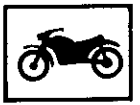

OWNER'S MANUAL

YAMAHA

ProCarManuals.com

TDM850D

4CF-28199-21

ProCarManuals.com

EAA00100

TDM850D
OWNER'S MANUAL

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1st Edition, January 1992

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Printed in Japan

EAA20301

INTRODUCTION

Congratulations on your purchase of the Yamaha TDM850D. This model is the result of Yamaha's vast experience in the production of fine sporting, touring, and pacesetting racing machines. It represents the high degree of craftsmanship and reliability that have made Yamaha a leader in these fields.

This manual will give you an understanding of the operation, inspection, and basic maintenance of this motorcycle. If you have any questions about the operation or maintenance of your motorcycle, please consult a Yamaha dealer.

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EAA10500

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

⚠

The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

⚠ WARNING

Failure to follow WARNING instructions could result in severe injury or death to the motorcycle operator, a bystander or a person inspecting or repairing the motorcycle.

CAUTION:

A CAUTION indicates special precautions that must be taken to avoid damage to the motorcycle.

NOTE:

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

EUU00000

NOTE:

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

EUU13800

NOTE:

Yamaha continually seeks advancements in product design and quality. Therefore, while this manual contains the most current product information available at the time of printing, there may be minor discrepancies between your machine and this manual. If there is any question concerning this manual, please consult your Yamaha dealer

EUU60100

⚠ WARNING

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

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EAA30001

CONTENTS

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⚠ SAFETY INFORMATION

TWO-WHEELED MOTORCYCLES ARE SINGLE TRACK VEHICLES. THEIR SAFE USE AND OPERATION ARE DEPENDENT UPON THE USE OF PROPER RIDING TECHNIQUES AS WELL AS THE EXPERTISE OF THE OPERATOR.

EVERY OPERATOR SHOULD KNOW THE FOLLOWING REQUIREMENTS BEFORE RIDING. HE OR SHE SHOULD:

1. **OBTAIN THOROUGH INSTRUCTIONS FROM A COMPETENT SOURCE ON ALL ASPECTS OF MOTORCYCLE OPERATION.**
2. **OBSERVE THE WARNINGS AND MAINTENANCE REQUIREMENTS IN THE OWNER'S MANUAL.**
3. **OBTAIN QUALIFIED TRAINING IN SAFE AND PROPER RIDING TECHNIQUES.**
4. **OBTAIN PROFESSIONAL TECHNICAL SERVICE AS INDICATED BY THE OWNER'S MANUAL AND/OR WHEN MADE NECESSARY BY MECHANICAL CONDITIONS.**

SAFE RIDING

1. **Always make pre-operation checks. Careful checks may help prevent an accident.**
2. **This motorcycle is designed to carry the operator and a passenger.**

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3. The failure of motorists to detect and recognize motorcycles in traffic is the predominating cause of automobile/motorcycle accidents. Many accidents have been caused by an automobile driver who did not see the motorcycle. Making yourself conspicuous appears to be very effective in reducing the chance of this type of accident.

   Therefore:

   a. Wear a brightly colored jacket.
   b. Use extra caution when you approach and pass through intersections, since intersections are the most likely places for motorcycle accidents.
   c. Ride where other motorists can see you. Avoid riding in another motorist's "blind spot."

4. Many accidents involve inexperienced operators. In fact, many operators who have been involved in accidents do not even have a current motorcycle license.

   a. Make sure you are qualified. Also, only lend your motorcycle to experienced operators.
   b. Know your skills and limits. Staying within your limits may help you to avoid an accident.
   c. We recommend that you practice riding your motorcycle where there is no traffic until you have become thoroughly familiar with your motorcycle and all of its controls.

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5. Many motorcycle accidents have been caused by motorcycle operator errors. A typical error made by the operator is veering wide on a turn due to EXCESSIVE SPEED or undercornering (insufficient lean angle for the speed).
   a. Always obey the speed limits and never travel faster than warranted by road and traffic conditions.
   b. Always signal before turning or changing lanes. Make sure other motorists see you.
6. The operator's and passenger's posture are important for proper control.
   a. The operator should keep both hands on the handlebars and both feet on the operator footrests during operation to maintain control of the motorcycle.
   b. The passenger should always hold on to the operator, or the seat strap or grab bar if the motorcycle is so equipped, with both hands and keep both feet on the passenger footrests.
   c. Never carry a passenger unless he or she can firmly place both feet on the passenger footrests.
7. Never ride under the influence of alcohol or drugs.
8. This motorcycle is designed for on-road use only. It is not suitable for off-road use.

PROTECTIVE APPAREL

The majority of fatalities from motorcycle accidents are the result of head injuries. The use of a safety helmet is the single most critical factor in the prevention or reduction of head injuries.

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1. Always wear an approved helmet.
2. Wear a face shield or goggles. Wind on your unprotected eyes could contribute to an impairment of vision which could delay seeing a hazard.
3. The use of heavy boots, jacket, trousers, gloves, etc. is effective in preventing or reducing abrasions or lacerations.
4. Never wear loose fitting clothing. It could catch on the control levers, footrests, or wheels and cause injury or accident.
5. Never touch the engine or exhaust system during or after operation. They become very hot and can cause burns. Always wear protective clothing that covers your legs, ankles, and feet.
6. A passenger should also observe the above precautions.

MODIFICATION

Modifications made to the motorcycle not approved by Yamaha, or the removal of original equipment, may render your motorcycle unsafe for use and may cause severe personal injury. Modifications may also make your motorcycle illegal to use.

LOADING AND ACCESSORIES

Adding accessories or cargo to your motorcycle can adversely affect stability and handling if the weight distribution of the machine is changed. To avoid the possibility of an accident, extreme caution should be used if adding cargo or accessories to your motorcycle. Use extra care if riding a motorcycle which has added cargo or accessories. Here are some general guidelines to follow if loading cargo or adding accessories to your motorcycle:

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LOADING

The total weight of the operator, passenger, accessories and cargo must not exceed the maximum load limit of 452 lbs. (205 kg). When loading within these weight limits, keep the following in mind:

1. Cargo and accessory weight should be kept as low and close to the motorcycle as possible. Be sure to distribute the weight as evenly as possible on both sides of the machine to minimize imbalance or instability.
2. Shifting weights can create a sudden imbalance. Make sure that accessories and cargo are securely attached to the motorcycle before riding. Recheck accessory mounts and cargo restraints frequently.
3. Never attach any large or heavy items to the handlebars, front forks, or front fender. These items, including such cargo as sleeping bags, duffle bags, or tents, can create unstable handling or slow steering response.

ACCESSORIES

Genuine Yamaha accessories have been specifically designed for use on this motorcycle. Since Yamaha cannot test all other accessories which may be available, you must personally be responsible for the proper selection, installation and use of non-Yamaha accessories. You should use extreme caution when selecting and installing any accessories. Keep in mind these guidelines for mounting accessories in addition to those provided under "LOADING."

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1. Never install accessories or carry cargo that would impair the performance of your motorcycle. Carefully inspect the accessory before using it to make sure it does not in any way reduce ground clearance or cornering clearance, limit suspension travel, steering travel or control operation, or obscure lights or reflectors.
   a. Accessories fitted to the handlebar or the front fork area can create instability due to improper weight distribution or aerodynamic changes. If accessories are added to the handlebar or front fork area, they must be as lightweight as possible and should be kept to a minimum.
   b. Bulky or large accessories may seriously affect the stability of the motorcycle due to aerodynamic effects. Wind may attempt to lift the motorcycle, or the motorcycle may become unstable in cross winds. These accessories may also cause instability when being passed by or passing large vehicle.
   c. Certain accessories can displace the operator from his or her normal riding position. This improper position limits the freedom of movement of the operator and may limit control ability. Therefore such accessories are not recommended.
2. Caution must be used if adding electrical accessories. If these accessories exceed the capacity of the motorcycle's electrical system, an electric failure could result, which could cause a dangerous loss of lights or engine power.

GASOLINE AND EXHAUST GAS

1. GASOLINE IS HIGHLY FLAMMABLE:
   a. Always turn off the engine when refueling.

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b. Take care not to spill any gasoline on the engine or exhaust pipe(s)/muffler(s) when refueling.
c. Never refuel while smoking or in the vicinity of an open flame.

2. Never start the 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 that has adequate ventilation.
3. Always turn off the engine before leaving the motorcycle unattended and remove the ignition key. When parking the motorcycle, note the following:

a. 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 these hot areas.
b. Do not park the motorcycle on a slope or soft ground; the motorcycle may fall over.
c Do not park the motorcycle near a flammable source, e.g. a kerosene heater, or near an open flame. The motorcycle could catch fire.

4. When transporting the motorcycle in another vehicle, be sure it is kept upright and that the fuel cock(s) is turned to "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.
5. If you should swallow any gasoline, inhale a lot of gasoline vapor, or allow gasoline to get in your eye(s), see your doctor immediately. If any gasoline spills on your skin or clothing, immediately wash it off with soap and water and change your clothes.

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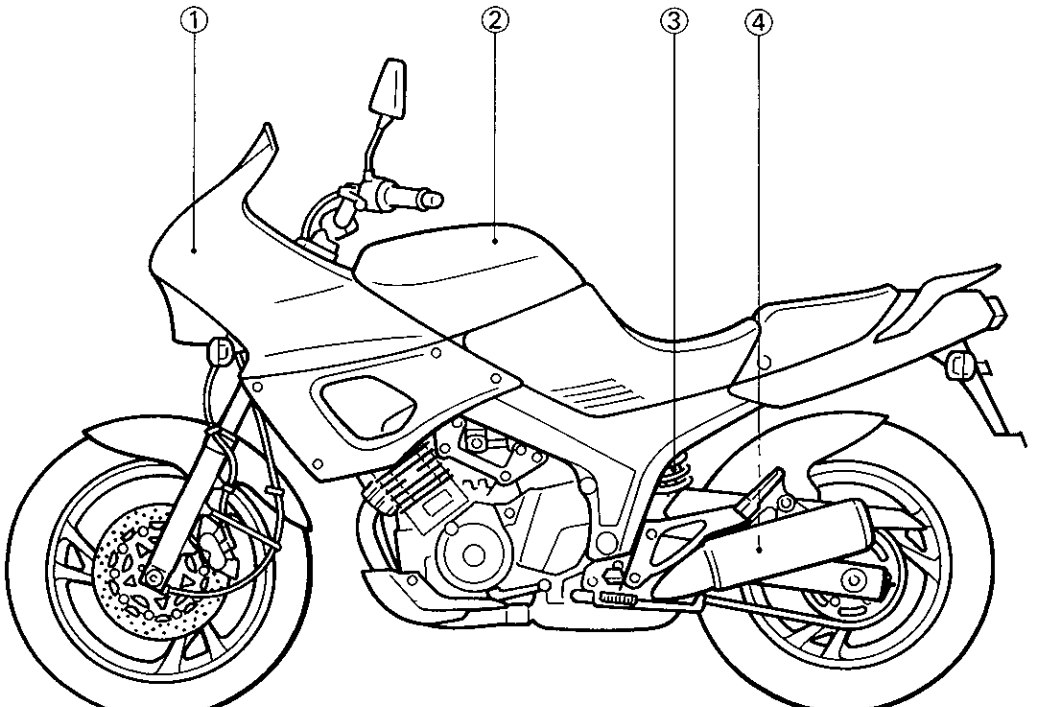
EAA40000

LOCATION OF THE IMPORTANT LABELS

Please read the following labels carefully before operating this motorcycle



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①

CAUTION

Cleaning with alkaline or acid cleaner, gasoline or solvent will damage windshield Use neutral detergent

YAMAHA 3JJ-2835Y-00

②

⚠ WARNING

- **BEFORE YOU OPERATE THIS VEHICLE, READ THE OWNER'S MANUAL AND ALL LABELS**
- **ALWAYS WEAR AN APPROVED MOTORCYCLE HELMET,** eye protection, and protective clothing

YAMAHA 3MX-2118K-00

③

⚠ WARNING

This unit contains high pressure nitrogen gas. Mishandling can cause explosion

- Read owner's manual for instructions
- Do not incinerate, puncture or open

YAMAHA 3VD-22259-00

④

TIRE INFORMATION

Cold tire normal pressure should be set as follows

- Up to 90 kg (198 lbs) load

FRONT 200 kPa, (2.00 kgf/cm²), 29 psi
REAR 225 kPa, (2.25 kgf/cm²), 33 psi

- 90 kg (198 lbs)~maximum load

FRONT 200 kPa, (2.00 kgf/cm²), 29 psi
REAR 250 kPa, (2.50 kgf/cm²), 36 psi

YAMAHA 3BT-21668-00

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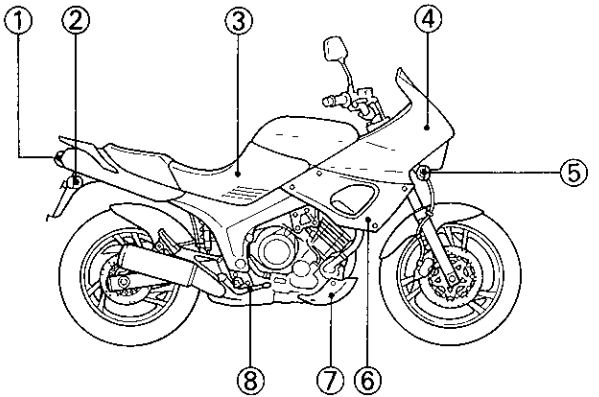
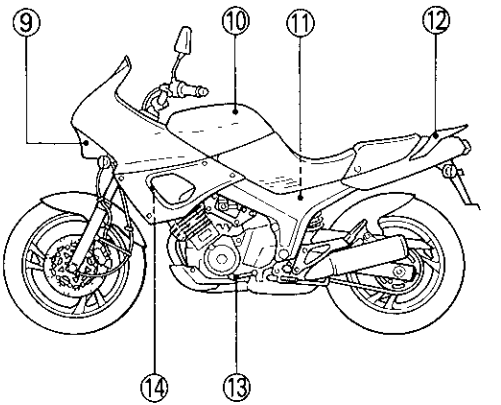
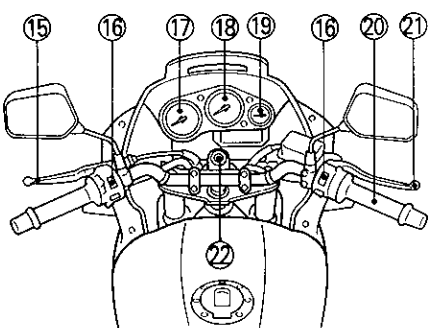
EAA50000

DESCRIPTION







1 Tail/Brake light
2 Rear flasher light
3 Seat
4 Upper cowl
5 Front flasher light
6 Side cowl
7 Engine guard
8 Brake pedal
9 Headlight
10 Fuel tank
11 Helmet holder
12 Grab bar
13 Shift pedal
14 Radiator
15 Clutch lever
16 Handlebar switch
17 Speedometer
18 Tachometer
19 Engine temperature gauge
20 Throttle grip
21 Brake lever
22 Main switch

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EAA60000

MOTORCYCLE IDENTIFICATION

EAA60800

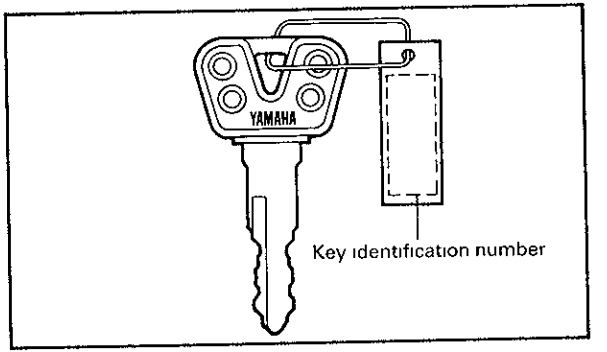
Identification numbers record

1. KEY IDENTIFICATION NUMBER:

2. VEHICLE IDENTIFICATION NUMBER:
   FRAME SERIAL NUMBER

3. ENGINE SERIAL NUMBER:

Your key identification number is stamped on your key as shown in the following illustration. Record this number in the space provided for reference if you need a new key.



Record your vehicle identification number (or frame serial number) and engine serial number in the spaces provided to assist you in ordering spare parts from your Yamaha dealer or for reference in case your vehicle is stolen

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EAA80000

Vehicle identification number (For Australia)

The vehicle identification number is stamped into the steering head pipe

EUU00400

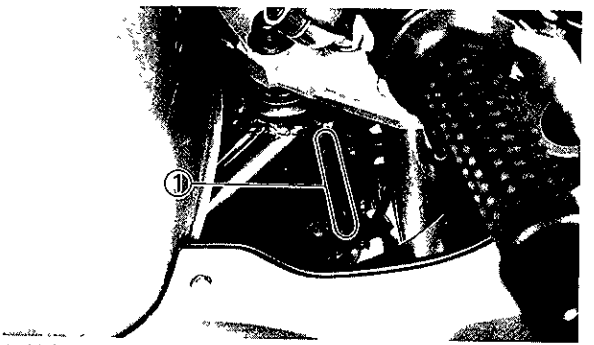
NOTE:

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.

EAA60200

Frame serial number (Except for Australia)

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



1 Vehicle identification number (For Australia)
1 Frame serial number (Except for Australia)

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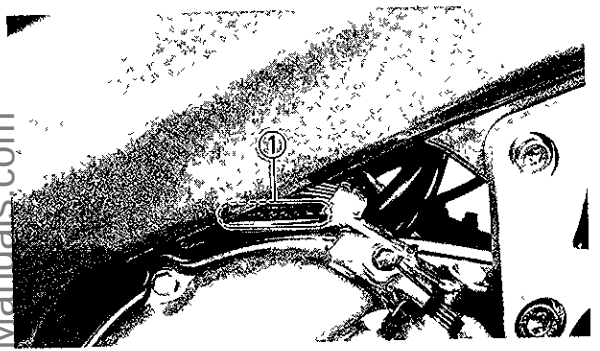
EAA70100

Engine serial number

The engine serial number is stamped into the right side of the engine.



1 Engine serial number

EUU00300

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.

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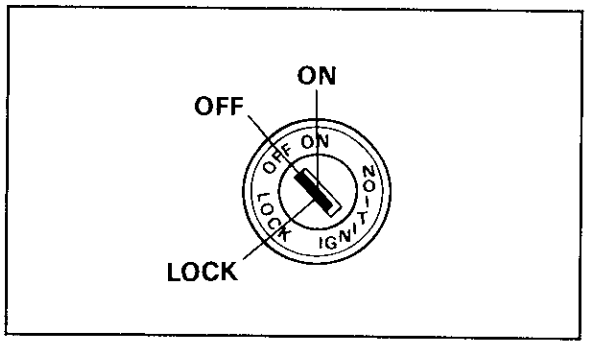
EAB00000

CONTROL FUNCTIONS

EAB00100

Main switch

The main switch controls the ignition and lighting systems. Its operation is described below.



EAB00500

ON:

Electrical circuits are switched on. The engine can be started. The key cannot be removed in this position.

EAB00600

OFF

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

EAB00701

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 5-9) for operation instructions.

EUU00700

NOTE:

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

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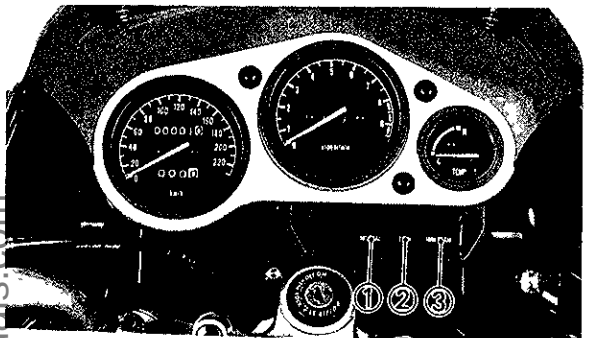
EAB10000

Indicator lights



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

EAB12200

"TURN" indicator light (green):
This indicator flashes when the turn switch is "ON".

EAB10200

"NEUTRAL" indicator light (green):
This indicator comes on when the transmission is in neutral.

EAB10300

"HIGH BEAM" indicator light (blue):
This indicator comes on when the headlight high beam is used.

EAB40002

Speedometer

The speedometer shows riding speed. This speedometer is equipped with an odometer and trip odometer. The trip odometer can be reset to "0" with the reset knob.
Use the odometer to estimate how far you can ride on a tank of fuel before going to "RESERVE". This information will enable you to plan fuel stops in the future.

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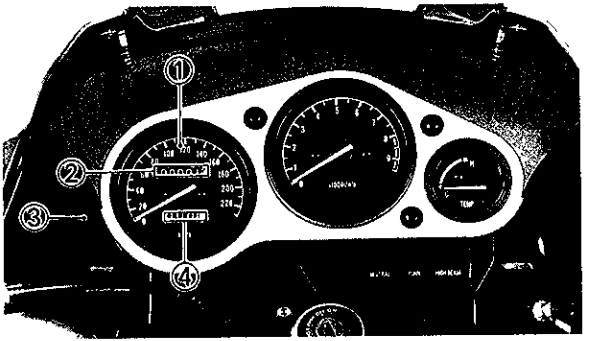
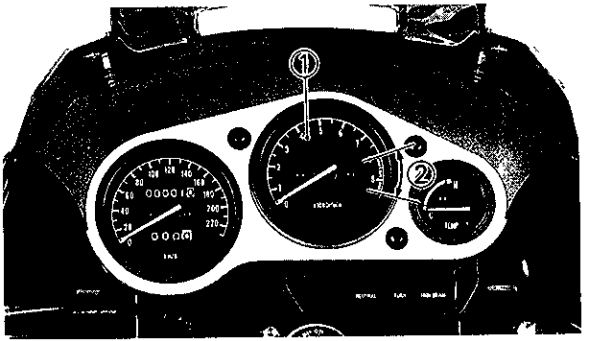


1 Speedometer
2 Odometer
3 Reset knob
4 Trip odometer



1 Tachometer
2 Red zone

EAB40200

Tachometer

This model is equipped with an electric tachometer so the rider can monitor the engine speed and keep it within the ideal power range.

EUU30400

CAUTION:

Do not operate in the red zone.
Red zone: 8,000 r/min and above

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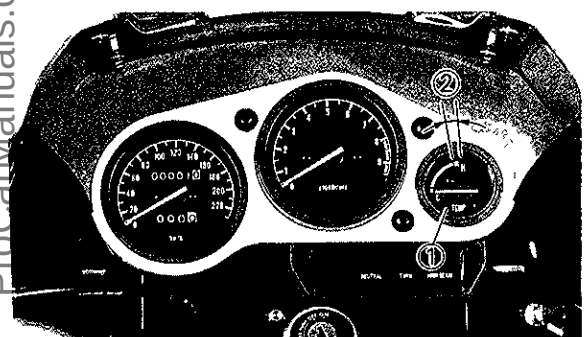
EAB50100

Engine temperature gauge

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 let the engine cool. (See page 8-11 for details.)



1 Engine temperature gauge 2 Red zone

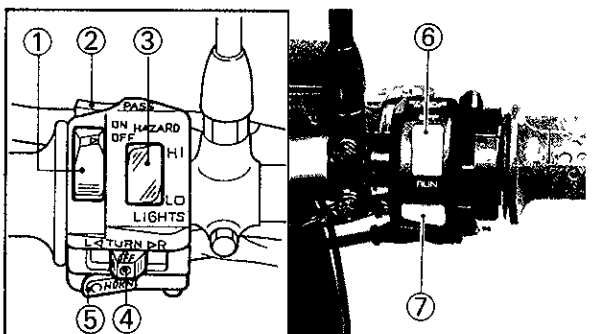
EUU30500

CAUTION:

When the engine is overheated, do not continue riding.

EAB60000

Handlebar switches:



1 "HAZARD" switch
2 "PASS" switch
3 "LIGHTS" (Dimmer) switch
4 "TURN" signal switch
5 "HORN" switch
6 "ENGINE STOP" switch
7 "START" switch

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EAB61001

"PASS" switch

Before passing a vehicle ahead, the passing light switch should be depressed so that the headlight gives a signal to the driver of the other vehicle.

EAB60100

"LIGHTS" (Dimmer) switch

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

EAB62101

"TURN" signal switch

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 the switch in after it has returned to the center position.

EAB60200

"HORN" switch

Press the switch to sound the horn

EAB60901

"ENGINE STOP" switch

The engine stop switch is a safety device for use in an emergency such as when the motorcycle overturns or if trouble occurs in the throttle system. Turn the switch to "RUN" to start the engine In case of emergency, turn the switch to "OFF" to stop the engine.

EAB60701

"START" switch

The starter motor cranks the engine when pushing the starter switch.

EUU30700

CAUTION:

See starting instructions prior to starting the engine.

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EAB62800

"HAZARD" switch

The hazard switch should be turned on under emergency or hazardous conditions. Both front and rear flasher lights will flash simultaneously, when this switch is turned on with main switch in the "ON" position.

EUU46100

CAUTION:

The battery can discharge from extended use, making it difficult to operate the starter.

EUU01101

NOTE:

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

EAB70001

Clutch lever

The clutch lever is located on the left handlebar, and the starting circuit cutoff switch is incorporated in the clutch lever holder. Pull the clutch lever to the handlebar to disengage the clutch, and release the lever to engage the clutch. The lever should be pulled rapidly and released slowly for smooth clutch operation. (Refer to the engine starting procedures for a description of the starting circuit cutoff switch.)

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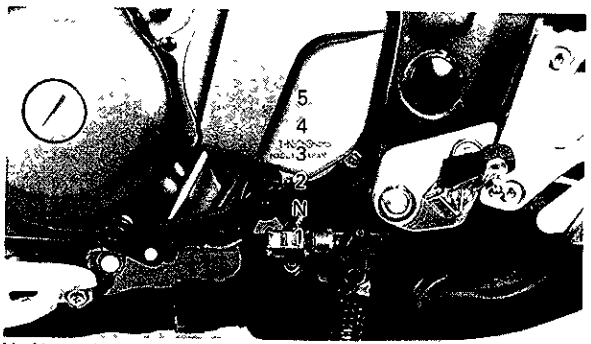
EAB80001

Shift pedal

This motorcycle is equipped with a constant-mesh 5-speed transmission.

The sift pedal is located on the left side of the engine and is used in combination with the clutch when sifting.



N Neutral

EAB90401

Front brake lever

The front brake lever is located on the right handlebar. Pull it toward the handlebar to activate the front brake. The front brake lever is equipped with a lever position adjuster.

Refer to page 8-20 for adjustment

EAB90101

Rear brake pedal

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

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EAC00501

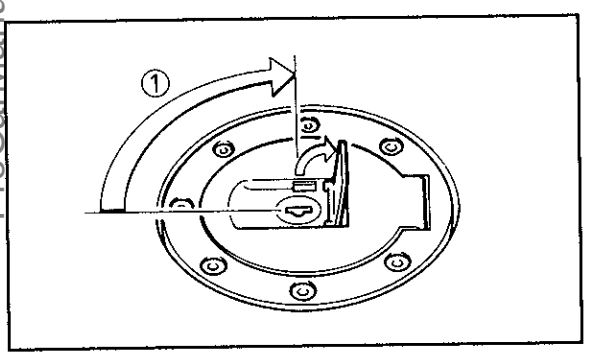
Fuel tank cap

TO OPEN:

Open the key cover. Insert the key and turn it 1/4 turn clockwise. The lock will be released and the cap can be opened.

TO CLOSE:

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



1 Open

EUU01200

NOTE:

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

EUU61100

⚠ WARNING

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

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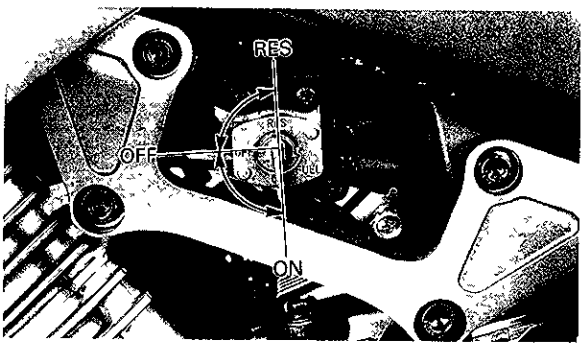
EAC10101

Fuel cock

The fuel cock supplies fuel from the tank to the carburetor(s) while filtering it also. The fuel cock has three positions.



OFF: With the lever in this position, fuel will not flow. Always 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. BE SURE TO SET THE LEVER TO "ON" AFTER REFUELLING.

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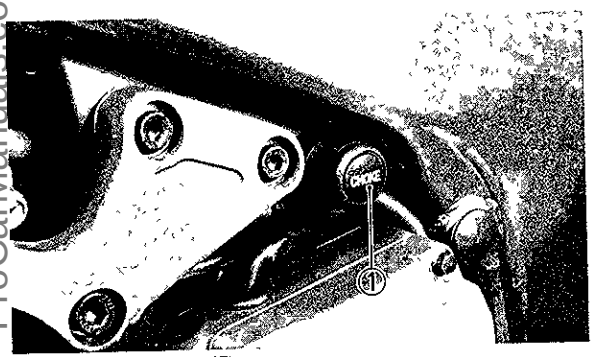
EAC20201

Starter knob (CHOKE)

Starting a cold engine requires a richer air-fuel mixture for starting. A separate starter circuit supplies this mixture. Pull the starter knob out to open the circuit for starting. When the engine has warmed up, push the knob in to close the circuit

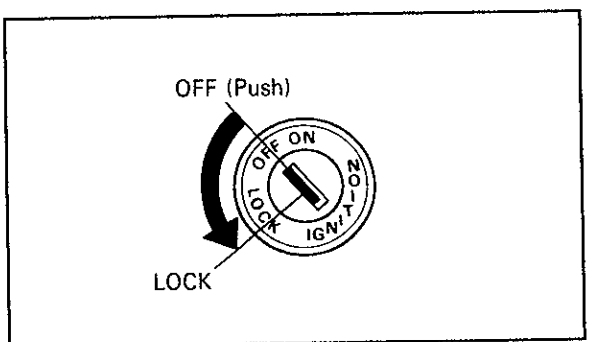


1 Starter knob (CHOKE)

EAC30401

Steering lock

The steering is locked when the main switch is turned to "LOCK." To lock the steering, turn the handlebars all the way to the left With the key at "OFF", push it into the main switch and release it, turn it counterclockwise to "LOCK," and remove it To release the lock, turn the key to "OFF".



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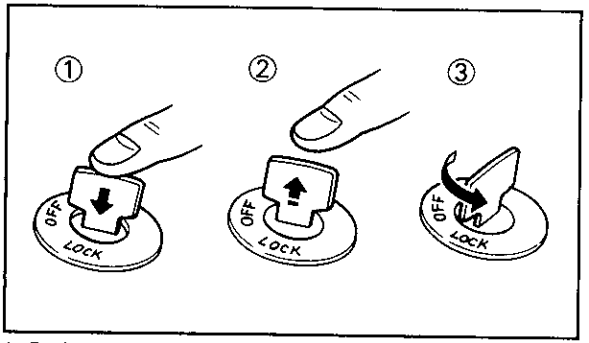


1 Push 2 Release 3 Turn

EUU61400

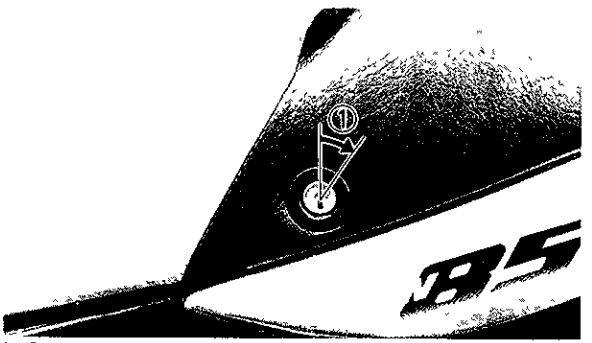
⚠WARNING

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

EAC42900

Seat

To remove the seat, insert the key in the lock and turn it clockwise. When reinstalling the seat, insert the lobe(s) on the seat front into the receptacle(s) on the frame, then push down the seat.



1 Open

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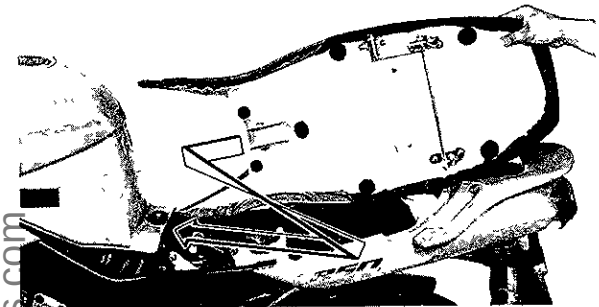

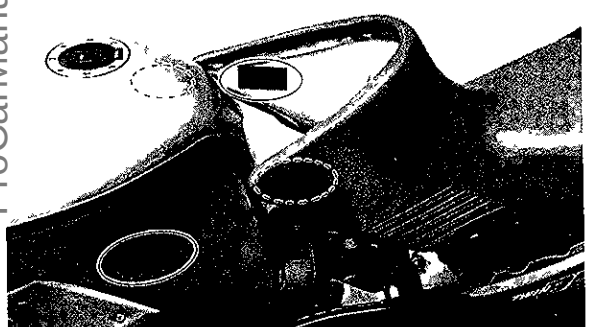

EUU18100

NOTE:

Firmly press the front sides of the seat inward so that the "VELCRO" is securely fastened.

EUU01700

NOTE:

Make sure that the seat is securely fitted.

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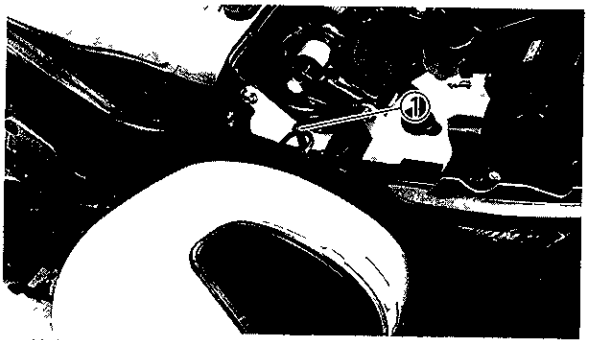
EAC50400

Helmet holder

Open the seat and hook the helmet into the helmet holder and then lock the seat.



1 Helmet holder

EUU72900

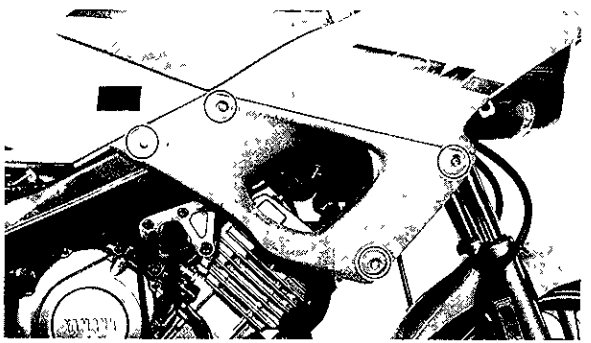
⚠ WARNING

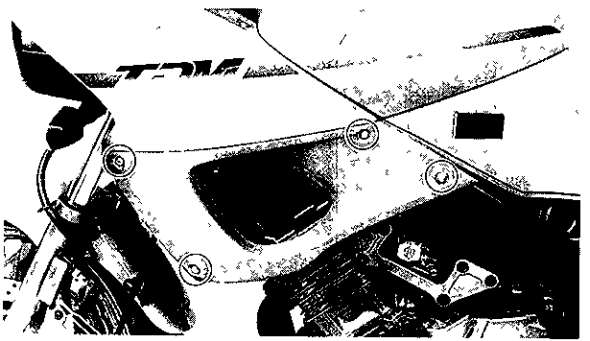
Never ride with a helmet in the helmet holder. The helmet may hit objects, causing loss of control and possibly an accident.

EAD60900

Side cowl/upper cowl

1. Remove the side cowl by removing the screws as shown.





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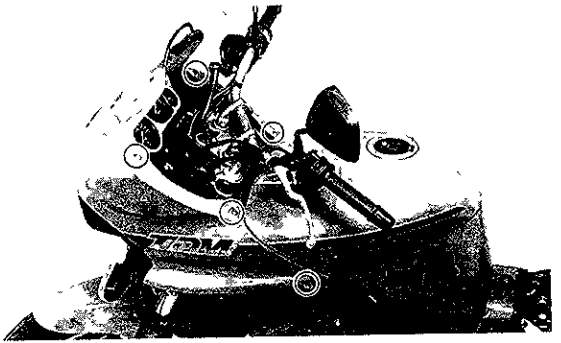
2. Remove the upper cowl by removing the screw as shown.



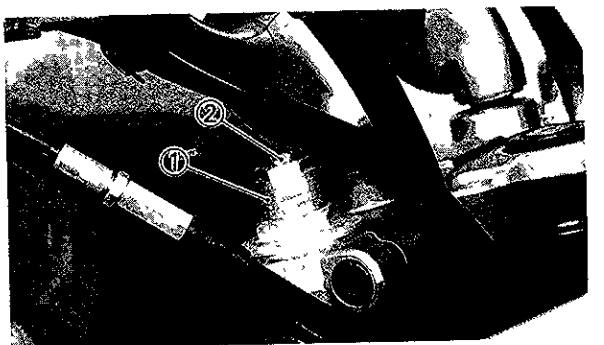
3. To install, reverse the above steps.

EAC81400

Front fork

The spring preload and damping force of the front fork can be adjusted to suit the rider's preference, motorcycle's load (ex: optional accessories etc.) and road conditions

Refer to page 8-31 for proper adjustment procedures.



1 Spring preload adjuster 2 Damping adjuster

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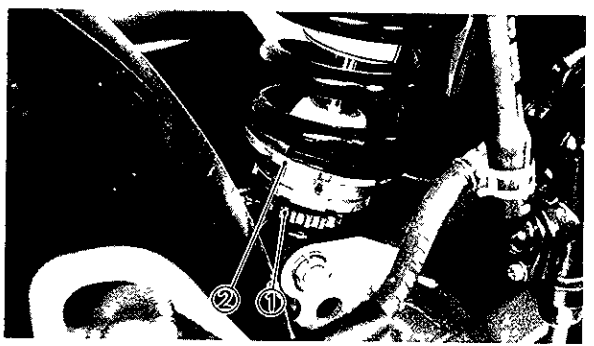
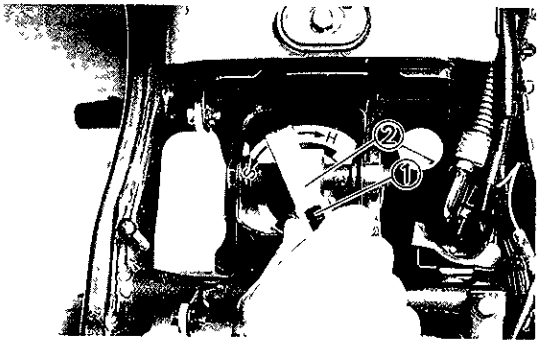
EAC90400

Rear shock absorber

The HARD/SOFT settings, spring preload and the damping force of the rear shock absorber can be adjusted to suit the rider's preference, motorcycle's load (ex. optional accessories etc.) and road conditions. Refer to page 8-33 for proper adjustment procedures.



1 Damping adjuster 2 Spring preload adjuster



1 Change lever 2 Change lever wrench

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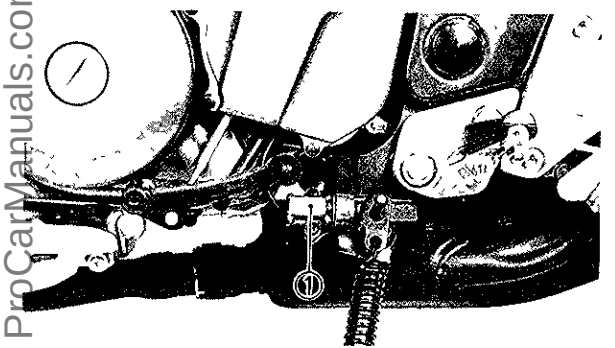
EAD30101

Sidestand

This model is equipped with an ignition circuit cut-off 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 7-1 for an explanation of this system.)



1 Sidestand switch

EUU68901

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 the responsibility of retracting the sidestand. Please check carefully the operating instructions listed below and if there is any indication of a malfunction, return the motorcycle to a Yamaha dealer immediately for repair.

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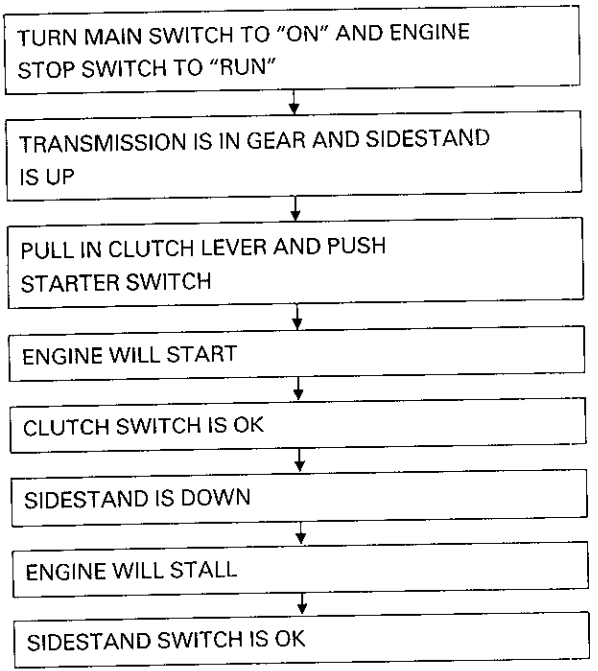
EAD30800

Sidestand/clutch switch operation check

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



EUU69100

⚠ WARNING

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

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PRE-OPERATION CHECK

Before using this motorcycle, check the following points:

Item	Routine	Page
Front brake	Check operation, free play, fluid level, and fluid leakage Top-up with DOT#4 (or DOT #3) brake fluid if necessary	6-3~6-4, 8-20~8-24
Rear brake	Check operation, free play, fluid level, and fluid leakage Top-up with DOT#4 (or DOT #3) brake fluid if necessary	
Clutch	Check operation, condition and free play Adjust if necessary	6-4, 8-25
Throttle grip/Housing	Check for smooth operation Lubricate/Adjust if necessary.	6-4, 8-18, 8-29
Engine oil	Check oil level/Add oil as required	6-4,~6-5, 8-6~8-10
Coolant reservoir tank	Check coolant level/top up as required.	6-5~6-6, 8-11~8-14
Drive chain	Check chain slack and condition Adjust if necessary	6-6, 8-25~8-28
Wheels/Tires	Check tire pressure, wear, damage	6-6~6-10, 8-42 ~ 8-47
Control/Meter cable	Check for smooth operation Lubricate if necessary	8-28
Brake and shift pedal shafts	Check for smooth operation Lubricate if necessary	8-29
Brake and clutch lever pivots	Check for smooth operation Lubricate if necessary	8-29
Sidestand pivot	Check for smooth operation Lubricate if necessary	8-29
Fittings/Fasteners	Check all chassis fittings and fasteners Tighten/Adjust, if necessary	6-11, 8-5

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Item	Routine	Page
Fuel tank	Check fuel level/top-up as required	6-11~6-12
Lights and signals	Check for proper operation	6-11, 8-40~8-42

NOTE:

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

⚠ WARNING

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

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EAE12201

Brakes (See page 8-20 for details)

1. Brake lever and brake pedal
   Check for correct free play in the front brake lever and rear brake pedal and adjust if necessary. Make sure the brakes are working properly by checking at low speed shortly after starting out

EUU61900

⚠ 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 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 #4

EUU13100

NOTE:

If DOT #4 is not available, #3 can be used.

3 Check the disc pads
Refer to page 8-22

EUU02201

NOTE:

When this brake service is necessary, consult a Yamaha dealer.

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EAE10701

Brake fluid leakage

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

EUU37801

CAUTION:

Brake fluid may deteriorate painted surfaces or plastic parts. Never spill any fluid If spilled, clean it up immediately.

EUU62500

⚠WARNING

If brake fluid leakage is found, ask a Yamaha dealer for immediate repairs. Such leakage could indicate a hazardous condition.

EAE20000

Clutch (See page 8-25 for details)

Check the free play in the clutch lever, and make sure the lever operates properly If the free play is incorrect, adjust it

EAE30100

Throttle grip (See page 8-18 for details)

Turn the throttle grip to see if it operates properly, and check the free play Make sure the grip returns by spring force when released. Ask a Yamaha dealer to make any necessary adjustments.

EAE40100

Engine oil (See page 8-6 for details)

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

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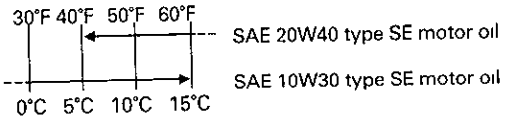
Recommended oil:



Oil quantity:

Total amount:

4.2 L (3.70 Imp qt, 4.44 US qt)

Periodic oil change.

3.8 L (3 34 Imp qt, 4 02 US qt)

With oil filter replacement.

3.9 L (3.43 Imp qt, 4.12 US qt)

EUU08000

NOTE:

Recommended engine oil classification; API Service "SE", "SF" type or equivalent (e.g. "SF-SE", "SF-SE-CC", "SF-SE-SD" etc.).

EAE60001

Coolant

Check the coolant level in the reservoir tank when the engine is cold. (The coolant level will vary with engine temperature.) The coolant level is satisfactory if it is between the FULL and LOW marks on the tank. If the coolant level is at or below the LOW level, add tap water (soft water) to bring the level up to FULL. Change the coolant every two years. (See page 8-11 for details.)

EUU62600

⚠ WARNING

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

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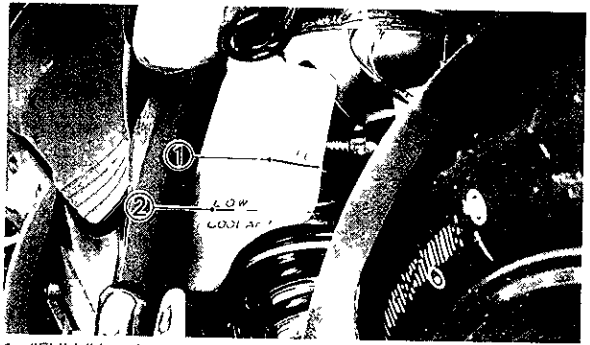

1 "FULL" level 2 "LOW" level

EUU30900

CAUTION:

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

Reservoir tank capacity
0.3 L (0.26 Imp qt, 0.32 US qt)
From LOW to FULL level.
0.2 L (0.18 Imp qt, 0.21 US qt)

EAE50001

Chain (See page 8-25 for details)

Check the general condition of the chain and the chain slack before every ride. Lubricate and adjust the chain as necessary.

EAE91302

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.

EUU67500

⚠ 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.

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Basic weight With oil and full fuel tank	230 kg (507 lb)	
Maximum load*	205 kg (452 lb)	
Cold tire pressure	Front	Rear
Up to 90 kg (198 lb) load*	200 kPa (2.00 kg/cm², 29 psi)	225 kPa (2.25 kg/cm², 33 psi)
90 kg (198 lb)~ Maximum load*	200 kPa (2.00 kg/cm², 29 psi)	250 kPa (2.50 kg/cm², 36 psi)
High speed riding	200 kPa (2.00 kg/cm², 29 psi)	250 kPa (2.50 kg/cm², 36 psi)

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

EUU67701

⚠ WARNING

Proper loading of your motorcycle is important for several characteristics of your motorcycle; such as handling, braking, performance and safety. 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.

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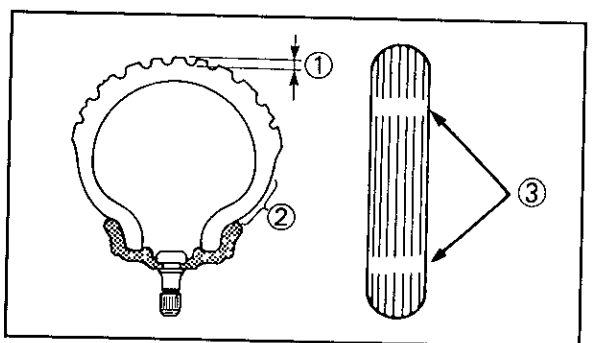
2. Tire inspection

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 immediately and have the tire replaced.



1 Tread depth 2 Side wall 3 Wear indicator

FRONT

Manufacture	Size	Type
DUNLOP	110/80-18 58H	K505F
BRIDGSTONE	110/80-18 58H	G547

REAR

Manufacture	Size	Type
DUNLOP	150/70-17 69H	K505
BRIDGSTONE	150/70-17 69H	G548G

Minimum tire tread depth (front and rear)	1.0 mm (0.04 in)

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EUU67900

⚠ WARNING

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

EAE95700

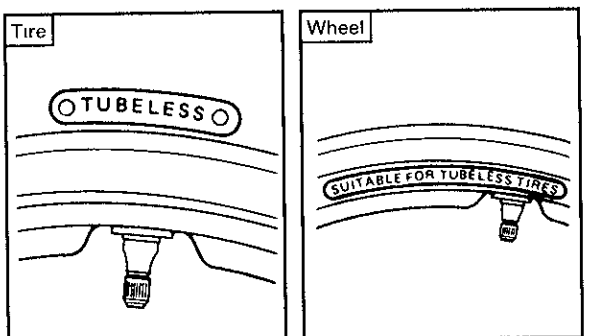
Tubeless tires and cast wheels

This motorcycle is equipped with cast wheels designed for either tube-type or tubeless tires. Tubeless tires are installed as standard equipment.

EUU68600

⚠ 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.



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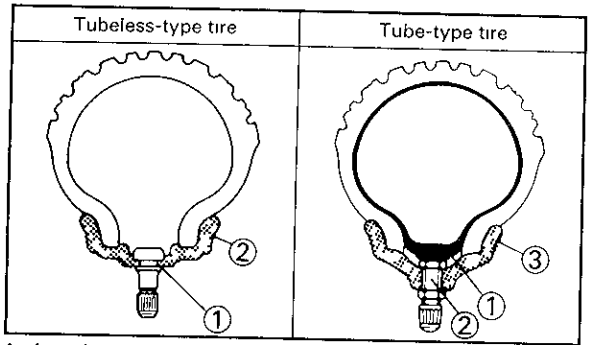

1 Air valve
2 Cast wheel (Tubeless wheel)

1 Tube
2 Air valve
3 Cast wheel

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

EUU68700

⚠ WARNING

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

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

1. Always inspect the wheels before a ride. Check for cracks, bends, or warpage of the wheels. If any abnormal condition exists in a wheel, consult a Yamaha dealer. Do not attempt even small 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.

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EAE85000

Fittings/Fasteners

Always check the tightness of chassis fittings and fasteners before a ride. Use the chart on page 8-5 to find the correct torque.

EAE70100

Lights and signals

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

EAE70700

Switches

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

EAE80000

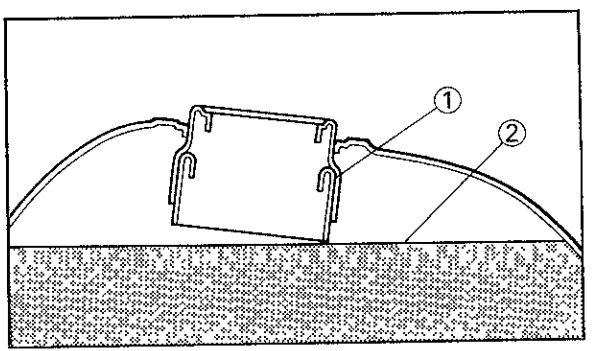
Fuel

Make sure there is sufficient fuel in the tank

EUU61000

⚠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 in the illustration or it may overflow when the fuel heats up later and expands.



1 Filler tube 2 Fuel level

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EUU39302

CAUTION:

Always wipe off spilled fuel immediately with a dry and clean soft cloth. Fuel may deteriorate painted surfaces or plastic parts.

EAE80900

Recommended fuel: Regular gasoline
For Australia. Unleaded fuel only
Fuel tank capacity
Total
18 L (3.96 Imp gal, 4.76 US gal)
Reserve
3.5 L (0 77 Imp gal, 0 92 US gal)

EUU12700

NOTE:

1. If knocking or pinging occurs, use a different brand of gasoline or higher octane grade.
2. If unleaded gasoline is not available, then leaded gasoline can be used.

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EAF00000

OPERATION AND IMPORTANT RIDING POINTS

EUU67200

⚠ WARNING

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

EUU62800

⚠ WARNING

1. **Never start your engine or let it run for any length of time in a closed area. The exhaust fumes are poisonous and can cause loss of consciousness and death within a short time. Always operate your motorcycle in an area with adequate ventilation.**
2. **Before starting out, always be sure the sidestand is up. Failure to retract the sidestand completely can result in a serious accident when you try to turn a corner.**

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EAF17000

Starting and warming up a cold engine

EUU02800

NOTE:

This motorcycle is equipped with a starting and an ignition circuit cut-off 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 when the sidestand is down.

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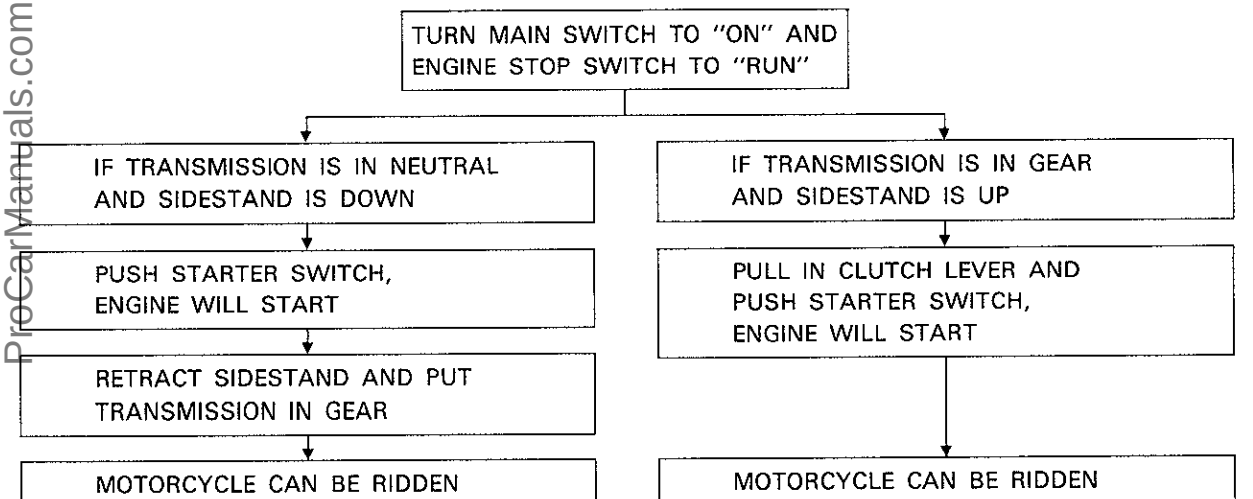
EUU69200

⚠WARNING

Before going through the following steps, check the function of the sidestand switch and clutch switch. (Refer to page 5-16.)



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

EUU03000

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 to inspect it

4. Fully open the starter (CHOKE) and completely close the throttle grip
5. Start the engine by pushing the starter switch.

EUU02500

NOTE:

If the engine fails to start, release the starter switch, wait a few seconds, then try again Each attempt should be as short as possible to preserve the battery. Do not crank the engine more than 10 seconds on any one attempt

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

EUU02600

NOTE:

For maximum engine life, always warm up the engine before starting off Never accelerate hard with a cold engine!

7 After warming up the engine, turn off the starter completely

EUU02700

NOTE:

The engine is warm when it responds normally to the throttle with the starter turned off

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EAF10800

Starting a warm engine

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

EUU31400

CAUTION:

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

EAF20002

Shifting

The transmission lets you control the amount of power you have available at a given speed for starting, accelerating, climbing hills, etc. The use of the shift pedal is shown in the illustration. (Page 5-7)

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

EUU31501

CAUTION:

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

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EAF30000

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.

EAF30700

1. 0~150 km (0~90 mi).
   Avoid operation above 4,000 r/min. Stop the engine and let it cool for 5 to 10 minutes after every hour of operation Vary the speed of the motorcycle from time to time. Do not operate it at one set throttle position
2. 150~500 km (90~300 mi):
   Avoid prolonged operation above 5,000 r/min Rev the motorcycle freely through the gears, but do not use full throttle at any time.
3. 500~1,000 km (300~600 mi).
   Avoid prolonged full throttle operation. Avoid cruising speeds in excess of 6,000 r/min.

EUU32000

CAUTION:

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

4. 1,000 km (600 mi) and beyond
   Full throttle can be used

EUU38700

CAUTION:

Never let engine speeds enter the red zone.

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EUU32200

CAUTION:

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

EAF40100

Parking

When parking the motorcycle, stop the engine and remove the ignition key. Turn the fuel cock to "OFF" whenever stopping the engine.

EUU63000

⚠ 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.

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EAH00000

PERIODIC MAINTENANCE AND MINOR REPAIR

EAH00400

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 maintenance and lubrication schedule chart should be considered strictly as a guide to general maintenance and lubrication intervals YOU MUST TAKE INTO CONSIDERATION THAT WEATHER, TERRAIN, GEOGRAPHICAL LOCATIONS, AND A VARIETY OF INDIVIDUAL USES ALL TEND TO DEMAND THAT EACH OWNER ALTER THIS TIME SCHEDULE TO SHORTER INTERVALS TO MATCH THE ENVIRONMENT. The most important points of motorcycle inspection, adjustment, and lubrication are explained in the following pages

EUU63200

⚠WARNING

If you are not familiar with motorcycle service, this work should be done by a Yamaha dealer.

EAH10100

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; however, a torque wrench is also necessary to properly tighten nuts and bolts.

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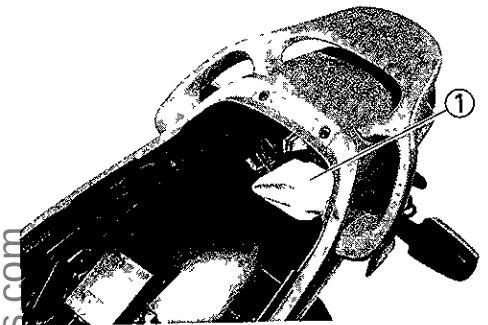

1 Tool kit

EUU06000

NOTE:

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

EUU67100

⚠ WARNING

Modifications to this motorcycle not approved by Yamaha may cause loss of performance, and render it unsafe for use. Consult a Yamaha dealer before attempting any changes.

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PERIODIC MAINTENANCE/LUBRICATION

Unit: km (miles)

ITEM	REMARKS	BREAK-IN 1,000 (600)	EVERY 6,000 (4,000) or 6 months	EVERY 12,000 (8,000) or 12 months
Valve(s)*	Check valve clearance. Adjust if necessary	EVERY 42,000 (26,000) or 42 months		
Spark plug(s)	Check condition. Clean or replace if necessary	○	○	○
Air filter	Clean. Replace if necessary		○	○
Carburetor*	Check idle speed/synchronization/starter operation. Adjust if necessary	○	○	○
Fuel line*	Check fuel hose and vacuum pipe for cracks or damage. Replace if necessary		○	○
Engine oil	Replace (Warm engine before draining)	○	○	○
Engine oil filter*	Replace	○		○
Brake*	Check operation/fluid leakage/See NOTE. Correct if necessary		○	○
Clutch	Check operation. Adjust if necessary		○	○
Rear arm pivot*	Check rear arm assembly for looseness. Correct if necessary. Moderately repack every 24,000 (16,000) or 24 months ***			○
Wheels*	Check balance/damage/runout. Repair if necessary		○	○
Wheel bearings*	Check bearings assembly for looseness/damage. Replace if damaged		○	○
Steering bearings*	Check bearings assembly for looseness. Correct if necessary. Moderately repack every 24,000 (16,000) or 24 months **	○		○

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ITEM	REMARKS	BREAK-IN 1,000 (600)	EVERY	
			6,000 (4,000) or 6 months	12,000 (8,000) or 12 months
Front forks*	Check operation/oil leakage Repair if necessary		○	○
Rear shock absorber*	Check operation/oil leakage Repair if necessary		○	○
Cooling system	Check coolant leakage Repair if necessary Replace coolant every 24,000 (16,000) or 24 months		○	○
Drive chain	Check chain slack/alignment Adjust if necessary Clean and lube	EVERY 500 (300)		
Fittings/Fasteners*	Check all chassis fittings and fasteners Correct if necessary	○	○	○
Sidestand*	Check operation Repair if necessary	○	○	○
Sidestand switch*	Check operation Clean or replace if necessary	○	○	○

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

NOTE:

Brake fluid replacement:

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

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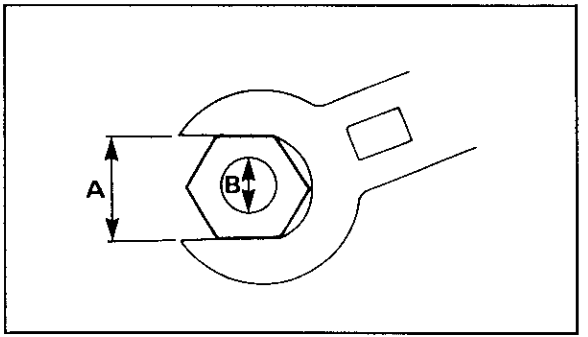
EAH30100

Torque specifications

Use a torque wrench to tighten these items It is recommended that these items 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	18	1 8	13
Engine drain bolt Ⓐ	35	3 5	25
Engine drain bolt Ⓑ	30	3 0	22
Oil filter cover screw	10	1 0	7 2
Engine oil check bolt	20	2 0	14
Coolant drain bolt	10	1 0	7 2
Front fender securing bolt	9	0 9	6 5
Front wheel axle	58	5 8	42
Front axle pinch bolt	19	1 9	13
Rear wheel axle nut	110	11 0	80
Rear caliper bracket installation bolt	35	3 5	25

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EAH45201

Engine oil

A dry sump lubrication system is used on this model. That is, oil is supplied to the engine by means of the feed pump and returned to the oil tank by means of the scavenging pump. Therefore, the oil level can be checked at the oil tank.

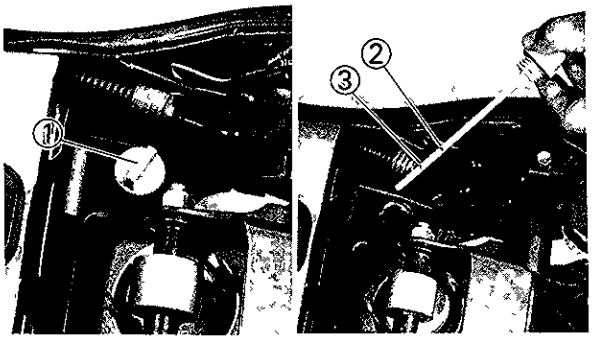
1. Oil level measurement
   a. Place the motorcycle on a level place and hold it in an upright position.
   b. Remove the oil tank cap/dipstick, and check the oil level.

EUU16400

NOTE:

When checking, reinsert the oil tank cap/ dipstick without screwing it in. Remove the oil tank cap/dipstick again and check the oil level. For accuracy,check with the motorcycle held upright on a level place.

   c. If the oil level is between the minimum and maximum level lines marked on the oil tank cap/dipstick, the engine may be started. If there is no oil on the oil tank cap/dipstick, add oil up to the minimum level.



1 Oil tank cap/dipstick
2 Maximum oil level
3 Minimum oil level

   d. Start the engine and warm up until the oil temperature rises to approximately 60°C (140°F).

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e. Idle the engine for at least 10 seconds while keeping the motorcycle upright. Then stop the engine and check the oil level while keeping the motorcycle upright
f. Fill oil to the maximum level line.

EUU30000

CAUTION:

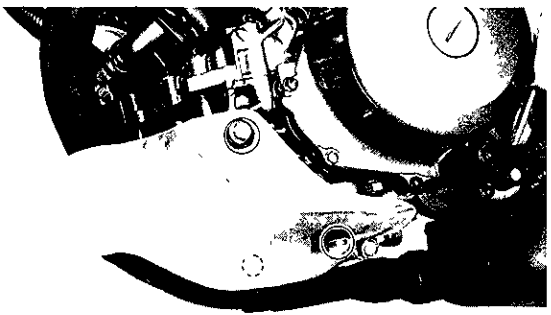
Do not run the motorcycle until you know it has sufficient engine oil.

EUU71501

⚠ WARNING

Never attempt to remove the oil tank cap/dipstick just after high-speed operation. The heated oil could spout out, causing danger. Wait until the oil cools down to approximately 60°C (140°F).

2 Engine oil and oil filter replacement
a Start the engine and stop after a few minutes of warm-up
b Remove the engine guard.



c Place an oil pan under the engine.
d Remove the oil tank cap/dipstick, drain bolts (at two places)

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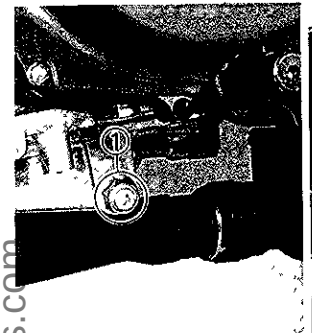
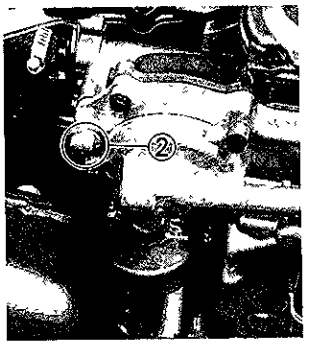
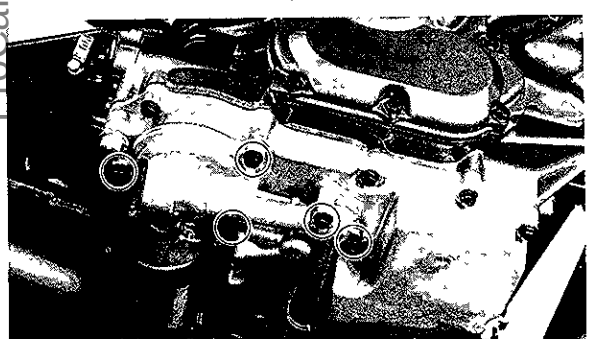




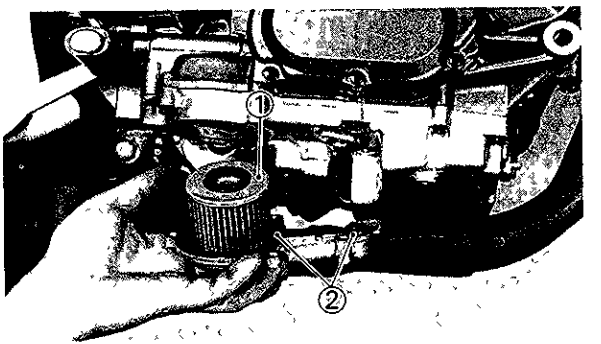
1 Drain bolt Ⓐ 2 Drain bolt Ⓑ

e. Check each gasket. If damaged, replace.

f. Remove the filter cover screws and the oil filter cover. Replace the filter element.



g. Check O-ring(s) for damage. Replace if damaged.



1 Filter element 2 O-ring

h Install the, filter cover, screws and the drain bolts(at two places).

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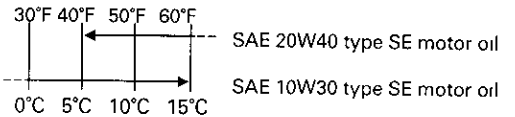
Tightening torque:
Drain bolt Ⓐ:
35 Nm (3.5 m • kg, 25 ft • lb)
Drain bolt Ⓑ:
30 Nm (3.0 m • kg, 22 ft • lb)
Filter cover screw:
10 Nm (1.0 m • kg, 7.2 ft • lb)

1. Fill engine oil. Install the oil tank cap/ dipstick and tighten.

Recommended oil



Oil quantity:
Total amount:
4.2 L (3.70 Imp qt, 4.44 US qt)
Periodic oil change:
3.8 L (3.34 Imp qt, 4.02 US qt)
With oil filter replacement:
3.9 L (3.43 Imp qt, 4.12 US qt)

FUU08000

NOTE:

Recommended engine oil classification; API Service "SE", "SF" type or equivalent (e.g "SF-SE", "SF-SE-CC", "SF-SE-SD" etc.).

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j. Start the engine and warm up for a few minutes. While warming up, check for oil leakage. If oil leakage is found, stop the engine immediately and check for the cause.
k. Stop the engine and check the oil level.

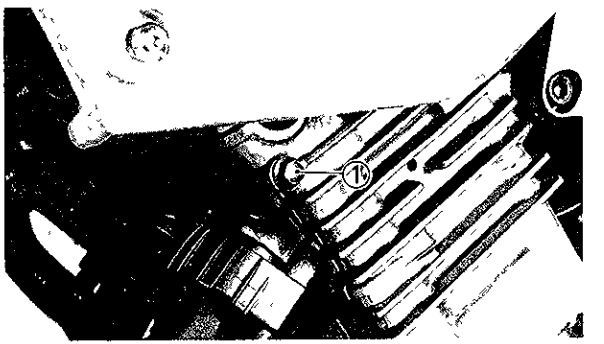
EUU41801

CAUTION:

After replacing the engine oil, be sure to check the oil pressure as described below.

1. **Remove the check bolt in the cylinder head.**
2. **Start the engine and keep it idling until oil flows out of the bleed hole. If no oil comes out after one minute, turn off the engine immediately so it will not seize. In such a case go to the nearest Yamaha dealer for repairs.**
3. **After checking, tighten the check bolt securely.**

Tightening torque:
Check bolt:
20 Nm (2.0 m • kg, 14 ft • lb)



1 Check bolt

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EAH52100

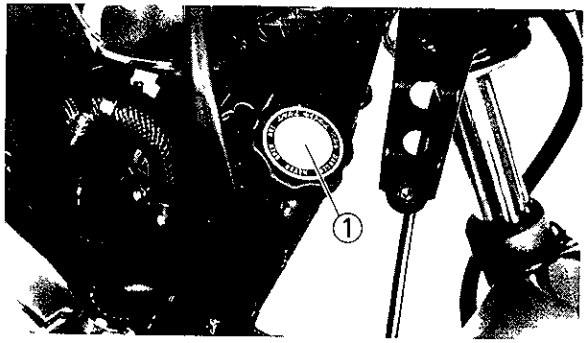
Cooling system

1 If your motorcycle overheats

EUU70501

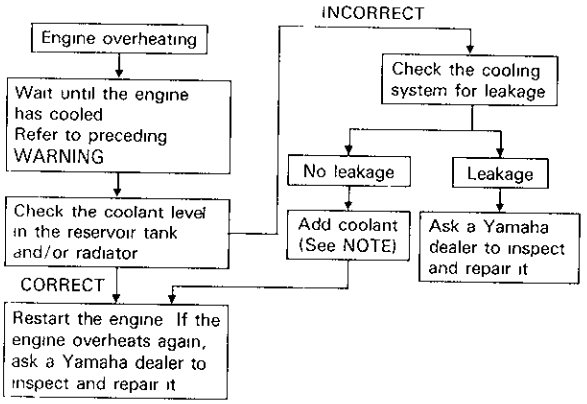
⚠ WARNING

Do not remove the radiator cap when the engine and radiator are hot. Scalding hot fluid and steam may be blown out under pressure, which could cause serious injury. Open the radiator cap as follows. Wait until the engine has cooled. Place a thick rag like a towel over the radiator cap and 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.



1 Radiator cap

If overheating is detected, perform the following checks



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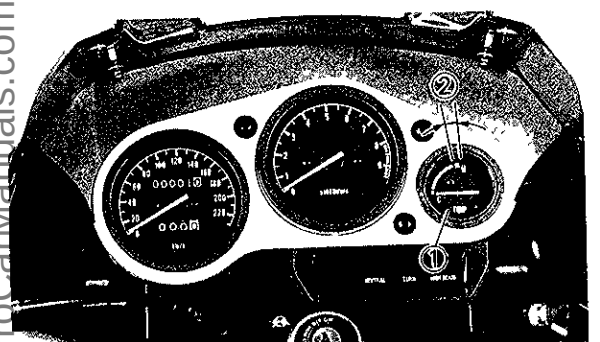
EUU04300

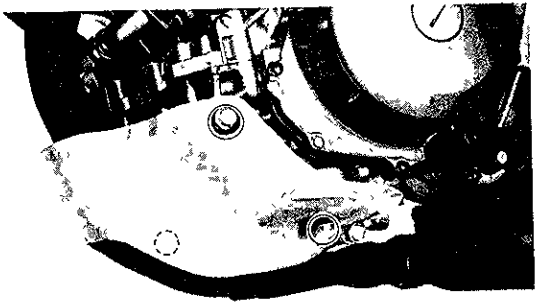
NOTE:

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

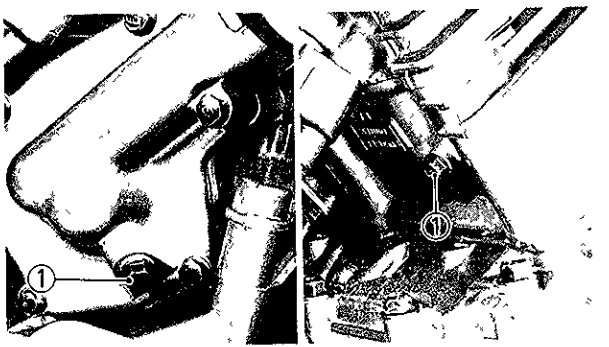


1 Engine temperature gauge 2 Red zone

2. Changing the coolant.
   a. Remove the side cowls and upper cowl.
   b. Remove the radiator cap.
   c Remove the engine guard



d. Place a container under the engine.
e. Remove the drain bolts.



1 Drain bolt

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f. Disconnect the reservoir tank pipe on the reservoir tank side, and drain the reservoir tank of its coolant

1 Reservoir tank pipe

g. Drain the coolant completely, and thoroughly flush the cooling system with clean tap water

h Retighten the drain bolts If the gasket is damaged, replace it

Tightening torque:
Drain bolt:
10 Nm (1 0 m • kg, 7 2 ft • lb)

i Reinstall the reservoir tank pipe

j Pour the recommended coolant into the radiator until the radiator is full.

Recommended coolant
High quality ethylene glycol antifreeze containing corrosion inhibitors for aluminum engines
Coolant and water mixed ratio·
50/50%
Total amount:
1 7 L (1 50 Imp qt, 1 80 US qt)
Reservoir tank capacity
0.3 L (0 26 Imp qt, 0 32 US qt)
From LOW to FULL level
0 2 L (0 18 Imp qt, 0 21 US qt)

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EUU30900

CAUTION:

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

k. Reinstall the radiator cap.
l. Run the engine several minutes to recheck the coolant level of the radiator. If it is low, add more coolant until it reaches the top of the radiator.
m. Fill the reservoir tank with coolant up to "FULL" level
n. Reinstall the reservoir tank cap and check for coolant leakage.

EUU04400

NOTE:

If you find any leaks, ask a Yamaha dealer to inspect.

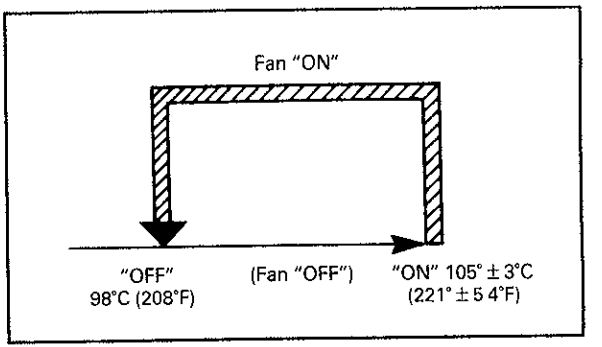
o. Reinstall the upper cowl and side cowls.

EAH70000

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



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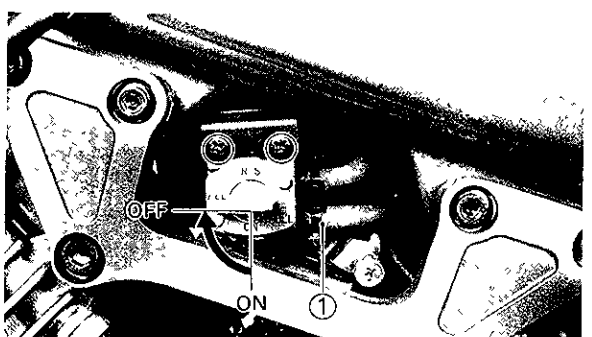
EAH65900

Air filter

The air filter element should be cleaned at the specified intervals It should be cleaned more frequently if you are riding in unusually wet or dusty areas

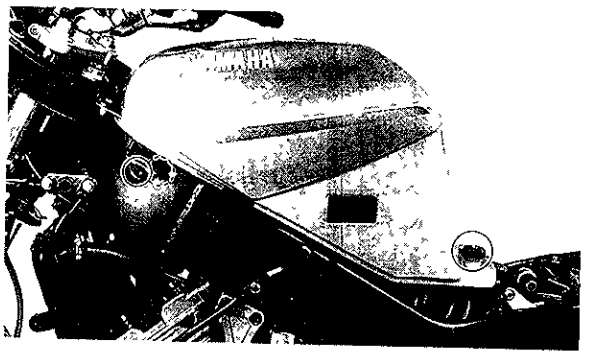
1 Remove the seat, side cowl and upper cowl.

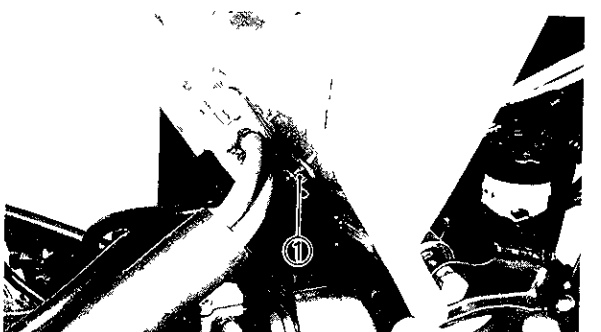
2 Remove the fuel cock by turning the fuel cock lever to "OFF" and disconnect the fuel hose from the fuel cock side



1 Fuel hose

3 Remove the fuel tank by removing the holding bolts, then disconnect the breather hose.





1 Breather hose

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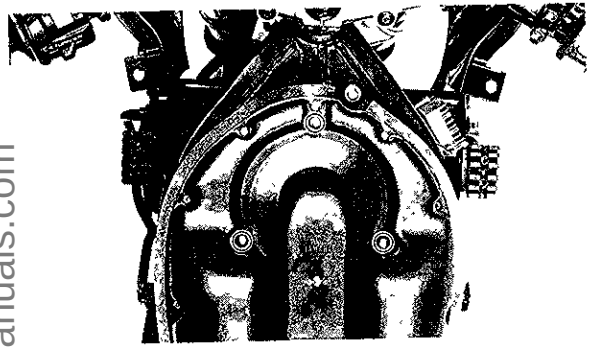
4 Remove the air filter case cover by removing the screws as shown.



5. Pull out the element.
6. Tap the element lightly to remove most of the dust and dirt and blow out the remaining dirt with compressed air from the outer surface of the element. If the element is damaged, replace it.

7. Reassemble by reversing the removal procedure.

EUU35701

CAUTION:

Make sure the element is properly seated in the filter case.

EUU42400

CAUTION:

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

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EAH90001

Carburetor adjustment

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

EUU33001

CAUTION:

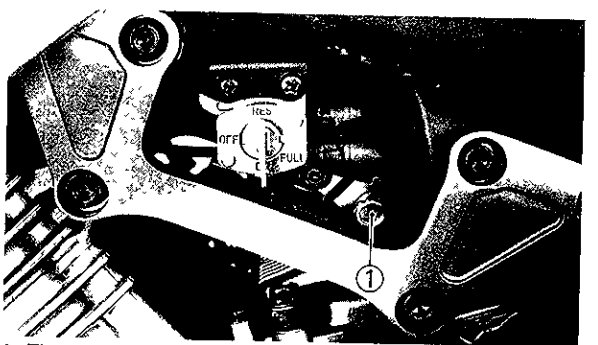
The carburetor was set at the Yamaha factory after many tests. If the settings are changed, poor engine performance and damage may result.

EAH90100

Idle speed adjustment

1 Start the engine and warm it up for a few minutes (normally, 1 or 2 minutes at approximately 1,000 to 2,000 r/min. Occasionally rev the engine to 4,000 to 5,000 r/min The engine is warm when it quickly responds to the throttle.

2 Set the idle to the specified engine speed by adjusting the throttle stop screw; turn the screw in to increase engine speed, and out to decrease engine speed.



1 Throttle stop screw

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Standard idle speed:
1,000~1,200 r/min

EUU04500

NOTE:

If the specified idle speed cannot be obtained by performing the above adjustment, consult a Yamaha dealer

EAH90301

Throttle cable adjustment

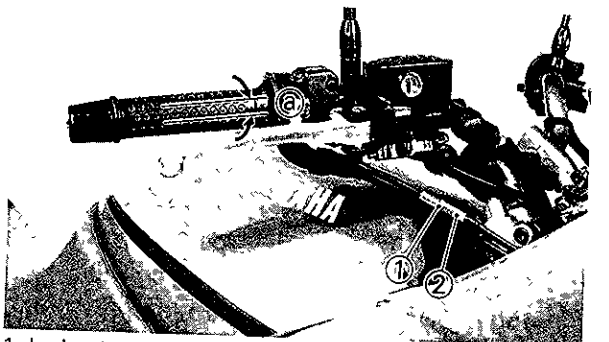
EUU06400

NOTE:

Before adjusting the throttle cable free play, the engine idling speed should be adjusted.

Adjust the throttle cable by turning the adjuster so that proper free play at the throttle grip is obtained.

Free play:
3~5 mm (0.12~0.20 in)



1 Lock nut
2 Adjuster
a 3~5 mm (0.12~0.20 in)

1. Loosen the lock nut.
2. Turn the adjuster in or out until specified free play is obtained.
3. Tighten the lock nut.

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EAH90800

Valve clearance adjustment

The valve clearance becomes larger with use, resulting in improper fuel/air supply and engine noise. To prevent this, the valve clearance must be adjusted regularly. This adjustment, however, should be left to a professional Yamaha service technician.

EAH20101

Spark plug inspection

The spark plug is an important engine component and is easy to inspect. The condition of the spark plug can indicate 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. Do not attempt to diagnose such problems yourself Instead, take the motorcycle to a Yamaha dealer You should periodically remove and inspect the spark plugs 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 the specified plug

Standard spark plug:
DPR9EA-9 (NGK) or
X27EPR-U9 (NIPPONDENSO)

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

Spark plug gap.
0 8~0.9 mm (0 031~0 035 in)

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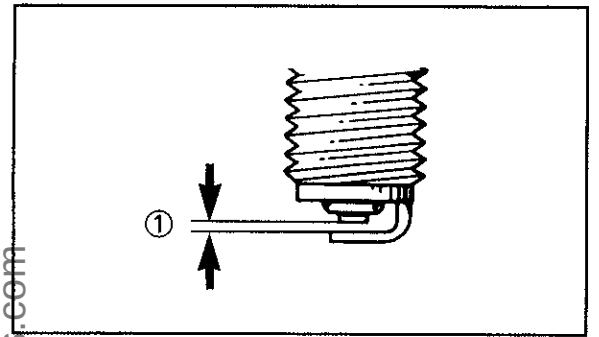

① Spark plug gap

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:
18 Nm (1.8 m • kg, 13 ft • lb)

EUU03801

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 turn past finger tight. Have the spark plug torqued to the correct value as soon as possible with a torque wrench.

EAH89700

Front brake lever position adjustment

Brake lever distance from the throttle grip can be adjusted. To adjust, turn the adjuster while pushing the lever forward and align the mark (■) on the adjuster with the mark (●) on the lever.

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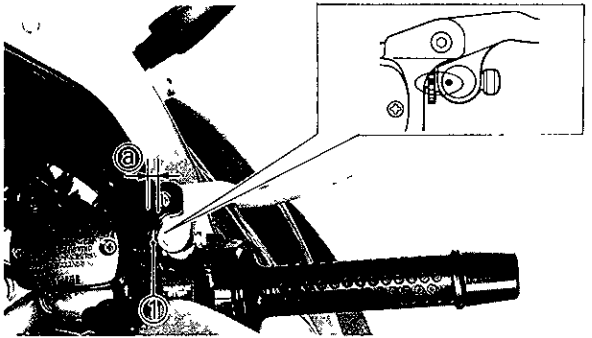
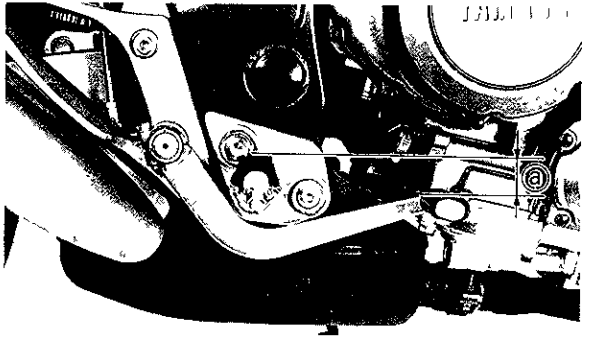


1 Adjuster a Adjusting range

EAH80401

Rear brake adjustment

The top of the brake pedal should be positioned 17~41 mm (0.67~1.61 in) below the top of the footrest If not, ask a Yamaha dealer to adjust it



a 17~41 mm (0 67~1 61 in)

EUU79300

⚠ WARNING

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

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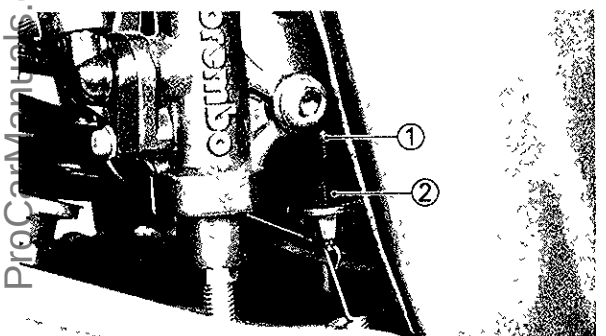
EAH83301

Brake light switch adjustment

The brake light switch is operated by movement of the brake pedal. To adjust, hold the main body of the switch so it does not rotate and turn the adjusting nut.

Proper adjustment is achieved when the brake light comes on just before the brake begins to take effect

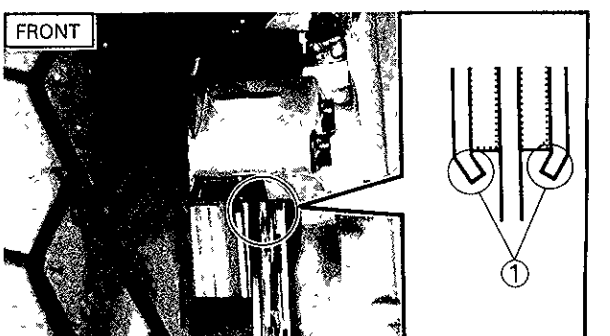


1 Main body 2 Adjusting nut

EAH83601

Checking the front and rear brake pads

A wear indicator is provided on each brake. This indicator allows checking of brake pad wear without disassembling the brake. Apply the brake and inspect the wear indicator. If the indicator is ALMOST in contact with the disc plate, ask a Yamaha dealer to replace the pads.



1 Wear indicator

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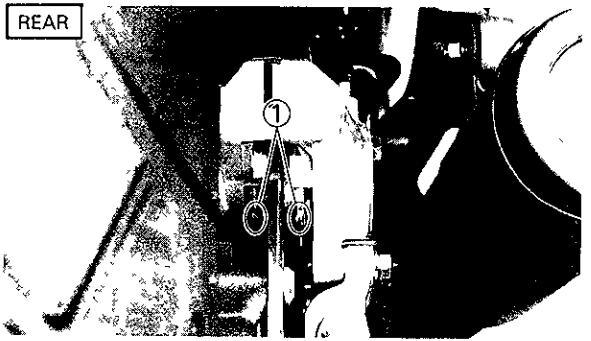
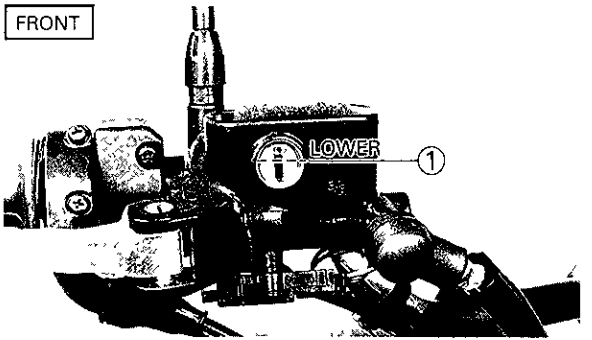


1 Wear indicator



1 Lower level

EAH88201

Inspecting the brake fluid level

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

Before riding, check the brake fluid level and replenish when necessary. Observe these precautions

1 Lower level

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1 When checking the fluid level, make sure the top of the master cylinder is level by turning the handlebars.
2 Use only the designated quality brake fluid: otherwise, the rubber seals may deteriorate, causing leakage and poor brake performance.

Recommended brake fluids: DOT#4

EUU13100

NOTE:

If DOT #4 is not available, #3 can be used.

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

EAH83501

Brake fluid replacement

1. Complete fluid replacement should be done only by trained Yamaha service personnel.
2. Have a Yamaha dealer replace the following components during periodic maintenance or when they are damaged or leaking.

a. Replace all rubber seals every two years.
b. Replace all hoses every four years.

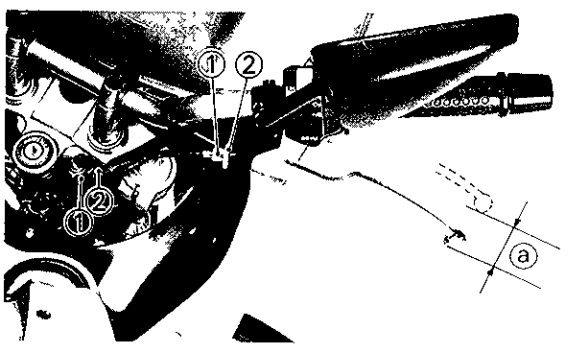
ProCarManuals.com

EAI00201

Clutch adjustment

The clutch lever free play should be adjusted to 10~15 mm (0.4~0.6 in) at the clutch lever. If the free play is incorrect, adjust as follows.

Free play
10~15 mm (0.4~0.6 in)



1 Adjuster
2 Lock nut
a 10~15 mm (0.4~0.6 in)

1. Loosen the lock nut.
2. Turn the adjuster in or out until proper lever free play is obtained.
3. Tighten the lock nut.

EUU17800

NOTE:

If proper adjustment cannot be obtained or the clutch does not work correctly, ask a Yamaha dealer to inspect the internal clutch mechanism.

EAI40801

Drive chain slack check

EUU04801

NOTE:

Spin the wheel several times and find the tightest position of the chain. Check and/or adjust the chain slack while it's in this tightest position.

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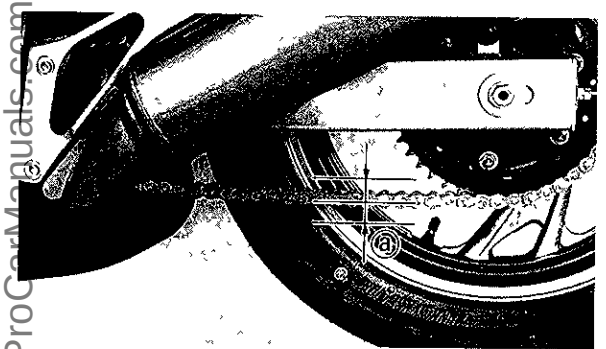
To check the chain slack the motorcycle must be held straight up with both wheels on the ground and without rider. Check the slack at the position shown in the illustration. Normal slack is approximately 40~50 mm (1.6~2.0 in). If the slack exceeds 50 mm (2.0 in), adjust.



a. 40~50 mm (1.6~2.0 in)

EAI42301

Drive chain adjustment

1. Remove the cotter pin from rear wheel axle nut.
2. Loosen the rear wheel axle nut and rear brake caliper bracket installation nut.
3. Loosen the lock nuts on each chain puller. To tighten the chain, turn the chain adjuster counterclockwise. To loosen the chain, turn the chain adjuster clockwise and push the wheel forward. Turn both adjusters exactly the same amount to maintain correct axle alignment.(There are marks on each side of swingarm. Use them to check for proper alignment.)

EUU33301

CAUTION:

Too little chain slack will overload the engine and other vital parts. Keep the slack within the specified limits.

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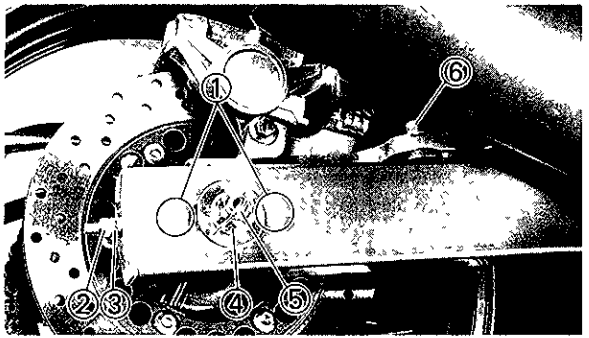
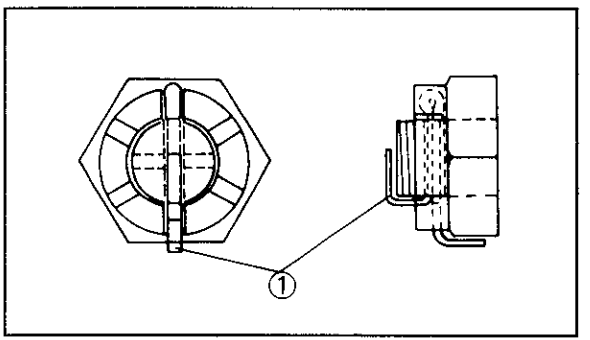


1 Marks for alignment
2 Lock nut
3 Adjuster
4 Axle nut
5 Cotter pin
6 Caliper bracket installation bolt

4. After adjusting, be sure to tighten the chain puller lock nuts, caliper bracket installation nut and the axle nut.

Tightening torque:
Axle nut
110 Nm (11.0 m • kg, 80 ft • lb)
Caliper bracket installation bolt
35 Nm (3.5 m • kg, 25 ft • lb)

5 Insert a new cotter pin into the rear wheel axle nut and bend the end of the cotter pin as shown in the illustration. (If the notch in the nut and the cotter pin hole do not match, tighten the nut slightly to align them.)



1 Cotter pin

EUU64700

⚠ WARNING

Always use a new cotter pin on the axle nut.

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EAI40701

Drive chain lubrication

The chain consists of many parts which work with each other. If the chain is not maintained properly, it will wear out quickly, Therefore, the chain must be serviced regularly. This service is especially necessary when riding in dusty areas. This motorcycle is equipped with a sealed type chain. Steam cleaning, high-pressure washes, and solvents can damage chain so do not use these for cleaning it. Use only kerosene to clean the drive chain. Wipe it dry, and thoroughly lubricate it with SAE 30~50W motor oil. Do not use any other lubricants on the drive chain. They may contain solvents that could damage the sealed chain.

EAI10701

Cable inspection and lubrication

EUU64601

⚠ WARNING

Damage to the outer housing of cables may allow internal rusting and cause interfere with cable movement. Replace damaged cables as soon as possible to prevent unsafe conditions.

Lubricate the inner cable and the cable end. If it does not operate smoothly, ask a Yamaha dealer to replace them

Recommended lubricant:
SAE 10W30 motor oil

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EAI10201

Throttle cable and grip lubrication

The throttle twist grip assembly should be greased at the time that the cable is lubricated, since the grip must be removed to get at the end of the throttle cable. After removing the screws, hold the end of the cable up in the air and put in several drops of lubricant. With the throttle grip disassembled, coat the metal surface of the grip assembly with a suitable all-purpose grease.

EAI30601

Brake and shift pedals

Lubricate the pivoting parts.

Recommended lubricant.
SAE 10W30 motor oil

EAI30700

Brake and clutch levers

Lubricate the pivoting parts.

Recommended lubricant
SAE 10W30 motor oil

EAI31101

Sidestand

Lubricate the pivoting parts. Check to see that the sidestand moves up and down smoothly.

Recommended lubricant
SAE 10W30 motor oil

EUU70401

⚠ WARNING

If the sidestand does not move smoothly, consult a Yamaha dealer.

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EAI31300

Rear suspension

Lubricate the pivoting parts.

Recommended lubricant:
Lithium soap base grease

EAI20501

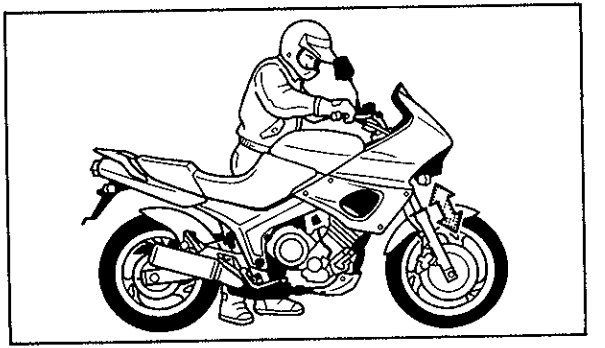
Front fork inspection

EUU65700

⚠ WARNING

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

1. Visual check
   Check for scratches/damage on the inner tube and excessive oil leakage from the front fork.
2. Operation check
   Place the motorcycle on a level place.
   a Hold the motorcycle in an upright position and apply the front brake.
   b. Stroke the front forks up and down several times.



EUU42500

CAUTION:

If any damage or unsmooth movement is found with the front fork, consult a Yamaha dealer.

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EAI500A0

Front fork adjustment

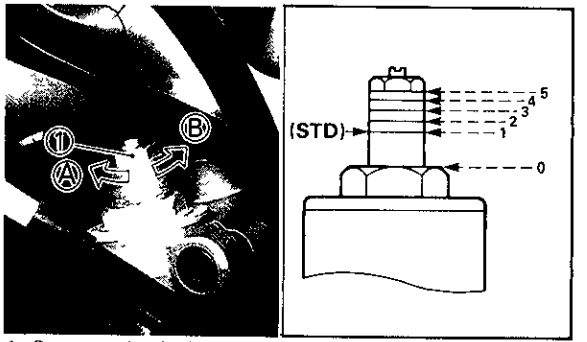
This front fork is equipped with a spring preload and damping force adjuster

EUU66901

⚠ WARNING

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

1 Adjust spring preload as follows
Turn adjuster in direction Ⓐ to increase spring preload and in direction Ⓑ to decrease spring preload.



1 Spring preload adjuster A Increase B Decrease

EUU18000

NOTE:

The adjuster is at "0" position when it is fully turned out

EUU43001

CAUTION:

The grooves are provided to show the adjustment level. Always keep the adjustment level equal on both fork legs.

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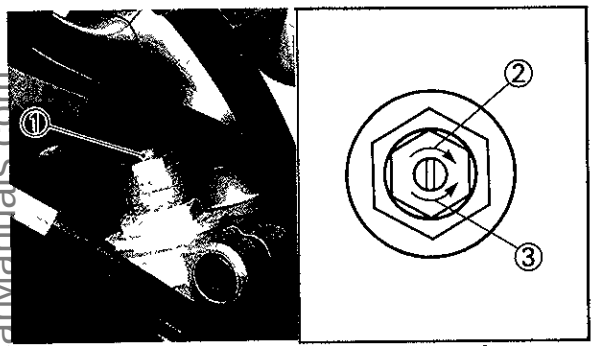
2. Adjust damping force as follows.
   Turn adjuster in direction ② to increase damping force and in direction ③ to decrease damping force.



1 Damping adjuster 2 Increase 3 Decrease

S.T.D	4 clicks out*
MIN	6 clicks out*
MAX	2 clicks out*

*: From fully turned in position

EUU36300

CAUTION:

Never attempt to turn the adjuster beyond the maximum or minimum setting.

EAI51502

Rear shock absorber

EUU67301

⚠ WARNING

This shock absorber contains highly pressurized 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 the shock absorber to an open flame or other high heat source. This may cause the unit to explode due to excessive gas pressure.**

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3. **Do not deform or damage the cylinder in any way. Cylinder damage will result in poor damping performance.**
4. **Take your shock absorber to a Yamaha dealer for any service.**

EAI59200

Rear shock absorber adjustment

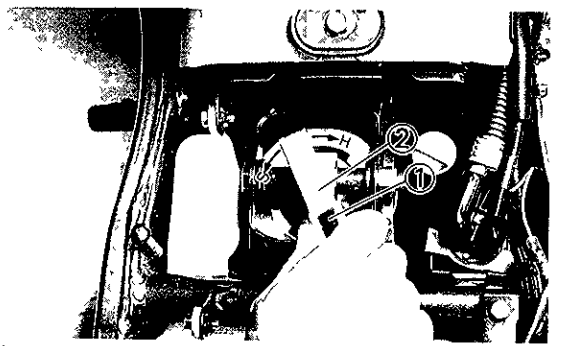
This shock absorber is equipped with a HARD/SOFT change lever, spring preload and damping force adjuster

1. HARD/SOFT change lever
   This is used to select the "HARD" or "SOFT" setting position.
   a. Remove the seat.
   b. Select the "HARD" position by turning the change lever to "H".
   Select the "SOFT" position by turning the change lever to "S".

EUU16700

NOTE:

When adjusting the change lever, use the change lever wrench which is attached to the owner's tool kit.



1 Change lever 2 Change lever wrench

   c Install the seat

2 Adjust spring preload as follows.
   a. Loosen the lock nut
   b Turn adjuster in direction ④ to increase spring preload and in direction ③ to decrease spring preload

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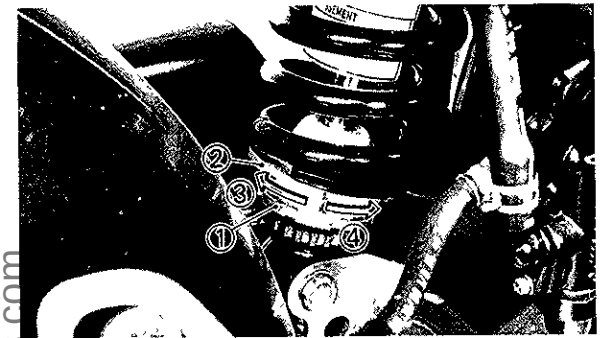


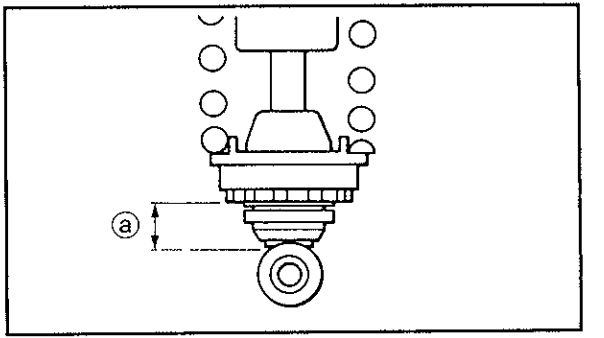
1 Lock nut
2 Adjuster
3 Decrease
4 Increase

EUU05200

NOTE:

When adjusting, use the special wrench which is included in the owner's tool kit.

c. The length of the spring (installed) changes 1 mm (0.04 in) per turn of the adjuster.



a Measurement "A"

Measurement "A"
Standard length (installed):
24 mm (0.94 in)
Minimum length (installed):
22 mm (0.87 in)
Maximum length (installed):
29 mm (1.14 in)

ProCarManuals.com

EUU36300

CAUTION:

Never attempt to turn the adjuster beyond the maximum or minimum setting.

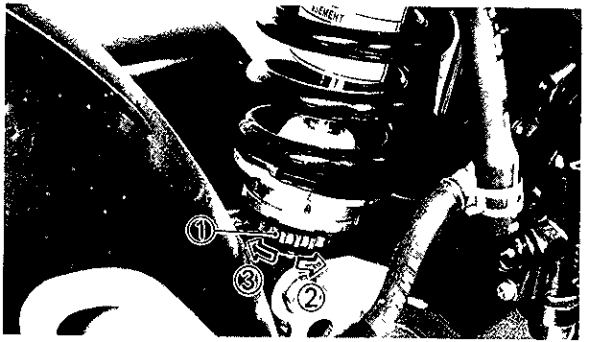
Tightening torque:
70 Nm (7.0 m • kg, 50 ft • lb)

EUU36400

CAUTION:

Always tighten the lock nut against the spring adjuster and torque the lock nut to specification.

3. Adjust damping force as follows.
   Turn adjuster in direction ② to increase damping force and in direction ③ to decrease damping force



1 Damping adjuster 2 Increase 3 Decrease

S.T.D	: 10 Clicks out*
MIN	15 Clicks out*
MAX	5 Clicks out*

* From fully turned in position

EUU36300

CAUTION:

Never attempt to turn the adjuster beyond the maximum or minimum setting.

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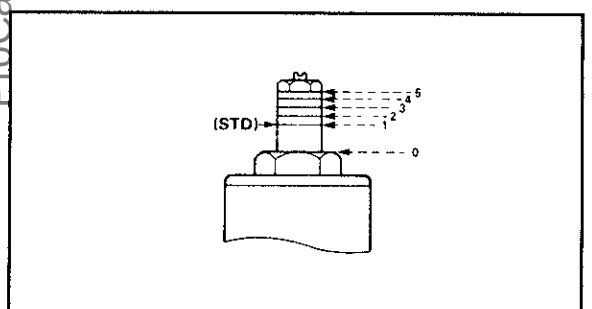
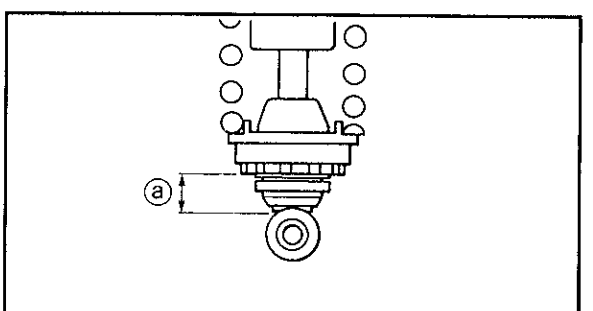
Recommended combinations of the front fork and the rear shock absorber settings

Use this table as a guide for specific riding and motorcycle load conditions.

Front fork		Rear shock absorber			Loading condition			
Spring preload adjuster	*1 Damping adjuster	HARD/SOFT selecter	*2 Spring preload adjuster	*1 Damping adjuster	Solo rider	With passenger	With accessories and equipment	With accessories, equipment and passenger
0 ~ 3	4 ~ 6	S	22 ~ 25.5 mm (0.87 ~ 1.00 in)	8 ~ 15	○			
1 ~ 4	3 ~ 5	H	24 ~ 28 mm (0.94 ~ 1.10 in)	7 ~ 10		○		
0 ~ 3	3 ~ 5	S or H	24 ~ 28 mm (0.94 ~ 1.10 in)	6 ~ 10			○	
1 ~ 5	2 ~ 5	H	26 ~ 29 mm (1.02 ~ 1.14 in)	5 ~ 8				○

*1 Clicks out from the fully turned-in position
*2 Measurement "A"





a Measurement "A"

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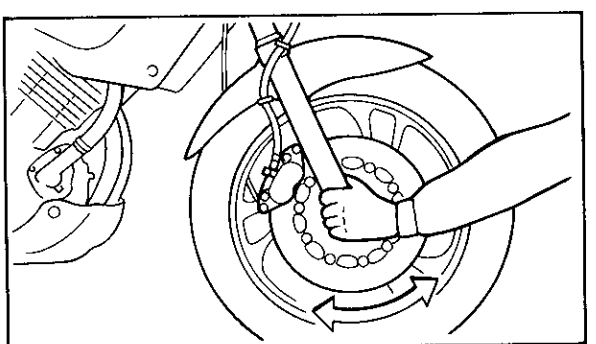
EAI60301

Steering inspection

Periodically inspect the condition of the steering. Worn out or loose steering bearings may be dangerous. Place a stand under the engine to raise the front wheel off the ground. Hold the lower end of the front forks and try to move them forward and backward. If any free play can be felt, ask a Yamaha dealer to inspect and adjust the steering. Inspection is easier if the front wheel is removed.



EUU65700

⚠ WARNING

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

EAI60201

Wheel bearings

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

EAI84901

Battery

This motorcycle is equipped with a "Sealed type" battery. Therefore, it is not necessary to check the electrolyte or add distilled water in the battery. In the battery seems to have discharged, consult a Yamaha dealer.

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EUU43401

CAUTION:

Do not try to remove the sealing caps of the battery cells. You may damage the battery.

EUU65800

⚠ 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 a 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 an enclosed space. Always shield your eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

EAI85000

Battery maintenance

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

EUU43500

CAUTION:

A special battery charger (constant voltage/ampere or constant voltage) is required for recharging the sealed type battery. Using a conventional battery charger may shorten the battery life.

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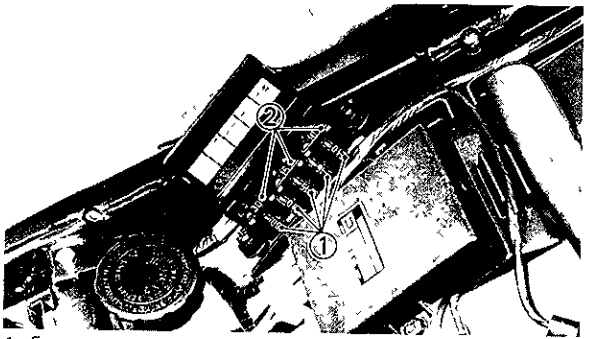
2 Always make sure the connections are correct when reinstalling the battery The red (positive) lead is for the + terminal and the black (negative) lead is for the — terminal. Always connect the red (positive) lead first, then connect the black (negative) lead

EAI90301

Fuse replacement

1. The fuse boxes are located under the seat.
2 If any fuse is blown, turn off the ignition switch and the switch of 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.



1 Fuse 2 Spare fuse

EUU34400

CAUTION:

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

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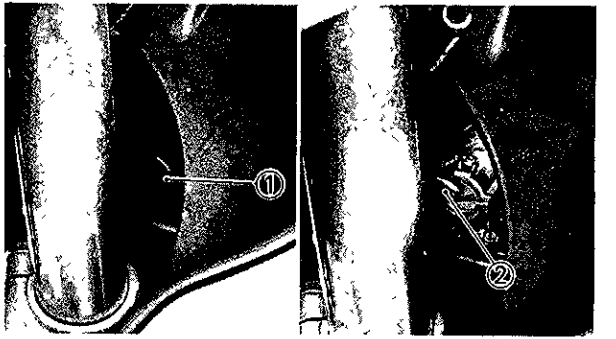
Specified fuse:
Main· 30A
Head: 15A
Signal: 15A
Fan: 10A
Ignition: 10A

EAI86300

Headlight bulb replacement

If the headlight bulb burns out, replace the bulb as follows:

1. Remove the cover and disconnect the headlight lead(s).



1 Cover 2 Headlight lead

2. Remove the bulb holder.

EUU12801

NOTE:

Removal procedure is different according to the bulb holder. Remove your bulb holder by referring to the following illustration.

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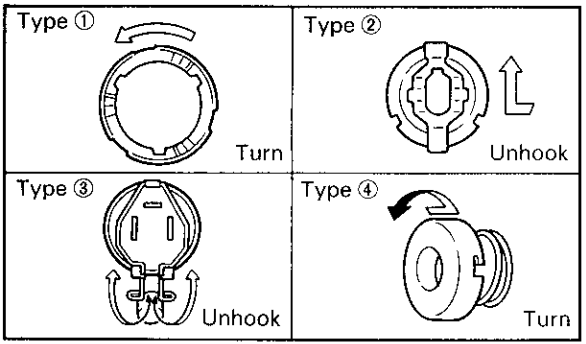

3. Remove the defective bulb

EUU66001

⚠ WARNING

Keep flammable products and your hands away from the bulb while it is on, as it is hot. Do not touch the bulb until it cools down.

4. Put a new bulb into position and secure it in place with the bulb holder

EUU34100

CAUTION:

Avoid touching the glass part of the bulb. Keep it free from oil; otherwise, the transparency of the glass, life of the bulb, and illuminous flux will be adversely affected. If oil gets on the bulb, thoroughly clean it with a cloth moistened with alcohol or lacquer thinner.

5. Connect the headlight lead(s) and install the cover.
6. If the headlight beam adjustment is necessary, ask a Yamaha dealer to make adjustment

EAJ10801

Taillight bulb replacement

1. Remove the seat.
2. Remove the tool kit
3. To remove the socket, turn it counterclockwise

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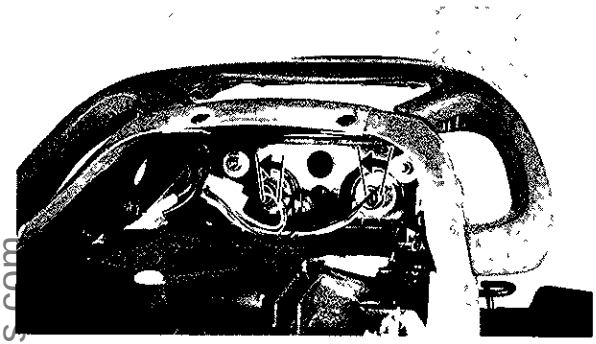

4. To remove the defective bulb, turn it counterclockwise.
5. Push a new bulb into the socket and turn it clockwise.
6. Install the socket and turn it clockwise.
7. Install the tool kit and seat.

EAJ27000

Front wheel removal

EUU66201

⚠WARNING

It is advisable to have a Yamaha dealer service the wheel.

EUU65700

⚠WARNING

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

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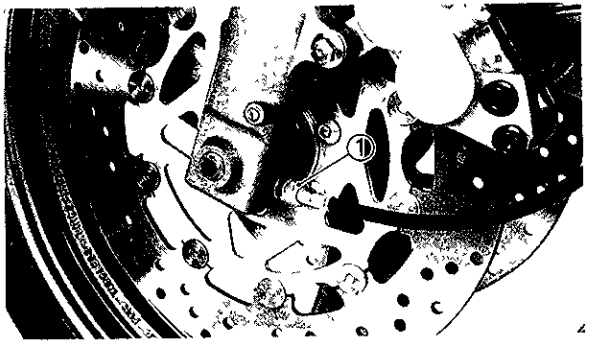
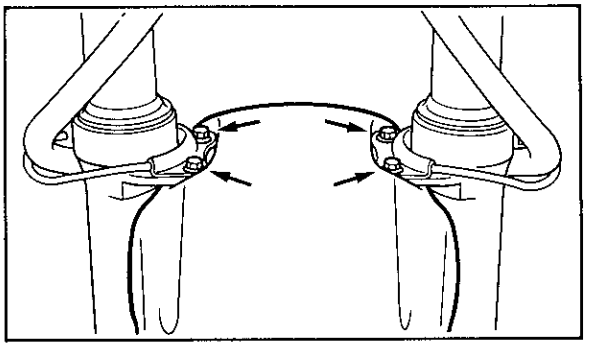
1. Remove the speedometer cable from the front wheel side

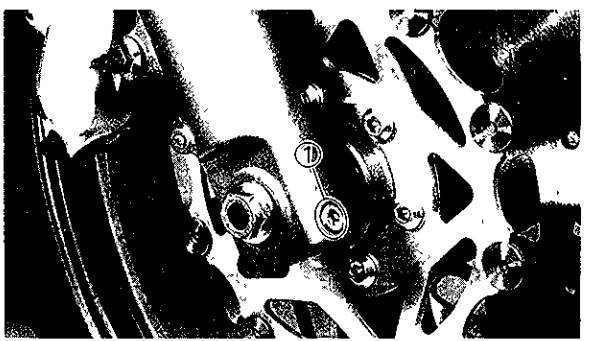


1 Speedometer cable

2 Remove the front fender



3 Loosen the pinch bolt and wheel axle.



1 Pinch bolt

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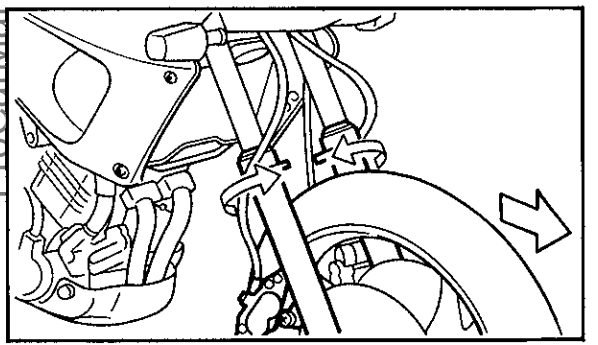
4. Elevate the front wheel by placing a suitable stand under the engine.
5. Remove the wheel axle.
   Make sure the motorcycle is properly supported.
6. Lower the wheel until the discs come off the calipers. Turn the calipers outward so they do not obstruct the wheel and remove the wheel.



EUU05400

NOTE:

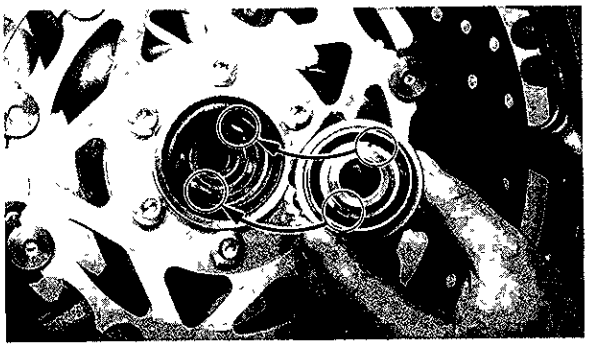
Do not depress the brake lever when the disc is off the caliper as the brake pads will be forced shut.

EAJ28600

Front wheel installation

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

1. Make sure the wheel hub and the speedometer gear unit are installed with the projections meshed into the slots.



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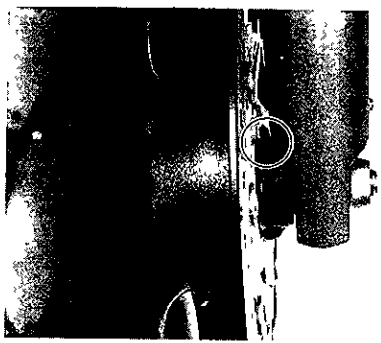
2. Make sure there is enough gap between the brake pads before inserting the brake disc(s).
3. Make sure the slot in the speedometer gear unit fits over the stopper on the front fork outer tube.



4. Make sure the wheel axle is properly torqued.

Tightening torque:
58 Nm (5.8 m • kg, 42 ft • lb)

5. Before tightening the pinch bolt, stroke the front fork several times to check for proper fork operation.
6. Tighten the pinch bolt.

Tightening torque:
19 Nm (1.9 m • kg, 13 ft • lb)

7. Tighten the front fender securing bolts.

Tightening torque:
9 Nm (0.9 m • kg, 6.5 ft • lb)

EAJ39000

Rear wheel removal

EUU66201

⚠ WARNING

It is advisable to have a Yamaha dealer service the wheel.

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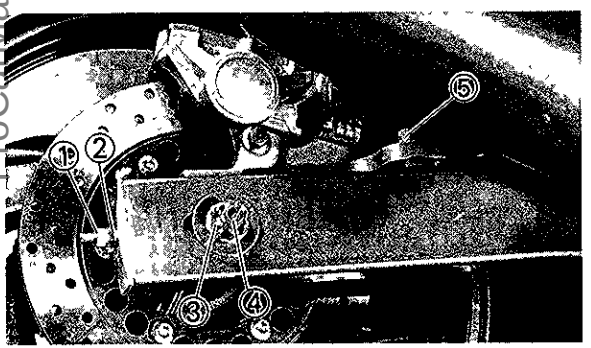
EUU65700

⚠ WARNING

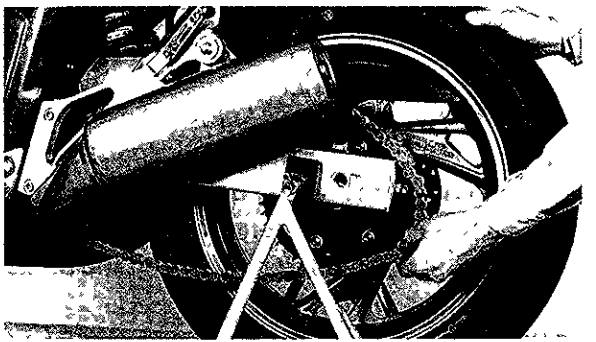
Securely support the motorcycle so there is no danger of it falling over.

1. Elevate the rear wheel by placing a suitable stand under the rear arm.
2. Remove the axle nut cotter pin and the axle nut.
3. Loosen the lock nuts and chain adjusters on each side.



1. Lock nut 2. Adjuster 3 Axle nut 4 Cotter pin
5 Caliper bracket installation bolt

4. While supporting the brake caliper, pull out the wheel axle.
5. Push the wheel forward and remove the drive chain.



6. Remove the wheel assembly.

EUU05501

NOTE:

Do not depress the brake pedal when the disc and caliper are separated.

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EUU05600

NOTE:

You do not have to disassemble the chain in order to remove or install the rear wheel.

EAJ32401

Rear wheel installation

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

1. Make sure the slot in the caliper bracket is fit over the stopper on the rear arm.
2. Make sure there is enough gap between the brake pads before inserting the brake disc.
3. Adjust the drive chain.
4. Make sure the following parts are properly torqued, and a new cotter pin is installed.

EUU64700

⚠ WARNING

Always use a new cotter pin on the axle nut.

Tightening torque:
Axle nut:
110 Nm (11.0 m • kg, 80 ft • lb)
Caliper bracket installation bolt:
35 Nm (3.5 m • kg, 25 ft • lb)

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EAJ50002

Troubleshooting

Although Yamaha motorcycles receive a rigid inspection before shipment from the factory, trouble may occur during operation. Any problem in the fuel, compression, or ignition systems can cause poor starting and loss of power. The troubleshooting chart describes a quick, easy procedure for making checks. If your motorcycle requires any repair, bring it to a Yamaha dealer. The skilled technicians at a Yamaha dealership have the tools, experience, and know-how to properly service your motorcycle. Use only genuine Yamaha parts on your motorcycle. Imitation parts may look like Yamaha parts, but they are often inferior. Consequently, they have a shorter service life and can lead to expensive repair bills.

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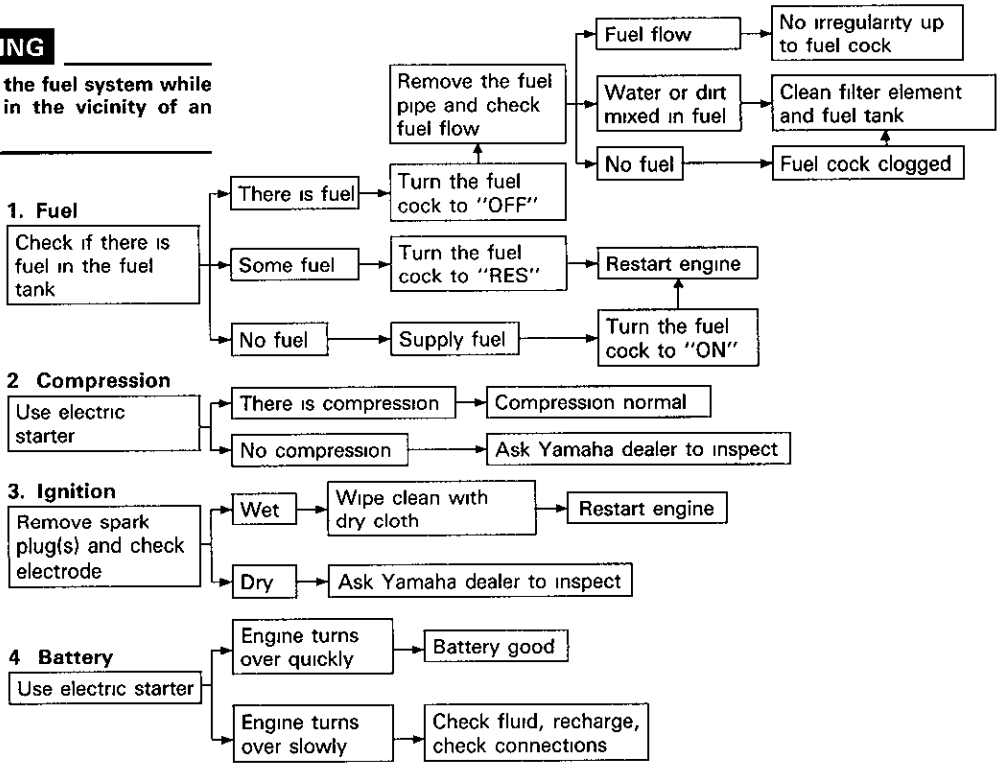
EAJ51600

Troubleshooting chart

EUU66300

⚠ WARNING

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



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EAK00000

CLEANING AND STORAGE

EAK01301

A. CLEANING

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

1. Before cleaning the motorcycle:
   a. Block off the end of the exhaust pipe to prevent water entry; a plastic bag and strong rubber band may be used.
   b. Make sure the spark plug(s) and all filler caps are properly installed.
2. If the engine case is excessively greasy, apply degreaser with a paint brush. Do not apply degreaser to the chain, sprockets, or wheel axles.
3. Rinse the dirt and degreaser off with a garden hose. Use only enough pressure to do the job.

EUU34601

CAUTION:

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

4. Once the majority of the dirt has been hosed off, wash all surfaces with warm water and mild, detergent-type soap. An old toothbrush or bottle brush is handy for hard-to-get-at places.
5. Rinse the motorcycle off immediately with clean water and dry all surfaces with a chamois, clean towel, or soft absorbent cloth.
6. Dry the chain and lubricate it to prevent rust.

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7. Windscreen cleaning

EUU37400

CAUTION:

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

Clean the windscreen with a cloth or sponge dampened with a neutral detergent, and after cleaning, thoroughly wash it off with water. Some cleaning compounds for plastics may leave scratches on surfaces of the windscreen. Before using them, 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 the paint or protective finish on the fuel tank and side covers. When finished, start the engine and let it idle for several minutes

EAK01200

B. STORAGE

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

1. Drain the fuel tank, fuel lines, and carburetor float bowl(s).
2. Remove the empty fuel tank, pour a cup of SAE 10W30 or 20W40 motor oil in the tank, shake the tank to coat the inner surfaces thoroughly and drain off the excess oil. Reinstall the tank.

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3. Remove the spark plug, pour about one tablespoon of SAE 10W30 or 20W40 motor oil in the spark plug hole and reinstall the spark plug. Turn the engine over several times (ground spark plug lead wires) to coat the cylinder walls with oil.

EUU66400

⚠ WARNING

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

4. Remove the drive chain. Thoroughly clean the chain with kerosene and lubricate it. Reinstall the chain or store it in a plastic bag (tied to frame for safe-keeping).
5. Lubricate all control cables.
6. Block up the frame to raise both wheels off the ground.
7. Tie a plastic bag over the exhaust pipe outlet to prevent moisture from entering.
8. If storing in a 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.
9. Remove the battery and charge it. Store it in a dry place and recharge it once a month. Do not store the battery in an excessively warm or cold place (less than 0°C (30°F) or more than 30°C (90°F)).

EUU05800

NOTE:

Make any necessary repairs before storing the motorcycle.

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SPECIFICATIONS

Model	TDM850D
Dimension:	
Overall length	2,175 mm (85.6 in)
Overall width	780 mm (30.7 in)
Overall height	1,260 mm (49.6 in)
Seat height	795 mm (31.3 in)
Wheel base	1,475 mm (58.1 in)
Minimum ground clearance	160 mm (6.3 in)
Basic weight:	
With oil and full fuel tank	230 kg (507 lb)
Minimum turning radius:	2,900 mm (114.2 in)
Engine:	
Type	Liquid cooled, 4-stroke, gasoline DOHC
Model	4CF2
Cylinder arrangement	Parallel 2-cylinder Forward inclined
Displacement	849 cm^3
Bore × Stroke	89.5 × 67.5 mm (3.52 × 2.66 in)
Compression ratio	9 2 . 1
Starting system	Electric starter
Lubrication system	Dry sump

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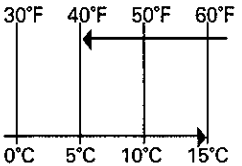
Model	TDM850D
Engine oil (4-cycle): Type  Capacity Periodic oil change With oil filter replacement Total amount	SAE 20W40 type SE motor oil (If temperature does not go below 5°C/40°F) SAE 10W30 type SE motor oil (If temperature does not go above 15°C/60°F) 3.8 L (3.34 Imp qt, 4.02 US qt) 3.9 L (3.43 Imp qt, 4.12 US qt) 4.2 L (3.70 Imp qt, 4.44 US qt)
Radiator capacity (Including all routes)	1.7 L (1.50 Imp qt, 1.80 US qt)
Air filter:	Dry type element
Fuel: Type Tank capacity Reserve amount	Regular gasoline For Australia: Unleaded fuel only 18 L (3.96 Imp gal, 4.76 US gal) 3.5 L (0.77 Imp gal, 0.92 US gal)
Carburetor: Type/manufacturer	BDST38/MIKUNI

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Model	TDM850D
Spark plug:	
Type/manufacturer	DPR9EA-9 (NGK) or X27EPR-U9 (NIPPONDENSO)
Gap	0.8~0.9 mm (0.031~0.035 in)
Clutch type:	Wet, multi-disc
Transmission:	
Primary reduction system	Spur gear
Primary reduction ratio	67/39 (1.718)
Secondary reduction system	Chain drive
Secondary reduction ratio	44/16 (2.750)
Transmission type	Constant mesh 5-speed
Operation	Left foot operation
Gear ratio	
1st	37/13 (2.846)
2nd	37/20 (1.850)
3rd	29/22 (1.318)
4th	29/27 (1.074)
5th	27/30 (0.900)

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Model	TDM850D
Chassis: Frame type Caster angle Trail	 Pressed backbone 25.0° 105 mm (4.13 in)
Tire: Type Size — Front Rear	 Tubeless 110/80-18 58H 150/70-17 69H
Brake: Front brake type Operation Rear brake type Operation	 Dual, Disc brake Right hand operation Single, Disc brake Right foot operation
Suspension: Front Rear	 Telescopic fork Swingarm
Shock absorber: Front Rear	 Coil spring, Oil damper Gas, Coil spring, Oil damper

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Model	TDM850D
Wheel travel: Front Rear	 160 mm (6.30 in) 140 mm (5 51 in)
Electrical: Ignition system Generator system Battery type/capacity	 TCI (Digital) AC Magneto generator YTX12-BS/12V 10AH or GTX12-BS/12V10AH
Headlight type:	Bulb
Bulb wattage/quantity Headlight Tail/brake light Flasher light Meter light	 12V 35W/35W × 2 12V 5W/21W × 2 12V 21W × 4 12V 3 4W × 4
Indicator light wattage/quantity. "NEUTRAL" "HIGH BEAM" "TURN"	 12V 3.4W × 1 12V 3.4W × 1 12V 3.4W × 1

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EAL00800

NOISE REGULATION (FOR Australia)

"TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED"

Owners are warned that the law may prohibit:

(a) 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; and

(b) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

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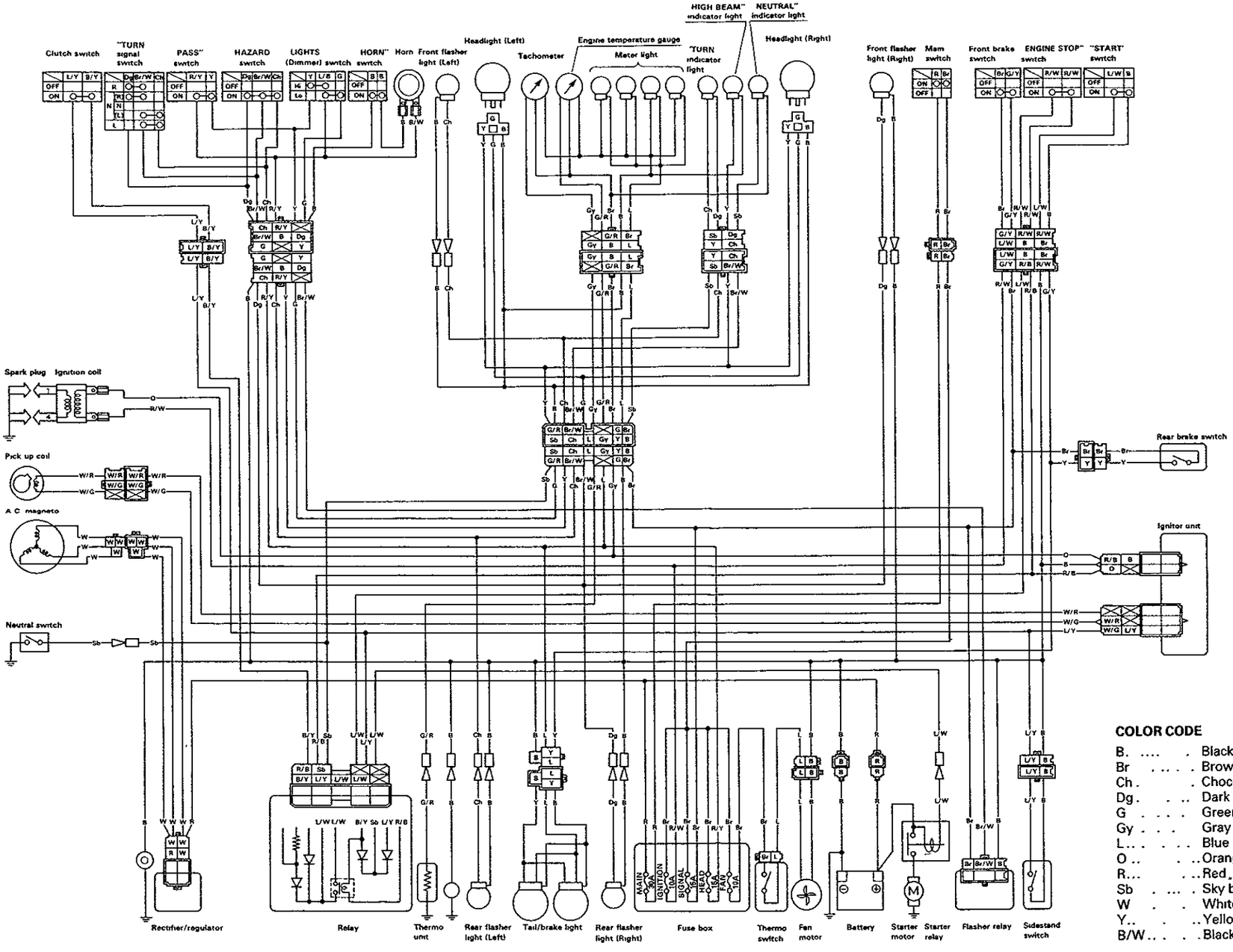
WIRING DIAGRAM



COLOR CODE

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