YAMAHA

SINGLE ENDURO

175 CT1

RIDER'S MANUAL

Congratulations! You are now the owner of a new Yamaha SINGLE ENDURO 175CT1. The CT1 is a high-performance, motorcycle manufactured by the leading manufacturer of motorcycles in Japan.

The CT1, the newest and top of the Yamaha line model is designed for competition and high-speed road use. It features a rugged, powerful 2-stroke twin engine and Autolube, the revolutionary lubricating system developed by Yamaha Technical Research Laboratory and proved in all Yamaha models.

This manual explains some steps necessary for operating and caring for your new motorcycle. Please read it carefully to become thoroughly familiar with all features and advantages built into your CT1.

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I. Features and Specifications

1. Features

(1) High-performance Single Cylinder Engine

The Yamaha Enduro 175 CT1 utilizes a powerful two-stroke 175 c.c. engine. The new five-port cylinder, which is another Yamaha Technical development greatly improves engine efficiency and is resposible for high power output throughout a broad RPM range.

(2) Highly-dependable Yamaha Autolube

Yamaha Autolube provides superrior engine lubrication that extends the service life of the engine.

(3) Easy Starting

The engine can be started by simply disengaging the clutch and kicking the kick pedal without shifting gears back to neutral. This is a valuable convenience to the rider.

(4) Powerful Brakes

Patented waterproof, dustproof brake drums provide safe, fade-free braking on wet or dusty roads.

(5) Adjustable Rear Cushion

The rear cushions are adjustable for three positions. The rider can adjust spring tension to compensate for varying weight, speed, and road conditions.

(6) Front Fork Design

The Yamaha Enduro 175 CT1 employs a front fork design well-known for its strength and superior handling characteristics. Its use assures the rider of the ultimate suspension for even the roughest terrain.

(7) Speedometer and Tachometer

Both speedometer and tachometer are standard equipment. Individual units are separately mounted for maximum visibility. An additional feature of the speedometer is an odometer which can be reset to zero for trip or enduro purposes.

(8) Tires

The Yamaha CT1 is fitted with Dunlop Trials Universal as standard equipment. This particular tread is one of the most versatile available. It gives maximum trail traction and yet is compatible with road usage.

(9) Carburetor Starter Feature

Yamaha's starter feature is already well-known for its easy starting. Equipped with this unique carburetor, the Yamaha CT1 is quick starting under all conditions.

2. Specifications

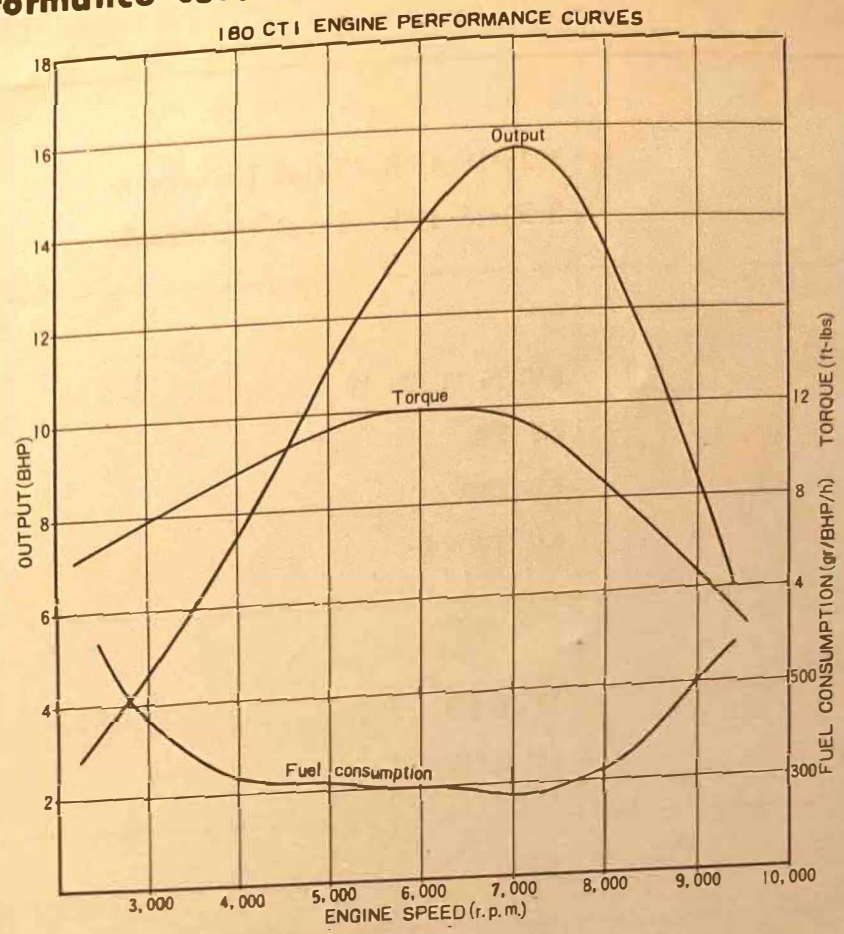
Performance & Specifications Model CT1

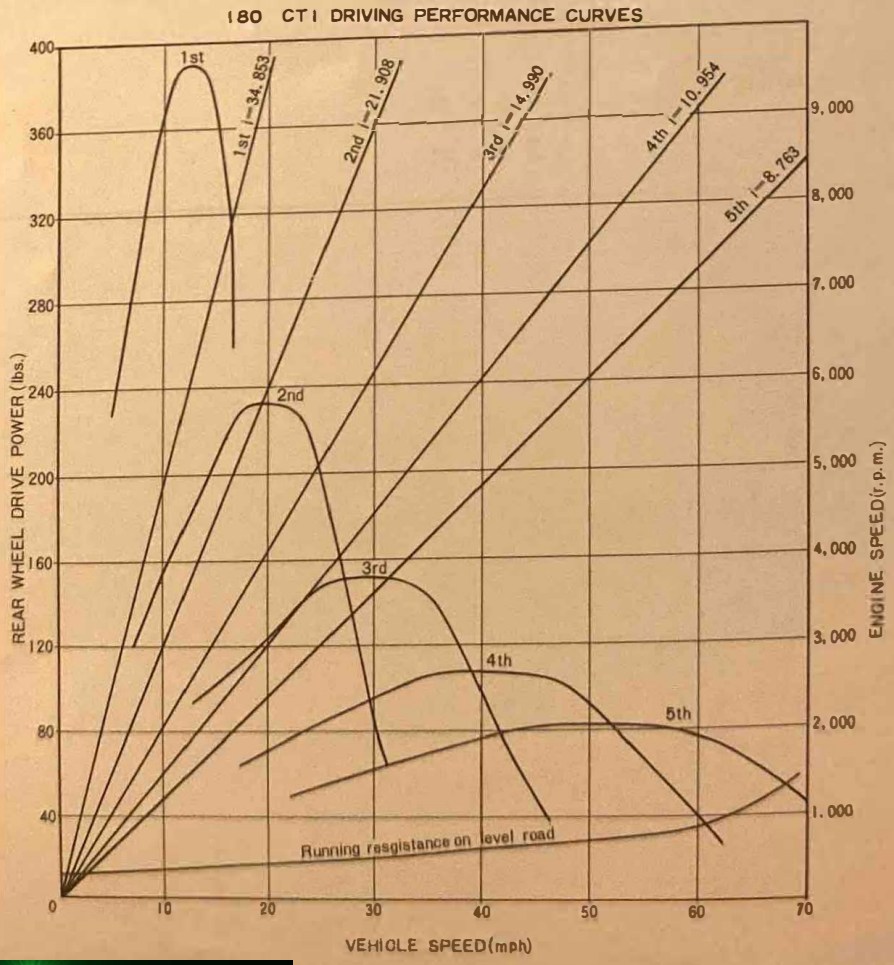
Dimensions:	
Overall length	77.4 in.
Overall width	35.8 in.
Overall height	43.1 in.
Wheelbase	50.6 in.
Min. ground clearance	9.1 in.
Weight:	
Net	211 lbs
Performance:	
Max. speed	65 mph plus
Fuel consumption (on paved level roads)	129.4 mpg @25 mph
Climbing ability	32°
Min. turning radius	74.8 in.
Braking distance	58.3 ft./31 mph.
Engine:	
Model	CT1
Type	2 stroke gasoline,
Lubricating system	Seperate lubrication (Yamaha Autolube)
Cylinder	single, forward inclined, 5-port
Displacement	10.43 cu., in. (171 cc)
Bore × Stroke	2.598 × 1.969 in. (66 × 50 mm)
Compression ratio	6.8 : 1
Max. power	15.6 BHP/7,000 rpm
Max. torque	11.9 ft-lb/5,500 rpm
Starting	Primary-coupled kick starter system
Ignition method	Magneto ignition system

Carburettor:	
Type	VM24SH
M. J.	#150
J. N.	4D3-3 stages
Air cleaner:	Wet, foam rubber
Spark plug:	B-8E
Chassis:	
Frame	Tubular-Double loop
Suspension Front	Telescopic
Rear	Swinging arm
Transmission:	
Clutch	Wet, multiple-disk
Primary reduction system	Gear
Primary reduction ratio	3.894 (74/19)
Gear shifting type	Constant mesh, 5 speed
Gear ratio 1st	3.182 (35/11)
2nd	2.000 (30/15)
3rd	1.368 (26/19)
4th	1.000 (23/23)
5th	0.800 (20/25)
Secondary reduction system	Chain
Secondary reduction ratio	2.813 (45/16)
Steering:	
Steering angle	49°
Caster	60.5°
Trail	4.8 in.

Tire size:	
Front	3.25-18-4PR (Trial Universal)
Rear	3.50-18-4PR (Trial Universal)
Lighting:	
Head light	6V 25 W/25 W
Tail light	6V 7W
Stop light	6V 23W
Meter light	6V 3W×2
Battery:	
Model No.	MV1-6D
Capacity	6V 2AH
Magneto model:	F130
Tanks:	
Gasoline tank capacity	1.9 u.s gal.
Oil tank capacity	1.3 u.s qt.

3. Performance curves





Ⅱ. Yamaha Autolube

What is Yamaha Autolube?

Yamaha Autolube is an automatic engine lubrication system, which obsoletes the conventional 2-stroke pre-mixing system. Oil stored in the oil tank is metered automatically by an oil pump to the engine on demand, depending on speed and load.

Function of the Yamaha Autolube

The heart of the system is the compact, precision oil pump developed by Yamaha engineering staff. It is driven by the engine through the reduction gear, functioning according to the carburetor throttle (accelerator grip). The flow of oil is varied depending on the engine RPM (speed) and load (throttle opening). The proper amount of oil is fed to the engine thus assuring optimum lubrication at all times.

Features of the Yamaha Autolube

The Yamaha Autolube eliminates lubrication problems peculiar to 2-stroke engines with the conventional "pre-mixing" system, and improves many inherent advantages of 2-stroke engines.

1. The Autolube system results in:

- ○ Oil consumption decreased by ⅓ of the amount required by a conventional 2-stroke engine.
- ○ Decreased carbon build-up
- ○ Reduced exhaust smoke

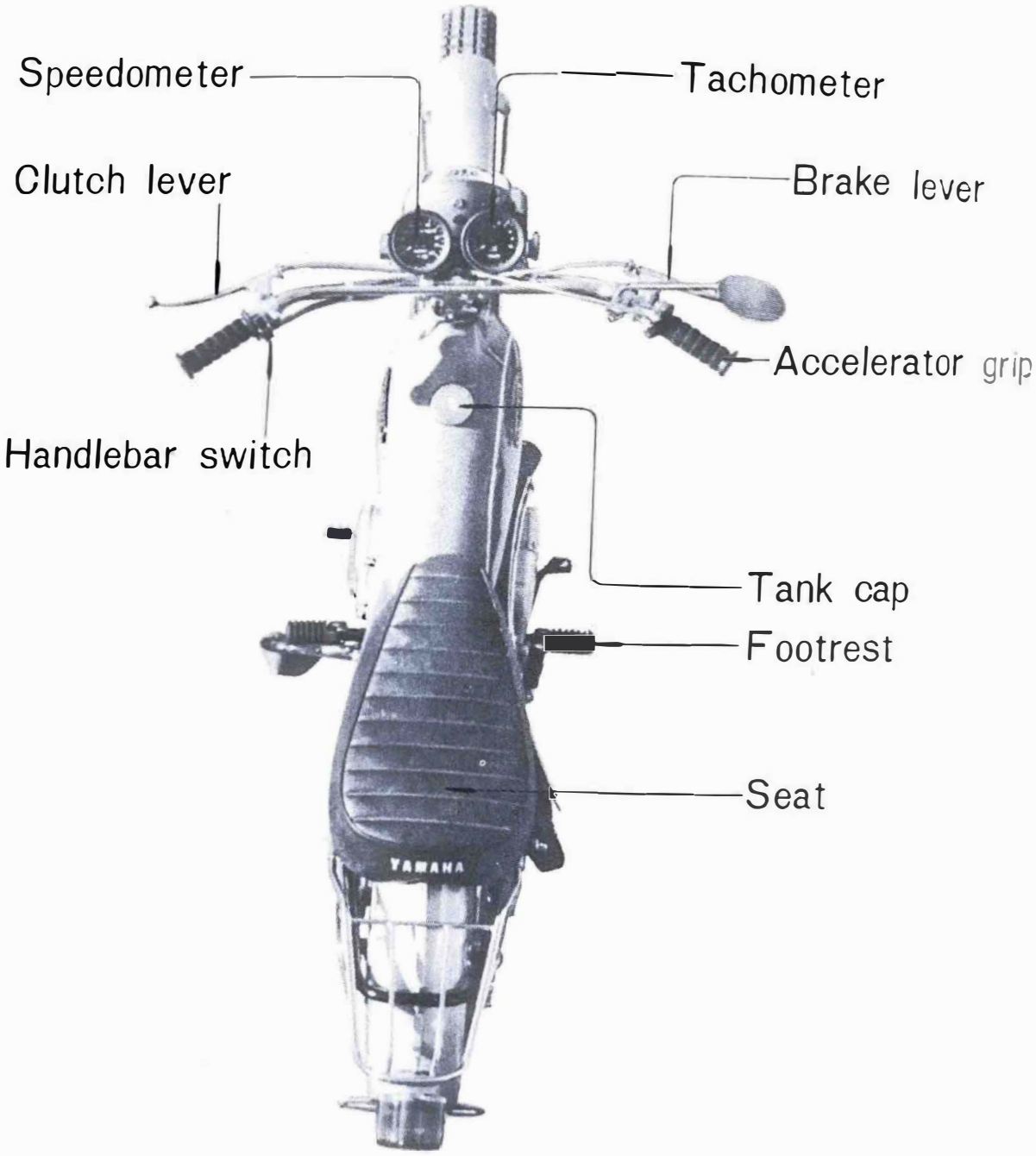
2. The Autolube system provides:

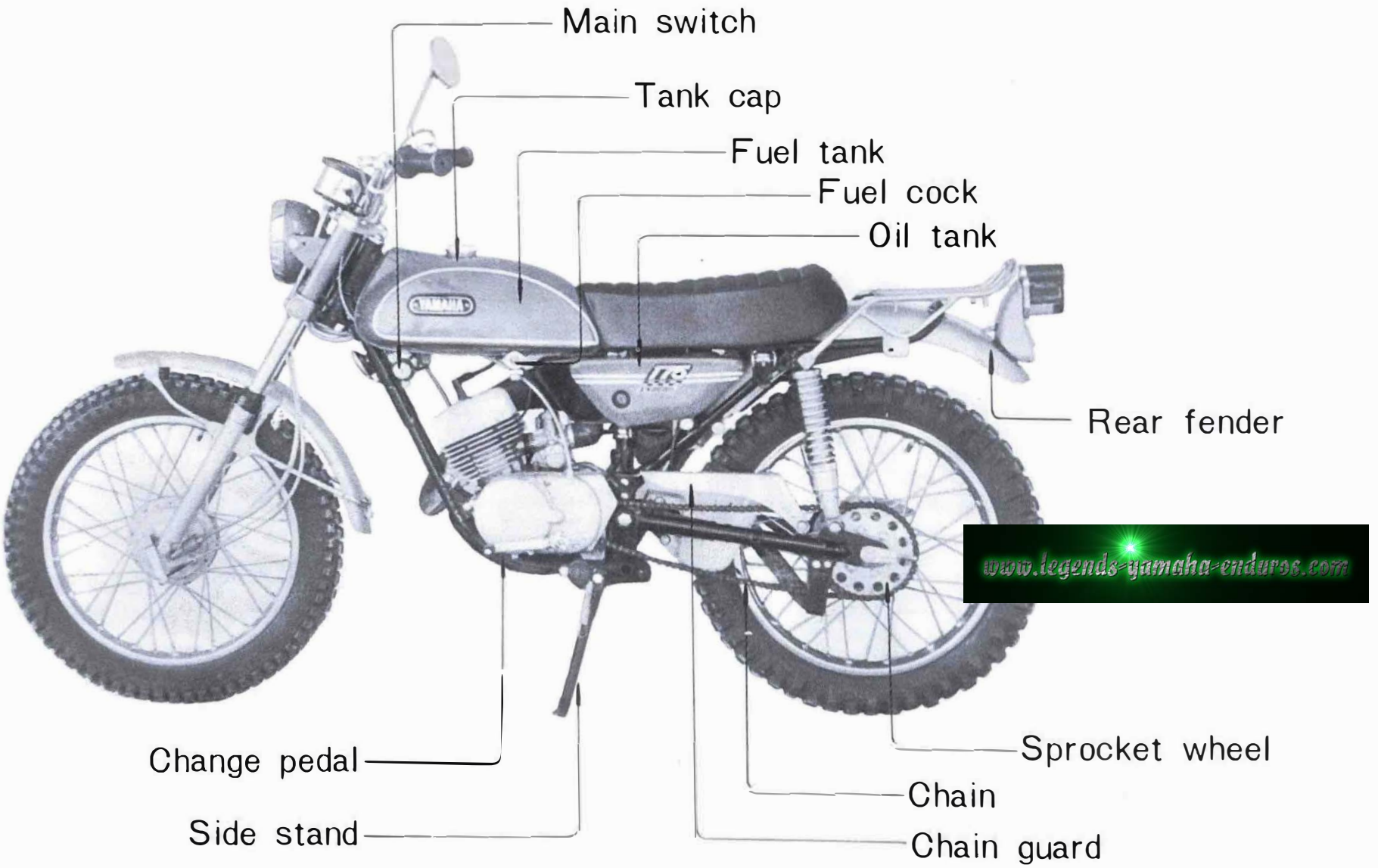
- ○ Fresh oil supply
- ○ Complete lubrication due to large oil particles
- ○ No worries about the compatibility of oil and oil-fuel mixing ratios

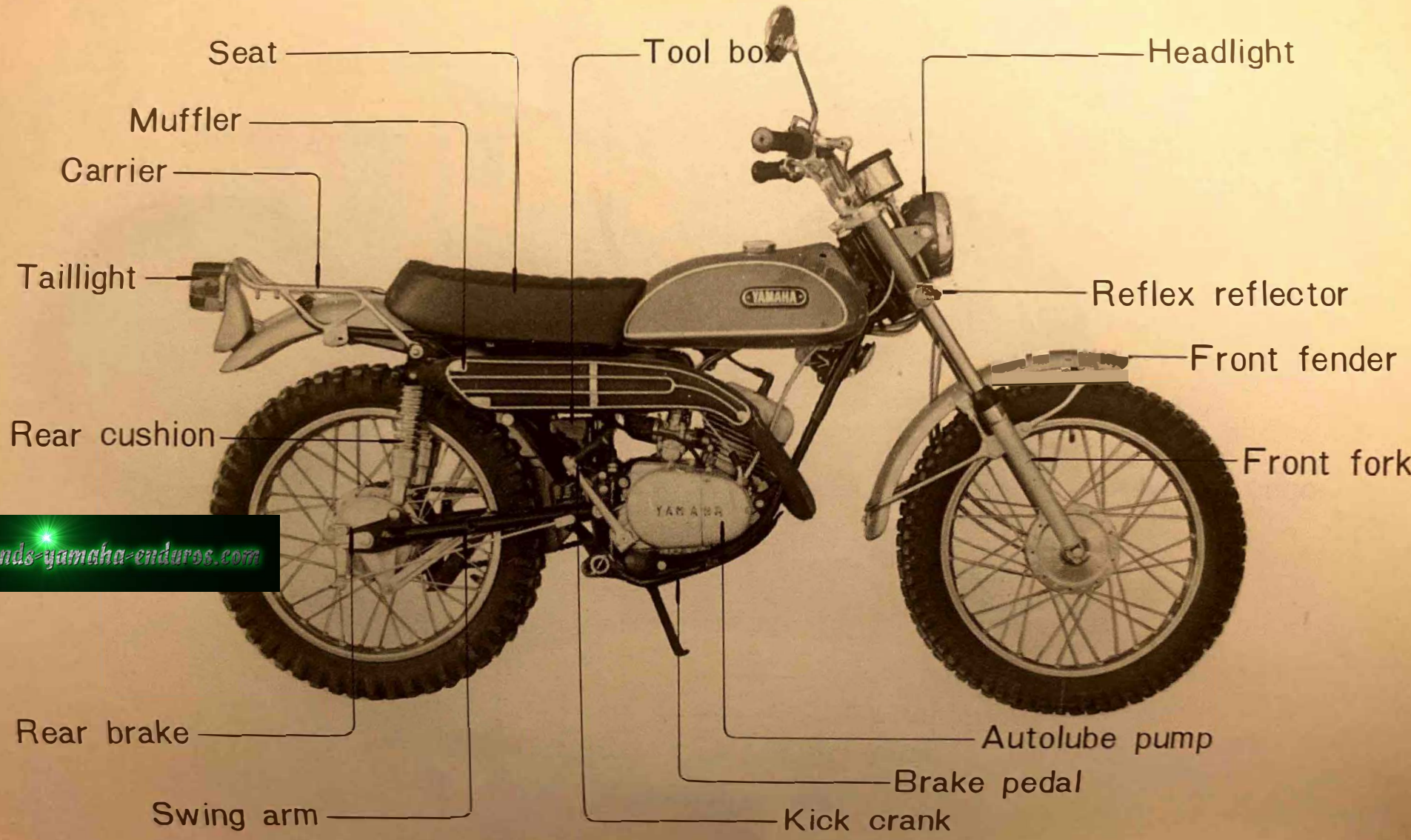
3. The Autolube system means:

- ○ Fuel-"straight" gasoline only
- ○ No pre-mixing of oil and gasoline
- * Yamaha Autolube oil guarantees improved engine performance and extended engine life.

Ⅲ. Nomenclature







Ⅳ. Basic Instructions

1. Gasoline and Oil

The Yamaha Enduro 175 CT1, equipped with the Yamaha Autolube system uses straight gasoline as fuel.

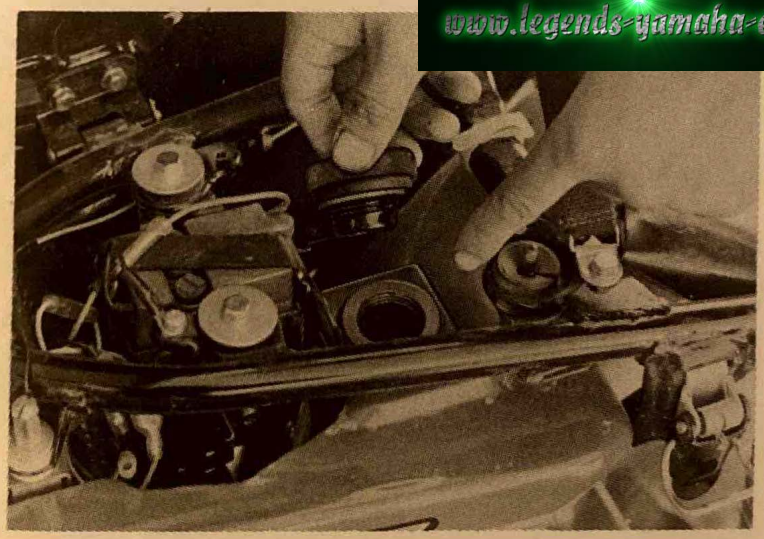
Gasoline: Use gasoline of 90 octane rating or more.

Oil: Use Oil for lubrication.

Store it in the separate oil tank located under the seat.

[Autolube Oil]

The Yamaha Autolube Oil, refined especially for this new lubricating device excells in lubrication, cleanliness and liquidity at low temperatures. The performance of the Autolube depends on the quality of oil. Yamaha Autolube Oil is recommended for higher performance and longer life of the engine.



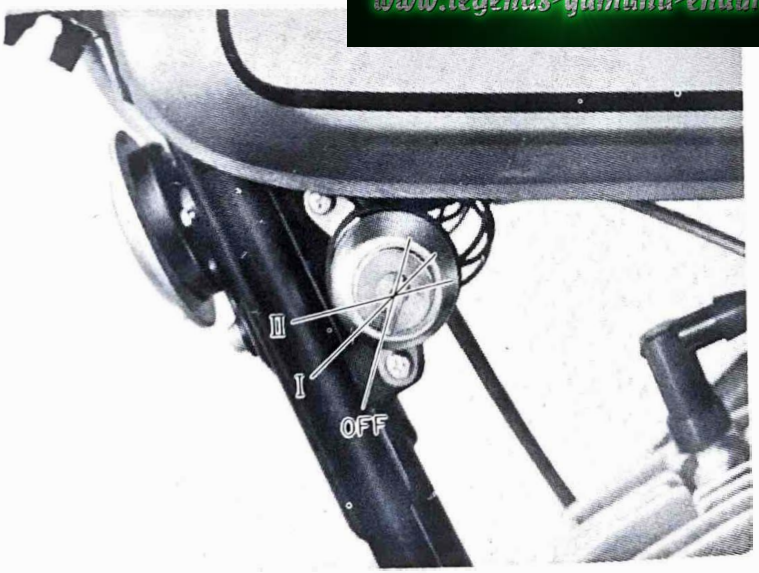
2. Familiarization of Equipment

(1) Main Switch

The main switch has three key positions, OFF, Ignition, and Ignition Lights.

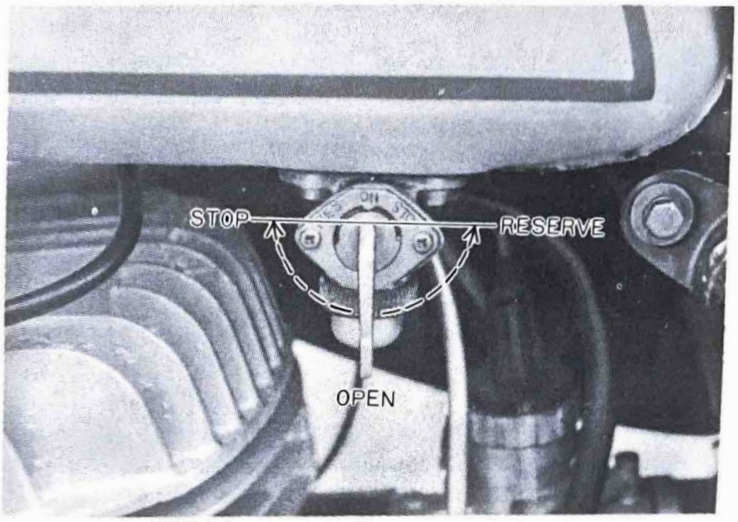
The following chart shows the key positions at which the various system are switched on or off. (The circle (o) denotes "Switch on".)

	OFF	I	II	Instructions
Engine		○	○	To start the engine, kick the kick pedal.
Neutral light		○	○	The change pedal is in neutral.
Meter lamp			○	The engine is running.
Head light			○	The engine is running.
Tail light			○	The engine is running.
Stop light		○	○	The brake is applied.
Horn		○	○	The horn button is depressed.



(2) Fuel Petcock

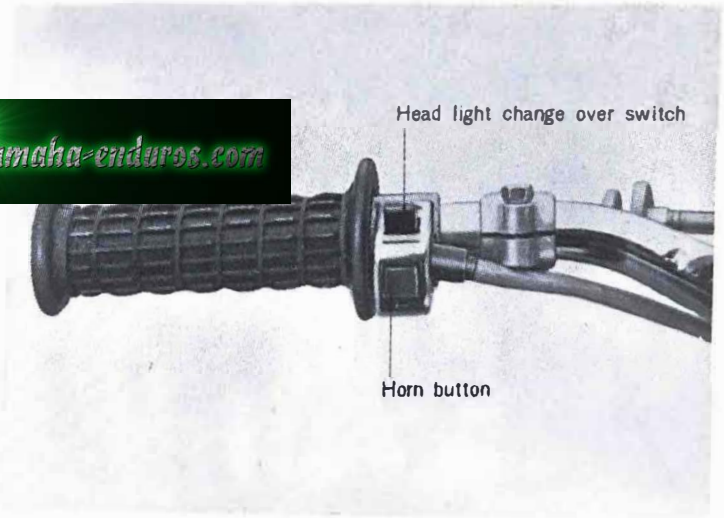
To allow the fuel to flow into the carburetor, turn the fuel petcock lever to OPEN. Should you run low of fuel while driving, turn it to RESERVE. The reserve position will enable you to drive approximately 25 miles (40 km). When parking, the lever should be turned to STOP.



(3) Handlebar Switches

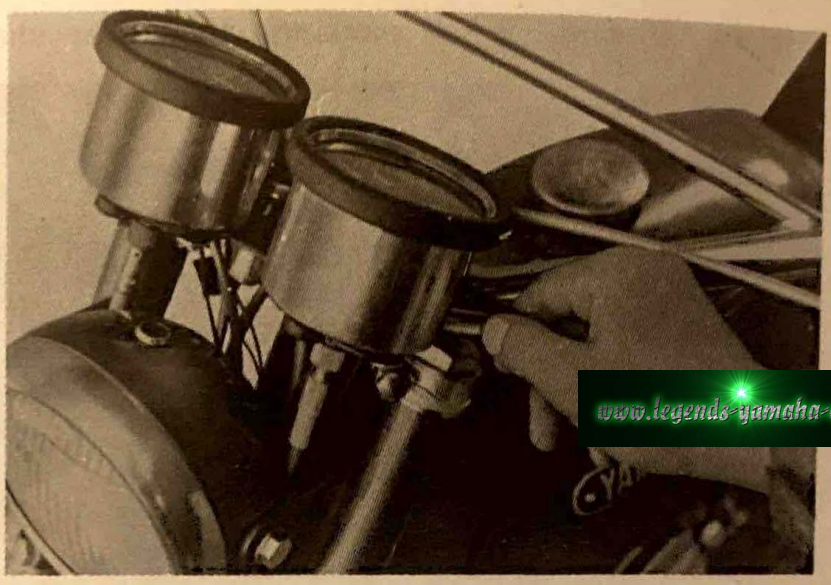
a. To sound the horn, depress the horn button.

b. To lower the head light beam, push the switch toward you. To raise the beam, push the switch toward the front.



(4) Trip Total Meter

A trip total meter is built in the speedometer. It is designed to show the total mileage of each trip. Before starting a trip, set the trip total meter to the zero position.

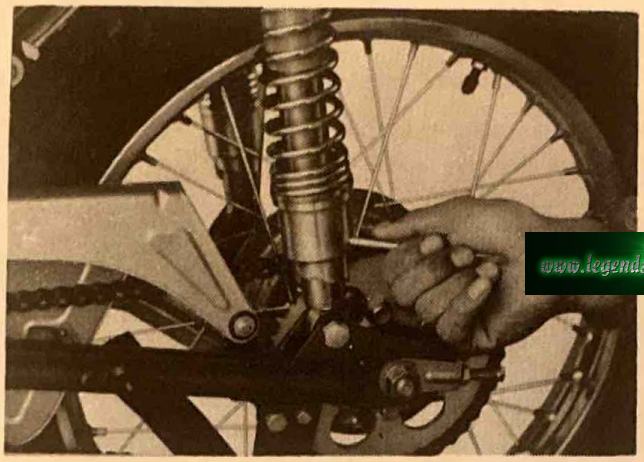


(5) Rear Cushions

The rear cushion can be adjusted according to load, road conditions, and rider preference.

○How to adjust the rear cushion

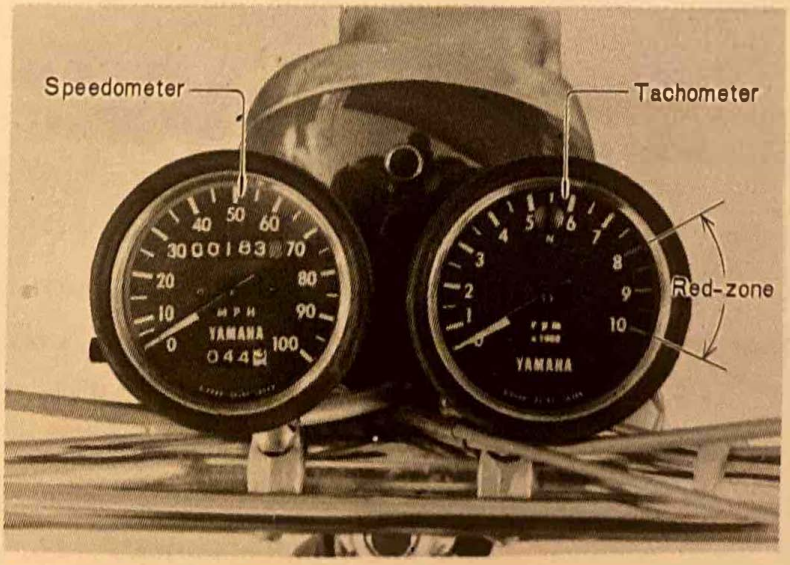
Insert the screw driver (service tool) into the adjusting hole and then turn it counterclockwise in order to change the position of the toothed notch.



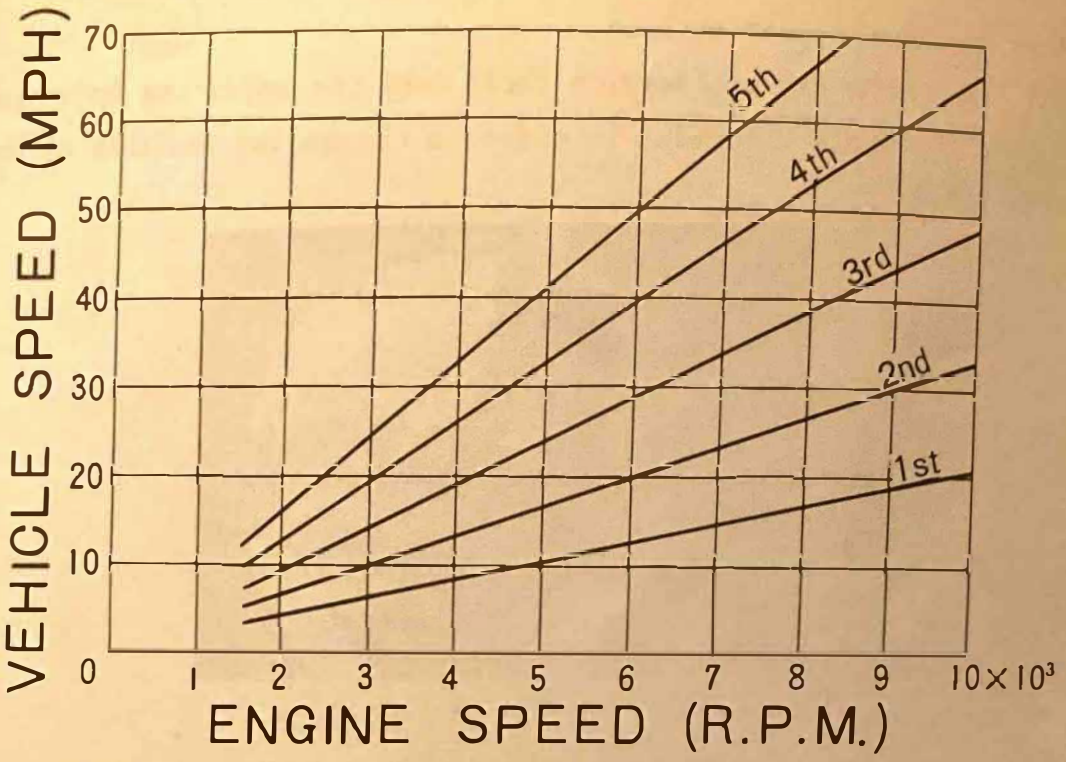
(6) How to Read the Tachometer

A tachometer is provided so that the rider can easily maintain engine RPM sufficient to keep the engine within the power curve. The standard Yamaha CT1 is designed to run best in the power range between 3,000 rpm and 7,000 rpm.

Never lug your engine! It is recommended not to use red-zone 8000 ~10,000 r.p.m.



The relation between the engine RPM and gears is shown in the diagram on the next page.



3. Pre-operation Check

You should check the following points before each usage.

(1) Is there sufficient fuel?

Make sure that there is sufficient fuel for your driving plan. Fill the fuel tank with gasoline only.

(2) Is there sufficient oil?

If the oil is below the center hole on the glass view port, refill the oil tank with Yamaha Autolube Oil or SAE #30 motor oil.

(3) Is the tire pressure correct?

The wrong tire pressure affects the riding comfort, steering, and life of tires.

Correct tire pressure:

Front - 14 lbs/in^2 (1.0 kg/cm^2)
Rear - 17 lbs/in^2 (1.2 kg/cm^2)
} For on-the-road-riding

When the tire pressure is reduced below the specified value because of some reason, the tire may slip around the rim. To prevent this slipping of the tire, bead stoppers should be used.

(4) Do the front and rear brakes work effectively?

Try the brake lever (right handlebar) and the foot brake (on the right side of the rear wheel). Check to see if the stop light is functioning.

(5) Do the lights and horn function well?

Check the horn, stop light, head light, meter lamp, etc.

4. Operation

(1) Starting the Engine

The Yamaha Enduro 175 CT1 employs the kick starter system. The carburetor is provided with a starting system to produce the rich air-fuel mixture required for easy starting of the engine. It assures quick starting even in extremely cold weather.

Preparation for Starting

- Turn the fuel cock lever to the "OPEN" position.
- Insert the main switch key and turn it to the "Ignition" position. Make sure the neutral light is on.

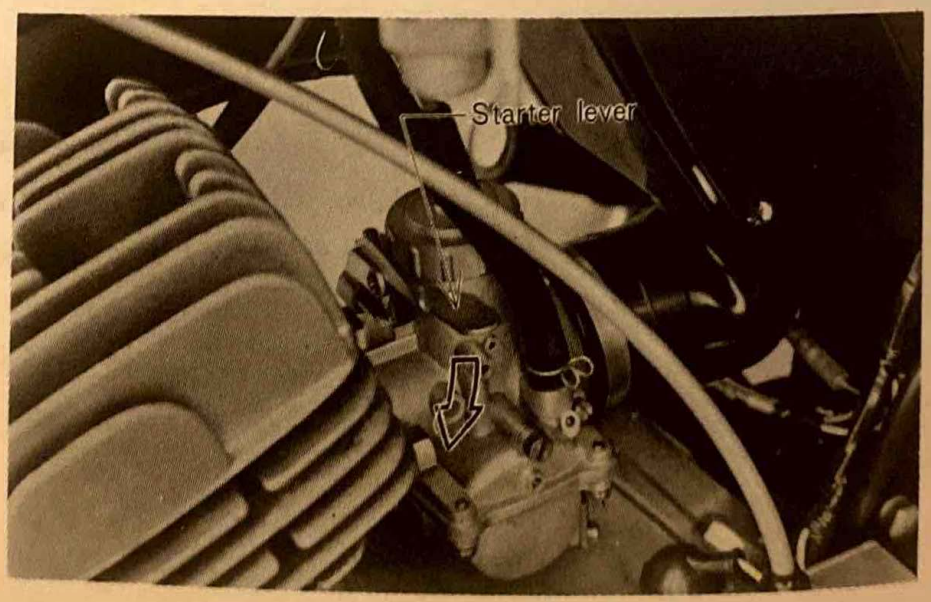
The 175 CT1 is equipped with a primary kick starter.

The engine can be started by kicking the kick pedal when the transmission is in neutral or by disengaging the clutch if the transmission is in gear.

Starting When the Engine is Cold

Most engines are more difficult to start in cold weather. For easiest starting, a richer mixture of gas/air can be obtained by operating the starter lever.

- Depress the starter lever.
- Start the engine by kicking the kick pedal with the accelerator grip closed.



Starting When the Engine is Warm

When the engine is still warm from running or in warm weather:

- ○ Don't use the starter lever.
- ○ Slightly open the accelerator grip, and kick the kick pedal.

Warming Up

It is very important to allow a warming-up period of 2 minutes or so after starting the engine.

After the engine is started, the depressed starter lever must be released, and keep the accelerator grip open until the engine begins to run smoothly.

Correct engine warm-up, along with periodic inspection will assure a longer performance life for your engine.

(2) Operation Procedure

Shifting Gears

The Yamaha 175 CT1 is equipped with a foot-operated, 5-speed transmission.

To shift into NEUTRAL, move the toe section of the change pedal downward and then raise it slightly to the neutral detent.

The neutral position is between the First and the Second gear position.

FIFTH

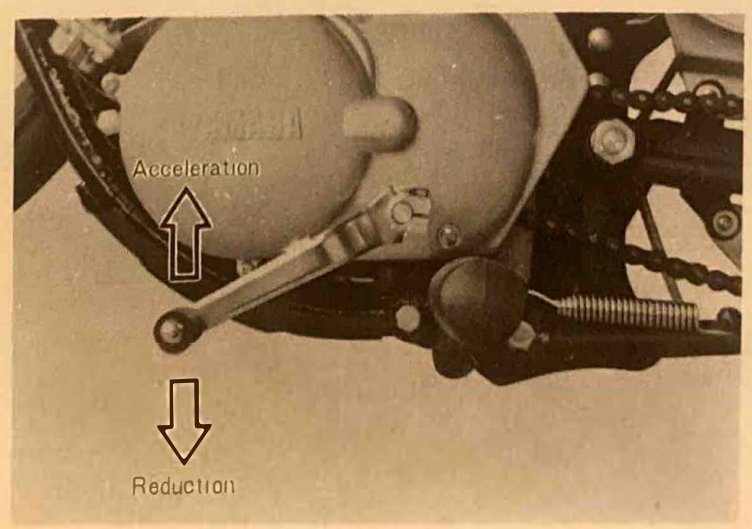
FOURTH

THIRD

SECOND

NEUTRAL

FIRST



Acceleration

○ Grip the clutch lever to disengage the clutch.

○ Depress the toe section of the change pedal to FIRST.

○ Slowly open the accelerator grip (the engine speed begins to increase), and release the clutch lever gently. Done properly, the machine will accelerate smoothly.

Riding on the Road

After starting off, accelerate to approximately 10 mph (15 km/h)

○ Disengage the clutch while closing the accelerator grip.

○ To shift the gear into SECOND, raise the toe section of the change pedal one full position.
(In this case, the neutral position is bypassed)

○ Increase engine speed slowly and release the clutch lever. Accelerate to approximately 20~25 mph (30~40 km/h), and shift the gear into THIRD.

○ Decelerate by reversing the above procedure. Close the accelerator grip, disengage the clutch, and then depress the change pedal.

* Do not "lug" the engine unnecessarily as the engine may overheat or tend to foul a spark plug.

Off-the-road Riding

When you ride your motorcycle over rough land, safety parts may fall off due to shocks from the ground or due to accidents such as turnover, and breakage or loss of parts may result. It is advisable to remove all safety parts before you start riding.

Parts to be removed: Head light, tail light, speedometer, tachometer, and side stand.

Caution on Riding over Paved Roads at High Speeds:

The CT1 is equipped with tires having a block pattern. As a result, the area where the tire contacts the ground is smaller as compared with other types of tires. Therefore, take care not to slip your motorcycle when you are cornering at high speeds and at sharp angles.

(3) Stopping

To stop the machine, gradually reduce speed by closing the throttle and apply the front and rear brakes simultaneously.

Remember to apply the front and rear brakes together when running at high speeds. Applying only one brake may cause skidding or overturning.

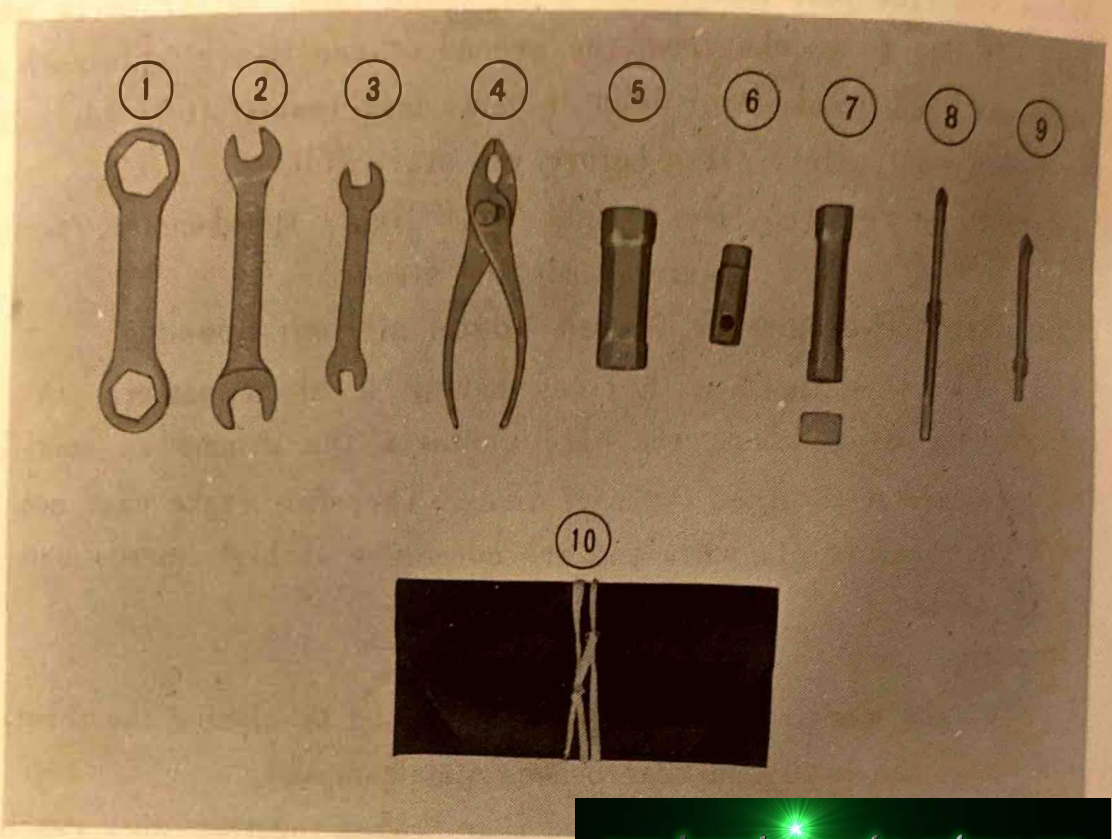
5. Break-in Procedure

To secure a longer life for your Yamaha 175 CT1, a certain period of breaking-in operation is very important.

During the first 600 miles (1,000 km), the various parts of the engine wear and polish themselves to the correct operating clearances. It is important to avoid prolonged full throttle operation or any condition which might result in excessive heating during this critical period.

Care taken at this time will result in longer life, better dependability and higher performance.

V. Service Tools



1. 22 m/m×26 m/m double-ended spanner
2. 13 m/m×17 m/m spanner
3. 8 m/m×10 m/m spanner
4. Pliers
5. 17 m/m×21 m/m socket wrench
6. 10 m/m socket wrench
7. Screwdriver handle and 13 m/m socket wrench.
8. ⊕ ⊖ screwdriver
9. ⊕ screwdriver
10. Tool bag

Ⅵ. 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. This is "physical checkup" of your machine.

Remember to have the periodic inspection 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 every 30~60 days.

1. Periodic Inspection Guide

	Check point	Instractions	P. Ref.
1	Front and rear brake	Adjustment	26,27
2	Clutch	Adjustment	28
3	Gear oil	Level and replacement	29
4	Battery electrolyte	Refilling	30
5	Spark plug	Cleaning	31
6	Air cleaner	Checking and cleaning	32
7	Carburetor	Adjustment	33
8	Drive chain	Adjustment and oiling	34
9	Muffler	Cleaning	36
10	Cylinder head and piston	Cleaning	36
11	Screws, bolts and nuts	Retightening	37

Be sure to check the above points before long-distance touring.

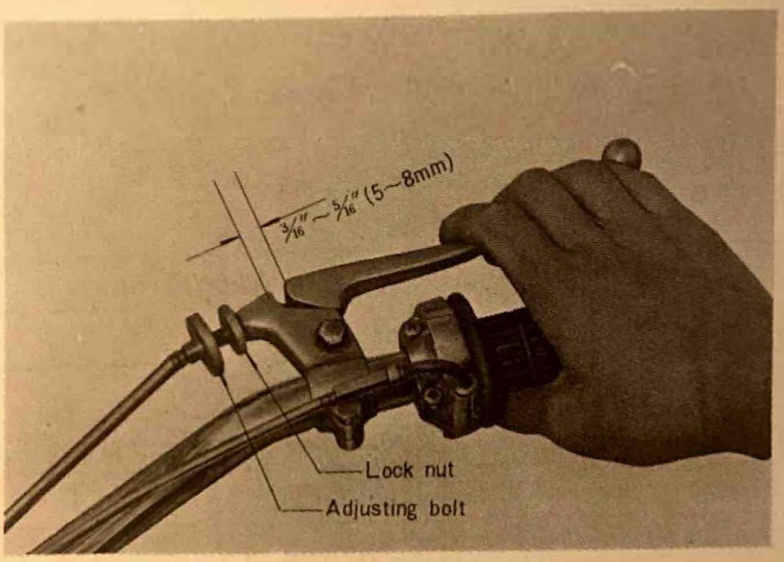
2. Inspection and Adjustments

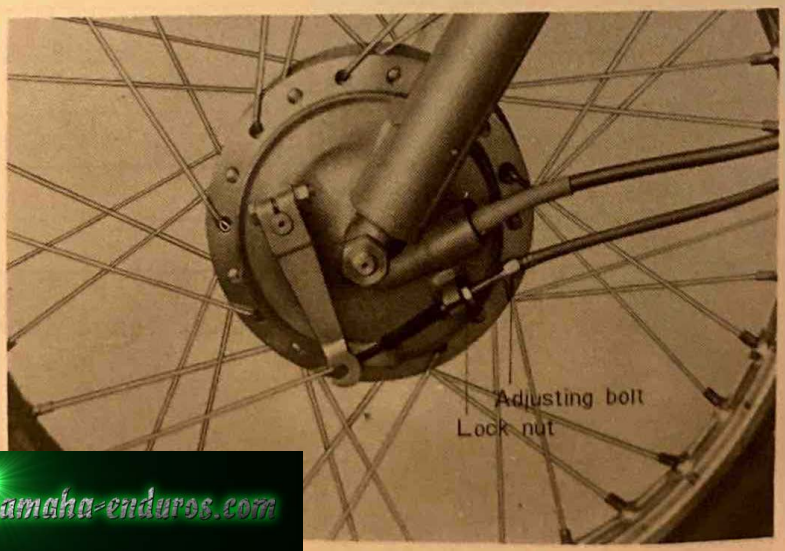
The methods at inspection and adjustment are discussed below. This information will be of value in your daily inspections.

Adjusting the Brakes

Front Brake:

The correct free play of the front brake lever is 0.2 to 0.3 in. (5 to 8 mm). To adjust, turn the adjusting bolt of the front brake cable end, or the adjuster located at the lever. After adjustment, be sure to tighten the lock nut fully.

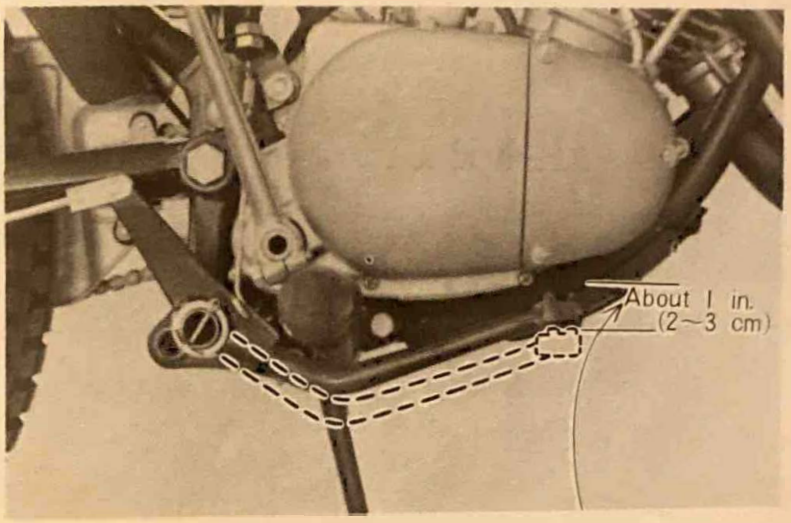




Rear Brake:

The correct free play of the rear brake pedal is approximately 1 in. (25 mm). To adjust the play, turn the adjusting nut that is attached to the rear brake cable end, one-half turn at a time.

After the adjustment, check the stop light to see if it functions properly.



Checking the Brake Lining:

Disassemble the wheel assembly every 3,000 miles (5,000 km), and check it for wear and clean the brake shoe and brake drum. Take care not to get any oil on the lining friction surface.

Adjusting the Clutch

The clutch lever should have free play of .080 to .120 in. (2 to 3mm) to maintain full pressure against the clutch facing. If the play is excessive, clutch action will be impaired. If the play is insufficient, the clutch will slip.

How to Adjust the Clutch:

To adjust the clutch, turn the adjusting bolt attached to the clutch lever holder. After the adjustment, fully tighten the lock nut.

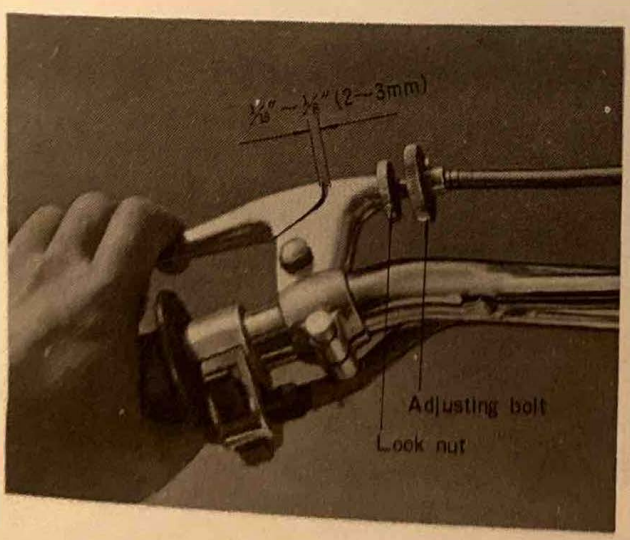
Precision Adjustment Method:

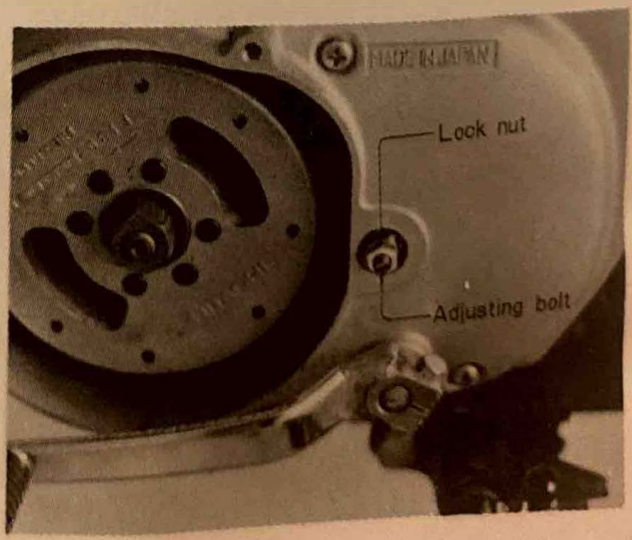
a. Remove the clutch adjusting cover from the left side of the crankcase cover.

b. Loosen the clutch adjusting screw (turn it to the left), and then tighten it slowly by turning it clockwise.

c. Back it off ¼ turn from a lightly seated position, and lock it with the lock nut.

d. Then adjust the play of the clutch cable with the adjusting bolt attached to the clutch lever holder.



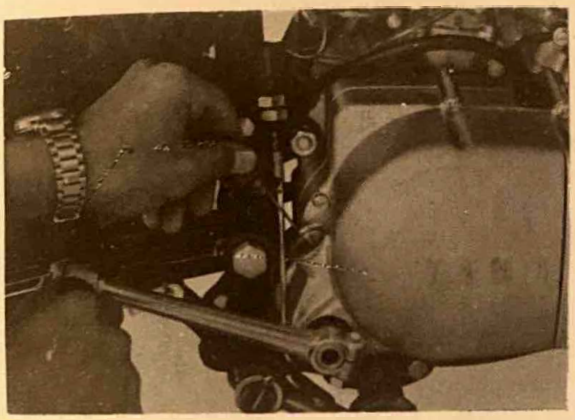


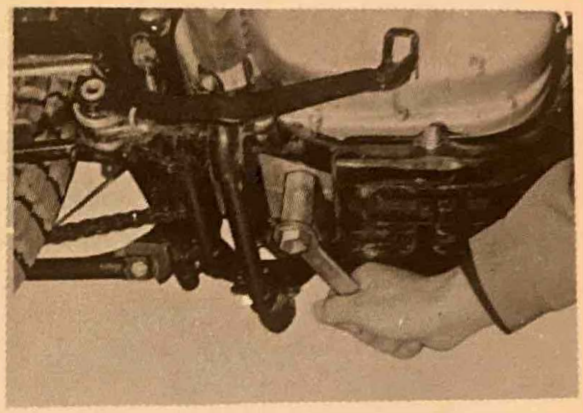
Replacing the Gear Oil

During the breaking-in period, replace the gear oil after 30 days from the purchase or after 300 miles (500 km) running.

After the first time replacement should be made at least every three months or every 1,200 miles (2,000 km).

To drain the oil from the bottom of the crankcase, remove the oil drain plug.

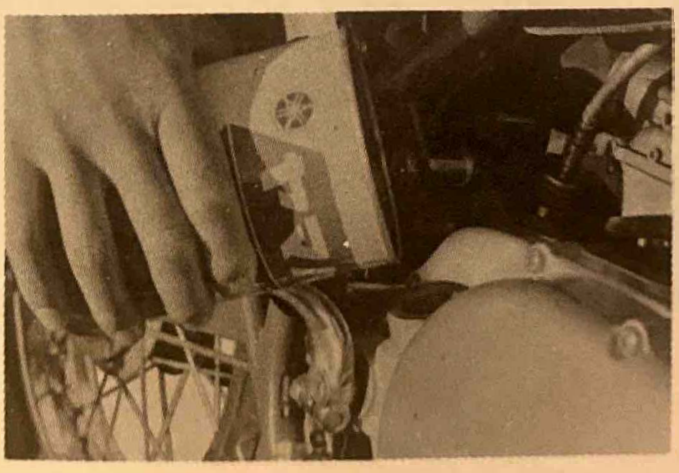




After draining the oil, fully tighten the oil drain bolt, and fill with new oil up to the specified level.

Oil .....SAE 10W/30 MOTOR OIL

Oil Amount .....0.7~0.8 quarts (0.7~0.8 litres)



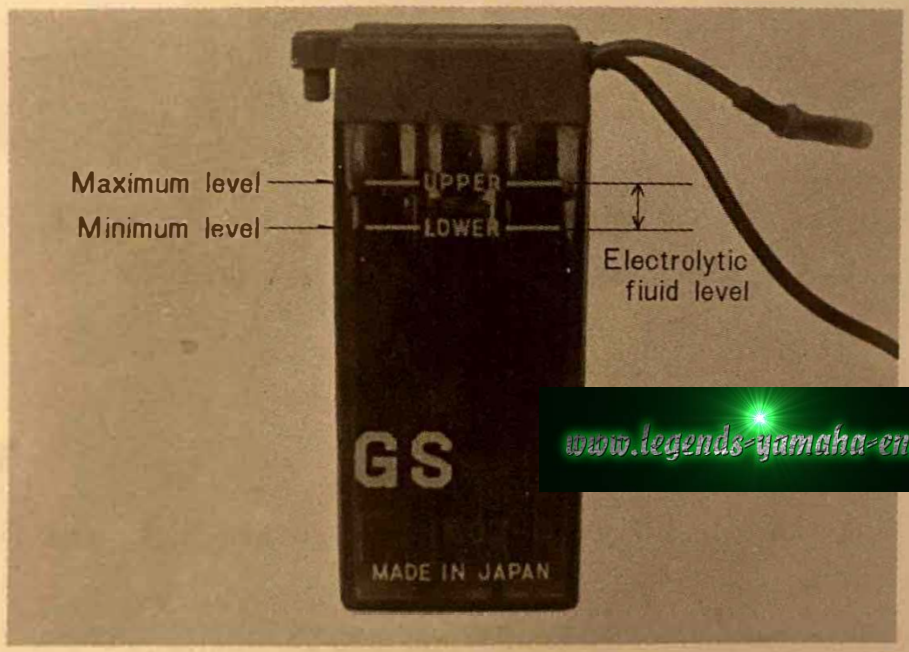
Checking the Battery electrolyte

If the battery electrolyte is below the minimum level, remove the battery and add distilled water.

Check the overflow pipe for clogging or deformation.

If your motorcycle will not be used for several months, remove the battery and keep it in dry, cool place, or have it kept in a service shop.

If stored for more than 60 days, it should receive an occasional recharge. Before reinstallation, it should be fully charged.



Checking the Spark Plug

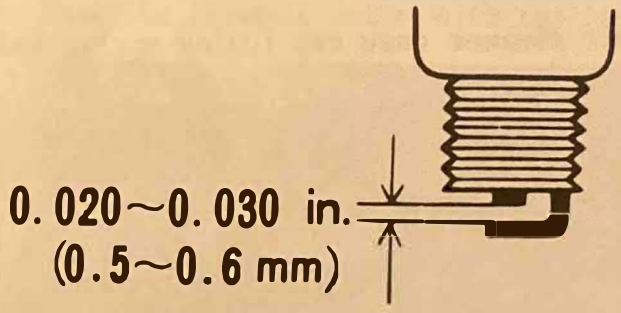
A spark plug ignites the air-fuel mixture in the cylinder. A dirty plug causes hard starting, engine misfiring and other problems.

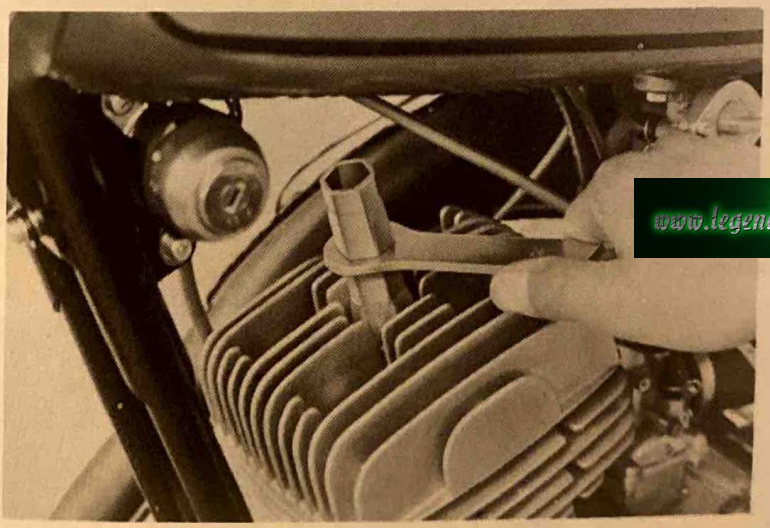
Clean carbon from the electrodes and adjust the point gap.

- ○ Remove carbon build-up, with a wire brush or a wire.
- ○ Adjust the spark plug point gap to 0.020~0.030 in. (0.5~0.6 mm).

Standard Spark Plug: B-8E

- ○ Porcelain around the center electrode should be a light tan color.
- ○ Replace the spark plug if the electrodes and porcelain are eroded or cracked. If your machine is frequently ridden at low speeds, the spark plug will become somewhat oily and sooty. Replace it with a hotter type.

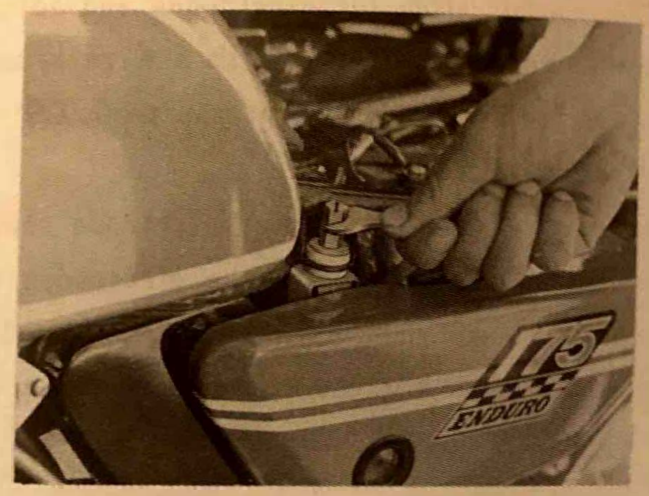




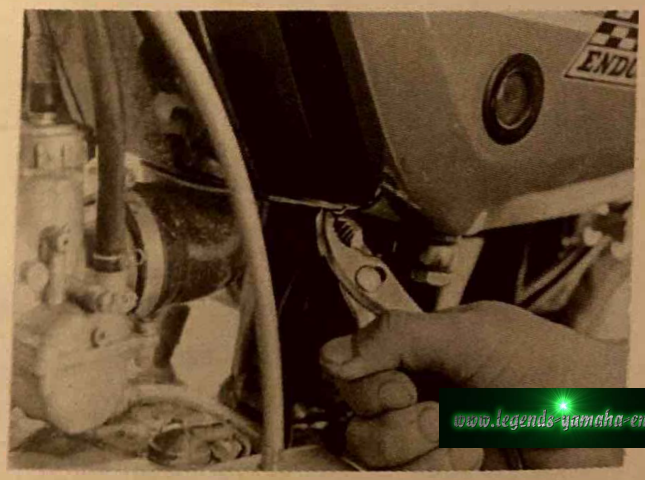
Cleaning the Air Cleaner

An air cleaner filters grit and other impurities from the air. If you often drive on dusty roads, be sure to clean it at least once a month.

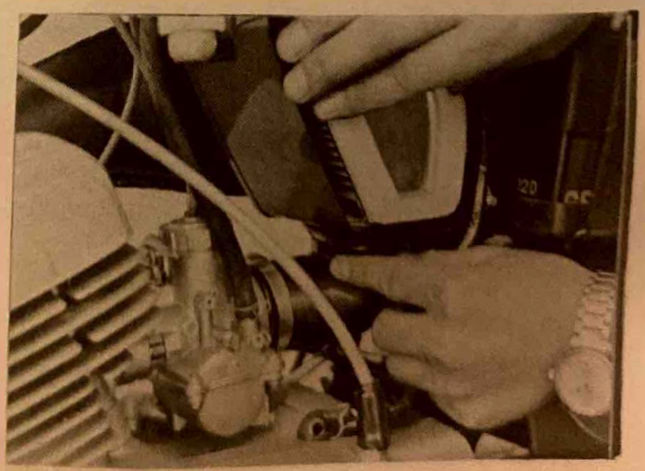
a) Remove the oil tank.



b) Remove the air cleaner case cap fitting spring and cleaner case cap.



c) The cleaner element can be pulled out.



Checking the Carburetor

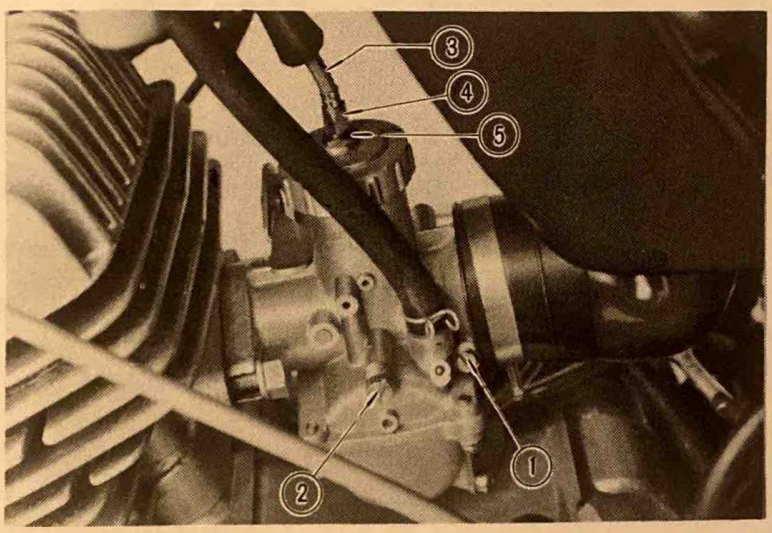
Each carburetor is set by the factory after careful tests.

Except for the following, do not change the carburetor setting without consulting your local Yamaha dealer.

a. Idling Speed Adjustments

- Fully tighten the pilot air screw ①, and back off it 1½ turns.
- Slightly loosen the adjusting screw of the throttle cable ③ connected to the accelerator grip, and start the engine.
- After warming up the engine, turn the throttle stop screw ② so that the engine increases to 1,200~1,300 rpm.

  After this adjustment, loosen the lock nut ⑤ to adjust the play of the throttle cable ③ to 0.02~0.04 in. (0.5~1.0 mm); and turn the throttle cable adjuster ④ while pulling the throttle cable for the adjustment. Then lock the throttle cable with the lock nut.

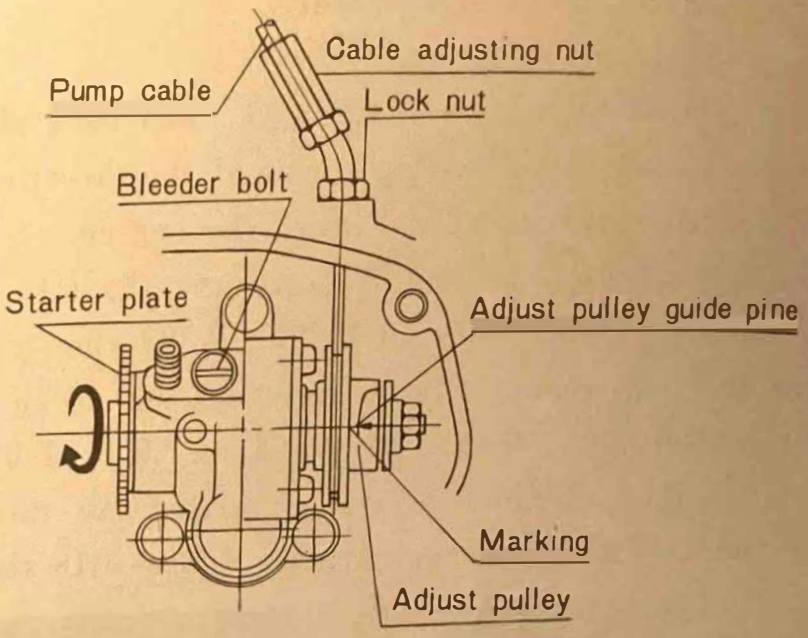


b. Adjusting the Pump Cable

After adjustment of the carburetor, adjust the pump cable coupled with the throttle valve.

- Slightly turn the accelerator grip from the closed position so that free play of the accelerator grip is nil. (In other words, the throttle valve is ready to open only another slight turning of the throttle is needed.)

○ Turn the pump cable adjusting nut so that the marking on the adjusting pulley is aligned with the guide pin.



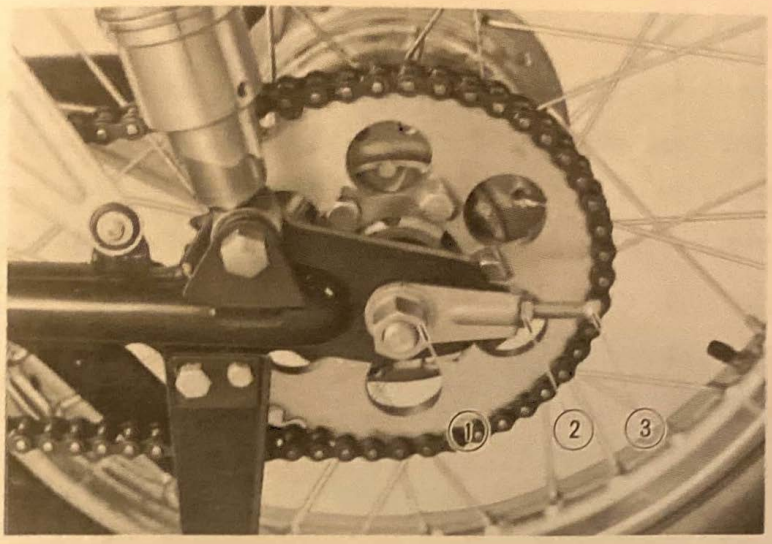
Adjusting the Drive Chain

The drive chain should have a play of approximately 1¼ in. (30 mm) up and down at the center of the lower section with the rear wheel on the ground. Since a dirty chain causes galling and eventual seizing, apply oil at regular intervals. In addition, wash it in gasoline before oiling at every periodic inspection.

Adjusting Chain Tension:

a. Loosen the rear brake adjusting screw.
b. Loosen the tension bar nuts.
c. Loosen the rear wheel nuts ①.
d. Loosen the chain adjusting bolt lock nuts ②, and shift the wheel shaft so that both ends of the wheel shaft are positioned evenly by utilizing the marks on the swing arms.
e. After adjusting, tighten the tension bar nuts.
f. Adjust the play of the brake pedal.

* After these adjustments, check the play of the brake pedal and stop light operation.

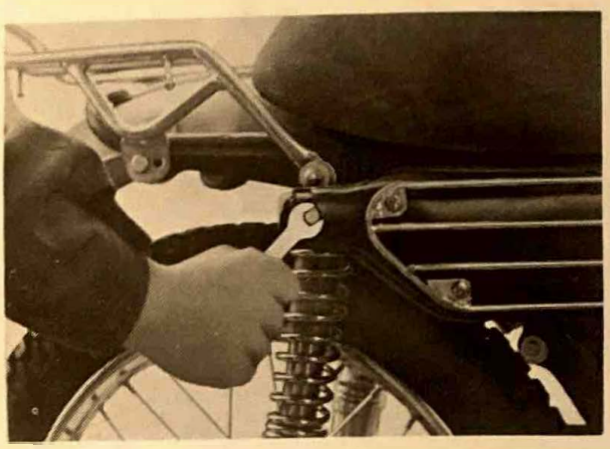


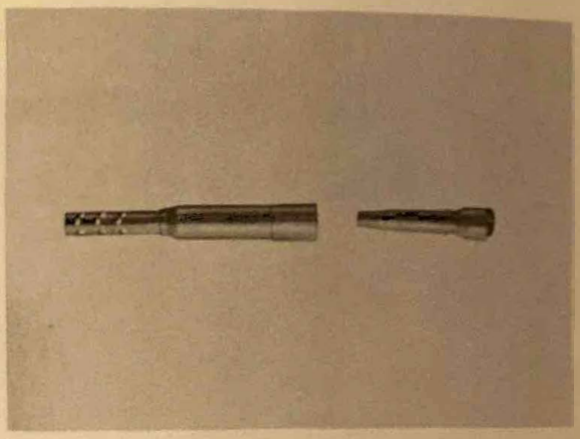
Cleaning the Muffler

To remove the inner cylinder from the muffler, remove the set screw and pull out the tail pipe.

Remove carbon with a wire brush.

Check the inner cylinder bore for clogging. If clogged, clean it with a wire.



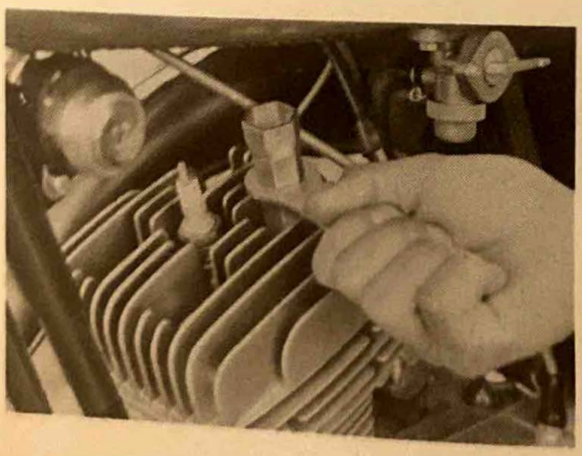


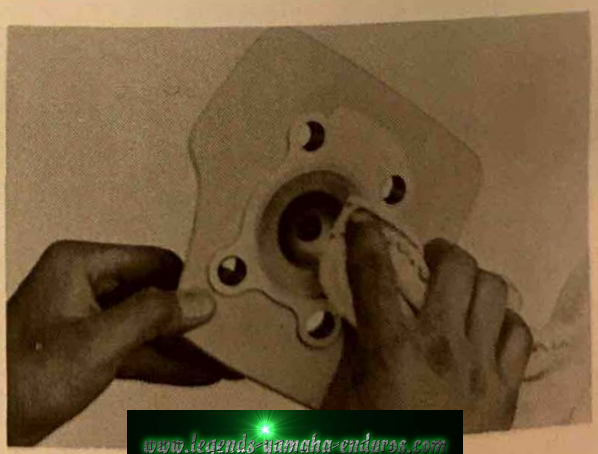
Cleaning the Combustion chamber and Piston

Carbon accumulation covering the combustion chamber and piston will result in loss of power, engine knock, overheating, and other problems.

a. Remove the cylinder head and remove carbon from the combustion chamber.

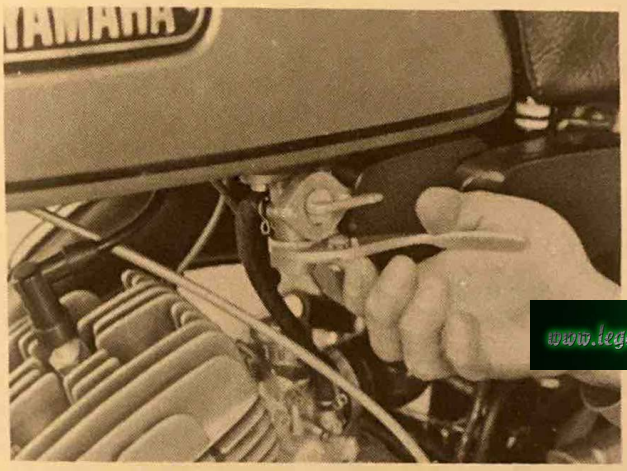
b. Remove carbon from the piston head.
   To clean them, use a scraper and rags dampened with solvent.





Cleaning the Fuel Cock Filter

The fuel cock filter removes impurities from gasoline before they flow into the carburetor. A dirty filter clogs the system and as a result, the engine will not work properly. Clean it from time to time. Remove the cup from the fuel cock and remove the filter. Wash it carefully in gasoline and reinstall.



Retightening Screws, Bolts and Nuts

Check the screws, bolts and nuts in the parts listed below and retighten them if necessary.

Front and rear wheels
Foot rests
Swing arm shaft
Muffler
Side stand
Engine mountings
Carburetor
Air cleaner cover
Exhaust nuts
Rear cushion
Handlebars

Greasing and Oiling

	Parts to be lubricated	Distance of driving at 1st lubr., miles	Lubrication interval, miles	Type of Lubricant
1	Front brake cam shaft	600	2,000	cup grease
2	Rear brake cam shaft	600	2,000	〃
3	Front brake cable	600	2,000	〃
4	Rear brake rod	600	2,000	〃
5	Accelerator grip	600	2,000	〃

6	Stand shaft	600	2,000	cup grease
7	Brake linkage	600	2,000	〃
8	Drive chain	300	600	motor oil
9	Gear oil	300	1,200	
10	Swinging arm shaft	600	2,000	cup grease

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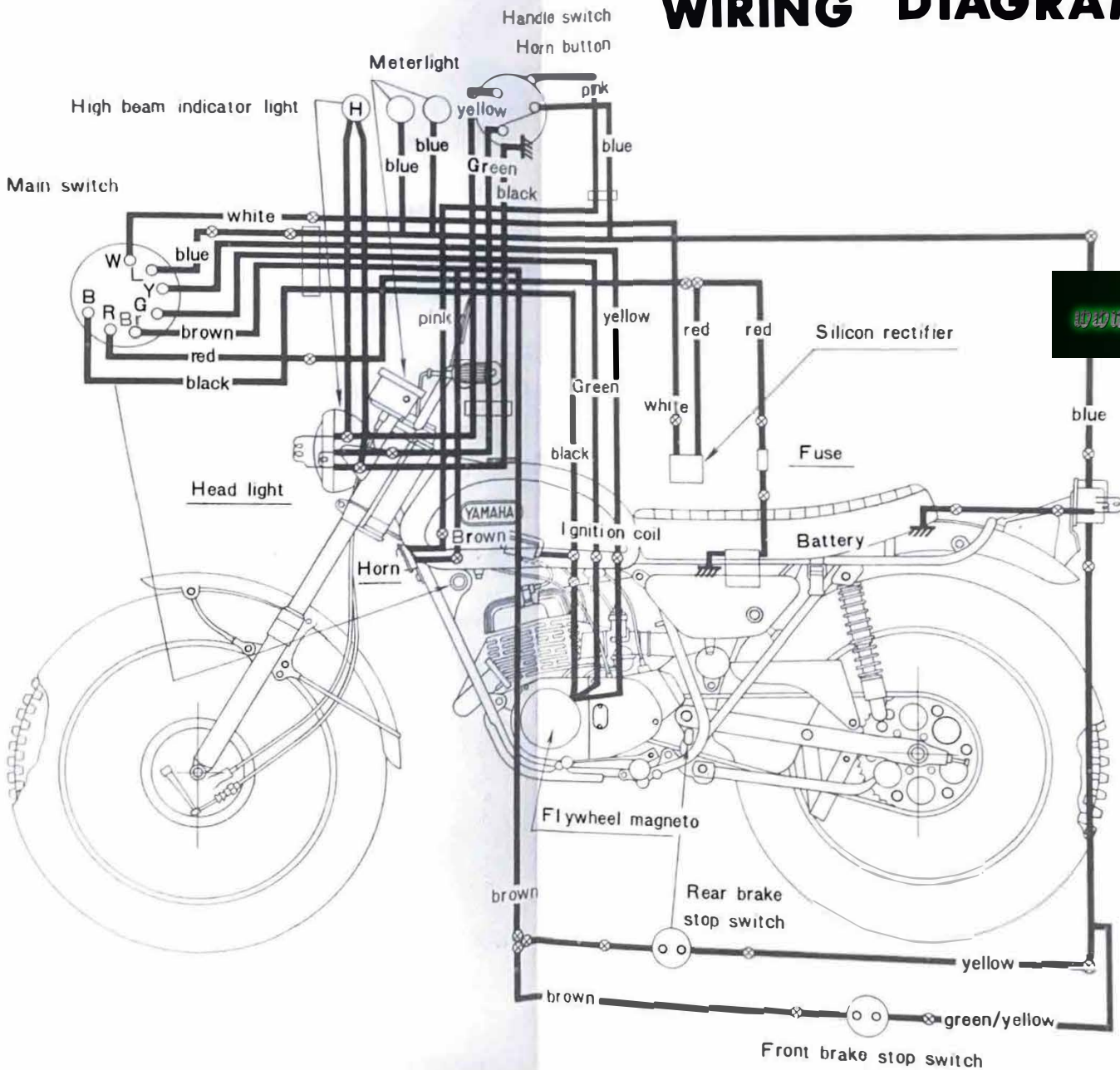
WIRING DIAGRAM



Position \ Color	E	B	R	Br	G	W	Y	L
OFF	○—○							
I			○—○		○—○			
II			○—○			○—○—○		

Chart of wire colors

Daytime charging circuit	Green
Night time charging circuit	Yellow
Battery (+) circuit	Red
Ground circuit	Black
Front brake stop light circuit	Green/Yellow
Rear brake stop light circuit	Yellow
Light circuit	Blue
Common circuit	Brown
Head light main circuit	Yellow
Head light sub circuit	Green
Horn circuit	Pink
Rectifier circuit	White

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