

# TLM

Nijmegen

## ADDITION & CHANGES TO WORKSHOP MANUAL

V35/V50

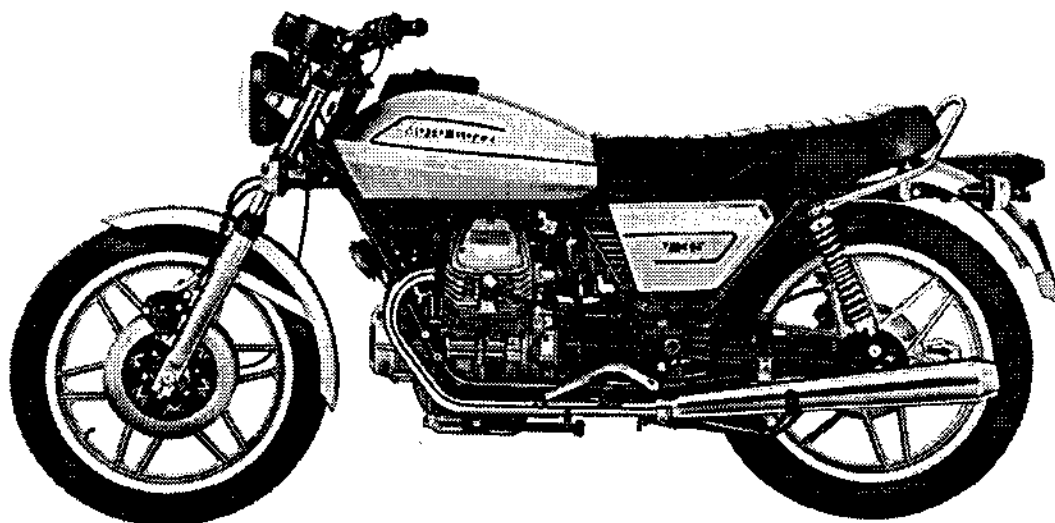
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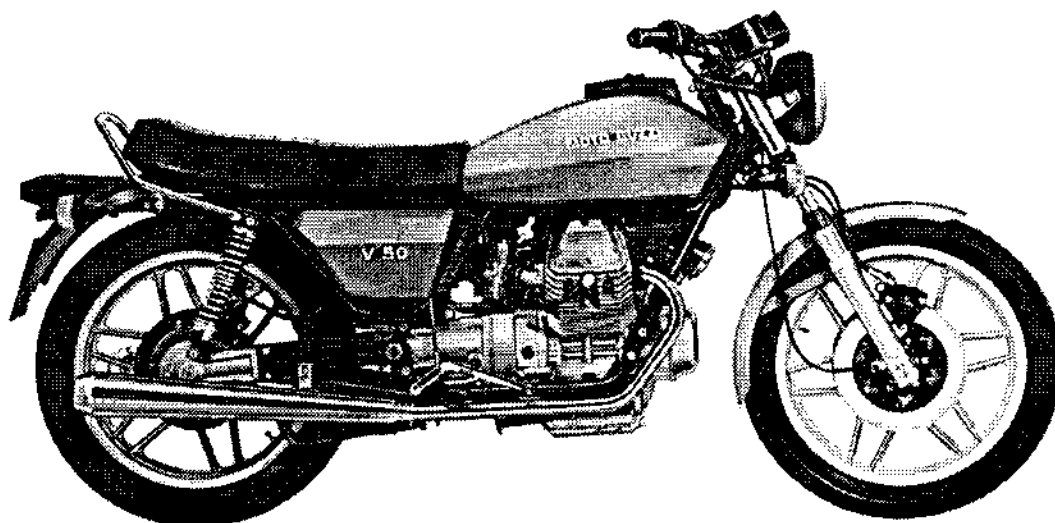
V35/V50/V50II

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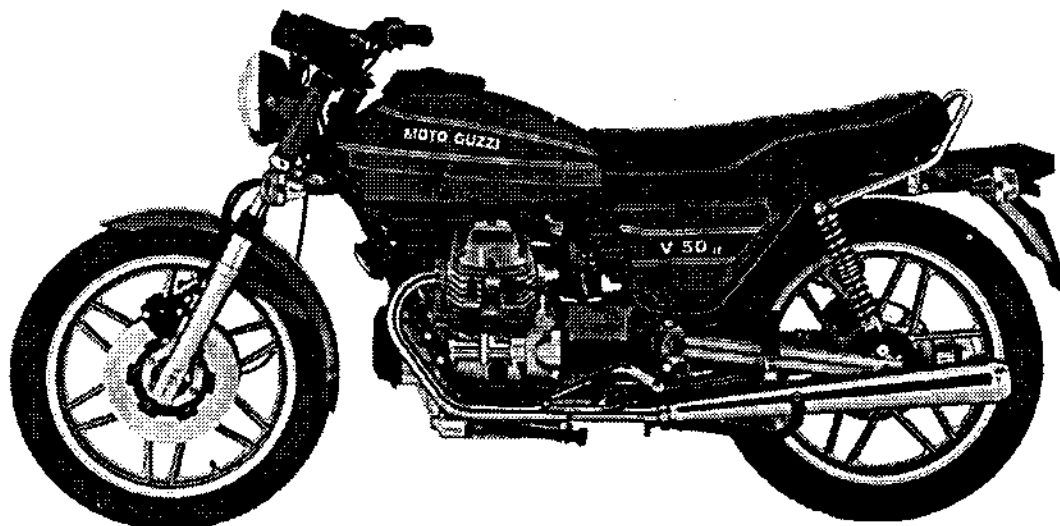




V 35



V 50



V 50 II

# 1 MAIN FEATURES

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## IGNITION

Spark plugs: Lodge 2H LNY.

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## FUEL AND OIL CAPACITIES

Sump: 2.500 l (4.31 US pt - 4.38 imp.pt.) oil «Agip Sint 2000 SAE 10W/50»  
Front and rear braking circuits: fluid «Agip F.1 Brake Fluid SAE J 1703 B».

# 2 MAINTENANCE OPERATIONS

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## 2.8 CONTROLS AND INSTRUMENTS

**Panel board** (fig. 10)

- 1 Speedometer
- 2 Speedometer zero reset
- 3 Rev-counter
- 4 Ignition key:

«OFF» In line with panel mark «C»: machine stationary, key removable (no contacts).

«A» In line with panel mark «C» (turned clockwise): machine ready to be started. All circuits «ON». Key not removable.

«B» In line with panel mark «C» (turned clockwise): machine at standstill. With switch «A» of fig. 5 in position «O» parking light «ON». Key removable.

5 Warning light (green «Neutral»). Lights up only when the gearbox is in neutral.

6 Warning light (green), left turn signals.

7 Warning light (green), indicating parking lights on.

8 Warning light (red), oil pressure gauge. Goes out when oil pressure is sufficient for normal engine lubrication. If it does not, it means that the oil pressure is not correct and in such an event the engine should be immediately stopped and all circuits checked over.

9 Warning light (blue), indicating high beam on.

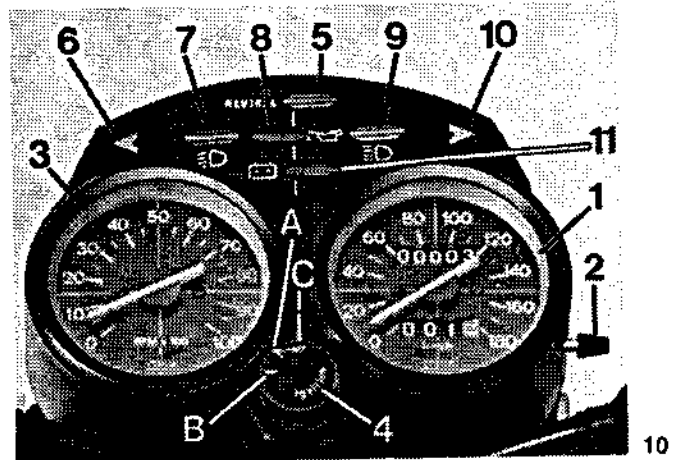
10 Warning light (green), right turn signals.

11 Warning light (red), indicating current delivery from generator. It should go out when the engine has reached a certain number of revolutions.

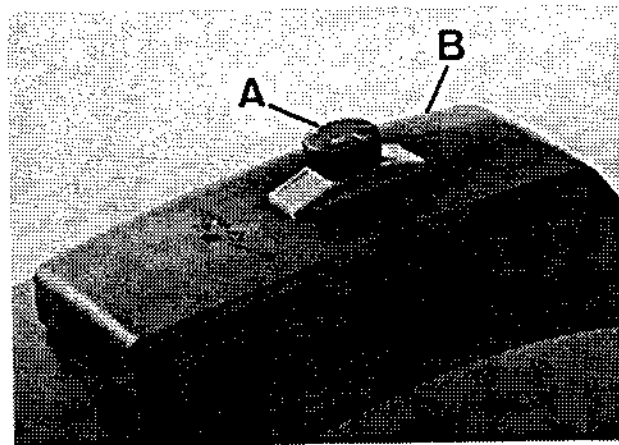
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### 2.16 FUEL FILLER CAP (fig. 15)

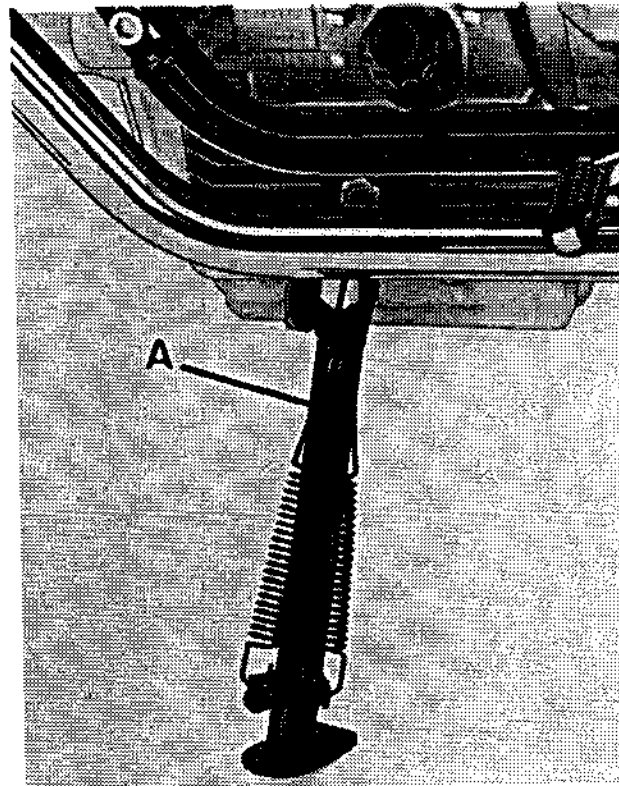
To access to filler cap «B» it is necessary to turn key «A» on the protection cover counterclockwise, then the cover and cap can be raised.



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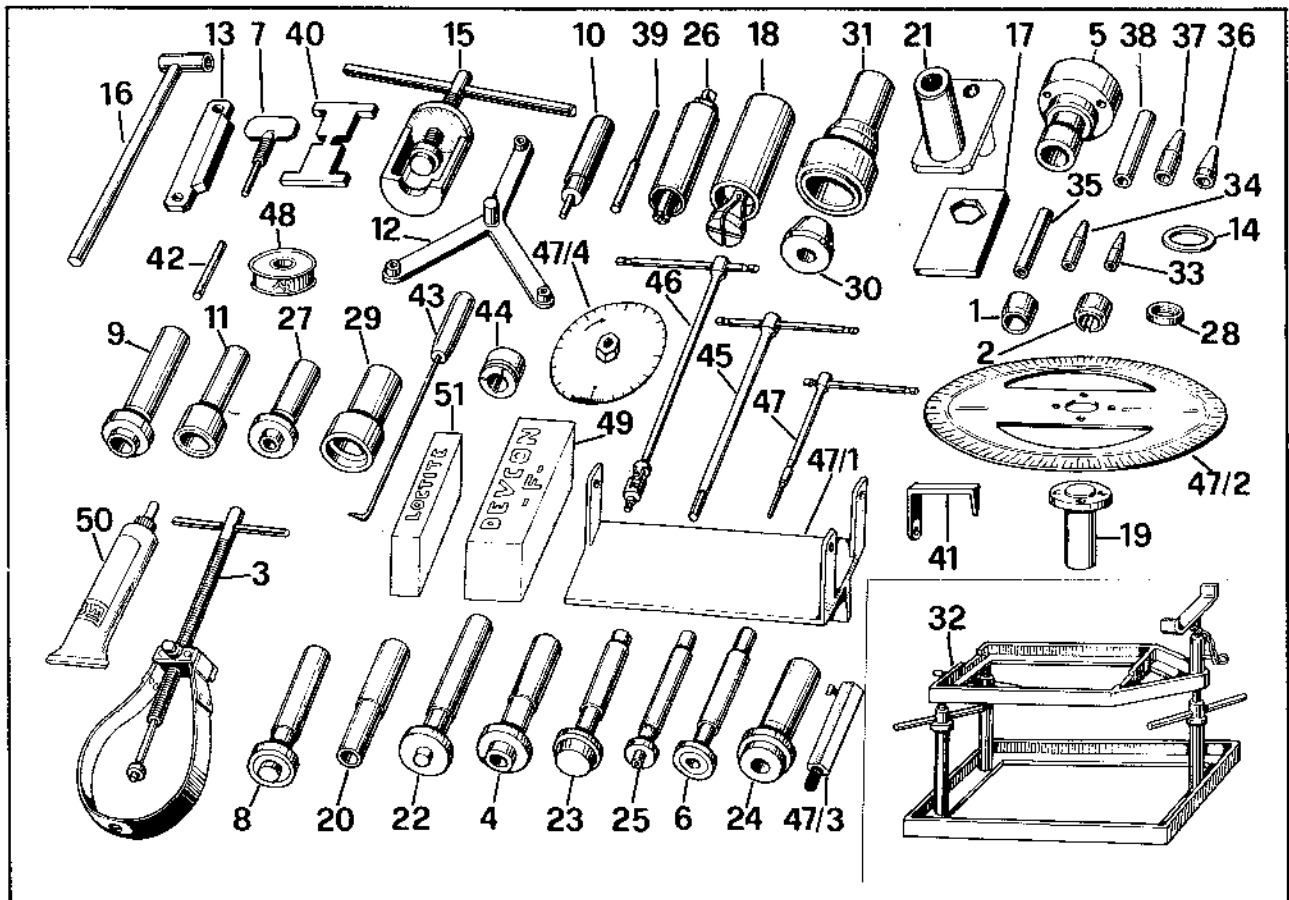
### 2.22 SIDE STAND («A» of fig. 21)

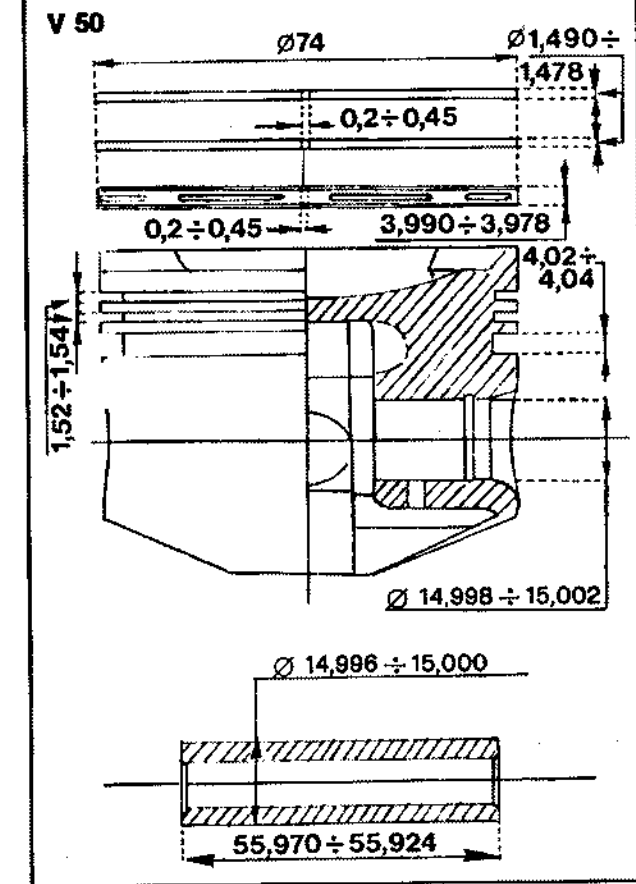
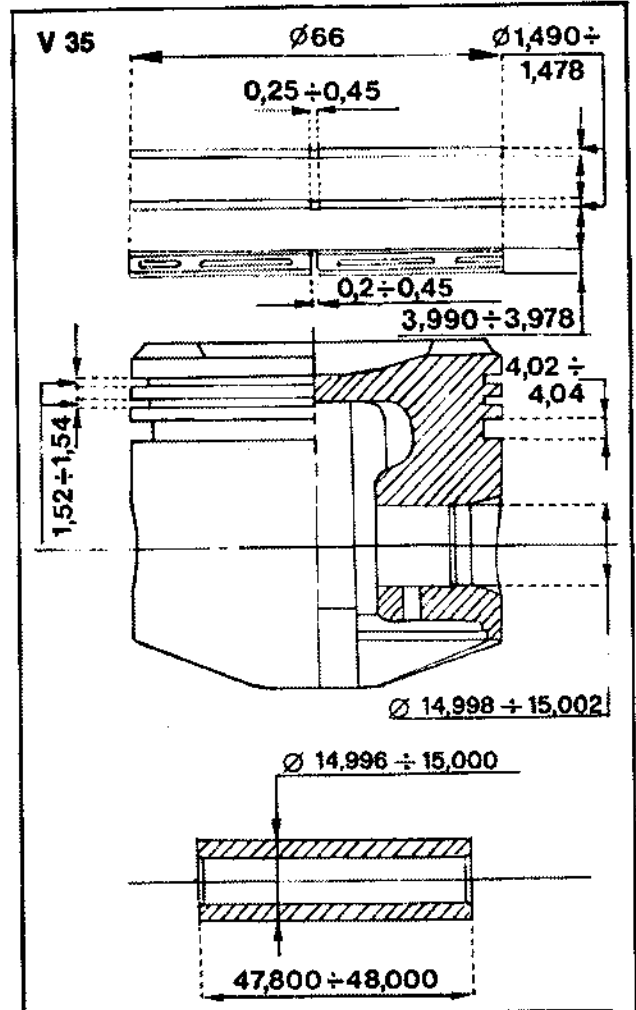
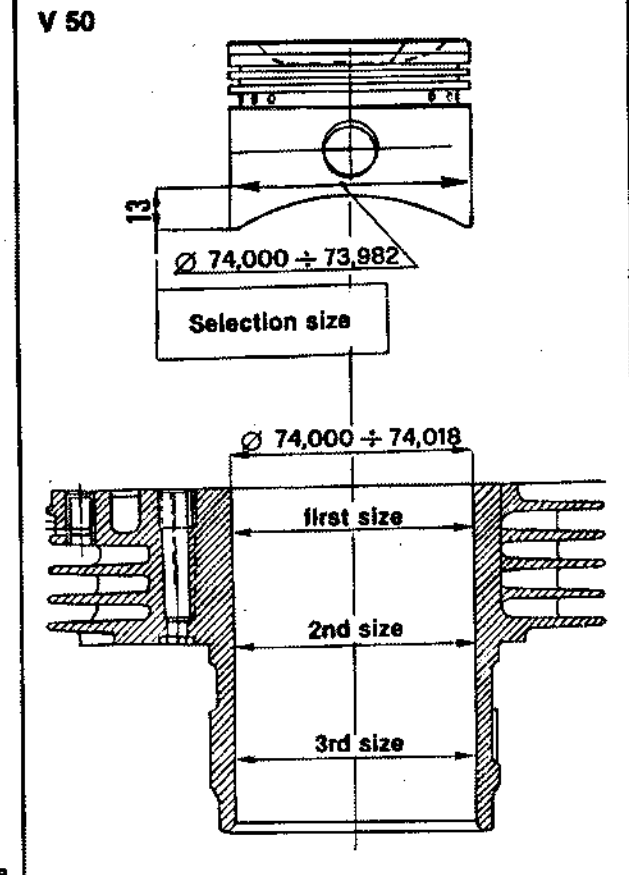
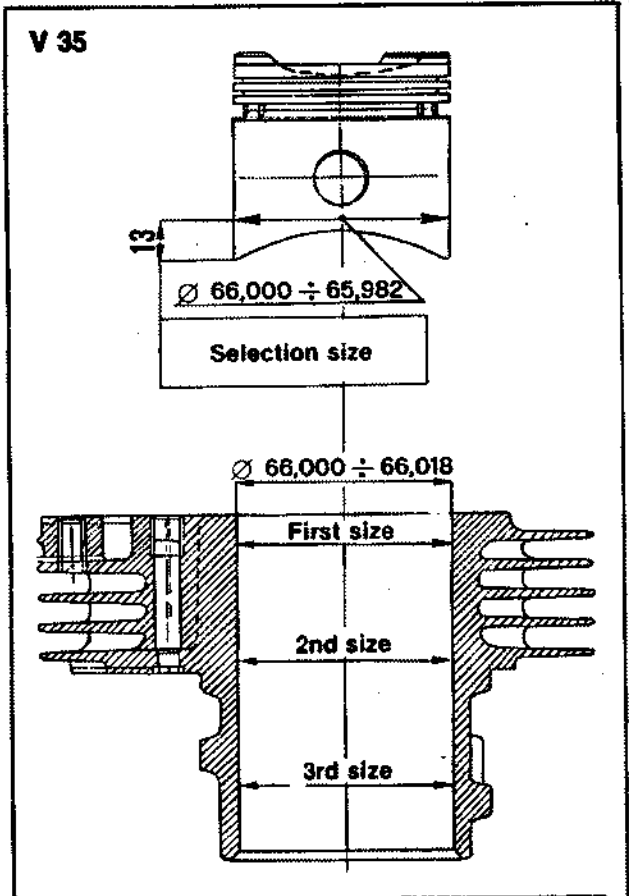
The bike is equipped with a side stand with 2 return springs.

**4** SPECIFIC WORKSHOP TOOLS

Page 23-24

POS	PART. N.	DESCRIPTION
33	18 92 66 00	Tool, toroidal seal assembly on floater of master cylinder for right front brake.
34	18 92 65 00	Tool, lip seal mounting on R/H front brake master cylinder floater.
36	14 92 66 00	Tool, toroidal seal assembly on floater of rear and left front brake master cylinder.
37	14 92 65 00	Tool, lip seal mounting on L/H front and rear brake master cylinder floater.
42	14 90 66 00	Pin, generator rotor removal.
47/3	17 94 82 60	Support for dial gauge.
47/4	14 92 74 00	Timing plate.





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**Selection of piston diameter - V 35**

CLASS «A»	CLASS «B»	CLASS «C»
65.982 to 65.988	65.988 to 65.994	65.994 to 66.000

**Selection of piston diameter - V 50**

CLASS «A»	CLASS «B»	CLASS «C»
73.982 to 73.988	73.988 to 73.994	73.994 to 74.000

Class «A-B-C» pistons must be matched with cylinders of same class.

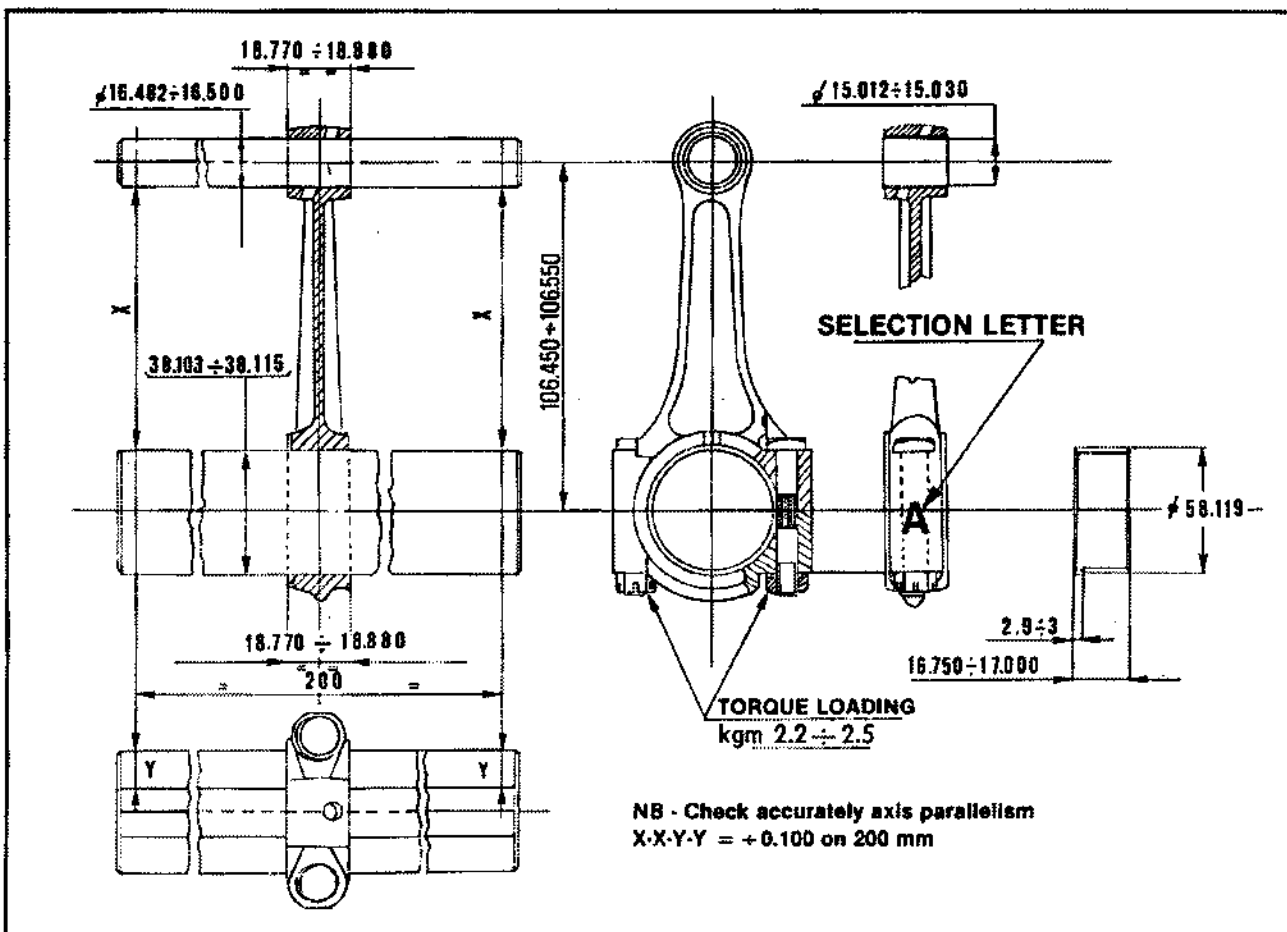
**Matching data - Gudgeon pin-piston hole clearance (see dwg fig. 46)**

O/D of pin mm	Piston hole dia. mm	Negative allowance and interference fit on ass. y
14.996 to 15.000	15.002 to 14.998	From a clearance of 0.006 mm (0.002") to an interference fit of 0.002 mm (0.00007")

«Gudgeon pin selection» and «Piston hole selection» tables of page 33 are no longer valid.

**Selection of con-rod Page 36**

CLASS «A» BLUE COLOUR MARK ON STEM	CLASS «B» WHITE COLOUR MARK ON STEM
38.103 to 38.109	38.109 to 38.115



## 6 LUBRICATION

Page 47 and 49

### c Re-fitting

Changed quantity of oil from 2.250 l. to 2.500 l. (from 5.8 US Pt - 4½ Imp pt to 5.31 US pt - 4.38 Imp pt).

## 7 CARBURATION

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### 7.7.a AIR FILTER AND BREATHER UNIT (fig. 86)

This group consists of:

- A** Wing nut securing filter carrier to retaining housing
- B** Washer for wing nut
- C** Filter carrier
- D** Seal for breather body and filter body
- E** Retaining housing
- F** Filter
- G** Breather body
- H** Bottom plate
- I** Breather body sleeve
- L** Bottom plate gasket
- M** Inner tube

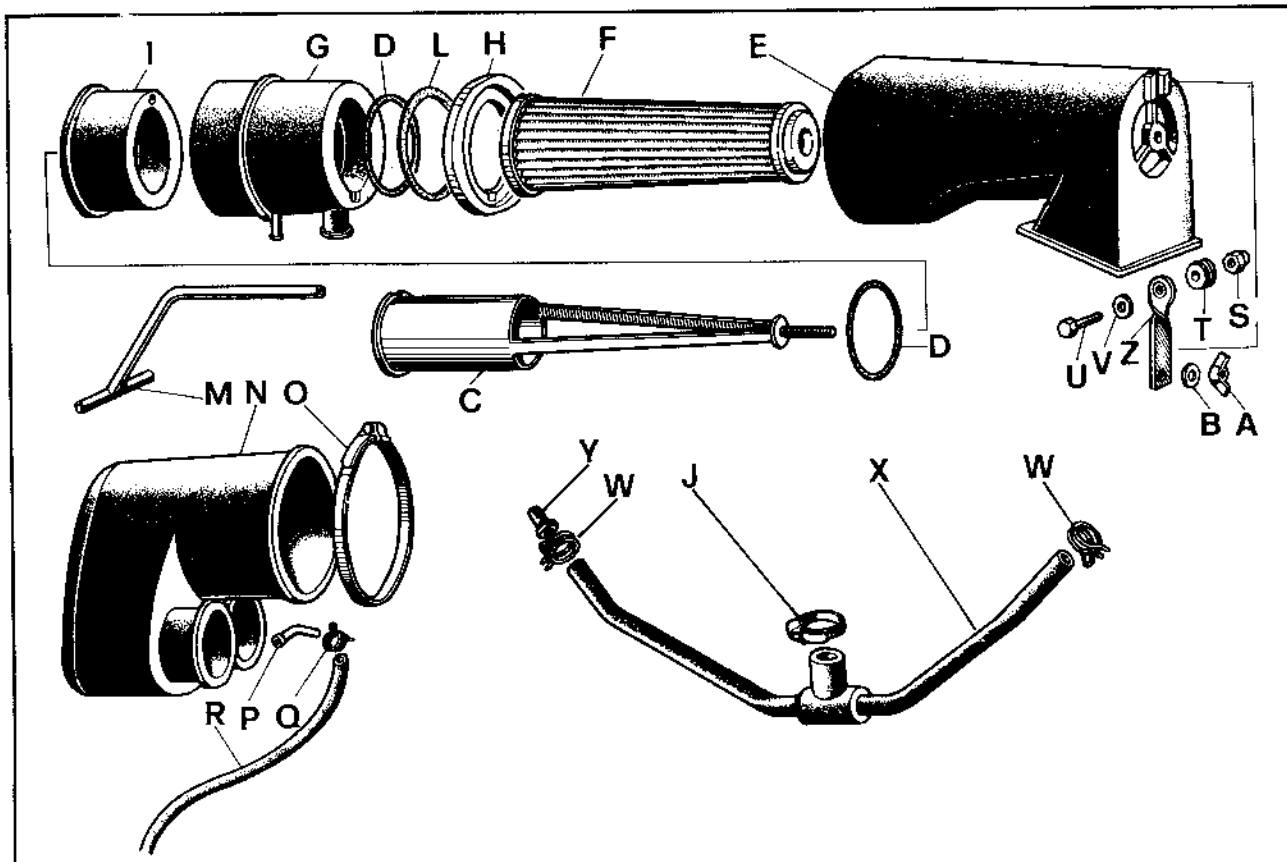
- N** Carburettor sleeve
- O** Securing strap
- P** Pipe connection on breather
- Q** Securing clip
- R** Breather pipe
- S** Retaining nut
- T** Grommet
- U** Retaining screw
- V** Washer
- Z** Plate
- W** Securing clip
- X** Oil recovery pipe
- J** Securing strap
- Y** Pipe union in heads.

### b Removing the filter cartridge (fig. 86)

For this operation proceed as follows:

- Lift up the saddle by the aid of the special lever.
- Remove the side covers, battery and fuel tank.
- Remove R/H carburettor together with the inlet pipe and rubber sleeve.
- Remove from pipe connection «P» breather pipe «R».
- Undo the screw of securing strap «O» and from breather body «G» take out carburettor sleeve «N».
- From breather body «G» and head covers remove the oil recovery pipe «X».
- Undo wing nut «A» with washer «B» paying attention to the assembly order of all components.

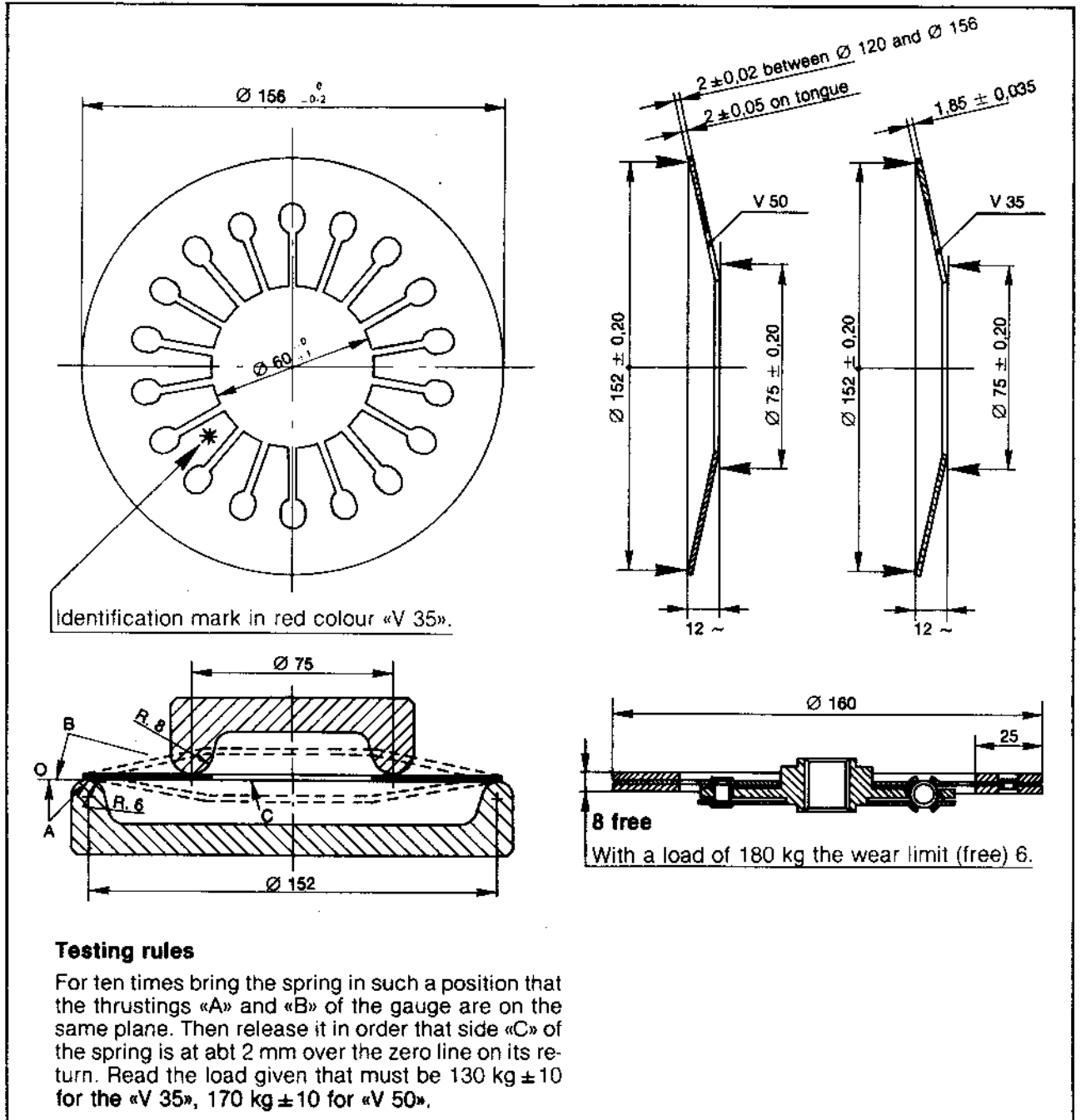
For the re-assembly reverse the disassembly operations.





## 8 CLUTCH

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### Testing rules

For ten times bring the spring in such a position that the thrustings «A» and «B» of the gauge are on the same plane. Then release it in order that side «C» of the spring is at abt 2 mm over the zero line on its return. Read the load given that must be  $130 \text{ kg} \pm 10$  for the «V 35»,  $170 \text{ kg} \pm 10$  for «V 50».

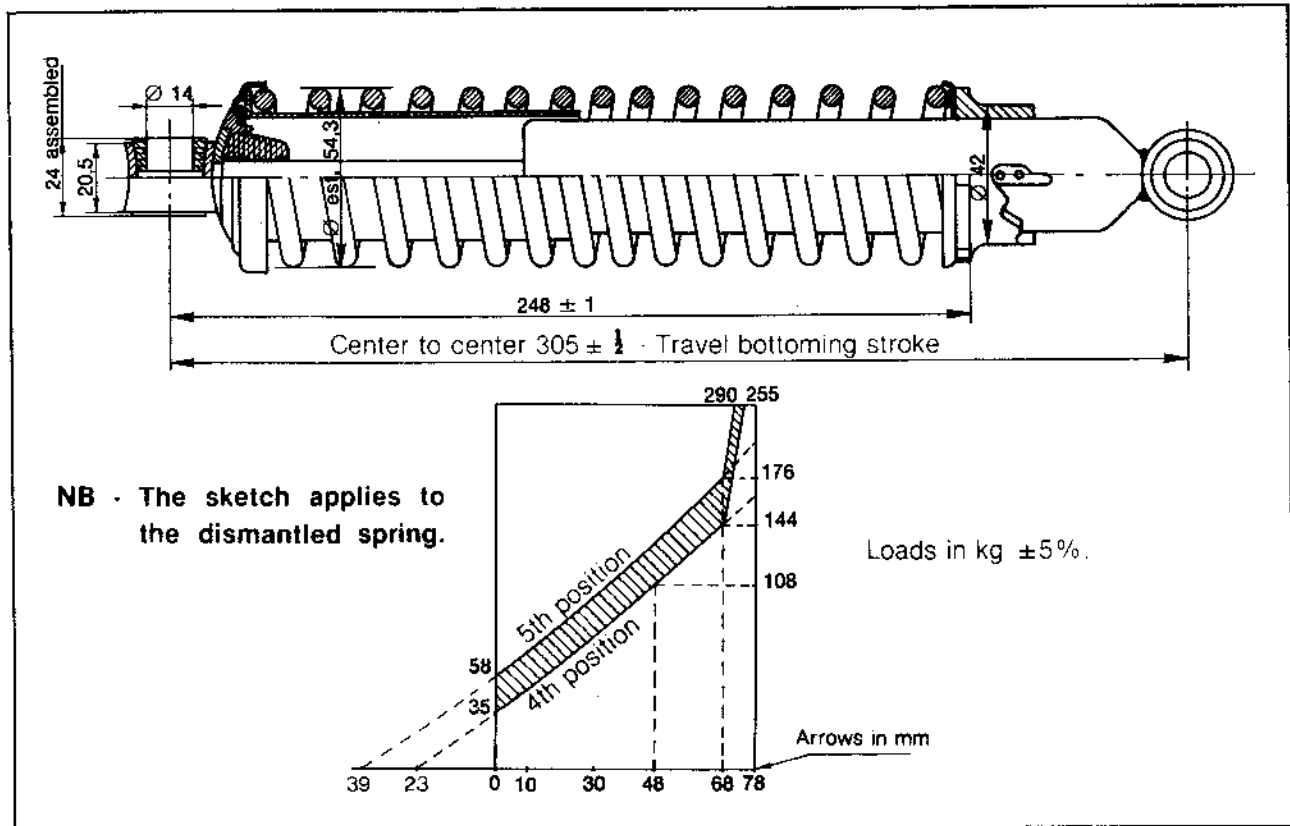
# 13 FRONT FORK

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- Rod diameter:  
— this diameter is 31.690 mm - 31.715 mm (1.2476 - 1.2486").
- Diameter of fork slider  
— the inside diameter of the slider is 31.750 - 31.790 mm (1.25 - 1.2515").
- Tube-slider assembly clearance 0.040-0.100 mm (.00157-.0039").

# 14 REAR SUSPENSION

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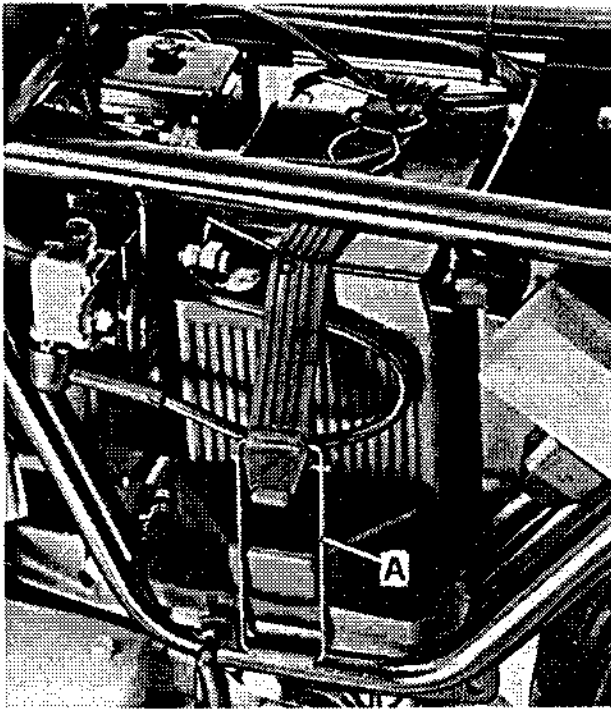


## 17 ELECTRICAL EQUIPMENT

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### 17.1 BATTERY

Fig. 163 shows the correct positioning of the battery.



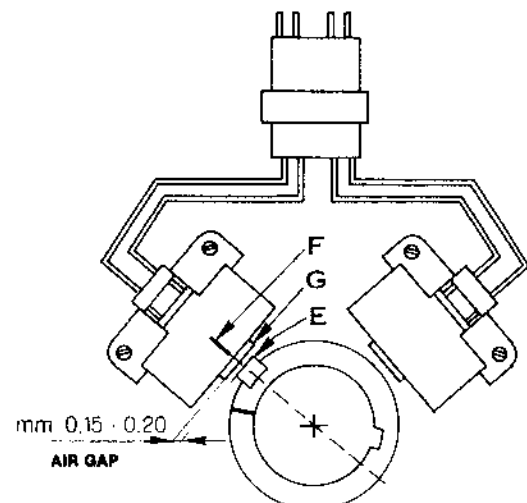
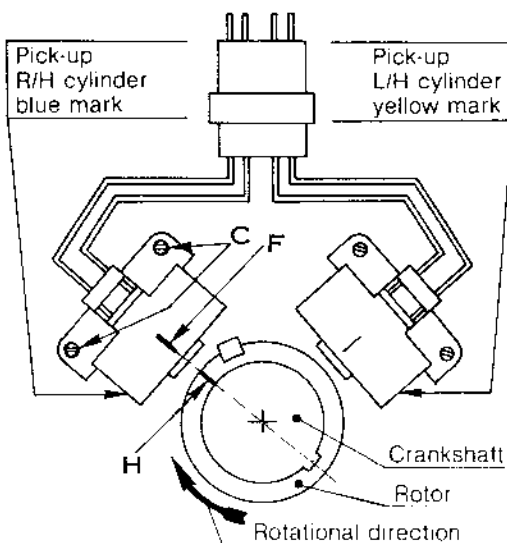
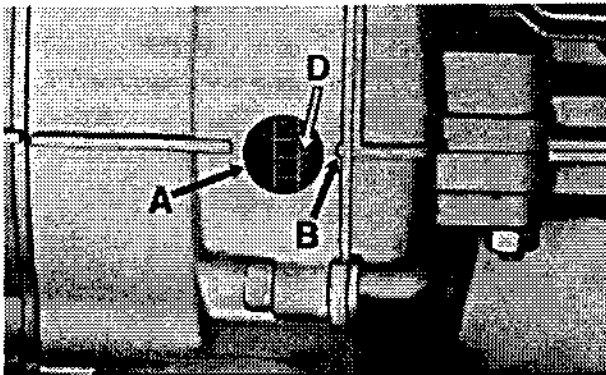
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### d Manual adjustment of ignition timing

For the above adjustment operate as follows:

- 1 Undo the screws and remove the generator cover.
- 2 Remove the stator of generator; undo the generator rotor securing screw; in the screw hole introduce pin part n. 14 90 66 00 (42 of fig. 28), screw in again the generator screw and remove the rotor from crankshaft.
- 3 Remove the pick-up cover and rubber ring on crankshaft.
- 4 Remove rubber cap from inspection hole «A» of fig. 168. Remove the spark plug of R/H cylinder and revolve the crankshaft till where by looking through inspection hole «A» of fig. 168 letter «D» on the flywheel is in the middle of said hole «A» (right piston at TDC).
- 5 The R/H cylinder ignition is correct if mark «F» on the pick-up is perfectly aligned with mark «H» on the crankshaft control sleeve. If not aligned, it is necessary to shift the pick-up after loosening screws «C» to obtain the alignment of marks «E» and «H».
- 6 Revolve the crankshaft in a direction opposite the normal running direction and ensure that the center line of rotor block «E» is perfectly aligned with the mark on pick-up «F».
- 7 Insert feeler gauge blade between block «F» and the pick-up metal tips «G»: the recommended gap is 0.15-0.20 mm (0.0059-0.0078").



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8 If the gap is not as specified, restore it by loosening pick-up screws and suitably shifting it. Repeat the controls as specified at point «5».

9 The procedure for checking ignition timing for the left cylinder is the same as for the right cylinder except that the crankshaft has to be rotated until letter «S» is seen through inspection hole «A» (fig. 168/1), the L/H cylinder piston at TDC. In this position mark «L» on the left pick-up to be in line with mark «H» on the rotor sleeve. Finally re-check the clearance as indicated at points «6» and «7».

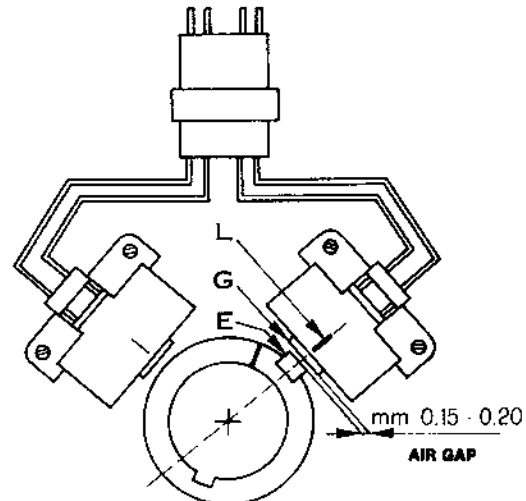
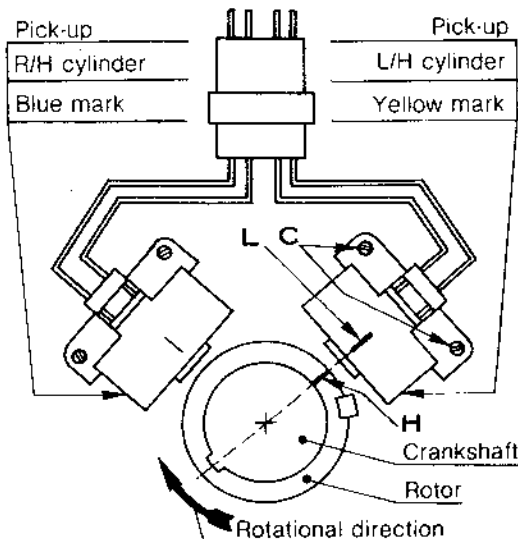
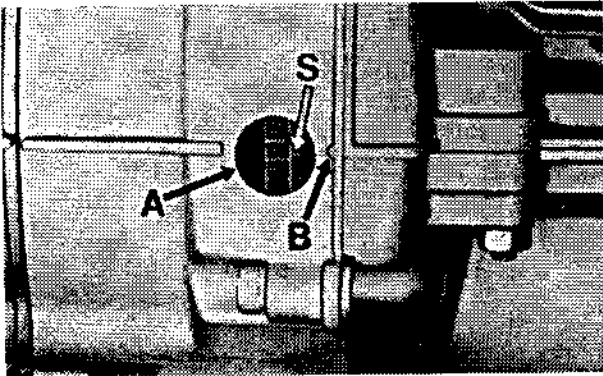
At the end of the adjustment re-assemble all the parts inverting the dismantling sequence.

**NB - The right pick-up has a blue mark; the left pick-up has a yellow mark.**

### e Adjusting ignition timing by the aid of a special tool

Operate as from point 1 to 3 in previous chapter, proceed then as follows:

- Remove rubber cap from inspection hole «A» in fig. 168/1. Remove the L/H cylinder spark plug and revolve the crankshaft til the piston is in TDC position; in this condition mark «S» on the flywheel is in the middle of mark «B» of inspection hole «A».
- Remove the crankshaft sleeve (rotor) and introduce the special tool code 19 92 80 00 (44 of fig. 169); undo the pick-up screws and shift them to obtain the correct alignment of mark «B» with mark «A» on the special tool.
- Ensure that the tool-pick-up clearance is nil as it is already contemplated on the tool.
- Remove the tool, fit the rotor and with feeler gauge «B» (fig. 170) ensure that the gap is as recommended at point «6» and «7» of the previous chapter.

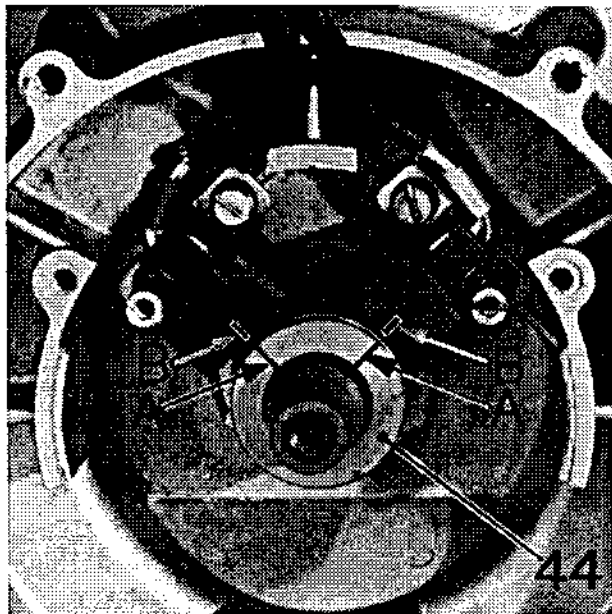


### 17.8 CHECKING IGNITION TIMING USING A STROBE LAMP

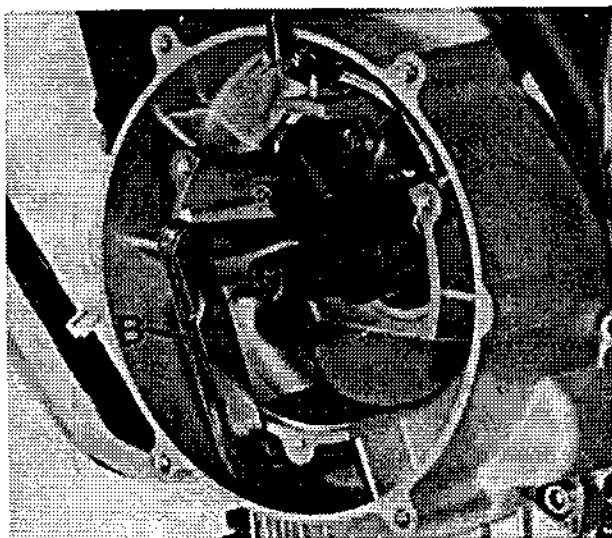
The main purpose of using a strobe lamp «E» of fig. 172 for this check is to ensure that the electronic boxes and especially the automatic advance (max) are correctly timed. For the above operation proceed as follows:

#### a Checking timing of the R/H cylinder (fig. 172)

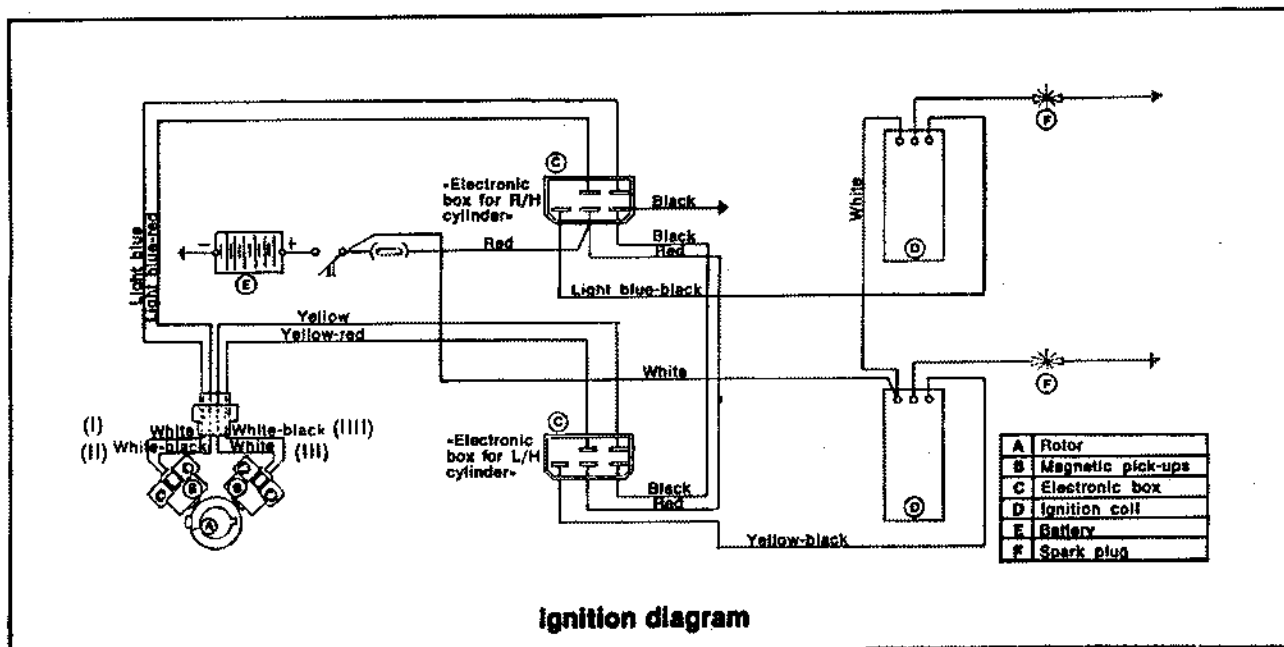
- 1 Undo the screws and remove generator cover.
- 2 Remove rubber cap from inspection hole «A».
- 3 Disconnect R/H cylinder spark plug cable, remove the spark plug and screw the support for the dial gauge part n.17 94 82 60 (47/3 of fig.172) in the
- 4 Revolve the crankshaft in the riding direction till the dial gauge indicates that the R/H cylinder piston is at TDC; zero set the dial gauge «F».
- 5 On the timing cover fit index arrow part 19 92 81 00 (51 of fig. 72) by means of a screw.
- 6 Undo the rotor retaining screw on crankshaft, and fit timing plate part 14 92 74 00 (47/4 of fig. 172) using the appropriate screw. Before tightening the screw ensure that arrow «G» indicating the zero of timing plate is in line with index arrow «I». Check through the inspection hole «A» that mark «D» is in line with reference «B», that the timing plate is on «O» position and that the dial gauge indicates that the piston is at TDC.
- 7 Remove the dial gauge with its support, fit the spark plug and plug cable.
- 8 Connect cable «B» of strobe lamp «E» with spark plug cable.
- 9 Connect strobe lamp cables with clamps «C» and «D» to battery terminals («+» to «+»; «—» to «—»).
- 10 Start the engine, run it up to its normal operating temperature, gradually increase the speed up to 5000-5500 rpm. Direct the strobe lamp beam «E» on index arrow «I» checking that this is in line with arrow «H» on timing plate (max advance 34°). If references «H» and «I» are not in line with the indicated engine speed check and if necessary replace the electronic boxes.



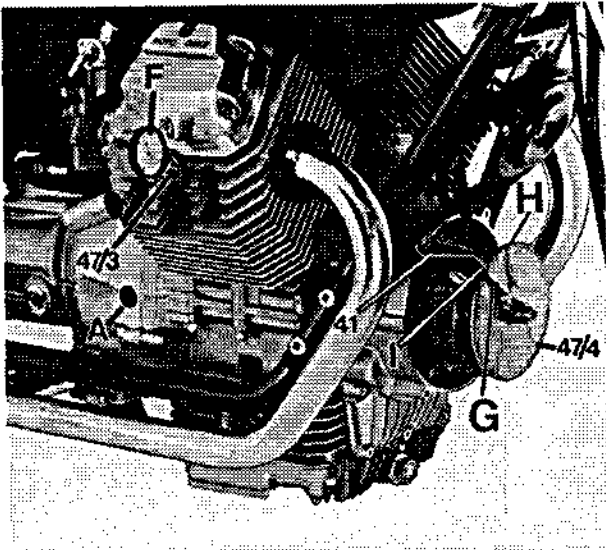
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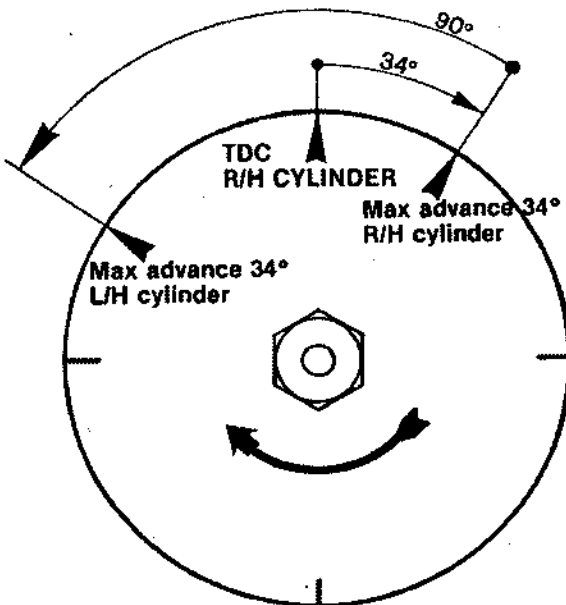
**b Checking timing of the L/H cylinder**

Proceed exactly as for the R/H cylinder except for the following:

**11** Move by 90° in anticlockwise direction arrow «H» of timing plate to indicate the max advance position (34° before TDC) of L/H cylinder (see drwg in fig. 172).

**12** Connect cable «B» of strobe lamp to the spark plug cable of L/H cylinder and carry out the checking indicated at point «10».

**13** If references «H» and «I» are not in line with the stated engine speed check and if necessary replace the electronic box.



**c Ignition data**

Advance:

- max advance 34° at 5000-5500 rpm.
- gap between rotor block and pick-up probes (on timing cover): 0.15-0.20 mm (0.0059-0.0078").

**d Spark plug**

Recommended spark plug brands are:

- Marelli CW 9 LP
- Bosch W 260 T 30
- Champion N 6 Y
- Lodge 2 H L N Y

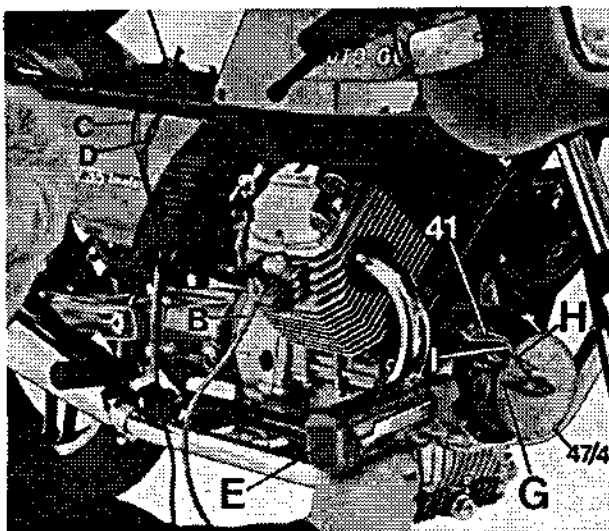
Points gap: 0.6 mm (0.023").

**17.9 ELECTRIC EQUIPMENT**

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**e Bulbs (12 V)**

- Town light-parking light 4W («C» of fig. 173).



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