



YAMAHA

**XVZ12L
XVZ12KC2
OWNER'S MANUAL**

LIT-11626-04-06

41R-28199-10

PLEASE READ THIS MANUAL CAREFULLY BEFORE OPERATING THIS MOTORCYCLE. DO NOT ATTEMPT TO OPERATE THIS MOTORCYCLE UNTIL YOU HAVE ATTAINED A SATISFACTORY LEVEL OF SKILL AND OPERATING EXPERIENCE AND UNTIL YOU HAVE BEEN TRAINED IN SAFE AND PROPER RIDING TECHNIQUES. REGULAR INSPECTION AND MAINTENANCE ALONG WITH GOOD RIDING TECHNIQUE WILL ENSURE THAT YOU SAFELY ENJOY THE MANY BENEFITS AND RESPONSIBILITIES OF THIS MOTORCYCLE.

XVZ12L/XVZ12KC2 OWNER'S MANUAL

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Printed in Japan

P/N LIT-11626-04-06

IMPORTANT:

PLEASE READ THIS MANUAL CAREFULLY AND COMPLETELY BEFORE OPERATING THIS MOTORCYCLE.

DO NOT ATTEMPT TO OPERATE THIS MOTORCYCLE UNTIL YOU HAVE ATTAINED A SATISFACTORY KNOWLEDGE OF ITS CONTROLS AND OPERATING FEATURES AND UNTIL YOU HAVE BEEN TRAINED IN SAFE AND PROPER RIDING TECHNIQUES.

REGULAR INSPECTIONS AND CAREFUL MAINTENANCE, ALONG WITH GOOD RIDING SKILLS, WILL ENSURE THAT YOU SAFELY ENJOY THE CAPABILITIES AND THE RELIABILITY OF THIS MOTORCYCLE.

YAMAHA MOTOR CORPORATION
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1st Edition, August 1983
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Particularly important information is distinguished in this manual by the following notations:

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

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

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

NOTE: This manual should be considered a permanent part of this motorcycle and should remain with it even if the motorcycle is subsequently sold.

SAFETY WARNINGS:

1. Traffic regulations vary from state to state. Study the regulations in your state before riding this motorcycle.
2. This motorcycle is designed for on-road use only. It is not suitable for off-road use.
3. **GASOLINE IS HIGHLY FLAMMABLE:**
 - * Always turn off the engine when refuelling.
 - * Take care not to spill any gasoline on the engine or exhaust pipe(s)/muffler(s) when refuelling.
 - * Never refuel while smoking or in the vicinity of an open flame.
4. If you should swallow some gasoline, inhale a lot of gasoline vapor, or allow some gasoline to get in your eye(s), see your doctor immediately. If any gasoline spills on your skin or clothing, immediately wash it with soap and water and change your clothes.
5. Always turn off the engine before leaving the motorcycle unattended, and do not forget to remove the ignition key. When parking the motorcycle, note the following:
 - * The engine and exhaust pipe(s)/muffler(s) may be hot. Park the motorcycle in a place where pedestrians or children are not likely to touch the motorcycle.
 - * Do not park the motorcycle on a slope or soft ground; the motorcycle may overturn.

6. When transporting the motorcycle in another vehicle, be sure it is kept upright and that the fuel cock(s) is turned to the "ON" or "RES" (for vacuum type)/"OFF" (for manual type). If it should lean over, gasoline may leak out of the carburetor or fuel tank.
7. Never start your engine or let it run for any length of time in a closed area. The exhaust fumes are poisonous and may cause loss of consciousness and death within a short time. Always operate your motorcycle in an area with adequate ventilation.
8. Always wear a helmet, gloves, trousers, (tapered around the cuff and ankle so they do not flap), and a brightly colored jacket.
9. This motorcycle is designed for use as a two-wheeled vehicle capable of carrying a rider and a passenger. The total weight of the rider, accessories, and cargo must not exceed the maximum load limit. (See page 40.)
10. Be sure that operator and passenger feet are on the foot pegs during operation.
11. It is important in maintaining control of the vehicle to keep operators hands on the handlebars at all time.

INTRODUCTION

Congratulations on your purchase of the Yamaha XVZ12L/XVZ12KC2. 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 and inspection items 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 your nearby Yamaha dealer.

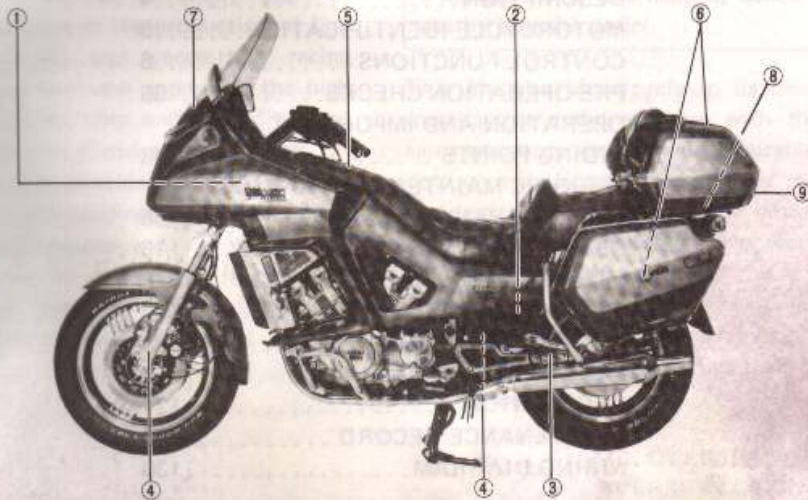
This Yamaha Motorcycle in its design and manufacture fully complies with the emissions standards for clean air applicable at the date of manufacture. Yamaha has met these standards without reducing the motorcycle's performance or economy of operation. To maintain these high standards, it is important that you and your dealer pay close attention to the recommended maintenance schedules and operating instructions contained within this manual.

OVERSEAS SERVICE
OVERSEAS OPERATIONS
YAMAHA MOTOR CO., LTD.

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LOCATION OF THE "CAUTION AND SPECIFICATION LABELS"



- 1 -

① MFD, BY YAMAHA MOTOR CO., LTD. (Month/Year) GVWR xxx LBS. GAWR FRONT – xxx LBS. WITH xxxxx TIRE. xxxxx RIM, AT xx PSI COLD. REAR – xxx LBS. WITH xxxxx TIRE, xxxxx RIM, AT xx PSI COLD.
 THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.
 VEHICLE ID NO. x x x x x (17 digits)
 TYPE CLASSIFICATION. MOTORCYCLE.

②

VEHICLE EMISSION CONTROL INFORMATION		THIS VEHICLE CONFORMS TO U.S. EPA AND CALIFORNIA REGULATIONS APPLICABLE TO 19 xx x MODEL YEAR NEW MOTORCYCLES.
ENGINE FAMILY: x x x x x ... DISPLACEMENT: x x x cc EXHAUST EMISSION CONTROL SYSTEM: EM.		
ENGINE TUNE-UP SPECIFICATIONS AND ADJUSTMENT: AT NORMAL OPERATING TEMPERATURE. PUT VEHICLE IN THE UPRIGHT POSITION, TRANSMISSION IN NEUTRAL AND WARM UP ENGINE.		
ITEM	SPEC	INSTRUCTIONS
1. IGNITION TIMING x x BTDC AT IDLE SPEED		NO ADJUSTMENT
2. IDLE SPEED (RPM) x x x x		ADJUST THROTTLE STOP SCREW
3. IDLE MIXTURE		NO ADJUSTMENT
4. VALVE CLEARANCE (MM) IN: x x x EX: x x x		SEE SERVICE MANUAL
5. SPARK PLUG: x x x	SPARK PLUG GAP (MM): x x x x	
FUEL SPECIFICATIONS	ENGINE LUBRICANT SPECIFICATIONS	
BASOLINE GRADE: x x x RESEARCH OCTANE: x x x	ENGINE OIL: x x x x	
YAMAHA MOTOR CO., LTD.		

③

Keep oil between level gauge lines.
 USE HYPOID GEAR OIL
 SAE #80
 YAMAHA MOTOR CO., LTD.

④

CAUTION (AIR SUSPENSION)

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

⑤

WARNING

- DO NOT OPEN CONSOLE BOX LID WHILE RIDING.
- MAXIMUM LOAD OF CONSOLE BOX:
4.4 LBS (2 KG) EACH SIDE

- 2 -

7

Windshield cleaning

Clean the windshield with a cloth or foam rubber dampened 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.

CAUTION:

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

8

CAUTION:

NEVER ALLOW ANY PART OF CARGO TO TOUCH THIS COVER.

9

CAUTION:

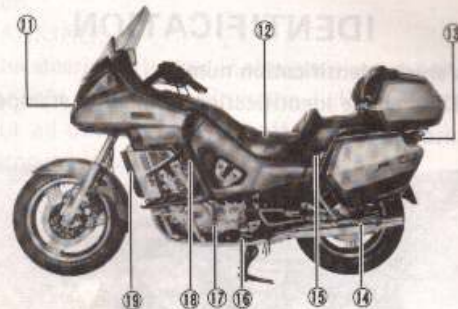
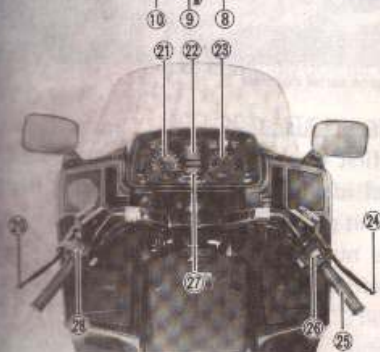
BEFORE INSTALLING A TRUNK OR SADDLEBAG AND BEFORE CLOSING THE LID, BE SURE THE MARK ON THE LOCK IS AT THE "SET" POSITION. IF IT'S AT THE "LOCK" POSITION, THE LOCK MAY BE DAMAGED.

6

WARNING

- DO NOT EXCEED THESE MAXIMUM LOADS:
 - SADDLEBAGS: 20 LBS (9 KG) EACH
 - TRAVEL TRUNK: 20 LBS (9 KG)
 - TRAVEL TRUNK BRACKET WITHOUT TRAVEL TRUNK: 20 LBS (9 KG)
- TOTAL WEIGHT OF RIDER, PASSENGER, AND CARGO MUST NOT EXCEED THE MOTORCYCLE LOAD CAPACITY SHOWN IN THE OWNER'S MANUAL.
- DISTRIBUTE WEIGHT EVENLY FROM SIDE TO SIDE.
- UNAUTHORIZED ACCESSORIES AND IMPROPER LOADING CAN ADVERSELY AFFECT OPERATING STABILITY AND PERFORMANCE.
- NEVER RIDE AN ACCESSORY EQUIPPED MOTORCYCLE ABOVE 80 MPH (120 KM/H). THIS SPEED LIMIT MAY BE REDUCED BY SUCH FACTORS AS IMPROPER LOADING, POOR ROAD SURFACES, ADVERSE WEATHER CONDITIONS, ETC.
- BEFORE RIDING, MAKE SURE ALL LIDS AND MOUNTS ON THE TRAVEL TRUNK AND SADDLE BAGS ARE SECURELY LOCKED KEY AT "LOCK" POSITION AS SHOWN IN THE OWNER'S MANUAL. READ THE LOADING AND TIRE SECTIONS IN THE OWNER'S MANUAL.

- 3 -

DESCRIPTION

- | | |
|---|----------------------------|
| 1. Rear flasher light | 15. Helmet holder |
| 2. Travel trunk | 16. Footrest |
| 3. Saddlebag | 17. Change pedal |
| 4. Side panel | 18. Lower panel |
| 5. Top cover | 19. Radiator |
| 6. Front flasher light
(Parking/running light) | 20. Clutch lever |
| 7. Front fender | 21. Speedometer |
| 8. Brake pedal | 22. Display panel |
| 9. Lower side cover | 23. Tachometer |
| 10. Fuel cock | 24. Brake lever |
| 11. Headlight | 25. Throttle grip |
| 12. Seat | 26. Right handlebar switch |
| 13. Brake/Tailight | 27. Digital clock |
| 14. Muffler | 28. Left handlebar switch |

- 4 -

MOTORCYCLE IDENTIFICATION

Vehicle identification number

The vehicle identification number is stamped into the steering head pipe.



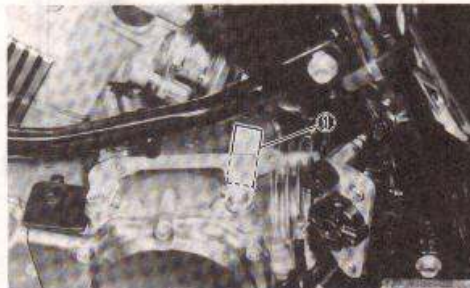
1. Vehicle identification number

NOTE:

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

Engine serial number

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



1. Engine serial number

NOTE:

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

CONTROL FUNCTIONS

Main switch

Functions of the respective switch positions are as follows:

ON:

Electrical circuits are switched on, and the headlight, meter light, parking/running light, and taillight come on. The engine can be started. The key cannot be removed in this position.

ACC:

Auxiliary D.C. terminal come on but all other circuit are off.

The key cannot be removed in this position.

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

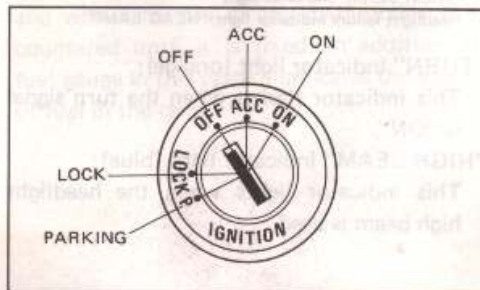
"Steering lock" (Page 21) for proper operation.

PARKING:

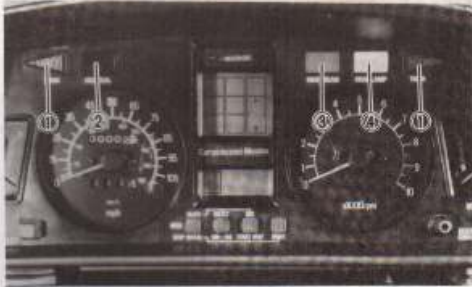
The steering is locked in this position, and the taillight and parking/running light come on but all other circuits are off. The key can be removed in this position.

NOTE:

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



Indicator lights



1. "TURN" indicator light
2. "NEUTRAL" indicator light
3. "HIGH BEAM" indicator light
4. Headlight failure indicator light "HEAD LAMP"

"TURN" indicator light (orange):

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

"HIGH BEAM" indicator light (blue):

This indicator lights when the headlight high beam is used.

Headlight failure indicator light "HEAD LAMP" (white):

If either headlight filament burns out, the other filament will come on and the indicator will come on.

WARNING:

If the headlight failure indicator light comes on, be sure to replace the headlight bulb as soon as possible to avoid having no headlight at all if the remaining filament fails.

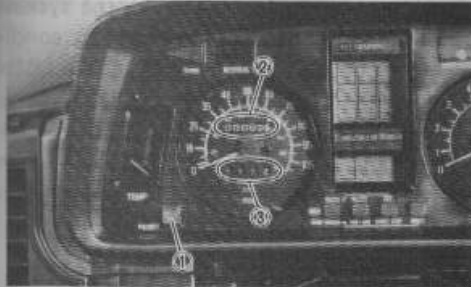
"NEUTRAL" indicator light (green):

This indicator lights when the transmission is in neutral.

Speedometer

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

- 7 -



1. Reset switch
2. Odometer
3. Trip odometer

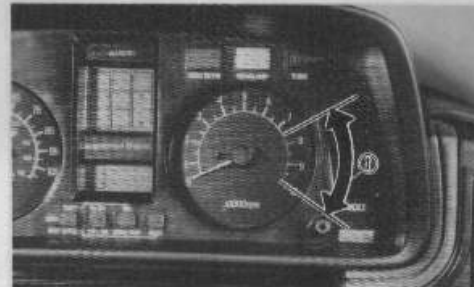
Tachometer

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

This model is provided with an electric tachometer.

CAUTION:

Do not operate in the red zone.
Red zone: 7,500 r/min and above

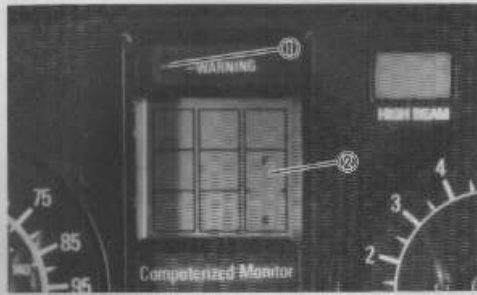


1. Red zone

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.

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1. "WARNING" light (red) 2. Display panel

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 a Yamaha dealer or other qualified mechanic.

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Display panel



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



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

WARNING:

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



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.



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.

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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.



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



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.

NOTE:

When this indicator is displayed, the remaining fuel is 4.0 L (0.9 Imp gal, 1.1 US gal).

GENERAL CAUTION:

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

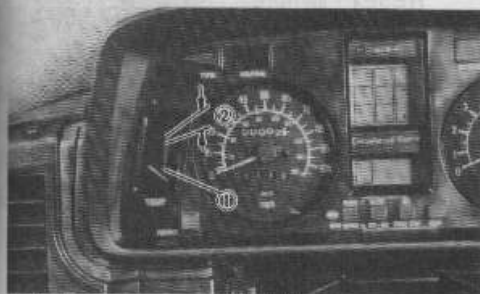
1. Don't use bulbs of wattage other than specified for the taillight/brake light and other unit.
2. Don't connect extra electric accessories to the computerized monitor system circuit (ex: Taillight, headlight etc.).
3. Don't subject the instrument panel to any water splashes or steam from underneath.
4. Don't press down hard on the display panel or subject it to undue shock.
5. Don't place a magnet or other magnetized objects near the display panel.

Thermometer

This gauge indicates the coolant temperature when the main switch is ON. The engine operating temperature will vary with changes in weather and engine load. If the needle points to the red zone or higher, stop your motorcycle and allow the engine to cool. (See page 68 for more detail.)

CAUTION:

When the engine is overheated, do not continue riding.



1. Thermometer 2. Red zone

Voltmeter

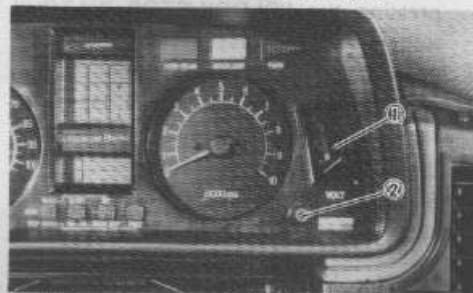
This voltmeter indicates the state of battery charging.

CAUTION:

If the needle is either in the yellow line running, go to a Yamaha dealer or other qualified mechanic.

Illumination control knob

This control knob is used to adjust the intensity of the meter light. Turning the knob clockwise darkens the light and turning it counterclockwise brightens the light.



1. Volt meter 2. Illumination control knob

Gear indicator panel

This panel indicates the gear position which is selected.

Digital clock

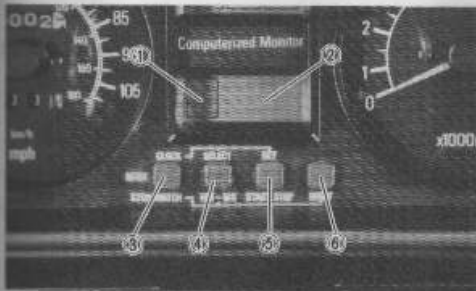
This digital clock functions both as a watch and as a stop watch. A clock mode (watch or stop watch) can be displayed on the display panel by turning "ON" the main switch.

CLOCK ADJUSTMENT

1. Turn "ON" the main switch.
2. Place the clock in the clock mode by pressing the "CLOCK/STOP WATCH" switch.
3. Press the "SELECT/HM-MS" switch and select the clock model (hour or minute) you want to adjust. The flashing digit can be adjusted.
4. By pressing the "SET/START-STOP" switch, the flashing digit can be adjusted.

STOP WATCH OPERATION

1. Turn "ON" the main switch.
2. By pressing the "CLOCK/STOP WATCH" switch, place the clock in the stop watch mode.
3. Select the display of the hour and minutes or the minutes and seconds by pressing the "SELECT/HM-MS" switch.
4. By pressing the "SET/START-STOP" switch, the watch can be started or stopped.
5. The watch can be reset by pressing the "RESET" switch.



1. Gear indicator panel
2. Digital clock
3. "CLOCK/STOP WATCH" switch
4. "SELECT/HM-MS" switch
5. "SET/START STOP" switch
6. "RESET" switch

"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 "ON". Both front and rear flasher lights will flash simultaneously.

CAUTION:

Never fail to turn the main switch to "OFF" or "PARKING" position while the "HAZARD" switch is on.

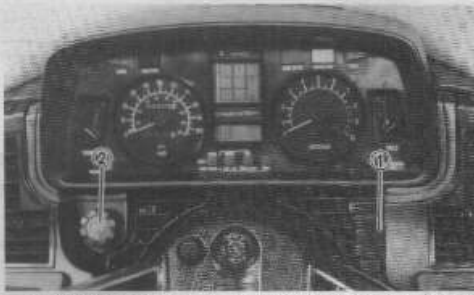
Battery discharged may result from long use of flasher lights, thereby leading to difficult starting.

NOTE:

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

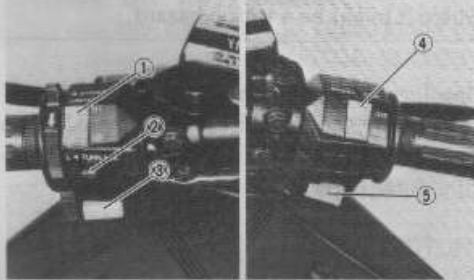
Headlight vertical beam adjusting knob

This knob permits vertical adjustment of the headlight beam. For the adjustment procedure, refer to page 106.



1. "HAZARD" switch 2. Headlight vertical adjusting knob

Handlebar switches:



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

"LIGHTS" (Dimmer) switch

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

"TURN" switch

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

"HORN" switch

Press the switch to sound the horn.

"ENGINE STOP" switch

Make sure that the engine stop switch is on "RUN". The engine stop switch has been equipped to ensure safety in an emergency such as when the motorcycle is upset or trouble takes place in the throttle. The engine will not start when the engine stop switch is turned to "OFF". In case of an emergency, turn the switch to "OFF".

"START" switch

To start the engine, push the starter switch.

CAUTION:

See starting instructions prior to starting engine.

Clutch lever

This model is provided with a hydraulic clutch. The clutch lever is located on the left handlebar and the starting circuit cut off switch is incorporated in the clutch lever holder. Pull the clutch lever toward the handlebar to disengage the clutch, and release the lever to engage the clutch. The lever should be pulled rapidly and released slowly for smooth starts. (Refer to the engine starting procedures for the starting circuit cut off switch functions.)

Change pedal

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

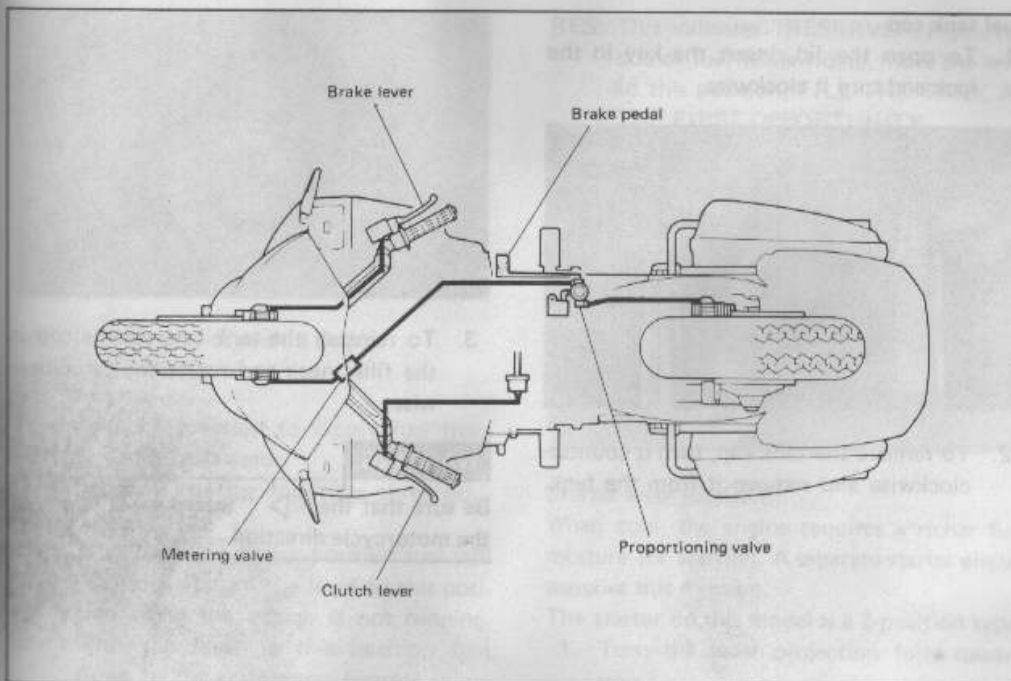


N, Neutral

Brake pedal and lever

The rear brake and the left-hand front brake are connected to the brake pedal; they are activated at the same time when the brake pedal is applied. The right-hand front brake operates independently; it is activated only by the brake lever. The rear brake and the left-hand front brake provide enough stopping ability for most conditions. However, for maximum stopping ability, apply the right-hand front brake at the same time as the brake pedal is applied.

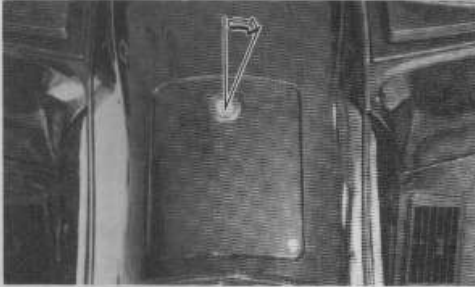
- 17 -



- 18 -

Fuel tank cap

1. To open the lid, insert the key in the lock and turn it clockwise.



2. To remove the tank cap, turn it counter-clockwise and remove it from the tank.

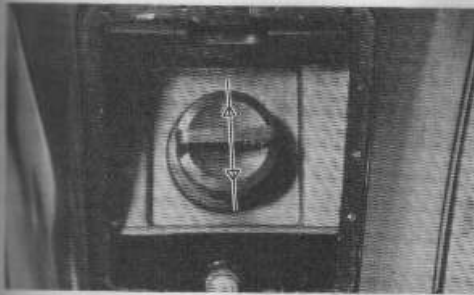


3. To reinstall the tank cap, set the cap in the filler neck and rotate the cap clockwise.

WARNING:

Be sure that the "▷" marks are in line with the motorcycle direction.

- 19 -



4. To lock the lid, push it down.

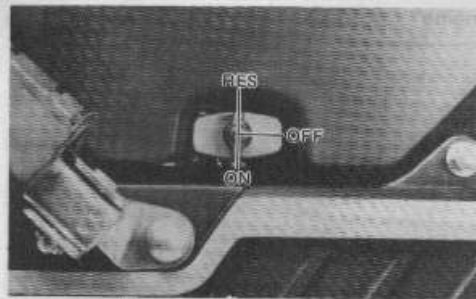
Fuel cock

The fuel cock function to supply fuel from the tank to the carburetor.

The fuel cock has the following three positions:

- OFF: With the lever in this position fuel will not flow. Return the lever to this position when the engine is not running.
- ON: With the lever in this position fuel flows to the carburetor. Normal riding is done with the lever in this position.

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



Starter lever (CHOKE)

When cold, the engine requires a richer fuel mixture for starting. A separate starter circuit supplies this mixture.

The starter on this model is a 2-position type:

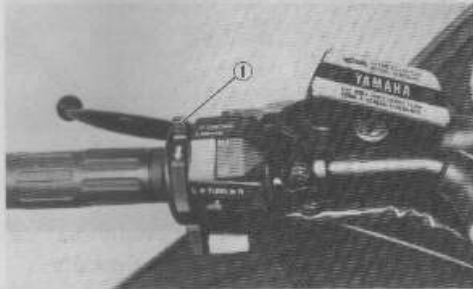
1. Turn the lever projection fully toward you.
— When starting a cold engine.

- 20 -

- Turn the lever projection half-way back.
– When warming up the engine.

NOTE:

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



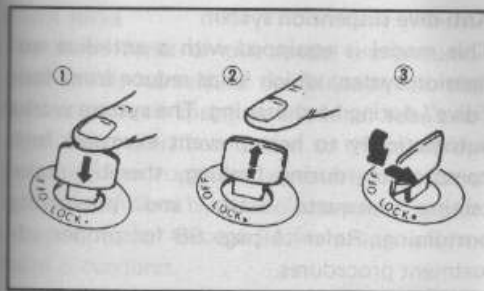
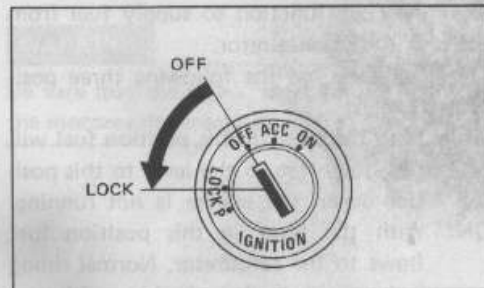
1. Starter lever

Steering lock

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

WARNING:

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



1. Push 2. Release 3. Turn

Adjustable handlebars

This model is equipped with handlebars which are capable of vertical and horizontal adjustment to suit the rider's position and preference. For the adjustment procedure, see page 85.

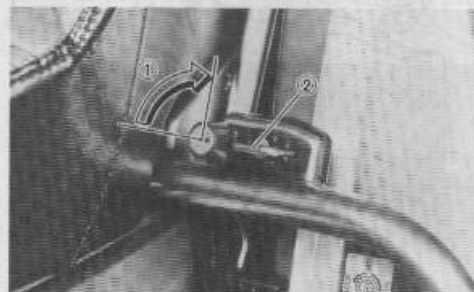
Helmet holder

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

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

WARNING:

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

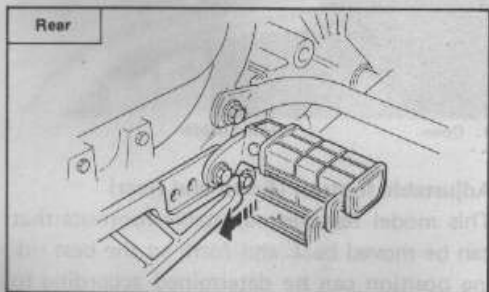
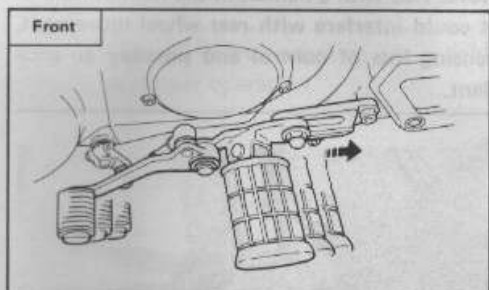


1. Open 2. Helmet holder

Adjustable footrest (Front and Rear)

This model features adjustable footrests that can be moved back and forth so the best riding position can be determined according to

the rider's build and preference. For the adjusting procedure, see page 87.

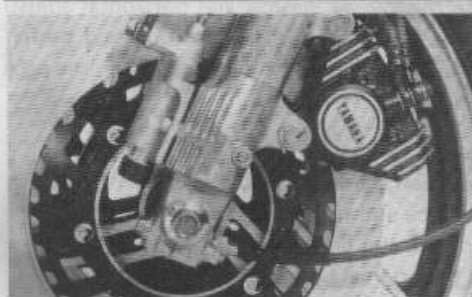


Anti-dive suspension system

This model is equipped with a anti-dive suspension system which helps reduce front fork "dive" during hard braking. The system works automatically to help prevent excessive fork compression during braking, thereby maintaining adequate travel and preventing bottoming. Refer to page 98 for proper adjustment procedures.

WARNING:

The anti-dive settings must be the same on both anti-dive units.



Front forks

The front forks of this model are pneumo-mechanical; 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 94 for proper adjustment procedures.



Rear shock absorber (New monocross suspension)

The air pressure preload and the damping force of the rear shock absorber can be adjusted to suit motorcycle load (ex: optional accessories etc.) and riding conditions. Refer to page 95 for proper adjustment procedures.



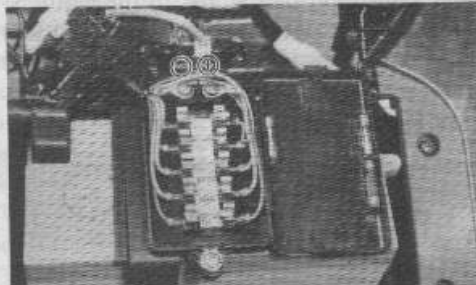
Emergency stop switch

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

Auxiliary D.C. Terminal

The fused auxiliary D.C. terminal is located in the fuse box under the top cover. This terminal may be used for an accessory not exceeding maximum fuse rating. The fuse for this terminal is located directly above the terminal screws. To prevent wiring damage, never use a larger fuse than specified. Remove the fuse until accessory installation is complete. Consult the accessory manufacturer for wire type and gauge. The + (voltage) and - (ground) marks on the terminal backing must be observed when connecting an accessory.

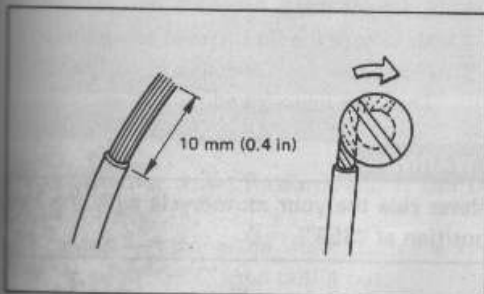
Auxiliary D.C. Terminal
Maximum fuse rating:
12V, 10A



1. Open

Connecting accessory wires

1. Strip 10 mm (0.4 in) of insulation from each wire. Twist (braid) the ends of the wires.
2. Make a hook in the end of the braided wire so that it will be drawn around the terminal as the screw is being tightened.



Console box lid

To open the lid, insert the key, turn it clockwise, and as shown, push the the lever.



1. Open

To close the lid, push it down.

WARNING:

Do not open console box lid while riding.

Maximum load of console box:

2 kg (4.4 lb) each side

Travel trunk

To open the travel trunk:

1. Insert the key, and turn it to "OPEN".



2. Raise the lid.
3. When the key is released, it returns to "SET" automatically. The key can be removed in this position.

To close the travel trunk:

CAUTION:

Before closing the lid, be sure the mark on the lock is at the "SET". If it's at the "LOCK", the lock may be damaged.

1. Close the lid.
2. Make sure the lid is closed completely.
3. Insert the key, and turn it to "LOCK".
The lid is now locked.

WARNING:

Never ride your motorcycle with the key position at "SET".

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To remove the travel trunk:

1. Insert the key and turn it to "OPEN".



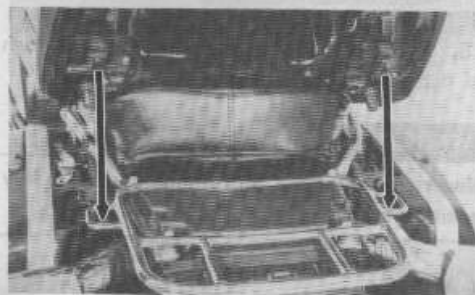
2. Push the trunk forward, and it can be removed.
3. After removing the trunk, turn the key back to "SET", and pull it out.

To install the travel trunk:

CAUTION:

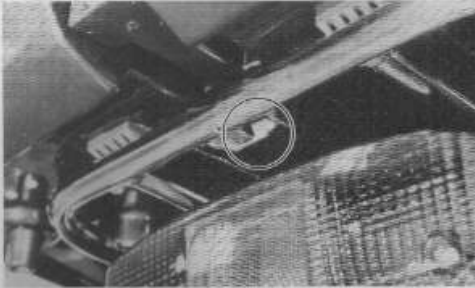
Before installing the trunk, be sure the mark on the lock is at the "SET". If it's at the "LOCK", the lock may be damaged.

1. Fit the trunk hooks into the carrier; then, push the trunk backward.



- 28 -

2. Make sure the trunk is installed firmly.



3. After installing, insert the key and turn it to "LOCK".

WARNING:

Never ride the your motorcycle with the key position at "SET".

WARNING:

Do not exceed these maximum loads.

Travel trunk: 9 kg (20 lb)

Travel trunk bracket (with out travel trunk):
9 kg (20 lb)

Saddlebag

To open the saddlebag:

1. Insert the key, and turn it to "OPEN".



2. When the key is released, it returns to "SET" automatically. The key can be removed in this position.

To close the saddlebag:

CAUTION:

Before closing the lid, be sure the mark on the lock is at the "SET". If it's at the "LOCK", the lock may be damaged.

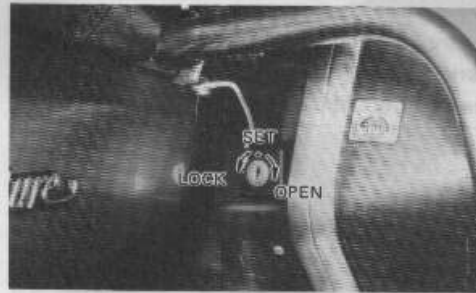
1. Close the lid.
2. Make sure the lid is closed completely.
3. Insert the key, and turn it to "LOCK" to lock the lid.

WARNING:

Never ride the your motorcycle with the key position at "SET".

To remove the saddlebag:

1. Insert the key and turn it to "OPEN".



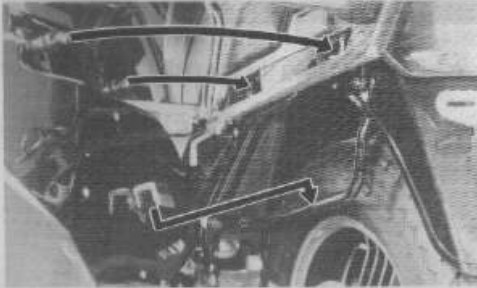
2. Push the bag backward, and it can be removed.
3. After removing the bag, turn the key to "SET" and remove it.

To install the saddlebag:

CAUTION:

Before installing the saddlebag, be sure the mark on the lock is at the "SET". If it's at the "LOCK", the lock may be damaged.

1. Fit the hook onto the stay; then, insert the knob into the hole.



2. Push the bag forward.
3. Make sure the bag is installed firmly.
4. After installing, insert the key and turn it to "LOCK".

WARNING:

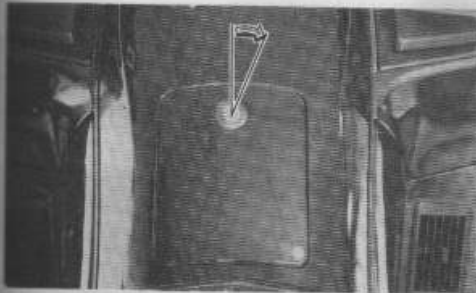
Never ride your motorcycle with the key position at "SET".

WARNING:

Do not exceed these maximum loads.
Saddlebags: 9 kg (20 lb) each

Top cover removal

1. To open the lid, insert the key in the lock and turn it clockwise.



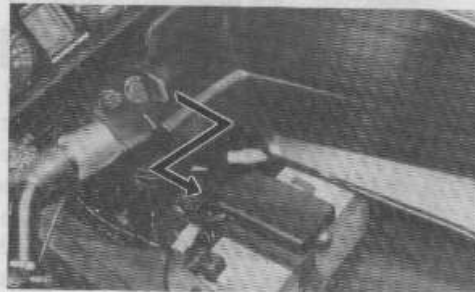
2. Remove the screw and push the top cover forward.



3. To reinstall the top cover, reverse the above steps.

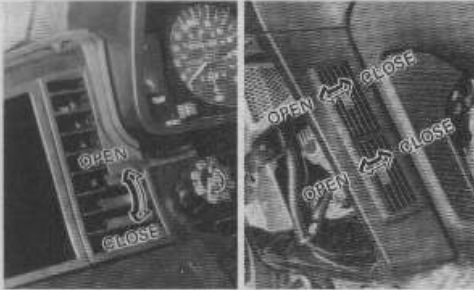
NOTE:

Make sure the hook on the top cover is inserted into the receptacle on the frame.



Air ducts

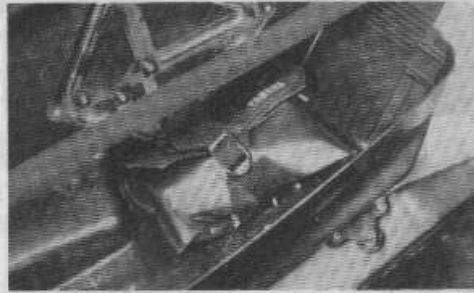
The lower panel and console box are provided with air ducts. Move the air duct lever to the "OPEN" for letting in the air. Move the same lever to the "CLOSE" for shutting out the air.



Theft-protection chain

This chain is designed for theft protection of your motorcycle and is placed in the saddlebag. Remove and use the chain as follows:

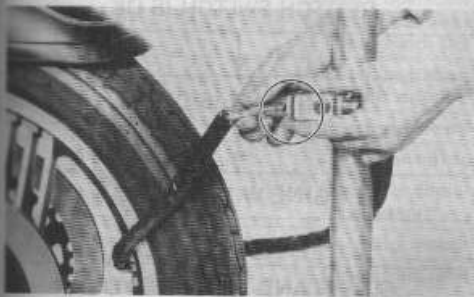
1. Open the saddlebag.



2. Fasten the chain to a suitable fixed object.

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To lock the chain, insert one end into the other. The chain automatically locks. To unfasten the chain, insert the main switch key in the lock and turn it clockwise.



3. When replacing the chain, make sure that the chain storage cell cover is securely fitted.

CAUTION:

Before starting, make sure that your motorcycle is unlocked.

Sidestand

This model is equipped with an ignition circuit cutoff system. The motorcycle must not be ridden when the sidestand is down. The sidestand is located on the left side of the frame. (Refer to page 48 for an explanation of this system.)

WARNING:

This motorcycle must not be operated with the sidestand in the down position. If the stand is not properly retracted, it could contact the ground and distract the operator resulting in a possible loss of control. Yamaha has designed into this motorcycle a lockout system to assist the operator in fulfilling his responsibility of retracting the sidestand. Please check carefully the operating instructions listed below and if there is any indication of a malfunction, you must return the motorcycle to a Yamaha dealer immediately for repair.

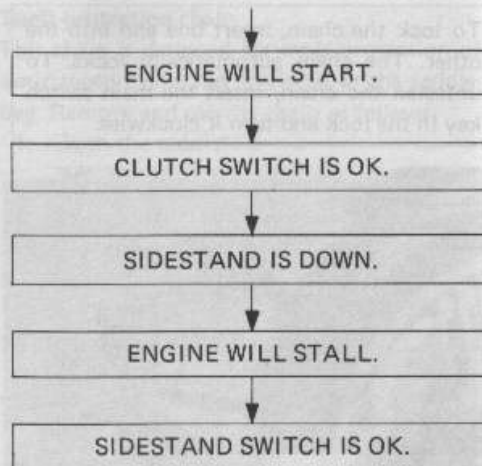
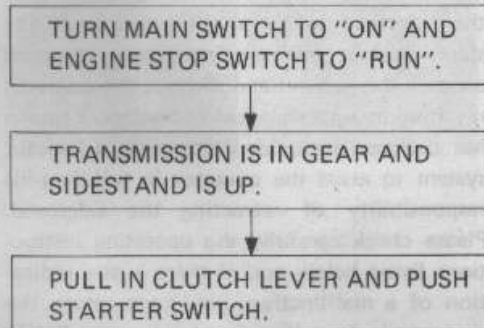
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Sidestand/clutch switch operation check

Check the operation of the sidestand switch and clutch switch against the information below.

WARNING:

Be sure to use the centerstand during this inspection.



WARNING:

If improper operation is noted, consult a Yamaha dealer immediately.

PRE-OPERATION CHECKS

Before using this motorcycle check the following points:

No.	Item	Routine	Page
1	Brakes	Check operation, free play, fluid level and brake fluid leakage. Top-up with DOT #3 brake fluid if necessary.	38 ~ 39 77 ~ 81, 83
2	Clutch	Check operation, fluid level and fluid leakage. Top-up with DOT #3 brake fluid if necessary.	39, 81 ~ 83
3	Engine oil	Check engine oil level, add oil if necessary.	39, 64 ~ 67
4	Final gear oil	Check for leakage visually.	40, 67 ~ 68
5	Engine coolant	Check for coolant level and leakage, add coolant if necessary.	46 ~ 47 68 ~ 75
6	Throttle	Check for smooth operation. Adjust if necessary.	39, 84
7	Battery	Check fluid level, top-up with distilled water if necessary.	45, 101 ~ 103
8	Lights/Signals	Check operation.	45, 104 ~ 107
9	Wheels/Tires	Check tire pressure, wear damage.	40 ~ 44
10	Fittings/Fasteners	Check all chassis fittings and fasteners. Adjust, if necessary.	45, 63

NOTE:

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

WARNING:

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

Brakes (See page 77 for more detail)

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

WARNING:

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

2. Brake fluid
Check the brake fluid level.
Add fluid if necessary.

Recommended brake fluid: DOT #3

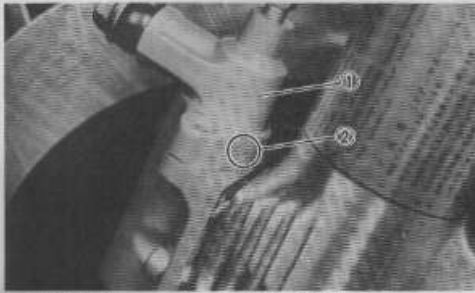
3. Checking the disc pads
Refer to page 79.

NOTE:

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



1. Plunger case 2. Breather hole

WARNING:

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

Clutch fluid leakage

Check to see if any clutch fluid leaks out from pipe joints or the master cylinder.

WARNING:

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

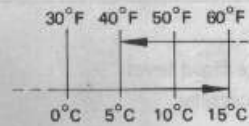
Throttle grip (See page 84 for more detail)

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

Engine oil (See page 64 for more detail)

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

Recommended oil:



YAMALUBE
4-cycle oil or
SAE 20W40 type
SE motor oil
SAE 10W30 type
SE motor oil

Final gear oil (See page 67 for more detail)

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

Recommended oil:
SAE 80 API GL-4 Hypoid gear oil

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

NOTE:

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

Tires

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

1. Tire air pressure

Always check and adjust the tire pressure 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.

Basic weight: With oil and full fuel tank	334 kg (736 lb)	
Maximum load*	196 kg (432 lb)	
Cold tire pressure	Front	Rear
Up to 90 kg (198 lb) load*	225 kPa (2.3 kg/cm ² , 32 psi)	225 kPa (2.3 kg/cm ² , 32 psi)
90 kg (198 lb) ~ 196 kg (432 lb) load*	225 kPa (2.3 kg/cm ² , 32 psi)	275 kPa (2.8 kg/cm ² , 40 psi)
High speed riding	225 kPa (2.3 kg/cm ² , 32 psi)	225 kPa (2.3 kg/cm ² , 32 psi)

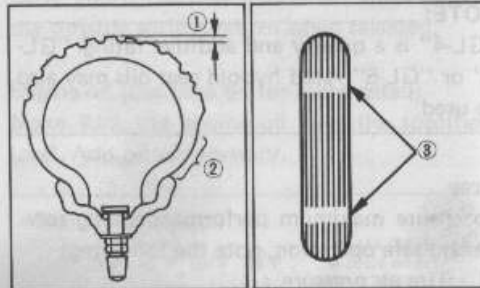
* Load is the total weight of cargo, rider, passenger, and accessories.

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 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 or glass fragments in it, or if the side wall is cracked, contact a Yamaha dealer or other qualified mechanic immediately and have him replace the tire.



1. Tread depth
2. Side wall

3. Wear indicator

	Standard tire
Front: Manufacture/Size	Bridgestone/ 120/90-18 Dunlop/ 120/90-18
Rear: Manufacture/Size	Bridgestone/ 140/90-16 Dunlop/ 140/90-16
Minimum tire tread depth (front and rear)	1.0 mm (0.04 in)

WARNING:

1. It is dangerous to ride with a worn-out tire. When a tire thread begins to show lines. Have a Yamaha dealer or other qualified mechanic replace the tire immediately. Brakes, tires, and related wheel parts replacement should be left to a Yamaha Service Technician or other qualified mechanic.

2. 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.

Tubeless tires and cast wheels

This motorcycle is equipped with cast wheels designed for either tube or tubeless tires.

Tubeless tires are installed as standard equipment.

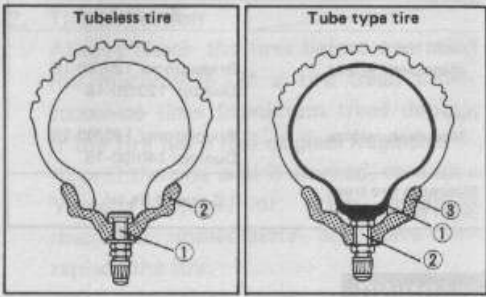
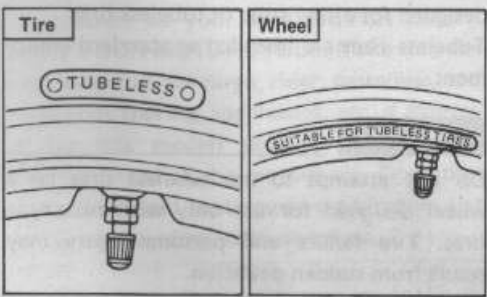
WARNING:

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

Tube-type Wheel → Tube-type
Tires only
Tubeless-type Wheel → Tube-type or
Tubless tires

WARNING:

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



- 1. Air valve
- 2. Cast wheel
- 1. Tube
- 2. Air valve
- 3. Cast wheel

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

1. Always inspect the wheels before a ride. Place the motorcycle on its centerstand and check for cracks, bends, or warpage of the wheels. If any abnormal condition exists in a wheel, consult a Yamaha dealer or other qualified mechanic. Do not attempt even small repairs to the wheel. If a wheel is deformed or cracked, it must be replaced.

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.
4. After repairing or replacing a tire, check to be sure the valve stem lock nut is securely fastened. If not, torque it as specified.

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

Accessories or replacement parts

WARNING:

This motorcycle is not designed to pull a trailer or to be attached to a sidecar. The accessories or replacement parts you choose for your motorcycle should be designed specifically for it, and they must be securely mounted to maintain the inherent stability of the original design. Genuine Yamaha Parts and Accessories are designed and tested to be compatible with your motorcycle. Please consider Genuine Yamaha Parts and Accessories before making an accessory purchase. Use of non-Yamaha-approved parts or accessories may cause loss of handling stability and riding safety. Since Yamaha cannot control the quality of parts or accessories manufactured by other companies, Yamaha cannot be held liable for any consequence caused by the use of items which have not been approved by Yamaha.

Fittings/Fasteners

Always check the tightness of chassis fittings and fasteners before a ride. Use the chart on page 63 to find the correct torque.

Lights and signals

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

Switches

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

Battery (See page 101 for more detail)

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

Fuel

Make sure there is sufficient fuel in the tank.

Recommended gasoline:

Regular gasoline

Fuel tank capacity:

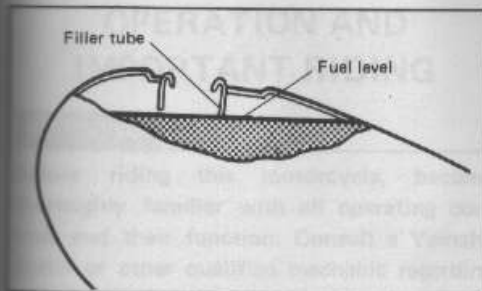
Total:

20 L (4.4 Imp gal, 5.3 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.

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1. Coolant reservoir tank cap 2. Full level 3. Low level

Coolant

Open the console box lid.

Check the coolant level in the reservoir tank when the engine is cold. The coolant level is satisfactory if it is between the "FULL" and "LOW" level on the tank. The coolant level will vary with engine temperature. However, if the level is on or below the "LOW" level, add the tap water (soft water) until "FULL" level. Change the coolant every two years. (See page 71 for more detail.)

WARNING:

Do not remove the radiator cap when the engine is hot.

NOTE:

Before removing the radiator cap, disconnect the reservoir tank hose. Otherwise, coolant may flow out of the radiator.

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CAUTION:

Hard water or salt water is harmful to the engine parts.
You may use boiled water or distilled water, if you can't get soft water.

Reservoir tank capacity:

Total:

0.39 L (0.34 Imp qt, 0.41 US qt)

From "LOW" to "FULL" level:

0.25 L (0.22 Imp qt, 0.26 US qt)



OPERATION AND IMPORTANT RIDING

WARNING:

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

CAUTION:

1. Be careful where you store personal items on the motorcycle. Avoid blocking the air cleaner intake or performance will suffer.
2. Be careful not to put anything near the battery and its terminals. Electrical failure and acid corrosion may result.

WARNING:

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

Before starting out, make sure that all lids of the trunk and saddlebags are securely locked.

Starting and warming up a cold engine

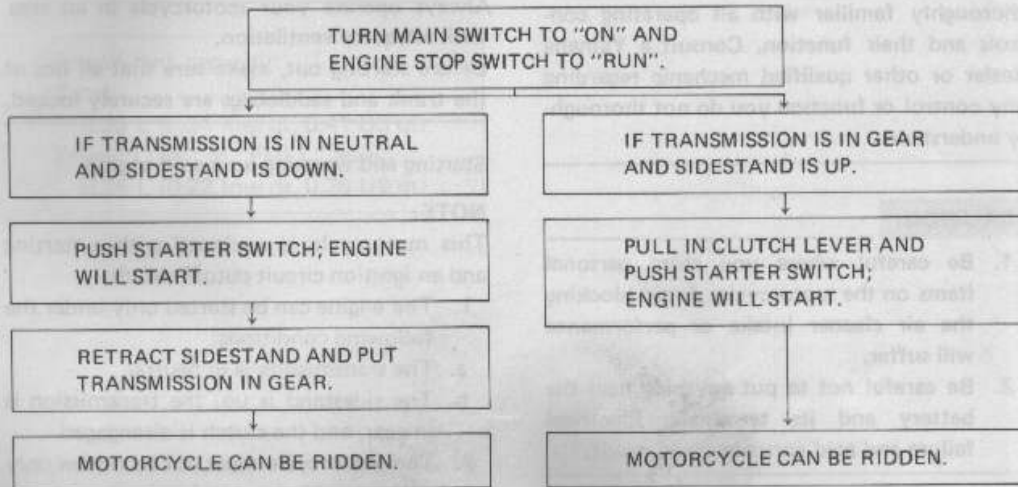
NOTE:

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

1. The engine can be started only under the following conditions:
 - a. The transmission is in neutral.
 - b. The sidestand is up, the transmission is in gear, and the clutch is disengaged.
2. The motorcycle must not be ridden only when the sidestand is down.

WARNING:

Before going through the following steps, check the function of the sidestand switch and clutch switch. (Refer to page 35.)



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

NOTE:

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

3. Move the starter (CHOKE) lever fully toward you and completely close the throttle grip.
4. Start the engine by pushing the starter switch.

NOTE:

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

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

NOTE:

To see whether or not the engine is warm, see if engine responds normally to throttle with the starter moved back completely. To avoid the possibility of excessive exhaust emissions, never leave the starter circuit on longer than necessary. The length of time the starter is used to start a cold engine depends upon the ambient temperature.

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

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

Starting a warm engine

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

CAUTION:

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

Shifting and acceleration

This model has a 5-speed transmission. The transmission allows you to control the amount of power you have available at a given speed or while accelerating, climbing hills, etc. The use of the change pedal is shown in the illustration. (Page 17)

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

To start out and accelerate:

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

To decelerate:

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

Recommended Shift Point

	Acceleration shift point km/h (mi/h)	Deceleration shift point km/h (mi/h)
1st → 2nd	20 (12.5)	20 (12.5)
2nd → 3rd	30 (19)	20 (12.5)
3rd → 4th	40 (25)	20 (12.5)
4th → 5th	50 (31)	20 (12.5)

CAUTION:

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

Engine break-in

There is never a more important period in the life of your motorcycle than the period between zero and 1,000 km (600 mi). For this reason we ask that you carefully read the following material. Because the engine is brand new, you must not put an excessive load on it for the first 1,000 km (600 mi). The various parts in the engine wear and polish themselves to the correct operating clearances. During this period prolonged, full throttle operation or any condition which might result in excessive heating of the engine must be avoided.

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

Avoid operating above 3,000 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 (100 ~ 300 mi):

Avoid prolonged operation above 4,000 r/min. Allow the motorcycle to rev freely through the gears but do not use full throttle at any time.

3. 500 ~ 1,000 km (300 ~ 600 mi):

Avoid prolonged full throttle operation. Avoid cruising speeds in excess of 5,000 r/min.

4. 1,000 km (600 mi) and beyond:

Avoid prolonged full throttle operation. Avoid engine speeds in excess of 6,000 r/min. Vary speeds occasionally.

CAUTION:

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

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

Parking

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

WARNING:

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

PERIODIC MAINTENANCE AND MINOR REPAIR

Periodic inspection, adjustment, and lubrication will keep your motorcycle in the safest and most efficient condition possible. Safety is an obligation of the motorcycle owner.

The most important points of motorcycle inspection, adjustment, and lubrication are explained in the following pages.

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

WARNING:

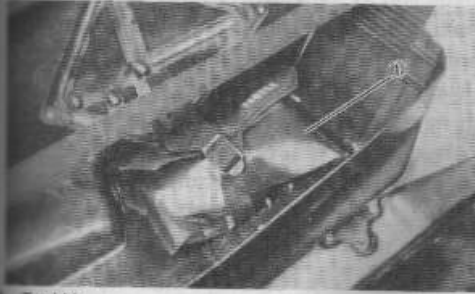
If the owner is not familiar with motorcycle service, this work should be done by a Yamaha dealer or other qualified mechanic.

PERIODIC MAINTENANCE

PROPER PERIODIC MAINTENANCE OF YOUR MOTORCYCLE IS IMPORTANT TO ITS GIVING YOU LONG, PLEASURABLE SERVICE: ESPECIALLY IMPORTANT ARE THE MAINTENANCE SERVICES RELATED TO EMISSIONS CONTROL. THESE CONTROLS NOT ONLY FUNCTION TO ENSURE CLEANER AIR BUT ARE ALSO VITAL TO PROPER ENGINE OPERATION AND MAXIMUM PERFORMANCE. IN THE FOLLOWING TABLES OF PERIODIC MAINTENANCE, THE SERVICE RELATED TO EMISSIONS CONTROL ARE GROUPED SEPARATELY. THESE SERVICES REQUIRE SPECIALIZED DATA, KNOWLEDGE, AND EQUIPMENT. YAMAHA DEALERS ARE TRAINED AND EQUIPPED TO PERFORM THESE PARTICULAR SERVICES.

Tool kit

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



1. Tool kit

NOTE:

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

WARNING:

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

PERIODIC MAINTENANCE EMISSION CONTROL SYSTEM

No.	Item	Remarks	Initial break-in		Thereafter every	
			1,000 km (600 mi) or 1 month	5,000 km (3,000 mi) or 7 months	4,000 km (2,500 mi) or 6 months	8,000 km (5,000 mi) or 12 months
1*	Valve clearance	Check and adjust valve clearance when engine is cold. Adjust after initial 13,000 km (8,000 mi) or 18 months and thereafter every 12,000 km (7,500 mi) or 18 months.	○			Adjust every 12,000 km (7,500 mi) or 18 months
2	Spark Plugs	Check condition. Adjust gap/Clean. Replace after initial 13,000 km (8,000 mi) or 18 months and thereafter every 12,000 km (7,500 mi) or 18 months.		○	○	Replace every 12,000 km (7,500 mi) or 18 months
3*	Crankcase ventilation system	Check ventilation hose for cracks or damage. Replace if necessary.		○		○
4*	Fuel line	Check fuel hose for cracks or damage. Replace if necessary.		○		○
5*	Fuel filter	Replace initial 33,000 km (20,500 mi) and thereafter every 32,000 km (20,000 mi).				Replace every 32,000 km (20,000 mi)
6*	Exhaust system	Check for leakage. Retighten if necessary. Replace gasket(s) if necessary.		○	○	
7*	Carburetor synchronization	Adjust synchronization of carburetors.		○	○	
8*	Idle speed	Check and adjust engine idle speed. Adjust cable free play.		○	○	

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

Spark plug inspection

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

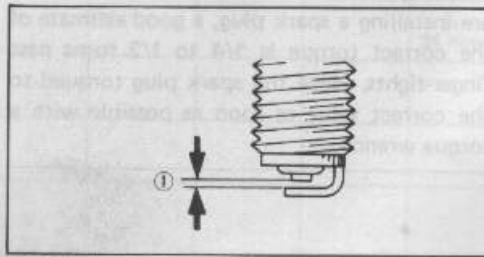
Normally, all spark plugs from the same engine should have the same color on the white porcelain insulator around the center electrode. The ideal color at this point is a medium to light tan color for a motorcycle that is being ridden normally. If one spark plug shows a distinctly different color, there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

You should periodically remove and inspect the spark plug because heat and deposits will

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

Standard spark plug:
DPR8EA-9 (N.G.K.) or
X24EPR-U9 (NIPPONDENSO)

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



1. Spark plug gap

Spark plug gap:
0.8 ~ 0.9 mm (0.031 ~ 0.035 in)

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

Spark plug torque:
17.5 Nm (1.75 m·kg, 12.5 ft·lb)

NOTE:

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

GENERAL MAINTENANCE/LUBRICATION

No.	Item	Remarks	Type	Initial break-in		Thereafter every		
				1,000 km (600 mi) of 1 month	5,000 km (3,000 mi) or 7 months	4,000 km (2,500 mi) or 6 months	8,000 km (5,000 mi) or 12 months	16,000 km (10,000 mi) or 24 months
1	Engine oil	Warm up engine before draining.	Refer to page 39.	○			Replace every 12,000 km (7,500 mi) or 18 months	
2	Oil filter	Replace	—	○				
3	Air filter	Clean with compressed air. Replace if necessary.	—		○		○	
4	Cooling system	Check hoses for cracks or damage, replace if necessary.	—		○	○		
		Replace coolant 24 months.	Ethylene glycol anti-freeze coolant					Every 24 months
5*	Brake system	Adjust free play. Replace pads if necessary.	—	○	○	○		
6	Final gear oil	Replace	SAE 80 API GL-4 Hypoid gear oil	○				○
7*	Control and meter cable	Check operation. Apply chain lube thoroughly.	Yamaha chain and cable lube or SAE 10W30 motor oil	○	○	○		

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

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No.	Item	Remarks	Type	Initial break-in		Thereafter every		
				1,000 km (600 mi) or 1 month	5,000 km (3,000 mi) or 7 months	4,000 km (2,500 mi) or 6 months	8,000 km (5,000 mi) or 12 months	16,000 km (10,000 mi) or 24 months
15*	Rear arm pivot bearing	Check bearing assembly for looseness. Moderately repack every 16,000 km (10,000 mi)	Medium weight wheel bearing grease		○	○		Repack
16*	Rear suspension link pivots	Apply chain lube	Lithium soap base grease					○
17*	Sidestand switch	Check and clean or replace as required.	—	○	○	○		

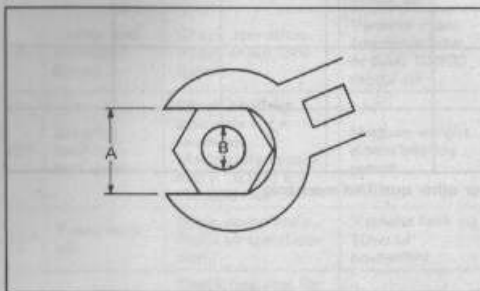
* It is recommended that these items be serviced by a Yamaha dealer or other qualified mechanic.

Torque specifications

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

Use a torque wrench to tighten these items. It is recommended that these items should be

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



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

Item	Torque		
	Nm	m·kg	ft·lb
Spark plug	17.5	1.75	12.5
Engine drain plug	43	4.3	31.0
Oil filter bolt	32	3.2	23.0
Change pedal	10	1.0	7.2
Front wheel axle	100	10.0	72.0
Front axle pinch bolt	20	2.0	14.0
Rear wheel axle	150	15.0	110.0
Final gear drain plug	23	2.3	17.0

Engine oil

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

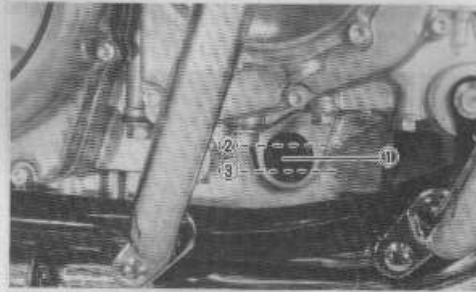
NOTE:

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.



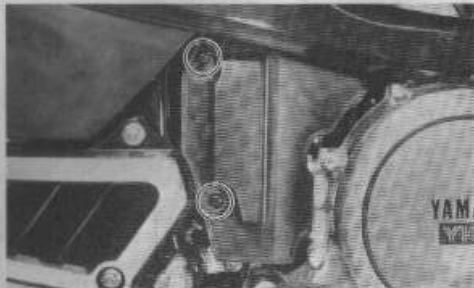
1. Level window 2. Maximum mark 3. Minimum mark

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

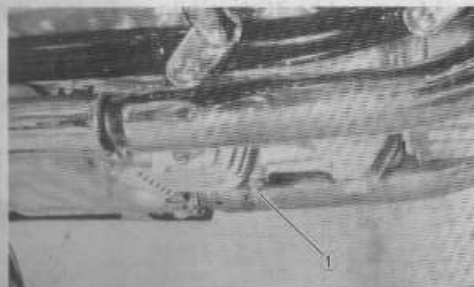
2. Engine oil and oil filter replacement

- a. Start the engine and stop after a few minutes of warm-up.
- b. Place an oil pan under the engine.

- c. Remove the right lower side cover and oil filler cap.

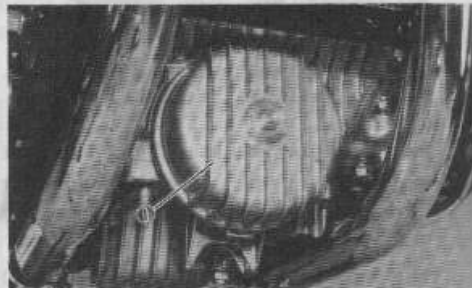


- d. Remove the drain plug and drain the oil.



1. Engine drain plug

- e. Remove the oil filter bolt and filter element.



1. Oil filter cover

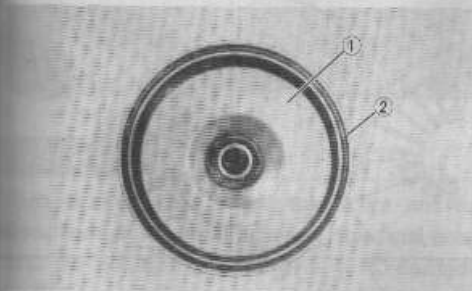
- f. Re-install the drain plug (make sure it is tight).

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

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

Oil filter bolt:
32 Nm (3.2 m·kg, 23 ft·lb)

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



1. Oil filter element 2. Proper O-ring position

h. Add oil through the oil filler hole.

Periodic oil change:
3.5 L (3.1 Imp qt, 3.7 US qt)
With oil filter replacement:
3.8 L (3.3 Imp qt, 4.0 US qt)
Recommended oil: See page 39

CAUTION:

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



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

CAUTION:

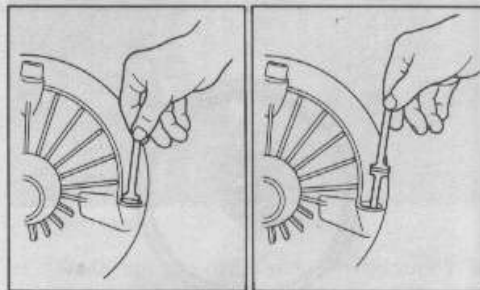
If the indicator light flickers or remains on, immediately stop the engine and consult a Yamaha dealer or other qualified mechanic.

Final gear oil

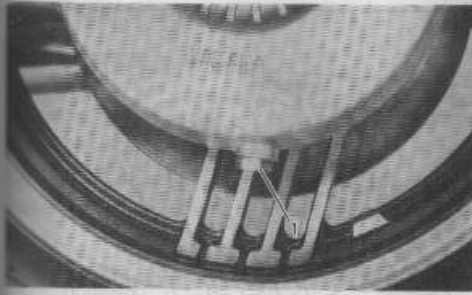
1. Oil level measurement
 - a. Place the motorcycle on a level place and place it on the centerstand. The engine should be cool (at atmospheric temperature).
 - b. Remove the oil filler cap. Check the oil level with level gauge (from tool kit) as shown. The correct oil level is between the two marks on each end of the level gauge. Use the tool and marked "REAR" for measuring the rear (final) gear case.

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

WARNING:

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

- c. Reinstall and tighten the final gear case drain plug. (See page 63 for torque specifications.)
- d. Fill the gear case to the specified level.

Oil capacity:

Final gear case:

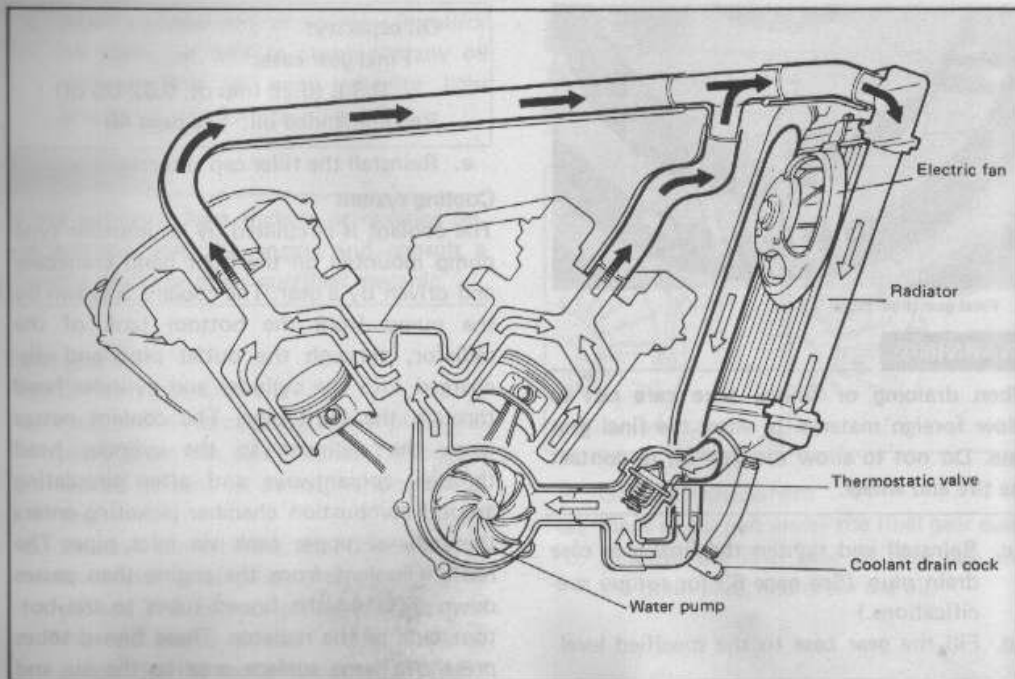
0.3 L (0.26 Imp qt, 0.32 US qt)

Recommended oil: See page 40

- e. Reinstall the filler cap securely.

Cooling system

The coolant is circulated by an impeller type pump mounted on the right hand crankcase and driven by a gear. The coolant is drawn by the pump from the bottom tank of the radiator, through the outlet pipe and discharged into the cylinder and cylinder head through the joint pipe. The coolant passes from the cylinder to the cylinder head through coolantways and after circulating around combustion chamber jacketing enters the radiator upper tank via inlet pipe. The heated coolant from the engine then passes down through the finned tubes to the bottom tank of the radiator. These finned tubes present a large surface area to the air and dissipates the heat.



1. If your motorcycle overheats

WARNING:

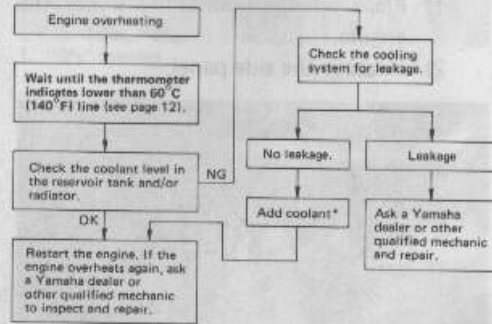
Do not remove the radiator cap especially when the engine and radiator are hot. Scalding hot fluid and steam may be blown out under pressure, which could cause serious injury.

To open the radiator cap, remove the radiator cover by removing the four screws. When the engine has cooled, place a thick rag like a towel over the radiator cap, slowly rotate the cap counterclockwise to the detent. This procedure allows any residual pressure to escape. When the hissing sound has stopped, press down on the cap while turning counterclockwise and remove it.

NOTE:

Before removing the radiator cap, disconnect the reservoir tank hose. Otherwise, coolant may flow out of the radiator.

If overheating is detected, take the following steps.



NOTE:

If it is difficult to get the recommended coolant, tap water can be temporarily used, provided that it is changed to the recommended coolant as soon as possible.

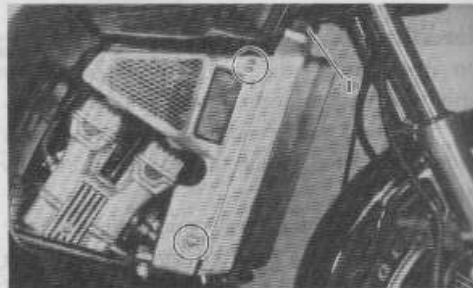
2. Coolant draining procedure

a. ENGINE

- 1) Place an open container under the engine.
- 2) Remove the side panel.

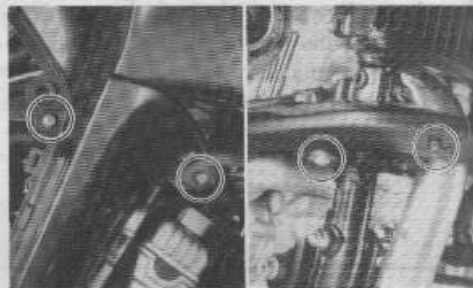


3) Remove the radiator cover.

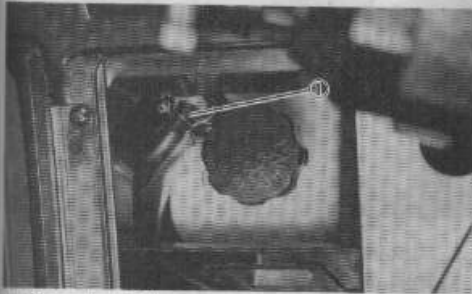


1. Radiator cap

4) Remove the lower panels.

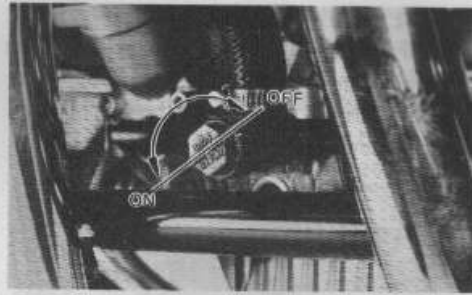


- 5) Disconnect the reservoir tank hose and remove the radiator cap.



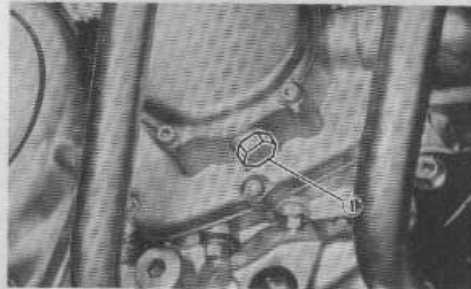
1. Reservoir tank hose

- 6) Turn the coolant drain cock to "ON".



1. "ON" position

- 7) Remove the drain plug. The coolant rush out.

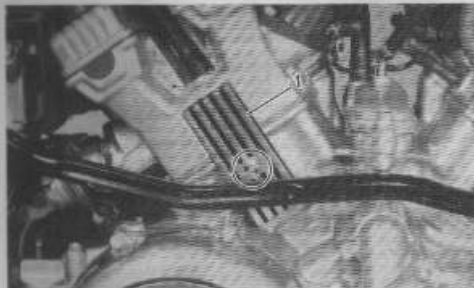


- 72 - 1. Drain plug

b. CYLINDER

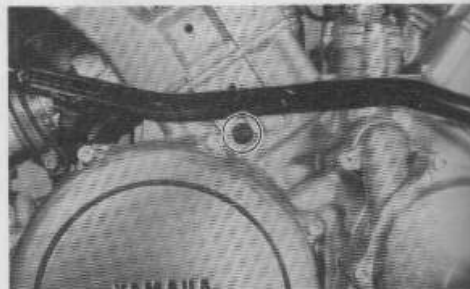
The coolant in the cylinder can not be drained from the water pump cover drain. To drain the radiator, proceed as follows:

- 1) Remove the cover.



1. Cover

- 2) Remove the rubber plug. Drain the coolant.



3. Coolant filling procedure

- a. Check the drain plug gasket and rubber plug for damage. If damaged, replace as necessary.
- b. Install the drain plug with the gasket and rubber plug.

Tightening torque:

Drain bolt

43 Nm (4.3 m·kg, 31 ft·lb)

- c. Pour the recommended coolant into the radiator until the radiator is full.

Recommended coolant:

High quality ethylene glycol anti-freeze containing anti-corrosion for aluminum engine inhibitors

Coolant and water mixed ratio: 50%/50%

Total amount:

2.8 L (2.5 Imp qt, 3.0 US qt)

Reservoir tank capacity:

0.39 L (0.34 Imp qt, 0.41 US qt)

From "LOW" to "FULL" level:

0.25 L (0.22 Imp qt, 0.26 US qt)

CAUTION:

Hard water or salt water is harmful to the engine parts. You may use boiled water or distilled water, if you can't get soft water.

- d. Reinstall radiator cap and covers.

- e. Run the engine several minutes to recheck the coolant level in the radiator. If it is low, add more coolant until it reaches the top of the radiator.
- f. Connect the reservoir tank hose.
- g. Fill the reservoir tank with coolant up to the "FULL" level.



1. Coolant reservoir tank cap 2. "FULL" level
3. "LOW" level

- h. Turn the coolant drain cock to "OFF" position.
- i. Reinstall the lower panels, radiator cover and side panels and check for coolant leakage.

NOTE:

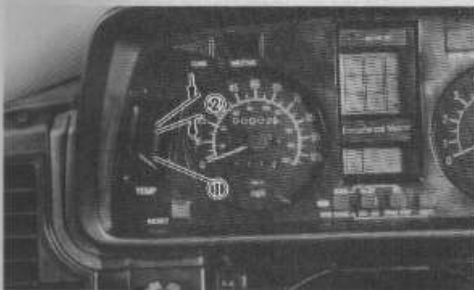
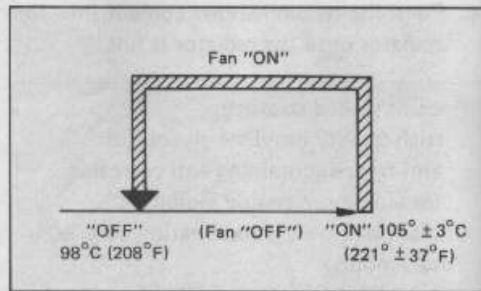
If you find any leaks, ask a Yamaha dealer or other qualified mechanic to inspect.

Electric fan

Operation

The electric fan operation is completely automatic.

It will be switched "ON" or "OFF" according to the coolant temperature in the radiator.



1. Thermometer 2. Red zone

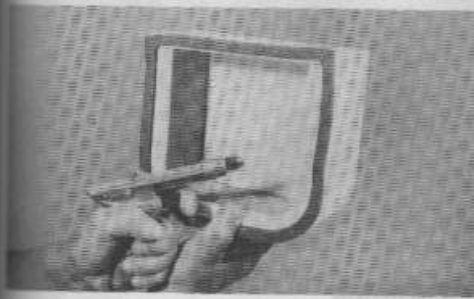
Air filter

1. Removal

- a. Remove the top cover.



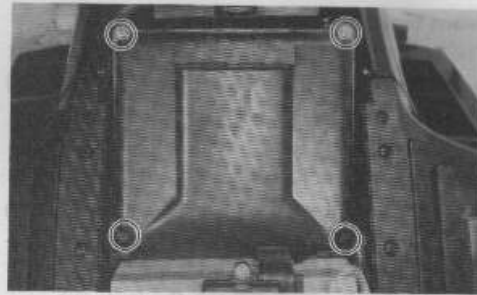
- b. Remove the air filter case cover by removing the four screws.



- 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.

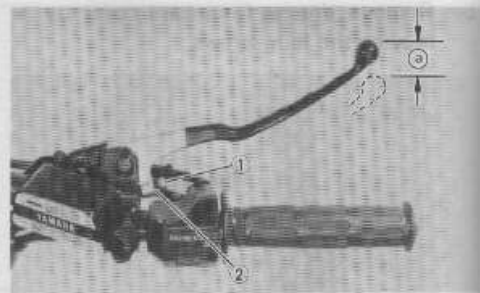
Front brake adjustment

The front brake should be so adjusted that it has a free play of 2 ~ 5 mm (0.08 ~ 0.20 in) at the lever end.

1. Loosen the lock nut on the brake lever.
2. Turn the adjuster so that the brake lever movement at the lever end is 2 ~ 5 mm (0.08 ~ 0.20 in) before the adjuster contacts the master cylinder piston.
3. After adjusting, tighten the lock nut.

NOTE:

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



1. Adjuster 2. Lock nut a. 2 ~ 5 mm (0.08 ~ 0.20 in)

WARNING:

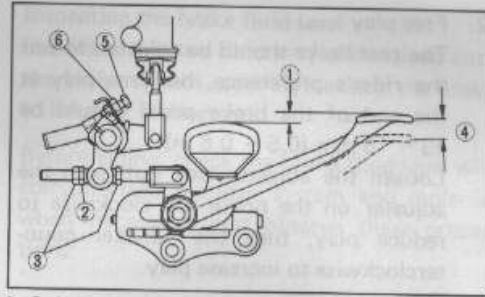
A soft or spongy feeling in the brake lever can indicate the presence of air in the brake system. This air must be removed by bleeding the brake system before the motorcycle is operated. Air in the system will result in greatly diminished braking capability and can result in loss of control and an accident.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

Rear brake adjustment

WARNING:

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

1. Pedal height
 - a. Remove the right lower side cover.
 - b. Loosen the adjuster lock nut (for pedal height).
 - c. By turning the adjuster clockwise or counterclockwise, adjust the brake pedal position so that its top end is approximately 10 mm (0.4 in) above the top of the footrest.
 - d. Secure the adjuster lock nut.



- | | |
|--------------------------------|--|
| 1. Pedal height 10 mm (0.4 in) | 4. Free play 13 ~ 15 mm (0.5 ~ 0.6 in) |
| 2. Adjuster (for pedal height) | 5. Adjust bolt |
| 3. Lock nut | 6. Lock nut |

WARNING:

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

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2. Free play

The rear brake should be adjusted to suit the rider's preference, but free play at the end of the brake pedal should be 13 ~ 15 mm (0.5 ~ 0.6 in).

Loosen the adjuster lock nut, turn the adjuster on the brake rod clockwise to reduce play; turn the adjuster counterclockwise to increase play.

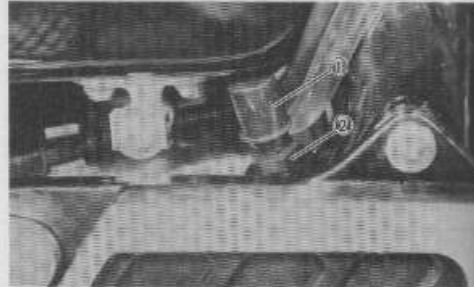
WARNING:

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

Brake light switch adjustment

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

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



1. Main body 2. Adjusting nut

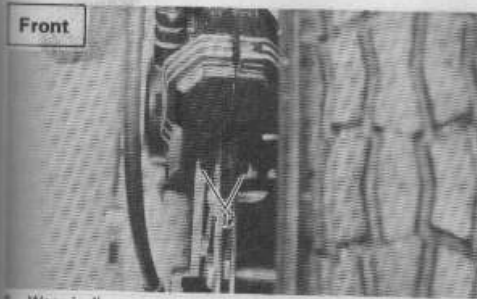
Checking the front and rear brake pads

A wear indicator is attached to each brake to facilitate brake pad.

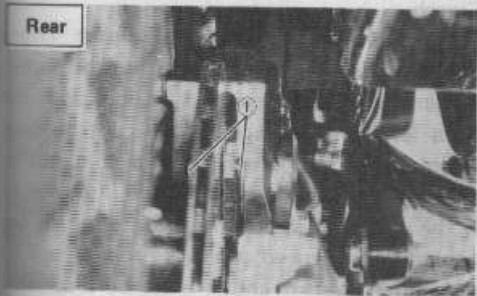
This indicator permits a visual check without disassembling the pads.

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

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1. Wear indicator



1. Wear indicator

Inspecting the brake fluid level

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

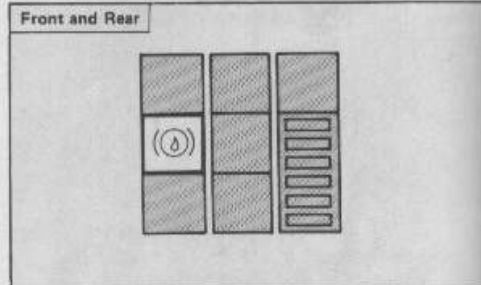
Before riding, check the brake fluid level with computerized monitor system and replenish when necessary, and observe these precautions:

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.

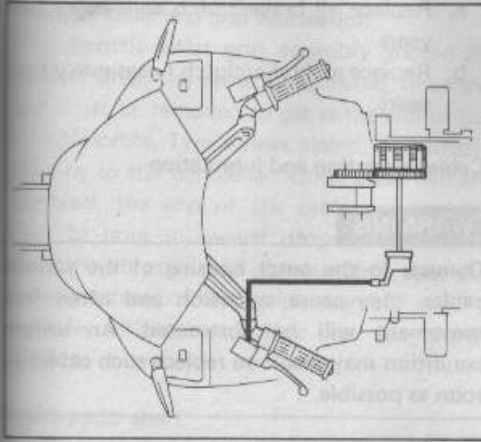
3. Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point and may result in vapor lock.
4. Brake fluid may erode painted surfaces or plastic parts. Always clean up spilled fluid immediately.
5. Have a Yamaha dealer or other qualified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



1. Lower level

Clutch

This motorcycle has a hydraulic clutch. There are no adjustments to perform but the clutch system must be inspected periodically for fluid level and leakage. If the control lever freeplay becomes excessive and the motorcycle creeps or stalls when shifted into gear or if the clutch slips, causing acceleration to lag behind engine speed, there is probably air in the clutch system and it must be bled out. Ask a Yamaha dealer or qualified mechanic for this service.



Inspecting the clutch fluid level

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

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

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

Recommended fluid: DOT #3

2. Refill with the same type of fluid; mixing fluids may result in a harmful chemical reaction and lead to poor performance.
3. Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point and may result in vapor lock.
4. Fluid may erode painted surfaces or plastic parts. Always clean up spilled fluid immediately.
5. Have a Yamaha dealer or other qualified mechanic check the cause if the fluid level goes down.

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1. Lower level

Brake/clutch fluid replacement

1. Complete fluid replacement should be done only by trained Yamaha service personnel or other qualified mechanic.
2. Complete fluid replacement should be done whenever the caliper cylinder or master cylinder is disassembled, or the fluid becomes seriously contaminated.
3. Replace the following components whenever damaged or leaking, also:

- a. Replace all brake/clutch seals every two years.
- b. Replace all brake/clutch hoses every four years.

Cable inspection and lubrication

WARNING:

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

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

Recommended lubricant:
Yamaha chain and cable lube
or SAE 10W30 motor oil

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Throttle cable and grip lubrication

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

Brake pedal shaft

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

Change pedal/Brake and clutch lever

Lubricate the pivoting parts of each lever and pedal.

Recommended lubricants:

Yamaha chain and cable lube
or SAE 10W30 motor oil

Center and sidestand pivots

Check to see that the center and sidestand moves up and down smoothly.

Lubricate the center and sidestand at their pivot points.

Recommended lubricants:

Yamaha chain and cable lube
or SAE 10W30 motor oil

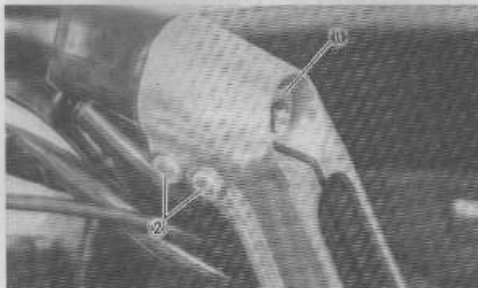
WARNING:

If center and sidestand movement is not smooth, consult a Yamaha dealer immediately.

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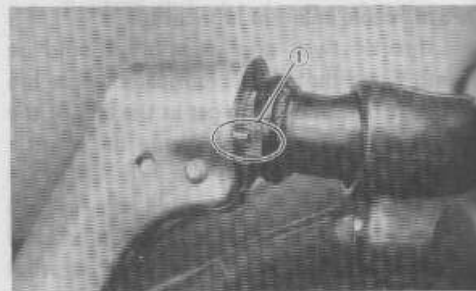
Handlebars adjustment

1. Vertical adjustment
 - a. Remove the cap.
 - b. Remove the stopper nut and loosen the pinch bolt.



1. Handlebar stopper nut 2. Handlebar pinch bolt

- c. Pull the handlebar as far away from the handle as necessary to permit adjustment.
 - d. Then move the handlebar either up or down. (Three possible positions only)



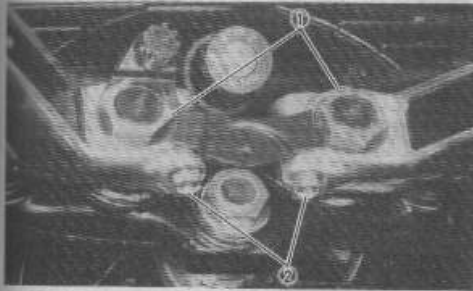
1. Standard position

2. Horizontal adjustment
 - a. Remove the handlebar cover cap and handlebar cover.



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- b. Remove the stopper nut and loosen the pinch bolt.



1. Handle stopper nut 2. Handle pinch bolt

- c. Adjust the handle position. (Two possible positions only)



1. Standard position

WARNING:

Never tamper with this adjustment device in an attempt at further adjustment. Otherwise, it may cause:

The handlebar to contact the fuel tank or cables to be pulled tense, and the rider to assume an inappropriate riding position. Always adjust the handlebars on each side to the same position. Uneven adjustment will cause an improper riding position.

3. Reinstall the handlebars.

Tightening torque:

- Handlebar stopper nut:
35 Nm (3.5 m·kg, 25 ft·lb)
- Handlebar pinch bolt:
17 Nm (1.7 m·kg, 12 ft·lb)
- Handle stopper nut:
125 Nm (12.5 m·kg, 90 ft·lb)
- Handle pinch bolt:
30 Nm (3.0 m·kg, 22 ft·lb)

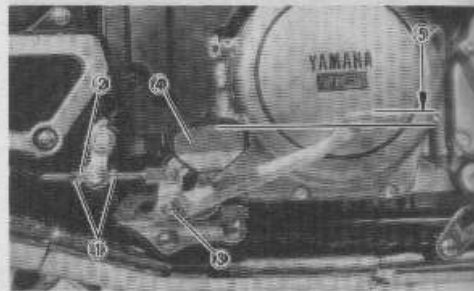
WARNING:

After the above adjustment, tighten all bolts using a torque wrench. If a torque wrench is not available, have a Yamaha dealer or other qualified mechanic adjust and torque the handlebars to specification.

Footrest adjustment

Right

1. Loosen the lock nuts and nut.



1. Lock nut 2. Adjuster
3. Nut 4. Footrest
5. Pedal height

2. Move the footrest either way to suit the rider's preference. Then secure the nut.

Tightening torque:

- 32 Nm (3.2 m·kg, 22 ft·lb)

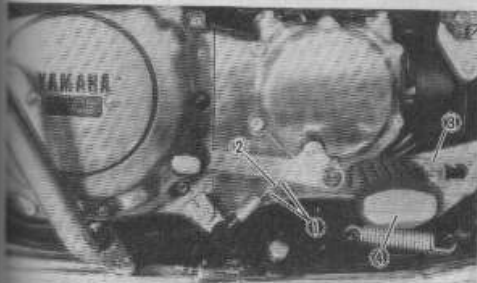
- By turning the adjuster clockwise or counterclockwise, adjust the brake pedal position so that its top end is approx. 10 mm (0.4 in) above the top of the footrest.
- Secure the lock nuts.

WARNING:

After adjusting the pedal height, the brake light switch should be adjusted.

Left

- Loosen the lock nuts and nut.



1. Lock nut 2. Adjuster 3. Nut 4. Footrest

- Move the footrest either way to suit the rider's preference. Then secure the nut.

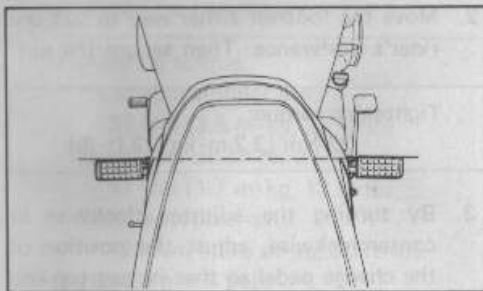
Tightening torque:

32 Nm (3.2 m·kg, 22 ft·lb)

- By turning the adjuster clockwise or counterclockwise, adjust the position of the change pedal so that its peg top end is flush with the top of the footrest.
- Secure the lock nuts.

NOTE:

Set both right and left footrests symmetrically.



Passenger footrest adjustment

Left and right

- Remove the bolt.



1. Bolt

- Move the footrest either way to suit the passenger preference. (three possible positions only) Then secure the bolt.

Tightening torque:

32 Nm (3.2 m·kg, 22 ft·lb)

NOTE:

Set both right and left footrests bolt holes symmetrically.

Front fork oil change

WARNING:

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

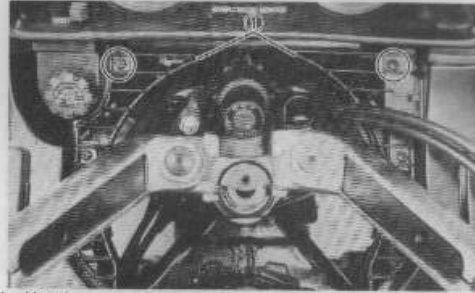
1. Raise the motorcycle or remove the front wheel so that there is no weight on the front end of the motorcycle.
2. Remove the air valve cap.
3. Keep the valve open while pressing it for several seconds so that the air can be let out of the inner tube.



1. Push

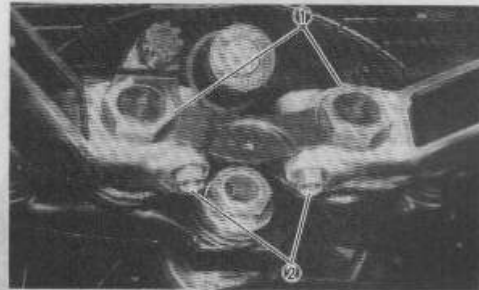
4. Remove the handlebar cover.

5. Remove the hoods.



1. Hood

6. Remove the handlebars.



1. Handle stopper nut 2. Handle pinch bolt

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7. Loosen the front fork pinch bolts, and remove the complete fork cap bolts from the inner fork tubes.

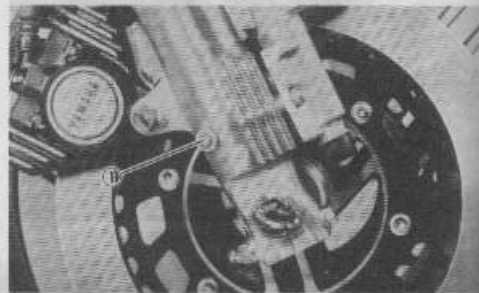


1. Pinch bolt

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

WARNING:

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



1. Drain screw

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

Front fork oil (each fork):

375 cm³ (13.2 Imp oz, 12.7 US oz)
Yamaha Fork Oil 10wt or equivalent

12. After filling, slowly pump the forks up and down to distribute the oil.
13. Inspect the O-ring on the fork cap bolts. Replace O-ring if damaged.
14. Reinstall the complete fork cap bolts, and tighten the front fork pinch bolts.



1. Complete fork cap bolt 2. O-ring

Tightening torque:

Fork cap bolt:
23 Nm (2.3 m·kg, 17 ft·lb)
Front fork pinch bolt:
23 Nm (2.3 m·kg, 17 ft·lb)

15. Reinstall the handlebars, handlebar cover and hoods.

WARNING:

When installing the handlebars, align the punched mark on the handle with the corresponding one on the handlebar boss.



1. Punch mark (Standard position)

Tightening torque:

Handle stopper nut:
125 Nm (12.5 m·kg, 90 ft·lb)
Handle pinch bolt:
30 Nm (3.0 m·kg, 22 ft·lb)

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

Maximum air pressure:
118 kPa (1.2 kg/cm², 18 psi)
Do not exceed this amount.

Front fork and rear shock absorber adjustment

CAUTION:

Don't damage the air hose. It will result in an air leakage.

WARNING:

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

Front fork:

NOTE:

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

1. 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 cap.
3. Using the air check gauge, check and adjust the suspension becomes stiffer and if decreased, it becomes softer.

To increase:

Use a manual air pump or other pressurized air supply.

To decrease:

Release the air by pushing the valve pin.



1. Air check gauge

NOTE:

Air check gauge is in the tool kit.

Standard air pressure:

78.5 kPa (0.8 kg/cm², 12 psi)

Maximum air pressure:

118 kPa (1.2 kg/cm², 18 psi)

Minimum air pressure:

78.5 kPa (0.8 kg/cm², 12 psi)

WARNING:

Never ride the motorcycle with the shock absorber pressure either above the maximum or below the minimum recommended air pressure; it will cause damage to the front fork and/or loss of motorcycle controllability.

4. Install the air valve caps securely.

Rear shock absorber:

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

NOTE:

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

- b. Remove the air valve cap.
- c. Using the air check gauge, check and adjust the air pressure. If the air pressure



1. Air check gauge

NOTE:

Air check gauge is in the tool kit.

Standard air pressure:

98.1 kPa (1.0 kg/cm², 14 psi)

Maximum air pressure:

490 kPa (5.0 kg/cm², 72 psi)

Minimum air pressure:

98.1 kPa (1.0 kg/cm², 14 psi)

is increased, the suspension becomes stiffer, 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.

WARNING:

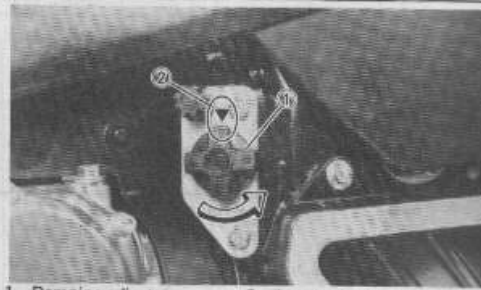
Never ride the motorcycle with the shock absorber pressure either above the maximum or below the minimum recommended air pressure; it will cause damage to the rear shock absorber and/or loss of motorcycle control.

- d. Install the air valve cap.
- 2. Damping
 - a. Turn the damping adjuster to increase or decrease the damping.

- b. If the damping adjuster is turned toward the "4", the damping becomes harder; if the adjuster is turned toward the "1", damping becomes softer.

CAUTION:

Always turn the damping adjuster to the counterclockwise. Never turn it to the clockwise.



1. Damping adjuster 2. Standard position

Standard position – No.1
 No.1 – Minimum damping
 No.4 – Maximum damping

Recommended combinations of the front fork and the rear shock absorber.

Use this table as guidance to meet specific riding conditions and motorcycle load.

Front fork	Rear shock absorber		Loading condition			
	Air pressure	Damping adjuster	Solo rider	With passenger	With accessory equipments	With accessory equipments and passenger
78.5 kPa (0.8 kg/cm ² , 12 psi)	98.1 kPa (1.0 kg/cm ² , 14 psi)	1 or 2	○			
78.5 ~ 98.1 kPa (0.8 ~ 1.0 kg/cm ² , 12 ~ 14 psi)	196 ~ 294 kPa (2.0 ~ 3.0 kg/cm ² , 28 ~ 42 psi)	2 or 3		○	○	
78.5 ~ 118 kPa (0.8 ~ 1.2 kg/cm ² , 12 ~ 18 psi)	294 ~ 490 kPa (3.0 ~ 5.0 kg/cm ² , 42 ~ 72 psi)	3 or 4				○

Rear shock absorber (New monocross suspension)

WARNING:

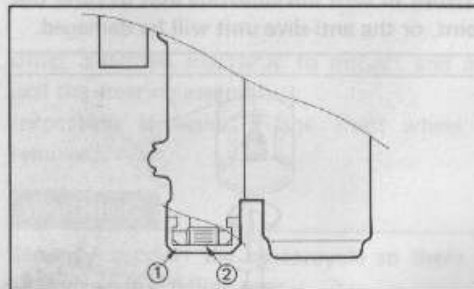
This shock absorber contains highly compressed nitrogen gas.

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

1. Do not tamper with or attempt to open the cylinder assembly.
2. Do not subject shock absorber to an open flame or other high heat source. This may cause the unit to explode due to excessive gas pressure.
3. Do not deform or damage the cylinder in any way. Cylinder damage will result in poor damping performance.
4. Bring your shock absorber to a Yamaha dealer or other qualified mechanic for an any service.

Anti-dive adjustment

1. Remove the rubber cap from the bottom of the anti-dive unit.
2. Look at the head of the adjusting bolt through the slots in the bottom of the anti-dive unit. In the standard position, two lines will be visible on the adjusting bolt head. Consult the fork adjustment chart below to determine the proper setting.

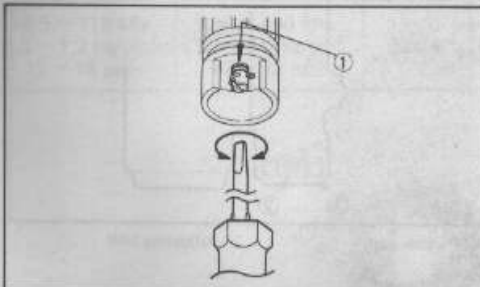


1. Rubber cap 2. Adjusting bolt

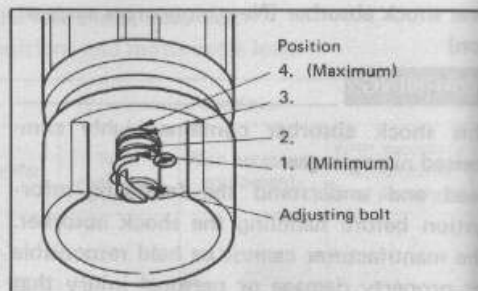
3. To decrease the anti-dive effect; turn the adjusting bolt clockwise until the first line appears level to the top of the machined slot(s).

CAUTION:

When the fourth line of the adjusting bolt appears from the bottom of the anti-dive housing, the adjusting bolt will bottom in the anti-dive unit and a resistance will be felt. Do not attempt to turn the adjusting bolt beyond this point, or the anti-dive unit will be damaged.



1. Machined slot



4. To increase the anti-dive effect, turn the adjusting bolt counterclockwise.
5. Replace the rubber cap.

WARNING:

The anti-dive settings must be the same on both anti-dive units. Hence, be sure to perform the above procedure on both anti-dive units.

Adjusting bolt position	Loading condition		
	Solo rider	With accessory equipments or passenger	With accessory equipments and passenger
1	○		
2	○	○	
3		○	○
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 it forward and backward. If any free play can be felt, ask a Yamaha dealer or

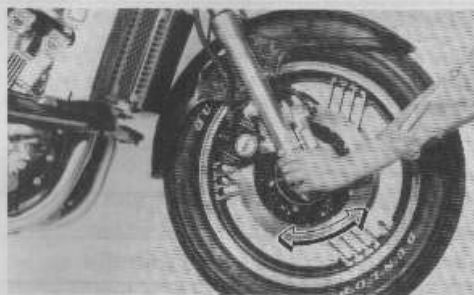
other qualified mechanic to inspect and adjust the steering assembly.

Inspection is easier if the front wheel is removed.

WARNING:

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

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Wheel bearings

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

Battery

This model has been equipped with a long life type battery; however the battery fluid should be checked at least once a month.

The fluid level should be between the upper and the lower level marks.

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.

Replenishing the battery fluid

1. Remove the top cover.
2. Remove the filling plug and slowly put in distilled water. Each cell will be filled automatically. Fill only to the UPPER LEVEL mark.

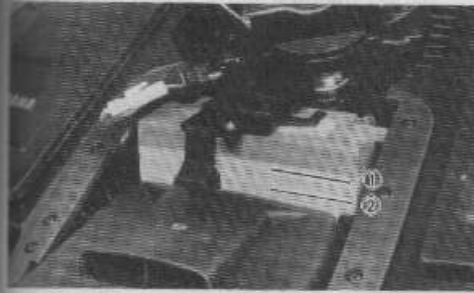
CAUTION:

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

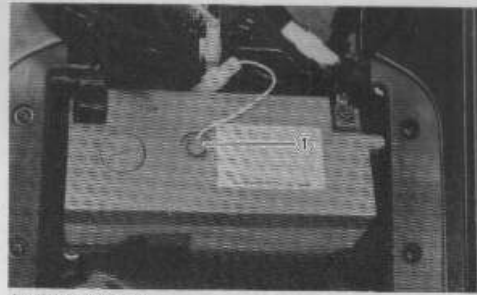
- 101 -

CAUTION:

Do not overfill! If any excess fluid flows from the breather hose, stop filling and rinse affected areas thoroughly with a solution of 1 tablespoon baking soda in a cup of water.



1. Upper level 2. Lower level



1. Battery sensor

3. Securely tighten the filling plug.
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 micro-computer may 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 closed space. Always shield your eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

5. 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.
6. 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.

Headlight

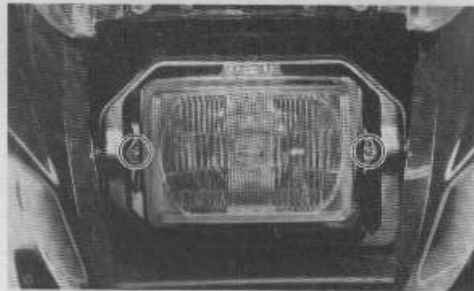
This motorcycle is equipped with a quartz bulb headlight. If the headlight bulb burns out, replace the bulb as follows:

1. Headlight bulb replacement

- a. Remove the four screws.



- c. Remove the headlight holding screws.



- d. Disconnect the lead wires and remove the light unit assembly.



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



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

CAUTION:

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

WARNING:

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



- g. Reinstall the light unit assembly in to the headlight body. Adjust the headlight beam if necessary.

2. Headlight beam adjustment

- a. Horizontal adjustment:

To adjust the beam to the right, turn the

adjusting screw clockwise.
To adjust the beam to the left, turn the screw counterclockwise.



1. Horizontal adjusting screw

b. Vertical adjustment:

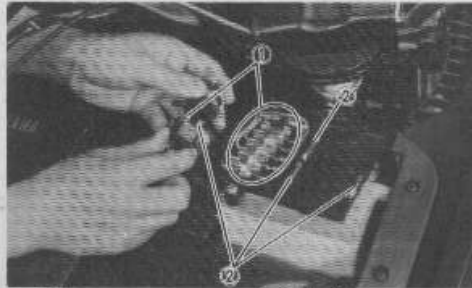
To adjust the beam to the upper, turn the adjusting knob "UP".
To adjust the beam to the lower, turn the adjusting knob "DOWN".



1. Headlight vertical adjusting knob

Fuse replacement

1. The fuse block is located under the top cover.



- 106 -1. Fuse

2. Spare fuse

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

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

WARNING:

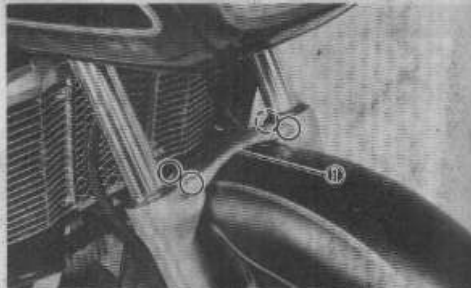
Do not use fuses of a higher amperage rating than those recommended. Substitution of a fuse of improper rating can cause extensive electrical system damage and possible fire.

Front wheel removal

CAUTION:

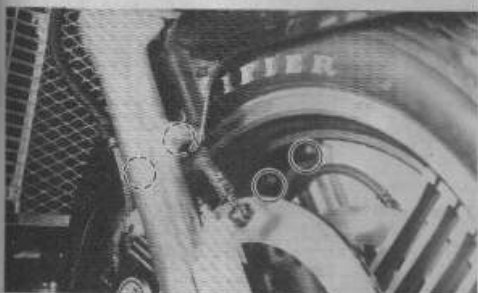
It is advisable to have a Yamaha dealer or other qualified mechanic mark this removal and reassembly.

1. Place the motorcycle on the center stand.
2. Remove the speedometer cable.
3. Remove the front fork brace.



1. Front fork brace

- Remove the front fender securing bolts, brake hose holder and remove the fender.



- Remove the calipers.

NOTE:

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

- Remove the cotter pin and wheel axle nut.



- Loosen the pinch bolt securing the axle.
- Remove the axle shaft and the front wheel. In this case, make sure the motorcycle is properly supported.

Front wheel installation

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

- Make sure the projection portion (torque stopper) of the speedometer housing is positioned correctly.
- Make sure the axle nut is properly torqued, and a new cotter pin installed.
- Install the calipers.

Caliper installing bolt:
40 Nm (4.0 m·kg, 29 ft·lb)

- Install the front fender.



1. Brake hose holder

- Install the speedometer cable.

NOTE:

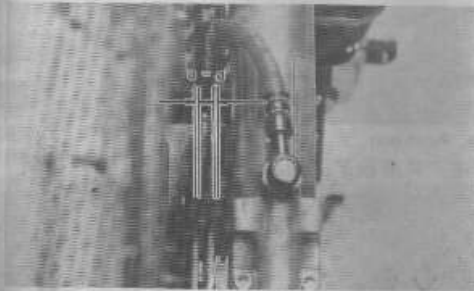
Tighten the pinch bolt temporarily before tightening the axle nut.

WARNING:

Always use a new cotter pin on the axle nut.

Axle nut torque:
100 Nm (10.0 m·kg, 72 ft·lb)

- Before tightening the pinch bolt, stroke 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.



- Tighten the axle pinch bolt.

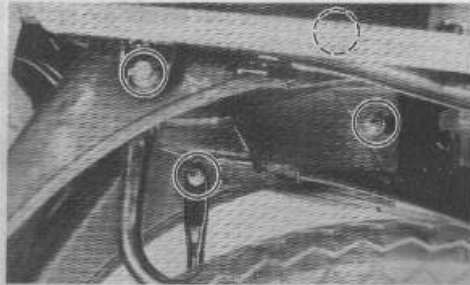
Axle pinch bolt torque:
20 Nm (2.0 m·lb, 14.0 ft·lb)

Rear wheel removal

CAUTION:

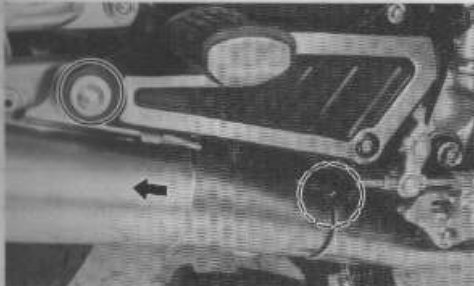
It is advisable to have a Yamaha dealer or other qualified mechanic make this removal and reassembly.

- Place the motorcycle on the center-stand.
- Remove the saddlebags and rear fender.

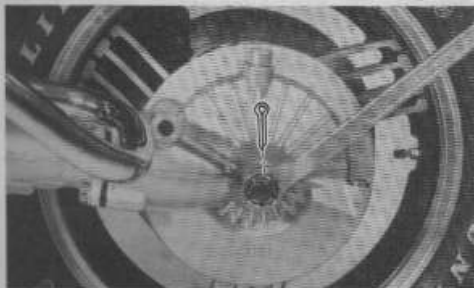


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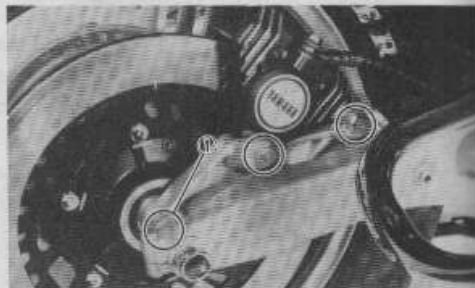
- Remove the muffler.



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

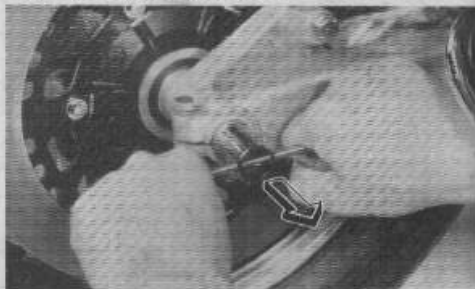


- Remove the caliper and loosen the pinch bolt.



- Pinch bolt

- Pull out the rear axle.

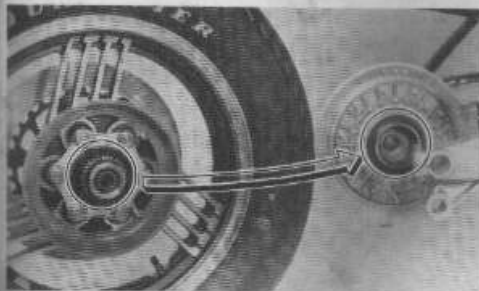


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7. Move the wheel to the right side to separate it from the final gear case and remove the rear wheel.
8. To install the rear wheel, reverse the removal procedure.

NOTE:

Before installing the rear wheel, apply light coating of lithium base grease to final gear case splines and rear wheel hub splines. When installing the rear wheel, be sure the splines on the wheel hub fit into the final gear case.



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

WARNING:

Always use a new cotter pin on the axle nut.

Tightening torque:

Axle nut:

150 Nm (15.0 m·kg, 110.0 ft·lb)

Axle pinch bolt:

6 Nm (0.6 m·kg, 4.3 ft·lb)

Caliper installing bolt:

40 Nm (4.0 m·kg, 29 ft·lb)

Carburetor adjustment:

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

Troubleshooting

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

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

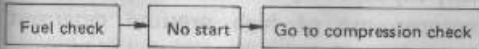
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Troubleshooting chart

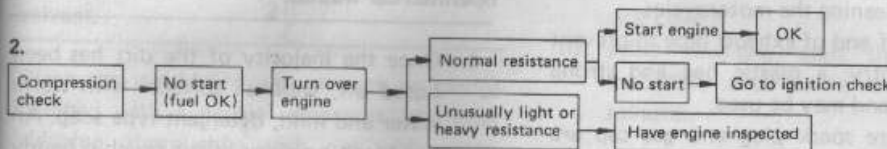
WARNING:

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

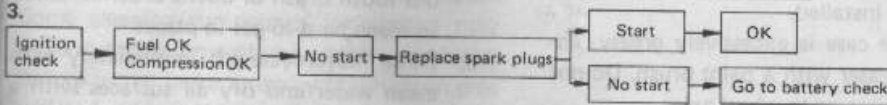
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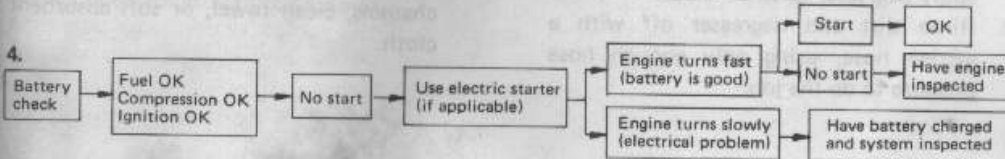
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4.



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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:

- Block off end of exhaust pipe to prevent water entry; a plastic bag and strong rubber band may be used.
- Make sure spark plug and gas cap are properly installed.

2. If engine case is excessively greasy, apply degreaser with a paint brush. Do not apply degreaser to wheel axles.

3. Rinse dirt and degreaser off with a garden hose, using only enough hose pressure to do the job.

CAUTION:

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

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

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

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

B. STORAGE

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

1. Drain fuel tank, fuel lines, and carburetor float bowl.
2. Remove the empty fuel tank, pour a cup of SAE 10W30 or SAE 20W40 motor oil in tank, shake the tank to coat the inner surfaces thoroughly and drain off excess the oil. Reinstall the tank.
3. Remove the spark plug, pour about one tablespoon of SAE 10W30 or SAE 20W40 motor oil in the spark plug hole and reinstall the spark plugs. Crank the engine over 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 wires and ground them to prevent sparking.

4. Lubricate all control cables.
5. Block up the frame to raise both wheels off the ground.
6. Tie a plastic bag over the exhaust pipe outlet to prevent moisture entering.
7. If storing in humid or salt-air atmosphere, coat all exposed metal surfaces with a light film of oil. Do not apply oil to any rubber parts or the seat cover.
8. Remove the battery and charge it. Store it in a dry place and recharge it once a month. Do not store the battery in an excessively warm or cold place (less than 0°C (32°F) or more than 30°C (90°F)).

NOTE:

Make any necessary repairs before storing the motorcycle.

MISCELLANEOUS

Consumer information

STOPPING DISTANCE

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

Description of vehicles to which this table applies.: Yamaha motorcycle XVZ12L/XVZ12KC2

A. Fully Operational Service Brake

Load

Light

170

Maximum

183

NOTE:

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

0 100 200 300 (Feet)
Stopping distance in feet from 60 mi/h

SPECIFICATIONS

General specifications

MODEL	XVZ12L	XVZ12KC2
Dimension:		
Overall length	2,470 mm (97.2 in)	←
Overall width	940 mm (37.0 in)	←
Overall height	1,535 mm (60.4 in)	←
Wheelbase	1,610 mm (63.4 in)	←
Minimum road clearance	145 mm (5.9 in)	←
Basic weight:		
With oil and full fuel tank	334 kg (736 lb)	←
Performance:		
Minimum turning radius	2,900 mm (114 in)	←
Engine:		
Type	4 stroke, gasoline, liquid cooled, DOHC	←
Engine model	41R	47R
Cylinder	4-cylinder V-type	←
Displacement	1,198 cm ³ (73.1 cu.in)	←
Bore x Stroke	76.0 x 66.0 mm (2.99 x 2.60 in)	←
Compression ratio	10.5 : 1	←
Starting system	Electric starter	←

MODEL	XVZ12L	XVZ12KC2
Ignition system	Battery ignition (Full transistor ignition)	←
Fuel tank capacity	Total: 20 L (4.4 Imp gal, 5.3 US gal)	←
Engine oil capacity	Total amount: 4.7 L (4.1 Imp qt, 5.0 US qt) Periodic oil charge: 3.5 L (3.1 Imp qt, 3.7 US qt) With oil filter replacement: 3.8 L (3.3 Imp qt, 4.0 US qt)	←
Lubrication system	Wet sump	←
Battery type/Capacity	GN18Z-3A/12V, 20 AH	←
Generator	A.C. magneto	←
Spark plug	DPR8EA-9 (N.G.K.), X24EPR-U9 (NIPPONDENSO)	←
Carburetor	BDS34 x 4	←
Air cleaner	Dry type element	←
Clutch type	Wet, multiple-disc	←
Transmission:		
Primary reduction system	Gear	←
Primary reduction ratio	87/49 (1.775)	←
Secondary reduction system	Shaft	←
Secondary reduction ratio	21/27 x 33/10 (2.586)	←

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MODEL	XVZ12L	XVZ12KC2
Gear box type	Constant mesh, 5-speed forward	←
Operation system	Left foot operation	←
Gear ratio:		
First	39/15 (2.600)	←
Second	39/22 (1.772)	←
Third	31/23 (1.347)	←
Fourth	31/29 (1.068)	←
Fifth	29/32 (0.906)	←
Chassis:		
Frame type	Tubular steel, double cradle	←
Steering:		
Caster	28.5°	←
Trail	125 mm (4.9 in)	←
Tire size:		
Front	120/90-18 65H Tubeless tire	←
Rear	140/90-16 71H Tubeless tire	←
Braking system:		
Front right	Disc brake/Right hand operation	←
Front left and rear	Disc brake/Right foot operation	←
Suspension:		
Front	Telescopic fork	←
Rear	Swingarm (New monocross suspension)	←
Shock absorber:		
Front	Air/coil spring, oil damper	←
Rear	Air/coil spring, oil damper	←

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MODEL	XVZ12L	XVZ12KC2
Electrical:		
Headlight	12V, 65W/60W (Quartz bulb)	←
Tail/brake light	12V, 8W/27W x 2	←
Flasher light	12V, 27W x 4	←
Parking/running light	12V, 8W x 2	←
Pilot lights: TURN	12V, 3.4W x 2	←
HEAD LAMP	12V, 3.4W	←
NEUTRAL	12V, 3.4W	←
HIGH BEAM	12V, 3.4W	←
Meter light	12V, 3.4W x 4	←

WARRANTY INFORMATION

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

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

There are certain requirements which you must meet in order to qualify for warranty coverage. **FIRST**, your new Yamaha must be operated and maintained properly, as explained in this manual. If you have any questions about procedure in this manual, please consult your dealer. **ABUSE AND NEGLECTED MAINTENANCE MAY LEAD TO MECHANICAL FAILURES WHICH CANNOT BE COVERED UNDER WARRANTY.**

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

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

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

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

MOTORCYCLE NOISE REGULATION

TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED:

Federal law prohibits the following acts or the causing thereof: (1) The removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

"AMONG THOSE ACTS PRESUMED TO CONSTITUTE TAMPERING ARE THE ACTS LISTED BELOW."

These acts include tampering with the following systems; i.e., modification, removal, etc.

Exhaust system	Muffler Exhaust pipe Silencer
Intake system	Air cleaner case Air cleaner element Intake duct

MAINTENANCE RECORD

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

MAINTENANCE INTERVAL	DATE OF SERVICE	MILEAGE	SERVICING DEALER NAME AND ADDRESS	REMARKS
1,000 km or 600 mi or 1 mo.				
5,000 km or 3,000 mi or 7 mo.				
9,000 km or 5,600 mi or 13 mo.				
13,000 km or 8,100 mi or 19 mo.				
17,000 km or 10,600 mi or 25 mo.				

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

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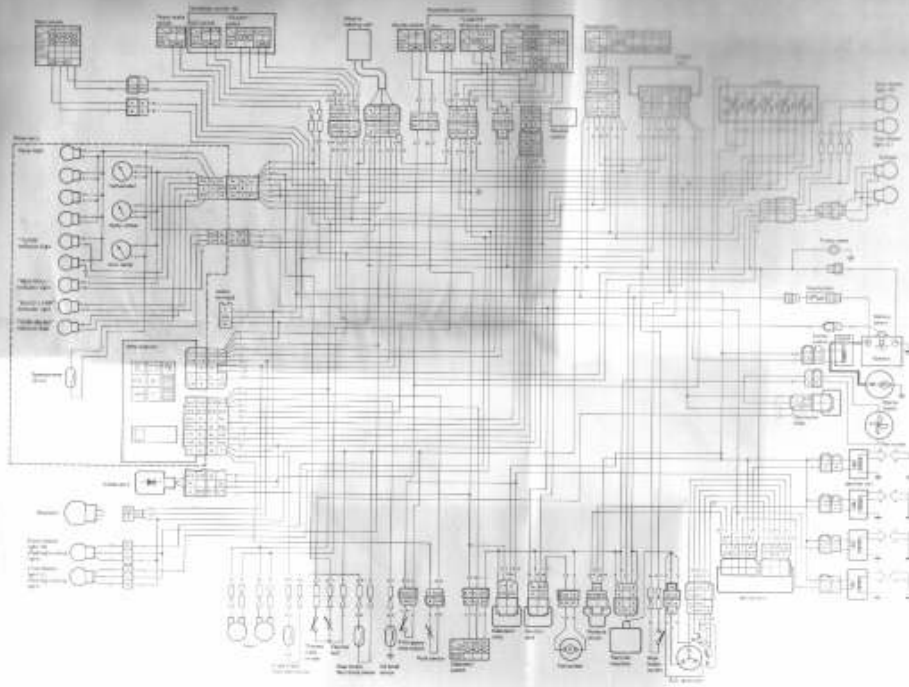
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XVZ12L/XVZ12KC2 WIRING DIAGRAM



COLOR CODE

B	Black
L	Blue
Dg	Dark green
Ch	Chocolate
Lg	Light green
W	White
Bl	Sky blue
Y	Yellow
R	Red
Gr	Gray
G	Green
P	Pink
W	White
Or	Orange
B/Y	Black/Yellow
R/R	Red/Red
B/W	Black/White
L/B	Blue/Black
L/W	Blue/White
L/R	Blue/Red
L/G	Blue/Green
L/Y	Blue/Yellow
Y/B	Yellow/Black
Y/R	Yellow/Red
Y/W	Yellow/White
R/B	Red/Black
R/W	Red/White
R/Y	Red/Yellow
G/Y	Green/Yellow
G/B	Green/Black
G/L	Green/Blue
G/W	Green/White
W/G	White/Green
W/R	White/Red
W/L	White/Black
B/B	Black/Black
B/Y	Black/Yellow



YAMAHA MOTOR CO., LTD.

W-17A JAPAN