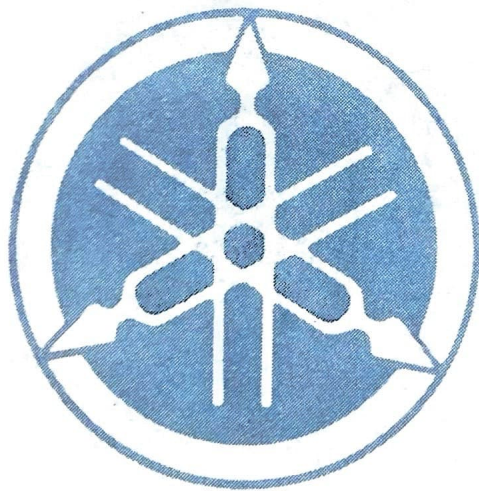


YAMAHA
SINGLE ENDURO
RIDER'S MANUAL
HT1-B



www.legends-yamaha-enduros.com

LIT 1162-276-99

Notice

Yamaha Motor Company and its U.S. subsidiary, Yamaha International Corporation, are confident you will enjoy your new Yamaha to the utmost. We have made every effort to provide you with a safe, well engineered and constructed product.

This Owner's Manual will acquaint you with several features and maintenance procedures concerning your Yamaha. However, if you are unfamiliar with the product, features or procedures outlined in this booklet we strongly urge you to consult your Authorized Yamaha Dealer for additional information.

HT1 SERIES OWNER'S MANUAL

1970 - 1971

www.legends-yamaha-enduros.com

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LIT 1162-276-99

FOREWORD

We are highly gratified that you have selected the Yamaha Single ENDURO 90 HT1 —a wise choice that promises you many delightful years of motorcycling.

This 90 ENDURO is designed to be a true street scrambler; perfect for riding over fields and mountain trails as well as for highway riding. Most important, it can be quickly converted into a motocrosser by simply removing accessory parts.

This manual is planned to help you realize the full potential of your Yamaha ENDURO. Please read it carefully before riding your Yamaha as it is packed with the important technical information required for your daily riding.

Wherever you go……fields, hills or river beds the Yamaha ENDURO gives you more pleasure.



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(1) Features and Specifications

1. Features

(1) Robust single cylinder engine with 5-port design

In order to increase the scavenging efficiency your Yamaha ENDURO employs the Autolube oil injection system and a piston valve engine with a 5-port cast iron cylinder, assuring steady engine performance throughout the entire speed range from low to high rpm.

(2) 5-speed close-ratio transmission

The Yamaha ENDURO guarantees stable engine performance from low speed off-the-road riding to high speed road work, with the close ratio 5-speed transmission.

(3) Efficient primary kick starter

The primary kick starter enables the engine to start both in gear or in neutral. This is a most convenient design for the motocrosser.

(4) Easy riding position and superb maneuverability

The light-weight sturdy frame combined with durable component parts are ideal for off-the-road riding. Agile, comfortable with an easy riding position, the Yamaha ENDURO displays superb maneuverability and handling over rough terrain.

(5) Competition designed front forks and rear shocks

The Yamaha ENDURO has telescopic front forks with internal coil springs such as those used for competition racers. The front forks provide excellent handling qualities over the roughest terrain with longer stroke and superb damping capacity. The rear shocks have 5-way adjustable springs with a long stroke. This insures stability even under the roughest condition. **(HT1-A ≡ 3-WAY ADJUSTABLE)**

2. Specifications

Model :	Yamaha ENDURO 90 HT1
Dimensions :	
Overall length	73.8 in. (1,875 mm)
Overall width	35.4 in. (900 mm)
Overall height	40.7 in. (1,035 mm)
Wheelbase	48.0 in. (1,220 mm)
Ground clearance	8.9 in. (225 mm)
Weight (dry)	190 lbs (86 kg) <i>HT1A= 187 lbs.</i>
Performance :	
Max. speed	55 mph (95 km/h)
Climbing ability	25°
Fuel consumption (on flat paved roads)	165 mpg (at 25 mph)
Min. turning radius	68.9 in. (1,750 mm)
Braking distance	23.0 ft/(22) mph 7.0 m (35 km/h)
0-400 m acceleration	21.0 sec.
Engine :	
Model	Yamaha HT1
Type	2-cycle, gasoline, 5-port
Lubrication system	Yamaha Autolube (separate lubrication system)
No. of cylinders and arrangement	Single, inclined forward
Bore and stroke	1.969 × 1.795 in. (50 × 45.6 mm)
Compression ratio	6.8 : 1
Max. output	8.5 hp/7,000 rpm (8.5 P.S./7,000 rpm)
Max. torque	6.51 ft.lb/6,500 rpm (0.9 kg-m/6,500 rpm)
Starting system	Primary kick
Ignition system	Magneto ignition

Carburetor : <i>MAIN JET / FLOAT LEVEL #85 / 21mm</i>	VM20SC Mikuni
Air cleaner :	Wet, foam type
Power transmission system :	
Transmission	
Type	Constant mesh 5-speed
Gear ratio 1st	35 / 11 = 3.182
2nd	30 / 15 = 2.000
3rd	26 / 19 = 1.368
4th	23 / 23 = 1.000
5th	20 / 25 = 0.800
Secondary reduction system	Chain
Secondary reduction gear ratio	49 / 14 = 3.500
<i>LUBRICANT / CAPACITY</i>	<i>10W-30 "SD" / 750cc (0.80 qt.)</i>
Chassis :	
Frame type	Tubular, double cradle
Suspension system (front)	Telescopic
Suspension system (rear)	Swing arm
Suspension method (front)	Coil spring oil damper
Suspension method (rear)	Coil spring oil damper
Steering :	
Caster	60.5°
Trail	4.3 in.
Braking :	
Brake system	Internal expansion
Actuating method (front)	Right hand operated (cable)
Actuating method (rear)	Right foot operated (rod)
Tire size (front)	2.75-18-4PR (Trial universal)
Tire size (rear)	3.00-18-4PR (Trial universal)

Fuel tank capacity:	1.7 gal (6.5 l) (OCTANE)
Oil tank capacity:	1.3 qt. (1.2 l) (YAMALUBE OR *"TO")
Front fork capacity	(Each) 0.147 qt (0.136 l)
Generator: (MAGNETO)	
Maker	Hitachi Ltd.
Model	F130-07
Rectifier:	Silicon (single-phase, half-wave)
Spark plug:	NGK B-8H
Battery:	
Model	6N2-2A-3
Capacity	6V 2AH
Charge rate	0.2 A (MAXIMUM)
Lights	
Head lamp	6V, 25W / 25W
Tail/stop lamp	6V, 5.3W / 17W
Meter lamp	6V, 3W
High beam	6V, 1.5W
Flasher light	6V, 17W (HT/B ONLY)

***"TO" = TWO-CYCLE OIL FOR AIR COOLED ENGINES. MINERAL OR SYNTHETIC BASE ONLY; NEVER USE VEGETABLE BASE.**

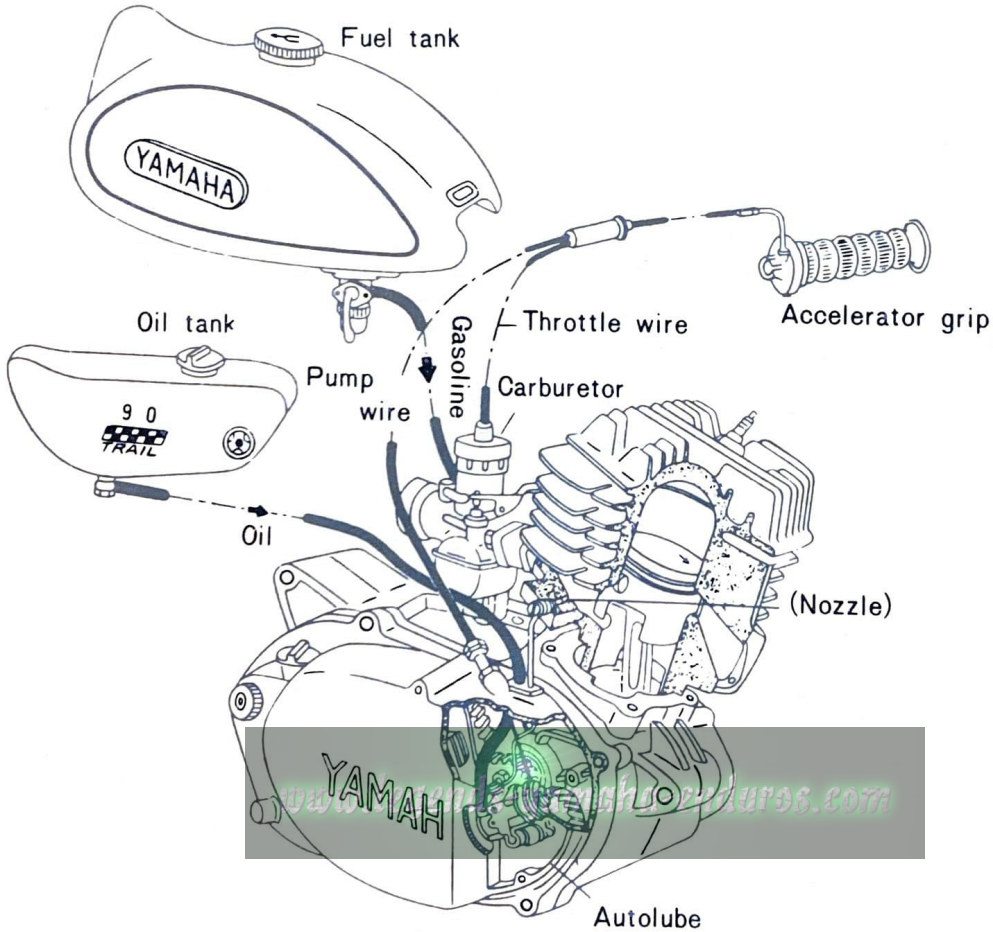
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(2) Yamaha Autolube

What is Yamaha Autolube ?

Conventional two-stroke engines are lubricated by oil premixed in gasoline, but Yamaha Autolube furnishes an automatic lubrication system.

That is, the oil in a separate oil tank is automatically regulated by the oil pump and fed to the engine according to engine speed and load. It is Yamaha's unique, separate type lubrication system.



Operation of Yamaha Autolube

The Yamaha Autolube is a small, precision-machined oil pump developed by the Yamaha engineering staff. It is driven by the engine through reduction gears, and interlocked with the throttle valve (accelerator grip).

Lubrication oil is fed from this Autolube pump according to the engine speed and throttle opening (load); that is, an optimum amount of oil is supplied according to driving conditions.

Features of Yamaha Autolube

The Yamaha Autolube has successfully eliminated various problems stemming from the conventional pre-mixed oil lubrication system, thereby promoting the advantages of two-stroke engines.

1. The Autolube feeds an optimum amount of lubricating oil to the engine under any operating condition.

- Less oil consumption-1/3 of the conventional pre-mixed oil lubrication.
- Less carbon accumulation.
- Less exhaust smoke.

2. The Autolube improves the reliability of lubrication.

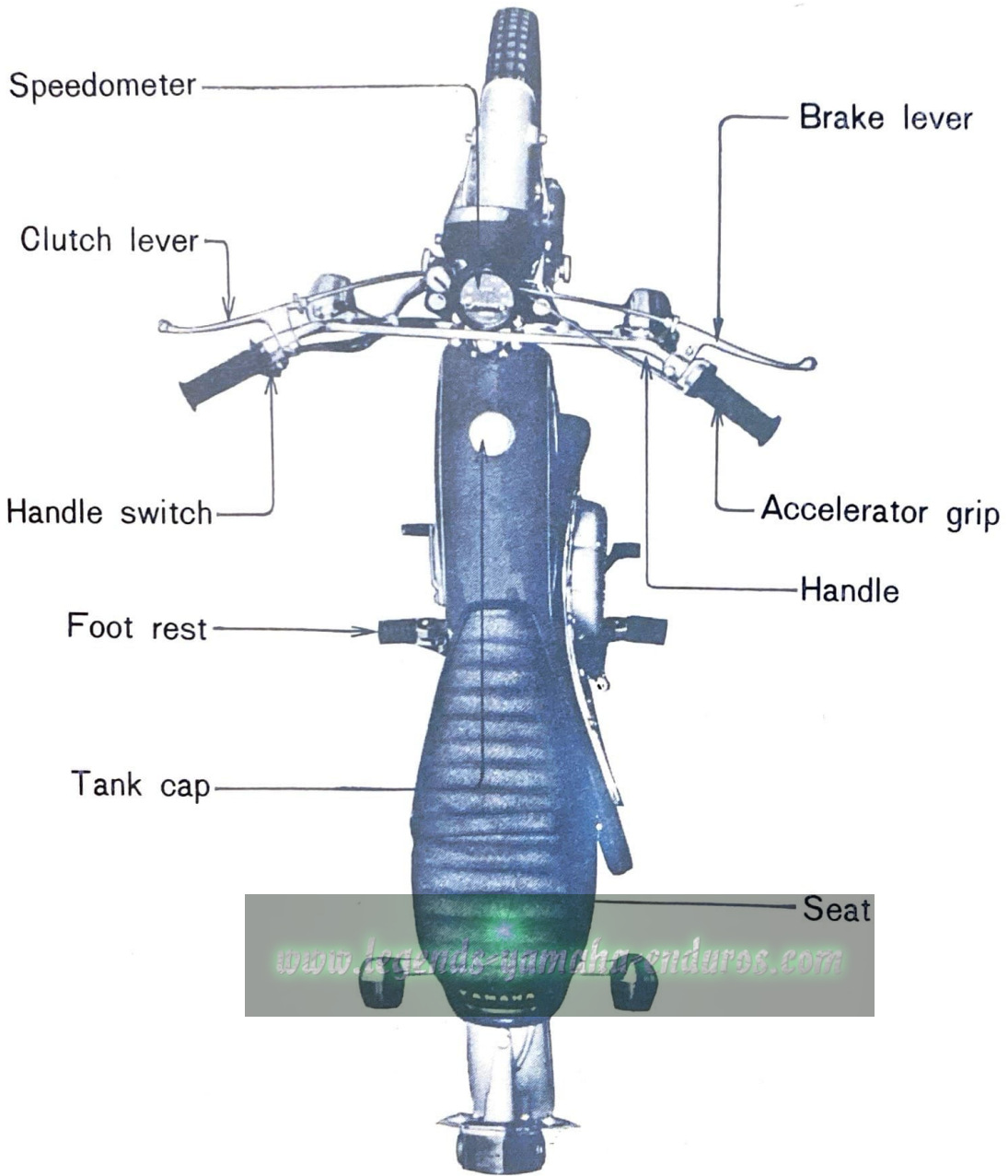
- Constant feed of new, fresh oil.
- More effective lubrication because of larger size of oil droplets.
- Simplification of oil supply, requiring no special care about oil/fuel mixing ratio.

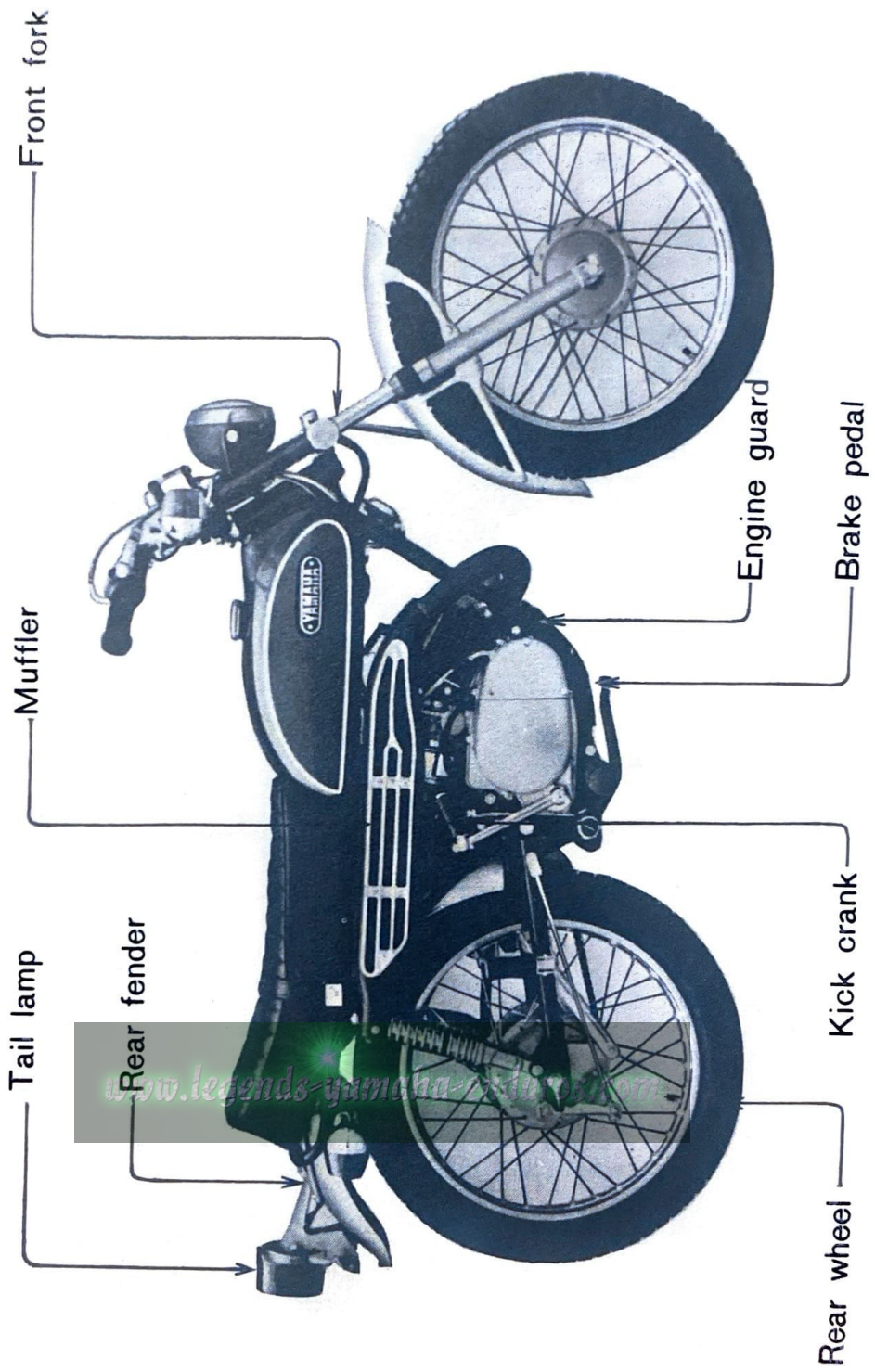
3. Easy fuel supply

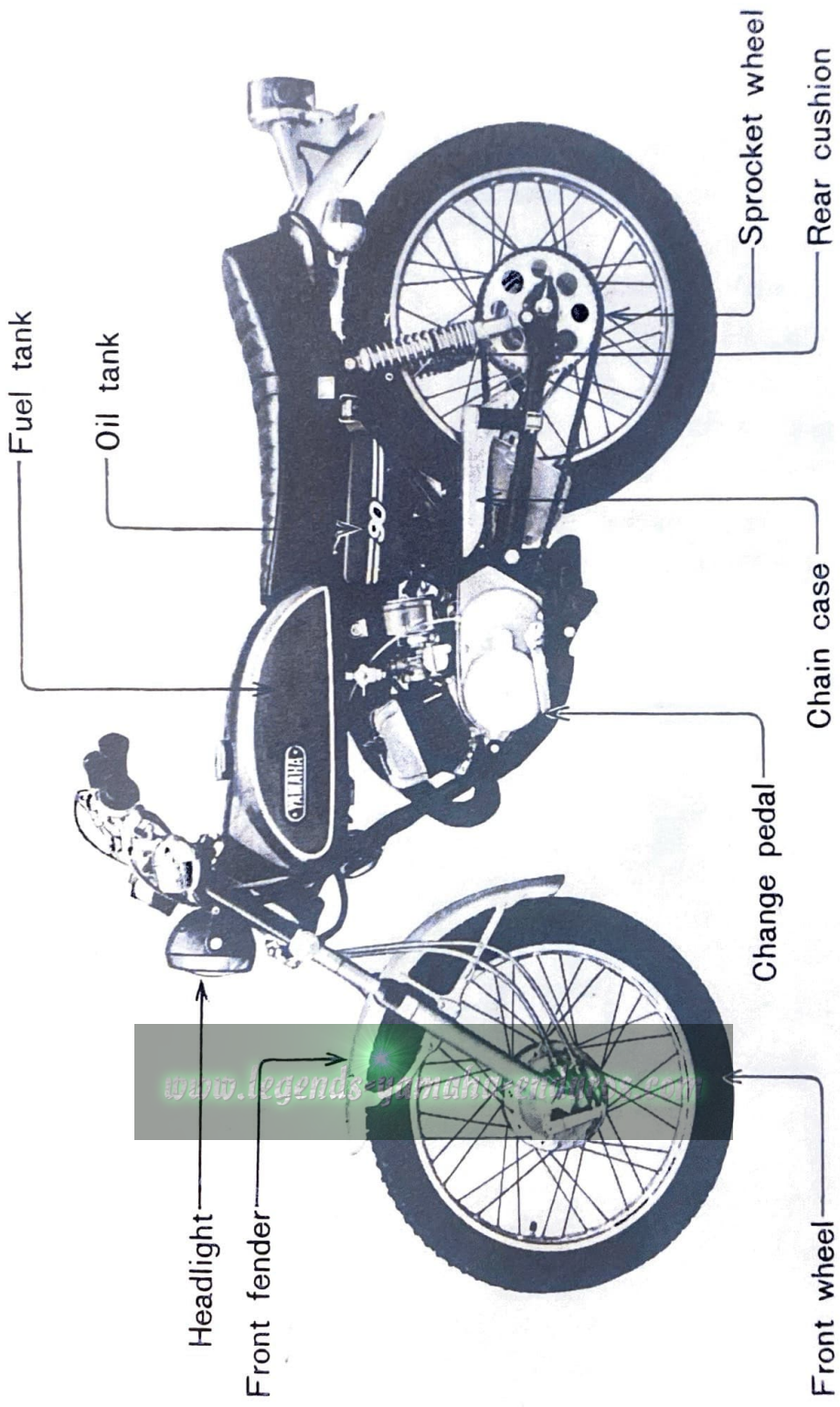
- Fuel tank should be filled with pure gasoline, which is available anywhere.
- No need for mixing oil with gasoline.

* It is advisable that Yamaha Autolube oil be used to guarantee the high performance and durability of the engine.

(3) Main Parts







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(4) Operating Instructions

1. Gasoline and Oil

Equipped with the Autolube pump, the Yamaha ENDURO uses pure gasoline as fuel.

○ The minimum gasoline octane required is 85. The fuel tank capacity is 1.7 gallons.

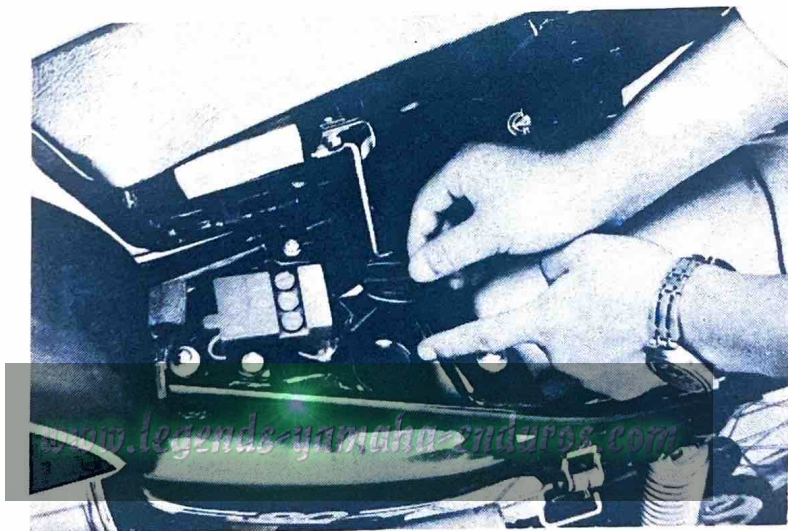
The oil tank is located under the lefthand side of the rider's seat.

To fill the tank, the seat must be opened.

○ Yamalube oil should be used. The oil tank capacity is 1.3 quarts.

* The Yamaha Autolube oil, refined specially for this unique lubricating system, excels in oiliness and purity, particularly in liquidity at low temperature.

The performance of the Autolube depends on the quality of oil. Be sure to use Yamalube oil to keep the engine in top condition. It also guarantees longer engine life.

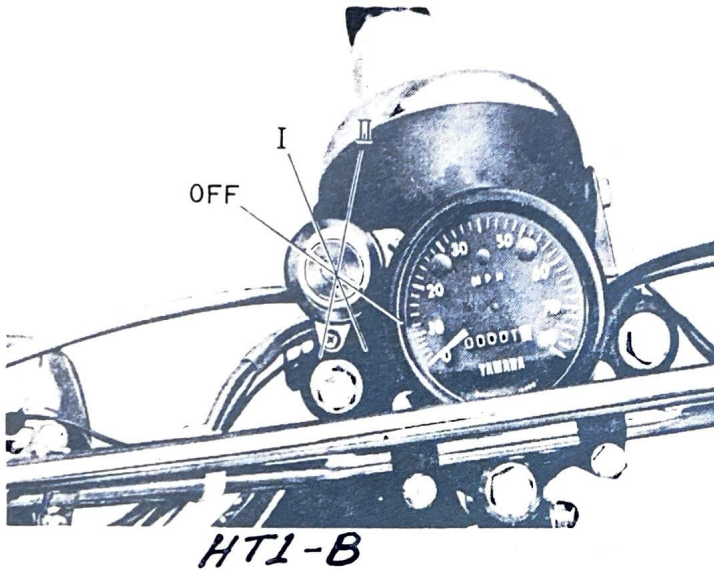


**IF UNAVAILABLE, USE A #20 OR #30 WEIGHT TWO CYCLE (QUALITY) OIL FOR AIR COOLED ENGINES.*

2. Use of the Main Parts

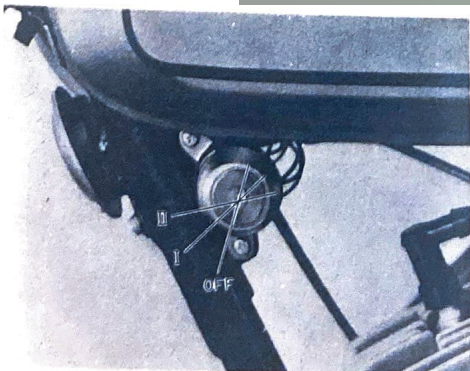
(1) Main Switch

The main switch is designed for two stages, day driving and night driving, plus OFF position.



Key Positions (The circle indicates ON.)

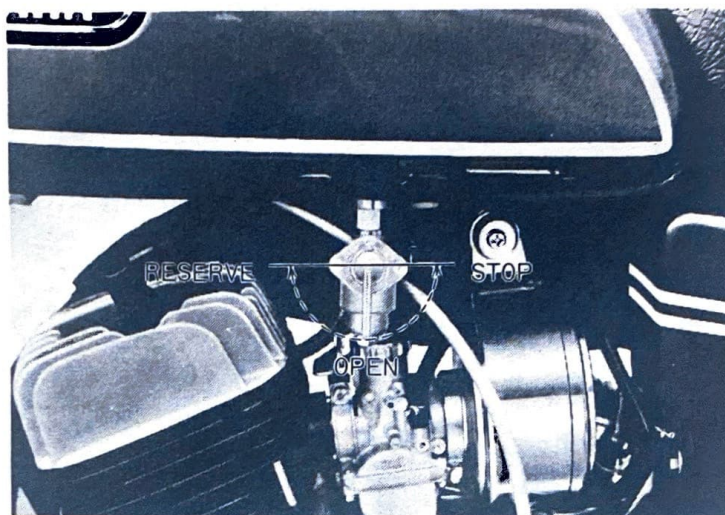
	OFF	I	II	
Starting engine	×	○	○	Kick the kick crank to start.
Horn	×	○	○	Depress the horn button
Head lamp	×	×	○	The engine is running.
Tail lamp	×	×	○	The engine is running.
Stop lamp	×	○	○	When the brake pedal is depressed.
Meter lamp	×	×	○	The engine is running.
Neutral lamp	×	○	○	When gears are shifted to neutral
Flasher light	×	○	○	Turn on left handlebar switch ("B" ONLY)



HT1A IGNITION
SWITCH LOCATION.
SAME TYPE SWITCH.

(2) Fuel Petcock

Turning the petcock lever downward opens the fuel petcock. To close the cock, turn the lever toward the rear. Turning the lever toward the front allows the reserve fuel to flow to the carburetor. If you should run out of fuel on the road, turn the lever to the reserve position. With just over a quart of fuel (about 0.53 gal), you can drive nearly 27 miles (44 km)—enough to get you to the nearest gas station. When parking or storing your machine, be sure to set the lever in the closed position.



(3) Handlebar Switch

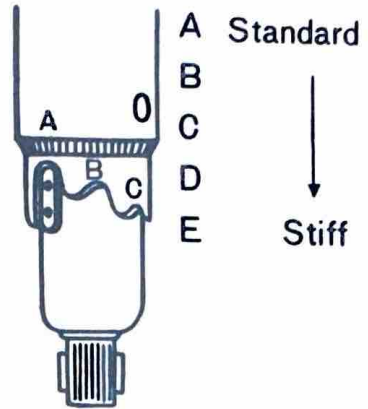
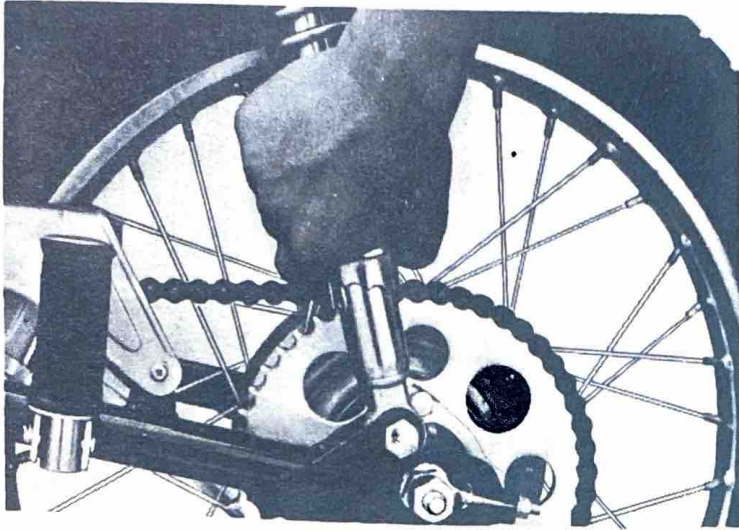
- a. To sound the horn, depress the horn button.
- b. To raise the headlight beam, pull the switch toward you. To lower the beam, push the switch forward.
- c. To wink the flasherlight, turn on lefthand or righthand.



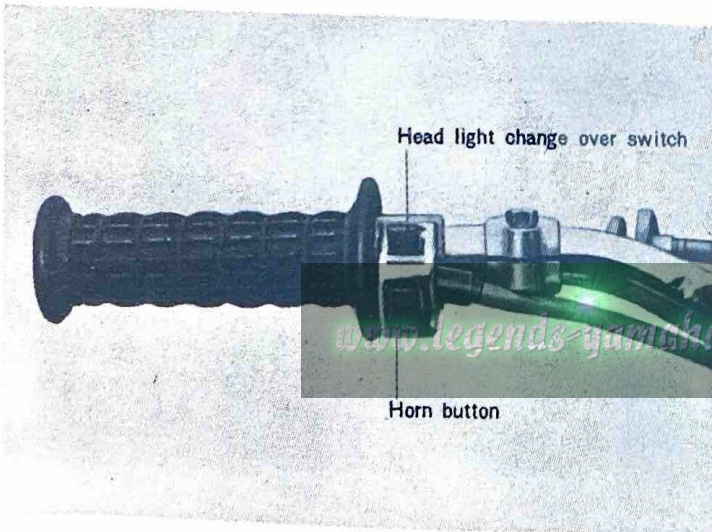
(4) Rear Cushion Adjustment

The rear cushion is designed to be adjustable to five positions. Adjust the cushion properly, depending on your load, speed and road conditions.

- Grasp the cushion with your hand, turn the notched collar to change the spring rate.



HT1A = 3 POSITION



HT1A TYPE SWITCH

3. Before Riding

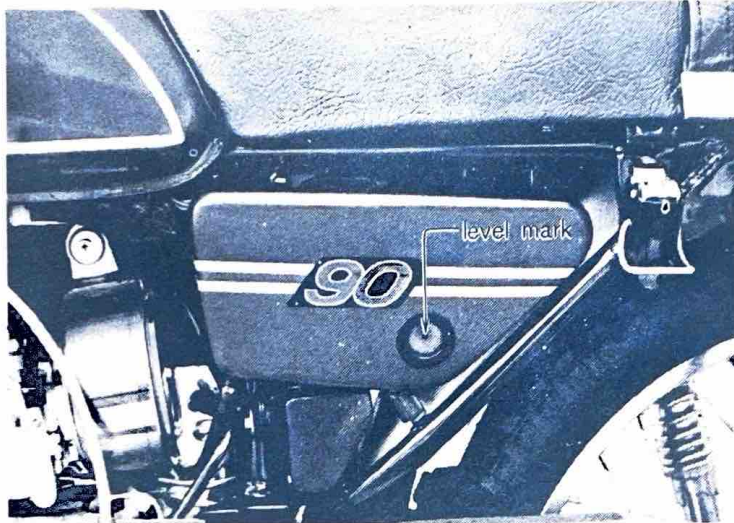
Before you start for a ride you should check several points for safety.

(1) **Do you have enough fuel?**

Is the fuel tank full enough for your driving plan? Your Yamaha Auto-lube engine requires pure gasoline for the tank. Tank capacity is 1.7 gallons.

(2) **Do you have enough oil?**

Check the oil level through the glass port. If you plan to go on a long distance trip, open the oil tank cap and make sure that the tank is full. If the oil level is below the glass port, add Yamalube oil. Tank capacity is 1.3 quarts.



(3) **Are your tire pressures correct?**

Incorrect tire pressures affect the comfort and handling of your machine, and shorten the tire life.

Correct tire pressure

Front wheel	22 lbs/in ² (1.5 kg/cm ²)	} on-the-road
Rear wheel	29 lbs/in ² (2.0 kg/cm ²)	

If tire pressures have to be reduced for off-the-road riding or for other reasons, be sure to use bead stoppers to prevent the tires from slipping around the rims.

(4) **Do both brakes work?**

Check both brakes by pulling in the righthand lever and depressing the brake pedal. Also check the stoplight.

(5) **Are the lights and horn working in order?**

Check the horn, headlight, tail lamp, stop lamp, and meter lamp.

4. How to Ride

(1) Starting

The Yamaha ENDURO carburetor is equipped with a starter jet that gives a richer mixture for easier starting especially during cold weather.

Before Starting:

- Turn the fuel petcock lever to the "open" position.
- Insert the ignition key and turn it to "I".
- Make sure the neutral lamp is on.

*The Yamaha ENDURO employs the primary kick system, and therefore, the engine can be started, irrespective of the gear position, provided that the clutch is disengaged.

Starting in Cold Weather:

Most engines are difficult to start in cold or freezing weather.

The Yamaha ENDURO, however, can easily be started by using the starter lever, which provides a richer mixture.

- Depress the starter lever.
- Kick the kick pedal while keeping the accerlerator grip closed.



Starting When your Engine is Warm:

- Do not use the starter lever.
- Slightly open the accelerator grip and kick the pedal.

Warming Up:

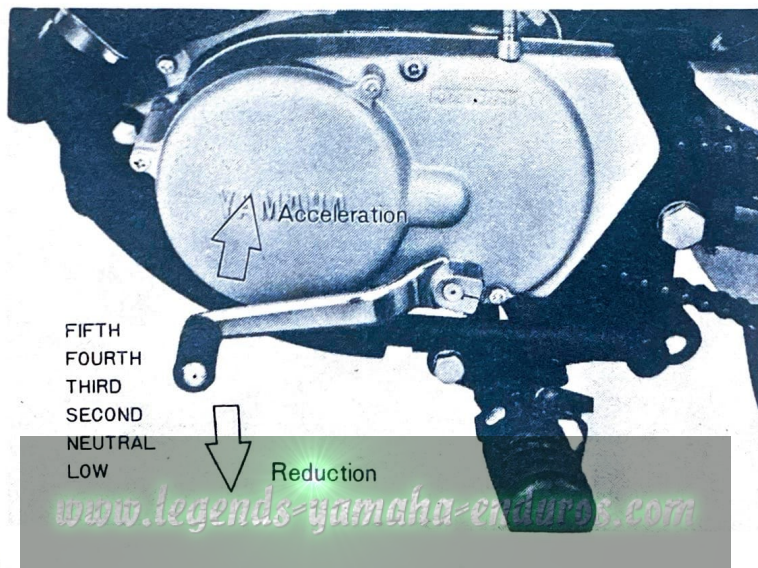
After the engine has started, keep it running for a few minutes. If the starter lever has been used for starting, pull up the starter lever and slowly turn the accelerator grip until the engine speed picks up smoothly.

*Correct engine warm-up is a key point in keeping your machine in top condition. It is as important as periodic inspections by your authorized dealer.

(2) Shifting Gears

The Yamaha ENDURO has a 5-speed transmission with a rocker-type change pedal. The transmission allows you to control the amount of power and machine speed by changing the combination of gears for starting, acceleration, climbing hills, etc.

The neutral position is located between low and 2nd gears.



Forward:

- Pull the clutch lever on the lefthand of the handlebar to disengage the clutch.
- Shift into LOW by pushing the change lever down.
- Slowly open the throttle to raise the engine speed, and at the same time, release the clutch lever slowly. If done correctly, you should start to move forward.

Driving on Roads :

When the speed has reached 10–13 mph:

- Release the throttle, and at the same time, pull in the clutch lever.
- Shift into SECOND. (Be careful not to shift into NEUTRAL.)
- Open the throttle while releasing the clutch lever.

Acceleration will be effected.

- At 13–20 m/h, shift into 3rd. Then follow the table below.
- To decelerate, close the throttle, and pull in the clutch lever and shift into a lower gear.

Gear	Driving Conditions	Optimum Speed
First (Low)	Starting or hill climbing	10 mph
Second	Going slow or hill climbing	10 to 15 mph
Third	On easy uphill or in streets	15 to 22 mph
Fourth	On streets or on roads	20 to 28 mph
Fifth (Top)	On roads or high-speed running	25 mph or more

Driving on Hills :

- When starting to climb a gentle grade, open the throttle little by little to avoid losing engine speed and power.
- When climbing a steep grade, shift down from FIFTH to FOURTH and from FOURTH to THIRD as required to avoid losing engine speed.
- If shifting down is not timely, the engine speed will sharply decrease, and you must further shift down.

Therefore, it is necessary to shift the gears down in time as required.

Going Downhill: www.legends-yamaha-enduros.com

- On a long down grade or sharp descent, don't rely on the brakes alone, but use engine compression as brake also.

- The engine brake is most effective with the transmission in lower gears. When descending a gentle grade, fourth or third gear is recommendable. For a steep downgrade, third or second gear is better.
- It is generally said that the gear position for a slope is the same both for going up or down.

Stopping and Parking:

- Shift down in order, and apply the brakes gently to decrease speed. Be sure to apply both front and rear brakes slowly and at the same time.

Just before stopping, shift into NEUTRAL.

- Be sure to apply the front and rear brakes together to stop. Applying only one brake may, under certain conditions, cause skids.
- Keep the fuel petcock lever turned off while parking.
- Remove the main switch key.
- Apply the steering lock key.
- * If the ground is soft, the machine may fall if held up only by the side stand alone.

5. Operational Notes

(1) Break-in

The Yamaha ENDURO 90 HT1 is not only built with extreme accuracy, but is fully tested through trial runs.

However, during the first 600 miles, you should observe the following instructions. These simple precautions will prolong the life of the engine and other moving parts.

○ During the first 300 m, be sure to keep your speed below 35-40 mph when in 5TH-gear.

○ During the next 300 m, be sure to keep your speed below 40-45 mph when in 5th-gear.

The relation between speed and gear during the break-in period is given below:

	5th	4th	3rd	2nd	Low
First 300 miles	35	25	20	15	10
Next 300 miles	40	35	25	20	10

(2) Notes on Driving on Paved Roads

The Yamaha ENDURO employs block-pattern tires designed for off-the-road driving. Accordingly, the tire tread is larger than the general one. Be careful not to make a turn with a sharp bank while running at high speed; otherwise, the tires may skid.

(3) Notes on Riding Cross-country

When running over fields, it is advisable that all accessory parts be removed to protect them against breakage and damage due to extreme shocks and crashes.

Parts to be removed: Head lamp, tail lamp, speedmeter, battery, and side stand.

(5) Inspection and Service

Regular inspection and maintenance will keep your motorcycle in top condition.

Daily or periodic inspection by yourself or your Yamaha dealer not only assures a longer life for your motorcycle but prevents any machine trouble. Remember to have the 500 mile free service check by your Yamaha dealer; otherwise, your machine will not be entitled to the Yamaha warranty plan. It is advisable, in addition to the periodic inspection at your Yamaha dealer, according to the Periodic Inspection Card, that you check the machine parts listed below at the time intervals listed.

1. Periodic Service at Yamaha Dealer

Have your Yamaha dealer inspect and service your machine according to the periodical inspection guide after one month, 4 months, 8 months, 12 months,from the date of purchase.

Periodical Inspection Guide

No.	Check Point	1st 1 mo.	2nd 4 mos.	3rd 8 mos.	4th 12 mos.	5th & thereafter Every 4 mos.
1	Front & rear brake adjustment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Clutch adjustment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	Transmission oil replacement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	Greasing		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	Battery fluid level check & refilling	<input type="radio"/>	CHECK MONTHLY			
6	Spark plug cleaning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
7	Ignition timing adjustment		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
8	Carburetor adjustment		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	Carburetor disassembly & cleaning			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	Air cleaner cleaning	7 DAYS/DIRT... 60 DAYS/STREET				
11	Cylinder head & piston cleaning		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	Muffler cleaning		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13	Bolts & nuts retightening	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14	Drive chain ADJUST & LUBE	100 MILES/DIRT... 250 MILES/STREET				
15	Oil pump setting adjustment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Owner's Inspection

(1) Daily Check

Before riding, the following points should be checked.

- a. Is the fuel sufficient for the planned trip?
- b. Is the Autolube oil sufficient?
Check the oil level through the glass port.
- c. Is the tire pressure correct?
Incorrect tire pressure affects maneuverability.
- d. Do the front and rear brakes work?
Check both brakes by pulling the brake lever and depressing the brake pedal. Check the stoplight.
- e. Do the lights and horn function well?
Make sure that all lights turn on.

(2) Periodic Inspection

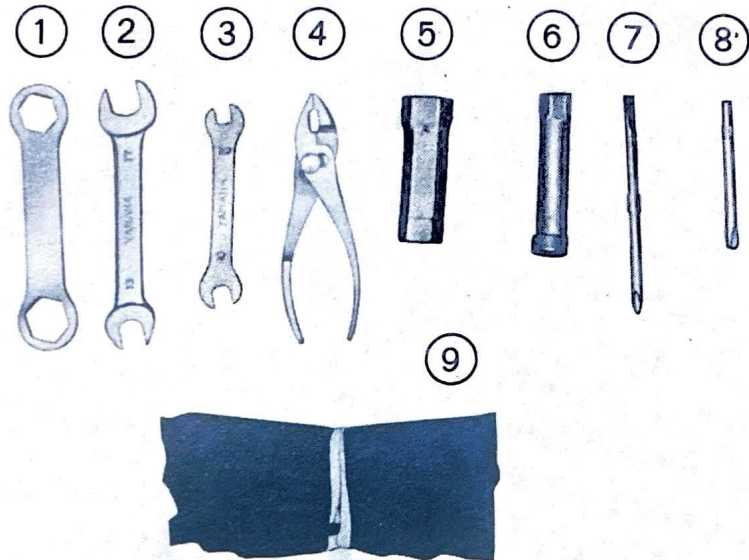
It is advisable that the following listed parts be checked periodically, either by yourself, or you may ask your Yamaha dealer to do this work. The service which is to be performed at least every four months. After the date of your purchase is:

1. Front and rear brake adjustment
2. Clutch adjustment
3. Gear oil replacement
4. Battery refilling (see p. 22)
5. Spark plug cleaning
6. Carburetor checking
7. Air cleaner cleaning (see p. 22)
8. Cylinder head and piston cleaning
9. Muffler cleaning
10. Drive chain cleaning.
11. Bolts and nuts retightening
12. *IGNITION TIMING.*

3. Periodic Inspection with Service Tools

Release the tool box hook and open the cover.

(1) Service Tools



1. Ring spanner 19×22 mm
2. Double-ended spanner 13×17 mm
3. Double-ended spanner 8×10 mm
4. Pliers
5. Box spanner 17×21 mm
6. Screwdriver handle and box spanner 13 mm
7. Screwdrivers (slotted head and Phillips) (+ = #2 HEAD)
8. Philips screwdriver (+ = #3 HEAD)
9. Tool bag

(2) Inspection and Service with Service Tools

To perform the daily check and service, the service tools should be used in the following manner.

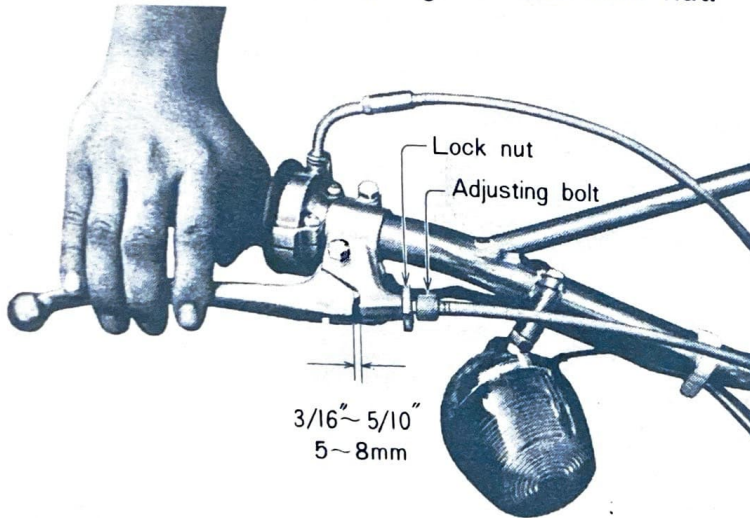
Adjusting the Brakes

Front Brake:

The correct free play of the brake lever is 0.2 to 0.3 in.

Adjustment should be made by turning the adjusting bolt attached to the lever holder.

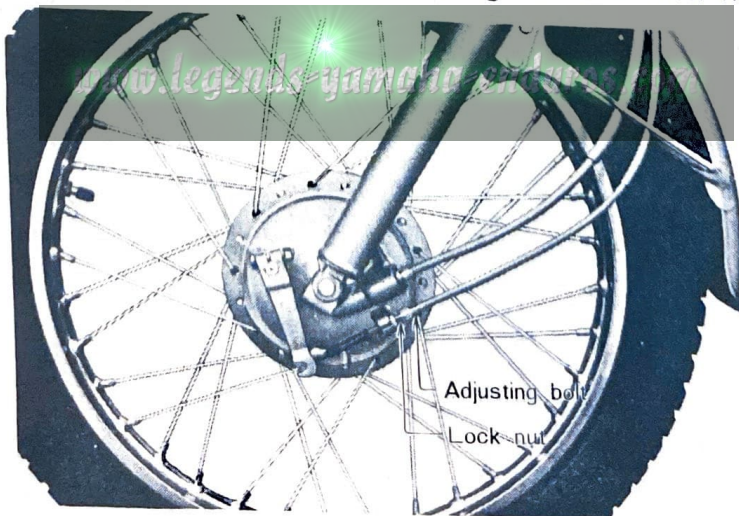
After adjustment, be sure to fully tighten the lock nut.



The adjustment can also be done at the brake cable end.

Loosen the lock nut in the same manner as above, and turn the adjusting bolt.

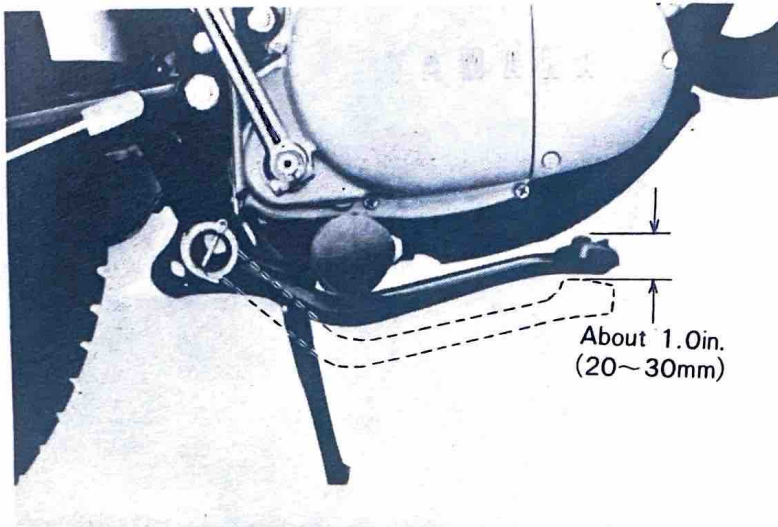
After the adjustment, be sure to fully tighten the lock nut.



Rear Brake:

The correct free play for the brake pedal is 1 in.

The adjustment should be done by turning the adjusting nut at the end of the rear brake rod a half turn at a time. After the adjustment, make sure that the brake light turns on.



Checking the Brake Lining: (*FRONT AND REAR*)

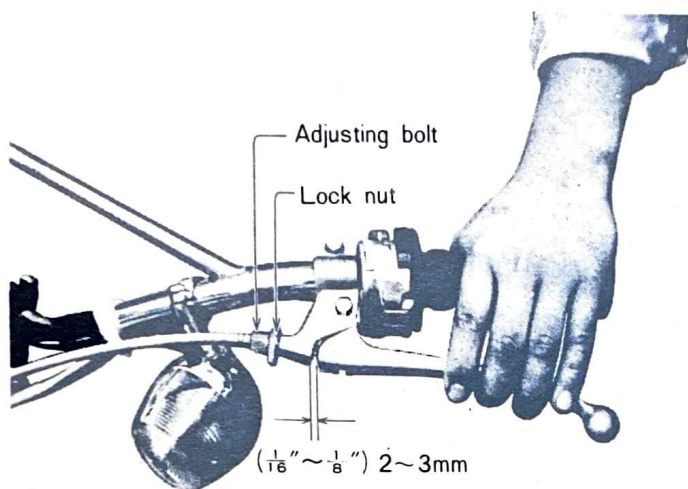
Disassemble the wheel assembly every 2,000 miles, and check the brake lining for wear. Clean the brake shoes and brake drum. Take care not to drop oil on to the lining friction surface.

YOUR DEALER CAN HANDLE THIS BEST.

CLUTCH CABLE ADJUSTMENT:

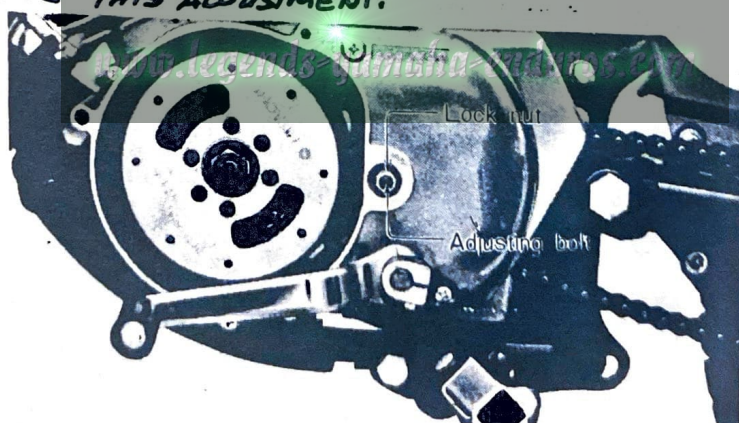
The HT1 has two clutch adjustments. The first, located at the handlebar clutch lever, is used to take up slack from cable stretch and to provide sufficient free play so that the clutch engages and disengages completely. The picture below illustrates all the parts involved in making the adjustment.

1. First, loosen the lock nut at the lever. Then turn the adjuster either in or out, depending on which direction is necessary to arrive at 2-3 mm ($\frac{1}{16}$ "- $\frac{1}{8}$ ") free play. Retighten the adjuster lock nut.



2. The second adjustment is located behind the clutch adjuster cover. Removing the cover will expose the adjusting set screw and lock nut. Loosen the lock nut, rotate the set screw in until it lightly seats against a clutch push rod that works with the set screw to operate the clutch. Back the set screw out $\frac{1}{4}$ turn and tighten the lock nut. This adjustment must be checked because heat and clutch wear will affect this free play, possibly enough to cause incomplete clutch operation.

LOOSEN THE ADJUSTOR AT THE LEVER COMPLETELY PRIOR TO MAKING THIS ADJUSTMENT.

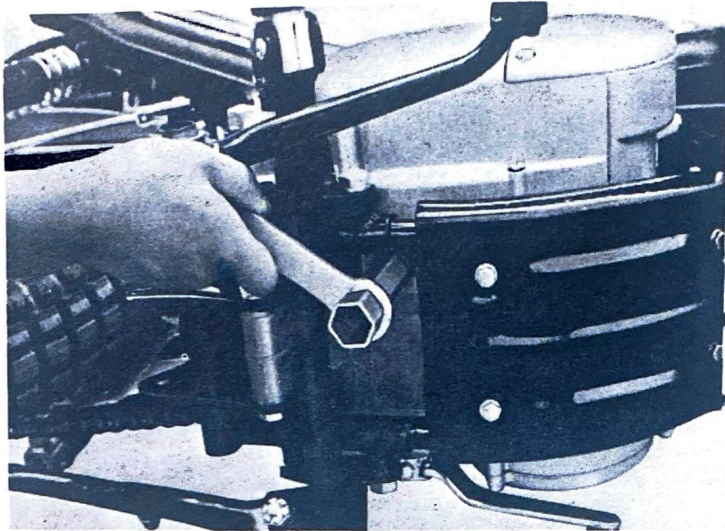


Replacing Gear Oil

Be sure to change the gear oil before it is used up.

During the break-in period, it should be replaced after one month or after the first 500 miles and thereafter, every 1,000 miles.

○ To drain the oil, remove the oil drain plug on the crankcase bottom.

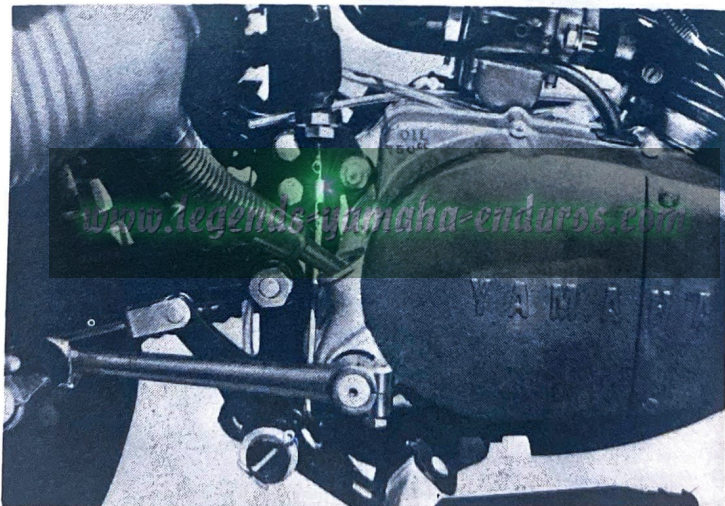


○ Refilling

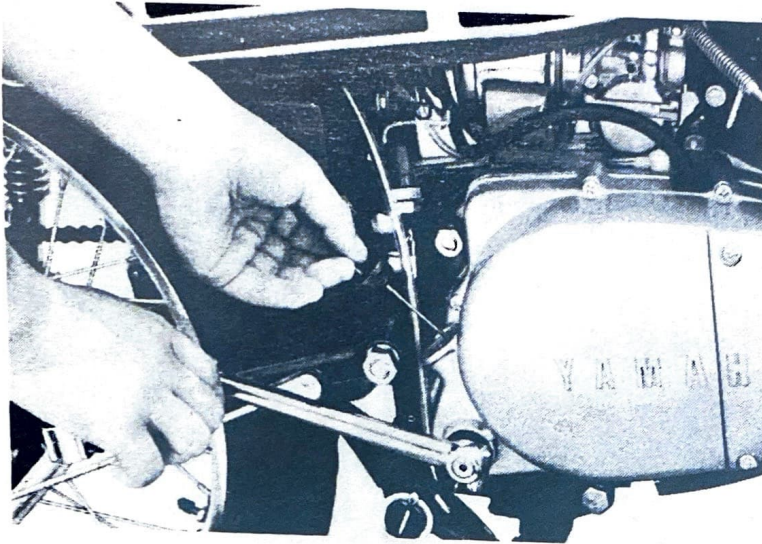
After draining, tighten the drain plug securely.

Feed a specified amount of oil through the oil hole located on the right part of the crankcase cover in a specified amount.

SAE 10W/30 MOTOR OIL 3/4 qt. (SERVICE CLASS "SD")

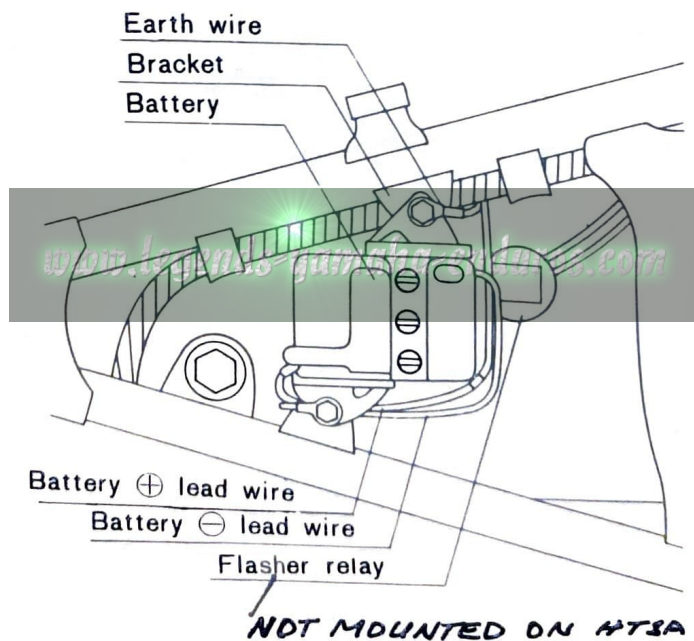


- Measuring the oil level with an oil level dip stick
 Insert the oil level gauge into the crankcase (do not screw in) and check for the oil level. If the gauge is coated with oil at least $\frac{7}{16}$ " in from the bottom end, the oil level is correct.



Notes on Battery Mounting

When mounting the battery, the wires should be connected as shown below:



Checking the Battery Fluid

If the battery fluid level is below the minimum level line, remove the battery, and add distilled water up to the maximum level line. Check the vent tube for clogging or kinks.



If your motorcycle will not be used for more than a month:

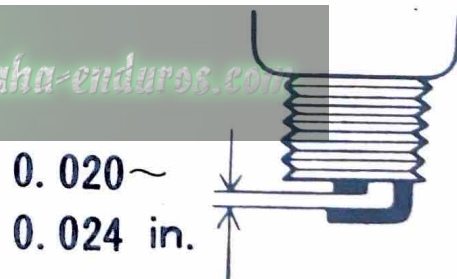
- Remove the battery from the machine, and give it to your Yamaha dealer to store or keep it in a dry cool place.
 - Be sure to have your dealer charge it once a month.
- PROPER CHARGE RATE = 0.2A to 0.5A MAXIMUM**

Checking the Spark Plug

A spark plug ignites the fuel-air mixture in the cylinder. Carboned or oiled plugs cause hard starting, misfiring and other problems.

Remove the spark plug from time to time, clean the electrodes, and adjust the spark plug gap.

- Remove carbon from the electrodes by using a soft wire brush,
- Adjust the spark plug gap to 0.020–0.024 in.



Recommended standard spark plug: B-8HS

ALWAYS CONSULT YOUR DEALER PRIOR TO MAKING A HEAT RANGE CHANGE.

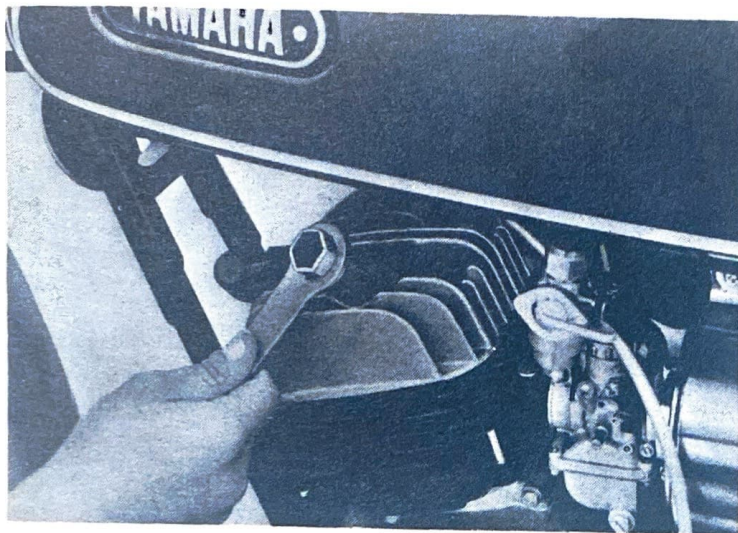
If the insulator has a tan color, the plug is correct.

If you habitually run in urban areas at a relatively low speed, the plug will tend to be sooty. A hotter type plug should be used.

NGK B-7HS

For a motocross event or other hard riding, a colder type is recommended.

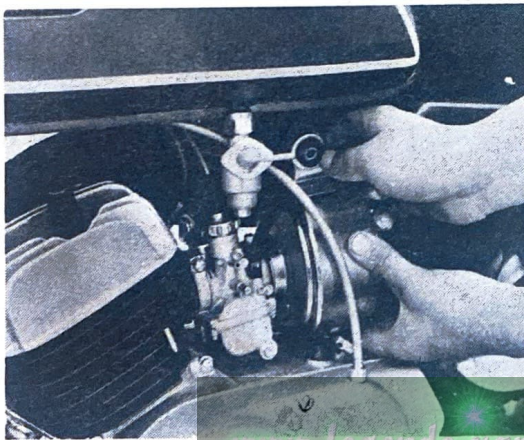
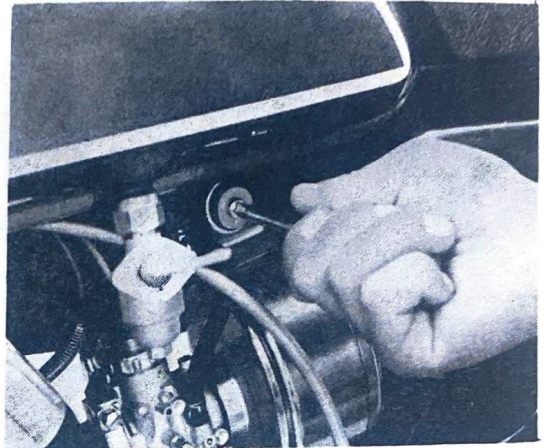
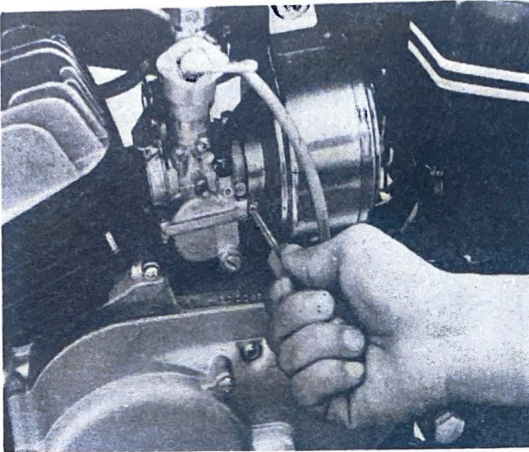
NGK B-9HS



**PROPER PLUG TORQUE DURING INSTALLATION
IS: 190 in/LBS.**

Removing the Air Cleaner

1. Loosen the screw holding the air cleaner housing to the carburetor, setting the carburetor and air cleaner.
2. Remove the screws holding the cleaner housing to the frame. The air cleaner can be removed.
3. Remove the cleaner cap, and take out the element.



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○Cleaning the element

The air cleaner is a wet foam type

Wash it in solvent, then soak it in oil. Squeeze out all surplus oil from the filter before reinstallation.

If you often drive in dusty areas, you should clean the air filter at least once a **WEEK**.

Checking the Carburetor

The carburetor settings are established under rigid test conditions, and therefore, if they are changed, it may result in poor performance. The following points are allowed to be checked by yourself, but it is advisable that the carburetor be checked by your Yamaha dealer.

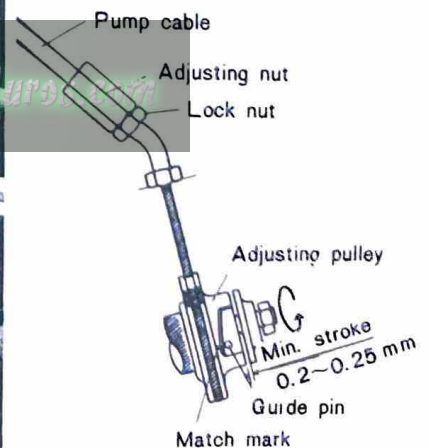
a. Idle speed adjustment

- Back out the pilot air screw (1) $1\frac{3}{4}$ turns from a lightly seated position.
- Start the engine and warm it up.
- After warming-up, turn the throttle adjust screw (2), and increase the engine speed to 1,200–1,300 rpm.
- Adjust the play of the accelerator cable to approximately by turning the adjusting bolt 4.

b. Adjusting the pump cable

- After adjustment of the carburetor, adjust the pump cable which is coupled to the throttle cable.
- Turn out the accelerator grip so all the throttle cable free play is removed. **BUT NOT ENOUGH TO OPEN THE THROTTLE.**
- Then, turn the pump cable adjusting nut so that the adjusting pulley's mark will match the guide pin.

(Carburetor Setting)



Drive chain:

Because the chain consists of an extraordinary amount of parts that rub against one another, it is prone to wear if it is not maintained constantly and correctly. Without any lubrication, a chain can wear out within 500 miles. You should develop a habit of servicing the chain on a regular schedule. This habit is especially important if you spend the major portion of your time riding in the dirt where dust and dirt can readily work into the chain links.

1. Lubrication —there are several excellent pressure can lubricants available. Use a rag to wipe off any accumulation of dirt, then spray a liberal amount of lubricant on the chain at least every 250 street miles or 50-100 dirt miles.
2. Cleaning. The chain has to be periodically removed from the machine and soaked in cleaning solvent. Completely saturate the chain with solvent to remove as much dirt as possible. Drain and dry the chain thoroughly.

Immediately after the chain has dried completely, lubricate it to prevent any rust from forming.

3. Adjustment—proper drive chain up and down free play, with the rider in position and both wheels on the ground, should equal 20mm ($\frac{3}{4}$ ") when measured at the center of the lower section of chain. Follow these steps to obtain the correct free play:



- a. Loosen the rear wheel nut
- b. Loosen the chain adjusting bolt lock nuts
- e. Rotate the adjusting bolts in or out, whichever is needed to obtain the correct free play, and at the same time make sure that both ends of the axle are positioned evenly. This can be checked by utilizing the marks on the very end of the swing arms, just above and to the rear of the rear wheel nuts.
- f. After completing the adjustment, retighten all the lock nuts.
- g. Finally, check for correct brake pedal operation as it could have changed due to the chain adjustment.

Cleaning the Muffler

To remove the inner cylinder from the muffler, remove the cylinder set screw and pull the silencer out. Remove the carbon with a wire brush, and lightly tap the cylinder. If the carbon is hard to remove, heat the cylinder with a blow torch and tap it lightly. The carbon can easily be removed.



Cleaning the Cylinder Head and Piston

Carbon accumulation around the cylinder head and piston causes poor performance, loss of power, overheating, and engine knocking.

○ Remove the cylinder head, and remove all carbon from the combustion chamber.

○ Remove all carbon from the piston crown.

Use a **HARDWOOD SPATULA**, and after removing the carbon, wipe the piston with a cloth damped with gasoline.

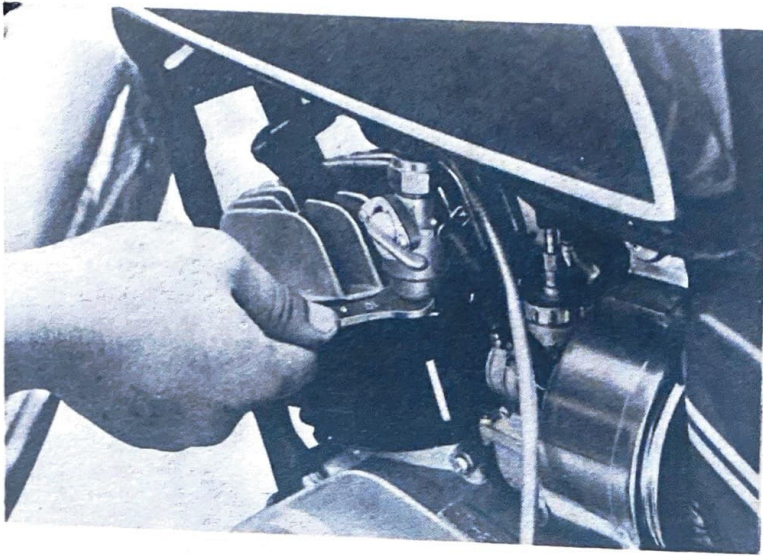
○ When the head is reinstalled, the head nuts must be torqued in pattern to a setting of 180 in/lbs.



Cleaning the Fuel Cock Filter

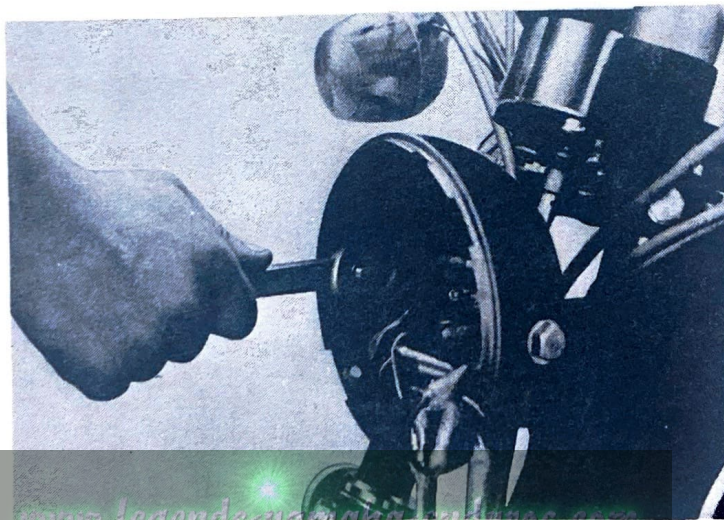
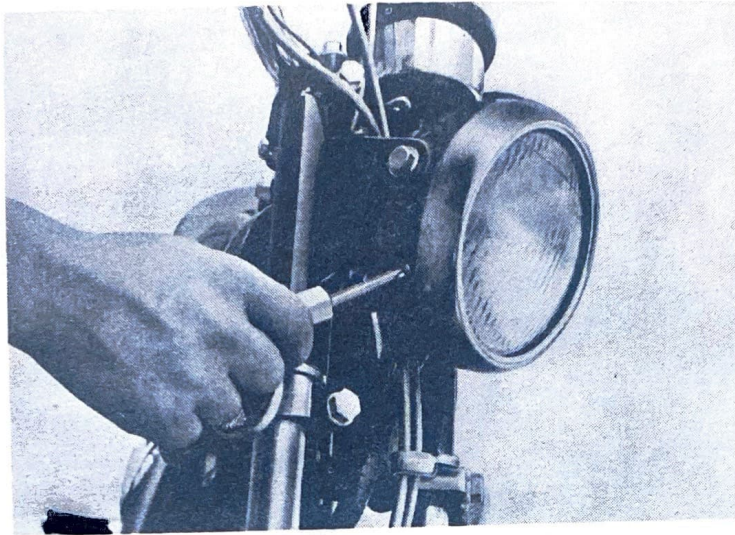
The fuel petcock filter removes impurities from the gasoline before it reaches the carburetors. A dirty filter will lead to clogging of the carburetor, and poor engine performance will result. The filter, therefore, should be cleaned from time to time.

- Remove the cup from the fuel petcock, and then remove the filter. Wash it carefully in gasoline.



Adjusting the Headlight Beam Angle

- To adjust the headlight beam angle, remove the lens, loosen the light mounting nut in the headlight, and move the light to face upward or downward.



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Retightening Bolts and Nuts

Check all bolts and nuts for looseness. If necessary, retighten them. Check the front axle, rear axle, swing arm shaft, front fork steering, rear cushion, engine fittings, handlebar, air cleaner case, battery case, fuel tank, front fender, rear fender, headlight, taillight, etc.

Stopping Distance

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 and with partial failures of the braking system. 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.

Description of vehicles to which this table applies: Yamaha motorcycle HT1-B

A. Fully Operational Service Brake

Load

Light

Maximum

190

190

215

0 100 200 300

Stopping Distance in Feet from 60 mph.

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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.

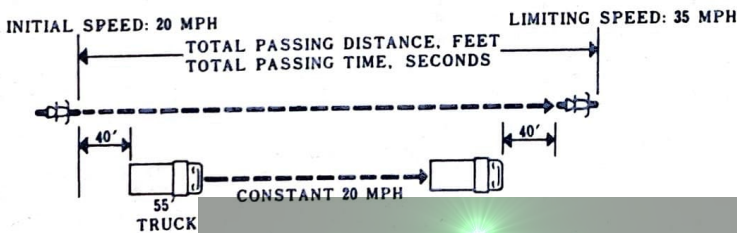
NOTICE: The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.

Description of vehicles to which this table applies: Yamaha motorcycle HT1-B
(MODEL HT1A CONFORMS ROUGHLY TO THESE SPECIFICATIONS)

Summary table:

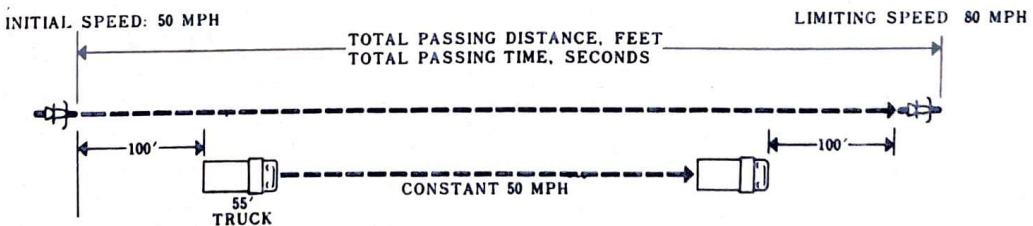
Low-speed pass.....	<u>385</u> feet;	<u>8.4</u> seconds
High-speed pass.....	<u>2,600</u> feet;	<u>32</u> seconds

LOW-SPEED

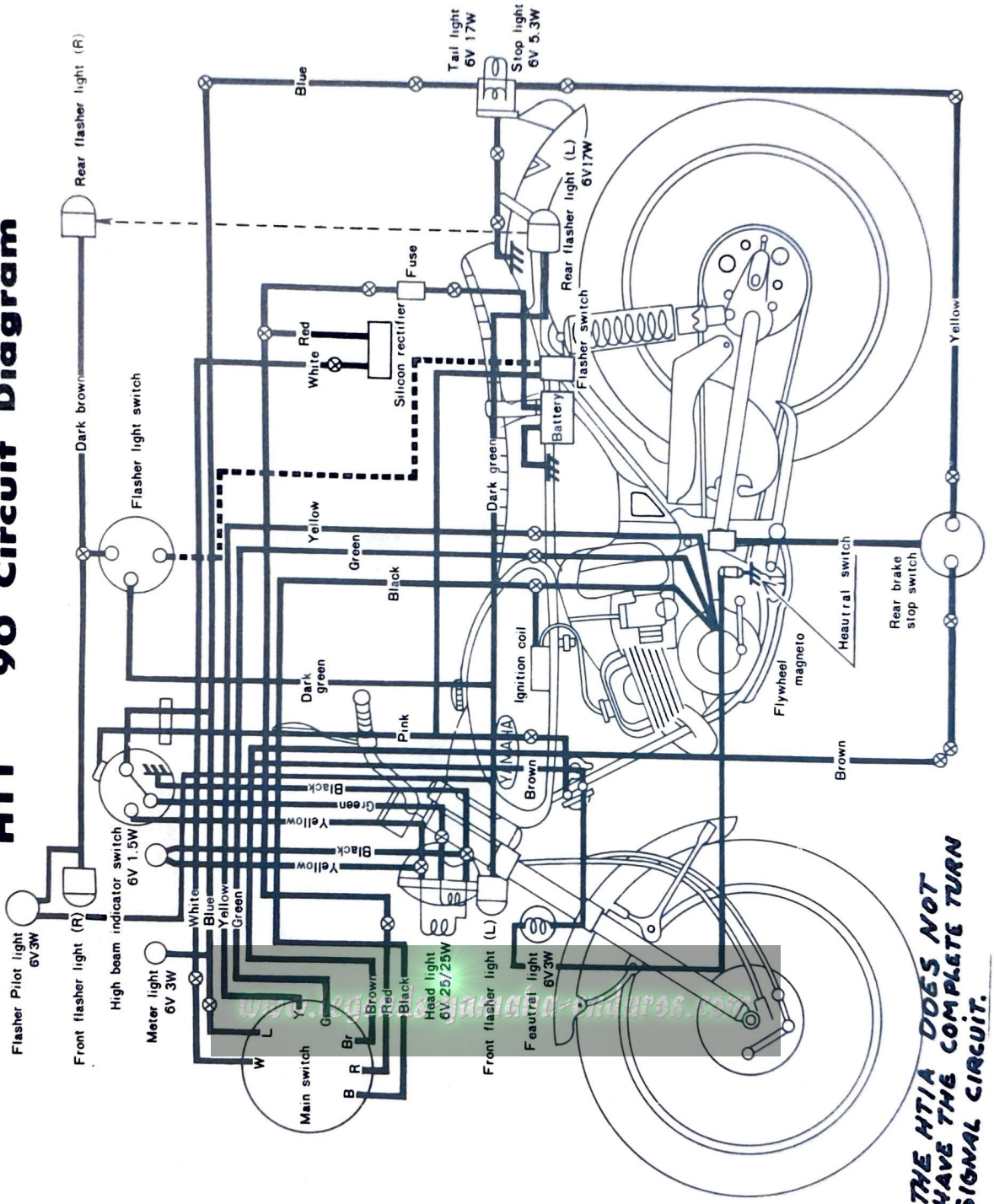


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HIGH-SPEED



HT1 90 Circuit Diagram



NOTE: THE HT1A DOES NOT HAVE THE COMPLETE TURN SIGNAL CIRCUIT.



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