YAMAHA

MX80J

OWNER'S SERVICE MANUAL

LIT-11626-03-09

367-28199-1A

Particularly important information is distinguished in this manual by the following notations:

NOTE: A NOTE provides key information to make procedures easier or clearer.

CAUTION: A CAUTION indicates special procedures that must be followed to avoid damage to the motorcycle.

WARNING: A WARNING indicates special procedures that must be followed to avoid injury to a motorcycle operator or person inspecting or repairing the motorcycle.

MX80J OWNER'S SERVICE MANUAL

1st. edition, April 1981

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P/N LIT-11626-03-09

IMPORTANT NOTICE

THIS MOTORCYCLE IS DESIGNED STRICTLY FOR OFF-ROAD RIDING USE ONLY. IT IS ILLEGAL TO OPERATE THIS VEHICLE ON PUBLIC STREETS; ROADS; AND HIGHWAYS. PLEASE CHECK LOCAL RIDING LAWS AND REGULATIONS BEFORE OPERATING THIS VEHICLE.

SAFETY WARNINGS:

1. **GASOLINE IS HIGHLY FLAMMABLE:**
   - ***Always turn off the engine when refueling.**
   - ***Take care not to spill any gasoline on the engine or exhaust pipe/muffler, when refueling.**
   - ***Never refuel while smoking or in the vicinity of an open flame.**
2. **If you should swallow some gasoline or inhale a lot of gasoline vapor, or allow some gasoline to get in your eye(s), see your doctor immediately. If any gasoline spills on your skin or clothing, immediately wash it with soap and water, and change your clothes.**

3. Always turn off the engine before leaving the machine unattended. When parking the machine, note the following:
   *The engine and exhaust pipe/muffler may be hot. Park the machine in a place where pedestrians or children are not likely to touch the machine.
   *Do not park the machine on a slope or soft ground; the machine may overturn.
4. When transporting the motorcycle in another vehicle, be sure it is kept upright and that the fuel petcock is turned to the "OFF" position. If it should lean over, gasoline may leak out of the carburetor or fuel tank.
5. Never start your engine or let it run for any length of time in a closed area. The exhaust fumes are poisonous and may cause loss of consciousness and death within a short time. Always operate your machine in an area with adequate ventilation.
6. Always wear a helmet, groves, boots, trousers, and jacket for safety riding.

This Owner's Service Manual is included to provide basic information for operation and maintenance. Additional information regarding major repairs, such as crankcase disassembly, can be found within the GT80E/GTMXE Service Manual (2F4-28197-10) and various other information and training manuals available from your Authorized Yamaha Dealer.

INTRODUCTION

Congratulations on your purchase of the Yamaha MX80J. This model represents the product of many years of Yamaha experience in the production of fine sporting, touring, and pace-setting racing machines. You can now appreciate the high degrees of craftsmanship and reliability that have made Yamaha a leader in these fields.

PLEASE READ THIS MANUAL CAREFULLY AND COMPLETELY BEFORE OPERATING YOUR NEW MACHINE. This manual will provide you with a good basic understanding of the features, operation, and basic maintenance and inspection items of this motorcycle. If you have any questions regarding the operation or maintenance of your motorcycle, please consult your Yamaha dealer.

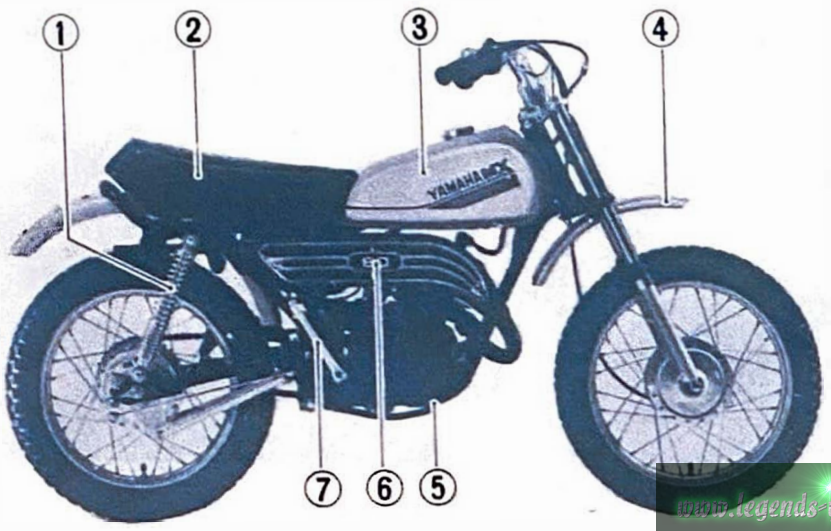
NOTICE:

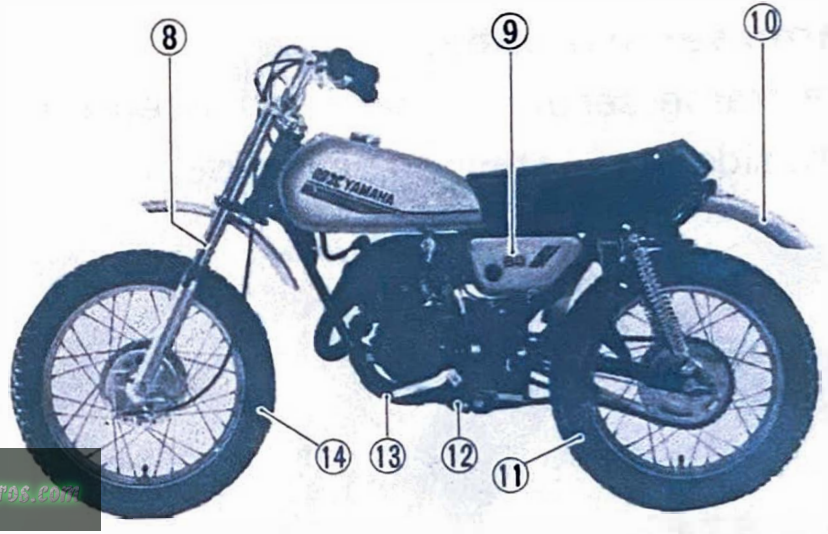
Some data in this manual may become outdated due to improvements made to this model in the future. If you have any question regarding this manual or your motorcycle, please consult your Yamaha dealer.

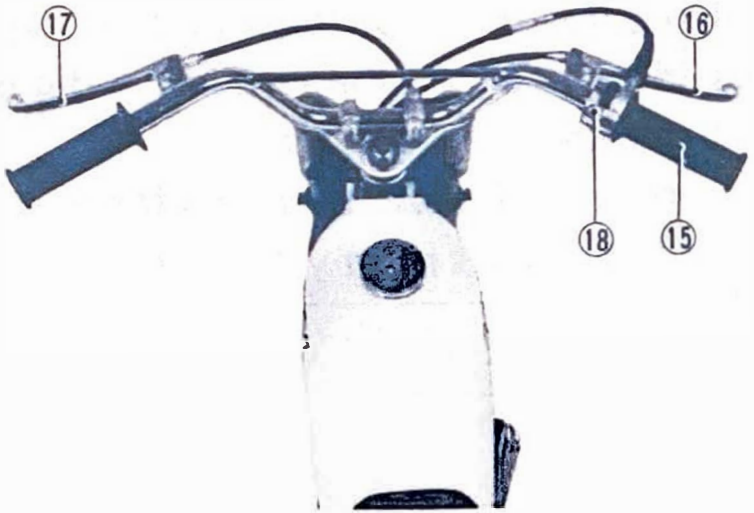
SERVICE DEPT.
INTERNATIONAL DIVISION
YAMAHA MOTOR CO., LTD.

CONTENTS

DESCRIPTION





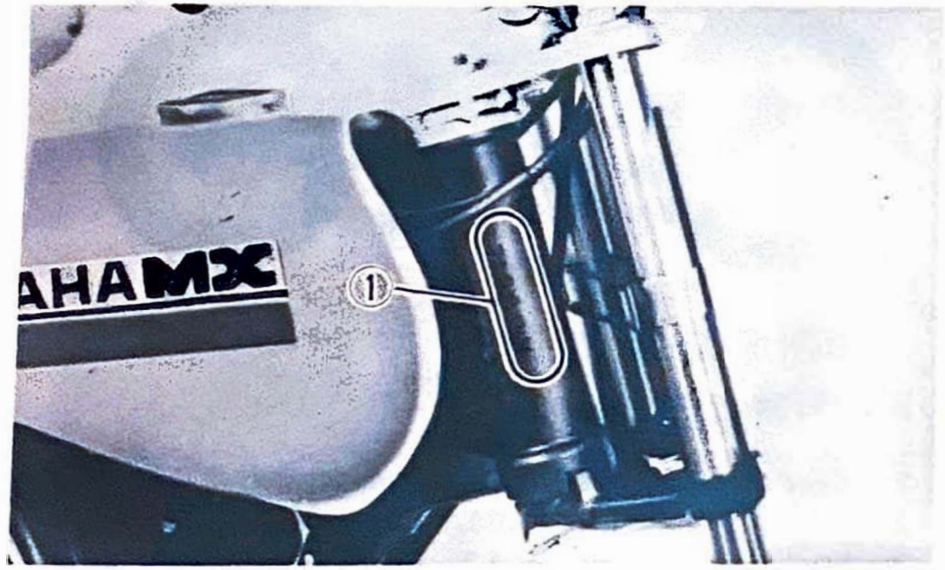


1. Rear shock absorber
2. Seat
3. Fuel tank
4. Front fender
5. Brake pedal
6. Muffler
7. Kick crank
8. Front fork
9. Oil tank
10. Rear fender
11. Rear wheel
12. Footrest
13. Change pedal
14. Front wheel
15. Throttle grip
16. Front brake lever
17. Clutch lever
18. Engine stop switch

MACHINE IDENTIFICATION

Frame serial number

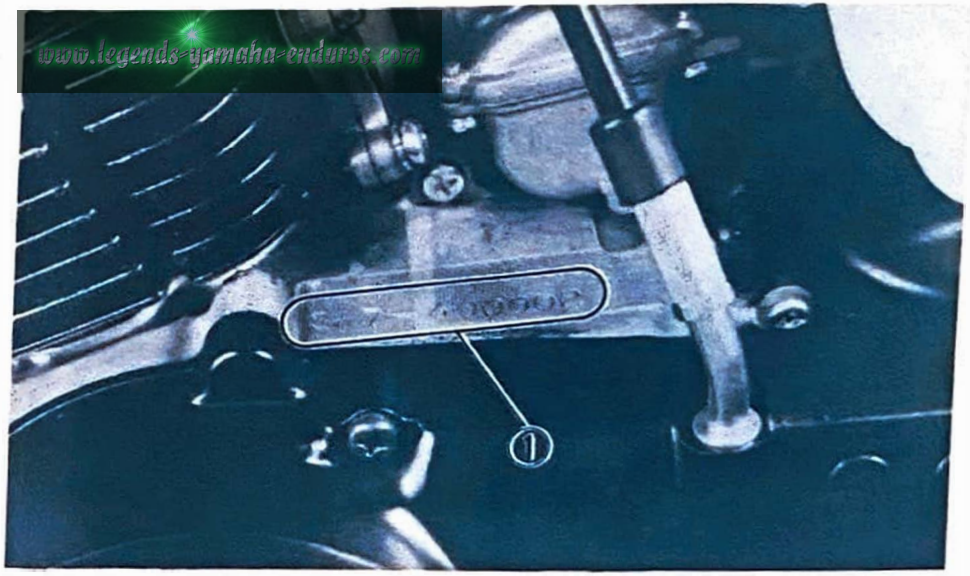
The frame serial number is stamped on the right side of the steering head pipe.



1. Frame serial number

Engine serial number

The engine serial number is stamped into the left side of the engine on top of the crankcase.



1. Engine serial number

NOTE:

The first three digits of these numbers are for model identification; the remaining digits are the unit production number.

Keep a record of these numbers for reference when ordering parts from your Yamaha dealer.

CONTROL FUNCTIONS

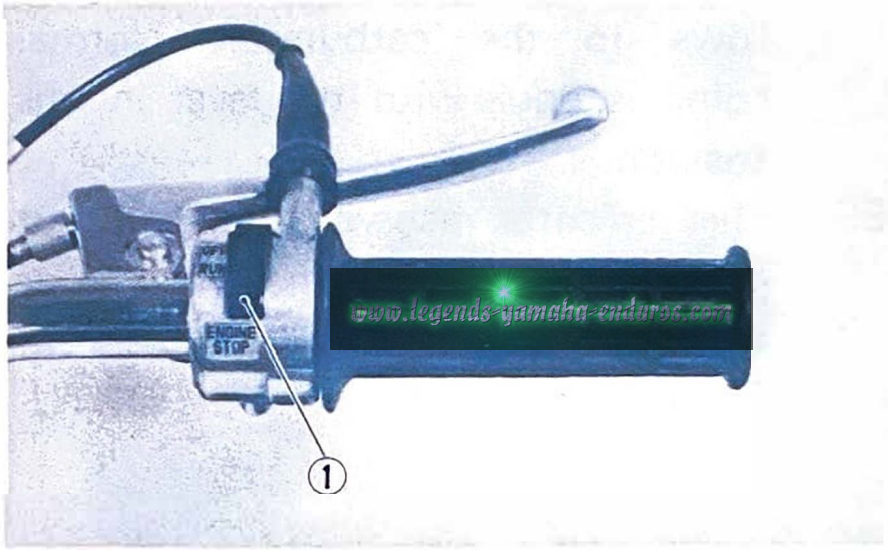
Handlebar switch

The handlebar switch is located near the right handlebar grip and is used for the following functions:

"ENGINE STOP" switch

Make sure that the engine stop switch is on "RUN". To stop the engine, turn the engine stop switch "OFF". The engine switch has been equipped to ensure safety in an emergency such as when the motorcycle is upset or trouble takes place in the throttle system.

The engine will not start when the engine switch is turned to "OFF". In case of an emergency, turn the stop switch forward to shut off the engine.



1. "ENGINE STOP" switch

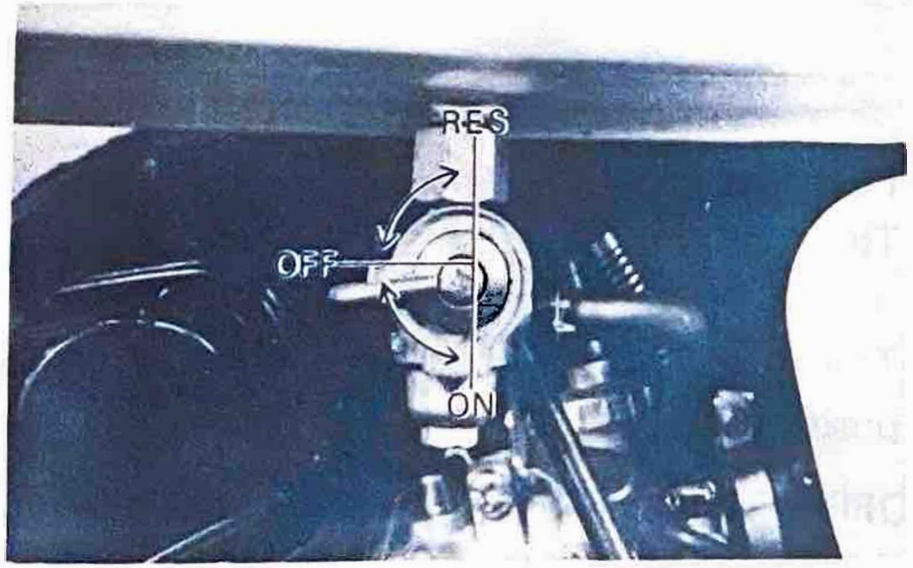
Fuel petcock

The fuel petcock supplies fuel from the tank to the carburetor while filtering the fuel. The fuel petcock has the following three positions:

OFF: With the lever in this position fuel will not flow. Return the lever to this position when the engine is not running.

ON: With the lever in this position fuel flows to the carburetor. Normal riding is done with the lever in this position.

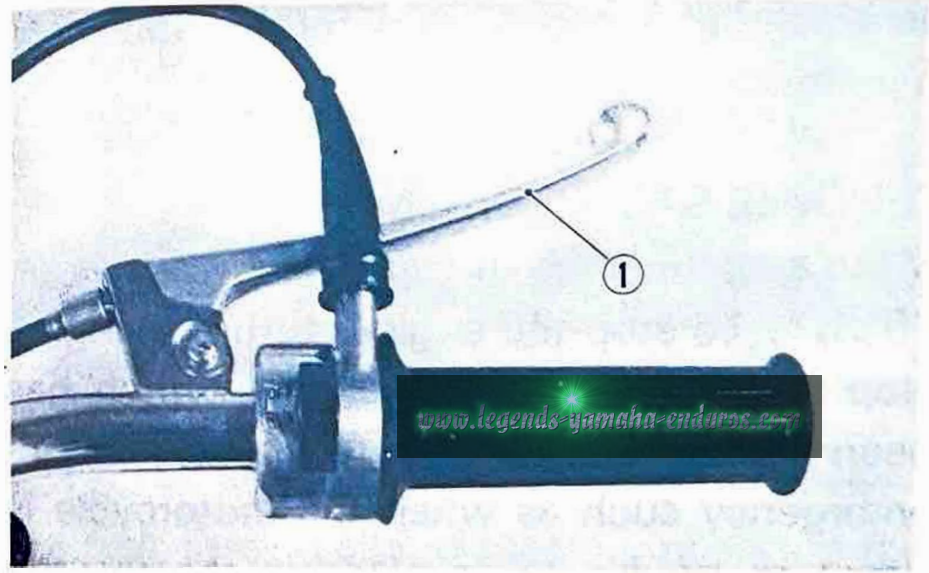
RES: This indicates reserve. If you run out of fuel while riding, move the lever to this position. THEN, FILL THE TANK AT THE FIRST OPPORTUNITY.



1. Fuel petcock

Front brake lever

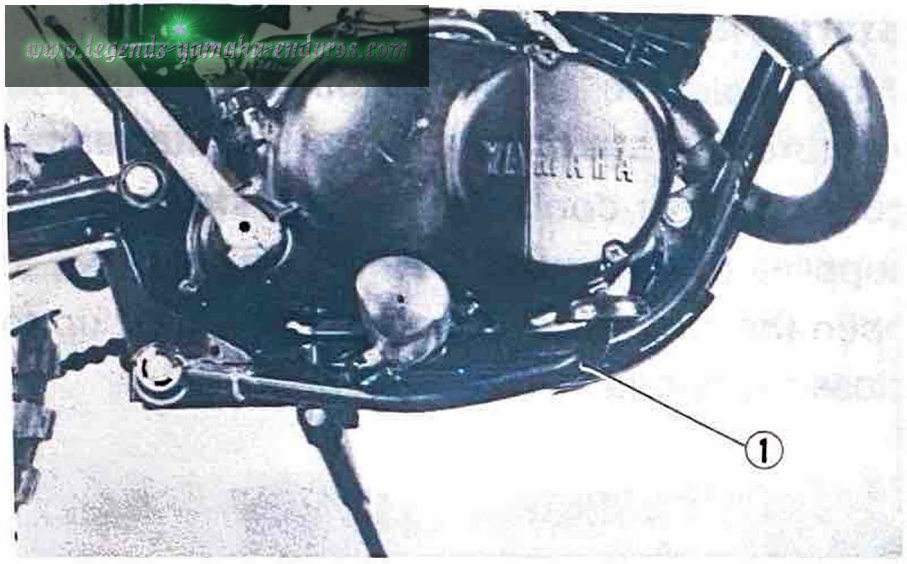
The front brake lever is located on the right handlebar; pull it toward the handlebar to activate the front brake.



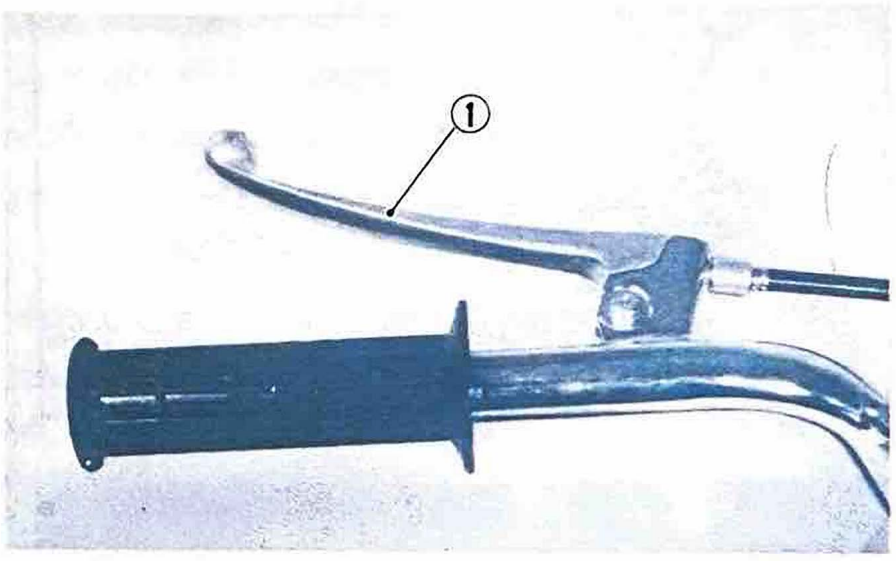
1. Front brake lever

Rear brake pedal

The rear brake pedal is in front of the right footrest, press down on the brake pedal to activate the rear brake.



1. Rear brake pedal



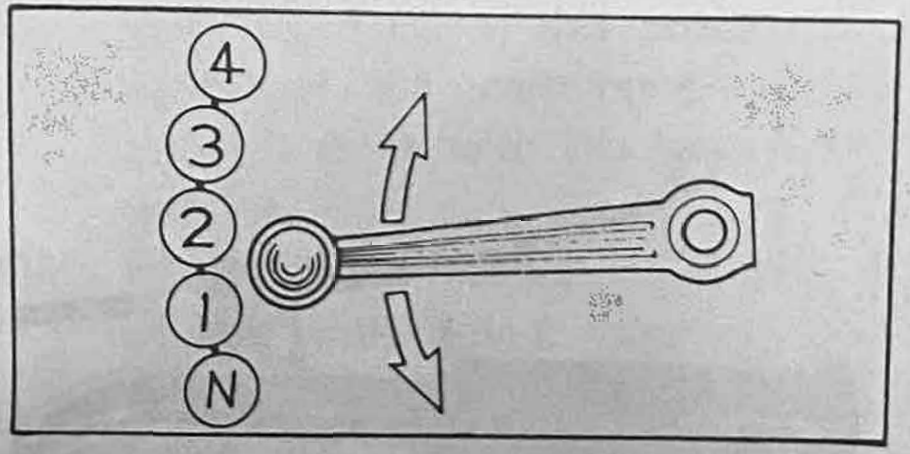
1. Clutch lever

Clutch lever

The clutch lever is located on the left handlebar and disengages or engages the clutch. Pull the clutch lever to the handlebar to disengage the clutch and release the lever to engage the clutch. The lever should be pulled rapidly and released slowly for smooth starts.

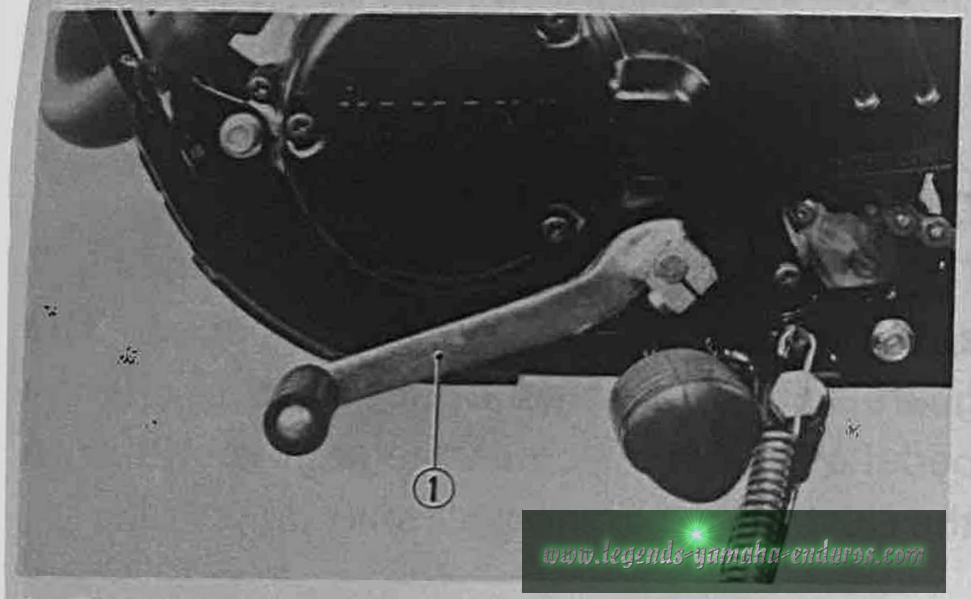
Change pedal

The gear ratios of the constant mesh 4 speed transmission are ideally spaced. The gears can be shifted by using the change pedal on the left side of the engine. Refer to the illustration for the gear shifting pattern.

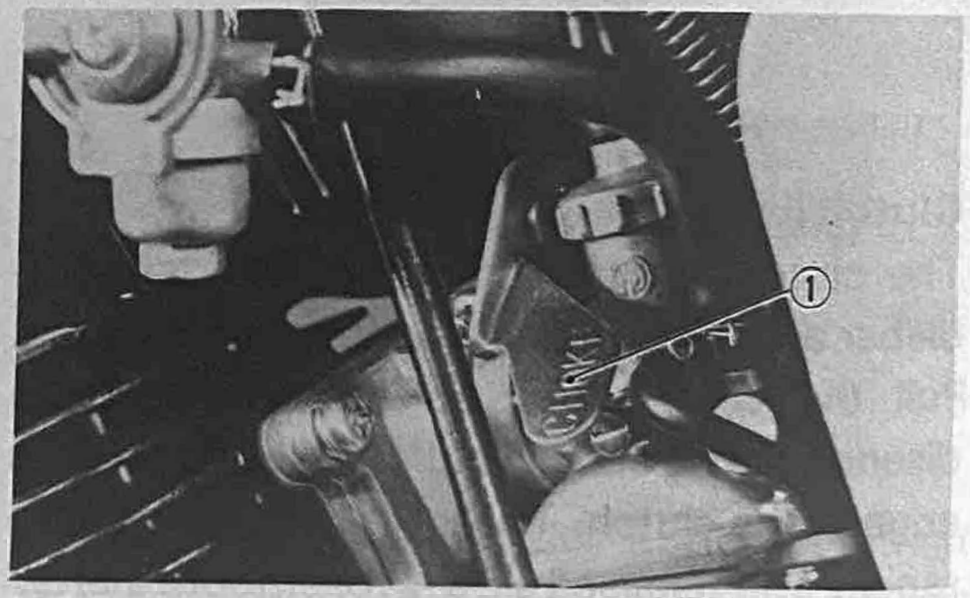


Starter lever (choke)

When cold the engine requires a richer fuel mixture for starting, a separate starter circuit, which is controlled by the starter lever, supplies this mixture. Push the lever down to open the circuit (for starting) and pull it up to close the circuit before riding.



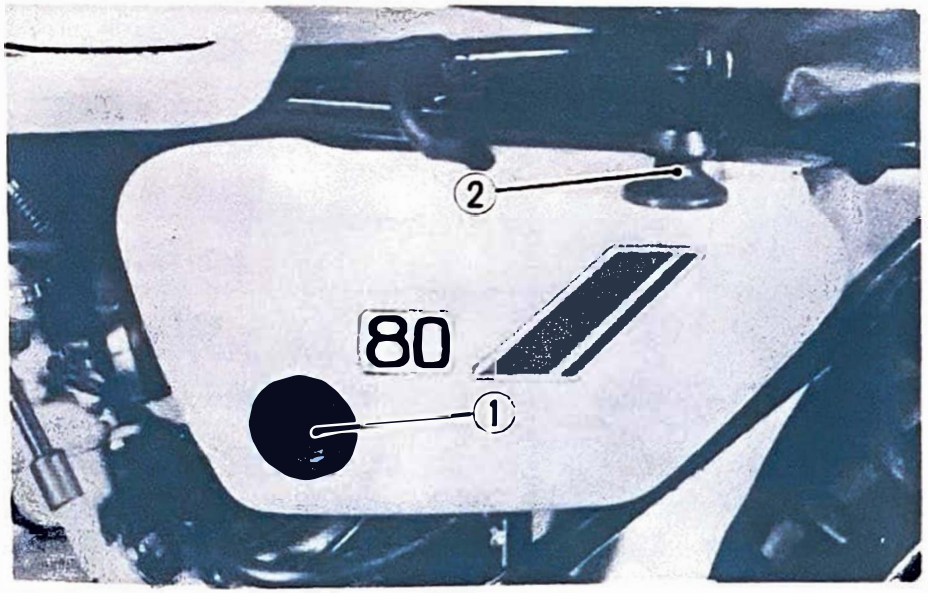
1. Change pedal



1. Stater lever

Engine oil tank

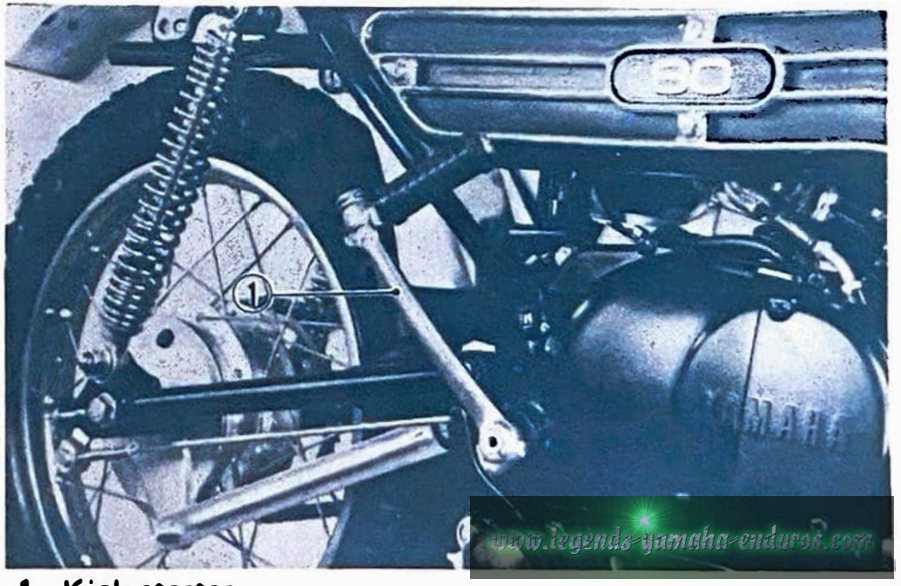
The engine oil tank holds the engine oil. The quantity can be measured with the oil level viewer. Add oil as soon as possible if the level drops to the lower line of the viewer.



1. Oil level viewer 2. Oil tank cap

Kick starter

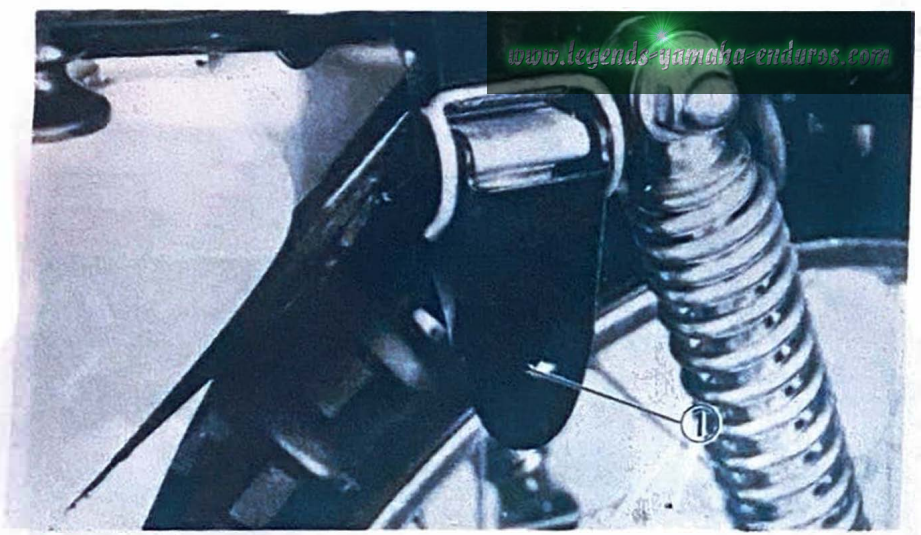
To start the engine, rotate the kick crank, push down lightly with foot until gears engage and kick the crank briskly. This model has the primary kick starter so the engine can be started in gear if the clutch is disengaged. As normal practice, however, shift to neutral before starting.



1. Kick starter

Seat latch

The seat is hinged to the frame on one side and secured by the seat latch on the other side. Pull the seat latch lever out, free the seat latch from the hook, and lift the seat.



1. Seat latch

PRE-OPERATION CHECKS

Before using this motorcycle please check the following points:

Item	Routine	Page
Brakes	Check operation/adjustment	32, 33
Clutch	Check operation/lever adjustment	31
Fuel tank	Check fuel level/top-up as required	10
Engine oil	Check oil level/top-up as required	20
Transmission oil	Check oil level/top-up as required	20, 21
Drive chain	Check alignment/adjustment/lubrication	33~35
Spark plug	Check color/condition	22
Throttle	Check for proper throttle and Autolube cable operation	28, 29
Air filter	Foam type – must be clean and damp w/oil always	23, 24
Wheels and tires	Check tire pressure/wear	11
Fittings/fasteners	Check all – tighten as necessary	19

NOTE:

Pre-operation checks should be made each time the machine is used. Such an inspection can be thoroughly accomplished in a very short time; and the added safety it assures is more than worth the time involved.

Brake (Front and Rear)

Check for correct play in the brake lever and pedal and make sure they are working properly. Check the brakes at low speed shortly after starting out. If the play is incorrect, make an adjustment.

Clutch

Check for correct play in the clutch lever and make sure the lever operates properly.
If the play is incorrect, make an adjustment.

Engine oil (Oil tank)

Make sure there is sufficient engine oil in the oil tank. Add oil as necessary.

Recommended oil: (See page 20) Yamalube 2-cycle oil or air cooled 2-cycle engine oil.
Oil tank capacity: 0.7 lit (0.74 u.s. qt.)

Transmission oil

Make sure the transmission oil is at the specified level. Add oil as necessary.

Recommended oil: (See page 20) Yamalube 4-cycle oil or, SAE 10W/30 type "SE" motor oil
Oil quantity: 500cc (0.53 u.s. qt.)

Fuel

Make sure there is sufficient fuel in the tank.

Recommended fuel: Regular gasoline Fuel tank capacity: 6.8 lit (1.8 US.gal)

Tires

Check the tire pressure and check the tires for wear.

Tire pressure

Front	1.5 kg/cm² (22 psi)
Rear	2.0 kg/cm² (28 psi)

Throttle grip

Turn the throttle grip to see that it operates properly and that the play is normal. Make certain the throttle valve is closed when released. Adjust if necessary.

Engine stop switch

Start the engine and make sure the engine stop switch functions properly.

OPERATION AND IMPORTANT RIDING POINTS

WARNING:

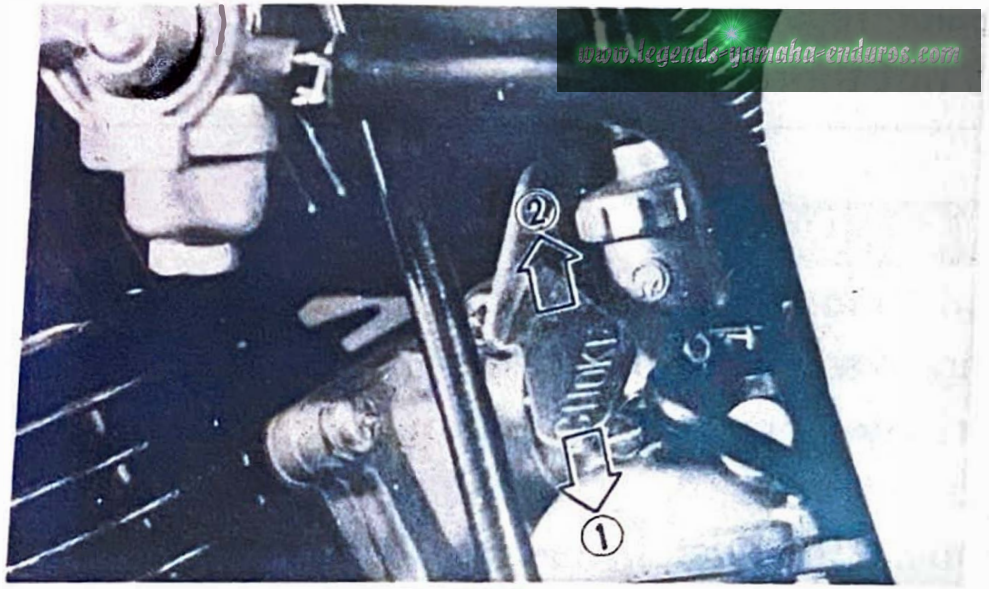
Before riding this machine, becomes thoroughly familiar with all operating controls and their function. Consult your Yamaha dealer regarding any control or function you do not thoroughly understand.

WARNING:

This model is not equipped with highway approved lighting. This model is designed strictly for off-road riding use and should not be used on a street or highway at any time. In most instances, it is illegal to drive this model on any public street or highways.

Starting a cold engine

1. Turn the fuel petcock to "ON".
2. Turn the engine stop switch to the "RUN" position.
3. Operate the carburetor starter lever (choke) and completely close the throttle grip.



1. Open 2. Closed

4. Kick the kick crank briskly to start the engine.
5. After the engine starts, warm up for one or two minutes. Make sure the starter lever (choke) is returned to the original position before riding.

Starting a warm engine

To start a warm engine, the starter lever is not required.

CAUTION:

See "Break-in Section" prior to operating engine for the first time.

WARNING:

Before starting out, always be sure the side stand is up. Failure to retract the side stand completely can result in a serious accident when you try to turn a left corner.

Warming up

To get maximum engine life, always "warm-up" the engine before starting off. Never accelerate hard with a cold engine! To see whether or not the engine is warm, see if it responds to throttle normally with the starter (choke) turned off.

Shifting and acceleration

This model has a 4-speed transmission. The transmission allows you to control the amount of power you have available at a given speed or starting accelerating, climbing hills, etc. The use of the change pedal is shown in the illustration. To shift into NEUTRAL, repeatedly depress the change pedal to the end of its travel (you will feel a stop when you are in neutral.).

With the engine running in the neutral position, disengage the clutch (pull in clutch lever), press up on the shift lever until low gear is engaged, remove foot from shift lever, increase engine speed slightly, slowly release clutch lever while advancing throttle.

Repeat procedure for remaining gears.

Engine break-in

There is never a more important period, in the life of your machine, than the period between zero and 20 hour.

For this reason we ask that you carefully read the following material. Because the engine is brand new, you must not put an excessive load on it for the first several hours of running. During the first 20 hour the various parts in the engine wear and polish themselves to the correct operating clearances. During this period prolonged full throttle operation, or any condition which might result in excessive heat of cylinder, must be avioded. However, momentary full throttle operation, under load (2—3 seconds maximum), does not harm the engine.

Each full throttle acceleration sequence should be followed with a substantial rest period for the engine by cruising at lower r.p.m.'s so the engine can rid itself of the temporary build up of heat.
If any abnormality is noticed during this period, ask your Yamaha dealer to check.

1. Initial Break-in:
   Avoid continuous operation above half throttle. Allow a cooling off period of five to ten minutes after every hour of operation. Vary the speed of the motorcycle from time to time. Do not operate it at one set, throttle position.
2. Intermediate:
   Avoid prolonged operation above 3/4 throttle. Allow the motorcycle to rev freely through the gears but do not use full throttle at any time.
3. After Break-in:
   Avoid prolonged full throttle operation. Vary speeds occasionally.

PERIODIC MAINTENANCE AND MINOR REPAIR

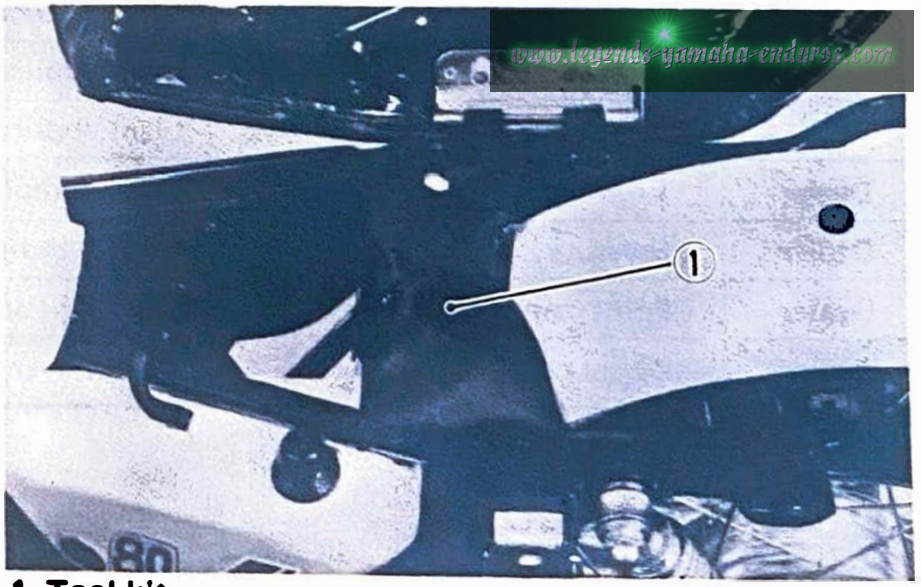
Periodic inspection, adjustment and lubrication will keep your machine in the safest and most efficient condition possible. Safety is an obligation of the machine owner. The most important points of machine inspection, adjustment and lubrication are explained on the following gages.

CAUTION:

If the owner is not familiar with machine service, this work should be done by a Yamaha dealer.

Tool kit

The servicing information included in this manual is intended to provide you, the owner, with the necessary information for completing your own preventive maintenance and minor repairs. The tools provided in the owner's tool kit are sufficient for this purpose, except that a torque wrench is also necessary to properly tighten nuts and bolts.



1. Tool kit

Lubrication Intervals

Page	Item	Remarks	Type	Initial (hour)			Thereafter every (hour)		
				20	40	80	40	80	160
19, 20	Transmission oil change	Warm engine before draining	No. 1	○			☆	○	
41～43	Drive chain	Lube/Adjust as required	No. 2	See notes					
41～43	Drive chain	Remove/Clean/Lube	No. 2	○			○		
31, 32	Control cables	All-apply thoroughly	No. 2		○		○		
31, 32	Throttle grip and housing	Light application	No. 3			○		○	
–	Brake pedal shaft	Light application	No. 3		○		○		
–	Change pedal shaft	Light application	No. 3		○			○	
–	Stand shaft pivot(s)	Light application	No. 3		○			○	
Dealer	Front forks	Drain completely	No. 6	☆	○		☆		○
Dealer	Steering ball races	Inspect thoroughly/Pack	No. 4			○		☆	○
Dealer	Point cam lubrication wick	Very light application	No. 5			○			○
Dealer	Wheel bearings	Do not over-pack	No. 4			○	☆		○

☆: Inspection

Recommended lubricant type

1. Use Yamalube 4-cycle oil or SAE 10W/30 type "SE" motor oil.
2. Use Yamaha chain and cable lube or SAE 10W/30 chain motor oil. (If desired, specialty type lubricants of quality manufacture may be used.)
3. Use lithium base grease.
4. Medium-weight wheel bearing grease of quality manufacture — preferably water-proof.
5. Light-weight machine oil.
6. Use Yamaha fork oil 10 wt or equivalent.

NOTE:

Drive chain must be lubricated every 0.5—1.0 hour. If unit is subjected to extremely hard use, chain must be inspected frequently and serviced as required.

Periodic Maintenance Intervals

Page	Item	Remarks	Initial (hour)				Thereafter every (hour)	
			10	20	40	80	40	80
39 ~ 41	Brake system (complete)	Check/Adjust as required—repair as required		O	O		O	
39	Clutch	Check/Adjust as required		O	O		O	
21	Spark plug	Inspect/Clean or replace as required	O	O	O		O	
—	Wheels and tires	Pressure/Runout/Spoke—tension	O	O	O		O	
—	Fittings and fasteners	Tighten before each trip and/or	O	O	O		O	
41 ~ 43	Drive chain	Tension/Alignment (No. 1)	O	O	O		O	
22, 23	Air filter	Wet type—clean/Replace as required (No. 2)		O			20	
38, 39	Fuel petcock	Clean/Flush tank as required	O		O		O	
23 ~ 26	Ignition timing	Adjust/Clean or replace parts as required		O	O	O		O
26 ~ 31	Carburetor adjustment	Check operation		O	O	O		O
Dealer	Carburetor overhaul	Clean/Repair as required/Refit/Adjust				O		160
Dealer	Cylinder compression	Preventive maintenance check		O	O	O		O
Dealer	Decarbonize engine	Includes exhaust system			O			O

SERVICE NOTES:

No. 1. DRIVE CHAIN: In addition to tension and alignment, chain must be lubricated every 0.5 – 1.0 hour. If unit is subjected to extremely hard usage and wet weather riding, chain must be checked constantly. See "Lubrication Intervals" for additional details.

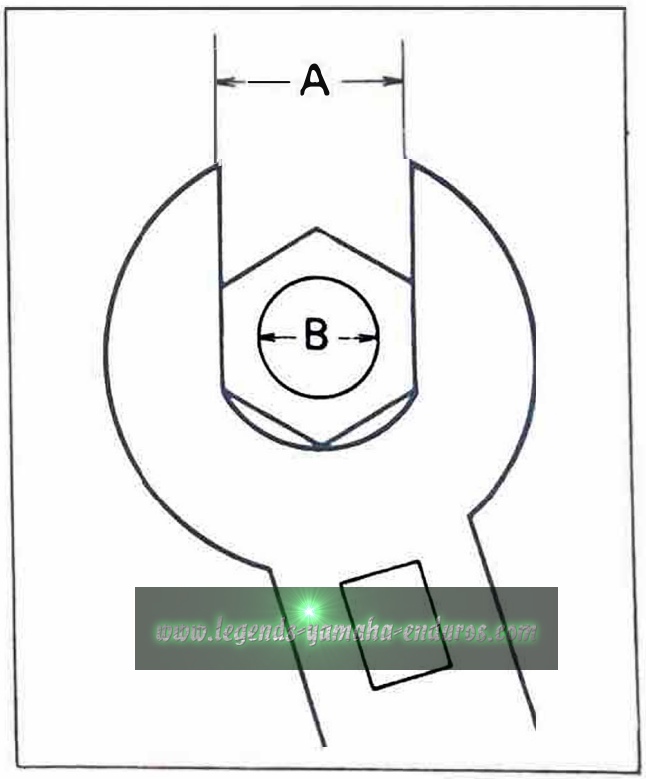
No. 2. AIR FILTER: Remove and clean filter every 10 – 20 hours.

Torque specifications

The list below covers those stud bolt sizes with standard I.S.O. pitch threads. Torque specifications for components with thread pitches other than standard are given within the applicable chapter.

Torque specifications call for dry, clean threads. Components such as the cylinder or cylinder head should be at room temperature prior to torquing. A cylinder head or any other item with several fasteners should be torqued down in a crisscross pattern in successive stages until torque specification is reached. The method is similar to installing an automobile wheel and will avoid warping the component.

A (NUT)	B (BOLT)	TORQUE SPECIFICATION	
		m-kg	ft-lb
10 mm	6 mm	0.6	4.5
12 mm	8 mm	1.5	11.0
14 mm	10 mm	3.0	22.0
17 mm	12 mm	5.5	40.0
19 mm	14 mm	8.5	61.0
22 mm	16 mm	13.0	94.0



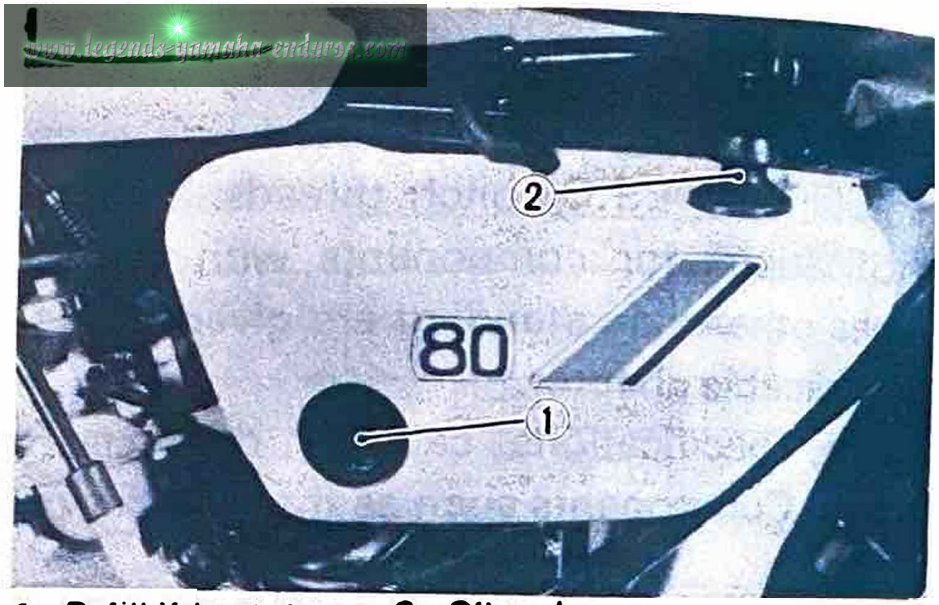
Engine oil

We recommend Yamalube 2-cycle oil (available at most Yamaha dealer) but, if other oils are used, use air cooled 2-stroke engine oil.

NOTE:

Oil viscoisty increases in very cold weather (where the normal temperature is below 0°C, 30°F) and oil does not circulate as well. In such areas, consult your Yamaha dealer.

Oil tank capacity: 0.7 lit (0.74 u.s. qt)



1. Refill if level shows **2. Oil tank cap**

Transmission oil

The only servicing for you to do is to check and fill the transmission lubricating oil.

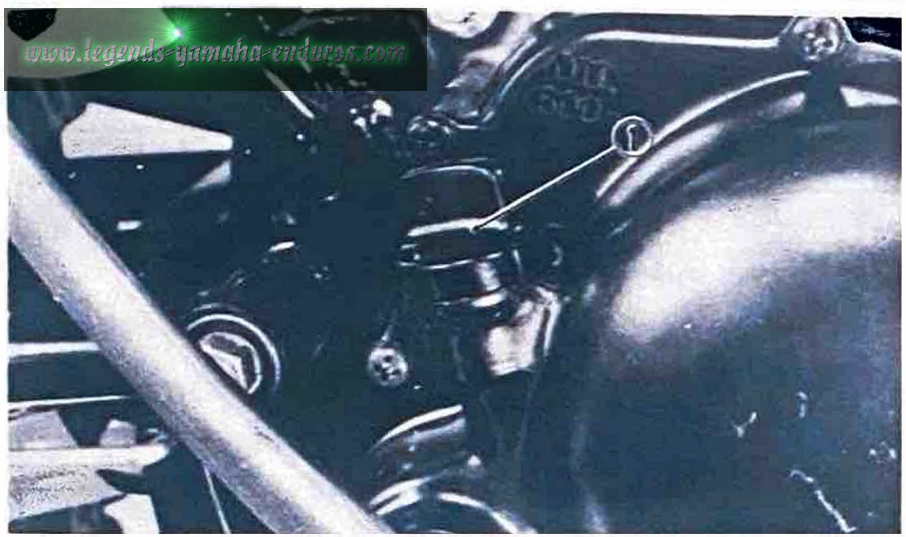
To check the level, warm the engine up for several minutes, screw the transmission oil filler cap out and then just rest the dip stick in the hole.

NOTE:

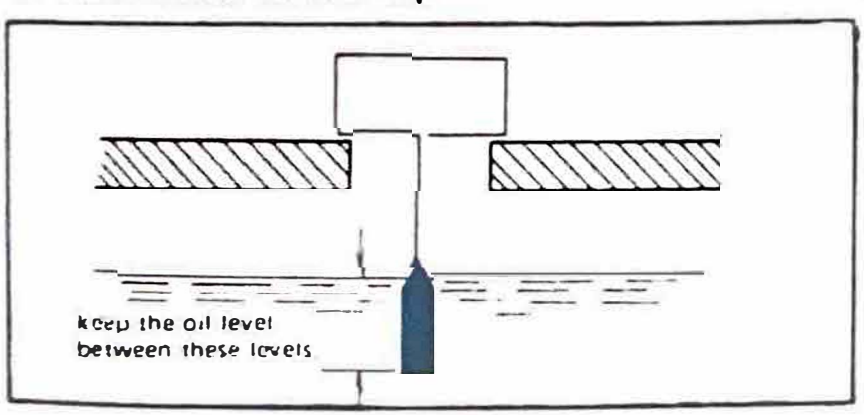
When checking transmission oil level with the dip stick, be sure the motorcycle is positioned straight up and on both wheels.

Recommended oil:
Yamalube 4-cycle oil or SAE 10W/30 type "SE" motor oil

Oil quantity: 500 cc (0.53 U.S. qt)

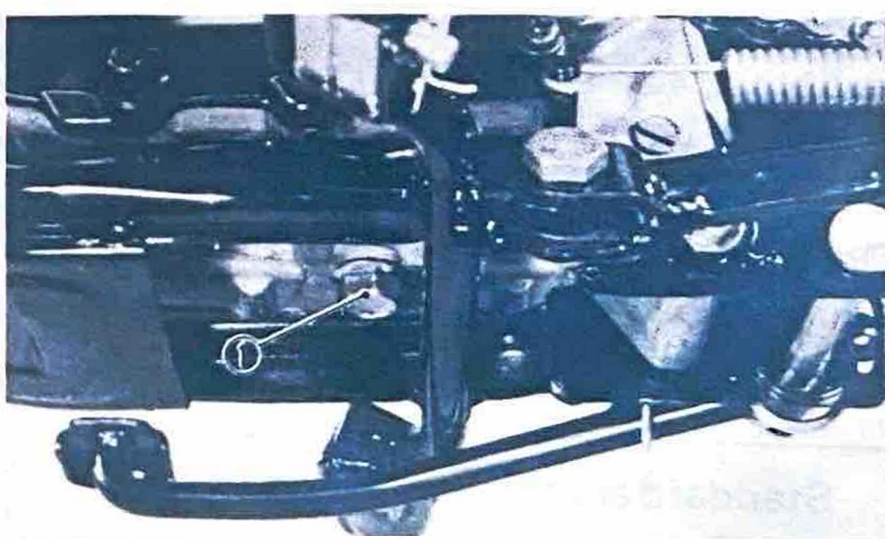


1. Transmission oil filler cap



The dip stick has a Minimum and a Maximum mark, and the oil level should be between the two. If the level is lower, then add sufficient oil to raise it to the proper level.

During the break-in period, you should replace the gear oil 20 hours after the date of first use. The trasmission should be drained and refilled approximately every 80 hour. On the bottom of the engine there is a drain plug. Remove it and drain all the transmission oil out. Reinstall the drain plug (mark sure it is tight). Add oil through the dip stick hole.



1. Drain plug

Spark plug inspection

The spark plug is an important engine component and is easy to inspect.

You should periodically remove and inspect the spark plug because heat and deposits will cause any spark plug to slowly break down and erode. If electrode erosion becomes excessive, or if carbon and other deposits are excessive, you should replace the spark plug with one of the proper type.

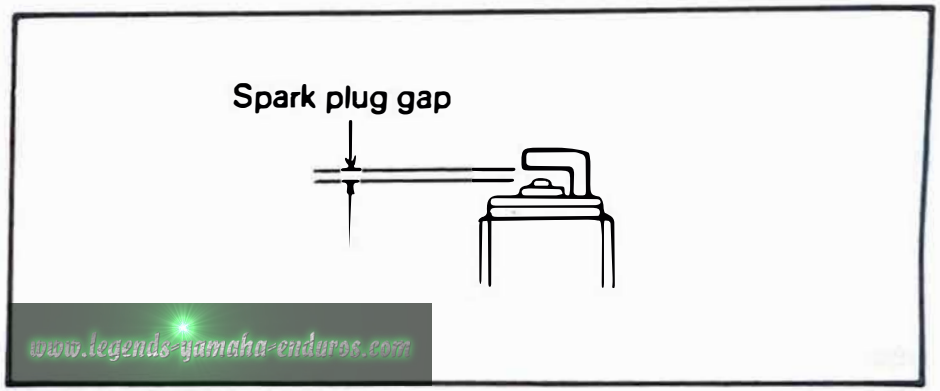
The condition of the spark plug reflects the running condition of the engine. For example, a very white center electrode porcelain color could indicate an intake tract air leak or carburetion problem.

Do not attempt to diagnose such problems yourself. Instead, take the machine to your Yamaha dealer.

Standard spark plug: B7HS (NGK)

Before installing any spark plug, measure the plug gap with a wire thickness gauge and adjust to specifications.

Spark plug gap:
0.5 ~ 0.6 mm (0.020 ~ 0.024 in)



When installing the plug, always clean the gasket surface. Wipe off any grime from the threads and torque the spark plug properly.

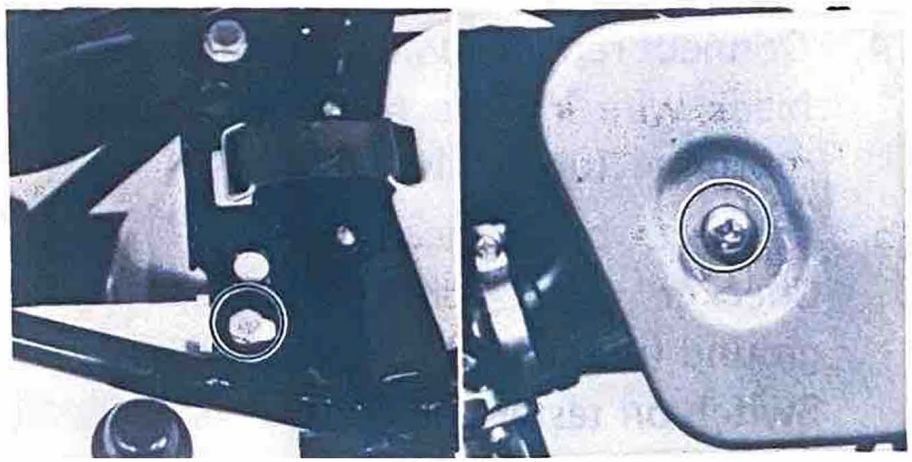
Spark plug torque: 2.5 m-kg (18 ft-lb)

Cleaning the air filter element

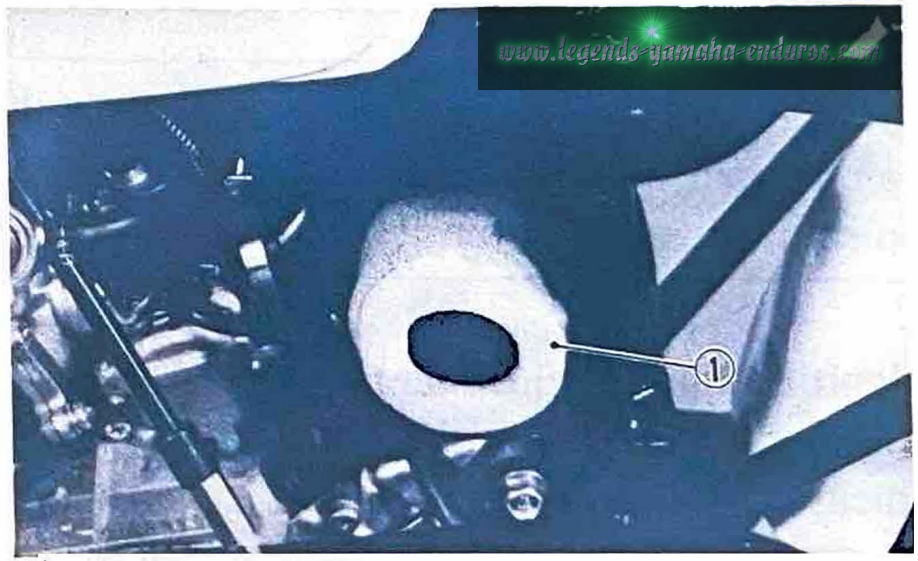
The air filter protects the engine from dirt which can enter with the intake air and cause rapid engine wear. This dirt is filtered from the air by the air filter element. This model uses a cartridge type air filter element which consists of foam rubber moistened with oil. When this filter element becomes dirty, it should be cleaned with solvent and reoiled.

Cleaning method

1. Remove the oil tank mounting bolt and then the tank. Remove the air filter case cap fitting screw and then the cap.



2. Remove the air filter element from its case, remove element from guide and clean with solvent. After cleaning, remove the remaining solvent by squeezing the foam rubber.
3. Then apply 2cycle motor oil to the entire surface and squeeze out the excess oil. Foam should be wet but not dripping.



1. Air filter element

4. When installing the air filter element in its case, be sure its sealing surface matches perfectly the sealing surface of the case so there is not air leakage.
5. The air filter element should be cleaned twice a month or every 10 – 20 hour. It should be cleaned every ten hours or more often if the machine is operated in extremely dusty areas.

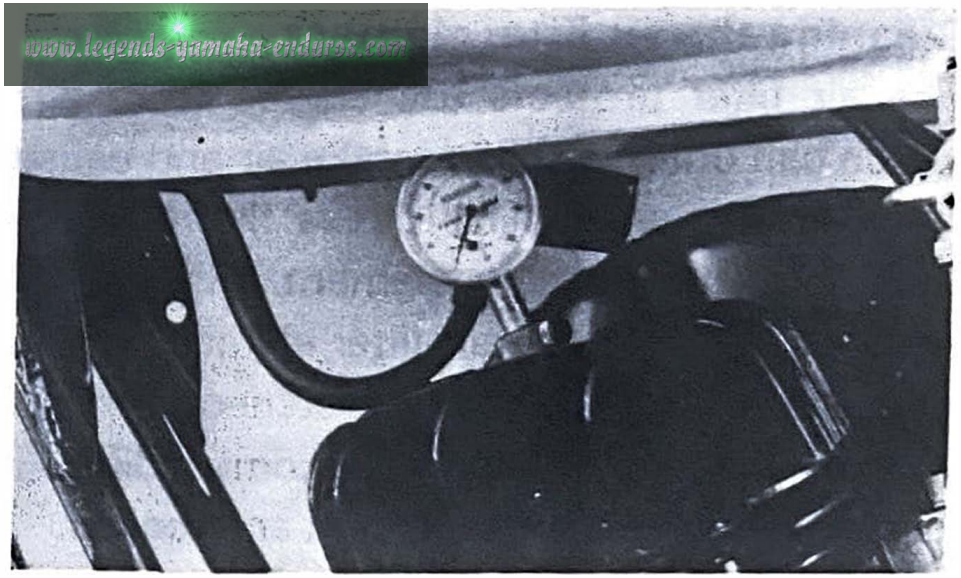
CAUTION:

The engine should never be run without the air cleaner element installed; overheating and piston damage may result.

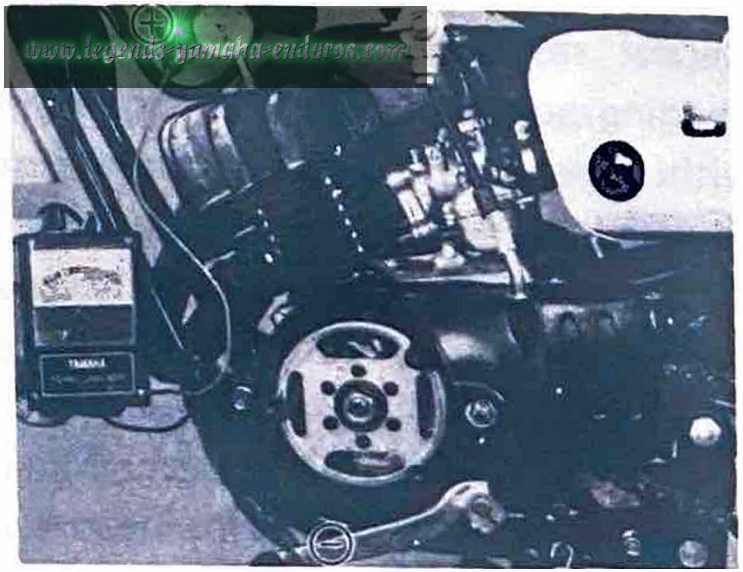
Ignition timing adjustment

Ignition timing must be set with a dial indicator (to determine piston position). Proceed as follows:

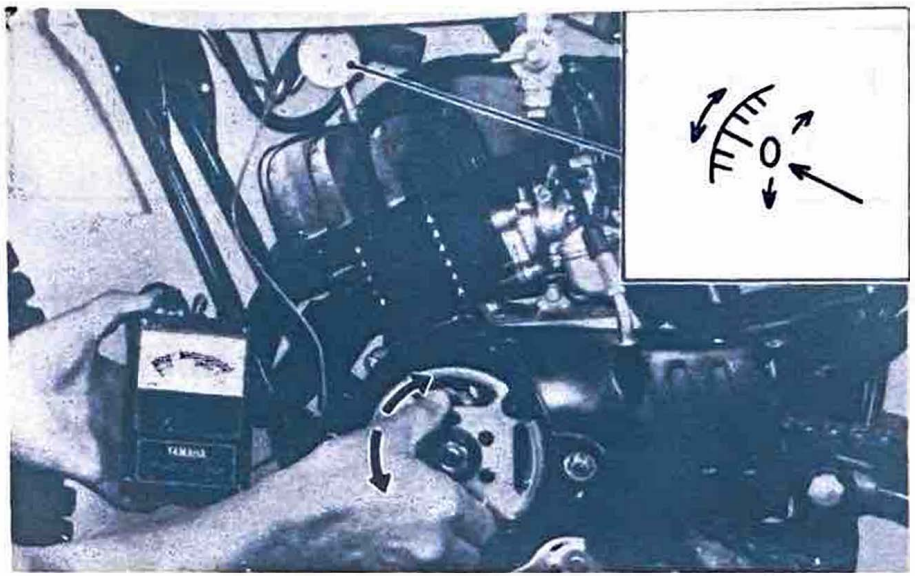
1. Remove spark plug and screw "Dial Gauge Stand" into spark plug hole.



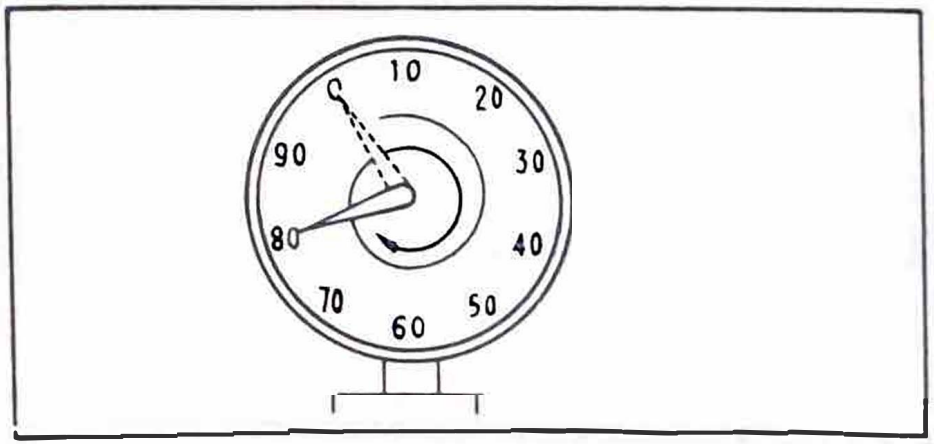
2. Insert "Dial Gauge Assembly" into dial gauge stand.
3. Remove left crankcase cover to gain access to contact breaker assembly (ignition points).
4. Connect red lead wire of point checker to black wire in wire harness coming from magneto (under the tank).
5. Connect black lead wire of "Point Checker" (or ohm-Meter) to good ground (unpainted surface).
   Switch on tester and adjust.



6. Rotate magneto flywheel until piston is at top-dead-center (T.D.C.). Tighten set screw on dial gauge stand to secure dial gauge assembly. Set the zero on dial indicator face to line up exactly with dial indicator needle.
   Rotate flywheel back and forth to be sure that indicator needle does not go past zero.

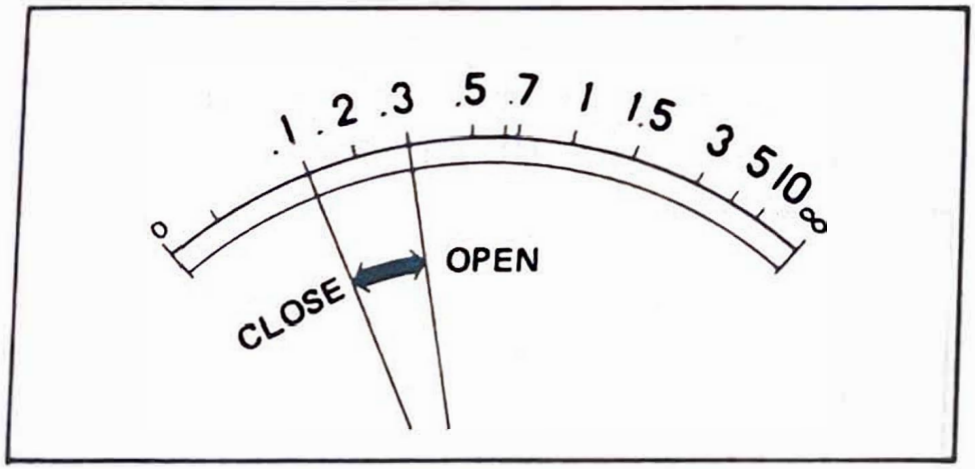


7. Starting at T.D.C. rotate flywheel clockwise until dial indicator reads approximately 1.8 mm. (0.07 in.) before top dead center (B.T.D.C.).

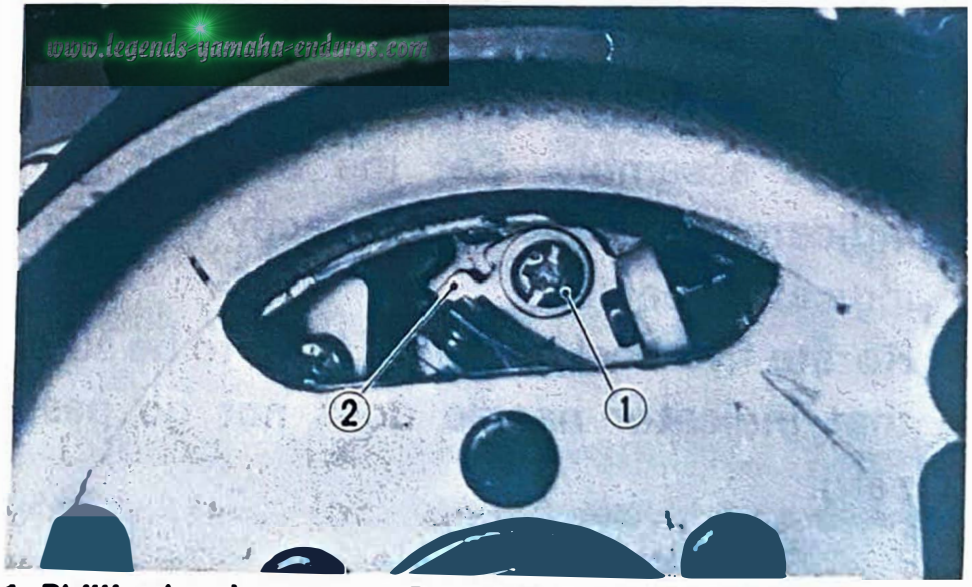


Ignition Timing (B.T.D.C.):
1.8 mm (0.07 in)

8. If the point checker pointer swings the moment that the dial gauge pointer indicates the specified position B.T.D.C., the ignition timing is considered to be correct.

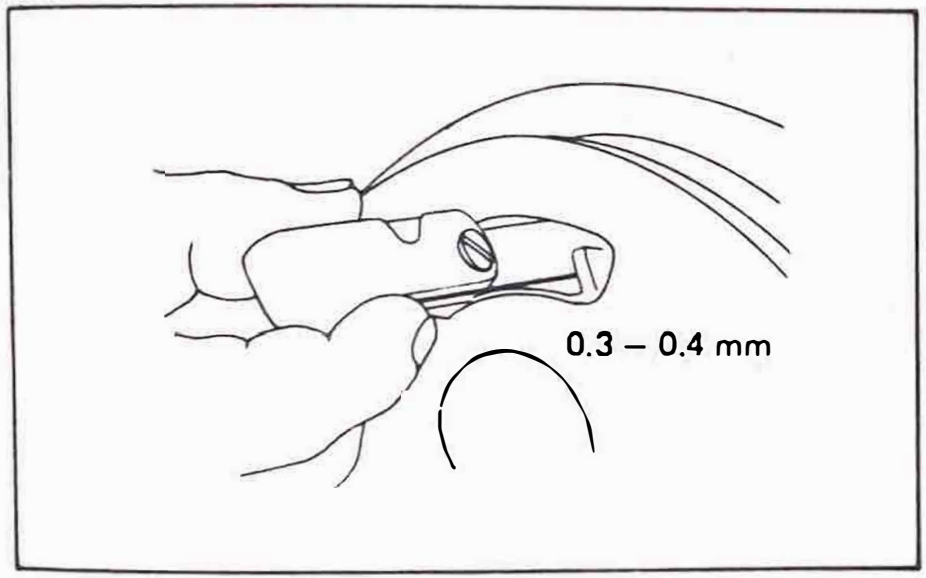


9. Repeat steps 7. and 8. to verify point opening position. If points do not open within specified tolerance, they must be adjusted.
10. Adjust ignition points by slightly loosening Phillips head screw and carefully rotating contact breaker assembly with a slotted screwdriver. Make small adjustment and retighten Phillips head screw before rechecking timing. Recheck timing by repeating steps 7. and 8.



1. Phillips head screw 2. Contact breaker assembly

11. Check the contact breaker point gap 0.3 – 0.4 mm. If it is incorrect, recheck ignition timing inspect point condition and, if necessary, replace points.

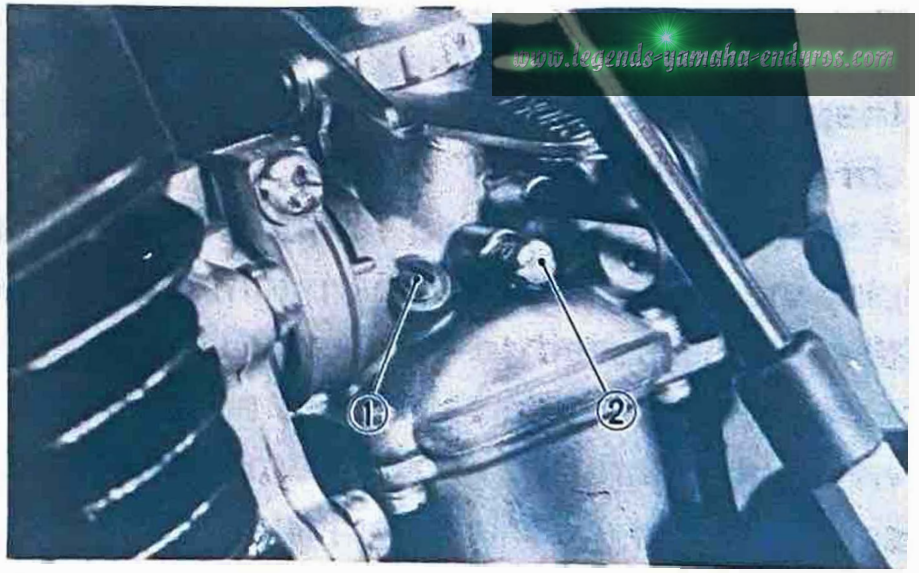


Idle mixture adjustment

The idle mixture adjustment controls the amount of mixture to the engine at low r.p.m. The idle mixture also insures smooth transition to the main circuit with no power loss or misfire; so it does affect midrange performance.

Make this adjustment as described below: Tighten the pilot air screw until it lightly touches the seat; then back the screw out the specified number of turns. This should be done with the engine stopped.

Standard pilot air screw setting (number of turns out): 1 and 1/2.



1. Pilot air screw
2. Throttle stop screw

Idling speed adjustment

Start the engine and warm it up for a few minutes. The warm up is complete when the engine responds quickly without dying. Normally 1 to 2 minutes is required; 2 to 3 minutes in cold weather. Turning the throttle stop screw counterclockwise lowers the engine speed. One clockwise turn from the engine stall position is considered to be the specified idling position.

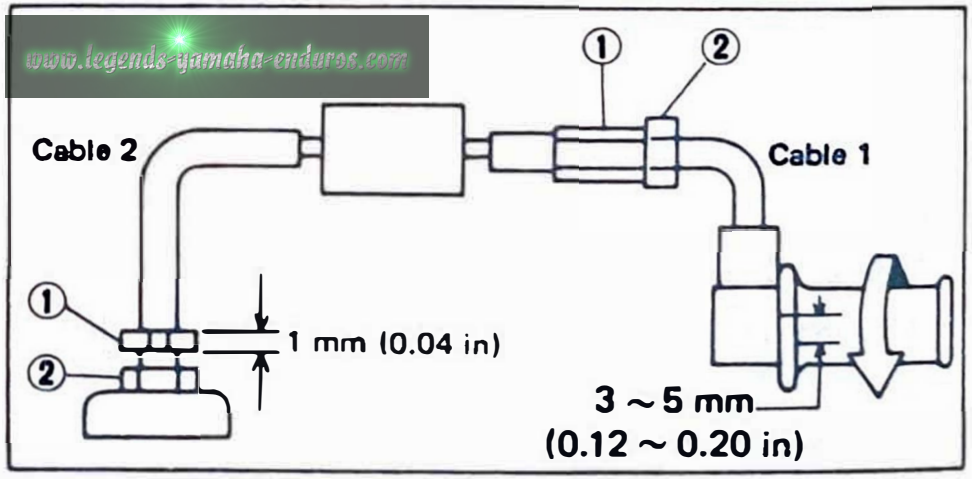
Inspection and adjustment of play in throttle cable 2

A throttle cable should always have a little play in it. If too tight, a sharp turn may cause the engine speed to increase. On the other hand, if the throttle valve does not open fully when the throttle grip is turned fully, full speed is not possible. Adjust as described below.

NOTE:

Before adjusting the play in throttle cable 2, adjust the engine idling speed and make sure the mixing chamber top is tight.

1. Move the rubber cover of the mixing chamber top to expose the wire adjuster.
2. Hold the outer cable near top of carburetor and down to check the play.
3. Loosen lock nut and turn the wire adjuster in or out to achieve 1 mm (0.04 in) of play. Be sure to tighten the lock nut.

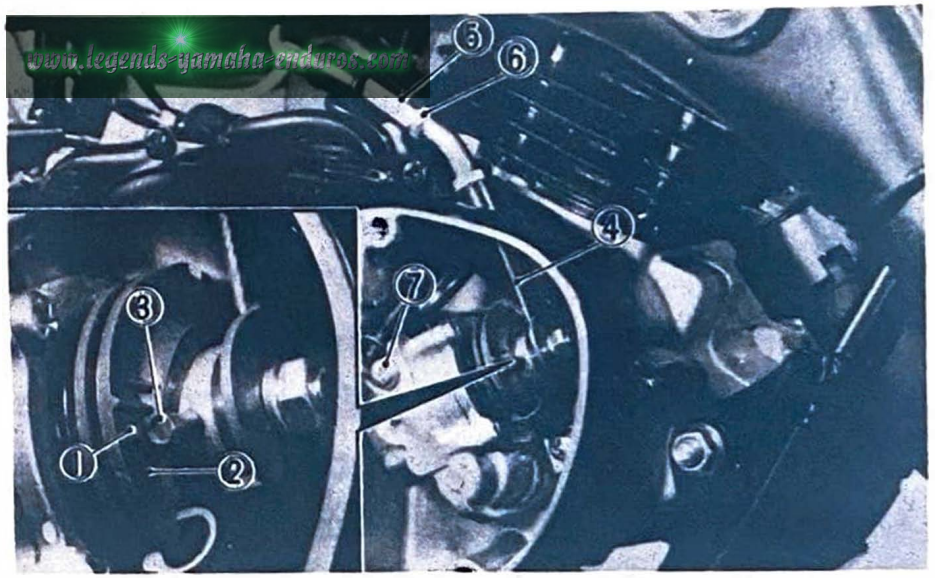


1. Adjuster 2. Lock nut

Inspection and adjustment of play in throttle cable 1

Adjust the play in both throttle cables; if only one is adjusted, trouble may occur.

Check play in turning direction of throttle grip. The play should be 3 ~ 5 mm at grip flange. Loosen the lock nut and turn the wire adjuster to make the necessary adjustment. After adjusting, be sure to tighten the lock nut properly.



1. Mark (O)
2. Adjust pulley
3. Pin
4. Pump cable
5. Adjuster
6. Adjuster lock nut
7. Bleed screw

Autolube pump cable adjustment

Close the throttle grip completely, then twist it open until all cable slack is removed but stop before the slides start to lift.

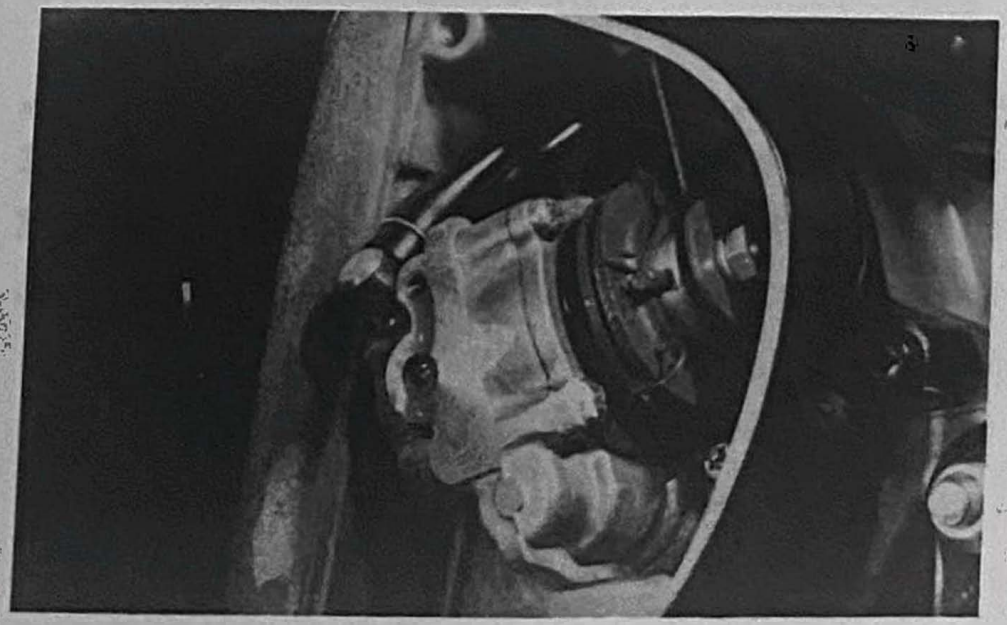
Adjust the pump cable so the mark (O) on the pump pulley lines up with the "adjust pulley guide pin".

If the mark and pin are not in alignment, loosen the cable length adjuster lock nut and adjust the cable length until alignment is achieved. Tighten the adjuster lock nut.

Bleeding the autolube pump

If the pump runs out of oil, the pump must be bled to release air trapped in the pump.

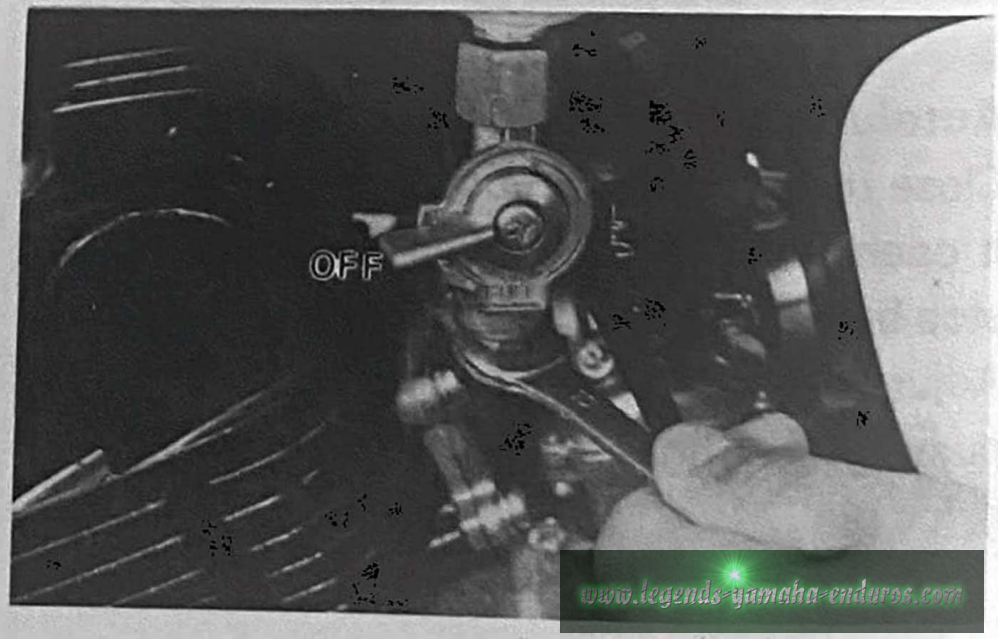
1. Remove the pump cover and the bleed screw.
2. Start the engine and run at idling speed.
3. Pull the oil pump wire as much as possible and continue to run the engine until all air bubbles disappear from the oil flowing out from the bleeder hole.
4. Reinstall the bleed screw and the pump cover.



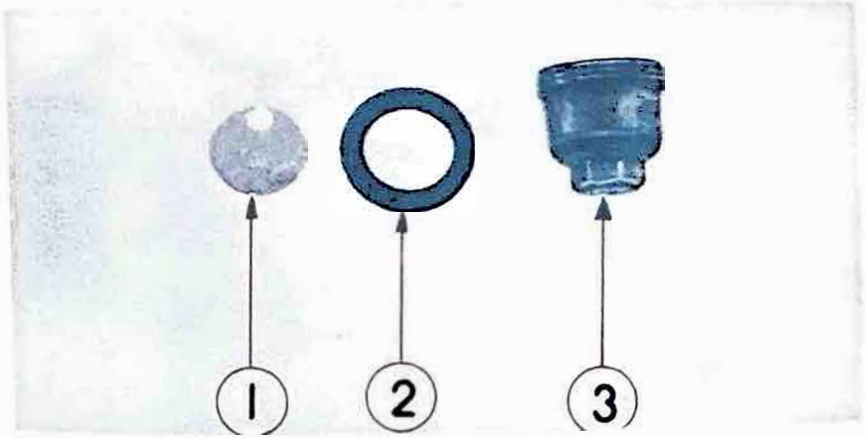
Fuel petcock inspection and cleaning

The fuel petcock has a built-in filter to remove any particles before they reach the carburetor. If the filter becomes blocked, the fuel cannot enter the carburetor. To prevent this, inspection and cleaning should be done at recommended intervals.

1. First, turn the petcock lever to the "OFF" position; then remove the filter cup and clean the bottom of the cup with solvent.



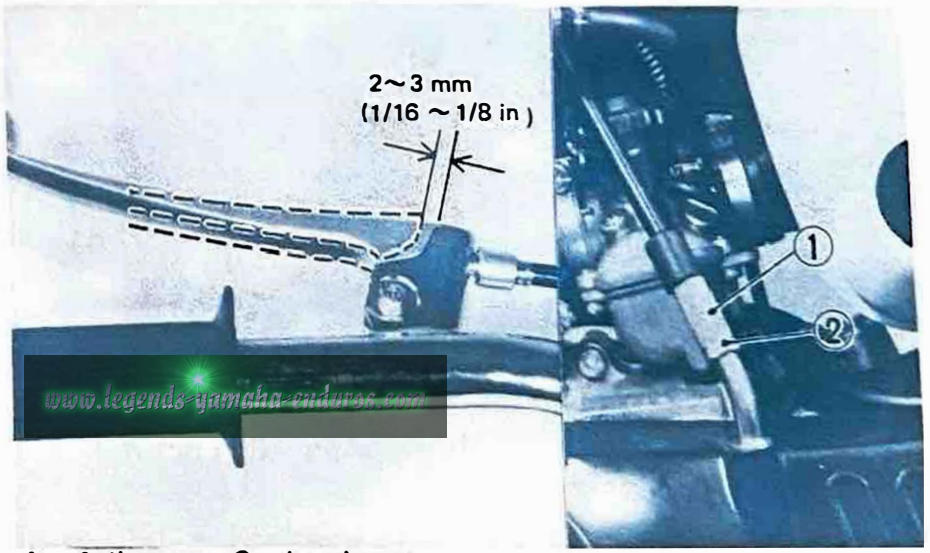
2. After removing the filter cup, remove and clean the filter screen. At the same time, you should examine the condition of the filter gasket. Replace if damaged.
3. When reassembling, be careful not to clamp the filter cup too tightly as this may cause the filter gasket to become unseated resulting in fuel leakage.



1. Filter screen
2. Filter gasket
3. Filter cup

Clutch adjustment

The clutch requires two adjustments;
(1) adjusting the play of the clutch cable, and
(2) adjusting the play in the clutch push screw. Normally, only the play of the cable need be adjusted; leave adjustment of the push screw to the dealer. The clutch should be adjusted to suit rider preference within a 2~3 mm (0.08~0.12 in) free play at the lever pivot side. Loosen the lock nut and make the adjustment by turning the adjuster until proper lever freeplay is achieved.

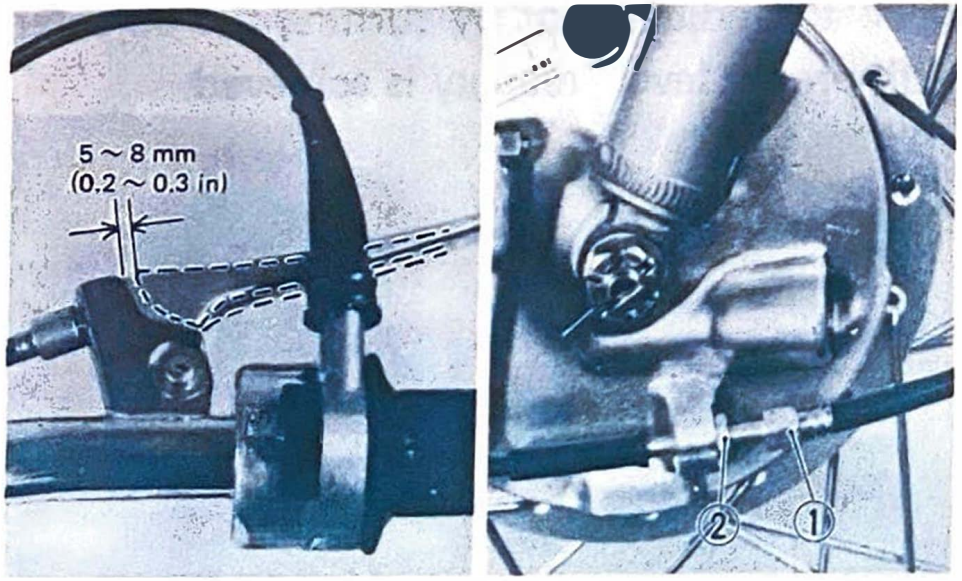


1. Adjustor 2. Locknut

Front brake adjustment

The front brake should be adjusted to suit rider preference within a 5~8 mm (0.2~0.3 in) free play at the lever pivot side. To adjust the free play, loosen the lock nut on the front brake cable end and turn the adjuster in or out. After adjusting, be sure the lock nut is tightened firmly.

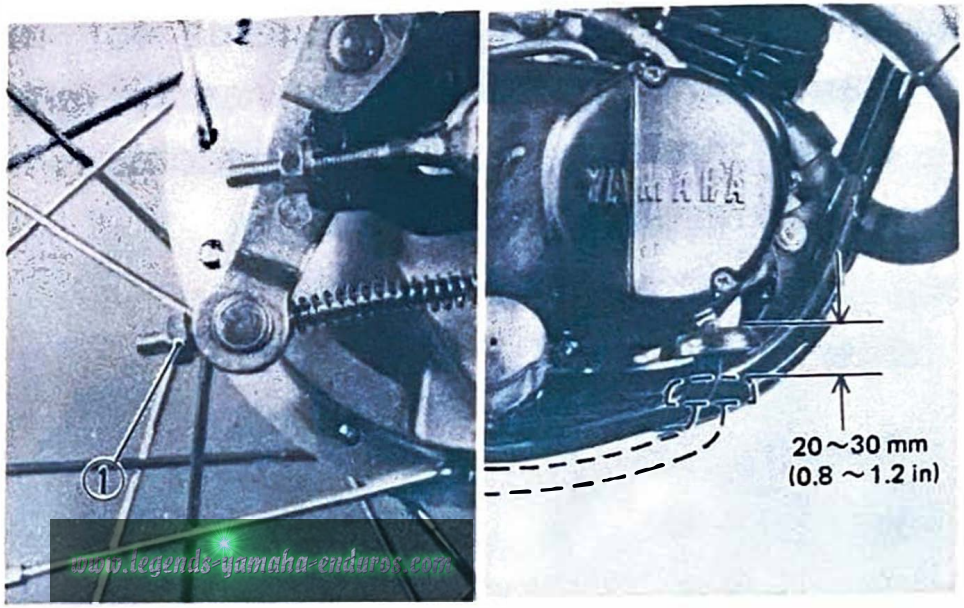
When it is impossible to make an adjustment, ask a Yamaha dealer for adjustment.



1. Adjuster 2. Lock nut

Rear brake adjustment

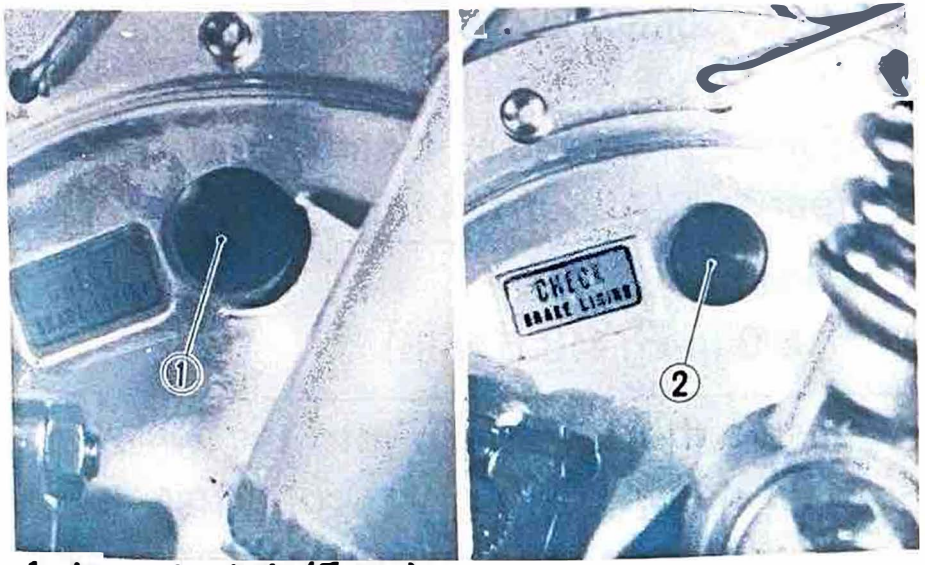
The rear brake should be adjusted to suit rider preference within a 20~30 mm (0.8~1.2 in) free play at the brake pedal end.



1. Adjuster

Brake lining inspection

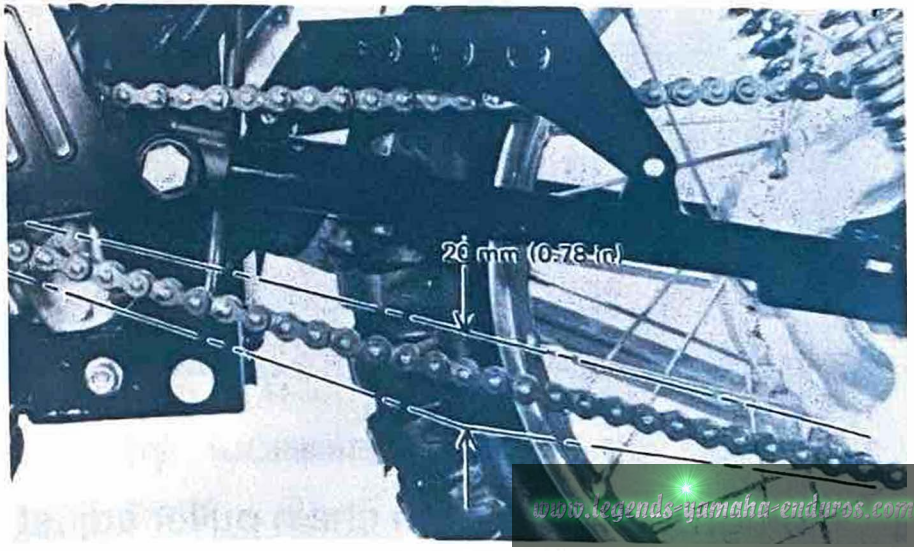
The specified thickness of the brake lining when new is 4 mm (0.16 in). The lining should be replaced when the brake lining material wears to less than 2 mm (0.079 in) thickness. To inspect, remove the plug from the inspection hole on the brake shoe plate and check the thickness of the lining. If worn out, ask your Yamaha dealer to install a new set of brake shoes. Be sure to replace the plug properly so water cannot enter the shoe plate.



1. Inspection hole (Front)
2. Inspection hole (Rear)

Checking the drive chain tension

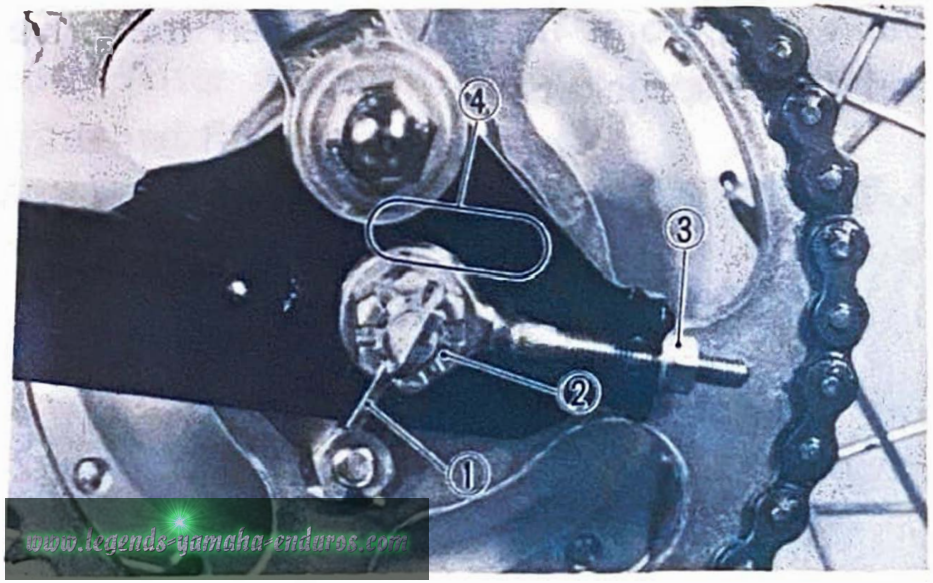
To check the chain play, the motorcycle must stand vertically with its both wheels on the ground and without passenger on it.
Then measure the play at the bottom of the chain at a point midway between the drive and driven sprockets.



The normal vertical deflection is approximately 20 mm (0.78 in). If the chain deflection is not as specified, adjust the chain tension.

Drive chain tension adjustment

1. Loosen the rear brake rod adjust nut.
2. Remove the cotter pin of the rear wheel axle nut with pliers.
3. Loosen the rear wheel axle nut.



1. Cotter pin
2. Axle nut
3. Adjusting nut
4. Marks for alignment

4 To tighten chain, turn chain puller adjust nuts clockwise. To loose chain, turn adjust nuts counterclockwise and push wheel forward. Turn each nut exactly the same amount to maintain correct axle alignment (There are marks on each side of rear arm and on each chain puller; use them to check for proper alignment).

NOTE:

Before adjusting, rotate rear wheel through several revolutions and check tension several times to find the tightest point. Adjust chain tension with rear wheel in this "tight chain" position.

5. After adjusting, be sure to tighten the rear wheel axle nut.
6. Also tighten the adjusting nuts against the rear arm (About 1/4 turn each).

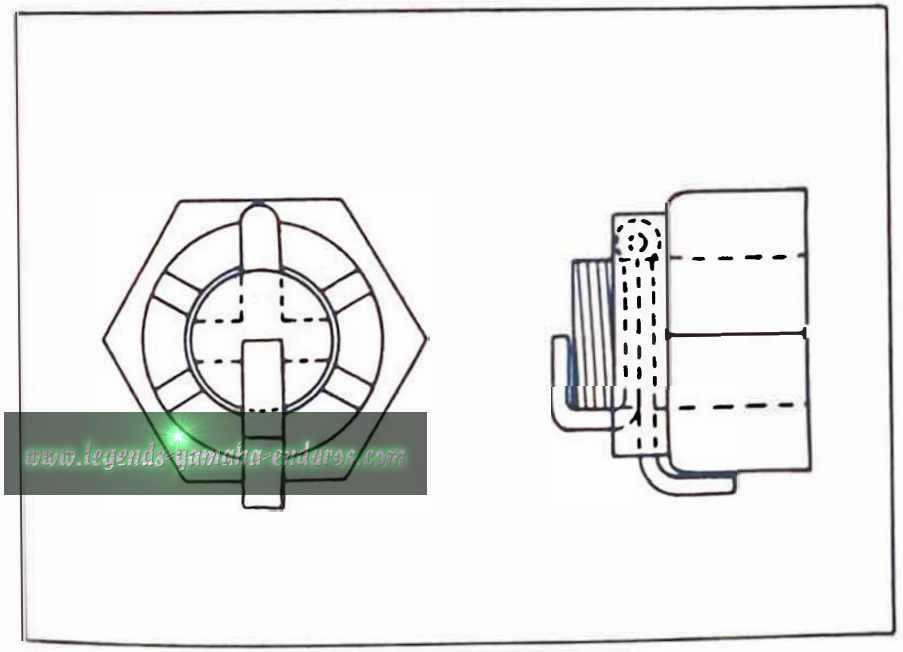
Axle nut torque:
6.0 m-kg (43.5 ft-lb)

7. Insert the cotter pin into the rear wheel axle nut and bend the cotter pin end as shown in the illustration (if the nut notch and the cotter pin hole do not match, tighten the nut slightly to match).

8. In the final step, adjust the play in the brake pedal.

CAUTION:

Excessive chain tension will overload the engine and other vital parts; keep the tension within the specified limits. Also, replace the rear axle cotter pin with a new one.

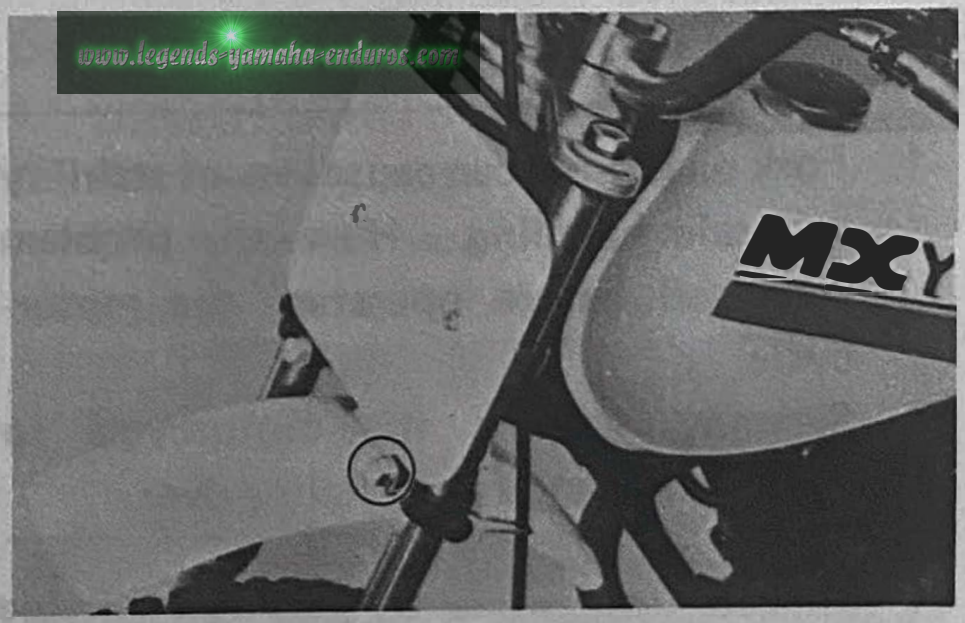


Front fork oil change

WARNING:

1. **Fork oil leakage can cause loss of stability and safe handling. Have any problem corrected before operating the motorcycle.**
2. **Securely support the motorcycle so there is no danger of it falling over.**

1. Elevate front wheel by placing a suitable stand under the engine.
2. Remove cap bolts from inner fork tubes.
3. With the front wheel and front brake cable removed, the fork legs can be removed from the upper and lower brackets by loosening upper and lower pinch bolts.



4. Drain the oil from fork.
5. Installing the front forks on the frame.
   Bring up the front forks to the correct position and partially tighten the under-bracket mounting bolt.

Tightening torque:
2.0 m-kg (14 ft-lb)

6. Pour specified amount of oil into the inner tube through the upper end opening.

Recommended oil:
Yamaha Fork Oil 10 wt or equivalent
Quantity per leg: 112 cc (3.79 oz)

NOTE:

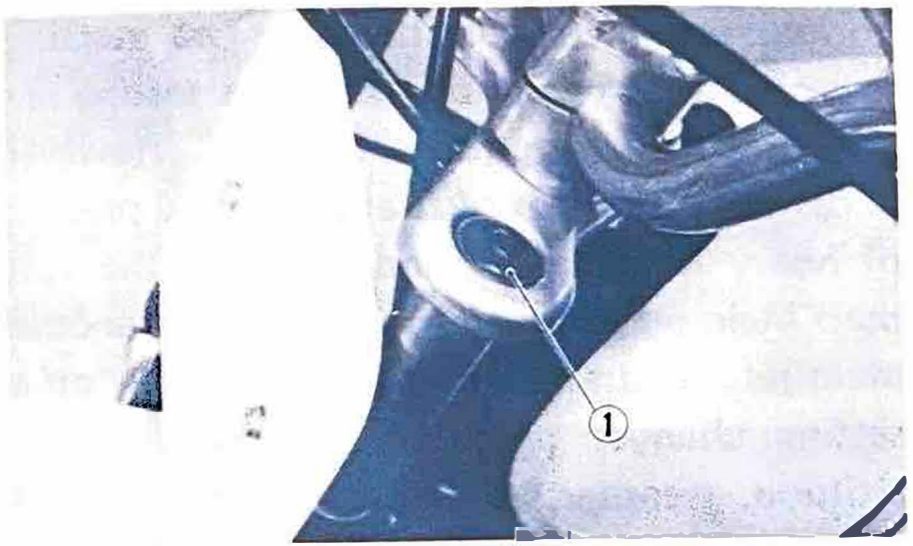
Select the weight oil that suits local conditions and your preference (lighter for less damping; heavier for more damping).

7. After filling, slowly pump the outer tubes up and down to distribute the oil.

NOTE:

Adjust the oil levels in both right and left front forks so they are even.

8. Inspect O-ring on fork cap bolts and replace if damaged.



1. O-ring

9. Install the fork cap bolts and torque to specification.

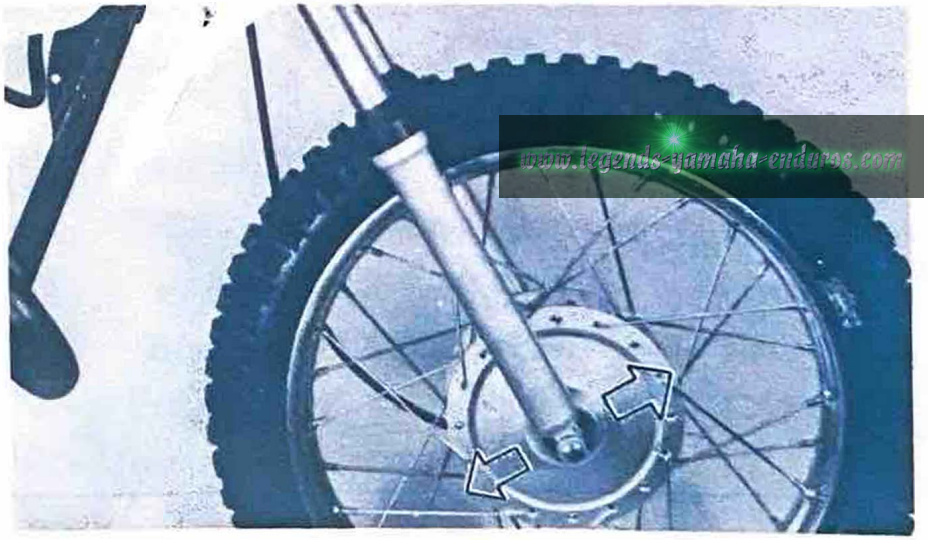
Fork cap bolt torque: 2.0 m-kg (14.5 ft-lb)

Steering inspection

Periodically inspect the condition of the steering. Worn out or loose steering bearings may be dangerous.

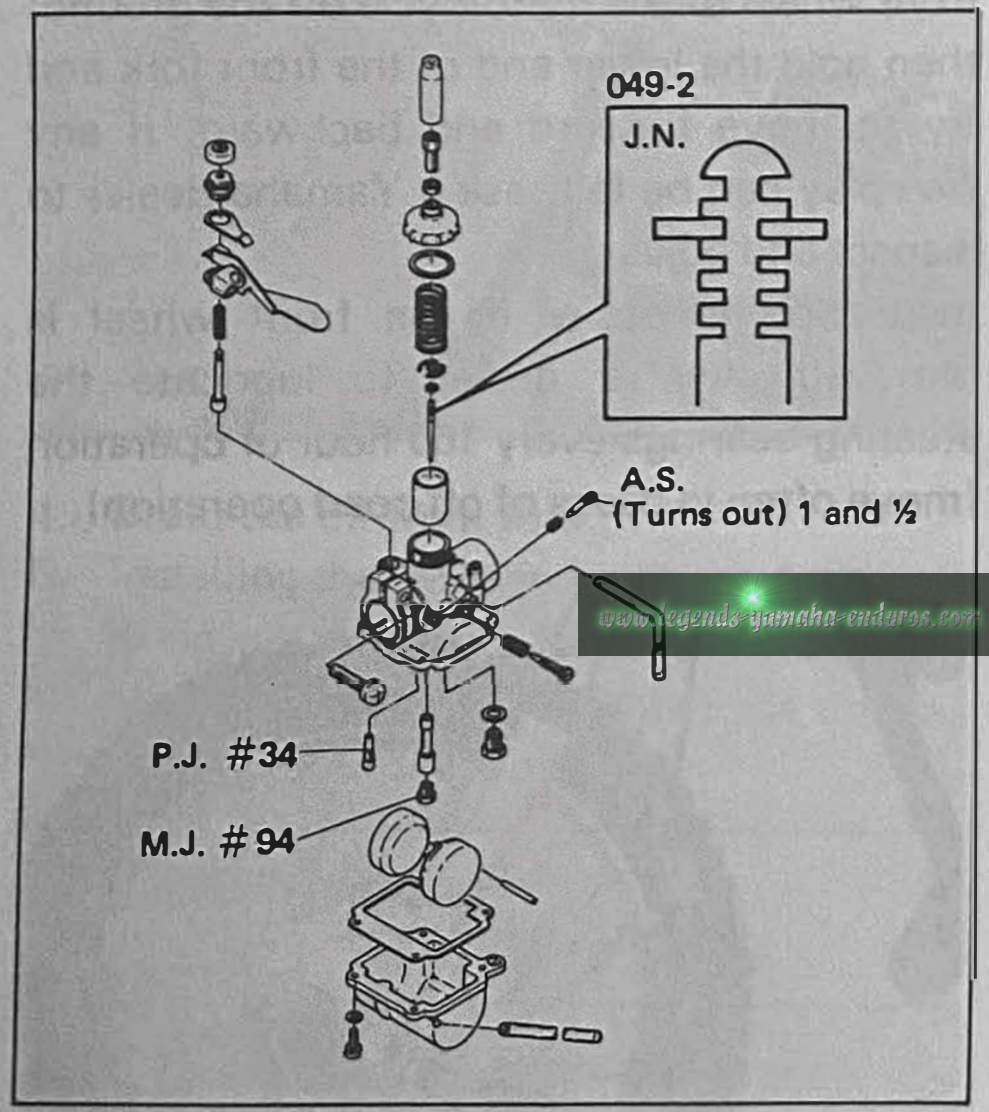
Place a block under the engine to raise the front wheel of the motorcycle off the ground; then hold the lower end of the front fork and try to move forward and backward. If any free play can be felt, ask a Yamaha dealer to inspect and adjust.

Inspection is easier if the front wheel is removed. Ask a dealer to lubricate the steering bearings every 160 hour of operation (move often in cases of off-road operation).



MINOR REPAIR

CARBURETOR



CAUTION:

The MX80J Carburetor has been set for normal sea level conditions. The standard setting is the result of extensive testing and does not usually require changing. However, under conditions of high atmospheric pressure of heavy load (deep sand or mud) the standard Main jet should be replaced with another Main jet. If the carburetor requires any other setting changes to suit local conditions of altitude, weather, etc., the changes must be made with great case. Improper carburetor setting changes will cause poor engine performance and possible engine damage. Please consult your YAMAHA dealer about any carburetor setting changes before actually going about then.

Main jet replacement

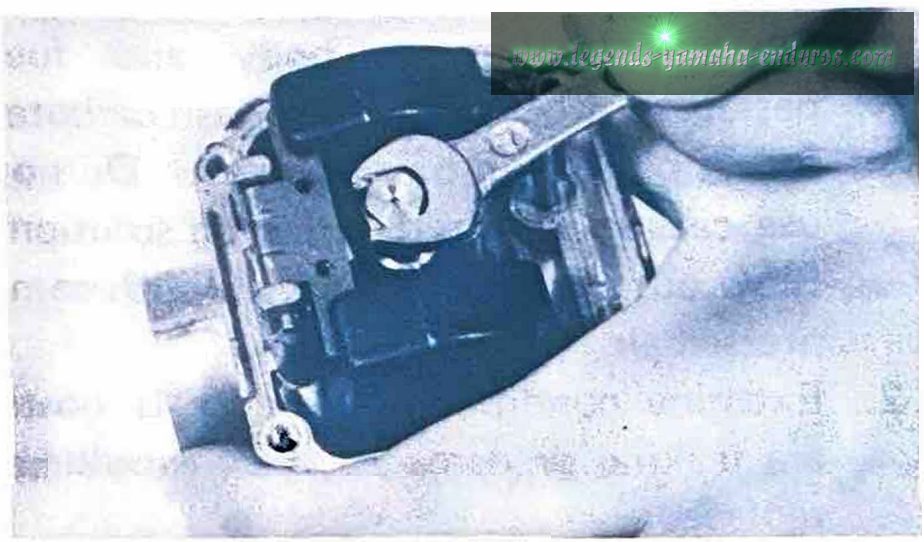
CAUTION:

Removing the carburetor float chamber will allow fuel to drain.

Do not remove if engine is hot. Place a rag under carburetor to catch overflow. Remove bolts in well ventilated area. Do not remove near open flame. Always clean and dry machine after assembly.

1. Loosen four bolts and remove float chamber body.
2. Remove the main jet. Change as required.
   Reinstall float bowl and assemble.
   Change as required.
   Reinstall float bowl and assemble.

Main jet No.: 94



NOTE:

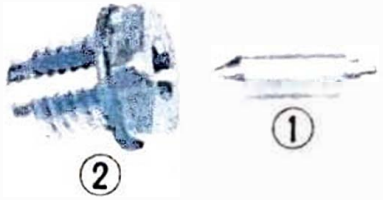
Excessive changes in main jet size can affect performance at all throttle positions.

CAUTION:

The fuel/air mixutre ratio is a governing factor upon engine operating temperature. Any carburetor changes, whatsoever, must be followed by a through spark plug test.

Inspection

1. Examine carburetor body and fuel passages. If contaminated, wash carburetor in petroleum based solvent. Do not use caustic carburetor cleaning solution. Blow out all passages and jets with compressed air.
2. Examine condition of floats. If floats are leaking or damaged, they should be replaced.
3. Inspect inlet float valve and seat for wear or contamination. Replace these components as a set.



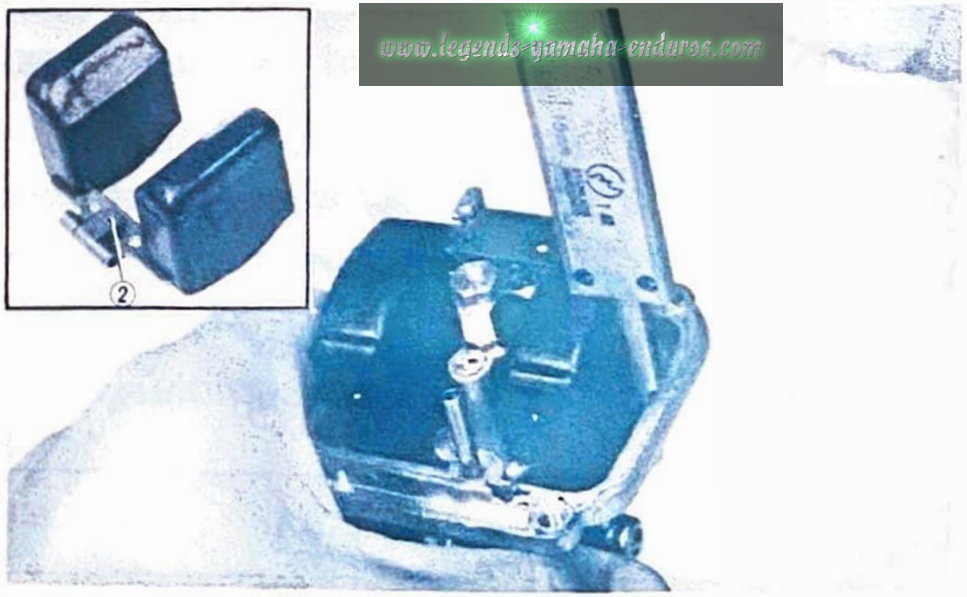
1. Float valve 2. Valve seat

Adjustment

1. Float height

   Hold the carburetor in an upside down position. While holding the floats so the tang is just touching the float needle, measure the distance from the top of the float to the float bowl gasket surface. (gasket removed). Both floats must be at the same height.

Float height: 23 ± 1.5 mm (0.91 ± 0.06 in)



1. Float height 2. Tang

CAUTION:

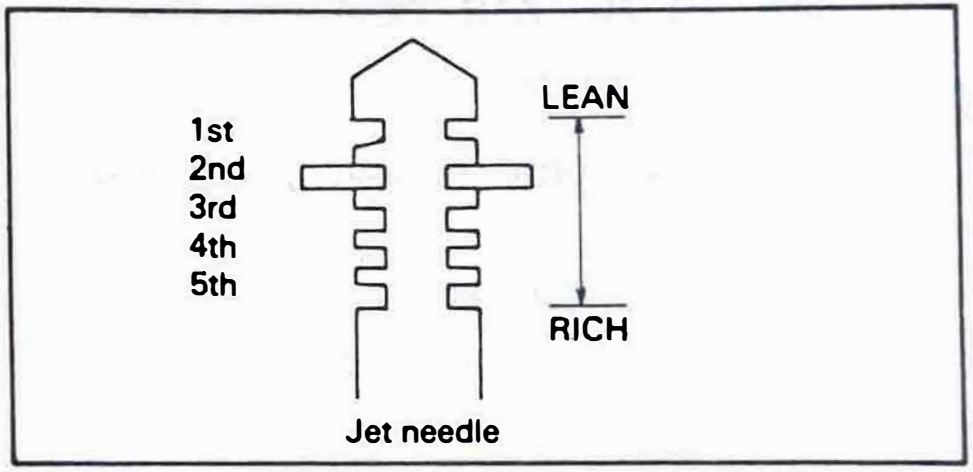
Check the float valve and valve seat for wear before adjustment.

Make the adjustment by bending the tang on the float arm.

2. Jet needle

The mid-range air/fuel supply is affected by the position of the needle in the needle jet. If it necessary to alter the mid-range air/fuel mixture characteristics of the machine, the jet needle up for a leaner condition or toward the bottom position for a richer condition.

Jet needle type: 049 Clip position: No. 2 Groove



Carburetor inspection

In addition to the above adjustment, check the following periodically:

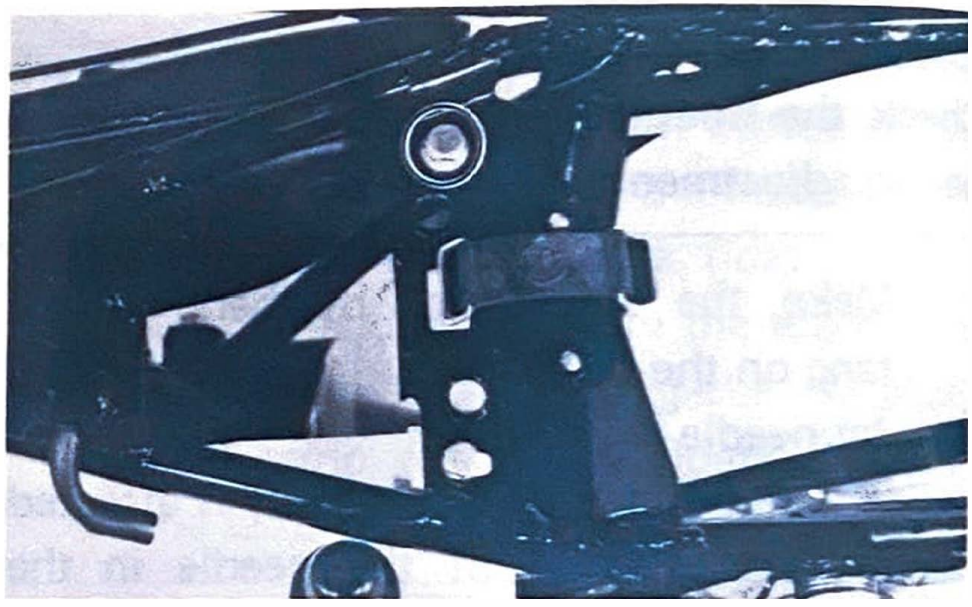
1. Are the carburetor holding bolts loose?
2. Is the air vent pipe in the correct position?
3. Is the overflow pipe connected properly?
4. Is the mixing chamber top loose?

MINOR REPAIR FOR ENGINE

MUFFLER

With the carburetor removed, proceed as follows:

1. Remove the muffler.
   Remove the exhaust pipe with exhaust pipe ring nut wrench and open end wrench.



2. Using a rounded scraper, remove excess carbon deposits from manifold area of exhaust pipe. Check muffler gasket condition. The gasket seat is located around the cylinder exhaust port.

TOP END REMOVAL

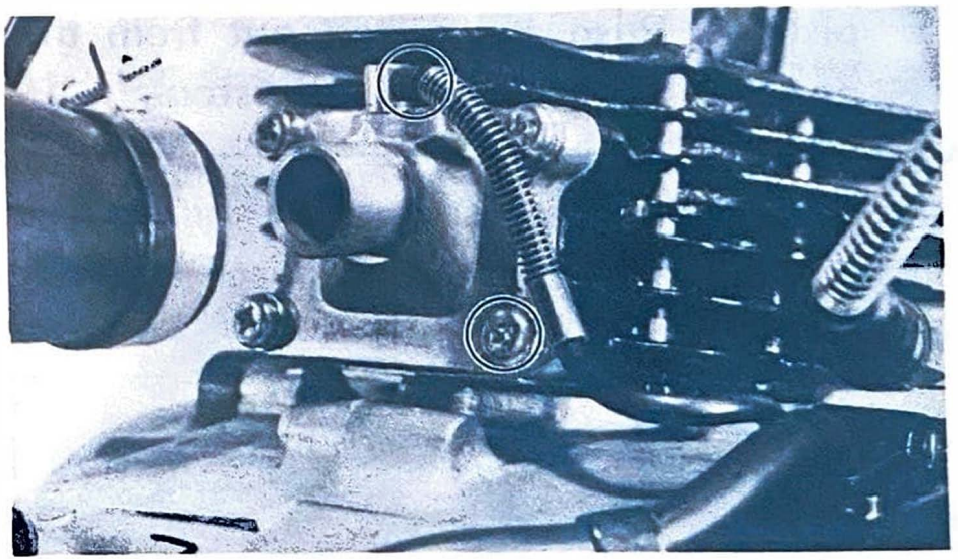
1. Remove nuts securing cylinder and head (four nuts)
   Remove cylinder head and gasket.

NOTE: ———————————————————

Break each nut loose (1/4 turn) prior to removing.

2. Remove spark plug

3. Remove the lower right side panhead screw tightening reed valve and disconnect oil delivery pipe from the cylinder.

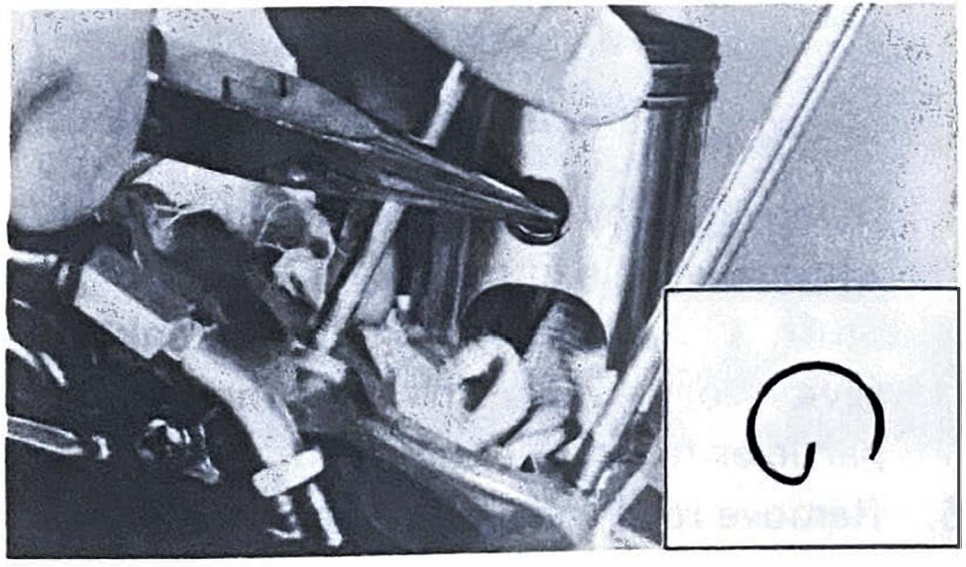


4. Remove the cylinder by striking it lightly with a plastic hammer.
   Stuff a clean shop rag into crankcase cavity to prevent dirt and other foreign particles from entering.
5. Remove reed valve assembly.

6. Remove cylinder base gasket and clean gasket seat on cylinder and crankcase thoroughly.
7. Remove the piston pin clip from the piston. Push the piston out from the opposite side. Remove the piston.

NOTE:

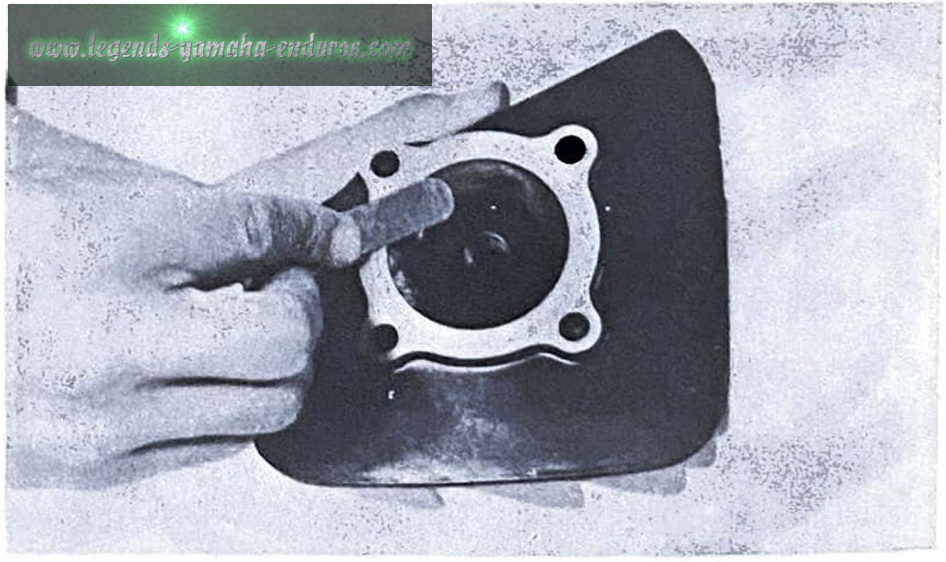
If the pin hangs up, use a piston pin puller. Do not pound on pin as damage to rod, piston and bearing will result.



MAINTENANCE

Cylinder head

1. Using a rounded scraper, remove carbon deposits from combustion chamber.
   Take care to avoid damaging the spark plug threads. Do not use a sharp instrument. Avoid scratching to metal surface.



2. Clean the spark plug gasket mating surface thoroughly.
3. Wash the head in solvent and wipe dry.

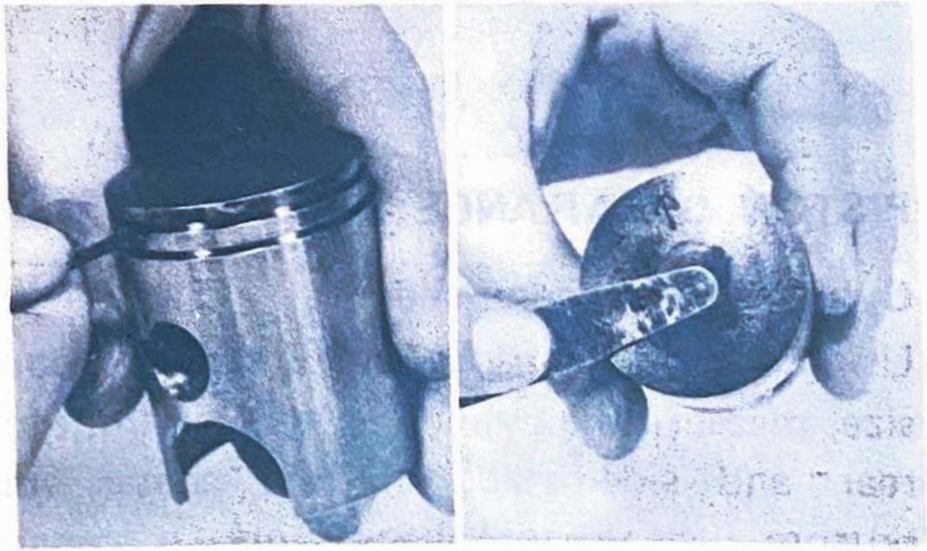
Cylinder

1. Using a rounded scraper, remove carbon deposits from exhaust port.

2. Check cylinder bore. Using a cylinder hone, remove any scoring. Hone lightly, using smooth stones. Hone no more than required to avoid excess piston clearance.

Piston

1. Using a rounded scraper, remove carbon deposits from piston crown.
2. Break a used piston ring in two. File end square. De-burr edges to avoid scratching ring groove and clean carbon deposits from ring grooves.

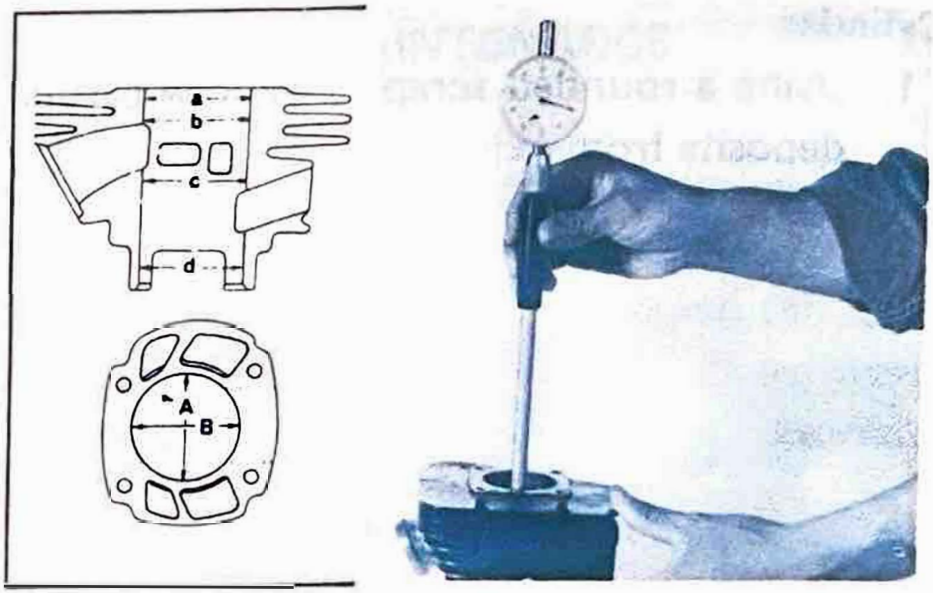


3. Using 400 ~ 600 grit wet sandpaper, lightly sand score marks and lacquer deposits from sides of piston. Sand in cross-hatch pattern. Do not sand excessively.

PISTON CLEARANCE

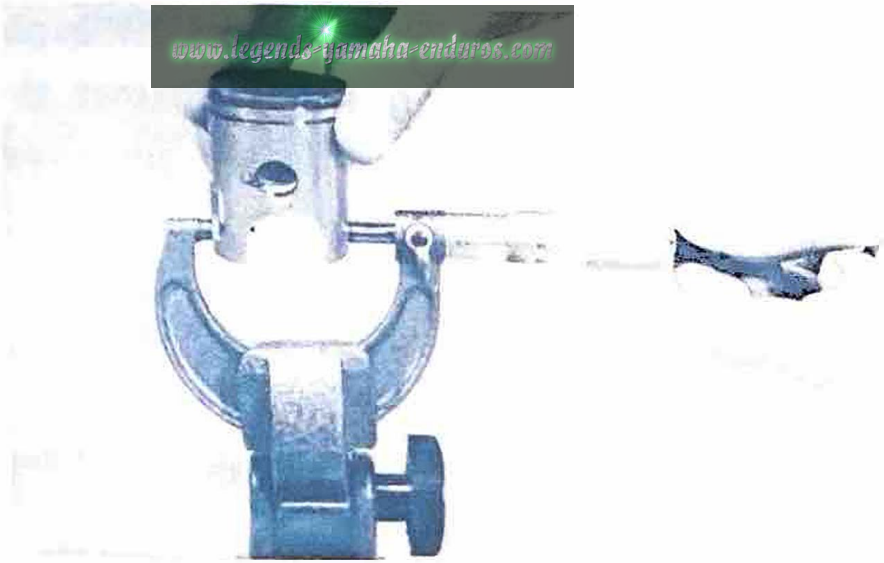
Cylinder bore measurement

Using a cylinder gauge set to standard bore size, measure the cylinder. Measure front-to-rear and side-to-side at top, center and bottom just above exhaust port. Compare minimum and maximum measurements. If over tolerance and not correctable by honing, rebore to next to oversize.



Piston outside diameter measurement

Using an outside micrometer, measure piston diameter. The measuring point is at right-angles to the piston pin holes, about 10 mm (0.4 in) from the bottom of the piston skirts.



PISTON CLEARANCE

= Minimum Cylinder Diameter
– Maximum Piston Diameter

Example:

47.020 mm – 46.985 mm = 0.035 mm
(1.8512 in) – (1.8498 in) = 0.0014 in

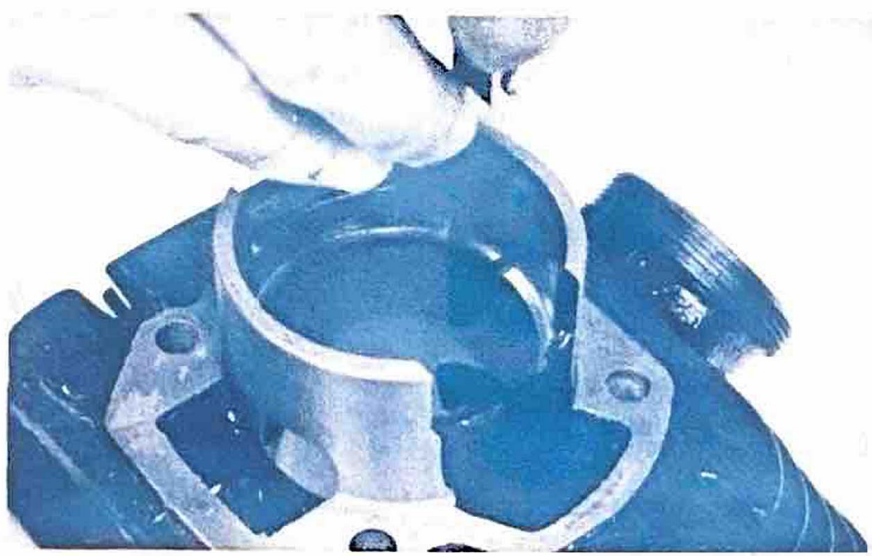
Nominal piston clearance:
0.035 ~ 0.040 mm
(0.0014 ~ 0.0016 in)

If beyond tolerance replace piston or rebore cylinder as required.

Piston rings

1. Remove ring from piston.
2. Insert ring into cylinder. Push down approximately 20 mm (0.79 in) using piston crown to maintain right-angle to bore. Measure installed end gap. If beyond tolerance, replace.

Ring end gap, installed (top and 2nd):
0.15 ~ 0.35 mm (0.006 ~ 0.014 in)



3. Holding cylinder towards light, check for full seating of ring around bore. If not fully seated, check cylinder. If cylinder is not out-of-round, replace piston ring.

NOTE:

New rings require break-in. Follow first portion of new machine break-in procedure.

Engine assembly

When assembling the engine, reverse the removal procedure taking care of the following points:

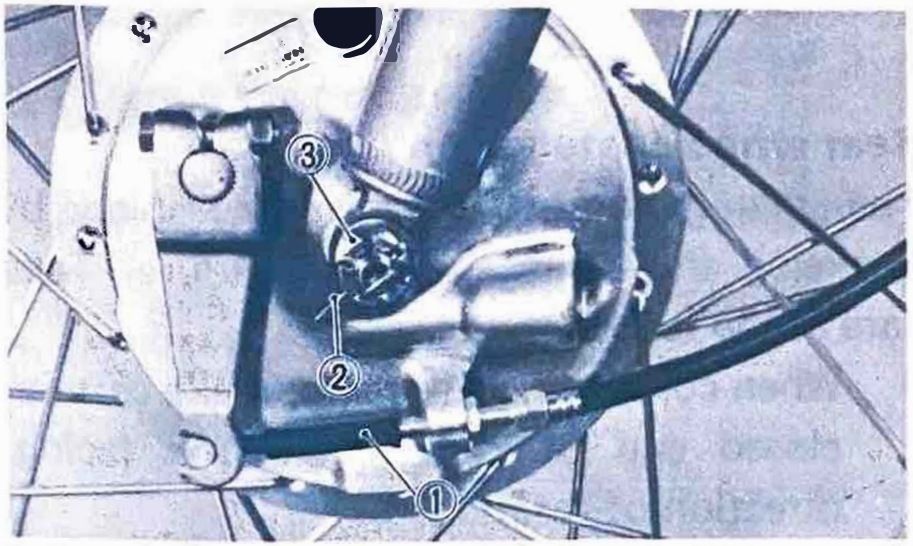
a. During re-assembling, use a new cylinder base gasket and a new cylinder head gasket.
b. Coat the piston skirt areas liberally with two-stroke oil.
c. Install new piston pin circlips and make sure they are fully seated within their grooves.
d. Take care during installation to avoid damaging the piston skirts against the crankcase as the cylinder is installed. Note the arrow on piston dome must face forward.
e. Make sure the ring is properly seated as the cylinder is installed.
f. Working in a crisscross pattern, tighten head nuts in two steps.

Tightening torque:
1.0 m-kg (7 ft-lb)

MINOR REPAIR FOR CHASSIS

Front wheel removal

1. Remove brake cable. Loosen all cable adjust screws and remove cable from handle lever holder. Then remove cable from cam lever at front brake shoe plate.
2. Remove cotter pin from front wheel axle and remove axle nut.
3. Elevate the front wheel by placing a suitable stand under the engine.
4. Turn and pull out the front wheel axle; the wheel assembly can now be removed.



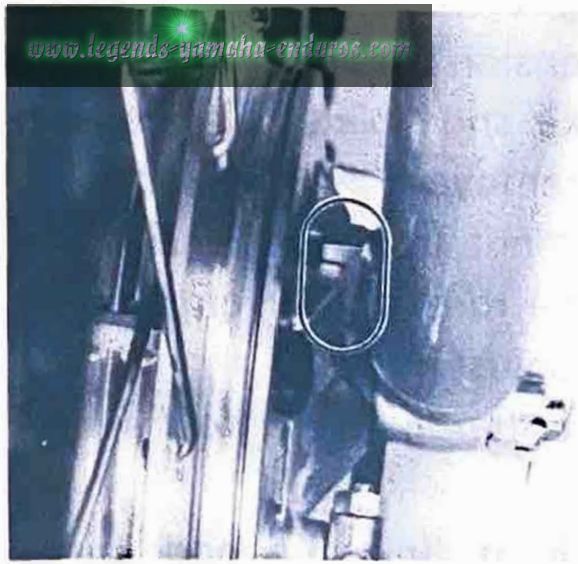
1. Front brake cable 2. Cotter pin 3. Axle nut

Front wheel installatiion

When installing front wheel, reverse the removal procedure taking care of the following points:

CAUTION:

Check for proper engagement of the boss on the outer fork tube with the locating slot on the brake shoe plate.



1. Always secure the front wheel axle as follows:

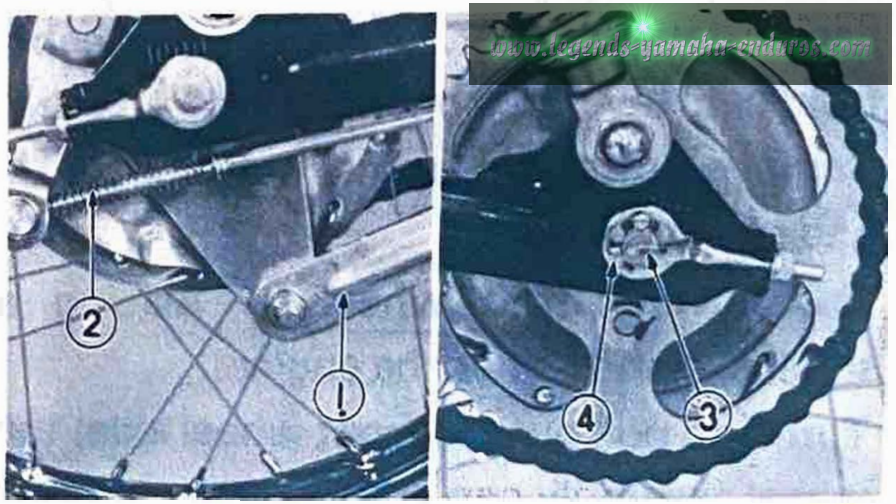
a. Torque the front axle nut.

Axle nut torque: 4.0 m-kg (29.0 ft-lb)

b. Install a new cotter pin; discard old pin.

Rear wheel removal

1. Remove the tension bar and the brake rod from the brake shoe plate. The tension bar can be removed by removing the cotter pin and nut from the tension bar bolt. The brake rod can be removed by loosening the adjust nut.
2. Remove the cotter pin and rear wheel axle nut.
3. Remove the joint link clip and joint link and remove the chain from the rear sprocket.
4. If the rear wheel axle is pulled out, the wheel assembly, the shoe plate, the collar and chain pullers can be removed from the motorcycle.

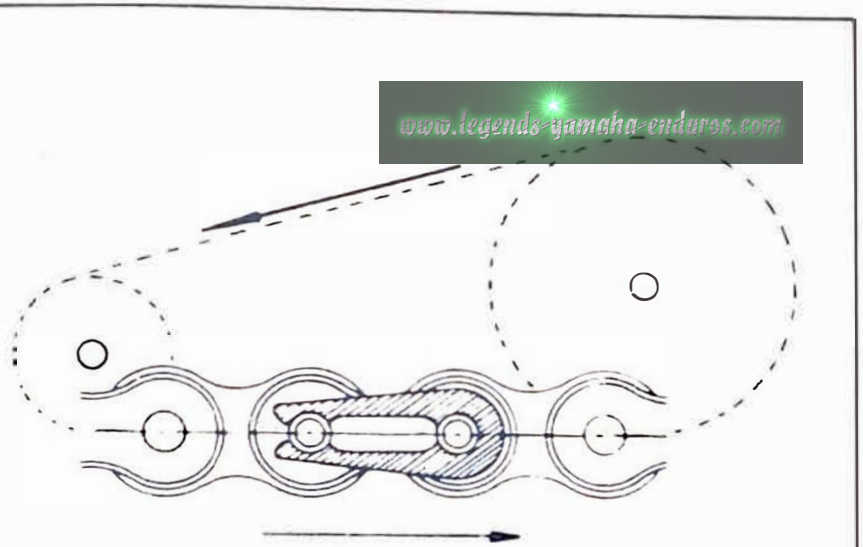


1. Tension bar 3. Cotter pin
2. Brake rod 4. Axle nut

Rear wheel installation

The rear wheel can be reassembled by reversing the disassembly procedure. Take care of the following points.

1. When connecting the chain, make certain closed end of joint link clip is facing direction of rotation.



Turning direction

2. Be sure to adjust the tension of the chain. Adjust with both wheels on the ground.
3. Torque the rear axle nut.

Axle nut torque:	6.0 m-kg (43.5 ft-lb)

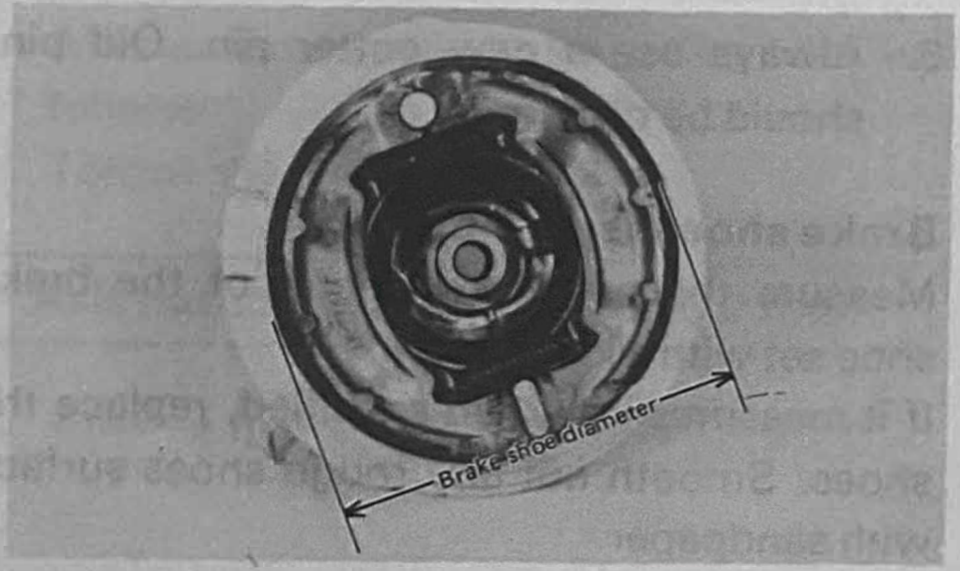
4. Adjust the brake pedal.
5. Always use a new cotter pin. Old pins should be discarded.

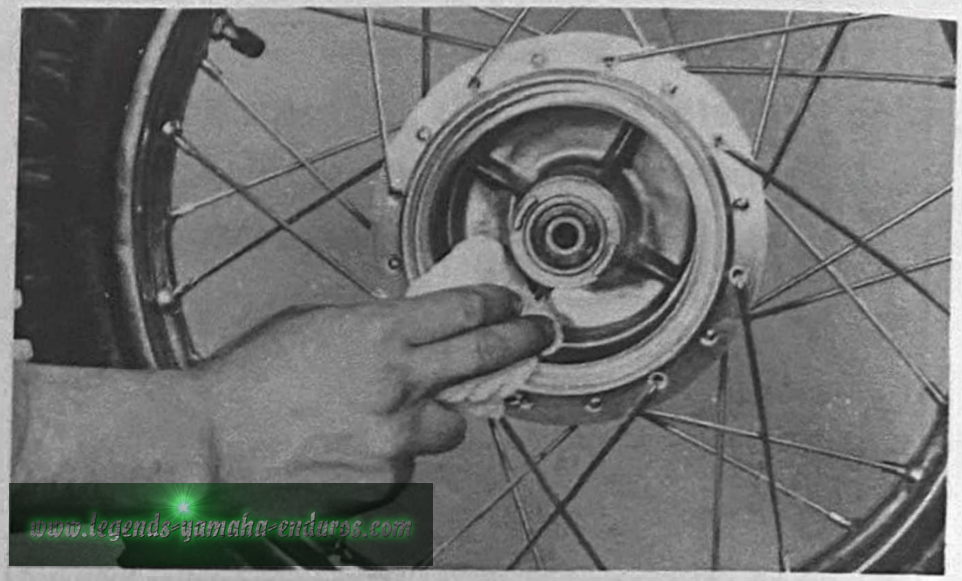
Brake shoe inspection

Measure the outside diameter of the brake shoe set with slide calipers.

If it measures less than specified, replace the shoes. Smooth out any rough shoes surface with sandpaper.

	Standard	Wear Limit
Front brake shoe diameter	110 mm (4.3 in)	106 mm (4.1 in)
Rear brake shoe diameter	110 mm (4.3 in)	106 mm (4.1 in)





Brake drum inspection

The friction between the inner surface of the brake drum and the brake lining provides the energy to stop the motorcycle. If these become damaged or if oil contacts the drum, noise may occur and brake performance will suffer. Check the inner surface of the brake drum and remove any scratches with emery cloth. Remove any oil with a cloth dipped in solvent. If damage is more extensive, have a Yamaha dealer replace the wheel hub.

Tire repair

Removing the Tire

1. Remove the wheel from the motorcycle (see page 49, 50).
2. Remove locknut from valve stem and release as much air as possible from the tire.
3. Push both tire beads away from the edges of the rim.
4. Starting opposite the valve stem on one side, use two round-ended tire iron to work the bead off the rim.

NOTE:

Use a tire removal lubricant and be careful not to pinch the tube with the tire irons.

5. Remove the valve stem from its hole and remove the tube.
6. If the tire is to be changed, remove the second bead from the rim using the tire irons and tire lubricant.

Inspection

1. Use a cloth to check for nails or other sharp objects in the tire.

CAUTION:

Always use a cloth to avoid cutting your hand.

2. Check for faults in the side wall. If there is any fault, the tire should be replaced as a damaged tire may burst at high speed, which is extremely dangerous.
3. Inflate the tube with air and check the valve stem and the tube for damage and leakage. Replace as required. Some leaks can be patched in an emergency, but it is best to replace the tube.
4. Inspect rim band and replace if damaged.

Reassembly

1. Install one tire bead on the rim using tire irons and lubricant and then install the tube.
2. Inflate tube with air to about one-third the specified pressure. Hit the outer circumference of the tire with a soft hammer to make certain the tube is not caught between tire and rim. Release air from tube.
3. Install second tire bead starting opposite the valve stem using tire irons and tire mounting lubricant.
4. Inflate tire to approximately 2.0 kg/cm² (28 psi) and them reduce pressure to specified setting.

CAUTION:

Keep the valve stem lock nut removed so you won't have a flat tire even when the tire tube slips out of place. The valve stem must be pointing directly at center of wheel hub. If angled in any direction, release air and adjust tube position.

NOTE:

Tire pressures should preferably be changed according to the course surface conditions. For instance, if the course is muddy, tire pressures should be reduced by 10 to 15%.

Tire air pressure

Improper tire pressure affects the smoothness of the tire, traction, handling and the life of the tires. Always maintain the proper tire pressure.

Proper air pressure

Front	1.5 kg/cm² (22 psi)
Rear	2.0 kg/cm² (28 psi)

Rim and spokes

There are checks that you can perform to determine if wheel work is necessary for your dealer to do. First, check for any loose spokes. This can be checked by bracing the front end off the ground so that the front wheel can spin free. Slowly revolve the front wheel and at the same time let the metal shaft of a fairly heavy screwdriver bounce off each spoke. If all the spokes are tightened approximately the same, then the sound given off by the screwdriver hitting the spokes should sound the same.

If one spoke makes a dull flat sound, then check it for looseness. While you have the front end up in the air, you should check that the front wheel does not have too much run-out. "Run-out" is the amount the front wheel deviates from a straight line as it spins. Secure the front forks from turning, spin the front wheel, and solidly anchor some sort of a pointer about 3 mm (1/8 in) away from the side of the rim.

As the wheel spins, the distance between the pointer and the rim should not change more than 2 mm (1/6 in) total. Any greater fluctuation means that you should have your dealer remove this rim warpage by properly adjusting the spokes.

Cable inspection and lubrication

WARNING:

Damage to the outer housing of the various cables may cause corrosion and often free movement will be obstructed. An unsafe condition may result so replace such cables as soon as possible.

1. Lubricate the inner cable and cable end. If they do not operate smoothly, ask your Yamaha dealer to replace them.

Recommended lubricant: Yamaha Chain and Cable Lube or SAE 10W/30 motor oil

Drive chain lubrication

The chain consists of many parts which work against each other. If the chain is not maintained properly, it will wear out rapidly. Without lubrication the chain could wear out within 1 hour: therefore, form the habit of periodically servicing the chain. This service is especially necessary when driving in dusty conditions.

1. Use any of the many brands of spray type chain lubricant. First, remove dirt and mud from the chain with a brush or cloth

and then spray the lubricant between both rows of side plates and on all center rollers. This should be performed every 0.5—1.0 hour.

2. To clean the entire chain, first remove the chain from the motorcycle, dip it in solvent and clean out as much dirt as possible. Then take the chain out of the solvent and dry it. After drying, lubricate the chain to prevent the fomation of rust.

Throttle cable and grip lubrication

The throttle twist grip assembly should be greased at the time that the cable is lubricated, since the grip must be removed to get at the end of the throttle cable. Two screws clamp the throttle housing to the handlebar. Once these two are removed, the end of the cable can be held high to pour in several drops of lubricant. With the throttle grip disassembled, coat the metal surfaces of the grip assembly wiht a suitable all-purpose grease to cut down friction. (See lubrication chart).

A special cable lubricator attachment is available from your Yamaha dealer.

Lubrication of levers, pedals, etc.

1. Lubricate the pivoting parts of the brake and clutch levers with motor oil (10W/30).
2. Lubricate the shaft of the brake pedal with lithium soap grease.

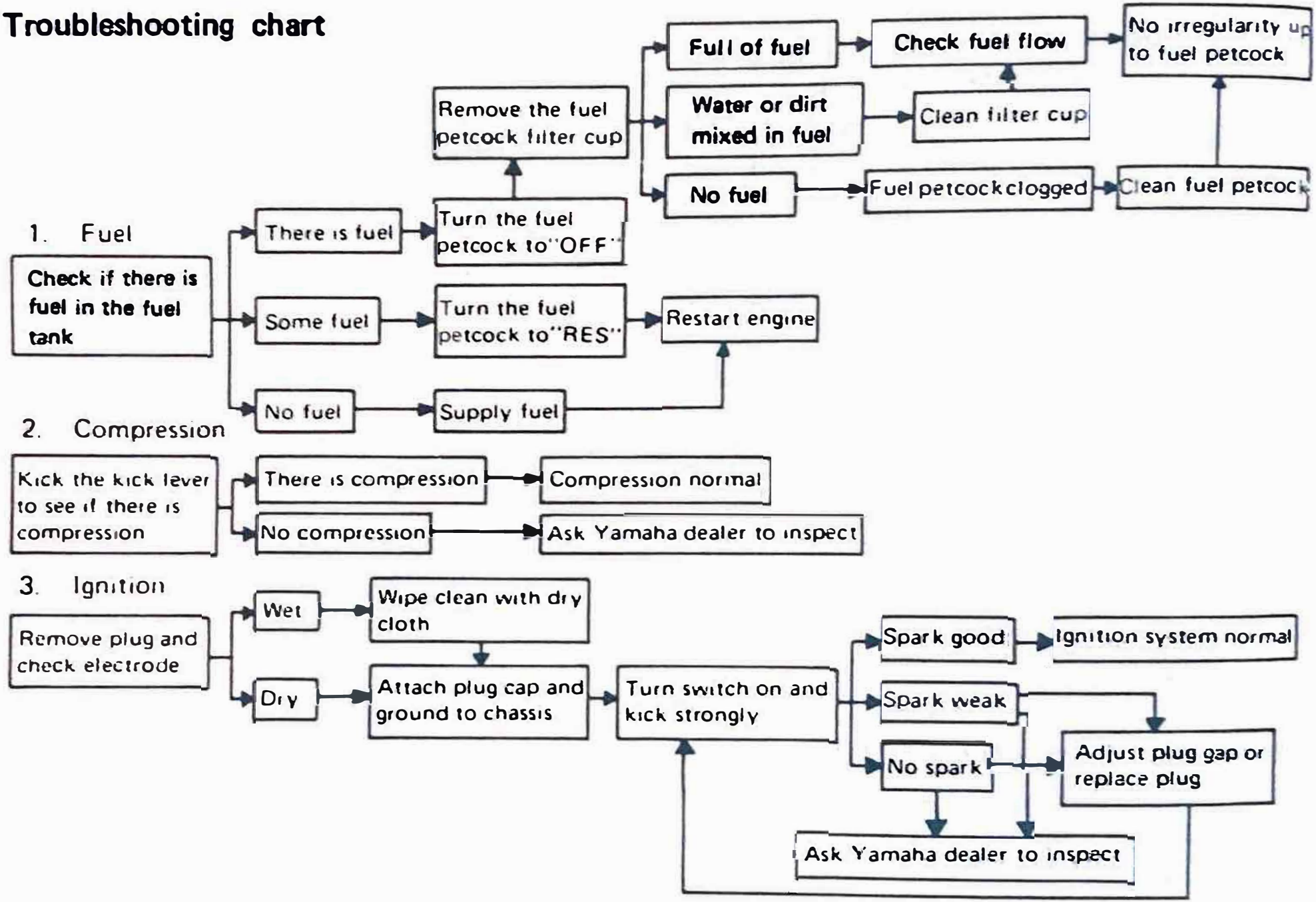
Troubleshooting

Although Yamaha motorcycles are given a rigid inspection before shipment from the factory, trouble may occur in operation. If this happens check the motorcyle in accordance with the procedures given in the troubleshooting chart below. If repair is necessary, ask your Yamaha dealer.

The skilled technicians at your Yamaha dealer provide excellent service. For replacement parts, use only genuine Yamaha Parts. Imitation parts are similar in shape but often inferior in quality of materials and workmanship, consequently, service life is shorter and more expensive repairs may be necessitated.

Any fault in the fuel, compression or ignition systems can cause poor starting or loss of power while driving. The troubleshooting chart describes quick and easy procedures for checking these systems.

Troubleshooting chart



CLEANING AND STORAGE

A. Cleaning

Frequent thorough cleaning of your motorcycle will not only enchance it's appearance but will improve general performance and extend the useful life of many components.

1. Before cleaning the machine:
   a) Block off end of exhaust pipe to prevent water entry; a plastic bag and strong rubber band may be used.
   b) Remove air cleaner or protect it from water with plastic covering.
   c) Make sure spark plug(s), gas cap, oil tank cap, transmission oil filler cap are properly installed.
2. If engine case is excessively greasy, apply degreaser with a paint brush. Do not apply degreaser to chain, sprockets, or wheel axles.
3. Rinse dirt and degreaser off with garden hose, using only enough hose pressure to do the job.

CAUTION:

Excessive hose pressure may cause water seepage and contamination of wheel bearings, front forks, brake drums, and transmission seals. Many expensive repair bills have resulted from improper high pressure detergent applications such as those available in coin-operated car washes.

4. Once the majority of the dirt has been hosed off, wash all surfaces with warm water and mild, detergent-type soap. An old tooth brush or bottle brush is handy to reach hard-to-get-to places.
5. Rinse machine off immediately with clean water and dry all surfaces with a chamois, clean towel, or soft absorbent cloth.

6. Immediately after washing, remove excess moisture from chain and lubricate to prevent rust.
7. Chrome-plated parts such as handlebars, rims, spokes, forks, etc., may be further cleaned with automotive chrome cleaner.
8. Clean the seat with a vinyl upholstery cleaner to keep the cover pliable and glossy.
9. Automotive-type wax may be applied to all painted and chrome-plated surfaces. Avoid combination cleaner-waxes. Many contain abrasives which may mar paint or protective finish on ful and oil tanks.
10. After finishing, start the engine immediately and allow to idel for several minutes.

B Storage

Long term storage (60 days or more) of your machine will require some preventive procedures to insure against deterioration. After cleaning machine thoroughly, prepare for storage as follows:

1. Drain fuel tank, fuel lines, and carburetor float bowl(s).
2. Remove empty fuel tank, pour a cup of SAE 10W/30 motor oil in tank, shake tank to coat inner surfaces thoroughly and drain off excess oil. Re-install tank.
3. Remove spark plug(s), pour about one tablespoon of SAE 10W/30 motor oil in spark plug hole(s) and re-install spark plugs. Kick engine over several times (with ignition off) to coat cylinder walls with oil.
4. Remove drive chain. Clean thoroughly with solvent and lubricate. Re-install chain or store in a plastic bag (tie to frame for safe-keeping).
5. Lubricate all control cables.
6. Block up frame to raise both wheels off ground.

7. Tie a plastic bag over exhaust pipe outlet(s) to prevent moisture entering.
8. If storing in humid or salt-air atmosphere, coat all exposed metal surfaces with a light film of oil. Do not apply oil to rubber parts or seat cover.

NOTE:

Make any necessary repairs before storing the machine.

SPECIFICATIONS

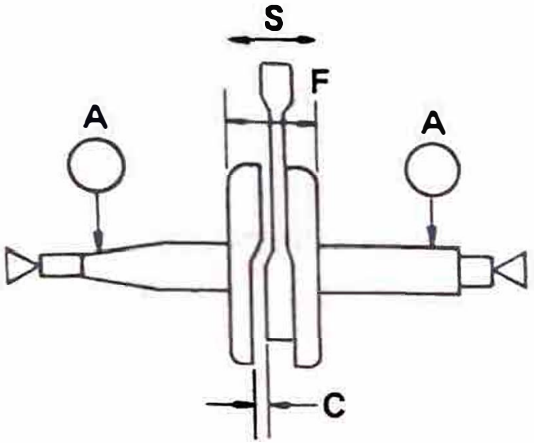
A. General

Item	MX80J
Model:	
Model (I.B.M. No.)	MX80J (367)
Frame I.D. & Starting Number	367-650101
Engine I.D. & Starting Number	367-650101
Dimension:	
Overall Length	1,550 mm (61.0 in)
Overall width (standard)	690 mm (27.2 in)
Overall Height (standard)	930 mm (36.6 in)
Seat Height	645 mm (25.4 in)
Wheelbase	1,045 mm (41.1 in)
Minimum Ground Clearance	195 mm (7.7 in)
Weight:	
Net Weight	59 kg (130 lb)
Performance:	
Minimum Turning Radius	1,500 mm (59.1 in)

B. Engine

Description:	
Engine Type	Air cooled 2 stroke, gasoline Torque induction
Engine Model	367
Displacement	72 cc (4.39 cu.in)
Bore x Stroke	47 mm x 42 mm (1.850 in x 1.654 in)
Compression Ratio	6.8 : 1
Starting System	Primary kick
Ignition System	Flywheel magneto
Lubrication System	Separate lubrication (Yamaha Autolube)
Cylinder head:	
Combustion Chamber Volume	9.4 ± 0.2 cc (0.57 ± 0.012 cu.in)
Cylinder:	
Material	Special cast iron
Bore Size	$47\ ^{+0.020}_{-0}$ mm ($1.850\ ^{+0.008}_{-0}$ in)
Taper Limit	0.05 mm (0.002 in)
Out of Round Limit	0.01 mm (0.004 in)

Piston:	
Piston Clearance	0.035 ~ 0.040 mm (0.0014 ~ 0.0016 in)
Piston Over Size	47.25 mm, 47.50 mm (1.860 in, 1.870 in) 47.75 mm, 48.00 mm (1.880 in, 1.890 in)
Piston Ring:	
Piston Ring Design (Top)	Keystone ring
" (2nd)	Plain ring
Ring End Gap (Installed) (Top)	0.15 ~0.35 mm (0.006 ~ 0.014 in)
" (2nd)	0.15 ~ 0.35 mm (0.006 ~ 0.014 in)
Ring Groove Side Clearance (Top)	0.03 ~ 0.05 mm (0.001 ~ 0.002 in)
" (2nd)	0.03 ~ 0.05 mm (0.001 ~ 0.002 in)
Small End Bearing:	
Type	Needle bearing
Big End Bearing:	
Type	Needle bearing
Crankshaft:	
Crankshaft Assembly (Width) (F)	$38\ ^{-0.05}_{-0.10}$ mm ($1.50\ ^{-0.002}_{-0.004}$ in)
Crankshaft Deflection (A)	0.03 mm (0.0012 in)
Connecting Rod Big End Side Clearance (C)	0.2 ~ 0.8 mm (0.0079 ~ 0.0315 in)

Connecting Rod Small End Deflection (S) 	0.8 ~ 1.0 mm (0.031 ~ 0.040 in)
Crank Bearing Type (Left) x Q'ty	6204C3
" (Right) "	6204C3
Crank Oil Seal Type (Left)	SD-20-35-7
" (Right) "	SW-28-40-8
Clutch:	
Clutch Type	Wet, multiple disc type
Clutch Push Mechanism	Inner push type, screw push system
Primary Reduction Ratio & Method	68/19 (3.578), Helical gear
Friction Plate - Thickness/Quantity	3.5 mm (0.14 in) x 3 pcs.
- Wear Limit	3.2 mm (0.13 in)
Clutch Plate - Thickness/Quantity	1.6 mm (0.06 in) x 2 pcs.
- Warp Limit	0.05 mm (0.002 in)
Clutch Spring - Free Length/Quantity	31.5 mm (1.24 in) x 4 pcs.
- Warp Limit	30.5 mm (1.20 in)

Clutch Housing Axial Play (Wear Limit)	0.05 mm ~ 0.25 mm (0.002 in ~ 0.010 in)
Push Rod Bending Limit	0.15 mm (0.006 in)
Transmission:	
Type	Constant mesh 4-speed
Gear Ratio 1st (Teeth)(Ratio)	39/12 (3.250)
2nd	34/17 (2.000)
3rd	30/21 (1.428)
4th	27/24 (1.125)
Transmission Gear Oil Quantity & Type	Total: 550 ~ 600 cc (0.58 ~ 0.63 us.qt) Exchange: 500 ~ 550 cc (0.53 ~ 0.58 us.qt) SAE 10W/30 type "SE" motor oil
Secondary Reduction Ratio & Method	41/14 (2.928), Chain
Kick Starter:	
Type	Kick, Mesh type
Intake:	
Air Cleaner - Type/Quantity	Oiled foam rubber
Reed Valve	
Type	"V" type
Bending Limit	0.3 mm (0.012 in) or less
Valve Lift	7 ± 0.3 mm (0.28 ± 0.012 in)

Carburetor:		
Type & Manufacturer/Quantity		Y16P-3, TEIKEI/1 pc.
I.D. Mark		36761
Main Jet	(M.J.)	# 94
Air Jet	(A.J.)	2.5 – 3.0
Jet Needle-clip Position	(J.N.)	049-2
Needle Jet	(N.J.)	2.080
Cutaway	(C.A.)	1.0
Pilot Jet	(P.J.)	# 34
Air Screw (turns out)	(A.S.)	1 and ½
Starter Jet	(G.S.)	# 50
Float height		23 ± 1.5 mm (0.91 ± 0.06 in)
Engine Idling Speed		1,250 ~ 1,350 r/min
Lubrication:		
Autolube Pump-Minimum Stroke		0.20 ~ 0.25 mm (0.008 ~ 0.010 in)
Autolube Pump-Minimum Output		0.50 ~ 0.62 cc (0.017 ~ 0.021 oz)
		3.64 ~ 4.27 cc (0.123 ~ 0.144 oz)
Throttle Position (Adjusting Mark)		At idle (when throttle valve begin to open) (○)
Oil Tank Capacity		0.7 lit (0.74 U.S.qt)
Oil Grade		Yamalube 2-cycle oil or Air cooled 2-stroke engine oil

C. Chassis

Frame:	
Frame Design	Tubular steel double cradle frame
Steering system:	
Caster	26°30′
Trail	68 mm (2.7 in)
Number & Size of Balls in Steering Head	
Upper Race	22 pcs 3/16 in
Lower Race	19 pcs 1/4 in
Lock to Lock Angle (each)	47°
Front Suspension:	
Type	Telescopic fork
Damper Type	Coil spring, Oil damper
Front Fork Cushion Travel	75 mm (2.95 in)
Front Fork Spring	
Free Length	386 mm (15.20 in)
Spring Constant	K_1 = 0.4 kg/mm (22.4 lb/in) K_2 = 0.9 kg/mm (50.1 lb/in)
Front Fork Oil Quantity & Type	112 ± 4 cc (3.79 ± 0.135 oz). Yamaha fork oil 10 wt or equivalent

Rear Suspension:		
Type		Swing arm
Damper Type		Coil spring, Oil damper
Rear Shock Absorber Travel		65 mm (2.56 in)
Rear Wheel Travel		79 mm (3.11 in)
Swing Arm Free Play		1.0 mm (0.04 in)
Fuel Tank:		
Capacity		4.8 lit (1.3 U.S. gal)
Fuel Grade		Regular or lead gasoline
Wheel:		
Tire Size	(Front)	2.50-15-4PR
	(Rear)	2.75-14-4PR
Tire Pressure	(Front)	1.5 kg/cm (22 psi)
	(Rear)	2.0 kg/cm (28 psi)
Rim Size	(Front)	1.40 x 15
	(Rear)	1.40 x 14
Rim Run Out Limit	(Front/Rear)	
Vertical		2 mm (0.08 in)
Lateral		2 mm (0.08 in)
Secondary Drive Chain Type		
Type		DK420
Number of Links		91 link + Joint
Chain Free Play		20 mm (0.79 in)

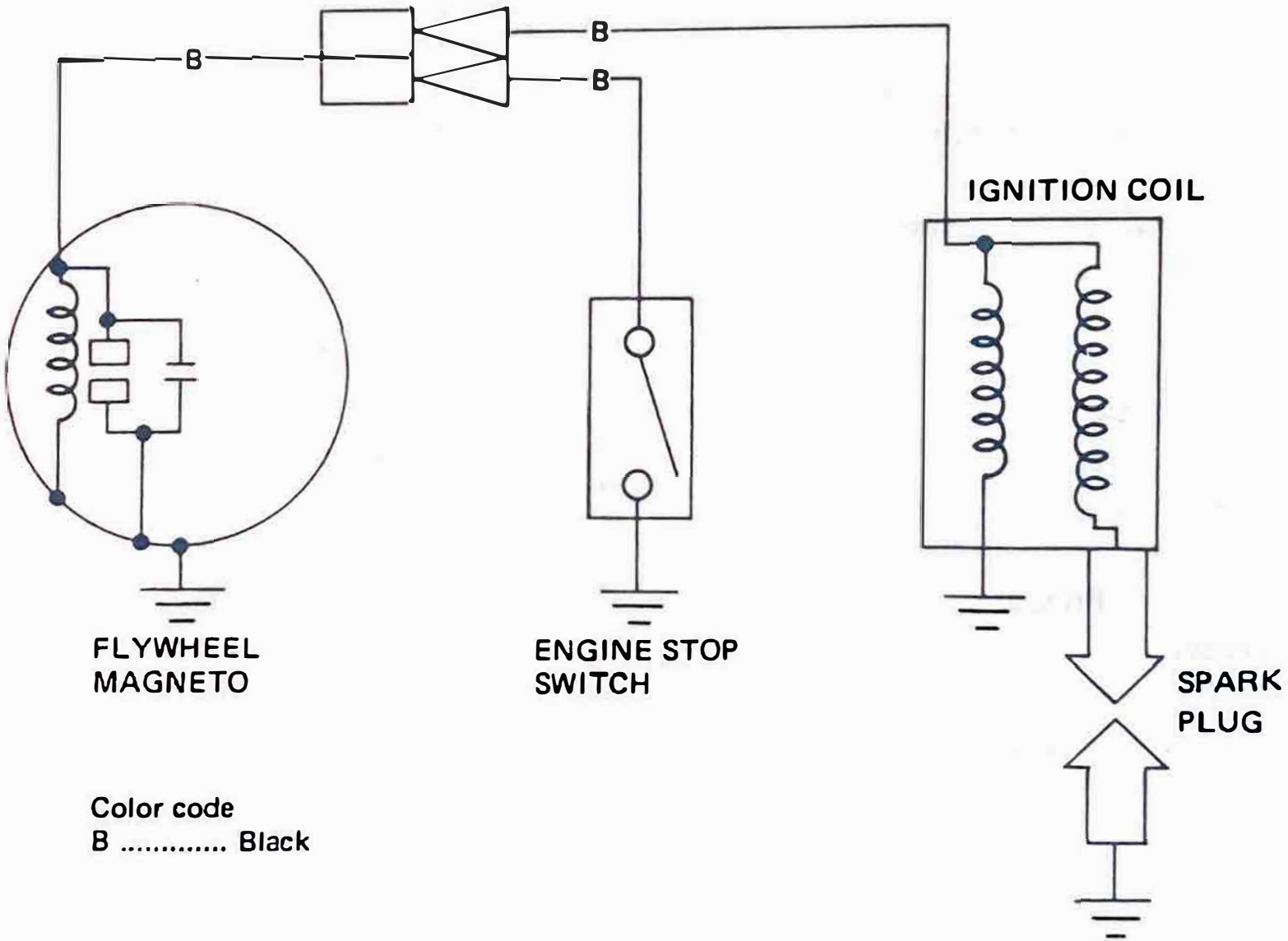
Brake:	
Front Brake	
Type	Drum brake
Drum Diameter (Limit)	110 mm (4.33 in)
Shoe Diameter x Width	110 x 25 mm (4.33 x 0.98 in)
Lining Thickness (Wear Limit)	2 mm (0.08 in)
Rear Brake	
Type	Drum brake
Drum Diameter	110 mm (4.33 in)
Shoe Diameter x Width	110 x 25 mm (4.33 x 0.98 in)
Lining Thickness (Wear Limit)	2 mm (0.08 in)

D. Electrical

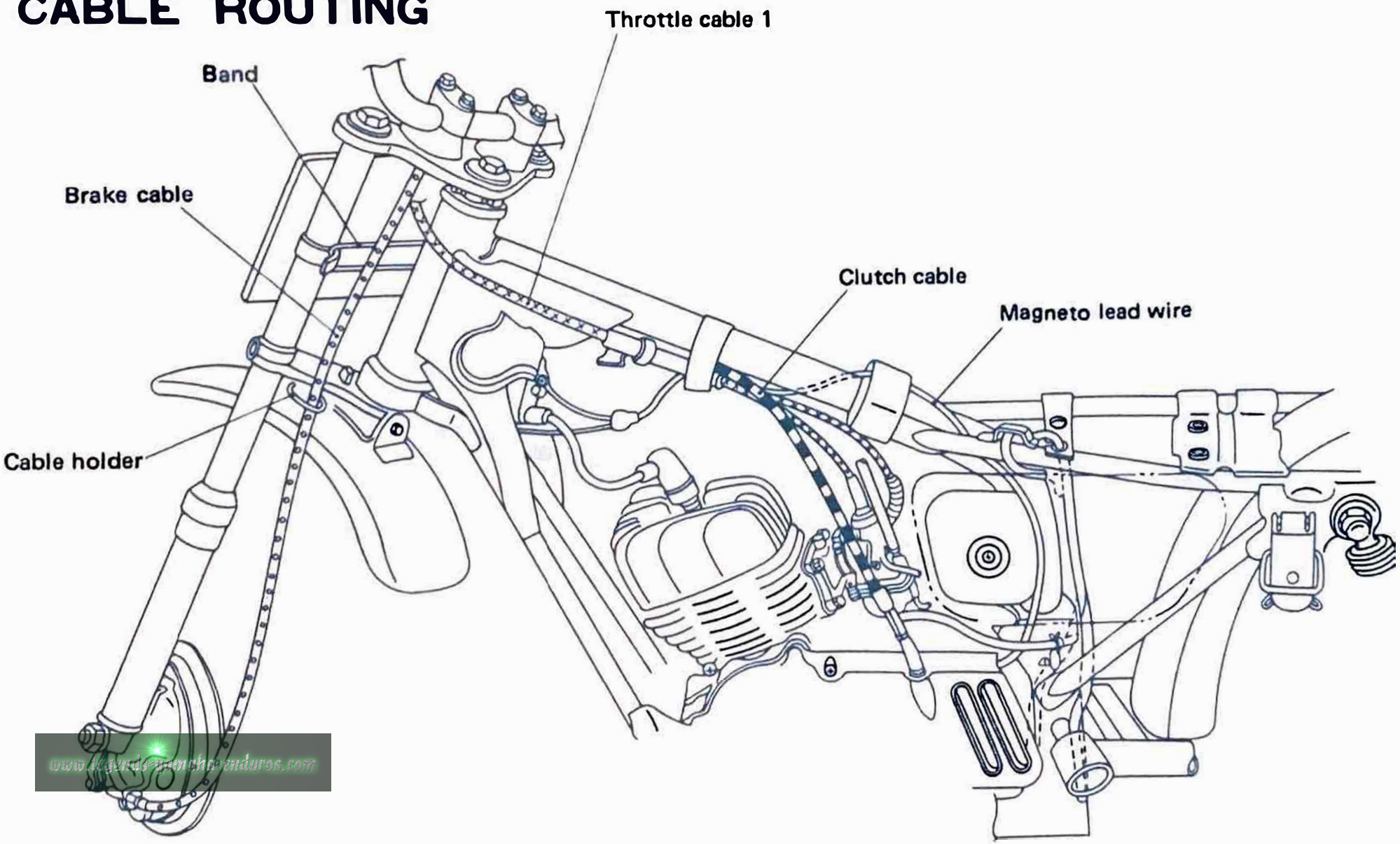
Ignition System:	
Type	Flywheel magneto (Contact breaker point type)
Model/Manufacturer	F0T00173/MITSUBISHI
Voltage	6V
Source Coil Resistance	1.34Ω ± 10% at 20°C (68°F)
Ignition Timing:	1.8 ± 0.15 mm (0.07 ± 0.006 in)

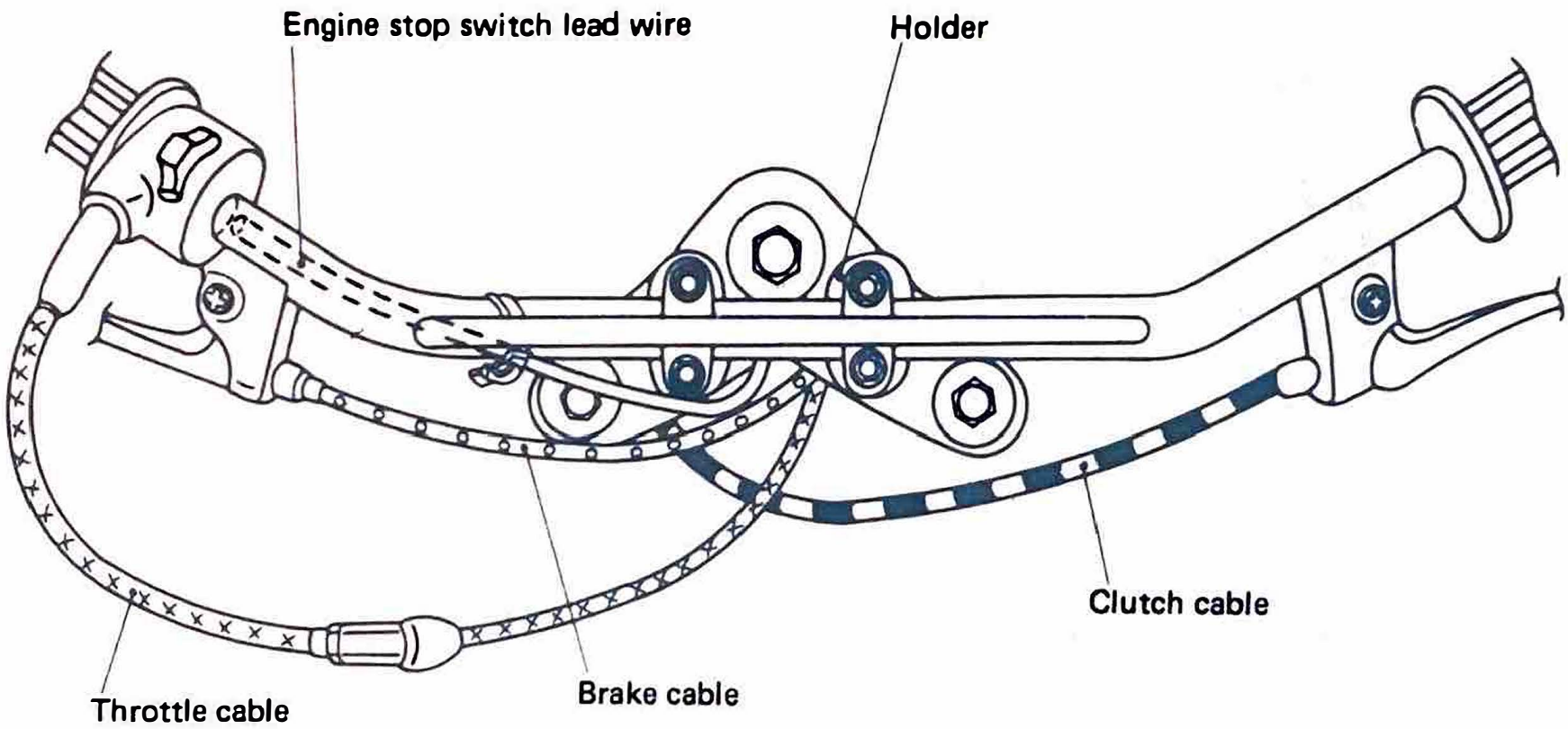
Ignition Coil:	
Model/Manufacturer	F6T40184/MITSUBISHI (CM61-20N/HITACHI)
Spark Gap	6 mm (0.24 in) or more/500 rpm (6 mm (0.24 in) or more/500 rpm)
Primary Winding Resistance	1.02Ω ± 10% at 20℃ (68°F) (1.7Ω ±10% at 20℃ (68°F))
Secondary Winding Resistance	6.0KΩ ± 20% at 20℃ (68°F) (6.0KΩ ± 20% at 20°C (68°F))
Diode	Yes (not included)
Spark Plug	
Type/Manufacture	B7HS (NGK)
Spark Plug Gap	0.5 ~0.6 mm (0.020 ~ 0.24 in)
Contact Breaker	
Point Gap	0.3 ~ 0.4 mm (0.012 ~ 0.016 in)
Point Spring Pressure	650~ 850 g (23.0~30.0 oz)
Condenser	
Capacity	0.30 μF ± 10%
Insulation Resistance	5MΩ or more

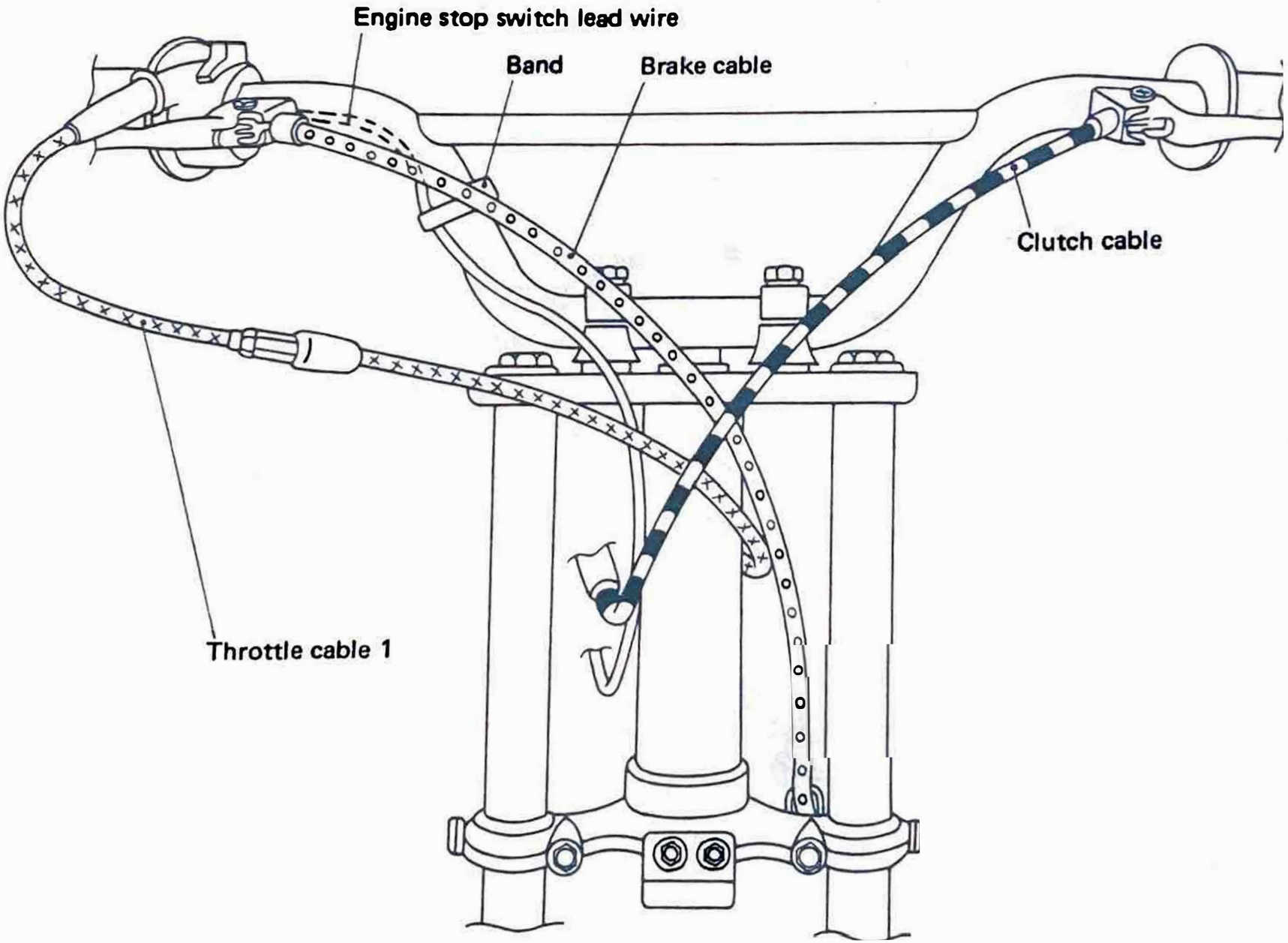
WIRING DIAGRAM

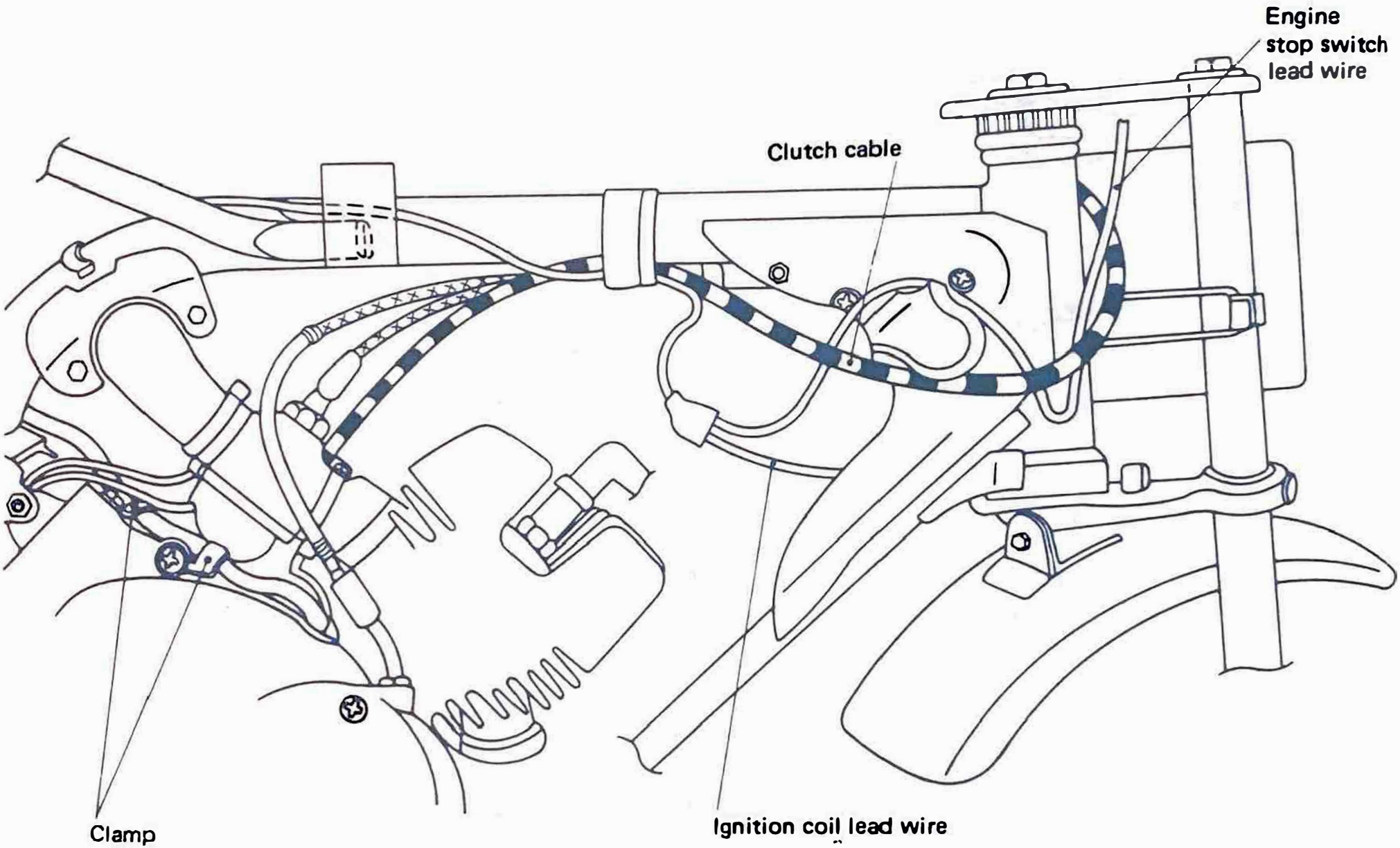


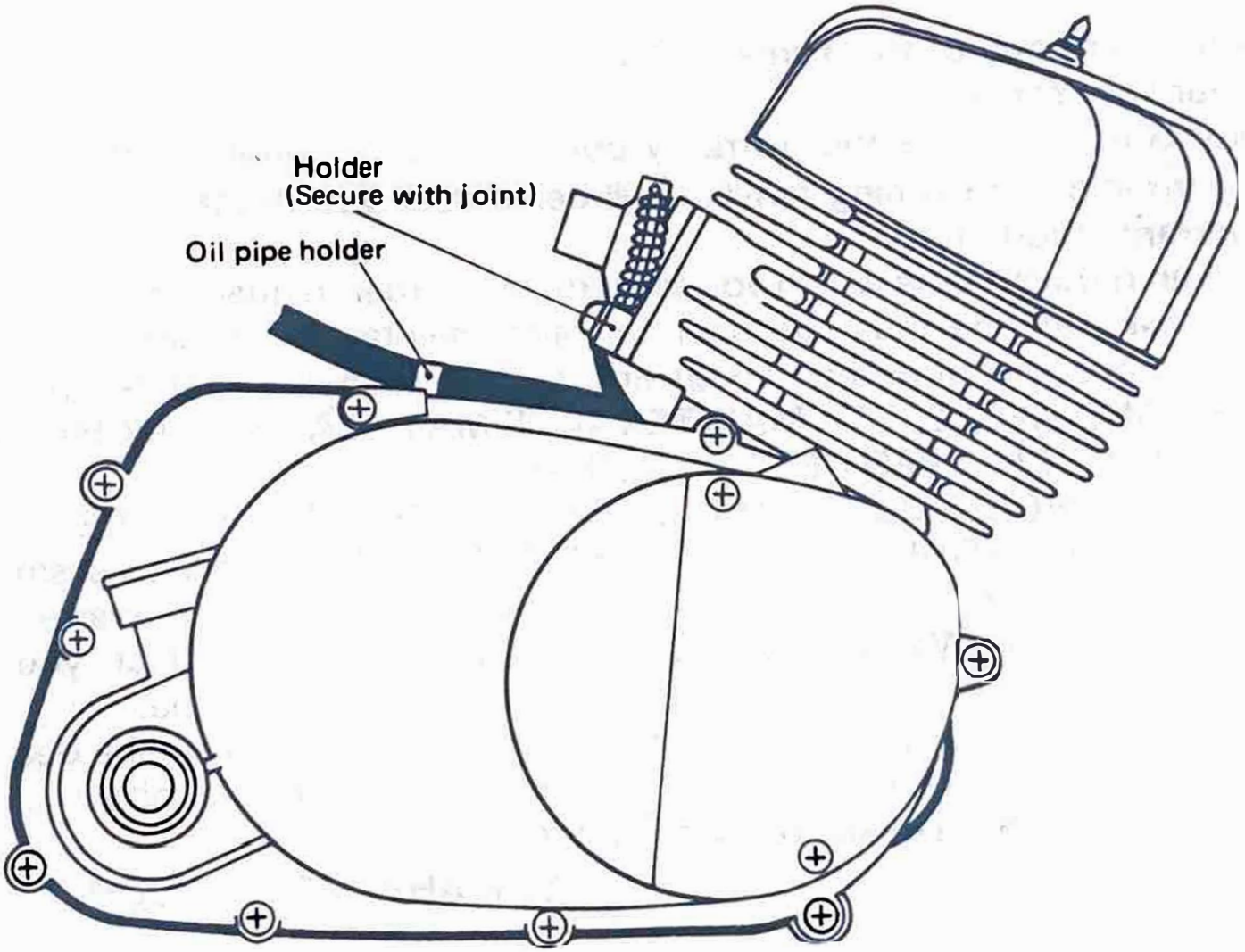
CABLE ROUTING











WARRANTY INFORMATION

Please refer to your copy of the Yamaha Owner's Warranty Guide* for details of the warranty offered on your new Yamaha.

The Warranty Guide contains the warranty policy, an explanation of the warranty, and other important information. Becoming familiar will be to your advantage in making the best use of Yamaha's warranty programs.

There are certain requirements which you must meet in order to qualify for warranty coverage.

FIRST, your new Yamaha must be operated and maintained properly, as explained in this manual. If you have any questions about any procedure in this manual, please consult your dealer. ABUSE AND NEGLECTED MAINTENANCE MAY LEAD TO MECHANICAL FAILURES WHICH CANNOT BE COVERED UNDER WARRANTY.

SECOND, IF ANY PROBLEMS OCCUR WHICH YOU FEEL SHOULD BE COVERED UNDER WARRANTY, NOTIFY YOUR DEALER IMMEDIATELY. Don't delay, as small problems left unresolved can become large problems which may not be covered under warranty.

We recommend that the Warranty Guide be used as a folder in which you may keep your registration and other important documents related to your new Yamaha.

* The Yamaha Owner's Warranty Guide is to be supplied by your Yamaha dealer at the time of purchase. If you did not receive one, or have lost yours, you may obtain extra copies upon request from your Yamaha dealer or by writing to:

YAMAHA MOTOR CORPORATION, U.S.A.
6555 KATELLA AVE.
P.O.Box 6555
CYPRESS, CALIFORNIA 90630
Attn: Warranty Department

YAMAHA MOTOR CO.,LTD.
IWATA, JAPAN

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