

USE MAINTENANCE  
AND CONSUMER INFORMATION

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**grande**



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**PIAGGIO**

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Fig. 1 - GRANDE Model with blinkers

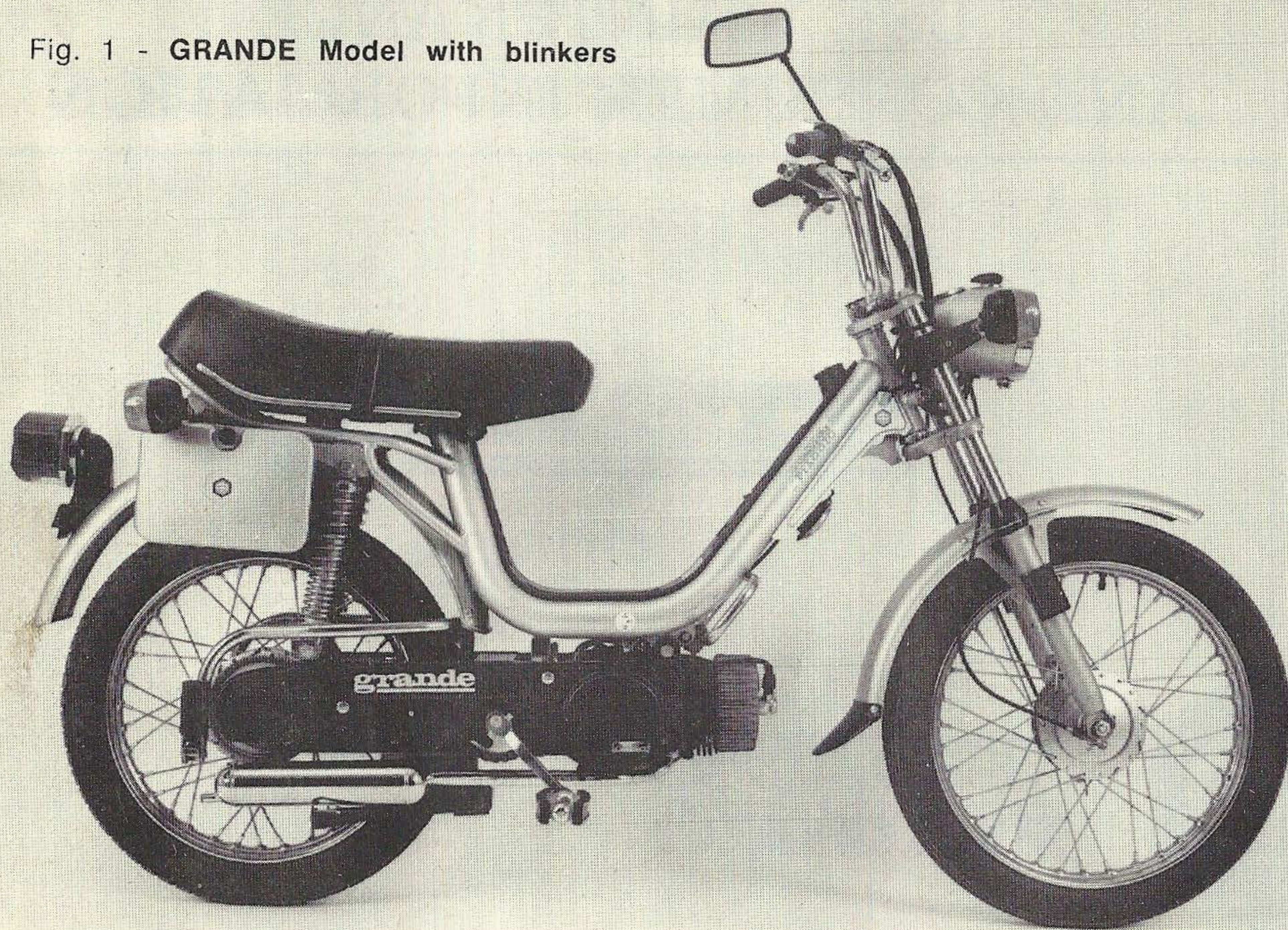
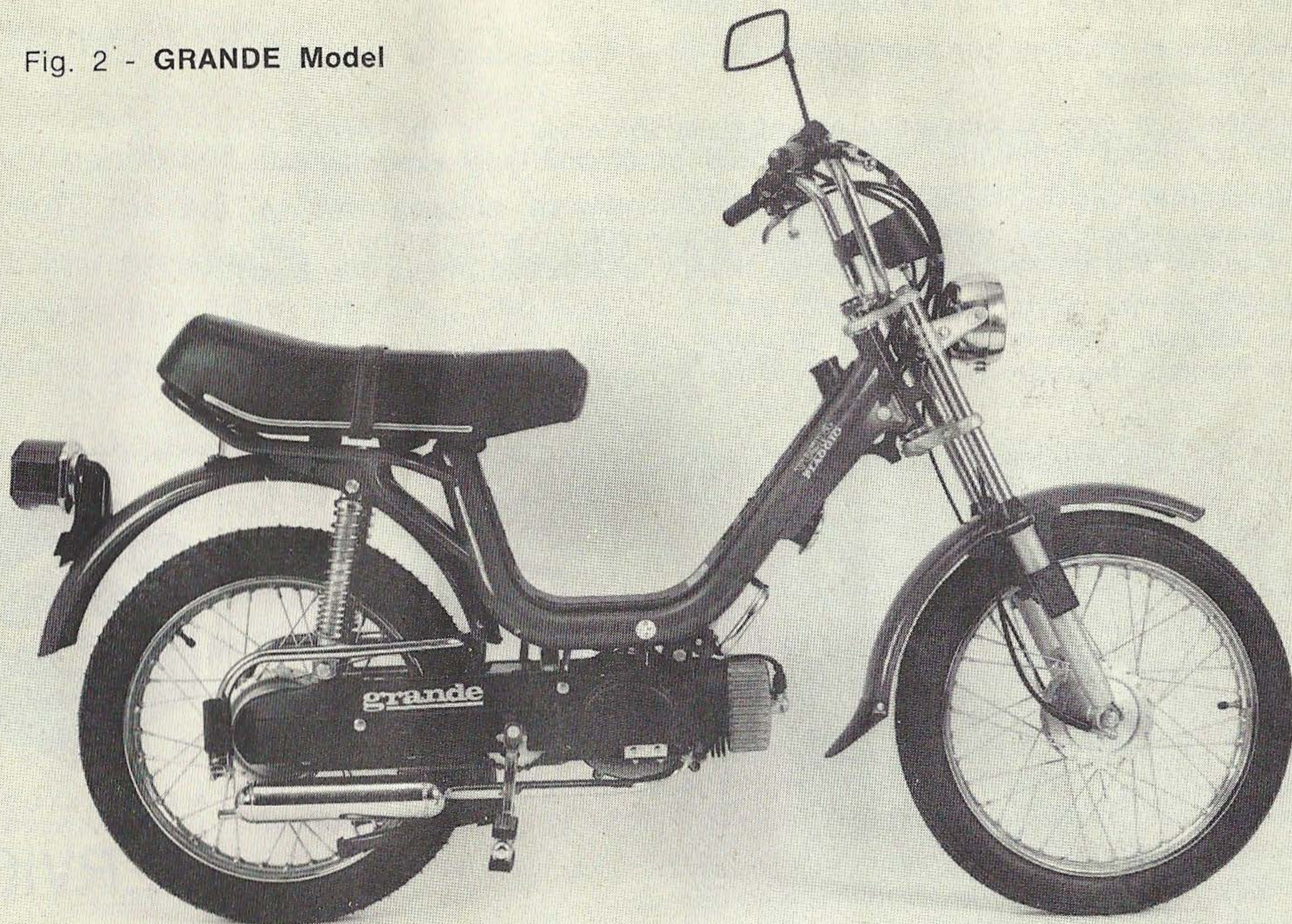




Fig. 2 - GRANDE Model





Welcome to the fraternity of « **PIAGGIO** » riders!

We would like to express our appreciation for your choice, and to thank you for your preference.

Your GRANDE is one of our most recent developments. It is the result of the most advanced techniques, and the product of our long experience.

This means that you own a brand new, carefully tested, elegant machine, full of power, which will give you lots of enjoyment. We recommend you carefully follow the instructions contained herein in order to obtain the best results.

This way, you will come to know your GRANDE and will enable you to appreciate its technical features by using it in the correct manner.

## NOTE

We recommend that you always entrust your dealer to maintain your GRANDE in perfect condition and to fully benefit from the guarantee given in your purchase contract.

You will easily recognize them from the trade mark PIAGGIO.

Original Piaggio spare parts are made from the same material as the original parts on your GRANDE. They have been made in the same way, and they have been tested in the same way. This guarantees longer life, maximum efficiency and a safer machine.

We therefore recommend you to demand only original PIAGGIO spare parts.





## STEERING LOCK

To lock handlebar, turn it fully to the left side, turn the key anti-clockwise at the same time pressing it. Remove the key. To release handlebar turn the key anti-clockwise then clockwise.

The key can be withdrawn when the handlebar is in the unlocked position.

*Carefully record the key number of your machine as without this you will be unable to obtain replacement keys should the occasion arise.*

## NOTE

**Before refuelling, slacken the air breather, located at the rear of the frame, beneath the saddle.**

**After the refuelling, re-tighten the valve.**

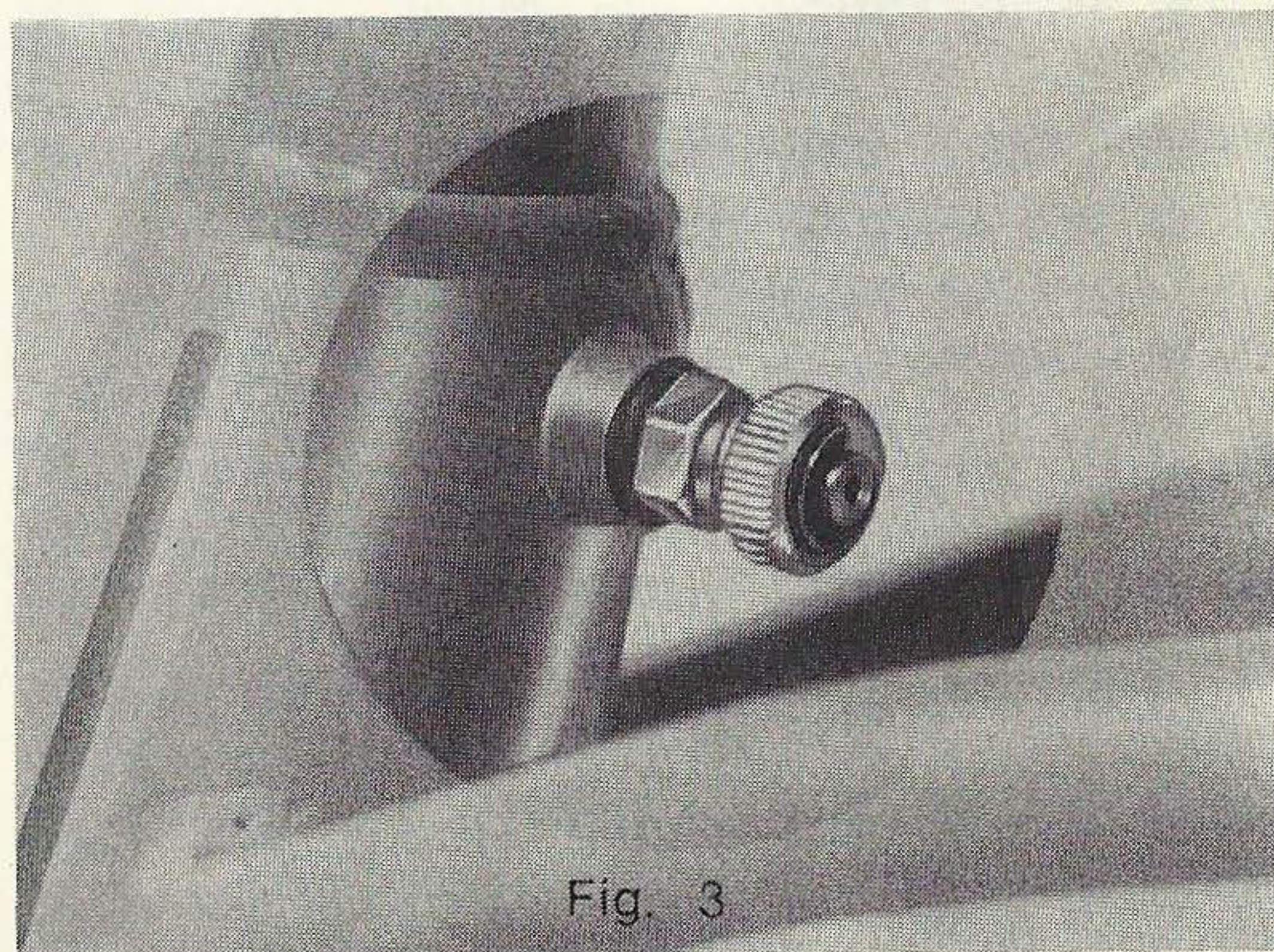


Fig. 3



## PERFORMANCE AND GENERAL CHARACTERISTICS

**Operation with 2% pure SAE 30 oil mixture.**

**Fuel consumption:** (CUNA standards) 140 mpg. approx.

**Max. speed:** conforming to highway code

**Fuel tank range:** 105 miles approx.

**Petrol tank capacity:** 3/4 gallon (including 1/8 gallon reserve) (GB)

**Wheelbase:** m. 1,13

**Overall width:** m. 0,67

**Overall height:** m. 1,07

**Overall length:** m. 1,73

**Curb weight:** Kg. 59

**Version with blinkers** Kg. 64

**Carrying capacity:** 2 persons

**Engine:** two stroke, rotary valve induction.

**Number of cylinders:** one

**Cylinder bore:** 38.2 mm.

**Piston stroke:** 43 mm.

**Piston displacement:** 49.3 cu. cm.

**Compression ratio:** 8 : 1

**Ignition:** flywheel magneto ignition with H.T. coil

**Spark plug:** Marelli CW 4 N-AT or Bosch W 95 T 1 or Champion L 90 and AC 45 F

**Ignition advance:** 19° before T.D.C.



878-0135

Gear with automatic speed variator, which selects automatically the engine wheel ratio most suitable for the prevailing driving conditions.

The GRANDE is provided with rear suspension « hydraulic » shock absorbers which controls the movement of the engine wheel unit which pivots in the frame.

The drive from engine to wheel is by means of an automatic variator, expanding pulleys, vee belt, automatic clutch and reduction gear.

The vehicle is provided with auxiliary drive to the rear wheel, with pedals, gearing, roller chain and sprocket.

## **VEHICLE:**

**Frame:** cold drawn and welded steel tubes

**Front suspension:** telescopic fork

**Brakes:** internal expanding type on both wheels

**Wheels:** tangent spoke wheels with steel rims

Front 17" type WM 0/1.5

Rear 16" type WM 0/1.5

## **Tyres:**

Front  $2\frac{1}{2}$  x 17"  
or 2.50 x 17" ribbed

Rear  $2\frac{3}{4}$  x 16"  
or 2.75 x 16" universal



**Tool kit:** two box spanners (17/19 - 19/21) one open end spanner (10/13), one screwdriver and one Tommy bar for box spanners.

The tool kit is contained in a plastic bag located, together with this book, in a container under the saddle.

### **ELECTRICAL SYSTEM** (see fig. 4-7)

It is comprised of the following equipment:

- four poles, 6 V - 18 W flywheel magneto with coil
- headlamp (95 mm. diameter) with 6 V - 15 W bulbs for town light and anti-dazzle light
- tail lamp with reflector and 6 V - 3 W rear light bulb
- 6 V approx. A.C. electric horn
- light switch fitted on handlebar

### **VERSION WITH BLINKERS**

- Battery
- Light switch on headlamp
- Turn signal switch

## **IDENTIFICATION DATA**

Each vehicle has an identification number stamped on both frame and engine. Engine number stamped on right side of crankcase.

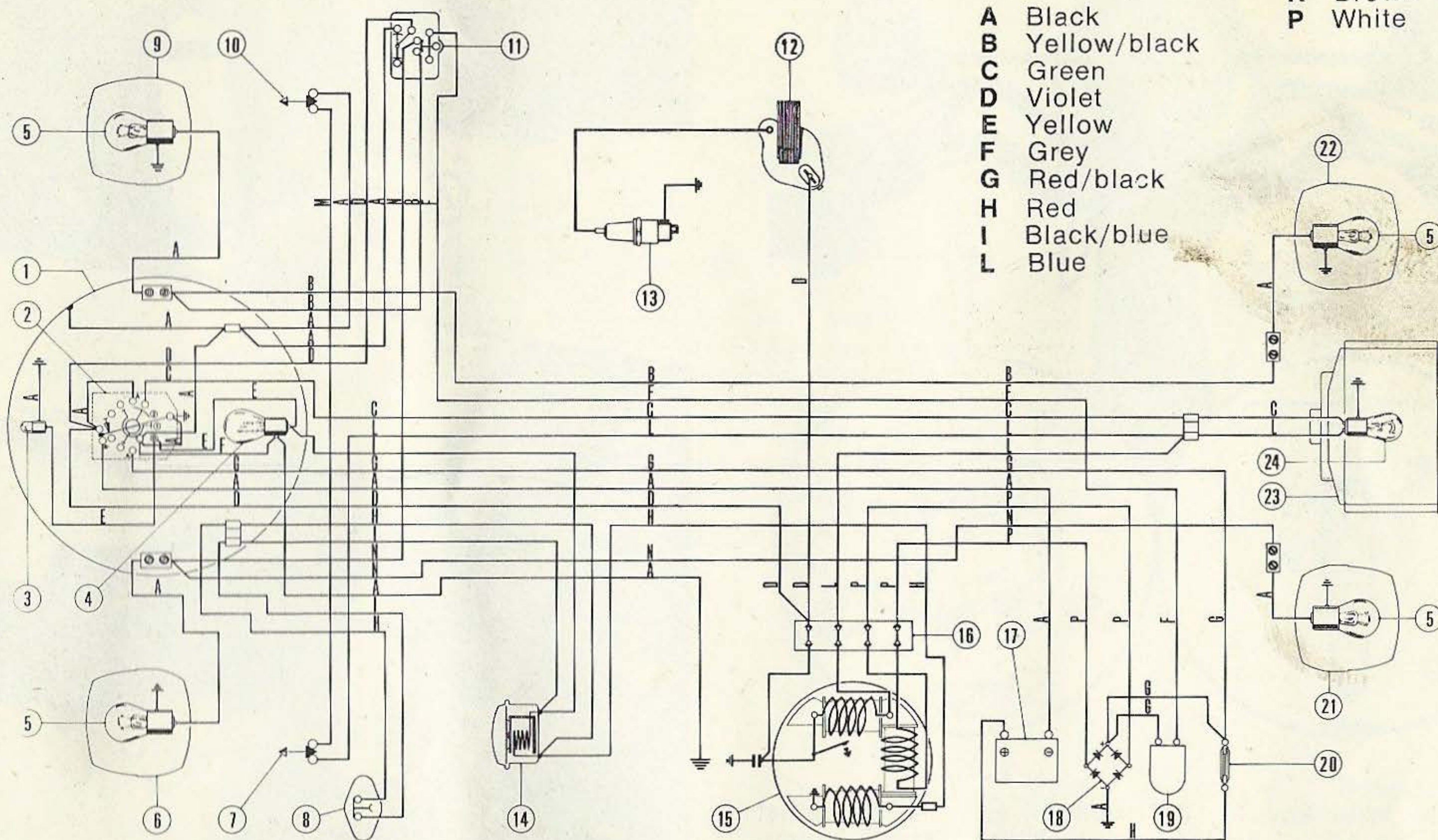
Frame number stamped on off-side of headstock.

### **THESE NUMBERS MUST ALWAYS BE QUOTED WHEN ORDERING SPARE PARTS**

The frame number is required for legal identification of the vehicle and it is recorded on the vehicle registration documents.



Fig. 4 - WIRING DIAGRAM WITH BLINKERS



1. Headlamp - 2. Ignition and light switch - 3. Bulb 6V-0,6W - 4. Bulb 6V-20W - 5. Bulb 6V-21W - 6. Left turn signal (front) - 7. Rear stop switch - 8. Horn button - 9. Right turn signal (front) - 10. Front stop switch - 11. Supplemental engine stop / turn signal control - 12. H.T. coil - 13. Spark plug - 14. Horn - 15. Flywheel magneto - 16. Wiring board - 17. Battery - 18. Rectifier - 19. Flasher unit - 20. Fuse - 21. Left turn signal (rear) - 22. Right turn signal (rear) - 23. Tail lamp - 24. Bulb 6V-3/15W.



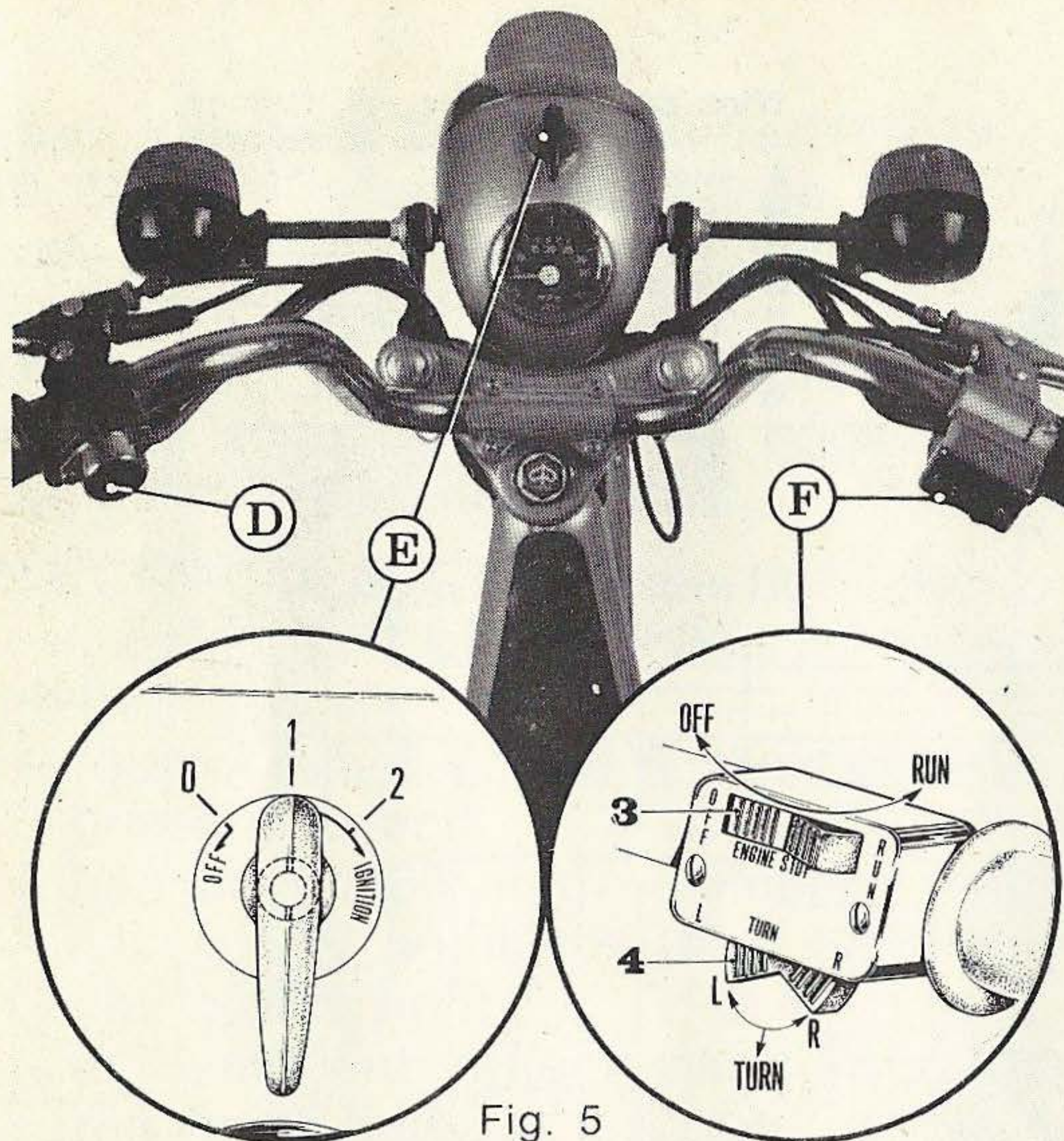


Fig. 5

- D** Horn button  
**E** Switch: **With key in:** 0 - Ignition out - turn signal lamps on; 1 - Ignition, turn signal lamps, battery charging, and horn on; 2 - Ignition, turn signal lamps, horn, headlight, tail light on (with engine running). Only tail light on (with stopped engine). **With key out:** 0 - Ignition out (all lights off)  
**F** Engine stop / Turn signal switch  
 3 - Engine stop; 4 - Turn signal switch

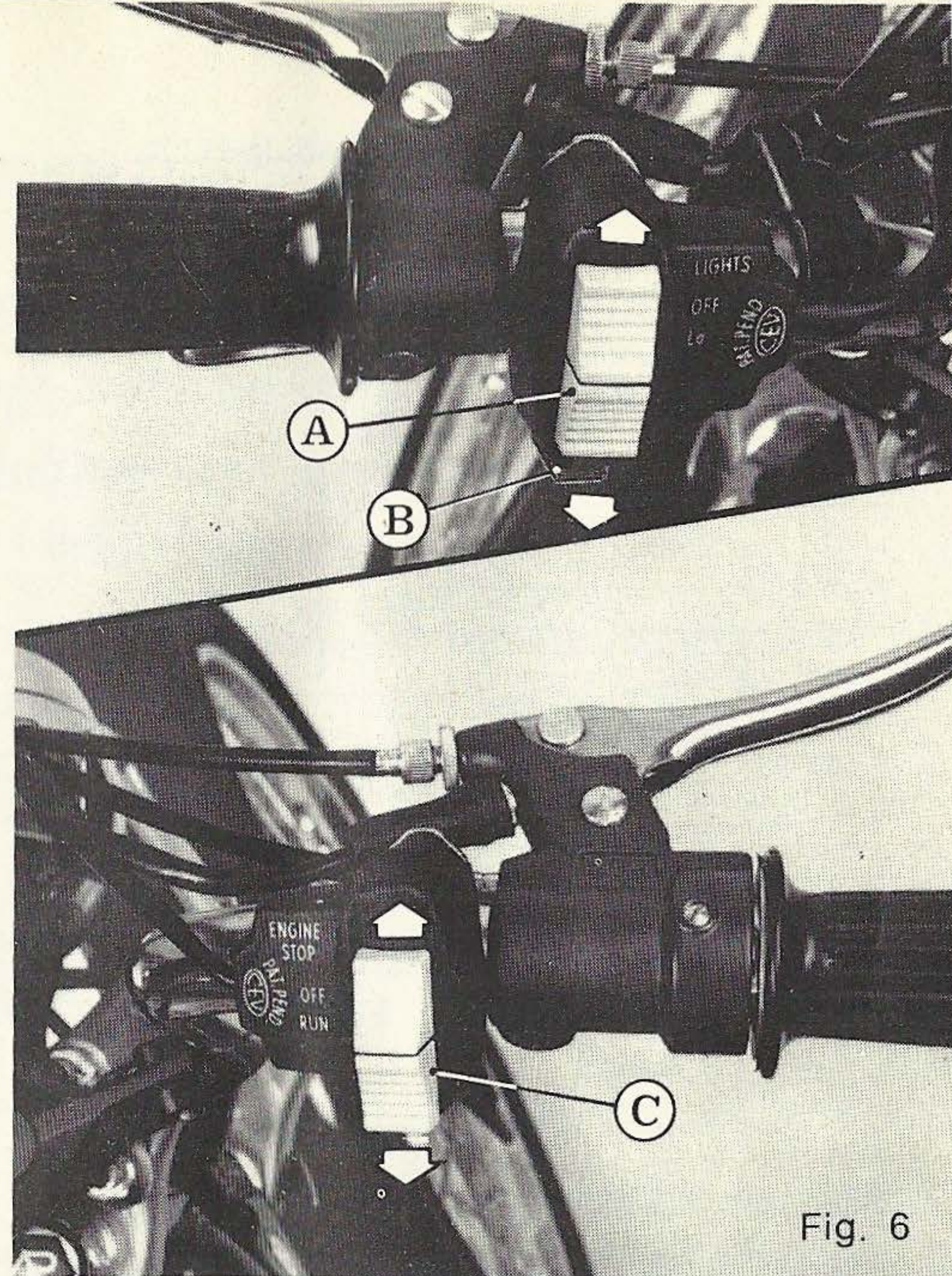


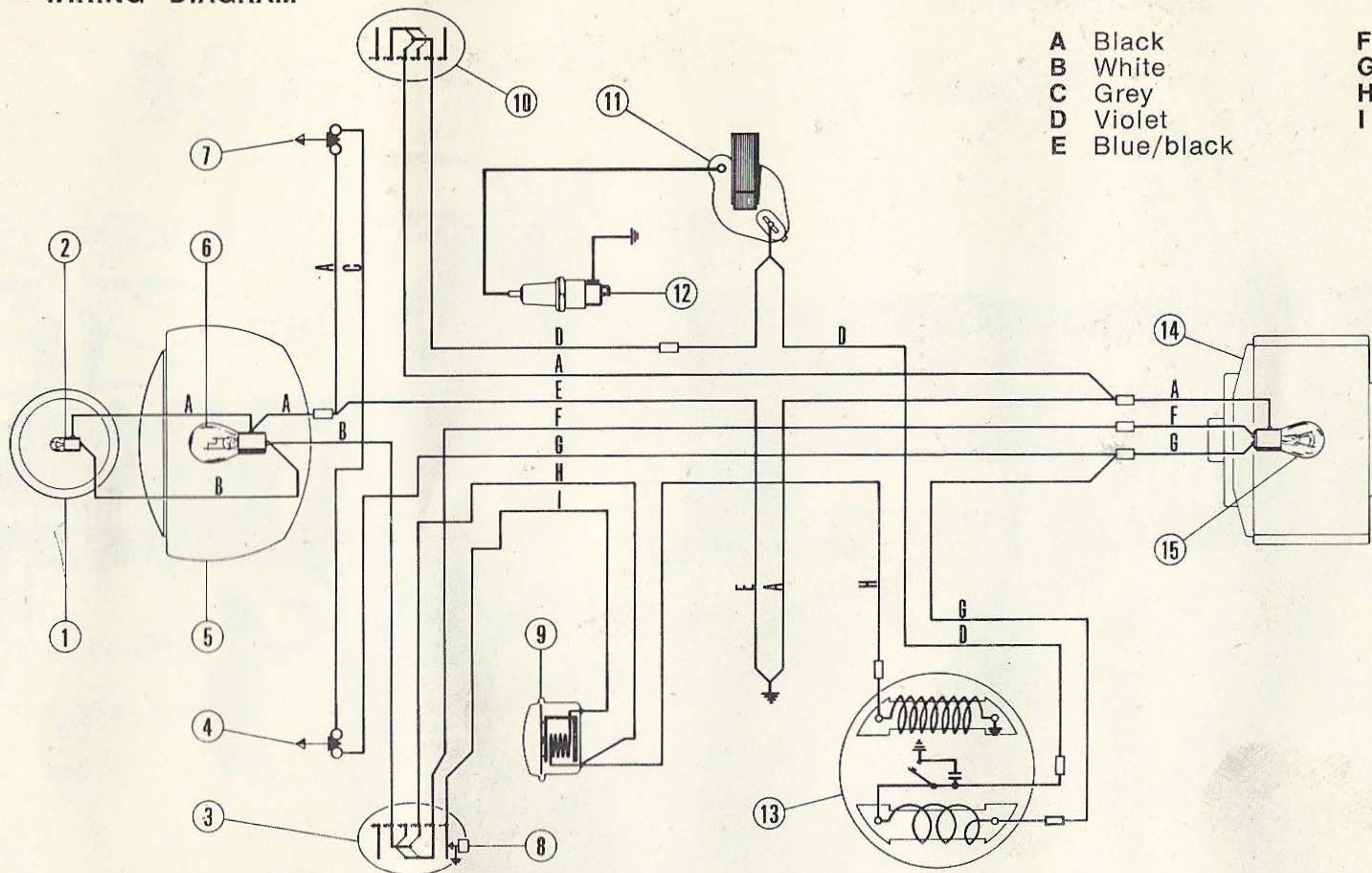
Fig. 6

Without blinkers

- A** Lights switch (off/lo)  
**B** Horn button (horn)  
**C** Engine stop (off/run)



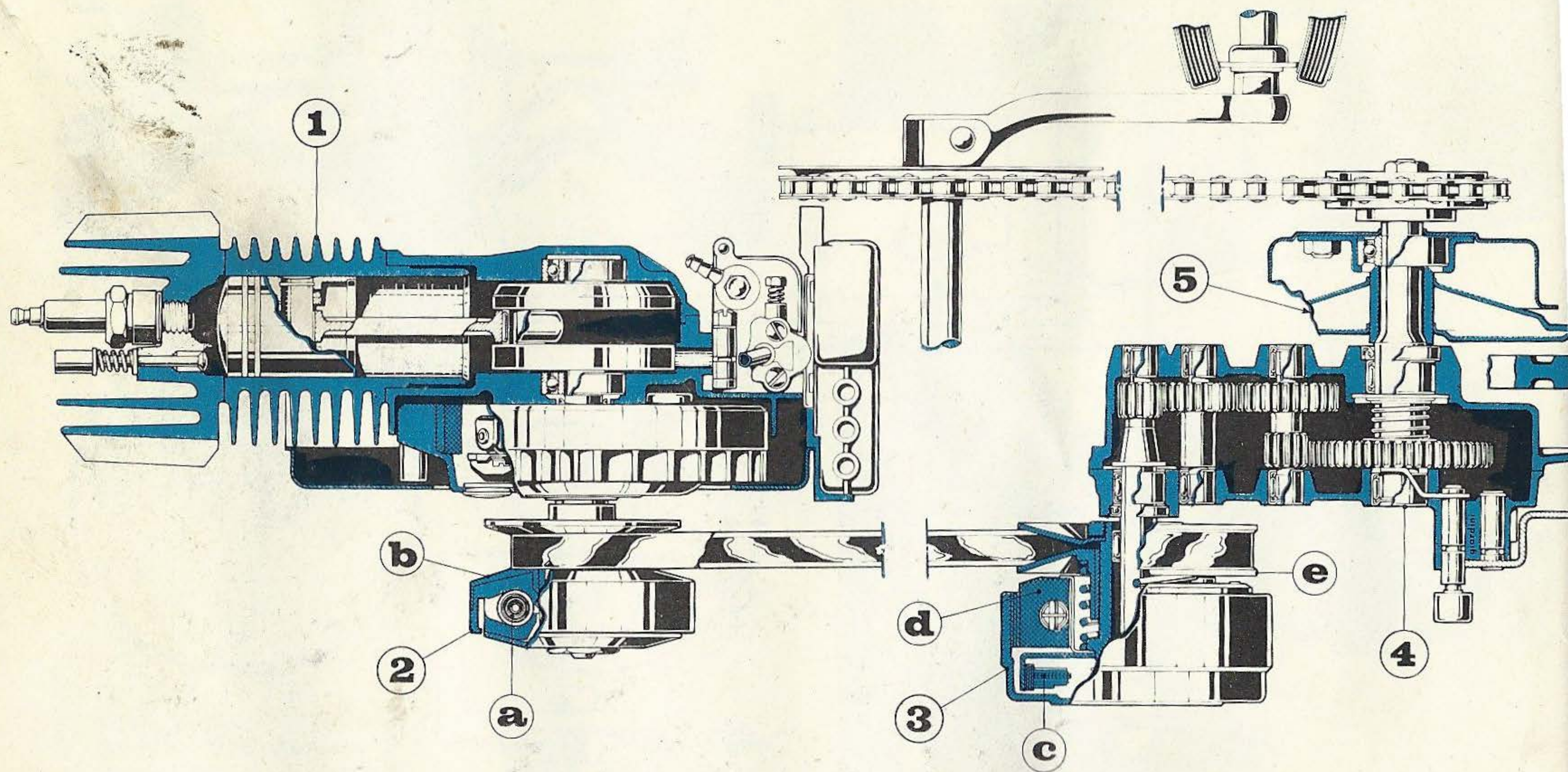
Fig. 7 - WIRING DIAGRAM



1. Speedometer - 2. Bulb 6V-1,2W - 3. Lights switch - 4. Rear stop switch - 5. Headlamp - 6. Bulb 6V-20W - 7. Front stop switch - 8. Horn button - 9. Horn - 10. Supplemental engine stop - 11. H.T. coil - 12. Spark plug - 13. Fly-wheel magneto - 14. Tail lamp - 15. Bulb 6V-3/15W.



Fig. 8 - Engine and drive scheme



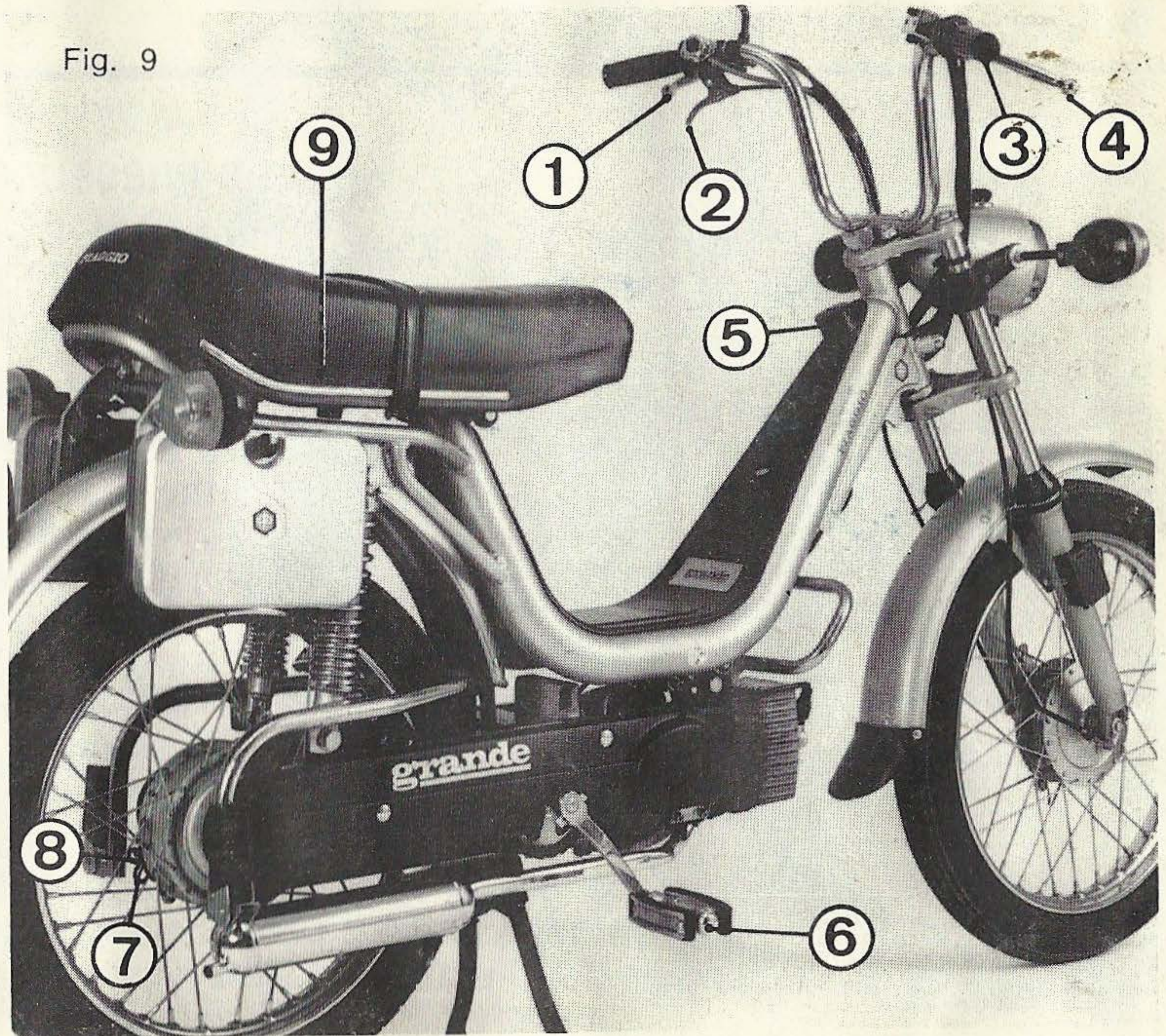
1. Engine - 2. Variator: A) Centrifugal weight of variator: B) Expanding pulley - 3. Automatic clutch: C) Centrifugal shoes for starting: D) Centrifugal shoes for drive from engine: E) Expanding pulley - 4. Rear hub and reduction gear - 5. Rear wheel (driving).



Fig. 9

### Position of controls

1. Rear brake lever
2. Decompression valve control
3. Throttle control
4. Front brake lever
5. Tank cap
6. Pedal
- 7.8. Control for rear wheel drive
9. Tool kit bag located under the saddle





# Driving instructions

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## FUEL

Use a mixture of petrol-oil i. e. 2% (50 : 1) pure mineral oil SAE 30.

*N.B. - To ensure constant fuel supply, periodically clean the breather in the tank cap (accessible from beneath the tank cap).*

## RUNNING IN

During thi first 300 miles do not keep the throttle fully open for long periods.

After the first 300-500 miles check all nuts and bolts for security (particularly those retaining the engine to the frame).

## TYRE PRESSURE:

Front wheel: 23 p.s.i.

Rear wheel: 26 p.s.i.

32 p.s.i. with pillion rider

## OIL LEVEL IN REAR HUB

Before using the vehicle check there is oil in the rear hub (content: 2 fl. oz.) GB when the machine is upright the oil level must be level with the lower edge of the refuelling hole (see fig. 21) « A ».

## STARTING ENGINE:

Carry out the operations (see fig. 10). The vehicle may be started by the driver sitting on the saddle (the centre stand not on the ground) operating the decompression lever (fig. 9 n. 2.) pedal for a few yards, then releasing the valve and opening the throttle.



## Fuel Tap

ON - open  
RES - reserve  
OFF - close

### Starting Procedure:

**Attention** - Put ignition switch in the « run » position.

**A)** Place the machine on its centre stand: check that rear wheel is free from the ground - **B)** open the fuel tap (lever in **ON** position as in fig. 10) - **C)** Close throttle control - **D)** with cold engine depress the choke lever - **E)** operate the pedal.

*N.B. It is advisable to use the decompression lever (fig. 9 n. 2) when operating pedal.*

*When the engine starts, open throttle control, and the choke lever D returns automatically to the running position.*



Fig. 10



## STARTING AND RIDING

Operate the throttle control, which controls the speed of the vehicle.

**NOTE:** If possible, avoid starting when the machine is on the centre stand, as under no circumstances must the rear wheel be allowed to come into contact with the ground when revolving, as the sudden braking effect will impose excessive loading on to the reduction gears and possibly cause serious damage. Therefore if engine is started on the stand, ensure the rear wheel is stationary before putting machine on to its wheels.

## STOP WITH ENGINE RUNNING

If the throttle control is closed (fig. 9 n. 3) the vehicle will remain stationary even though the engine is running.

## STOPPING THE ENGINE

Close the throttle control and operate the decompression valve lever (fig. 9 n. 2) or the supplemental engine stop.

## USE AS BICYCLE

Push in the knob as in fig. 11 to disconnect the rear wheel from the drive. To reconnect the drive, operate the lever of fig. 12 which automatically returns the knob to the normal position. These operations must be performed without the engine running.

## SPARK PLUG REMOVAL

See fig. 15 « A ».

The electrodes can be cleaned with a wire brush or by emery cloth: the gap must be 0.20".



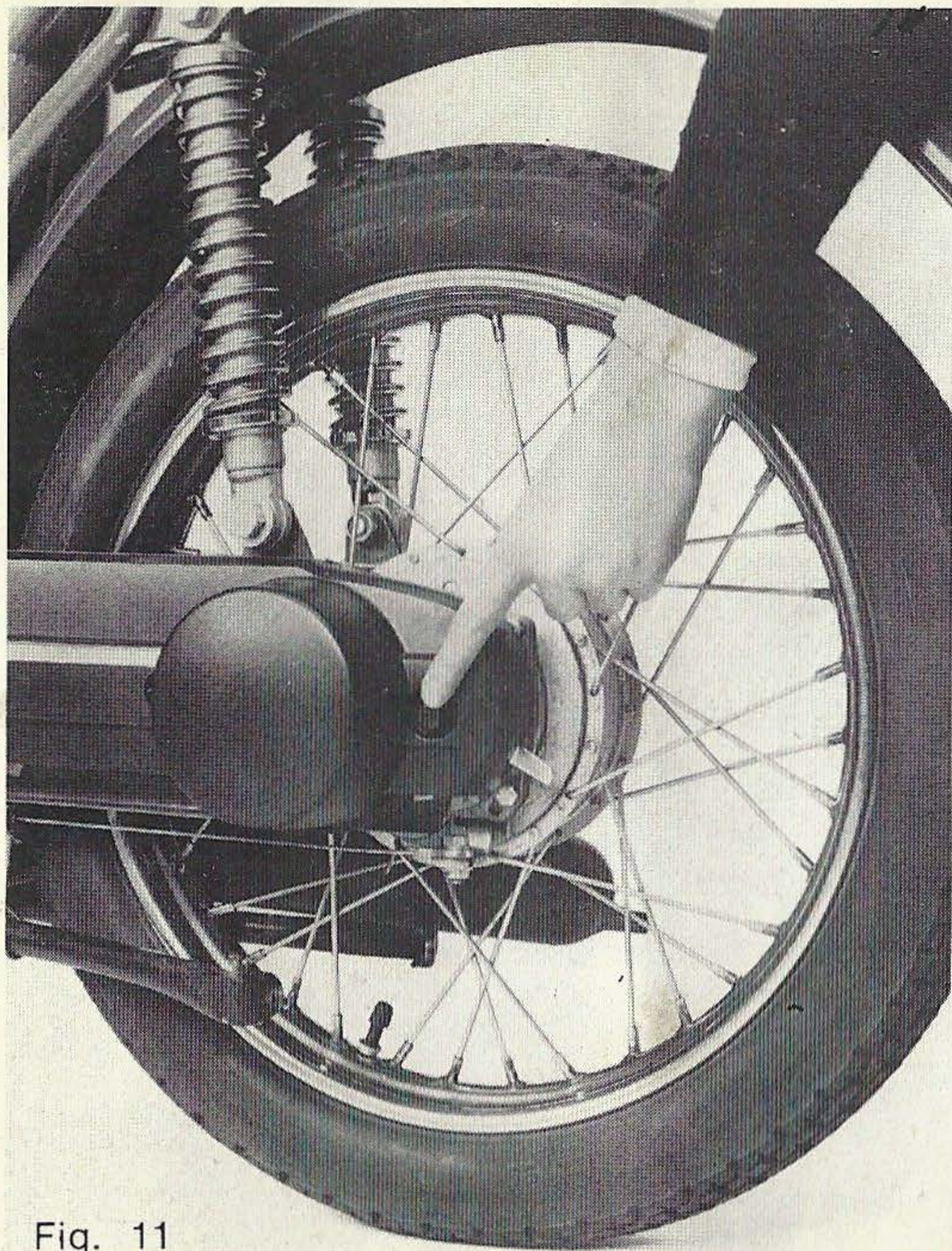


Fig. 11

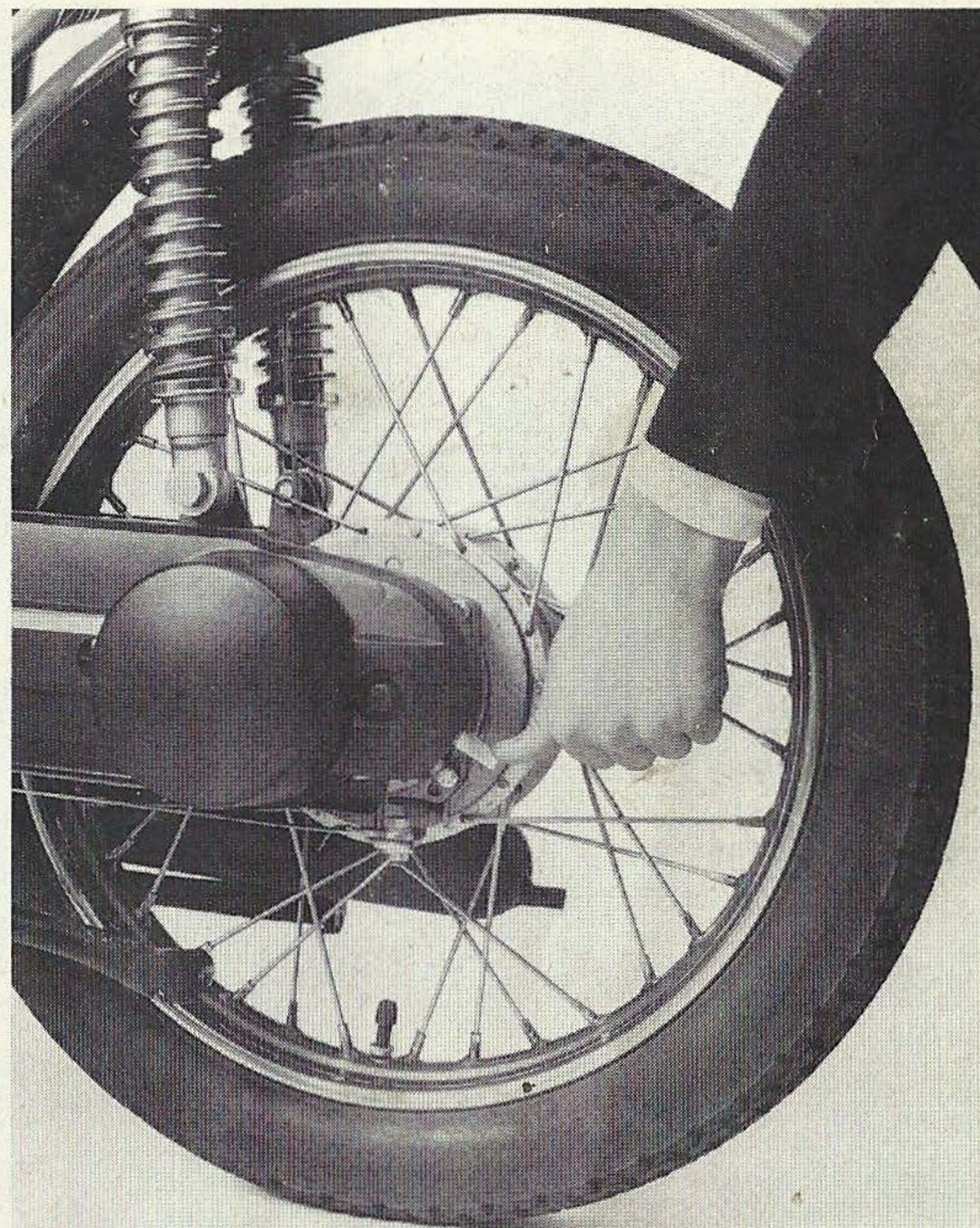


Fig. 12



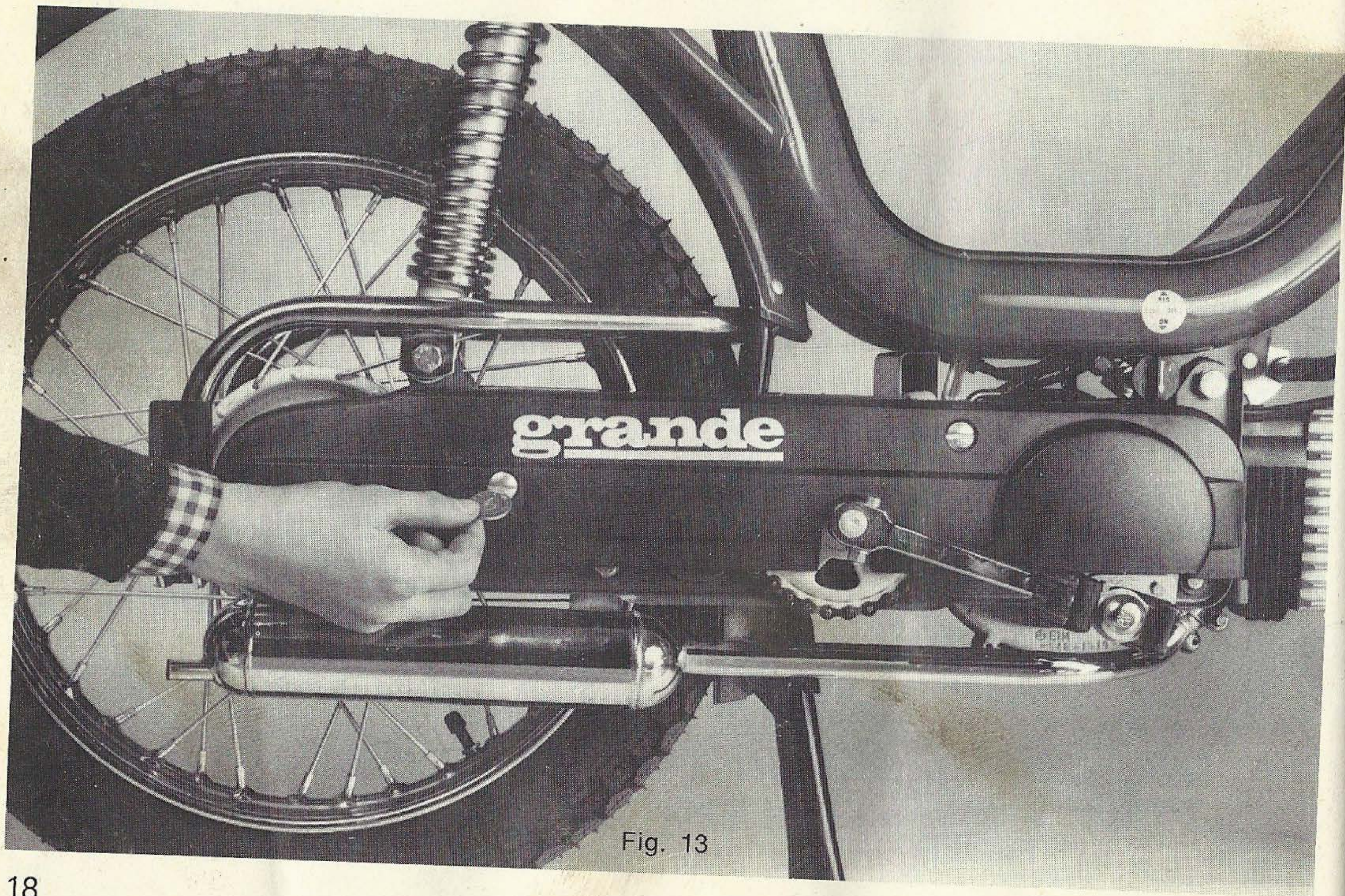


Fig. 13



## AIR CLEANER DISMANTLING

Remove the upper engine cover using a screwdriver. Loosen the air cleaner fixing screw (see fig. 17 « A »).

Remove the air cleaner.

## CARBURETTOR DISMANTLING

Close fuel tap (position « C » on fig. 10).

If the carburettor is to be dismantled (for cleaning for example) remove the air cleaner, unscrew the screws « E » (see fig. 17) and remove the carburettor cover; slacken the screw « H » of engine carburettor fixing collar. The carburettor can be withdrawn by slight rotation.

The carburettor parts must be cleaned with neat petrol. To clean calibrated holes, use compressed air only. (Wire must not be used).

*N.B. - During reassembly ensure that the throttle control outer cable is located in the terminal « B »; otherwise faulty carburation will occur.*

## CARBURETTOR ADJUSTMENT

To adjust the cable play on the throttle control use the nut « B » fig. 17: to adjust the slow running, rotate through the hole « C » the screw « D » using a screwdriver.

The slow running adjustment must be carried out when the rear wheel is free of the ground (vehicle on its centre stand): adjust the screw « D » to obtain regular slow running without the rear wheel turning.



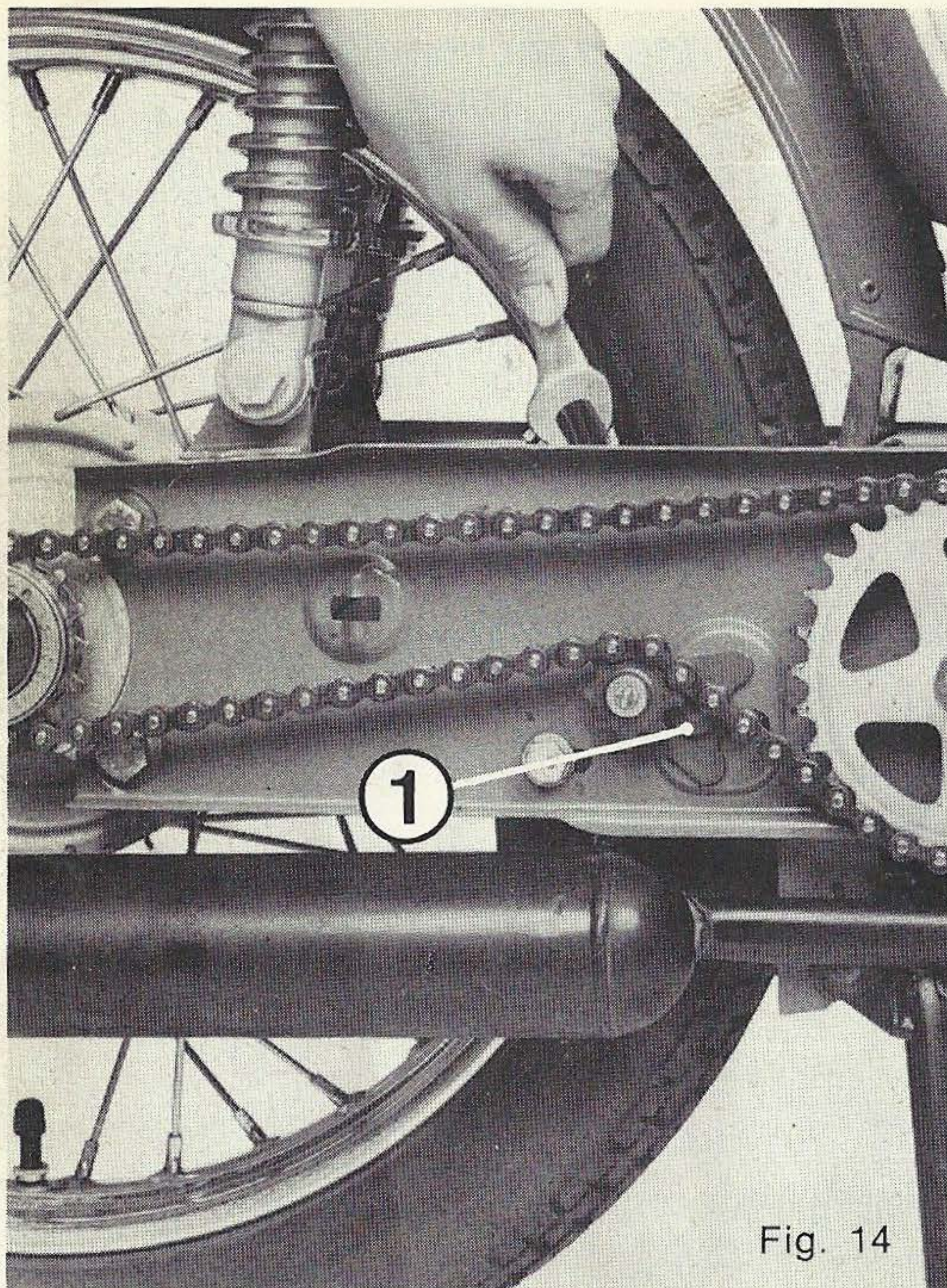


Fig. 14

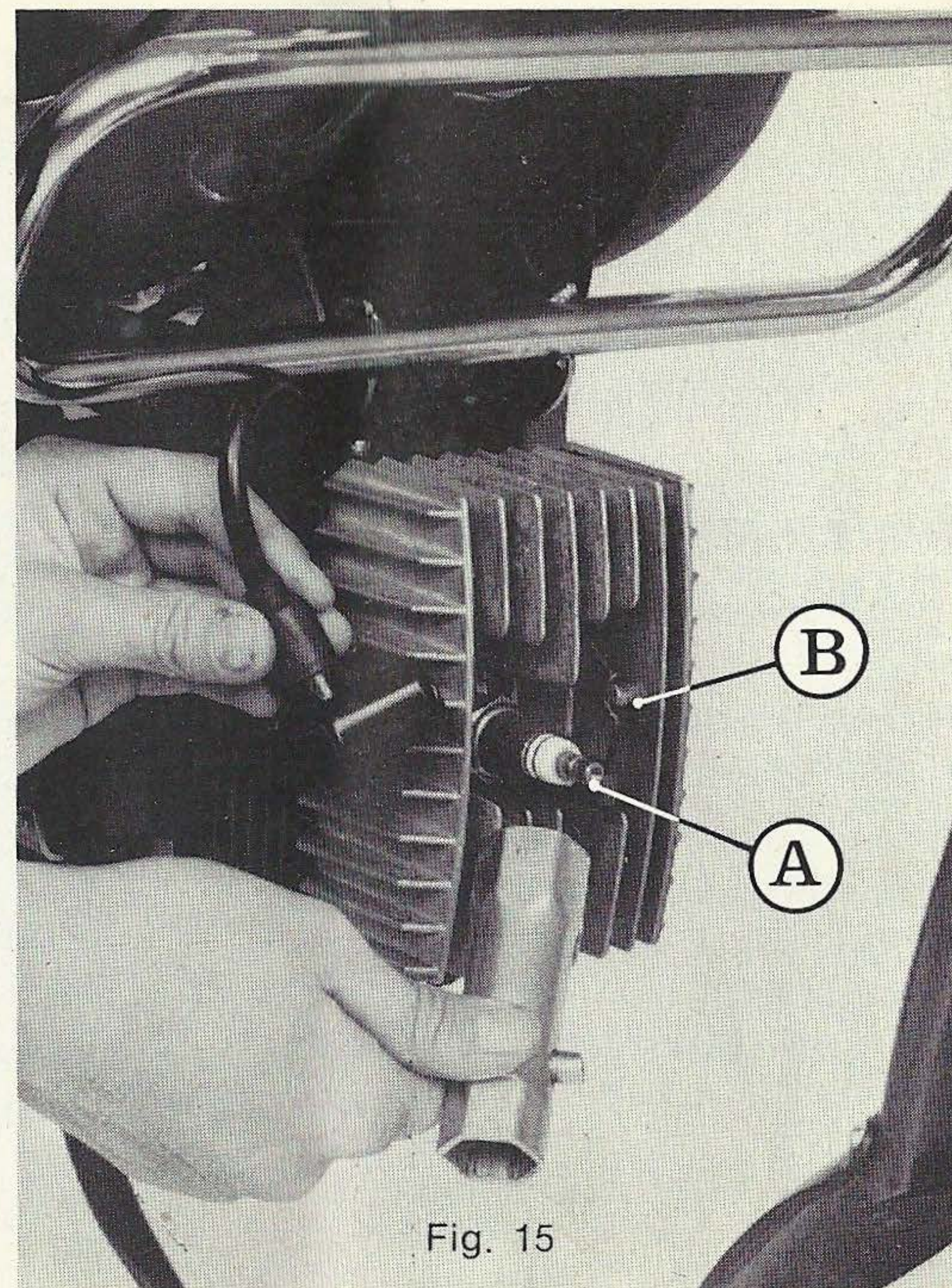


Fig. 15



## CYLINDER HEAD REMOVAL

To remove the cylinder head it is necessary to use a box spanner (11 mm.) remove the three retaining nuts: then disconnect the control cable from the decompression valve (fig. 15 « B »).

## REPLACEMENT OF BULBS

To replace the tail lamp bulb, remove the lens fixing screw and dismantle. To replace the bulbs in the headlamp, loosen the headlamp ring retaining screw.

## BRAKE ADJUSTMENT

To adjust the braking position of the handlebar levers, rotate the adjusters « A » fig. 16. When the brake levers are released, the wheels must turn freely. The brake drums are provided with holes and rubber caps: through these holes it is possible to inspect the wear conditions of the brake linings.

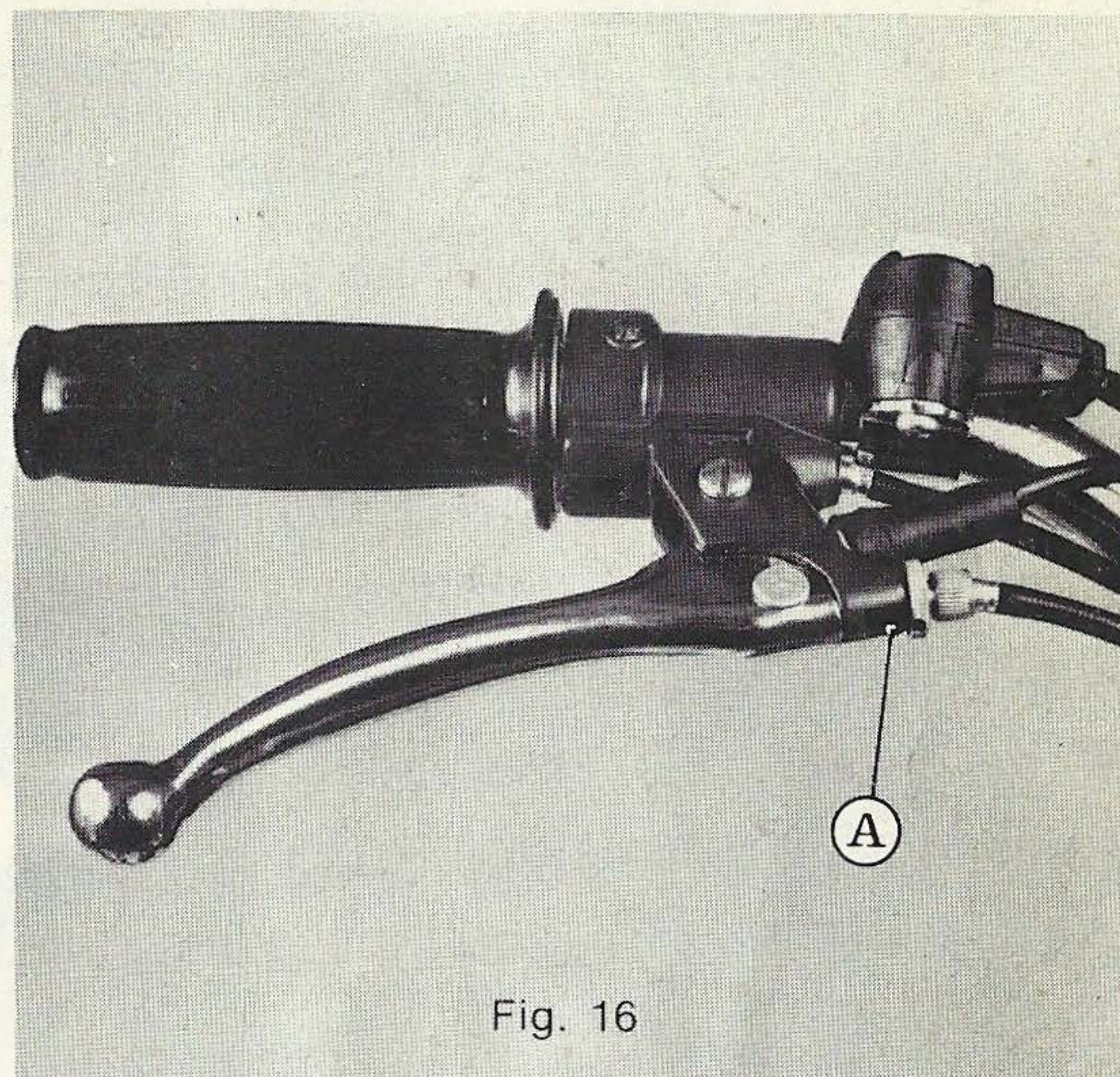


Fig. 16

## CHAIN ADJUSTMENT

To adjust the chain tension loosen the nut (fig. 14 « 1 ») and adjust as necessary then tighten the nut.



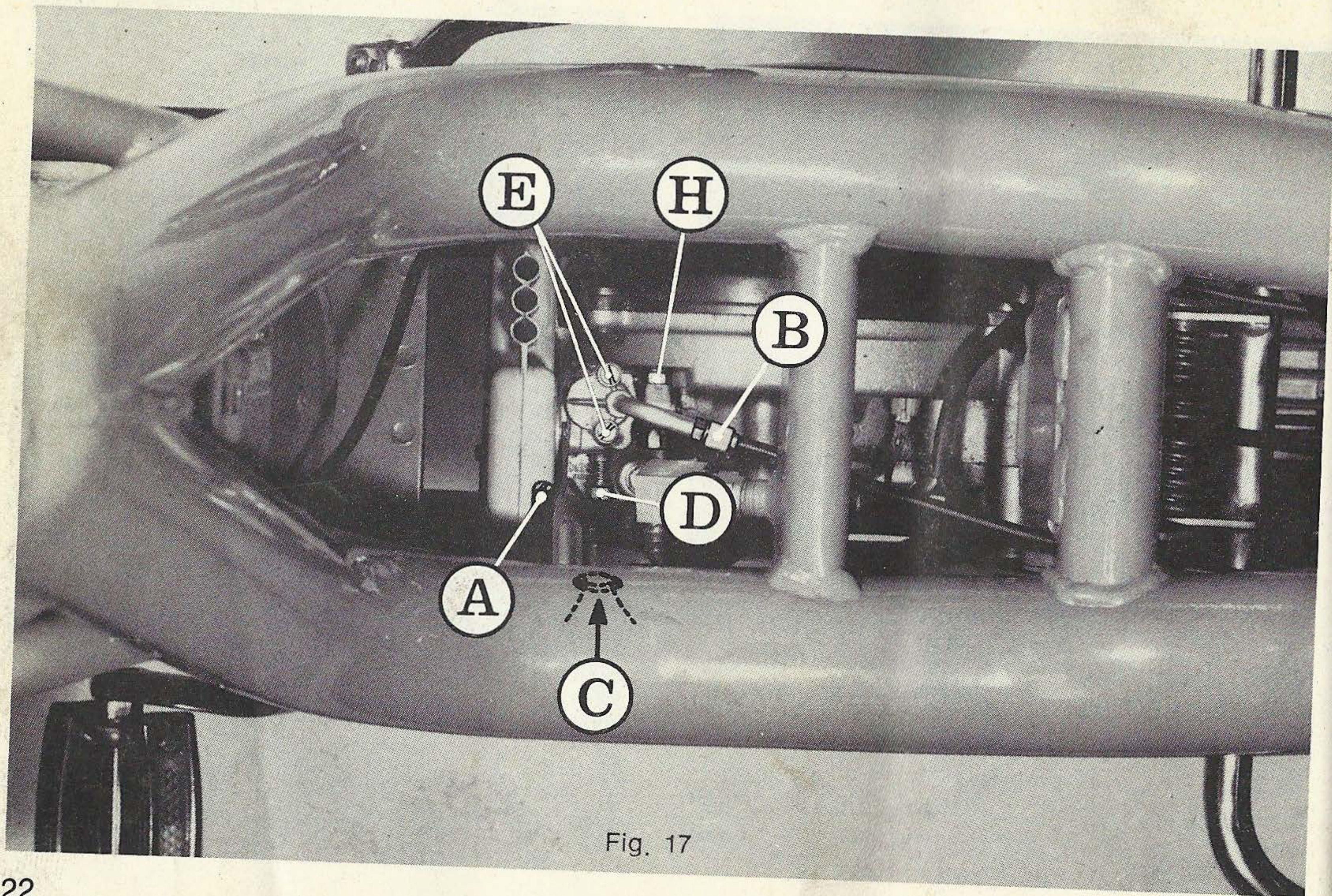


Fig. 17



## ADJUSTMENT, HANDLEBAR AND HEADLAMP

To adjust the handlebar position, loosen without removing the four clamping nuts, retaining the handlebar on the fork. Then rotate the handlebar on its rest in order to obtain the best drive position. Retighten the nuts.

To adjust the headlamp beam (high or low) loosen the side screw and pivot headlamp as necessary.

## SADDLE

Push to the right to raise saddle (fig. 18 « A ») (to operate gas valve and to use tools).

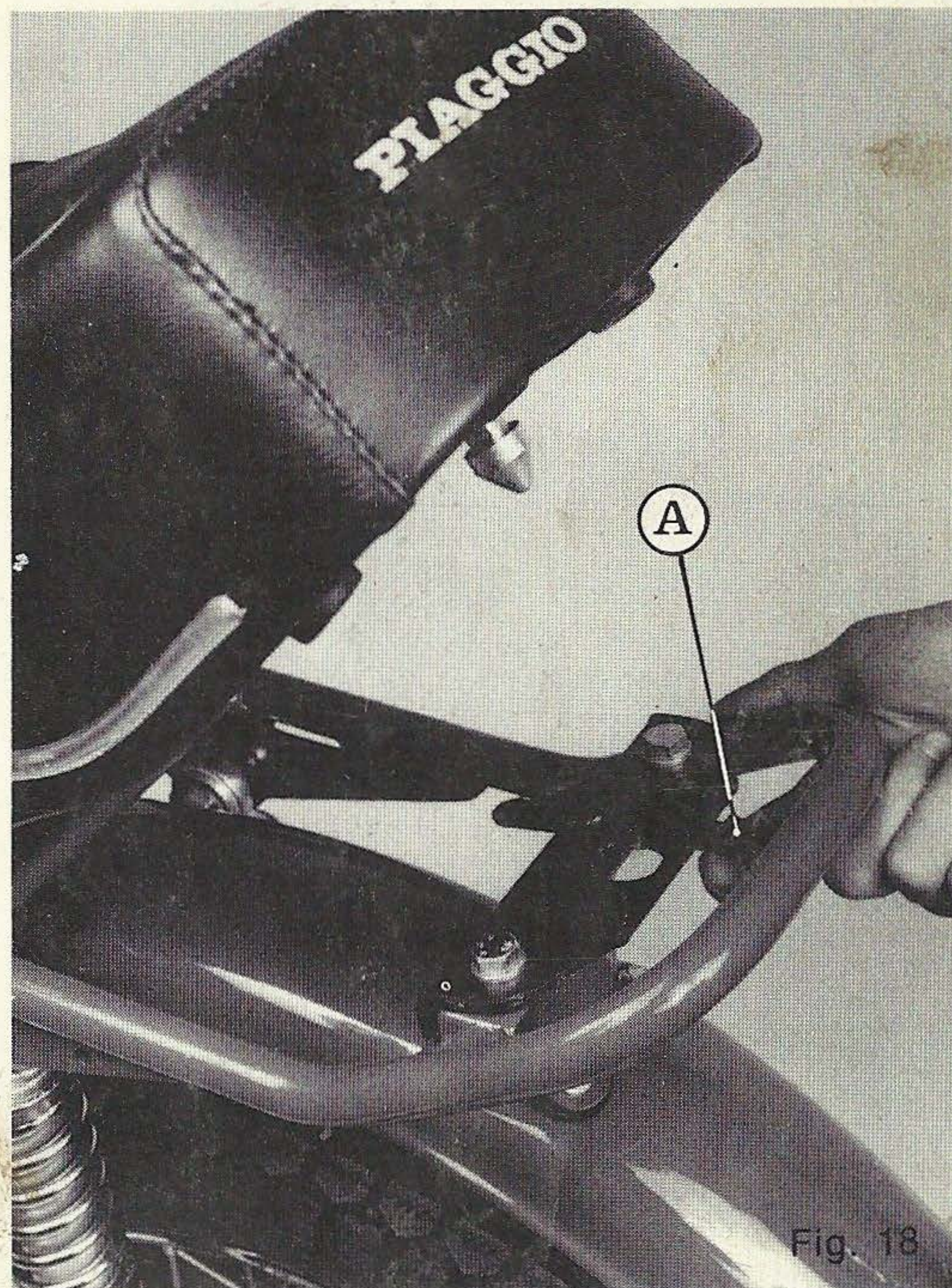


Fig. 18



## REAR WHEEL INNER TUBE REMOVAL

To remove inner tube from tyre, remove the chain cover (fig. 13) and loosen the pulley retaining nut « A » (fig. 19). The chain can then be detached from the free-wheel sprocket. Remove the two mounting bolts « B » and rotate the flange « C » from the position as in fig. 20.

The inner tube can be removed through the space between the sprocket and the frame (see fig. 20). To reassemble, follow the reverse procedure.

*N.B. - The replacement or repair of the inner tube is carried out as in bicycle practice.*

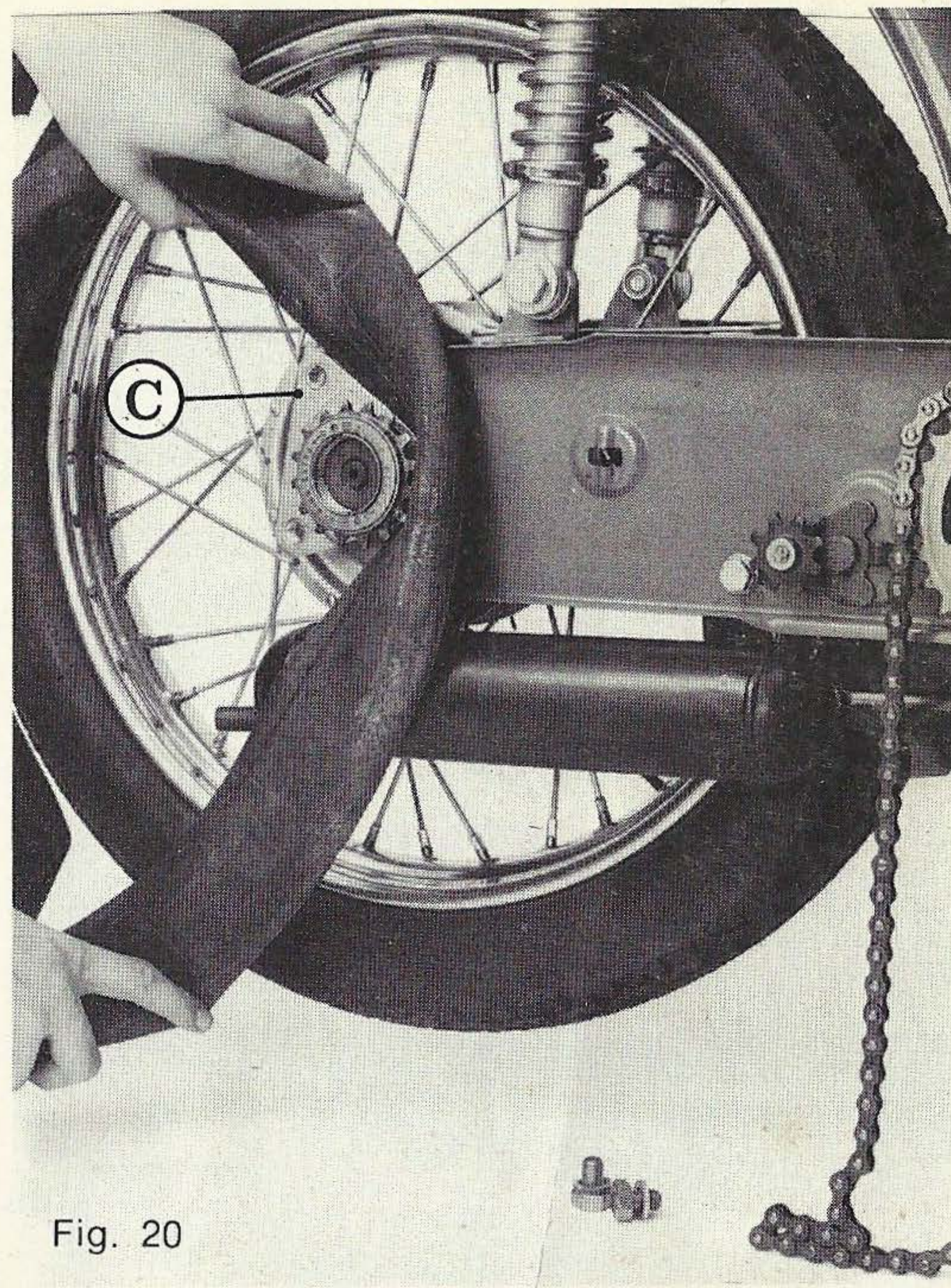
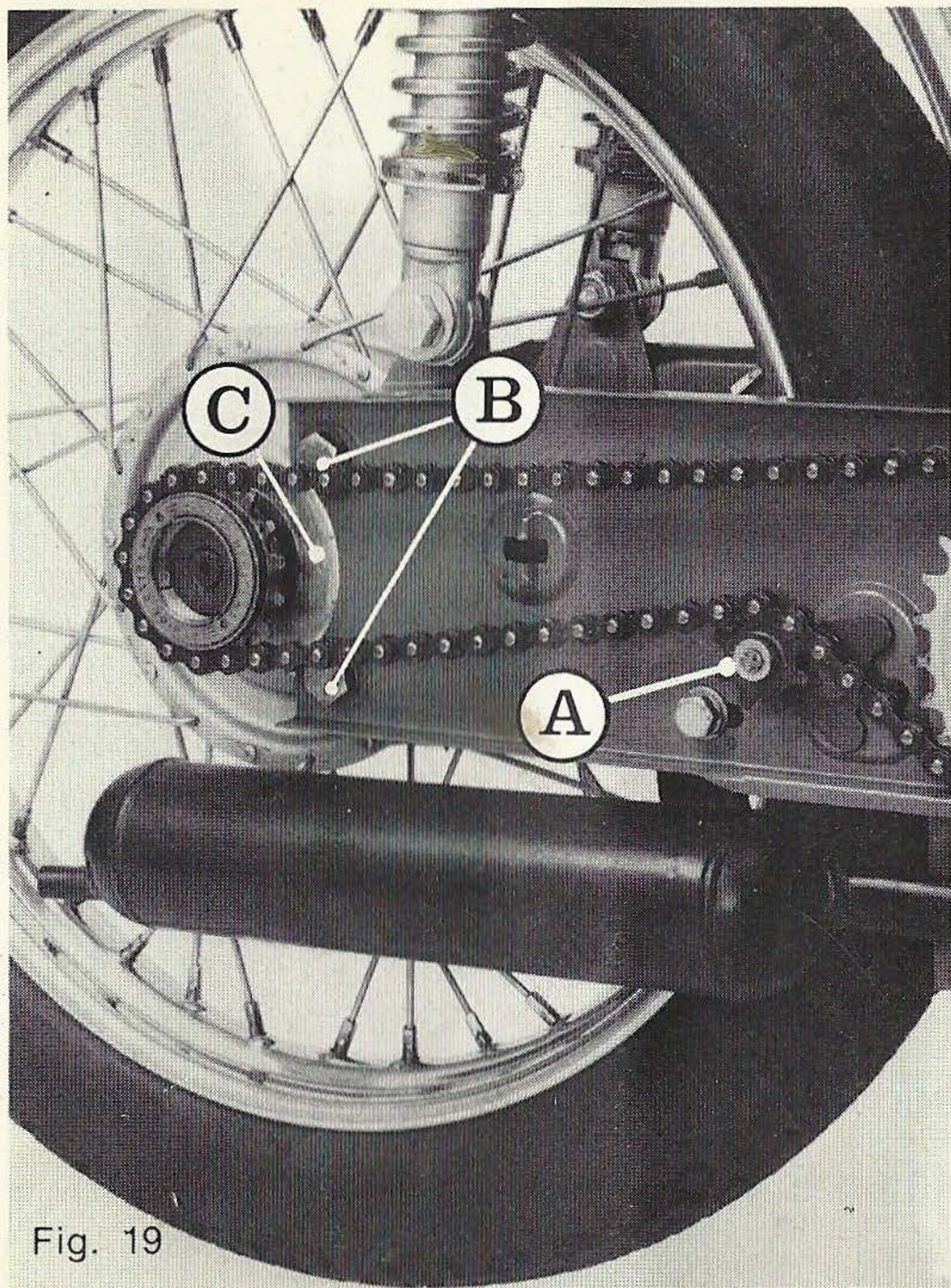
## WHEEL DISMANTLING

To dismantle the front wheel, remove the two spindle nuts and disconnect the brake cable.

To dismantle the rear wheel, remove the side covers (fig. 21) disconnect the brake cable (fig. 21 « B ») and detach the chain from the sprocket. Remove the rear pulley (nut « C » fig. 21) lastly remove the four mounting bolts (two are shown in fig. 21 « D » - two are on the opposite side).

*When reassembling rear wheel, check the rear brake adjustment (pag. 21) and adjust the chain tension (pag. 21). Similarly during the reassembly of the front wheel, check the front brake adjustment.*







## FLYWHEEL MAGNETO: CONTACT BREAKER ADJUSTMENT

The adjustment of the contact breaker points in case of faulty ignition, can be carried out without removing the clutch (in fig. 22 the clutch is removed in order to indicate the contact breaker components).

Remove the plug « A » loosen by means of a screwdriver the screw « B » then insert the screwdriver in the notch « C » and adjust the points gap « D » to 0.4 mm. (0.015").

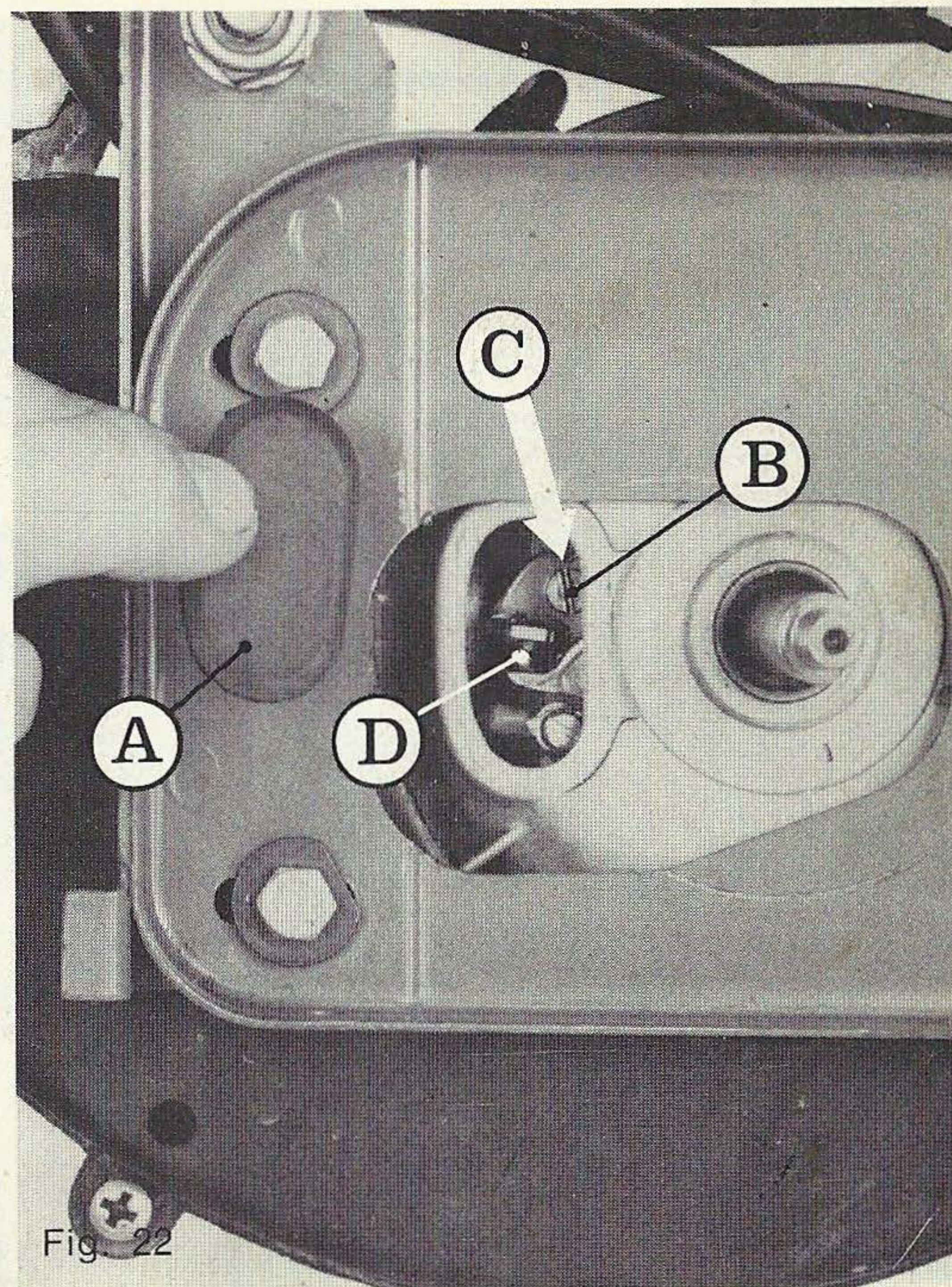
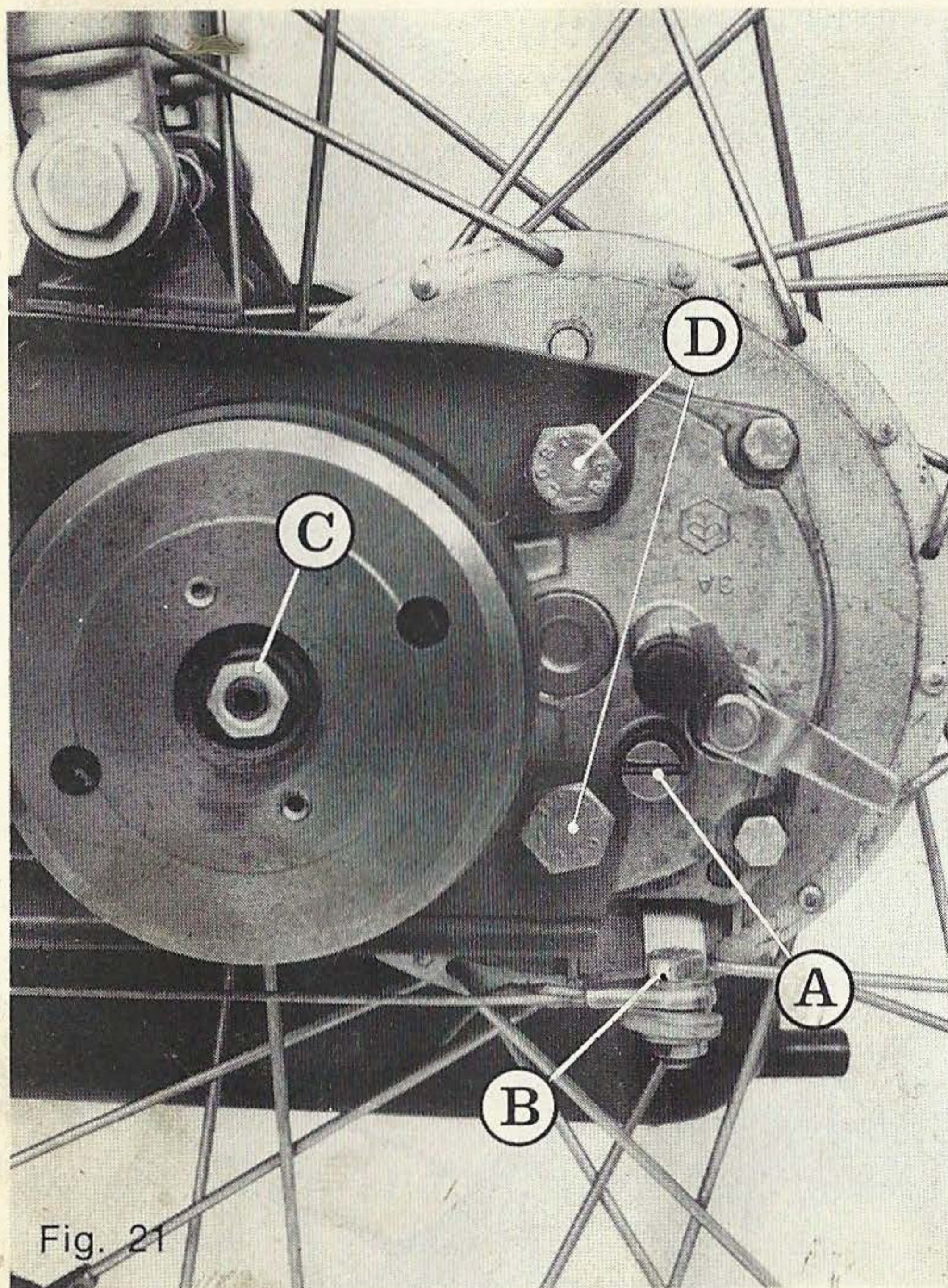
Check with a feeler gauge. After this adjustment tighten the screw « B ».

## ENGINE SUB FRAME DISMANTLING

To dismantle the engine sub frame arm (this operation is usually only necessary for general overhaul) proceed as follows:

Disconnect brake cable, decompressor, fuel pipe, electric cables by the connecting plugs and remove the bolts «A» and « B » fig. 23; one bolt « B » is shown in the opposite side.







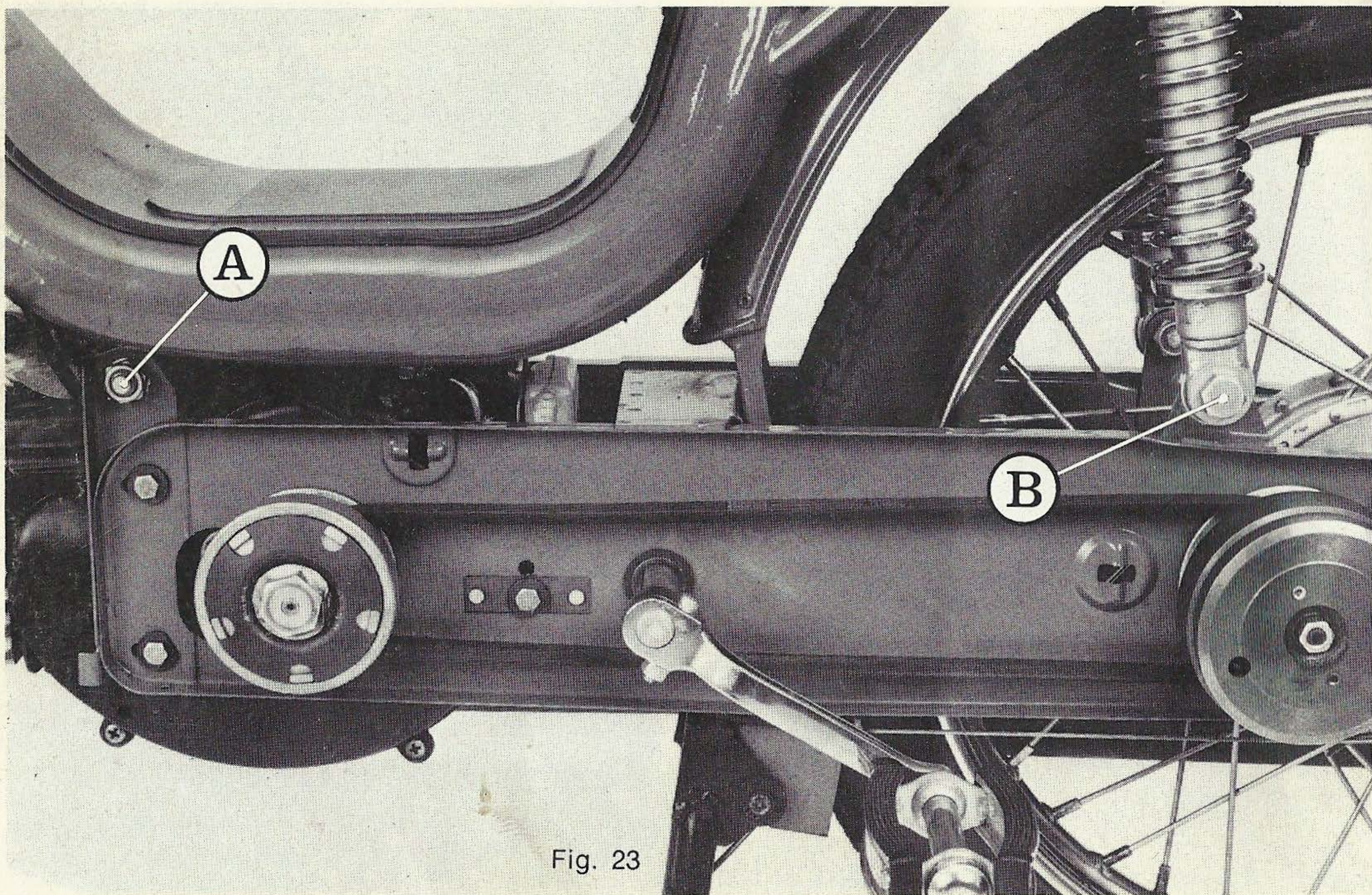


Fig. 23



## Maintenance instructions

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**In case of faulty ignition**, check the spark plug (correct gap 0.5 mm. (0.020")) and clean in neat petrol (see pag. 16).

If the insulator is broken or the electrode worn or burnt, replace the spark plug by another of same type as the original, if possible. If the ignition fault persists, check, clean and adjust the contact breaker (pag. 26).

Every 2,500 miles clean the silencer exhaust tube using a suitable wire rod, clean the cylinder head (pag. 21); the piston crown and the cylinder exhaust port.

Remove and clean the air filter in gas (pag. 19).

Every 5000 miles check oil in rear hub (ESSO GEAR OIL 90: see pag. 14 and fig. 21).

Fill with grease ESSO BEACON 3 or FIAT JOTA 3 or equivalent the roller housing.

At intervals lubricate the chain, pedals and wheel pivot points, check the chain tension (fig. 14 and pag. 21). Clean the carburettor (pag. 19).



# Summary of maintenance and lubrication instructions

## MAIN OPERATIONS TO BE CARRIED OUT.

**EVERY 2,500 MILES** Clean Silencer Exhaust Tube, cylinder head and piston crown.  
Clean air filter (in gas).

<b>EVERY 5,000 MILES</b>	Check oil in rear hub.	Esso Gear Oil 90 or equivalent.
	Grease roller housing.	Esso Beacon 3 or equivalent.

At intervals clean spark plug. lubricate chain and check chain tension.

Engine: every refuelling, (lubrication by petroil mixture).



## HOW TO CHECK YOUR MACHINE FAULT FINDING

In the event of faults arising, proceed as follows

a) Non-starting or sudded stopping of engine (carburation or ignition faults).

Main fuel supply exhausted:

Turn the tap to reserve position and re-fuel as soon as possible.

Fuel plug dirty, or defective, or gap incorrect. Clean or change the spark plug (see pag. 16) and check the gap 0.020".

N.B. - Using the vehicle for short distances and at low speed it is advisable to use the Bosch spark plug W 95 T. 1 or equivalent.

In cold weather allow engine to tick over before pulling away. If after the previous operations the faults are still

evident, check the following:

**Carburettor is not blocked or dirty (jet and fuel pipe)**

Dismantle and clean (see pag. 19).

**Contact breaker points dirty, damaged or defective:**

Clean (or if necessary, change) the contact breaker: adjust the points gap (0.4 mm. 0.015" see pag. 26).

**The H.T. lead has not become earthed.** If the cable is damaged, temporarily repair with insulating tape and replace as soon as possible.

b) **Various « mechanical » faults.**

**Irregular noise from engine. Erratic engine:**

Clean the spark plug, silencer, cylinder head and piston crown, also the cylinder exhaust ports.



Clean the carburettor and filter (see ~~pag.~~ pag. 19).

### **Reduced engine efficiency:**

Check the security of the spark plug and cylinder head .

If the transmission is erratic: check the grease in the roller housing of the variator (see pag. 29).

### **Inefficient rear braking:**

Check for presence of oil on the brake shoes.

### **Faulty suspension:**

Check and if necessary replace the bottom rubber components inside the telescopic fork and grease the springs. If rear suspension is faulty check the action of the shock absorber springs.

**Laying up** - if the machine is to be laid up, clean und lubricate, remove the fuel and store machine with wheels off the ground. To protect the engine remove the spark plug and introduce a small quantity of 30 SAE oil through the spark plug hole, operate the pedals to turn the engine and replace the spark plug.

## **HOW TO CLEAN THE VEHICLE**

For the outside of engine use paraffin, brush and rags.

Wash the painted parts with water, use a sponge to clean and a chamois leather to dry.

DO NOT use paraffin on the paintwork as this will damage the paintwork.



## Consumer information



The following figures carry out for each vehicle here under indicated:

- a) Minimum stopping distance or dry pavement.

Figures carry out vehicle minimum stopping distance without locking the wheels.

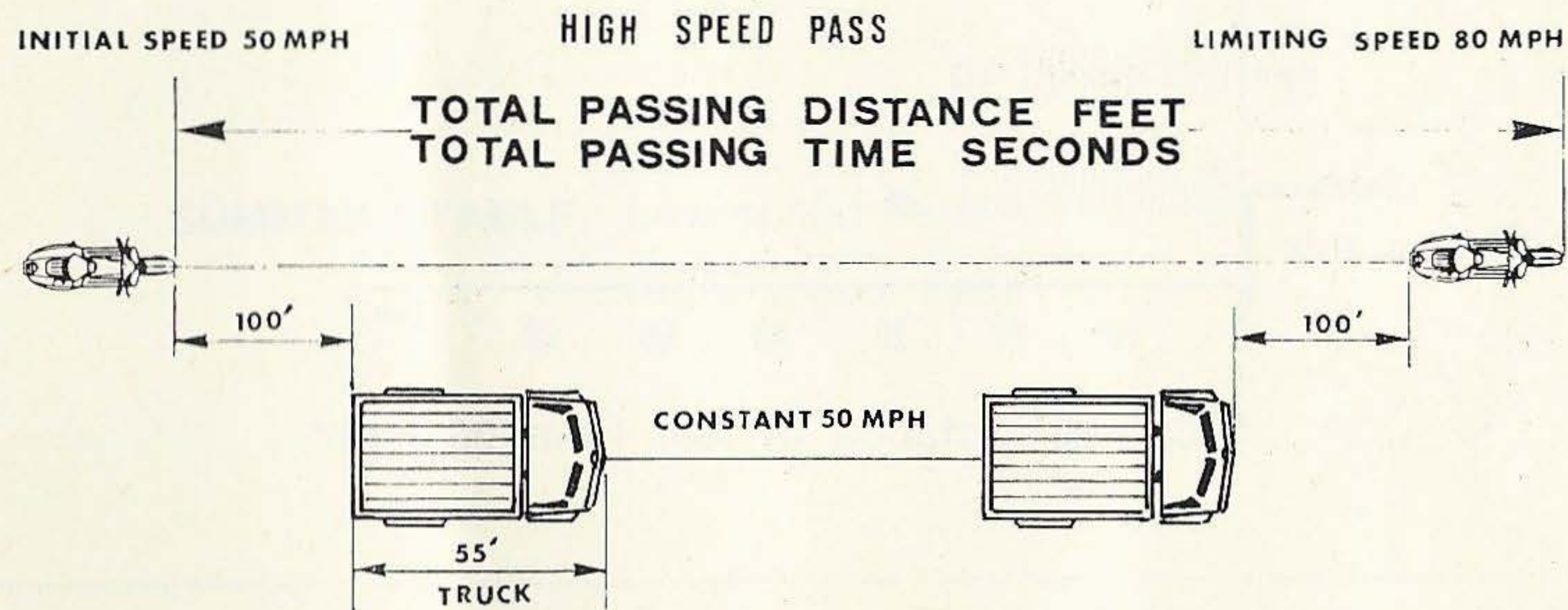
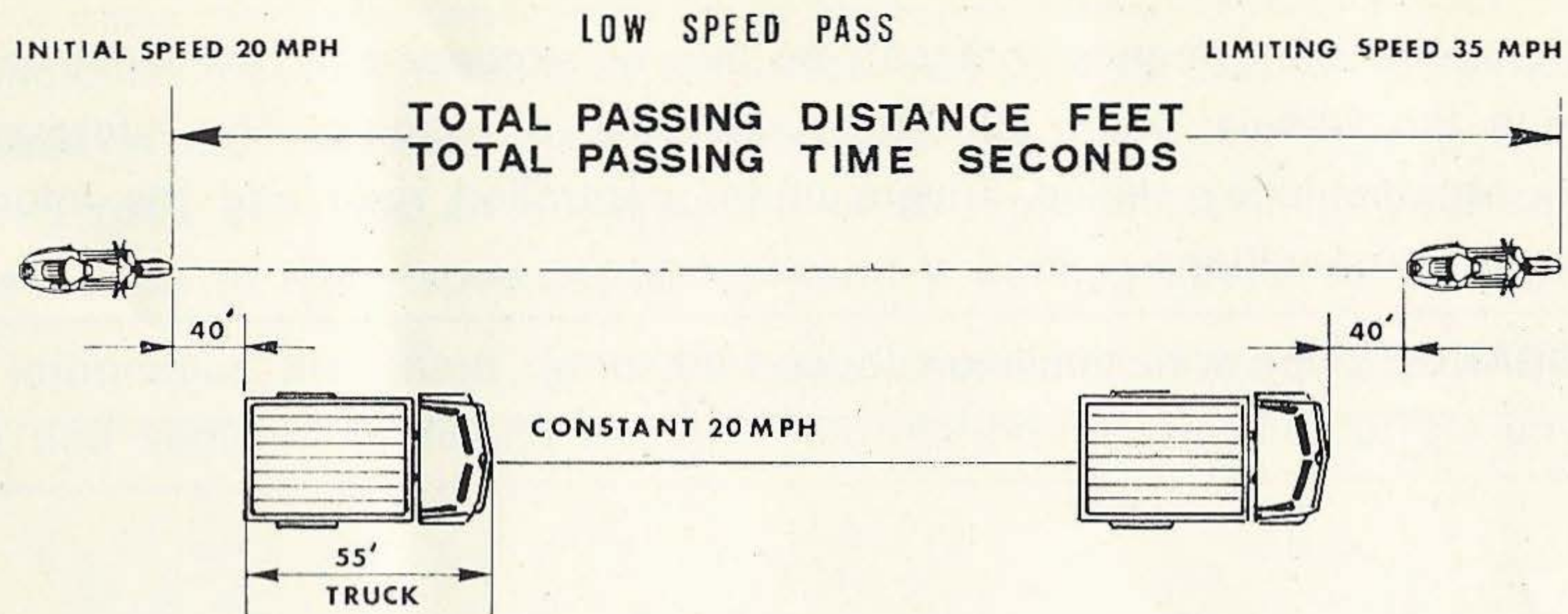
Speed of the vehicle when stopping 60 mph or if the vehicle cannot exceed such speed because of its structural feature, the maximum

speed attainable (in this last case, under figures a proper note with a-sterisk is carried out).

- b) Acceleration and passing ability, with the graphic timing and passing distance in the conditions « **Low speed pass** » and « **High speed pass** » see the following figure.

**Notice:** When vehicles, because of its structural feature cannot exceed **20** or **50 mph** near the interested figures the notation « **not capable** » is entered.





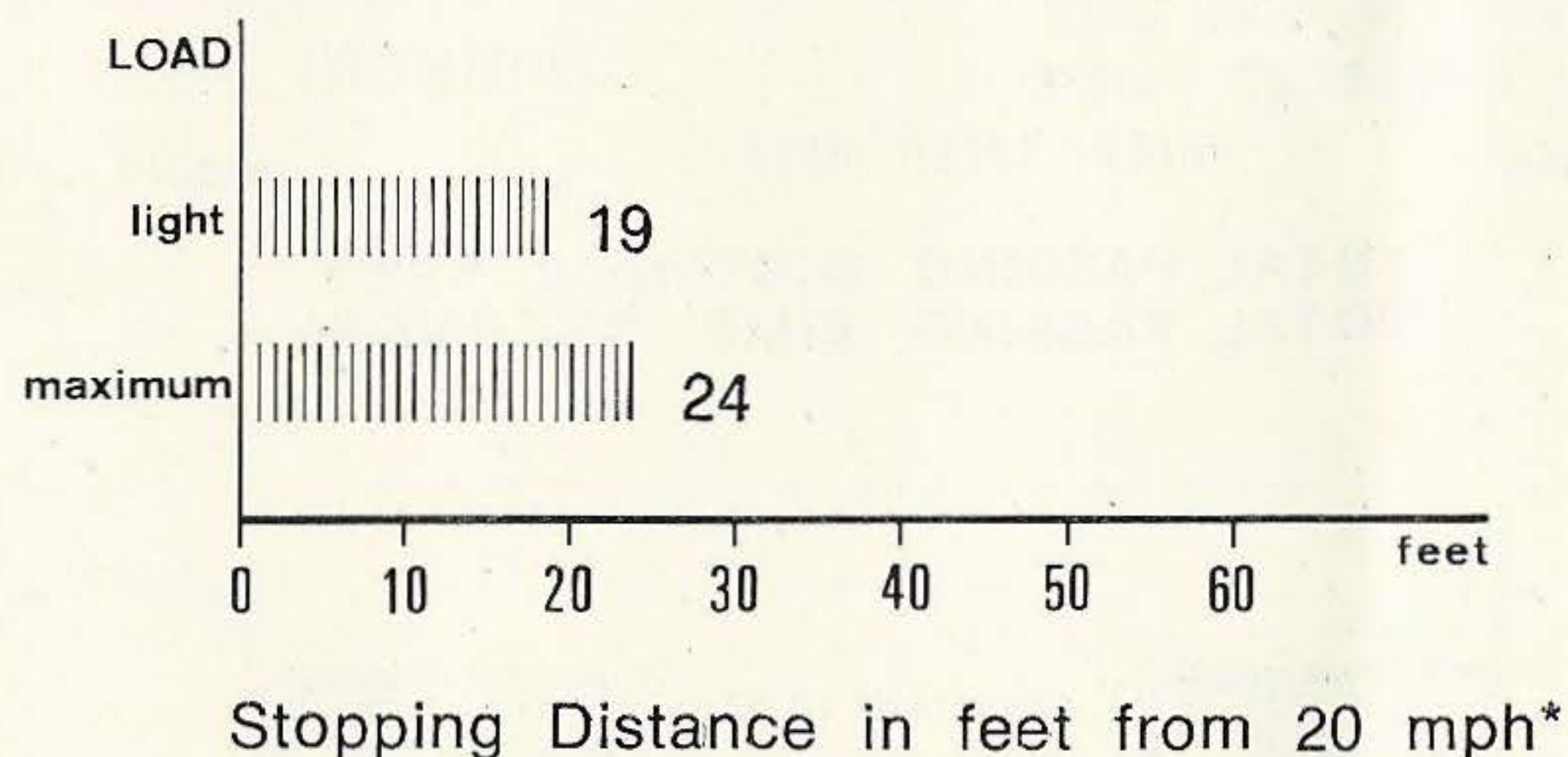


## VEHICLE MINIMUM STOPPING DISTANCE ON DRY PAVEMENT

This figure indicates braking performance that can be met or exceeded by the vehicles to which it applies, without locking the wheels, under different conditions of loading. The information presented represents results obtainable by skilled drivers under controlled road and the information may not be correct under other conditions.

**Motor driven cycle GRANDE** (type with maximum speed 20 mph).

### A. Fully Operation Service Brake



\* « The maximum speed attainable by accelerating at maximum rate from a standing start for one mile ».



**ACCELERATION AND PASSING ABILITY**

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This figure indicates passing times and distances that can be met or exceeded by the vehicle to which it applies in the situations diagrammed below.

The low speed pass assumes an initial speed of 20 mph and a limiting speed of 35 mph the high speed pass assumes an initial speed of 50 mph and a limiting speed of 80 mph.

Notice: The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions and the information may not be correct under other conditions.

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**SUMMARY TABLE:** Low-speed Pass . . . . .  
Hight-speed Pass . . . . . ) **Not capable**

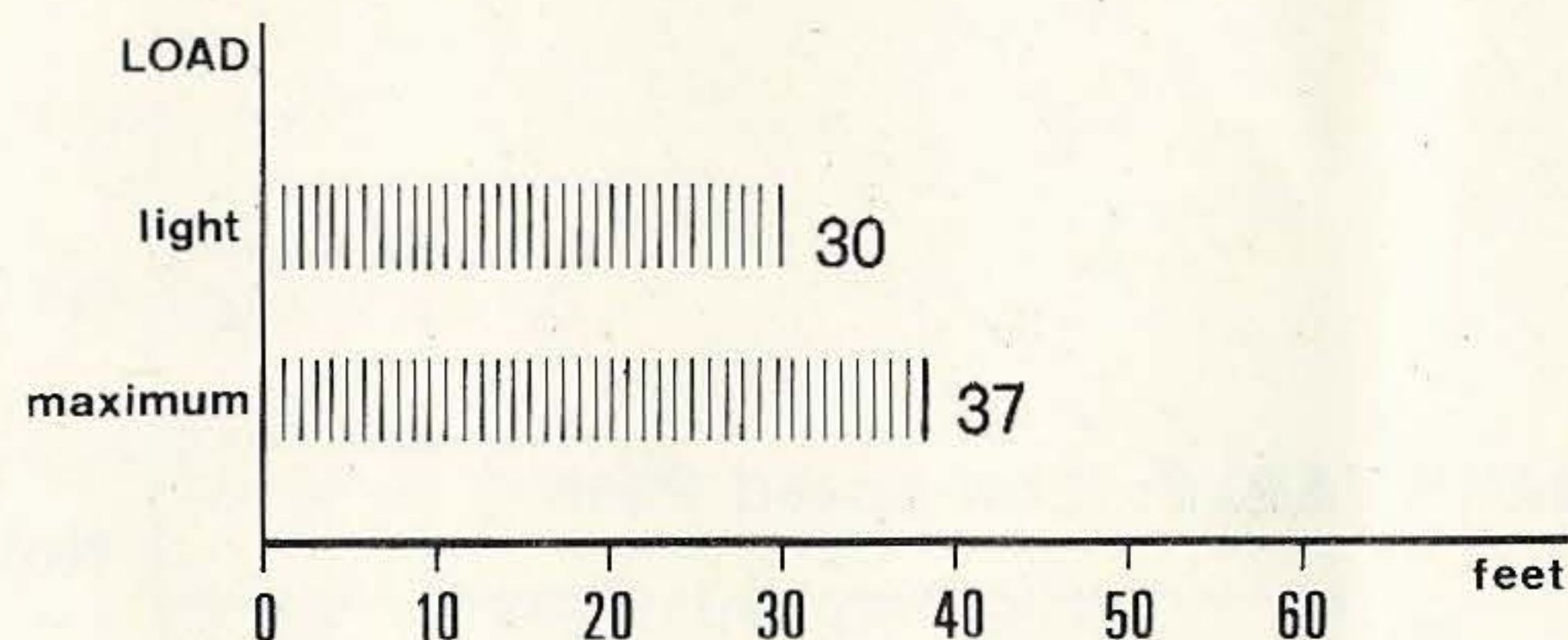


## VEHICLE MINIMUM STOPPING DISTANCE ON DRY PAVEMENT

This figure indicates braking performance that can be met or exceeded by the vehicles to which it applies, without locking the wheels, under different conditions of loading. The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.

**Motor driven cycle GRANDE** (type with maximum speed 25 mph)

A. Fully Operation  
Service Brake



Stopping Distance in feet from 25 mph\*

\* « The maximum speed attainable by accelerating at maximum rate from a standing start for one mile ».



## ACCELERATION AND PASSING ABILITY

This figure indicates passing times and distances that can be met or exceeded by the vehicles to which it applies in the situations diagrammed below.

The low speed pass assumes an initial speed of 20 mph and a limiting speed of 35 mph the high speed pass assumes an initial speed of 50 mph and a limiting speed of 80 mph.

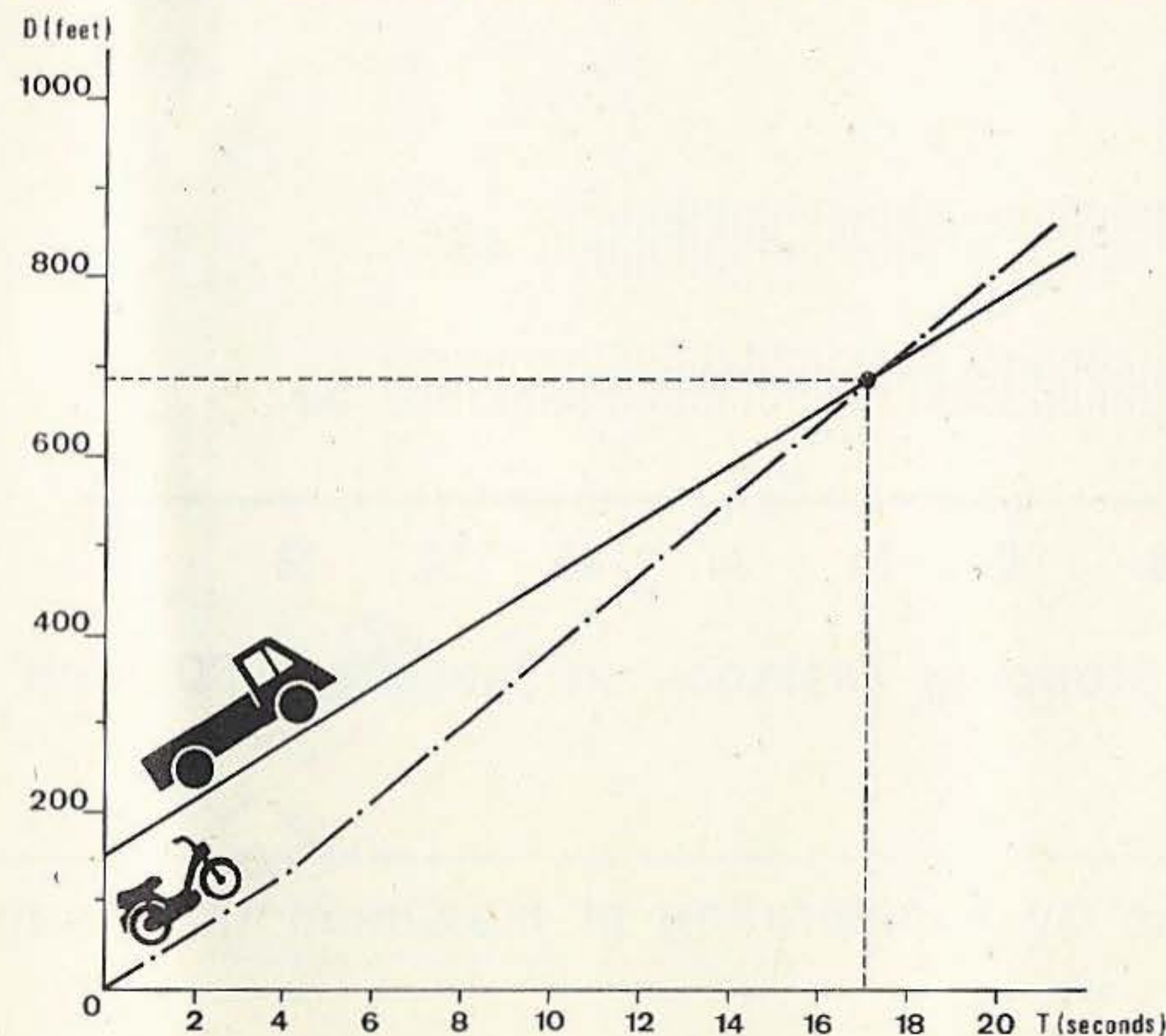
Notice: The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions and the information may not be correct under other conditions.

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<b>SUMMARY TABLE:</b>	Lowspeed Pass	Feet 690	Seconds 17
	High-speed Pass	<b>Not capable</b>	

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### GRAPHIC DETERMINATION OF PASSING TIME AND DISTANCE



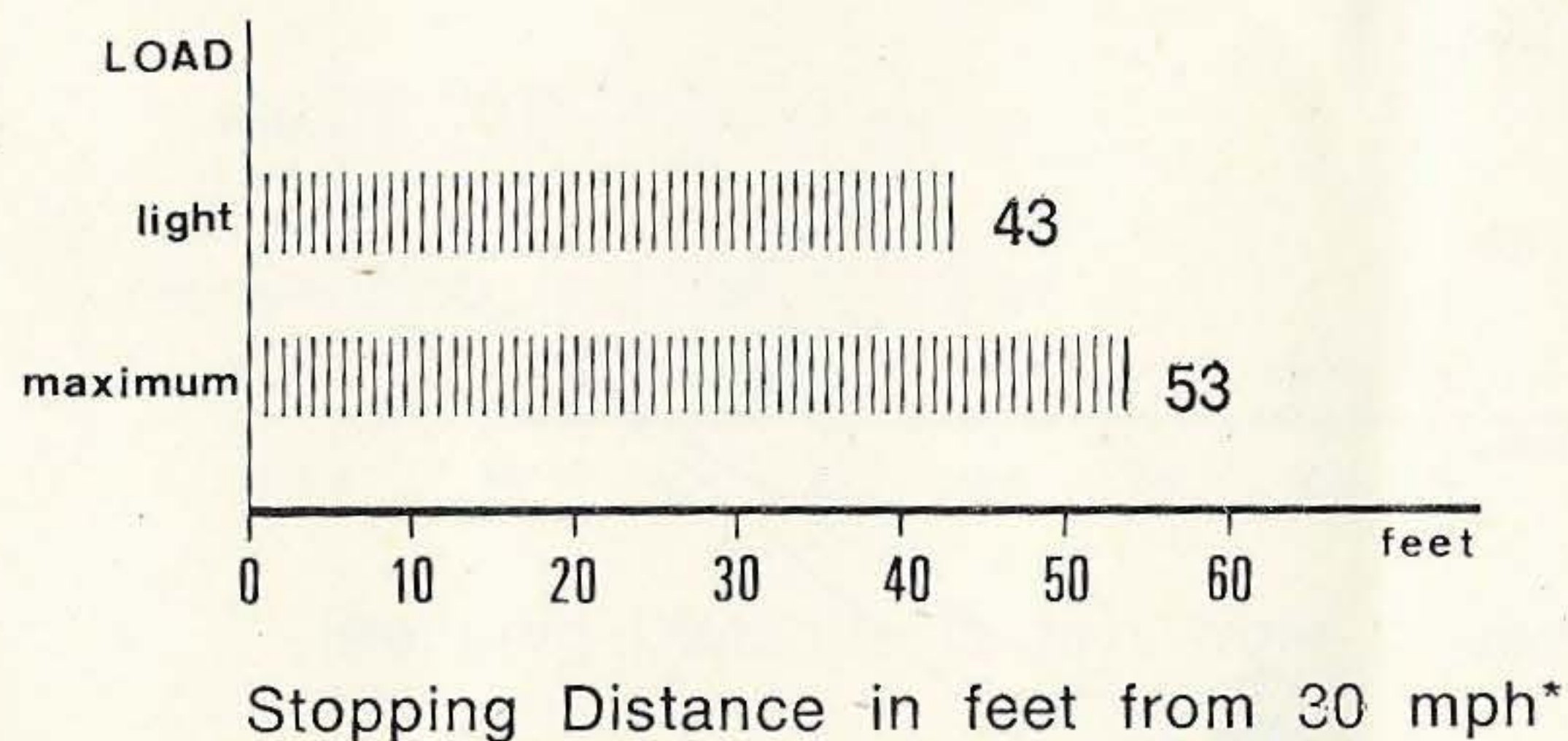


## VEHICLE MINIMUM STOPPING DISTANCE ON DRY PAVEMENT

This figure indicates braking performance that can be met or exceeded by the vehicles to which it applies, without locking the wheels, under different conditions of loading. The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.

**Motor driven cycle GRANDE** (type with maximum speed 30 mph)

A. Fully Operation  
Service Brake



\* « The maximum speed attainable by accelerating at maximum rate from a standing start for one mile ».



## ACCELERATION AND PASSING ABILITY

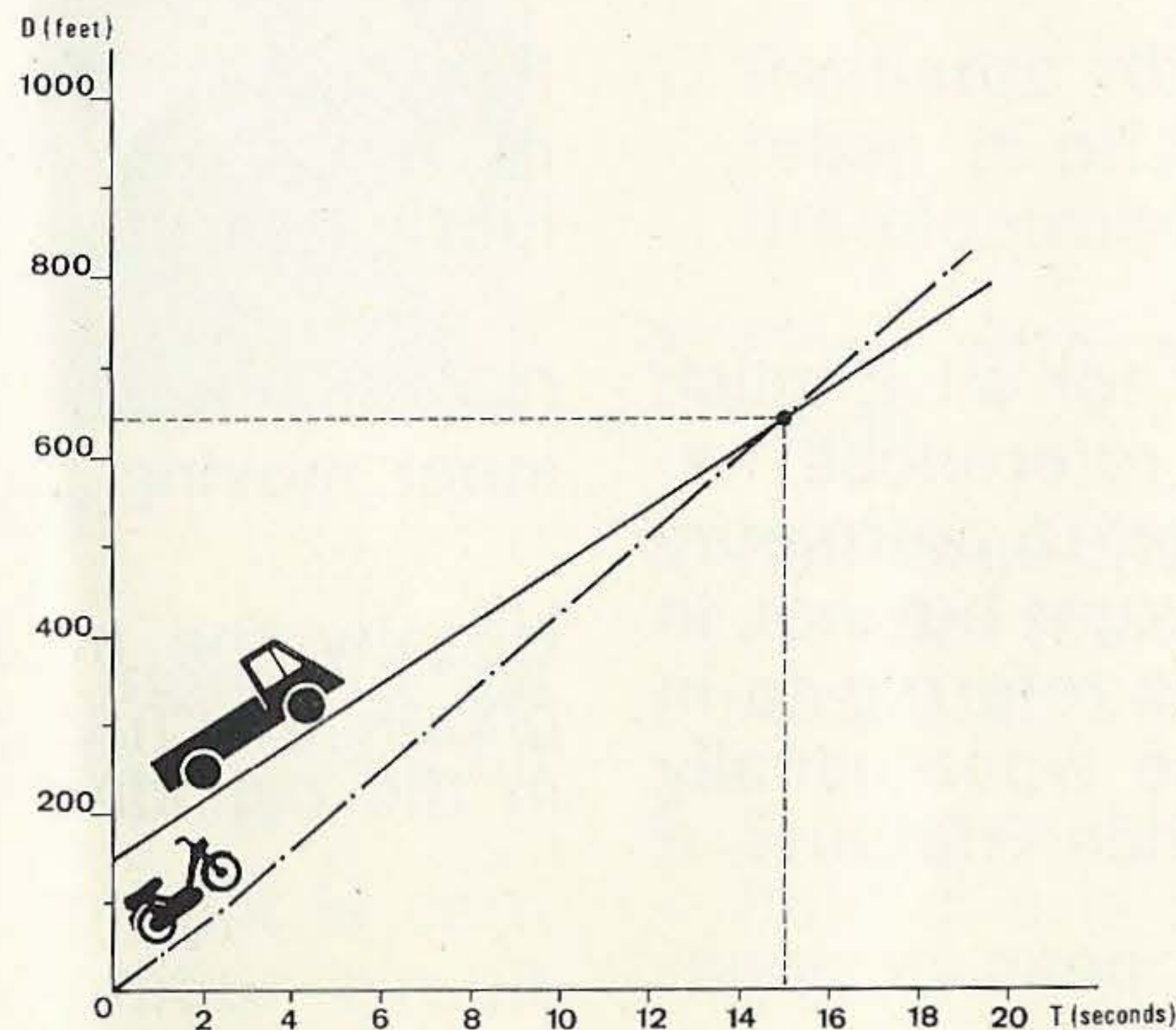
This figure indicates passing times and distances that can be met or exceeded by the vehicles to which it applies in the situations diagrammed below.

The low speed pass assumes an initial speed of 20 mph and a limiting speed of 35 mph the high speed pass assumes an initial speed of 50 mph and a limiting speed of 80 mph.

Notice: The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions and the information may not be correct under other conditions.

<b>SUMMARY TABLE:</b>	Low-speed Pass	Feet 645	Seconds 15.5
	High-speed Pass	<b>Not capable</b>	

### GRAPHIC DETERMINATION OF PASSING TIME AND DISTANCE





## **Important notice**

### **Spark plug**

Use the correct spark plug as recommended by your Vespa Dealer. Uncorrect plug causes improper running or overheating which in some cases damage piston or causes piston seizure.

### **Oil for « mixture »**

This handbook is issued for all English speaking Countries and references herein contained are referred to petroleum products available in Europe but not in the States. The motor oils referred to in this handbook are not the types usually found in the U.S.A. Service Stations.

The suffix 2T is the European designa-

tion for two stroke oil. The equivalent in the States are: Chevron 2 stroke blend - Mobil Outboard Super - Pennzoil Outboard - Power Stroke - Quaker State 2 cycle - Valvoline Outboard and other products.

Your Vespa Dealer is one of the best sources for these products and information.

It is important to use the correct mixture. If not the engine cannot be properly lubricated or cooled.

Overheating should cause damages to inner moving parts of the engine.

Usually the main damages are for the piston which in some cases could seize in the cylinder.



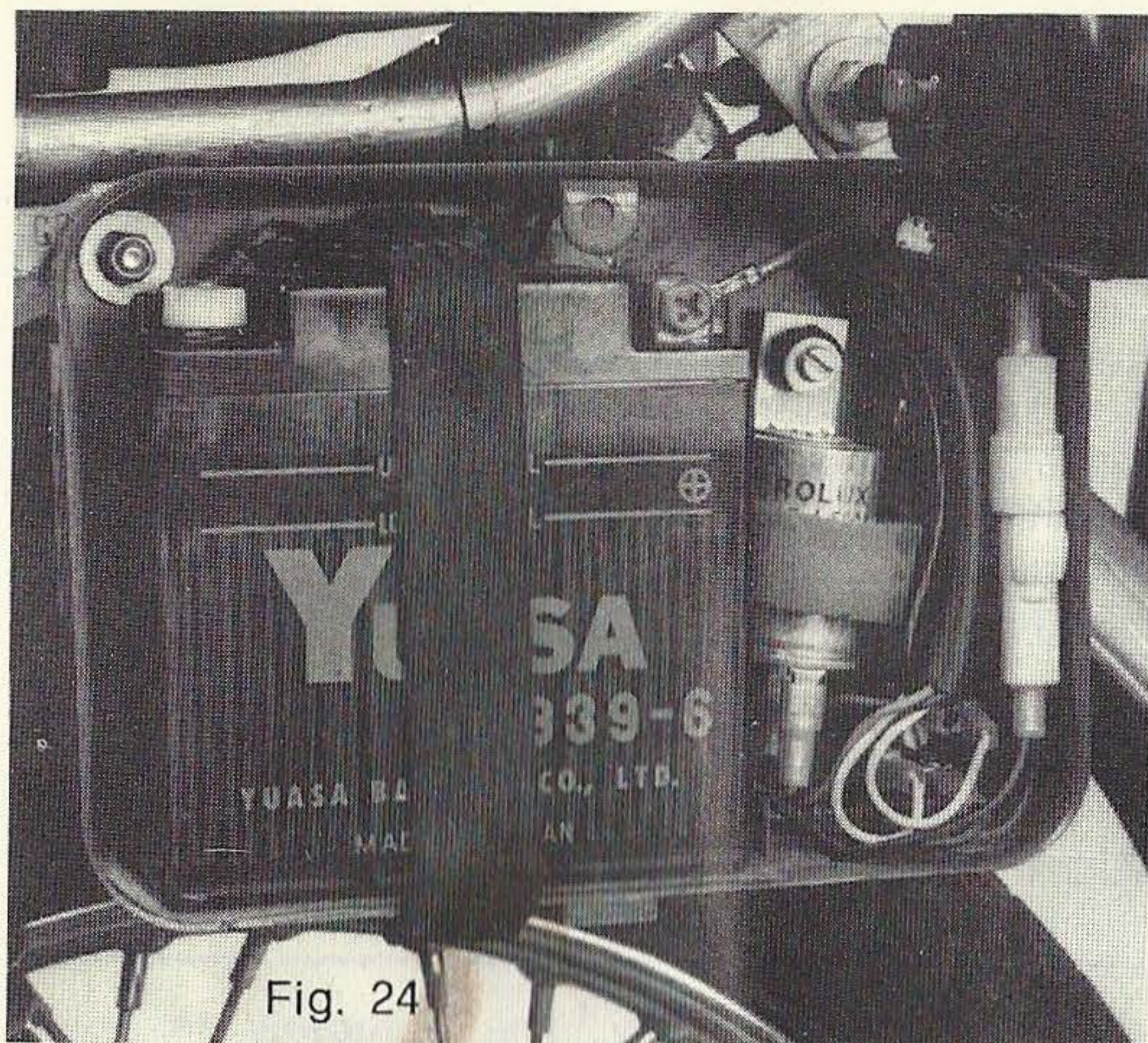


Fig. 24

## ELECTRICAL EQUIPMENT

With front and rear turn signal lamps fed by a battery (see electrical diagram on fig. 24).

We point out that the stop light is connected in series on the ignition circuit

so that when the bulb of stop light is burned out the ignition of the engine does not occur whilst the front and rear brake controls are in action.

## BATTERY

If the vehicle is not employed for long period dismantle the battery and proceed as follows:

1. Recharge the battery after having taken it off the vehicle and top up the electrolyte level.
2. Coat with vaseline grease battery leads.
3. Recharge the battery at least once a month (compensating recharge: 1 Amp. for 5÷6 hours).
4. It is advisable to recharge the battery before it is newly fitted on the vehicle.



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## 4th edition

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All descriptions and figures are given in good faith and intended to apply generally. Variations in performance and construction on individual machines can occur according to prevailing circumstances and rider. All performance figures stated are to CUNA standards.



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