



**HONDA MOTOR CO., LTD.**

# **HONDA**

## **250·300 | MODEL C72·C77**

### **OWNER'S MANUAL**

Ⓜ '65 12. Ⓜ-C 10,000  
PRINTED IN JAPAN



## **HONDA / Foreword**

We would like to take this opportunity to thank you for your selection of our "HONDA 250" or "HONDA 300" out of the various motor cycles on the market. We have every confidence that you have made a sound choice and that you will never regret your decision.

This little booklet has been compiled for the sake of your correct handling and maintenance of the "HONDA" and to insure long and competent performance.

Please read this booklet completely and put it into practice on your "HONDA" and you will derive a lot of pleasure from this machine.

Comments in this booklet are subject to change without notice.

**HONDA MOTOR CO., LTD.**  
5-5 YAESU-CHO, CHUO-KU  
TOKYO, JAPAN

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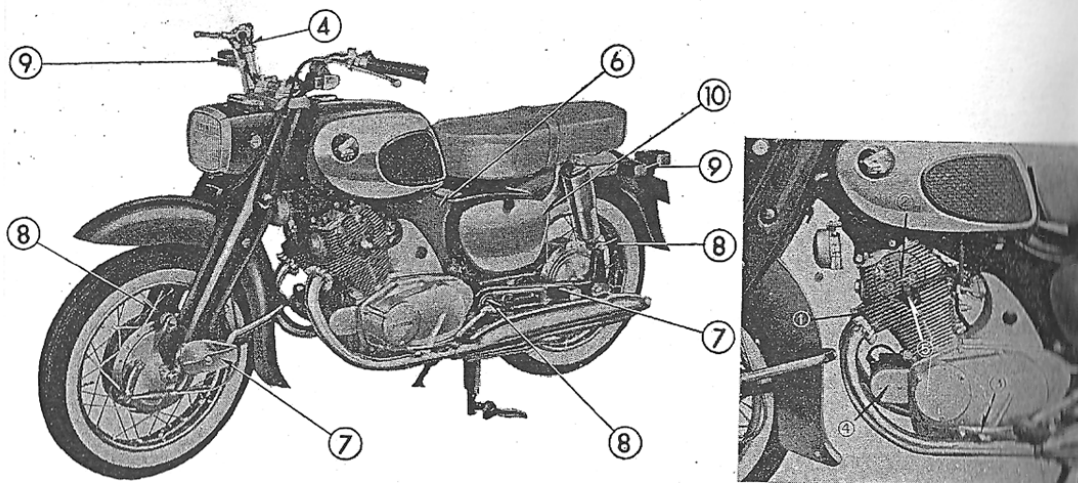
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[ 3 ]

## General Features of the "HONDA"



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- ① Twin-cylinder-engine offers you a smooth and quiet operation.
- ② 4-cycle and O.H.V. engine supply you unceasing power.
- ③ 4-speed constant-mesh transmission gives you the easiest, quietest and most responsive shifting.
- ④ Touch starting button, saves the unnecessary effort of kicking-down a kick pedal.
- ⑤ New integrated Crankshaft promotes long life and smoothness in operation.
- ⑥ A Single-unit body is applied on the HONDA and its individual silhouette gives you greater strength and greater durability.
- ⑦ Dream's Pivot type suspension gives full-time cushioning on rough roads and Shock absorbers running on velvet.
- ⑧ Rubber bushings applied in pivots remove all worries of defacement from your mind.
- ⑨ A Finger-operative traffic signal saves you the trouble of lifting your arms at turns.
- ⑩ Enclosed Drive Chain has essened the danger of dust and gravel.
- ⑪ HONDA is ready to do your instant bidding with a reserve of power....Pick-ups and hill-climb are no problem.

[ 5 ]



## ▶ ENGINE

Engine type : O.H.V., Twin-cylinder and 4-stroke  
 Bore X Stroke : 54 mm X 54 mm (2.12 in X 2.12 in) model (250 cc)  
 60 mm X 54 mm (2.36 in X 2.12 in) model (300 cc)  
 Cylinder capacity : 247 cc (model 250 cc)  
 305 cc (model 300 cc)  
 Compression ratio : 8.3 : 1  
 Max. horse power & torque : 20 ps/8000 rpm, Torque 1.87 kg-m/5700 rpm  
 model (250 cc)  
 23 ps/7500 rpm, Torque 2.35 kg-m/6000 rpm  
 model (300 cc)  
 Igniting device : Battery and ignition coi  
 Ignition Timing : 5° BTDC initial  
 35° BTDC at full advance

[6]

Contact breaker point gap : 0.35 mm (0.014")  
 Spark plug size : D6HW 12φ X 10  
 Spark plug spark gap : 0.6 mm (0.024")  
 Battery : 12V. 10 Amp. h.  
 Valve tappet clearance : 0.1 mm (0.004 in) both in. & ex.  
 Carburettor : PW 22 HA 7  
 Clutch : Multi-plate & wet type  
 Transmission : Four speed constant mesh gear and foot control  
 Gear ratio  
 Primary (chain) : 3. 13  
 Gear box (gear train) : Low 3.39  
 2nd 1.88  
 3rd 1.38  
 Top 1.00

[7]

Secondary (chain) : 2.07 (250 cc) ; 1.75 (300 cc)  
 (250 cc) (300 cc)  
 Total ration  
 First 22.35 18.59  
 2nd 12.44 10.35  
 3rd 9.09 7.55  
 Top 6.59 5.48  
 Starter : Electric motor starting and kick starter  
 Lubricating system : Wet sump provided with gear pump  
 Crank case oil capacity 1.51 (0.33 gal)

## ▶ FRAME

Tyre size : 3.25 X 16 (front and rear)  
 Tyre pressure : Front 28 psi  
 Rear (solo) 32 psi  
 Rear (pillion occupied) 40 psi  
 Caster : 62°

[8]

Fuel tank capacity 11.81 (2.6 gal)  
 Dimensions : Model 250 Model 300  
 Overall length 1,980 mm (78.4") 1,980 mm (78.0")  
 Overall width 500 mm (27.6") 785 mm (30.7")  
 Overall height 1,040 mm (39.4") 1,040 mm (41.0")  
 Wheel base 1,310 mm (51.6") 1,310 mm (51.6")  
 Ground clearance 125 mm (5.12") 125 mm (4.90")  
 Dry weight : 169.5 kg (356 lbs) 169 kg (373.8 lbs)

## ▶ PERFORMANCE

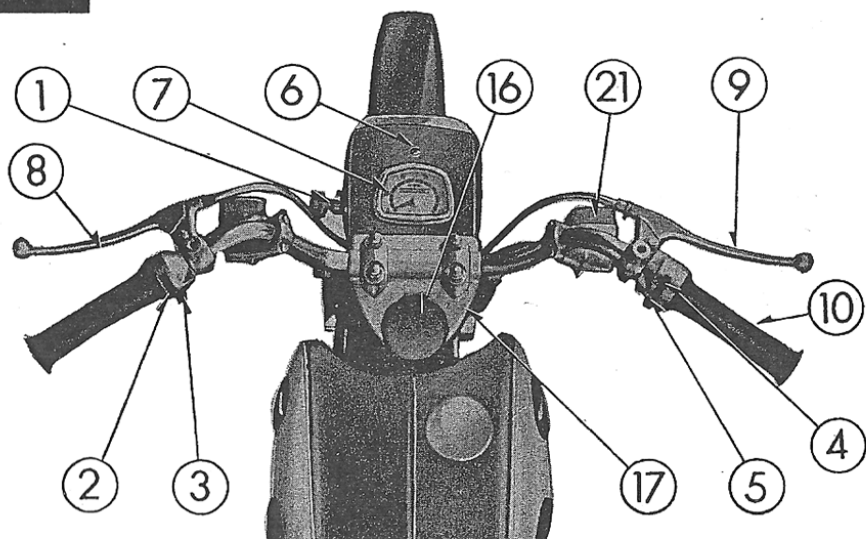
Max. top speed 130 km/hr (81 mph) (250 cc) 140 km/hr (87 mph) (300 cc)  
 Fuel consumption : 45 km/l (127 gpl) (at 35 km/h constant speed)  
 Climing ability : 18°  
 Stopping distance : Within 9 m (10 yd) (Stopping from 35 km/hr)

Items without notice of (250 cc) or (300 cc) in the above data represent common value for both.

[9]



## Controls and Instruments



[10]

General locations of controls and instruments of "HONDA 250" and "HONDA 300" are illustrated with numbers as follows:

- |  |                                      |
|--|--------------------------------------|
| (1) Combination switch—P. 46   | (4) Winker switch —P. 47             |
| (2) Dimmer switch —P. 48   | (5) Starter switch button—P. 19      |
| (3) Horn button —P. 48   |                                      |
| (6) Neutral indicator lamp—When the key is in the positions of ignition, the lamp lights, which indicates the shifting gear is in neutral. |                                      |
| (7) Speedometer—Reading speed of vehicle and total milage covered.   |                                      |
| (8) Clutch lever —P. 32  | (12) Brake pedal —P. 34              |
| (9) Hand brake lever —P. 33  | (13) Fuel tap —P. 18, 42             |
| (10) Throttle grip —P. 19, 23  | (14) Carburettor choke shutter—P. 19 |
| (11) Change pedal —P. 22   | (15) Kick starter pedal —P. 20       |
| (16) Steering handle damper—Tightness of steering handle can be chosen as your favorite, according to the condition of road surface.       |                                      |
| (17) Handle lock —P. 25  |                                      |
| (18) Tool & battery box—The battery is held by the tool tray board.  |                                      |
| (19) Electrical equipment box—Electrical apparatus is contained in.  |                                      |
| (20) Tail and stop lamp—P. 51  |                                      |
| (21) Front and rear winker lamp—P. 47  |                                      |

[11]



## Engine Number & Frame Number

For registration and every kind of report concerning your "HONDA", the serial numbers of engine and frame are indispensable, therefore, every HONDA is provided with these numbers containing such information as the type, model, and year of manufacture.

Their locations are illustrated in the figures hereunder.

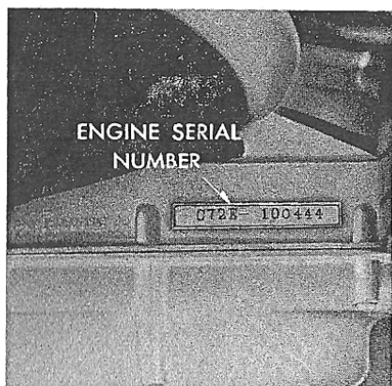


Fig. 1

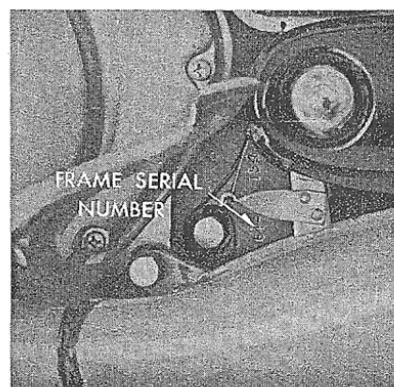


Fig. 2

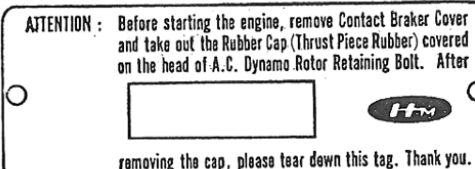
[12]



## Driving Methods

### ▶ CAUTION BEFORE STARTING

It should be noticed that the caution tag, such as the illustration is attached on the starter button, when the motorcycle is newly unpacked. Before use remove the rubber piece stuck on inside of the contact breaker cover.



### ▶ CAUTION FOR CHANGING PETROL

Our recommended octane number of petrol in use is 85 to 95.

It is advisable to use petrol of higher quality which is supplied from trustworthy petrol stands.

The fuel tank should be filled with 11.8L (2.6 gal) when it is empty and reserve abt. 12L when the fuel tap is switched to the position "Res."

[13]

## ► PROCEDURE FOR STARTING ENGINE

### ◇ Under normal temperature ( $-5^{\circ}\text{C}\sim+10^{\circ}\text{C}$ )

1. Open the fuel tap **a** in the position of "ON". (fig. 3)
2. Fully close the choke shutter **b**. (fig. 4)
3. Insert the key in the switch and turn to "I". (fig. 5)
4. Fully open the throttle grip twisting inwards. (fig. 6)
5. Push the starter button **c** for about **3 seconds** to feed petrol into the cylinder. (fig. 6)

— preparatory steps for igniting —

6. Open the choke shutter less than a quarter.
7. Turn the ignition key in the position "II"
8. Hold the throttle grip at the opening of  $1/8\sim 1/4$ .
9. Push the starter button to start the engine. Do not open the throttle grip further too quick until the engine gets started.
10. Gradually open the throttle and warm up the engine at medium revolutions, and then open the choke shutter all the way.

### ◇ When the engine is warmed or above the temperature over $10^{\circ}\text{C}$

Procedures from 2 to 5 of starting at normal temperature can be omitted.

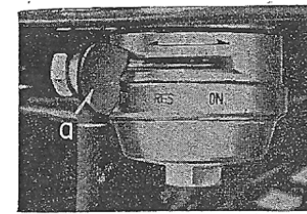


Fig. 3

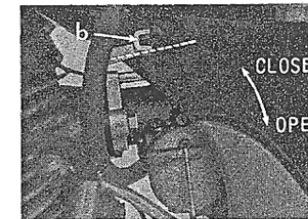


Fig. 4

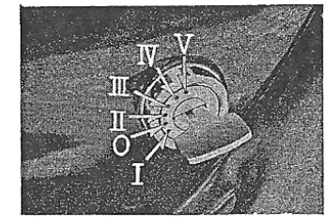


Fig. 5

### ◇ Using the kick starter

The kick starter is available as a substitute for the starter motor in cases where the battery current does not hold, for the starter motor operation or starting in extremely cold weather.

And the procedure is as follows:—

1. Insert and turn the key to position "I" and fully close the choke shutter.
2. Fully open the throttle grip and kick down the kick pedal twice.
3. When the battery is discharged, turn the key to the position "IV" and turn off the headlight by setting the dimmer switch to the neutral (intermediate) position of its stroke.

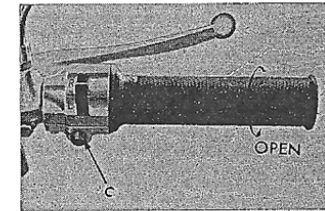


Fig. 6

[14]

[15]

4. Open the choke shutter less than a quarter, and hold the throttle grip at opening of  $1/8\sim 1/4$ .
5. Kick down the starter pedal vigorously and start the engine.
6. When the battery is discharged, drive the vehicle as stated in item No. 3 in the daytime, or with the parking light on in the night time, until the battery current restores.

### ◇ Note for using the starting motor

1. Do not apply the starter motor for more than the continuity of 10 seconds.
2. If the engine does not start within 10 seconds wait for more than 20 seconds before trying again.

Repeat the same operation until the engine starts.

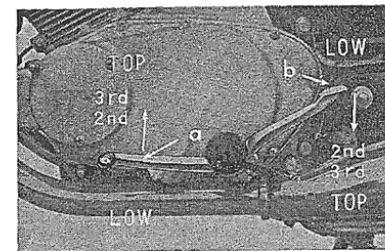


Fig. 7

## ► STARTING AND SHIFTING GEARS

When the engine starts running, application of the clutch, shifting gear and throttle grip are essential for moving off.

### ◇ Moving off

1. Pull the clutch lever in (declutch),
2. Gently depress the portion **a** of the change pedal with the toe until response is felt, then the gear is shifted in low gear.
3. Remove the toe from the pedal and let the pedal return to the original position.
4. Slowly release the clutch lever and at the same time open the throttle gradually. The vehicle will now move off.

### ◇ Changing gear

1. Once the vehicle is moving, gradually open the throttle grip until an adequate speed  $20\sim 25\text{km/h}$  ( $13\sim 16\text{mph}$ ) is obtained.
2. Close the throttle valve.
3. Pull in the clutch immediately.
4. Lift the portion **a** of the pedal up with tiptoe and return it to the original position, (second gear).
5. Slowly release the clutch and gradually open the throttle.

[16]

[17]

- The third and top gear may be shifted in the same way as the second gear.
- Instead of lifting the front portion a of the pedal, shifting possible by depressing the portion b with the heel.
- Gears should be changed when their respective speeds are obtained, and the suitable speeds on a level road are as follows.

Gear changing	first~second	second~third	third~top
Speed	13~16 mph (20~25Km/h)	19~22 mph (30~35Km/h)	25~31 mph (40~50Km/h)

While running in top gear, control of the speed will be maintained by the operation of the **throttle grip**.

- When changing gears from top to third, third to second and second to low, operations are the same as above mentioned, but be sure that the vehicle does not retard suddenly. It is advisable to drop to the respective speeds before gear-changing.
- When the gear is in neutral, the red lamp called the **neutral indicative light** on the headlight case will light



Fig. 8

[18]

## ▶ STOPPING AND PARKING

- Always apply both front and rear brakes together while stopping or reducing speeds. In the event of the brakes being applied too suddenly, either the front or rear brake only is applied or the wheel might skid aside and cause a spill.
- When stopping or parking, be certain the gears are always in the neutral position.
- When parking the vehicle on the stand, do not forget to close the gasoline tap, pull out the switch key and lock up the **steering handle lock** for prevention of robbery.
- Turn the handle to the left all the way, insert the ignition key into the lock, turn the key clockwise moving handle a little. Push the lock body to the button and take off the key after turning back the key to the straight position.
- For parking at night on a road, the **parking light** is ready for use, by pulling out the key from the position "V" of main switch.

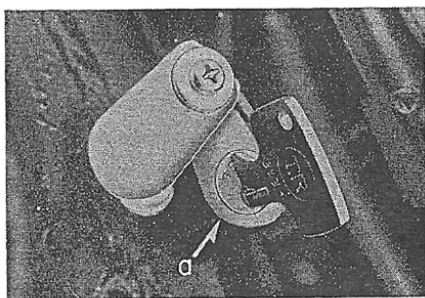


Fig. 9

[20]

## ▶ DRIVING UP HILL

- When going up steep slopes or going up hill with a load on the pillion, engage in third, second or low gear as circumstances require.
- In the event of speed being reduced, change down the gears as quickly as possible so that the vehicle does not lose speed and revolutions.

## ▶ DRIVING DOWN HILL

- When going downhill, close the throttle, release the clutch (setting in neutral) and gently apply the front and rear brakes.
- When a hill is very steep, use engine brakes, that is the method of descending a slope with throttle closed and in any gear according to circumstances.

[19]

## ▶ RUNNING-IN

Though the engine had been through the running-in process in the factory, it goes without saying that full development of performance as well as the life of an engine to a considerable degree depends upon the way it has been run in.

The main idea is to bear in mind, that the engine must never be strained and the owner should not race during the running-in period and should ride at his own speed entirely, irrespective of the speed of other traffic.

The initial 200 miles must be done without carrying extra loads and without trying very steep hills. Do not speed in top gear at more than **35 mph** for the initial 200 miles. At 500 miles, the throttle opening can be gradually increased, and moderate cruising speed of **35~50 mph** can be maintained.

After the running-in period has been completed the engine can be stressed gradually and speed bursts can be carried out progressively.

Whether the engine is under running-in or not, care must be taken not (to stress the engine unduly when it is cold or the lubricant) is not sufficiently circulated, and to change oil more frequently in the early stages than the intervals stated in the routine maintenance section.

[21]



## Maintenance

### ► DAILY INSPECTION

The following items is the daily inspection advisable for the owner to observe before starting on a daily ride or especially a long trip.

This will prevent unexpected trouble and, therefore, it is a great advantage for you to make this a habit.

1. Does the headlight and winker lights actuate perfectly?
2. Does the tail light and stop light function?
3. Does the front brake actuate well having 1.2 in ~ 1.6 in free play in the lever?
4. Does the fuel tank contain enough petrol?
5. Does the horn sound perfectly?
6. Does the crank case contain clean oil?
7. Does the clutch function well having 0.8 in ~ 1.2 in free play in the lever?
8. Does the rear brake actuate well having 1.2 in ~ 1.6 in free play on the pedal?
9. Is the tyre pressure adequate?  
(front 28 lbs, rear 32 lbs.)

[22]

The life of your "HONDA 250/300" depends on its continual maintenance service which is liable to be neglected when the machine is in good condition.

The following table is the schedule of the routine maintenance to be done at your authorized servicing dealer or dealer from whom the machine was purchased.

### ► ROUTINE MAINTENANCE

°—Items carried out by your dealer

\*—Items can be carried out by your dealer or by yourself

Item	Covering milage	1st	2nd	3rd	4th	5th
	200-400 miles	2000 miles	4000 miles	6000 miles	8000 miles	
Adjust ignition timing	°	°	°	°	°	
Adjust valve tappet clearance	°	°	°	°	°	
Adjust and lubricate drive chain	*	*	*	*	*	
Adjust clutch	*	*	*	*	*	
Adjust brakes	*	*	*	*	*	
Adjust cam chain		*	*	°	*	
Clean carburetter				°		
Clean exhaust				°		
Clean air cleaner		*	*	*	*	
Clean fuel strainer		*	*	*	*	
Clean and adjust spark plug		*	*	*	*	
Change oil in crank case	*	*	*	*	*	
Greasing			*	*	*	
Service battery water		*	*	*	*	
Check tightening of bolts and nuts				°	°	
Check tightening of spokes				°	°	

[23]



## Adjustment & Service

### ► ADJUSTING OF IGNITION TIMING

It is essential to keep the contact breaker points clean and in proper adjustment, for this will effect the engine performance.

Adjustment is done as follows:

1. Remove the A.C. dynamo rotor cover **a** at the right side crank case cover.
2. Remove the contact breaker cover on the right side cylinder head.
3. Turn the rotor clockwise to set the breaker arm slipper to the apex of the point cam, check the gap between the points with feeler gauge.

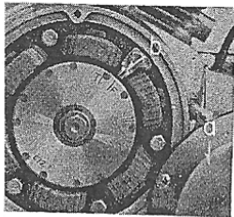


Fig. 10

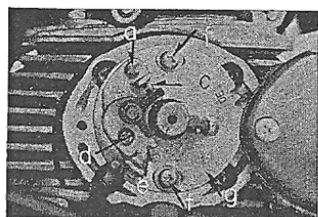


Fig. 11

The gap should be 0.012 ~ 0.016 in. and the adjustment is done by twisting the slit **e** using (-) driver after loosening the screw **d**.

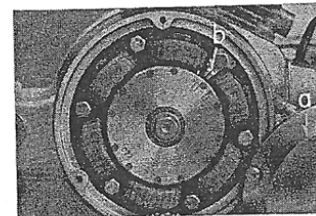


Fig. 12

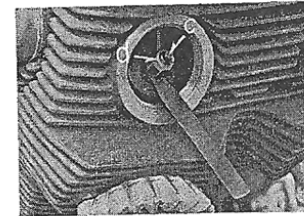


Fig. 13

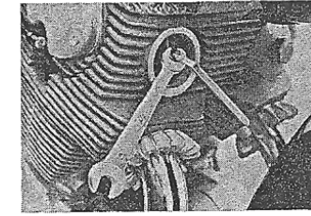


Fig. 14

4. Rotate the A.C. dynamo rotor and set the rotor where the mark "F" coincides with the indicator **b** on the coil base, when the contact points start opening. Loosen the screws **f** on the top and bottom of the plate and adjust the timing by turning the plate **g**. To find the position just start opening the contact points.
5. When an indication of an unevenness or burn on the point surfaces is observed, file them with the rasp provided in the tool bag.

### ► ADJUSTING OF VALVE CLEARANCE

The gap between the valve stem and the tappet adjusting screw should be adjusted carefully when the engine is cold.

The feeler gauge provided in tool kit is available for adjustment.

[24]

[25]

1. Remove the A.C. dynamo rotor cover **a** and set the mark "T" on the dynamo rotor with the indicator **b** on the coil base.
2. Shut off the fuel tap and disconnect the fuel tube at the tap. Remove the rear mounting bolts of the fuel tank and disconnect the front fuel level tube at one end and plug the pipe with pegs. Dismount the fuel tank pulling backward and upside down.
3. Remove the four tappet hole covers using axle wrench provided in tool kit.
4. Start adjusting from the valves which are not in the opening stroke and that may be distinguished by feeling some looseness on the rocker arms while moving the adjusting screws up and down with the fingers. When the adjustment is completed, turn the motor by one rotation to adjust the other valves.

Loosen the lock nut **d** and adjust with the adjusting screw using the special wrench and feeler gauge provided in tool kit.

When the feeler gauge goes through with neither hardness nor looseness, the gap has been adjusted to 0.004 in (0.1 mm).

5. After adjusting, tighten the nut **d** holding the screw **c** in the position. Then, confirm the gap again to see if it is true.
6. The gap is specified as 0.004 in (0.1 mm) for both inlet and exhaust.

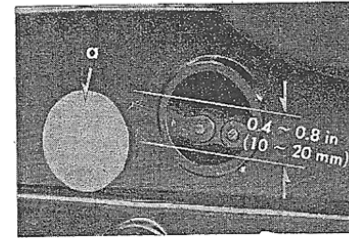


Fig. 15

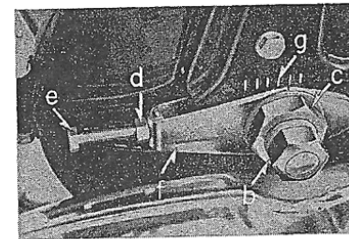


Fig. 16

### ► ADJUSTING OF DRIVE CHAIN

Existence of excessive deflection in the drive chain should result in a faster defacement of the sprocket and the chain itself.

The following procedure is advised when an adjustment deemed necessary.

1. Remove the peep hole cap **a** of the chain case.
2. Adjust the drive chain to such degree as to become 0.4 in ~ 0.8 in (10 mm ~ 20 mm) when moved it up and down. Adjustment is as follows.
3. Loosen the nuts **b, c, d** and adjust with the bolts **e** on both sides of the rear fork. For adjusting, it is important to set the marks **g** and the marks on the both sides adjuster **f** in the same position in left and right side of the fork.
4. Remove the chain and wash off the dust with petrol and soak in chain grease periodically.

[26]

[27]

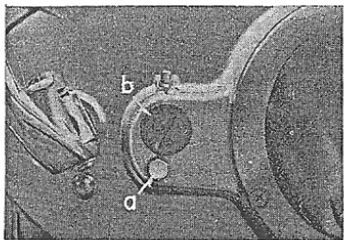


Fig. 17

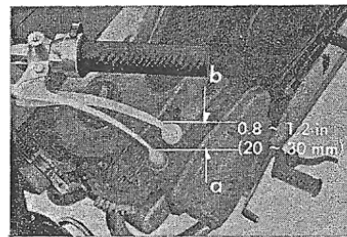


Fig. 18

### ► ADJUSTING OF CLUTCH

In the event that the vehicle starts moving or the engine stalls when the change is set even with the application of the clutch (clutch does not release), or that the speed does not comply with the opening of the throttle (clutch slips), it should be deemed that the clutch has to be adjusted according to the following procedure.

1. Loosen the bolt **a** and adjust with the clutch adjuster **b** using (-) driver. When the clutch is slipping, adjust clockwise, and when the clutch does not release, anti-clockwise. Tighten the bolt **a** when it is adjusted.

[28]

2. In this event, the clutch lever should have free play of 0.8 in ~ 1.2 in. (20 mm ~ 30 mm).
3. After adjustment ensure the clutch is operating correctly by means of the following procedure.
  - a. Kick down the kick starter to see if the clutch is slipping.
  - b. Start engine and pull the clutch lever fully and shift in the low gear. In this case the engine should neither stop nor the vehicle move out.
  - c. Engage the low gear as above, depress the brake pedal and gradually open the throttle when releasing the clutch lever. The engine should cease running instantly.

### ► ADJUSTMENT OF BRAKES

The brakes should always be adjusted properly so that they neither grab while running nor have too much play.

The adjustment is simply done as follows:—

#### ◇ Front brake

1. Screwing in the nut **c** decreases free play in the lever, and unscrewing increases free play.
2. Specified free play is 1.2" ~ 1.6" (30 mm ~ 40 mm) at the end of the lever.

[29]



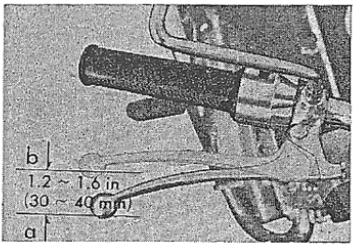


Fig. 19

◇ Rear brake

1. Adjust the free play in the brake pedal by the nut c which is the same as that in the front brake.
2. The free play should be 1.2"~1.6" (30mm~40mm) at the pedal.

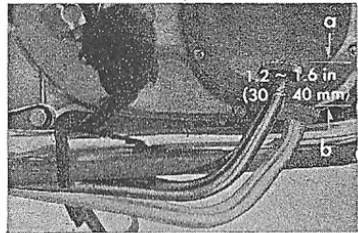


Fig. 21-1

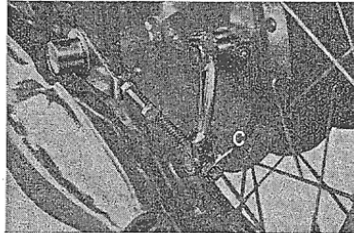


Fig. 21-2

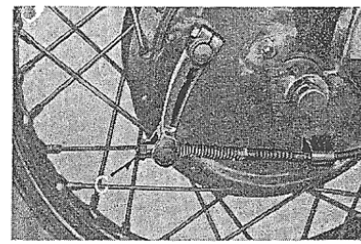


Fig. 20

▶ ADJUSTMENT OF CLUTCH WIRE AND FRONT BRAKE WIRE

1. Clutch wire :  
Loosen the nut a and adjust with the clutch adjuster b. (Fig. 22)
2. Front brake wire :  
Loosen the nut c and adjust with the brake adjuster d. (Fig. 22)
3. When the adjuster is turned clockwise, free-play become larger.

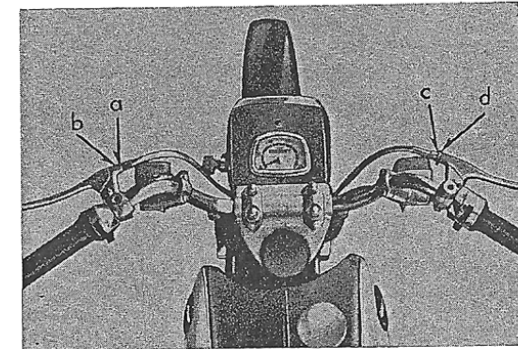


Fig. 22

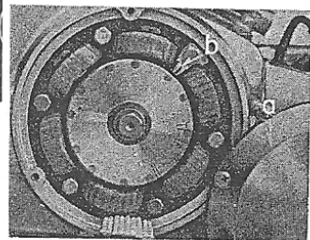


Fig. 23

▶ ADJUSTMENT OF CAM CHAIN

Check the cam chain regularly and made adjustments if necessary.

Without adequate adjustment, noise might eventually

be caused and also an excess wear in the cam chain.

1. Remove A.C. dynamo rotor cover on the right side crankcase cover, and rotate the rotor clockwise to the "T" mark on the rotor position at the foremost point as seen in Fig. 23.
2. Loosen the 6 mm lock nut c and slightly loosen the adjusting bolt d.

Then the spring of the cam chain tensioner is released and the roller holds the chain properly.

3. Tighten bolt d and secure nut c.

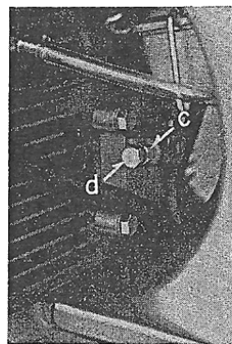


Fig. 24

▶ ADJUSTMENT OF CARBURETOR

1. Screw in the air screw a to home (don't tight), and then turn back 1 1/8 turn (anti-clockwise).
2. Adjust the idling speed to 800~1,000 at the crankshaft by the throttle stop screw b gently.

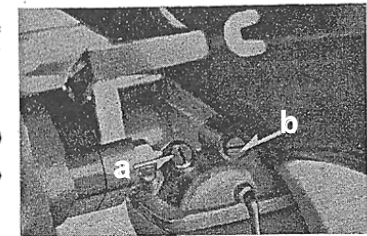


Fig. 25

Note :

1. Adjustment should be done while the engine is warmed up enough.
2. As the float chamber can be removed by taking off the clip, it is advisable to remove and clean the float chamber occasionally. Over-haul should be done at a servicing dealer about every 6 or 8 months.
3. Erratic running at high speed or acceleration may sometimes be caused by faults in valve or ignition system, therefore, it may be better to consult a specialist.

### ▶ ADJUSTMENT OF THROTTLE GRIP

Free play and stiffness of the twisting grip are adjustable as the following instructions.

1. Free play of the throttle grip can be adjusted with the adjuster **b** after loosening the lock nut **a**. Preferable free play is about 0.2" (5 mm) at the outer circumference of the throttle grip. Secure the nut **a** when it is adjusted.
2. Adjust the stiffness of the throttle twisting the screw **d** when the lock nut **c** is loosened.

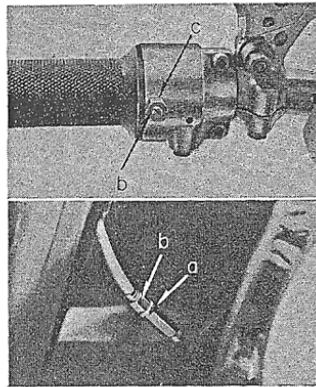


Fig. 26

### ▶ REMOVAL OF WHEELS

When repairing the tyres or tubes or replacing spokes, the wheels can be removed by the following method.

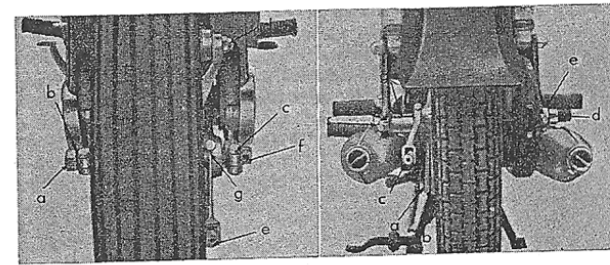


Fig. 27

Fig. 28

### ◇ Front wheel (Fig. 27)

1. Remove the axle nut **a** and loosen the bolt **b, c**.
2. Remove the bolt and nut **d**.
3. Remove the brake adjusting nut **e**.
4. Place a support of

suitable height under the crank case to lift the front wheel. Then withdraw the axle, remove the brake plate and take out the wheel.

### ◇ Rear wheel (Fig. 28)

1. Remove the cotton pin **a** and remove the bolt and nut **b**.
2. Remove the brake adjusting nut **c** and draw out the brake rod from the brake arm.
3. Remove the axle nut **d**, withdraw the shaft **f** and remove the setting collar **g**. Draw the wheel to the left side in order to release the flange from the dampers, then tilt the vehicle to the right side and lower to remove the rear wheel.

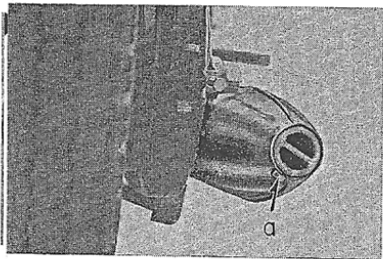


Fig. 29

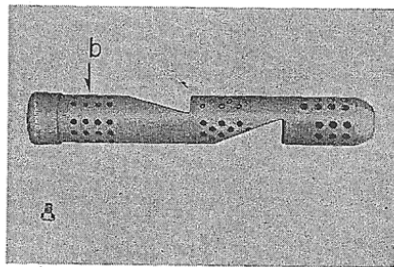


Fig. 30

### ▶ DECARBONIZING OF SILENCER BOX

Carbon deposits inside the silencer may result in a decrease of exhaust efficiency.

The necessary cleaning should be done:—

1. Remove the nut **a** and extract the inner baffle pipe.
2. Use wire brush for removing the carbon deposits. Install the baffle to the silencer.

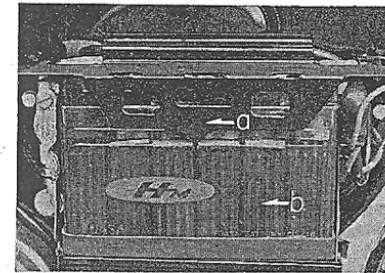


Fig. 31

### ▶ DUSTING OF AIR CLEANER

Accumulation of dirt or dust on the air cleaner directly affects the performance of the engine. To avoid this it is necessary to clean the air cleaner periodically.

1. Remove the tool box cover at the right side frame, remove the tool tray board **a** and battery **b**.

Then the air cleaner lid **c** is opened the air cleaner element **d** can be seen.

2. Remove the carburettor cover and insert the hand to disconnect the carburettor connecting tube, remove the retaining nut of the element and take out the element.
3. Remove dust with compressed air. If a compressor is not available use a soft brush.
4. When the element is broken or contaminated with oil or water, replace it with a new one.

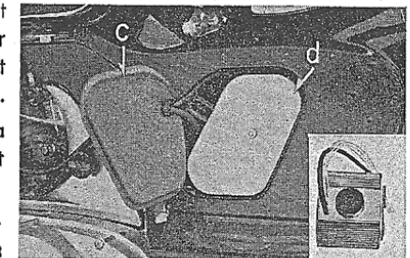


Fig. 32

### ► CLEANING OF FUEL TAP

Clogging of the fuel tap screen mesh will result in poor supply of fuel to the carburettor and occasional cleaning is necessary.

1. Set the tap to the "STOP"  
Remove the fuel tap bowl **b** using a spanner provided in tool kit :
2. Thoroughly clean screen **c** and bowl with petrol.

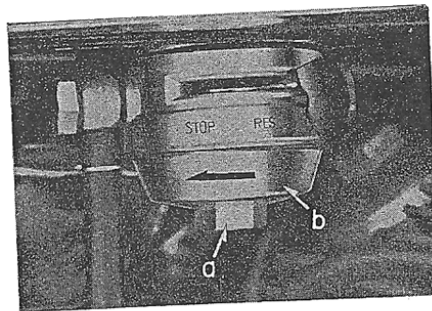


Fig. 33

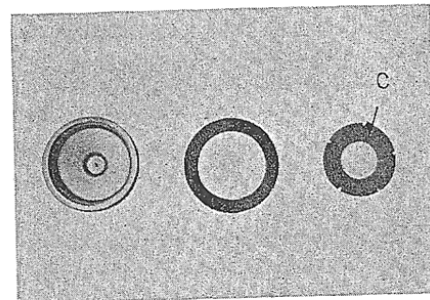


Fig. 34

[38]

### ► CLEANING OF OIL FILTER

1. Remove the oil filter cover screws on the left side cover of the crank case, and pry the cover off with (-) drivers inserted in the slits. Take out oil cleaner **a** with its shaft.
2. Remove the set ring and clean inside the filter with petrol.
3. Re-assemble the oil filter complete with the shaft.
4. Be careful that the rubber "O" ring is in its place when replacing the oil filter cover.

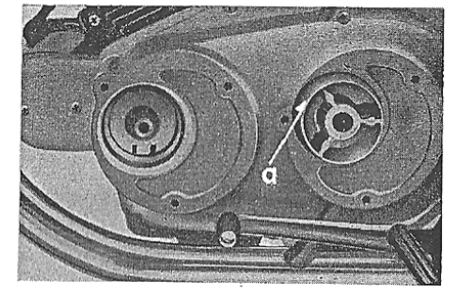


Fig. 35

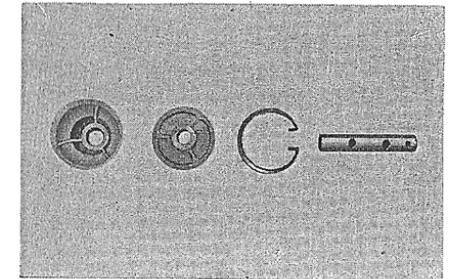


Fig. 36

[39]

## Electrical Equipment

### ► BATTERY MAINTENANCE

Life of the battery mainly depends on the maintenance itself. The procedure is as follows:—

1. The level of the battery electrolyte should be kept as a rule between the **uppermost line**, add distilled water or drinking water to maintain this level. **Do not use sulfuric acid.**
2. Remove the red plug **a** and pour distilled water from the orifice. The height of the level should be the same in each cell.
3. If a decrease of the level is outstanding consult with a specialist and check the charging current of electricity and take the necessary counter-measures.
4. Care should be taken not to clog the vent tube **b**, for this may cause an eruption of the battery.

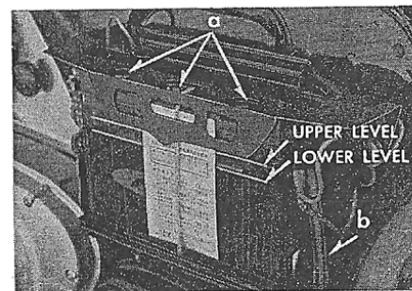


Fig. 37

[40]

### ► MAINTENANCE OF SPARK PLUGS

The spark plugs must be kept in good condition. When the electrodes are dirty or wet or depositing carbon, the engine will mis-fire.

Therefore, it is necessary to maintain periodically as follows:—

1. Clean the spark plug tip using spark plug cleaner or medium hard wire brush.
2. Adjust the gap by lifting, or bending the ground electrode **a** so that the **0.027 in (0.6 ~ 0.7 mm)** feeler gauge can pass through.
3. Recommended spark plug for use is **NGK D6HW** for normal use and **D8H** for use under heavily stressed condition.
4. To assure that the spark plug washer is inserted, tighten with the fingers all the way, then tighten a quarter turn further with the spark plug wrench, provided.

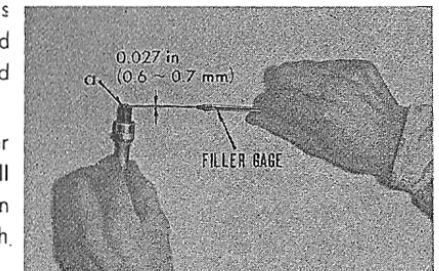


Fig. 38

[41]

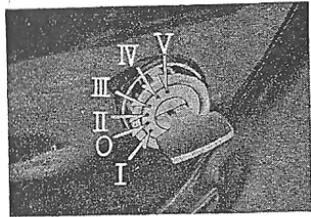


Fig. 39

### ▶ OPERATION OF COMBINATION SWITCH

The engine is ready to start if the key is inserted and turned to the position "II" as mentioned before, and other devices for driving in darkness or twilight are in use with the operations of the

key. The positions are as follows:—

- I—For operation of the starting motor only. (Do not fire.)
- O—For insertion of the key.
- II—For day-time driving; the winker light, horn, starter motor and stop light are available.
- III—For twilight driving; additional use of parking light to the above.
- IV—For night-time driving; additional use of headlight and tail light to the "II".
- V—For parking at night-time; tail light is available. The key can be withdrawn.

[42]

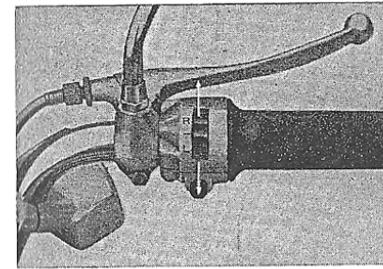


Fig. 40

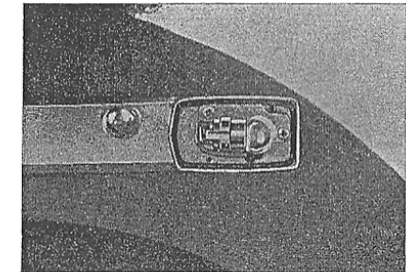


Fig. 41

### ▶ OPERATION OF WINKER LIGHT AND REPLACEMENT OF BULB.

The winker light on the front and rear can be operated by the switch located on the right handle bar, when the engine key is turned into II, III, IV.

1. Pushing the knob forward to the position of letter "R". The right side winkers light.  
By pulling the knob backward to "L", the left side winkers lights.
2. The bulbs are cylindrical type of 12 volts, 10 watt.
3. For replacement of the bulbs, remove the amber plastic cover (winker lens) unscrewing the two screws, and replace the bulb at the socket.

[43]

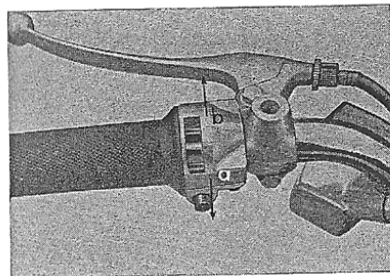


Fig. 42

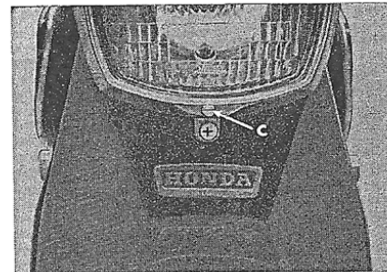


Fig. 43

### ▶ OPERATION OF HEADLIGHT AND ITS REPLACEMENT

The fully sealed beam type headlight assembly of which the bulb is inseparable, or the semi-sealed beam type headlight assembly, of which the bulb is separable, are used on HONDA.

A parking light is enclosed in the reflector on both type, and both of them provide double filaments which are operated by the dimmer switch located at d on the left handle bar.

(A push button located under the dimmer switch is the horn button)

[44]

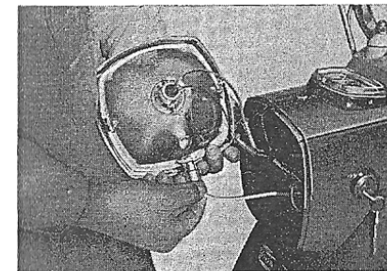


Fig. 44 (Fully sealed Beam)

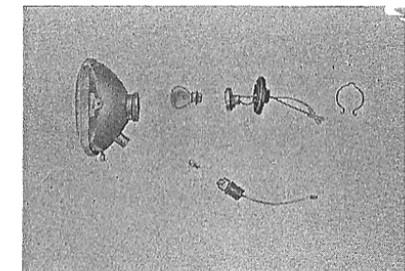


Fig. 45 (Semi-sealed Beam)

### ◇ Operation of switches

The headlight will light, when the key is turned to "IV."

By turning the knob to a, the main beam (12V. 35W) is operated. By turning the knob to b, the dimmed beam (12V, 35W) is useful when proceeding along a road illuminated by street lightings or when approaching another vehicle proceeding in the opposite direction.

When the knob is between a and b, both lights will remain unlit.

Running with the lights unlit is used for the purpose of recovering charge when battery is discharged.

[45]

#### ◇ Adjustment of focus.

Headlight main focus is adjusted by means of the adjuster c. (Fig. 43)  
The adjustment must be done when the motor cycle is fully loaded (solo) to aim 34" height vertically at 17 ft, straight ahead of the light assembly.

#### ◇ Replacement

Remove the cross recessed screw under the adjusting screw c. and separate the rim from the headlight case. Disconnect the wiring behind the lamp. Remove the parking light bulb when the socket is separate from the reflector. Replace the sealed beam unit, removing the two clips from the stay. Remove the headlight bulb socket from the reflector and replace the bulb for semi-sealed beam.

Specified capacity of the bulbs are as follows:—

Headlight main beam. 12V. 35W.

Headlight dimmed beam 12V. 30W.

The dimmed beam filament is screened for semi-sealed bulb to prevent glaring while running.

Parking light. 12V. 30W.

[46]

#### ▶ REPLACEMENT OF STOP AND TAIL LIGHT, AND ADJUSTMENT OF STOP LIGHT SWITCH

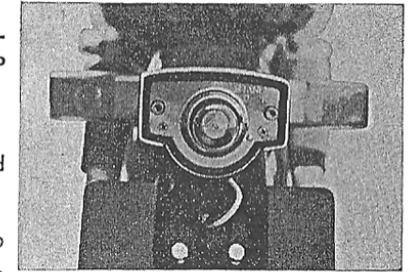


Fig. 46

The tail and stop light are combined in one bulb with a double filament.

The operating timing of the stop lamp is adjustable by the stop switch which is located in the battery box.

When the key is switched into the positions "II, III, IV" the stop lamp is ready to light, and the tail light is lit when the key is turned to "IV, V"

#### ◇ Replacement

Remove the tail light plastic cover (lens) unscrewing the two attached screws.

Replace the cylindrical bulb being careful not to insert in the opposite direction.

[47]

Capacity of the bulb is 12V. 8W for stop combined with 4W tail light. (Fig. 46)

#### ◇ Adjustment

The stop light should be adjusted to correspond with the locating height of the stop switch.

It is adjusted by nut b after nut a has been loosened. (Fig. 47)

The stop light should start to operate at the moment when the free play of the brake pedal ceases.

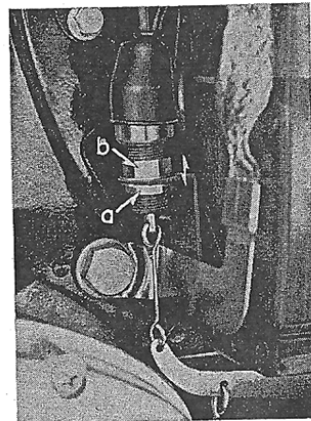


Fig. 47

[48]



## Lubrication

Lubrication is closely connected with the life of the machine and therefore, it is needless to insist upon the importance of changing and servicing lubricants.

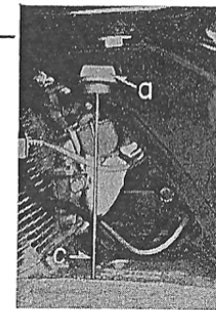


Fig. 48

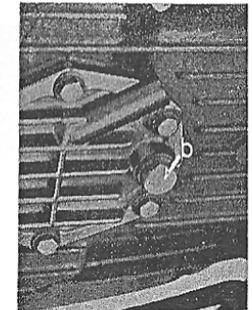


Fig. 49

#### ▶ CHANGING OIL IN CRANK CASE

1. Remove the oil filler cap a and drain plug b and drain the oil thoroughly. For accessibility of drainage, it is recommended to commence the operation while the engine is warm.
2. Re-install the drain plug and put new oil into the crank case.
3. Insert the dip stick into filler cap orifice and check whether the level of oil levels notch c.
4. Quantity of the oil required is 1.6L (3.4 US pt., 2.8 Imp. pt) when the engine is completely overhauled.
5. Recommended grade of oil is as follows:—  
Above 59°F (15°C) .. SAE 30    59°F (15°C) to 32°F (0°C) .. SAE 20W  
Below 32°F (0°C) .. SAE 10W

[49]

6. The quality of the oil is recommended as heavy duty oil, and the brand recommended are as follows:—

Honda Ultra Oil.

► **GREASING**

◇ **Nipples**

The portions which require periodical greasing are shown in the figures following.

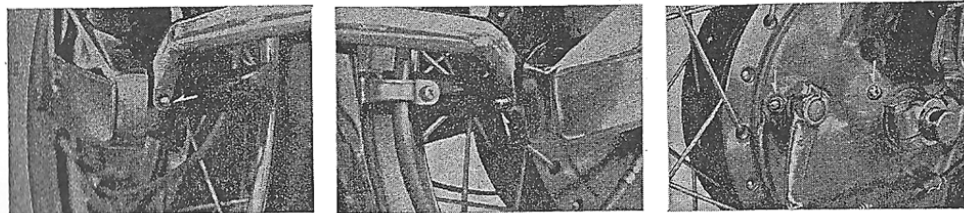
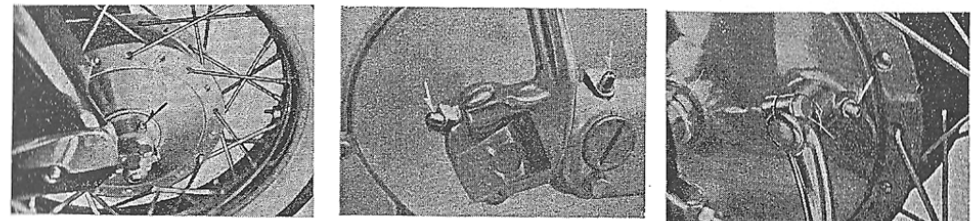


Fig. 50 (1)

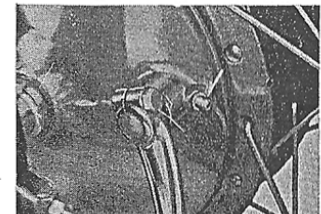
(2)

(3)

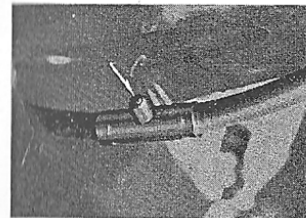


(4)

(5)



(6)



(7)

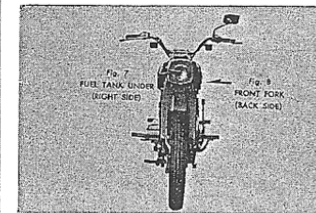
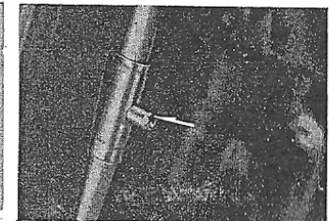


Fig. 7 FUEL TANK UNDER (LIGHT SIDE)

Fig. 8 FRONT FORK (BACK SIDE)



(8)

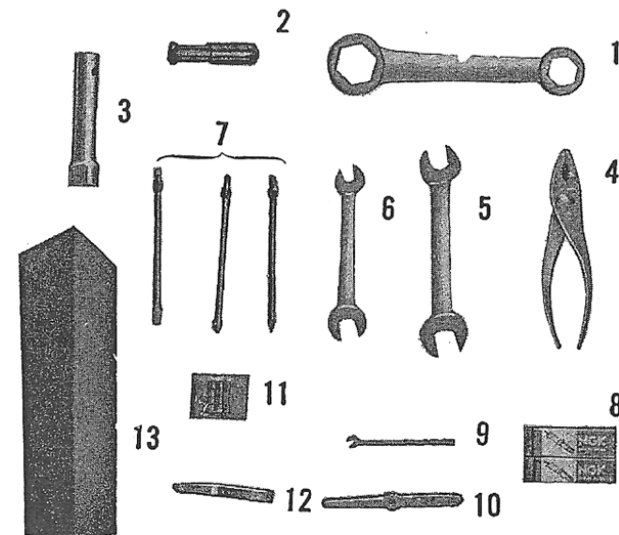
◇ **Drive chain and wheel bearings**

Periodical greasing of the chain and wheel bearings is essential and it is appreciated to be done at a servicing dealer.



**HONDA** / Tool Kit

1. Axle wrench, for removing axle nut.
2. Screw drivers handle.
3. Spark plug wrench.
4. Pliers.
5. Double head spanner 17mm and 19mm bolts, nuts and drain plugs.
6. Double head spanner 10mm and 14mm bolts and nuts.
7. Assorted screw drivers.
8. Spark plugs.
9. Tappet adjusting spanner.
10. Screw drivers handle.
11. Auxiliary fuse. (3 pcs)
12. Feeler gauge (0.1mm) for adjusting tappet clearance.
13. Tool bag.





## 1. The engine will not start at all.

(a) In the event the fuel system operates correctly but engine will not start.

### (Cause)

### (Remedy)

- |  |                                |
|--|--------------------------------|
| 1) Not spark at the spark gap of plug. | 1) Replace the spark plug.     |
| 2) Faulty ignition timing.             | 2) Adjust the ignition timing. |
| 3) Contaminated contact points.        | 3) Clean the contact points.   |
| 4) Faulty condenser.                   | 4) Replace the condenser.      |
| 5) Short circuit in electric wires.    | 5) Replace the lead.           |
| 6) Excessive rich or lean mixture.     | 6) Adjust the carburettor.     |

(b) The spark plug sparks well, but engine will not start.

- |                                    |                            |
|------------------------------------|----------------------------|
| 1) Excessive rich or lean mixture. | 1) Adjust the carburettor. |
|------------------------------------|----------------------------|

### (Cause)

### (Remedy)

- |                                  |                                  |
|----------------------------------|----------------------------------|
| 2) Incorrect ignition timing.    | 2) Adjust the timing.            |
| 3) Faulty carburettor.           | 3) Repair the carburettor.       |
| 4) Insufficient supply of fuel.  | 4) Repair the fuel system.       |
| 5) Lack of compression pressure. | 5) Adjust the tappet clearances. |

(c) No spark with spark plug.

- |                                |  |
|--------------------------------|--|
| 1) Incorrect ignition timing.  | 1) Adjust the timing.                          |
| 2) Faulty spark at spark plug. | 2) Replace the spark plug.                     |
| 3) Fouled or wet spark plug.   | 3) Clean the spark plug.                       |
| 4) Faulty ignition switch.     | 4) Replace the switch.                         |
| 5) Contaminated contact point. | 5) Clean the points.                           |
| 6) Shorted condenser.          | 6) Replace the condenser.                      |
| 7) Discharged battery.         | 7) Replace the magneto.<br>Charge the battery. |

### (Cause)

### (Remedy)

## 2. The engine starts hardly.

(a) Sparks at the spark gap are weak.

- |                                   |  |
|-----------------------------------|--|
| 1) Faulty spark plug.             | 1) Replace the spark plug.                     |
| 2) Wide or narrow spark plug gap. | 2) Adjust the gap of plug.                     |
| 3) Incorrect ignition timing.     | 3) Adjust the timing.                          |
| 4) Discharged battery.            | 4) Replace the magneto.<br>Charge the battery. |
| 5) Shorted condenser.             | 5) Replace the condenser.                      |

(b) Lack of, or no compression.

- |  |                                       |
|--|---------------------------------------|
| 1) Improper seating of valves.           | 1) Adjust the valve tappet clearance. |
| 2) Otherwise, consult with your Dealers. |                                       |

### (Cause)

### (Remedy)

(c) Fuel is not delivered sufficient.

- |  |                             |
|--|-----------------------------|
| 1) Clogged carburettor.                    | 1) Clean the carburettor.   |
| 2) Clogged vent hole on the fuel tank cap. | 2) Remove dirt in the hole. |
| 3) Clogged fuel lines.                     | 3) Blow out the lines.      |

## 3. The engine does not develop full power.

(a) Lack of or no compression. Refer to the column above.

(b) The spark plug sparks well but engine does not develop full power.

- |                                |                                       |
|--------------------------------|---------------------------------------|
| 1) Incorrect ignition timing.  | 1) Adjust the ignition timing.        |
| 2) Narrow sparking gap.        | 2) Adjust the gap of spark plug.      |
| 3) Restricted air cleaner.     | 3) Clean the air cleaner.             |
| 4) Excess oil in the crankcase | 4) Drain the oil to the proper level. |

(Cause)	(Remedy)
(c) The engine overheats.	
1) Retarded ignition timing.	1) Adjust the ignition timing.
2) Lean mixture.	2) Adjust the carburettor.
3) Contaminated or lack of engine oil.	3) Change or add to the engine oil.
4) Slipping clutch.	4) Adjust the clutch.
5) Dirty cooling fans.	5) Clean out the fans.
(d) The engine misfire.	
1) Improperly adjusted carburettor.	1) Adjust the carburettor.
2) Fouled spark plug.	2) Clean the spark plug.
3) Contaminated contact points.	3) Clean the contact points.
4) Faulty condenser.	4) Replace the condenser.
5) Incorrect valve tappet clearances.	5) Adjust the clearances.

(Cause)	(Remedy)
4. <b>Smokey exhaust.</b>	
1) Excessive oil in the crankcase.	1) Correct the oil level.
2) Worn cylinder and valves.	2) Consult with your dealer.
5. <b>The engine runs erratically.</b>	
(a) At a low speed.	
1) The valves do not seat well.	1) Adjust the valve tappet clearances.
2) Advanced ignition timing.	2) Adjust the timing.
3) The magneto fails to produce the sufficient voltage.	3) Replace the magneto.
4) Defective spark plug.	4) Replace the spark plug.
5) Faulty adjustment of carburettor air screw.	5) Adjust the carburettor.

(Cause)	(Remedy)
(b) At a high speed.	
1) Clogged vent hole on the fuel tank cap.	1) Clean out the vent hole.
2) Clogged fuel line.	2) Disconnect and blow out the lines.
3) Incorrect valve tappet clearance.	3) Adjust the tappet clearances.
4) Fouled or damaged spark plug.	4) Clean or replace the spark plug.
5) Wide spark plug gap.	5) Adjust the gap of the spark plug.
6) Faulty carburettor.	6) Replace the carburettor.
7) Clogged air cleaner.	7) Clean dust off the air cleaner.

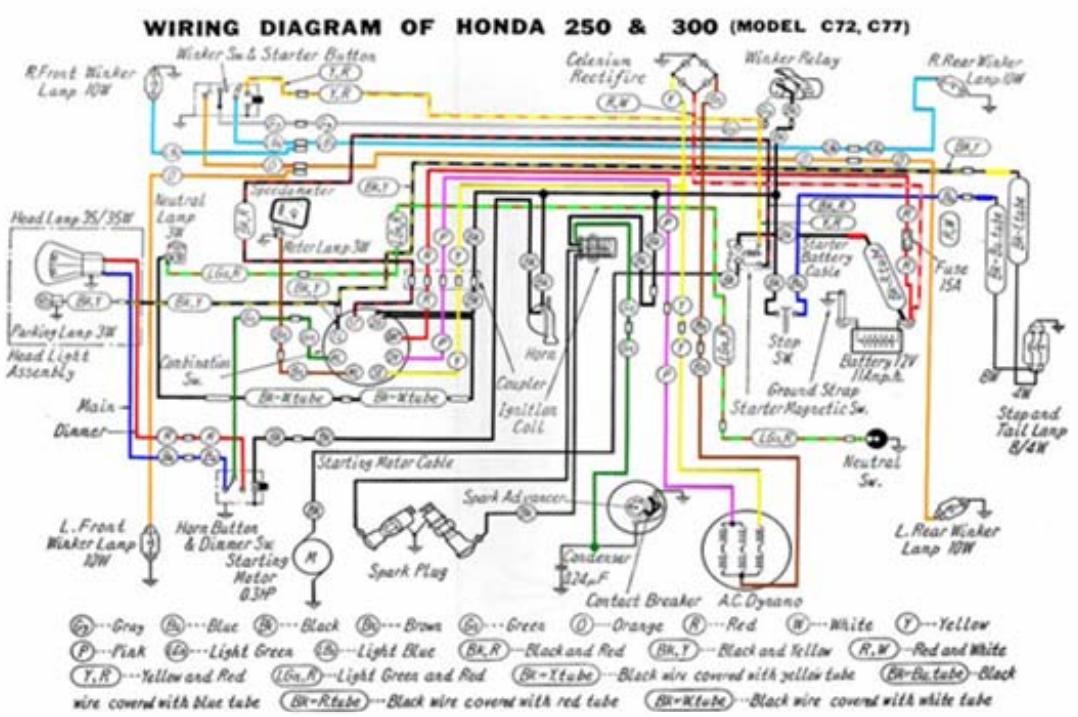
(Cause)	(Remedy)
(c) On acceleration.	
1) Advanced ignition timing.	1) Adjust the timing.
2) Discharged battery.	2) Replace the magneto. Charge the battery.
3) Improper adjustment of carburettor.	3) Adjust the carburettor.
4) Fouled or damaged spark plug.	4) Clean or replace the plug.
6. <b>The engine stalls during operation.</b>	
(a) Lack of compression in the engine.	Refer to the previous column.
(b) Engine seizing.	
1) Lack of lubricant.	1) Change or add oil.
2) No circulation of oil to the cylinder head.	2) Remove oil feed pipe and blow out.



(Cause)	(Remedy)
(c) Short supply of fuel.	
1) Clogged fuel line.	1) Clean the fuel lines.
2) Clogged fuel tank cap vent hole.	2) Clean the fuel tank cap.
3) No fuel in tank.	3) Fill tank.
<b>7. Hard shifting of the transmission gear.</b>	
The clutch does not disengage or slips.	Adjust the clutch.
<b>8. Malfunction of brakes.</b>	
(a) Hard action.	
1) Incorrect brake adjustment.	1) Adjust the brakes.
2) Worn brake shoes.	2) Replace the brake shoes.
3) Oily or wet brake shoes.	3) Clean and dry.

(Cause)	(Remedy)
(b) Brakes do not release.	
1) Insufficient brake pedal (lever) free play.	1) Adjust the free play.
2) Rusty or sticky components.	2) Clean or take rust off, and oil the components.
3) Faulty brake system.	3) Align the system in order.
(c) Noisy operation.	
Worn brake shoes.	Replace the brake shoe
<b>9. The steering is unstable.</b>	
(a) Hard steering.	
1) Tight fit of steering ball bearings.	1) Adjust the steering stem nut.
2) Insufficient air pressure in front tyre.	2) Adjust the tire pressure to specified amount.

(Cause)	(Remedy)
(b) The motorcycle pulls to one side or wanders.	
1) Improper alignment of front and rear wheels.	1) Adjust rear wheel alignment at the chain adjuster.
2) Loose front or rear wheel bearings.	2) Replace the bearings.
3) Defective steering ball bearings.	3) Replace the defective ball bearings.
4) Low air pressure in front tyre.	4) Adjust the tyre pressure.





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## MEMO



## Recommended oil and grease

	Temperature	SAE Grade	ESSO		MOBIL		TEXACO
			Brand	API Grade	Brand	API Grade	CALTEX
ENGINE OIL	Below 0°C (32°F)	10W	ESSO Motor Oil 10W	MS~DM	Mobiloil 10W	ML~DG	Havoline Five Star Motor Oil 10W
	0°C~15°C (32°F~59°F)	20W/20	ESSO Motor Oil 20W	MS~DM	Mobiloil Arctic	ML~DG	Havoline Five Star Motor Oil 20W
					Delvac 1120	ML~DM	
	Above 15°C (59°F)	30	ESSO Motor Oil 30	MS~DM	Mobiloil A	ML~DG	Havoline Five Star Motor Oil 30
					Delvac 1130	ML~DM	
	Extreme hot climate	40	ESSO Motor Oil 40	MS~DM	Mobiloil AF	ML~DG	Havoline Five Star Motor Oil 40
				Delvac 1140	DL~DM		
General purpose except extreme hot and cold climates	10W/30	ESSO Extra Motor Oil 10W/30	MS~DM	Mobiloil Special	ML~DM	Havoline Five Star Motor Oil 10W/30	
General purpose except extreme cold climate	20W/40	ESSO Extra Motor Oil 20W/40	MS~DM	Nil	—	Havoline Five Star Motor Oil 20W/40	
GREASE	General purpose	NLGI No. 2 Multipurpose Type	ESSO Multipurpose Grease		Mobilgrease MP	Caltex Marfak Multipurpose	

CALIFORNIA STANDARD	SHELL		CASTROL		B P		
(Brand)	API Grade	Brand	API Grade	Brand	API Grade	Brand	API Grade
RPM Five Star Motor Oil 10W	MS	Shell X-100 10W	ML~MS	Castrol Z	MS~DG	BP HD Motor Oil 10W	MS~DG
RPM Five Star Motor Oil 20W	MS	Shell X-100 20W	ML~MS	Castrolite	MS~DG	BP HD Motor Oil 20W	MS~DG
RPM Five Star Motor Oil 30	MS	Shell X-100 30	ML~MS	Castrol XL	MS~DG	BP HD Motor Oil 30	MS~DG
RPM Five Star Motor Oil 40	MS	Shell X-100 40	ML~MS	Castrol XXL	MS~DG	BP HD Motor Oil 40	MS~DG
RPM Five Star Motor Oil 10W/30	MS	Shell X-100 Multigrade 10W/30	ML~MS	Castrolite 10W/30	MS	BP Viscostatic 10W/30	MS
RPM Five Star Motor Oil 20W/40	MS	Shell X-100 Multigrade 20W/40	ML~MS	Castrol XL 20W/40	MS	Nil	—
RPM Multi-Motive Grease	—	Shell Retinex A		Castrol LM		BP Energrease L2	