YAMAHA

DT250F

OWNER'S MANUAL

LIT-11626-01-25

2N6-28199-10

IMPORTANT: PLEASE READ THIS MANUAL CAREFULLY AND COMPLETELY BEFORE OPERATING THIS VEHICLE.

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 machine.

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

DT250F
OWNER'S MANUAL
1st. PRINTING, AUGUST, 1978

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P/N LIT-11626-01-25

INTRODUCTION

Congratulations on your purchase of the Yamaha DT250F. 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 vehicle. If you have any questions regarding the operation or maintenance of your machine, 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Some data in this manual may become outdated due to improvements made to this model in the future.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 machine, please consult your Yamaha dealer.

This Yamaha motorcycle in its design and manufacture fully complies with the emissions standards for clean air applicable at the time of manufacture.

Yamaha has met these standards without reducing the motorcycle's performance or economy of operation. To maintain these high standards it is important that you and your dealer pay close attention to the recommended maintenance schedules and operating instructions contained within this manual.

SERVICE DEPT.
INTERNATIONAL DIVISION
YAMAHA MOTOR COMPANY, LTD.

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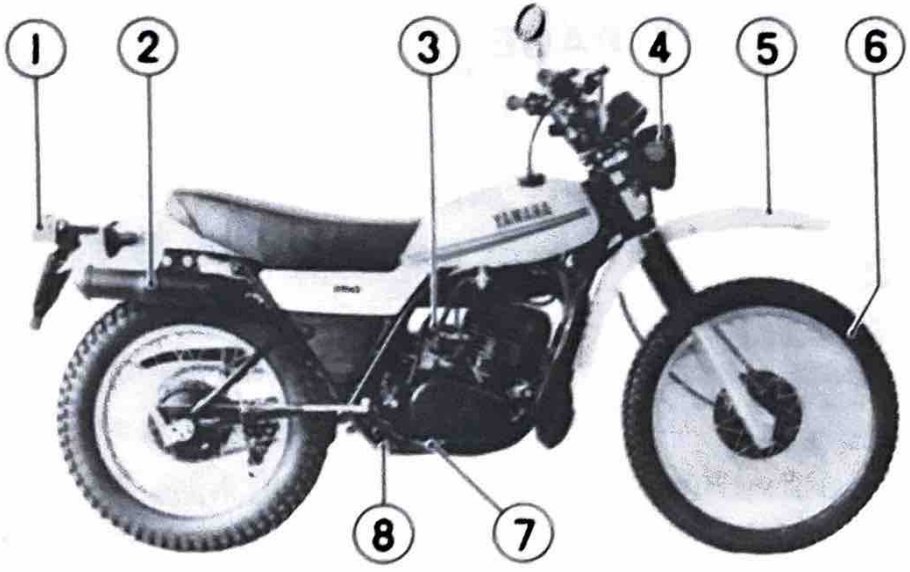
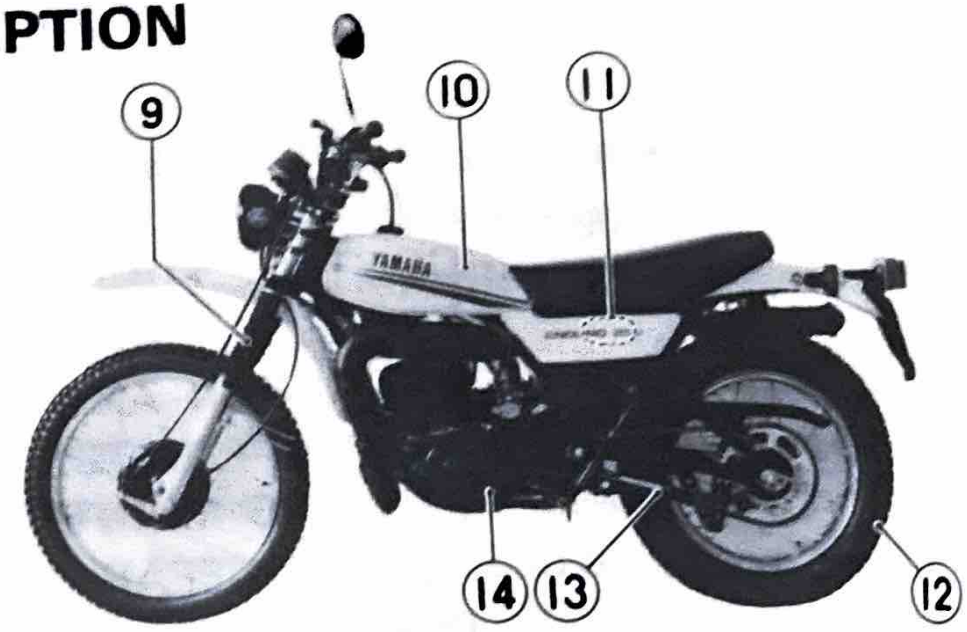
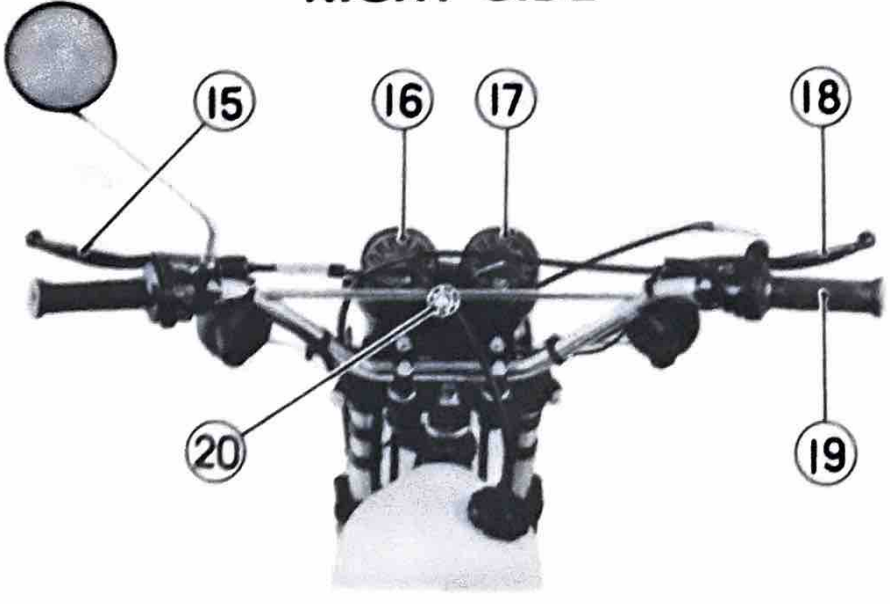
DESCRIPTION



RIGHT SIDE



LEFT SIDE



INSTRUMENTS

1. Tail/brake lights
2. Silencer
3. Kick crank
4. Headlight
5. Front fender
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17. Tachometer
18. Front brake lever
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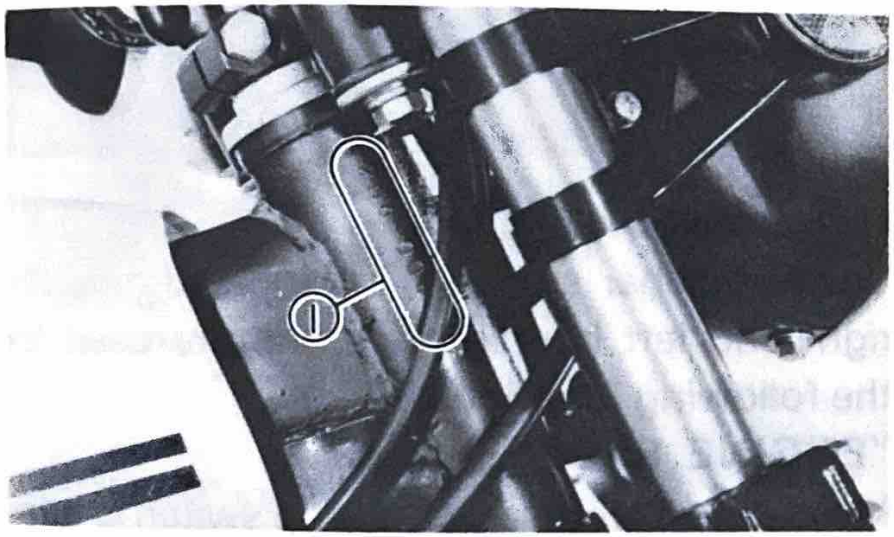
MACHINE IDENTIFICATION

Frame serial number

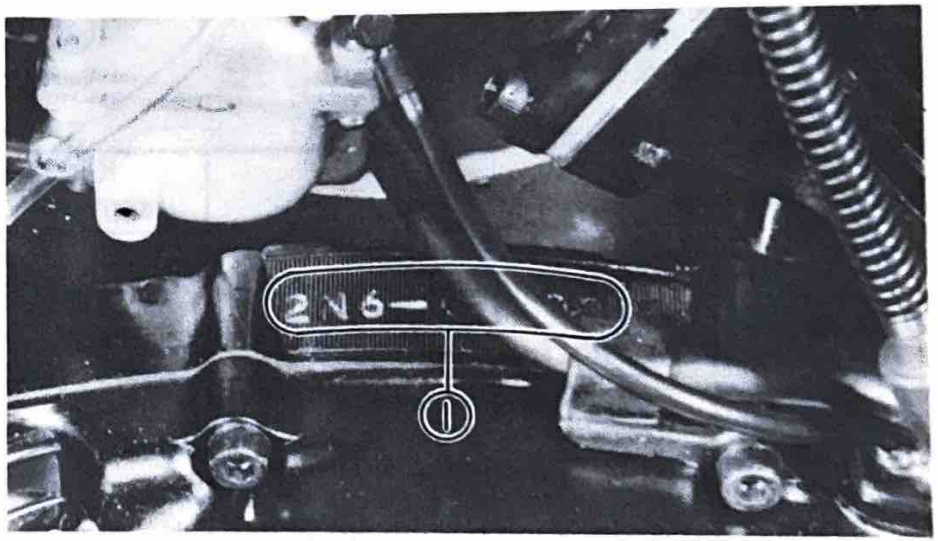
The frame serial number is stamped on the right side of the steering head pipe.



1. Frame serial number

Engine serial number

The engine serial number is stamped into the elevated part of the right rear section of the engine.



1. Engine serial number

NOTE:

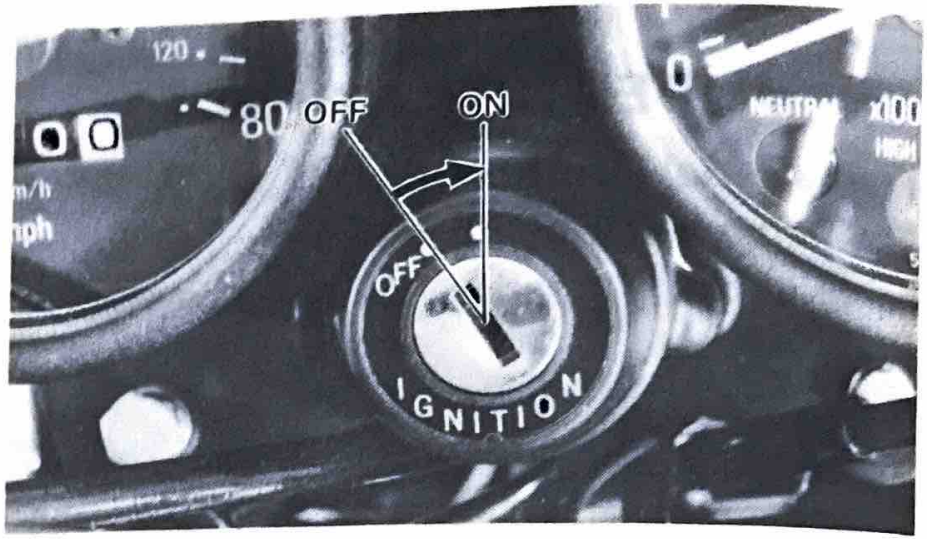
The first three digits of these numbers are for model identification; the remaining digits are the unit production number.

CONTROL FUNCTIONS

Main switch

According to the main key position, the ignition and lighting systems can be used as follows:

Key position	Description	Key removal
OFF	All electrical systems inoperative. Engine cannot be started. Lights and horn will not function.	Possible
ON	Engine can be operated. Turn, brake and horn circuits can be operated. Taillight always on and, with the engine running, the headlight and meter light come on automatically. Headlight and meter light function only when the engine is running.	Not possible



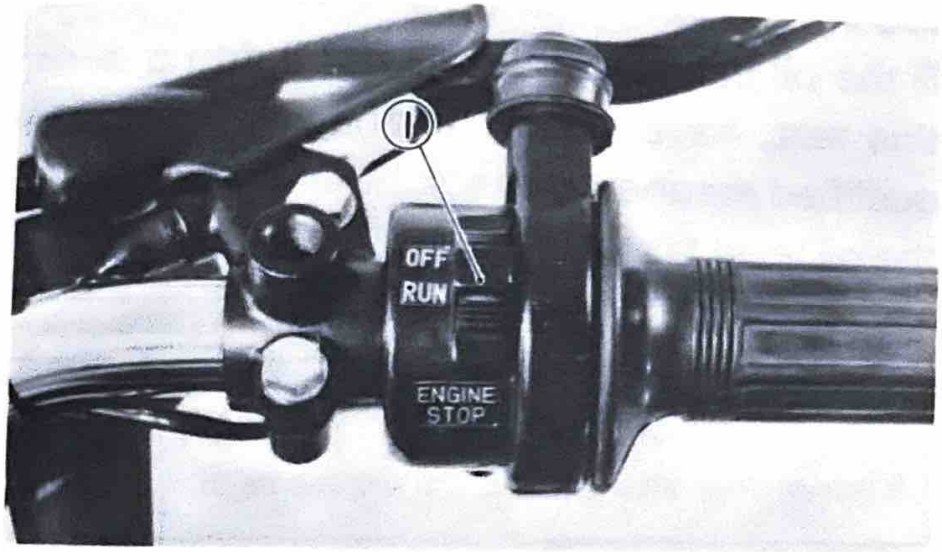
Handlebar switches

The handlebar switches are located near the right and left handle grips and are used for the following functions:

"ENGINE STOP" switch

Make sure that the engine stop switch is turned to "RUN" position. The engine stop 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 or run when the engine stop switch is turned to "OFF".

In case of an emergency, turn the stop switch forward to shut off the engine.



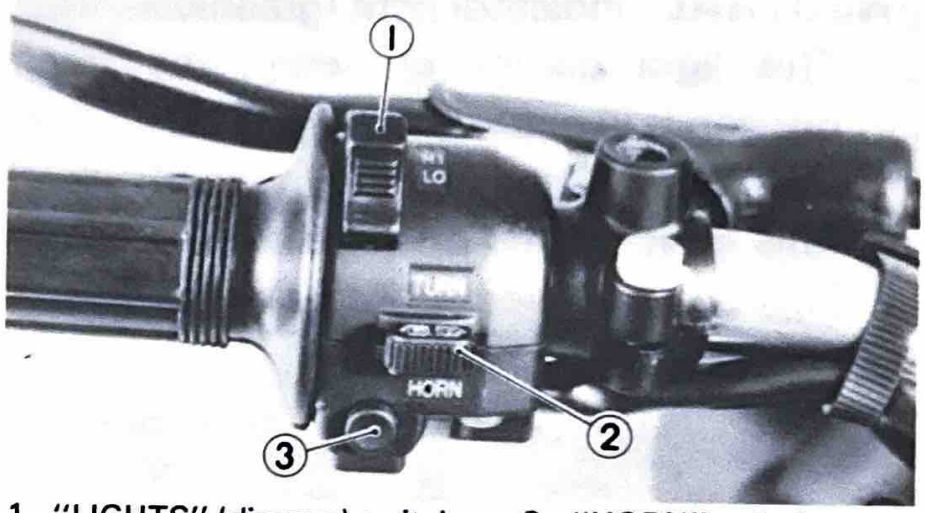
1. "ENGINE STOP" switch

"LIGHTS" switch (dimmer)

Turn to the "HI" position for the high beam and to the "LO" position for the low bearm.

"HORN" switch

Press the button to sound the horn.



1. "LIGHTS" (dimmer) switch
2. "TURN" switch
3. "HORN" switch

"TURN" switch

This is a three-way switch: the center position is off; turn to the "L" position for the left flasher and to the "R" position for the right flasher. Be sure to turn the switch off after completing a turn.

Indicator lights

"TURN" indicator light (orange):

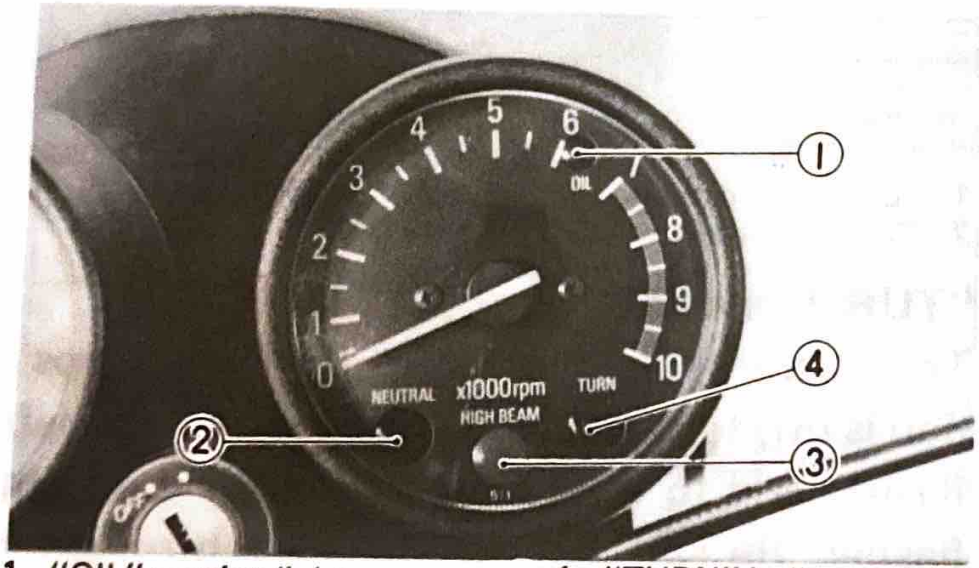
This light flashes while either turn signal is ON.

"NEUTRAL" indicator light (green):

This light comes on when the transmission is in neutral.

"HIGH BEAM" indicator light (blue):

This light comes on when the headlight high beam is used.



1. "OIL" caution light
2. "NEUTRAL" indicator light
3. "HIGH BEAM" indicator light
4. "TURN" indicator light

"OIL" caution light (red):

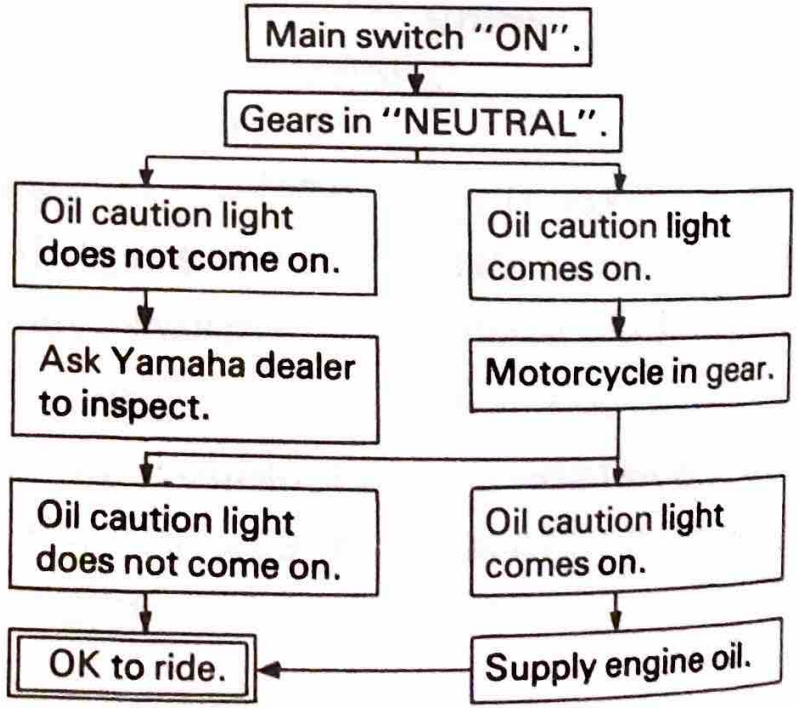
The light comes on when there is little oil in the oil tank thus warning the rider. The rider can check the circuit by putting the machine in neutral. Both the neutral light and the oil caution light should come on.

NOTE:

If the oil caution light will not light up during this test, have your Yamaha dealer or other qualified mechanic check it. Of course, check the oil level first.

CAUTION:

Do not run the machine until you know the machine has enough oil.

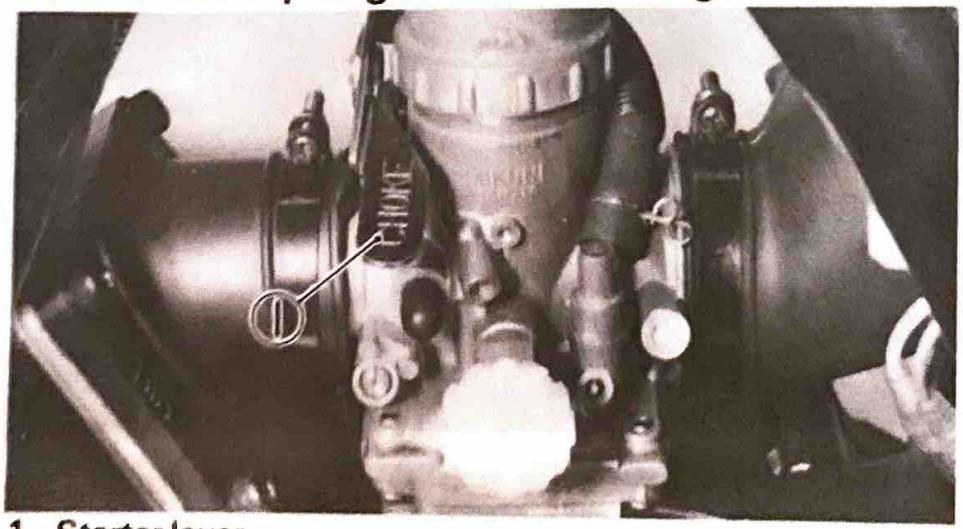


RES: This indicates "RESERVE". If you run out of fuel while riding, move the lever to this position. THEN, FILL THE TANK AT THE FIRST OPPORTUNITY.

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.

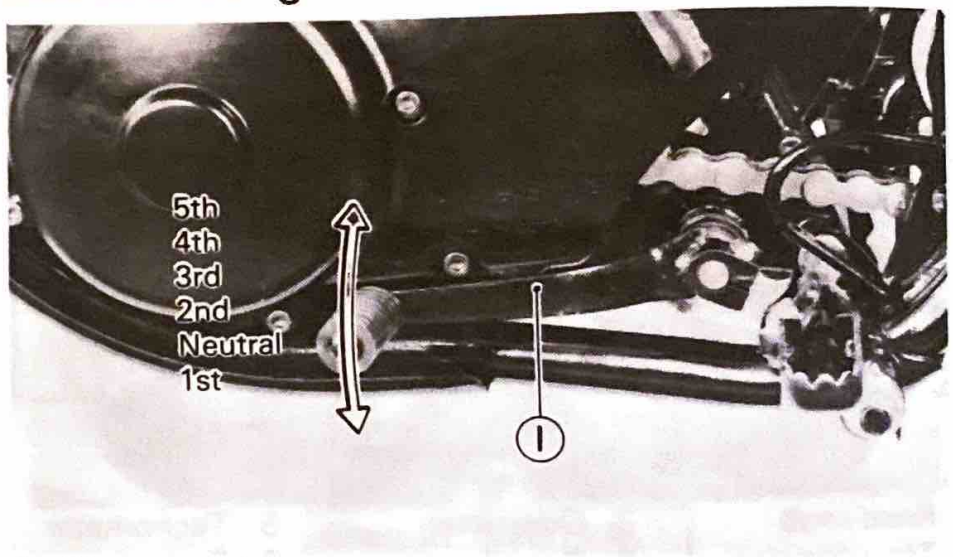
Push the lever down to open the circuit (for starting) and pull it up to close the circuit before riding. See "Starting Instructions" before attempting to start the engine.



1. Starter lever

Change pedal

The gear ratios of the constant mesh 5 speed transmission are ideally spaced. The gears are shifted by using the change pedal on the left side of the engine.

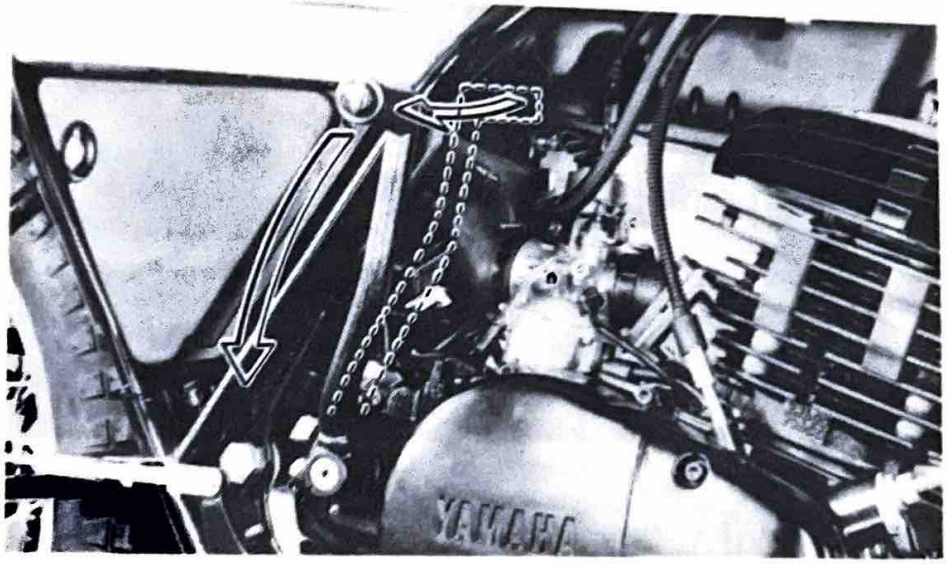


1. Change pedal

Kick starter

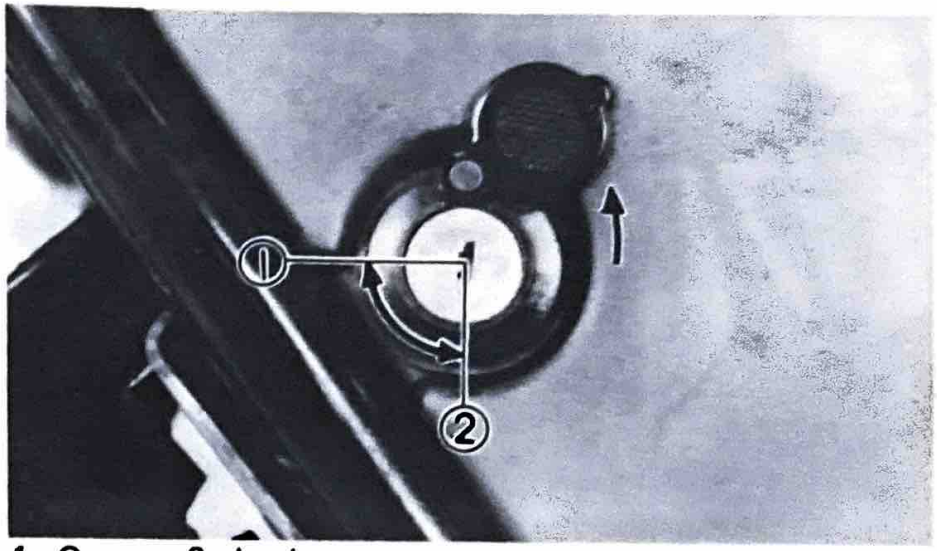
To start the engine, rotate the kick crank, push down lightly with your foot until the gears engage, and then kick smoothly and forcefully. This model has a primary kick starter so the engine can be started in gear if the clutch is disengaged. In normal practice,

however, shift to neutral before starting.



Side cover lock

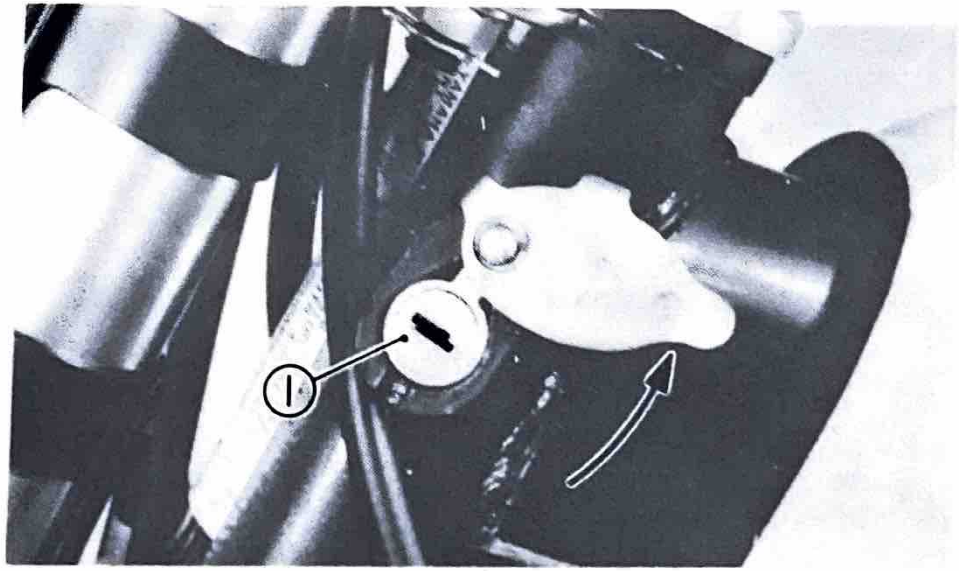
To use the owner's tool kit or remove the air filter element, rotate the key hole cover on the side cover door and insert the key into key hole. Release the lock, by turning about 1/4 turn clockwise. To lock reverse the above steps.



1. Open 2. Lock

Steering lock

To lock the steering, turn the handlebars to the right, insert the key into the steering lock and turn the key about 1/8 turn counterclockwise. Then push the key in and turn it about 1/8 turn clockwise. Check to see that the lock has engaged, then remove the key from the lock. To release the lock, reverse the above steps.

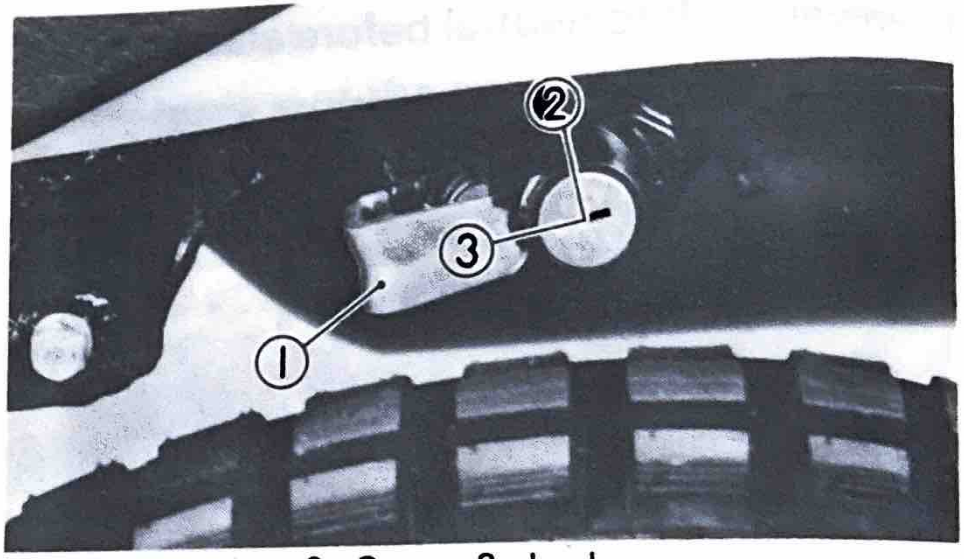


1. Steering lock

Helmet holder

To open the helmet holder, insert the key in the lock and turn it clockwise.

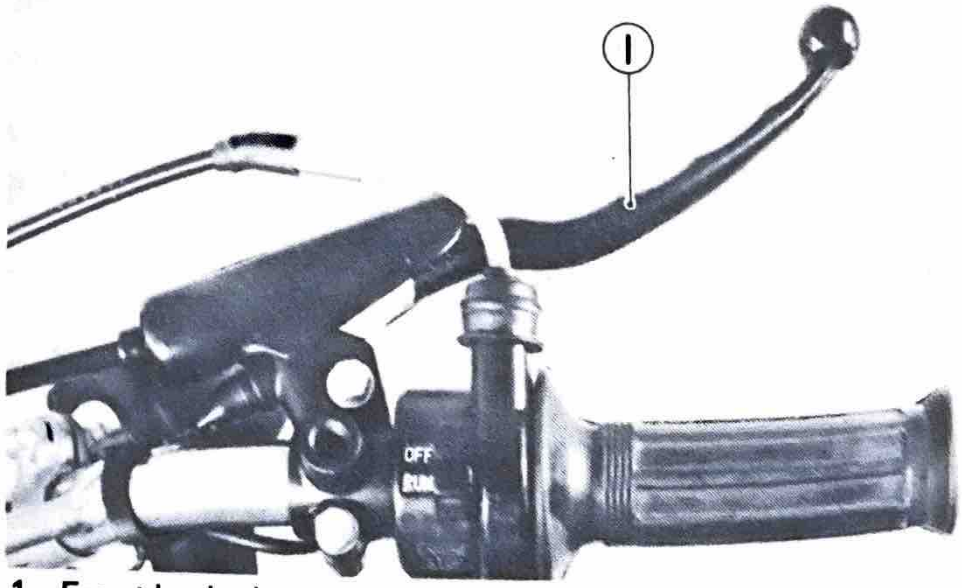
To lock the helmet holder, place the holder in its original position.



1. Helmet holder 2. Open 3. Lock

Front brake lever

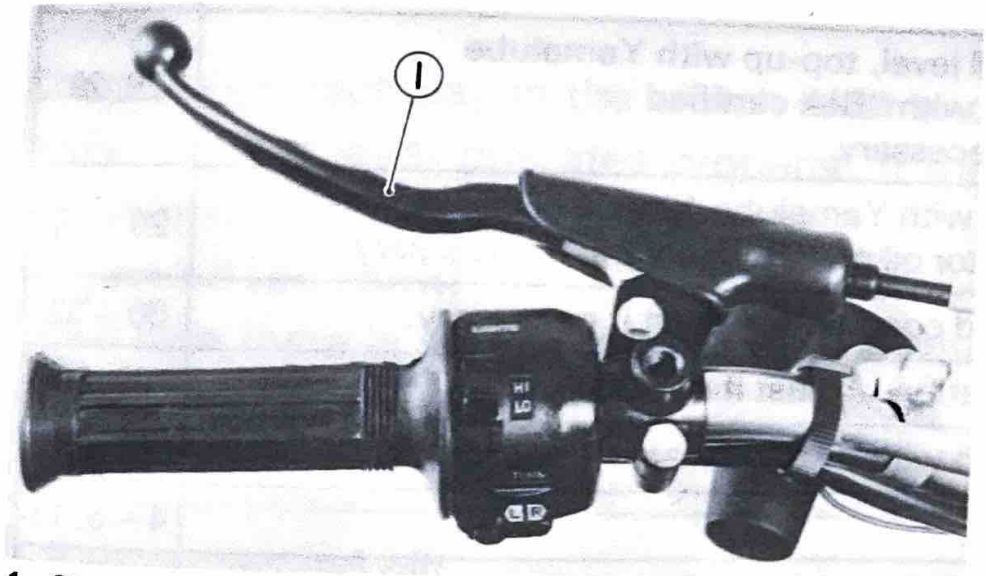
Pull the front brake lever toward the handlebar to activate the front brake.



1. Front brake lever

Clutch lever

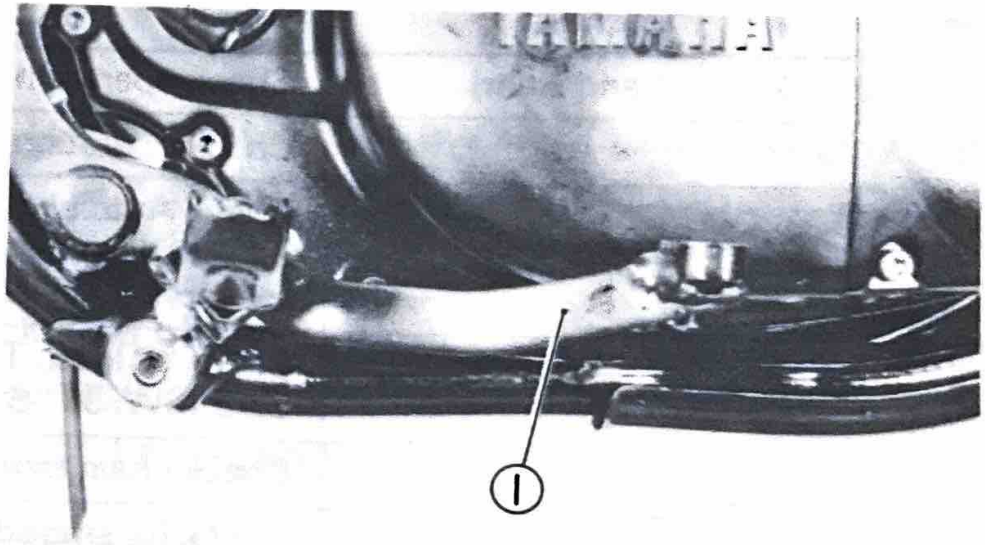
Pull the clutch lever to the handlebar to disengage the clutch and release the lever to engage the clutch. The lever should be pulled rapidly and released slowly for smooth operation.



1. Clutch lever

Rear brake pedal

Press down on the rear brake pedal to activate the rear brake.



1. Rear brake pedal

PRE-OPERATION CHECKS

Before using this motorcycle be sure to check the following points:

No.	ITEM	REMARKS	PAGE
1.	Brake (Front and Rear)	Check operation, free play. Adjust if necessary.	33 ~ 35
2.	Clutch	Check operation, condition and free play. Adjust if necessary.	35
3.	Engine Oil	Check Autolube tank oil level, top-up with Yamalube 2-cycle oil or 2-cycle oil with "BIA certified for service TC-W", if necessary.	28, 29
4.	Transmission Oil	Check oil level. Top-up with Yamalube 4-cycle oil or SAE 10W/30 "SE" motor oil or "GL" gear oil, if necessary.	26 ~ 28
5.	Drive Chain	Check chain tension and condition. Adjust if necessary.	30 ~ 32
6.	Throttle	Check for smooth operation. Adjust if necessary.	29, 30
7.	Battery	Check fluid level, top-up with distilled water if necessary.	37 ~ 39
8.	Lights/Signals	Check operation.	4 ~ 5, 13
9.	Wheels/Tires	Check and/or adjust wear, damage, air pressure and tightness of spokes.	13 ~ 14
10.	Fittings/Fasteners	Check all chassis fittings and fasteners. Adjust if necessary.	14

WARNING:

If any item on the checklist is not functioning properly, do not operate the motorcycle until the item has been inspected and repaired.

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 28 "Engine Oil" section

Transmission oil

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

Recommended oil:
See "GENERAL MAINTENANCE/ LUBRICATION NO. 1" Page 24

To check level, screw the dip stick completely out and then just rest the dip stick in the hole.

Drive chain

Check the chain tension and condition. Adjust if necessary.

Throttle

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

Battery

Check the fluid level and top-up if necessary. Use only distilled water if refilling is necessary.

Lights/Signals

Check the headlight, flasher light, taillight, brake light, meter lights and all the indicator lights to make sure they are in working condition.

Wheels/Tires

Check the tire pressure and check the tires for wear.

IMPORTANT NOTICE

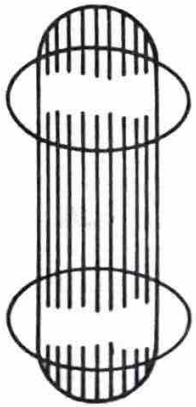
Proper loading of your motorcycle is important for the handling, braking, and other performance and safety characteristics of your machine. NEVER OVERLOAD YOUR MOTORCYCLE. Consider your riding skill, road and weather conditions, and correct weight distribution when loading your motorcycle. Securely pack your heaviest items close to the center of the machine. Always check the condition and inflation pressure of your tires.

WARNING:

Never overload the motorcycle beyond specified tire limits. Operation of an overloaded tire could cause tire damage, an accident and injury.

	FRONT	REAR
DT250F BASIC WEIGHT with oil and full fuel tank	59.7 kg (132 lb)	71.3 kg (157 lb)
Standard tire	Dunlop 3.00-21-4PR	Dunlop 4.00-18-4PR
Tire load limit	97.5 kg (215 lb)	199.5 kg (440 lb)
Cold tire pressure: Normal riding High speed riding or with passenger	1.3 kg/cm² (18 psi) 1.5 kg/cm² (21 psi)	1.5 kg/cm² (21 psi) 1.8 kg/cm² (26 psi)
Minimum tire tread depth	0.8 mm (0.03 in)	0.8 mm (0.03 in)

If a tire tread shows cross-wise lines, it means that the tire is worn to its limit.
Replace the tire.



TIRE WEAR INDICATOR

WARNING:

It is dangerous to ride with a worn-out tire. When a tire tread begins to show lines, have your Yamaha dealer or other qualified mechanic replace the tire immediately.

Check for wheel damage and check the tightness of the spokes.

Fittings/Fasteners

Always check the tightness of chassis fittings and fasteners before riding.

Fuel

Make sure there is sufficient fuel in the tank.

Recommended fuel: . Regular gasoline
Fuel tank capacity: 8.5 lit (2.2 US gal)

OPERATION AND IMPORTANT RIDING POINTS

CAUTION:

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

Starting a cold engine

1. Shift transmission into neutral.
2. Turn the fuel petcock to the "ON" position.
3. Turn the ignition key to the "ON" position.
4. Turn the engine stop switch to the "RUN" position.
5. Push the starter lever down to ON, place the throttle grip in the fully closed position or a slightly opened position, and kick the kick crank briskly.
6. After recommended seconds,* pull the starter lever up to OFF.

* Recommended seconds for the starter operation.

Above 20°C	Approx. 5 sec.
20°C - 10°C	5 sec. - 15 sec.
10°C	Approx. 15 sec.
10°C - 0°C	15 sec. - 30 sec.
Below 0°C	Approx. 40 sec.

Adjust the duration of time for using the starter according to ambient temperatures.

Starting a warm engine

To start a warm engine, the starter lever is not required or throttle grip is slightly opened.

Warming up

To get maximum engine life, always "warm-up" the engine before riding the machine. Never accelerate hard with a cold engine!

CAUTION:

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

Shifting and acceleration

This model has a 5-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. To shift into NEUTRAL, repeatedly depress the change pedal to the end of its travel (you will feel a stop when you are in first gear.), then raise it slightly.

To start out and accelerate, proceed as follows:

1. Pull the clutch lever to disengage the clutch.
2. Shift into FIRST gear.
3. Open the throttle gradually, and at the same time, release the clutch lever slowly.
4. At the recommended shift point speed in the table below, close the throttle, and at the same time, pull in the clutch lever quickly.
5. Shift into SECOND. Be careful not to shift into neutral.
6. Open the throttle part way and gradually release the clutch lever.
7. To accelerate or decelerate, use the same procedure to shift into next higher or next lower gear.

To decelerate:

1. Apply front and/or rear brakes to slow the machine.

2. When the machine reaches the specified speed as indicated in the Table below, shift into the next lower gear.
3. When the machine is almost completely stopped, shift into neutral.

Recommended shift point DT250F

Acceleration modes		Deceleration modes	
Shift position	Speed range km/h (mi/h)	Shift position	Speed range km/h (mi/h)
1st to 2nd	25 (16)	2nd to 1st	25 (16)
2nd to 3rd	35 (22)	3rd to 2nd	35 (22)
3rd to 4th	50 (31)	4th to 3rd	45 (28)
4th to 5th	65 (40)	5th to 4th	55 (34)

Engine break-in

There is never a more important period in the life of your motorcycle, than the period between zero and 1,000 km (600 mi). 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 1,000 km(600 mi) 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 heating of cylinder, must be avoided.

If any abnormality is noticed during this period, ask your Yamaha dealer to check.

1. 0 ~ 150 km (0 ~ 90 mi):
   Avoid operation above 4,000 r/min.
   Allow a cooling off period of 5 to 10 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. 150 ~ 500 km (90 ~ 300 mi):
   Avoid prolonged operation above 5,000 r/min. Allow the motorcycle to rev freely through the gears but do not use full throttle at any time.
3. 500 ~ 1,000 km (300 ~ 600 mi):
   Avoid prolonged full throttle operation. Avoid cruising speeds in excess of 6,000 r/min.
4. 1,000 km (600 mi) and beyond:
   Avoid prolonged full throttle operation. Avoid engine speeds in excess of 6,500 r/min. Vary speeds occasionally.

CAUTION:

If any engine trouble should occur during the break-in period, consult your Yamaha dealer or other qualified mechanic immediately.

Cruising

A frequently asked question is "What speed should I cruise at?". The BREAK-IN section provides limitations when the motorcycle is new, but once the engine has been broken in, then we suggest that you follow these guide lines. For sustained load and throttle conditions, such as those encountered on open highways, cruise at 3/4 throttle. Always bear in mind, though, the maximum allowable speed limit for the area through which you are riding. This is a recommendation, not a "hard and fast" rule. Any modification or personalization of the running gear could possibly change the operating range most

comfortable and most efficient for the engine.

Parking

When parking, stop the engine and remove the ignition key. Make it a habit to turn the fuel petcock to "OFF" whenever stopping the engine.

NOTE:

Select a parking place where the motorcycle is not apt to fall.

PERIODIC MAINTENANCE AND MINOR REPAIR

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

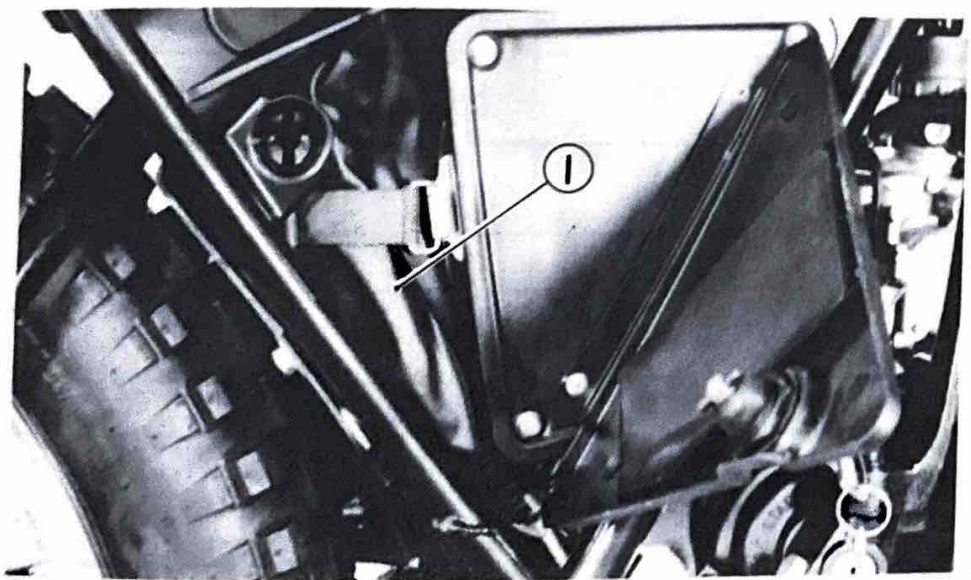
CAUTION:

If the owner is not familiar with motorcycle service, this work should be done by a Yamaha dealer or a qualified mechanic.

Tool Kit

The servicing information included in this manual is intended to provide you, the owner, with the necessary information for completing some of 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

PERIODIC MAINTENANCE

PROPER PERIODIC MAINTENANCE OF YOUR MOTORCYCLE IS IMPORTANT TO ITS GIVING YOU LONG, PLEASURABLE SERVICE. ESPECIALLY IMPORTANT ARE THE MAINTENANCE SERVICES RELATED TO EMISSIONS CONTROL. THESE CONTROLS NOT ONLY FUNCTION TO ENSURE CLEANER AIR BUT ARE ALSO VITAL TO PROPER ENGINE OPERATION AND MAXIMUM PERFORMANCE. IN THE FOLLOWING TABLES OF PERIODIC MAINTENANCE, THE SERVICES RELATED TO EMISSIONS CONTROL ARE GROUPED SEPARATELY.

THESE SERVICES REQUIRE SPECIALIZED DATA, KNOWLEDGE, AND EQUIPMENT. YAMAHA DEALERS ARE TRAINED AND EQUIPPED TO PERFORM THESE PARTICULAR SERVICES.

PERIODIC MAINTENANCE EMISSION CONTROL SYSTEM

No.	ITEM	REMARKS	INITIAL BREAK-IN		THEREAFTER EVERY
			1,000 km (600 mi) or 1 month	4,000 km (2,500 mi) or 7 months	3,000 km (2,000 mi) or 6 months
1.	Ignition Timing*	Check and adjust ignition timing.	○	○	○
2.	Spark Plug	Check spark plug condition and plug gap. Replace plug every 3,000 km (2,000 mi).	○	○ Replace	○ Replace
3.	Fuel Hose*	Check fuel hose for cracks and damage. Replace if necessary.	○	○	○
4.	Fuel Petcock*	Check fuel petcock for proper function.	○	○	○
5.	Idle Speed*	Check and adjust engine idle speed. Adjust cable free play.	○	○	○
6.	Exhaust System*	Check and retighten exhaust system.	○	○	○
7.	Pulsating Air System*	Check pulsating air system for proper function. Check hoses for cracks or damage. Replace if necessary.		○	○

* It is recommended that these items be inspected and adjusted by a qualified mechanic such as your Yamaha dealer.

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.

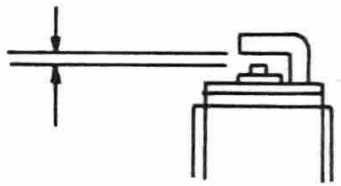
Do not attempt diagnose such problems yourself. Instead, take the machine to your Yamaha dealer or a qualified mechanic.

Standard spark plug:
B8ES (NGK)

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

Spark plug gap:
0.7 ~ 0.9 mm (0.026 ~ 0.035 in)

Spark plug gap



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

Tightening torque: 2.5 m-kg (18 ft-lb)

ANTICIPATED MAINTENANCE

The maintenance items in this table are set apart from the regular periodic maintenance items because of their anticipated need for irregular service intervals. The service interval is dependent upon variable factors such as the severity of use, operating conditions, etc. Therefore, perform this maintenance when the described symptoms warrant it.

No.	ITEM	REMARKS
1	Spark plug	If any spark plug failure is noticed replace the spark plug. Symptoms indicating spark plug failure are anticipated to occur around 3,000 km (2,000 mi).
2*	Decarbonization	If heavy power loss is evident, decarbonize the cylinder head, piston head, pulsating air port and exhaust system. Carbon build-up is anticipated to occur around 5,000 ~ 10,000 km (3,000 ~ 6,000 mi).
3*	Piston	If the piston rattles, the vehicle becomes hard to start, appears to be lacking power, or becomes inoperative, repair as follows: replace the piston and piston rings, clean, hone, or replace the cylinder. These symptoms are anticipated to occur mainly below 3,000 km (2,000 mi).

*It is recommendad that these items be serviced by a qualified mechanic such as your Yamaha dealer.

NO.	ITEM	REMARKS	TYPE	INITIAL BREAK-IN		THEREAFTER EVERY	
				1,000 km (600 mi) or 1 month	4,000 km (2,500 mi) or 7 months	3,000 km (2,000 mi) or 6 months	15,000 km (9,500 mi) or 24 months
8.	Drive Chain	Adjust and lubricate thoroughly.	Yamaha chain and cable lube or SAE 10W/30 motor oil	CHECK CHAIN AND LUBE EVERY 500 km (300 mi)			
9.	Brake System	Inspect and adjust. Replace shoes if necessary.	—	○	○	○	
10.	Clutch*	Adjust free play	—	○	○	○	
11.	Front Fork Oil	Drain completely. Fill to specification.	Yamaha fork oil 10 wt or equivalent				○
12.	Steering Bearings*	Check steering assembly for looseness. Moderately repack every 15,000 km (9,500 mi).	Medium weight wheel bearing grease		○		○
13.	Wheel Bearings	Check bearings for smooth rotation. Moderately repack every 15,000 km (9,500 mi).	Mediun weight wheel bearing grease		○		○
14.	Battery	Check specific gravity and breather pipe.	—		○	○	

*It is recommended that these items be serviced by a qualified mechanic such as your Yamaha dealer.

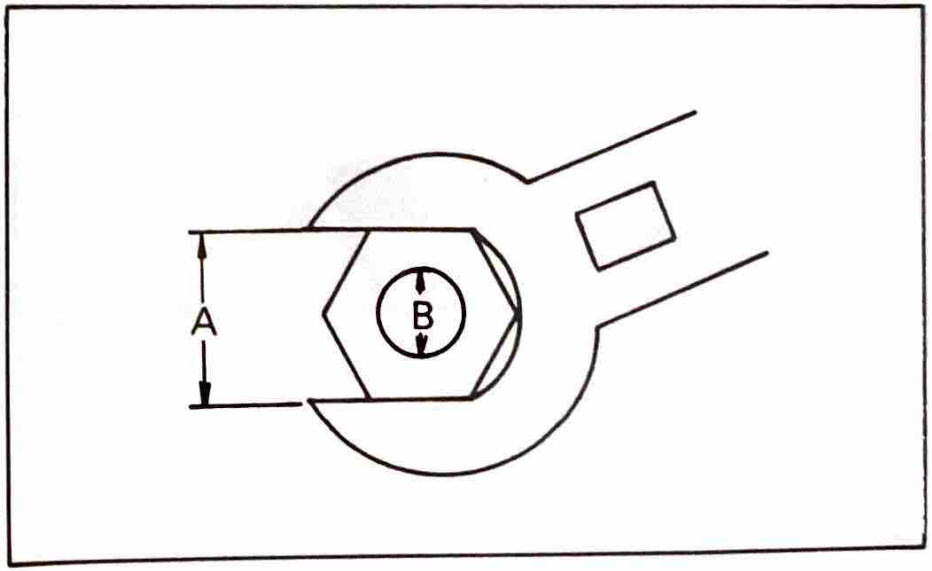
Torque specifications

(For a more complete list, refer to the Service Manual for this model.)

Use a torque wrench to tighten these items. It is recommended that these items be checked occasionally, especially before a long tour. Always check the tightness of these items whenever they are loosened for any reason.

Item	Torque
Spark plug	2.5 m-kg (18 ft-lb)
Drive sprocket	7.5 m-kg (54 ft-lb)
Engine mount	2.5 m-kg (18 ft-lb)
(Lower, rear)	4.0 m-kg (29 ft-lb)
Rear arm	6.5 m-kg (47 ft-lb)
Front fork cap	2.3 m-kg (17 ft-lb)
Handle crown	
- Inner tube	3.3 m-kg (24 ft-lb)
- Steering shaft	5.5 m-kg (40 ft-lb)
- Steering pinch	2.3 m-kg (17 ft-lb)
Handle holder	1.9 m-kg (14 ft-lb)
Front wheel	8.0 m-kg (58 ft-lb)
Rear wheel	9.0 m-kg (65 ft-lb)
Foot rest	6.0 m-kg (43 ft-lb)

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



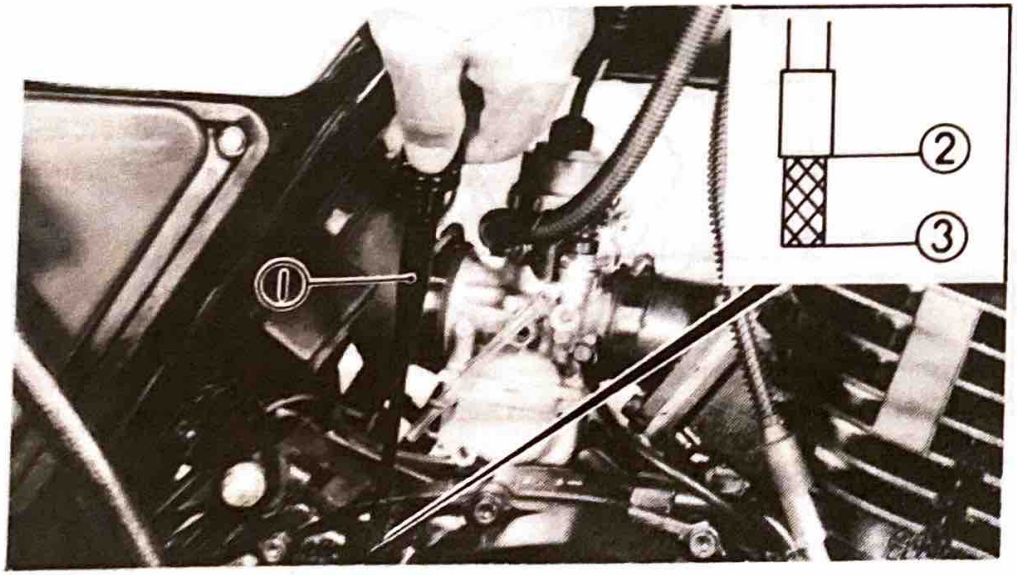
Transmission oil

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

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

NOTE:

When checking transmission oil level with the dip stick, let the unscrewed dip stick just rest on the case threads. Also, be sure the machine is positioned straight up and on both wheels.



1. Dip stick 2. Maximum level 3. Minimum level

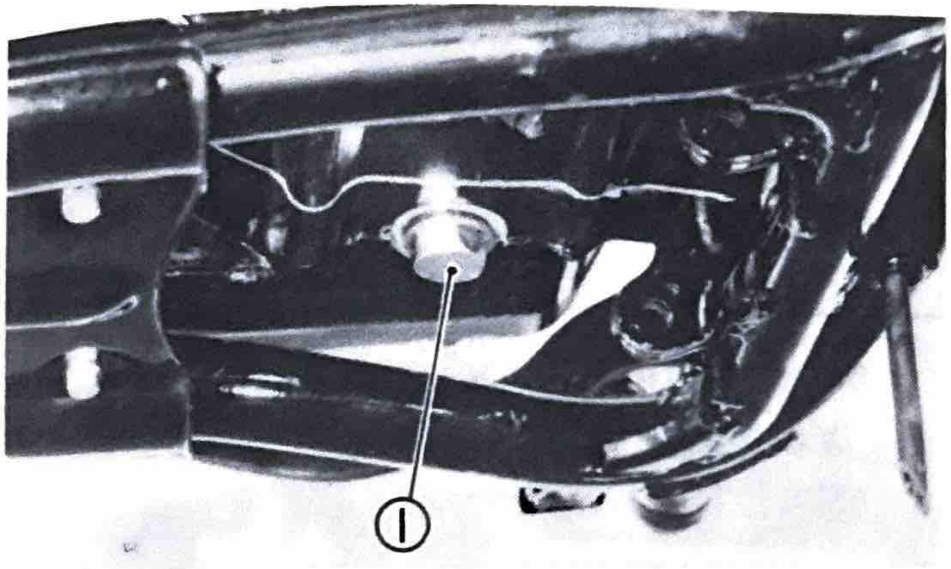
The dip stick has a minimum and a maximum mark, and the oil level should be between the two. If the level is lower, then add sufficient oil to raise it to the proper level.

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

During the break-in period, you should replace the transmission oil at prescribed intervals after the date of first use.
The transmission should be drained and refilled at prescribed intervals.

Oil Quantity:
1.1 lit (1.2 US qt) (Replacement)
1.2 lit (1.3 US qt) (Overhauling)

On the bottom of the engine there is a drain plug. Remove it and drain all the transmission oil out.



1. Drain plug

Reinstall the drain plug (make sure it is tight). Add oil through the dip stick hole.

NOTE:

Do not add any chemical additives. Transmission oil also lubricates the clutch and additives could cause the clutch to slip.

Autolube pump

Have your Yamaha dealer check and adjust the oil injection pump cable and the pump stroke. Be sure your oil tank never runs out of oil. If it does, before operating your machine, have your dealer bleed all the air out of the oil injection system.

WARNING:

Failure to bleed the injection system could result in extensive engine damage and an accident.

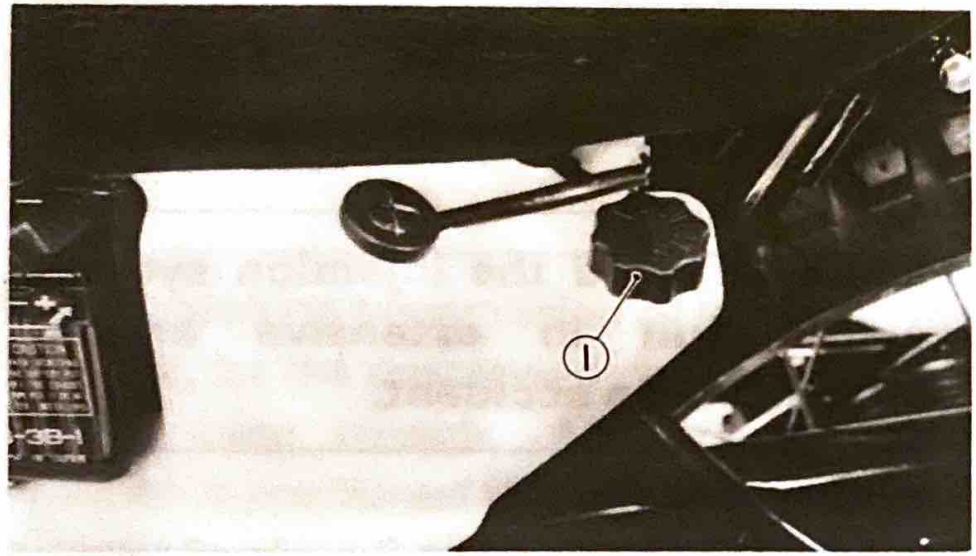
Engine oil

We recommend Yamalube 2-cycle oil (available at most Yamaha dealers) or if unavailable, 2-cycle engine oil labelled "BIA certified for service TC-W".

NOTE:

Oil viscosity increases in very cold weather (where the normal temperature is below 0°C (32°F)) and oil does not flow as well. In such areas, consult your Yamaha dealer.

Oil tank capacity: 1.1 lit (1.2 US qt)



1. Oil tank filler cap

Air filter

Have the air filter element cleaned at the specified intervals.

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 damaged cables as soon as possible.

If the inner cables do not operate smoothly, lubricate them. If necessary, have them replaced.

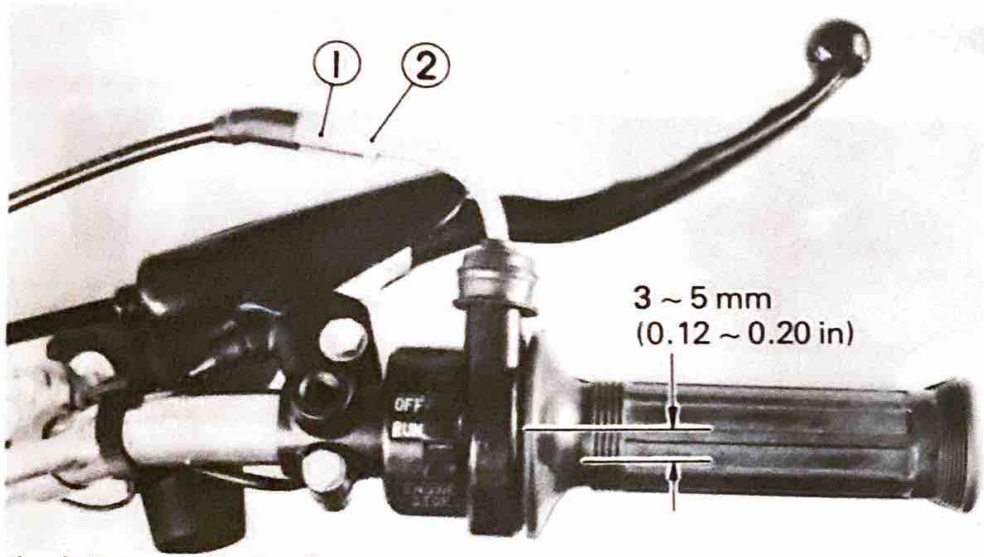
Recommended lubricant:
Yamaha Chain and Cable Lube or
SAE 10W/30 motor oil

Inspection and adjustment of play in throttle cable

Check free play in the throttle grip. The play should be 3 ~ 5 mm (0.12 ~ 0.20 in) at the 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.

NOTE:

To adjust throttle cable freeplay, the handlebars should be turned fully to the right.



1. Adjuster 2. Lock nut

Brake and Clutch Levers

Lightly lubricate the brake and clutch pivot points with Yamaha Chain and Cable Lube or SAE 10W/30 motor oil.

Side stand pivot shaft and kick crank boss

Lubricate the side stand and kick crank at their pivot points.

Recommended lubricants:
Yamaha Chain and Cablė Lube or
SAE 10W/30 motor oil

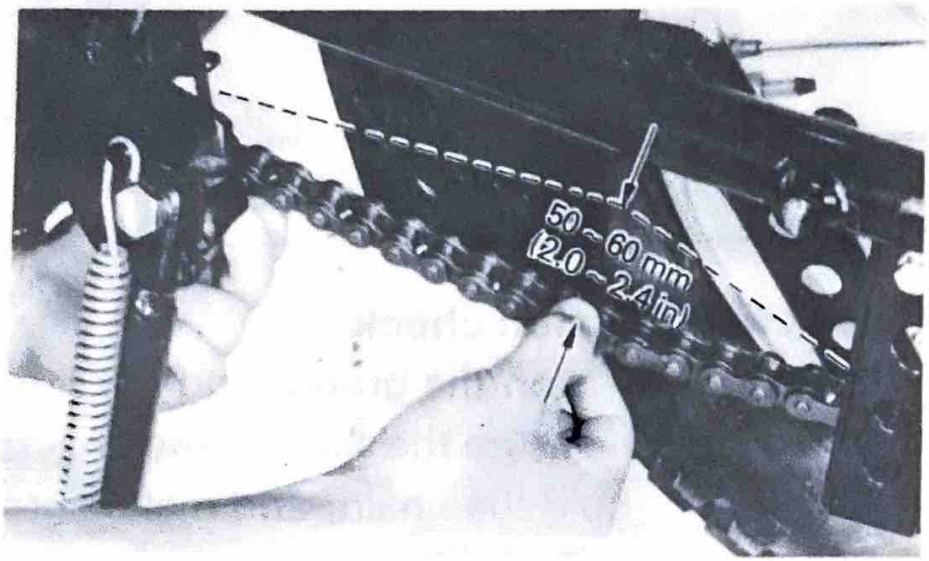
Drive chain tension check

With both wheels on the ground (no rider on the machine), measure the slack in the chain. As illustrated, hold the chain, and make sure the chain deflection is 50 ~ 60 mm (2.0 ~ 2.4 in) at the center of the upper row.

NOTE:

When checking the chain tension, push the chain tensioner down so it does not contact the chain.

If the chain deflects more than specified, adjust the chain tension.

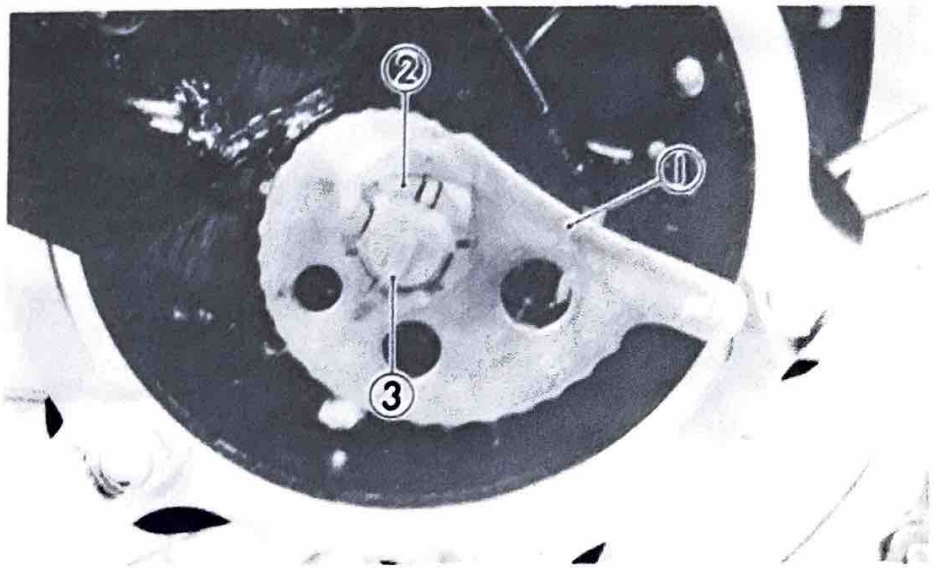


Drive chain tension adjustment

1. Loosen the rear brake adjuster.
2. Remove the rear axle cotter pin.
3. Loosen the rear wheel axle nut.
4. Turn chain puller both left and right, until axle is situated in same puller slot position on each side.

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.

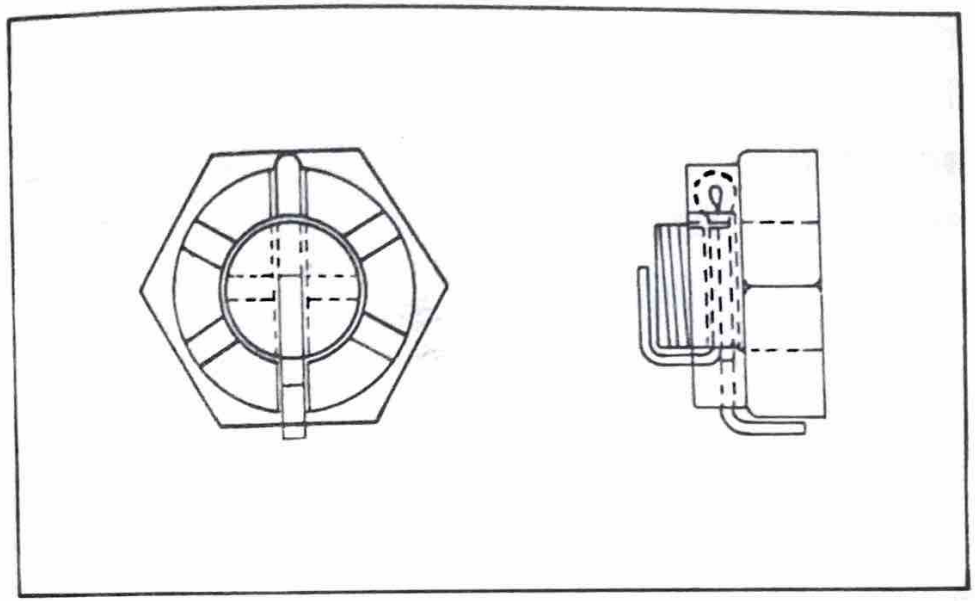


1. Chain puller 2. Axle nut 3. Cotter pin

5. Tighten the rear axle nut.

Axle nut torque: 9.0 m-kg (65 ft-lb)

6. Insert the new cotter pin into the rear wheel axle nut and bend the end of cotter pin. If the nut notch and pin hole do not match, tighten the nut slightly to match.
7. In the final step, adjust the play in the brake pedal.



CAUTION:

Do not over tighten the chain. 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.

Drive chain lubrication

The chain consists of many moving parts. If the chain is not maintained properly, it will wear out rapidly. Without lubrication the chain could wear out very quickly. Therefore, form the habit of periodically servicing the chain. This service is especially necessary when riding in dusty conditions.

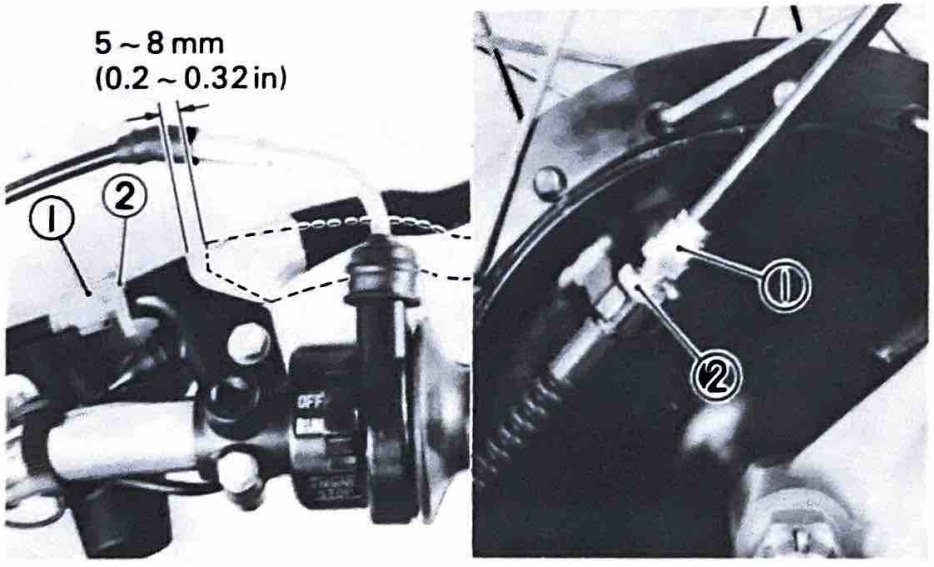
1. Use Yamaha Chain and Cable Lube or SAE 10W/30 motor oil. First, remove dirt and mud from the chain with a brush or cloth and then spray the lubricant between both rows of side plates and on all center rollers. This should be performed every 500 km. (300 mi.) or whenever the chain becomes dry.
2. To 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 formation of rust.

Front brake adjustment

Front brake should be adjusted to suit rider preference with a minimum cable slack of 5 ~ 8 mm (0.2 ~ 0.32 in) play at the brake lever pivot point.

1. Loosen the adjuster lock nut.
2. Turn the cable length adjuster in or out until adjustment is suitable.
3. Tighten the adjuster lock nut.

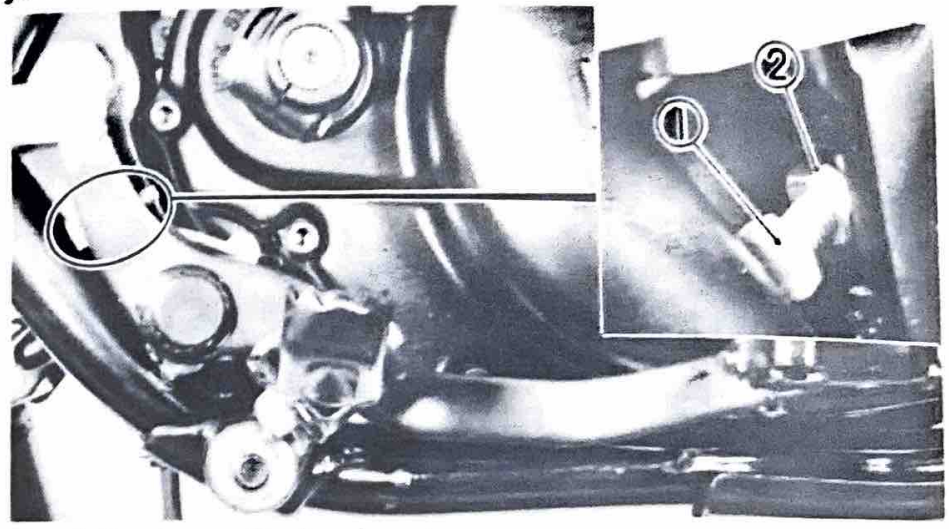
When it is impossible to make the proper adjustment at the brake lever, ask for further adjustment at the brake shoe plate.



1. Adjuster 2. Lock nut

Brake pedal position adjustment

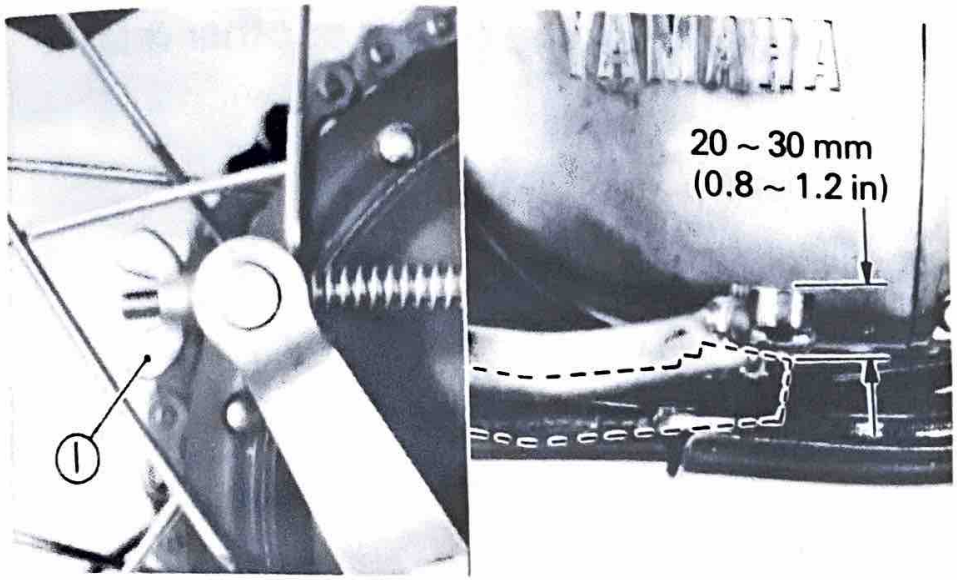
The position of the rear brake pedal should be adjusted to suit the rider. Loosen the lock nut and adjust the pedal height by turning the adjuster.



1. Adjuster 2. Lock nut

Rear brake adjustment

The rear brake should be adjusted so the end of the brake pedal moves 20 ~ 30 mm (0.8 ~ 1.2 in). To adjust, turn the adjuster on the brake rod clockwise to reduce play; turn the adjuster counterclockwise to increase play.



1. Adjuster

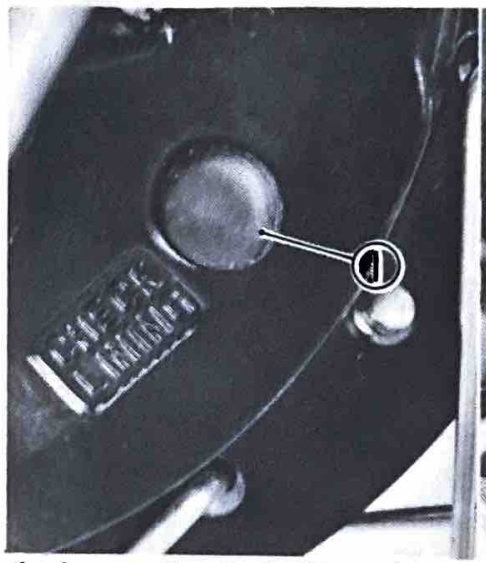
CAUTION:

Always check whether or not the brakelight operates correctly after rear brake adjustment.

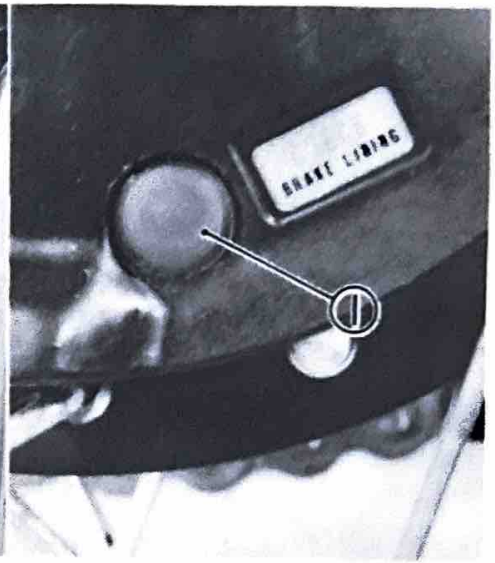
Brake lining inspection

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 (0.08 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 or other qualified mechanic to install a new set of brake shoes. Be sure to replace the plug properly so water cannot enter the shoe plate.



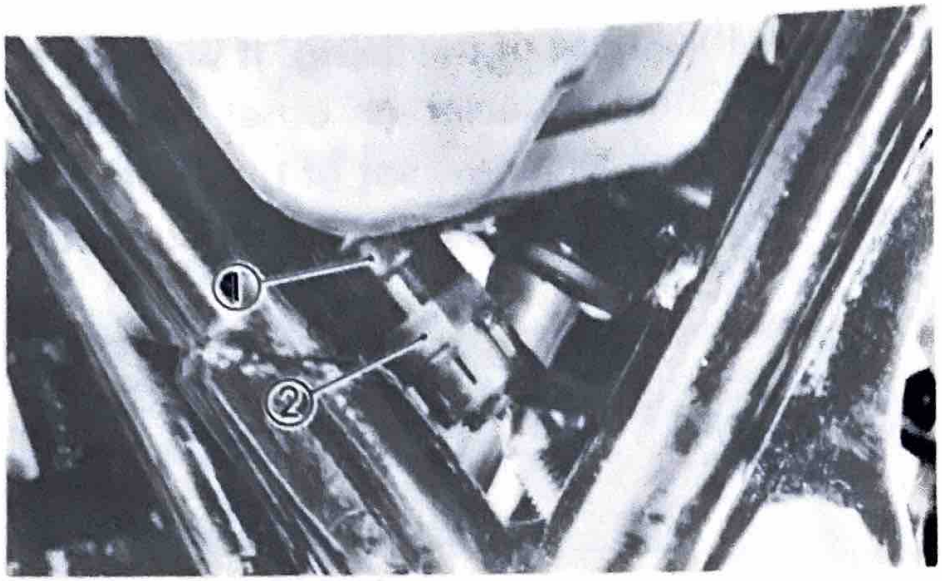
1. Inspection hole (Front)



1. Inspection hole (Rear)

Brakelight switch adjustment

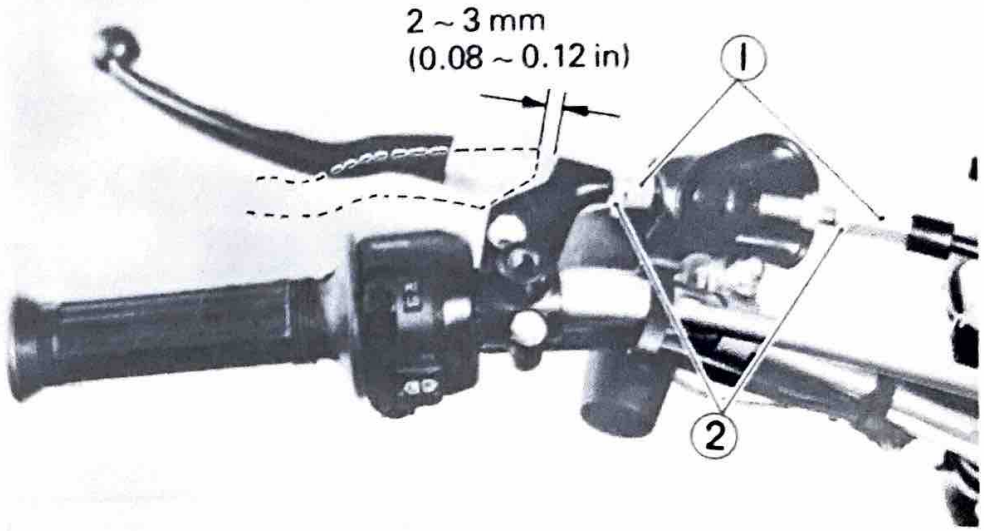
The brakelight switch is operated by movement of the brake pedal. To adjust, hold the switch body so it does not rotate and then turn the adjuster. Proper adjustment is achieved when the brake starts to take effect and the brakelight illuminates simultaneously.



1. Switch body 2. Adjuster

Clutch adjustment

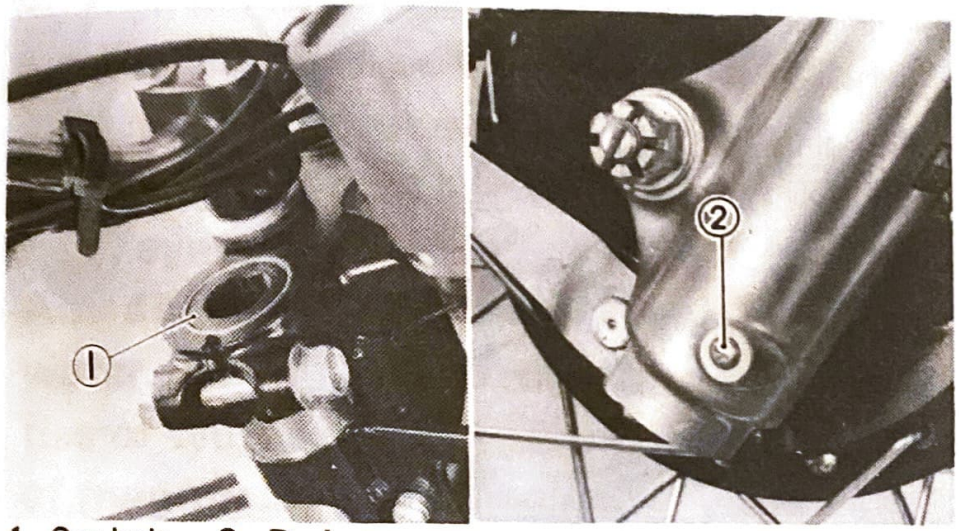
This model has a clutch cable length adjuster and a clutch mechanism adjuster. Adjustment at the clutch lever is normally recommended. Loosen the lock nut and turn the adjuster to adjust the clutch lever. The clearance between the clutch lever and lever holder should be 2 ~ 3 mm (0.08 ~ 0.12 in). After adjusting, be sure the lock nut is tightened firmly. When it is impossible to make an adjustment at the clutch lever holder, ask a Yamaha dealer or other qualified mechanic to adjust the internal mechanism.



1. Adjusting nut 2. Lock nut

Front fork oil change

1. Elevate front wheel by placing a suitable stand under the engine.
2. Remove the handlebar, and then loosen the fork pinch bolts.
3. Remove cap bolts from inner fork tubes.
4. Place container under each fork tube. Remove drain screw from each outer tube.



1. Cap bolt 2. Drain screw

5. After most of oil has drained, slowly raise and lower outer tubes to pump out remaining oil.
6. Replace drain screws.

NOTE:

Check gasket, replace if damaged.

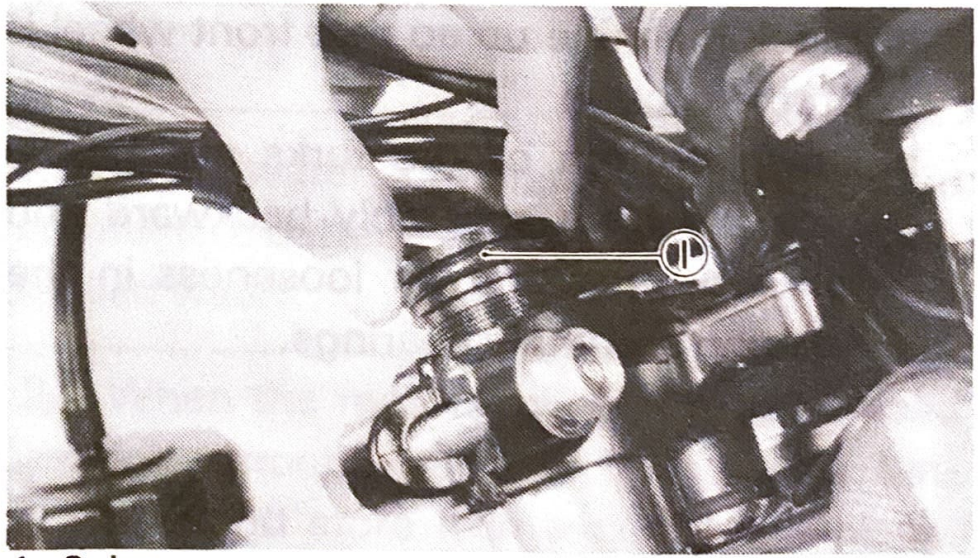
7. Measure correct amount of oil and pour into each leg.

Recommended oil:
Yamaha Fork Oil 10 wt or equivalent

Quantity per leg: 257 cc (8.6 oz)

8. After filling, slowly pump the fork tubes up and down to distribute the oil.
9. Inspect O-ring on fork cap bolts and replace if damaged.
10. Install the fork cap bolts and torque to specification.

Fork cap bolt torque: 2.3 m-kg (17.0 ft-lb)



1. O-ring

11. Install the handlebar and tighten the pinch bolts.

Tightening torque:
Handlebar: 1.9 m-kg (14 ft-lb)
Pinch bolt: 3.3 m-kg (24 ft-lb)

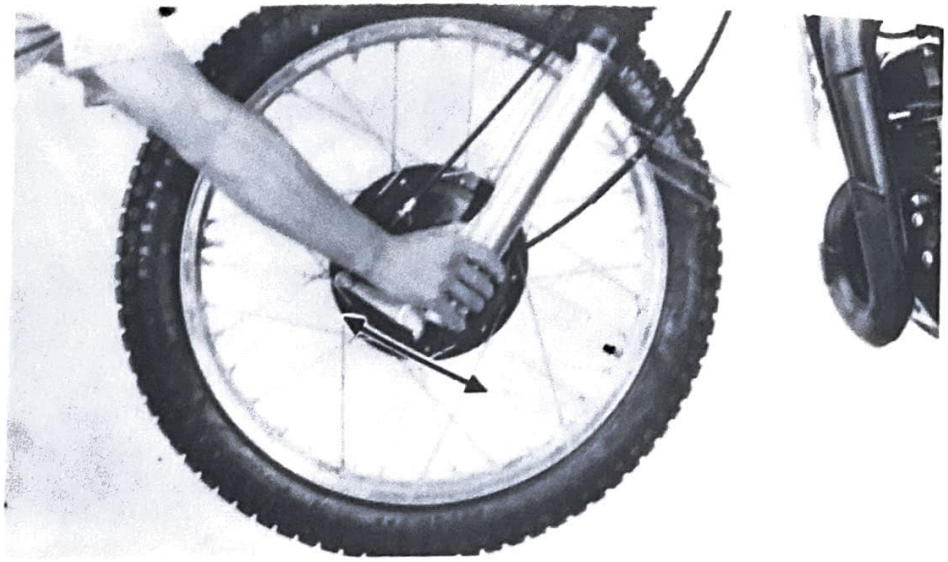
Steering Assembly

The steering assembly should be checked periodically for looseness.

Do this as follows:

a. Block machine up so that front wheel is off the ground.

b. Grasp bottom of the forks and gently rock the front assembly backward and forward, checking for looseness in the steering assembly bearings.



If any looseness is noted, or if the handlebars will not turn freely have your Yamaha dealer or other qualified mechanic adjust the steering mechanism.

Wheel Bearings

Check the wheel bearings for smooth rotation. There should be no rough spot or side movement. Have the wheel bearings repacked with grease at the specified service intervals.

Battery

Check the level of the battery fluid and see if the terminals are tight. Add distilled water if the fluid level is low.

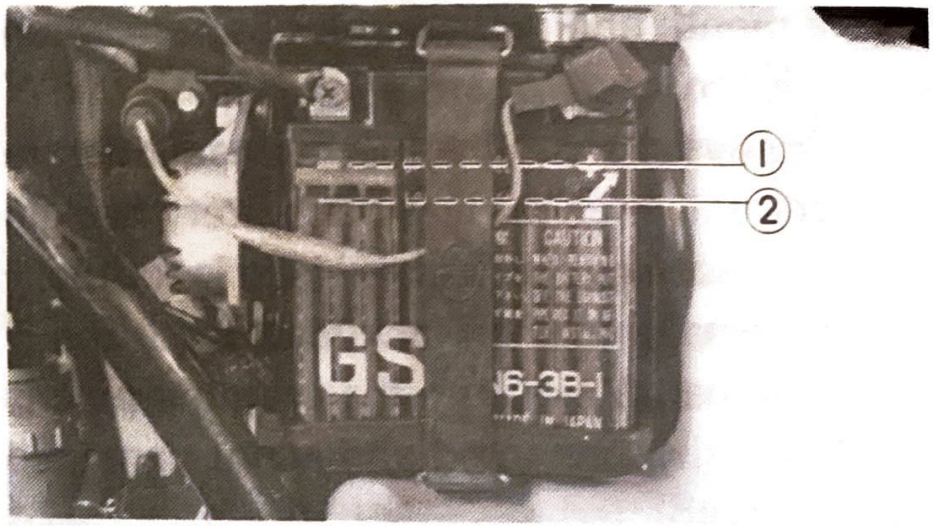
WARNING:

Battery fluid is poisonous and dangerous, causing severe burns, etc. Contains sulfuric acid. Avoid contact with skin, eyes or clothing.
Antidote: EXTERNAL-Flush with water. INTERNAL-Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call physician immediately.
Eyes: Flush with water for 15 minutes and get prompt medical attention.
Batteries produce explosive gases. Keep sparks, flame, cigarettes, etc., away. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries.
KEEP OUT OF REACH OF CHILDREN.

Replenishing the battery fluid

A poorly maintained battery will deteriorate quickly. The battery fluid should be checked at least once a month.

1. The level should be between the upper and lower level marks. Use only distilled water if refilling is necessary.



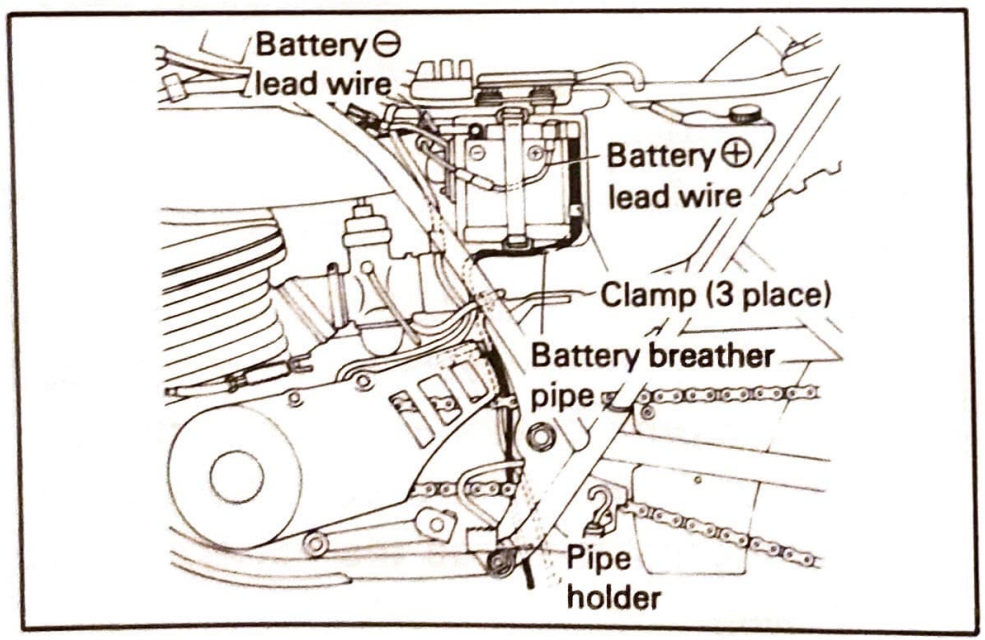
1. Upper level 2. Lower level

NOTE:

Normal tap water contains minerals which are harmful to a battery; therefore, refill only with distilled water.

2. When the motorcycle is not to be used for a month or longer, remove the battery and store it in a cool, dark place. Completely recharge the battery before reusing.

3. If the battery is to be stored for a longer period than the above, check the specific gravity of the fluid at least once a month and recharge the battery when it is too low.
4. Always make sure the connections are correct when putting the battery back in the motorcycle. The red lead is for the + terminal and the black lead is for the − terminal. Make sure the breather pipe is properly connected and is not damaged or obstructed.

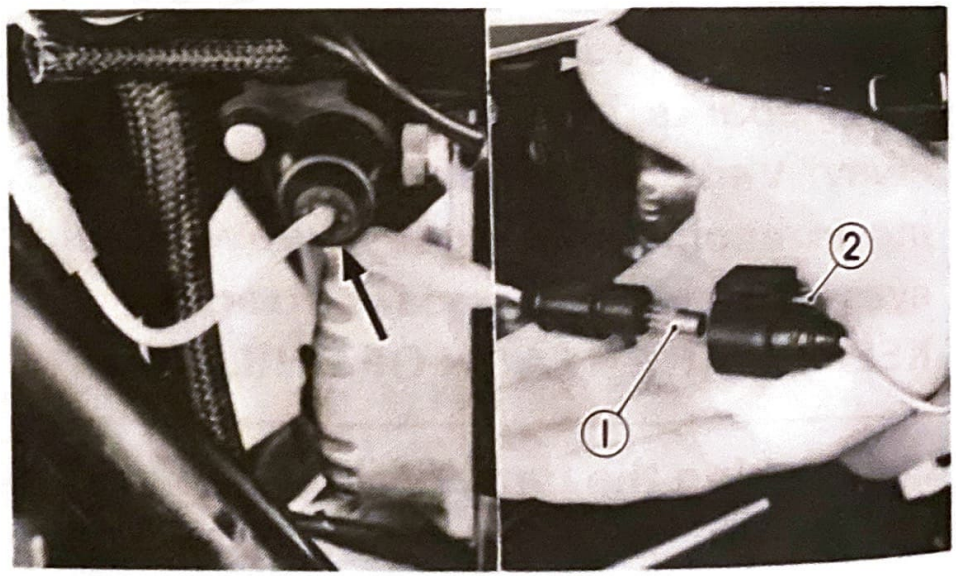


Fuse replacement

If a fuse is blown, turn off the ignition switch and the switch in the circuit in question and install a new fuse of proper amperage.
Then turn on the switches, and see if the electrical device operates. If the fuse immediately blows again, consult your Yamaha dealer or other qualified mechanic.

CAUTION:

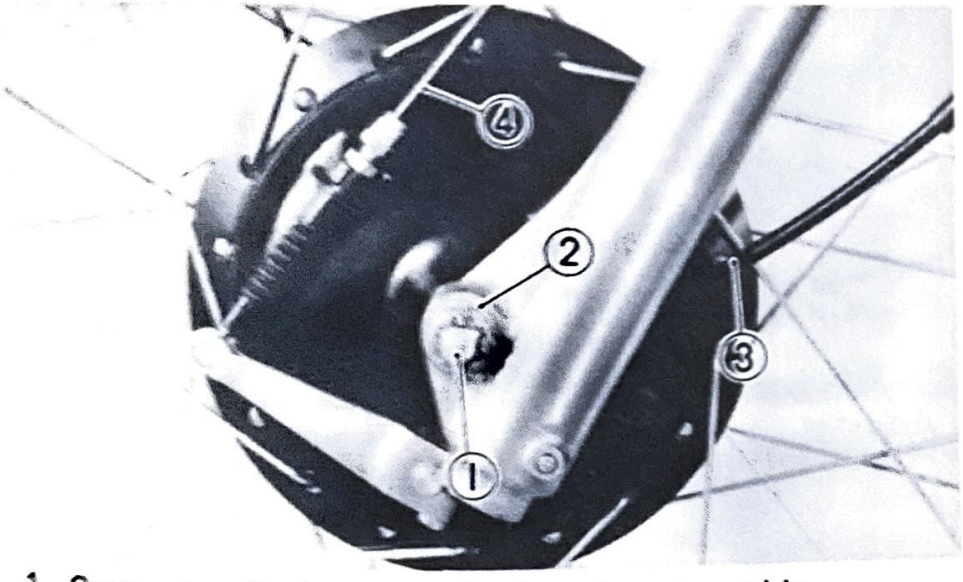
Do not use fuses of a higher amperage rating than those recommended.



1. Fuse
2. Spare fuse

Front wheel removal

1. Elevate the front wheel by placing a suitable stand under the engine.
2. Remove speedometer cable from front brake shoe plate: First remove clip and then pull cable out.
3. Remove brake cable: loosen all cable adjusters and remove cable from handle lever holder. Then remove cable from cam lever at front brake shoe plate.
4. Remove cotter pin from front wheel axle and remove axle nut.



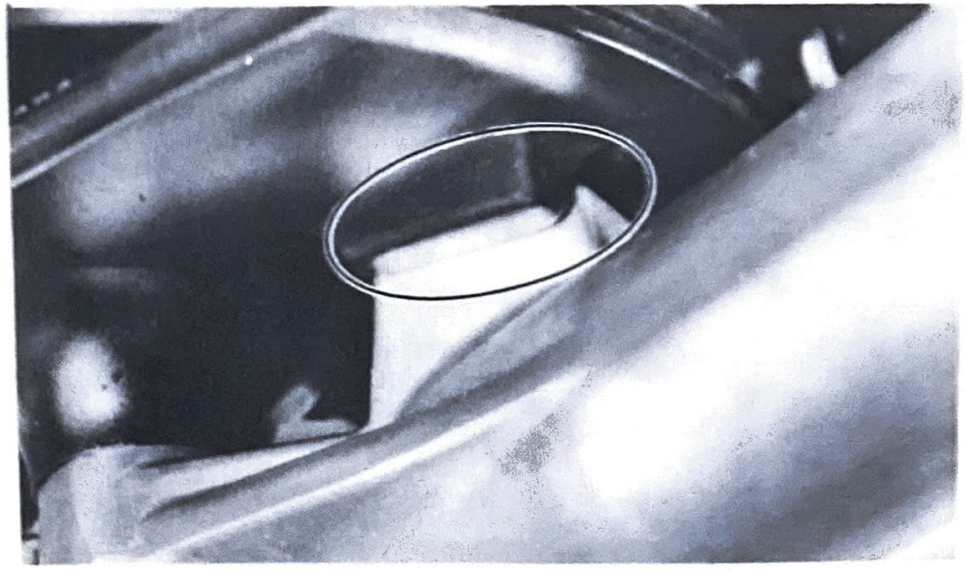
1. Cotter pin 2. Axle nut 3. Speedometer cable
4. Front brake cable

5. Turn and pull out the front wheel axle; the wheel assembly can now be removed.

Front wheel installation

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

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



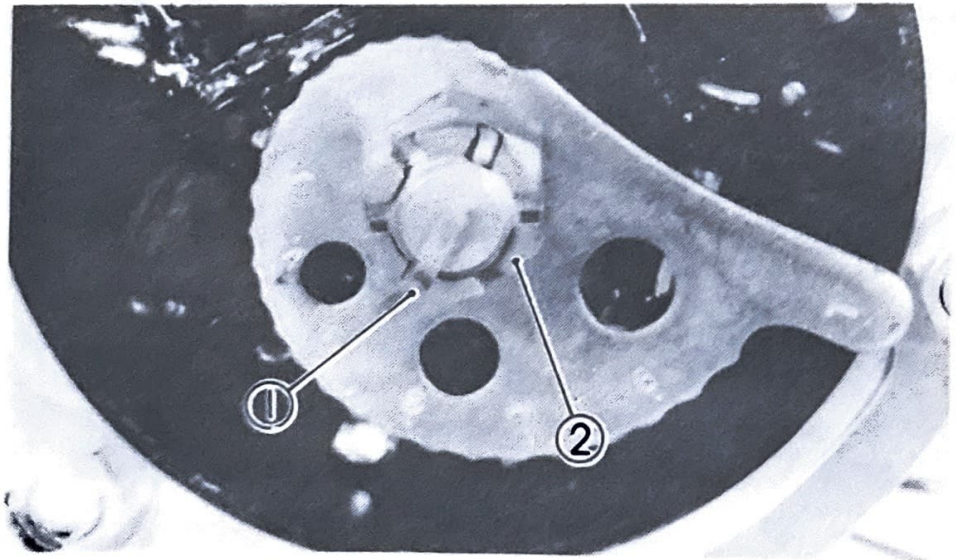
2. Torque the front axle nut.

Axle nut torque: 8 m-kg (57 ft-lb)

3. Install a new cotter pin; discard old pin.
4. Adjust the play in the brake lever.

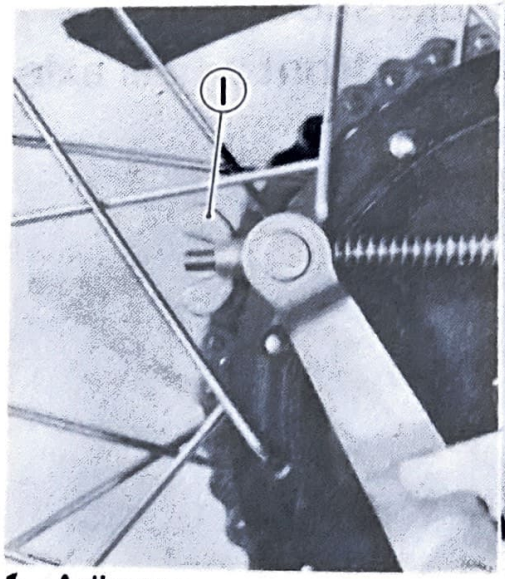
Rear wheel removal

1. Elevate the rear wheel by placing a suitable stand under the engine.
2. Remove the brake adjuster and brake rod from the brake shoe plate.

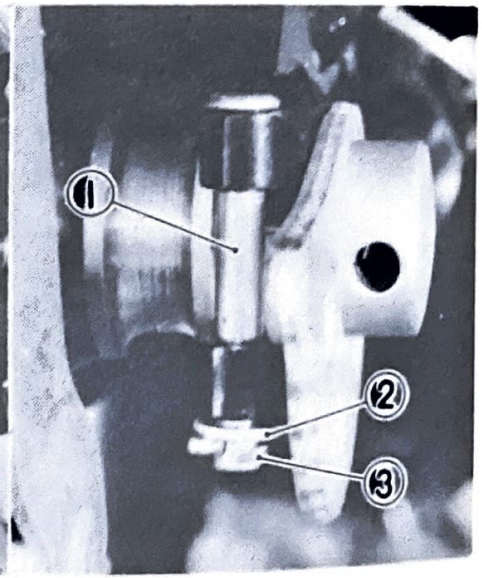


1. Cotter pin 2. Axle nut

3. Remove the cotter pin from the axle nut and loosen the axle nut.
4. Remove the link clip and master link and remove the chain.
5. Remove the cotter pins (left and right). Then remove the clevis pins.
6. Pull the wheel backward, remove the rear wheel assembly.



1. Adjuster

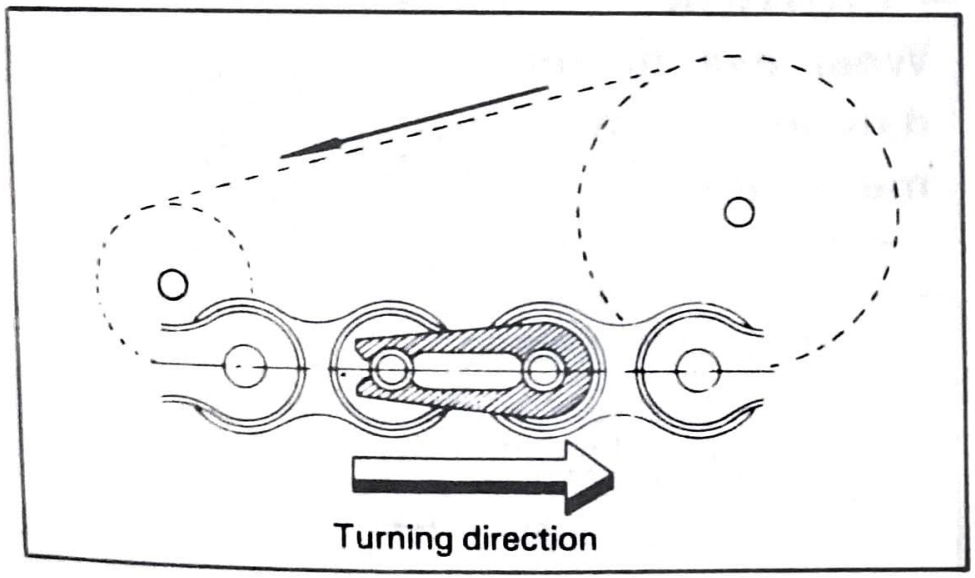


1. Clevis pin
2. Plain washer
3. Cotter pin

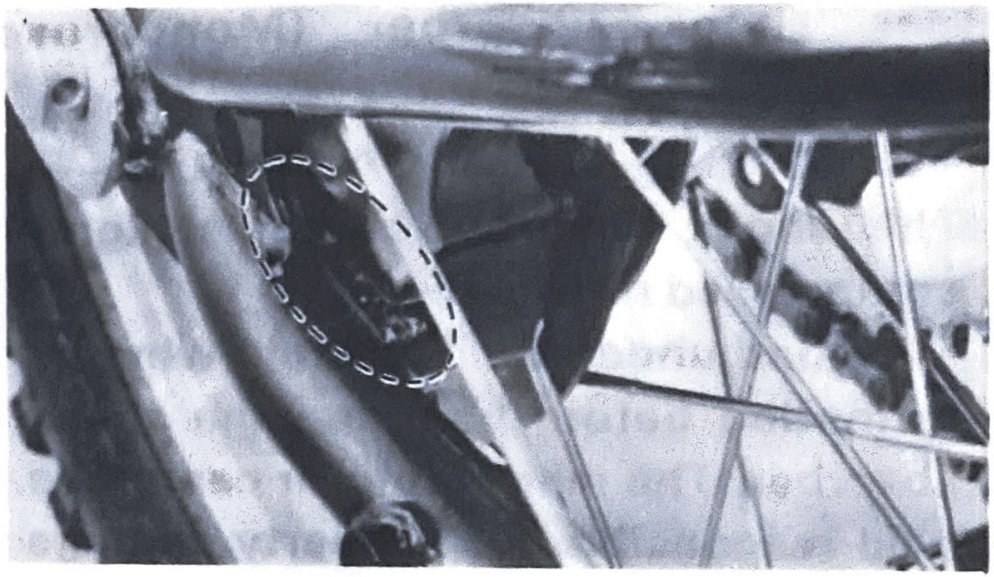
Rear wheel installation

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 master link clip is facing direction of rotation.



2. Check for proper engagement of the boss on swing arm with the locating slot on brake shoe plate.



3. Make sure the nut is properly torqued.

Tightening torque: 9.0 m-kg (65 ft-lb)

4. Make sure to adjust the chain tension. See page 31 "Drive chain adjustment".
5. Adjust both brake pedal and brakelight switch.
6. Always use new cotter pins.

Rear shock absorber (Monocross suspension "De Carbon" system)

WARNING: — READ CAREFULLY

This shock absorber contains highly compressed nitrogen gas.
Read and understand the following information before handling the shock absorber. The manufacturer cannot be held responsible for property damage or personal injury that may result from improper handling.

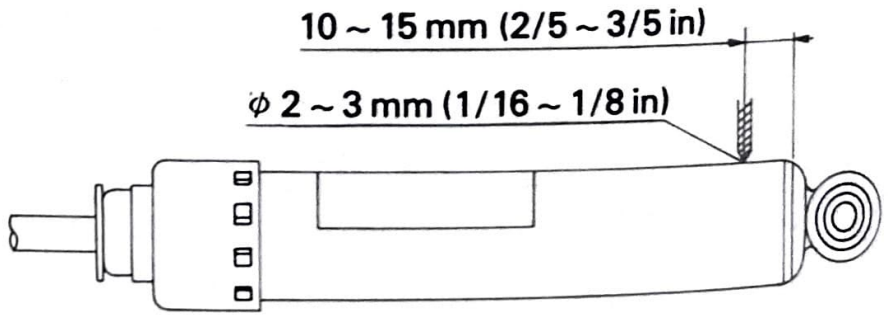
1. **Do not tamper or attempt to open the cylinder assembly.**
2. **Do not subject shock absorber to an open flame or other high heat. This may cause the unit to explode due to excessive gas pressure.**
3. **Do not deform or damage the cylinder in any way. Cylinder damage will result in poor damping performance.**

Notes on disposal (Yamaha dealers only)

Gas pressure must be released before disposing of shock absorber. To do so, drill a 2 ~ 3 mm (1/16 ~ 1/18 in) hole through the cylinder wall at a point 10 ~ 15 mm (2/5 ~ 3/5 in) above the bottom of the cylinder.

CAUTION:

Wear eye protection to prevent eye damage from escaping gas and/or metal chips.



Adjustment

The spring preload of the rear shock absorber can be adjusted to suit rider preference, weight and the course conditions.
And adjustment can be made without removing the shock absorber.

When springing feels excessive and too hard:

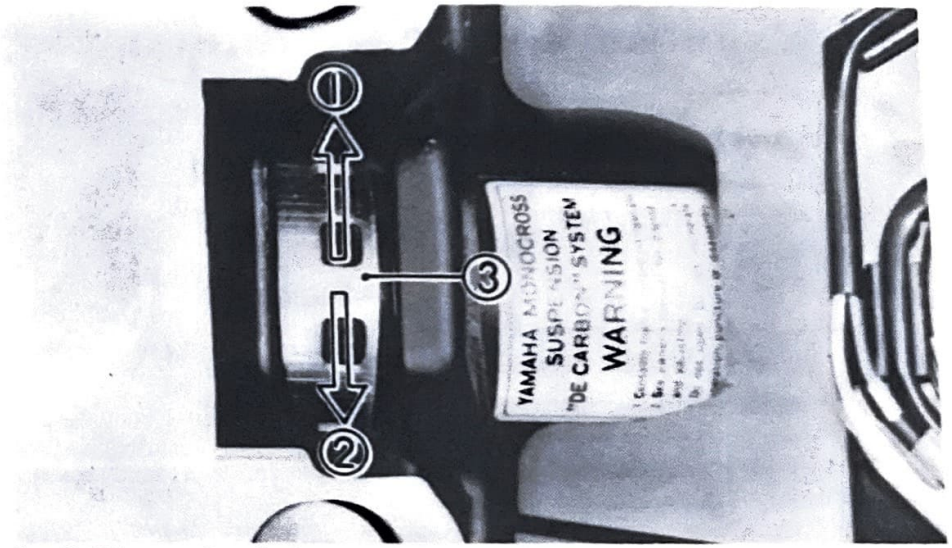
- Decrease the spring pre-load for softer ride.

When bottoming feels excessive and too soft:

- Increase the spring pre-load.

To adjust, use the special wrench (in the owner's tool kit) as shown. If the adjuster is raised, the spring becomes stiffer and if lowered the spring becomes softer.

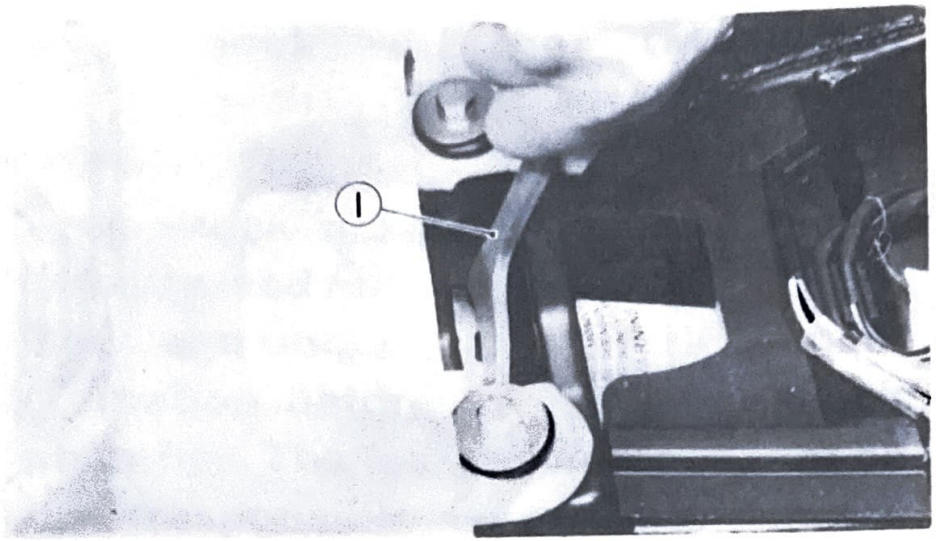
1. Remove the seat.



1. Stiffer
2. Softer
3. Adjuster

2. Turn the adjuster in or out until adjustment is suitable.

	Soft		STD	Stiff	
Adjusting Position	2	1	*	1	2



1. Special wrench

3. Install the seat and tighten the securing bolt.

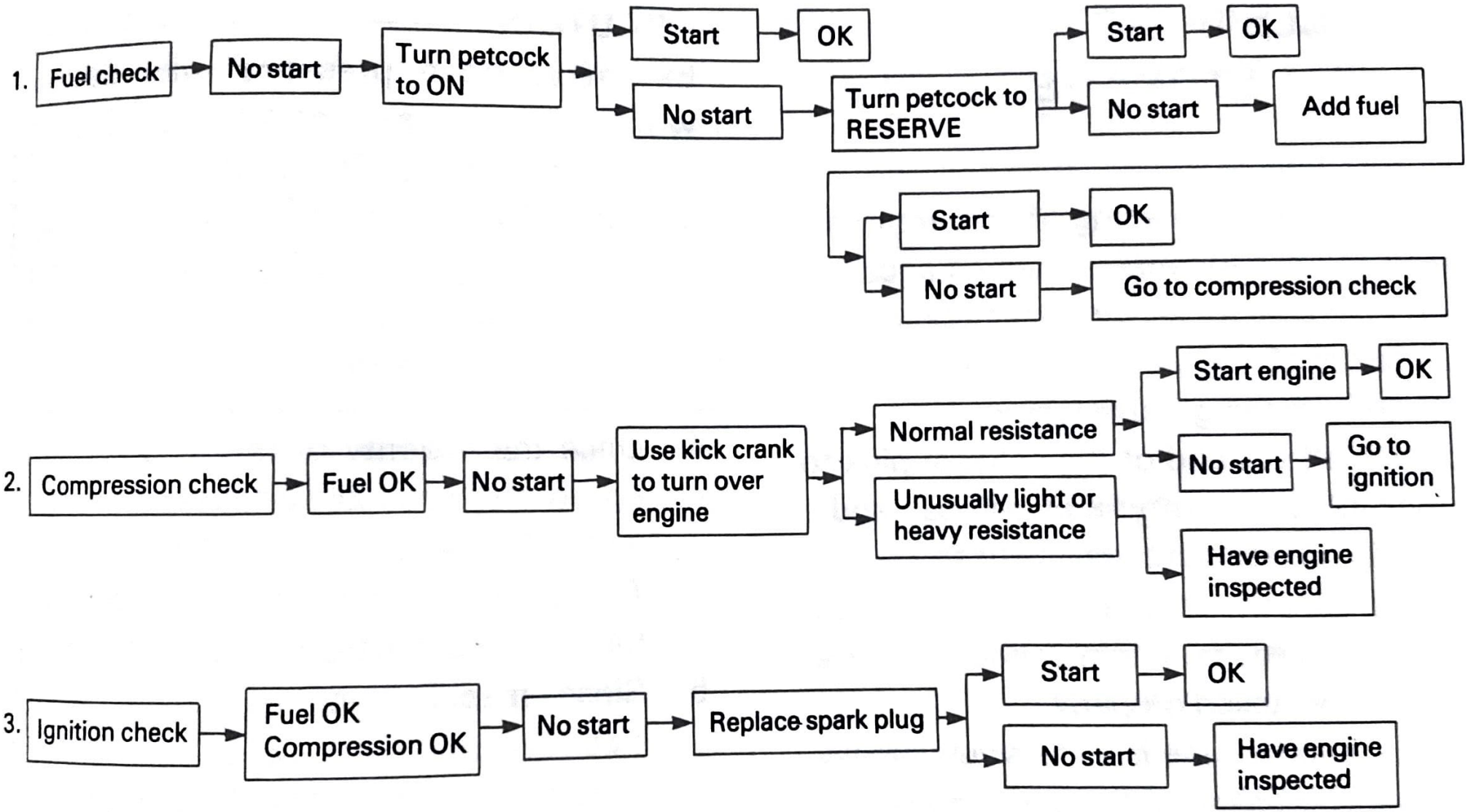
Troubleshooting

Although Yamaha motorcycles are given a rigid inspection before shipment from the factory, trouble may occur during operation. If this happens, check the motorcycle in accordance with the procedures given in the chart below. If repair is necessary, ask a qualified mechanic such as your Yamaha dealer for assistance. The skilled technicians at your Yamaha dealer are trained and equipped to perform the necessary maintenance and repair work. For replacement parts, Yamaha recommends you use Genuine Yamaha Parts, or parts you know are equivalent in quality.

Any fault in the fuel, compression or ignition system can cause poor starting, excessive emissions, engine damage, or loss of power while riding. The troubleshooting chart describes a quick and easy series of system checks to locate the problem.

CARBURETOR ADJUSTMENT:

The carburetor is a vital part of the engine and its emission control system. Adjusting should be left to a Yamaha dealer or other qualified mechanic with the professional knowledge, specialized data and equipment to do so properly.



CLEANING AND STORAGE

A. CLEANING

Frequent thorough cleaning of your motorcycle will not only enhance its appearance but will improve general performance and extend the useful life of many components.

1. Before cleaning the machine:
   a. Block off the end of the exhaust pipe to prevent water entry; a plastic bag and a strong rubber band may be used.
   b. Make sure the spark plug, fuel tank cap, oil tank cap, and transmission oil filler cap are installed properly.
2. If the engine case is excessively greasy, apply degreaser with a paint brush. Do not apply degreaser to the chain, sprockets, or wheel axles.
3. Rinse the dirt and degreaser off with a 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 applications of high pressure detergents.

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 its surfaces with compressed air a chamois, clean towel, or soft absorbent cloth.
6. Chrome-plated parts such as handlebars, spokes, forks, etc., may be further cleaned with automotive chrome cleaner.

7. Clean the seat with a vinyl upholstery cleaner to keep the cover pliable and glossy.
8. Automotive-type wax may be applied to all painted and chrome-plated surfaces. Avoid combination cleaner-waxes. Many contain abrasives which may mar the paint or protective finish on the fuel and oil tanks.
9. After finishing, start the engine immediately and allow to idle for several minutes to dry it off completely.

B. STORAGE

Long term storage (30 days or more) of your motorcycle will require some preventive procedures to insure against deterioration. After cleaning the machine thoroughly, prepare it for storage as follows:

1. Drain the fuel tank, fuel lines, and carburetor float bowl.
2. Remove empty fuel tank, pour a cup of 10W to 30W oil in tank, shake tank to coat inner surfaces thoroughly and drain off excess oil. Re-install tank.
3. Remove the spark plug, pour about one tablespoon of 10W to 30W oil in to the spark plug hole, and re-install the spark plug. Kick the engine over several times (with igntion off) to coat cylinder walls with oil.
4. Lubricate all control cables.
5. Block up the frame to raise both wheels off ground.
6. Tie a plastic bag over the exhaust pipe outlet to prevent moisture from entering.
7. 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 cover.

Remove the battery and charge it. Store it in a dry place and re-charge it once a month. Do not store the battery in an excessively warm or cold place (less than 0°C (32°F) or more than 30°C (90°F)).

NOTE:

Make any necessary repairs before storing the motorcycle.

MISCELLANEOUS

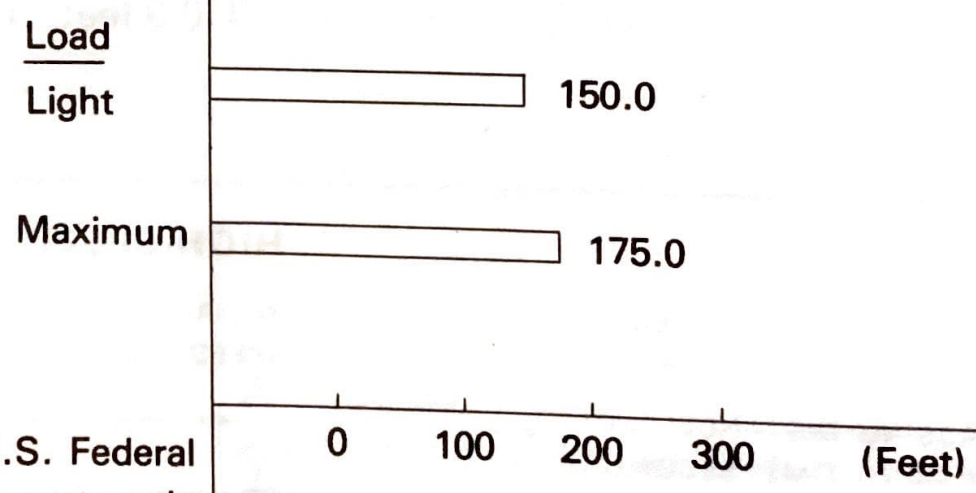
Consumer information

STOPPING DISTANCE

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

Description of vehicles to which this table applies: Yamaha motorcycle DT250F

A. Fully Operational Service Brake



NOTE: The statement above is required by U.S. Federal law. "Partial failures" of the braking system do not apply to this chart.

Stopping distance in feet from 60 mi/h, using the fully operational service brake system at lightly loaded and maximum loaded vehicle weight.

ACCELERATION AND PASSING ABILITY

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

The low-speed pass assumes an initial speed of 20 mi/h and a limiting speed of 35 mi/h. The high-speed pass assumes an initial speed of 50 mi/h and a limiting speed of 80 mi/h.

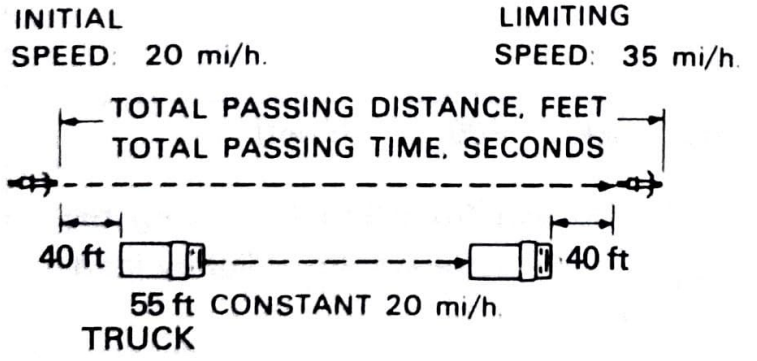
NOTICE: The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.

Description of vehicles to which this table applies: Yamaha motorcycle DT250F

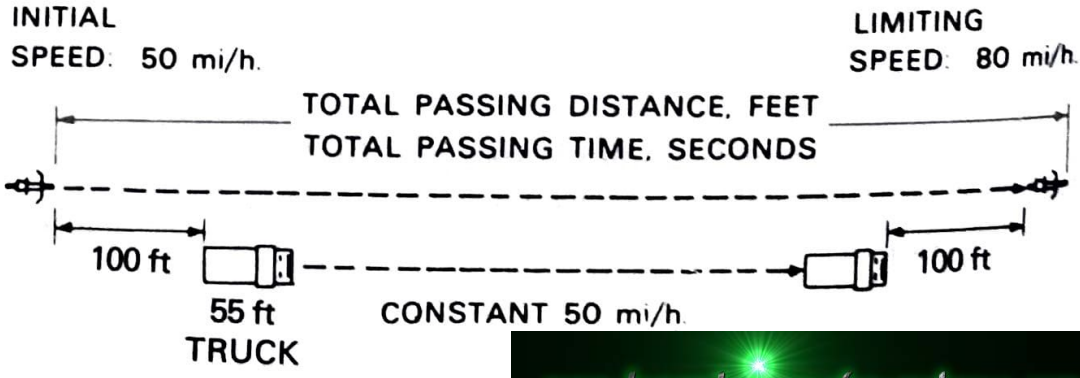
Summary table

Low-speed pass	366.3 feet:	7.6 seconds
High-speed pass	1410.3 feet:	15.7 seconds

LOW-SPEED



HIGH-SPEED



SPECIFICATIONS

MODEL	DT250F
DIMENSION:	
Overall length	2,185 mm (86.0 in)
Overall width	870 mm (34.3 in)
Overall height	1,165 mm (45.9 in)
Wheelbase	1,420 mm (55.9 in)
Minimum road clearance	260 mm (10.2 in)
WEIGHT:	
Net	131 kg (289 lb)
PERFORMANCE:	
Minimum turning radius	2,200 mm (86.6 in)
Climbing ability	
ENGINE:	
Type	Air-cooled, 2-stroke, gaoline, Torque induction
Engine model	2N6
Cylinder	Single, Forward inclined
Displacement	246 cc (15 cu.in)

MODEL	DT250F
Bore × Stroke	70 × 64 mm (2.76 × 2.52 in)
Compression ratio: Nominal	10.2 : 1
Effective	6.7 : 1
Starting system	Primary kick
Ignition system	C.D.I.
Gasoline tank capacity	8.5 lit (2.2 US gal)
Oil tank capacity	1.1 lit (1.2 US qt)
Lubricating system	Separate lubrication (Yamaha Autolube)
BATTERY:	
Capacity	6V, 6AH
Type	6N6-3B-1
Generator type	C.D.I. Magneto
Spark plug	B8ES (NGK)
Clutch type	Wet, multi-disc type
Carburetor	VM28SS
Air cleaner	Oiled, foam rubber
TRANSMISSION:	
Primary reduction system	Gear
Primary reduction ratio	65/23 (2.826)

MODEL		DT250F
Gear ratio	1st	33/13 (2.538)
	2nd	34/19 (1.789)
	3rd	26/20 (1.300)
	4th	23/23 (1.000)
	5th	20/26 (0.769)
Secondary reduction system		Chain
Secondary reduction ratio		47/14 (3.357)
STEERING:		
Caster		28°30′
Trail		120 mm (4.7 in)
TIRE SIZE:		
Front		3.00-21-4PR
Rear		4.00-18-4PR
SUSPENSION:		
Front		Telescopic fork
Rear		Swing arm (Yamaha Monocross)

MODEL		DT250F
SHOCK ABSORBER:		
Front		Coil spring, oil damper
Rear		Coil spring, gas, oil damper
FRAME TYPE:		Tubuler, double cradle
ELECTRICAL:		
Headlight		6V, 35/35W
Flasher light		6V, 17W
Tail/stop light		6V, 5.3W(3 CP) × 25W(32 CP)
Indicator light,	TURN	6V, 3W
	NEUTRAL	6V, 3W
	OIL	6V, 3W
	HIGH BEAM	6V, 3W
Meter lights		6V, 3W × 2

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 with these policies 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 unrepaired 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.
P.O. Box 6620
Buena Park, California 90622
Attn: Warranty Department

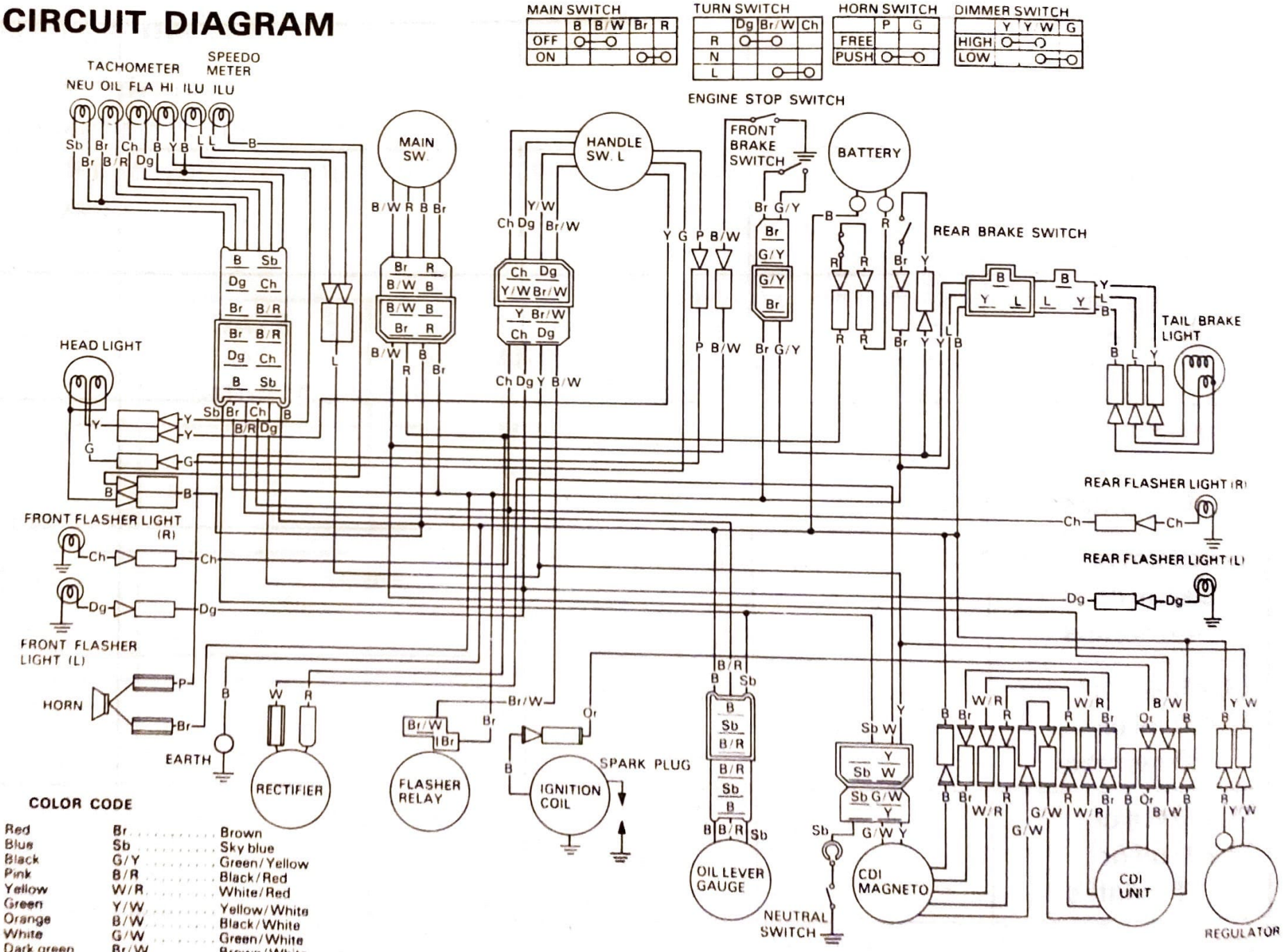
MAINTENANCE RECORD

Copies of work orders and/or receipts for parts you purchase and install will be required to document maintenance done in accordance with the emission warraty. The chart below is printed only as a reminder to you that the maintenance work is required. It is not acceptable proof of maintenance work.

MAINTENANCE INTERVAL	DATE OF SERVICE	MILEAGE	SERVICING DEALER NAME AND ADDRESS	SERVICING DEALER SIGNATURE
1,000 km or 600 mi or 1 month				
4,000 km or 2,500 mi or 7 months				
7,000 km or 4,500 mi or 13 months				
10,000 km or 6,200 mi or 19 months				

13,000 km or 8,000 mi or 25 months				
16,000 km or 10,000 mi or 31 months				
19,000 km or 12,000 mi or 37 months				
22,000 km or 13,700 mi or 43 months				
25,000 km or 15,500 mi or 49 months				
28,000 km or 17,400 mi or 55 months				
31,000 km or 19,200 mi or 61 months				

DT250F CIRCUIT DIAGRAM



COLOR CODE

R	Red	Br	Brown
L	Blue	Sb	Sky blue
B	Black	G/Y	Green/Yellow
P	Pink	B/R	Black/Red
Y	Yellow	W/R	White/Red
G	Green	Y/W	Yellow/White
Or	Orange	B/W	Black/White
W	White	G/W	Green/White
Dg	Dark green	Br/W	Brown/White
Ch	Dark brown		

MEMO

MEMO

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