



2008

**OWNER'S SERVICE MANUAL
MANUEL D'ATELIER DU
PROPRIETAIRE
FAHRER- UND
WARTUNGSHANDBUCH
MANUALE DI SERVIZIO DEL
PROPRIETARIO**

YZ125(X)/X1

1C3-28199-33



2008

OWNER'S SERVICE MANUAL

YZ125(X)/X1

1C3-28199-33-E0

YZ125 (X)/X1

OWNER'S SERVICE MANUAL

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FOREWORD

INTRODUCTION

Congratulations on your purchase of a Yamaha YZ series. This model is the culmination of Yamaha's vast experience in the production of pacesetter racing machines. It represents the highest grade of craftsmanship and reliability that have made Yamaha a leader.

This manual explains operation, inspection, basic maintenance and tuning of your machine. If you have any questions about this manual or your machine, please contact your Yamaha dealer.

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 you have any questions concerning this manual, please consult your Yamaha dealer.

WARNING

PLEASE READ THIS MANUAL CAREFULLY AND COMPLETELY BEFORE OPERATING THIS MACHINE. DO NOT ATTEMPT TO OPERATE THIS MACHINE UNTIL YOU HAVE ATTAINED A SATISFACTORY KNOWLEDGE OF ITS CONTROLS AND OPERATING FEATURES AND UNTIL YOU HAVE BEEN TRAINED IN SAFE AND PROPER RIDING TECHNIQUES. REGULAR INSPECTIONS AND CAREFUL MAINTENANCE, ALONG WITH GOOD RIDING SKILLS, WILL ENSURE THAT YOU SAFELY ENJOY THE CAPABILITIES AND THE RELIABILITY OF THIS MACHINE.

PARTICULARLY IMPORTANT INFORMATION



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 machine operator, a bystander, or a person inspecting or repairing the machine.

CAUTION:

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

NOTE:

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

IMPORTANT NOTICE

THIS MACHINE IS DESIGNED STRICTLY FOR COMPETITION USE, ONLY ON A CLOSED COURSE. It is illegal for this machine to be operated on any public street, road, or highway. Off-road use on public lands may be illegal. Please check local regulations before riding.

SAFETY INFORMATION

- 1. THIS MACHINE IS TO BE OPERATED BY AN EXPERIENCED RIDER ONLY.**
Do not attempt to operate this machine at maximum power until you are totally familiar with its characteristics.
- 2. THIS MACHINE IS DESIGNED TO BE RIDDEN BY THE OPERATOR ONLY.**
Do not carry passengers on this machine.
- 3. ALWAYS WEAR PROTECTIVE APPAREL.**
When operating this machine, always wear an approved helmet with goggles or a face shield. Also wear heavy boots, gloves, and protective clothing. Always wear proper fitting clothing that will not be caught in any of the moving parts or controls of the machine.
- 4. ALWAYS MAINTAIN YOUR MACHINE IN PROPER WORKING ORDER.**
For safety and reliability, the machine must be properly maintained. Always perform the pre-operation checks indicated in this manual. Correcting a mechanical problem before you ride may prevent an accident.
- 5. GASOLINE IS HIGHLY FLAMMABLE.**
Always turn off the engine while refueling. Take care to not spill any gasoline on the engine or exhaust system. Never refuel in the vicinity of an open flame, or while smoking.
- 6. GASOLINE CAN CAUSE INJURY.**
If you should swallow some gasoline, inhale excess gasoline vapors, or allow any gasoline to get into your eyes, contact a doctor immediately. If any gasoline spills onto your skin or clothing, immediately wash skin areas with soap and water, and change your clothes.
- 7. ONLY OPERATE THE MACHINE IN AN AREA WITH ADEQUATE VENTILATION.**
Never start the engine or let it run for any length of time in an enclosed area. Exhaust fumes are poisonous. These fumes contain carbon monoxide, which by itself is odorless and colorless. Carbon monoxide is a dangerous gas which can cause unconsciousness or can be lethal.
- 8. PARK THE MACHINE CAREFULLY; TURN OFF THE ENGINE.**
Always turn off the engine if you are going to leave the machine. Do not park the machine on a slope or soft ground as it may fall over.
- 9. PROPERLY SECURE THE MACHINE BEFORE TRANSPORTING IT.**
When transporting the machine in another vehicle, always be sure it is properly secured and in an upright position and that the fuel cock is in the "OFF" position. Otherwise, fuel may leak out of the carburetor or fuel tank.

TO THE NEW OWNER

This manual will provide you with a good basic understanding of features, operation, and basic maintenance and inspection items of this machine. Please read this manual carefully and completely before operating your new machine. If you have any questions regarding the operation or maintenance of your machine, please consult your Yamaha dealer.

NOTE:

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

NOTICE

Some data in this manual may become outdated due to improvements made to this model in the future. If there is any question you have regarding this manual or your machine, please consult your Yamaha dealer.

F.I.M. MACHINE WEIGHTS

Weights of machines without fuel

The minimum weights for motocross machines are:

for the class 125 cc:
minimum 88 kg (194 lb)

for the class 250 cc:
minimum 98 kg (216 lb)

for the class 500 cc:
minimum 102 kg (225 lb)

In modifying your machine (e.g., for weight reduction), take note of the above limits of weight.

HOW TO USE THIS MANUAL

FINDING THE REQUIRED PAGE

1. This manual consists of seven chapters; "General Information", "Specifications", "Regular inspection and adjustments", "Engine", "Chassis", "Electrical" and "Tuning"
2. The table of contents is at the beginning of the manual. Look over the general layout of the book before finding then required chapter and item.

Bend the book at its edge, as shown, to find the required fore edge symbol mark and go to a page for required item and description.



MANUAL FORMAT

All of the procedures in this manual are organized in a sequential, step-by-step format. The information has been compiled to provide the mechanic with an easy to read, handy reference that contains comprehensive explanations of all disassembly, repair, assembly, and inspection operations.

In this revised format, the condition of a faulty component will precede an arrow symbol and the course of action required will follow the symbol, e.g.,

- Bearings
Pitting/damage → Replace.

HOW TO READ DESCRIPTIONS

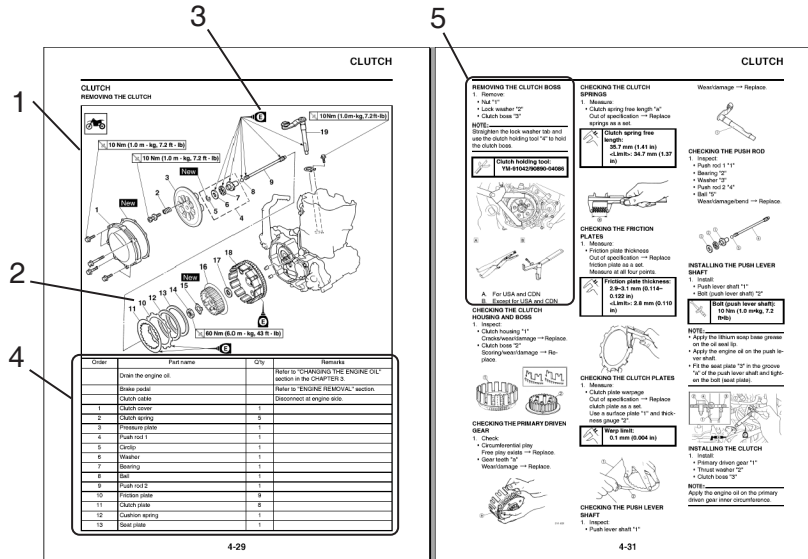
To help identify parts and clarify procedure steps, there are exploded diagrams at the start of each removal and disassembly section.

1. An easy-to-see exploded diagram "1" is provided for removal and disassembly jobs.
2. Numbers "2" are given in the or-

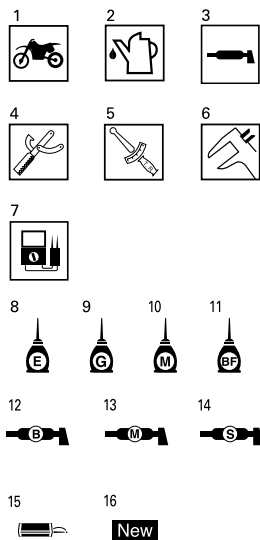
der of the jobs in the exploded diagram. A number that is enclosed by a circle indicates a disassembly step.

3. An explanation of jobs and notes is presented in an easy-to-read way by the use of symbol marks "3". The meanings of the symbol marks are given on the next page.

4. A job instruction chart "4" accompanies the exploded diagram, providing the order of jobs, names of parts, notes in jobs, etc.
5. For jobs requiring more information, the step-by-step format supplements "5" are given in addition to the exploded diagram and job instruction chart.



ILLUSTRATED SYMBOLS (Refer to the illustration)



Illustrated symbols "1" to "7" are used to identify the specifications appearing in the text.

1. With engine mounted
2. Filling fluid
3. Lubricant
4. Special tool
5. Tightening
6. Specified value, Service limit
7. Resistance (Ω), Voltage (V), Electric current (A)

Illustrated symbols "8" to "14" in the exploded diagrams indicate grade of lubricant and location of lubrication point.

8. Apply engine mixing oil
9. Apply transmission oil
10. Apply molybdenum disulfide oil
11. Apply brake fluid
12. Apply lightweight lithium-soap base grease
13. Apply molybdenum disulfide grease
14. Apply silicone grease

Illustrated symbols "15" to "16" in the exploded diagrams indicate where to apply a locking agent and where to install new parts.

15. Apply locking agent (LOCTITE®)
16. Use new one

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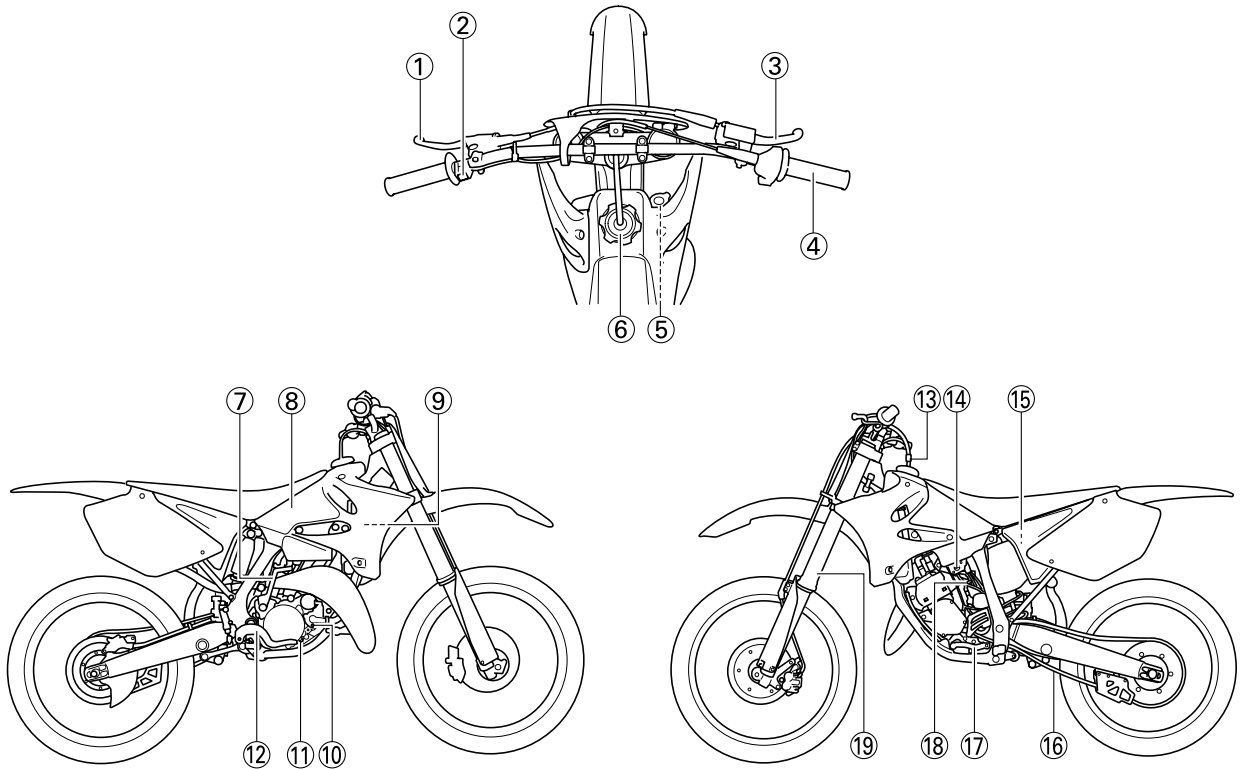
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GENERAL INFORMATION

DESCRIPTION



- | | |
|---|------------------|
| 1. Clutch lever | 14. Fuel cock |
| 2. Engine stop switch | 15. Air filter |
| 3. Front brake lever | 16. Drive chain |
| 4. Throttle grip | 17. Shift pedal |
| 5. Radiator cap | 18. Starter knob |
| 6. Fuel tank cap | 19. Front fork |
| 7. Kickstarter crank | |
| 8. Fuel tank | |
| 9. Radiator | |
| 10. Coolant drain bolt | |
| 11. Check bolt (Transmission oil level) | |
| 12. Rear brake pedal | |
| 13. Valve joint | |

NOTE:

- The machine you have purchased may differ slightly from those shown in the following.
- Designs and specifications are subject to change without notice.

MACHINE IDENTIFICATION

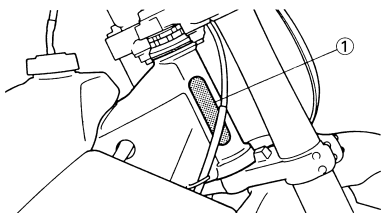
MACHINE IDENTIFICATION

There are two significant reasons for knowing the serial number of your machine:

1. When ordering parts, you can give the number to your Yamaha dealer for positive identification of the model you own.
2. If your machine is stolen, the authorities will need the number to search for and identify your machine.

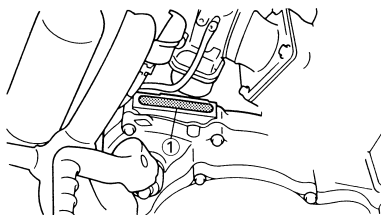
VEHICLE IDENTIFICATION NUMBER

The vehicle identification number "1" is stamped on the right of the steering head pipe.



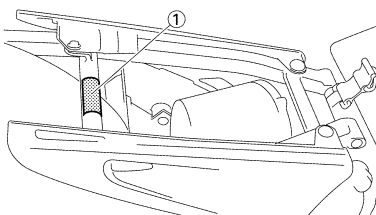
ENGINE SERIAL NUMBER

The engine serial number "1" is stamped into the elevated part of the right-side of the engine.



MODEL LABEL

The model label "1" is affixed to the frame under the rider's seat. This information will be needed to order spare parts.



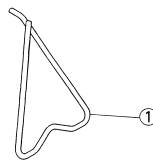
INCLUDED PARTS

DETACHABLE SIDESTAND

This sidestand "1" is used to support only the machine when standing or transporting it.

⚠ WARNING

- Never apply additional force to the sidestand.
- Remove this sidestand before starting out.

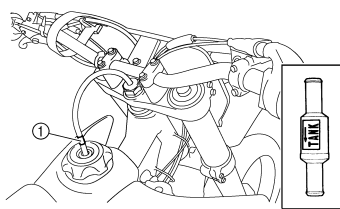


VALVE JOINT

This valve joint "1" prevents fuel from flowing out and is installed to the fuel tank breather hose.

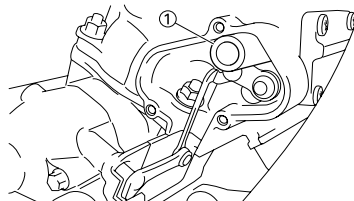
CAUTION:

In this installation, make sure the arrow faces the fuel tank and also downward.



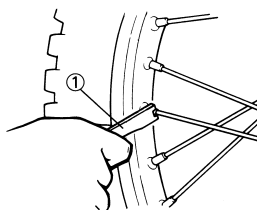
COLLAR (tool for YPVS)

This collar "1" is used to remove and install the push rod of the engine.



NIPPLE WRENCH

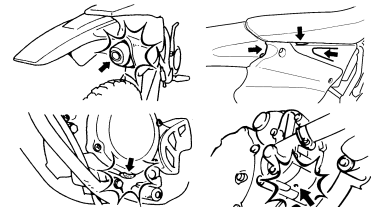
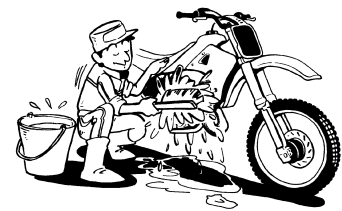
This nipple wrench "1" is used to tighten the spoke.



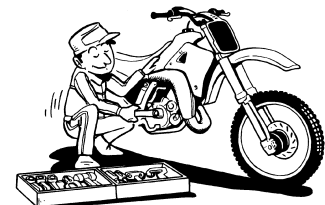
IMPORTANT INFORMATION PREPARATION FOR REMOVAL AND DISASSEMBLY

1. Remove all dirt, mud, dust, and foreign material before removal and disassembly.
 - When washing the machine with high pressured water, cover the parts follows.
 - Silencer exhaust port
 - Side cover air intake port
 - Crankcase cover hole at the bottom
 - Water pump housing hole at the bottom

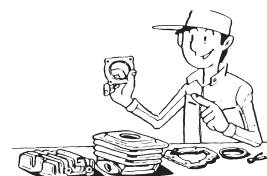
End of each hose



2. Use proper tools and cleaning equipment. Refer to "SPECIAL TOOLS" section.



3. When disassembling the machine, keep mated parts together. They include gears, cylinders, pistons, and other mated parts that have been "mated" through normal wear. Mated parts must be reused as an assembly or replaced.



4. During the machine disassembly, clean all parts and place them in trays in the order of disassembly. This will speed up assembly time and help assure that all parts are correctly reinstalled.



5. Keep away from fire.

ALL REPLACEMENT PARTS

1. We recommend to use Yamaha genuine parts for all replacements. Use oil and/or grease rec-

CHECKING OF CONNECTION

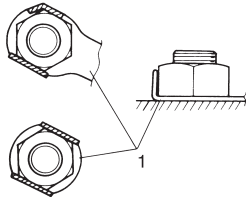
ommended by Yamaha for assembly and adjustment.

GASKETS, OIL SEALS AND O-RINGS

1. All gaskets, oil seals, and O-rings should be replaced when an engine is overhauled. All gasket surfaces, oil seal lips, and O-rings must be cleaned.
2. Properly oil all mating parts and bearings during reassembly. Apply grease to the oil seal lips.

LOCK WASHERS/PLATES AND COTTER PINS

1. All lock washers/plates "1" and cotter pins must be replaced when they are removed. Lock tab(s) should be bent along the bolt or nut flat(s) after the bolt or nut has been properly tightened.

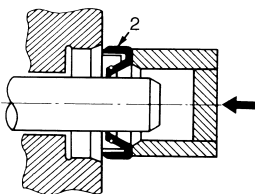
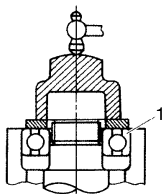


BEARINGS AND OIL SEALS

1. Install the bearing(s) "1" and oil seal(s) "2" with their manufacturer's marks or numbers facing outward. (In other words, the stamped letters must be on the side exposed to view.) When installing oil seal(s), apply a light coating of lightweight lithium base grease to the seal lip(s). Oil the bearings liberally when installing.

CAUTION:

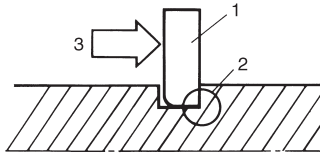
Do not use compressed air to spin the bearings dry. This causes damage to the bearing surfaces.



CIRCLIPS

1. All circlips should be inspected

carefully before reassembly. Always replace piston pin clips after one use. Replace distorted circlips. When installing a circlip "1", make sure that the sharp-edged corner "2" is positioned opposite to the thrust "3" it receives. See the sectional view.



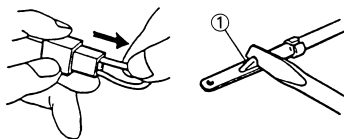
CHECKING OF CONNECTION

Dealing with stains, rust, moisture, etc. on the connector.

1. Disconnect:
 - Connector
2. Dry each terminal with an air blower.



3. Connect and disconnect the connector two or three times.
4. Pull the lead to check that it will not come off.
5. If the terminal comes off, bend up the pin "1" and reinsert the terminal into the connector.



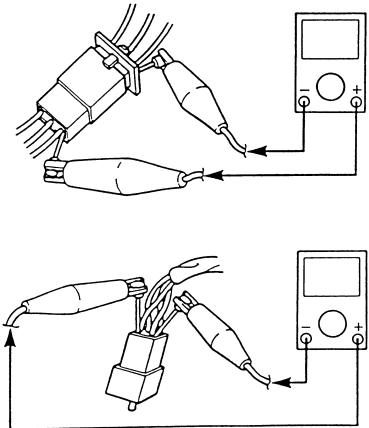
6. Connect:
 - Connector

NOTE: The two connectors "click" together.

7. Check for continuity with a tester.

- NOTE:**
- If there is no continuity, clean the terminals.
 - Be sure to perform the steps 1 to 7 listed above when checking the wire harness.
 - For a field remedy, use a contact revitalizer available on the market.
 - Use the tester on the connector as

shown.



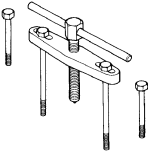
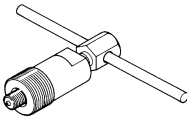
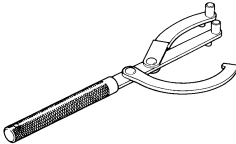
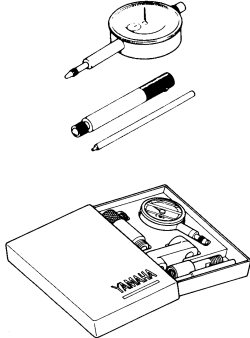
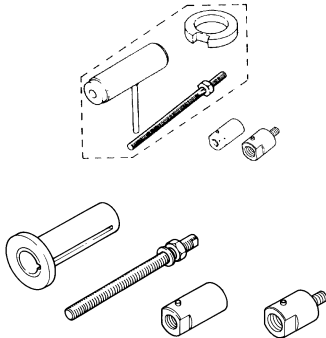
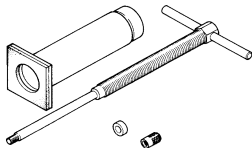
SPECIAL TOOLS

SPECIAL TOOLS

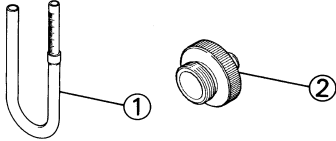
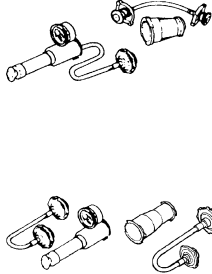
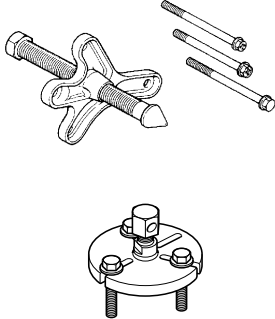
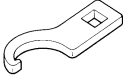

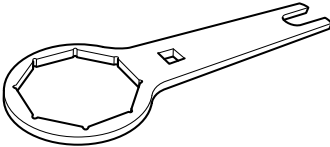
The proper special tools are necessary for complete and accurate tune-up and assembly. Using the correct special tool will help prevent damage caused by the use of improper tools or improvised techniques. The shape and part number used for the special tool differ by country, so two types are provided. Refer to the list provided to avoid errors when placing an order.

NOTE:

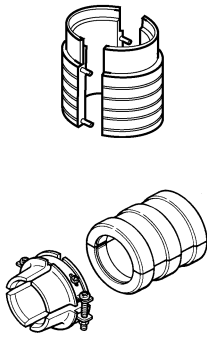
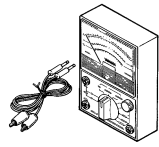
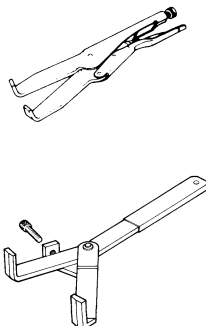
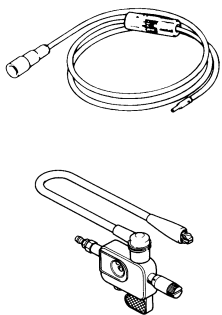
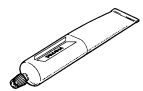
- For U.S.A. and Canada, use part number starting with "YM-", "YU-" or "ACC-".
- For others, use part number starting with "90890-".

Tool name/Part number	How to use	Illustration
Crankcase separating tool YU-1135-A, 90890-01135	These tool is used to remove the crankshaft from either case.	
Flywheel puller YM-1189, 90890-01189	This tool is used to remove the flywheel magneto.	
Rotor holding tool YU-1235, 90890-01235	This tool is used when loosening or tightening the flywheel magneto securing nut.	
Dial gauge and stand YU-3097, 90890-01252 Stand YU-1256	These tools are used to check each part for runout or bent.	
Crankshaft installing tool Crankshaft installing pot YU-90050, 90890-01274 Crankshaft installing bolt YU-90050, 90890-01275 Adapter YU-90063, 90890-01278 Adapter YU-01499, 90890-01499	These tools are used to install the crankshaft.	
Piston pin puller set YU-1304, 90890-01304	This tool is used to remove the piston pin.	

SPECIAL TOOLS

Tool name/Part number	How to use	Illustration
Fuel level gauge "1" YM-1312-A, 90890-01312 Fuel level gauge adaptor "2" YM-01470, 90890-01470	This gauge is used to measure the fuel level in the float chamber.	
Radiator cap tester YU-24460-01, 90890-01325 Radiator cap tester adapter YU-33984, 90890-01352	These tools are used for checking the cooling system.	
Flywheel puller YU-33270-B, 90890-01362	These tool is used to split the crank-case.	
Steering nut wrench YU-33975, 90890-01403	This tool is used when tighten the steering ring nut to specification.	
Cap bolt wrench YM-01500, 90890-01500	This tool is used to loosen or tighten the base valve.	
Cap bolt ring wrench YM-01501, 90890-01501	This tool is used to loosen or tighten the damper assembly.	

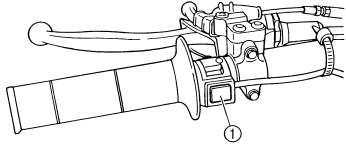
SPECIAL TOOLS

Tool name/Part number	How to use	Illustration
Fork seal driver YM-A0948, 90890-01502	This tool is used when install the fork oil seal.	
Pocket tester YU-3112-C, 90890-03112	Use this tool to inspect the coil resistance, output voltage and amperage.	
Clutch holding tool YM-91042, 90890-04086	This tool is used to hold the clutch when removing or installing the clutch boss securing nut.	
Dynamic spark tester YM-34487 Ignition checker 90890-06754	This instrument is necessary for checking the ignition system components.	
YAMAHA Bond No. 1215 (ThreeBond® No. 1215) 90890-85505	This sealant (Bond) is used for crankcase mating surface, etc.	

CONTROL FUNCTIONS

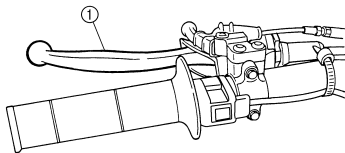
ENGINE STOP SWITCH

The engine stop switch "1" is located on the left handlebar. Continue pushing the engine stop switch till the engine comes to a stop.



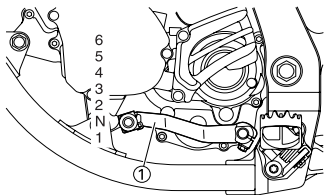
CLUTCH LEVER

The clutch lever "1" is located on the left handlebar; it disengages or engages the clutch. Pull the clutch lever to the handlebar to disengage the clutch, and release the lever to engage the clutch. The lever should be pulled rapidly and released slowly for smooth starts.



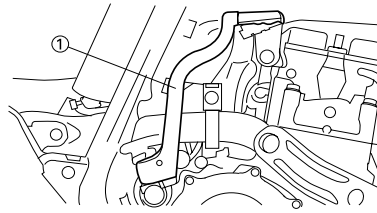
SHIFT PEDAL

The gear ratios of the constant-mesh 6 speed transmission are ideally spaced. The gears can be shifted by using the shift pedal "1" on the left side of the engine.



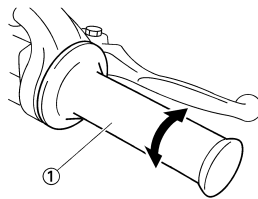
KICKSTARTER CRANK

Rotate the kickstarter crank "1" away from the engine. Push the starter down lightly with your foot until the gears engage, then kick smoothly and forcefully to start the engine. This model has a primary kickstarter crank so the engine can be started in any gear if the clutch is disengaged. In normal practices, however, shift to neutral before starting.



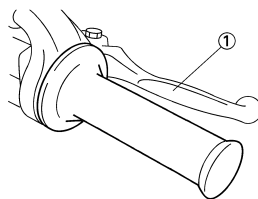
THROTTLE GRIP

The throttle grip "1" is located on the right handlebar; it accelerates or decelerates the engine. For acceleration, turn the grip toward you; for deceleration, turn it away from you.



FRONT BRAKE LEVER

The front brake lever "1" is located on the right handlebar. Pull it toward the handlebar to activate the front brake.



REAR BRAKE PEDAL

The rear brake pedal "1" is located on the right side of the machine. Press down on the brake pedal to activate the rear brake.



FUEL COCK

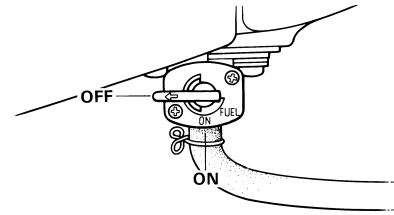
The fuel cock supplies fuel from the tank to carburetor and also filters the fuel. The fuel cock has the two positions:

OFF:

With the lever in this position, fuel will not flow. Always return the lever to this position when the engine is not running.

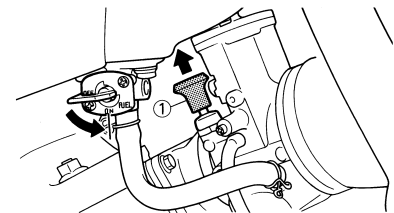
ON:

With the lever in this position, fuel flows to the carburetor. Normal riding is done with the lever in this position.



STARTER KNOB (CHOKE)

When cold, the engine requires a richer air-fuel mixture for starting. A separate starter circuit, which is controlled by the starter knob "1", supplies this mixture. Pull the starter knob out to open the circuit for starting. When the engine has warmed up, push it in to close the circuit.



STARTING AND BREAK-IN

FUEL

Mix oil with the gas at the ratio specified below. Always use fresh, name-brand gasoline, and mix the oil and gas the day of the race. Do not use premix that is more than a few hours old.

	Recommended fuel:
	Premium unleaded gasoline only with a research octane number of 95 or higher.

NOTE:


If knocking or pinging occurs, use a different brand of gasoline or higher octane grade.

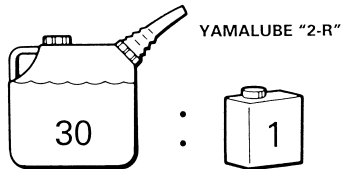
CAUTION:

Never mix two types of oil in the same batch; clotting of the oil could result. If you wish to change oil types, be sure to drain the fuel tank and the carburetor float bowl of old premix prior to filling with the new type.

	Fuel tank capacity:
	8.0 L (1.76 Imp gal, 2.11 US gal)

STARTING AND BREAK-IN

	Mixing oil: Recommended oil: Yamalube "2-R" (Yamalube racing 2-cycle oil) Mixing ratio: 30:1 If unavailable, use an equivalent type of oil.
---	---



HANDLING NOTE

CAUTION:

Before starting the machine, perform the checks in the pre-operation check list.

WARNING

Never start or run the engine in a closed area. The exhaust fumes are poisonous; they can cause loss of consciousness and death in a very short time. Always operate the machine in a well-ventilated area.

STARTING A COLD ENGINE

1. Shift the transmission into neutral.
2. Turn the fuel cock to "ON" and full open the starter knob (CHOKE).
3. With the throttle completely closed start the engine by kicking the kick starter forcefully with firm stroke.
4. Run the engine at idle or slightly higher until it warms up: this usually takes about one or two minutes.
5. The engine is warmed up when it responds normally to the throttle with the starter knob (CHOKE) turned off.

CAUTION:

Do not warm up the engine for extended periods of time.

STARTING A WARM ENGINE

Do not operate the starter knob (CHOKE). Open the throttle slightly and start the engine by kicking the kick starter forcefully with firm stroke.


CAUTION:

Observe the following break-in procedures during initial operation to ensure optimum performance

and avoid engine damage.

BREAK-IN PROCEDURES

1. Before starting the engine, fill the fuel tank with a break-in oil-fuel mixture as follows.

	Mixing oil: Yamalube "2-R" Mixing ratio: 15:1
---	--

2. Perform the pre-operation checks on the machine.
3. Start and warm up the engine. Check the idle speed, and check the operation of the controls and the "ENGINE STOP" button.
4. Operate the machine in the lower gears at moderate throttle openings for five to eight minutes. Stop and check the spark plug condition; it will show a rich condition during break-in.
5. Allow the engine to cool. Restart the engine and operate the machine as in the step above for five minutes. Then, very briefly shift to the higher gears and check full-throttle response. Stop and check the spark plug.
6. After again allowing the engine to cool, restart and run the machine for five more minutes. Full throttle and the higher gears may be used, but sustained full-throttle operation should be avoided. Check the spark plug condition.
7. Allow the engine to cool, remove the top end, and inspect the piston and cylinder. Remove any high spots on the piston with #600 grit wet sandpaper. Clean all components and carefully reassemble the top end.
8. Drain the break-in oil-fuel mixture from the fuel tank and refill with the specified mix.
9. Restart the engine and check the operation of the machine throughout its entire operating range. Stop and check the spark plug condition. Restart the machine and operate it for about 10 to 15 more minutes. The machine will now be ready to race.

CAUTION:

- After the break-in or before each race, you must check the entire machine for loose fittings and fasteners as per "TORQUE-CHECK POINTS". Tighten all such fasteners as required.

- When any of the following parts have been replaced, they must be broken in.

CYLINDER AND CRANKSHAFT: About one hour of break-in operation is necessary.

PISTON, RING AND GEARS: These parts require about 30 minutes of break-in operation at half-throttle or less. Observe the condition of the engine carefully during operation.

TORQUE-CHECK POINTS

TORQUE-CHECK POINTS

Frame construction			Frame to rear frame	
		Combined seat and fuel tank	Fuel tank to frame	
Exhaust system			Silencer to rear frame	
Engine mounting			Frame to engine	
			Engine bracket to engine	
			Engine bracket to frame	
Steering		Steering stem to handlebar		
			Steering stem to frame	
			Steering stem to upper bracket	
		Upper bracket to handlebar		
Suspension	Front	Steering stem to front fork		
			Front fork to upper bracket	
			Front fork to lower bracket	
	Rear	For link type		Assembly of links
				Link to frame
				Link to rear shock absorber
				Link to swingarm
Installation of rear shock absorber		Rear shock absorber to frame		
Installation of swingarm		Tightening of pivot shaft		
Wheel		Installation of wheel		
		Front	Tightening of wheel axle	
			Tightening of axle holder	
		Rear	Tightening of wheel axle	
Wheel to rear wheel sprocket				
Brake		Front	Brake caliper to front fork	
			Brake disc to wheel	
			Tightening of union bolt	
			Brake master cylinder to handlebar	
			Tightening of bleed screw	
			Tightening of brake hose holder	
		Rear	Brake pedal to frame	
			Brake disc to wheel	
			Tightening of union bolt	
			Brake master cylinder to frame	
			Tightening of bleed screw	
		Tightening of brake hose holder		
Fuel system			Fuel tank to fuel cock	

NOTE:

Concerning the tightening torque, refer to "TIGHTENING TORQUES" section in the CHAPTER 2.

CLEANING AND STORAGE

CLEANING

Frequent cleaning of your machine will enhance its appearance, maintain good overall performance, and extend the life of many components.

1. Before washing the machine, block off the end of the exhaust pipe to prevent water from entering. A plastic bag secured with a rubber band may be used for this purpose.
2. If the engine is excessively greasy, apply some degreaser to it 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.

CAUTION:

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

4. After the majority of the dirt has been hosed off, wash all surfaces with warm water and a mild detergent. Use an old toothbrush to clean hard-to-reach places.
5. Rinse the machine off immediately with clean water, and dry all surfaces with a soft towel or cloth.
6. Immediately after washing, remove excess water from the chain with a paper towel and lubricate the chain to prevent rust.
7. Clean the seat with a vinyl upholstery cleaner to keep the cover pliable and glossy.
8. Automotive wax may be applied to all painted or chromed surfaces. Avoid combination cleaner-waxes, as they may contain abrasives.
9. After completing the above, start the engine and allow it to idle for several minutes.

STORAGE

If your machine is to be stored for 60 days or more, some preventive measures must be taken to avoid deterioration. After cleaning the machine thoroughly, prepare it for storage as follows:

1. Drain the fuel tank, fuel lines, and

the carburetor float bowl.

2. Remove the spark plug, pour a tablespoon of SAE 10W-30 motor oil in the spark plug hole, and reinstall the plug. With the engine stop switch pushed in, kick the engine over several times to coat the cylinder walls with oil.
3. Remove the drive chain, clean it thoroughly with solvent, and lubricate it. Reinstall the chain or store it in a plastic bag tied to the frame.
4. Lubricate all control cables.
5. Block the frame up to raise the wheels off the ground.
6. Tie a plastic bag over the exhaust pipe outlet to prevent moisture from entering.
7. If the machine is to be stored in a humid or salt-air environment, coat all exposed metal surfaces with a film of light oil. Do not apply oil to rubber parts or the seat cover.

NOTE:

Make any necessary repairs before the machine is stored.

GENERAL SPECIFICATIONS

2

SPECIFICATIONS

GENERAL SPECIFICATIONS

Model name:	YZ125X1 (USA, CDN) YZ125 (EUROPE, ZA) YZ125X (AUS, NZ)	
Model code number:	1C3D (USA, CDN) 1C3E (EUROPE) 1C3G (AUS, NZ, ZA)	
Dimensions:	USA, AUS, NZ, ZA	EUROPE, CDN
Overall length	2,135 mm (84.1 in)	2,139 mm (84.2 in)
Overall width	827 mm (32.6 in)	←
Overall height	1,315 mm (51.8 in)	1,318 mm (51.9 in)
Seat height	997 mm (39.3in)	998 mm (39.3 in)
Wheelbase	1,443 mm (56.8 in)	←
Minimum ground clearance	386 mm (15.2 in)	388 mm (15.3 in)
Dry weight:		
Without oil and fuel	86.0kg (189.6 lb)	
Engine:		
Engine type	Liquid cooled 2-stroke, gasoline	
Cylinder arrangement	Single cylinder, forward inclined	
Displacement	124 cm ³ (4.36 Imp oz, 4.19 US oz)	
Bore x stroke	54 x 54.5 mm (2.126 x 2.146 in)	
Compression ratio	8.6–10.7 : 1	
Starting system	Kick starter	
Lubrication system:	Premix (30 : 1)(Yamalube 2-R)	
Oil type or grade (2-stroke):		
Transmission oil	Yamalube 4 (10W-30) or SAE 10W-30 type SE motor oil	
Periodic oil change	0.66 L (0.58 Imp qt, 0.69 US qt)	
Total amount	0.70 L (0.62 Imp qt, 0.74 US qt)	
Coolant capacity (including all routes):	0.9 L (0.79 Imp qt, 0.95 US qt)	
Air filter:	Wet type element	
Fuel:		
Type	Premium unleaded gasoline only with a research octane number of 95 or higher.	
Tank capacity	8.0 L (1.76 Imp gal, 2.11 US gal)	
Carburetor:		
Type/Manufacturer	TMX X 38SS/MIKUNI	
Spark plug:		
Type/Manufacturer	BR9EVX/NGK (resistance type)	
Gap	0.6–0.7 mm (0.024–0.028 in)	
Clutch type:	Wet, multiple-disc	
Transmission:		
Primary reduction system	Gear	
Primary reduction ratio	64/19 (3.368)	
Secondary reduction system	Chain drive	
Secondary reduction ratio	48/13 (3.692)	

MAINTENANCE SPECIFICATIONS

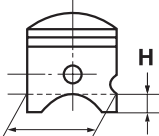
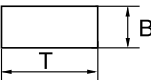
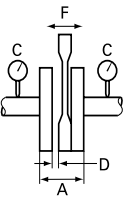
Transmission type	Constant mesh, 6-speed	
Operation	Left foot operation	
Gear ratio:		
1st	31/13 (2.385)	
2nd	29/15 (1.933)	
3rd	27/17 (1.588)	
4th	23/17 (1.353)	
5th	24/20 (1.200)	
6th	23/21 (1.095)	
Chassis:	USA, ZA, AUS, NZ	EUROPE, CDN
Frame type	Semi double cradle	←
Caster angle	25.5 °	25.6 °
Trail	105 mm (4.13 in)	107 mm (4.21 in)
Tire:		
Type	With tube	
Size (front)	80/100-21 51M	
Size (rear)	100/90-19 57M	
Tire pressure (front and rear)	100 kPa (1.0 kgf/cm ² , 15 psi)	
Brake:		
Front brake type	Single disc brake	
Operation	Right hand operation	
Rear brake type	Single disc brake	
Operation	Right foot operation	
Suspension:		
Front suspension	Telescopic fork	
Rear suspension	Swingarm (link type monocross suspension)	
Shock absorber:		
Front shock absorber	Coil spring/oil damper	
Rear shock absorber	Coil spring/gas, oil damper	
Wheel travel:		
Front wheel travel	300 mm (11.8 in)	
Rear wheel travel	315 mm (12.4 in)	
Electrical:		
Ignition system	CDI magneto	

MAINTENANCE SPECIFICATIONS

ENGINE

Item	Standard	Limit
Cylinder head:		
Combustion chamber capacity	8.4 cm ³ (0.296 Imp oz, 0.284 US oz)	----
Warp limit	----	0.03 mm (0.0012 in)
Cylinder:		
Bore size	54.000–54.014 mm (2.1260–2.1265 in)	54.1 mm (2.130 in)
Taper limit	----	0.05 mm (0.0020 in)

MAINTENANCE SPECIFICATIONS

Item	Standard	Limit
Out of round limit	----	0.01 mm (0.0004 in)
Piston: Piston size/ Measuring point "H" 	53.957–53.972 mm (2.1243–2.1249 in) 17.5 mm (0.69 in)	---- ----
Piston clearance	0.040–0.045 mm (0.0016–0.0018 in)	0.1 mm (0.004 in)
Piston offset	0.5 mm (0.019 in)/EX-side	----
Piston pin: Piston pin outside diameter	14.995–15.000 mm (0.5904–0.5906 in)	14.975 mm (0.5896 in)
Piston ring: Sectional sketch 	Plain B=1.0 mm (0.039 in) T=2.35 mm (0.093 in)	---- ---- ----
End gap (installed)	0.5–0.7 mm (0.020–0.028 in)	1.2 mm (0.047 in)
Side clearance (installed)	0.035–0.070 mm (0.0014–0.0028 in)	0.1 mm (0.004 in)
Crankshaft: Crank width "A" Runout limit "C" Connecting rod big end side clearance "D" Small end free play "F" 	55.90–55.95 mm (2.201–2.203 in) 0.03 mm (0.0012 in) 0.06–0.64 mm (0.002–0.025 in) 0.8–1.0 mm (0.031–0.039 in)	---- 0.05 mm (0.0020 in) ---- 2.0 mm (0.08 in) ----
Clutch: Friction plate thickness Quantity Clutch plate thickness Quantity	2.9–3.1 mm (0.114–0.122 in) 8 1.5–1.7 mm (0.059–0.067 in) 7	2.8 mm (0.110 in) ---- ---- ----

MAINTENANCE SPECIFICATIONS

Item	Standard			Limit
Warp limit	----			0.2 mm (0.008 in)
Clutch spring free length	40.1 mm (1.579 in)			38.1 mm (1.500 in)
Quantity	5			----
Clutch housing thrust clearance	0.15–0.26 mm (0.006–0.010 in)			----
Clutch housing radial clearance	0.014–0.046 mm (0.0006–0.0018 in)			----
Clutch release method	Inner push, cam push			----
Transmission:				
Main axle deflection limit	----			0.01 mm (0.0004 in)
Drive axle deflection limit	----			0.01 mm (0.0004 in)
Shifter:				
Shifting type	Cam drum and guide bar			----
Guide bar bending limit	----			0.05 mm (0.0020 in)
Kick starter type:	Kick and mesh type			----
Kick clip friction force	P=0.8–1.2 kg (1.8–2.6 lb)			----
Air filter oil grade (oiled filter):	Foam-air-filter oil or equivalent oil			----
Carburetor:	USA, CDN	EUROPE	AUS, NZ, ZA	
Type/Manufacturer	TMX χ 38SS/ MIKUNI	←	←	
I.D. mark	1C35 30	1C36 40	1C37 50	----
Main jet (M.J.)	#410	#430	←	----
Jet needle-clip position (J.N.)	6BFY42-74-3	6BFY43-74-3	←	----
Cutaway (C.A.)	4.0	←	←	----
Pilot jet (P.J.)	#40	#45	#40	----
Pilot air screw (P.A.S.)	2-1/4	←	←	----
Valve seat size (V.S.)	ϕ 3.8 mm (0.15 in)	←	←	----
Starter jet (G.S.)	#80	←	←	----
Fuel level (F.L.)	9.5–10.5 mm (0.37–0.41 in)	←	←	----
Reed valve:				
Thickness	0.47 mm (0.019 in)			----
Valve stopper height	8.2–8.6 mm (0.323–0.339 in)			----
Valve bending limit	----			0.2 mm (0.008 in)
Cooling:				
Radiator core size:				----
Width	107.8 mm (4.24 in)			----
Height (left)	240 mm (9.45 in)			----
Height (right)	220 mm (8.66 in)			----
Thickness	32 mm (1.26 in)			----
Radiator cap opening pressure	95–125 kPa (0.95–1.25 kg/cm ² , 13.5–17.8 psi)			----
Radiator capacity (total)	0.56 L (0.49 Imp qt, 0.59 US qt)			----

MAINTENANCE SPECIFICATIONS

Item	Standard	Limit
Water pump:		
Type	Single-suction centrifugal pump	----

CHASSIS

Item	Standard		Limit
Steering system:			
Steering bearing type	Taper roller bearing		----
Front suspension:	USA, CDN, ZA, AUS, NZ	EUROPE	
Front fork travel	300 mm (11.8 in)	←	----
Fork spring free length	454 mm (17.9 in)	←	449 mm (17.7 in)
Spring rate, STD	K=4.1 N/mm (0.418 kg/mm, 23.4 lb/in)	←	----
Optional spring	Yes	←	----
Oil capacity	524 cm ³ (18.4 Imp oz, 17.7 US oz)	526 cm ³ (18.5 Imp oz, 17.8 US oz)	----
Oil grade	Suspension oil "S1"	←	----
Inner tube outer diameter	48 mm (1.89 in)	←	----
Front fork top end	5 mm (0.2 in)	←	----
Rear suspension:	USA, CDN, ZA, AUS, NZ	EUROPE	
Shock absorber travel	131.5 mm (5.18 in)	←	----
Spring free length	Approx.265 mm (10.43 in)	←	----
Fitting length			----
One I.D. mark	258 mm (10.16 in)	252 mm (9.92 in)	----
Two I.D. marks	264 mm (10.39 in)	258 mm (10.16 in)	----
Three I.D. marks	255.5 mm (10.06 in)	249.5 mm (9.82 in)	----
<Min.–Max.>			
One I.D. mark	245.5–263.5 mm (9.67–10.37 in)	←	----
Two I.D. marks	251.5–269.5 mm (9.90–10.61 in)	←	----
Three I.D. marks	243.0–261.0 mm (9.57–10.28 in)	←	----
Spring rate, STD	K=46.0 N/mm (4.70 kg/mm, 263.2 lb/in)	←	----
Optional spring	Yes	←	----
Enclosed gas pressure	1,000 kPa (10 kg/cm ² , 142 psi)	←	----
Swingarm:			
Swingarm free play limit			
End	----		1.0 mm (0.04 in)
Side clearance	----		0.2–0.9 mm (0.008–0.035 in)

MAINTENANCE SPECIFICATIONS

Item	Standard	Limit
Wheel:		
Front wheel type	Spoke wheel	----
Rear wheel type	Spoke wheel	----
Front rim size/material	21 × 1.60/Aluminum	----
Rear rim size/material	19 × 1.85/Aluminum	----
Rim runout limit:		
Radial	----	2.0 mm (0.08 in)
Lateral	----	2.0 mm (0.08 in)
Drive chain:		
Type/manufacturer	DID520DMA2 SDH/DAIDO	----
Number of links	111 links + joint	----
Chain slack	48–58 mm (1.9–2.3 in)	----
Chain length (15 links)	----	242.9 mm (9.563 in)
Front disc brake:		
Disc outside dia.xThickness	250 × 3.0 mm (9.84 × 0.12 in)	250 × 2.5 mm (9.84 × 0.10 in)
Pad thickness	4.4 mm (0.17 in)	1.0 mm (0.04 in)
Master cylinder inside dia.	9.52 mm (0.375 in)	----
Caliper cylinder inside dia.	22.65 mm (0.892 in) × 2	----
Brake fluid type	DOT #4	----
Rear disc brake:		
Disc outside dia.xThickness	245 × 4.0 mm (9.65 × 0.16 in)	245 × 3.5 mm (9.65 × 0.14 in)
Deflection limit	----	0.15 mm (0.006 in)
Pad thickness	6.4 mm (0.25 in)	1.0 mm (0.04 in)
Master cylinder inside dia.	11.0 mm (0.433 in)	----
Caliper cylinder inside dia.	25.4 mm (1.000 in) × 1	----
Brake fluid type	DOT #4	----
Brake lever and brake pedal:		
Brake lever position	95 mm (3.74 in)	----
Brake pedal height (vertical height above footrest top)	Zero mm (Zero in)	----
Clutch lever free play (lever end)	8–13 mm (0.31–0.51 in)	----
Throttle grip free play	3–5 mm (0.12–0.20 in)	----

ELECTRICAL

Item	Standard	Limit
Ignition system:		
Ignition timing (B.T.D.C.)	0.48 mm (0.019 in)	----
Advancer type	Electrical	----
CDI:		
Magneto-model (stator)/Manufacturer	1C3-10/YAMAHA	----

TIGHTENING TORQUES

Item	Standard	Limit
Charging coil 1 resistance (color)	720–1,080 Ω at 20 °C (68 °F) (Green/White-Black/Red)	----
Charging coil 2 resistance (color)	44–66 Ω at 20 °C (68 °F) (Black-Green/Blue)	----
Pickup coil resistance (color)	248–372 Ω at 20 °C (68 °F) (White/Blue-White/Red)	----
CDI unit-model/manufacturer	1C3-10/YAMAHA	----
Ignition coil:		
Model/manufacturer	1C3-00/YAMAHA	----
Minimum spark gap	6 mm (0.24 in)	----
Primary winding resistance	0.24–0.36 Ω at 20 °C (68 °F)	----
Secondary winding resistance	5.7–8.5 k Ω at 20 °C (68 °F)	----
Spark plug cap:		
Resistance	4–6 k Ω at 20 °C (68 °F)	----

TIGHTENING TORQUES

ENGINE

NOTE:

△ - marked portion shall be checked for torque tightening after break-in or before each race.

Part to be tightened	Thread size	Q'ty	Tightening torque		
			Nm	m•kg	ft•lb
Spark plug	M14S × 1.25	1	20	2.0	14
Cylinder head (nut)	M8 × 1.25	5	28	2.8	20
Cylinder head (stud)	M8 × 1.25	5	13	1.3	9.4
Cylinder (nut)	M8 × 1.25	4	30	3.0	22
Cylinder (stud)	M10 × 1.25	4	13	1.3	9.4
Power valve:					
Cover	M5 × 0.8	4	5	0.5	3.6
Link lever	M4 × 0.7	1	4	0.4	2.9
Holder (power valve)	M5 × 0.8	4	8	0.8	5.8
Push rod	M5 × 0.8	1	5	0.5	3.6
Thrust plate	M5 × 0.8	1	4	0.4	2.9
Governor fork	M4 × 0.7	2	5	0.5	3.6
Housing	M5 × 0.8	3	4	0.4	2.9
Water pump housing cover	M6 × 1.0	4	10	1.0	7.2
Coolant drain bolt	M6 × 1.0	1	10	1.0	7.2
Radiator	M6 × 1.0	6	10	1.0	7.2
Radiator panel	M6 × 1.0	2	10	1.0	7.2
Radiator hose clamp	M6 × 1.0	8	2	0.2	1.4
Air filter element	M6 × 1.0	1	2	0.2	1.4
Carburetor joint	M6 × 1.0	4	10	1.0	7.2
Carburetor joint clamp	M4 × 0.7	1	2	0.2	1.4
Air filter joint clamp	M4 × 0.7	1	2	0.2	1.4
△ Air filter case	M6 × 1.0	4	8	0.8	5.8
Air filter guide clamp	M5 × 0.8	1	4	0.4	2.9
Reed valve	M3 × 0.5	6	1	0.1	0.7

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TIGHTENING TORQUES

Part to be tightened	Thread size	Q'ty	Tightening torque		
			Nm	m•kg	ft•lb
Throttle cable adjust bolt and locknut	M8 × 1.25	1	7	0.7	5.1
Throttle cable	M6 × 0.75	1	4	0.4	2.9
Crankcase	M6 × 1.0	12	14	1.4	10
Right crankcase cover	M6 × 1.0	8	10	1.0	7.2
Left crankcase cover	M6 × 1.0	4	5	0.5	3.6
Drive chain sprocket cover	M6 × 1.0	2	5	0.5	3.6
Bearing plate cover	M6 × 1.0	4	10	1.0	7.2
Holder	M6 × 1.0	1	10	1.0	7.2
Oil check bolt	M6 × 1.0	1	10	1.0	7.2
Oil drain bolt	M10 × 1.25	1	20	2.0	14
Kickstarter crank	M6 × 1.0	1	10	1.0	7.2
Clutch cover	M6 × 1.0	6	10	1.0	7.2
Primary drive gear	M8 × 1.25	1	48	4.8	35
Clutch boss	M16 × 1.0	1	80	8.0	58
Clutch spring	M6 × 1.0	5	10	1.0	7.2
Clutch cable adjust bolt and locknut	M6 × 0.75	1	4	0.4	2.9
Drive sprocket	M18 × 1.0	1	75	7.5	54
Shift pedal	M6 × 1.0	1	12	1.2	8.7
Bearing plate cover (shift cam)	M6 × 1.0	2	10	1.0	7.2
Shift guide	M6 × 1.0	2	10	1.0	7.2
Stopper lever	M6 × 1.0	1	10	1.0	7.2
Segment	M8 × 1.25	1	30	3.0	22
△ Exhaust pipe	M6 × 1.0	2	12	1.2	8.7
△ Exhaust pipe stay (front)	M6 × 1.0	1	12	1.2	8.7
△ Exhaust pipe stay (rear)	M6 × 1.0	1	12	1.2	8.7
Silencer:					
△ Silencer and frame	M6 × 1.0	2	12	1.2	8.7
Fiber (Except for EUROPE)	M6 × 1.0	2	10	1.0	7.2
Fiber (For EUROPE)	M6 × 1.0	4	10	1.0	7.2

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NOTE:

△ - marked portion shall be checked for torque tightening after break-in or before each race.

Part to be tightened	Thread size	Q'ty	Tightening torque		
			Nm	m•kg	ft•lb
△ Upper bracket and outer tube	M8 × 1.25	4	21	2.1	15
△ Lower bracket and outer tube	M8 × 1.25	4	21	2.1	15
△ Upper bracket and steering stem	M24 × 1.0	1	145	14.5	105
△ Handlebar upper holder	M8 × 1.25	4	28	2.8	20
△ Handlebar lower holder	M12 × 1.25	2	40	4.0	29
△ Steering ring nut	M28 × 1.0	1	Refer to NOTE.		
Front fork and damper assembly	M51 × 1.5	2	30	3.0	22
Front fork and adjuster	M22 × 1.25	2	55	5.5	40
Damper assembly and base valve	M42 × 1.5	2	29	2.9	21
Adjuster and damper assembly	M12 × 1.25	2	29	2.9	21

TIGHTENING TORQUES

	Part to be tightened	Thread size	Q'ty	Tightening torque		
				Nm	m•kg	ft•lb
	Bleed screw (front fork) and base valve	M5 × 0.8	2	1	0.1	0.7
△	Front fork and front fork protector	M6 × 1.0	6	5	0.5	3.6
△	Cable guide (front brake hose) and lower bracket	M6 × 1.0	1	4	0.4	2.9
△	Front fork protector and brake hose holder	M6 × 1.0	2	7	0.7	5.1
	Throttle cable cap	M4 × 0.7	2	1	0.1	0.7
△	Front brake master cylinder and bracket	M6 × 1.0	2	9	0.9	6.5
	Brake lever mounting bolt	M6 × 1.0	1	6	0.6	4.3
	Brake lever mounting nut	M6 × 1.0	1	6	0.6	4.3
	Brake lever position locknut	M6 × 1.0	1	5	0.5	3.6
	Clutch lever mounting nut	M6 × 1.0	1	4	0.4	2.9
	Clutch lever holder	M5 × 0.8	2	4	0.4	2.9
	Front brake master cylinder cap	M4 × 0.7	2	2	0.2	1.4
△	Front brake hose union bolt (brake master cylinder)	M10 × 1.25	1	30	3.0	22
△	Front brake hose union bolt (caliper)	M10 × 1.25	1	30	3.0	22
△	Front brake caliper and front fork	M8 × 1.25	2	28	2.8	20
	Grip cap upper and lower	M6 × 1.0	2	4	0.4	2.9
	Brake caliper (front and rear) and pad pin plug	M10 × 1.0	2	3	0.3	2.2
△	Brake caliper (front and rear) and pad pin	M10 × 1.0	2	18	1.8	13
△	Brake caliper (front and rear) and bleed screw	M8 × 1.25	2	6	0.6	4.3
△	Front wheel axle and axle nut	M16 × 1.5	1	105	10.5	75
△	Front wheel axle holder	M8 × 1.25	4	21	2.1	15
△	Front brake disc and wheel hub	M6 × 1.0	6	12	1.2	8.7
△	Rear brake disc and wheel hub	M6 × 1.0	6	14	1.4	10
	Footrest bracket and frame	M10 × 1.25	4	55	5.5	40
△	Brake pedal mounting	M8 × 1.25	1	26	2.6	19
△	Rear brake master cylinder and frame	M6 × 1.0	2	10	1.0	7.2
	Rear brake master cylinder cap	M4 × 0.7	2	2	0.2	1.4
△	Rear brake hose union bolt (caliper)	M10 × 1.25	1	30	3.0	22
△	Rear brake hose union bolt (master cylinder)	M10 × 1.25	1	30	3.0	22
△	Rear wheel axle and axle nut	M20 × 1.5	1	125	12.5	90
△	Nipple (spoke)	—	72	3	0.3	2.2
△	Driven sprocket and wheel hub	M8 × 1.25	6	42	4.2	30
△	Disc cover and rear brake caliper	M6 × 1.0	2	10	1.0	7.2
△	Protector and rear brake caliper	M6 × 1.0	2	7	0.7	5.1
	Drive chain puller adjust bolt and locknut	M8 × 1.25	2	19	1.9	13
	Engine :					
△	Engine and frame (front)	M10 × 1.25	1	64	6.4	46
△	Engine and frame (lower)	M10 × 1.25	1	64	6.4	46
△	Engine bracket and frame	M8 × 1.25	2	34	3.4	24
△	Engine bracket and engine	M8 × 1.25	1	34	3.4	24
△	Pivot shaft and nut	M16 × 1.5	1	85	8.5	61
△	Relay arm and swingarm	M14 × 1.5	1	70	7.0	50
△	Relay arm and connecting rod	M14 × 1.5	1	80	8.0	58
△	Connecting rod and frame	M14 × 1.5	1	80	8.0	58