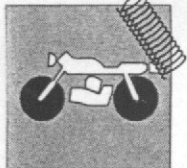


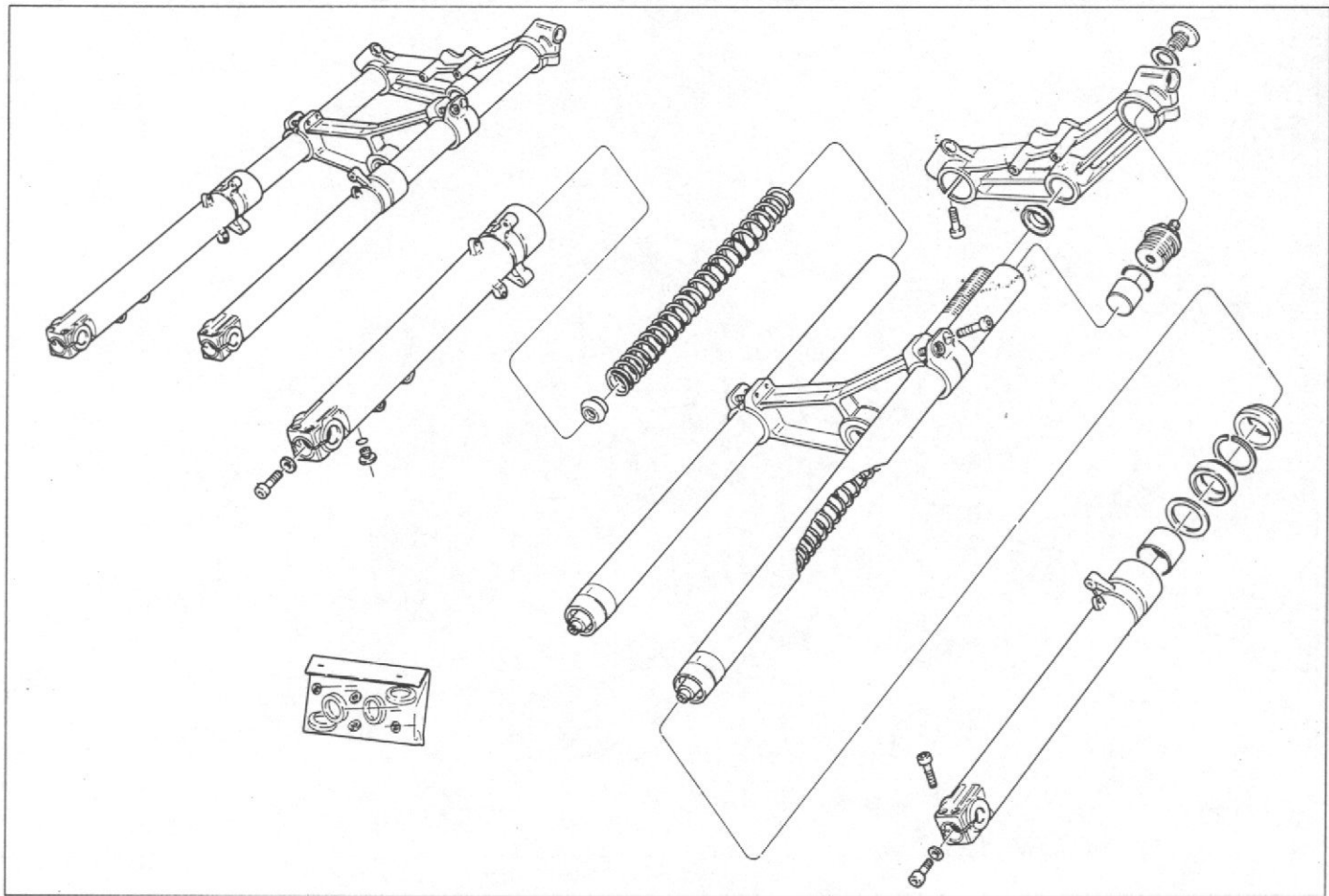
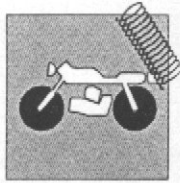
Section





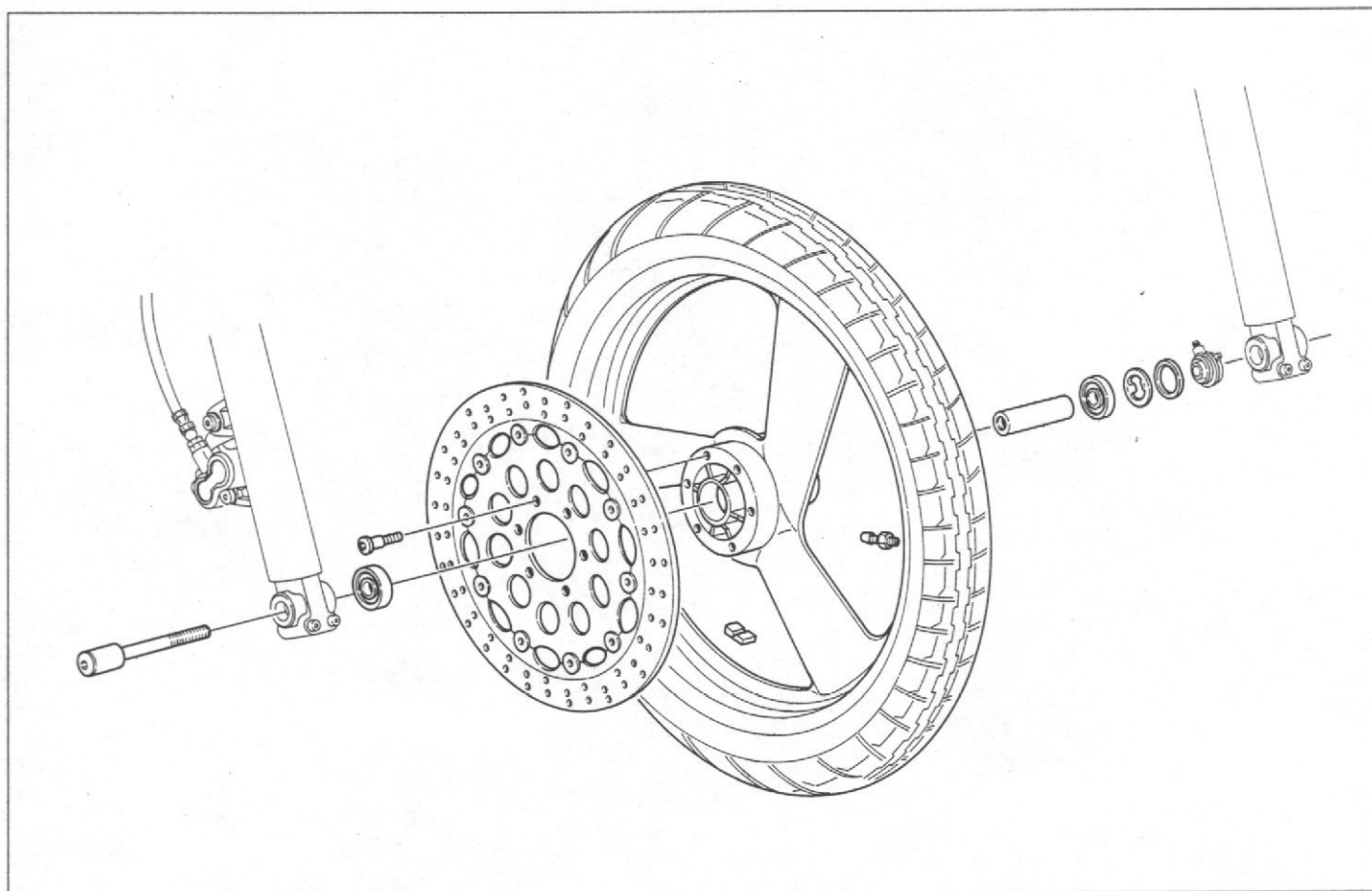
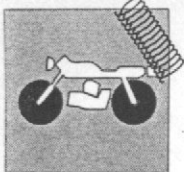
SUSPENSIONS AND WHEELS

Front suspension	1.5
Front wheel	1.6
Front wheel removal	1.8
Removing the front forks	1.10
Front fork overhauling	1.12
Rear suspension	1.15
Rear wheel	1.16
Rear wheel removal	1.18
Front and rear wheel overhauling	1.19
Rim warpage for front and rear wheel	1.21
Wheel rim axle bending	1.22
Axle out-of-track	1.22
Rear ring gear	1.23
Rocking fork removal and overhauling	1.24
Overhauling the swinging arm pivot pin	1.26
Overhauling of the connecting rod and of the rear suspension rocker arm	1.27
Rear damper removal	1.28
Rear damper overhauling	1.29

**Front suspension.**

The front suspension consists of a telehydraulic fork with helical springs, provided with inner spring preloading adjusting system.

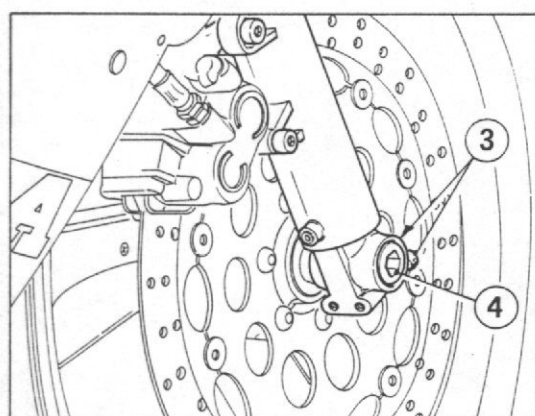
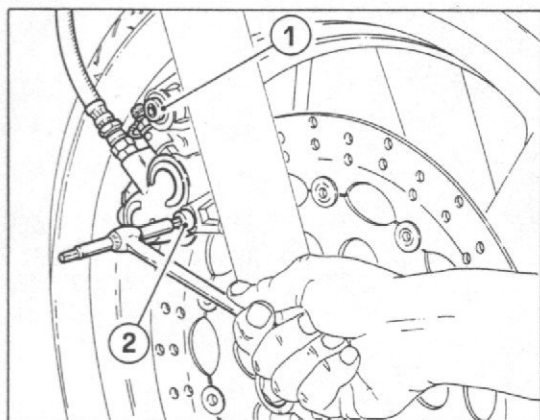
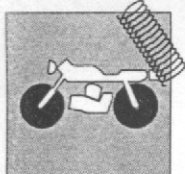
Producer	MARZOCCHI
Legs diameter	1.49 in.
Front wheel bump position (on the sliding axis)	4.84 in.



Front wheel.

Three-spoke light alloy wheel rim. Odometer transmission unit located on the L.H. side of the wheel hub.

Make	GRIMECA
Dimensions	2,75" x 17"
Tyre, manufacturer and type	PIRELLI TUBELESS - MT 75
Dimensions	100/80-17"
or:	
Manufacturer and type	MICHELIN TUBELESS RADIALE
Dimensions	110/70-R17"
Inflation pressure (in cold condition) (driver only)	2,0 bar PIRELLI; 1,9 bar MICHELIN
Inflation pressure (in cold condition) (with passenger)	2,1 bar PIRELLI; 2,0 bar MICHELIN



Front wheel removal.

Arrange a support under the engine in order to have the front wheel raised from ground and proceed as follows:

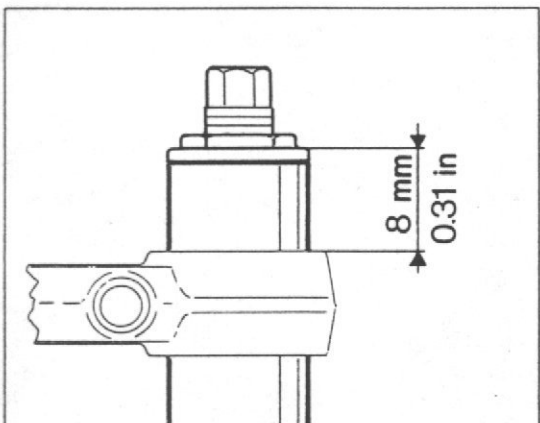
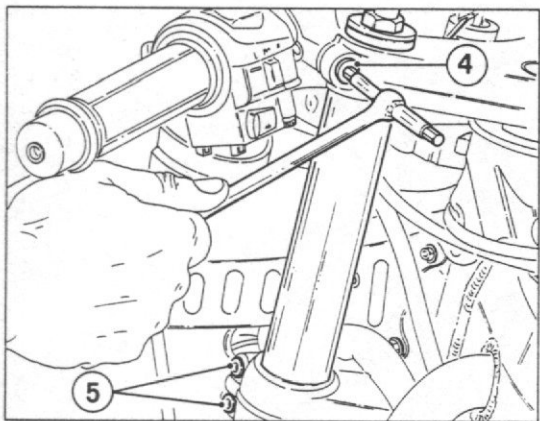
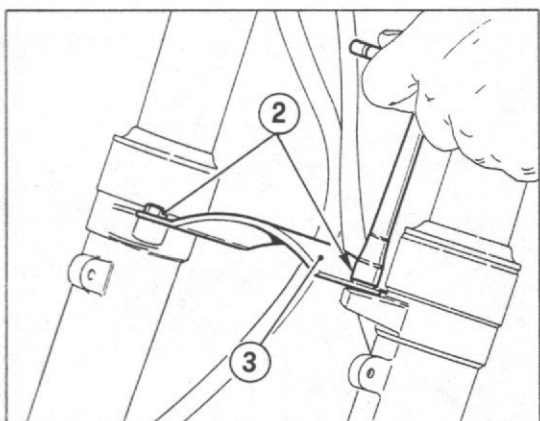
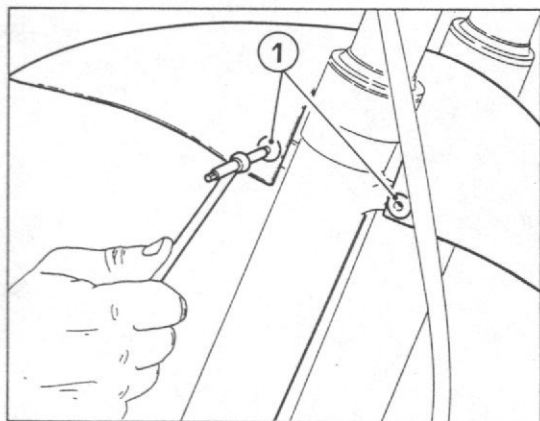
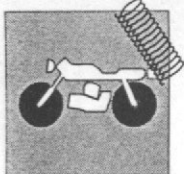
- remove the brake caliper from the R.H. leg by unscrewing the upper screw (1) by means of a 7 mm setscrew wrench and the lower fastening screw (2) by means of a 6 mm setscrew wrench;



In these conditions pay attention not to actuate the front brake lever; partial approaching of the pads would be obtained causing the brake oil level to lower.

- unloose the screws (3) locking the wheel pin (4) on the legs;
- unscrew and remove the wheel pin (4) by means of a 17 mm setscrew wrench;
- on the R.H. side, remove the odometer transmission device (the flexible cable will remain locked to the transmission device);
- remove the full wheel.

For reassembly, carry out the same operations in the opposite way with great care.

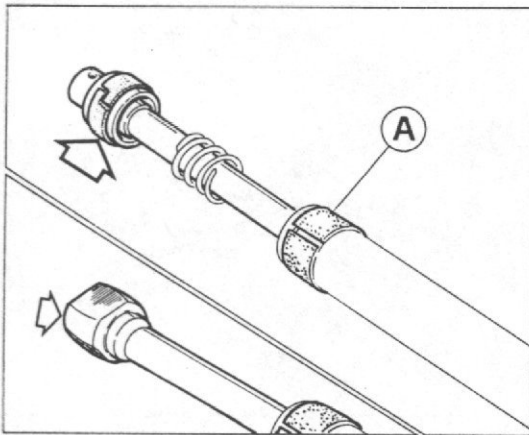
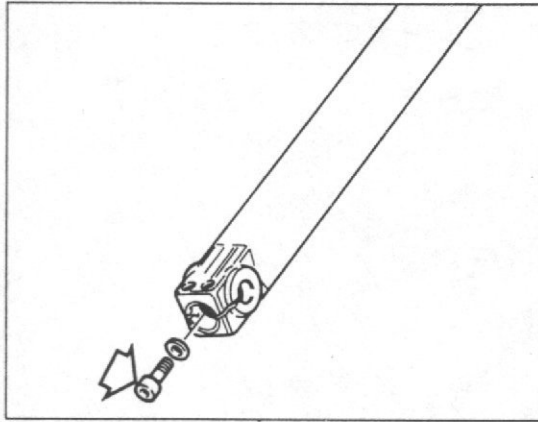
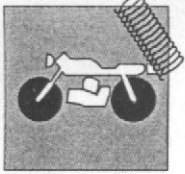


Removing the front forks.

Place a support under the engine so that the front wheel is raised from the ground; operating as follows;

- remove the front wheel following the instructions in the section «Removing the front wheel»;
- unscrew the four screws (1) fastening the front mudguard to the fork legs; recover the inner spacers and the nylon washers;
- unscrew the four screws (2) fastening the fork stiffening plate (3); remove the said plate;
- unloose the two screws (4) fastening each tube to the steering head and the four screws (5) to the steering base;
- extract the fork legs.

During reassembly, position the fork legs 0.315 in. over the steering head surface (see figure).



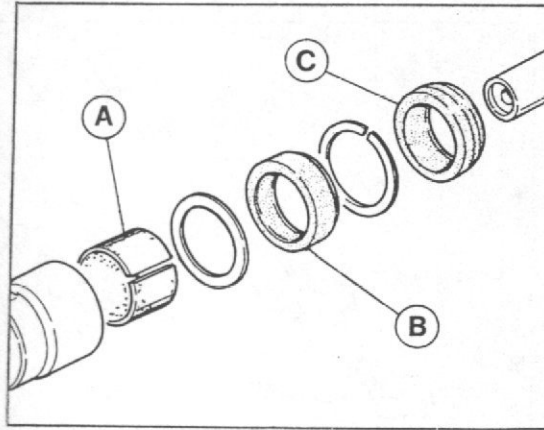
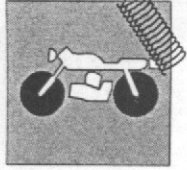
Front fork overhauling.

By removing the screw located at the base of each sleeve, it is possible to extract the bearing pipe from the sleeve.

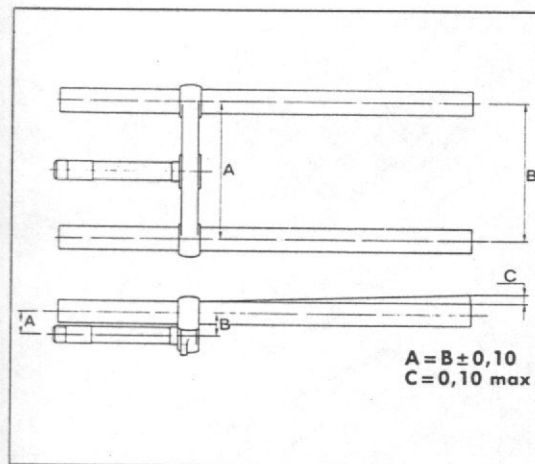
By unscrewing the upper cap, after extracting the preloading tube and the spring, it is possible to remove the piston-damper rod assembly.

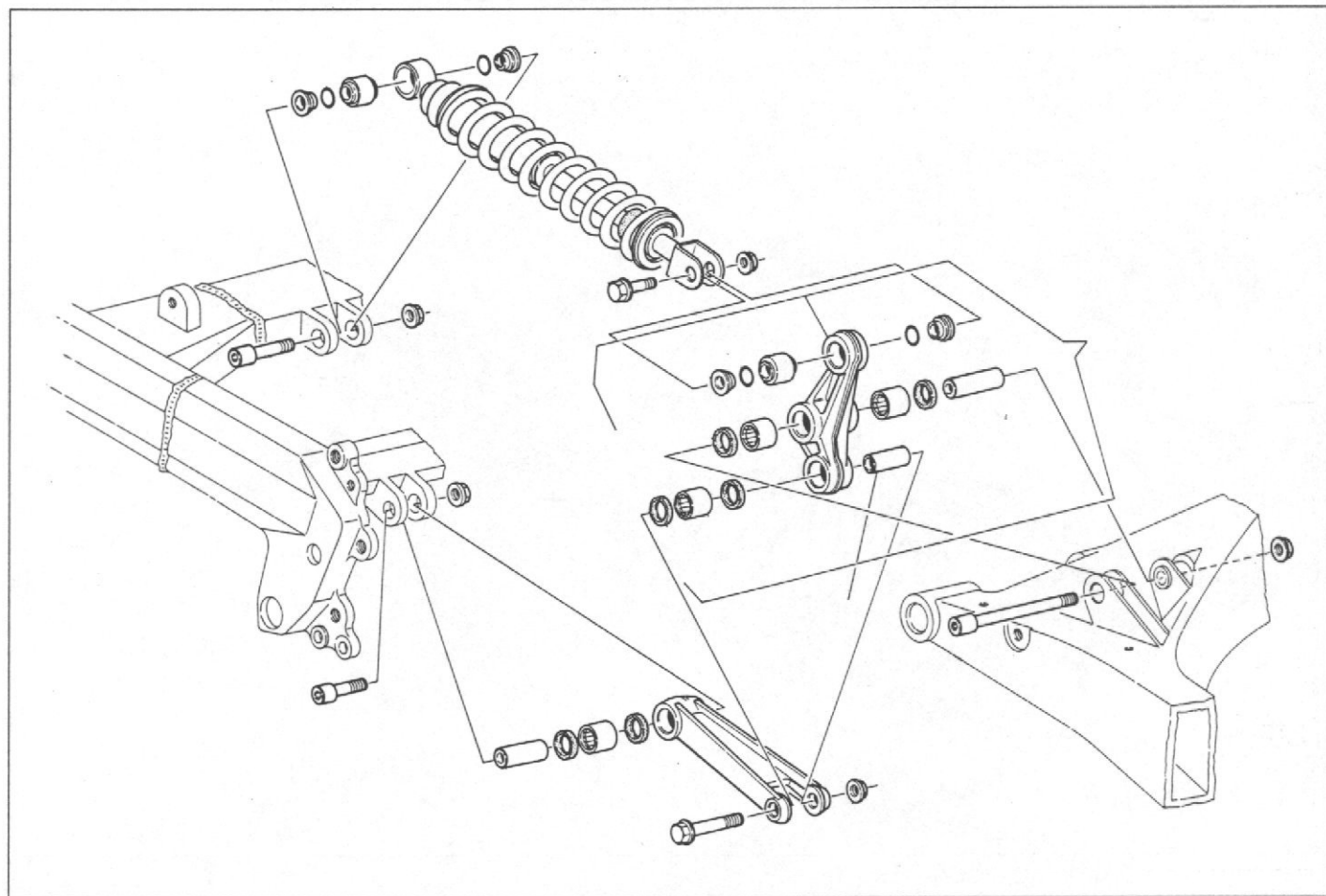
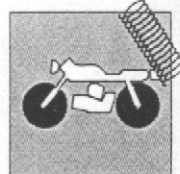
Now carry out the following checkings:

- inspect the outer surface of the two bearing pipes and the inner surface of the two sleeves; no scorings, scratches or shrinking points must be noticed;
- make sure that each bearing pipe slides freely inside its sleeve, but without too much clearance; if clearance is too much, it is necessary to replace the lower and upper guide bushes (A);
- check straightness of the bearing pipes (max. error allowed 0.0039 in.);
- fit the bearing pipes in the steering base, tighten the fastening screws and make sure of conformance to the figure;
- check the wear state of the damper piston circlip; if it is worn or scored, replace it.



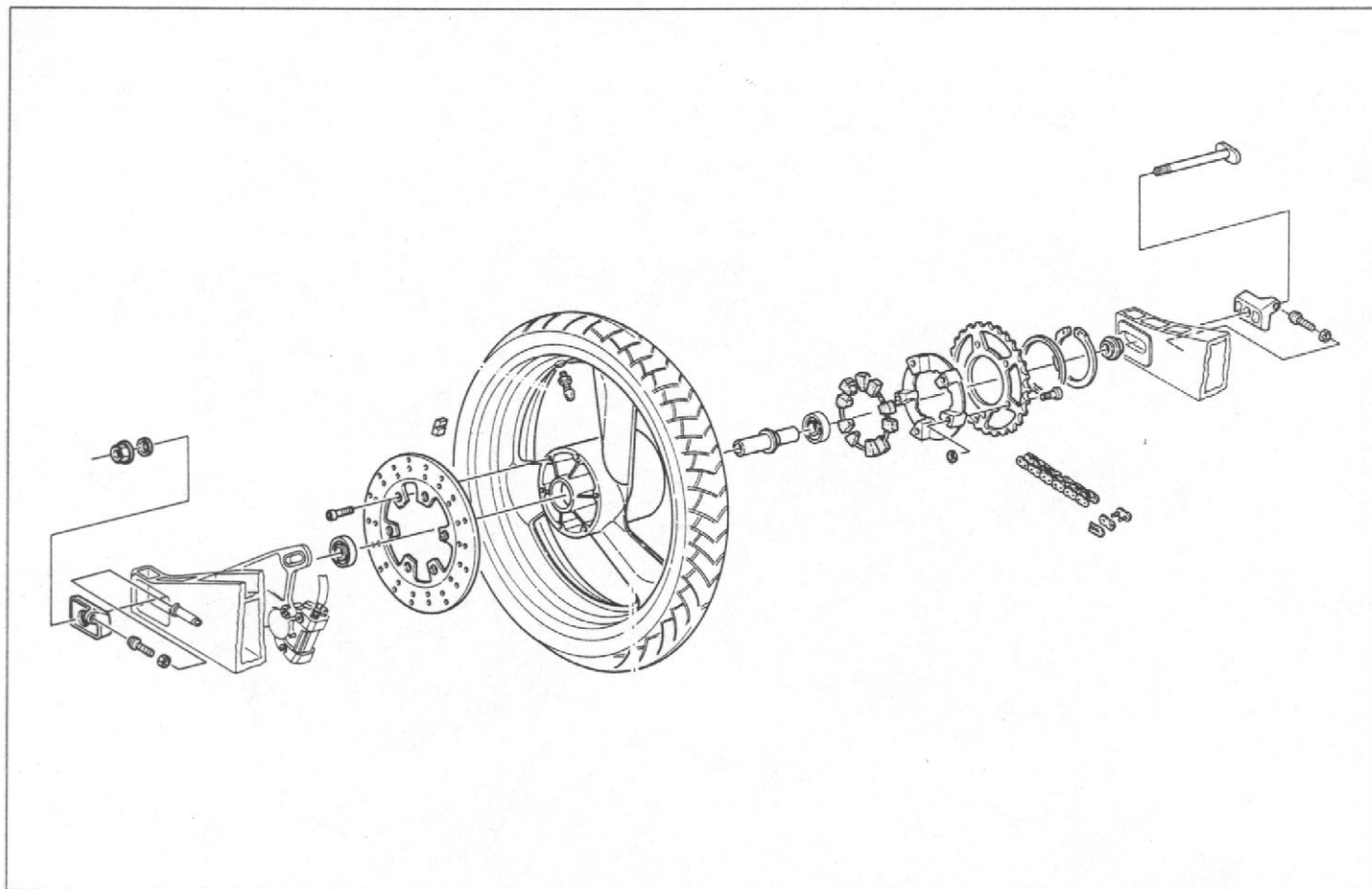
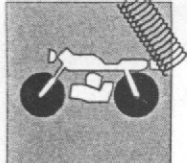
Replace the seal rings (B) and the dust scraper (C) upon every overhaul of the fork. When reassembling, pay attention to the assembly of the two damper units; the damper unit working on rebound phase is provided with a seal circlip and must be mounted in the R.H. bearing pipe, whilst the damper unit working on the compression phase is provided with a piston with three flat faces and must be mounted on the L.H. bearing pipe. When fitting the damper in the bearing pipe, it is necessary to use a special fitter (supplied by the manufacturer) in order not to damage the sealing surface of the piston circlip. Before fitting the bearing pipes into the sleeves provided with new gaskets, it is necessary to lubricate the gasket sliding surfaces. Then fill the legs as described in the chapter "ADJUSTMENTS".





Rear suspension.

Rear swinging fork with hydraulic single damper. The fork pin is fixed sideways to the frame and wheel both in the fork bearings and in the engine crankcase bearings. This systems give the motorcycle a better stiffness. The damper, driven through a system of links with progressive action (SOFT DAMP) is provided with spring preload adjustment according to the weight carried and to the type of ground.



Rear wheel.

Three-spoke light alloy wheel rim. Damping flexible coupling.

Make GRIMECA

Dimensions 4,00" x 17"

Tyre, manufacturer and type PIRELLI TUBELESS - MT 75

Dimensions 140/70 - S17"

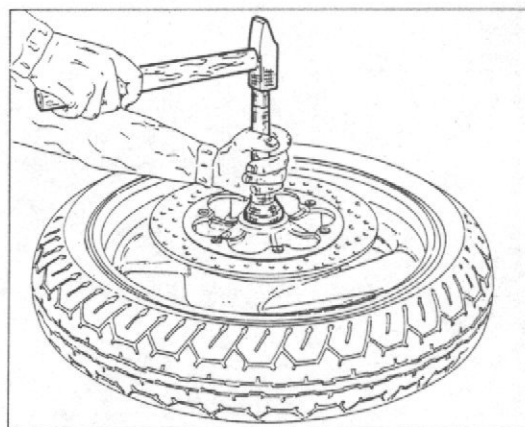
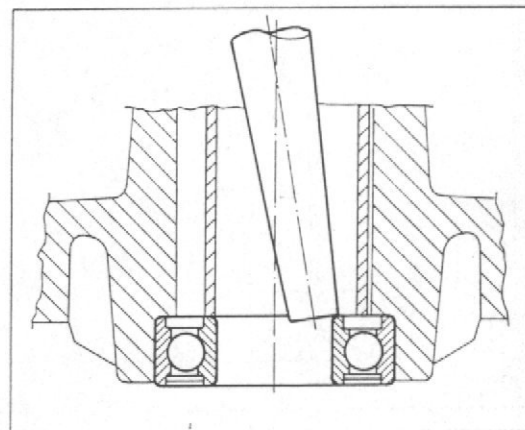
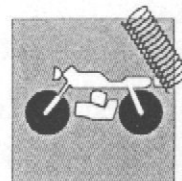
or:

Manufacturer and type MICHELIN - TUBELESS RADIALE

Dimensions 150/60-ZR17"

Inflation pressure (in cold condition) (driver only) 2,1 bar PIRELLI; 2,0 bar MICHELIN

Inflation pressure (in cold condition) (with passenger) 2,3 bar PIRELLI; 2,2 bar MICHELIN



Front and rear wheel overhauling.

Check the wear state of the hub bearings. In case of excessive clearance (radial and axial), operate as follows:

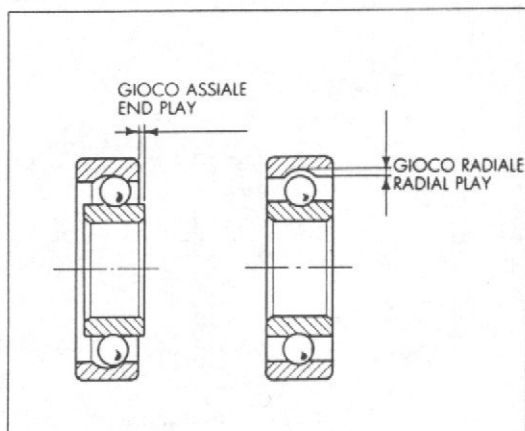
- lay the hub on a flat support with hole, allowing for the passage of the removed bearing.
- use a hammer and a pin to exercise pressure only on the bearing inner ring (see fig.) up to its removal;
- continuously change the pressure position so to get an extraction as regular as possible;
- extract the spacer and perform the same operations for the other bearing.

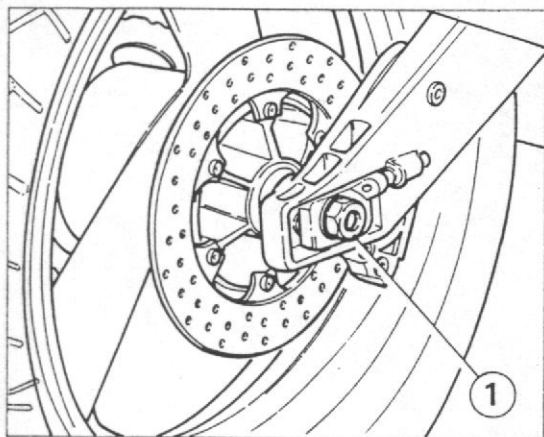
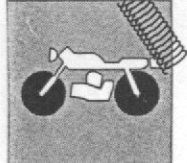
Removed bearings must not be reassembled.

When reassembling new bearings check the seat. It must be clean and without grooves or scratches. Grease the seat before fitting the bearing, then put it in the seat using a proper tubular pad, exercising pressure only on the bearing outer ring up to the complete inserting.

Place the spacer and then proceed with the placing of the other bearing. Check their alignment by placing the wheel pin.

After every intervention on wheels their balancing is advisable.



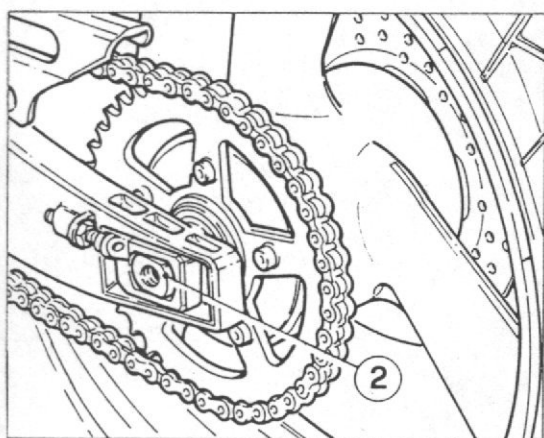


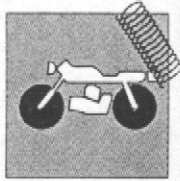
Rear wheel removal.

Arrange a support under the engine in order to have the rear wheel raised from ground and proceed as follows:

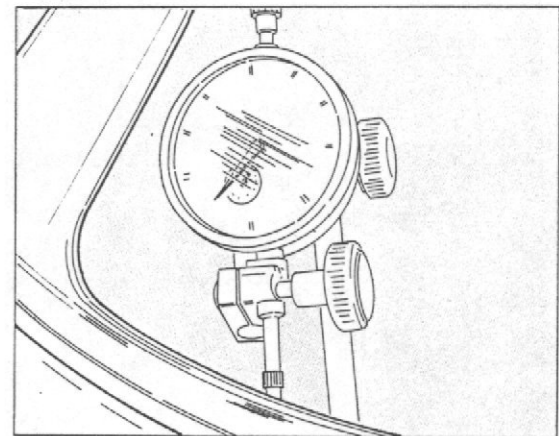
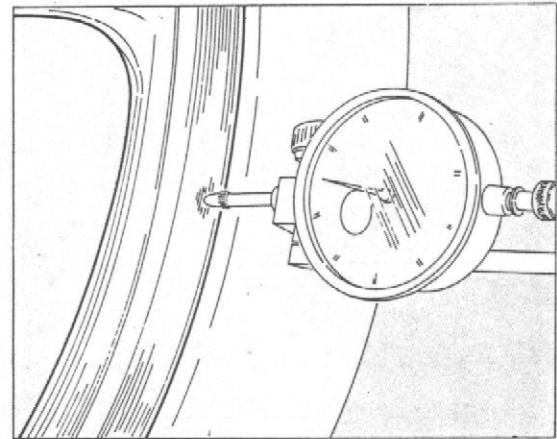
- remove the nut (1) of the wheel pin (2) and extract the wheel pin;
- push forward the wheel to allow the chain to be released from the gear;
- extract the full wheel and recover the spacer on the chain side.

When reassembling, adjust the tension of the chain as described in the chapter "ADJUSTMENTS".

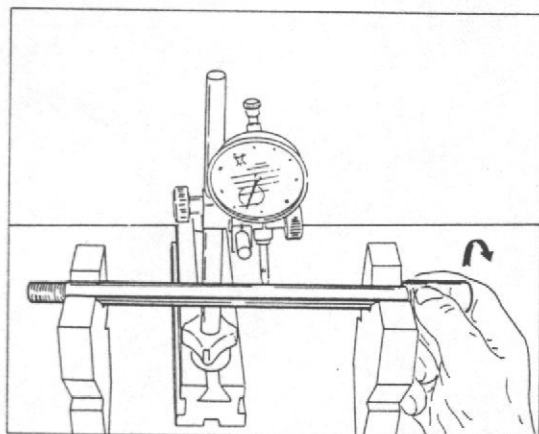
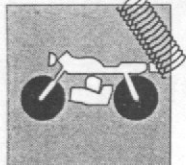


**Rim warpage for front and rear wheel.**

The table below shows the control value that the wheel rim must undergo.
Too much skid and eccentricity are generally caused by any worn bearings. In this case replace the bearings. If this operation does not get round this trouble, replace the rim or the wheel.



	Standard / Standard Standard / Standard Standard	Limite max. di usura / Max. wear limit Limite max. d'usura / Max. Verschleissgrenze Limite max. de desgaste
Side skid	0.5 mm less than 0.019 in.	
Eccentricity	0.8 mm less than 0.031 in.	2 mm (0,078 in.)

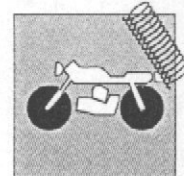


Wheel rim axle bending.

If the bending figure is over the allowable max. limit, straighten or replace the axle.
If the axle can not be straightened within the limits of prescribed max. limit replace it.


Axle out-of-track

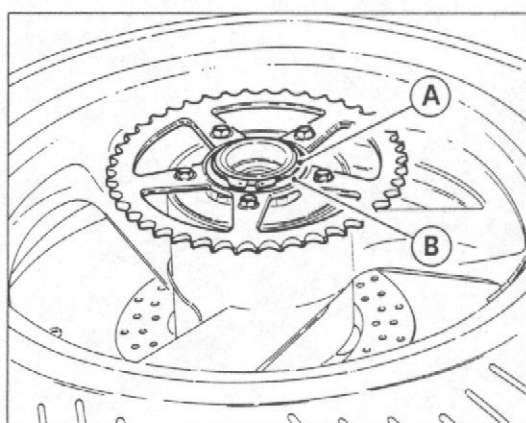
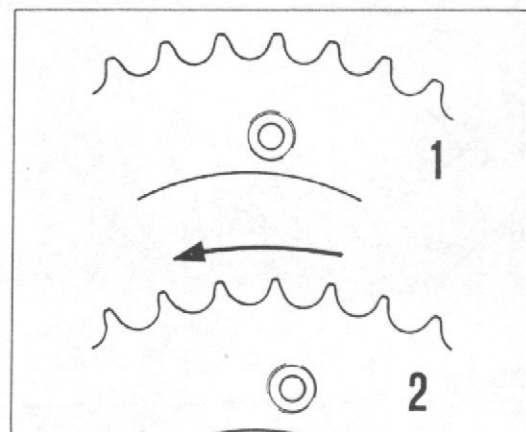
	Standard / Standard Standard / Standard Standard	Limite max. / Max. limit Limite max. / Max. Verschleissgrenze Limite máx.
Front wheel axle	less than 0.004 in. 0,1 mm	0.2 mm (0.008 in.)

**Rear ring gear.**

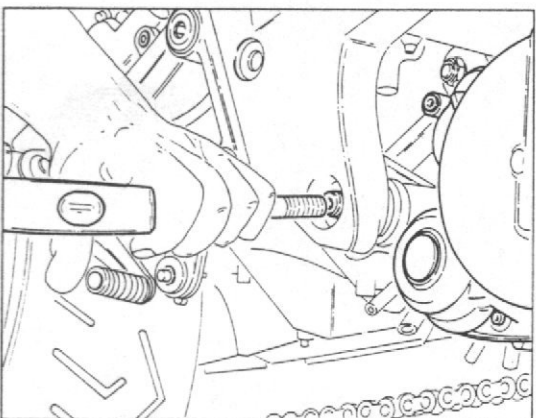
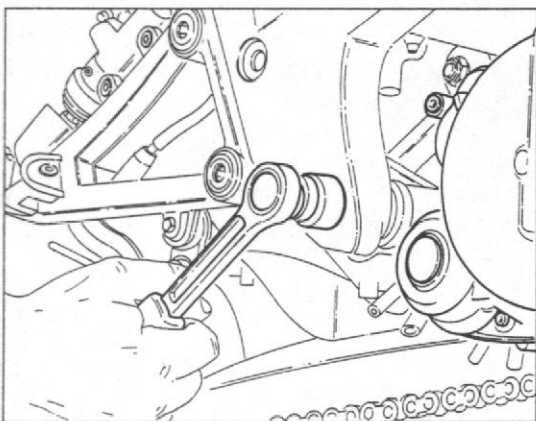
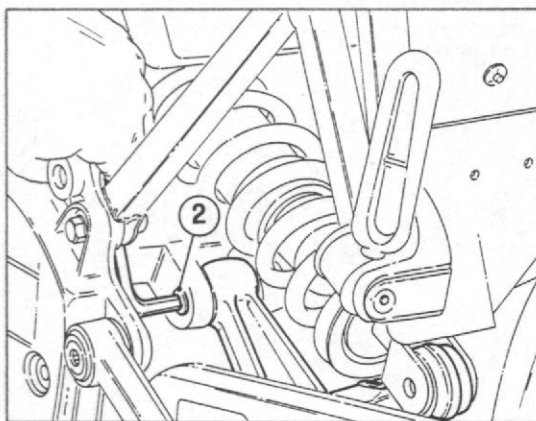
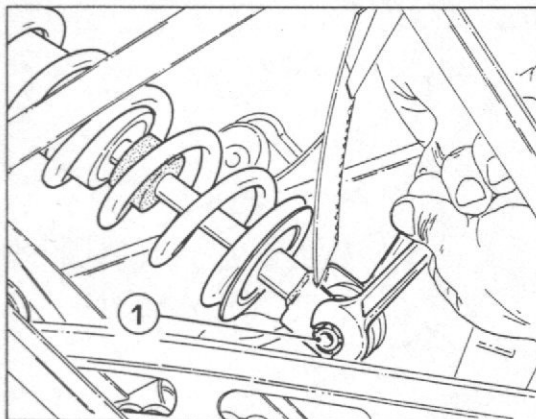
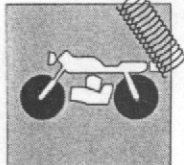
The side figure shows the tooth contour by normal and excessive wear conditions. If the ring gear is too worn, replace it as follows:

- remove the stop ring (A) and extract the ledge washer (B);
- unscrew the five screws (and their nuts inside the flange) which fasten the flexible coupling flange; extract the ring gear.

 **By every ring nut, replace also the pinion and the transmission chain.**



- 1) Normal wear
2) Excessive wear



Rocking fork removal and overhauling.

To remove the fork from its connection to the frame and engine proceed as follows:

- remove the rear wheel as described in the paragraph "Rear wheel removal";
- by means of a 14 mm setscrew wrench, hold the nut and unscrew the lower fulcrum screw (1) of the damper; extract this screw;
- unscrew the screw (2) with a 8 mm setscrew wrench, holding the nut on the opposite side with a 14 mm wrench; extract this screw;
- unscrew the nut on the R.H. side of the fork pin by means of a 22 mm socket wrench;
- make the pin come out and extract the fork together with its leverages.

Check parallelism of the fork pin (see paragraph "Fork pin overhauling") and check by hand the wear state of the needle bushes and the relevant bushings; rotate the bushing inside the bearing; in case any friction or noise is noticed, replace.

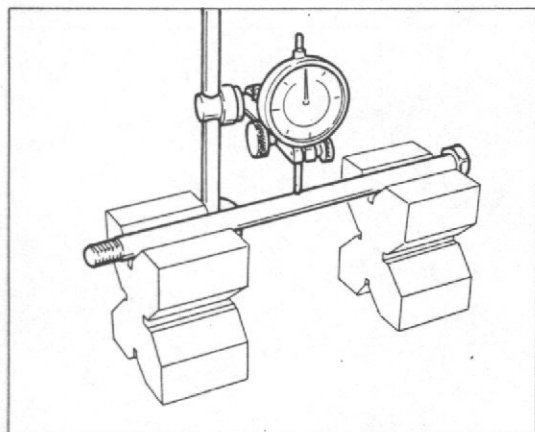
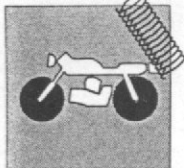
In case of replacement of bearings, fit them in place by means of the suitable pads.



The gaskets and bearings removed must be always replaced.

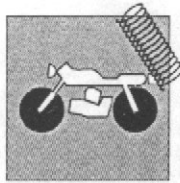


Apply some grease inside the bearings before assembly.



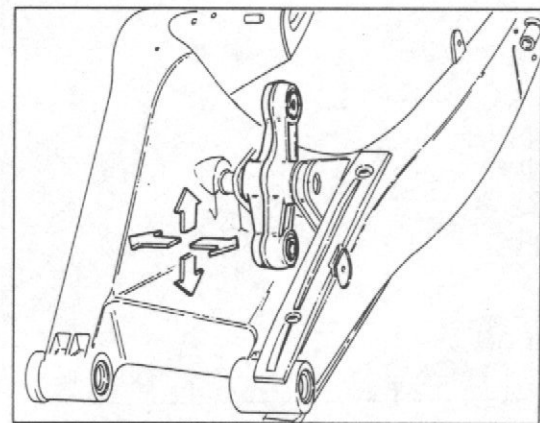
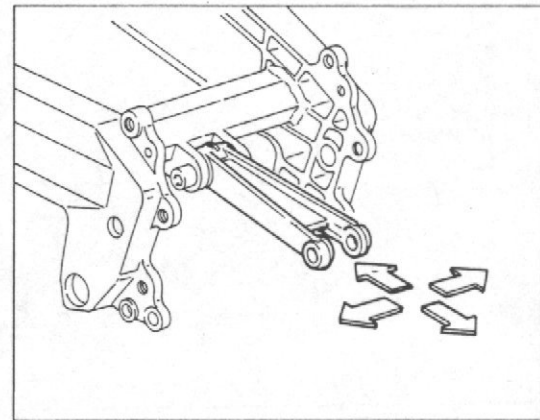
Overhauling the swinging arm pivot pin.

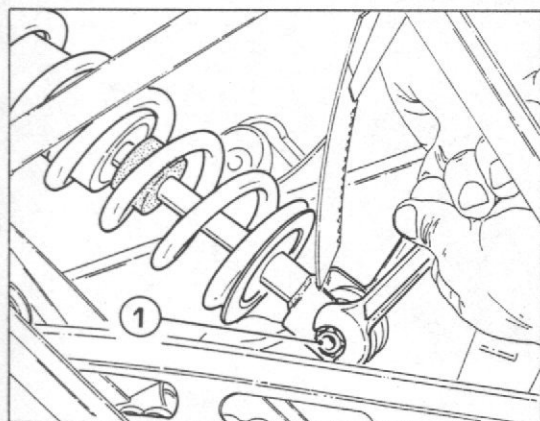
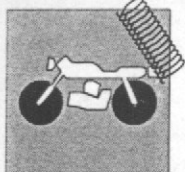
Using a comparator, check the swinging arm pivot pin for distortion. Position the pin on two identical contacts. Rotating the pin and moving it horizontally and take the distortion reading with the instrument; distortion limit: 0.0118 in.

**Overhauling of the connecting rod and of the rear suspension rocker arm.**

With the connecting rod and the rocker arm still mounted on the frame and of the fork respectively, manually check their radial and axial play, pulling these parts in any direction.

The connecting rod and rocker arm have been designed with a certain amount of axial play in order to allow the shock absorber to always find the ideal operating position. If however there is any radial play it will be necessary to remove the component from the fork or frame and carry out a check on the internal spacer of the bearings.

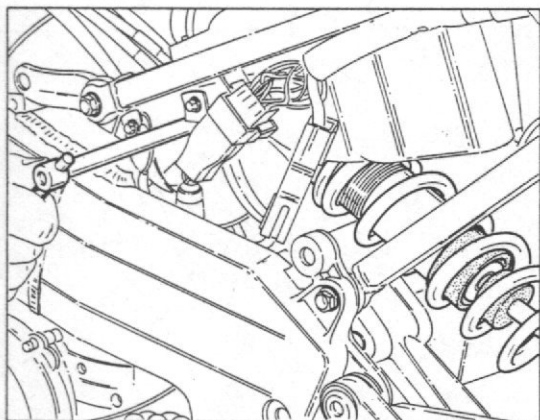


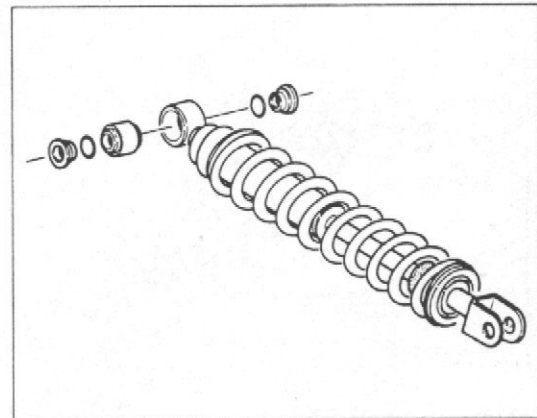
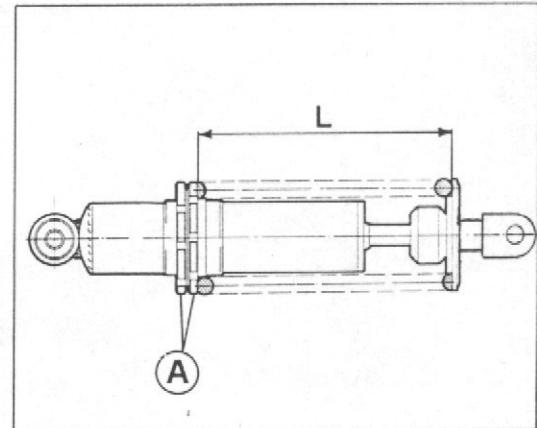
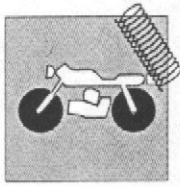


Rear damper removal.

Arrange a support under the engine in order to have the rear wheel raised from ground and proceed as follows:

- by means of a 14 mm setscrew wrench, hold the nut and unscrew the lower fulcrum screw (1) of the damper; extract this screw;
- with a 8 mm setscrew wrench, unscrew the upper fulcrum screw, holding the nut on the opposite side with a 14 mm setscrew wrench;
- remove the damper.





Rear damper overhauling.

Before removing the spring, check its length with the damper assembled; the value (L) detected must be restored upon reassembly.

Spring standard length (L): 7.874 in.

Unloose the two ring nuts (A) until the lower cup can be extracted; extract the cup and the spring.

Check the spring free length: 8.267 in. Service limit: 8.070 in.

Carry out the following checkings:

- check the rod conditions: it must not be damaged or distorted, otherwise replace the damper;
- check any oil leakages: if they are of great extent replace the damper;
- if a too free movement is noticed in both the directions (rebound and compression) when compressing the damper, this means that the internal parts are worn and the damper must be replaced;
- check the wear state of the ball joints: if too much clearance is noticed, they are to be replaced.



The damper contains gas under pressure and must not be opened for any reason.