IMPORTANT:

PLEASE READ THIS MANUAL CAREFULY BEFORE OPERATING THIS MOTORCYCLE.

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

NOTE:

A NOTE provies key information to make procedures easier or clearer.

CAUTION:

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

WARNING:

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

INTRODUCTION

Congratulations on your purchase of the Yamaha XJ650/XJ750 for POLICE. This model represents the product of many years of Yamaha experience in the production of fine sporting, touring, and pacesetting racing machines. You can now appreciate the high degree of craftsmanship and reliability that have made Yamaha a leader in these fields.

This manual will provide the owner with a good basic understanding of the operation and basic maintenance of this vehicle. If you have any questions regarding the operation or maintenance of your motorcycle, please consult a Yamaha dealer.

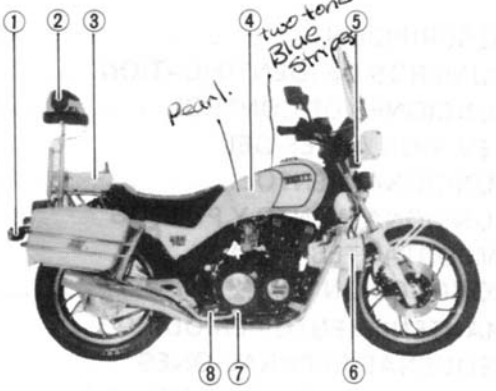
NOTICE:

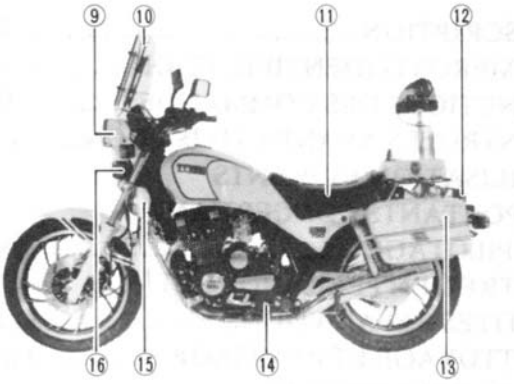
Some data in this manual may become outdated due to improvements made to this model in the future. If there is any question concerning this manual, consult a nearby Yamaha dealer.

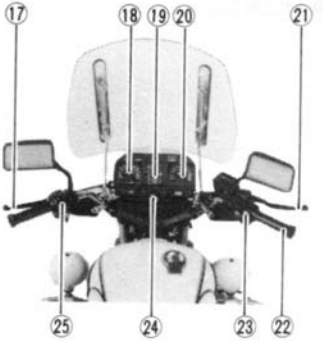
OVERSEAS SERVICE
OVERSEAS OPERATIONS
YAMAHA MOTOR CO., LTD.

CONTENTS

DESCRIPTION DESCRIPTION DESCRIPCION







NOTE:

The design and specification of the motorcycle you have purchased may partly differ from those shown in the photos this manual carries.

1. Rear flasher light
2. Revolving flasher light
3. Trunk case
4. Fuel tank
5. Front flasher light
6. Siren
7. Brake pedal
8. Footrest
9. Headlight
10. Windshield
11. Seat
12. Tail/brake light
13. Side bag
14. Change pedal
15. Patrol light
16. Fog light
17. Clutch lever
18. Speedometer
19. Display panel
20. Tachometer
21. Brake lever
22. Throttle grip
23. Right handlebar switch
24. Main switch
25. Left handlebar switch

1. Clignoteur arrière
2. Feu tournant à èclate
3. Coffre
4. Réservoir à essence
5. Clignoteur avant
6. Sirène
7. Pédale de frein
8. Repose-pied
9. Phare
10. Pare-brise
11. Selle
12. Feur arrière de frein
13. Sacoche
14. Pédale d'embrayage
15. Feu de patrouille
16. Phare antibrouillard
17. Levier d'embrayage
18. Indicateur de vitesse
19. Affichage
20. Compte-tours
21. Levier de frein
22. Poignée des gaz
23. Commutateur de guidon à droite
24. Contacteur à clé
25. Commutateur de guidon à gauche

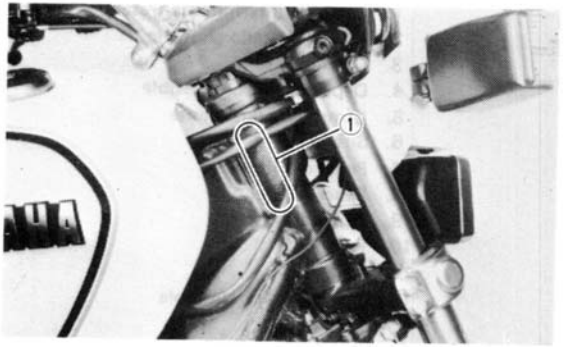
1. Lampara intermitente trasera
2. Luz de destello giratoria
3. Cofre
4. Depósito de combustible
5. Lámpara intermitente
6. Sirena
7. Pedal del freno
8. Descanso del pie
9. Farol delantero
10. Parabrisas
11. Asiento
12. Lámpara de freno/cola
13. Caja lateral
14. Pedal de cambio
15. Luz de patrullero
16. Luz antiniebla
17. Relance del embrague
18. Velocímetro
19. Panel indicador
20. Tacometro
21. Palanca del freno
22. Puño del acelerador
23. Interruptor en la manija (Drecha)
24. Interruptor principal
25. Interruptor en la manija (Izquierda)

N.B.:

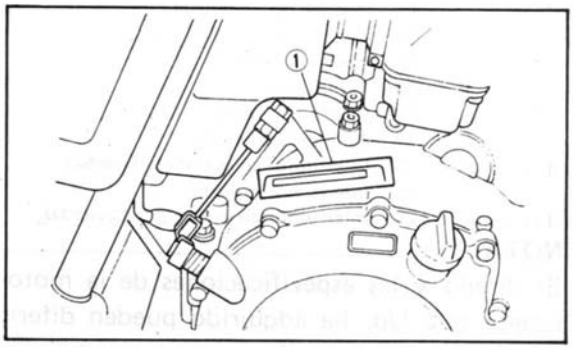
Le type et les caractéristiques de la motocyclette que vous avez acheté peuvent être légèrement différents de ceux montrés sur les photos de ce manuel.

NOTA:

El diseño y las especificaciones de la motocicleta que Ud. ha adquirido pueden diferir parcialmente de aquellos que se muestran en las fotos de este manual.



1. Frame serial number 1. Numéro de série du cadre
1. Número de serie del chasis



1. Engine serial number 1. Numéro de série moteur
1. Número serie del motor

MOTORCYCLE IDENTIFICATION

Frame serial number

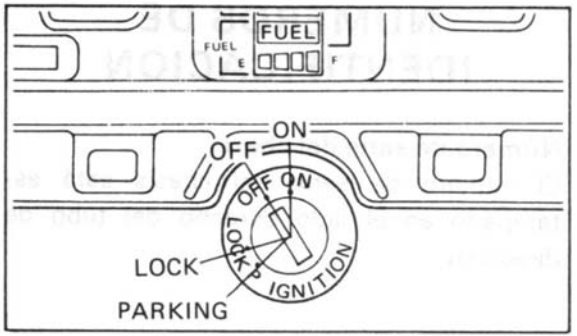
The frame serial number is stamped into the right side of the steering head pipe.

Engine serial number

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

NOTE:

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



CONTROL FUNCTIONS

Main switch

Functions of the respective switch positions are as follows:

ON:

Electrical circuits are switched on. The engine can be started. The key cannot be removed in this position. Refer to "computerized monitor system" (page 11) for proper operation.

OFF:

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

LOCK:

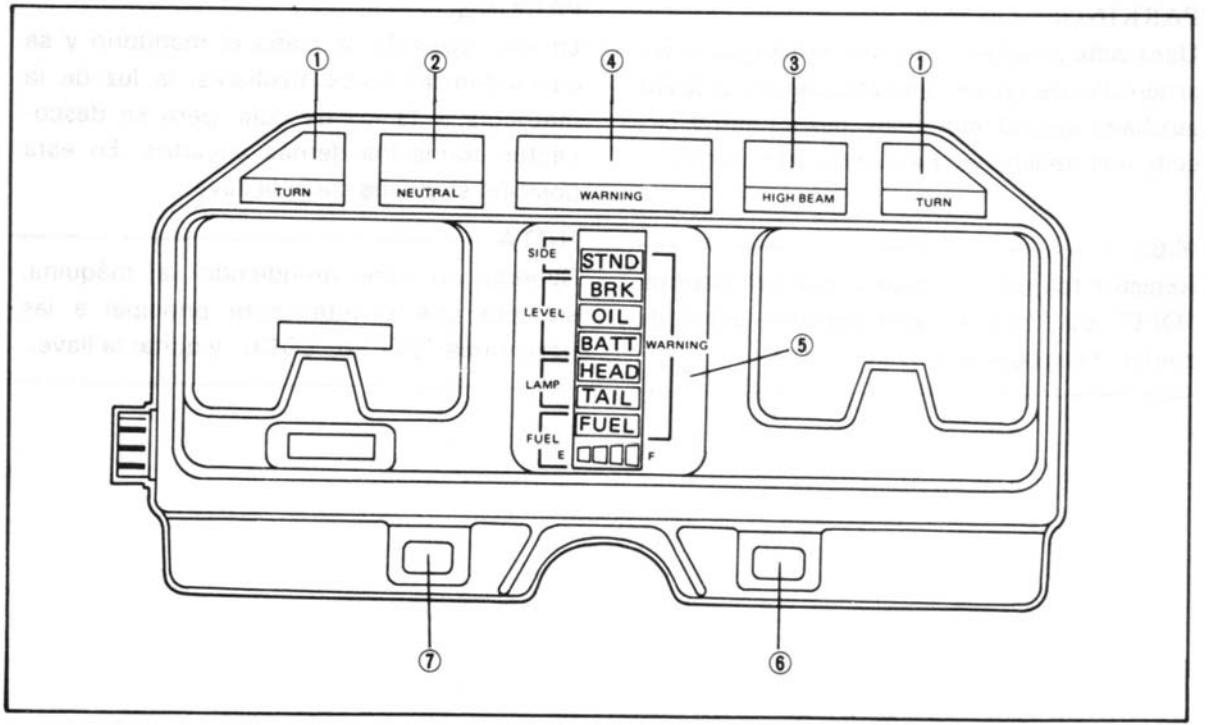
The steering is locked in this position, and all electrical circuits are switched off. The key can be removed in this position. Refer to "Steering lock" (page 49) for proper operation.

PARKING:

The steering is locked in this position, and the taillight, the licese light and the auxiliary 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 motorcycle is unattended.


①
②
④
③
①
TURN
NEUTRAL
WARNING
HIGH BEAM
TURN
SIDE
STND
BRK
LEVEL
OIL
BATT
WARNING
HEAD
LAMP
TAIL
FUEL
FUEL
E
F
⑤
⑦
⑥

1. Turn indicator light
2. Neutral indicator light
3. High beam indicator light
4. Warning light
5. Display panel
6. Warning control switch
7. Check switch

1. Témoin des clingnoteurs
2. Témoin de point mort
3. Témoin de feu de route
4. Témoin de signalisation (WARNING)
5. Affichage
6. Commutateur de commande du témoin de signalisation
7. Commutateur de contrôle

1. Luz indicadora del señalizador
2. Luz indicadora de punto muerto
3. Luz indicadora de luz alta
4. Luz de advertencia
5. Panel indicador
6. Conmutador de control de advertencia
7. Conmutador de verificación

Indicator lights

Turn indicator light "TURN" (orange):

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

Neutral indicator light "NEUTRAL" (green):

This indicator lights when the transmission is in neutral.

High beam indicator light "HIGH BEAM" (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.

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 bottom 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 your Yamaha dealer.

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 immediately.

Display panel

STND:

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

BRK:

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 immediately.

WARNING:

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

OIL:

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.

BATT:
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.

HEAD:
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.

TAIL:

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

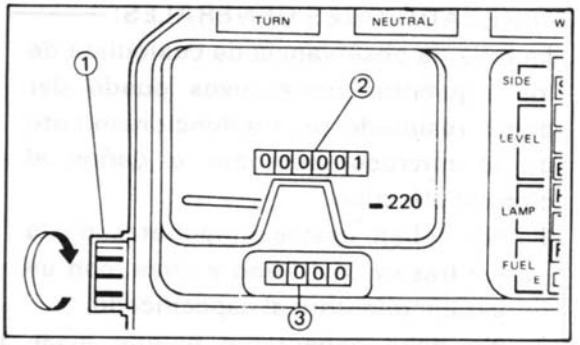
FUEL:

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.

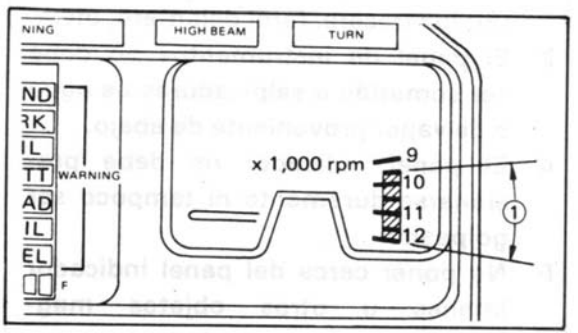
GENERAL CAUTION:

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.**



1. Reset knob 1. Bouton de totalisateur 1. Perilla de reajuste
2. Odometer 2. Compteur kilométrique 2. Odometro
3. Trip odometer 3. Totalaisateur journalier 3. Odometro para viajes



1. Red zone 1. Zone rouge 1. Zona roja

Speedometer

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

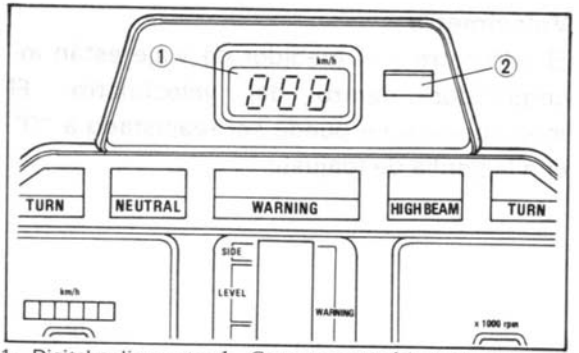
Tachometer

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

This model is provided with an electric tachometer.

CAUTION:

Do not operate in the red zone.
Red zone: 9,500 r/min and above.

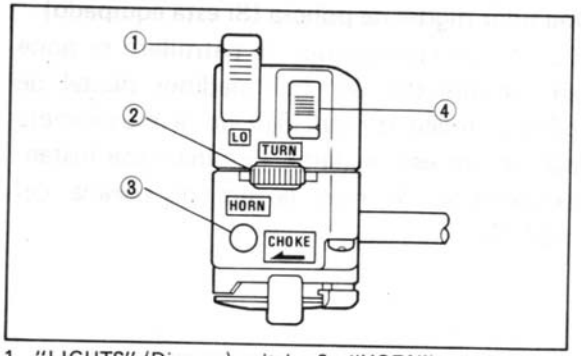


1. Digital police meter 1. Compteur numérique de police
2. Meter stop light 2. Feu d'arrêt de compteur

1. Medidor digital de policía
2. Luz de parada del medidor

Digital police meter (If so equipped)

When the patrol switch is slided to the "M" position, the digital police meter indicates the speed at which the police bike was running at that instant, instantaneously making the meter stop light glow in red.



1. "LIGHTS" (Dimmer) switch
2. "TURN" switch
3. "HORN" switch
4. Passing light switch "PASS"

1. Commutateur de feu de route/feu de croissement "LIGHTS"
2. Commutateur des clignoteurs "TURN"
3. Commutateur d'avertisseur "HORN"
4. Commutateur d'appel de phare "PASS"

1. Conmutador reductor de luces "LIGHTS"
2. Conmutador de viraje "TURN"
3. Conmutador de la bocina "HORN"
4. Conmutador de la luz para adelantar "PASS"

Handlebar switches:

"LIGHTS" (Dimmer) switch

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

"TURN" switch

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

"HORN" switch

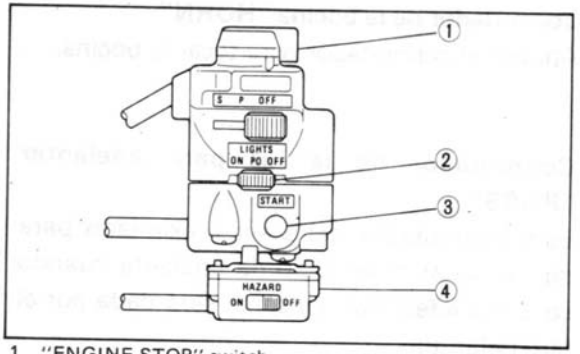
Press the switch to sound the horn.

Passing light switch "PASS"

When you are passing a vehicle ahead, the passing light switch should be depressed so that the headlight gives a signal to the rider.

"ENGINE STOP" switch

Make sure that the engine stop switch is positioned to "RUN" position. The engine switch has been equipped to ensure safety in an emergency such as when the motorcycle is upset or trouble takes place in the throttle system. The engine will not start or run when the engine stop switch is turned to "OFF".



1. "ENGINE STOP" switch
2. "LIGHTS" switch
3. "START" switch
4. "HAZARD" switch

1. Interrupteur de sécurité "ENGINE STOP"
2. Commutateur d'éclairage "LIGHTS"
3. Commutateur de démarreur "START"
4. Commutateur "HAZARD"

1. Conmutador de parada del motor "ENGINE STOP"
2. Conmutador de luces "LIGHTS"
3. Conmutador de arranque "START"
4. Interrupter de aviso de peligro "HAZARD"

"START" switch

To start the engine, push the starter switch.

CAUTION:

See starting instructions prior to starting engine.

"LIGHTS" switch

Turn the light switch to the "ON" to turn on the headlight, the taillight, the license light and the meterlights. Turn the light switch to "PO" to turn on the auxiliary light, the taillight, the license light and the meterlights.

"HAZARD" switch

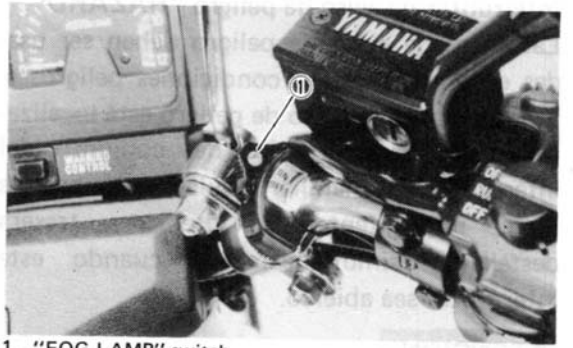
This switch should be used only when your motorcycle is stopped under emergency or hazardous conditions. To operate the switch, turn on the knob marked HAZARD, which is located on bottom of the right handlebar switch assembly. Both front and rear flasher lights will flash simultaneously.

CAUTION:

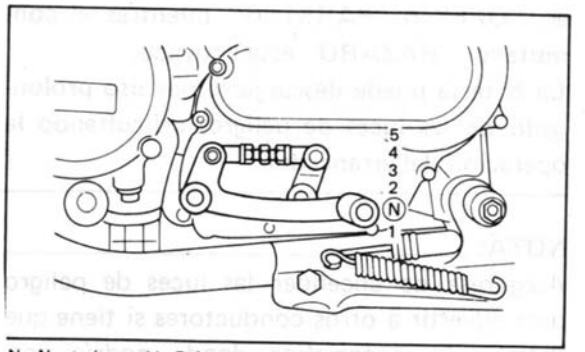
Never fail to turn the main switch to "OFF" or while the "HAZARD" switch on.
Battery discharged may result from long use of flasher lights, thereby loading to difficult starting.

NOTE:

Turn on the emergency flashers to warn other drivers if your motorcycle must be stopped where it might be a traffic hazard.



1. "FOG LAMP" switch
1. Conmutateur "FOG LAMP"
1. Conmutador "FOG LAMP"



N. Neutral N. Point-mort N. Punto muerto

"FOG LAMP" switch

To light the fog light, turn the switch to the "ON".

Clutch lever

The clutch lever is located on the left handlebar, and the starting circuit cutoff 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 cutoff switch functions.)

Change pedal

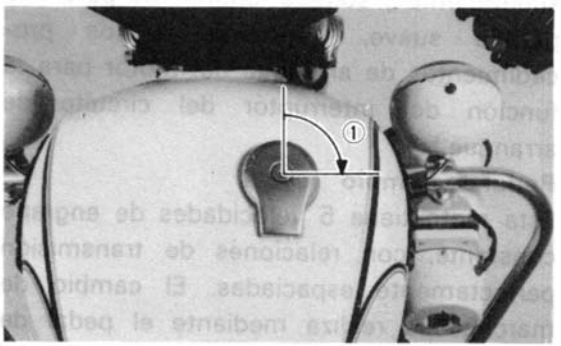
The gear ratios of the constant mesh 5-speed transmission are ideally spaced. The gears can be shifted by using the change pedal on the left side of the engine.

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.



1. Open 1. Ouvrir 1. Abrir

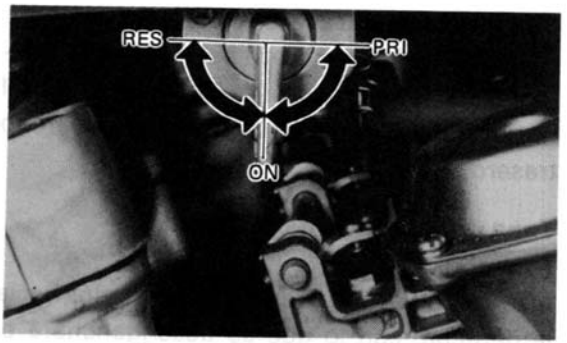
Fuel tank cap

To open:

Insert the key and turn clockwise 1/4 turn. The lock will be released and the fuel tank cap can be opened.

To close:

Push the tank cap into position with the key inserted. To remove the key, turn it counter-clockwise to the original position.



NOTE:

This tank cap cannot be closed unless the key is in the lock. The key cannot be removed if the cap is not locked properly.

Fuel cock

The negative pressure fuel cocks supply fuel from the tank to the carburetors and also filters the fuel. The fuel cocks have the following three positions:

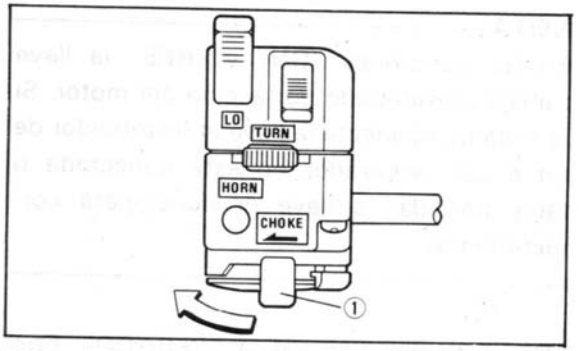
ON: With the lever in this position, fuel flows if the engine is running but stops if the engine is not running.

RES: This indicates "RESERVE". If you run out of fuel while riding, move the lever to "PRI", and then the switch to this position after starting the engine. Fill the tank at the first opportunity.

NOTE:

In the "ON" and "RES", the cock works on pressure from the engine turning over. If the line connecting the cock to the carburetor intake manifold is not connected or has a leak the cock will not function properly.

PRI This indicates "PRIME". With the fuel cock in this position fuel flows whether the engine is running or not. If the fuel tank is completely empty, refill the tank and prime the carburetor in this position and then switch to the "ON" after starting the engine.



1. Starter lever I. Levier de starter 1. Palanca del arrancador

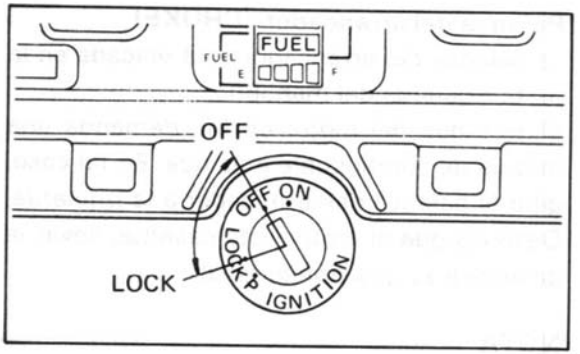
Starter lever (CHOKE)

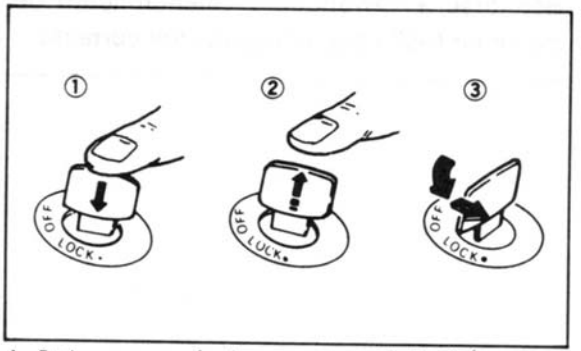
The starter lever is located on the left handlebar.

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. Push
2. Release
3. Turn

1. Appuyer
2. Relâcher
3. Tourner

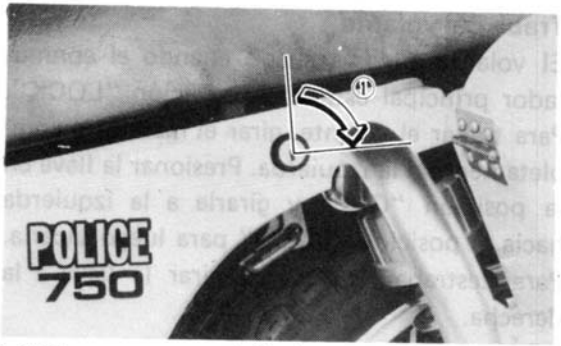
1. Presionar
2. Soltar
3. Girar

Steering lock

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

WARNING:

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



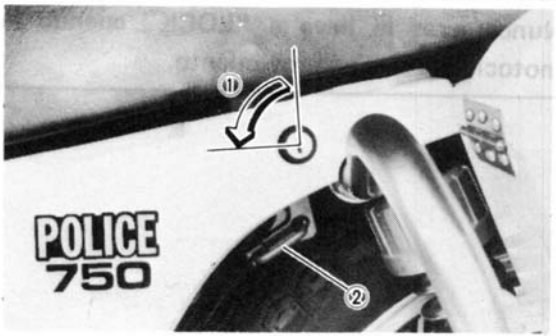
1. Open
1. Ouvrir
1. Abjerto

Seat lock

To open the seat lock, insert the key in the lock, turn it clockwise (see illustration). To lock the seat, replace the seat in the original position.

NOTE:

Make sure the seat is securely locked.



1. Helmet holder
2. Open
1. Porte-casque
2. Ouvrir
1. Portacaşco
2. Abrir

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:

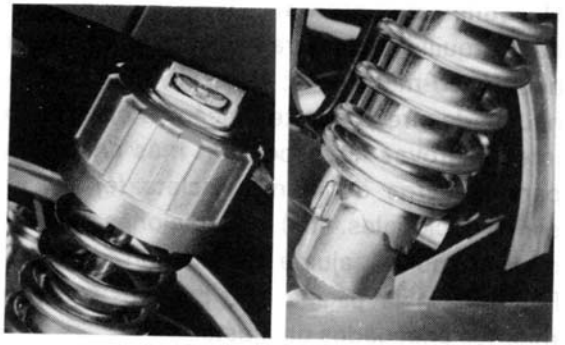
Never ride with a helmet in the helmet holder. It could interfere with rear wheel movement, causing loss of control and possible an accident.

Front forks

The front forks of this model are pneumomechanical; namely, a combination air and mechanical coil spring in the inner tube provides suspension best suited to the motorcycle's load (ex: optional accessories etc.) and riding conditions by the adjustment of the air pressure. Refer to page 185 for proper adjustment procedures.

WARNING:

Always adjust the fork preload to the same position on each side. Uneven adjustment can cause poor handling and loss of stability.

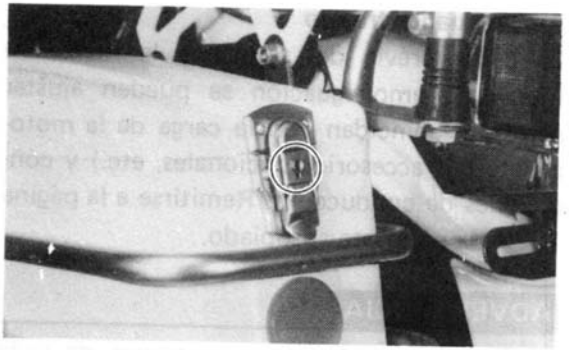


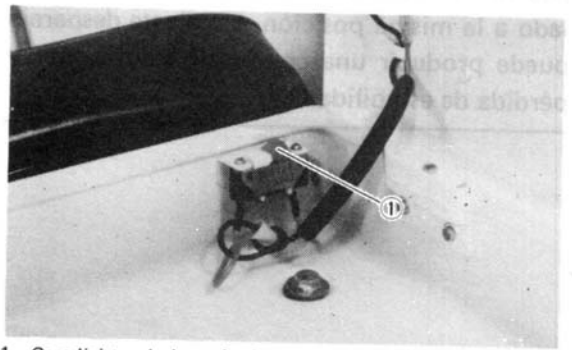
Rear shock absorber

The spring preload and the damping force can be adjusted to suit motorcycle's load (ex.: optional accessories etc.) and riding conditions. Refer to page 191 for proper adjustment procedures.

WARNING:

Always adjust the shock absorbers to the same position on each side. Uneven adjustment can cause poor handling and loss of stability.





1. Case light switch 1. Interrupteur d'éclairage de coffre
1. Conmutador de la luz del baúl

Side bag

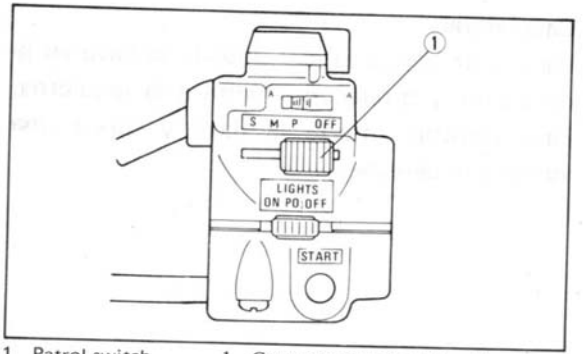
To open the side bag, insert the key into the keyhole and turn it about 1 counterclockwise. To lock, insert the key and turn it about 1 clockwise.

Case light

Open the trunk case, and the switch can be seen. Lights when the switch is turned on.

NOTE:

If the switch is turned on, the battery will be discharged, because it is directly connected to the battery. Be sure to turn off the switch after using it.



1. Patrol switch 1. Commutateur de patrouille
1. Conmutador de patrullero

Patrol switch

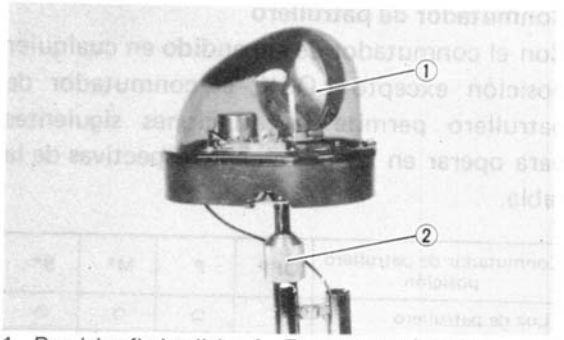
With the main switch at the positions other than LOCK, the patrol switch enables the following functions to operate at the respective switch positions in the table.

Patrol switch position	OFF	P	M*	S*
Patrol light		○	○	○
Revolving flasher light*		○	○	○
Digital police meter*			○	○
Siren*				○
Microphone*		○	○	○

*If so equipped.

CAUTION:

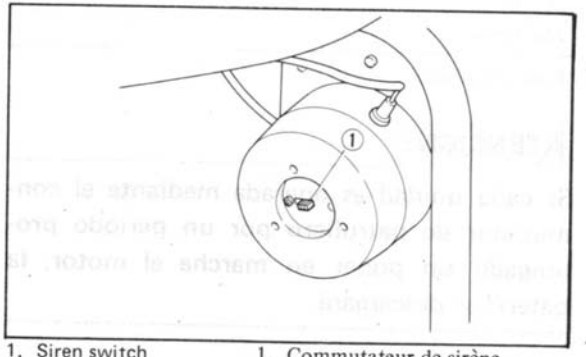
If each unit is operated by the patrol switch for and extended period without the engine running, it will result in battery exhaustion.



1. Revolving flasher light
2. Stopper

1. Feu tournant à éclats
2. Retenue

1. Luz de destello giratoria
2. Tope



1. Siren switch
1. Commutateur de sirène
1. Conmutador de la sirena

Revolving flasher light (If so equipped)

This flasher light can be adjusted in its height. For this adjustment:

1. Loosen the stopper.
2. Select a proper height by moving the flasher light up and down.
3. Then, secure the stopper.

Siren

The siren keeps on sounding all through the time the patrol switch is held at the "S" position.

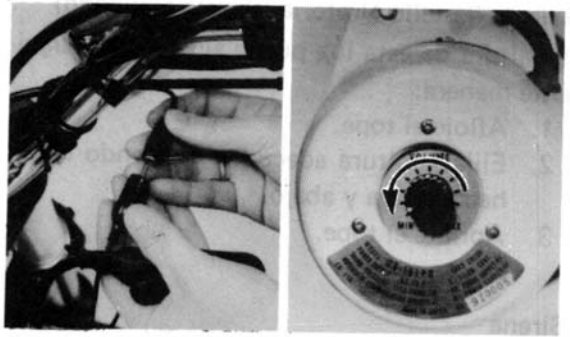
- Non-Mic type only (If so equipped)

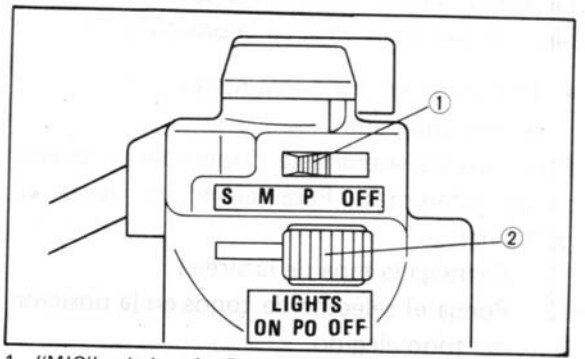
This type of siren is available in four different tones. For selecting a particular tone:

1. Remove the siren cover.
2. Move the change-over switch to a selected tone.

NOTE:

Select the tone that meets your regulations.





1. "MIC" switch
2. Patrol switch

1. Commutateur "MIC"
2. Commutateur de patrouille

1. Conmutador "MIC"
2. Conmutador de patrullero

Loudspeaker (If so equipped)

The loudspeaker can be used not only at the "MIC" position but at positions other than when the patrol switch is "OFF".

How to use the loudspeaker:

1. Connect the leads from the microphone and loudspeaker and turn the volume control knob on back of the loudspeaker counterclockwise until it stops.

Specified microphone type:
Condenser type CY-269D
(P/No. 1T7-98622-90)

CAUTION:

Do not use only microphones other than specified, or damage may occur to the microphone.

2. Turn on the "MIC" switch and adjust the loudness with the volume control knob.

PRE-OPERATION CHECKS

Before using this motorcycle, check the following points:

Item	Routine	Page
Brakes (Front)	Check operation, free play, fluid level and brake fluid leakage. Top-up with DOT #3 brake fluid if necessary.	71 ~ 75, 153 ~ 165
Brake (Rear)	Check operation, free play and adjust if necessary.	
Clutch	Check operation, condition and free play. Adjust if necessary.	75, 167 ~ 169
Engine oil	Check engine oil level, add oil if necessary.	77, 127 ~ 133
Final gear oil	Check for leakage visually.	79, 133 ~ 137
Throttle	Check for smooth operation. Adjust if necessary.	77, 171
Control/Meter cables	Check for smooth operation. Lubricate if necessary.	169 ~ 171
Brake and change pedal shafts	Check for smooth operation. Lubricate if necessary.	173
Brake and clutch lever pivots	Check for smooth operation. Lubricate if necessary.	173
Center and side stand pivots	Check for smooth operation. Lubricate if necessary.	175
Fuel tank	Check fuel level/top-up as required.	95

Item	Routine	Page
Battery	Check fluid level, top-up with distilled water if necessary.	93, 197 ~ 203
Lights/Signals	Check operation.	91
Wheels/Tires	Check tire pressure, wear damage.	81 ~ 91, 217 ~ 231
Fittings/Fasteners	Check all chassis fittings and fasteners. Adjust if necessary.	91, 123

NOTE:

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

WARNING:

If any item in the Pre-Operation Check is not working properly, have it inspected and repaired before operating the motorcycle.

Brakes

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.
2. Brake fluid (Front)
   Check the brake fluid level with the computerized monitor system. The BRK indicator is displayed, the brake fluid level is below specification in the brake master cylinder. Add fluid if necessary.

WARNING:

In this case, ask a Yamaha dealer immediately. Do not run the motorcycle with a low brake fluid level for a long time or at high speeds.

Recommended brake fluid: DOT #3

3. Checking the front brake disc pads
   Refer to page 159.
4. Checking the rear brake shoe
   Refer to page 159.

NOTE:

When this brake service is necessary, have a Yamaha dealer replace the pads.

Brake fluid leakage

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

WARNING:

If brake fluid leakage is found, ask a Yamaha dealer for immedaite repairs. Such leakage could indicate a hazardous condition in the brake system.

Clutch lever

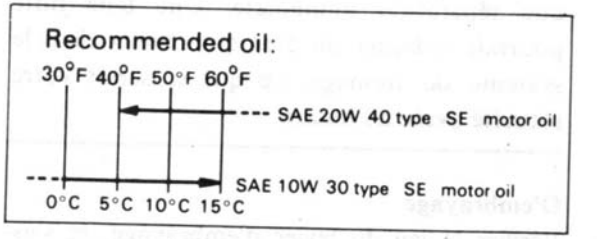
Check for correct play in the clutch lever and make sure the lever operates properly. If the play is incorrect, make an adjustment.

Throttle grip

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

Engine oil

Make sure the engine oil is at the specified level. Add oil as necessary. (See page 127).



Final gear oil

Make sure the final gear oil is at the specified level. Add oil as necessary. (See page 133).

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

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

1. Tire air pressure

   Always check and adjust the tire pressures before operating the motorcycle.

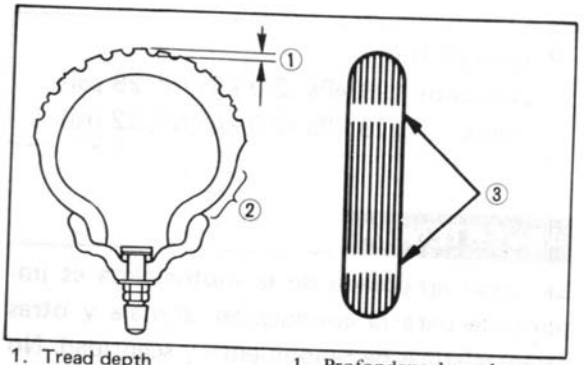
WARNING:

Tire inflation pressure should be checked and adjusted when the temperature of the tire equals the ambient air temperature. Tire inflation pressure must be adjusted according to total weight of cargo, rider, passenger, and accessories (fairing, saddlebags, etc. if approved for this model), and vehicle speed.

Cold tire pressure:
Front: 196 kPa (2.0 kg/cm², 28 psi)
Rear: 226 kPa (2.3 kg/cm², 32 psi)

WARNING:

Proper loading of your motorcycle is important for the handling, braking, and other performance and safety characteristics of your motorcycle. Do not carry loosely packed items that can shift. Securely pack your heaviest items close to the center of the motorcycle, and distribute the weight evenly from side to side. Properly adjust the suspension for your load, and check the condition and pressure of your tires. NEVER OVERLOAD YOUR MOTORCYCLE. Make sure the total weight of the cargo, rider, passenger, and accessories (fairing, saddlebags, etc, if approved for this model) does not exceed the maximum load of the motorcycle. Operation of



1. Tread depth
2. Side wall
3. Wear indicator

1. Profondeur de sculpture
2. Flanc
3. Indicateur d'usure

1. Profundidad de desgaste
2. Flanco del neumático
3. Indicador de desgaste

an overloaded motorcycle could cause tire damage, an accident, or even injury.

2. Tire inspection
   Always check the tires before operating the motorcycle. If a tire tread shows crosswise lines (minimum tread depth), if the tire has a nail of glass fragments in it, or if the side wall is cracked, contact a Yamaha dealer immediately and have him replace the tire.

WARNING:

1. **It is dangerous to ride with a worn-out tire. When a tire tread begins to show lines. Have a Yamaha dealer replace the tire immediately. Brakes, tires, and related wheel parts replacement should be**

left to a Yamaha Service Technician.

2. Patching a punctured tube is not recommended. If it is absolutely necessary to do so; use great care and replace the tube as soon as possible with a good quality replacement.
3. The tires equipped on this motorcycle 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.

Cast wheels

WARNING:

The wheels on this model are not designed for use with tubeless tires. Do not attempt to use tubelss tires on this model.

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

1. Always inspect the wheels before a ride. Check for cracks, bends, or warpage of the wheels. If any abnormal condition exists in a wheel, consult a Yamaha dealer. Do not attempt even small repaires to the wheel. If a wheel is deformed or cracked, it must be replaced.
2. Tires and wheels should be balanced whenever either one is changed or replaced. Failure to have a wheel balanced can result in poor performance, adverse handling characteristics, and shortened tire life.

3. 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.

Fittings/Fasteners

Always check the tightness of chassis fittings and fasteners before a ride. Use the chart on page 123 to find the correct torque.

Lights and signals

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

Switches

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

Battery

Check the battery fluid level with the computerized monitor system. The BATT indicator is displayed, the battery fluid level is low. Add distilled water at the first opportunity.

CAUTION:

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

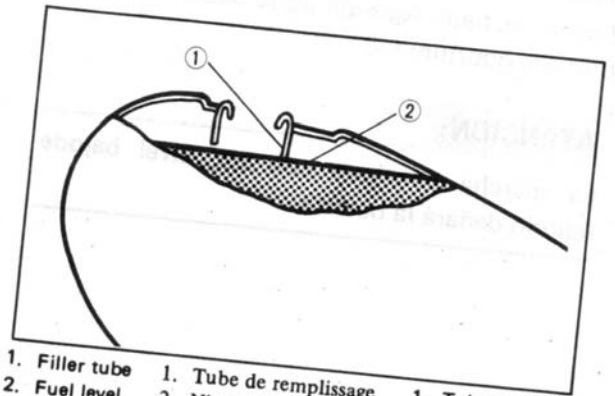
Fuel

Check the fuel level with the computerized monitor system. If this indicator is displayed, the fuel level is low. Add fuel at the first opportunity.

Recommended gasoline:
Regular gasoline
Fuel tank capacity:
Full: 19 L (4.2 Imp gal, 5.1 US gal)
Empty (displayed):
4.1 L (0.9 Imp gal, 1.1 US gal)

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.



1. Filler tube
2. Fuel level

1. Tube de remplissage
2. Niveau du carburant

1. Tubo de llenado
2. Nivel de combustible

OPERATION AND IMPORTANT RIDING POINTS

WARNING:

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

Starting and warming up a cold engine

1. Turn the fuel cock to "ON".
2. Turn the ignition key to the "ON" and the engine stop switch to "RUN".
3. Shift transmission into neutral.

NOTE:

The starting circuit cut off switch has been provided on this model.
The engine can be started by the following conditions:

1. When the transmission is in neutral position. At this time the neutral indicator light (green) should be on. If the light does not come on ask a Yamaha dealer to inspect.
2. When applying the clutch lever with the transmission is in any gear position.

4. Turn the starter lever (CHOKE) in the left direction and completely close the throttle grip.
5. Start the engine by pushing the starter switch. Refer to page 11 for computerized monitor system.

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.

6. After starting the engine, push back the starter lever (CHOKE) about halfway (warming up position).

NOTE:

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

7. After warming up the engine, turn off the starter lever (push back the lever completely).

NOTE:

To see whether or not the engine is warm, see if engine responds to throttle normally with the starter lever (CHOKE) turned off.

Starting warm engine

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

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 for starting, accelerating, climbing hills, etc. The use of the change pedal is shown in the illustration. (Page 39)

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.

CAUTION:

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 when the engine is running. Inadequate lubrication may damage the transmission.

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 ~ 90 mi):
   Avoid operation above 5,000 r/min.
   Allow a cooling off period of 5 to 10 minutes after every hour of operation.
   Vary the speed of the motorcycle from time to time. Do not operate it at one set throttle position.

2. 150 ~ 500 km (90 ~ 300 mi):
   Avoid prolonged operation above 6,000 r/min. Allow the motorcycle to rev freely through the gears but do not use full throttle at any time.

CAUTION:

After 500 km (300 mi) operation, be sure to replace the engine oil, oil filter element and final gear oil.

3. 500 ~ 1,000 km (300 ~ 600 mi):
   Avoid prolonged full throttle operation.
   Avoid cruising speeds in excess of 7,000 r/min.
4. 1,000 km (600 mi) and beyond:
   Avoid prolonged full throttle operation.
   Avoid engine speeds in excess of 8,000 r/min. Vary speeds occasionally.

CAUTION:

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

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.

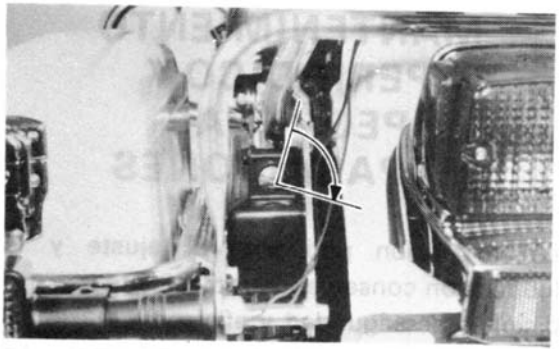
Do not park the motorcycle on a slope or soft ground, the motorcycle can easily overturn.

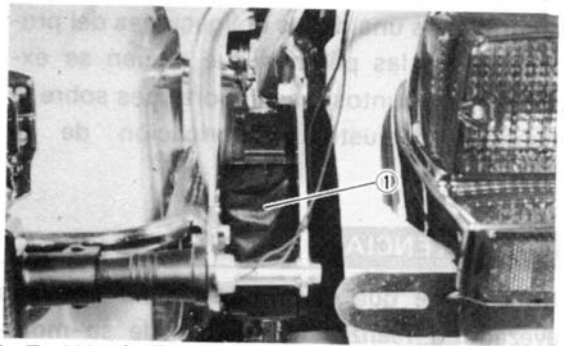
PERIODIC MAINTENANCE AND MINOR REPAIR

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.

WARNING:

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





1. Tool kit 1. Trousse d'outils 1. Juego de herramientas

Tool kit

The tools provided in the owner's took kit are sufficient for periodic maintenance and minor repair purposes, except that a torque wrench is also necessary to properly tighten nuts and bolts.

PERIODIC MAINTENANCE/LUBRICATION

Unit: km (mi)

Item	Remarks	Break-in 1,000 (600)	Every	
			6,000 (4,000) or 6 months	12,000 (8,000) or 12 months
Valve clearance*	Check/Adjust valve clearance.	○		○
Spark plug(s)	Check/Clean or replace.	○	○	Replace
Air filter	Clean. Replace if necessary.		○	○
Carburetor*	Check/Adjust/idle speed, synchronization, starter operation.	○	○	○
Fuel line*	Check fuel hose and vacuum pipe for cracks or damage.		○	○
Engine oil	Replace (Warm engine before draining).	○	○	○
Engine oil filter*	Replace.	○		○
Final gear oil	Replace every 24,000 (16,000) or 24 months.	○	Check	Check
Front brake*	Check operation/fluid leakage/See NOTE.		○	○
Rear brake*	Check operation.		○	○
Clutch*	Check operation.		○	○
Rear arm pivot*	Check rear arm assembly for looseness. Moderately repack every 24,000 (16,000) or 24 months.**			Check
Wheels	Check balance/damage/runout.		○	○

Unit: km (mi)

Item	Remarks	Break-in 1,000 (600)	Every 6,000 (4,000) or 6 months	Every 12,000 (8,000) or 12 months
Wheel bearings*	Check bearings assembly for looseness/ damage. Replace if damaged.		○	○
Steering bearing*	Check bearings assembly for looseness. Moderately repack every 24,000 (16,000) or 24 months.**			Check
Front forks*	Check operation/oil leakage.		○	○
Rear shock absorber*	Check operation/oil leakage.		○	○
Fittings/Fasteners*	Check all chassis fittings and fasteners.	○	○	○
Battery*	Check specific gravity. Check breather pipe for proper operation.		○	○
A.C. Generator*	Replace generator brushes.			○

*: It is recommended that these items be serviced by a Yamaha dealer.
**: Medium weight wheel bearing grease.

NOTE:

Brake fluid replacement:

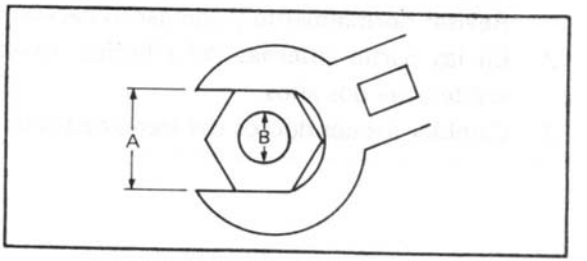
1. When disassembling the master cylinder or caliper cylinder, replace the brake fluid. Normally check the brake fluid level and add the fluid as required.
2. On the inner parts of the master cylinder and caliper cylinder, replace the oil seals every two years.
3. Replace the brake hoses every four years, or if cracked or damaged.

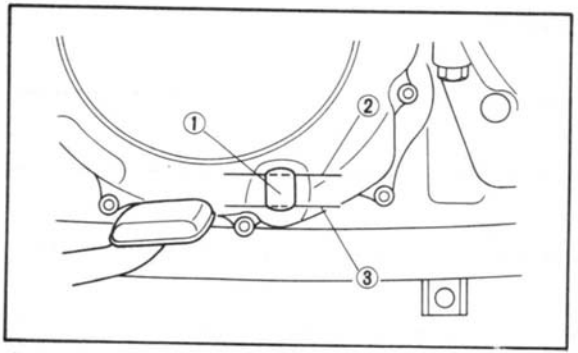
Torque specifications

Use a torque wrench to tighten these items. It is recommended that these items should be checked occasionally, especially before a long tour. 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
Engine drain plug	43	4.3	31
Oil filter bolt	15	1.5	11
Front wheel axle	107	10.7	77
Front axle pinch bolt	20	2.0	14
Rear wheel axle	107	10.7	77
Rear axle pinch bolt	6	0.6	4.3
Final gear drain plug	23	2.3	17

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





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

1. Fenêtre de niveau
2. Repère maxi
3. Repère mini

1. Vintanilla de nivel
2. Marca máxima
3. Marca minima

Engine oil

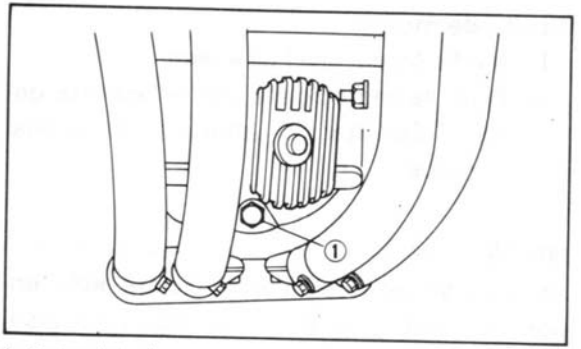
1. Oil level measurement

a. Place the motorcycle on the center stand.
Warm up the engine for several minutes.

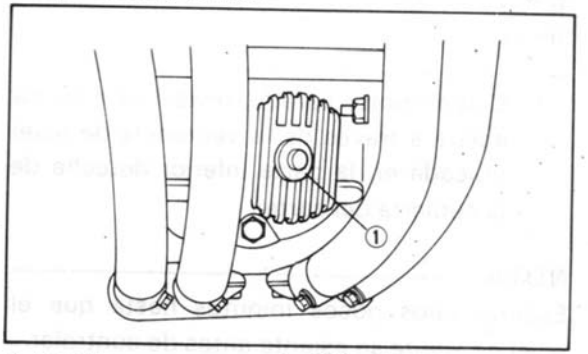
NOTE:
Be sure the motorcycle is positioned straight up when checking the oil level; a slight tilt toward the side can produce false readings.

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.



1. Engine drain plug
1. Plot de vidange du moteur
1. Tapón de drenaje del motor



1. Oil filter cover
1. Coùvercle du filtre à huile
1. Cubierta del filtro de aceite

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.

2. Engine oil and oil filter replacement

a. Start the engine and stop it after a few minutes of warm-up.

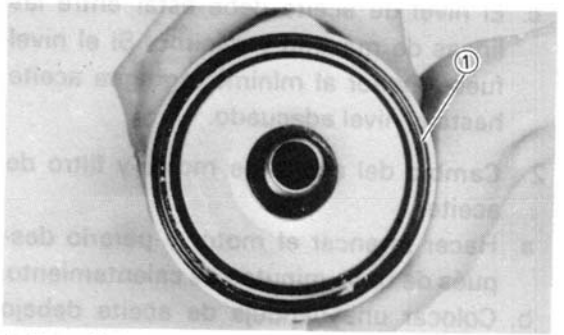
b. Place an oil pan under the engine and remove the oil filler cap.

c. Remove the engine drain plug, and drain the oil.

d. Remove the oil filter bolt and filter element.

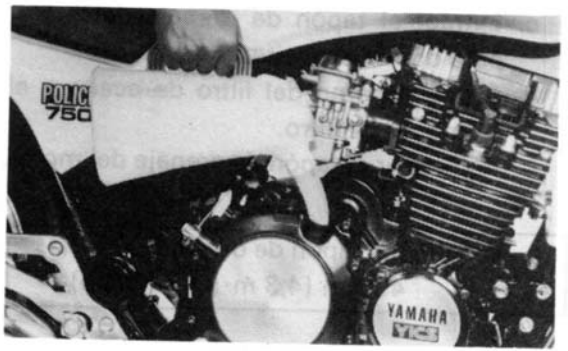
e. Re-install the engine drain plug to the specified torque.

Drain plug torque:
43 Nm (4.3 m·kg, 31 ft·lb)



1. Proper O-ring position
1. Posición correcta del aro "O"

1. Bouchon de remplissage d'huile



f. Install the new oil filter element, new "O-ring" and filter cover, and tighten the oil filter bolts.

Oil filter bolt: 15Nm (1.5 m·kg, 11 ft·lb)

NOTE:

Make sure the "O-ring" is positioned properly.

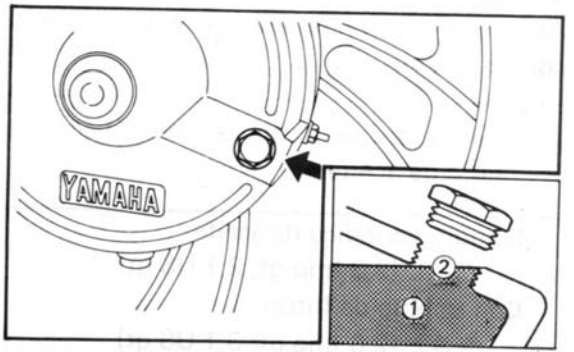
g. Add oil through the oil filler hole.

Periodic oil change: 2.6 L (2.3 Imp qt, 2.7 US qt) With oil filter replacement: 2.9 L (2.6 Imp qt, 3.1 US qt) Recommended oil: See page 77

CAUTION:

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

h. After replacement of engine oil and/or oil filter, be sure to check for oil leakage. The oil indicator should go off after the oil is filled.



1. Final gear oil 1. Huile de transmission finale 1. Aceite del engranaje final
2. Correct oil level 2. Corriger le niveau d'huile 2. Nivel correcto de aceite

CAUTION:

If the indicator flickers or remains on, consult a Yamaha dealer.

Final gear oil

1. Oil level measurement

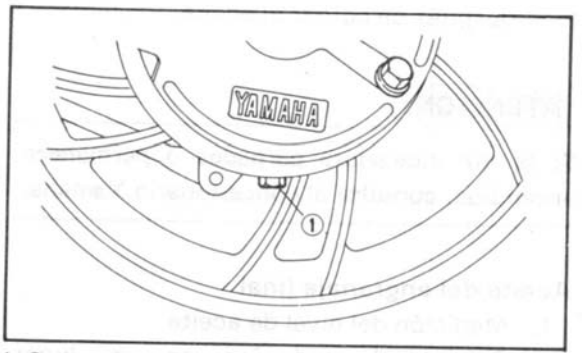
a. Place the motorcycle on a level place and place it on the centerstand. The engine should be cool (at atmospheric temperature).

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.

CAUTION:

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

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.



1. Final gear drain plug
1. Tapón de drenaje del engranaje final
1. Plot de vidange de la transmission finale

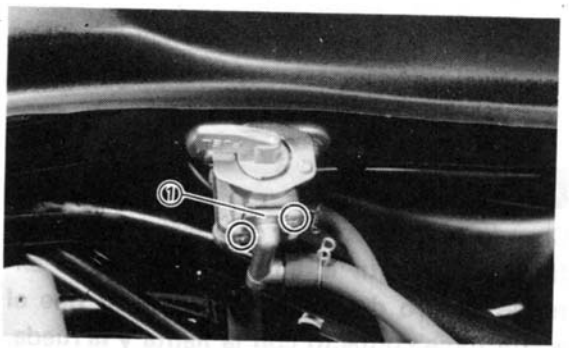
WARNING:

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

c. Reinstall and tighten the final gear case drain plug. (See page 123 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 79

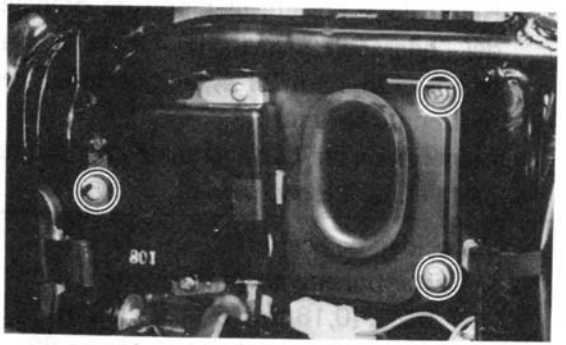
e. Reinstall the filler cap securely.

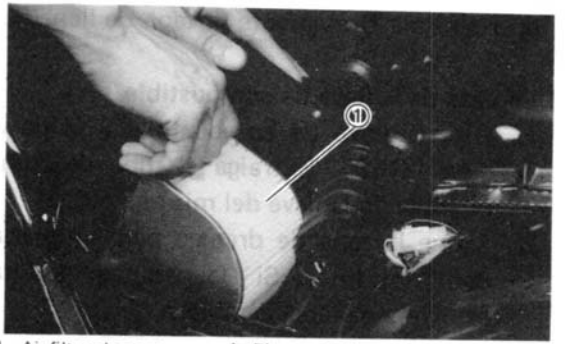


1. Drain cover 1. Couvercle de vidange
1. Tapa de filtro de gasorina

Fuel cock cleaning

1. Turn the fuel cock lever to the "RES". Remove the fuel pipe from the fuel cock.
2. Remove the drain cover and clean it with solvent. If gasket is damaged, replace.

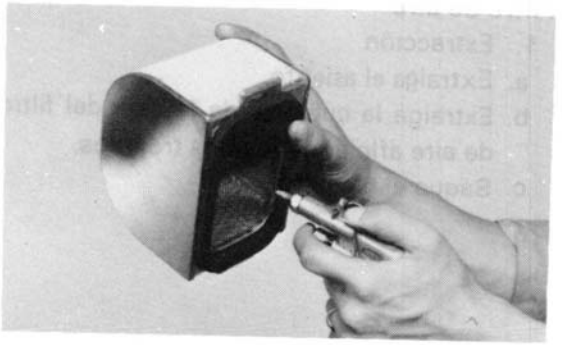




1. Air filter element
1. Elemente del filtro
1. Element du filtre à air

Air filter

1. Removal
   a. Remove the seat.
   b. Remove the air filter case cover by removing the three screws.
   c. Pull out the 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:

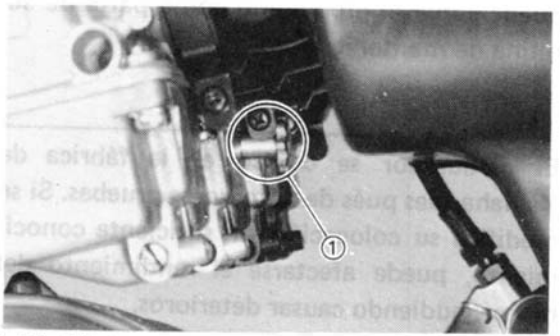
The engine should never be run without the air cleaner element installed; excessive piston and/or cylinder wear may result.

Carburetor adjustment

The carburetor is a vital part of the engine and requires very sophisticated adjustment. Most adjustments should be left to a Yamaha dealer who has the professional knowledge and experience to do them. However, the following point may be serviced by the owner as part of his usual maintenance routine.

CAUTION:

The carburetor was set at the Yamaha factory after many tests. If the settings are disturbed without having technical knowledge, poor engine performance and damage may result.



1. Throttle stop screw
1. Vis de butée des gaz
1. Tornillo de para da de obturación

Idling speed adjustment

1. Start the engine and warm it up for a few minutes (normally, 1 or 2 minutes) at approximately 1,000 to 2,000 r/min, occasionally raising to 4,000 to 5,000 r/min for a few seconds.
   When the engine responds quickly, the warm up is complete.
2. Set the engine idle speed to specified speed by turning the throttle stop screw in to increase the engine speed, and back off the throttle stop screw to decrease the engine speed.

Standard idling speed:
1,050 r/min

NOTE:

If the specified idling speed cannot be obtained after performing the above adjustment, consult a Yamaha dealer.

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.

For example, a very white center electrode porcelain 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.

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 types.

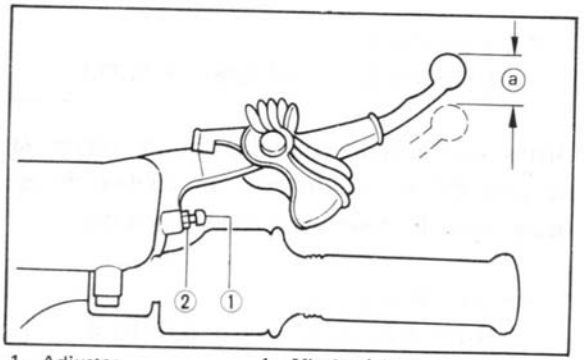
Standard spark plug:
BP7ES (N.G.K.) or W22EP-U (N.D.)

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

Spark plug gap:
0.7 ~ 0.8 mm (0.028 ~ 0.031 in)

When installing the plug, always clean the gasket seat 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)



1. Adjuster
2. Locknut

1. Vis de réglage
2. Ecrou de blocage

1. Ajustador
2. Tuerca de seguridad

a. 5 ~ 8 mm (0.2 ~ 0.3 in)

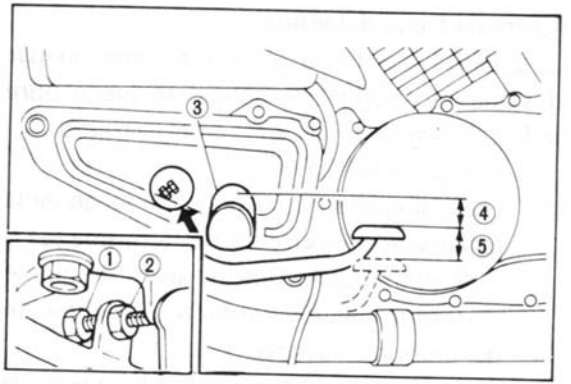
Front brake adjustment

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. Loosen the locknut 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 locknut.

WARNUNG:

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



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

1. Terno regulador (Para la altura del pedal)
2. Contratuerca
3. Apoyo del pie
4. Altura del pedal 20 mm (0,8 in)
5. Juego libre 20 ~ 30 mm (0,8 ~ 1,2 in)

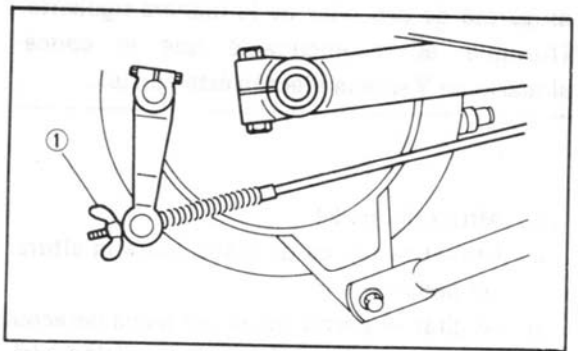
1. Boulon du dispositif de réglage (pour la hauteur de la pédale)
2. Contre-écrou
3. Repose-pied
4. Hauteur de la pédale 20 mm (0,8 in)
5. Jeu 20 ~ 30 mm (0,8 ~ 1,2 in)

Rear brake adjustment

WARNING:

For the brake pedal position adjustment, be sure to proceed as follows: (It is advisable to have a Yamaha dealer 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. 20 mm (0.8 in) below the top of the footrest.
   c. Secure the adjuster lock nut.



1. Adjuster 1. Dispositif de réglage
1. Ajustador

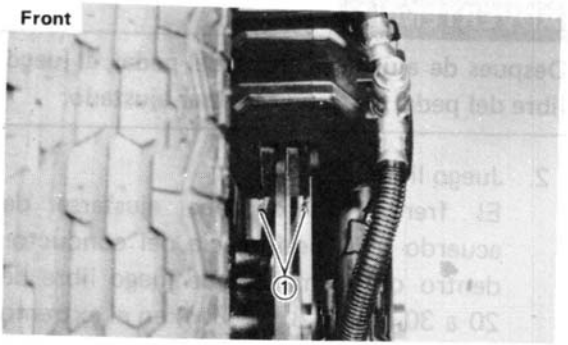
WARNUNG:

After adjusting the pedal height, the brake pedal free play should be adjusted.

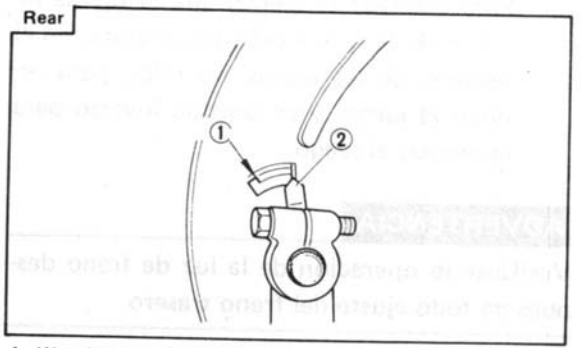
2. Free play
   The rear brake should be adjusted to suit rider preference within a 20 ~ 30 mm (0.8 ~ 1.2 in) free play at the brake pedal end.
   To adjust, turn the adjuster on the brake rod clockwise to reduce play; turn the adjuster counterclockwise to increase play.

WARNUNG:

Check to see whether or not the brake light operates correctly after adjusting.



1. Wear indicator 1. Indicateur d'usure 1. Indicador de desgaste



1. Wear limit 1. Limite d'usure 1. Límite de desgaste
2. Wear indicator 2. Indicateur d'usure 2. Indicador de desgaste

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 to replace the pads.

Rear:

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

Inspecting the brake fluid level

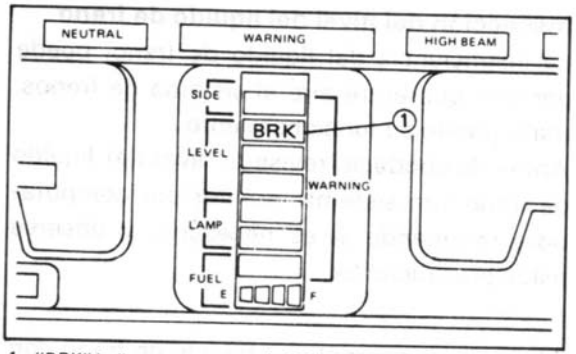
Insufficient brake fluid may allow air to enter the brake system, possibly causing the brakes to become ineffective.

Before riding, check the brake fluid level with computerized monitor system 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.



1. "BRK" indicator
1. Indicateur de "BRK"
1. Indicadora de "BRK"

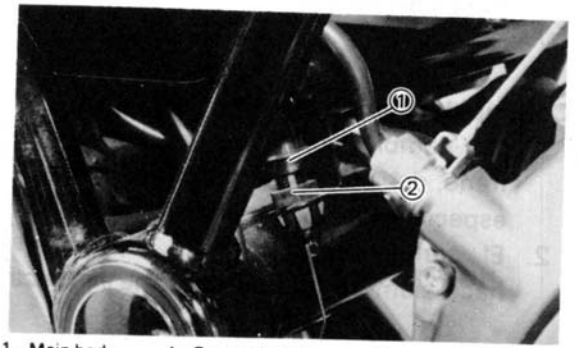
3. Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point and may result in vapor lock.
4. Brake fluid may erode painted surfaces or plastic parts. Always clean up spilled fluid immediately.
5. Have a Yamaha dealer check the cause if the brake fluid level goes down.

Brake fluid replacement

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

master cylinder is disassembled, or the fluid becomes seriously contaminated.

3. Have your Yamaha dealer 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.
   c. Replace the plunger kits every two years.



1. Main body
2. Adjusting nut

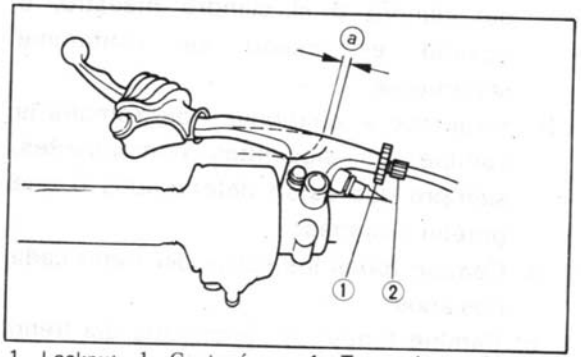
1. Corps principal
2. Ecrou de réglage

1. Cuerpo principal
2. Tuerca de regulación

Brake light switch adjustment

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

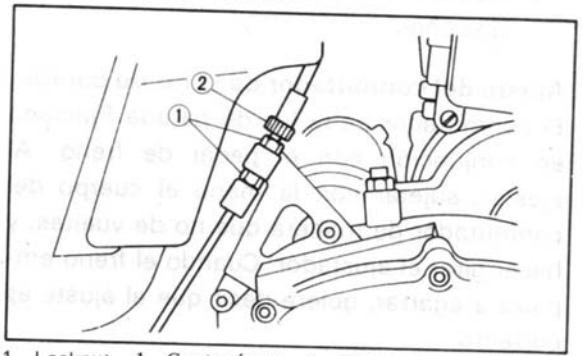
To adjust, hold the main body of the switch with the hand so it does not rotate and turn the adjusting nut. Proper adjustment is achieved when the brake light comes on slightly before the brake begins to take effect.



1. Locknut 1. Contre-écrou 1. Tuerca de seguridad
2. Adjuster 2. Vis de réglage 2. Ajustador
a. 2 ~ 3 mm (0.08 ~ 0.12 in)

Clutch adjustment

The clutch should be adjusted to suit the riders preference, but free play at the lever pivot should be 2 ~ 3 mm (0.08 ~ 0.12 in). 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. Locknut 1. Contre-écrou 1. Tuerca de seguridad
2. Adjuster 2. Vis de réglage 2. Ajustador

Free play adjustment

Loosen either the handle lever adjuster locknut or the cable in line length adjuster locknut. Next, turn the 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)

Cable inspection and lubrication

WARNING:

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

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

Recommended lubricant:
SAE 10W 30 motor oil

Throttle cable and grip lubrication

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

Brake and change pedal shaft

Lubricate the pivoting parts of each pedal.

Recommended lubricants:
SAE 10W30 motor oil

Brake and clutch lever

Lubricate the pivoting parts of each lever.

Recommended lubricants:
SAE 10W30 motor oil

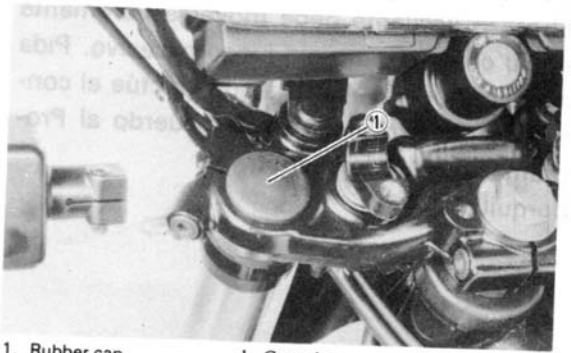
Center and side stand pivots lubrication

Lubricate the center and side stands at their pivot points.

Recommended lubricants:
SAE 10W30 motor oil

Rear arm pivot bearings

This swing arm must pivot freely on its bearings, but not have any excess play. Have a Yamaha dealer check rear arm pivot bearing operation according to Maintenance Schedule.



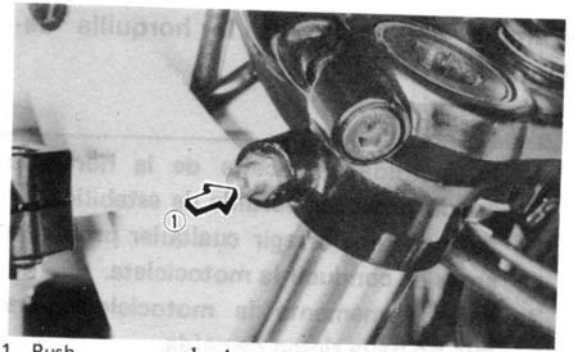
1. Rubber cap
1. Tubo de goma
1. Capuchon en caoutchouc

Front fork oil change

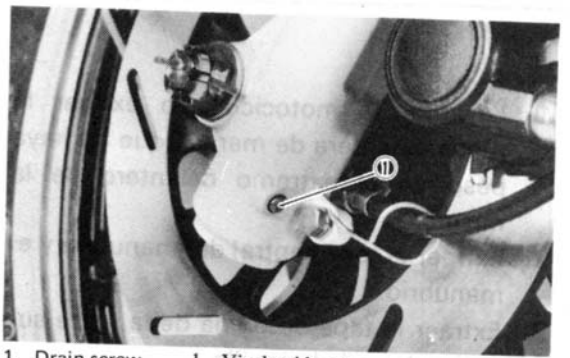
WARNING:

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

1. Raise the motorcycle or remove the front wheel so that there is no weight on the front end of the motorcycle.
2. Remove the center handlebar cover and handlebar
3. Remove the rubber cap from the top of each fork.
4. Remove the air valve caps from the each fork.



1. Push 1. Appuyer 1. Empujar



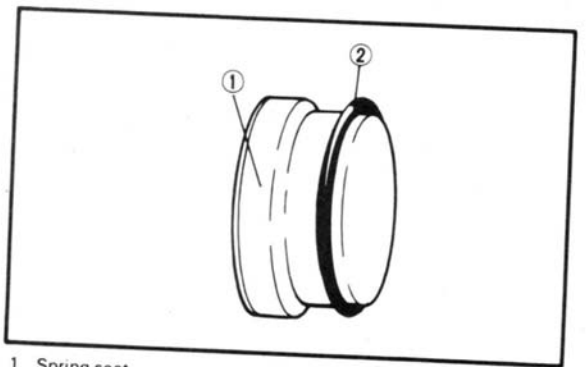
1. Drain screw 1. Vis de vidange
1. Tronillo de drenaje

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

6. Loosen the fork pinch bolts and remove the cap bolts from inner fork tubes.
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. Spring seat
2. O-ring

1. Siège de ressort
2. Joint torique

1. Asiento del resort
2. Aro tórico

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):
284 cm^3 (10.0 Imp oz, 9.60 US oz)
SAE 10W30 type SE motor oil

11. After filling, slowly pump the forks up and down to distribute the oil.

12. Inspect the "O-ring" on the spring seat. Replace "O-ring" if damaged.

13. Tighten the front fork cap bolts and pinch bolts.
14. Install the handlebar.

Tightening torque:
Cap bolt:
23 Nm (2.3 m·kg, 17 ft·lb)
Pinch bolt:
20 Nm (2.0 m·kg, 14 ft·lb)
Handlebar:
20 Nm (2.0 m·kg, 14 ft·lb)

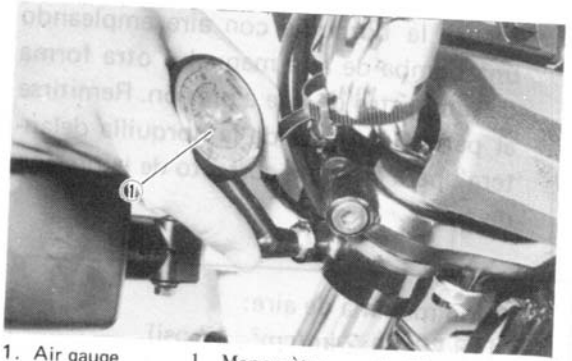
15. Fill the fork with air using a manual air pump or other pressurized air supply. Refer to "Front fork adjustment" for proper air pressure adjusting.

Maximum air pressure:
118 kPa (1.2 kg/cm^2, 17 psi)
Do not exceed this amount.

Front fork and rear shock absorber adjustment
Front fork:

WARNUNG:

Always adjust each fork preload on to the same setting. Uneven adjustment can cause poor handling and loss of stability.



1. Air gauge 1. Manomètre 1. Madidor de aire

1. 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.

2. Remove the air valve caps from each fork.
3. Using the air 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.

NOTE:

An optional air check gauge is available. Please ask a nearby Yamaha dealer.
P/No. 2X4-2811A-00

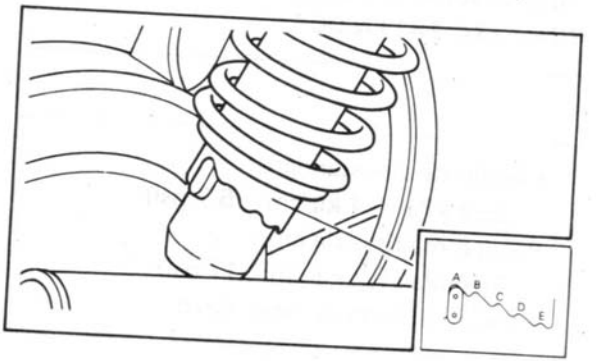
Standard air pressure:
39.2 kPa (0.4 kg/cm², 5.7 psi)
Maximum air pressure:
118 kPa (1.2 kg/cm², 17 psi)
Minimum air pressure: Zero

CAUTION:

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

WARNING:

The difference between both the left and right tubes should be 9.8 kPa (0.1 kg/cm², 1.4 psi) or less.



4. Install the air valve caps securely.

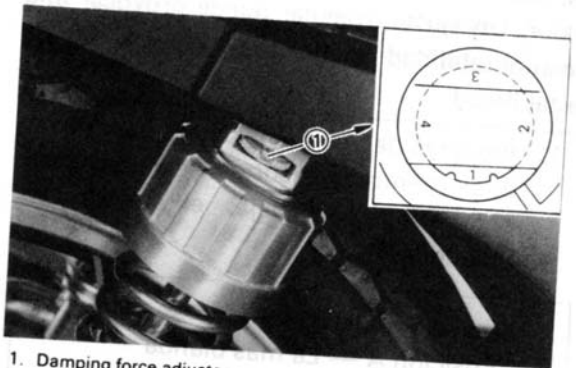
Rear shock absorber:

WARNING:

Always adjust each shock absorber on to the same setting. Uneven adjustment can cause poor handling and loss of stability.

1. Spring preload
   If the spring seat is raised, the spring becomes stiffer and if lowered, it becomes softer.

Standard position — A A. position — Softest E. position — Stiffest

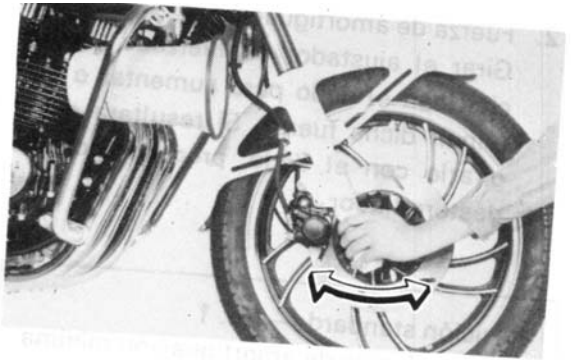


1. Damping force adjuster
1. Dispositif de réglage de la force d'amortissement
1. Ajustador de la fuerza de amortiguación

2. Damping force
   Turn the damping force adjjuster by your finger to increase or decrease the damping force. If it is difficult to turn it with your finger, use a screw driver.

Standard position — No. 1
No. 1 — minimum damping force
No. 4 — maximum damping force

NOTE:
When adjusting the damping force, the adjuster should be placed in the clicked position. If not, force will be set to the maximum (No. 4).



Steering inspection

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

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

Inspection is easier if the front wheel is removed.

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 inspect the wheel bearings. The wheel bearings should be inspected according to the 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.

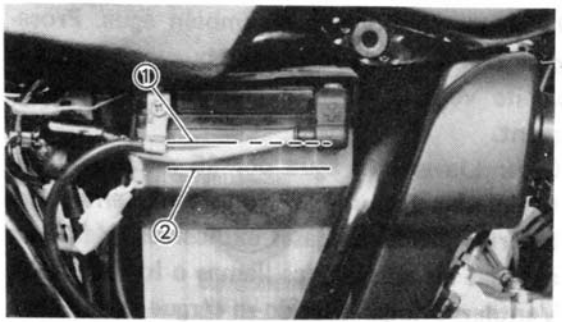
INTERNAL – Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call physician immediately.

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

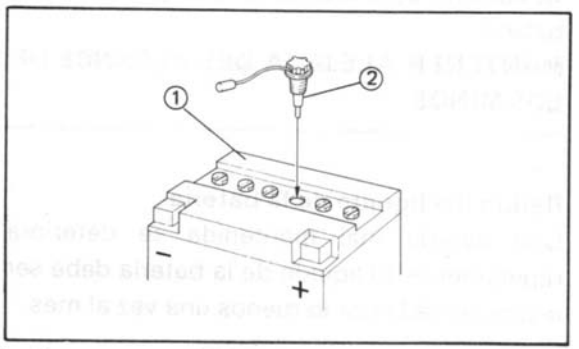
A poorly maintained battery will deteriorate quickly. The battery fluid should be checked at least once a month.



1. Upper level
2. Lower level

1. Niveau maximum
2. Niveau minimum

1. Nivel superior
2. Nivel inferior



1. Battery
2. Battery sensor

1. Batterie
2. Capteur de batterie

1. Batería
2. Sensor de la batería

1. 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 battery; therefore, refill only with distilled water.

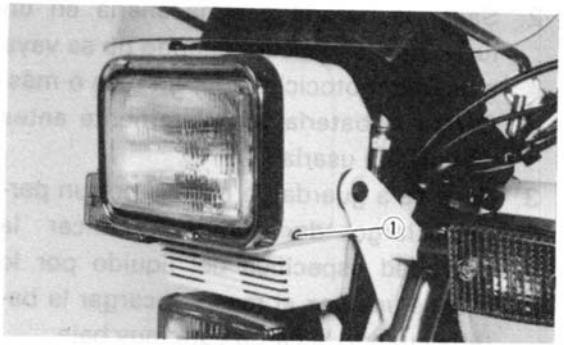
CAUTION:

Install the battery sensor into the third hole from positive terminal.

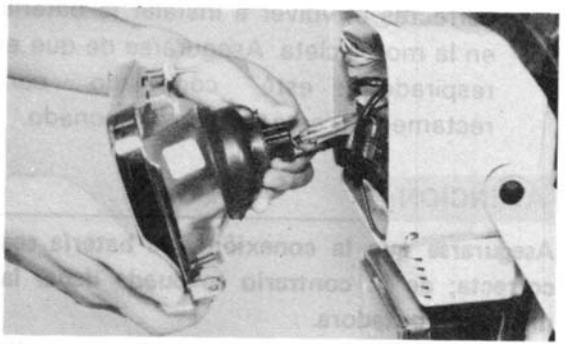
2. When the motorcycle is not to be used for a month or longer, remove the battery and store it in a cool, dark place. Completely recharge the battery before reusing.
3. If the battery is to be stored for a longer period than the above, check the specific gravity of the fluid at least once a month and recharge the battery when it is too low.
4. Always make sure the connections are correct when putting the battery back in the motorcycle. 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 microcomputer may occur.



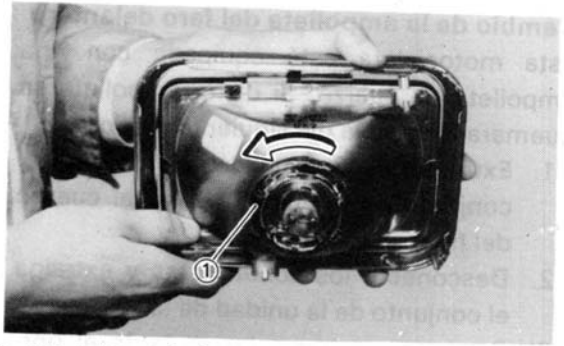
1. Holding screw 1. Vis de fixation 1. Tornillo de sujeción



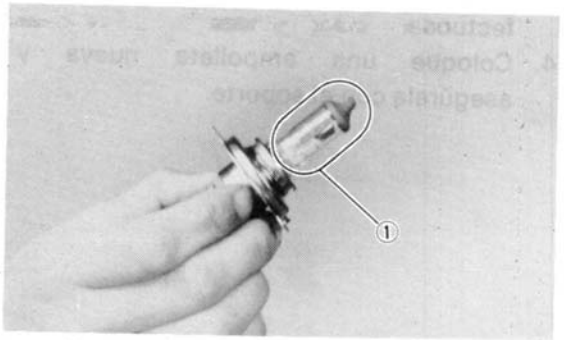
Replacing the headlight bulb

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

1. Remove the 2 screws holding the light unit assembly to the headlight body.
2. Disconnect the lead wires and remove the light unit assembly.
3. Turn the bulb holder counterclockwise and remove the defective bulb.
4. Slip a new bulb into position and secure it with the bulb holder.



1. Bulb holder 1. Support d'ampoule 1. Portalámpara



1. Don't touch 1. Ne toucher 1. No tacor

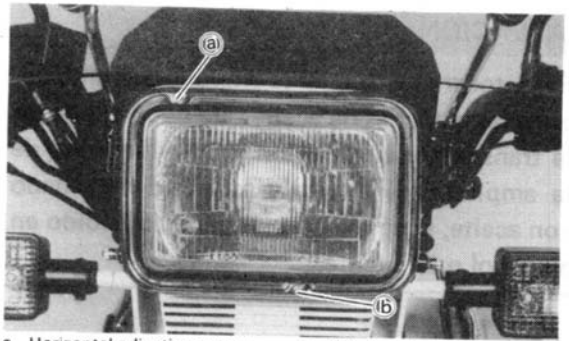
CAUTION:

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 illuminous flux will be adversely affected. If the glass is oil stained, throughly clean it with a cloth moistened with alcohol or lacquer thinner.

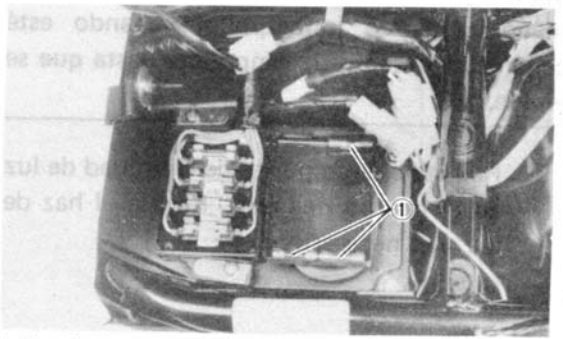
WARNING:

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.

5. Reinstall the light unit assembly in the headlight body. Adjust the headlight beam if necessary.



a. Horizontal adjusting screw
b. Vertical adjusting screw
a. Tornillo de regulación horizontal
b. Tornillo de regulación vertical
a. Vis de réglage horizontal
b. Vis de réglage vertical



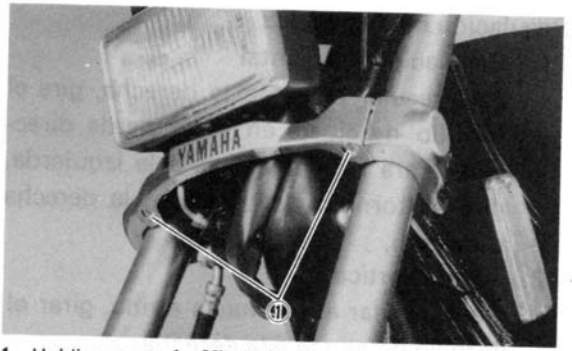
1. Spare fuse
1. Fusible de rechange
1. Fusible de repuesto

Headlight beam adjustment

1. Horizontal adjustment:
   To adjust the beam to the right, turn the adjusting screw counterclockwise.
   To adjust the beam to the left, turn the screw clockwise.
2. Vertical adjustment:
   To adjust the beam to the upper, turn the adjusting screw clockwise.
   To adjust the beam to the lower, turn the screw counterclockwise.

Fuse replacement

1. The fuse block is located under the seat.
2. If any fuse is blown, turn off the ignition switch and the switch in the circuit in question and install a new fuse of proper amperage.



1. Holding screw 1. Vis de fixation 1. Tornillo de sujeción

1. Holding screw 1. Vis de fixation 1. Tornillo de sujeción

Then turn on the switches, and see if the electrical device operates. If the fuse immediately blows again, consult a Yamaha dealer.

CAUTION:

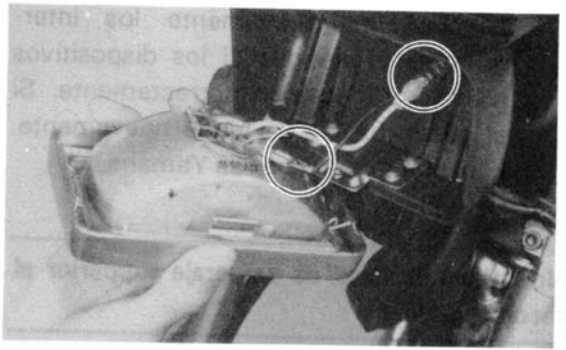
Do not use fuses of a higher amperage rating then those recommended.

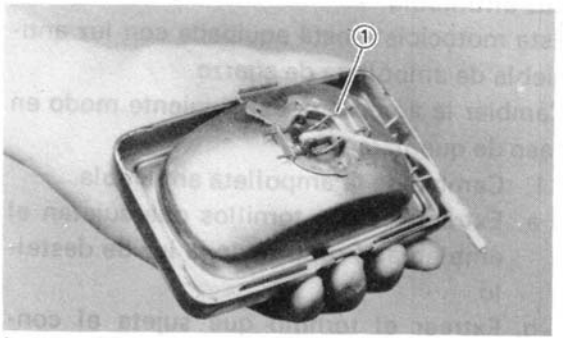
Fog light

This motorcycle is equipped with a quartz bulb fog light.

If the fog light bulb burns out, replace the bulb as follows:

1. Fog light bulb replacement
   a. Remove the two screws holding the emblem to the flasher light bracket.
   b. Remove the screw holding the light unit assembly to the fog light body.





1. Bulb retaining clip 1. Agrafe de fixation d'ampoule
1. Clip de retención de la ampolleta

c. Disconnect the lead wires and remove the light unit assembly.
d. Unhook the bulb retaining clip and remove the clip.

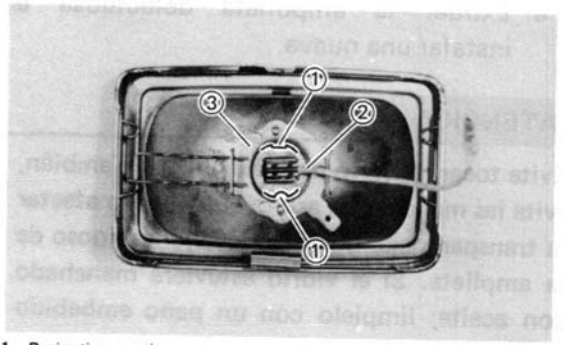
e. Remove the defective bulb and slip a new bulb into position.

CAUTION:

Avoid touching the glass part of the bulb. Also keep it free from oil stain; otherwise, the transparency of the glass, life of the bulb and illuminous 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.



1. Projecting portion
2. Bulb
3. Bulb holder

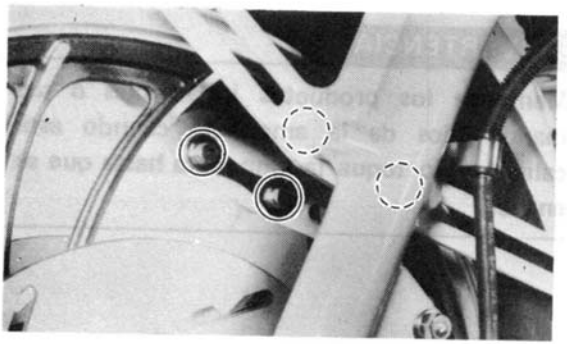
1. Saillie
2. Ampoule
3. Porte-ampoule

1. Saliente
2. Ampollete
3. Portalámpara

f. For reassembly, follow the procedure below with care;

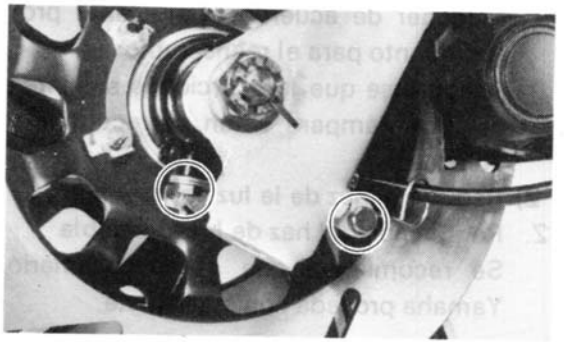
1) Make sure the projecting portions of the bulb holder are positioned correctly.
2) Adjust the fog light beam.

2. Fog light beam adjustment
It is advisable to have a Yamaha dealer make this adjustment.



Front wheel removal

1. Place the motorcycle on the centerstand.
2. Remove the front fender securing bolts and remove the fender.

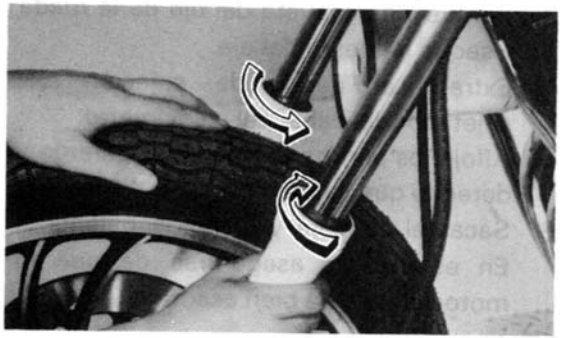


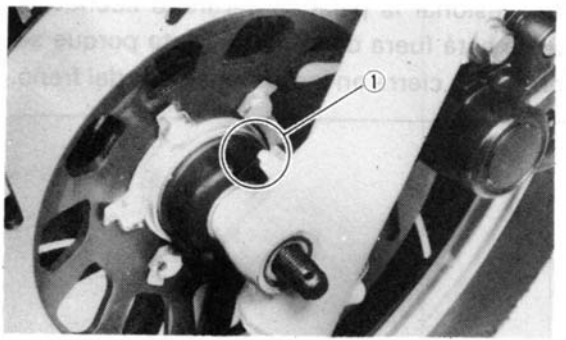
1. Pinch bolt 1. Boulon de pincement 1. Pernos de espolón

3. Remove the cotter pin and wheel axle nut.
4. Remove the speedometer cable holder securing bolt.
5. Loosen the pinch bolt securing the axle.
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 shut.





1. Torque stopper
1. Retén de torsión

1. Butée de serrage

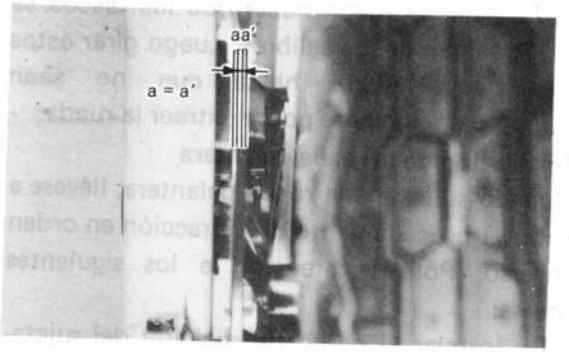
7. Lower the wheel until the discs come off the calipers. Then turn the calipers outward to the extent of causing no obstacle to wheel removal and remove the wheel.

Front wheel installation

When installing the front wheel, reverse the removal procedure. Pay attention to the following point:

1. Install the speedometer cable holder securing bolt.
2. Make sure the projection portion (torque stopper) of the speedometer housing is positioned correctly.
3. Make sure the axle nut is properly torqued, and a new cotter pin is installed.

Axle nut torque:
107 Nm (10.7 m·kg, 77 ft·lb)



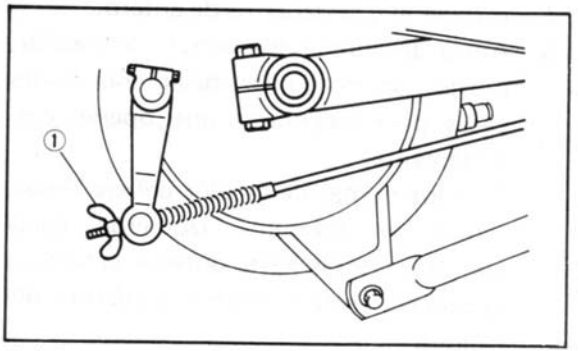
4. Install the front fender.
5. Before tightening the pinch bolt, storke the front forks several times to make sure of proper fork operation.
   With the axle pinch bolt loose, work the right fork leg back and forth until the proper clearance between the disc and caliper bracket on the front is obtained.
6. Tighten the axle pinch bolt.

Axle pinch bolt torque:
20 Nm (2.0 m·kg, 14 ft·lb)

Rear wheel removal

CAUTION:

It is advisable to have a Yamaha dealer make this removal and reassembly.

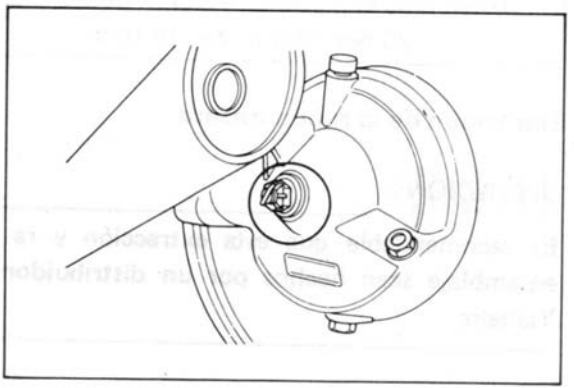


1. Adjuster
2. Tension bar
3. Brake rod

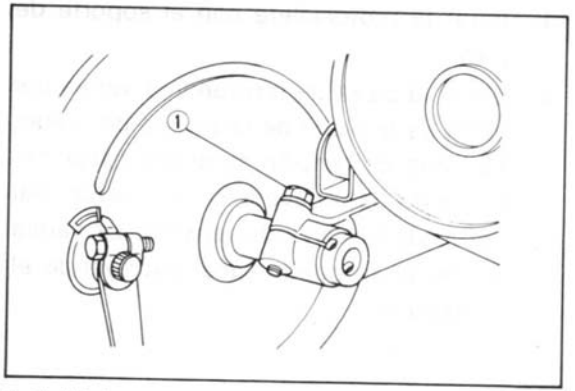
1. Réglage
2. Barre de tension
3. Tringle de frein

1. Ajustador
2. Barra de tension
3. Varilla del freno

1. Place the motorcycle on the center stand.
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.

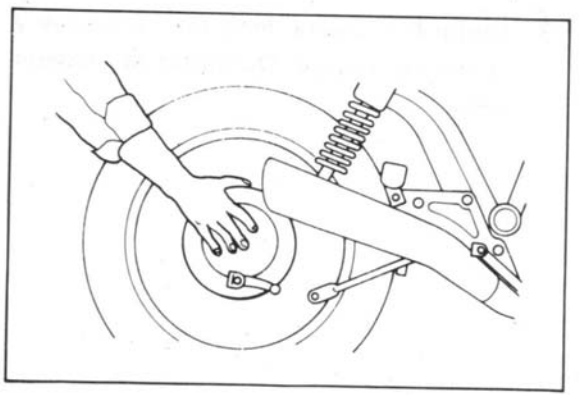


3. Remove the axle nut cotter pin and axle nut. Discard the old pin.

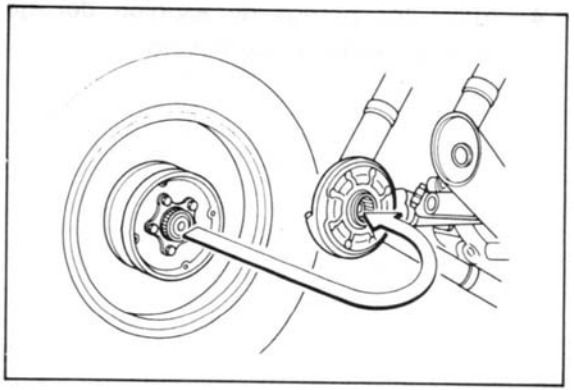


1. Pinch bolt 1. Boulon de pincement 1. Pernos de espolón

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



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



Rear wheel installation

When installing the rear wheel, reverse the removal procedure. Pay attention to the following points:

1. Apply light coating of lithium base grease to final gear case splines and rear wheel hub splines.
2. Make sure the splines on the wheel hub fit into the final gear case.
3. Make sure the axle nut is properly torqued, and a new cotter pin is installed.

Tightening torque:
Axle nut:
107 Nm (10.7 m·kg, 77 ft·lb)
Axle pinch bolt:
6 Nm (0.6 m·kg, 4.3 ft·lb)

CAUTION:

Always use a new cotter pin on the rear axle nut.

4. Adjust the rear brake. See page 155.

WARNING:

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

Troubleshooting

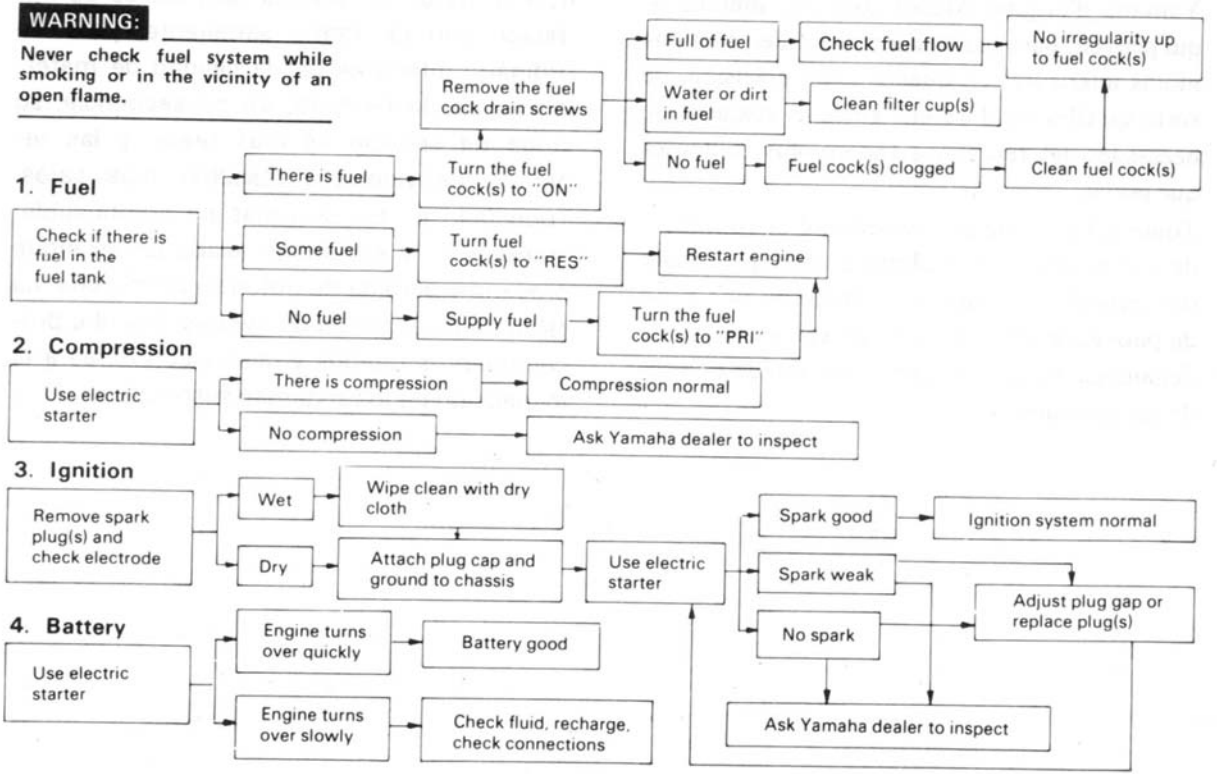
Although Yamaha motorcycles are given a rigid inspection before shipment from the factory, trouble may occur in operation. If this happens check the motorcycle in accordance with the procedures given in the troubleshooting chart. If repair is necessary, ask a Yamaha dealer.

The skilled technicians at a Yamaha dealer provide excellent service. For replacement parts, use only genuine Yamaha parts. Imitation parts are similar in shape but often inferior in quality of materials and workmanship; consequently, service life is shorter and more expensive repairs may be necessitated. Any fault in the fuel, compression or ignition system can cause poor starting or loss of power while riding. The troubleshooting chart describes quick and easy procedures for checking these systems.

Troubleshooting chart

WARNING:

Never check 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, microphone, siren and/or loudspeaker to prevent water entry; a plastic bag and strong rubber band may be used.

b. Make sure spark plug(s), fuel tank cap, engine oil filler 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 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, brakes, and transmission seals. Many expensive repair bills have resulted from improper high pressure detergent applications such as those available in coinoperated car washers.

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 the 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, front and rear fenders, forks, may be further cleaned with automotive chrome cleaner.

7. Clean the seat with a vinyl upholstery cleaner to keep the cover pliable and glossy.
8. Automotive-type wax may be applied to all painted and chrome-plated surfaces. Avoid combination cleaner-waxes. Many contain abrasives which may mar paint or protective finish on the fuel tank and side covers.
9. Windshield cleaning

CAUTION:

Avoid using any alkaline or strong acid cleaner, gasoline, brake fluid, or any other solvent.

Clean the windshield with a cloth or sponge damped with a neutral detergent, and after cleaning, thoroughly wash out with water. Some cleaning compounds for plastics may leave scratches on surfaces of the windshield. Before using, make a test by polishing an area which does not affect your visibility.

10. After finishing, start the engine immediately and allow to 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 motorcycle thoroughly, prepare for storage as follows:

1. Drain fuel tank, fuel lines, and carburetor float bowl(s).
2. Remove empty fuel tank, pour a cup of SAE 10W 30 motor oil in tank, shake tank to coat inner surfaces thoroughly and drain off excess oil. Reinstall tank.
3. Remove spark plug(s), pour about one tablespoonful of SAE 10W 30 or 20W 40 motor oil in the spark plug holes and reinstall the spark plugs. Crank the engine several times (ground spark plug lead wires) to coat the cylinder walls with oil.

WARNING:

When using starter motor to crank the engine, remove spark plug wire(s) and ground them to prevent sparking.

4. Lubricate all control cables.
5. Block up frame to raise both wheels off ground. (Main stands can be used on motorcycle.)
6. Tie a plastic bag over exhaust pipe outlet(s) to prevent moisture from entering.
7. If storing in humid or salt-air atmosphere, coat all exposed metal surfaces with a light film of oil. Do not apply oil to rubber parts or seat cover.
8. Remove battery and charge. Store in a dry place and recharge once a month. Do not store battery in an excessively warm or cold place (less than 0°C (30°F) or more than 30° C (90°F)).

NOTE:

Make any necessary repairs before storing the motorcycle.

SPECIFICATIONS

General specifications

Item \ Model	XJ650 for Police	XJ750 for Police
Dimension:		
Overall length	2,160 mm (85.0 in)	←
Overall width	725 mm (28.5 in)	←
Overall height	1,195 mm (47.0 in)	←
Wheelbase	1,445 mm (56.9 in)	←
Minimum road clearance	140 mm (5.5 in)	←
Basic weight:		
With oil and full fuel tank	265 mm (584 lb)	←
Performance:		
Minimum turning radius	2,600 mm (102.4 in)	←
Engine:		
Type	4 stroke, gasoline, air-cooled, DOHC	←
Engine model	37G	24L
Cylinder	4-cylinder in-line, forward inclined	←
Displacement	653 cm^3 (39.85 cu.in)	748 cm^3 (45.64 cu.in)
Bore x Stroke	63.0 x 52.4 mm (2.48 x 2.06 in)	65.0 x 56.4 mm (2.56 x 2.22 in)

Item \ Model	XJ650 for Police	XJ750 for Police
Compression ratio	9.2 : 1	←
Starting system	Electric starter	←
Ignition system	Battery ignition (Full transistor ignition)	←
Fuel tank capacity	Total: 19.0 L (4.2 Imp gal, 5.0 US gal)	←
	Empty (displayed): 4.1 L (0.90 Imp gal, 1.08 US gal)	←
Engine oil quantity	Total amount: 3.6 L (3.2 Imp qt, 3.8 US qt)	←
	Periodic oil change: 2.6 L (2.3 Imp qt, 2.7 US qt)	←
	With oil filter replacement: 2.9 L (2.6 Imp qt, 3.1 US qt)	←
Lubricating system	Wet sump	←
Battery type/Capacity	YB14L/12V, 14 AH	←
Spark plug	BP7ES (N.G.K.), or W22EP-U (N.D.)	←
Carburetor	HSC32 x 4	←
Air cleaner	Dry type element	←
Clutch type	Wet, multiple-disc	←

Item \ Model		XJ650 for Police	XJ750 for Police
Transmission:			
Primary reduction system		Gear	←
Primary reduction ratio		97/58 (1.672)	←
Secondary reduction system		Shaft drive	←
Secondary reduction ratio		49/36 x 19/18 x 32/11 = 4.179	←
Gear box type		Constant mesh, 5-speed forward	←
Operation system		Left foot operation	←
Gear ratio:	First	35/16 (2.188)	←
	Second	30/20 (1.500)	←
	Third	30/26 (1.154)	←
	Fourth	28/30 (0.933)	←
	Fifth	26/32 (0.813)	←
Chassis:			
Frame type		Tubular steel, double cradle	←
Steering:	Caster	28°	←
	Trail	114 mm (5.24 in)	←
Tire size:	Front	3.25H-19-4PR	←
	Rear	120/90-18 65H	←
Braking system:	Front	Disc brake/Right hand operation	←
	Rear	Drum brake/ Right foot operation	←

Item \ Model		XJ650 for Police	XJ750 for Police
Suspension:	Front	Telescopic fork	←
	Rear	Swingarm	←
Shock absorber:	Front	Coil/air spring, oil damper	←
	Rear	Coil spring, oil damper	←
Electrical:			
Headlight		12V, 60W/55W (Quartz bulb)	←
Tail/brake light		12V, 8W/27W x 2	←
Flasher light		12V, 27W x 4	←
Pilot lights:	TURN	12V, 3.4W x 2	←
	WARNING	12V, 3.4W x 1	←
	NEUTRAL	12V, 3.4W x 1	←
	HIGH BEAM	12V, 3.4W x 1	←
Meter light		12V, 3.4W x 2	←
Auxiliary light		12V, 3.4W x 1	←
Fog light		12V, 35W x 1	←