










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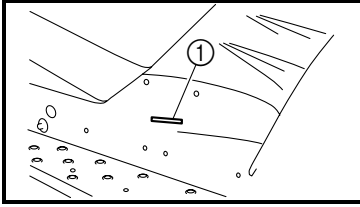
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GENERAL INFORMATION

MACHINE IDENTIFICATION

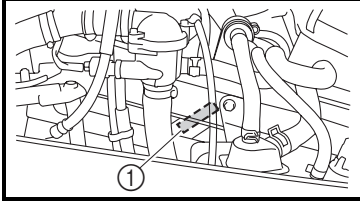
FRAME SERIAL NUMBER

The frame serial number ① is located on the right-hand side of the frame (just below the front of the seat).



ENGINE SERIAL NUMBER

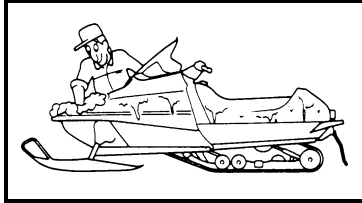
The engine serial number ① is located on the right-hand side of the crankcase.



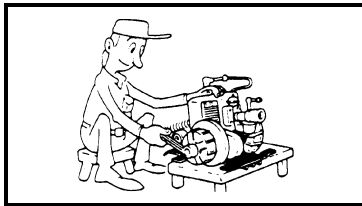
NOTE: _____

Designs and specifications are subject to change without notice.

IMPORTANT INFORMATION
PREPARATION FOR REMOVAL AND DISASSEMBLY



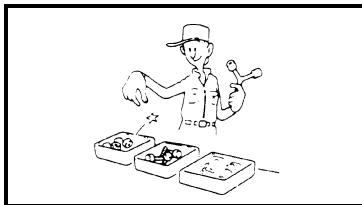
1. Remove all dirt, mud, dust, and foreign material before removal and disassembly.
While cleaning, take care to protect the electrical parts, such as relays, switches, motor, resistors, controllers, etc., from high pressure water splashes.



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

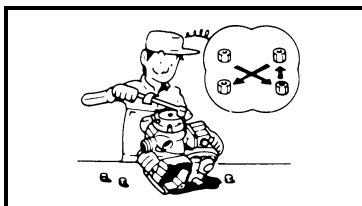


3. When disassembling the machine, keep mated parts together. This includes gears, cylinders, pistons, and other parts that have been "mated" through normal wear. Mated parts must be reused or replaced as an assembly.

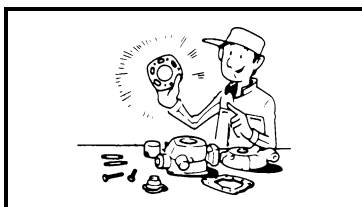


4. During disassembly of the machine, clean all parts and place them in trays in the order of disassembly. This will speed up assembly time and help ensure that all parts are reinstalled correctly.

5. Keep all parts away from any source of fire.



6. Be sure to keep to the tightening torque specifications. When tightening bolts, nuts, and screws, start with those that have larger diameters, and proceed from the inside to the outside in a crisscross pattern.

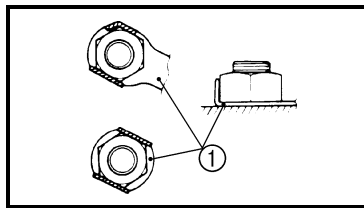


ALL REPLACEMENT PARTS

We recommend using genuine Yamaha parts for all replacements. Use oil and grease recommended by Yamaha for assembly and adjustments.

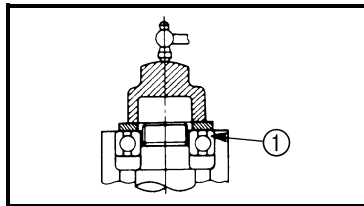
GASKETS, OIL SEALS, AND O-RINGS

1. All gaskets, 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.



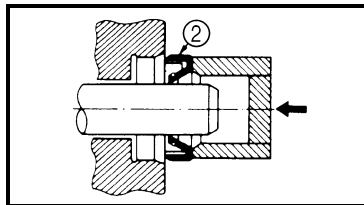
LOCK WASHERS/PLATES AND COTTER PINS

All lock washers/plates ① and cotter pins must be replaced if 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.



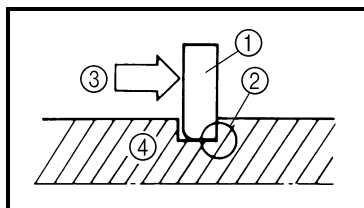
BEARINGS AND OIL SEALS

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



CAUTION:

Do not use compressed air to spin the bearings dry. This causes damage to the surface of the bearings.



CIRCLIPS

All circlips should be inspected carefully before reassembly. Always replace piston pin clips after one use. Replace misshapen 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.

④ Shaft

LOCTITE®

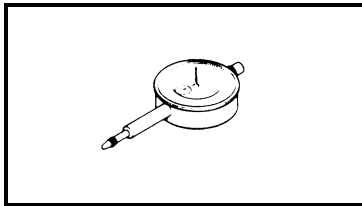
After installing fasteners that have LOCTITE® applied, wait 24 hours before using the machine. This will give the LOCTITE® time to dry properly.

SPECIAL TOOLS

Some special tools are necessary for a completely accurate tune-up and assembly. Using the correct special tool will help prevent damage that can be caused by the use of improper tools or improvised techniques.

NOTE:

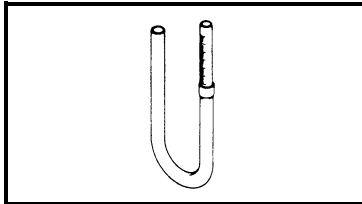
- Be sure to use the correct part number when ordering the tool, since the part number may differ according to country.
- For USA and Canada, use part number starting with "YB-", "YM-", "YU-", "YS-" or "ACC-".
- For others, use part number starting with "90890-".



FOR TUNE UP

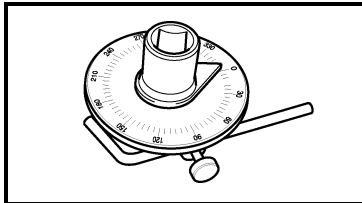
- Dial gauge
P/N: YU-03097
90890-03097

This gauge is used for run out measurement.



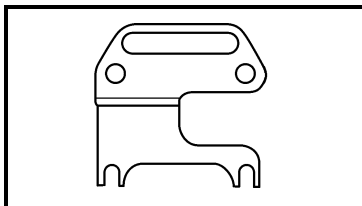
- Fuel level gauge
P/N: YM-01312-A
90890-01312

This gauge is used to measure the fuel level in the float chamber.



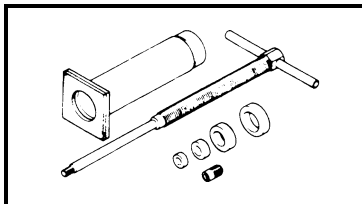
- Angle gauge
Use goods on the market.

This tool is used to tightening the torque.



- Steering linkage alignment plate
P/N: YS-01487
90890-01487

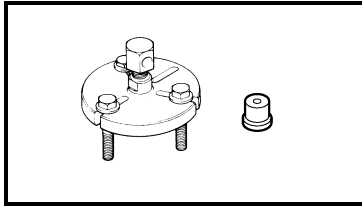
Locks steering relay arms in place while adjusting the steering linkage for front-end alignment.



FOR ENGINE SERVICE

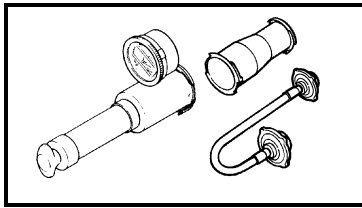
- Piston pin puller
P/N: YU-01304
90890-01304

This tool is used to remove the piston pin.



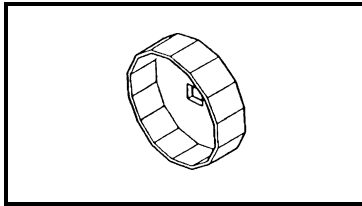
- Rotor holding puller
P/N: YU-33270-B
90890-01362
- Flywheel puller attachment
P/N: YM-33282
90890-04089

These tools are used to remove the magneto rotor.



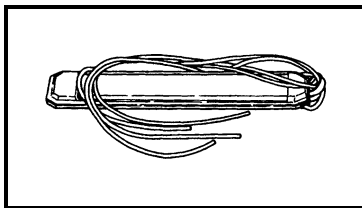
- Cooling system tester
P/N: YU-24460-01
90890-01325
- Adapter
P/N: YU-33984
90890-01352

This tester and its adapter are used for checking the cooling system.



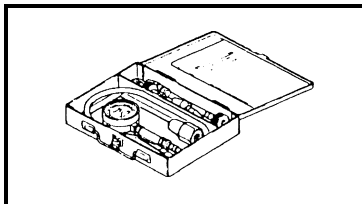
- Oil filter wrench
P/N: YM-01469
90890-01469

This tool is needed to loosen or tighten the oil filter cartridge.



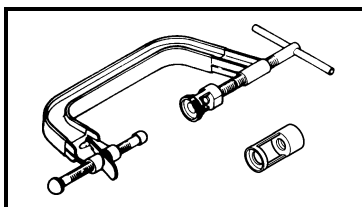
- Vacuum gauge
P/N: YU-44456
90890-03094

This guide is used to synchronize the carburetors.



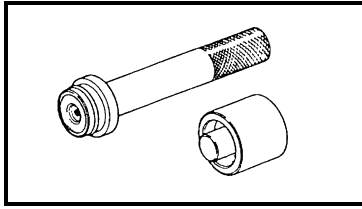
- Compression gauge set
P/N: YU-33223 (compression gage)
90890-03081
- P/N: YU-33223-4 (adapter)
90890-04136

These tools are used to measure engine compression.



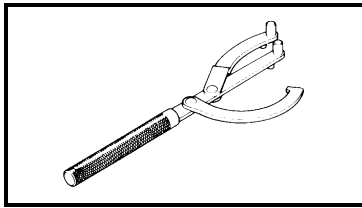
- Valve spring compressor set
P/N: YM-04019 (valve spring compressor)
90890-04019
- P/N: YM-04108 (attachment)
90890-04108

These tools are used to remove or install the valve assemblies.



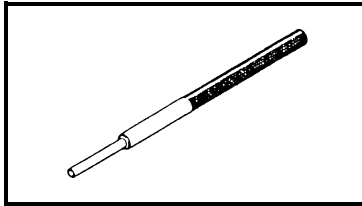
- 40 and 50 mm bearing driver
P/N: YM-04058
90890-04058
- Mechanical seal installer
P/N: YM-04145
90890-04145

These tools are used to install the water pump seal.



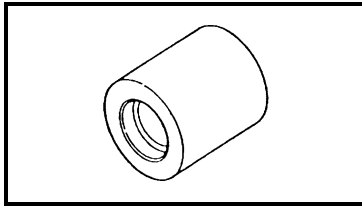
- Rotor holding tool
P/N: YU-01235
90890-01235

This tool is used to hold the camshaft sprocket.



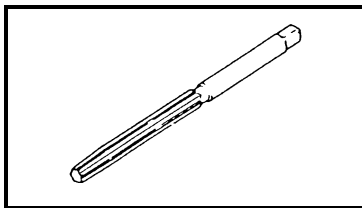
- Valve guide remover (ø5)
P/N: YM-04097
90890-04097

This tool is used to remove or install the valve guides.



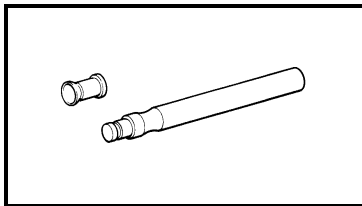
- Valve guide installer (ø5)
P/N: YM-04098
90890-04098

This tool is used to install the valve guides.



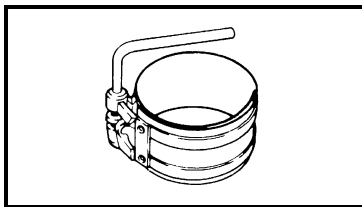
- Valve guide reamer (ø5)
P/N: YM-04099
90890-04099

This tool is used to re bore the new valve guides.



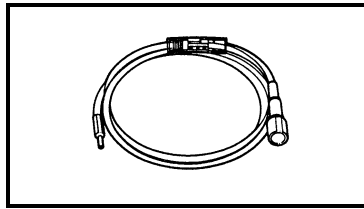
- Valve lapper
P/N: 90890-04101

This tool is needed to remove and install the valve lifters.



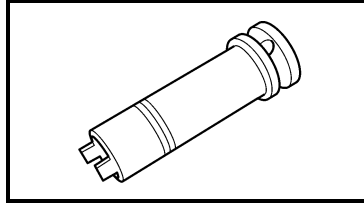
- Piston ring compressor
P/N: YM-08037
90890-05158

This tool is used to compress the piston rings when installing the piston into the cylinder.



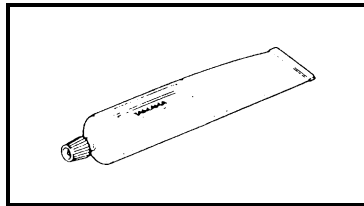
- Dynamic spark tester
P/N: YM-34487
- Ignition checker
P/N: 90890-06754

This tool is used to check the ignition system component.



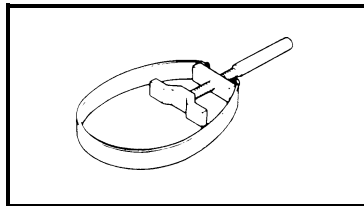
- Engine mount spacer wrench
P/N: YS-01489
90890-01489

Used to turn the engine mounting bolts when removing/installing engine.



- Quick gasket®
P/N: ACC-QUICK-GS-KT
- Yamaha bond No. 1215
P/N: 90890-85505

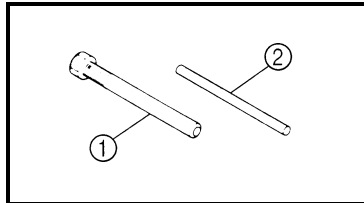
This bond is used to seal two mating surfaces (e.g., crankcase mating surfaces.)



FOR POWER TRAIN SERVICE

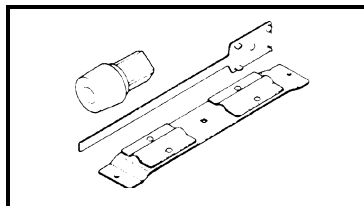
- Sheave holder
P/N: YS-01880-A
90890-01701

This tool is used to hold the primary sheave and A.C. magneto rotor.



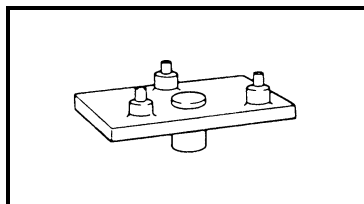
- Primary sheave puller (18 mm)
P/N: YS-01881-A ①, YS-01881-1 ②
90890-01898

This tool is used for removing the primary sheave.



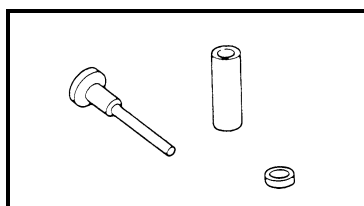
- Clutch spider separator
P/N: YS-28890-C
90890-01711

This tool is used when disassembling and assembling the primary sheave.



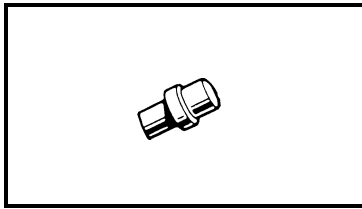
- Clutch separator adapter
P/N: YS-34480
90890-01740

This tool is used when disassembling and assembling the primary sheave.



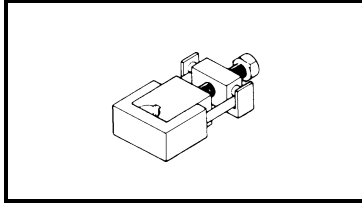
- YXR clutch bushing jig kit
P/N: YS-39752

This tool is used for removal and installation of primary clutch weight and roller bushings.



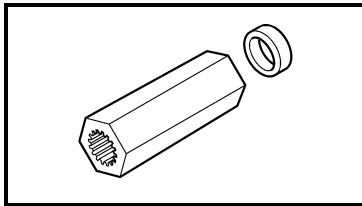
- Clutch bushing press
P/N: YS-42424

This tool is used for removing and installing the post bushings (primary sheave cap bush, sliding sheave bush and torque cam bush).



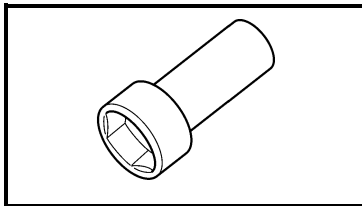
- Track clip installer
P/N: YS-91045-C
90890-01721

This tool is used for installing the track clip.



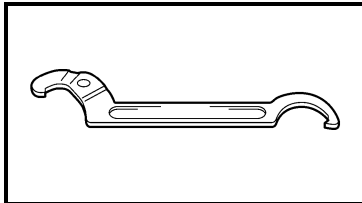
- Secondary shaft slide & holder
P/N: YS-01492
90890-01492

Remove and install secondary shaft bearing tapered collar. Also used to hold the secondary shaft when used with the drive gear socket (YS-01490/90890-01490).



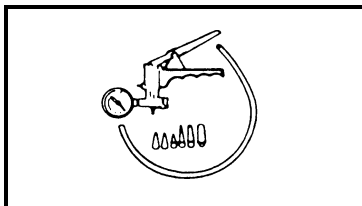
- Drive gear socket
P/N: YS-01490
90890-01490

Remove and install drive chain sprocket nut (36 × 100 mm (1.4 × 4 in) deep well socket).



- Ring nut wrench
P/N: YU-01268
90890-01268

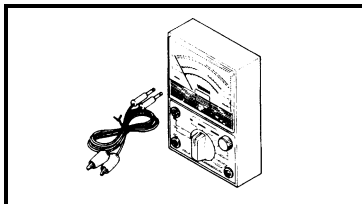
Remove and install secondary shaft bearing nut.



FOR CARBURETION SERVICE

- Mity vac
P/N: YS-42423
90890-06756

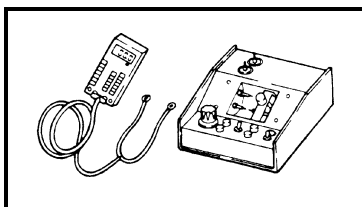
This tool is used to check the fuel pump.



FOR ELECTRICAL SERVICE

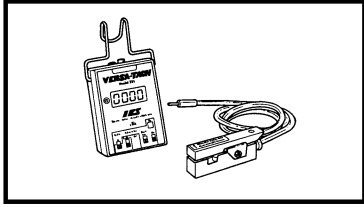
- Pocket tester
P/N: YU-03112-C
90890-03112

This instrument is necessary for checking the electrical components.



- Electro tester
P/N: YU-33260-A
90890-03021

This instrument is invaluable for checking the electrical system.



- Engine tachometer
P/N: YU-08036-C
90793-80009
- This tool is used to check engine speed.

PERIODIC INSPECTION AND ADJUSTMENT

INTRODUCTION

This chapter includes all information necessary to perform recommended inspections and adjustments. These preventive maintenance procedures, if followed, will ensure more reliable machine operation and a longer service life. In addition, the need for costly overhaul work will be greatly reduced. This information applies to machines already in service as well as new machines that are being prepared for sale. All service technicians should be familiar with this entire chapter.

PERIODIC MAINTENANCE CHART

Regular maintenance is most important for best performance and safe operation.

Item	Remarks	Pre-operation check (Daily)	Initial 1 month or 800 km (500 mi) (40 hr)	Every
				Seasonally or 3,200 km (2,000 mi) (160 hr)
Spark plugs	Check condition. Adjust gap and clean. Replace if necessary.			●
Valve clearance	Check clearance. Adjust clearance when engine is cold.	Every 40,000 km (25,000 mi)		
Engine oil	Check oil level.	●		
	Replace.		●	●
Engine oil filter cartridge	Replace.		●	Every 20,000 km (12,000 mi)
Fuel	Check fuel level.	●		
Fuel filter	Check condition. Replace if necessary.			●
Fuel line	Check fuel hose for cracks or damage. Replace if necessary.			●
Engine coolant	Check coolant level.	●		
	Air bleed the cooling system if necessary.			●
	The coolant should be changed at least every season.			●
Carburetor	Check throttle lever operation.	●		
	Adjust the jets.	Whenever operating condition (elevation/temperature) is changed.		
Engine stop switch	Check operation. Repair if necessary.	●		
Throttle override system (T.O.R.S.)	Check operation. Repair if necessary.	●		
Throttle lever	Check operation. Repair if necessary.	●		
Exhaust system	Check for leakage. Tighten or replace gasket if necessary.			●
Drive guard	Check for cracks, bends or damage. Replace if necessary.	●		
V-belt	Check for wear and damage. Replace if necessary.	●		
Drive track and idler wheels	Check deflection, and for wear and damage. Adjust/replace if necessary.	●		
Slide runners	Check for wear and damage.	●		
	Replace if necessary.			●
Brake and parking brake	Check operation and fluid leakage.	●		
	Adjust free play and/or replace pads if necessary.			●
	Replace brake fluid.	See NOTE on page 2-2.		
Disc brake installation	Check for slight free play. Lubricate shaft with specified grease as required.			Every 1,600 km (1,000 mi)

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