 miles (5000 km) or 1500 miles (2500 km) for severe conditions	Every 6000 miles (10,000 km) or 3000 miles (5000 km) for severe conditions
Air filter – clean/renew	1	✔	
Battery – check	2	✔	
Brake cable – check and lubricate	5	✔	
Brake fluid – check*	6	✔	
Brake hose – check*	7	✔	
Brake levers – lubricate	4	✔	
Brake pads – check	8	✔	
Brake shoes – check	9	✔	
Brake system – check	3	✔	
Carburettor – clean	16		✔
Clutch pulley and bearing – check and lubricate	26		✔
Cylinder head – decarbonise	23		✔
Drive belt – check	24	✔	
Drive belt – renew	25		✔
Engine oil system – check	11	✔	
Engine oil filter – change	12		✔
Fuel system – check	14	✔	
Headlight, brake light and horn – check	21	✔	
Idle speed – check and adjust	15	✔	
Kickstart gear and spindle bush – check	27		✔
Nuts and bolts – tightness check	20	✔	
Oil pump cable – check and adjust	13	✔	
Rear drum brake cam – check and lubricate	29		✔
Stand – check and lubricate	22	✔	
Spark plug – gap check and adjust	17	✔	
Spark plug – renew	18		✔
Throttle cable – check and adjust	10	✔	
Relay box oil level – check	28		✔
Variator pulley and rollers – check and lubricate	24	✔	
Wheels and tyres – check	30	✔	

** The brake fluid must be changed every 2 years and the brake hose renewed every 3 years, irrespective of mileage*

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Speedfight 2 50 LCDP/LBDP/LNDP/LEDP, X-Team 50 LNDP, X-Race 50 LNDP, WRC 206 50, Furious

Model identification

Engine	49 cc single cylinder liquid-cooled two-stroke
Transmission	Variable speed automatic, belt driven
Ignition	Capacitor discharge ignition (CDI)
Front suspension	Leading link monolever
Rear suspension	Swingarm and single shock
Front brake	180 mm disc
Rear brake	180 mm disc
Front tyre size	120/70 x 12
Rear tyre size	
2000 to 2002 models	140/70 x 12
2003 to 2005 models	130/70 x 12
Engine no. suffix	FL1
Frame no. prefix	VGAS1B
Wheelbase	1225 mm
Overall length	1730 mm
Overall width (excl. mirrors)	700 mm
Overall height (excl. mirrors)	1155 mm
Weight (dry)	90 kg
Fuel tank capacity	7.2 litres

Servicing specifications and lubricants

Spark plug type	NGK BR7HS
Spark plug electrode gap	0.6 mm
Idle speed	1500 rpm
Front tyre pressure	19 psi (1.3 Bar)
Rear tyre pressure	23 psi (1.6 Bar)
Disc brake pad minimum thickness	1.5 mm
Throttle twistgrip freeplay	2 to 5 mm
Fuel	Unleaded petrol (gasoline) min 95 octane
Engine oil	JASO FC, SAE 20 semi-synthetic
Engine oil tank capacity	1.3 litres
Relay box oil	80W-90 scooter gear oil
Relay box oil capacity	120 ml
Brake fluid	DOT 4
Coolant	50% distilled water and 50% Procor 3000 anti-freeze is needed). Peugeot state that other anti-freeze products will not mix with Procor 3000.

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Service intervals – Speedfight 2 50 LCDP/LBDP/LNDP/LEDP, X-Team 50 LNDP, X-Race 50 LNDP, WRC 206 50, Furious

Note: *Always perform the Daily (pre-ride) checks before every service interval – see the beginning of this Manual. Severe conditions are regarded as intensive urban use, short journeys with cold engine or use in dusty conditions.*

	Text section in this Chapter	Every 3000 miles (5000 km) or 1500 miles (2500 km) for severe conditions	Every 6000 miles (10,000 km) or 3000 miles (5000 km) for severe conditions
Air filter – clean/renew	1	✔	
Battery – check	2	✔	
Brake fluid – check*	6	✔	
Brake hoses – check*	7	✔	
Brake levers – lubricate	4	✔	
Brake pads – check	8	✔	
Brake system – check	3	✔	
Carburettor – clean	16		✔
Clutch pulley and bearing – check and lubricate	26		✔
Cooling system – check**	19	✔	
Cylinder head – decarbonise	23		✔
Drive belt – check	24	✔	
Drive belt – renew	25		✔
Engine oil system – check	11	✔	
Engine oil filter – renew	12		✔
Fuel system – check	14	✔	
Headlight, brake light and horn – check	21	✔	
Idle speed – check and adjust	15	✔	
Kickstart gear and spindle bush – check	27		✔
Nuts and bolts – tightness check	20	✔	
Oil pump cable – check and adjust	13	✔	
Stand – check and lubricate	22	✔	
Spark plug – gap check and adjust	17	✔	
Spark plug – renew	18		✔
Throttle cable – check and adjust	10	✔	
Relay box oil level – check	28		✔
Variator pulley and rollers – check and lubricate	24	✔	
Wheels and tyres – check	30	✔	

** The brake fluid must be changed every 2 years and the brake hose renewed every 3 years, irrespective of mileage*
***Drain and refill with fresh coolant every 2 years, irrespective of mileage*

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Speedfight 2 50 B/N/E, 50 BP/NP/EP, X-Team 50 NP, WRC 206 50, Furious, Silver Sport

Model identification

Engine	50 cc single cylinder air-cooled two-stroke
Transmission	Variable speed automatic, belt driven
Ignition	Capacitor discharge ignition (CDI)
Front suspension	Leading link monolever
Rear suspension	Swingarm and single shock
Front brake	180 mm disc
Rear brake	110 mm drum
Front tyre size	120/70 x 12
Rear tyre size	130/70 x 1[illegible]
Engine no. suffix	FB4
Frame no. prefix	VGAS1A
Wheelbase	1225 mm
Overall length	1730 mm
Overall width (excl. mirrors)	700 mm
Overall height (excl. mirrors)	1105 mm
Weight (dry)	94 kg
Fuel tank capacity	7.2 litres

Servicing specifications and lubricants

Spark plug type	NGK BR7HS
Spark plug electrode gap	0.6 mm
Idle speed	1500 rpm
Front tyre pressure	19 psi (1.3 Bar)
Rear tyre pressure	23 psi (1.6 Bar)
Disc brake pad minimum thickness	1.5 mm
Rear drum brake lever freeplay	10 to 20 mm
Throttle twistgrip freeplay	2 to 5 mm
Fuel	Unleaded petrol (gasoline) min 95 octane
Engine oil	JASO FC, SAE 20 semi-synthetic
Engine oil tank capacity	1.3 litres
Relay box oil	80W-90 scooter gear oil
Relay box oil capacity	120 ml
Brake fluid	DOT 4

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Service intervals – Speedfight 2 50 B/N/E, 50 BP/NP/EP, X-Team 50 NP, WRC 206 50, Furious, Silver Sport

Note: *Always perform the Daily (pre-ride) checks before every service interval – see the beginning of this Manual. Severe conditions are regarded as intensive urban use, short journeys with cold engine or use in dusty conditions.*

	Text section in this Chapter	Every 3000 miles (5000 km) or 1500 miles (2500 km) for severe conditions	Every 6000 miles (10,000 km) or 3000 miles (5000 km) for severe conditions
Air filter – clean/renew	1	✔	
Battery – check	2	✔	
Brake cable – check and lubricate	5	✔	
Brake fluid – check*	6	✔	
Brake hose – check*	7	✔	
Brake levers – lubricate	4	✔	
Brake pads – check	8	✔	
Brake shoes – check	9	✔	
Brake system – check	3	✔	
Carburettor – clean	16		✔
Clutch pulley and bearing – check and lubricate	26		✔
Cylinder head – decarbonise	19		✔
Drive belt – check	24	✔	
Drive belt – renew	24		✔
Engine oil system – check	11	✔	
Engine oil filter – renew	12		✔
Fuel system – check	14	✔	
Headlight, brake light and horn – check	21	✔	
Idle speed – check and adjust	15	✔	
Kickstart gear and spindle bush – check	27		✔
Nuts and bolts – tightness check	20	✔	
Oil pump cable – check and adjust	13	✔	
Rear drum brake cam – check and lubricate	29		✔
Stand – check and lubricate	22	✔	
Spark plug – gap check and adjust	17	✔	
Spark plug – renew	18		✔
Throttle cable – check and adjust	10	✔	
Relay box oil level – check	28		✔
Variator pulley and rollers – check and lubricate	24	✔	
Wheels and tyres – check	30	✔	

** The brake fluid must be changed every 2 years and the brake hose renewed every 3 years, irrespective of mileage*

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Speedfight 2 X-Race 50 NP

Model identification

Engine	49 cc single cylinder air-cooled two-stroke
Transmission	Variable speed automatic, belt driven
Ignition	Capacitor discharge ignition (CDI)
Front suspension	Leading link monolever
Rear suspension	Swingarm and single shock
Front brake	180 mm disc
Rear brake	180 mm disc
Front tyre size	120/70 x 12
Rear tyre size	140/70 x 12
Engine no. suffix	FB4
Frame no. prefix	VGAS1A
Wheelbase	1225 mm
Overall length	1730 mm
Overall width (excl. mirrors)	700 mm
Overall height (excl. mirrors)	1155 mm
Weight (dry)	90 kg
Fuel tank capacity	7.2 litres

Servicing specifications and lubricants

Spark plug type	NGK BR7HS
Spark plug electrode gap	0.6 mm
Idle speed	1500 rpm
Front tyre pressure	19 psi (1.3 Bar)
Rear tyre pressure	23 psi (1.6 Bar)
Disc brake pad minimum thickness	1.5 mm
Throttle twistgrip freeplay	2 to 5 mm
Fuel	Unleaded petrol (gasoline) min 95 octane
Engine oil	JASO FC, SAE 20 semi-synthetic
Engine oil tank capacity	1.3 litres
Relay box oil	80W-90 scooter gear oil
Relay box oil capacity	120 ml
Brake fluid	DOT 4

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Service intervals – Speedfight 2 X-Race 50 NP

Note: *Always perform the Daily (pre-ride) checks before every service interval – see the beginning of this Manual. Severe conditions are regarded as intensive urban use, short journeys with cold engine or use in dusty conditions.*

	Text section in this Chapter	Every 3000 miles (5000 km) or 1500 miles (2500 km) for severe conditions	Every 6000 miles (10,000 km) or 3000 miles (5000 km) for severe conditions
Air filter – clean/renew	1	✔	
Battery – check	2	✔	
Brake fluid – check*	6	✔	
Brake hoses – check*	7	✔	
Brake levers – lubricate	4	✔	
Brake pads – check	8	✔	
Brake system – check	3	✔	
Carburettor – clean	16		✔
Clutch pulley and bearing – check and lubricate	26		✔
Cylinder head – decarbonise	23		✔
Drive belt – check	24	✔	
Drive belt – renew	25		✔
Engine oil system – check	11	✔	
Engine oil filter – renew	12		✔
Fuel system – check	14	✔	
Headlight, brake light and horn – check	21	✔	
Idle speed – check and adjust	15	✔	
Kickstart gear and spindle bush – check	27		✔
Nuts and bolts – tightness check	20	✔	
Oil pump cable – check and adjust	13	✔	
Stand – check and lubricate	22	✔	
Spark plug – gap check and adjust	17	✔	
Spark plug – renew	18		✔
Throttle cable – check and adjust	10	✔	
Relay box oil level – check	28		✔
Variator pulley and rollers – check and lubricate	24	✔	
Wheels and tyres – check	30	✔	

** The brake fluid must be changed every 2 years and the brake hose renewed every 3 years, irrespective of mileage*

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Speedfight 100, 100P and Prost 100
Speedfight 2 100 NP, X-Team 100, X-Race 100,
WRC 206 100, Furious, Silver Sport

Model identification

Engine	100 cc single cylinder air cooled two-stroke
Transmission	Variable speed automatic, belt driven
Ignition	Capacitor discharge ignition (CDI)
Front suspension	Leading link monoshock
Rear suspension	Swingarm and single shock
Front brake	180 mm disc
Rear brake	180 mm disc
Front tyre size	120/70 x 12
Rear tyre size	
1997 to 2002 models	130/70 x 12
2003 to 2005 models	140/70 x 12
Engine no. suffix	F36
Frame no. prefix	VGAS2A
Wheelbase	1225 mm
Overall length	1730 mm
Overall width (excl. mirrors)	700 mm
Overall height (excl. mirrors)	1155 mm
Weight (dry)	94 kg
Fuel tank capacity	7.2 litres

Servicing specifications and lubricants

Spark plug type	
Normal use	NGK BR8ES
Frequent stop/start riding	NGK BPR7ES
Spark plug electrode gap	0.6 mm
Idle speed	1600 rpm
Front tyre pressure	19 psi (1.3 Bar)
Rear tyre pressure	23 psi (1.6 Bar)
Disc brake pad minimum thickness	1.5 mm
Throttle twistgrip freeplay	2 to 5 mm
Fuel	Unleaded petrol (gasoline) min 95 octane
Engine oil	JASO FC, SAE 20 semi-synthetic
Engine oil tank capacity	1.3 litres
Relay box oil	80W-90 scooter gear oil
Relay box oil capacity	120 ml
Brake fluid	DOT 4

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Service intervals – Speedfight 100, 100P and Prost 100, Speedfight 2 100 NP, X-Team 100, X-Race 100, WRC 206 100, Furious, Silver Sport

Note: *Always perform the Daily (pre-ride) checks before every service interval – see the beginning of this Manual. Severe conditions are regarded as intensive urban use, short journeys with cold engine or use in dusty conditions.*

	Text section in this Chapter	Every 3000 miles (5000 km) or 1500 miles (2500 km) for severe conditions	Every 6000 miles (10,000 km) or 3000 miles (5000 km) for severe conditions
Air filter – clean/renew	1	✔	
Battery – check	2	✔	
Brake fluid – check*	6	✔	
Brake hoses – check*	7	✔	
Brake levers – lubricate	4	✔	
Brake pads – check	8	✔	
Brake system – check	3	✔	
Carburettor – clean	16		✔
Clutch pulley and bearing – check and lubricate	26		✔
Cylinder head – decarbonise	23		✔
Drive belt – check	24	✔	
Drive belt – renew	25		✔
Engine oil system – check	11	✔	
Engine oil filter – renew	12		✔
Fuel system – check	14	✔	
Headlight, brake light and horn – check	21	✔	
Idle speed – check and adjust	15	✔	
Kickstart gear and spindle bush – check	27		✔
Nuts and bolts – tightness check	20	✔	
Oil pump cable – check and adjust	13	✔	
Stand – check and lubricate	22	✔	
Spark plug – gap check and adjust	17	✔	
Spark plug – renew	18		✔
Throttle cable – check and adjust	10	✔	
Relay box oil level – check	28		✔
Variator pulley and rollers – check and lubricate	24	✔	
Wheels and tyres – check	30	✔	

** The brake fluid must be changed every 2 years and the brake hose renewed every 3 years, irrespective of mileage*

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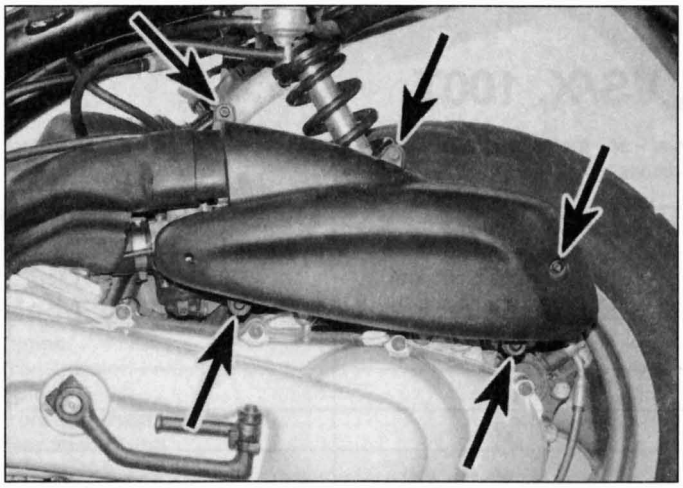
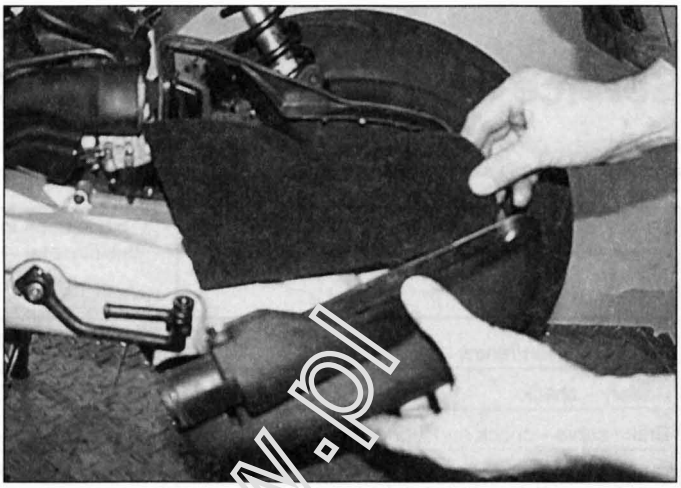


1.1a Undo the air filter cover screws (arrowed) . . .



1.1b . . . and remove the cover and filter element

Routine maintenance and servicing procedures

Note: *Refer to the model specifications at the beginning of this Chapter for service intervals.*

1 Air filter – cleaning and renewal

Caution: If the machine is continually ridden in continuously wet or dusty conditions, the filter should be cleaned more frequently.

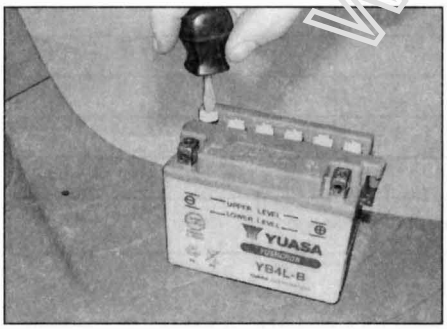
1 Remove the screws securing the air filter cover and detach the cover **(see illustration)**. Remove the filter element **(see illustration)**.

2 Wash the filter in hot soapy water, then blow dry using compressed air.

3 Soak the air filter in a mixture of petrol and 10% two-stroke oil, then squeeze out the excess liquid, making sure you do not damage the filter by twisting it.

4 Allow the filter to dry for a while, then fit it back into the housing and install the cover and tighten the screws securely.

5 If the filter is excessively dirty and cannot be cleaned properly, or is torn or damaged in any way, renew it. *The element can be cleaned as described, although note that Peugeot actually recommend fitting a new element at 3000 mile (5000 km) intervals.*



2.2 Remove the cell caps to top-up the battery

2 Battery – check

Caution: Be extremely careful when handling or working around the battery. The electrolyte is very caustic and an explosive gas (hydrogen) is given off when the battery is charging.

Conventional battery

1 Remove the battery access panel and the battery retaining strap, and partially lift the battery out of its holder (see Chapter 9). Check the electrolyte level which is visible through the translucent battery case – it should be between the UPPER and LOWER level marks.

2 If the electrolyte is low, disconnect the battery terminals (see Chapter 9) and move the battery to the work bench. Remove the cell caps and fill each cell to the upper level mark with distilled water **(see illustration)**. Do not use tap water, and do not overfill. The cell holes are quite small, so it may help to use a clean plastic squeeze bottle with a small spout to add the water. Install the battery cell caps, tightening them securely, then install the battery (see Chapter 9).

Maintenance-free battery

3 On machines fitted with a sealed battery, no maintenance is required. **Note:** *Do not attempt to remove the battery caps to check the electrolyte level or battery specific gravity. Removal will damage the caps, resulting in electrolyte leakage and battery damage.* All that should be done is to check that its terminals are clean and tight and that the casing is not damaged or leaking. See Chapter 9 for further details.

3 Brake system – check

1 A routine check of the brake system will ensure that any problems are discovered and remedied before the rider's safety is jeopardised.

2 Check the brake levers for looseness, rough action, excessive play and other damage. Replace any worn or damaged parts with new ones (see Chapter 8).

3 Make sure all brake fasteners are tight. Check the brake pads (disc brake) and brake shoes (drum brake) for wear (see Sections 8 and 9).

4 Where disc brakes are fitted, make sure the fluid level in the hydraulic reservoir is correct (see *Daily (pre-ride) checks*). Look for leaks at the hose connections and check for cracks and abrasions in the hoses and renew them if necessary (see Chapter 8). If the lever action is spongy, bleed the brakes (see Chapter 8).

5 Where drum brakes are fitted, check the cable for damage or stiff action (see Section 5).

6 Make sure the brake light operates when each brake lever is pulled in. The brake light switches are not adjustable. If they fail to operate properly, check them (see Chapter 9).

4 Brake levers – lubrication

1 The lever pivots should be lubricated periodically to reduce wear and ensure safe and trouble-free operation.

2 In order for the lubricant to be applied where it will do the most good, the lever should be removed (see Chapter 8). However, if chain and cable lubricant is being used, it can be applied to the pivot joint gaps and will

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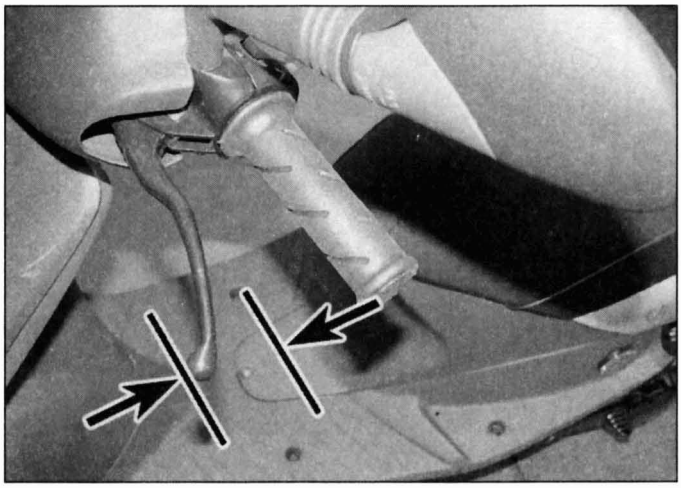
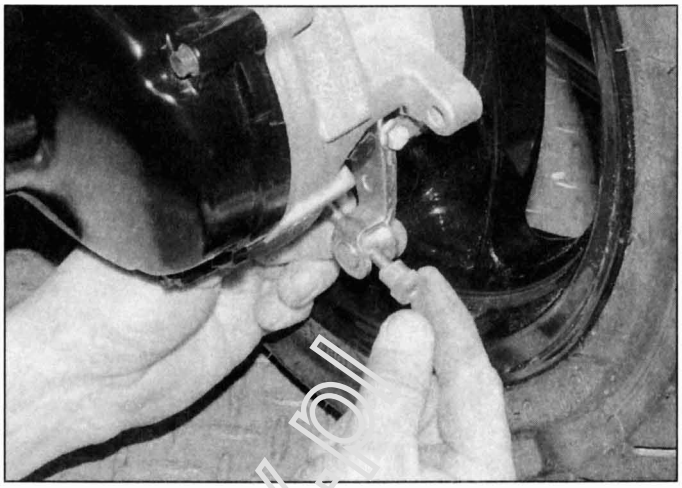


5.1 Measuring rear brake lever freeplay



5.2 Rear drum brake adjuster nut

usually work its way into the areas where friction occurs. If motor oil or light grease is being used, apply it sparingly as it may attract dirt (which could cause the controls to bind or wear at an accelerated rate). **Note:** *One of the best lubricants for the control lever pivots is a dry-film lubricant.*

5 Brake cable – check, adjustment and lubrication

Check and adjustment

1 On machines with a drum rear brake, check that there is no excessive freeplay in the handlebar lever before the brake takes effect. Peugeot specify 10 to 20 mm freeplay at the ball end of the lever **(see illustration)**.

2 To reduce freeplay in the lever, turn the adjuster nut on the brake drum end of the cable clockwise; to increase freeplay, turn the adjuster nut anti-clockwise **(see illustration)**.

3 The wheel should spin freely when the brake is not activated. If the brake is binding without the lever being pulled, first check that the lever is moving freely (see Section 4). Next, disconnect the cable from the handlebar lever (see Chapter 8) and check that the inner cable slides smoothly in the outer cable. If the action is stiff, inspect along the length of the outer cable for splits and kinks, and the ends of the inner cable for frays, and replace it with a new one if necessary (see Chapter 8).

4 If there are no signs of damage, lubricate the cable (see Step 7). If the cable is still stiff after lubrication, replace it with a new one (see Chapter 8).

5 If the handlebar lever and brake cable are in good condition, check the operation of the brake cam (see Section 29).

Lubrication

6 The cable should be lubricated periodically to ensure safe and trouble-free operation.

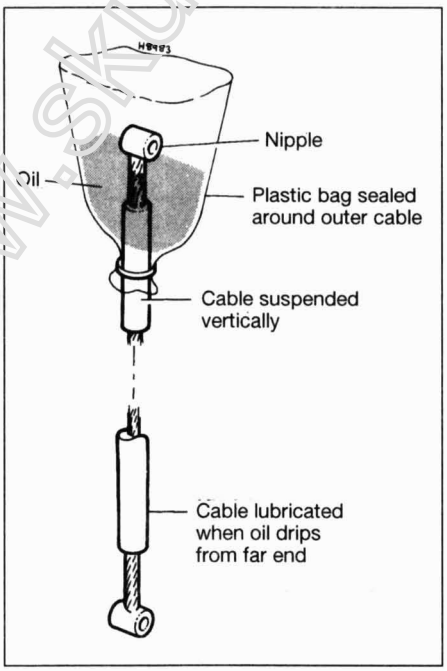
7 To lubricate the cable, disconnect it at its upper end and lubricate it with a pressure adapter, or using the set-up shown (see **illustration)**.

8 Reconnect the cable and adjust the handlebar lever freeplay (see Step 2).

6 Brake fluid – check

1 The fluid level in the hydraulic reservoir should be checked before riding the machine (see *Daily (pre-ride) checks*).

2 Brake fluid will degrade over a period of time. It should be changed every two years or whenever a new master cylinder or caliper is fitted. Refer to the brake bleeding and fluid change section in Chapter 8.



5.7 Lubricating a cable with a makeshift funnel and motor oil

7 Brake hose – check

1 Twist and flex the hose while looking for cracks, bulges and seeping fluid. Check extra carefully where the hose connects to the banjo fittings as this is a common area for hose failure **(see illustration)**.

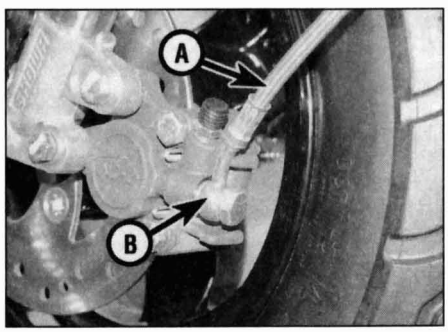
2 Inspect the banjo fittings; if they are rusted, cracked or damaged, fit new hoses.

3 Inspect the banjo union connections for leaking fluid. If they leak when tightened securely, unscrew the banjo bolt and fit new washers (see Chapter 8).

4 The flexible hydraulic hose will deteriorate with age and should be renewed every three years regardless of its apparent condition (see Chapter 8).

8 Brake pads – check

1 The disc brake pads are not marked with wear indicators. The amount of friction



7.1 Inspect the brake hose (A) and banjo fitting (B)

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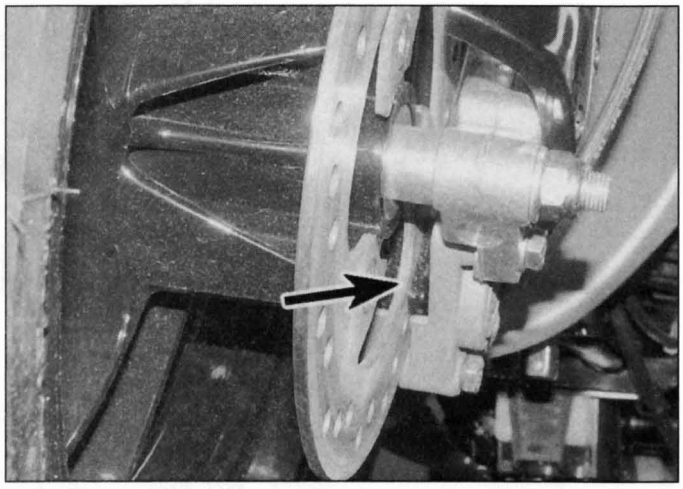
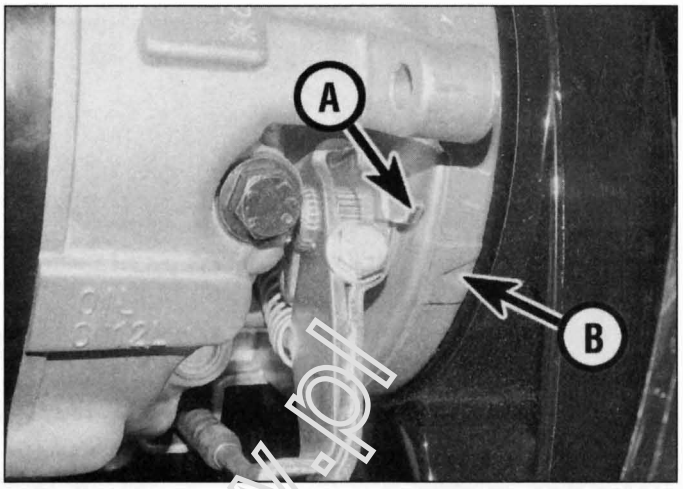


8.1 Check brake pad wear at the underside of the caliper



9.1 Rear drum brake wear indicator (A) and index mark (B)

material wear can be checked by looking at the underside of the caliper **(see illustration)**. Alternatively, displace the caliper (see Chapter 8) to check the amount of wear.

2 If the amount of friction material remaining on the pads is below 1.5 mm, new pads must be fitted.

⚠ ***Warning: Brake pads often wear at different rates. If there is any doubt about the condition of either of the pads in a caliper, remove the caliper and check. Brake failure will result if the friction material wears away completely.***

3 Refer to Chapter 8 for details of pad removal, inspection and replacement.

9 Brake shoes – check

1 The rear drum brake is equipped with a wear indicator **(see illustration)**.

2 As the brake shoes wear and the cable is adjusted to compensate, the indicator moves closer to the index mark on the casing. To check the extent of brake wear, have an assistant apply the brake firmly: if the indicator aligns with the index mark, the brake shoes must be replaced with new ones (see Chapter 8).

10 Throttle cable – check and adjustment

All models

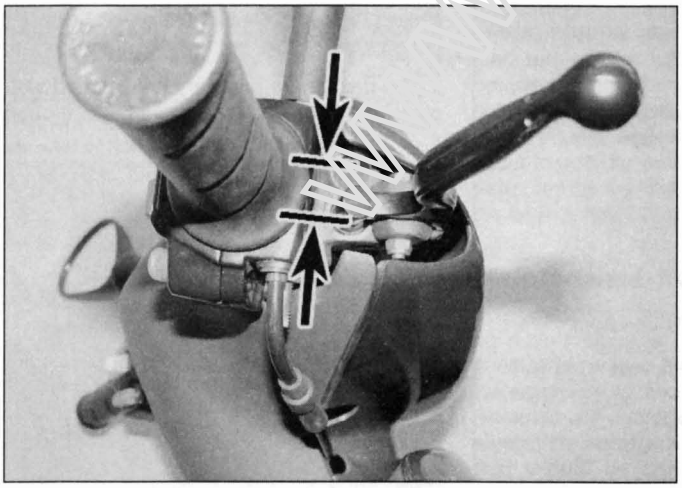
1 Ensure the throttle twistgrip rotates easily from fully closed to fully open with the handlebars turned at various angles. The twistgrip should return automatically from fully open to fully closed when released.

2 If the throttle sticks, this is probably due to a cable fault. Remove the cable and lubricate it (see Chapter 4).

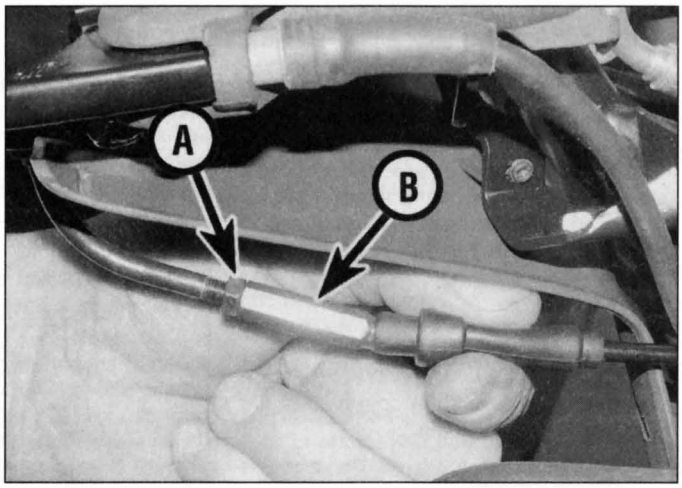
3 With the throttle operating smoothly, check for a small amount of freeplay in the cable, measured in terms of the amount of twistgrip rotation before the throttle opens, and compare the amount to the Specifications at the beginning of this Chapter **(see illustration)**.

4 If there is insufficient or excessive freeplay, loosen the locknut on the cable adjuster, then turn the adjuster until the specified amount of freeplay is evident, then retighten the locknut **(see illustration)**. If the adjuster has reached its limit of adjustment, replace the cable with a new one (see Chapter 4).

5 Start the engine and check the idle speed. If the idle speed is too high, this could be due to incorrect adjustment of the cable. Loosen the locknut and turn the adjuster in – if the idle speed falls as you do, there is insufficient freeplay in the cable. Reset the adjuster (see Step 4). **Note:** *The idle speed should not change as the handlebars are turned. If it does, the throttle cable is routed incorrectly. Rectify the problem before riding the scooter (see Chapter 4).*



10.3 Throttle cable freeplay is measured in terms of twistgrip rotation



10.4 Throttle cable locknut (A) and adjuster (B)

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Models fitted with a cable operated oil pump

Note: *Generally speaking, all 100 cc models and 50 cc models manufactured before 2000 are fitted with a cable operated pump; all other models are fitted with a centrifugal pump. A quick visual check will confirm which pump is fitted to your machine.*

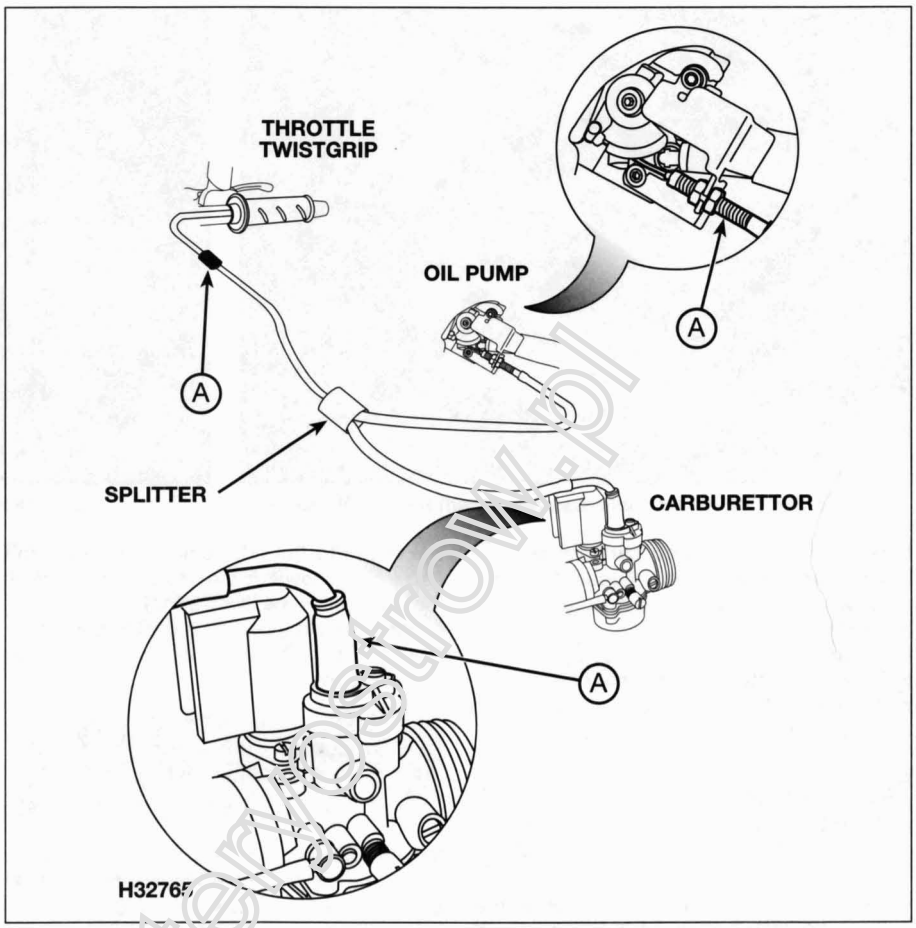
6 There should be no discernable freeplay in the cable from the splitter to the carburettor **(see illustration)**.

7 Remove the air filter housing (see Chapter 4) and pull back the boot on the cable adjuster on the top of the carburettor.

8 Screw the adjuster into the top of the carburettor to create a small amount of freeplay in the cable, then screw the adjuster out until the carburettor slide just begins to lift. Now turn the adjuster in a quarter turn **(see illustration)**. Refit the boot and the filter housing.

9 Check the adjustment of the oil pump cable (see Section 13).

11 Engine oil system – check



10.6 Cable arrangement for models fitted with a cable operated oil pump

Location of cable adjusters (A)

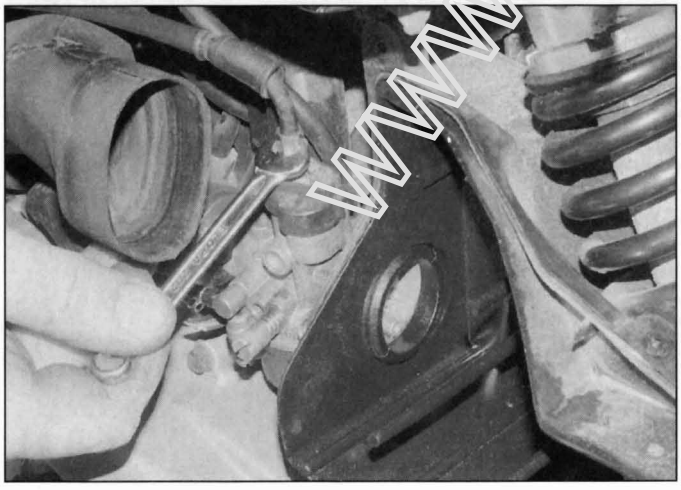
1 A routine check of the engine oil system will ensure that any problems are discovered and remedied before the engine is damaged.

2 Check the engine oil level (see *Daily (pre-ride) checks*).

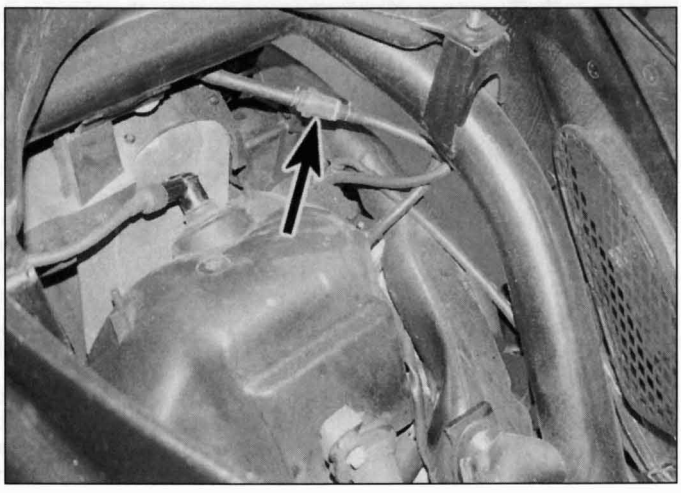
3 Check the operation of the oil level warning light in the instrument cluster. The light should come on temporarily when the ignition is first turned on as a check of the warning circuit and then extinguish. If the light stays on the oil level is low and should be topped up. If the light doesn't come on at all, check the bulb and circuit as described in Chapter 9.

4 Remove the storage compartment (see Chapter 7) and inspect the oil filter **(see illustration)**. Air bubbles should be bled from the filter by tilting it to allow trapped air to rise through the hose into the oil tank. Check for sediment in the filter and replace the filter with a new one if necessary (see Section 12).

5 Check the condition of the oil inlet and outlet hoses. In particular check that there are no leaks from the hose connections to the oil



10.8 Adjusting the cable at the carburettor end



11.4 Inspect the oil filter (arrowed)

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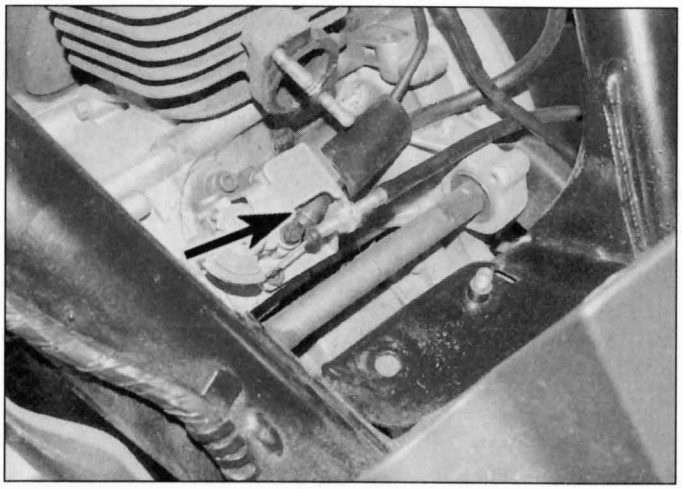
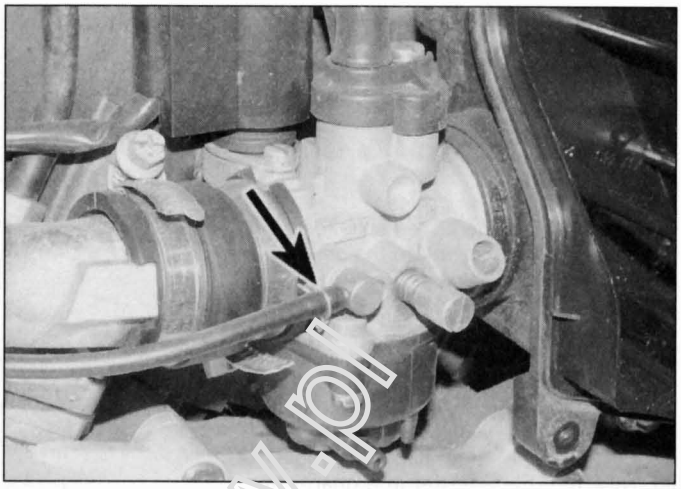


11.5a Inspect oil hose connections (arrowed) for possible leaks



11.5b Oil hose to carburettor secured by clip

tank, filter, oil pump and carburettor **(see illustration)**. Renew any hoses that are cracked or deteriorated and ensure they are properly secured by the clips **(see illustration)**.

6 On models fitted with a cable operated oil pump, check the pump setting as described in Section 13 and adjust if necessary.

12 Engine oil filter – change

1 The oil filter should be changed at the specified service interval, or sooner if necessary (see Section 11).

2 Remove the storage compartment to access the oil filter (see Chapter 7). Release the clips securing the inlet hoses to the filter and slide them along the hoses away from the filter. Detach the hoses and clamp them to prevent oil loss.

3 The oil filter body is marked with an arrow indicating the direction of oil flow. Connect the hoses to the filter unions, ensuring the arrow points towards the oil pump, then install the hose clips **(see illustration)**.

4 Ensure any trapped air is bled from the filter (see Section 11) before refitting the storage compartment.

13 Oil pump cable – check and adjustment

Note 1: *Generally speaking, all 100 cc models and 50 cc models manufactured before 2000 are fitted with a cable operated pump; all other models are fitted with a centrifugal pump. A quick visual check will confirm which pump is fitted to your machine.*

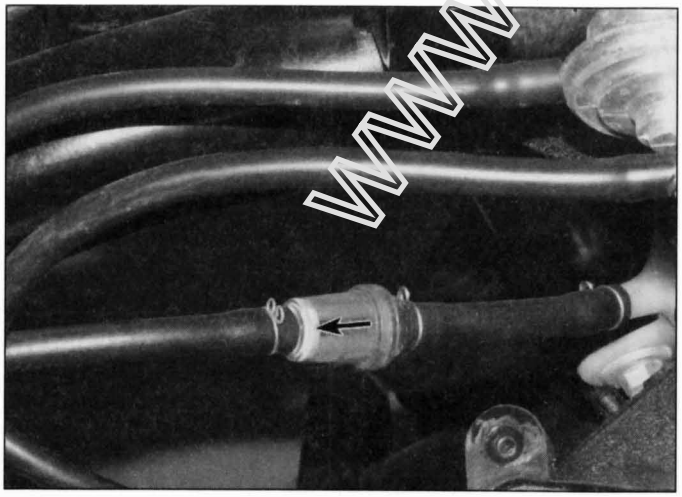
1 Ensure the throttle twistgrip rotates easily from fully closed to fully open with the handlebars turned at various angles, and check the cable freeplay with the Specifications at the beginning of this Chapter (see Section 10).

2 Remove the storage compartment (see Chapter 7). With the throttle fully open, the index mark on the pump cam should align with the mark on the pump body **(see illustration)**.

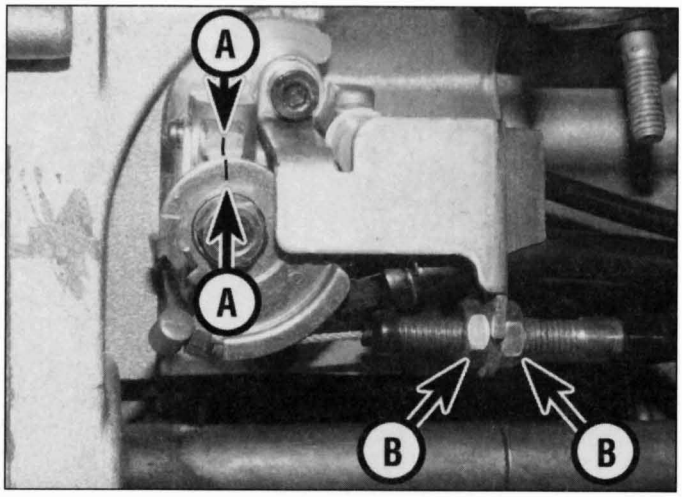
3 If the marks are not aligned, slacken the cable adjuster locknuts and screw them up or down the threaded adjuster as required until the marks align, then retighten the locknuts **(see illustration 13.2)**. If the adjuster has reached its limit of adjustment, replace the cable with a new one (see Chapter 4). Once adjustment is complete install the storage compartment (see Chapter 7).

14 Fuel system – check

Warning: Petrol is extremely flammable, so take extra precautions when you work on any part of the fuel system. Don't smoke or allow open flames or bare light bulbs near the work area, and don't work in a garage where a natural gas-type appliance is



12.3 Arrow on filter indicates direction of oil flow



13.2 Correct alignment of oil pump index marks (A) and adjuster locknuts (B)

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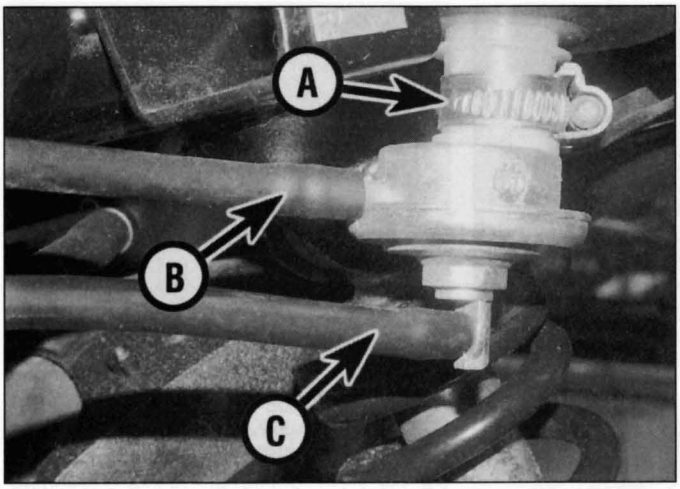


14.2 Fuel tap union clip (A), fuel hose (B) and vacuum hose (C)

15.4a Adjusting the idle speed screw on the Speedfight . . .

present. If you spill any fuel on your skin, rinse it off immediately with soap and water. When you perform any kind of work on the fuel system, wear safety glasses and have a fire extinguisher suitable for a Class B type fire (flammable liquids) on hand.

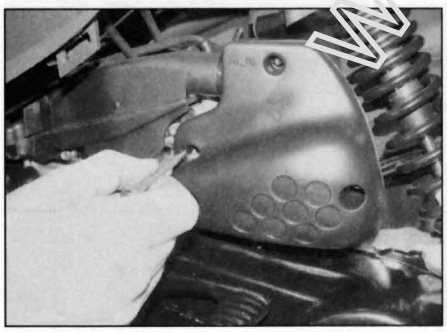
1 Remove the body panels as necessary to access the fuel tank, tap and carburettor (see Chapter 7). Check the fuel tank, the tap and the fuel hose for signs of leakage, deterioration or damage; in particular check that there is no leakage from the fuel hose. Replace the fuel hose if it is cracked or deteriorated.

2 Inspect the fuel tap to tank union and ensure that the hose clip around the union is tight **(see illustration)**. If the union is leaking, remove the tank and check the condition of the fuel tap O-ring (see Chapter 4).

3 The fuel tap is vacuum operated and should be closed when the engine is not running. Disconnect the hose from the tap to check that the valve inside is not leaking **(see illustration 14.2)**. If the valve is leaking, fit a new tap (see Chapter 4).

4 Cleaning or replacement of the fuel filter is advised after a particularly high mileage has been covered or if fuel starvation is suspected (see Chapter 4).

5 Check that the fuel tank cap breather hole is clear. If the hole becomes blocked, fuel starvation will occur.



15.4b . . . and on the Trekker and Vivacity

6 If the carburettor gaskets are leaking, the carburettor should be disassembled and rebuilt using new gaskets and seals (see Chapter 4).

7 If the fuel gauge is believed to be faulty, check the operation of the sender (see Chapter 9).

15 Idle speed – check and adjustment

1 The idle speed (engine running with the throttle twistgrip closed) should be checked and adjusted when it is obviously too high or too low. Before adjusting the idle speed, make sure the throttle cable is correctly adjusted (see Section 10) and check the spark plug gap (see Section 17).

2 The engine should be at normal operating temperature, which is usually reached after 10 to 15 minutes of stop-and-go riding. Place the machine on its stand and make sure the rear wheel is clear of the ground.

Warning: Do not allow exhaust gases to build up in the work area; either perform the check outside or use an exhaust gas extraction system

3 No tachometer is fitted as standard equipment to enable the idle speed to be compared with that specified. However, it is sufficient to ensure that at idle the engine speed is steady and does not falter, and that it is not so high that the automatic transmission engages.

4 The idle speed adjuster screw is located on the carburettor **(see illustrations)**. With the engine running, turn the screw clockwise to increase idle speed, and anti-clockwise to decrease it.

5 Snap the throttle open and shut a few times, then recheck the idle speed. If necessary, repeat the adjustment procedure.

6 If a smooth, steady idle can't be achieved, the fuel/air mixture may be incorrect (see Chapter 4) or the carburettor may need cleaning (see Section 16)

7 With the idle speed correctly adjusted, recheck the throttle cable freeplay (see Section 10).

16 Carburettor – cleaning

1 Provided the air filter element is kept clean (see Section 1) the carburettor will give many thousands of miles of satisfactory service. However, dirt particles and varnish which gradually accumulate inside the carburettor will eventually lead to running problems and necessitate that the carburettor be removed as described in Chapter 4, Section 9, then dismantled and cleaned as described in Section 10 of the same Chapter. Note that a new carburettor gasket set will be required if it is to be dismantled.

2 Note that the exterior of the carburettor should be kept clean and free of road dirt. Remove the air filter housing cover and the air intake duct (see Chapter 4) for access.

17 Spark plug – gap check and adjustment

1 Make sure your spark plug socket is the correct size (14 mm) before attempting to remove the plug. Open the engine access panel in the bottom of the storage compartment and pull off the spark plug cap **(see illustrations)**.

2 Ensure the spark plug socket is located correctly over the plug and unscrew the plug from the cylinder head.

3 Inspect the electrodes for wear. Both the centre and side electrode should have square edges and the side electrode should be of uniform thickness. Look for excessive deposits and evidence of a cracked or chipped insulator around the centre electrode. Compare your spark plug to the colour spark plug reading chart at the end of this manual.

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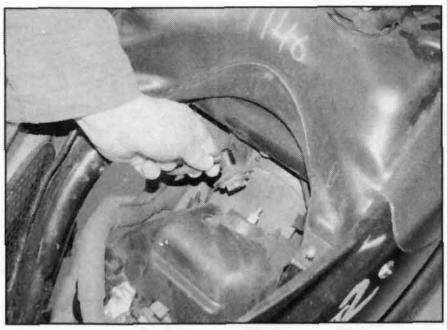
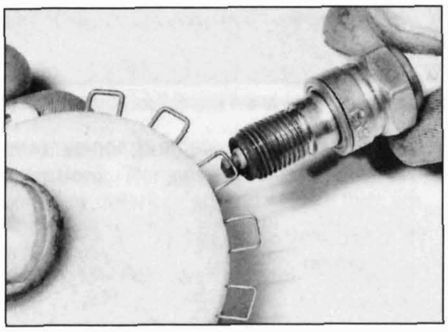
17.1a Open the engine access panel . . .



17.1b . . . and remove the spark plug cap



17.5a Using a wire type gauge to measure the spark plug electrode gap

17.5b Using a feeler gauge to measure the spark plug electrode gap

Check the condition of the threads and washer, and the ceramic insulator body for cracks and other damage.

4 If the electrodes are not excessively worn, and if the deposits can be easily removed with a wire brush, the plug can be re-gapped and re-used (if no cracks or chips are visible in the insulator). If in doubt concerning the condition of the plug, replace it with a new one, as the expense is minimal.

5 Before installing the plug, make sure it is the correct type and heat range and check the gap between the electrodes **(see illustrations)**. Compare the gap to that specified and adjust as necessary. If the gap must be adjusted, bend the side electrode only and be very careful not to chip or crack the insulator nose **(see illustration)**. Make sure the washer is in place before installing the plug.

6 Since the cylinder head is made of aluminium, which is soft and easily damaged, first thread the plug into the head by hand. Once the plug is finger-tight, tighten it securely with the spark plug socket, then reconnect the plug cap.

HAYNES HINT *A stripped plug thread in the cylinder head can be repaired with a thread insert.*

18 Spark plug – renewal

1 Remove the old spark plug as described in Section 17 and install a new one.

19 Cooling system – check (liquid-cooled engines)

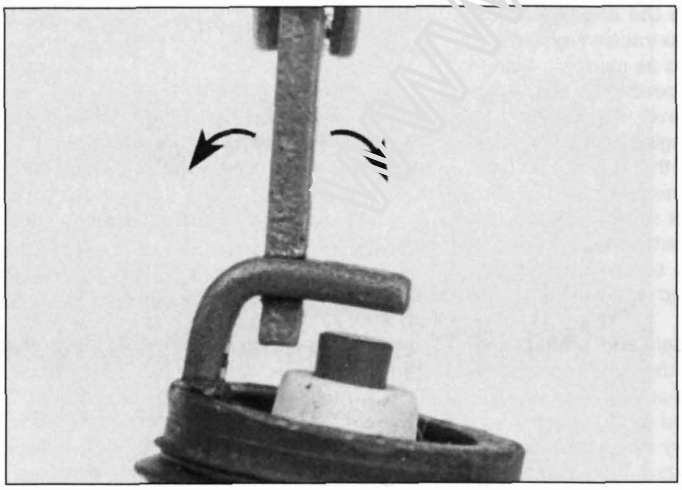
Warning: The engine must be cool before beginning this procedure.

Warning: Do not remove the reservoir cap when the engine is hot. It is good practice to cover the cap with a heavy cloth and turn the cap slowly anti-clockwise. If you hear a hissing sound (indicating that there is still pressure in the system), wait until it stops, then continue turning the cap until it can be removed.

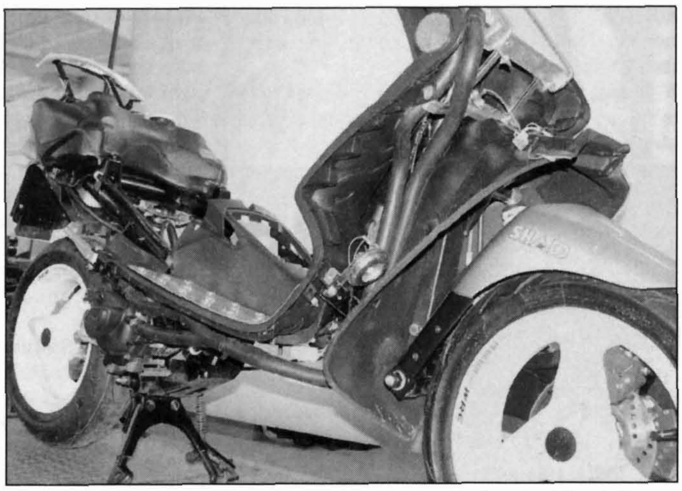
1 Check the coolant level (see *Daily (pre-ride) checks*).

2 The entire cooling system should be checked for evidence of leaks. Examine each coolant hose along its entire length, noting that you will need to remove the body panels on the right-hand side to access the hoses **(see illustration)**. Look for cracks, abrasions and other damage. Squeeze the hoses at various points. They should feel firm, yet pliable, and return to their original shape when released. If they are hard or perished, replace them with new ones (see Chapter 3).

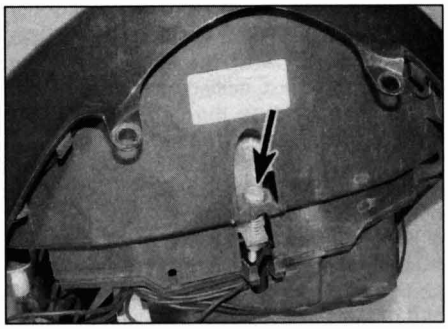
3 Check for evidence of leaks at each cooling system joint. Ensure that the hoses are pushed fully onto their unions and that the hose clips are tight. **Note:** *Check the tension of the hose spring clips and replace them with new ones if they are loose.*



17.5c Adjust the electrode gap by bending the side electrode only

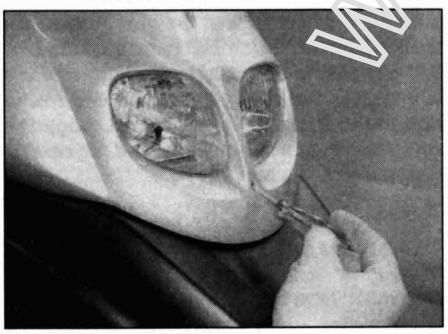


19.2 The coolant hoses run along the right-hand side of the scooter



21.2a Headlight adjuster screw on Speedfight models

4 Check the underside of the water pump for evidence of leaks (see Chapter 3).
5 Check the radiator for leaks and other damage. Leaks in the radiator leave tell-tale scale deposits or coolant stains on the outside of the core below the leak. If leaks are noted, remove the radiator (see Chapter 3) and have it repaired or replace it with a new one.
Caution: Do not use a liquid leak stopping compound to try to repair leaks.
6 Inspect the radiator fins for mud, dirt and insects which will impede the flow of air through the radiator. If the fins are dirty, remove the radiator (see Chapter 3) and clean it using water or low pressure compressed air directed through the fins from the back. If the fins are bent or distorted, straighten them carefully with a screwdriver. If the air flow is restricted by bent or damaged fins over more than 30% of the radiator's surface area, fit a new radiator.
7 Remove the reservoir pressure cap (see ***Warning***). Check the condition of the coolant in the reservoir. If it is rust-coloured or if accumulations of scale are visible, drain, flush and refill the system with new coolant (see Chapter 3).
8 Check the antifreeze content of the coolant with an antifreeze hydrometer. Sometimes coolant looks like it's in good condition, but is too weak to offer adequate protection. If the hydrometer indicates a weak mixture, drain, flush and refill the system (see Chapter 3). **Note:** *Peugeot recommend draining and refilling the cooling system with fresh coolant every 2 years.*
9 Start the engine and let it reach normal operating temperature, then check for leaks again.



21.2b Adjusting the headlight beam on Trekker models

10 If the coolant level is consistently low, and no evidence of leaks can be found, have the entire system pressure checked by a Peugeot dealer.

20 Nuts and bolts – tightness check

1 Since vibration tends to loosen fasteners, all nuts, bolts, screws, etc. should be periodically checked for proper tightness.
2 Pay particular attention to the following:
Spark plug
Carburettor clamps
Relay box oil plug (where fitted)
Stand bolts
Engine mounting bolts
Suspension bolts
Wheel bolts
Brake caliper mounting bolts (disc brakes)
Brake hose banjo bolts (disc brakes)
Exhaust system bolts/nuts
3 If a torque wrench is available, use it along with the torque specifications given in this manual.

21 Headlight, brake light and horn – check

Note: *An improperly adjusted headlight may cause problems for oncoming traffic or provide poor, unsafe illumination of the road ahead. Before adjusting the headlight aim, be sure to consult with local traffic laws and regulations.*
1 The headlight beam can adjusted vertically. Before making any adjustment, check that the tyre pressures are correct and the suspension is adjusted as required. Make any adjustments to the headlight aim with the machine on level ground, with the fuel tank half full and with an assistant sitting on the seat. If the bike is usually ridden with a passenger on the back, have a second assistant to do this.
2 Adjustment is made by turning the adjuster screw clockwise to move the beam up, and anti-clockwise to move it down. The adjuster screw is located on the underside of the headlight panel on Speedfight and Vivacity models, and between the headlights on Trekker models **(see illustrations)**.
3 Check the operation of the brake light with the engine running. The brake light should come on when either the front or rear brake levers are pulled in. If it does not, check the operation of the brake light switch and rear/brake light bulb (see Chapter 9).
4 Check the operation of the horn with the engine running. If it fails to work, check the operation of the handlebar switch and the horn itself (see Chapter 9).

22 Stand – check and lubrication

1 Since the stand is exposed to the elements, it should be lubricated periodically to ensure safe and trouble-free operation.
2 In order for the lubricant to be applied where it will do the most good, the component should be disassembled. However, if chain and cable lubricant is being used, it can be applied to the pivot joint gaps and will usually work its way into the areas where friction occurs. If motor oil or light grease is being used, apply it sparingly as it may attract dirt (which could cause the controls to bind or wear at an accelerated rate).
3 The return spring must be capable of retracting the stand fully and holding it retracted when the machine is in use. If the spring has sagged or broken it must be replaced (see Chapter 6).

23 Cylinder head – decarbonisation

Caution: If the machine is continually ridden on short journeys which do not allow the engine to reach and maintain its normal operating temperature, the cylinder head should be decarbonised more frequently.
1 Remove the cylinder head (see Chapter 2A for air-cooled engines, or 2B for liquid-cooled engines).
2 Remove all accumulated carbon from the cylinder head using a blunt scraper. Small traces of carbon can be removed with very fine abrasive paper or a kitchen scourer
Caution: The cylinder head and piston are made of aluminium which is relatively soft. Take great care not to gouge or score the surface when scraping.
3 Press the cylinder down against the crankcase to avoid breaking the cylinder base gasket seal, then turn the engine over until the piston is at the very top of its stroke. Smear grease all around the edge of the piston to trap any particles of carbon, then clean the piston crown, again taking care not to score or gouge it or the cylinder bore.
4 Clean off the carbon, then lower the piston and wipe away the grease and any remaining particles. Also scrape or wipe clean the intake and exhaust ports in the cylinder. If the exhaust port is heavily coked, remove the exhaust system and clean the port and the exhaust pipe thoroughly (see Chapter 4).
5 Install the cylinder head (see Chapter 2A or 2B).

HAYNES HiNT ***Finish the piston head and combustion chamber off using a metal polish. A shiny surface is more resistant to the build-up of carbon deposits.***

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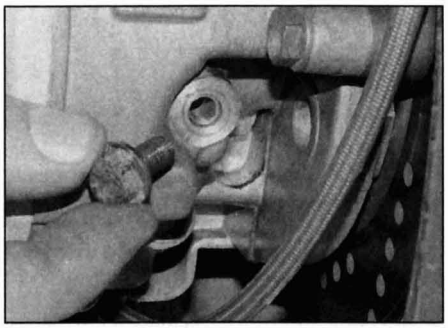

28.2 Unscrew the plug to check the oil level

24 Variator pulley and rollers and drive belt – check

Variator pulley and rollers

1 Referring to Chapter 2C, remove the drive belt cover.
2 A Peugeot service tool or home made alternative is required to remove the variator (see Chapter 2C). Dismantle the variator and renew any parts that are worn; if applicable, lubricate the rollers, ramp plate and housing with high temperature grease (Peugeot recommend Esso SKF LGHT 3/0.4) before reassembly. **Note:** *The variator housing O-ring and variator centre nut must be replaced with a new one on reassembly.*

Drive belt

3 Inspect the drive belt when checking the variator pulley and rollers. No specifications are available regarding belt wear limits but signs of premature belt wear should be investigated. Refer to Chapter 2C, Section 5 for more details.

25 Drive belt – renewal

1 The drive belt must be renewed at the specified service interval (see Chapter 2C).

28.4 Top-up with the specified oil only

26 Clutch pulley and bearing – check and lubrication

1 Referring to Chapter 2C, remove the drive belt cover. The outer half of the clutch pulley should slide outwards on the clutch hub, against the pressure of the clutch centre spring.
2 Grasp the pulley assembly and check for play in the pulley hub bearings. A Peugeot service tool or home made alternative is required to dismantle the clutch and pulley assembly (see Chapter 2C). Renew any parts that are worn and lubricate the pulley needle bearing and the pulley guide pins with high temperature grease (Peugeot recommend Esso SKF LGHT 3/0.4) before reassembly. **Note:** *The clutch centre nut must be replaced with a new one on reassembly.*

27 Kickstart gear and spindle bush – check

1 Referring to Chapter 2C, remove the driver belt cover. The kickstart lever should move smoothly and return to the rest position under the tension of the return spring.
2 Inspect the component parts for damage and wear and renew any parts as necessary (see Chapter 2C). Lubricate the kickstart spindle with high temperature grease (Peugeot recommend Esso SKF LGHT 3/0.4) before reassembly.

28 Relay box oil level – check

Note 1: *Early models were fitted with a relay box drain plug. For those models Peugeot recommend changing the oil every 10,000 km. For all models without a drain plug, it is sufficient to check the oil level at 10,000 km as described below.*
Note 2: *From mid-2002 the oil level plug was deleted from the casing – it is not necessary to change the oil during the life of the scooter, except in the event of relay box overhaul. The level can however be checked if desired when the drive belt cover is removed for inspection of the belt and rollers (see Section 24); with the cover removed the relay box oil level plug is accessible.*
1 Support the machine in an upright position on its stand on level ground. Raise the front wheel, if necessary, so that the rear wheel is touching the ground.
2 Clean the area around the oil level plug on the back of the casing, then unscrew the plug **(see illustration)**.
3 The oil level should come up to the plug threads so that it is just visible on the threads.
4 If the oil is below the level of the plug threads, add the specified grade and type of oil to bring it up to the correct level **(see illustration)**. Do not overfill. Note that Peugeot specify 120 ml of 80W-90 scooter gear oil and specifically advise against the use of a hypoid oil.
5 If the oil level is very low, or oil is leaking from the relay box case, refer to Chapter 2C and inspect the condition of the case seals and gaskets and replace them with new ones if necessary.

29 Rear drum brake cam – check and lubrication

1 Remove the rear wheel and brake shoes, then remove the brake arm and pull the brake cam out of the casing (see Chapter 8).
2 Clean the shaft and cam and inspect the bearing surfaces for wear; replace the cam with a new one if necessary.
3 Apply some copper grease to the bearing surfaces of the cam and the shaft before reassembly.
Caution: Do not apply too much grease otherwise there is a risk of it contaminating the brake drum and shoe linings.

30 Wheels and tyres – general check

Wheels

1 Cast wheels are virtually maintenance free, but they should be kept clean and checked periodically for cracks and other damage. Also check the wheel runout and alignment (see Chapter 8). Never attempt to repair damaged cast wheels; they must be replaced with new ones.
2 Wheel bearings will wear over a period of time and result in handling problems. Support the machine on its centre stand and check for any play in the bearings by pushing and pulling the wheel against the hub. Also rotate the wheel and check that it turns smoothly.
3 If any play is detected in the hub, or if the wheel does not rotate smoothly (and this is not due to brake or transmission drag), the wheel bearings must be inspected for wear or damage (see Chapter 8).

Tyres

4 Check the tyre condition and tread depth thoroughly – see *Daily (pre-ride) checks*. Check the valve rubber for signs of damage or deterioration and have it replaced if necessary. Also, make sure the valve stem cap is in place and tight.

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Chapter 2 Part A:
Air-cooled two-stroke engine

Refer to Chapter 1 for model identification details

Contents

Degrees of difficulty

Easy, suitable for novice with little experience

Fairly easy, suitable for beginner with some experience

Fairly difficult, suitable for competent DIY mechanic

Difficult, suitable for experienced DIY mechanic

Very difficult, suitable for expert DIY or professional

Specifications

50 cc FB2 and FB4 engines

General

Type	Single cylinder two-stroke
Capacity	49.13 cc
Bore	40.0 mm
Stroke	39.1 mm
Compression ratio	6.6 to 1

Piston

Piston diameter (measured 25 mm down from lower ring groove, at 90° to piston pin axis)	
Standard	39.85 mm
Piston pin diameter	12 mm

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50 cc FB2 and FB4 engines (continued)

Piston rings

Ring end gap (installed)	
Standard	0.24 mm
Service limit (max)	0.26 mm

Connecting rod

Small-end inside diameter	15 mm
Big-end side clearance	0.5 mm

Crankshaft

Runout (max)	0.12 mm
Diameter at main bearings	20 mm

Torque settings

Alternator rotor nut	40 Nm
Crankcase bolts	12 Nm
Cylinder head bolts	15 Nm
Drive belt cover bolts	10 Nm
Engine cover bolts	10 Nm
Engine mountings	
Crankcase-to-front bracket bolt	60 Nm
Front bracket-to-frame bolt	60 Nm
Engine/transmission case-to-rear shock bolt	25 Nm
Inlet manifold bolts	10 Nm
Oil pump mounting bolts	8 Nm
Starter motor mounting bolts	10 Nm

100 cc FB6 engine

General

Type	Single cylinder two-stroke
Capacity	99.9 cc
Bore	50.6 mm
Stroke	49.7 mm
Compression ratio	11 to 1

Piston

Piston diameter (measured 25 mm down from lower ring groove, at 90° to piston pin axis)	
Standard	50.45 mm
Piston pin diameter	14 mm

Piston rings

Ring end gap (installed)	
Standard	0.30 mm
Service limit (max)	0.45 mm

Connecting rod

Small-end inside diameter	18 mm
Big-end side clearance	0.5 mm

Crankshaft

Runout (max)	0.12 mm
Diameter at main bearings	25 mm

Torque settings

Alternator rotor nut	40 Nm
Crankcase bolts	12 Nm
Cylinder head bolts	15 Nm
Drive belt cover bolts	10 Nm
Engine cover bolts	10 Nm
Engine mountings	
Crankcase-to-front bracket bolt	60 Nm
Front bracket-to-frame bolt	60 Nm
Engine/transmission case-to-rear shock bolt	25 Nm
Inlet manifold bolts	10 Nm
Oil pump mounting bolts	8 Nm
Starter motor mounting bolts	10 Nm

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1 General information

The engine unit is a single cylinder two-stroke, with fan assisted air cooling. The fan is mounted on the alternator rotor, which is on the right-hand end of the crankshaft. The crankshaft assembly is pressed together, incorporating the connecting rod, with the big-end running on the crankpin on a needle roller bearing. The piston also runs on a needle roller bearing fitted in the small-end of the connecting rod. The crankshaft runs in caged ball main bearings. The crankcase divides vertically.

2 Operations possible with the engine in the frame

All components and assemblies, with the exception of the crankshaft assembly and its bearings, can be worked on without having to remove the engine/transmission unit from the frame. If however, a number of areas require attention at the same time, removal of the engine is recommended, as it is an easy task to undertake.

3 Operations requiring engine removal

To access the crankshaft assembly and the engine main bearings, the engine must be removed from the frame and the crankcase halves must be separated.

4 Major engine repair – general note

1 It is not always easy to determine when or if an engine should be completely overhauled, as a number of factors must be considered.
2 High mileage is not necessarily an indication that an overhaul is needed, while low mileage, on the other hand, does not preclude the need for an overhaul. Frequency of servicing is probably the single most important consideration. An engine that has regular and frequent maintenance will most likely give many miles of reliable service. Conversely, a neglected engine, or one which has not been run in properly, may require an overhaul very early in its life.
3 If the engine is making obvious knocking or rumbling noises, the connecting rod and/or main bearings are probably at fault.
4 Loss of power, rough running, excessive noise and high fuel consumption rates may also point to the need for an overhaul, especially if they are all present at the same time. If a complete tune-up does not remedy the situation, major mechanical work is the only solution.
5 An engine overhaul generally involves restoring the internal parts to the specifications of a new engine. This may require fitting new piston rings and crankcase seals, or, after a high mileage, renewing the crankshaft and connecting rod assembly. The end result should be a like-new engine that will give as many trouble-free miles as the original.
6 Before beginning the engine overhaul, read through the related procedures to familiarise yourself with the scope and requirements of the job. Overhauling an engine is not all that difficult, but it is time consuming. Check on the availability of parts and make sure that any necessary special tools and materials are obtained in advance.
7 Most work can be done with typical workshop hand tools, although Peugeot produce a number of service tools for specific purposes such as separating the crankcase halves. Precision measuring tools are required for inspecting parts to determine if they must be renewed. Alternatively, a Peugeot dealer will handle the inspection of parts and offer advice concerning reconditioning and replacement. As a general rule, time is the primary cost of an overhaul so it does not pay to install worn or substandard parts.
8 As a final note, to ensure maximum life and minimum trouble from a rebuilt engine, everything must be assembled with care in a spotlessly clean environment.

5 Engine – removal and installation

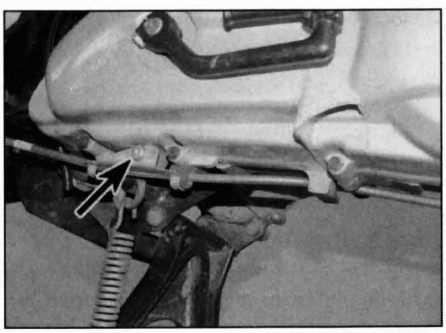
Caution: The engine is not heavy, however engine removal and installation should be carried out with the aid of an assistant; personal injury or damage could occur if the engine falls or is dropped.

Removal

1 Support the machine securely in an upright position. Work can be made easier by raising the machine to a convenient working height on an hydraulic ramp or a suitable platform. Make sure it is secure and will not topple over.
2 Remove body panels as necessary according to model (see Chapter 7).
3 Remove the exhaust system (see Chapter 4).
4 If the engine is dirty, particularly around its mountings, wash it thoroughly before starting any major dismantling work. This will make work much easier and rule out the possibility of dirt falling into some vital component.
5 Disconnect the battery negative terminal (see Chapter 9) and pull the spark plug cap off the plug.
6 Trace the wiring from the alternator/ignition pulse generator coil and the starter motor on the right-hand side of the engine and

5.10 Remove the oil pump cable and bracket

disconnect it at the connectors. Free the wiring from any clips on the frame.
7 Remove the air filter housing and the air intake duct (see Chapter 4).
8 Disconnect the fuel pipe and fuel tap vacuum pipe from their unions on the carburettor and inlet manifold respectively. Release the clip securing the oil outlet hose to the carburettor and wrap a clean plastic bag around the end to prevent dirt entering the system, then displace the carburettor (see Chapter 4).
9 Undo the bolts securing the engine and fan cowlings and remove the cowlings (see Chapter 3).
10 Where fitted, detach the oil pump control cable from the pump pulley (see Section 13), then unscrew the bolts securing the oil pump control cable bracket and remove the bracket with the cable attached **(see illustration)**. Refit the bolts to secure the nuts on the underside of the pump mounting and to retain the pump in place.
11 Release the clip securing the oil inlet hose from the oil tank to the union on the oil pump and detach the hose (see Section 13). Clamp the hose and secure it in an upright position to minimise oil loss. Wrap a clean plastic bag around the end to prevent dirt entering the system.
12 On models fitted with a drum rear brake, disconnect the brake cable from the brake arm (see Chapter 8). Undo the screw securing the cable clip to the underside of the drive belt casing and detach the cable **(see illustration)**.
13 On models fitted with a disc rear brake, remove the rear wheel and displace the brake



5.12 Undo the clip (arrowed) to detach the brake cable

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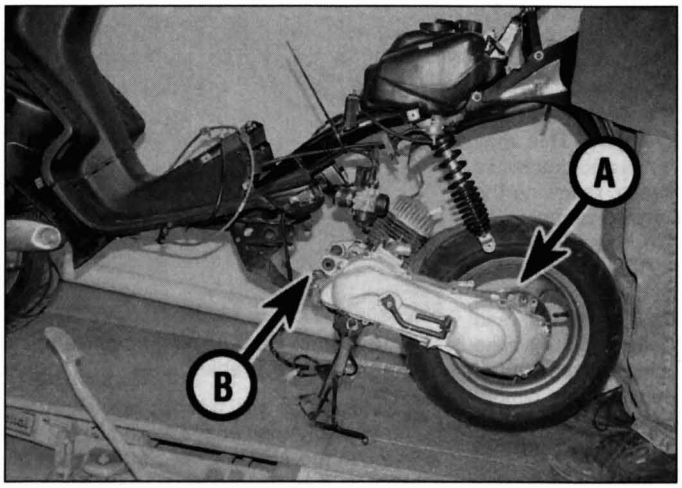
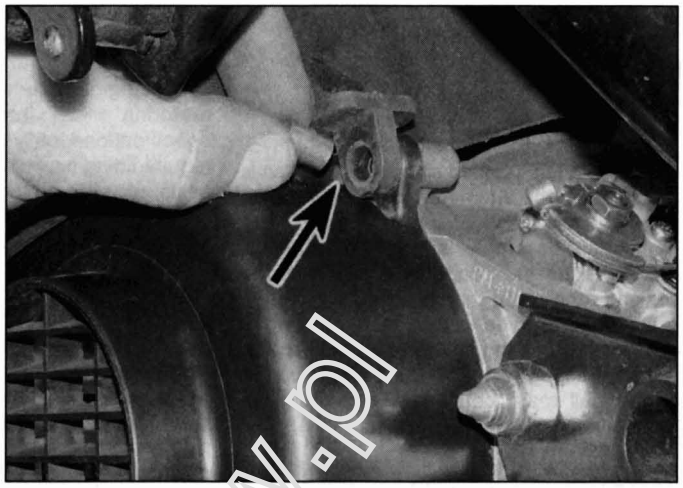


5.14 Remove the bolts securing the rear shock (A) and the frame (B) to the engine unit



7.2a The engine cowling is secured by a bolt on the cooling fan cowling . . .

caliper, then temporarily refit the rear wheel (see Chapter 8). Unclip the brake hose from the underside of the drive belt casing **(see illustration 5.12)** .

14 Check that all wiring, cables and hoses are clear of the engine/transmission unit. With the aid of an assistant, support the weight of the machine on the rear grab handle. Remove the bolt securing the rear shock absorber to the transmission casing, then remove the front engine mounting bolt and lift the frame away from the engine/transmission unit **(see illustration)**.

15 If required, remove the stand (see Chapter 6) and the rear wheel (see Chapter 8) .

Installation

16 Installation is the reverse of removal, noting the following points:

- Make sure no wires, cables or hoses become trapped between the engine and the frame when installing the engine.
- Tighten the engine mounting bolts to the torque settings specified at the beginning of this Chapter.
- Make sure all wires, cables and hoses are correctly routed and connected, and secured by any clips or ties.
- Bleed the oil pump (see Section 13) and check the adjustment of the oil pump cable where fitted (see Chapter 1).
- Check the operation of the rear brake before riding the machine (see Chapter 8).

6 Disassembly and reassembly – general information

Disassembly

1 Before disassembling the engine, the external surfaces of the unit should be thoroughly cleaned and degreased. This will prevent contamination of the engine internals, and will also make working a lot easier and cleaner. A high flash-point solvent, such as paraffin can be used, or better still, a proprietary engine degreaser such as Gunk. Use an old paintbrush to work the solvent into the various recesses of the engine casings. Take care to exclude solvent or water from the electrical components and inlet and exhaust ports.

Warning: The use of petrol (gasoline) as a cleaning agent should be avoided because of the risk of fire.

2 When clean and dry, arrange the unit on the workbench, leaving suitable clear area for working. Gather a selection of small containers and plastic bags so that parts can be grouped together in an easily identifiable manner. Some paper and a pen should be on hand to permit notes to be made and labels attached where necessary. A supply of clean rags is also required.

3 Before commencing work, read through the appropriate section so that some idea of the necessary procedure can be gained. When removing components it should be noted that great force is seldom required, unless specified. In many cases, a component's reluctance to be removed is indicative of an incorrect approach or removal method – if in any doubt, re-check with the text.

4 When disassembling the engine, keep 'mated' parts that have been in contact with each other during engine operation together. These 'mated' parts must be reused or renewed as an assembly.

5 Complete engine disassembly should be done in the following general order with reference to the appropriate Sections. Refer to Chapter 2C for details of transmission components disassembly.

Remove the cooling fan (see Section 11)
Remove the alternator (see Chapter 9)
Remove the variator (see Chapter 2C)
Remove the cylinder head (see Section 7)
Remove the cylinder (see Section 8)
Remove the piston (see Section 9)
Remove the oil pump (see Section 13)
Remove the reed valve (see Chapter 4)
Remove the starter motor (see Chapter 9)
Separate the crankcase halves (see Section 14)

Reassembly

6 Reassembly is accomplished by reversing the general disassembly sequence.

7 Cylinder head – removal, inspection and installation

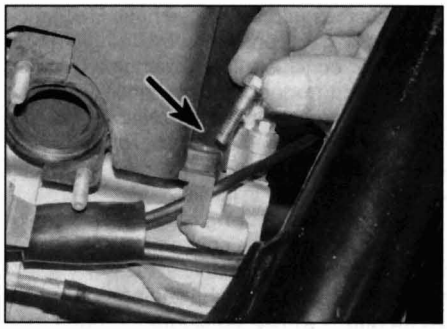
Note: *This procedure can be carried out with the engine in the frame. If the engine has been removed, ignore the steps that do not apply.*
Caution: The engine must be completely cool before beginning this procedure or the cylinder head may become warped.

Removal

1 Remove the body panels as necessary according to model (see Chapter 7).

2 Pull the spark plug cap off the spark plug, then remove the bolts securing the engine cowling and remove the cowling, noting how it fits **(see illustrations)**.

3 Remove the spark plug, then unscrew the



7.2b . . . a bolt on the left-hand side front of the cowling . . .

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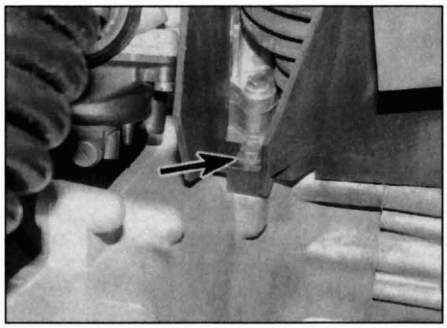
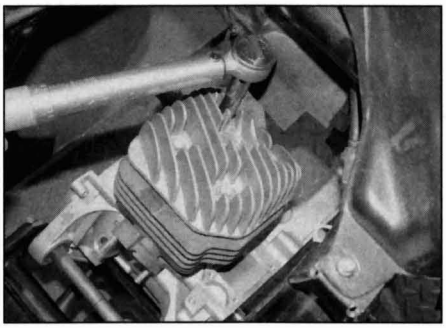
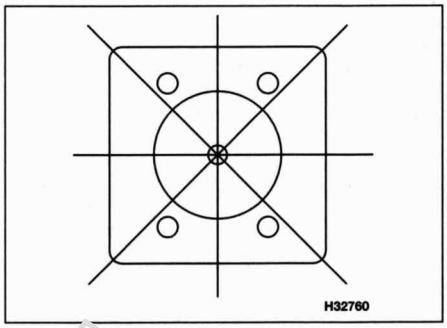


7.2c . . . and a bolt on the left-hand side rear of the cowling



7.3 Unscrew the cylinder head bolts evenly in a criss-cross sequence



7.10 Check the cylinder head for warpage with a straight edge in the directions shown

four cylinder head bolts evenly and a little at a time in a criss-cross sequence until they are all loose and remove the bolts **(see illustration)**.

4 Lift the head off the cylinder. If the head is stuck, tap around the joint face between the head and cylinder with a soft-faced mallet to free it. Do not attempt to free the head by inserting a screwdriver between the head and cylinder – you'll damage the sealing surfaces. ***Caution: The cylinder head bolts also secure the cylinder to the crankcase. If the cylinder base gasket seal is broken when removing the head, a new gasket will have to be fitted on reassembly (see Section 8).***

5 Remove the cylinder head gasket and discard it as a new one must be fitted on reassembly.

Inspection

6 Refer to Chapter 1 and decarbonise the cylinder head.

7 Inspect the head very carefully for cracks and other damage. If cracks are found, a new head will be required.

8 Inspect the threads in the spark plug hole. Damaged or worn threads can be reclaimed using a thread insert; consult a Peugeot dealer or scooter engineer.

9 Check the mating surfaces on the cylinder head and cylinder for signs of leakage, which could indicate that the head is warped.

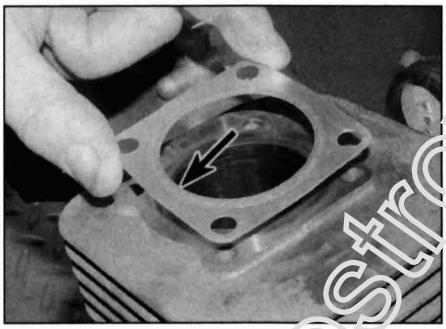
10 Using a precision straight-edge, check the head mating surface for warpage. Check vertically, horizontally and diagonally across the head, making four checks in all **(see illustration)**.

Installation

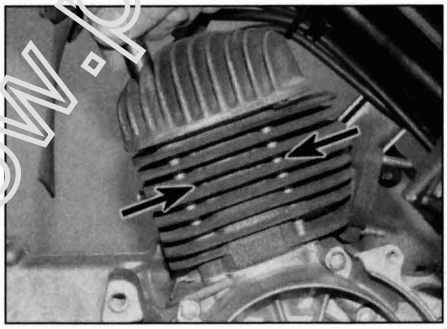
11 Ensure both cylinder head and cylinder mating surfaces are clean, and lubricate the cylinder bore with the specified type of two-stroke oil.

12 Install the new head gasket with the raised centre section uppermost, then carefully fit the cylinder head onto the cylinder **(see illustration)**.

13 Install the four bolts; ensure the bolt threads locate in the crankcase, then tighten them finger-tight **(see illustration)**. Now tighten them evenly and a little at a time in a criss-cross pattern to the torque setting specified at the beginning of this Chapter.



7.12 Install the new gasket with the raised section (arrowed) uppermost



7.13 The head bolts (arrowed) pass all the way through the cylinder

14 Install the spark plug, then fit the engine cowling, making sure it locates correctly against the fan cowling **(see illustration 7.2a)**.

15 Install the remaining components in the reverse order of removal.

8 Cylinder – removal, inspection and installation

Note: *This procedure can be carried out with the engine in the frame.*

Warning: The cylinder is Nicosil coated – under no circumstances should the cylinder be rebored or honed. No oversize pistons are available.

Removal

1 Remove the exhaust system (see Chapter 4) and the cylinder head (see Section 7). Position the piston so that it is at the top of the bore.

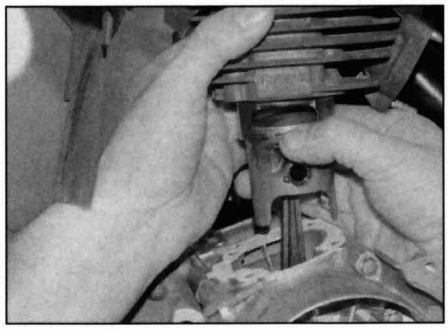
2 Lift the cylinder up off the crankcase, supporting the piston as it becomes accessible to prevent it hitting the crankcase opening **(see illustration)**. If the cylinder is stuck, tap around the joint face between the cylinder and the crankcase with a soft-faced mallet to free it. Don't attempt to free the cylinder by inserting a screwdriver between it and the crankcase – you'll damage the sealing surfaces. When the cylinder is partway removed, stuff a clean rag into the crankcase opening around the piston to prevent anything falling inside, such as pieces of broken ring.

3 Remove the cylinder gasket and discard it as a new one must be fitted on reassembly.

Inspection

4 Check the cylinder bore carefully for scratches and score marks. The bore's hard wearing Nicosil coating should prevent wear, and unless catastrophic engine damage has occurred, significant wear of the surface is unlikely.

5 The manufacturer does not supply a service limit for cylinder bore diameter, only the nominal diameter for a new bore given in the Specifications at the beginning of this Chapter. It is, however, possible to gain an indication of the bore's condition by using telescoping gauges and a micrometer to measure the bore diameter, and to calculate any taper or ovality. Measure near the top (but below the level of the top piston ring at TDC), centre and bottom (but above the level of the bottom ring at BDC) of the bore both parallel to and across the crankshaft axis **(see**



8.2 Support the piston as the cylinder is lifted off

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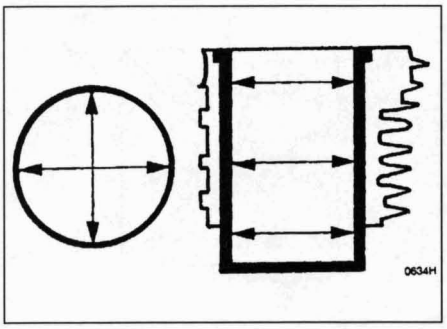
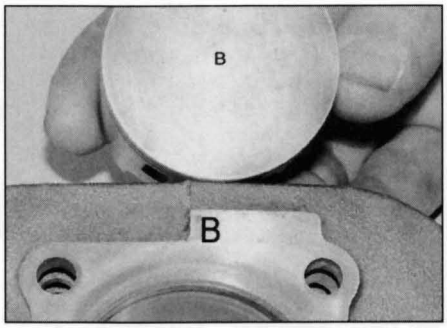
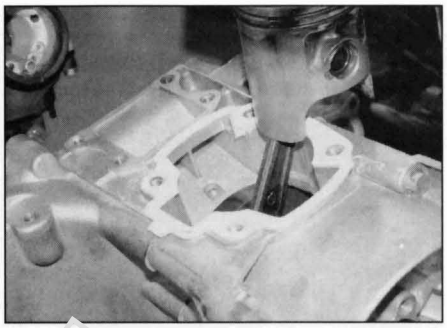


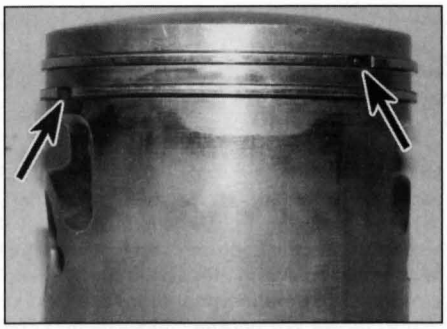
8.5 Measure the cylinder bore in the directions shown



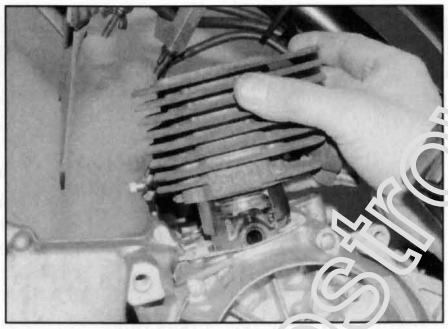
8.6 Cylinders and pistons are size coded and should always match



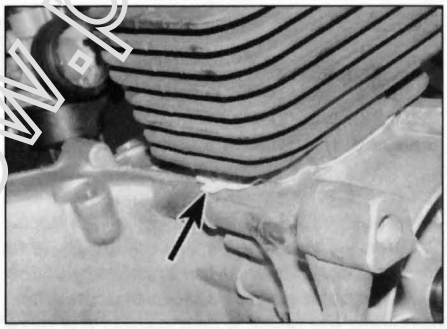
8.9 Ensure the new gasket is positioned correctly on the crankcase



8.10 Ring locating pins (arrowed) must be between the ring ends



8.12 Lower the cylinder carefully over the piston



8.13 Check that the cylinder base gasket (arrowed) has not been displaced

illustration). Calculate any differences between the measurements taken to determine any taper and ovality in the bore.

6 If the bore is tapered, oval, or worn excessively, or badly scratched, scuffed or scored, the cylinder and piston will have to be renewed. Peugeot supply cylinders and pistons as matching sets. The cylinder and piston are size coded during manufacture and it is important that new parts are matched. The size codes are marked on the top of the cylinder and the piston **(see illustration)**.

7 If there is any doubt about the serviceability of the cylinder, consult a Peugeot dealer.

8 Inspect the cylinder head bolt threads in the crankcase (see Section 14).

Installation

9 Remove any rag from the crankcase opening. Lay the new base gasket in place on the crankcase making sure it is the correct way round **(see illustration)**.

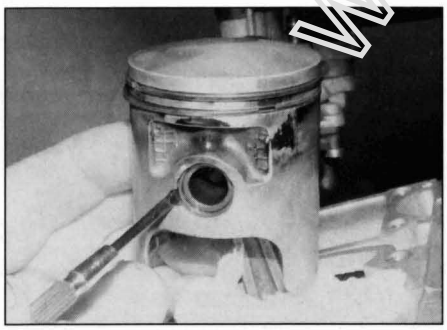
10 Check that the piston rings are correctly positioned so that the ring locating pins in the piston grooves are between the ring ends **(see illustration)**.

11 Lubricate the cylinder bore, piston and piston rings, and the connecting rod big and small ends, with the specified type of two-stroke oil, then locate the cylinder over the top of the piston **(see illustration 8.2)**.

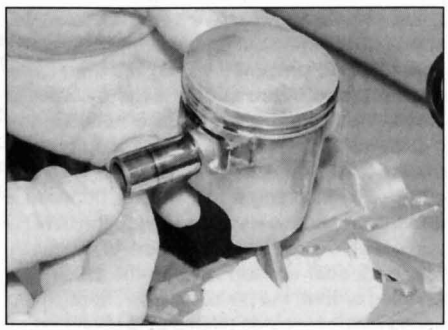
12 Ensure the piston enters the bore squarely and does not get cocked sideways. Carefully compress and feed each ring into the bore as the cylinder is lowered, taking care that the ring end gaps remain correctly aligned with the pins **(see illustration)**. Do not use force if the cylinder appears to be stuck as the piston and/or rings will be damaged.

13 When the piston is correctly installed in the cylinder, check that the base gasket has not been displaced **(see illustration)**.

14 Install the remaining components in the reverse order of removal.



9.3a Remove the circlip . . .



9.3b . . . then push out the piston pin

9 Piston – removal, inspection and installation

Note: *This procedure can be carried out with the engine in the frame.*

Removal

1 Remove the cylinder (see Section 8).

2 Before removing the piston from the connecting rod, stuff a clean rag into the hole around the rod to prevent the circlips or anything else from falling into the crankcase. The piston top should be marked with an arrow which faces towards the exhaust (forwards). If this is not visible, mark the piston accordingly so that it can be installed the correct way round. Note that the arrow may not be visible until the carbon deposits have been scraped off and the piston cleaned.

3 Carefully prise the circlip out from one side of the piston using needle-nose pliers or a small flat-bladed screwdriver inserted into the notch **(see illustration)**. Check for burring around the circlip groove and remove any with a very fine file or penknife blade, then push the piston pin out from the other side and remove the piston from the connecting rod **(see illustration)**. Use a socket extension to push the piston pin out if required. Remove the other circlip and discard them both as new ones must be used on reassembly.

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HAYNES HiNT ***If a piston pin is a tight fit in the piston, soak a rag in boiling water then wring it out and wrap it around the piston – this will expand the alloy piston sufficiently to release its grip on the pin.***

4 The connecting rod small-end bearing is a loose fit in the rod; remove it for safekeeping, noting which way round it fits **(see illustration)**.

5 Using your thumbs or a piston ring removal and installation tool, carefully remove the rings from the piston. Do not nick or gouge the piston in the process. Note which way up each ring fits and in which groove as they must be installed in their original positions if being re-used. The upper surface of each ring should be marked at one end (see Section 10). Some pistons have an expander fitted behind the second ring. **Note:** *It is good practice to renew the piston rings when an engine is being overhauled. Ensure that the piston and bore are serviceable before purchasing new rings.*

6 Clean all traces of carbon from the top of the piston. A hand-held wire brush or a piece of fine emery cloth can be used once most of the deposits have been scraped away. Do not, under any circumstances, use a wire brush mounted in a drill motor; the piston material is soft and is easily damaged.

7 Use a piston ring groove cleaning tool to remove any carbon deposits from the ring grooves. If a tool is not available, a piece broken off an old ring will do the job. Be very careful to remove only the carbon deposits. Do not remove any metal and do not nick or gouge the sides of the ring grooves.

8 Once the carbon has been removed, clean the piston with a suitable solvent and dry it thoroughly. If the identification previously marked on the piston is cleaned off, be sure to re-mark it correctly.

Inspection

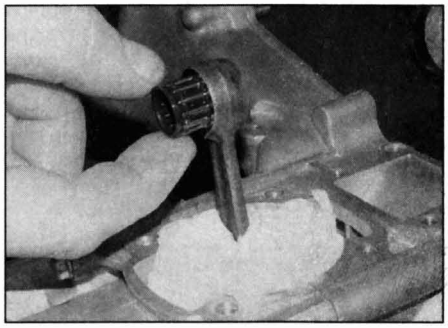
9 Inspect the piston for cracks around the skirt, at the pin bosses and at the ring lands. Normal piston wear appears as even, vertical wear on the thrust surfaces of the piston and slight looseness of the top ring in its groove. If the skirt is scored or scuffed, the engine may have been suffering from overheating and/or abnormal combustion, resulting in excessively high operating temperatures. Also check that the ring locating pins are securely fitted in the piston grooves.

10 A hole in the top of the piston, in one extreme, or burned areas around the edge of the piston crown, indicate that pre-ignition or knocking under load have occurred. If you find evidence of any problems the cause must be corrected or the damage will occur again. Refer to Chapter 4 for carburation checks and Chapter 5 for ignition checks.

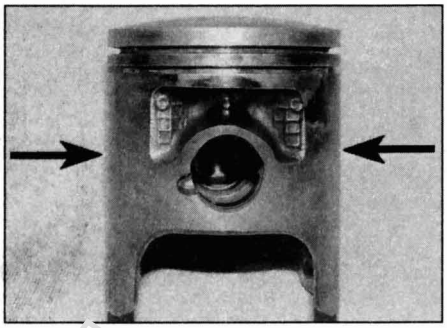
11 Check the piston-to-bore clearance by measuring the cylinder bore (see Section 8) and the piston diameter. Measure the piston 25 mm down from the bottom of the lower piston ring groove and at 90° to the piston pin axis **(see illustration)**. Subtract the piston diameter from the bore diameter to obtain the clearance. Peugeot do not specify a service limit for the piston-to-bore clearance, although anything greater than 0.1 mm should be considered worn. If the clearance is excessive, the piston is most likely to be worn, or in an extreme case the cylinder bore may also be worn. Note that the manufacturer does not supply a service limit for piston diameter, only the nominal diameter for a new piston given in the Specifications at the beginning of this Chapter. **Note:** *Cylinders and pistons are size coded during manufacture and it is important that new parts have matching codes, as marked on the top of the cylinder and the piston. Depending on the capacity and age of the engine, there are either two or three sizes of piston available. It is essential to supply the size code when purchasing a new piston.*

12 If the bore is worn, a new cylinder and piston set must be fitted.

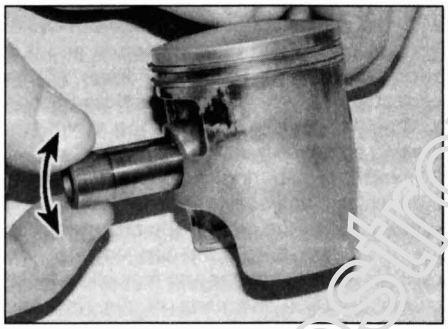
13 Apply clean two-stroke oil to the piston pin, insert it into the piston and check for any freeplay between the two **(see illustration)**. If there is freeplay, measure the pin external diameter and compare the measurement to the specifications at the beginning of this Chapter **(see illustration)**. If the pin is worn, replace it with a new one, otherwise fit a new piston.



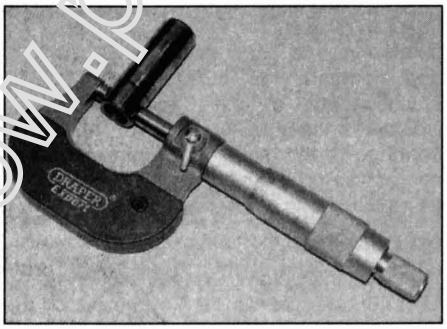
9.4 Remove the small end bearing



9.11 Measure the piston at 90° to the piston pin axis



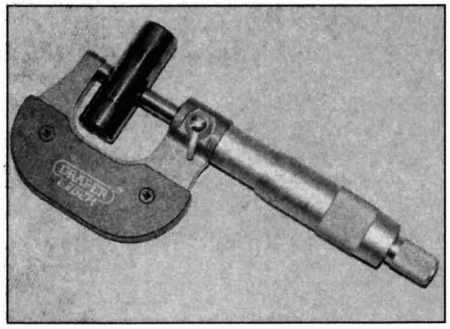
9.13a Check for freeplay between the piston and the piston pin



9.13b Measuring the piston pin where it runs in the piston

14 Check the condition of the connecting rod small-end bearing. A worn small-end bearing will produce a metallic rattle, most audible when the engine is under load, and increasing as engine speed rises. This should not be confused with big-end bearing wear, which produces a pronounced knocking noise. Inspect the bearing rollers for flat spots and pitting. Note that it is good practice to fit a new small-end bearing as a matter of course.

15 Measure the piston pin where it runs in the small-end bearing and compare the measurement to the specifications at the beginning of this Chapter **(see illustration)**. If the pin is good, install the bearing in the connecting rod, then slide the piston pin into the bearing and check for freeplay **(see illustration)**. There should only be slightly discernible freeplay between the piston pin,



9.15a Measuring the piston pin where it runs in the small end bearing

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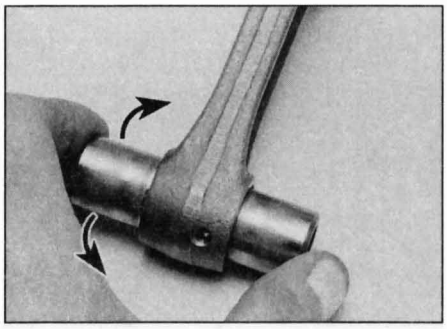


9.15b Rock the piston pin back and forth to check for freeplay

the bearing and the connecting rod. If there is freeplay, measure the internal diameter of the connecting rod small-end (see Section 14) and compare the measurement to the specifications at the beginning of this Chapter. If the small-end is good, renew the bearing. If the small-end has worn, the connecting rod and crankshaft assembly must be replaced with a new one (see Section 14).

Installation

16 Install the piston rings (see Section 10).

17 Lubricate the piston pin, the piston pin bore in the piston and the small-end bearing with the specified two-stroke oil and install the bearing in the connecting rod. Stuff clean rag into the crankcase mouth to prevent the circlips falling in.

18 Install a new circlip in one side of the piston, line up the piston on the connecting rod, making sure the arrow on the piston top faces towards the front of the engine (exhaust), and insert the piston pin from the other side. Secure the pin with the other new circlip. When installing the circlips, compress them only just enough to fit them in the piston, and make sure they are properly seated in their grooves with the open end away from the removal notch.

19 Install the cylinder (see Section 8).

10 Piston rings – inspection and installation

1 It is good practice to renew the piston rings when an engine is being overhauled. Pistons are size coded during manufacture and it is important that you get new rings of the correct size for your piston (see **Note** Section 9, Step 11). Before installing the new rings, the ring end gaps must be checked.

2 Insert the top ring into the top of the cylinder bore and square it up by pushing it in with the top of the piston. The ring should be about 20 mm below the top edge of the cylinder. To measure the end gap, slip a feeler gauge between the ends of the ring and compare the measurement to the specification at the beginning of this Chapter **(see illustration)**.

3 If the gap is larger or smaller than specified, check to make sure that you have the correct rings before proceeding.

4 If the gap is larger than specified it is likely the cylinder bore is worn. If the gap is too small the ring will not compress sufficiently to allow you to fit the piston into the cylinder.

5 Repeat the procedure for the other ring.

6 Once the ring end gaps have been checked, the rings can be installed on the piston. First identify the ring locating pin in each piston ring groove – the ring must be positioned so that the pin is in between the ends of the ring **(see illustration)**.

7 If the piston has an expander fitted behind the lower ring, fit that first, ensuring that the ends of the expander do not overlap the ring locating pin **(see illustration)**.

8 The upper surface of each ring should be marked at one end; make sure you fit the rings the right way up. Install the lower ring first. Do not expand the ring any more than is necessary to slide it into place, positioning the locating pin between the ends of the ring **(see illustration)**.

9 Install the top ring. Always ensure that the ring end gaps are positioned each side of the locating pins before fitting the piston into the cylinder.

11 Cooling fan – removal and installation

Note: *This procedure can be carried out with the engine in the frame.*

Removal

1 Remove the exhaust as required according to model (see Chapter 4).

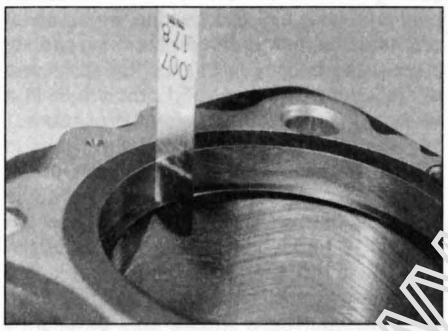
2 Undo the bolts securing the fan cowling to the crankcase and remove the cowling **(see illustration)**.

3 If loose, remove the sleeve between the fan cowling and the engine cowling **(see illustration 7.2a)**.

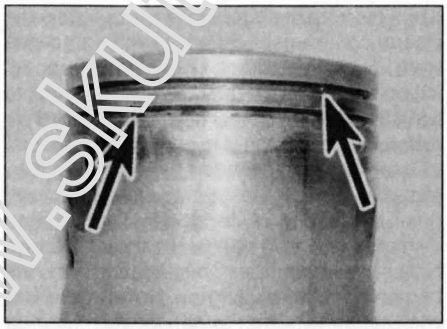
4 Undo the bolts securing the cooling fan to the alternator rotor and remove the fan **(see illustration)**.

Installation

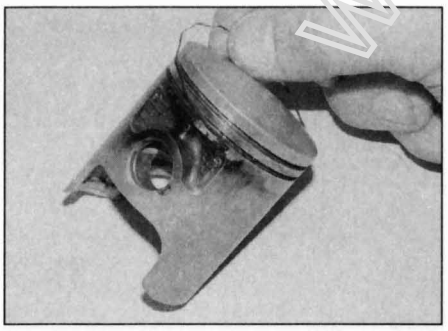
5 Installation is the reverse of removal. **Note:** *The holes for the fixing bolts in the cooling fan are oversize and it is important to centralise the fan on the bolts before tightening them, otherwise the fan will run out of true and*



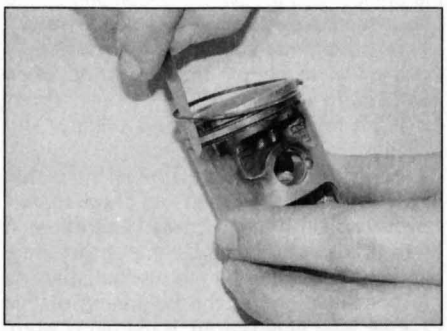
10.2 Measuring installed ring end gap



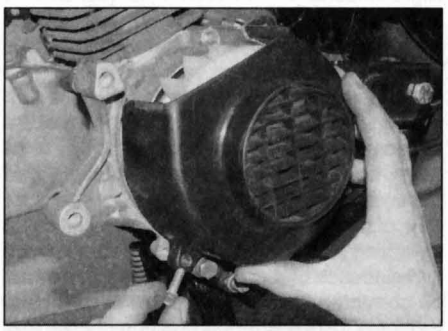
10.6 Ring locating pins (arrowed) are on the rear face of the piston



10.7 Fit the lower ring expander first . . .



10.8 . . . followed by the lower and top rings



11.2 Remove the fan cowling . . .

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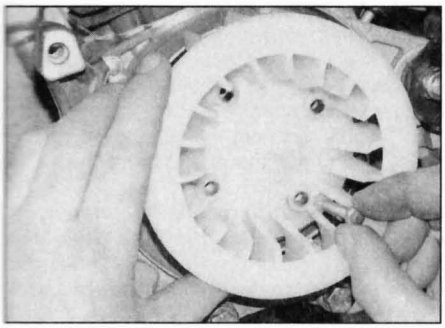
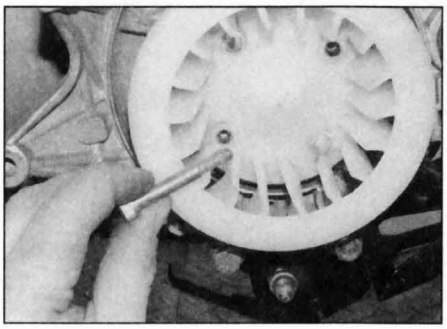


11.4 . . . then the fan mounting bolts



11.5 Use shouldered bolts to centralise the fan

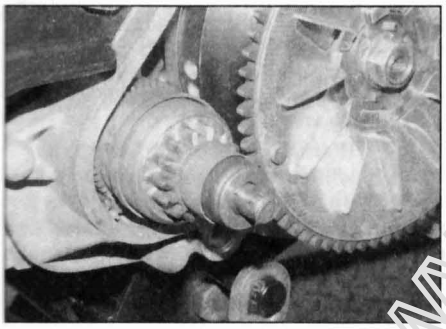
cause engine vibration. Use two shouldered bolts, or wrap a short length of electrical tape tightly around two bolts, and fit them in opposite holes to centralise the fan, then install two fixing bolts ***(see illustration)****. Remove the centralising bolts and install the two remaining fixing bolts.*

12 Starter pinion assembly – removal, inspection and installation

Note: *This procedure can be carried out with the engine in the frame.*

Removal

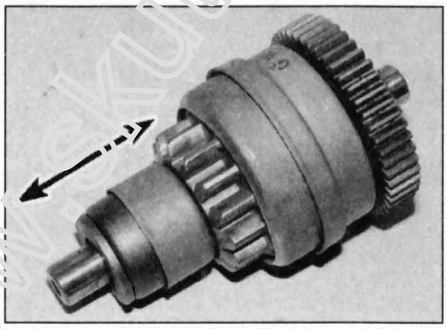
1 Remove the drive belt cover (see Chapter 2C).
2 Withdraw the starter pinion assembly **(see illustration)**.



12.2 Starter pinion assembly is located at the front of the casing

Inspection

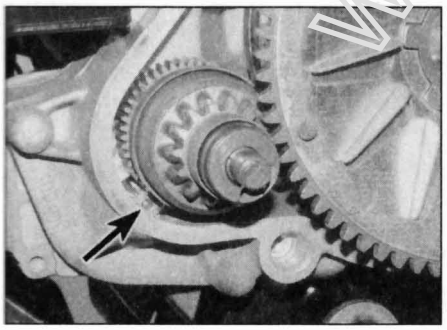
3 Some pinion assemblies are fitted with a rubber boot. If the boot shows signs of damage or deterioration, remove it. Peugeot do not list the boot as a separate item, but your Peugeot dealer may be able to supply a suitable replacement.
4 Check the starter pinion assembly for any signs of damage or wear, particularly for chipped or broken teeth on either of the pinions **(see illustration)**. Check the corresponding teeth on the starter motor pinion and the starter driven gear.
5 Rotate the outer pinion and check that it moves smoothly up and down the shaft, and that it returns easily to its rest position.
6 The starter pinion assembly is supplied as a complete unit; if any of the component parts is worn or damaged, the unit will have to be replaced with a new one.



12.4 Check the pinion teeth. Outer pinion should move smoothly on shaft.

Installation

7 Installation is the reverse of removal. Apply a smear of grease to each end of the pinion shaft, then install the pinion assembly, ensuring the inner pinion engages with the starter motor shaft **(see illustration)**.



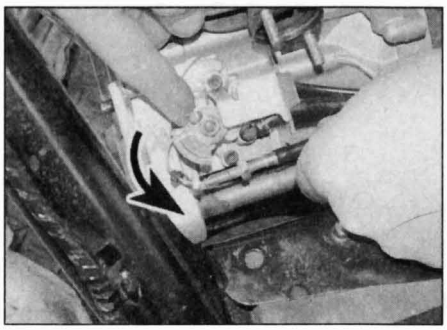
12.7 Engage inner pinion with starter motor shaft (arrowed)

13 Oil pump – removal, inspection, installation and bleeding

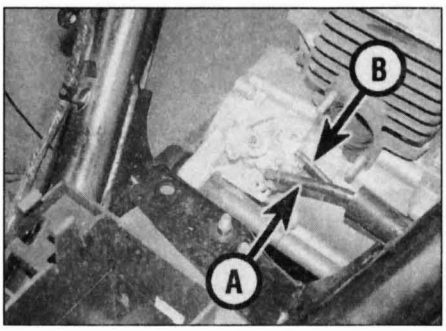
Note 1: *Generally speaking, all 100 cc models and 50 cc models manufactured before 2000 are fitted with a cable operated pump; all other models are fitted with a centrifugal pump. A quick visual check will confirm which pump is fitted to your machine.*
Note 2: *This procedure can be carried out with the engine in the frame.*

Removal

1 Remove the exhaust system (see Chapter 4).
2 On models fitted with a cable operated pump, detach the cable from the pump pulley **(see illustration)**, then unscrew the bolts securing the cable bracket and remove the bracket with the cable attached **(see illustration 5.10)**. **Note:** *Early 50 cc models were fitted with a Keihin oil pump which is retained by a single bolt.*
3 On all models, release the clip securing the oil inlet hose from the oil tank to the union on the pump and detach the hose **(see illustration)**. Clamp the hose and secure it in an upright position to minimise oil loss. Release the clip securing the oil outlet hose to the union on the pump and detach the hose. Wrap clean plastic bags around the hose ends to prevent dirt entering the system. **Note:** *The inlet and outlet hoses are protected from the exhaust pipe by a heat-proof sheath. Remove the sheath if necessary but don't forget to refit it on reassembly.*
4 On models fitted with a centrifugal pump (without cable operation), unscrew the pump mounting bolts and remove the bolts.
5 Withdraw the pump from the crankcase and remove the wave washer **(see illustration)**. Note how the tab on the back of the pump locates in the slot in the pump drive shaft.



13.2 Rotate pulley to detach the oil pump cable



13.3 Detach the oil inlet hose (A) and outlet hose (B)

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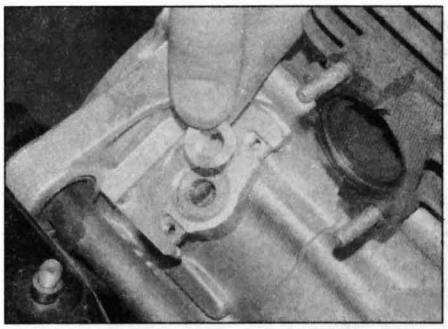
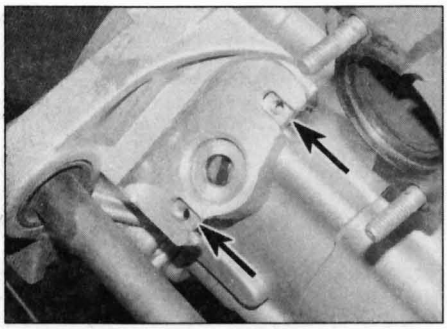


13.5 Remove the wave washer



13.8 Mounting nuts (arrowed) locate in slots in casing

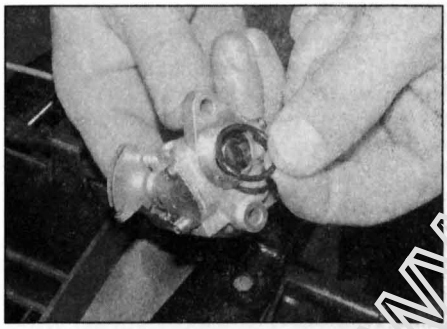
6 Stuff a clean rag into the crankcase opening to prevent dirt falling inside.
7 Remove the O-ring from the pump body and discard it as a new one must be fitted on reassembly.
8 If required, remove the two nuts from the underside of the pump mounting on the crankcase for safekeeping **(see illustration)**.
9 Ensure no dirt enters the pump body and clean it using a suitable solvent, then dry the pump thoroughly.

Inspection

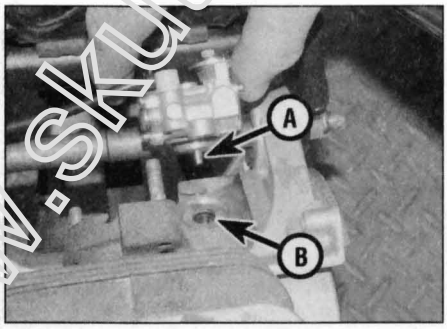
10 Check the pump body for obvious signs of damage especially around the mounting bolt holes. Turn the drive tab by hand and check that the pump rotates smoothly. Where fitted, check that the cable pulley turns freely and returns to rest under pressure of the return spring.
11 No individual components are available for the pump. If it is damaged, or, if after bleeding the operation of the pump is suspect, replace it with a new one.

Installation

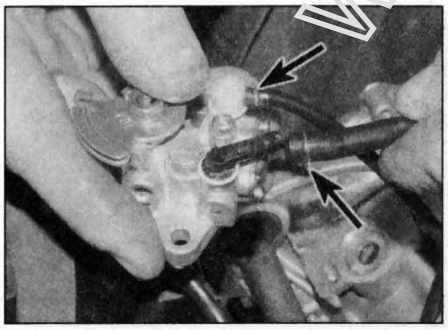
12 If removed, install the two nuts on the underside of the pump mounting **(see illustration 13.8)**.
13 Install a new O-ring on the pump body and lubricate it with a smear of grease **(see illustration)**.
14 Remove any rag from the crankcase opening and apply a smear of suitable sealant around the chamfered outer edge. Install the wave washer, then install the pump, ensuring the tab on the back of the pump engages with the slot in the drive shaft **(see illustration)**.
15 If removed, fit the heat-proof sheath over the oil inlet and outlet hoses, then connect the hoses to the pump unions and secure them with the clips **(see illustration)**.



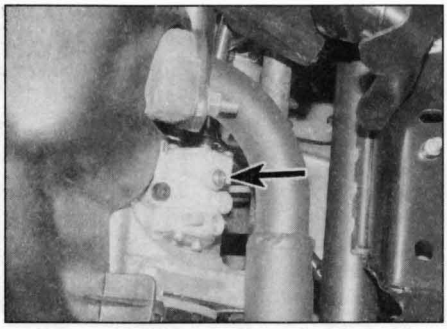
13.13 Fit a new pump body O-ring



13.14 Ensure tab (A) locates in slot (B)



13.15 Oil hoses must be secured by clips (arrowed)



13.19a Bleed screw on centrifugal oil pump

13.19b Bleeding a cable operated oil pump

16 On models fitted with a cable operated pump, bleed the pump (see Step 18), then install the cable bracket and the pump mounting bolts, and tighten the bolts to the torque setting specified at the beginning of this Chapter. Connect the cable to the pump pulley and check the operation of the cable (see Chapter 1).
Caution: Accurate cable adjustment is important to ensure that the oil pump delivers the correct amount of oil to the engine and is correctly synchronised with the throttle.
17 On models fitted with a centrifugal pump, install the pump mounting bolts and tighten them to the specified torque setting, then bleed the pump.

Bleeding

18 Bleeding the pump is the process of removing air from it and allowing it to be filled with oil. First ensure that the inlet hose from the oil tank and the oil filter are completely filled with oil. If necessary, detach the hose from the pump and wait until oil flows from the hose, then reconnect it.
19 Loosen the bleed screw on the pump and wait until oil, without any air mixed with it, flows out the hole, then tighten the screw **(see illustrations)**.
20 Ensure the ignition switch is OFF. Disconnect the oil outlet hose from the carburettor and crank the engine with the kickstarter until oil, without any air mixed with it, flows out the hose, then reconnect the hose and secure it with the clip. Alternatively, fill an auxiliary fuel tank with a 2% petrol/two-stroke oil mix and connect it to the carburettor. Disconnect the oil outlet hose from the carburettor, start the engine and run it until oil, without any air mixed with it, flows out the hose, then reconnect the hose and secure it with the clip.

Warning: Never run the engine without an oil supply or crank the engine on the electric starter without an oil supply. Never crank the engine with the ignition ON and the spark plug cap disconnected from the spark plug as the ignition system may be damaged.

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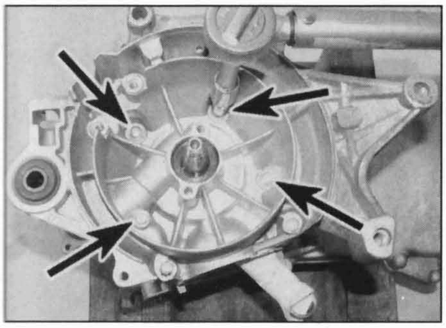
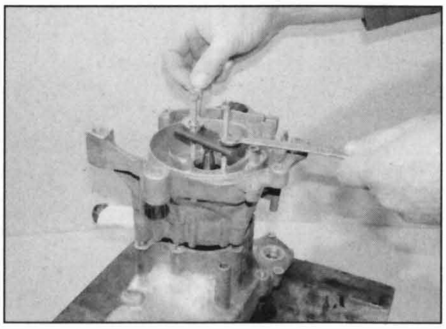
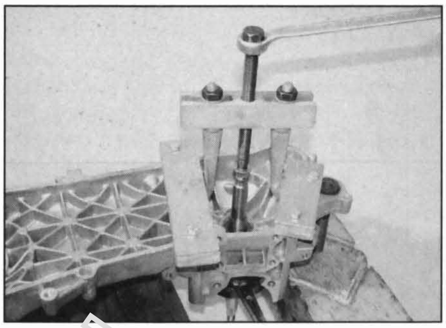


14.3 Undo the crankcase bolts evenly in a criss-cross sequence



14.4 Drawing the right-hand crankcase half off the crankshaft



14.5 Pressing the crankshaft out of the left-hand crankcase half

14 Crankcase halves, crankshaft and connecting rod, and bearings

Note: *To separate the crankcase halves, the engine must be removed from the frame.*

Separation

1 To access the crankshaft and its bearings, the crankcase must be split into two parts.

2 To enable the crankcase halves to be separated, the engine must be removed from the frame (see Section 5) and the following components must be removed:

- Cooling fan (see Section 11)
- Alternator (see Chapter 9)
- Variator (see Chapter 2C)
- Cylinder head (see Section 7)
- Cylinder (see Section 8)
- Piston (see Section 9)
- Oil pump (see Section 13)
- Reed valve (see Chapter 4)
- Starter motor (see Chapter 9)

3 Tape some rag around the connecting rod to prevent it knocking against the cases, then loosen the crankcase bolts evenly, a little at a time and in a criss-cross sequence until they are all finger-tight, then remove them **(see illustration)**.

4 Carefully remove the right-hand crankcase half from the left-hand half by drawing it off the right-hand end of the crankshaft. Peugeot produce a service tool (Pt. No. 750807) to do this. Before fitting the tool, place the end cap (Pt. No. 68007) onto the end of the crankshaft to prevent it being damaged. Alternatively, use the set-up shown; thread the old alternator nut onto the end of the crankshaft to protect the threads and apply equal pressure to both sides of the puller at all times **(see illustration)**.

5 Now press the crank assembly out of the left-hand crankcase half. Peugeot produce a service tool (Pt. No. 64706) and pressure plate (Pt. No. 752168) to do this. Before fitting the tool, place the end cap (Pt. No. 69593) onto the end of the crankshaft to prevent it being damaged. Alternatively, use the set-up shown; thread the old variator nut onto the end of the crankshaft to protect the threads **(see illustration)**.

Note: *If the crankcase halves do not separate easily, first ensure all fasteners have been removed. Apply steady pressure with the tools described and heat the bearing housings with a hot air gun. Do not try and separate the halves by levering against the mating surfaces as they are easily scored and will not seal correctly afterwards. Do not strike the ends of the crankshaft with a hammer as damage to the end threads or the shaft itself will result.*

6 Remove the oil pump drive shaft and the shaft bush from the right-hand crankcase half. If necessary, heat the crankcase around the bush while applying pressure to the shaft.

7 Remove the crankcase gasket and discard it as a new one must be fitted on reassembly. Remove the dowels from either crankcase half for safekeeping if they are loose.

8 Note the position of the crankshaft oil seals and measure any inset before removing them **(see illustration)**. Note which way round the seals are fitted. Remove the seals by tapping them gently on one side and then pulling them out with pliers **(see illustration)**. Discard the seals as new ones must be fitted on reassembly.

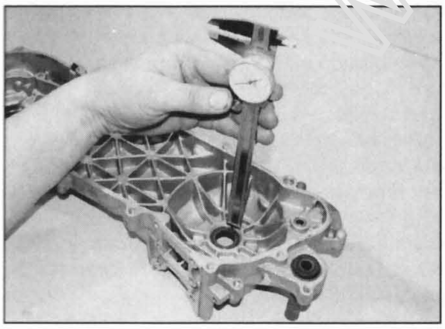
9 The main bearings will either remain in place in the crankcase halves during disassembly or come out with the crank assembly. To remove them from the crankcase halves, heat the bearing housings with a hot air gun and tap them out using a bearing driver or suitable socket **(see illustration)**. Note which way round the bearings are fitted. If the bearings are stuck on the crankshaft, check their condition (see Step 19) and only remove them if they are unserviceable. The bearings must be removed from the crankshaft with an external bearing puller to avoid damaging the crank assembly.

10 If required, remove the transmission assembly from the left-hand crankcase half (see Chapter 2C).

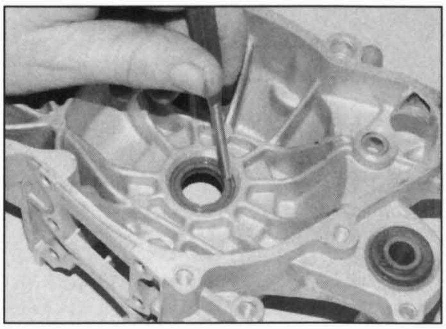
Inspection

11 Remove all traces of old gasket from the crankcase mating surfaces, taking care not to nick or gouge the soft aluminium if a scraper is used. Wash all the components in a suitable solvent and dry them with compressed air.

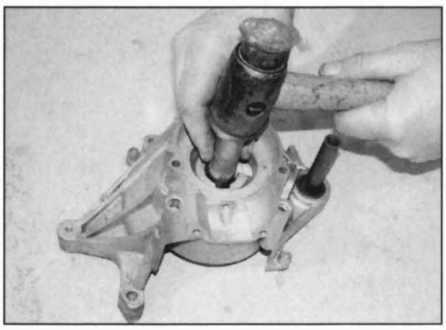
Caution: Be very careful not to nick or gouge the crankcase mating surfaces or oil leaks will result. Check both crankcase halves very carefully for cracks and other damage.



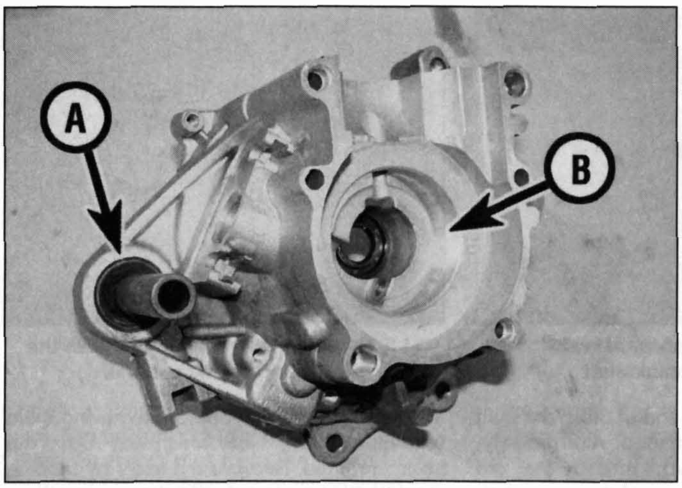
14.8a Measuring crankshaft oil seal inset



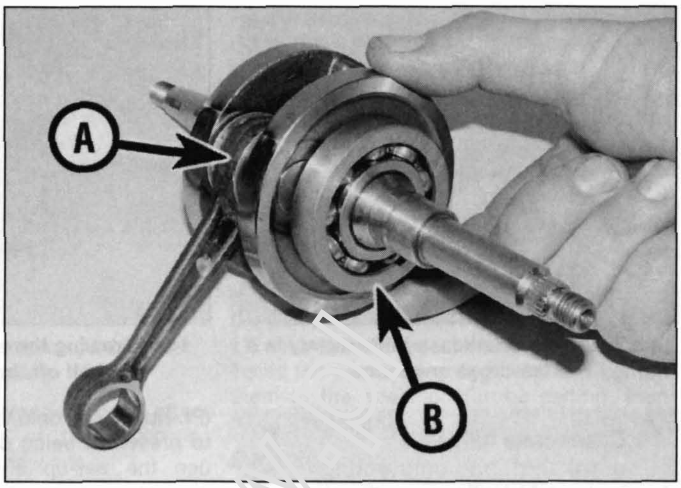
14.8b Tap the seals with a punch to displace them



14.9 Driving a main bearing out of the crankcase



14.16 Inspect the mounting bushes (A) and the main bearing housings (B)



14.18 The crank assembly big-end (A) and main bearings (B)

12 Small cracks or holes in aluminium castings may be repaired with an epoxy resin adhesive as a temporary measure. Permanent repairs can only be effected by welding, and only a specialist in this process is in a position to advise on the economy or practical aspect of such a repair. If the right-hand crankcase half is damaged beyond repair it can be replaced individually; the left-hand crankcase half is only available as part of a complete crankcase assembly.

13 Damaged threads can be economically reclaimed by using a diamond section wire insert, of the Heli-Coil type, which is easily fitted after drilling and re-tapping the affected thread. Most motorcycle dealers and small engineering firms offer a service of this kind.

14 Sheared screws can usually be removed with screw extractors, which consist of a tapered, left thread screw of very hard steel. These are inserted into a pre-drilled hole in the stud, and usually succeed in dislodging the most stubborn screw. If you are in any doubt about removing a sheared screw, consult a Peugeot dealer or a specialist motorcycle engineer.

15 Always wash the crankcases thoroughly after any repair work to ensure no dirt or metal swarf is trapped inside when the engine is rebuilt.

16 Inspect the engine mounting bushes **(see illustration)**. If they show signs of deterioration replace all three at the same time. To remove a bush, first note its position in the casing. Heat the casing with a hot air gun, then support the casing and drive the bush out with a hammer and a suitably sized socket. Clean the bush housing with steel wool to remove any corrosion, then reheat the casing and fit the new bush. **Note:** *Always support the casing when removing or fitting bushes to avoid breaking the casing.*

17 Inspect the housings for the main bearings **(see illustration 14.16)**. If a bearing outer race has spun in its housing, the inside of the housing will be damaged. A bearing locking compound can be used to fix the outer race in place on reassembly if the damage is not too severe.

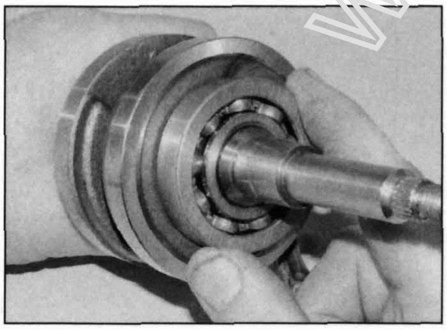
18 The crank assembly should give many thousands of miles of service. The most likely problems to occur will be worn main bearings or a worn big-end bearing due to poor lubrication **(see illustration)**. If the main bearings have failed, excessive rumbling and vibration will be felt when the engine is running. Sometimes this may cause the oil seals to fail, resulting in poor running.

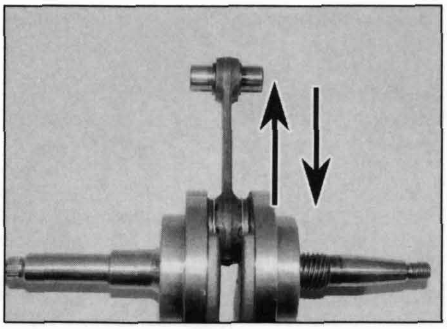
19 Wash the bearings with a suitable solvent and dry them with compressed air, then apply a few drops of light oil inside each bearing. A bearing should be almost silent when spun; if it grates or rattles it is worn and must be replaced with a new one **(see illustration)**. Always renew both main bearings at the same time, never individually. Note that it is good practice to renew the main bearings in the course of an engine overhaul.

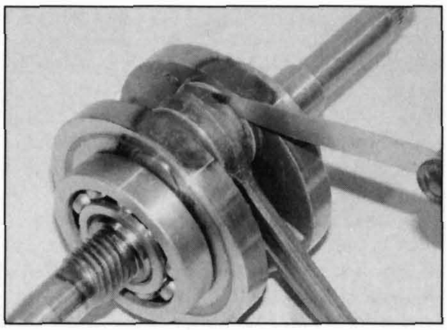
20 A worn big-end bearing will produce a pronounced knocking noise, most audible when the engine is under load, and increasing as engine speed rises. This should not be confused with small-end bearing wear, which produces a lighter, metallic rattle. To assess the condition of the big-end bearing, hold the crank assembly firmly and push and pull on the connecting rod, checking for any freeplay between the two **(see illustration)**. If any freeplay is noted, the bearing is worn and the crank assembly will have to be replaced with a new one.

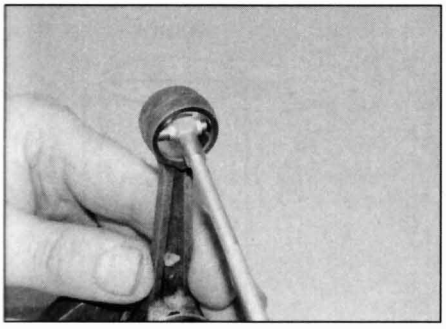
21 Measure the big-end side clearance with a feeler gauge **(see illustration)**. If the clearance is greater than the service limit specified at the beginning of this Chapter, renew the crank assembly.

22 Measure the internal diameter of the connecting rod small end with a telescoping gauge and compare the measurement to the specifications at the beginning of this Chapter

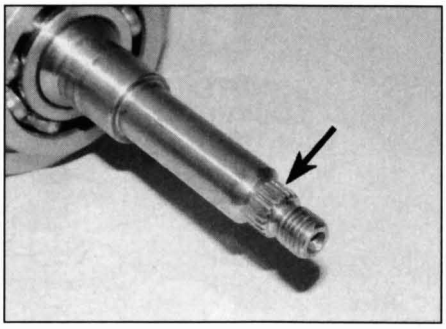

14.19 Bearings should be almost silent when spun


14.20 Any freeplay indicates a worn big-end bearing

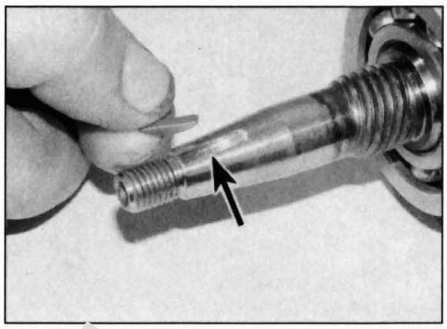

14.21 Measuring big-end side clearance



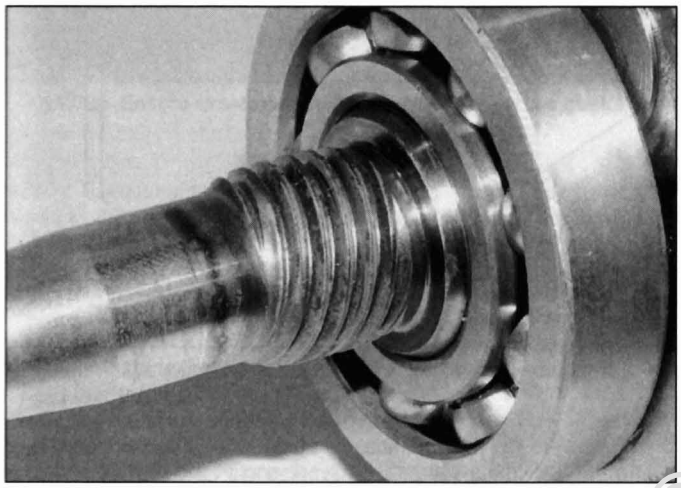
14.22 Measuring the internal diameter of the connecting rod small-end



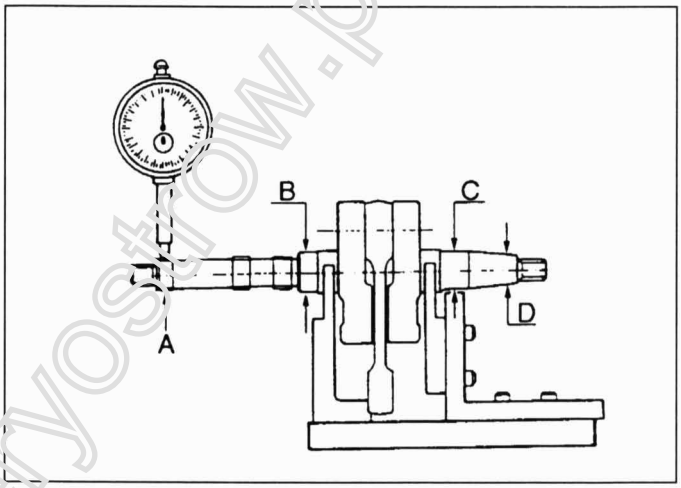
14.23a Inspect the shaft end threads and the variator pulley splines (arrowed)



14.23b Inspect the shaft taper and slot (arrowed) for the Woodruff key



14.24 Inspect the oil pump drive gear teeth



14.26 Check crankshaft runout at points A, B, C and D

(see illustration). If the small-end has worn, the connecting rod and crankshaft assembly must be replaced with a new one.

23 Inspect the threads on each end of the crankshaft and ensure that the retaining nuts for the alternator rotor and the variator are a good fit **(see illustration)**. Inspect the splines for the variator pulley on the left-hand end of the shaft. Inspect the taper and the slot in the right-hand end of the shaft for the alternator Woodruff key **(see illustration)**. Damage or wear that prevents the rotor from being fitted securely will require a new crankshaft.

24 Inspect the oil pump drive gear teeth on the crankshaft and on the pump drive shaft for damage or wear, and inspect the ends of pump drive shaft where it runs in the bearings **(see illustration)**. Renew any components that are worn or damaged.

25 Inspect both sides of the crankshaft where it passes through the main bearings for wear and scoring. Measure the shaft with a micrometer and compare the results with the measurements specified at the beginning of this Chapter. If the crankshaft is worn it must be renewed. Evidence of extreme heat, such as discoloration or blueing, indicates that lubrication failure has occurred. Be sure to check the oil pump and lubrication system before reassembling the engine.

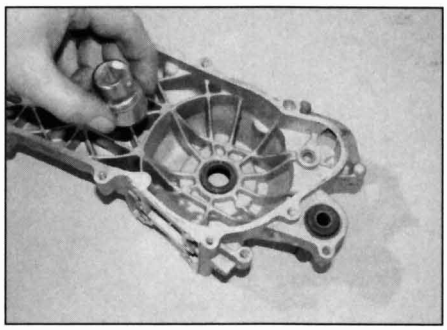
26 Place the crank assembly on V-blocks and check the crankshaft runout at either end using a dial gauge **(see illustration)**. Compare the reading to the maximum specified at the beginning of this Chapter. If the runout exceeds the limit, the crank assembly must be replaced although it may be possible to have it trued by an engineer.

Reassembly

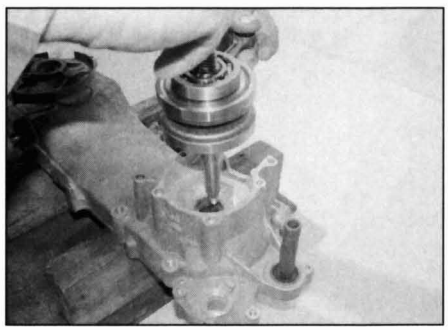
27 If removed, fit the main bearings into the crankcase halves. Heat the bearing housings with a hot air gun and carefully tap the bearings in using a bearing driver or suitable socket which bears only on the bearing's outer race.

28 Fit the new crankshaft oil seals into the crankcase halves and drive them to the previously measured inset (see Step 8) using a seal driver or socket which bears on the seal's hard outer edge. Ensure the seals are fitted the right way round and that they enter the cases squarely **(see illustration)**.

29 Tape some rag around the connecting rod to prevent it knocking against the cases, then fit the crank assembly into the left-hand crankcase half first **(see illustration)**. Lubricate the shaft, seal and bearing with the specified



14.28 Ensure the new oil seals are installed correctly



14.29a Fit the crankshaft into the left-hand crankcase half first

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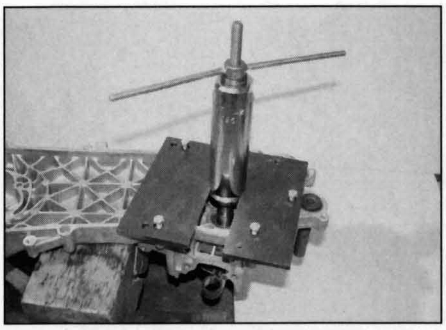
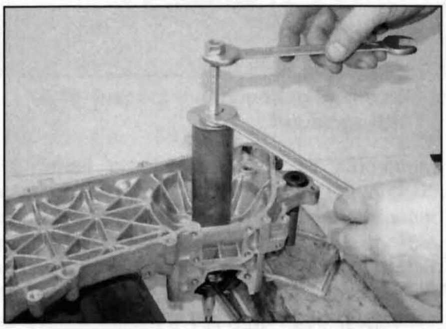
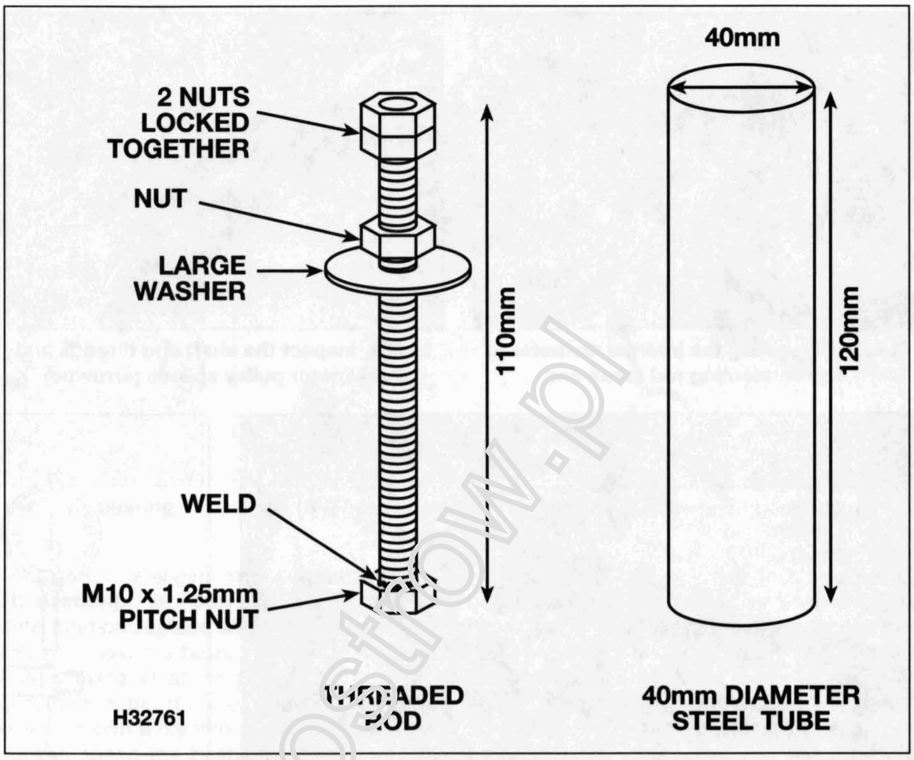


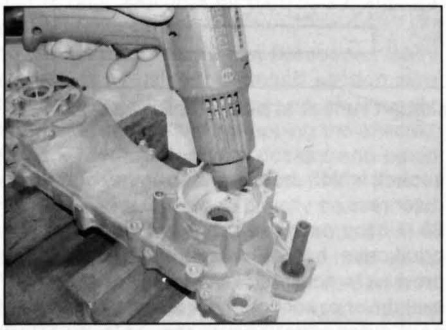
14.29b Installing the crankshaft with the Peugeot service tools



14.29c Installing the crankshaft with the home-made tool



14.29d Details of the home-made tool for installing the crankshaft

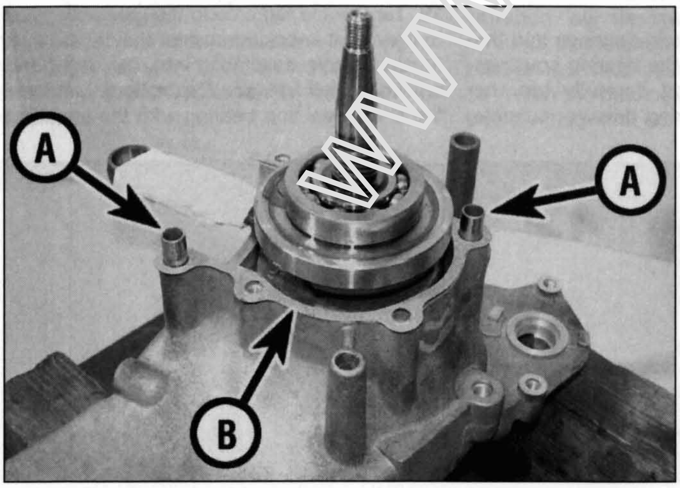


14.29e Heating the crankcase with a hot air gun

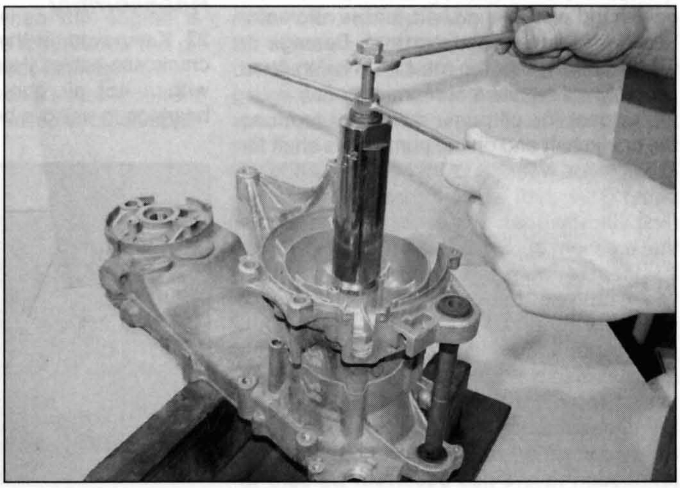
two-stroke oil, then, if the main bearing is in the crankcase half, pull the crank assembly into place ensuring the connecting rod is aligned with the crankcase mouth. Peugeot produce five individual service tools (Pt. Nos. 752168, 64706, 750069, 64710 and 69104) to do this **(see illustration)**. Alternatively, use the set-up shown **(see illustrations)**. If the main bearing is on the crankshaft, heat the bearing housing in the crankcase with a hot air gun before fitting the crank assembly **(see illustration)**. **Note:** *Avoid applying direct heat onto the crankshaft oil seal.*

30 Wipe the mating surfaces of both crankcase halves with a rag soaked in a suitable solvent and fit the dowels and new gasket to the left-hand half **(see illustration)**.

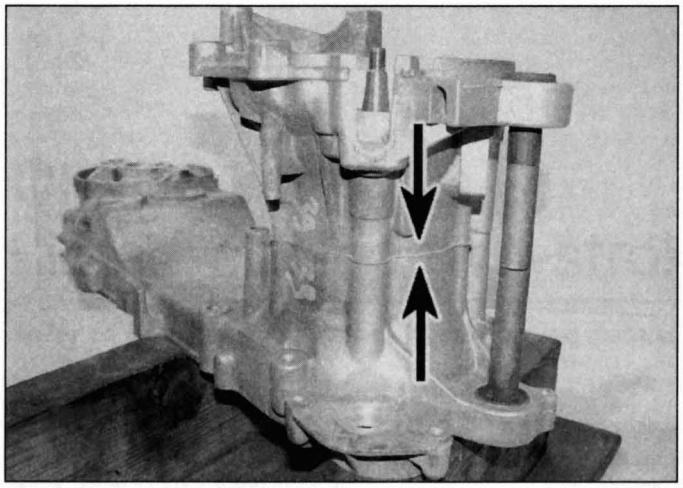
31 Now fit the right-hand crankcase half. Lubricate the shaft, seal and bearing with the specified two-stroke oil, then, if the main bearing is in the crankcase half, press the crankcase half into place. Peugeot produce five individual service tools (Pt. Nos. 750808, 64706, 750069, 64710 and 69104) to do this **(see illustration)**. Alternatively, place a thick washer over the centre of the crankcase to



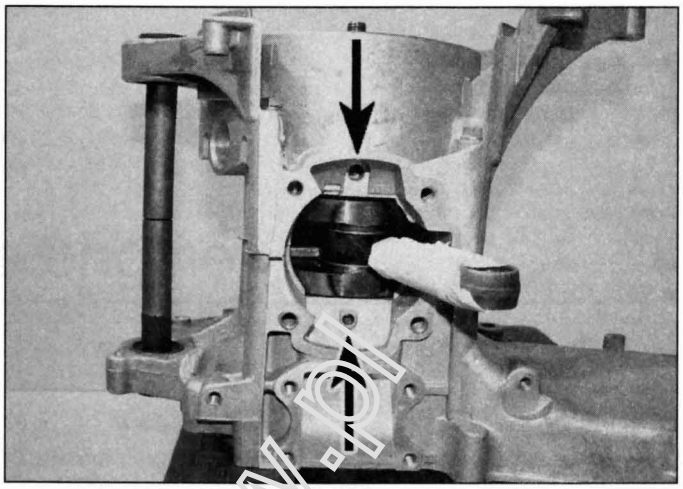
14.30 Install the crankcase dowels (A) and gasket (B)



14.31 Installing the right-hand crankcase half with the Peugeot service tools



14.32a Ensure crankcase halves are seated on the gasket



14.32b Position of main bearings can be checked through oilways (arrowed)

protect the aluminium and use the set-up shown in Step 29 **(see illustration 14.29c)**. If the main bearing is on the crankshaft, heat the bearing housing with a hot air gun before fitting the crankcase half. **Note:** *Avoid applying direct heat onto the crankshaft oil seal.*

32 Check that the crankcase halves are seated on the gasket and that the main bearings are pressed fully into their housings **(see illustrations)**. If the casings are not correctly seated, heat the bearing housings while applying firm pressure with the assembly tools used previously. **Note:** *Do not attempt to pull the crankcase halves together using the crankcase bolts as the casing will crack and be ruined.*

33 Clean the threads of the crankcase bolts and install them finger-tight, then tighten them evenly a little at a time in a criss-cross sequence to the torque setting specified at the beginning of this Chapter **(see illustration 14.3)**. Rotate the crankshaft by hand – if there are any signs of undue stiffness, tight or rough spots, or of any other problem, the fault must be rectified before proceeding further.

34 Trim the crankcase gasket flush with the mating surface for the cylinder **(see illustration)**.

35 Lubricate the oil pump drive shaft and install the shaft and the shaft bush, tap the bush into its seat with a hammer and suitable sized socket **(see illustrations)**. Rotate the crankshaft to ensure the oil pump drive gears are correctly engaged.

36 Install all other assemblies in the reverse order of removal.

15 Initial start-up after overhaul

1 Make sure the oil tank is at least partly full and the pump is correctly adjusted (see Chapter 1) and bled of air (see Section 13).

2 Make sure there is fuel in the tank.

3 With the ignition OFF, operate the kickstart to check that the engine turns over easily.

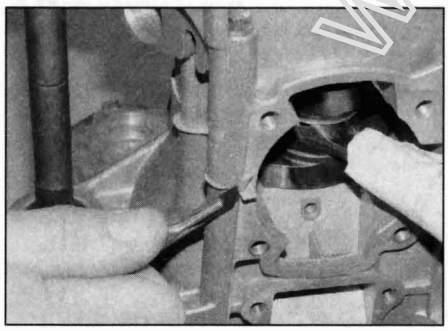
4 Turn the ignition ON, start the engine and allow it to run at a slow idle until it reaches operating temperature. Do not be alarmed if there is more than the usual amount of smoke from the exhaust – this will be due to the oil used to lubricate the engine components during assembly and should subside after a while.

5 If the engine proves reluctant to start, remove the spark plug and check that it has not become wet and oily. If it has, clean it and try again. If the engine refuses to start, go through the fault finding charts at the end of this manual to identify the problem.

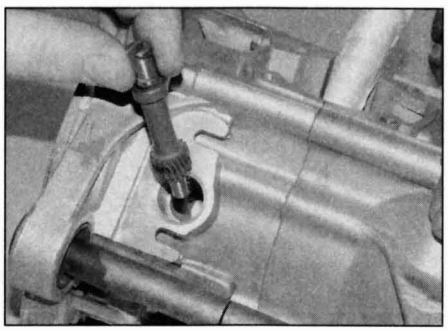
16 Recommended running-in procedure

1 Treat the engine gently for the first few miles to allow any new parts to bed in.

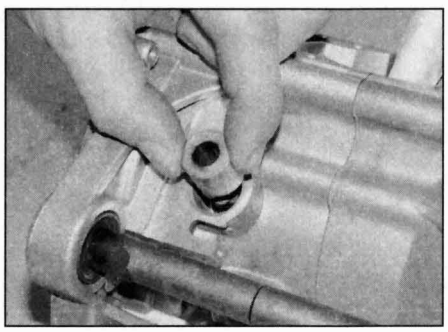
2 If a new piston, rings or cylinder has been fitted, the engine will have to be run in as when new. This means a restraining hand on the throttle until at least 300 miles (500 km) have been covered. There's no point in keeping to any set speed limit – the main idea is to keep from labouring the engine and to gradually increase performance up to the 600 mile (1000 km) mark. Make sure that the throttle position is varied to vary engine speed, and use full throttle only for short bursts. Experience is the best guide, since it's easy to tell when an engine is running freely.



14.34 Trim off any excess gasket



14.35a Install the oil pump shaft . . .



14.35b . . . and shaft bush

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Chapter 2 Part B:
Liquid-cooled two-stroke engine

Refer to Chapter 1 for model identification details

Contents

Degrees of difficulty

Easy, suitable for novice with little experience

Fairly easy, suitable for beginner with some experience

Fairly difficult, suitable for competent DIY mechanic

Difficult, suitable for experienced DIY mechanic

Very difficult, suitable for expert DIY or professional

Specifications

50 cc FL1 engine

General

Type	Single cylinder two-stroke
Capacity	49.13 cc
Bore	40.0 mm
Stroke	39.1 mm
Compression ratio	6.6 to 1

Piston

Piston diameter (measured 25 mm down from lower ring groove, at 90° to piston pin axis)	
Standard	39.85 mm
Piston pin diameter	12 mm

Piston rings

Ring end gap (installed)	
Standard	0.24 mm
Service limit (max)	0.26 mm

Connecting rod

Small end inside diameter	15 mm
Big end side clearance	0.5 mm

Crankshaft

Runout (max)	0.12 mm
Diameter at main bearings	20 mm

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Torque settings

Alternator rotor nut	40 Nm
Crankcase bolts	12 Nm
Cylinder head bolts	15 Nm
Drive belt cover bolts	10 Nm
Engine cover bolts	10 Nm
Engine mountings	
Crankcase-to-front bracket bolt	60 Nm
Front bracket-to-frame bolt	60 Nm
Engine/transmission case-to-rear shock bolt	25 Nm
Inlet manifold bolts	10 Nm
Oil pump mounting bolts	8 Nm
Starter motor mounting bolts	10 Nm

1 General information

The engine unit is a single cylinder two-stroke with liquid cooling. The water pump is driven by the alternator rotor, which is on the right-hand end of the crankshaft. The crankshaft assembly is pressed, incorporating the connecting rod, with the big-end running on the crankpin on a needle roller bearing. The piston also runs on a needle roller bearing fitted in the small-end of the connecting rod. The crankshaft runs in caged ball main bearings. The crankcase divides vertically.

2 Operations possible with the engine in the frame

All components and assemblies, with the exception of the crankshaft/connecting rod and its bearings, can be worked on without having to remove the engine/transmission unit from the frame. If however, a number of areas require attention at the same time, removal of the engine is recommended, as it is easy to do so.

3 Operations requiring engine removal

To access the crankshaft and connecting rod and its bearings, the engine must be removed from the frame and the crankcase halves must be separated.

4 Major engine repair – general note

1 It is not always easy to determine when or if an engine should be completely overhauled, as a number of factors must be considered.

2 High mileage is not necessarily an indication that an overhaul is needed, while low mileage, on the other hand, does not preclude the need for an overhaul. Frequency of servicing is probably the single most important consideration. An engine that has regular and frequent maintenance will most likely give many miles of reliable service. Conversely, a neglected engine, or one which has not been run in properly, may require an overhaul very early in its life.

3 If the engine is making obvious knocking or rumbling noises, the connecting rod and/or main bearings are probably at fault.

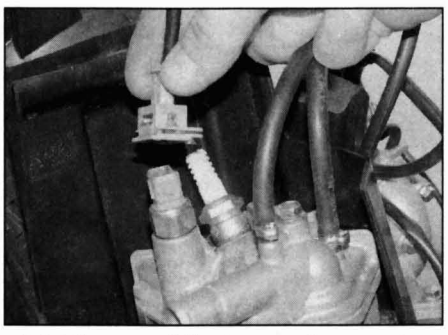
4 Loss of power, rough running, excessive noise and high fuel consumption rates may also point to the need for an overhaul, especially if they are all present at the same time. If a complete tune-up does not remedy the situation, major mechanical work is the only solution.

5 An engine overhaul generally involves restoring the internal parts to the specifications of a new engine. This may require fitting new piston rings and crankcase seals, or, after high mileage, renewing the crankshaft and connecting rod assembly. The end result should be a like-new engine that will give as many trouble-free miles as the original.

6 Before beginning the engine overhaul, read through the related procedures to familiarise yourself with the scope and requirements of the job. Overhauling an engine is not all that difficult, but it is time consuming. Check on the availability of parts and make sure that any necessary special tools and materials are obtained in advance.

7 Most work can be done with typical workshop hand tools, although Peugeot produce a number of service tools for specific purposes such as separating the crankcase halves. Precision measuring tools are required for inspecting parts to determine if they must be renewed. Alternatively, a Peugeot dealer will handle the inspection of parts and offer advice concerning reconditioning and replacement. As a general rule, time is the primary cost of an overhaul so it does not pay to install worn or substandard parts.

8 As a final note, to ensure maximum life and minimum trouble from a rebuilt engine, everything must be assembled with care in a spotlessly clean environment.



5.4 Disconnect the temperature sender wiring connector

5 Engine – removal and installation

Caution: The engine is not heavy, however engine removal and installation should be carried out with the aid of an assistant; personal injury or damage could occur if the engine falls or is dropped.

Removal

1 Support the machine securely in an upright position. Work can be made easier by raising the machine to a convenient working height on an hydraulic ramp or a suitable platform. Make sure it is secure and will not topple over.

2 Remove the body panels as necessary according to model (see Chapter 7).

3 If the engine is dirty, particularly around its mountings, wash it thoroughly before starting any major dismantling work. This will make work much easier and rule out the possibility of dirt falling into some vital component.

4 Disconnect the battery negative terminal (see Chapter 9). Pull the spark plug cap off the plug and disconnect the wire to the temperature sender on the cylinder head **(see illustration)**.

5 Drain the cooling system and disconnect the coolant hoses from the unions on the water pump and cylinder head (see Chapter 3).

6 Trace the wiring from the alternator/ignition pulse generator and the starter motor on the right-hand side of the engine and disconnect it a the connectors. Free the wiring from any clips on the frame.

7 Remove the air filter housing and the air intake duct (see Chapter 4).

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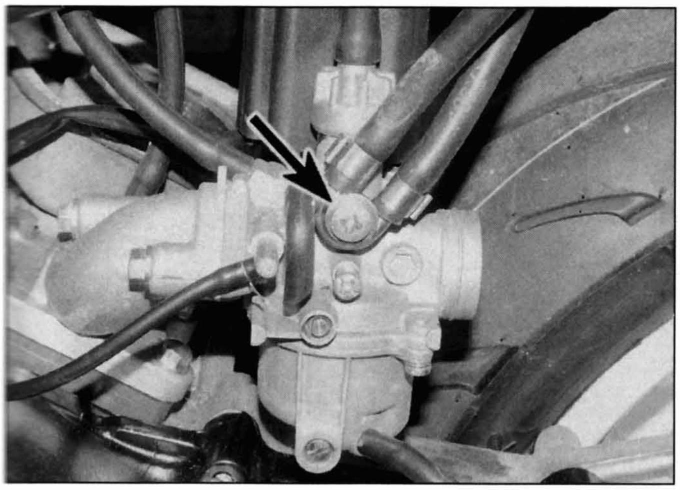
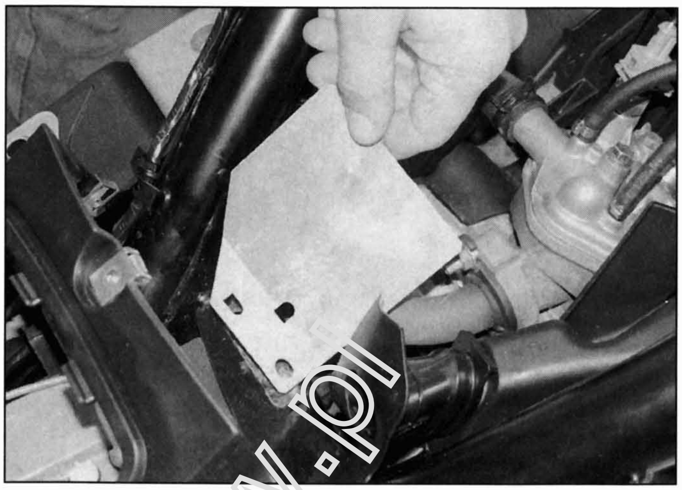


5.8 Detach the carburettor heater union



5.9 Remove the engine heat shield

8 Disconnect the fuel pipe and fuel tap vacuum pipe from their unions on the carburettor and inlet manifold respectively, then undo the screw securing the carburettor heater union to the carburettor **(see illustration)**. Release the clip securing the oil outlet hose to the carburettor and wrap a clean plastic bag around the end to prevent dirt entering the system, then displace the carburettor (see Chapter 4).

9 Undo the bolts securing the engine heat shield and remove the shield **(see illustration)**.

10 Where fitted, detach the oil pump control cable from the pump pulley (see Chapter 2A, Section 13), then unscrew the bolts securing the oil pump control cable bracket and remove the bracket with the cable attached (see Chapter 2A). Refit the bolts to secure the nuts on the underside of the pump mounting and to retain the pump in place.

11 Release the clip securing the oil inlet hose from the oil tank to the union on the oil pump and detach the hose (see Section 13). Clamp the hose and secure it in an upright position to minimise oil loss. Wrap a clean plastic bag around the end to prevent dirt entering the system.

12 On models fitted with a drum rear brake, disconnect the brake cable from the brake arm (see Chapter 8). Undo the screw securing the cable clip to the underside of the drive belt casing and detach the cable (see Chapter 2A).

13 On models fitted with a disc rear brake, remove the rear wheel and displace the brake caliper, then temporarily refit the rear wheel (see Chapter 8). Unclip the brake hose from the underside of the drive belt casing (see Chapter 2A).

14 Check that all wiring, cables and hoses are clear of the engine/transmission unit. With the aid of an assistant, support the weight of the machine on the rear grab handle. Remove the bolt securing the rear shock absorber to the transmission casing, then remove the front engine mounting bolt and lift the frame away from the engine/transmission unit.

15 If required, remove the stand (see Chapter 6) and the rear wheel (see Chapter 8).

Installation

16 Installation is the reverse of removal, noting the following points:

- Make sure no wires, cables or hoses become trapped between the engine and the frame when installing the engine.
- Tighten the engine mounting bolt and shock absorber bolt to the torque settings specified at the beginning of this Chapter.
- Make sure all wires, cables and hoses are correctly routed and connected, and secured by any clips or ties.
- Fill the cooling system (see Chapter 3).
- Bleed the oil pump (see Chapter 2A, Section 13) and check the adjustment of the oil pump cable where fitted (see Chapter 1).
- Check the operation of the rear brake before riding the machine (see Chapter 8).

6 Disassembly and reassembly – general information

Disassembly

1 Before disassembling the engine, the external surfaces of the unit should be thoroughly cleaned and degreased. This will prevent contamination of the engine internals, and will also make working a lot easier and cleaner. A high flash-point solvent, such as paraffin can be used, or better still, a proprietary engine degreaser such as Gunk. Use an old paintbrush to work the solvent into the various recesses of the engine casings. Take care to exclude solvent or water from the electrical components and inlet and exhaust ports.

⚠ ***Warning: The use of petrol (gasoline) as a cleaning agent should be avoided because of the risk of fire.***

2 When clean and dry, arrange the unit on the workbench, leaving suitable clear area for working. Gather a selection of small containers and plastic bags so that parts can be grouped together in an easily identifiable manner. Some paper and a pen should be on hand to permit notes to be made and labels attached where necessary. A supply of clean rag is also required.

3 Before commencing work, read through the appropriate section so that some idea of the necessary procedure can be gained. When removing components it should be noted that great force is seldom required, unless specified. In many cases, a component's reluctance to be removed is indicative of an incorrect approach or removal method – if in any doubt, re-check with the text.

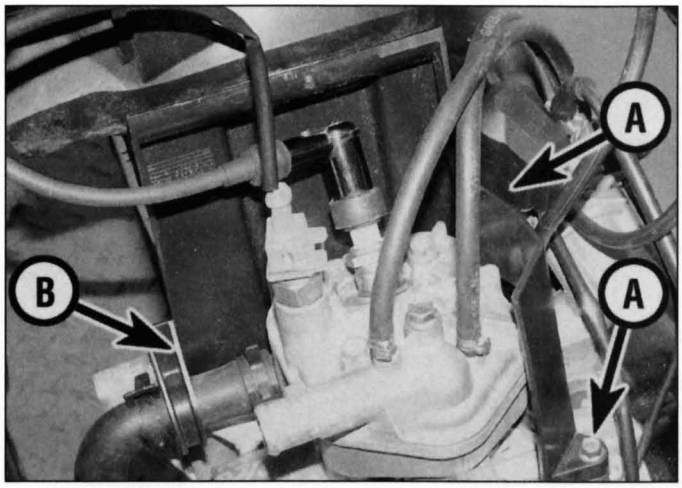
4 When disassembling the engine, keep 'mated' parts that have been in contact with each other during engine operation together. These 'mated' parts must be reused or replaced as an assembly.

5 Complete engine disassembly should be done in the following general order with reference to the appropriate Sections. Refer to Chapter 2C for details of transmission components disassembly.

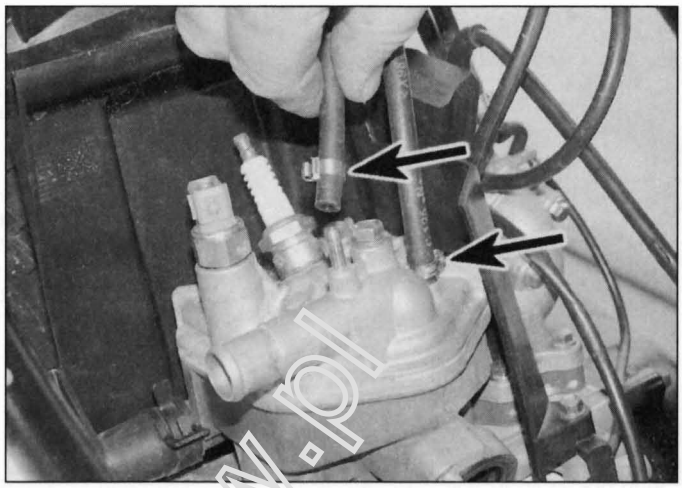
Remove the water pump (see Chapter 3)
Remove the alternator (see Chapter 9)
Remove the variator
Remove the cylinder head
Remove the cylinder
Remove the piston
Remove the oil pump
Remove the reed valve (see Chapter 4)
Remove the starter motor (see Chapter 9)
Separate the crankcase halves

Reassembly

6 Reassembly is accomplished by reversing the general disassembly sequence.



7.1 Shield is retained by bolts (A) and clip (B) on coolant hose



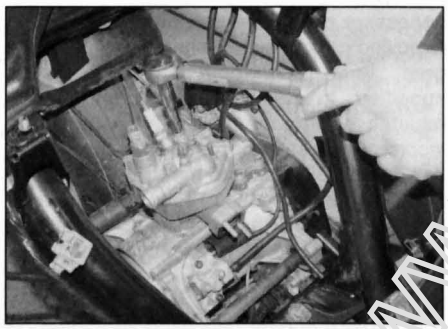
7.3 Disconnect the carburettor heater hoses (arrowed)

7 Cylinder head – removal, inspection and installation

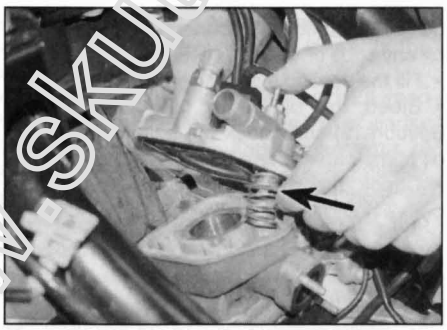
Note: *This procedure can be carried out with the engine in the frame. If the engine has been removed, ignore the steps that do not apply.*
Caution: The engine must be completely cool before beginning this procedure or the cylinder head may become warped.

Removal

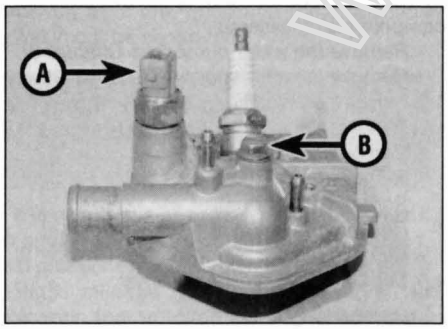
1 Remove the body panels as necessary according to model (see Chapter 7). Undo the bolts and remove the shield from the rear of the cylinder **(see illustration)**. Note how the shield clips to the cylinder coolant hose.
2 Disconnect the battery negative terminal (see Chapter 9). Pull the spark plug cap off the plug and disconnect the wire to the temperature sender on the cylinder head **(see illustration 5.4)**.
3 Drain the cooling system and disconnect the coolant hose from the union on the cylinder head, then disconnect the carburettor heater hoses **(see illustration)**.
4 If required, remove the spark plug, then unscrew the four cylinder head bolts evenly and a little at a time in a criss-cross sequence until they are all loose and remove the bolts **(see illustration)**.
5 Lift the head off the cylinder, taking care to retrieve the thermostat and thermostat spring **(see illustration)**. If the head is stuck, tap around the joint face between the head and cylinder with a soft-faced mallet to free it. Do not attempt to free the head by inserting a screwdriver between the head and cylinder – you'll damage the sealing surfaces.
Caution: The cylinder head bolts also secure the cylinder to the crankcase. If the cylinder base gasket seal is broken when removing the head, a new gasket will have to be fitted on reassembly (see Section 8).
6 If the thermostat is stuck in the cylinder head, remove it.
7 Remove the cylinder head gaskets and discard them as new ones must be fitted on reassembly.
8 If required, unscrew the temperature sender and coolant bleed valve from the cylinder head **(see illustration)**.



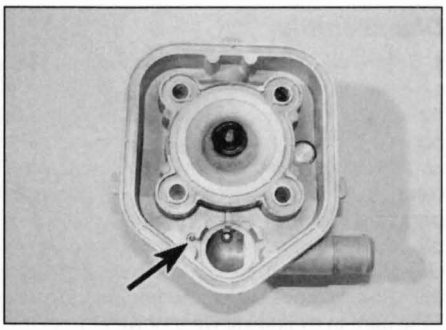
7.4 Undo the cylinder head bolts . . .



7.5 . . . and remove the head with the thermostat and spring (arrowed)



7.8 Temperature sender (A) and coolant bleed valve (B)



7.14 Thermostat bypass passage must be clear

Inspection

9 Refer to Chapter 1 and decarbonise the cylinder head.
10 Inspect the head very carefully for cracks and other damage. If cracks are found, a new head will be required.
11 Inspect the threads in the spark plug hole. Damaged or worn threads can be reclaimed using a thread insert; consult a Peugeot dealer or scooter engineer.
12 Check the mating surfaces on the cylinder head and cylinder for signs of leakage, which could indicate that the head is warped.
13 Using a precision straight-edge, check the head mating surface for warpage. Check vertically, horizontally and diagonally across the head, making four checks in all (see Chapter 2A).
14 Ensure that the thermostat bypass passage is clear **(see illustration)**.
15 Check the condition of the thermostat (see Chapter 3).

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Installation

16 If removed, smear the threads of the temperature sender with a suitable non-permanent sealant and screw it into the head. Tighten the sender securely. Check the condition of the coolant bleed valve washer and replace it with a new one if it is damaged. It is good practice to renew the washer if the valve is removed. Install the valve finger tight.
17 Ensure both cylinder head and cylinder mating surfaces are clean, and lubricate the cylinder bore with the specified two-stroke oil. Ensure the grooves for the head gaskets are clean and install the gaskets, pressing them firmly into place **(see illustrations)**.
18 Install the thermostat into its recess in the head and fit the spring over the thermostat. Hold the spring and thermostat in place with a small screwdriver and fit the head onto the cylinder **(see illustrations)**.
19 Install the four bolts and tighten them finger-tight, then tighten them evenly and a little at a time in a criss-cross pattern to the torque setting specified at the beginning of this Chapter **(see illustration 7.4)**.
20 If removed, install the spark plug, then connect the wire to the temperature sender.
21 Fit the carburettor heater hoses and coolant hose onto their unions and secure them with the clips, then refill the cooling system (see Chapter 3).
22 Install the remaining components in the reverse order of removal.

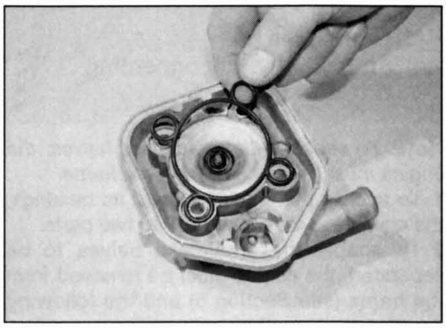
8 Cylinder – removal, inspection and installation

Note: *This procedure can be carried out with the engine in the frame. If the engine has been removed, ignore the steps that do not apply.*

Warning: The cylinder is Nicosil coated – under no circumstances should the cylinder be rebored or honed. No oversize pistons are available.

Removal

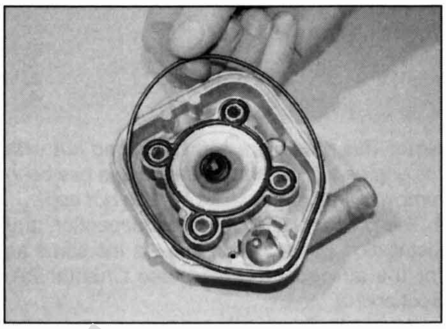
1 Remove the exhaust system (see Chapter 4) and the cylinder head (see Section 7).
2 Loosen the clip securing the coolant hose to the cylinder and detach the hose **(see illustration)**.
3 Lift the cylinder up off the crankcase, supporting the piston as it becomes accessible to prevent it hitting the crankcase opening (see Chapter 2A). Take care that no residual coolant in the cylinder water jacket spills into the crankcase opening. If the cylinder is stuck, tap around the joint face between the cylinder and the crankcase with a soft-faced mallet to free it. Don't attempt to free the cylinder by inserting a screwdriver between it and the crankcase – you'll damage the sealing surfaces. When the cylinder is partway removed, stuff a clean rag into the crankcase opening around the piston to prevent anything falling inside, such as pieces of broken ring.


7.17a Press the centre head gasket . . .

4 Remove the cylinder gasket and discard it as a new one must be fitted on reassembly.

Inspection

5 The procedure for inspecting and measuring the cylinder bore is the same as for the air-cooled engine (see Chapter 2A, Section 8). If the cylinder is excessively worn or damaged and has to be renewed, ensure that the new cylinder and piston have matching size codes, as marked on the top of the cylinder and the piston.
6 In addition, clean any corrosion out of the cylinder water jacket and inspect the cylinder to cylinder head gasket surfaces for corrosion which will cause coolant leakage and loss of compression.
7 If there is any doubt about the serviceability of the cylinder, consult a Peugeot dealer.
8 Inspect the cylinder head bolt threads in the crankcase (see Chapter 2A, Section 14).


7.17b . . . and the outer gasket firmly into their grooves

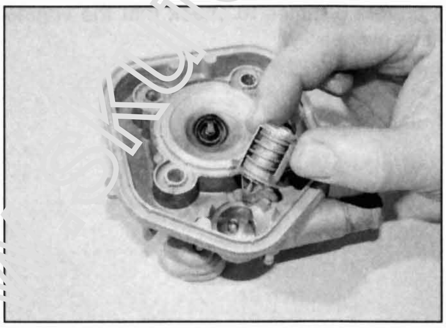
Installation

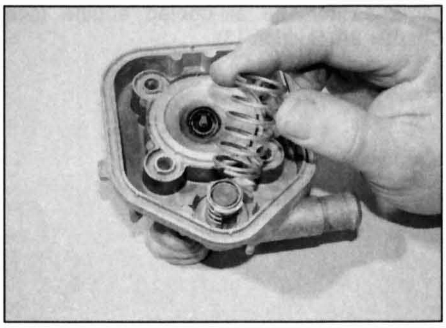
9 The procedure for installing the cylinder is the same as for the air-cooled engine (see Chapter 2A, Section 8).
10 Fit the coolant hose to the cylinder and secure it with the clip after installing the cylinder head to avoid damaging the cylinder base gasket, then install the exhaust system (see Chapter 4).

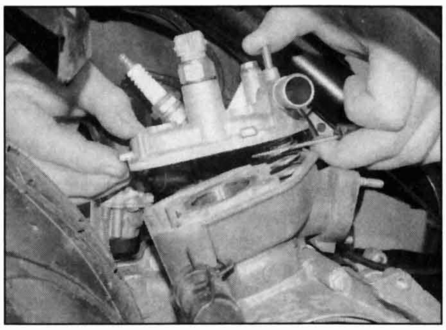
9 Piston – removal, inspection and installation

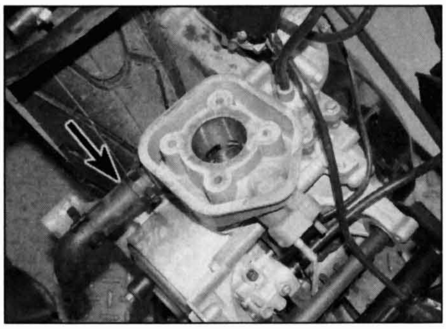
Note: *This procedure can be carried out with the engine in the frame. If the engine has been removed, ignore the steps that do not apply.*

1 The procedure for removal, inspection and installation of the piston is the same as for the air-cooled engine (see Chapter 2A, Section 9).


7.18a Install the thermostat . . .


7.18b . . . and the thermostat spring . . .


7.18c . . . then hold them in place while the head is installed


8.2 Detach the coolant hose (arrowed) from the cylinder

10 Piston rings – inspection and installation

Note: *This procedure can be carried out with the engine in the frame. If the engine has been removed, ignore the steps that do not apply.*

1 The procedure for removal, inspection and installation of the piston rings is the same as for the air-cooled engine (see Chapter 2A, Section 10).

11 Starter pinion assembly – removal, inspection and installation

Note: *This procedure can be carried out with the engine in the frame. If the engine has been removed, ignore the steps that do not apply.*

1 The procedure for removal, inspection and installation of the starter pinion assembly is the same as for the air-cooled engine (see Chapter 2A, Section 12).

12 Oil pump – removal, inspection, installation and bleeding

Note: *This procedure can be carried out with the engine in the frame. If the engine has been removed, ignore the steps that do not apply.*

1 The procedure for removal, inspection and installation and bleeding of the oil pump is the same as for the air-cooled engine (see Chapter 2A, Section 13).

13 Crankcase halves, crankshaft and connecting rod, and bearings

Note: *To separate the crankcase halves, the engine must be removed from the frame.*

1 To access the crankshaft and its bearings, the crankcase must be split into two parts.

2 To enable the crankcase halves to be separated, the engine must be removed from the frame (see Section 5) and the following components must be removed:

- Water pump (see Chapter 3)
- Alternator (see Chapter 9)
- Variator (see Chapter 2C)
- Cylinder head (see Section 7)
- Cylinder (see Section 8)
- Piston (see Section 9)
- Oil pump (see Section 12)
- Reed valve (see Chapter 4)
- Starter motor (see Chapter 9)

3 The remainder of the procedure is the same as for air-cooled models. Refer to Chapter 2A, Section 14 for details.

14 Initial start-up after overhaul

1 Make sure the oil tank is at least partly full and the pump is correctly adjusted (see Chapter 1) and bled of air (see Chapter 2A, Section 13).

2 Make sure there is fuel in the tank.

3 With the ignition OFF, operate the kickstart a couple of times to check that the engine turns over easily.

4 Turn the ignition ON, start the engine and allow it to run at a slow idle until it reaches operating temperature. Do not be alarmed if there is a little smoke from the exhaust – this will be due to the oil used to lubricate the piston and bore during assembly and should subside after a while.

5 Check the coolant level and bleed any trapped air from the coolant system (see Chapter 3, Section 2).

6 If the engine proves reluctant to start, remove the spark plug and check that it has not become wet and oily. If it has, clean it and try again. If the engine refuses to start, go through the fault finding charts at the end of this manual to identify the problem.

15 Recommended running-in procedure

1 Treat the engine gently for the first few miles to allow any new parts to bed in.

2 If a new piston, rings or cylinder have been fitted, the engine will have to be run in as when new. This means a restraining hand on the throttle until at least 300 miles (500 km) have been covered. There's no point in keeping to any set speed limit – the main idea is to keep from labouring the engine and to gradually increase performance up to the 600 mile (1000 km) mark. Make sure that the throttle position is varied to vary engine speed, and use full throttle for only short bursts. Experience is the best guide, since it's easy to tell when an engine is running freely.

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Chapter 2 Part C:
Transmission

Refer to Chapter 1 for model identification details

Contents

Degrees of difficulty

Easy, suitable for novice with little experience

Fairly easy, suitable for beginner with some experience

Fairly difficult, suitable for competent DIY mechanic

Difficult, suitable for experienced DIY mechanic

Very difficult, suitable for expert DIY or professional

Specifications

Variator

Centre sleeve length	38 mm
Roller colour code and diameter – 50 cc engines	
Speedfight/Speedfight 2 (black)	16 mm
Trekker (black)	16 mm
Vivacity (black)	16 mm
Roller colour code and diameter – 100 cc engines	
Speedfight (yellow)	19 mm
Speedfight 2 (brown)	18 mm
Trekker (yellow)	19 mm
Vivacity – up to 1999 (yellow)	19 mm
Vivacity – from 2000 (brown)	18 mm

Clutch

50 cc engines	
Centre spring free length	103.5 mm
Shoe spring free length	32 mm
100 cc engines	
Centre spring free length	105.5 mm
Shoe spring free length	31.8 mm

Torque settings

Clutch assembly nut	50 Nm
Clutch centre nut	45 Nm
Drive belt cover bolts	10 Nm
Relay box cover bolts	10 Nm
Relay box drain plug	12 Nm
Relay box filler plug	12 Nm
Variator nut	40 Nm

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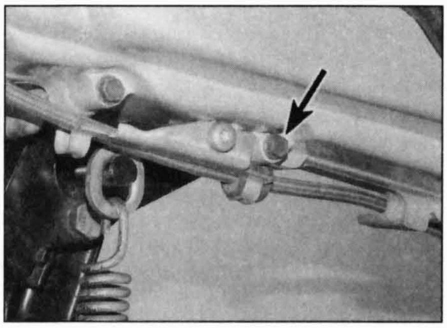
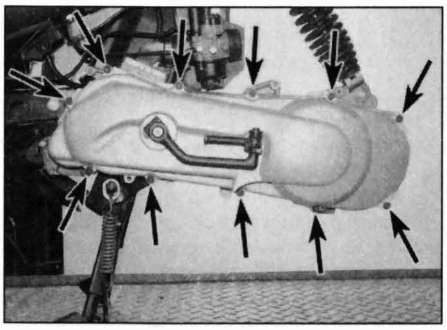
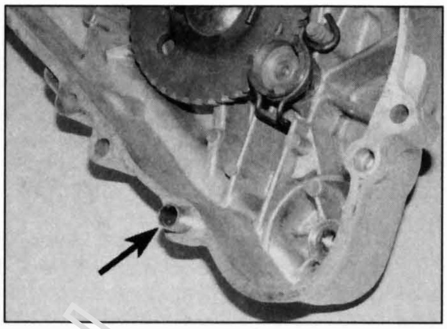


2.1a Undo the screw and remove the brake cable/hose bracket . . .



2.1b . . . then remove the cover retaining bolts



2.2 Remove any dowels for safekeeping if they are loose

1 General information

The transmission on all models is fully automatic in operation. Power is transmitted from the engine to the rear wheel by belt, via a variable size drive pulley (the variator), an automatic clutch on the driven pulley, and a reduction relay box. The variator and the automatic clutch both work on the principal of centrifugal force.

The transmission can be worked on with the engine in the frame.

2 Drive belt cover – removal and installation

Removal

1 Undo the screw securing the rear brake cable or hose bracket to the underside of the transmission casing and remove the bracket **(see illustration)**. Working in a criss-cross pattern, loosen the drive belt cover retaining bolts and remove the bolts **(see illustration)**. On some machines the bolts are different lengths; note where they fit **Note:** *It is not necessary to remove the kickstart lever before removing the cover.*

2 Remove the cover and note the position of any locating dowels **(see illustration)**. Remove the dowels for safekeeping if they are loose. **Note:** *Sealant should not be used on the cover, but if it will not lift away easily, tap it gently around the edge with a soft-faced hammer.* On Vivacity 50 models fitted with a cover manufactured from composite material, remove the gasket. If the gasket is damaged, discard it and fit a new one on reassembly.

3 Note the position of the kickstart quadrant and the engaging pinion, and how the outer end of the starter motor pinion assembly locates in the cover **(see illustration)**.

4 If fitted, undo the retaining bolt for the air cooling duct and remove the duct. Inspect the duct filter element. If it is dirty, the element should be washed in soapy water and refitted when dry. If the element is damaged or has deteriorated, replace it with a new one.

5 On Vivacity 50 models with a composite cover, check the condition of the rubber stop for the kickstart quadrant inside the cover. If the stop is damaged or excessively worn, replace it with a new one.

6 Clean any dust or dirt from the inside of the casing with a suitable solvent, taking care to avoid contact with the belt and the drive faces of the pulleys. Any evidence of oil inside the casing suggests a worn seal either on the crankshaft or the relay box input shaft which must be rectified. Evidence of grease inside the casing suggests worn seals either in the variator or the clutch centre which should also be rectified.

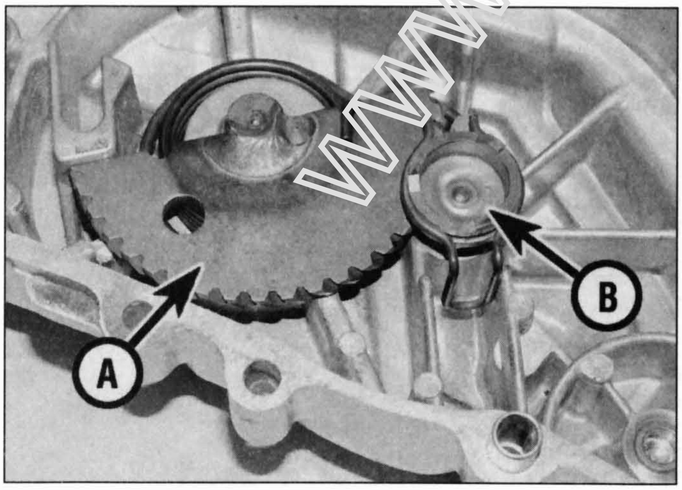
Installation

7 If fitted, install the air cooling duct and tighten its retaining bolt securely.

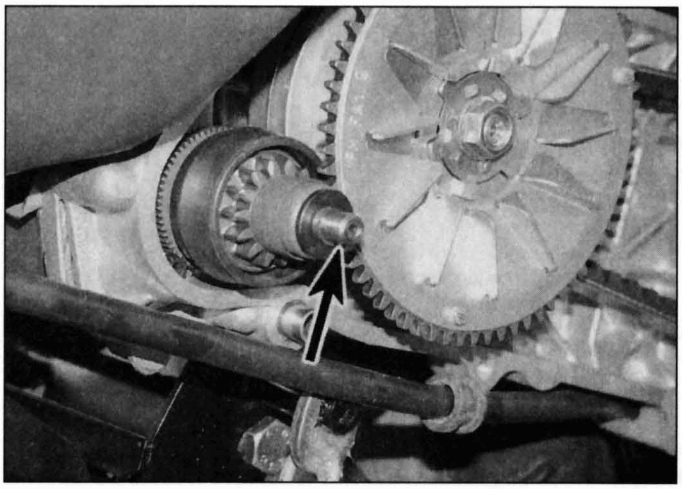
8 If removed, fit the dowels in the cover and apply a smear of grease to the end of the starter motor pinion and to the threads of the cover bolts. On Vivacity 50 models with a composite cover, install the cover gasket.

9 Ensure the kickstart quadrant and engaging pinion are correctly located in the cover (see Section 3), then fit the cover. Make sure the starter motor pinion locates correctly inside the cover **(see illustration)**, then install the bolts finger tight. On machines fitted with bolts of different lengths, ensure the bolts are installed in their original locations (see Step 1).

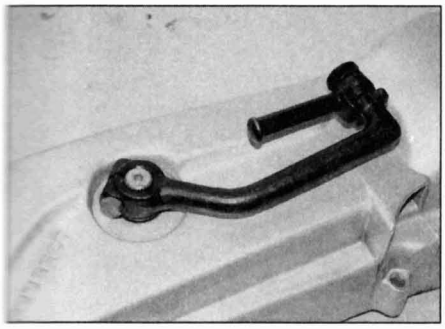
10 Working in a criss-cross pattern, tighten the cover bolts to the torque setting specified at the beginning of this Chapter, then crank the kickstart lever to ensure the mechanism engages correctly with the kickstart driven



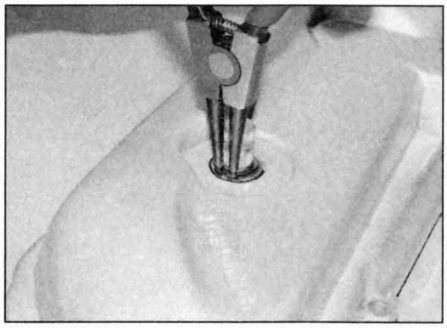
2.3 Kickstart quadrant (A) and engaging pinion (B) are located in the cover



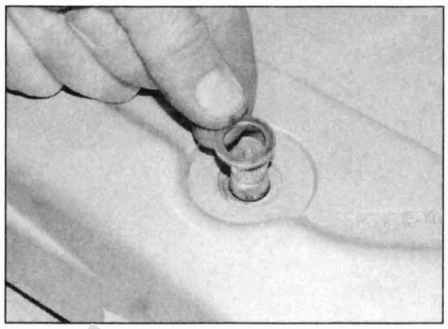
2.9 Ensure end of starter motor pinion locates correctly inside the cover



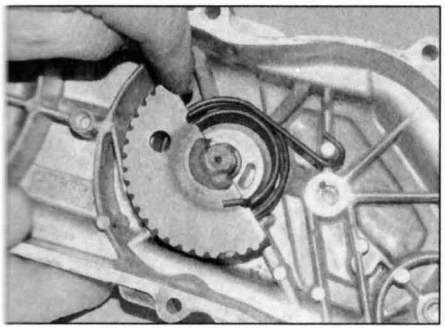
3.3 Kickstart lever rest position



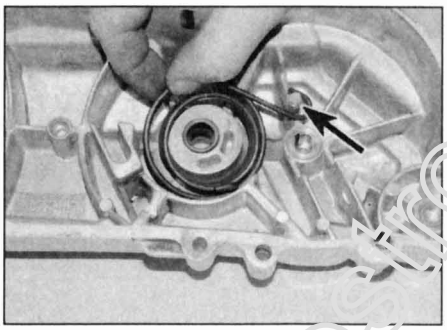
3.4a Remove the circlip . . .



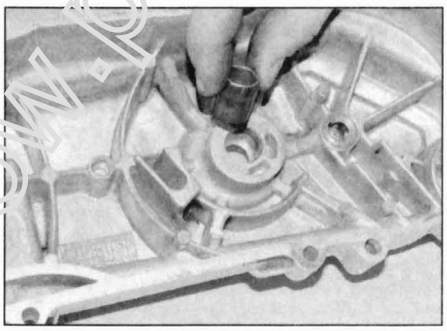
3.4b . . . and washer from the kickstart shaft



3.5 Release the tension in the spring and unhook it from the quadrant



3.6a Unhook the spring from the post (arrowed) . . .



3.6b . . . and remove the kickstart bush

gear and that the lever returns to its proper rest position afterwards. Fit the bracket over the rear brake cable or hose and secure it to the underside of the drive belt cover with the screw.

3 Kickstart mechanism – removal, inspection and installation

Removal

1 Remove the drive belt cover (see Section 2).

2 Pull the engaging pinion out of its recess in the cover, noting how the spring locates **(see illustration 2.3)**. Remove the washer from behind the pinion.

3 Note the rest position of the kickstart lever, then undo the lever pinch bolt and pull the lever off the shaft **(see illustration)**.

4 Remove the circlip and washer (if fitted) from the kickstart shaft on the outside of the cover **(see illustrations)**.

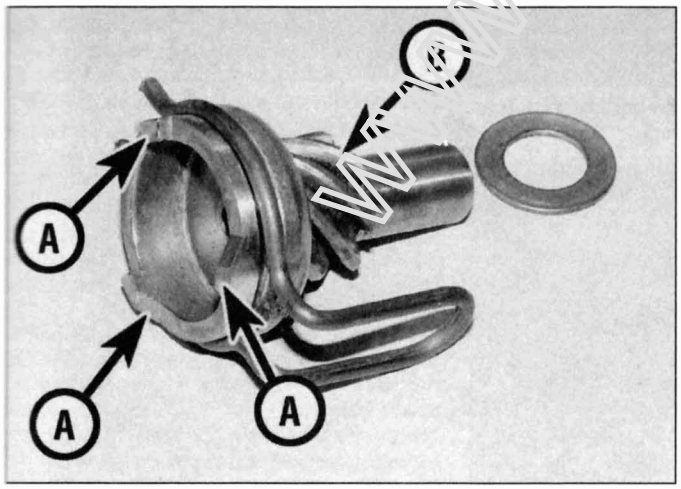
5 Ease the kickstart shaft out of the cover and release the tension on the kickstart return spring. Unhook the spring from the kickstart quadrant and remove the shaft **(see illustration)**.

6 Note how the return spring locates inside the cover and remove the spring and kickstart bush **(see illustrations)**.

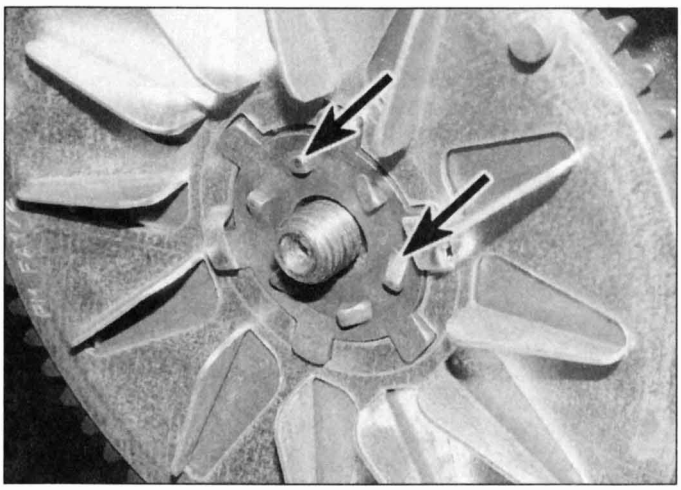
7 Clean all the components with a suitable solvent.

Inspection

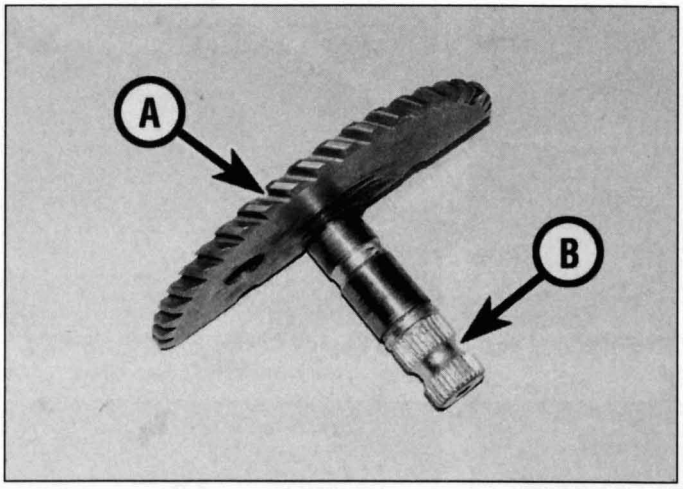
8 Check the dogs on the end of the engaging pinion and the corresponding dogs on the kickstart driven gear **(see illustrations)**. Inspect the teeth on the engaging pinion and the teeth on the kickstart quadrant **(see illustrations)**. Check the shafts of the engaging pinion and the kickstart quadrant,



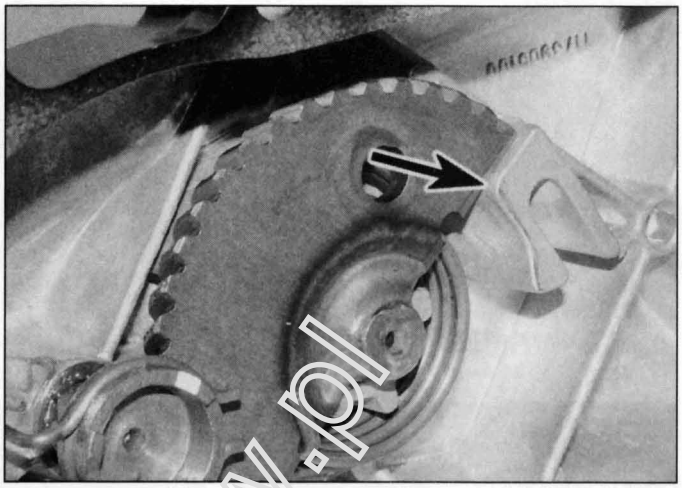
3.8a Inspect the dogs (A) and teeth (B) on the engaging pinion



3.8b Inspect the dogs on the kickstart driven gear (arrowed)



3.8c Inspect the teeth (A) and the splines (B) on the kickstart quadrant



3.11 Quadrant should butt against stop (arrowed) on inside of case

and the quadrant bush, for signs of wear, and inspect the splines on the end of the quadrant shaft for damage **(see illustration 3.8c)**. Replace any components that are worn or damaged with new ones. **Note:** *The kickstart driven gear is an integral part of the outer half of the variator pulley. Peugeot list two types of outer pulley halves which are not interchangeable. Consult a Peugeot dealer to ensure you obtain the correct new part.*

9 Ensure the spring on the engaging pinion is a firm fit and inspect the kickstart return spring for cracks and wear at each end. When fitted, the return spring should return the kickstart lever to the rest position and hold it there; if not, it has worn and should be renewed.

Installation

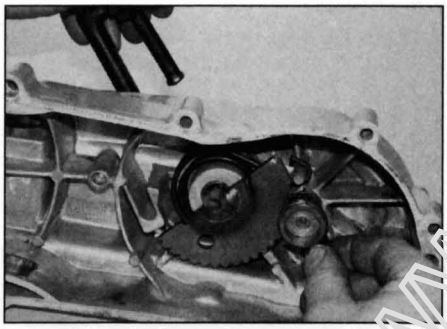
10 Press the kickstart bush into the cover, then install the return spring with its long end innermost. Hook the long end around the post on the inside of the cover **(see illustration 3.6a)**.

11 Lubricate the kickstart shaft with a smear of molybdenum disulphide grease and insert it through the bush, then hook the outer end of the return spring onto the quadrant. Rotate the shaft anti-clockwise against the spring tension until the quadrant can be butted against the stop on the inside of the case **(see illustration)**. Ensure the shaft is pressed all the way into the case, then install the washer (if fitted) and circlip **(see illustrations 3.4a and 3.4b)**.

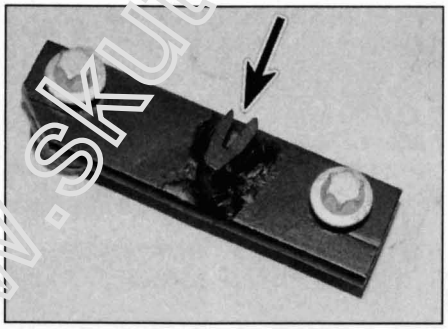
12 Fit the kickstart lever in the rest position and tighten the pinch bolt securely. Operate the lever to check that it turns smoothly and returns to its rest position under spring pressure.

13 Lubricate the shaft of the engaging pinion with a smear of grease and install the washer, then fit the pinion into the case. Align the spring with the detent in the case, then operate the kickstart lever to engage the pinion with the kickstart quadrant and draw the pinion into the case **(see illustration)**.

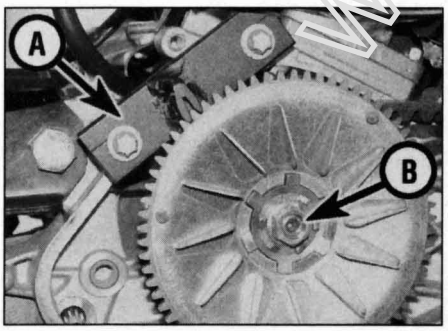
14 Check the operation of the mechanism, then refit the cover (see Section 2).



3.13 Operate kickstart lever to draw kickstart pinion into the case



4.2 Variator pulley teeth engage in notch (arrowed)



4.3a Lock the crankshaft with the tool (A) and undo the nut (B) . . .

4.3b . . . then remove the outer half of the pulley

4 Variator – removal, inspection and installation

Removal

1 Remove the drive belt cover (see Section 2).

2 To remove the variator centre nut, the crankshaft must be locked to stop it turning. Peugeot produce a service tool (Pt. No. 752370) which bolts onto the engine case and locates between the teeth on the variator pulley. Alternatively a similar tool can be made **(see illustration)**.

3 Undo the nut and remove the outer half of the variator pulley **(see illustrations)**. Discard the nut as a new one must be fitted on reassembly. Move the drive belt aside. **Note:** *Unless you are removing the clutch assembly, leave the belt on the clutch pulley. Mark the belt with a directional arrow if it is removed so that it can be refitted the correct way round **(see illustration)**.*

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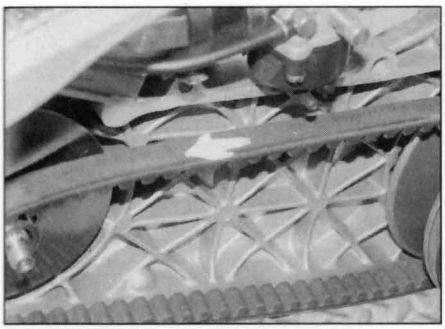
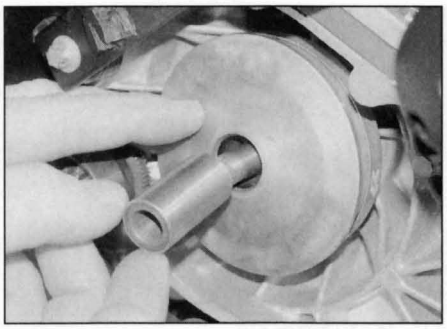
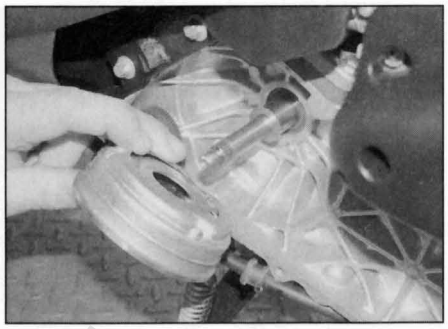


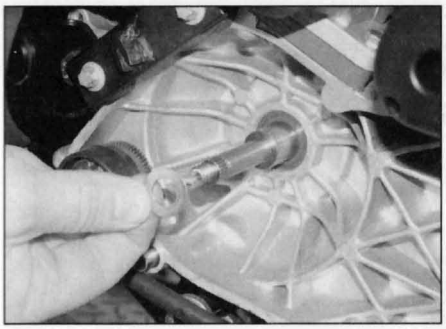
4.3c Mark the belt with a directional arrow



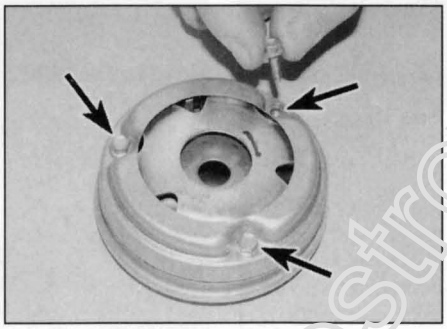
4.4 Withdraw the variator centre sleeve . . .



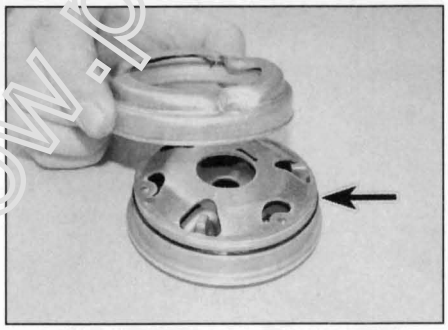
4.5 . . . and pull off the variator assembly . . .



4.6 . . . and the washer (if fitted)



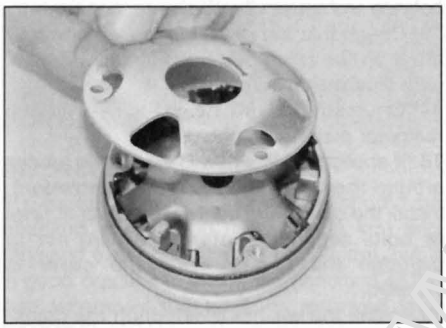
4.7a Undo the screws . . .



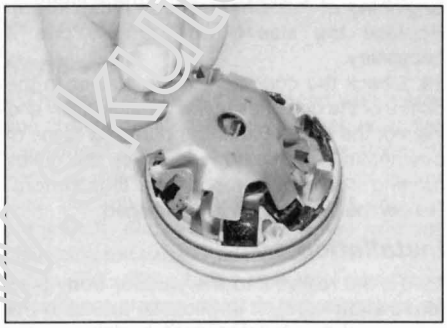
4.7b . . . and lift off the cover. Discard the O-ring (arrowed) if fitted

4 Hold the variator assembly and withdraw the centre sleeve **(see illustration)**.

5 Pull the variator assembly off the crankshaft **(see illustration)**. **Note:** *If the variator is just being displaced, grip the assembly so that the ramp plate at the back is held into the variator body as you remove it, otherwise the rollers inside will fall out of their ramps and the variator will have to be disassembled to reposition them.*



4.8 Lift out the restrictor plate (if fitted)



4.9a Lift out the ramp plate . . .

6 Remove the washer (if fitted) from the crankshaft **(see illustration)**.

7 To disassemble the variator, remove the three screws or bolts and lift off the cover. On models fitted with greased rollers, remove the O-ring and discard it as a new one must be fitted on reassembly **(see illustrations)**.

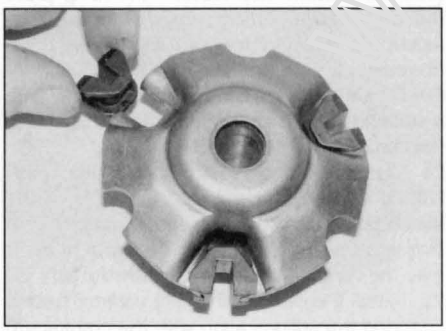
8 On restricted 50 cc machines, lift out the restrictor plate **(see illustration)**.

9 Lift out the ramp plate, noting how it fits, and remove the ramp guides, then lift out the rollers **(see illustrations)**.

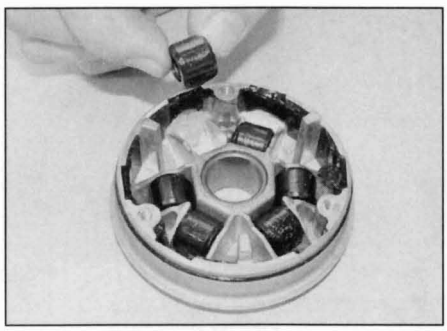
10 Clean all the components using a suitable solvent.

Inspection

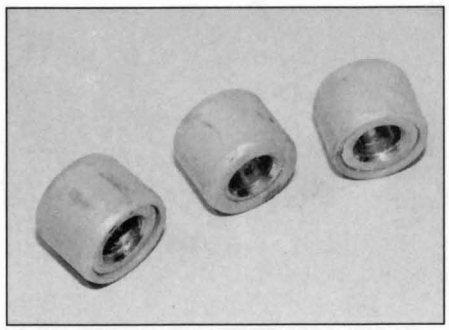
11 Measure the diameter of each roller; they should all be the same size. Inspect the surface of each roller for flat spots **(see illustration)**. If any rollers are worn below the nominal diameter for new rollers specified at the



4.9b . . . and remove the ramp guides . . .



4.9c . . . then lift out the rollers



4.11 Measure the rollers and check them for flat spots

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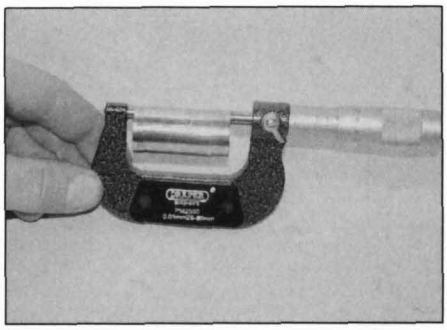
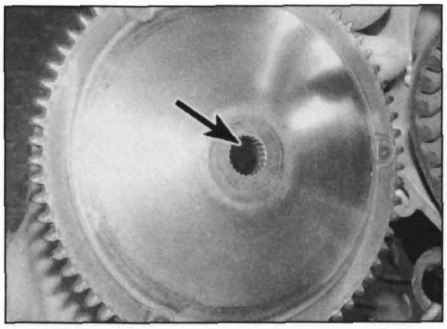
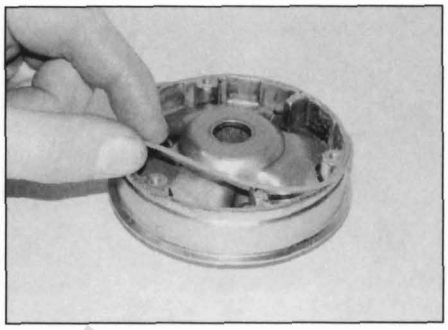


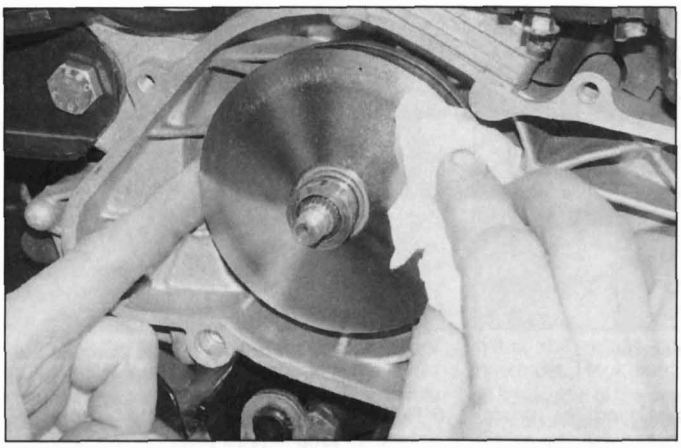
4.13 Measuring the length of the variator sleeve



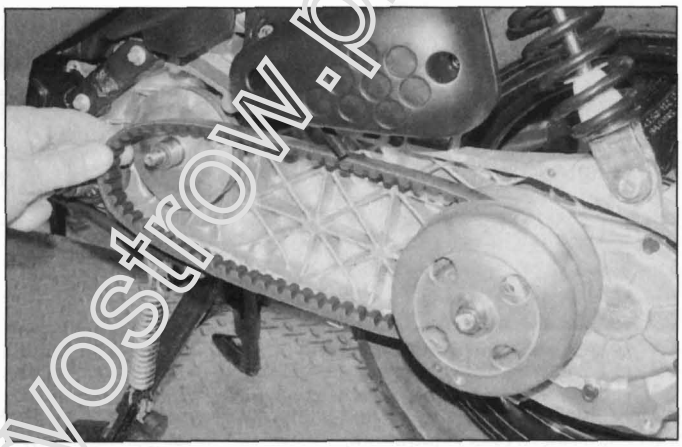
4.14 Check the splines (arrowed) for wear and the surface of the pulley for blueing



4.18 Fit a new O-ring to the variator body if applicable



4.21a Clean the inner faces of the variator pulley . . .



4.21b . . . then press the belt into the clutch pulley and fit it onto the variator pulley

beginning of this Chapter, or have worn flat, renew all the rollers as a set. **Note:** *Variator rollers are not interchangeable between different models in the Peugeot range. Always specify the year and model of your scooter when buying new rollers. Greased-type variator rollers cannot be replaced by the later non-greased type unless a completely new variator assembly is being fitted.*

12 Inspect the surface of the ramps in the variator body and the ramp plate for wear or damage and check the slots in the ramp guides where they fit in the variator body and fit new components as necessary.

13 Measure the length of the variator sleeve and compare the result with the nominal length for a new sleeve specified at the beginning of this Chapter **(see illustration)**. Replace the sleeve with a new one if necessary.

14 Check the condition of the splines in the centre of the outer half of the variator pulley and inspect the inner face of the pulley for signs of overheating or blueing, caused by the pulley running out of alignment **(see illustration)**. Renew the pulley half if it is damaged.

Installation

15 Fit the rollers into the variator body **(see illustration 4.9c)**. If applicable, lubricate the rollers and the ramps with high melting point grease before installation. **Note:** *Too much grease in the variator will make it run out of balance and cause vibration.*

16 Check that the ramp guides are correctly fitted on the ramp plate and install the plate **(see illustration 4.9b)**.

17 On restricted 50 cc machines, fit the restrictor plate.

18 If applicable, fit a new O-ring in the groove around the variator body **(see illustration)**. Install the cover, and tighten the cover screws or bolts securely. **Note:** *Take care not to dislodge the O-ring when the cover is installed.*

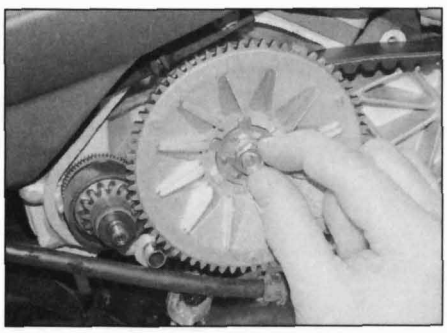
19 Install the washer (if fitted) on the crankshaft. Grip the variator so that the ramp plate is held into the body and install the assembly **(see illustration 4.5)**. **Note:** *If the ramp plate moves and the rollers are dislodged, disassemble the variator and reposition them correctly.*

20 Clean the outer surface of the sleeve with a suitable solvent and slide it into the centre of the variator.

21 Clean both inner faces of the variator pulley with a suitable solvent, then compress the clutch pulley centre spring and press the drive belt into the clutch pulley to facilitate fitting it over the variator pulley **(see illustrations)**.

22 Install the outer half of the variator pulley, ensuring the splines align with the crankshaft, and fit the new centre nut finger-tight **(see illustrations)**. Make sure the outer pulley half

4.22a Install the outer pulley half . . .



4.22b . . . and tighten the centre nut finger-tight

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