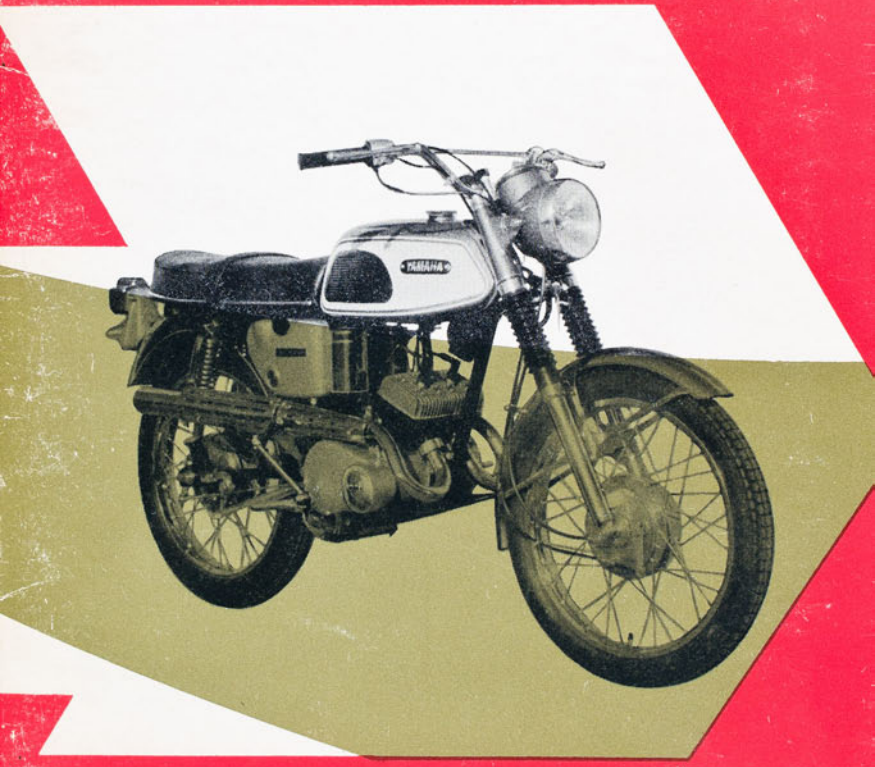
YAMA PARTS

YAMAHA

125 YAS1C

RIDER'S MANUAL

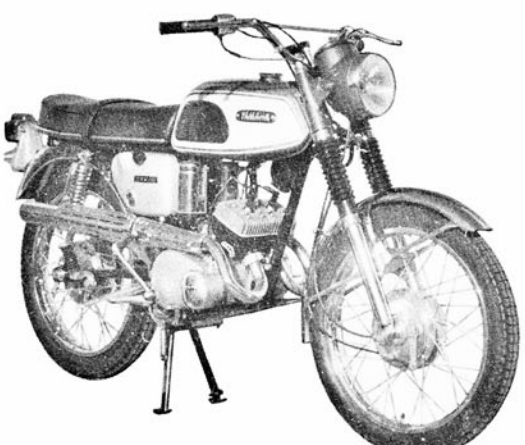


YAMAHA MOTOR CO., LTD.

Congratulations. You are now the owner of a new Yamaha YAS1C, The YAS1C is a high-performance motorcycle manufactured by the leading manufacturer of motorcycles in Japan.

The YAS1C, the newest of the Yamaha line model is designed for competition and high-speed road use. It features a rugged, powerful 2-cycle twin engine and Auto Lube, the revolutionary lubricating system developed by Yamaha Technical Research Laboratory and proved in all Yamaha models.

This manual explains some steps necessary for operating and caring for your new motorcycle. Please read it carefully to become thoroughly familiar with all features and advantages built into your YAS1C.



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1 Special Features and Specifications

1-1 Special Features

1 Advanced Engine with Auto Lube

This highly sophisticated powerful 2-cycle engine when lubricated with Auto Lube develops 15.2 bhp at 8,500 rpm. After normal break-in you can expect outstanding acceleration and a top speed of over 120 km/h (75mph)

You can enjoy high-speed touring and competition to the fullest.

2 5-Speed Gearbox

A five speed transmission assures you of plenty of power in any driving situation.

3 Special Twin Carburetors

Starter jets are used in the YAS1C's carburetors, and in all other Yamaha motorcycles, to make starting easy even in freezing weather.

4 Reliable Brakes

Both brakes are sealed against dirt and water. This means that your brakes will work well in rain or on dirt roads.

5 Adjustable Rear Suspension

The rear spirngs can be adjusted to suit changes of road surface, speed and load.

6 Primary Kick System

A primary-coupled kick-starter crank lets you start the engine with the gear change pedal in any position, eliminating the need to shift to neutral before starting in an emergency: simply squeeze the clutch lever and kick the starter.

1-2 Specifications YAS1C

Model		YAMAHA YAS1C
Dimensions	Overall length	1,855 mm 73.0 in.
	Overall width	810 mm 31.9 in.
	Overall height	1,005 mm 39.6 in.
	Wheelbase	1,200 mm 42.2 in.
	Minimum road clearance	150 mm 5.9 in.
Weight	Gross net	112 kg 246 lbs. 100 kg 220 lbs.
Performance	Speed range	115—120 km/h, 72—75 mph.
	Fuel consumption(on paved level road)	65 km/ℓ (at40km/h) 150 m/g (at25mph)
	Climbing capacity	23.5°
	Braking distance	11.5 m/50 km 38 ft at 30 mph
	Minimum turning radius	1,750 mm 68.9 in.
Engine	Model	YAMAHA AS1
	Classification	Air-cooled, 2-cycle gasoline
	Lubricating system	Yamaha Auto Lube: automatic lubrication
	Number of cylinder	2, parallel
	Displacement	124
	Bore Stroke	43×43×2
	Compression ratio	7.0 : 1
	Maximum power	15.2 PS/8,500 rpm.
	Maximum torque	1.30 kg-m/7,500 rpm
	Starting system	Kick starter
	Ignition system	Battery ignition

Model		YAMAHA YAS1C
Transmi-ssion	Primary reduction ratio	74/19=3.894 gear
	Secondary reduction ratio	39/15 (2.600) chain
	Clutch	Wet, multiple-disk
	Gear box	Constant mesh, 5-speed
Gear ratio	Gear ratio Low	3.182 (total reduc. ratio 32.2)
	Second	1.875 (total reduc. ratio 18.9)
	Third	1.300 (total reduc. ratio 13.2)
	Fourth	1.045 (total reduc. ratio 10.6)
	Top	0.840 (total reduc. ratio 8.52)
Body	Frame	Diamond-type tube frame
	Front suspension	Telescopic (coil spring oil damper)
	Rear suspension	Swinging arm (coil spring oil damper)
Steering	Steering angle	47°
	Caster	63°
	Trail	86.5 mm 3.4 in.
Brake	Type	Internal expanding
	Front	Right hand operated, cable-actuated
	Rear	Right foot operated, rod-actuated
Tires	Front	2.50-18-4P.R.
	Rear	2.75-18-4P.R.
Tanks	Gasoline tank capacity	9.5 ℓ (2.5 gal.)
	Oil tank capacity	1.5 ℓ (1.6 qts.)

2 What is Yamaha Auto Lube?

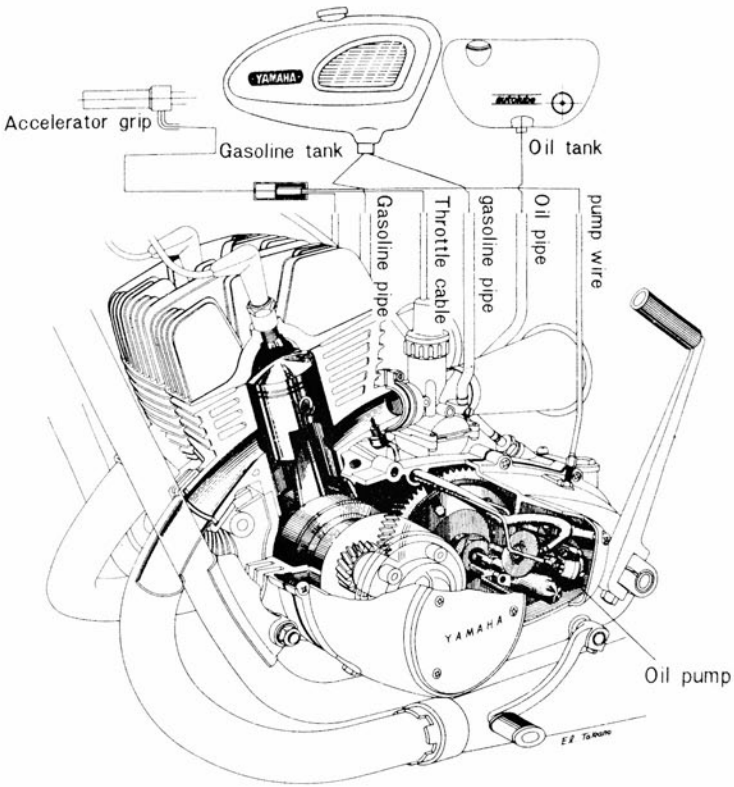
Auto Lube is the best lubricating system available for 2-cycle engines. It eliminates the need for mixing oil and gasoline. The amount of oil injected into the manifold is controlled by a compact, high-precision oil pump. The plunger pump, driven by the reduction gear has its displacement controlled by the throttle opening.

The rate of injection varies with engine speed and load as indicated by throttle opening. Because of the wide range of control Auto Lube offers, precisely the right amount of oil is available at all times.

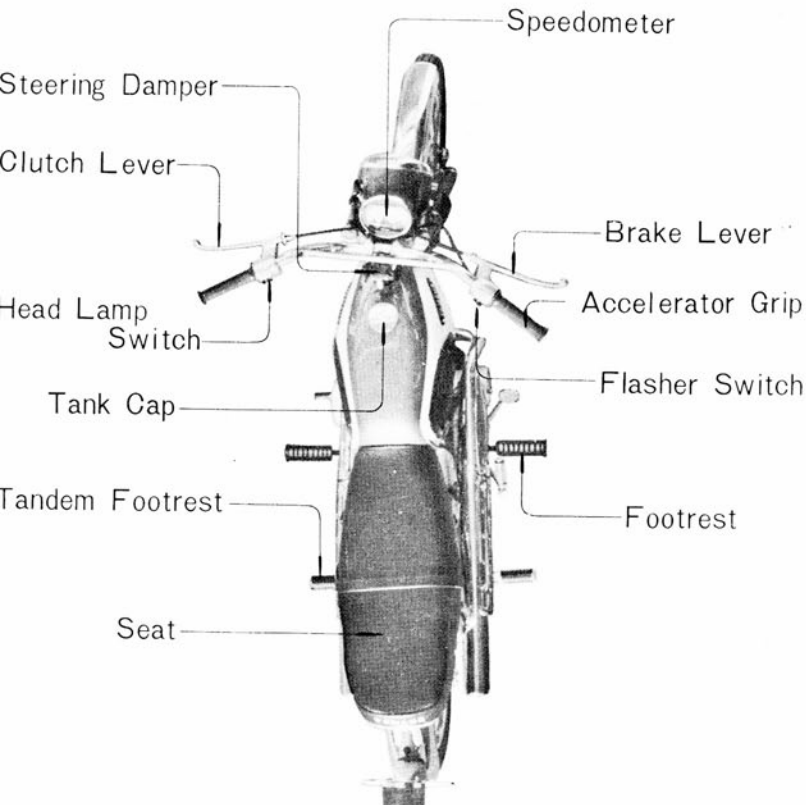
Auto Lube eliminates a number of major problems unavoidable with pre-mix lubrication. This means both improved performance and reliability.

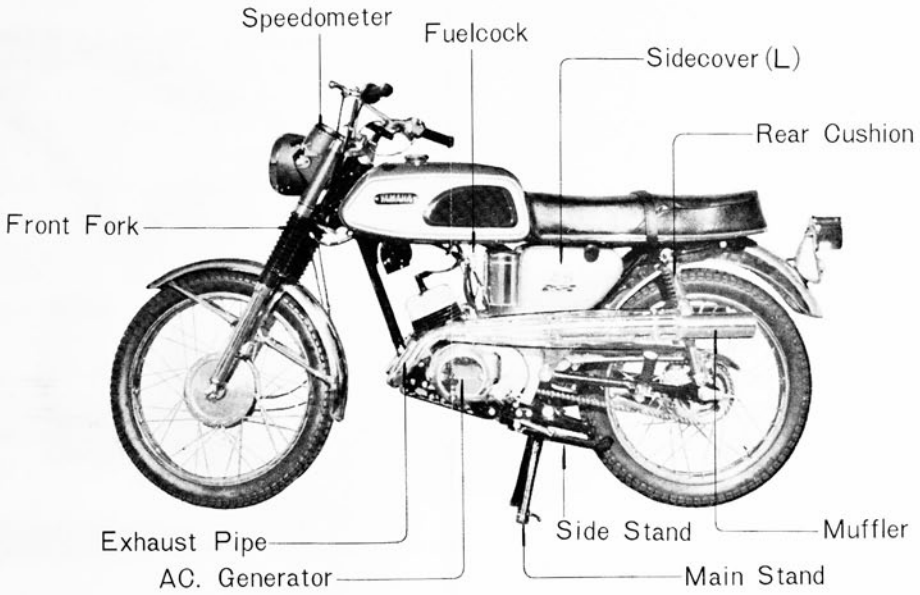
Yamaha Auto Lube Features:

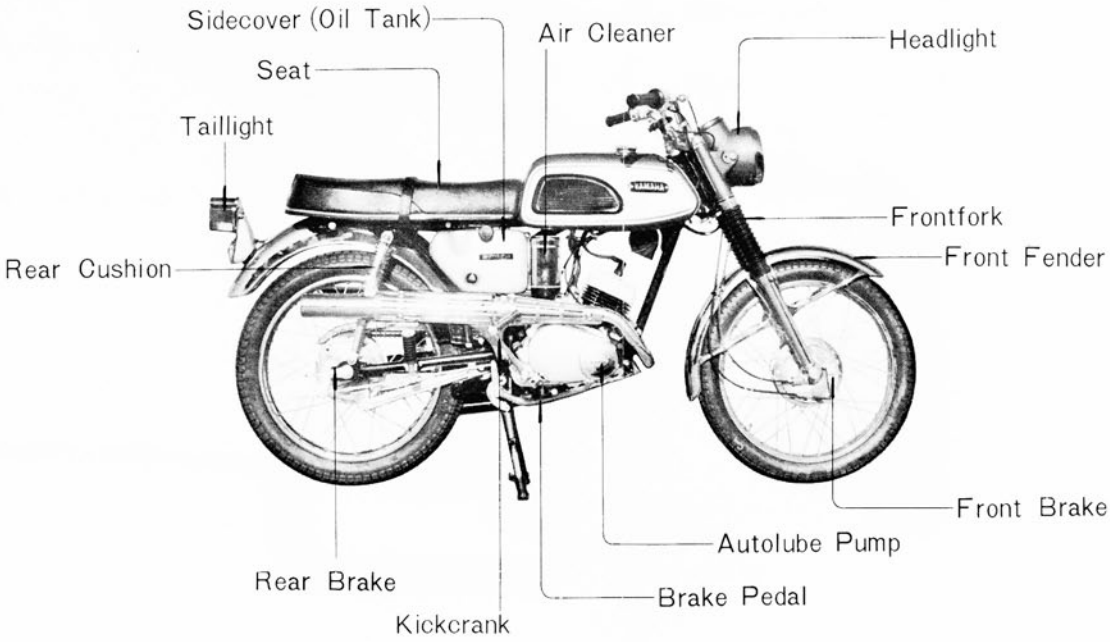
1. Oil consumption is greatly reduced.
2. More effective lubrication results becuase the oil enters the engine in larger size droplets.
3. There is much less unwanted carbon deposited on the spark plugs, cylinder heads, pistons and exhaust system!
4. There is much less exhaust smoke.
5. Refueling is simplified.
6. Because poor quality oils can easily be avoided, and because the possibility of mismeasuring or inadequately mixing fuel is eliminated, Auto Lube offers completely consistent lubrication.



3 Main Parts







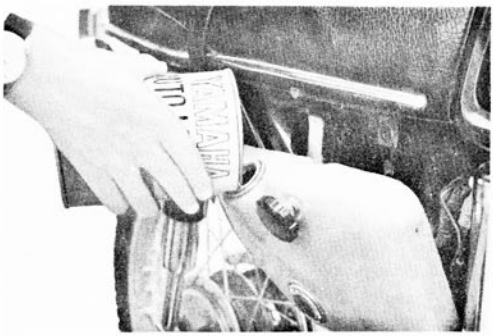
4 Operating Instructions

4-1 What you should know before operating

4-1-1 Gasoline and Oil

Since it is unnecessary to mix fuel and oil with Auto Lube, gas. can be pumped directly into the fuel tank. The oil tank is located on the righthand side of the machine. The minimum octane required to avoid preignition is 72. It is not necessary to use premium fuel.

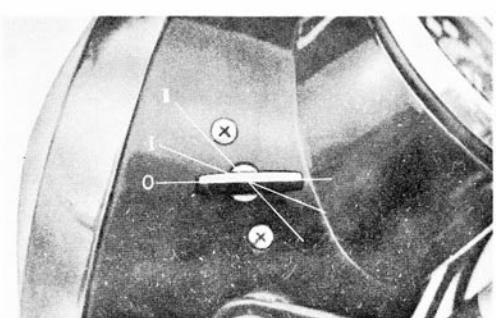
Use SAE 30 MS oil in the Auto Lube system. High detergent oils are desirable though not necessary. A multi-viscosity oil like SAE 10-20-30 MS is also acceptable. Find the best oil available in your area and use this brand consistently. Your dealer will be able to help you in your selection. The few pennies you save by using low grade oils will not pay for damage they often do.



4-1-2 Main switch

The following chart shows the key position at which the lights, horn and ignition circuit are switched on or off:

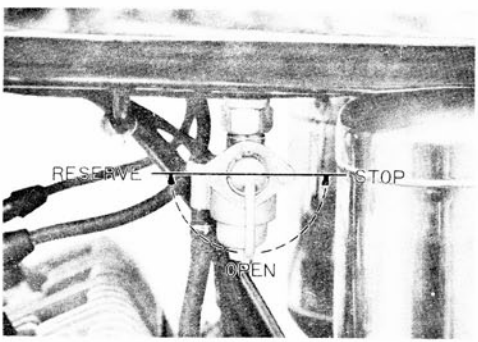
Parts Name	Key Position			Instructions
	0	I	II	
Ignition circuit		○	○	I & II…Kick starting
Headlight			○	
Taillight			○	Turn on left handlebar switch
Stop light		○	○	Goes on when gear is shifted
Neutral lamp		○	○	into neutral.
Meter lamp			○	
Horn		○	○	Press horn button.



0 When stopped
I Day driving
II Night driving

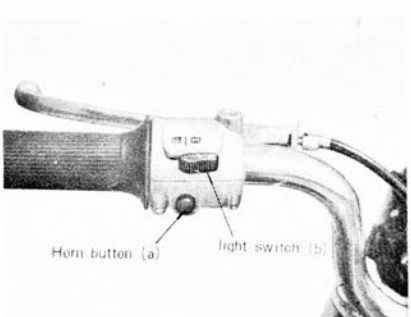
Fuel Cock

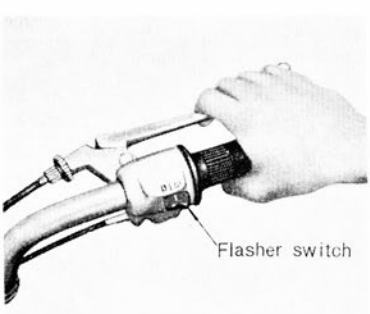
To fill the carburetor float bowels, set the fuel cock lever in the OPEN position. If you should run out of fuel on the road, turn the lever to the RESERVE position. With just over a quart of fuel, you can drive nearly 40 miles=enough to get you to the nearest service station for refueling. When parking or storing your machine, be sure that the lever is in the STOP position



4-1-4 Handlebar switch & Horn button

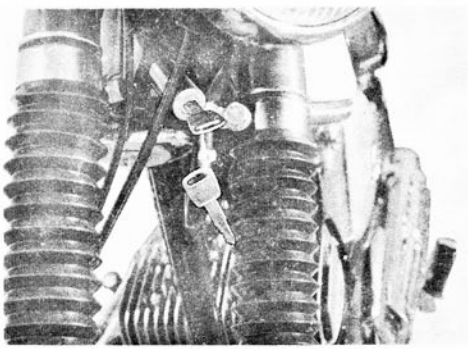
Name	Instructions	Where located
Horn button (a)	Press.	on left side of handlebar
Headlight beam switch (b)	To lower the beam, push toward the left: To raise the beam, push toward the right.	on left side of handlebar (See the photo below)





4-1-5 Steering Lock Key

Turn the handle bars to the left lock, insert the steering lock key and turn it 90° counterclockwise. Remove the key after checking to see that the front forks are securely locked. Be sure to lock your forks whenever you park.

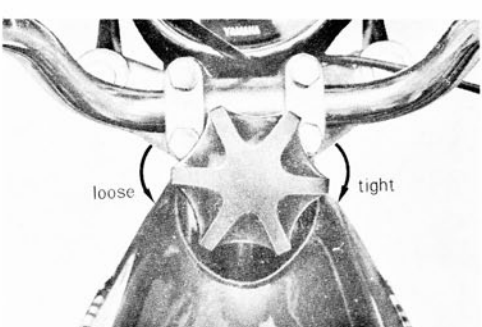


4-1-6 Steering Damper

When driving on rough roads, adjust the steering damper to absorb shock by turning it clockwise.

To get heavier steering, turn the damper knob clockwise.

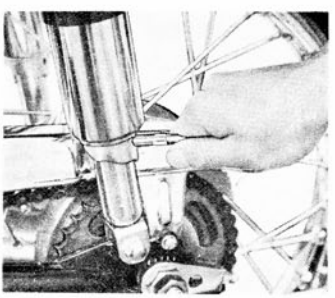
To get lighter steering, turn the damper knob counterclockwise.

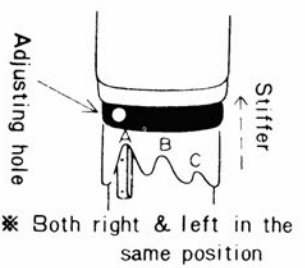


4-1-7 How to Adjust the Rear Suspension

Insert the screwdriver from your rider's tool kit in the adjusting hole. Turn the notched collar to change the spring rate. The rear suspension should be adjusted to fit your load, speed and road conditions.

Standard ..... A
Intermediate ..... B
Stiff C





※ Both right & left in the same position

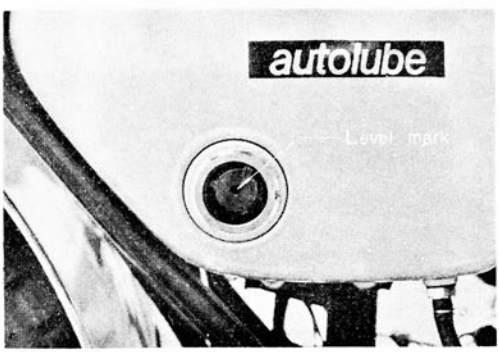
4-2 What you should check before riding

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

a Do you have enough fuel ?

b Do you have enough oil ?

If the oil is below the red level mark in the glass port, add oil. Always use the best oil available.



c Are your tire pressures correct ?

Incorrect tire pressures affect the comfort, handling, acceleration and tire of your machine. Incorrect tire pressures can lead to accidents !

Tire	Pressure lbs per sq. in.	
	1-person riding	2-persons riding
Front	22	22
Rear	26	28

d Do both brakes and the brake light work ?

e Are the lights and horn in working order ?

Check the headlight, tail light, speedometer lights and warning lights. The few minutes you save by not checking are not worth being stranded without lights !

4-3 Starting, Shifting gears, Stopping and Parking

4-3-1 Starting

a Before Starting

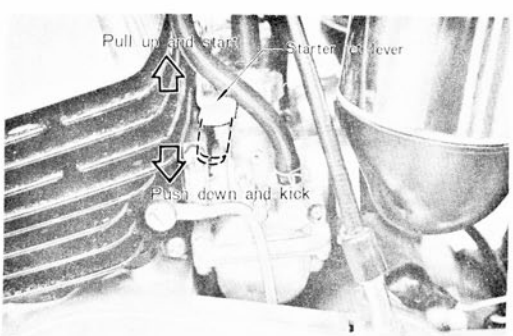
1. Turn the fuel cock lever to the "OPEN" position.
2. Insert the ignition key and turn it to "DRIVING". Make sure the neutral lamp is on.

CAUTION: Never start the engine unless you are in neutral.

b Starting in Cold Weather

Any engine is difficult to start in cold or freezing weather. However, YAS1C uses a new type carburetor with a built-in starter jet that gives a richer mixture for easier start.

1. Depress the starter jet lever.
2. Start the engine with the kick starter keeping the throttle closed.



c Starting When Your Engine is Warm

When your engine is warm after riding or in the summer, don't use the starter jet lever.

Open the throttle slightly ($\frac{1}{4}$ turns or less) and kick the starter.

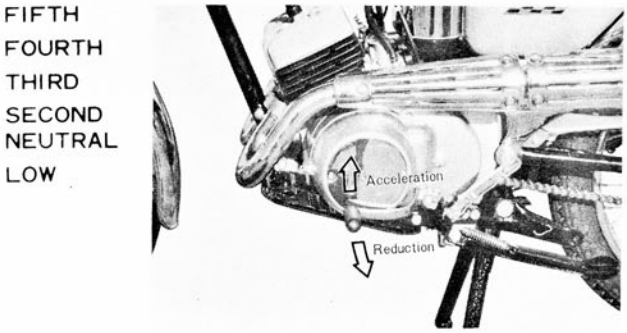
d Warming Up

To get maximum engine life, always "warm up" the engine for 1 or 2 minutes 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. Don't forget to release the starter jet lever.

4-3-2 Shifting Gears

The YAS1C has a 5-speed transmission. The transmission allows you to control the amount of power you have available at a given speed for starting, accelerating, climbing hills, etc.

The use of the gear lever is illustrated below.



To shift into NEUTRAL, depress the gear lever to the end of its travel (you will feel a stop when you are in low gear), : then raise it slightly.

If you are in neutral, the green lamp in the speedometer will be on.

1. Pull the clutch lever to disengage the clutch.
2. Shift into LOW.
3. Open the throttle gradually, and, at the same time, release the clutch lever slowly.
4. At 10 to 15 mph, release 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 release the clutch lever.
7. To accelerate or decelerate, use the same procedure.
8. Except for competition or high speed driving, shift so that the engine speed remains between 4,000 and 5,000 rpm.

Gear	Driving conditions	Optimum speed
Low	Starting or hill climbing	0 to 15 mph
Second	Hill climbing or going slowly	15 to 25 mph
Third	On easy uphills or in streets	25 to 30 mph
Fourth	On main roads	30 to 40 mph
Fifth	High-speed running	35 or over

4-3-3 Driving on Hills

a Going Uphill

When starting to climb a gentle grade, open the throttle little by little to avoid loosing engine speed and power.

When climbing a steep grade, shift down from FIFTH to FOURTH or fom FOURTH to THIRD as required.

b Going Downhill

On a long down grade or sharp descent, don't rely on the brakes alone, but use the engine compression as a brake: shift into

FOURTH or THIRD as required by the grade and release the throttle.

CAUTION: Never attempt turn off the ignition switch on a long hill. This will only cause the spark plug to foul.

4-3-4 Stopping and Parking

a Stopping

1. Be sure to apply the front and rear brakes together. Applying only one may, under certain conditions, cause skids.
2. Apply both brakes gently.
3. After stopping, be sure to shift into NEUTRAL.
4. Turn the fuel cock lever to "STOP."
5. Remove the ignition key.

b Parking

1. Close the fuel cock and remove the ignition key.
2. Lock the handlebars by using the steering lock key.

4-4 Breaking in period

During the first 600 miles, you can, by observing a few simple precautions, greatly increase the life of your YAS1C and its performance. The following precautions will guarantee proper seating in for your engine.

1. Up to the first 300 miles, drive at 40 m.p.h or under while in top gear.
2. Up to the next 300 miles, drive at 50 m.p.h or under while in top gear.

(For the speed limit of each gear against top gear, see the following table.)

Driving Distance	Maximum Speed, mph				
	Top	Fourth	Third	Second	Low
0 to 300 miles	40	30	25	20	10
300 to 600 miles	50	40	30	25	15

3. Don't accelerate or decelerate suddenly. Use the throttle gently.

5 How to keep your Motorcycle in top condition

Regular inspection and maintenance help keep your motorcycle in top condition. They are preventative measures. Don't wait until something goes wrong.

5-1 Periodical service at Your Yamaha Dealer's

When you have reached 300, 1,000 and 3,000 miles, have your Yamaha dealer inspect and service the following things.

Periodical Inspection Guide

Check Point	Driving Distance			
	300 miles	1,000 miles	3,000 miles	thereafter every 2,000 miles
Front & rear brakes adjustment	○	○	○	○
Clutch adjustment	○	○	○	○
Gear oil change	○	○	○	○
Greasing		○	○	○
Battery fluid	○	○	○	○
Spark plugs	○	○	○	○
Ignition timing		○	○	○
Carburetors adjustment		○	○	○
Carburetors cleaning			○	○
Air cleaners cleaning		○	○	○
Cylinder heads & pistons cleaning		○	○	○
Mufflers cleaning		○	○	○
Bolts & nuts tightening		○	○	○
Drive chain		○	○	○
Oil pump adjustment	○	○	○	○

5-2 What you should do yourself.

In addition to the periodic inspections by your Yamaha dealer, it is wise to check the following things yourself once or twice a month. All these operations can be carried out with the tools in your rider's tool kit.

5-3 Periodical inspectionguide

Check point	Instructions	P. Ref.
Spark plugs	Clean.	30
Air cleaners	Clean.	31
Battery	Check or, if necessary replenish battery fluid.	29
Drive chain	Adjust and oil.	33
Gear oil	Change.	28
Front & rear brakes	Adjust cables	25 · 26
Mufflers	Clean.	34
Bolts & nuts	Tighten.	35

Be sure to go through this inspection before long trips.

5-4 Service Tools and their use

5-4-1 Service tools:

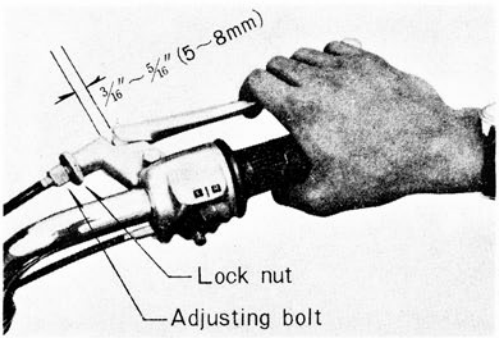
1. 9 × 10 mm double-ended spanner
2. 17 × 14 mm double-ended spanner
3. 23 × 26 mm double-ended spanner
4. Pliers
5. 21 × 23 mm plug socket
6. 10 mm plug socket
7. ⊕ screwdriver
8. ⊕ ⊖ screwdriver
9. Point spanner

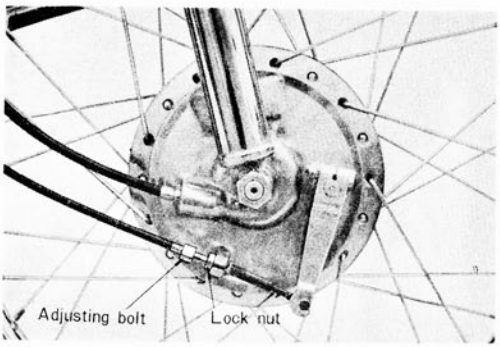
5-4-2 Use of Service Tools

1 Adjusting the brakes

a Front Brake

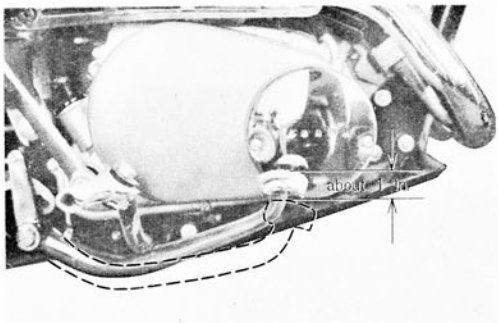
The correct end play of the brake lever is 3/16"~5/16" (5~8mm) Adjust this by turning the adjusting nut at the end of the brake cable half a turn at a time.

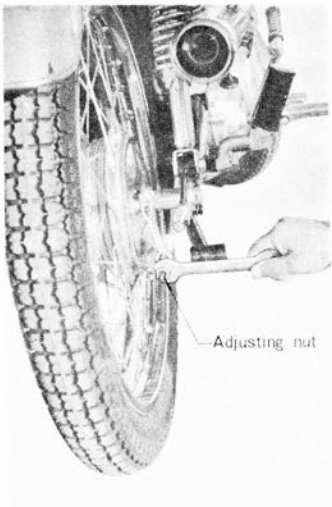




b Rear Brake

The correct end play for the brake pedal is about 1″ (20 to 30 mm). Adjust this by turning the adjusting nut at the end of the rear brake cable a half turn at a time. After adjusting the brake, make sure the brake light is working. If not, readjust the stoplight switch.





2 Adjusting the Clutch

The clutch lever should be adjusted to have end play.
If there is too much end play, the lever may not disengage the clutch.
If there is no end play, the clutch will slip.

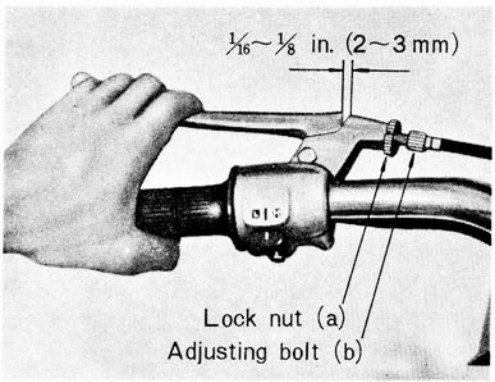
Clutch lever side

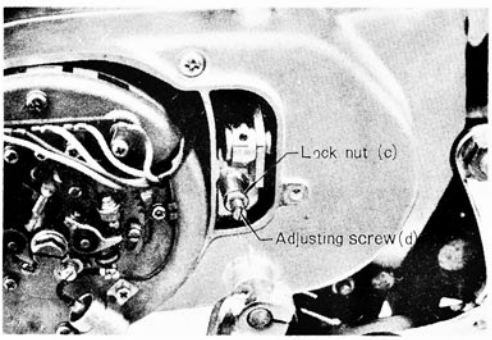
1. Loosen the locknut (a)
2. To decrease play, turn the adjusting bolt(b) clockwise. To increase play, turn the bolt counterclocwise.

Crankcase cover side

1. Loosen the locknut (c)
2. To increase play, loosen adjusting screw(d)(counterclockwise)and to decrease play, tighten the nut (clockwise)

When your adjustment is correct, tighten locknut(a or c).



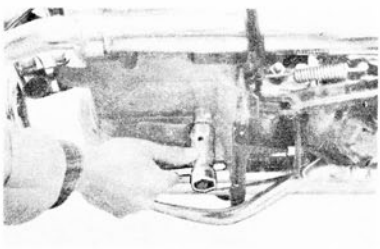


3 Gear Oil

Be sure to change the gearbox oil at 300, 1,000 and 3,000 miles and every 2,000 miles thereafter. Use SAE 30 MS or SAE 10-20-30 MS oils.

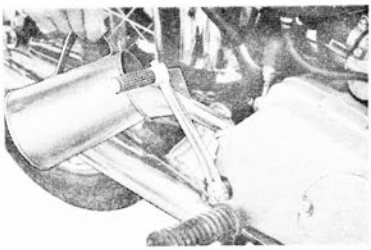
a Draining the Gearbox

To drain the oil, remove oil drain plug on the bottom of the engine and in the left crankcase cover.



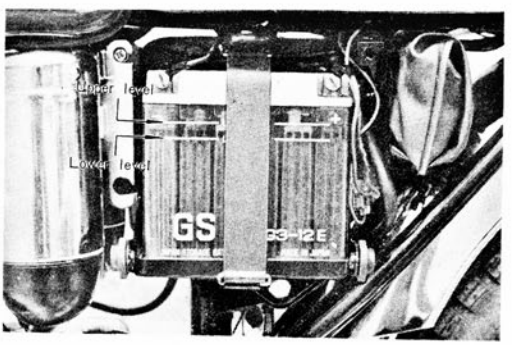
b Refilling the Gearbox

After draining, tighten the drain plugs securely. Remove the oil filler cap near the left air cleaner and pour in 0.94 quarts of oil.



4 Battery

The battery fluid should always be kept between the upper and lower level lines. If it is below the lower one, fill it with distilled water up to the upper one.



Check to see that the overflow tube is not clogged.

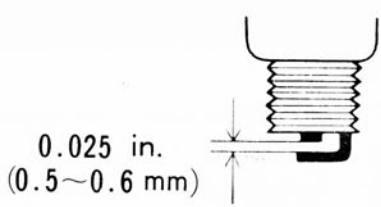
If your motorcycle will not be in use for more than a month, remove the battery and keep it in a dry cool place, or give it to your dealer to keep for you. Be sure to have your dealer charge it once a month.

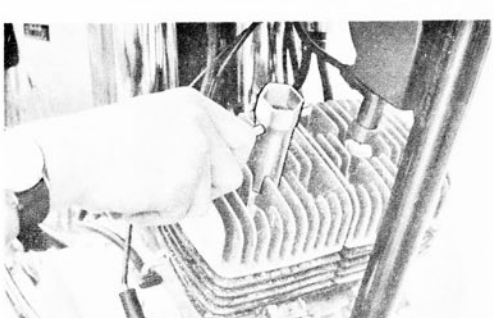
5 Spark Plug

A spark plug ignites the fuel-air mixture in the cylinder. Carboned or oiled plugs cause hard starting, misfiring and other problems. Remove carbon from the electrodes with a wire brush from time to time.

a Spark Plug Gap: The correct gap is 0.025 in. (0.5~0.6 mm)

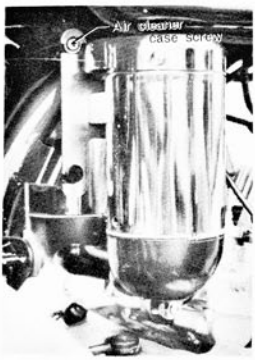
b Heat Range: The standard plug is an NGK B-8HC.
The spark plug will be covered with carbon if it is too cool for operating conditions. If the plug is correct, the insulator will be relatively clean and have a tan color. If the standard plug is too cool, use an NGK B-7HZ.

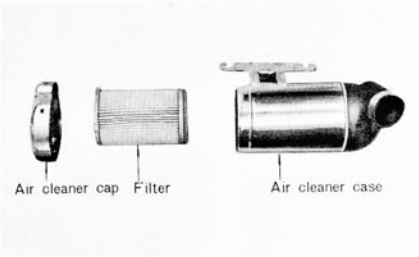




6 Air Cleaner

An air cleaner excludes dust and dirt from the engine. It must be clean at all times. If you drive often on dirt roads, be sure to clean it at least once a month.





Cleaning

The air cleaner is a paper filter. Wash the filter in clean gasoline. Blow compressed air through it from the inside. Never wash the filter in water or oil. Use clean gasoline.

7 Adjusting the Carburetor

If the standard carburetor settings, which were done under rigid test conditions, are changed, it may result in poor performance. Adjust the carburetors as follows:

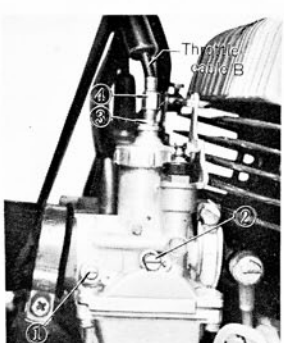
a Idling

1. Tighten the right and left pilot air screws (1) all the way, then loosen them 1½ turns.
2. With the engine running, turn the throttle adjusting screw (2). Adjust it to a position where the engine runs smoothly at low rpm.

NOTE: To decrease rpm, turn the screw clockwise.
To increase rpm, turn the screw counterclockwise.

3. The amount of exhaust from each muffler should be the same.

NOTE: The proper idle speed is between 1,100 and 1,300 rpm.



b Throttles

The right and left throttle slides should move simultaneously when the throttle is turned.

1. Turn the throttle wide open.
2. Loosen the cable adjuster locknut (3). Then turn the cable adjuster (4) just until there is no play.
3. After adjusting, tighten the locknut.

8 Drive Chain

The drive chain should have ½″−⅝″(20 mm) of up and down play measured at the center of the lower section of the chain wheel on the ground. A dirty or dry chain will wear rapidly and damage the sprockets. Check the chain regulary to make sure that it is properly oiled and adjusted. It is wise to wash the chain off with gasoline before reoiling it.

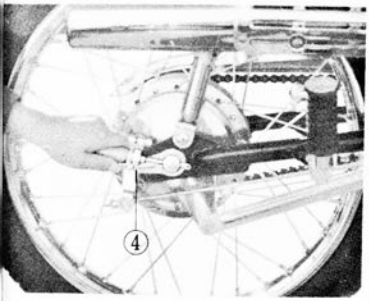
Adjusting

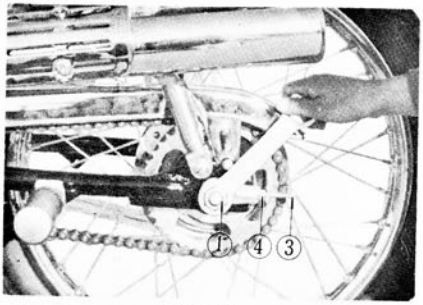
a Loosen the rear wheel outside axle nut(1).

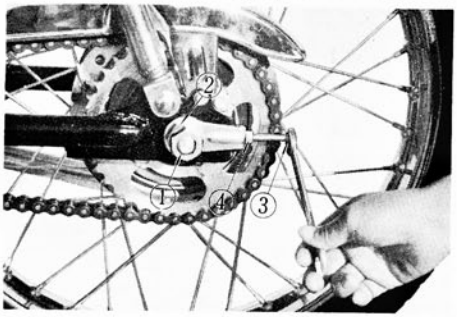
b Then loosen the inner axle nut(2) and both lock nuts(4).

c Tighten the both adjusting bolts(3), to decrease chain play. Loosen them, to increase the play.

d After adjustment, tighten nuts(4), then the inner axle nut(2). and the outside axle nut(1).

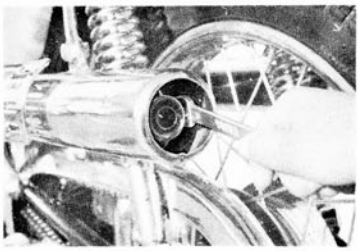






9 Cleaning the Muffler

To remove the inner cylinder from the muffler, remove the cylinder set screw and pull the cylinder out with pliers. Remove the carbon with a wire brush.



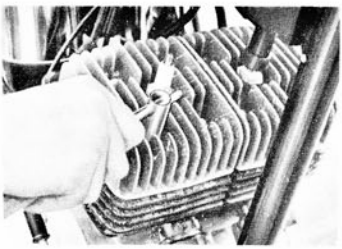
10 Cleaning the Cylinder Heads and Pistons

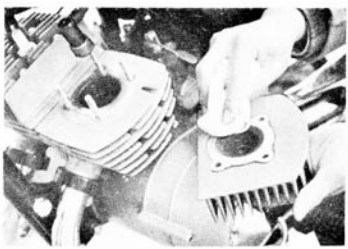
Carbon accumulation around the cylinder head and piston causes poor perfomance, loss of power, overheating, piston slap and other problems.

a Remove the cylinder heads and remove all carbon from the combustion chambers.

b Remove all carbon from the piston crowns.

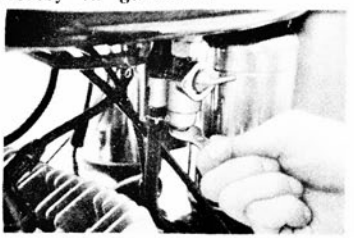
NOTE: Use a wire brush or screwdriver being careful not to mark the aluminum. Clean the surfaces with gasoline.

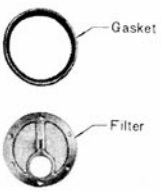




...g the Fuel Cock Filter

Th...ck filter removes impurities from the gasoline before it reaches the carburetors. A clogge filter will keep from fuel reaching the carbs. The filter must be cleaned from time to time. Remove the cup from the fuel cock and then the filter. Wash it carefully in gasoline.





12 Bolts and Nuts

Go over your machine periodically checking to see that all hardware is secure. In particular check the following items.

- Front & rear axles
- Foot rests
- Swinging arm shaft
- Mufflers
- Center stand
- Side stand
- Engine fittings
- Carburetors
- Air clener covers
- Brake linkage
- Exhaust ring nuts
- Rear shock absorbers

13 Greasing and Oiling

	Parts to be lubricated	Distance of driving at 1st lubr., miles	Lubrication interval, miles	Type of Lubricant
1	Front brake cam shaft	600	2,000	cup grease
2	Rear brake cam shaft	600	2,000	〃
3	Front brake cable	600	2,000	〃
4	Rear brake cable	600	2,000	〃
5	Accelerator grip	600	2,000	〃
6	Stand shaft	600	2,000	〃
7	Brake linkage	600	2,000	〃
8	Drive chain	300	600	motor oil
9	Gear oil	300	600	
10	Swinging arm shaft	600	2,000	cup grease

6 Repair and Troubleshooting Charts

6-1 Factory Authorized Service

Your Yamaha dealer is a factory trained mechanic who guarantees thorough and correct maintenance for your motorcycle. We recommend that you let your dealer make all repairs and adjustments on your motorcycle. You will be assured prompt and good service.

6-2 Genuine Yamaha Parts

Always use genuine Yamaha parts and not "substitute" brands. Yamaha parts are manufactured to meet the factory's exacting standards of precision and quality.

6-3 If a trouble should occur·····

The YAS1C undergoes rigid factory tests to assure you long and satisfactory performance. However, if something would go wrong with your machine, immediately ask your Yamaha dealer for advice. He is always glad to answer your questions.

IMPORTANT: Some components are sealed or cannot be disassembled. If repairs to such components are necessary go to your Yamaha dealer. Yamaha cannot be responsible for repairs and adjustments to such components.

NOTE: The inspection and maintenance of Auto Lube are the dealer's job.

6-4 Troubleshooting charts

I Engine does not start while kicking.

1 a Empty gasoline tank b Closed fuel cock	Refill Open.
2 Incorrect usage of starter lever.	See Section 4-3-1.
3 Dirty or worn spark plug	If plug soots up with carbon, clean and blow dry, or replace.
4 There are sparks, but engine does not start.	Incorrect plug gap. See page 30.
5 No spark (To see if there is no spark, remove plug with high-tension lead in place; ground it to cylinder head, and then kick down crank pedal).	Replace. If plug is not defective, either ignition coil or point breaker is faulty. Have your dealer repair.
6 Fuel in carburetor is overflowing.	Inspect carburetor for overflowing. Have your dealer disassemble and clean.

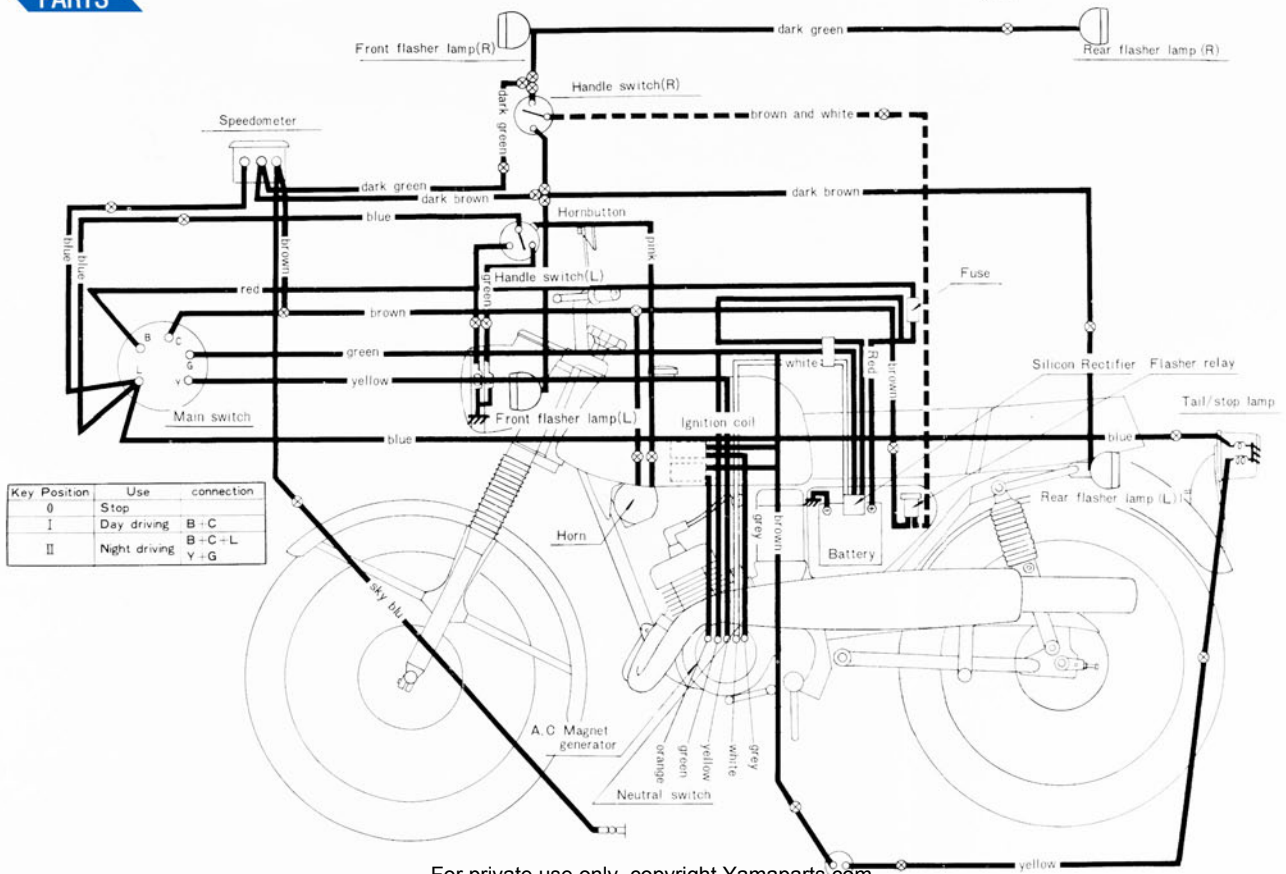
2 Engine overheats and speed is slow

1	Improper ignition timing	Have your dealer inspect
2	Clogged bypass in carburetor	Have your dealer clean
3	Loose carburetor fitting	Tighten
	and/or cylinder head	
4	Dirty or clogged air cleaner	Clean
5	Lack of oil in drive chain	Apply oil
6	Carbon coated muffler	Clean (See p. 34)

If any troubles should occur, please consult with your Yamaha dealer. He is always glad to answer your questions.

YAMA PARTS MEMO

125 YAS1C Circuit Diagram



Key Position	Use	connection
0	Stop	
I	Day driving	B+C
II	Night driving	B+C+L Y+G

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