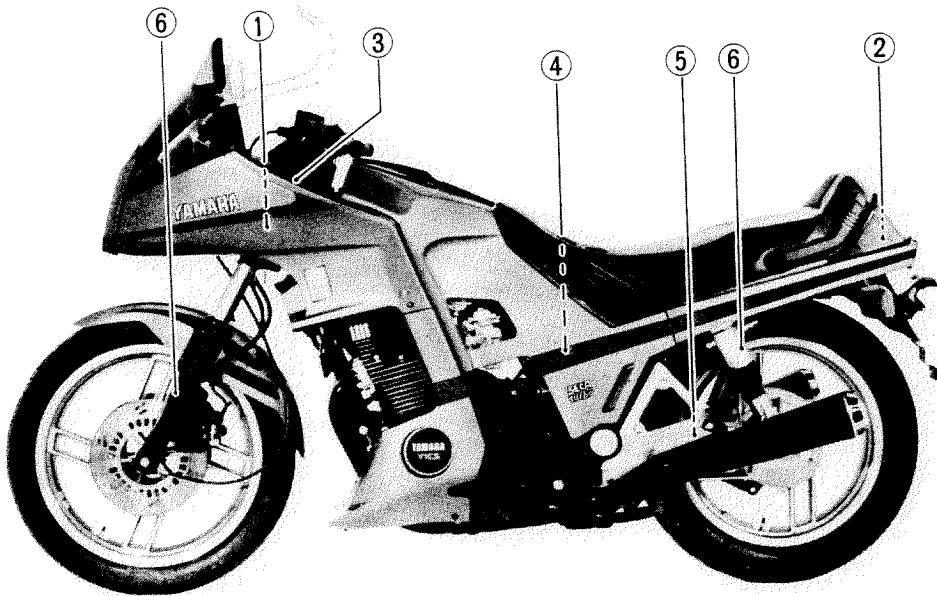


LOCATION OF THE "CAUTION AND SPECIFICATION LABELS"



1

MFD. BY YAMAHA MOTOR CO., LTD. (Month/Year) GVWR xxx LBS. GAWR FRONT –
 xxx LBS. WITH xxxx TIRE, xxxx RIM, AT xx PSI COLD. REAR – xxx LBS. WITH xxxx
 TIRE, xxxx RIM, AT xx PSI COLD.
 THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY
 STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.
 VEHICLE IN NO. xxxx (17 digits)
 TYPE CLASSIFICATION MOTORCYCLE.

4

CAUTION

(BATTERY REMOVAL AND INSTALLATION)

1. Disconnect breather pipe before removing battery.
2. After installing battery, be sure to connect breather pipe into place.

2

VEHICLE EMISSION CONTROL INFORMATION		
ENGINE FAMILY: CYA06344CB		THIS VEHICLE CONFORMS TO U.S. EPA
DISPLACEMENT: 683 cc		AND CALIFORNIA REGULATIONS
EXHAUST EMISSION CONTROL SYSTEM: EM		APPLICABLE TO 1982 MODEL YEAR NEW MOTORCYCLES.
ENGINE TUNE-UP SPECIFICATIONS AND ADJUSTMENTS: AT NORMAL OPERATING TEMPERATURE, PUT VEHICLE IN THE UPRIGHT POSITION. TRANSMISSION IN NEUTRAL. AND WARM UP ENGINE.		
ITEM	SPEC	INSTRUCTIONS
1. IGNITION TIMING $^{\circ}$ BTDC AT IDLE SPEED	NO ADJUSTMENT	
2. IDLE SPEED (RPM)	1080	ADJUST THROTTLE STOP SCREW
3. IDLE MIXTURE		NO ADJUSTMENT
4. VALVE CLEARANCE (MM)	IN: 0.11~0.15 EX: 0.16~0.20	SEE SERVICE MANUAL
5. SPARK PLUG NGK BP8ES ND W24FP-U		SPARK PLUG GAP (MM): 0.7~0.8
FUEL SPECIFICATIONS		
GASOLINE GRADE: PREMIUM RESEARCH OCTANE: 95 MIN	ENGINE LUBRICANT SPECIFICATIONS ENGINE OIL: SAE 20W/40 TYPE "SE"	
YAMAHA MOTOR CO., LTD.		

5

USE HYPOID GEAR OIL
SAE #80

YAMAHA MOTOR CO., LTD.

6

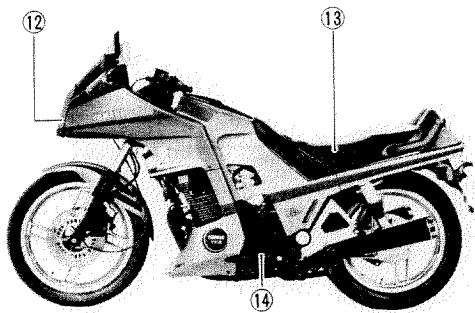
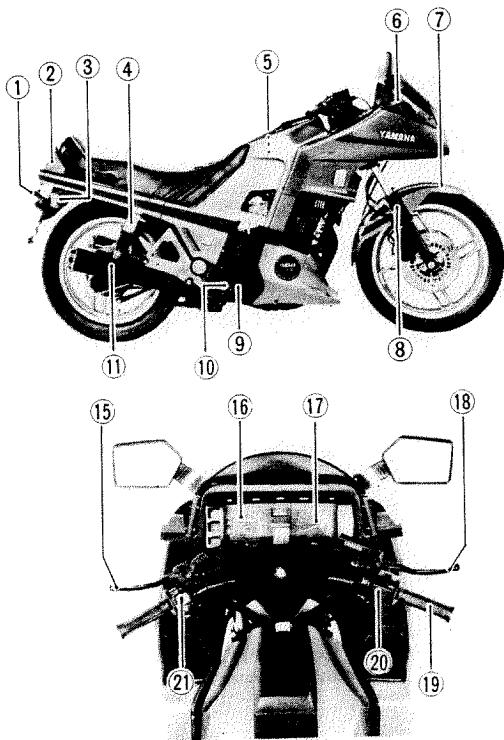
CAUTION (AIR SUSPENSION)

1. Containing highly compressed air.
2. Use only air or nitrogen gas, other gases may cause explosion.
3. Do not incinerate.
4. Servicing requires special knowledge and tools.
Read owner's manual before operating this suspension.

CAUTION

THE LOAD CAPACITY OF THE CONSOLE
 BOX IS 3.5 LBS (1.5 KG) ON EACH SIDE.
 DO NOT LOAD THE BOX OVER THIS
 CAPACITY.

DESCRIPTION

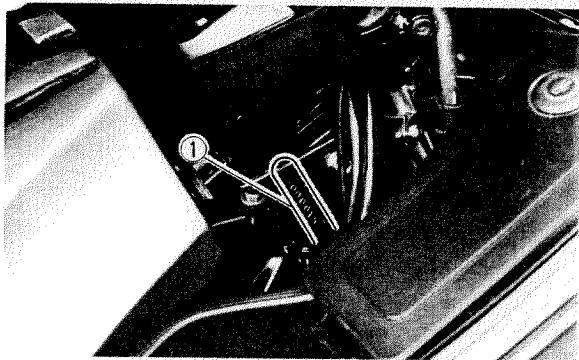


- 1. License light
- 2. Tail/brake light
- 3. Rear flasher light
- 4. Rear shock absorber
- 5. Fuel tank
- 6. Front flasher light
- 7. Front fender
- 8. Front forks
- 9. Brake pedal
- 10. Footrest
- 11. Silencer
- 12. Headlight
- 13. Seat
- 14. Change pedal
- 15. Clutch lever
- 16. Speedometer
- 17. Tachometer
- 18. Brake lever
- 19. Throttle grip
- 20. Right handlebar switch
- 21. Left handlebar switch

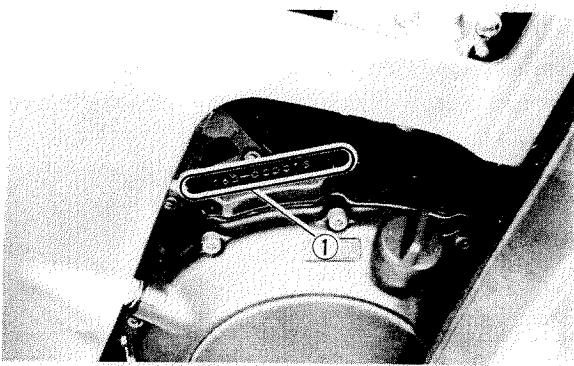
MOTORCYCLE IDENTIFICATION

Frame serial number

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



1. Frame serial number



1. Engine serial number

NOTE: _____

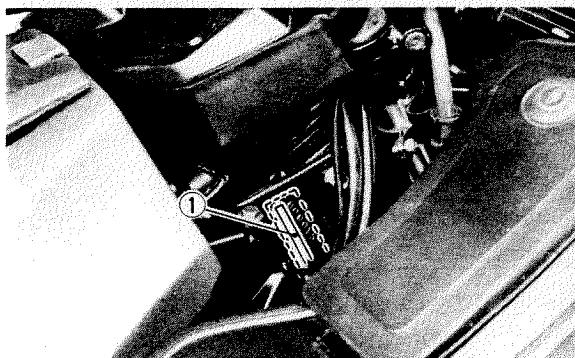
The first three digits of these numbers are for model identification; the remaining digits are the unit production number. Keep a record of these numbers for reference when ordering parts from your Yamaha dealer.

Engine serial number

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

Vehicle identification number

The vehicle identification number is stamped on the label attached to the steering head pipe.



1. Vehicle identification number

NOTE: _____

The vehicle identification number is used to identify your motorcycle and may be used to register your motorcycle with the licensing authority in your state.

CONTROL FUNCTIONS

Main switch

Functions of respective switch positions are as follows:

ON:

Electrical circuits are switched on, and the headlight, meter light, taillight, and license light come on. The engine can be started. The key cannot be removed in this position. Refer to "Computerized monitor system" (Page 7) for proper operation.

OFF:

All electrical circuits are switched off. The key can be removed in this position.

LOCK:

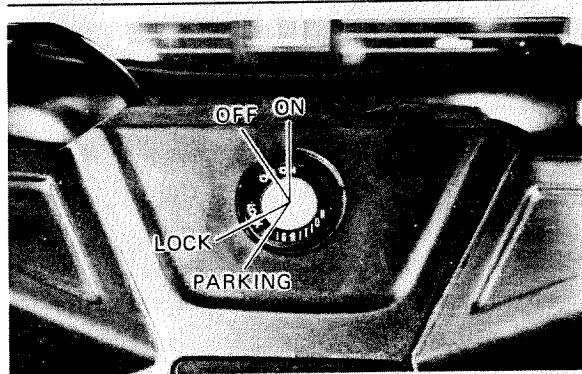
The steering is locked in this position, and all electrical circuits are switched off. The key can be removed in this position. Refer to "Steering lock" (Page 17) for proper operation.

PARKING:

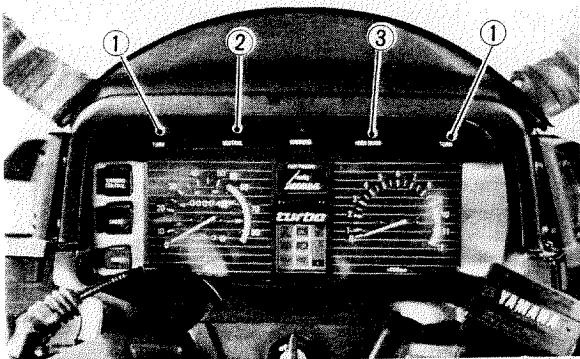
The steering is locked in this position, and the taillight and license light come on but all other circuits are off. The key can be removed in this position.

NOTE: _____

Always turn the main switch to "OFF" or "LOCK" position and remove the key when the motorcycle is unattended.



Indicator lights



1. "TURN" indicator light
2. "NEUTRAL" indicator light
3. "HIGH BEAM" indicator light

"TURN" indicator light (orange):

This indicator flashes when the turn signal is "ON".

"NEUTRAL" indicator light (green):

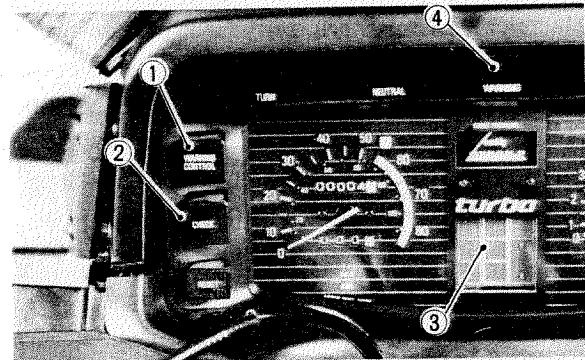
This indicator lights when the transmission is in neutral.

"HIGH BEAM" indicator light (blue):

This indicator lights when the headlight high beam is used.

Computerized monitor system

This system monitors seven separate functions and will warn you of any malfunction if encountered until it is fixed. In addition, the fuel gauge in this system indicates the amount of fuel in the tank.



1. "WARNING CONTROL" switch
2. "CHECK" switch
3. Display panel
4. "WARNING" indicator light (red)

Operation

NOTE:

Before starting out on the road, check the motorcycle conditions using computerized monitor system.

1. When the main switch is turned on, all seven liquid crystal displays (LCDs) come on, with the fuel display indicating the amount of fuel in the tank.
2. When the engine is started, the system begins its scan of the motorcycle conditions. From top to bottom all the LCDs flash on and then off in sequence. If any one condition is found improper or inadequate, the red warning light will begin flashing and the LCD for the area in question will remain displayed.

WARNING:

If any LCD remains displayed or the warning light flashes on, correct the problem immediately. If the correction is beyond your capability, ask a Yamaha dealer or other qualified mechanic.

3. Warning light operation can be controlled by the warning control switch. If the control switch is pushed once, the warning light glow will change from a flashing to a steady one. If pushed again, the glow will go out completely. Still another push on the switch brings back the warning light operation all over again.

NOTE:

1. This switch operates only when a malfunction is displayed on an LCD.
2. Even if the warning light is made to glow; steady or to go out, it will begin flashing on with another malfunction.
4. The entire monitoring system condition can be checked by pushing the check switch. The system will scan through the seven areas in sequence, just as when the engine was first started, to assure the rider that the system is functioning properly.

WARNING:

If the system does not function properly, ask a Yamaha dealer or other qualified mechanic immediately.

Display panel



(red):

This indicator is displayed when the sidestand is extended. Be sure to retract it before starting out on the road.



(red):

This indicator is displayed when the brake fluid level is below specification in the front brake master cylinder. In this case, ask a Yamaha dealer or qualified mechanic immediately.

WARNING:

Do not run the motorcycle with a low brake fluid level for a long time or at high speeds.



(red):

This indicator is displayed when the engine oil level is low. If it remains displayed or keeps flickering while riding, add engine oil at the first opportunity.

WARNING:

Do not run the motorcycle with a low engine oil level for a long time or at high speeds.



(blue):

This indicator is displayed when the battery fluid level is low. If it remains displayed, add distilled water at the first opportunity.

CAUTION:

Continuous riding with a low battery fluid level will damage the battery.



(blue):

This indicator is displayed when the headlight bulb is burned out. If it remains displayed, have it replaced and correctly adjusted at the first opportunity.



(blue):

This indicator is displayed when the taillight and/or brake light bulbs are burned out. If it remains displayed, have it replaced at the first opportunity.



(red):

This indicator is displayed when the fuel level is low. If it remains displayed or keeps flickering while riding, add fuel at the first opportunity.

GENERAL CAUTION:

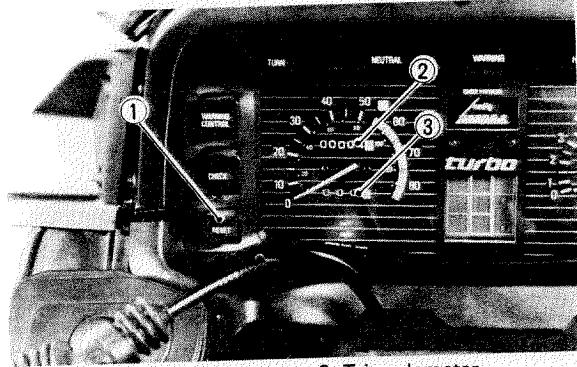
Failure to observe any of the following "mustn'ts" may result in malfunction of the microcomputer or damage to the electrical circuit.

1. Taillight, brake light and other bulbs of wattage other than specified mustn't be used.
2. Extra electric accessories mustn't be connected to the computerized monitor system circuit. (ex: taillight, headlight etc.)
3. The instrument panel mustn't be subjected to any water splashes or steam from underneath.
4. The display panel mustn't be pressed hard or given any shock.
5. A magnet or other magnetized objects mustn't be put near the display panel.

Speedometer

The odometer and trip odometer are built into the speedometer. The trip odometer can be reset to "0" with the reset knob.

Use the odometer and fuel level gauge to estimate how far you can ride on a tank of fuel before going to "EMPTY". This information will enable you to plan fuel stops in the future.



1. Reset knob 2. Odometer 3. Trip odometer

Tachometer

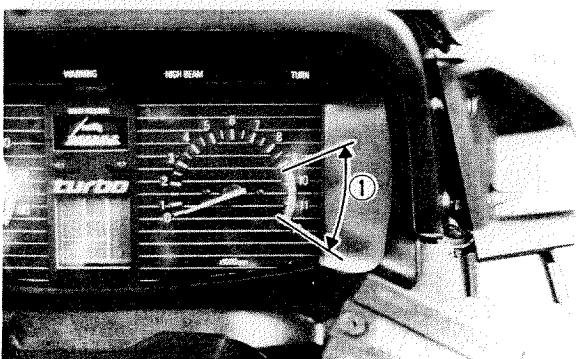
The tachometer is provided so the rider can keep engine speed within the ideal power range.

This model is provided with an electric tachometer.

WARNING:

Do not operate in the red zone.

Red zone: 9,500 r/min and above



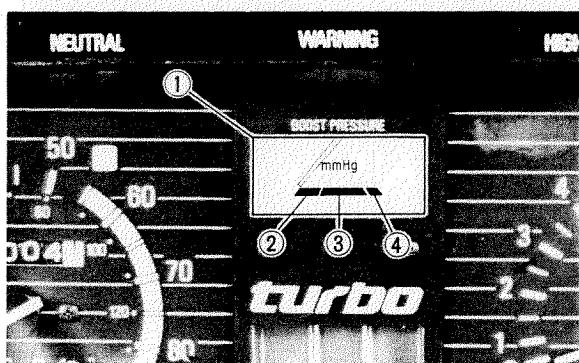
1. Red zone

Boost pressure gauge

This gauge indicates boost pressure. The pointer moves past the sky blue to the green zone when turbocharging is actuated.

CAUTION:

When the gauge is not activated, ask a Yamaha dealer or other qualified mechanic for inspection and repair.



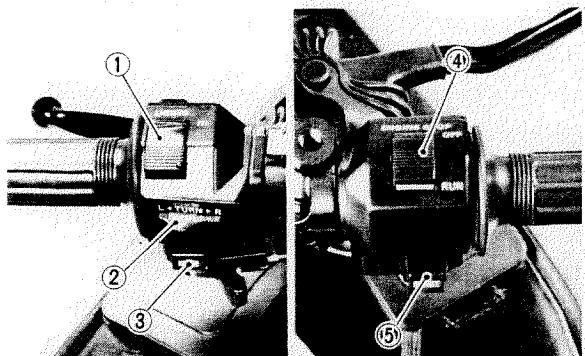
1. Boost pressure gauge

2. Sky blue zone

3. Green zone

4. Red zone

Handlebar switches:



- 1. "LIGHTS" (Dimmer) switch
- 2. "TURN" switch
- 3. "HORN" switch
- 4. "ENGINE STOP" switch
- 5. "START" switch

"LIGHTS" (Dimmer) switch

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

"TURN" switch

This model is equipped with a turn indicator system that is self-cancelling. To signal a

right-hand turn, push down the switch to the right. To signal a left-hand turn, push down the switch to the left. Once the switch is released it will return to the center position. To cancel the signal push down the switch after it has returned to the center position. If the switch is not cancelled by hand, it will self-cancel after the motorcycle has travelled about 10 seconds or approximately 150 meters (490 feet) whichever is greater. The self-cancelling mechanism only operates when the motorcycle is moving; thus the signal will not self-cancel while you are stopped at an intersection.

"HORN" switch

Press the switch to sound the horn.

"ENGINE STOP" switch

Make sure that the engine stop switch is on "RUN". 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. The engine will not start when the engine stop switch is turned to "OFF". In case of an emergency, turn the switch to "OFF".

"START" switch

To start the engine, push the starter switch.

CAUTION:

See starting instructions prior to starting engine.

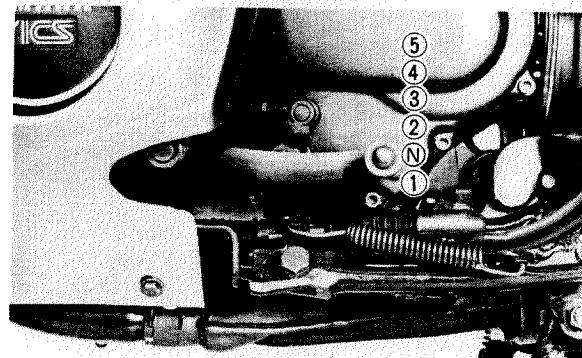
Clutch lever

The clutch lever is located on the left handlebar and the starting circuit cut off switch is incorporated in the clutch lever holder. Pull the clutch lever to the handlebar to disengage the clutch, and release the lever to engage the clutch. The lever should be pulled rapidly

and released slowly for smooth starts. (Refer to the engine starting procedures for the starting circuit cut off switch functions.)

Change pedal

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



N. Neutral

Front brake lever

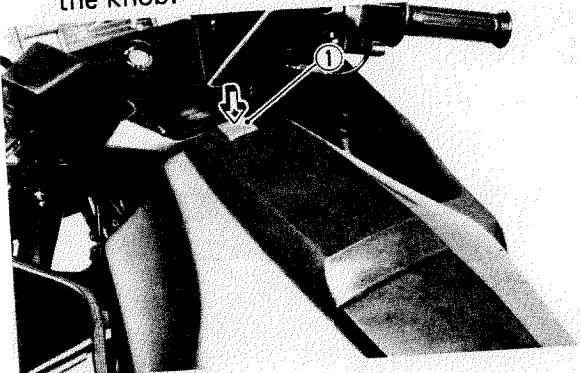
The front brake lever is located on the right handlebar. Pull it toward the handlebar to activate the front brake.

Rear brake pedal

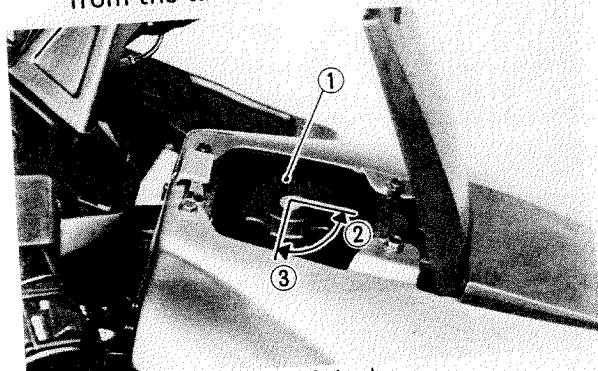
The rear brake pedal is on the right side of the motorcycle. Press down on the brake pedal to activate the rear brake.

Fuel tank cap

1. To open the tank cap cover, push down the knob.



2. To remove the tank cap, insert the key in the lock and turn the key 1/4 turn counterclockwise. Rotate the cap 1/4 turn counterclockwise and remove it from the tank.



NOTE:

The tank cap cannot be reinstalled unless it is unlocked. The key must remain in the cap until the cap is properly installed and locked on the fuel tank.

3. To reinstall the tank cap, set the cap in the filler neck and rotate the cap 1/4 turn clockwise. Lock the cap by turning the key 1/4 turn clockwise, and remove the key.

WARNING:

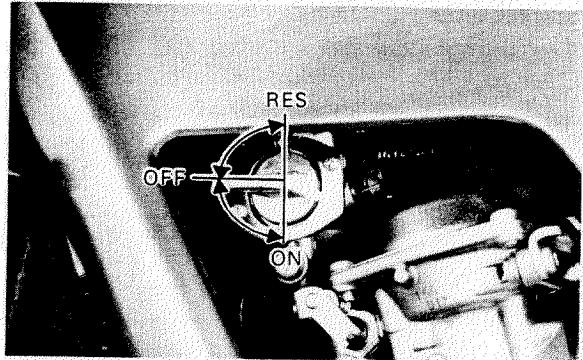
Be sure the cap is properly installed and locked in place before riding the motorcycle.

4. Replace the tank cap cover in the original position.

Fuel cock

The fuel cock supplies fuel from the tank to the carburetors and also filters the fuel. The fuel cock has the following three positions:

ON: With the lever in this position fuel flows if the engine is running but stops if the engine is not running.



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

RES: This indicates "RESERVE". If you run out of fuel while riding, move the lever to this position. Fill the tank at the first opportunity.

BE SURE TO SET THE LEVER TO THE "ON" AFTER REFUELING.

Starter lever (CHOKE)

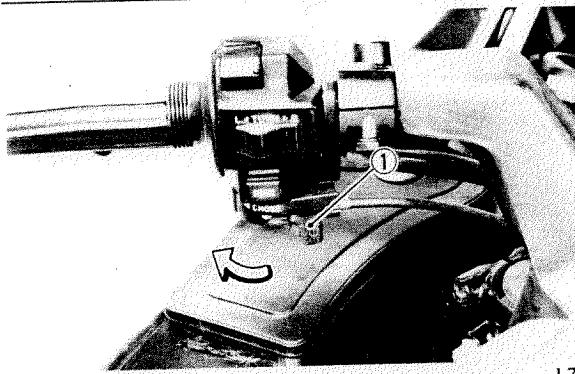
The starter lever is located on the left handlebar.

Starting a cold engine requires a richer fuel mixture. In such a case, turn the starter lever in the left direction.

After the engine is warm, turn the lever to its original position.

NOTE:

Refer to "Starting and warming up a cold engine" for proper operation.



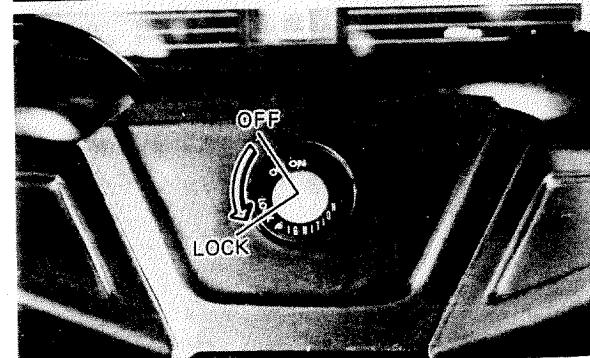
1. Starter lever

Steering lock

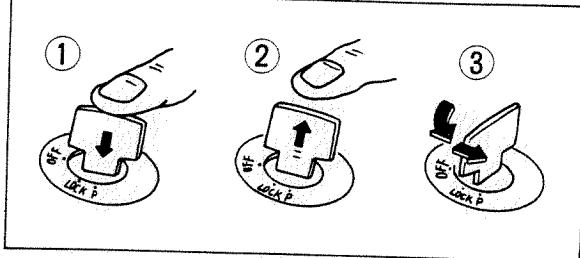
The steering is locked when the main switch is in the "LOCK". To lock the steering, turn the handlebars fully to the right or left. Give one push to the key at the "OFF"; then turn it counterclockwise to the "LOCK" and remove the key. To release the lock, turn the key clockwise.

WARNING:

Never turn the key to "LOCK" when the motorcycle is moving.



witch
turn
Give
turn
and
n the



1. Push 2. Release 3. Turn

Console box

To open the console box, insert the key in the lock and turn it clockwise.

To lock the console box, replace the console box in the original position.

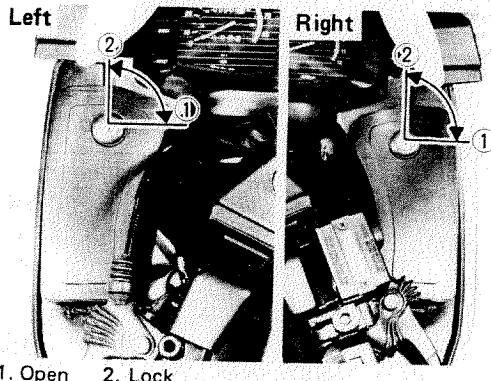
Next, insert the key in the lock and turn it counterclockwise.

NOTE:

Make sure that the console box is securely fitted.

WARNING:

1. Console boxes are for light weight items. Do not carry more than 1.5kg (3.5 lb) in each side.
2. Load weight equally in both sides to minimize imbalance.
3. Review loading and accessories before loading.



1. Open 2. Lock

Seat lock

To open the seat lock, insert the key in the lock. Then, turn it clockwise and pull the lever backward.

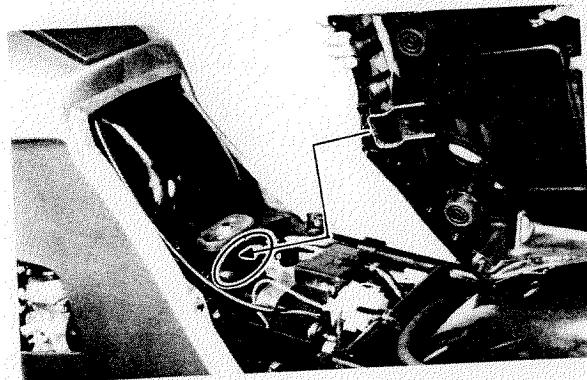
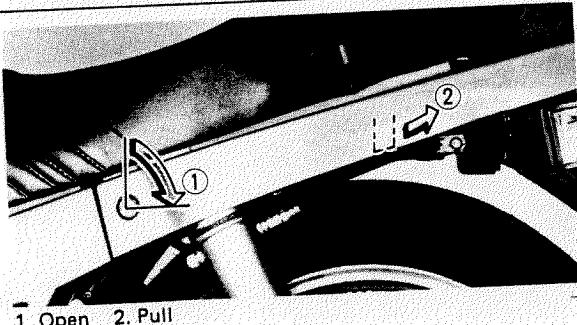
To lock the seat, replace the seat in the original position.

NOTE:

In reinstalling the seat, insert the lobe on the seat front into the receptacle on the frame, then push down the seat at the end.

WARNING:

Make sure that the seat is securely fitted.



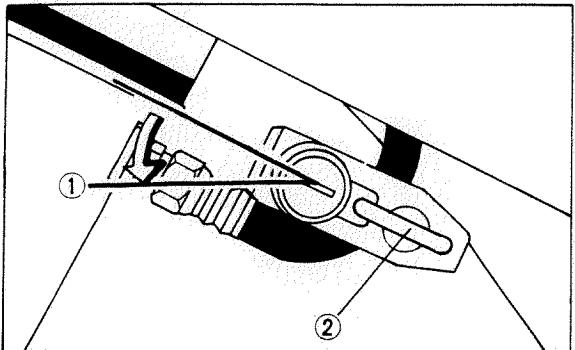
Helmet holder

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

To lock the helmet holder, replace the holder in the original position.

WARNING:

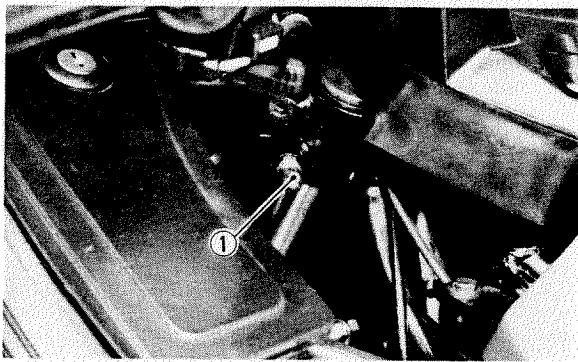
Never ride with a helmet in the helmet holder. It could interfere with rear wheel movement, causing loss of control and possibly an accident.



1. Open 2. Helmet holder

Front forks

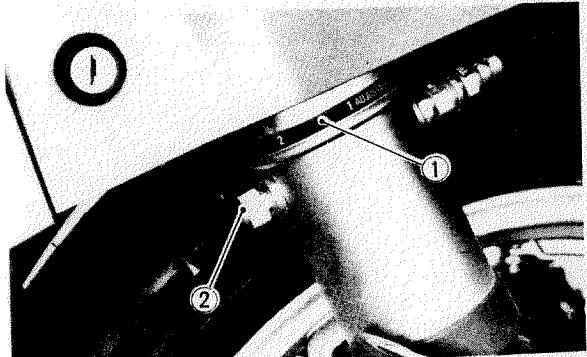
The air pressure preload of the front fork can be adjusted to suit motorcycle load (ex: optional accessories etc.) and riding conditions. Refer to page 67 for proper adjustment procedures.



1. Air valve

Rear shock absorber

The air pressure preload and the damping of the rear shock absorber can be adjusted to suit motorcycle load (ex: optional accessories etc.) and riding conditions. Refer to page 67 for proper adjustment procedures.



1. Damping adjuster 2. Air valve

Sidestand

This model is equipped with an ignition circuit cutoff system on the sidestand. The sidestand is located on the left side of the frame. The motorcycle can be ridden only when the sidestand is retracted.

(Refer to the engine starting procedures for the ignition circuit cut off switch functions.)

Emergency stop switch

This switch has been included to ensure that the engine will be stopped automatically should the motorcycle fall over or be tilted more than approximately 60 degrees to the right or left side from vertical.

CAUTION:

In such cases, set the motorcycle upright and set the main switch to the "OFF". Before restarting the engine, check the motorcycle for any damage. If there is no damage, restart the engine.

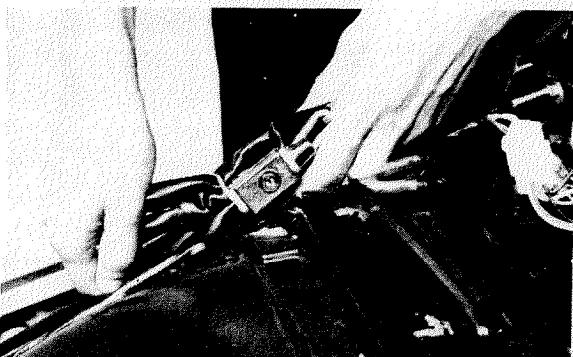
If repair is necessary, ask a Yamaha dealer or other qualified mechanic.

Theft-protection chain

This chain is designed for theft protection of your motorcycle and is placed in the rear molding.

Take out and use the chain as follows:

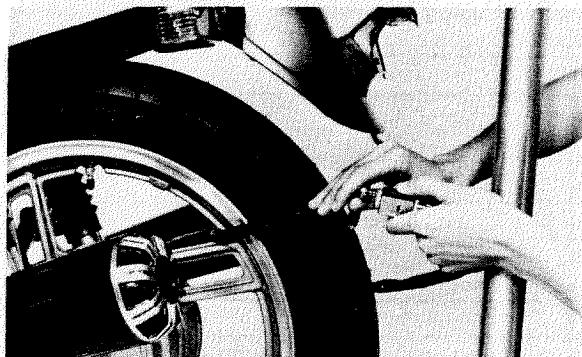
1. Remove the seat.
2. Remove the chain from the chain storage cell of the rear molding.



3. To lock the chain, insert one end into the other. The chain automatically locks.

NOTE: _____

Fasten the chain to a suitable fixed object.



4. To unfasten the chain, insert the main switch key in the lock and turn it clockwise.
5. When replacing the chain, make sure that the seat is securely fitted.

CAUTION: _____

Before starting, make sure that your motorcycle is unlocked.

PRE-OPERATION CHECKS (DAILY)

Before using this motorcycle check the following points:

No.	Item	Routine	Page
1	Brakes (Front and Rear)	Front: Check operation, free play, fluid level and fluid leakage. Rear: Check operation and free play. Adjust if necessary.	25, 55 ~ 60
2	Clutch	Check operation, condition and free play. Adjust if necessary.	26, 60 ~ 61
3	Engine oil	Check engine oil level, add oil if necessary.	26, 49
4	Final gear oil	Check for leakage visually.	26, 52
5	Throttle	Check for smooth operation. Adjust if necessary.	26, 62
6	Battery	Check fluid level, top-up with distilled water if necessary.	32, 73 ~ 76
7	Lights/Signals	Check operation.	31, 60, 76
8	Wheels/Tires	Check tire pressure, wear and damage.	27 ~ 31
9	Fittings/Fasteners	Check all chassis fittings and fasteners. Adjust, if necessary.	31, 48

NOTE:

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

WARNING:

1. The engine, exhaust pipe(s), and muffler(s) will be very hot after the engine has been run. Be careful not to touch them or to allow any clothing item to contact them during inspection or repair.
2. If any item in the PRE-OPERATION CHECK is not working properly, have it inspected and repaired before operating the motorcycle.

Brakes (See page 55 for more detail)

1. Brake lever and brake pedal

Check for correct play in the front brake lever and rear brake pedal. Make sure they are working properly. Check the brakes at low speed shortly after starting out.

WARNING:

A soft, spongy feeling in the brake lever indicates a failure in the brake system. Do not operate the motorcycle until the failure in the brake system is corrected. Ask a Yamaha dealer or other qualified mechanic for immediate repairs. A soft, spongy feeling could indicate an hazardous condition in the brake system.

2. Brake fluid (Front)

Check the brake fluid level.

Add fluid if necessary.

Recommended brake fluid: DOT # 3

3. Checking the disc pads

Refer to page 58.

4. Checking the rear brake shoe

Refer to page 58.

NOTE:

When this brake service is necessary, have a Yamaha dealer or other qualified mechanic replace the pads.

Brake fluid leakage (Front)

Apply each brake for a few minutes. Check to see if any brake fluid leaks out from pipe joints or the master cylinder.

WARNING:

If brake fluid leakage is found, ask a Yamaha dealer or other qualified mechanic for immediate repairs. Such leakage could indicate a hazardous condition in the brake system.

Clutch (See page 60 for more detail)

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

Throttle grip (See page 62 for more detail)

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

Engine oil (See page 49 for more detail)

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

Recommended oil:

YAMALUBE 4-cycle oil or SAE 20W40 type SE motor oil

Final gear oil (See page 52 for more detail)

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

Recommended oil:

SAE 80 API GL-4 Hypoid gear oil

If desired, an SAE 80W90 hypoid gear oil may be used for all conditions.

NOTE:

"GL-4" is a quality and additive rating. "GL-5" or "GL-6" rated hypoid gear oils may also be used.

Tires

Check the tire pressure and check the tires for wear.

	FRONT	REAR
XJ650LJ WEIGHT with oil and full fuel tank	118 kg (260 lb)	131 kg (289 lb)
Standard tire	3.25 V19	120/90 V18
Maximum load limit*	168 kg (370 lb)	261 kg (575 lb)
Cold tire pressure:		
Up to 90 kg (198 lb) load **	177 kPa (1.8 kg/cm ² , 26 psi)	196 kPa (2.0 kg/cm ² , 28 psi)
90 kg (198 lb) load 166 kg (366 lb) load** (Maximum load)	225 kPa (2.3 kg/cm ² , 32 psi)	245 kPa (2.5 kg/cm ² , 36 psi)
High speed riding	196 kPa (2.0 kg/cm ² , 28 psi)	225 kPa (2.3 kg/cm ² , 32 psi)
Minimum tire tread depth	0.8 mm (0.03 in)	0.8 mm (0.03 in)

*Total weight of the motorcycle with accessories, etc.

**Total weight of accessory, etc. excepting motorcycle.

Tubeless tires and aluminum wheels

This motorcycle is equipped with aluminum wheels designed to be compatible with either tube or tubeless tires.

Tubeless tires are installed as standard equipments.

WARNING:

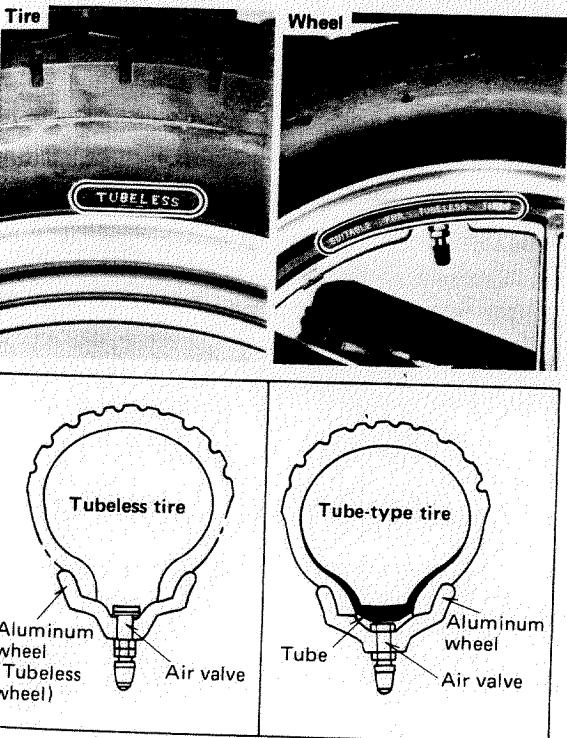
Do not attempt to use tubeless tires on a wheel designed for use only with tube-type tires. Tire failure and personal injury may results from sudden deflation.

Tube-type Wheel → Tube-type
Tires only

Tubeless type Wheel →
Tube-type or Tubeless tires

WARNING:

When using tube-type tires, be sure to install the proper tube.



To insure maximum performance, long service, and safe operation, note the following precautions:

1. Always maintain proper air pressure as described in the chart page 27.
2. Check tire pressure before riding. Adjust as necessary.
3. Before operation, always check the tire surfaces for wear and/or damage; look for cracks, glass, nails, metal fragments, stones, etc. Correct any such hazard before riding.
4. Always inspect the aluminum wheels before a ride. Place the motorcycle on the centerstand and check for cracks, bends, or warpage of the wheels. If any abnormal condition exists in a wheel, consult a Yamaha dealer or other qualified mechanic. Do not attempt even small repairs to the wheel. If a wheel is deformed or cracked, it must be replaced.

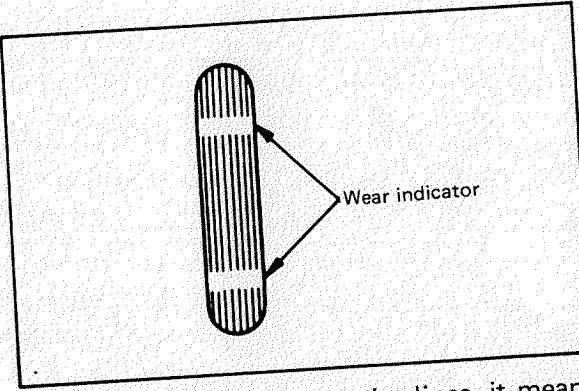
5. Tires and wheels should be balanced whenever either one is changed or replaced. Failure to have a wheel assembly balance can result in poor performance, adverse handling characteristics, and shortened tire life.
6. After installing a tire, ride conservatively to allow the tire to seat itself on the rim properly. Failure to allow proper seating may cause tire failure resulting in damage to the motorcycle and injury to the rider.
7. After repairing or replacing a tire, check to be sure the valve stem lock nut is securely fastened. If not, torque it as specified.

Tightening torque:
1.5 Nm (0.15m·kg, 1.1 ft·lb)

The standard equipment tires originally fitted to the XJ650LJ are suited to normal riding and touring. They are not suited for sustained high speed running or racing and must not be used for such purposes. 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 motorcycle.

WARNING:

1. This motorcycle is not designed to pull a trailer or to be attached to a sidecar. The accessories you choose for your motorcycle should be designed specifically for it and should be securely mounted in such a fashion as to maintain the inherent stability of the original design as much as possible. Yamaha has a full line of sport and touring accessories designed specifically for this motorcycle. Please consider them before making a purchase. Use of non-approved accessories may cause loss of handling stability and riding safety. Consult a Yamaha dealer or other qualified mechanic regarding the consequences of using such items.
2. Proper loading of your motorcycle is important for the handling, braking, and other performance and safety characteristics of your motorcycle. NEVER OVERLOAD YOUR MOTORCYCLE. Make sure the total weight of the accessories, and etc., does not exceed the maximum load limits. Operation of an overloaded motorcycle could cause tire damage, and accident, and injury.



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

WARNING:

It is dangerous to ride with a worn-out tire. When a tire tread begins to show lines, have a Yamaha dealer or other qualified mechanic replace the tire immediately. Brake pad replacement, tire, and related wheel parts replacement should be left to a Yamaha Service Technician or other qualified mecha-

nic. If you must change your own tire, be sure to use proper tools and procedures as described in the Tubeless Tire and Wheel Manual available from a Yamaha dealer or other qualified mechanic.

Fittings/Fasteners

Always check the tightness of chassis fittings and fasteners before a ride. Use the chart on page 48 to find the correct torque.

Lights and signals

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

Switches

Check the operation of the headlight switch, turn switch, brake light switch, horn switch, main switch, etc.

Battery (See page 73 for more detail)

Check fluid level and top-up if necessary.

Use only distilled water if refilling is necessary.

Fuel

Make sure there is sufficient fuel in the tank.

Recommended gasoline:

Premium gasoline

Fuel tank capacity:

Total:

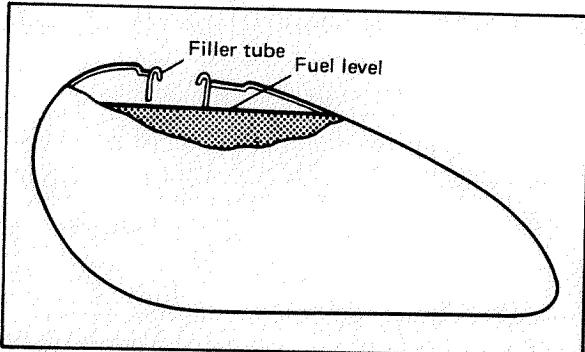
15.5 L (3.4 Imp gal, 4.1 US gal)

Reserve:

2.2 L (0.5 Imp gal, 0.6 US gal)

CAUTION:

This motorcycle requires premium gasoline with a research octane number of 95 or higher.



WARNING:

Do not overfill the fuel tank. Avoid spilling fuel on the hot engine. Do not fill the fuel tank above the bottom of the filler tube as shown as illustration or it may overflow when the fuel heats up later and expands.

OPERATION AND IMPORTANT RIDING POINTS

CAUTION:

1. Never fail to use the specified engine oil.
Refer to page 26.
2. Never rev up the engine immediately after starting.
3. Never cut the engine immediately after high speed running, but run it idle for a few minutes.

CAUTION:

1. Be careful where you store personal items on the motorcycle. Avoid blocking the air cleaner intake or performance will suffer.

2. Be careful not to put anything near the battery and its terminals. Electrical failure and acid corrosion may result.

WARNING:

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

WARNING:

Never start your engine or let it run for an length of time in a closed area. The exhaust fumes are poisonous and may cause loss of consciousness and death within a short time. Always operate your motorcycle in an area with adequate ventilation.

Starting and warming up a cold engine

NOTE:

This motorcycle is equipped with a starting and an ignition circuit cutoff switch.

1. The engine can be started only under the following conditions:
 - a. The transmission is in neutral.
 - b. The sidestand is up, the transmission is in gear, and the clutch is disengaged.
 2. The motorcycle can be ridden only when the sidestand is up.
-
1. Turn the fuel cock to "ON".
 2. Turn the ignition key to the "ON" and the engine stop switch to "RUN".

TURN MAIN SWITCH TO "ON" AND
ENGINE STOP SWITCH TO "RUN".

IF TRANSMISSION IS IN NEUTRAL
AND SIDESTAND IS DOWN.

PUSH STARTER SWITCH; ENGINE
WILL START.

RETRACT SIDESTAND AND PUT
TRANSMISSION IN GEAR.

MOTORCYCLE CAN BE RIDDEN.

IF TRANSMISSION IS IN GEAR
AND SIDESTAND IS UP.

PULL IN CLUTCH LEVER AND
PUSH STARTER SWITCH;
ENGINE WILL START.

MOTORCYCLE CAN BE RIDDEN.

3. Shift transmission into neutral.

NOTE:

When the transmission is in neutral, the neutral indicator light (green) should be on. If the light does not come on, ask a Yamaha dealer or other qualified mechanic to inspect it.

4. Move the starter (CHOKE) lever fully to the left and completely close the throttle grip.

5. Start the engine by pushing the starter switch.

NOTE:

If the engine fails to start, release the starter switch, then push the starter switch again. Pause a few seconds before the next attempt. Each cranking should be as short as possible to preserve battery energy. Do not crank the engine more than 10 seconds on each attempt.

CAUTION:

The oil pressure indicator light should go off after the engine is started.

If the indicator light flickers or remains on, immediately stop the engine and check the engine oil level and for oil leakage.

If necessary, replenish oil, restart the engine, and check to see that the oil pressure indicator light goes off.

If the light does not go off even with sufficient oil in the crankcase, consult a Yamaha dealer or other qualified mechanic.

6. After starting the engine, move the starter lever back. The starter operation periods differ with the ambient temperature, so refer to the following notes.

NOTE:

To see whether or not the engine is warm, see if engine responds normally to throttle with the starter moved back completely. To avoid the possibility of excessive exhaust emissions, never leave the starter circuit on longer than necessary.

The length of time the starter is used to start a cold engine depends upon the ambient temperature.

Warm ambient temperatures (above 10°C ~ 50°F) require about 25 seconds of starter use. Cold ambient temperatures (below 10°C ~ 50°F) require about 35 seconds with the starter fully open, then about 2.5 minutes with the starter in the half-open position.

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

Starting a warm engine

The stater lever (CHOKE) is not required when the engine is warm.

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 while accelerating, climbing hills, etc. The use of the change pedal is shown in the illustration. (Page 14)

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:

1. Pull the clutch lever to disengage the clutch.
2. Shift into FIRST gear. The green neutral indicator light should go out.
3. Open the throttle gradually, and at the same time, release the clutch lever slowly.
4. At the recommended shift point shown in the table below, close the throttle, and at the same time, pull in the clutch lever quickly.
5. Shift into SECOND gear. (Be careful not to shift into NEUTRAL.)
6. Open the throttle part way and gradually release the clutch lever.
7. Follow the same procedure when shifting to the next higher gear. Always shift gears at the recommended shift points.

To decelerate:

1. Apply front and/or rear brakes to slow the motorcycle.
2. When the motorcycle reaches 20 km/h (12.5 mi/h), shift to first gear.
Anytime the engine appears about to stall or runs very roughly, pull in the clutch and use the brakes to stop.
3. When motorcycle is almost completely stopped, shift to neutral.

The green neutral indicator light should come on.

Recommended Shift Point

	Acceleration shift point km/h (mi/h)	Deceleration shift point km/h (mi/h)
1st → 2nd	23 (14)	20 (12.5)
2nd → 3rd	36 (22)	20 (12.5)
3rd → 4th	50 (31)	20 (12.5)
4th → 5th	60 (37)	20 (12.5)

CAUTION:

1. Do not glide for long periods with the engine off, and do not tow the motorcycle a long distance. Even with gears in neutral, the transmission is only properly lubricated unless the engine is running. Inadequate lubrication may damage the transmission.
2. Always use the clutch when changing gears. The engine, transmission, and driveline are not designed to withstand the shock load of forced shifting and can be damaged by shifting without the clutch.

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 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 the engine must be avoided.

1. 0 ~ 150 km (0 ~ 100 mi):
Avoid operating 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.

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2. 150 ~ 500 km (100 ~ 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 7,000 r/min. Vary speeds occasionally.

CAUTION:

After 1,000 km (600 mi) of operation, be sure to replace the engine oil and filter element.

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

Parking

When parking, stop the engine and remove the ignition key.

WARNING:

The muffler and exhaust pipe are hot. Park the motorcycle in a place where pedestrians or children are not likely to touch the motorcycle. Do not park the motorcycle on a slope or soft ground; the motorcycle may overturn.

WARNING:

The turbocharger on this model is driven by the engine's exhaust. Consequently, the temperature of the turbocharger both during and after the engine has been run is extremely high. Continuous highway riding for long periods of time can mean a longer cool-off period is necessary before the temperature of the turbocharger reaches a safe level. Therefore, never park this motorcycle in an area where a fire hazard may be more than a likely possibility.

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 in the following pages.

"Maintenance, replacement, or repair of the emission control devices and systems may be performed by any repair establishment or individual using any part which is certified (if applicable)."

WARNING:

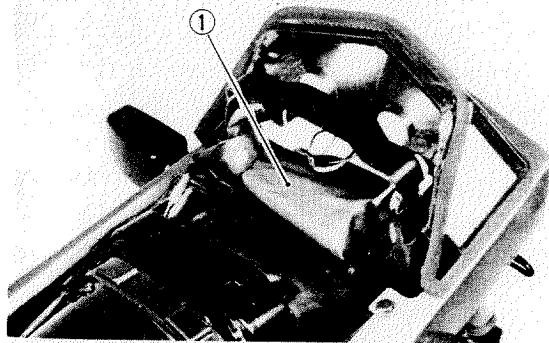
If the owner is not familiar with motorcycle service, this work should be done by a Yamaha dealer or other qualified mechanic.

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 SERVICE 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.

Tool kit

The service 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 most of these purposes, except that a torque wrench, however is also necessary to properly tighten nuts and bolts.



1. Tool kit

NOTE:

If you do not have a torque wrench available during a service operation requiring one, take your motorcycle to Yamaha dealer or other qualified mechanic to check the torque settings and adjust them as necessary.

WARNING:

Modifications to this motorcycle not approved by Yamaha may cause loss of performance. Excessive emissions can render it unsafe for use. Consult a Yamaha dealer or other qualified mechanic before attempting any changes.

PERIODIC MAINTENANCE EMISSION CONTROL SYSTEM

No.	Item	Remarks	Initial break-in		Thereafter every	
			1,000 km (600 mi) or 1 month	5,000 km (3,000 mi) or 7 months	4,000 km (2,500 mi) or 6 months	8,000 km (5,000 mi) or 12 months
1*	Valve clearance	Check and adjust valve clearance when engine is cold.		○		○
2	Spark Plugs	Check condition. Adjust gap. Clean. Replace after initial 13,000 km (8,000 mi) or 18 months and thereafter every 12,000 km (7,500 mi) or 18 months		○	○	Replace every 12,000 km (7,500 mi) or 18 months
3*	Crankcase ventilation system	Check ventilation hose for cracks or damage. Replace if necessary.		○		○
4*	Fuel line	Check fuel hose and vacuum pipe for cracks or damage. Replace if necessary.		○		○
5*	Intake/Exhaust system	Check for leakage. Retighten as necessary. Replace gasket(s) if necessary.		○	○	
6*	Carburetor synchronization	Adjust synchronization of carburetors.		○	○	
7*	Idle speed	Check and adjust engine idle speed. Adjust cable free play if necessary.		○	○	

* It is recommended that these items be serviced by a Yamaha dealer or other qualified mechanic.

Spark plug inspection

The spark plug is an important engine component and is easy to inspect. The condition of the spark plug can indicate something of the condition of the engine.

Normally, all spark plugs from the same engine should have the same color on the white porcelain insulator around the center electrode. The ideal color at this point is a medium to light tan color for a motorcycle that is being ridden normally. If one spark plug shows a distinctly different color, there could be something wrong with the engine. For example, if the center electrode porcelain is very white, this color could indicate an intake tract air leak or carburetion problem for that cylinder. Do not attempt to diagnose such problems yourself. Instead, take the motorcycle to a Yamaha dealer or other qualified mechanic.

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.

Standard spark plug:

BP8ES (NGK) or

W24EP-U (NIPPON DENSO)

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

Spark plug gap:

0.7~0.8 mm (0.028~0.031 in)

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

Spark plug torque:
20 Nm (2,0 m·kg, 14 ft·lb)

NOTE:

If a torque wrench is not available when you are installing a spark plug, a good estimate of the correct torque is 1/4 to 1/2 turns past finger-tights. Have the spark plug torqued to the correct value as soon as possible with a torque wrench.

GENERAL MAINTENANCE/LUBRICATION

No.	Item	Remarks	Type	Initial break-in		Thereafter every		
				1,000 km (600 mi) or 1 month	5,000 km (3,000 mi) or 7 months	4,000 km (2,500 mi) or 6 months	8,000 km (5,000 mi) or 12 months	16,000 km (10,000 mi) or 24 months
1	Engine oil	Warm up engine before draining.	Refer to page 26	○	○	○		
2	Oil filter	Replace	—	○	○		○	
3	Air filter	Clean with compressed air.	—		○		○	
4*	Brake system	Adjust free play. Replace pads if necessary (front). Replace shoes if necessary (rear).	—	○	○	○		
5*	Clutch	Adjust free play.	—	○	○	○		
6	Final gear oil	Replace	SAE80 API GL-4 Hypoid gear oil	○			○	
7*	Control and meter cable	Apply chain lube thoroughly.	Yamaha chain and cable lube or SAE 10W30 motor oil	○	○	○		
8*	Rear arm pivot	Check bearings assembly for looseness. Moderately repack every 16,000 km (10,000 mi).	Medium weight wheel bearing grease					Rearpack
9*	A.C. generator	Replace generator brushes. Replace at initial 13,000 km (8,000 mi) and thereafter every 16,000 km (10,000 mi).	Medium weight wheel bearing grease					Replace

No.	Item	Remarks	Type	Initial break-in		Thereafter every		
				1,000 km (600 mi) or 1 month	5,000 km (3,000 mi) or 7 months	4,000 km (2,500 mi) or 6 months	8,000 km (5,000 mi) or 12 months	16,000 km (10,000 mi) or 24 months
10	Change/ Brake pedal shaft pivot	Apply lightly.	Yamaha chain and cable lube or SAE 10W30 motor oil		○	○		
11	Center and sidestand pivots	Apply lightly.	Yamaha chain and cable lube or SAE 10W30 motor oil		○	○		
12*	Steering bearing	Check bearings assembly for looseness. Moderately repack every 16,000 km (10,000 mi).	Medium weight wheel bearing grease		○	○		Rearpack
13*	Front fork oil	Drain completely. Refill to specification.	Yamaha fork oil 10 wt equivalent					○
14*	Wheel bearings	Check bearings for smooth rotation. Replace if necessary.			○	○		
15	Battery	Check specific gravity. Check breather pipe for proper operation.			○	○		
16	Brake/ Clutch lever pivot shaft	Apply lightly.	Yamaha chain and cable lube or SAE 10W30 motor oil		○	○		

* It is recommended that these items be serviced by a Yamaha dealer or other qualified mechanic.

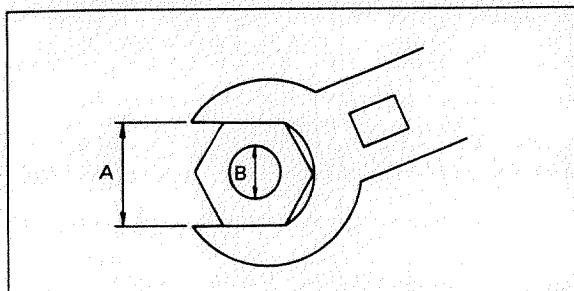
km
(mi)
months

ack

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 should be



A (Nut)	B (Bolt)	General torque specifications		
		Nm	m·kg	ft·lb
10 mm	6 mm	6	0.6	4.3
12 mm	8 mm	15	1.5	11
14 mm	10 mm	30	3.0	22
17 mm	12 mm	55	5.5	40
19 mm	14 mm	85	8.5	61
22 mm	16 mm	130	13.0	94

checked occasionally, especially before a long trip. Always check the tightness of these items whenever they are loosened for any reason.

Item	Torque		
	Nm	m·kg	ft·lb
Spark plug	20	2.0	14.0
Engine drain plug	43	4.3	31.0
Oil filter bolt	15	1.5	11.0
Change pedal	8	0.8	5.8
Front engine mount bolt (upper)	42	4.2	30.0
Front engine mount bolt (lower)	42	4.2	30.0
Rear engine mount bolt	70	7.0	50.0
Steering pinch bolt (8 mm)	17	1.7	12.0
Shock absorber (upper and lower)	30	3.0	22.0
Front wheel axle	105	10.5	75.0
Front axle pinch bolt	20	2.0	14.0
Rear wheel axle	105	10.5	75.0
Rear axle pinch bolt	6	0.6	4.3
Final gear drain plug	23	2.3	17.0

Engine oil

1. Oil level measurement
 - a. Place the motorcycle on the centerstand.
Warm up the engine for several minutes.

NOTE:

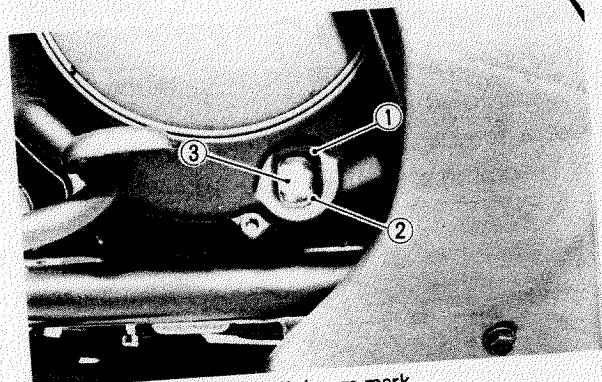
Be sure the motorcycle is positioned straight up when checking the oil level; a slight tilt toward the side can produce false readings.

- b. With the engine stopped, check the oil level through the level window located at the lower part of the right side crankcase cover.

NOTE:

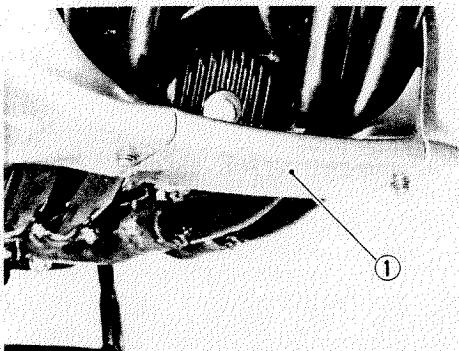
Wait a few minutes until the oil level settles before checking.

- c. The oil level should be between maximum and minimum marks. If the level is lower, add sufficient oil to raise it to the proper level.



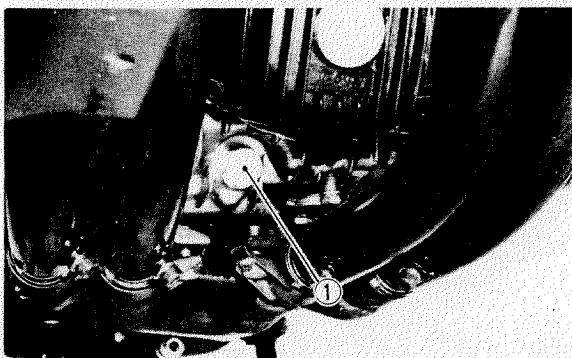
1. Maximum mark 2. Minimum mark
3. Level window

2. Engine oil and oil filter replacement
 - a. Start the engine and stop it after a few minutes of warm-up.
 - b. Place an oil pan under the engine and remove the oil filler cap.
 - c. Remove the skirt.



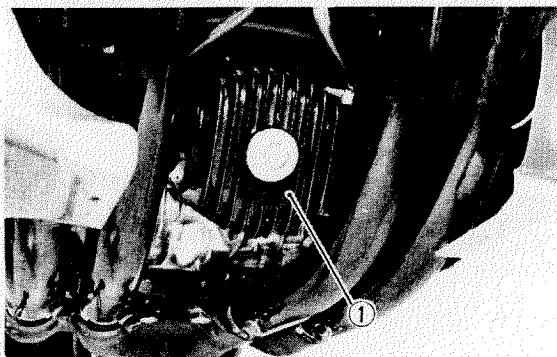
1. Skirt

d. Remove the drain plug and drain the oil.



1. Drain plug

e. Remove the oil filter bolt and filter element.



1. Oil filter cover

f. Reinstall the drain plug (make sure it is tight).

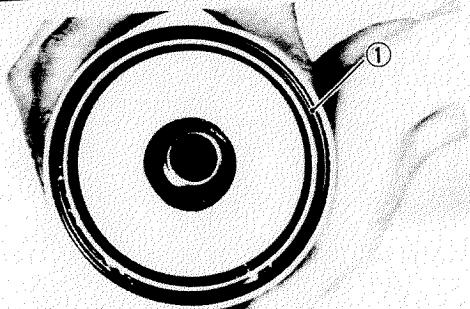
Drain plug torque:

43 Nm (4.3 m·kg, 31.0 ft·lb)

g. Install the new oil filter element, new O-ring and filter cover, tighten the oil filter bolt.

Oil filter bolt torque:
15 Nm (1.5 m·kg, 11.0 ft·lb)

NOTE: _____
Make sure the O-ring positioned properly.



1. Proper O-ring position
- h. Add oil through the oil filler hole.

Periodic oil change:
2.5 L (2.2 Imp qt, 2.6 US qt)
With oil filter replacement:
2.9 L (2.6 Imp qt, 3.1 US qt)
Recommended oil: See page 26

CAUTION:

Take care not to allow foreign material to enter the crankcase.



- i. After replacement of engine oil, and/or oil filter, be sure to check for oil leakage. The oil level indicator light should go off after the engine has started.

CAUTION:

If the indicator light flickers or remains on, consult a Yamaha dealer or other qualified mechanic.

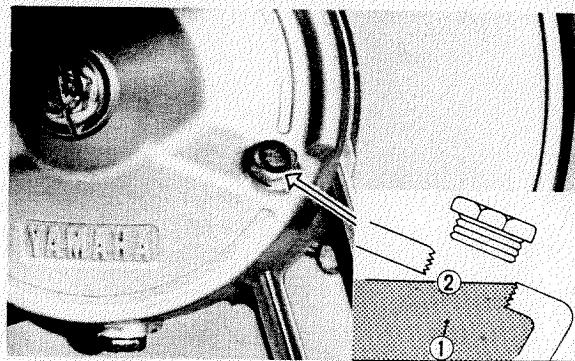
- j. Reinstall the skirt.

Final gear oil

1. Oil level measurement
 - a. Place the motorcycle on a level place and place it on the centerstand. The engine should be cool (at atmospheric temperature).
 - b. Remove the oil filler cap and check the oil level whether it is to the hole brim. If it is not up to this level, replenish oil.
2. Gear oil replacement
 - a. Place an oil pan under the final gear case.
 - b. Remove the final gear oil filler cap and the drain plug, and drain the oil.

CAUTION:

Take care not to allow foreign material to enter the final gear case.



1. Final gear oil 2. Correct oil level



1. Final gear drain plug

WARNING:

When draining or filling, take care not to allow foreign material to enter the final gear case. Do not allow the gear oil to contact the tire and wheel.

- c. Reinstall and tighten the final drain plug.
(See page 48 for torque specifications.)
- d. Fill the gear case to the specified level.

Oil capacity:

Final gear case:

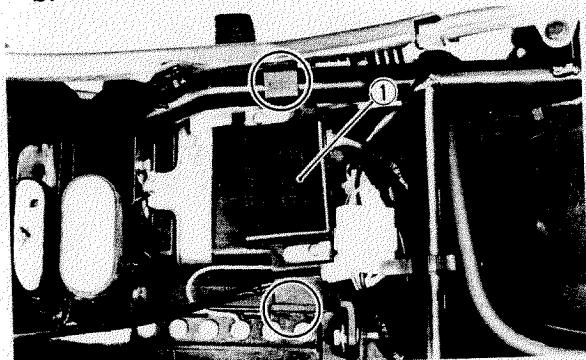
0.2 L (0.18 Imp qt, 0.21 US qt)

Recommended oil: See page 26.

- e. Reinstall the filler cap securely.

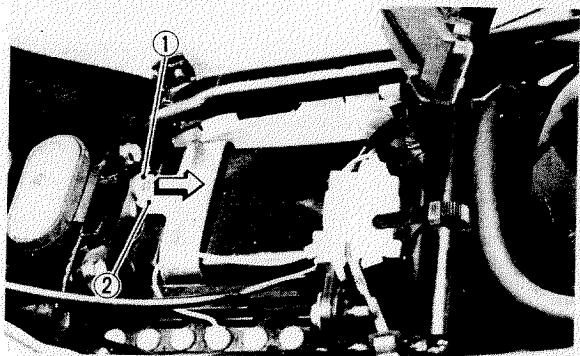
Air filter

1. Removal
 - a. Remove the seat.
 - b. Remove the fuse box.



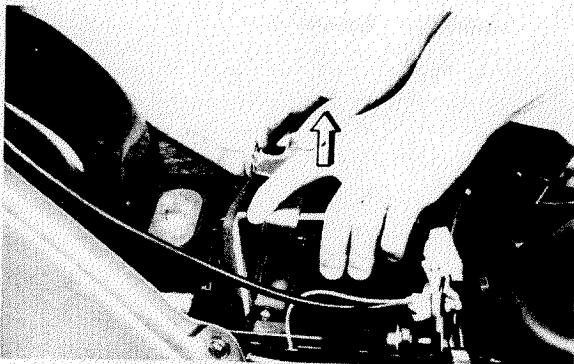
1. Fuse box

- c. Remove the air filter case securing screw.
Then, pull backward the air filter case holding plate.

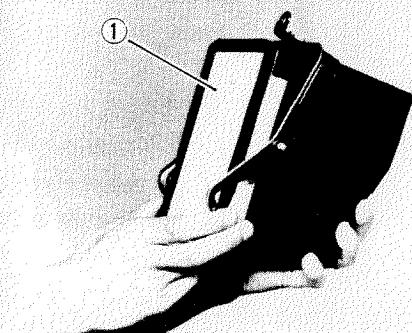


1. Securing screw 2. Holding plate

- d. Pull out the air filter case.



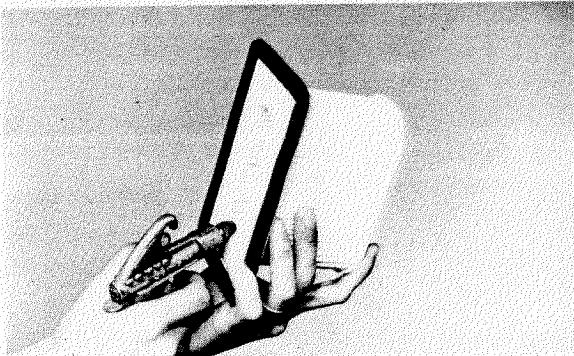
e. Pull out the element.



1. Air filter element

2. Cleaning method

Tap the element lightly to remove most of the dust and dirt; then blow out the remaining dirt with compressed air from the inner surface of the element. If element is damaged, replace it.



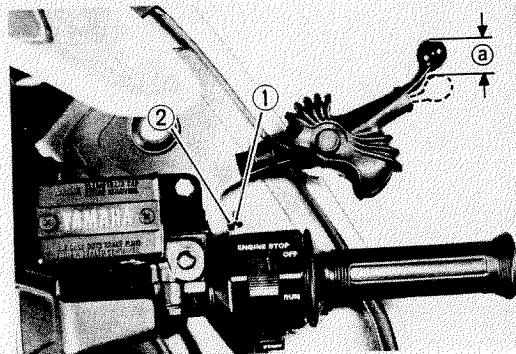
3. Reassemble by reversing the removal procedure. Check whether the element is seated completely against the case.
4. The air filter element should be cleaned at the specified intervals.

CAUTION:

The engine should never be run without the air cleaner element installed; excessive piston and/or cylinder wear may result.

Front brake adjustment

The front brake lever should be so adjusted that it has a free play of 5~8 mm (0.2~0.3 in) at the lever end.



1. Adjuster
2. Lock nut
a. 5~8 mm (0.2~0.3 in)

thout the
ive piston

adjusted
(0.2 ~ 0.3

↓
a
↑

1. Loosen the lock nut on the brake lever.
2. Turn the adjuster so that the brake lever movement at the lever end is 5~8 mm (0.2~0.3 in) before the adjuster contacts the master cylinder piston.
3. After adjusting, tighten the lock nut.

NOTE: _____
Check for correct play and make sure it is working properly.

WARNING: _____

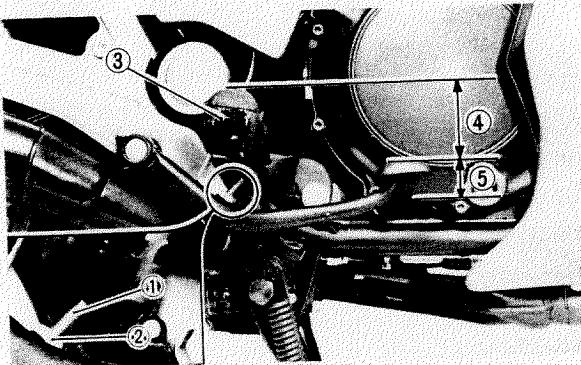
A soft or spongy feeling in the brake lever can indicate the presence of air in the brake system. This air must be removed by bleeding the brake system before the motorcycle is operated. Air in the system will cause greatly diminished braking capability and can result in loss of control and an accident. Have a Yamaha dealer or other qualified mechanic inspect and bleed the system if necessary.

Rear brake adjustment

CAUTION:

For the brake pedal position adjustment, be sure to proceed as follows; (It is advisable to have a Yamaha dealer or other qualified mechanic make this adjustment.)

1. Pedal height
 - a. Loosen the adjuster lock nut (for pedal height).
 - b. By turning the adjuster bolt clockwise or counterclockwise, adjust the brake pedal position so that its top end is approx. 40 mm (1.6 in) below the footrest top end.
 - c. Secure the adjuster lock nut.



1. Adjuster bolt
(for pedal height)
2. Lock nut
3. Footrest
4. Pedal height 40 mm (1.6 in)
5. Free play 20~30 mm (0.8~1.2 in)

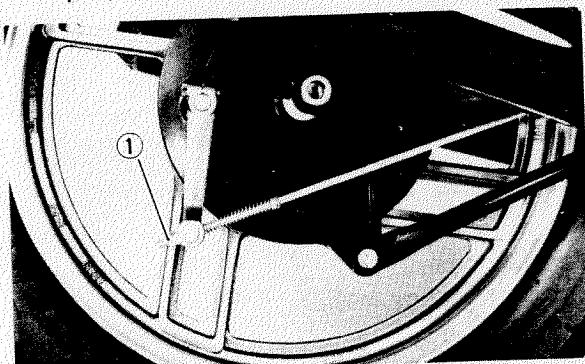
WARNING:

After adjusting the pedal height, adjust the brake pedal free play.

2. Free play

The rear brake should be adjusted to suit the rider's preference, but free play at the end of the brake pedal should be 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

WARNING:

Check the operation of the brake light after adjusting the rear brake.

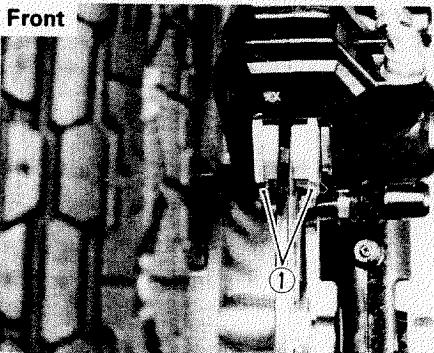
Checking the front brake pads and rear brake shoes

A wear indicator is attached to each brake to facilitate brake pad and shoe check.

This indicator permits a visual check without disassembling the pads.

Front:

To check, look at the pad wear indicator in back of the caliper. If any pad is worn to the wear limit, ask a Yamaha dealer or other qualified mechanic to replace the pads.

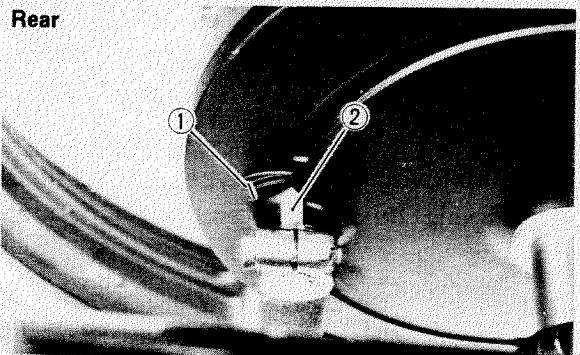


1. Wear indicator

Rear:

To check, see the wear indicator position while depressing the brake pedal. If the indicator reaches the wear limit line, ask a Yamaha dealer or other qualified mechanic to replace the shoes.

Rear



1. Wear limit 2. Wear indicator

Inspecting the brake fluid level

Insufficient brake fluid may allow air to enter the brake system, possibly causing the brakes to become ineffective.

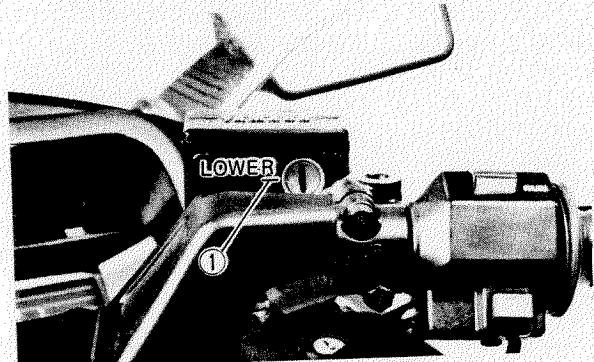
Before riding, check the brake fluid level and replenish when necessary, and observe these precautions:

1. Use only the designated quality brake fluid; otherwise, the rubber seals may deteriorate, causing leakage and poor brake performance.

Recommended brake fluid:
DOT #3

2. Refill with the same type of brake fluid; mixing fluids may result in a harmful chemical reaction and lead to poor performance.
3. Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point and may result in vapor lock.
4. Brake fluid may erode painted surfaces or plastic parts. Always clean up spilled fluid immediately.

5. Have a Yamaha dealer or other qualified mechanic check the cause if the brake fluid level goes down.



1. Lower level

Brake fluid replacement

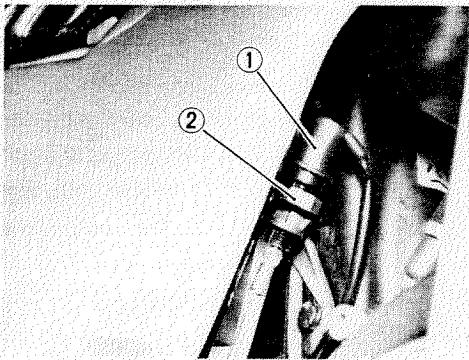
1. Complete fluid replacement should be done only by trained Yamaha service personnel or other qualified mechanic.
2. Complete fluid replacement should be done whenever the caliper cylinder or

- ualified
e brake
- master cylinder is disassembled, or the fluid becomes seriously contaminated.
3. Replace the following components whenever damaged or leaking, also:
 - a. Replace all brake seals every two years.
 - b. Replace all brake hoses every four years.

Brake light switch adjustment

The brake light switch is operated by the movement of the brake pedal.

To adjust, hold the switch body with the hand so it does not rotate and turn the adjusting nut. Proper adjustment is achieved when the brake light comes on slightly before the brake begins to take effect.



1. Switch body 2. Adjusting nut

Clutch adjustment

This model has two clutch cable length adjusters. The cable length adjusters are used to take up slack from cable stretch and to provide sufficient free play for proper clutch operation under various operating conditions.

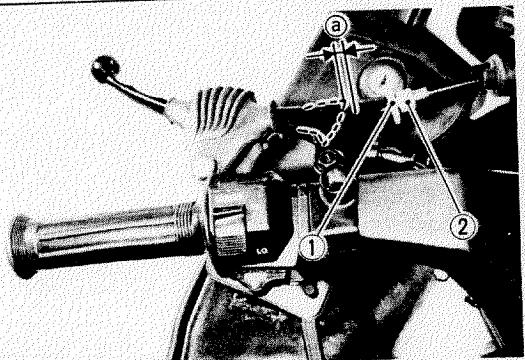
1. Free play adjustment

The clutch should be adjusted to suit

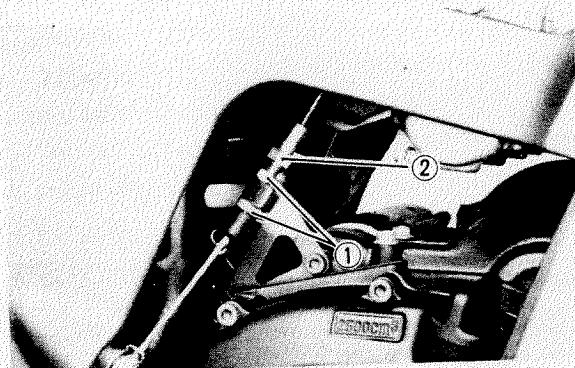
rider preference within a 2 ~ 3 mm (0.08 ~ 0.12 in) free play at the lever pivot side.

Loosen either the handlebar lever adjuster lock nut or the cable length adjuster lock nut. Next, turn the cable length adjuster either in or out until proper lever free play is achieved.

Clutch lever free play:
2 ~ 3 mm (0.08 ~ 0.12 in)



1. Lock nut a. 2 ~ 3 mm (0.08 ~ 0.12 in)
2. Adjuster



1. Lock nut 2. Adjuster

Cable inspection and lubrication

WARNING:

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

Lubricate the inner cable and the cable end. If they do not operate smoothly, ask a Yamaha dealer or other qualified mechanic to replace them.

Recommended lubricant:

Yamaha chain and cable lube or
SAE 10W30 motor oil

Throttle cable and grip lubrication

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

Brake pedal shaft

Apply Yamaha chain and cable lube or SAE 10W30 motor oil to the brake pedal shaft.

Change pedal/Brake and clutch lever

Lubricate the pivoting parts of each lever and pedal.

Recommended lubricants:

Yamaha chain and cable lube
or SAE 10W30 motor oil

Center and sidestand pivots

Lubricate the center and sidestand at their pivot points.

Recommended lubricants:

Yamaha chain and cable lube
or SAE 10W30 motor oil

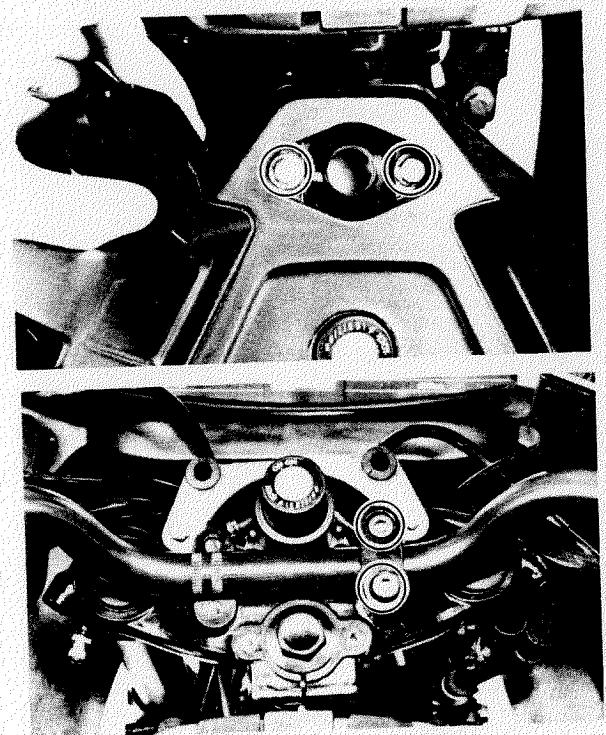
Front fork oil change

NOTE:

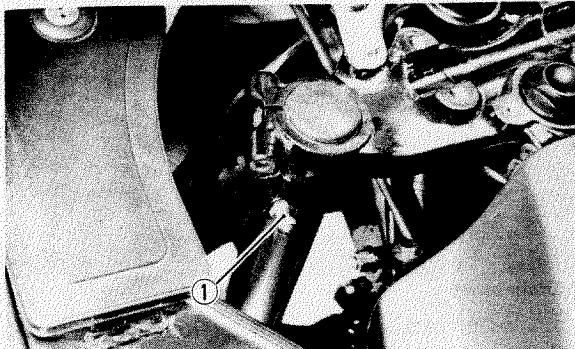
It is recommended that you proceed to the front fork oil change after clearing the front fork area of the fairing. This makes the work easier without the fairing being damaged. Refer to page 103.

WARNING:

1. Fork oil leakage can cause loss of stability and safe handling. Have any problem corrected before operating the motorcycle.
 2. Securely support the motorcycle so there is no danger of it falling over.
-
1. Raise the motorcycle or remove the front wheel so that there is no weight on the front end of the motorcycle.
 2. Remove the handlebar cover and handlebars.

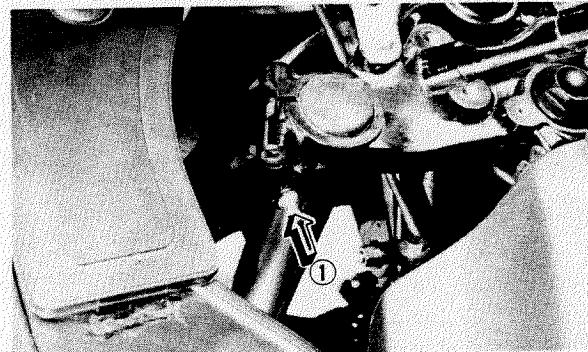


3. Remove the air valve cap from the left fork



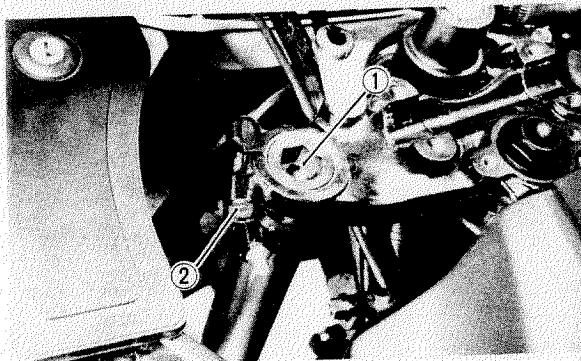
1. Air valve cap

4. Keep the valve open while pressing it for several seconds so that the air can be let out of the inner tube.



1. Push

5. Remove the rubber cap from the top of each fork.
6. Loosen the pinch bolts and remove the cap bolt from each inner tube.

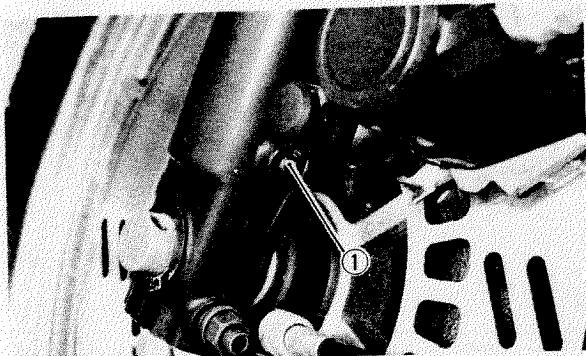


1. Cap bolt 2. Pinch bolt

7. Place an open container under each drain hole. Remove the drain screw from each outer tube.

WARNING:

Do not allow oil to contact the disc brake components. If any oil should contact the brake components, it must be removed before the motorcycle is operated. Oil will cause diminished braking capacity and will damage the rubber components of the brake assembly.



1. Drain screw

8. When most of the oil has drained, slowly raise and lower the outer tubes to pump out the remaining oil.
9. Inspect the drain screw gasket. Replace if damaged. Reinstall the drain screw.
10. Pour the specified amount of oil into the fork inner tube.

Front fork oil (each fork):

238 cm² (8.4 Imp oz, 8.0 US oz)

Yamaha Fork Oil 10wt or equivalent

11. After filling, slowly pump the outer tubes up and down to distribute the oil.
12. Inspect the O-ring on the cap bolt. Replace the O-ring, if damaged.
13. Reinstall the cap bolt and the rubber cap. Then, tighten the pinch bolts.

Tightening torque:

Cap bolt:

20 Nm (2.0 m·kg, 14.0 ft·lb)

Pinch bolt:

17 Nm (1.7 m·kg, 12.0 ft·lb)

14. Fill the fork with air using a manual air pump or other pressurized air supply. Refer to "Front fork and rear shock absorber adjustment" for proper air pressure adjusting.

Maximum air pressure:

118 kPa (1.2 kg/cm², 17 psi)

Do not exceed this amount.

15. Reinstall the air valve cap to the left fork.
16. Reinstall the handlebars and handlebar cover.

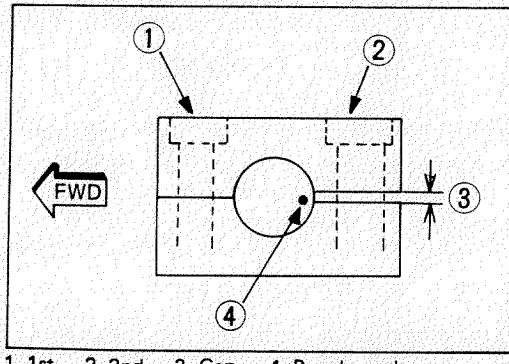
NOTE:

First tighten the bolts on the front side of the handlebar holder, and then tighten the bolts on the rear side.

Tightening torque:

Handlebar upper holder:

19 Nm (1.9 m·kg, 13.0 ft·lb)



Front fork and rear shock adjustment

CAUTION:

Don't dent the air chamber nor damage the air hose. It will result in an air leakage.

WARNING:

Any adjustment except for air pressure and damping, or any replacement must be performed by a Yamaha dealer or other qualified mechanic.

Front fork:

NOTE:

Since the right and left front forks are connected by air hose, there is only one valve where the air pressure is measured and adjusted.

1. Air pressure

- a.** Elevate the front wheel by placing the motorcycle on the centerstand.

NOTE:

When checking and adjusting the air pressure, there should be no weight on the front end of the motorcycle.

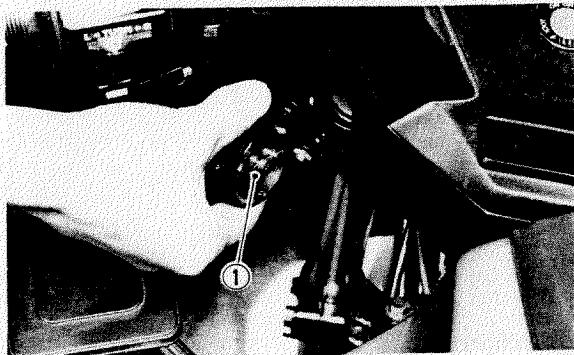
- b.** Remove the air valve cap.
- c.** Using the air check gauge, check and adjusted the air pressure. If the air pressure is increased, the suspension becomes stiffer and if decreased, it becomes softer.

To increase:

Use a manual air pump or other pressurized air supply.

To decrease:

Release the air by pushing the valve pin.



1. Air check gauge

NOTE:

An optional air check guage is available.
Please ask your nearby Yamaha dealer.

P/No. 2X4-2811A-00

Standard air pressure:

39.2 kPa (0.4 kg/cm², 5.7 psi)

Maximum air pressure:

118 kPa (1.2 kg/cm², 17 psi)

Minimum air pressure:

39.2 kPa (0.4 kg/cm², 5.7 psi)

CAUTION:

Never exceed the maximum pressure or oil
seal damage may occur.

WARNING:

Never pressurize the front fork above the
maximum or below the minimum air pressure.
It will cause damage to front fork and/or loss
of motorcycle control.

d. Reinstall the air valve cap.

Rear shock absorber:

NOTE:

Since the right and left shock absorbers are
connected by air hose, there is only one valve
where the air pressure is measured and
adjusted.

1. Air pressure
 - a. Elevated the rear wheel by placing the motorcycle on the centerstand.

NOTE: _____

When checking and adjusting the air pressure, there should be no weight on the rear end of the motorcycle.

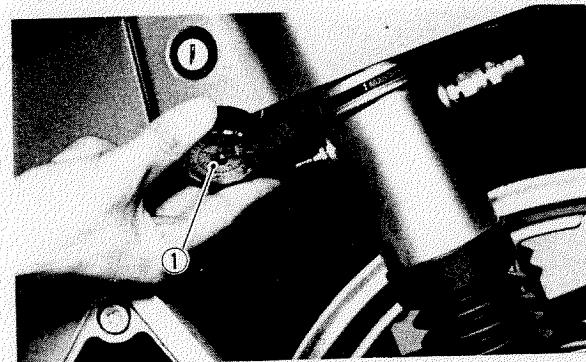
- b. Remove the air valve cap.
- c. Using the air check gauge, check and adjust the air pressure. If the air pressure is increased, the suspension becomes stiffer, and if decreased, it becomes softer.

To increase:

Use a manual air pump or other pressurized air supply.

To decrease:

Release the air by pushing the valve pin.



1. Air check gauge

NOTE: _____

An optional air check guage is available. Please ask your nearby Yamaha dealer.

P/N. 2X4-2811A-00

Standard air pressure:

98.1 kPa (1.0 kg/cm², 14 psi)

Maximum air pressure:

392 kPa (4.0 kg/cm², 57 psi)

Minimum air pressure:

98.1 kPa (1.0 kg/cm², 14 psi)

CAUTION:

Never exceed the maximum pressure or oil seal damage may occur.

WARNING:

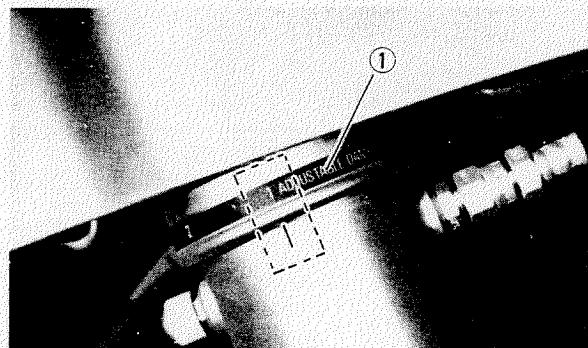
Never pressurize the shock absorber above the maximum or below the minimum air pressure. It will cause damage to rear shock absorber and/or loss of motorcycle control.

- d. Reinstall the air valve cap.
2. Damping
 - a. Turn the damping adjuster to increase or decrease the damping.
 - b. If the damping adjuster is turned toward the "4", the damping becomes harder; if the adjuster is turned toward the "1", damping becomes softer.

Standard position — No. 1

No.1 — Minimum damping

No.4 — Maximum damping



1. Damping adjuster

WARNING:

Always the shock absorbers on each side to the same position. Uneven adjustment will cause an improper riding position.

Recommended combinations of the front fork and the rear shock absorber.
 Use this table as guidance to meet specific riding conditions and motorcycle load.

Front fork	Rear shock absorber		Loading condition			
	Air pressure	Damping adjuster	Solo rider	With Passenger	With accessory equipment	With accessory equipments and passenger
39.2~78.5 kPa (0.4~0.8 kg/cm ² , 5.7~11 psi)	98.1~196 kPa (1.0~2.0 kg/cm ² , 14~28 psi)	1~2	○			
39.2~78.5 kPa (0.4~0.8 kg/cm ² , 5.7~11 psi)	196~294 kPa (2.0~3.0 kg/cm ² , 28~43 psi)	2~3		○		
39.2~78.5 kPa (0.4~0.8 kg/cm ² , 5.7~11 psi)	196~294 kPa (2.0~3.0 kg/cm ² , 28~43 psi)	2~3			○	
78.5~118 kPa (0.8~1.2 kg/cm ² , 11~17 psi)	294~392 kPa (3.0~4.0 kg/cm ² , 43~57 psi)	3~4				○

Steering inspection

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

Check the condition of the steering as follows:

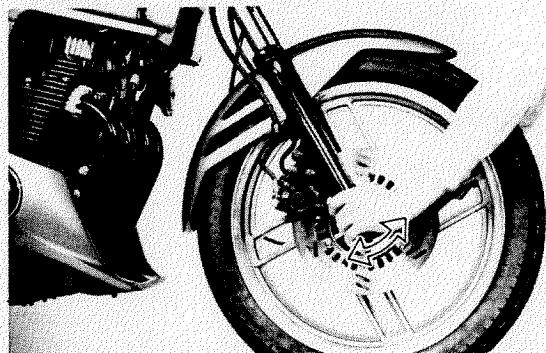
1. Place the motorcycle on the centerstand.
2. Push down the seat at the end so that the front wheel is free.
3. Hold the lower ends of the front forks and try to move them forward and backward. If any free play can be felt, ask a Yamaha dealer or other qualified mechanic to inspect and adjust the steering assembly.

NOTE:

Inspection is easier if the front wheel is removed.

WARNING:

Securely support the motorcycle so that there is no danger of its falling over.



Wheel bearings

If the wheel bearings in the front or rear wheel allow play in the wheel hub, or if the wheel does not turn smoothly, have a Yamaha dealer or a qualified mechanic inspect the wheel bearings. The wheel bearings should be inspected according to the General Maintenance Schedule.

Battery

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

CAUTION:

When inspecting the battery, be sure the breather pipe is routed correctly. If the vent tube touches the frame or exits in such a way as to cause battery electrolyte or gas to exit onto the frame, structural and cosmetic damage to the motorcycle can occur.

WARNING:

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It 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.

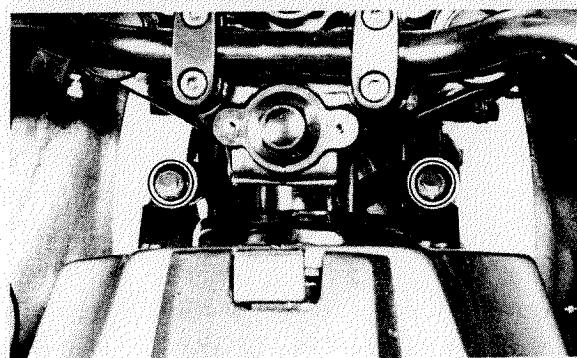
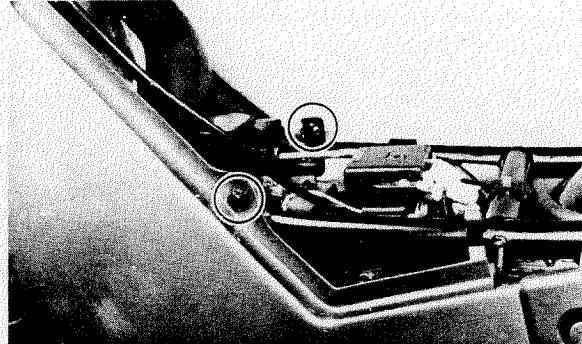
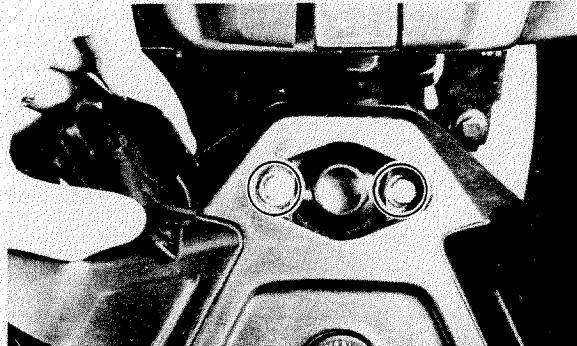
Eyes: Flush with water for 15 minutes and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flame, cigarettes, etc. away. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries.

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. Remove the seat.
2. Remove the handlebar cover and side panels (left and right).



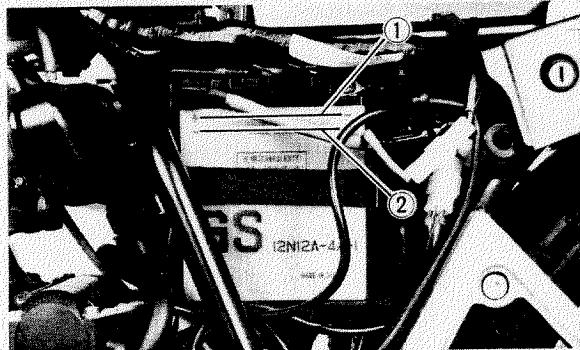
3. The level should be between the upper and lower level marks. Use only distilled water if refilling is necessary.

CAUTION:

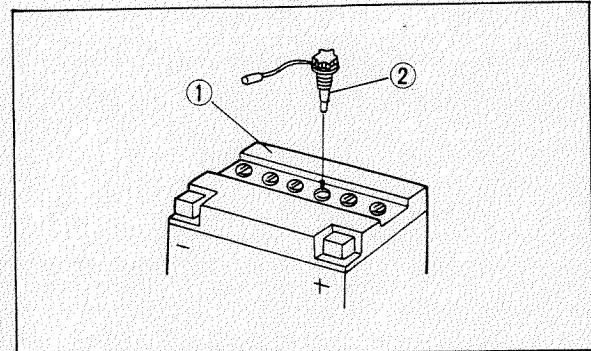
Normal tap water contains minerals which are harmful to a battery; therefore, refill only with distilled water.

CAUTION:

Install the battery sensor into 3RD hole from positive terminal.



1. Upper level 2. Lower level



1. Battery 2. Battery sensor

4. 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.
5. 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.

6. Always make sure the connections are correct when putting the battery back in the motorcycle.

Make sure the breather pipe is properly connected and is not damaged or obstructed.

CAUTION:

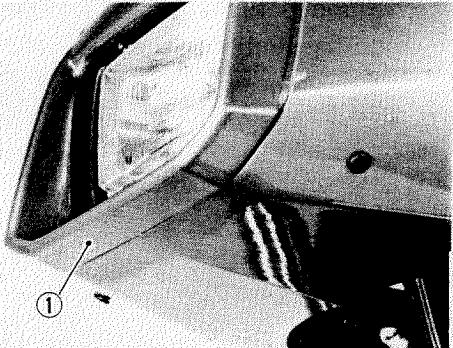
Make sure that the connection to the battery is correct; otherwise, damage to the micro-computer may occur.

7. Reinstall the side panels (left and right) and handlebar cover. Then, reinstall the seat.

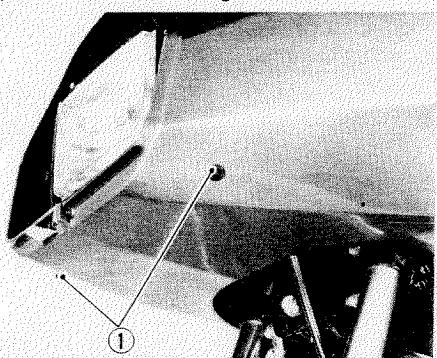
Headlight

This motorcycle is equipped with a quartz bulb headlight. If the headlight bulb burns out, replace the bulb as follows:

1. Headlight bulb replacement
 - a. Remove the headlight nacelle.

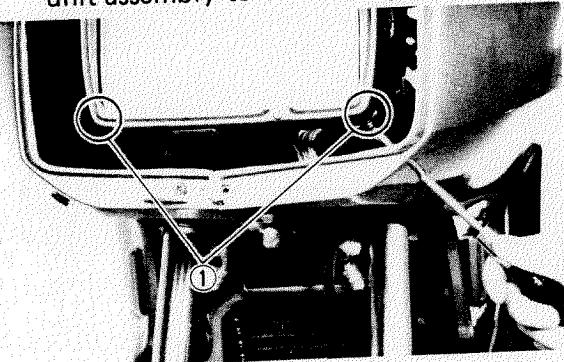


1. Nacelle holding screw
- b. Remove the two blind plugs from the upper panels (left and right).

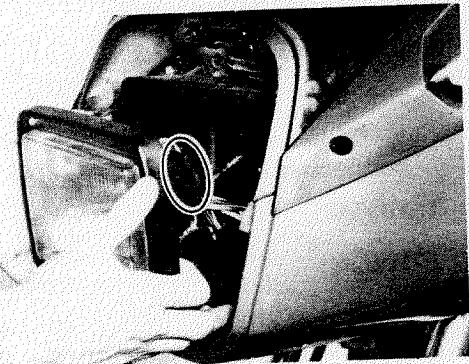


1. Blind plug

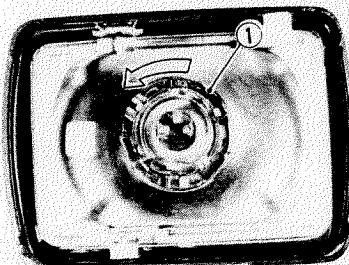
- c. Remove the 2 screws holding the light unit assembly to the headlight body.



1. Holding screw
d. Disconnect the leads and remove the light unit assembly.



- e. Turn the bulb holder counterclockwise and remove the defective bulb.



- f. Slip a new bulb into position and secure it with the bulb holder.

CAUTION:

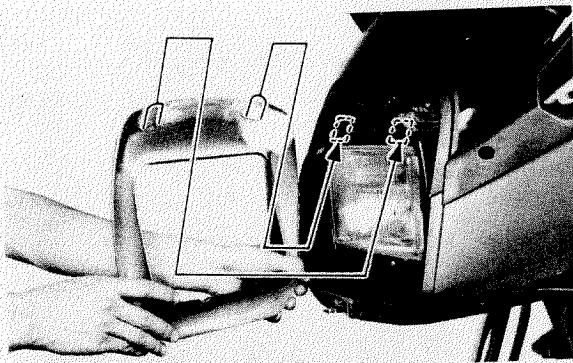
Avoid touching the glass part of the bulb. Also keep it free from oil stains; otherwise, the transparency of the glass, life of the bulb, and luminous flux will be adversely affected. If the glass is oil stained, thoroughly clean it with a cloth moistened with alcohol or lacquer thinner.

WARNING:

Keep flammable products or your hands away from the bulb while it is on, because it heats up. Do not touch the bulb until it cools down.



- g. For reassembly, follow procedure below with care.
- 1) Install the two blind plugs.
 - 2) Make sure the projecting portions of the headlight nacelle are positioned correctly.

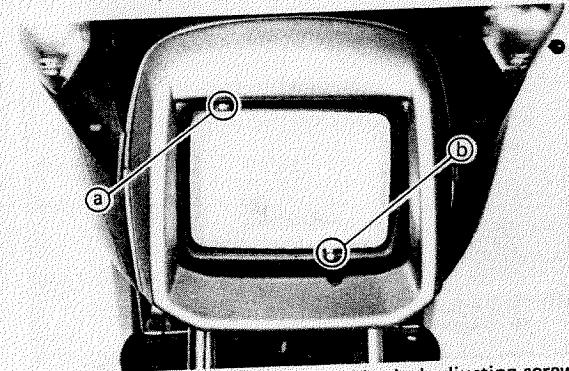


- 3) Adjust the headlight beam if necessary.
2. Headlight beam adjustment
 - a. Horizontal adjustment:

To adjust the beam to the left, turn the adjusting screw clockwise.
To adjust the beam to the right, turn the screw counterclockwise.
 - b. Vertical adjustment:

To adjust the beam to the upper, turn the adjusting screw clockwise.

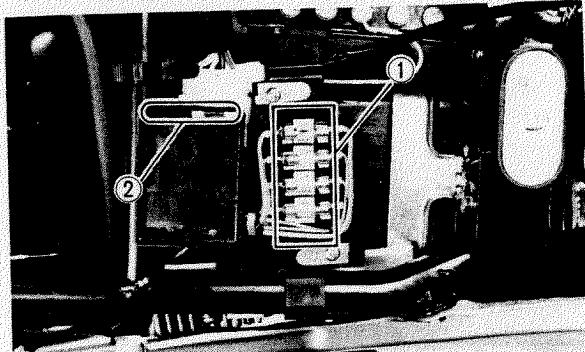
To adjust the beam to the lower, turn the adjusting screw counterclockwise.



a. Horizontal adjusting screw b. Vertical adjusting screw

Fuse replacement

1. The fuse block is located under the seat.



1. Fuse 2. Spare fuse

2. If any fuse is blown, turn off the ignition switch and the switch in the circuit in question, install a new fuse of proper amperage.

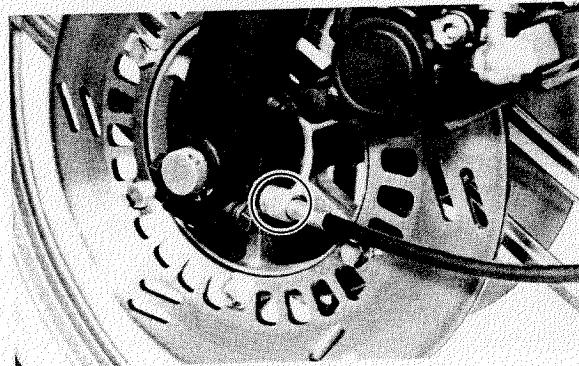
Turn on the switches, and see if the electrical device operates. If the fuse immediately blows again, consult a Yamaha dealer or other qualified mechanic.

WARNING:

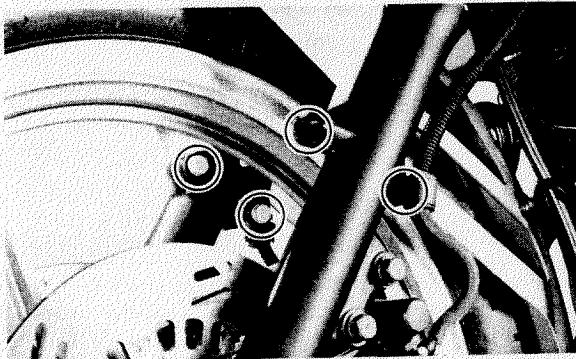
Do not use fuses of a higher amperage rating than those recommended. Substitution of a fuse of improper rating can cause extensive electrical system damage and possible fire.

Front wheel removal

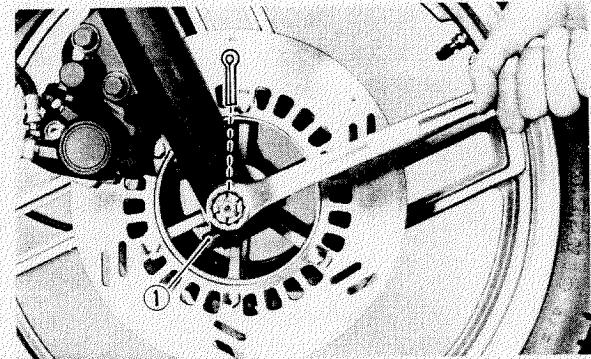
1. Place the motorcycle on the centerstand.
2. Disconnect the speedometer cable.



3. Remove the front fender securing bolts and remove the fender.



4. Remove the cotter pin and wheel axle nut.
5. Loosen the left and right pinch bolts securing the axle.



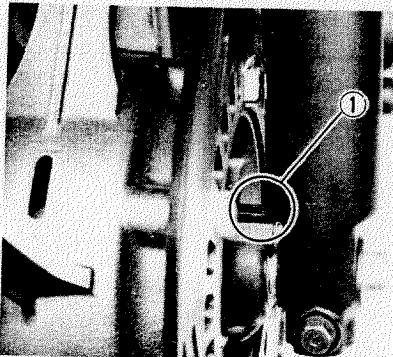
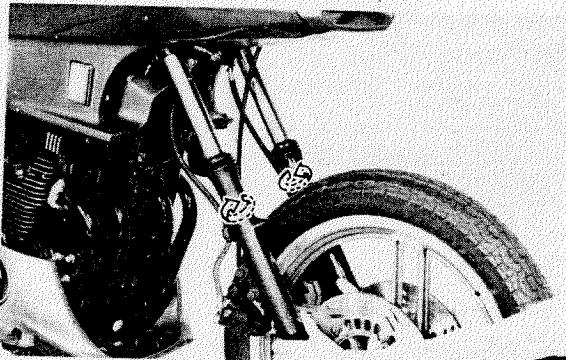
1. Pinch bolt

6. Remove the axle shaft and the front wheel. In this case, make sure the motorcycle is properly supported.

NOTE:

Do not depress the brake lever when the wheel is off the motorcycle as the brake pads will be forced to shut.

7. Lower the wheel until the brake discs come off the calipers. Turn the calipers outward so they do not obstruct the wheel and remove the wheel.



1. Torque stopper

- b. Tighten the axle nut and install a new cotter pin.

NOTE:

Tighten the pinch bolts temporarily before tightening the axle nut.

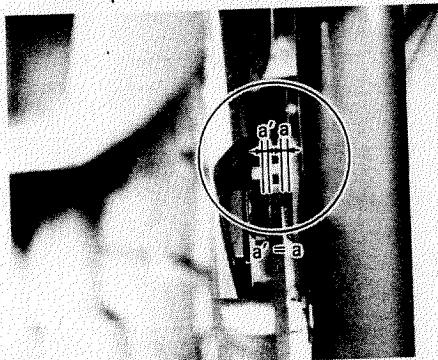
Axle nut torque:

105 Nm (10.5 m.kg, 75.0 ft.lb)

WARNING:

Always use a new cotter pin on the axle nut.

- c. Install the front fender and connect the speedometer cable.
- d. Before tightening the pinch bolts, compress the front forks several times to make sure of proper fork operation. With the axle pinch bolts loose, work the left fork leg back and forth until the proper clearance between the disc and caliper bracket on the front is obtained.



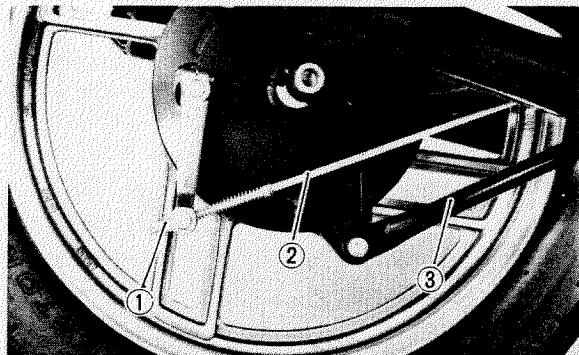
- e. Tighten the axle pinch bolts.

Axle pinch bolt torque:
20 Nm (2.0 m·kg, 14.0 ft·lb)

Rear wheel removal**CAUTION:**

It is advisable to have a Yamaha dealer or other qualified mechanic make this removal and reassembly.

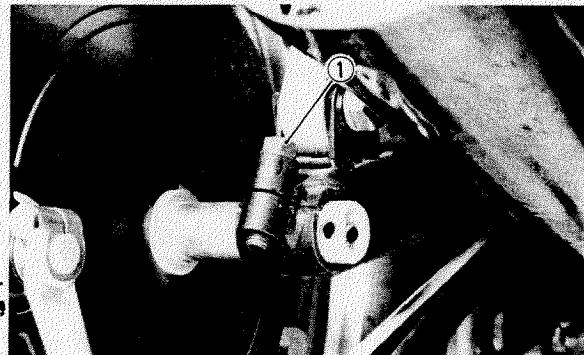
1. Place the motorcycle on the centerstand.
2. Remove the tension bar and the brake rod from the brake shoe plate. The tension bar can be removed by removing the cotter pin and nut from the tension bar bolt. The brake rod can be removed by removing the adjuster.



1. Adjuster 2. Brake rod 3. Tension bar

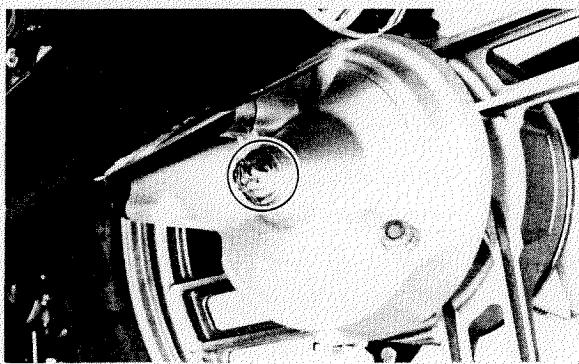
3. Remove the axle nut cotter pin and axle nut. Discard the old pin.

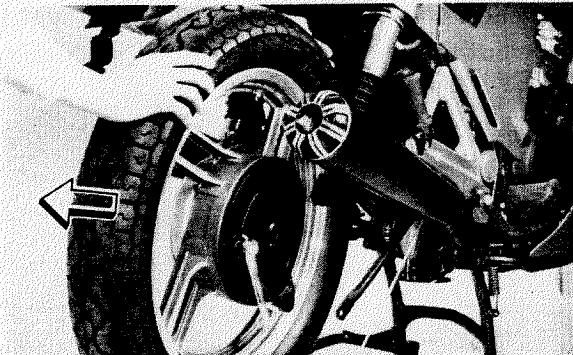
4. Loosen the rear axle pinch bolt and pull out the rear axle.



1. Pinch bolt

5. Move the wheel to the right side to separate it from the final gear case and remove the rear wheel.



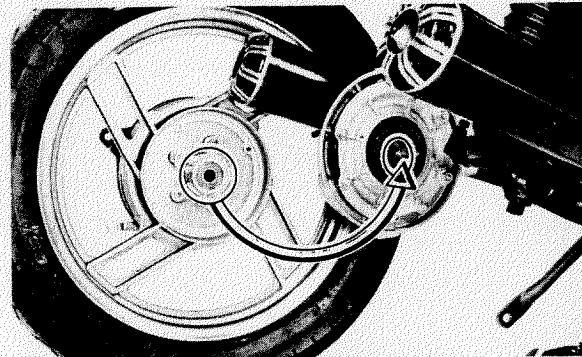


6. To install the rear wheel, reverse the removal procedure.

NOTE:

Before installing the rear wheel, apply light coating of lithium base grease to final gear case splines and rear wheel hub splines.

When installing the rear wheel, be sure the splines on the wheel hub fit into the final gear case.



7. Tighten the axle nut, axle pinch bolt, and install a new cotter pin.

WARNING:

Always use a new cotter pin on the axle nut.

Tightening torque:

Axle nut:

105 Nm (10.5 m·kg, 75.0 ft·lb)

Axle pinch bolt:

6 Nm (0.6 m·kg, 4.3 ft·lb)

8. Adjust the rear brake. See page 56.

WARNING:

Check the operation of the brake light after adjusting the rear brake.

Carburetor adjustment:

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

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

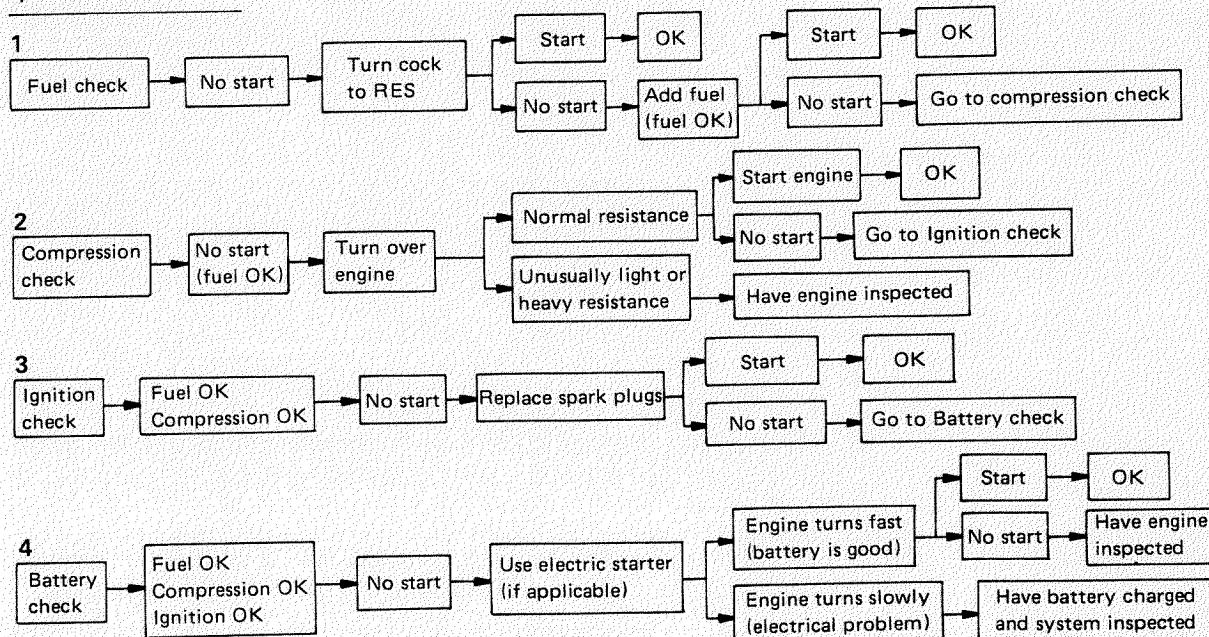
following chart. If repair is necessary, ask a qualified mechanic such as your Yamaha dealer for assistance. The skilled technicians at your Yamaha dealer are trained and equipped to perform the necessary maintenance and repair work. For replacement parts, Yamaha recommends you use Genuine Yamaha Parts or parts you know are equivalent in quality.

Any problem 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.

Troubleshooting chart

WARNING:

Never check the fuel system while smoking or in the vicinity of an open flame.



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 motorcycle:
 - a. Block off end of exhaust pipe to prevent water entry; a plastic bag and strong rubber band may be used.
 - b. Make sure spark plugs and gas cap are properly installed.
2. If engine case is excessively greasy, apply degreaser with a paint brush. Do not apply degreaser to wheel axles.
3. Rinse 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 calipers, and transmission seals. Many expensive repair bills have resulted from improper use of high pressure detergent applications such as those available in coin-operated car washes.

CAUTION:

The instrument panel mustn't be subjected to any water splashes or steam from underneath.

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 motorcycle off immediately with clean water and dry all surfaces with a chamois, clean towel, or soft absorbent cloth.

6. Chrome-plated parts such as handlebars, forks, etc., may be further cleaned with automotive chrome cleaner.
7. Windscreen cleaning

CAUTION:

Do not allow the brake fluid to contact the plastic parts.

a. Cleaning

Wash the windscreen with a soft flannel cloth, using acrylic plastic cleaner, or a solution of mild soap or detergent and plenty of water.

Do not clean the windscreen with an abrasive cleaner, gasoline, or solvent as it causes deterioration of the windscreen material.

b. Polishing

Polish the windscreen frequently to keep clean vision, using a fine grade of acrylic plastic polish and a clean soft flannel cloth.

- c. Warning on windscreen visibility
Do not ride the motorcycle with a severely scratched or cracked windscreen.
8. Clean the seat with a vinyl upholstery cleaner to keep the cover pliable and glossy.
9. Automotive-type wax may be applied to all painted and chrome-plated surfaces. Avoid combination cleaner-waxes. Many contain abrasives which may mar paint or protective finish on the fuel tank and side covers.
10. After finishing, start the engine immediately and let it idle for several minutes.

B. STORAGE

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

1. Drain fuel tank, fuel lines, and carburetor float bowl.
2. Remove the empty fuel tank, pour a cup of SAE 10W30 or SAE 20W40 motor oil in tank, shake the tank to coat the inner surfaces thoroughly and drain off excess the oil. Reinstall the tank.
3. Remove the spark plug, pour about one tablespoon of SAE 10W30 or SAE 20W40 motor oil in the spark plug hole and reinstall the spark plug. Crank the engine over several times (ground spark plug lead wires) to coat the cylinder walls with oil.
4. Lubricate all control cables.
5. Block up the frame to raise both wheels off the ground.
6. Tie a plastic bag over the exhaust pipe outlet to prevent moisture 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 any rubber parts or the seat cover.
8. Remove the battery and charge it. Store it in a dry place and recharge it once a month. Do not store the battery in an excessively warm or cold place (less than 0°C (30°F) or more than 30°C (90°F)).

WARNING:

When using starter motor to crank the engine, remove spark plug leads and ground them to prevent sparking.

NOTE: _____

Make any necessary repairs before storing the motorcycle.

MISCELLANEOUS

Consumer information

STOPPING DISTANCE

These figures indicate braking performance that can be met or exceeded by the vehicles to which they apply, 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 XJ650LJ

A. Fully Operational Service Brake	Load	
	Light	158
	Maximum	173
	0 100 200 300 (Feet)	
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

SPECIFICATIONS

General specifications

MODEL	XJ650LJ
Dimension:	
Overall length	2,170 mm (85.4 in)
Overall width	730 mm (28.7 in)
Overall height	1,355 mm (53.3 in)
Wheelbase	1,440 mm (56.7 in)
Minimum road clearance	140 mm (5.5 in)
Basic weight:	
With oil and full fuel tank	249 kg (549 lb)
Performance:	
Minimum turning radius	2,600 mm (102.4 in)
Engine:	
Type	4 stroke, gasoline, air cooled, DOHC
Engine model	16G
Cylinder	4-cylinder in-line, Forward inclined
Displacement	653 cm ³ (39.8 cu.in)
Bore x Stroke	63.0 x 52.4 mm (2.480 x 2.063 in)
Compression ratio	8.2 : 1
Starting system	Electric starter
Ignition system	Battery ignition (Full transistor ignition)

MODEL	XJ650LJ
Fuel tank capacity	Total: 15.5 L (3.4 Imp gal, 4.1 US gal) Reserve: 2.2 L (0.5 Imp gal, 0.6 US gal)
Engine oil capacity	Total amount: 3.5 L (3.1 Imp qt, 3.7 US qt) Periodic oil change: 2.5 L (2.2 Imp qt, 2.6 US qt) With oil filter replacement: 2.9 L (2.6 Imp qt, 3.1 US qt)
Lubrication system	Wet sump
Battery type/capacity	12N 12A-4A/12V, 14AH
Generator	A.C. magneto
Spark plug	BP8ES (NGK), W24EP-U (NIPPON DENSO)
Carburetor	BS30 × 4
Air cleaner	Dry type element
Clutch type	Wet, multiple-disc
Transmission:	
Primary reduction system	Gear
Primary reduction ratio	97/58 (1.672)
Secondary reduction system	Shaft
Secondary reduction ratio	49/36 × 19/18 × 32/11 (4.179)
Gear box type	Constant mesh, 5-speed forward
Operation system	Left foot operation

MODEL		XJ650LJ
Gear ratio:	First	35/16 (2.187)
	Second	30/20 (1.500)
	Third	30/26 (1.153)
	Fourth	28/30 (0.933)
	Fifth	26/32 (0.812)
Chassis:		
Frame type		Tubular, double-cradle
Steering:	Caster	27°45'
	Trail	115 mm (4.53 in)
Tire size:	Front	3.25 V19 Tubeless tire
	Rear	120/90 V18 Tubeless tire
Braking system:	Front	Disc brake/Right hand operation
	Rear	Drum brake/Right foot operation
Suspension:	Front	Telescopic fork
	Rear	Swing arm
Shock absorber:	Front	Air/coil spring, oil damper
	Rear	Air/coil spring, oil damper

MODEL	XJ650 LJ
Electrical:	
Headlight	12V, 60W/55W (Quartz bulb)
Tail/brake light	12V, 8W/27W × 2
Flasher light	12V, 27W × 4
License light	12V, 3.4W × 2
Pilot lights:	
TURN	12V, 3.4W × 2
WARNING	12V, 3.4W
NEUTRAL	12V, 3.4W
HIGH BEAM	12V, 3.4W
Meter light	12V, 3.4W × 3

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 unrepairs can become large problems which may not be covered under warranty.

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

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

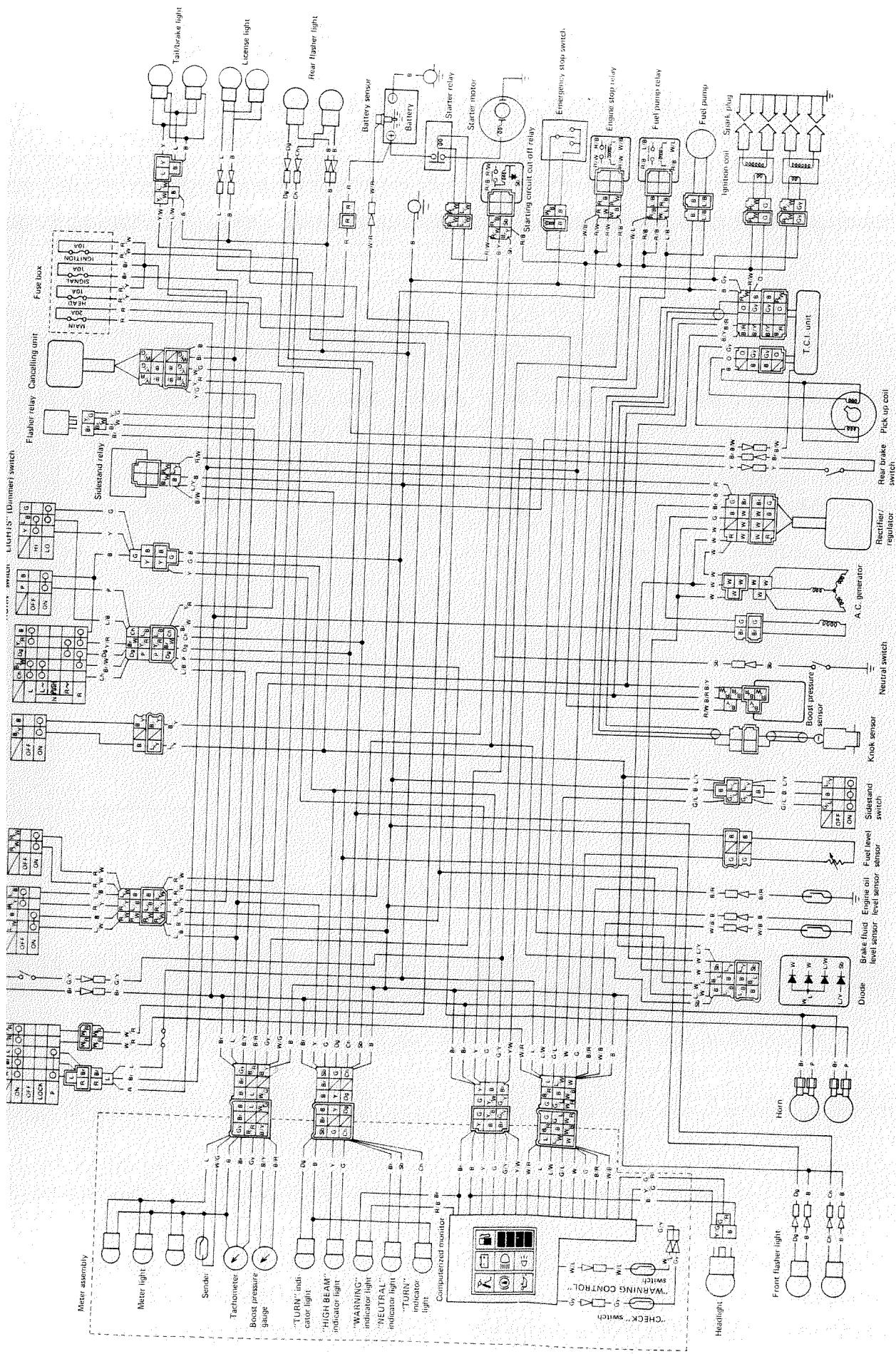
**YAMAHA MOTOR CORPORATION, U.S.A.
6555 KATELLA AVE.
P.O.BOX 6555
CYPRESS, CALIFORNIA 90630
ATTN: WARRANTY DEPARTMENT**

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 warranty. 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
1,000 km or 600 mi or 1 mo.				
5,000 km or 3,000 mi or 7 mo.				
9,000 km or 5,600 mi or 13 mo.				
13,000 km or 8,100 mi or 19 mo.				
17,000 km or 10,600 mi or 25 mo.				

MAINTENANCE INTERVAL	DATE OF SERVICE	MILEAGE	SERVICING DEALER NAME AND ADDRESS	SERVICING DEALER SIGNATURE
21,000 km or 13,000 mi or 31 mo.				
25,000 km or 15,500 mi or 37 mo.				
29,000 km or 18,000 mi or 43 mo.				
33,000 km or 20,500 mi or 49 mo.				
37,000 km or 23,000 mi or 55 mo.				
41,000 km or 25,500 mi or 61 mo.				



COLOR CODE

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

FAIRING COMPONENTS

