YAMAHA

YW50AP

SERVICE MANUAL

LIT-11616-15-39 5PJ-F8197-10

EB000000

YW50AP
SERVICE MANUAL

P/N LIT-11616-15-39

EB001000

NOTICE

This manual was produced by the Yamaha Motor Company, Ltd. primarily for use by Yamaha dealers and their qualified mechanics. It is not possible to include all the knowledge of a mechanic in one manual. Therefore, anyone who uses this book to perform maintenance and repairs on Yamaha vehicles should have a basic understanding of mechanics and the techniques to repair these types of vehicles. Repair and maintenance work attempted by anyone without this knowledge is likely to render the vehicle unsafe and unfit for use.

Yamaha Motor Company, Ltd. is continually striving to improve all of its models. Modifications and significant changes in specifications or procedures will be forwarded to all authorized Yamaha deal-ers and will appear in future editions of this manual where applicable.

NOTE:

Designs and specifications are subject to change without notice.

IMPORTANT MANUAL INFORMATION

Particularly important information is distinguished in this manual by the following.

⚠ 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 scooter operator, a bystander or a person checking or repairing the scooter.

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

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

HOW TO USE THIS MANUAL

This manual is intended as a handy, easy-to-read reference book for the mechanic. Comprehensive explanations of all installation, removal, disassembly, assembly, repair and check procedures are laid out with the individual steps in sequential order.

① The manual is divided into chapters. An abbreviation and symbol in the upper right corner of each page indicate the current chapter. Refer to “SYMBOLS”.

② Each chapter is divided into sections. The current section title is shown at the top of each page, except in Chapter 3 (“PERIODIC CHECKS AND ADJUSTMENTS”), where the sub-section title(s) appears.

③ Sub-section titles appear in smaller print than the section title.

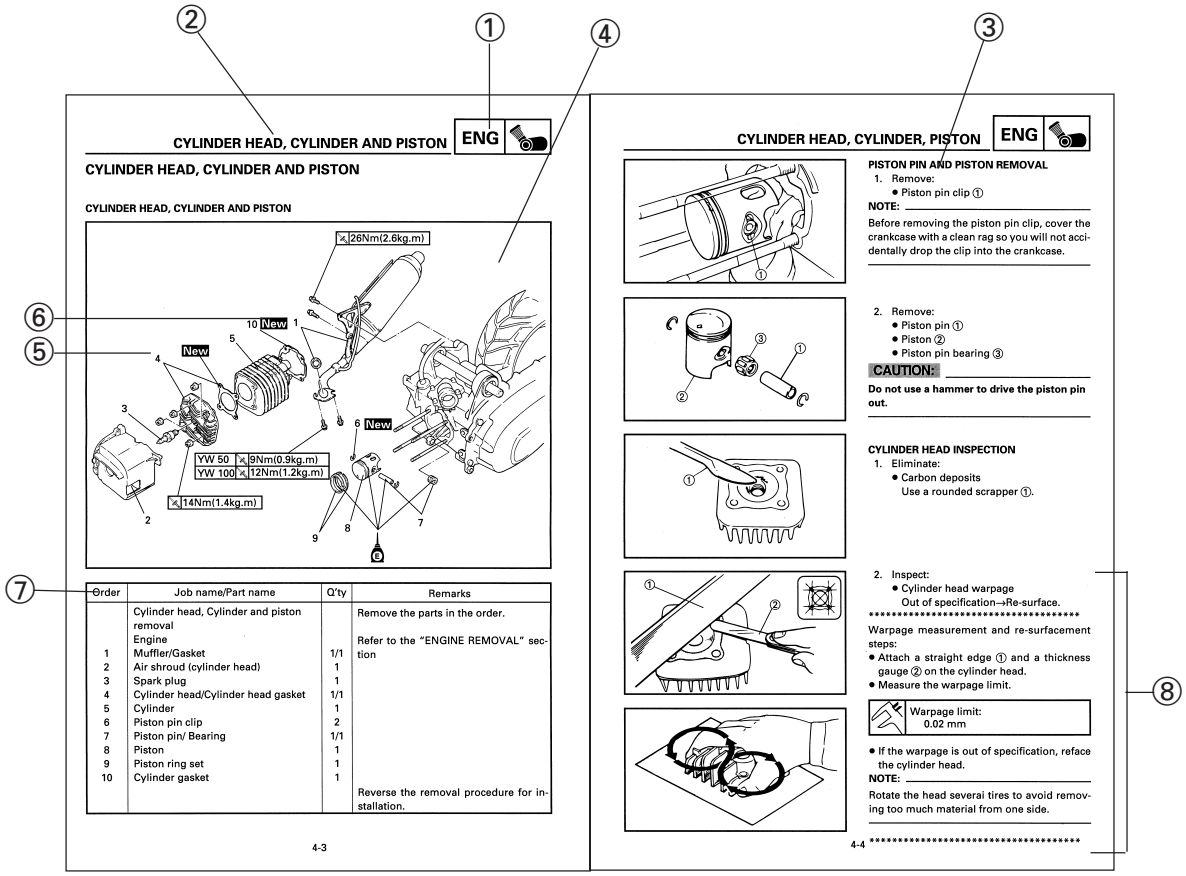
④ To help identify parts and clarify procedure steps, there are exploded diagrams at the start of each removal and disassembly section.

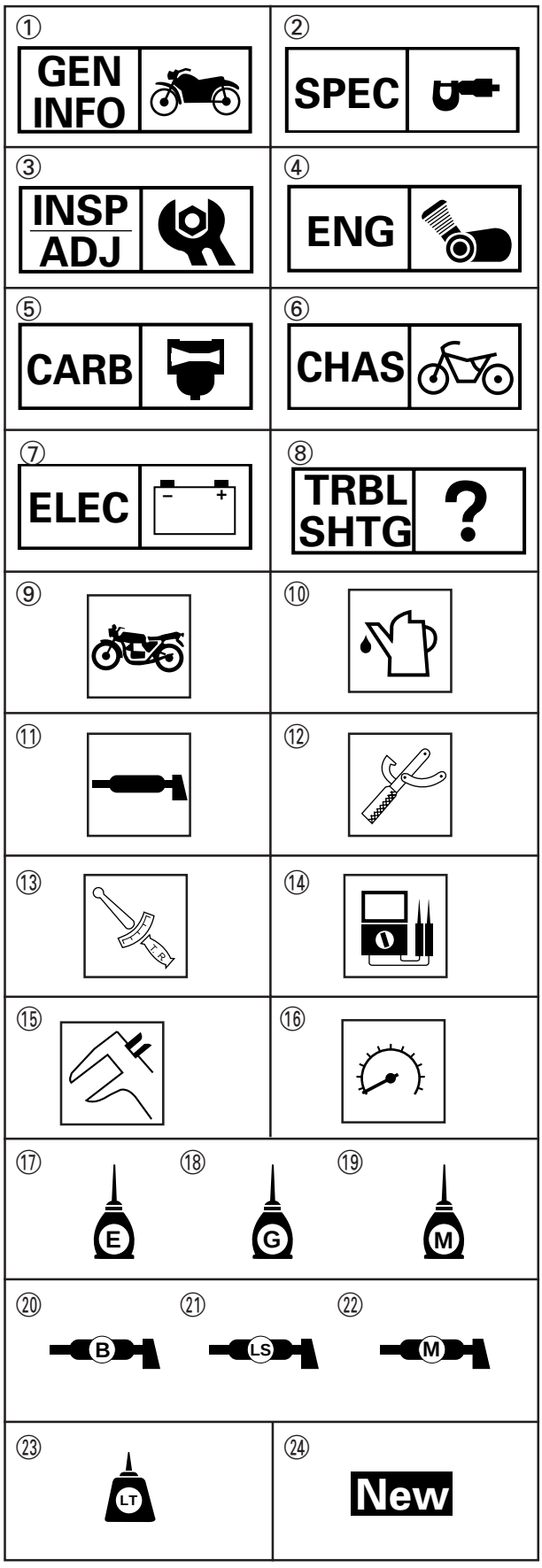
⑤ Numbers are given in the order of the jobs in the exploded diagram. A circled number indicates a disassembly step.

⑥ Symbols indicate parts to be lubricated or replaced. Refer to “SYMBOLS”.

⑦ A job instruction chart accompanies the exploded diagram, providing the order of jobs, names of parts, notes in jobs, etc.

⑧ Jobs requiring more information (such as special tools and technical data) are described sequentially.





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SYMBOLS

The following symbols are not relevant to every vehicle.

Symbols ① to ⑧ are designed as thumb tabs to indicate the chapter's number and content.

① General information
② Specifications
③ Periodic inspection and adjustment
④ Engine
⑤ Carburetor(s)
⑥ Chassis
⑦ Electrical system
⑧ Troubleshooting

Symbols ⑨ to ⑯ indicate the following.

⑨ Serviceable with engine mounted
⑩ Filling fluid
⑪ Lubricant
⑫ Special tool
⑬ Tightening torque
⑭ Wear limit, clearance
⑮ Engine speed
⑯ Electrical data

Symbols ⑰ to ㉒ in the exploded diagrams indicate the types of lubricants and lubrication points.

⑰ Engine oil
⑱ Gear oil
⑲ Molybdenum disulfide oil
⑳ Wheel bearing grease
㉑ Lithium soap base grease
㉒ Molybdenum disulfide grease

Symbols ㉓ to ㉔ in the exploded diagrams indicate the following.

㉓ Apply locking agent (LOCTITE ®)
㉔ Replace the part

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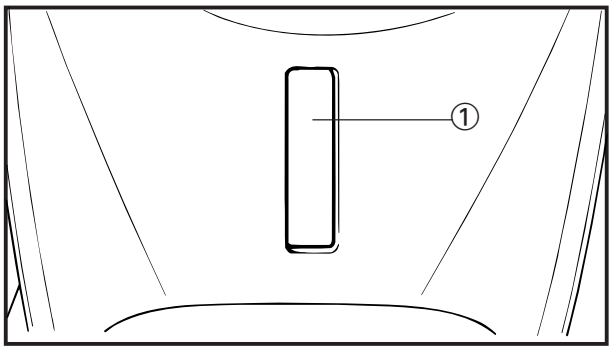
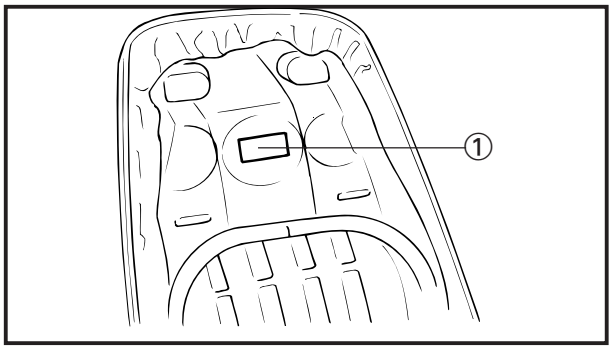
CHAPTER 6
CHASSIS

CHAPTER 7
ELECTRICAL

CHAPTER 8
TROUBLESHOOTING





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GENERAL INFORMATION

SCOOTER IDENTIFICATION

EAS00017

VEHICLE IDENTIFICATION NUMBER

The vehicle identification number ① is stamped into the frame.

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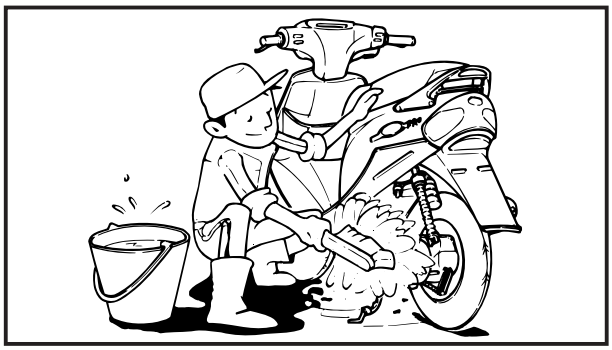
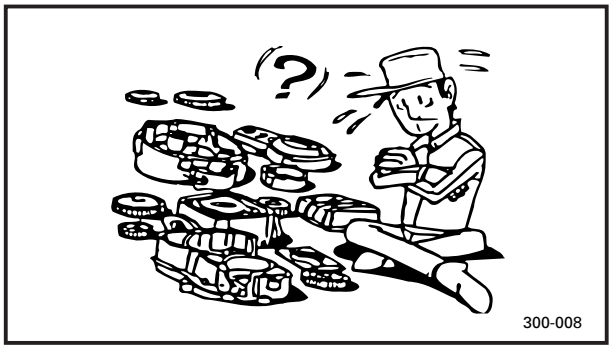
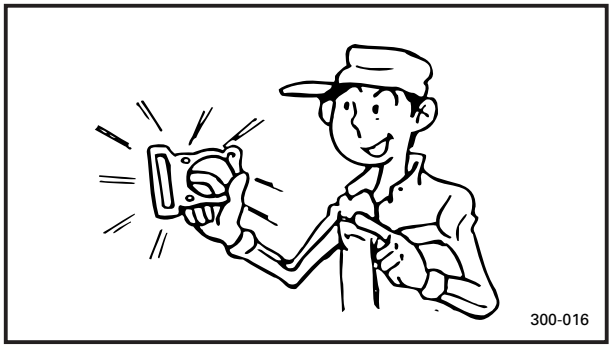
MODEL CODE

The model code label ① is affixed to the location shown in the figure. Record the information on this label in the space provided. This information will be needed to order spare parts.







EAS00020

IMPORTANT INFORMATION

PREPARATION FOR REMOVAL AND DISASSEMBLY

1. Before removal and disassembly, remove all dirt, mud, dust and foreign material.
2. Use only the proper tools and cleaning equipment.
   Refer to "SPECIAL TOOLS".
3. When disassembling, always keep mated parts together. This includes gears, cylinders, pistons and other parts that have been
   "mated" through normal wear. Mated parts must always be reused or replaced as an assembly.
4. During disassembly, clean all of the parts and place them in trays in the order of disassembly. This will speed up assembly and allow for the correct installation of all parts.
5. Keep all parts away from any source of fire.

EAS00021

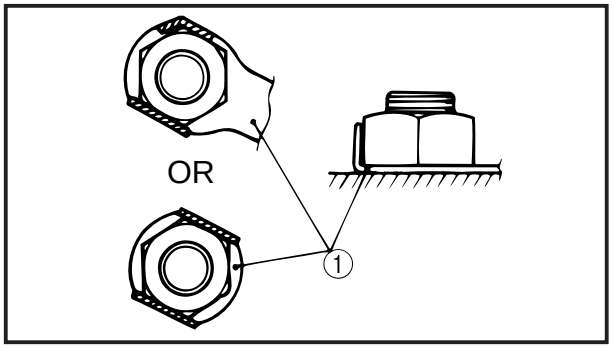
REPLACEMENT PARTS

Use only genuine Yamaha parts for all replacements. Use oil and grease recom-mended by Yamaha for all lubrication jobs.
Other brands may be similar in function and appearance, but inferior in quality.

EAS00022

GASKETS, OIL SEALS AND O-RINGS

1. When overhauling the engine, replace all gaskets, seals and O-rings. All gasket surfaces, oil seal lips and O-rings must be cleaned.
2. During reassembly, properly oil all mating parts and bearings and lubricate the oil seal lips with grease.



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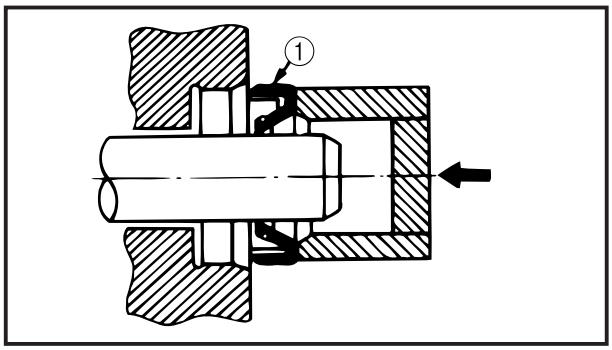
LOCK WASHERS/PLATES AND COTTER PINS

After removal, replace all lock washers/plates ① and cotter pins. After the bolt or nut has been tightened to specification, bend the lock tabs along a flat of the bolt or nut.



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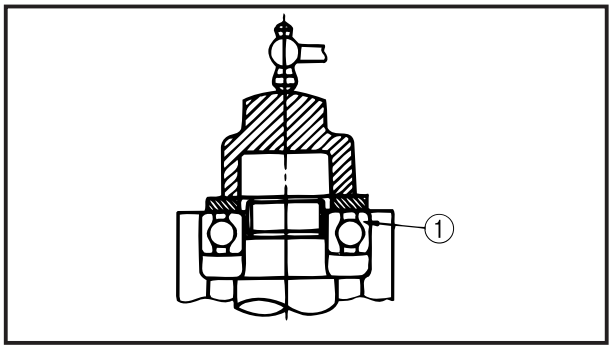
BEARINGS AND OIL SEALS

Install bearings and oil seals so that the manu facturer's marks or numbers are visible. When installing oil seals, lubricate the oil seal lips with a light coat of lithium soap base grease.

Oil bearings liberally when installing, if appro priate.

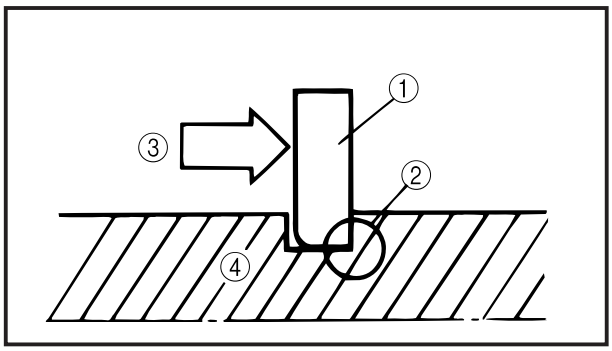
① Oil seal



CAUTION:

Do not spin the bearing with compressed air because this will damage the bearing surfaces.

① Bearing



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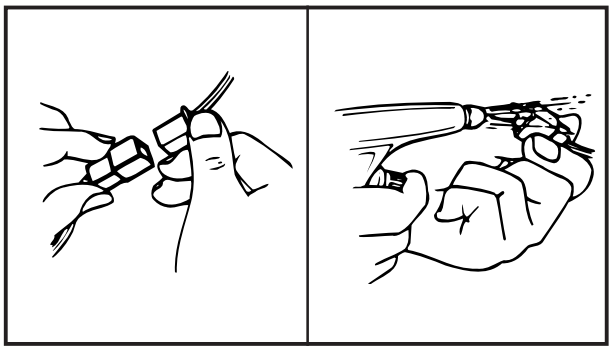
CIRCLIPS

Before reassembly, check all circlips carefully and replace damaged or distorted circlips.

Always replace piston pin clips after one use.

When installing a circlip ①, make sure the sharp-edged corner ② is positioned opposite the thrust ③ that the circlip receives.

④ Shaft



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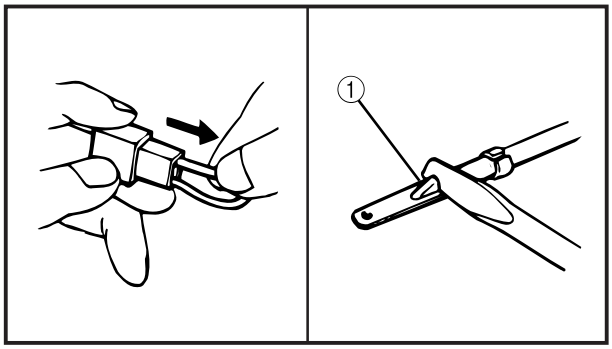
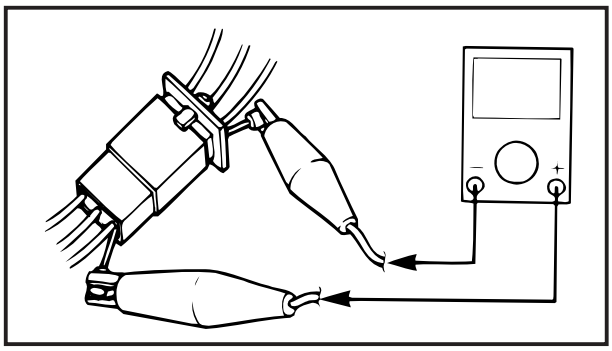
CHECKING OF CONNECTIONS

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.
4. Pull the read 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

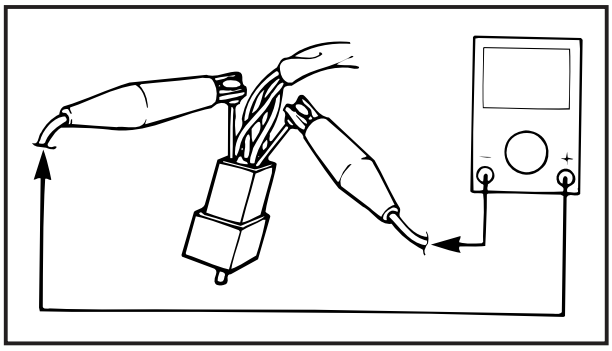
NOTE:

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 wireharness.
- For a field remedy, use a contact revitalizer available on the market.
- Use the tester on the connector as shown.



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HOW TO USE THE CONVERSION TABLE

All specification data in this manual are listed in SI and METRIC UNITS.
Use this table to convert METRIC unit data to IMPERIAL unit data.
Ex.

METRIC		MULTIPLIER		IMP
** mm	×	0.03937	=	** in
2 mm	×	0.03937	=	0.083 in

CONVERSION TABLE

METRIC TO IMP			
	Known	Multiplier	Result
Torque	m.kg m.kg cm.kg cm.kg	7.233 86.794 0.0723 0.8679	ft.lb in.lb ft.lb in.lb
Weight	kg g	2.205 0.03527	lb oz
Distance	km/h km m m cm mm	0.6214 0.6214 3.281 1.094 0.3937 0.03937	mph mi ft yd in in
Volume/ Capacity	cc(cm^3) cc(cm^3) lit(liter) lit(liter)	0.03527 0.06102 0.8799 0.2199	oz (IMP liq.) cu.in qt(IMP liq.) gal(IMP liq.)
Miscellaneous	kg/mm kg/cm^2 Centigrade	55.997 14.2234 9/5(°C)+32	lb/in psi(lb/in^2) Fahrenheit (°F)

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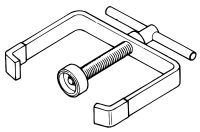
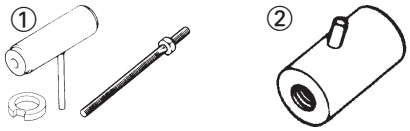
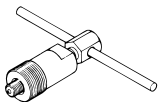
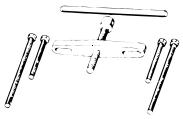
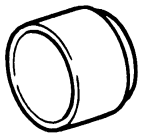
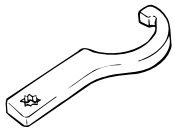
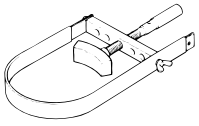
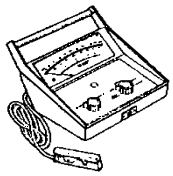
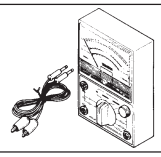
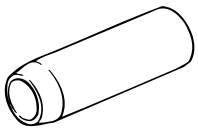
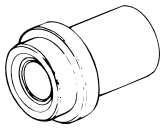
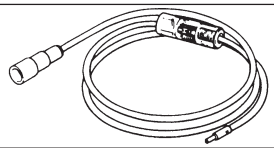
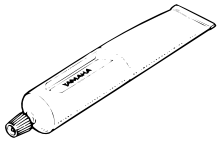
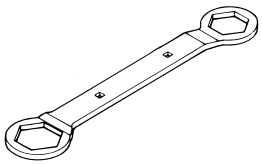
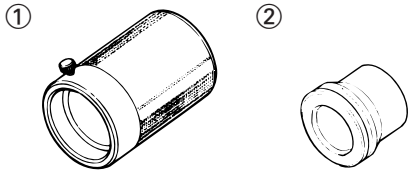
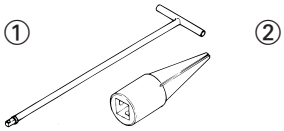
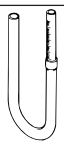
SPECIAL TOOLS

The following special tools are necessary for complete and accurate tune-up and assembly. Use only the appropriate special tools; this Will help prevent damage caused by the use of inappropriate tools or improvised techniques.
When placing an order, refer to the list provided below to avoid any mistakes.

Tool No.	Tool name / Function	Illustration
YU-01235	Rotor holding tool This tool is used to hold the generator rotor when removing or installing the generator rotor bolt.	
YS-28891	Clutch spring holder This tool is used to disassembly and assembly the secondary pulley.	
YU -90050 -90062	Crankshaft Installation set ① Adapter ② These tools are used to install the crankshaft.	
YU-01189	Flywheel puller This tool is used for removing the rotor.	
YU- 01135-A	Crankcase Separating tool This tool is used to remove the crankshaft or separate the crankcase.	
YM-33299	Oil seal guide This tool is used for protecting the oil seal lip when installing the secondary sliding sheave.	
YU-33975	Steering nut wrench This tool is used to loosen or tighten the steering stem ring nut.	
YU-01701	Sheave holder This tool is used to hold the clutch housing when removing or installing the clutch housing nut.	
YU-8036-A	Inductive tachometer This tool is used to check engine speed.	

Tool No.	Tool name / Function	Illustration
YU-03112	Pocket tester This tool is used to check the electrical system.	
YM-1409	Oil seal guide This tool is used to install the left side crankcase oil seal.	
YM-1410	Oil seal driver This tool is used to install the left side crankcase oil seal.	
YM-34487	Dynamic spark tester This instrument is necessary for checking the ignition system components.	
ACC-1100-15-01	Quick Gasket ® This sealant is used to seal to mating surfaces (e.g., crankcase mating sur-faces).	
90890-01348	Locknut wrench This tool is used to loosen and tighten the clutch carrier locknut of the secondary sheave.	
YU-33963 ① -1400 ②	Front fork seal driver Weight ① Adapter ② These tools are used when installing the fork seal.	
T-handle ① YM-01326 Holder YM-01300-1 ②	T-handle ① / Damper rod holder ② These tools are needed to loosen and tighten the damper rod holding bolt.	
YM-01312-A	Fuel level gauge This gauge is used to measure the fuel level in the float chamber.	

SPECIFICATION

GENERAL SPECIFICATION

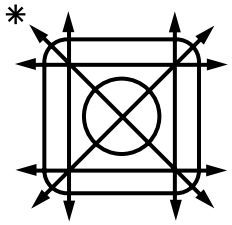
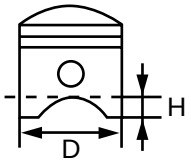
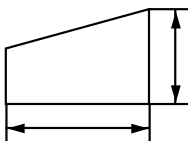
Model	YW50AP
Model code:	5PJ1
Dimensions: Overall length Overall width Overall height Seat height Wheelbase Minimum ground clearance Minimum turning radius	 1,890 mm(74.4 in) 705 mm(27.8 in) 1,110 mm(43.7 in) 765 mm(30.1 in) 1,275 mm(50.2 in) 120 mm(4.7 in) 2,000 mm(78.7 in)
Basic weight: With oil and full fuel tank	 94 kg(207 lb)
Engine: Engine type Cylinder arrangement Displacement Bore × stroke Compression ratio Starting system Lubrication system:	 Air cooled 2 strcke, gasoline torque induction Forward- inclined single cylinder 49cm^3 (2.99 cu.in) 40.0 × 39.2 mm(1.57 × 1.54 in) 7.2:1 Electric and kick starter Separate lubrication
Oil Type or Grade: Engine Oil	 For YAMAHA brand: Yamalube 2 or Air cooled 2-stroke engine oil (ISO EG-C, EG-D grade)
Transmission Oil Oil Capacity: Oil Tank (Engine Oil) Transmission Oil: Periodic Oil Change Total Amount	Yamalube 4 SAE 10W/30 SE or GL gear oil 1.4 L (1.23 Imp•qt, 1.48 US qt) 0.11 L(0.096 Imp.qt, 0.12 US qt) 0.13 L(0.11 Imp.qt, 0.13 US qt)
Air Filter:	Wet type element
Fuel: Type Tank Capacity	 Regular unleaded gasoline 5.7 L (1.25 Imp.gal, 1.5 US gal)
Carburetor: Type / Manufacturer	 Y14P/1/ TEIKEI

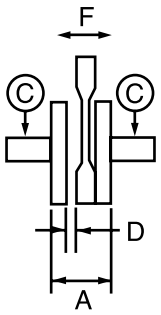
Model	YW50A
Spark Plug:	
Type/Manufacturer	BPR7HS/NGK
Gap	0.6 ~ 0.7 mm(0.02 ~ 0.03 in)
Clutch Type	Dry, Centrifugal automatic
Transmission:	
Primary Reduction System	Helical gear
Primary Reduction Ratio	4.000
Secondary Reduction System	Supur gear
Secondary Reduction Ratio	3.666
Transmission Type	V-belt
Operation	Automatic
Chassis:	
Frame type	Steel tube underbone
Caster angle	26.5°
Trail	93mm(3.7 in)
Tire:	
Type	Tubeless
Size front	120/90-10
rear	130/90-10
Manufacturer front	CHENG SHIN
rear	CHENG SHIN
Type front	56J
rear	59J
Maximum load*	143 kg(315 lb)
Cold tire Pressure:	
Up to 90 kg	
Front	200kpa(2.0 kg/cm², 29 psi)
Rear	200kpa(2.0 kg/cm², 29 psi)
90 kg load~Maximum load*	
Front	200kpa(2.0 kg/cm², 29 psi)
Rear	200kpa(2.0 kg/cm², 29 psi)
Brake:	
Front brake type	Single disc brake
operation	Right hand operation
Rear brake type	Drum brake
operation	Left hand operation
Suspension:	
Front suspension	Telescopic fork
Rear suspension	Unit swing
Shock absorber:	
Front shock absorber	Coil spring/oil damper
Rear shock absorber	Coil spring/oil damper
Wheel travel:	
Front wheel travel	65 mm(2.56 in)
Rear wheel travel	60 mm(2.36 in)
Electrical:	
Ignition system	C.D.I
Generator system	Flywheel Magneto
Battery type	YTX5L-BS
Battery capacity	12V 4AH

Model	YW50A
Headlight type:	Bulb
Bulb wattage x quantity: Headlight Tail/brake light Flasher light Licence plate light Meter light High beam indicator light Oil indicator light Turn indicator light	 12V 35W/35W×2 12 V 5W/21W×1 10W×4 5W×1 3.4W×1/1.7W×1 1.7W×1 1.7W×1 1.7W×1

MAINTENANCE SPECIFICATION

ENGINE

Item	Standard	Limit
Cylinder head: Warp limit  *Lines indicate straightedge measurement	...	0.03 mm (0.0012 in)
Cylinder: Bore size Taper limit Out of round limit	40.000~40.014mm (1.5748~1.5754 in)	40.10 mm (1.5787 in) 0.05 mm (0.0020 in) 0.03 mm (0.0012 in)
Piston: Piston to cylinder clearance Piston size "D" Measuring point "H" Piston pin bore inside diameter Piston pin outside diameter 	0.035~0.040 mm (0.0014~0.0016 in) 39.958~39.972 mm (1.5731~1.5737 in) 5 mm(0.2 in) 10.004~10.015 mm (0.3939~0.3943 in) 9.996~10.000 mm (0.3935~0.3937 in)	0.10 mm (0.0039 in) ... ... 10.045 mm (0.4 in) 9.975 mm (0.39 in)
Piston Ring: Sectional Sketch (B × T)/Type Top Ring 2nd Ring End Gap (Installed): Top Ring 2nd Ring Side Clearance (Installed): Top Ring 2nd Ring 	1.2 × 1.6 mm/ keystone (0.05 × 0.06 in) 1.2 × 1.6 mm/ keystone (0.05 × 0.06 in) 0.15~0.35 mm (0.005~0.01 in) 0.15~0.35 mm (0.005~0.01 in) 0.03~0.05 mm (0.0012~0.0020 in) 0.03~0.05 mm (0.0012~0.0020 in)	 0.6 mm(0.02 in) 0.6 mm(0.02 in) 0.1 mm(0.0039 in) 0.1 mm(0.0039 in)

Item		Standard	Limit
Crankshaft:			
Crank Width "A"		37.90~37.95 mm(1.49~1.49 in)	...
Run Out Limit "C"		0.03 mm(0.0012 in)	...
Connecting Rod Big End Side Clearance "D"		0.2~0.5 mm (0.0029~0.020 in)	1.0 mm(0.04 in)
Small End Free Play "F"		0.4~0.8 mm (0.016~0.031 in)	...
Automatic centrifugal clutch:			
Clutch shoe thickness		4.0 mm(0.16 in)	2.5 mm(0.1 in)
Clutch housing inside diameter		105 mm (4.13 in)	105.5 mm (4.15 in)
Clutch shoe spring free length		94 mm(3.7 in)	91 mm(3.58 in)
Clutch - in revolution		3,300~3,700 r/min	...
Clutch - stall revolution		5,500~6,500 r/min	...
V-belt:			
V-belt width		16.6 mm(0.65 in)	14.6 mm(0.57 in)
Kick Starter:			
Type		Ratchet type	
Kick Clip Tension		1.5~2.5 N (0.15~0.25 kgf) (0.34~0.56 lb)	
Carburetor:			
I.D. Mark		5DA-01	
Main Jet	(M.J.)	#80	
Needle jet	(NJ)	2.085	
Jet Needle-clip Position	(J.N.)	3N24-3/5	
Main Air Jet	(M.A.J.)	2.0	
Cutaway	(C.A.)	3.5	
Pilot Jet	(P.J.)	#44	
Bypass		0.8	
Valve Seat Size	(V.S.)	1.8	
Starter Jet	(G.S.)	#48	
Float Height		15 ~17 mm(0.59 ~ 0.67 in)	
Fuel level height		3.0~4.0 mm(0.12 ~0.16 in)	
Engine Idling Speed		1,750~1,850 r/min	
Reed Valve:			
Thickness		0.150~0.154 mm(0.059~0.0060 in)	
Valve Stopper Height		6.0~6.4 mm(0.24~0.25 in)	
Valve bending limit		0.2 mm (0.0078)	

TIGHTENING TORQUES
ENGINE

Part to be tightened	Part name	Thread size	Q'ty	Tightening torque			Remarks
				Nm	m•kg	ft•lb	
Spark plug	—	M 14	1	20	2.0	14	
Cylinder head and cylinder	Nut	M 7	4	14	1.4	10	
Cylinder	Stud bolt	M 7	4	10	1.0	7	
Air shroud 1	Screw	M 6	3	7	0.7	5.1	
Air shroud 1×2	Screw	6.0	1	2	0.2	1.4	
Fan	Screw	M 6	3	7	0.7	5.1	
Autolube pump	Screw	M 5	2	4	0.4	2.8	
Reed valve	Bolt	M 6	4	11	1.1	8.0	
Air filter	Screw	M 6	2	9	0.9	6.5	
Carburetor cap	Screw	M 4	2	2	0.2	1.4	
Exhaust pipe	Screw	M 6	2	9	0.9	6.5	
Muffler	Bolt	M 8	2	26	2.6	18.2	
Exhaust protector	Bolt	M 6	3	11	1.1	8.0	S
Protector	Screw	M 6	1	9	0.9	6.5	S
Crankcase 1×2	Bolt	M 6	6	12	1.2	8.4	
Transmission case cover	Bolt	M 6	6	12	1.2	8.4	
Crankcase cover 1(left)	Bolt	M 6	12	12	1.2	8.4	
Bolt(case2)	Screw	M 6	1	7	0.7	5.1	
Crankcase cover2(left)	Bolt	M 6	3	7	0.7	5.1	
Drain bolt	Bolt	M 8	1	18	1.8	13	
Oil plug	Plug	M 14	1	3	0.3	22	
Idle gear plate	Screw	M 6	2	8	0.8	5.8	
Kick crank	Bolt	M 6	1	9	0.9	6.5	
Starter motor	Bolt	M 6	2	13	1.3	9.4	
Clutch housing	Nut	M 10	1	40	4.0	29	
Clutch weight	Nut	M 10	1	30	3.0	22	
Magnet base	Screw	M 6	2	8	0.8	5.8	
C.D.I. rotor	Nut	M 10	1	38	3.8	27	

CHASSIS

Item		Standard	Limit
Steering system:			
Steering bearing type		Ball and race bearing	...
No /size of steel balls:	Upper	22 pcs	...
	Lower	19 pcs	...
Front suspension:			
Front fork travel		70 mm(2.8 in)	...
Fork spring free length		236.6 mm(9.31 in)	233.6 mm
Fork length (Installed)		212.1 mm(8.35 in)	...
Spring rate (K1)		15.68 Nm/mm(1.6 kg/mm,90lb/in)	...
(K2)		23.5 Nm/mm(2.43 kg/mm,136lb/in)	
Inner tube vend limit		...	0.2 mm (0.008 in)
Rear suspension:			
Shock absorber stroke		55 mm(2.2 in)	...
Shock absorber free length (Installed)		281.8 mm(11.1 in)	...
Spring free length (Installed)		159.8 mm(6.29 in)	...
Spring rate (K1)		71.15 N/mm(7.26 kg/mm,407lb/in)	...
Front wheel:			...
Type		Cast wheel	...
Rim size		MT3.50×10	...
Rim material		Aluminum	...
Rim runout limit	radial	...	1 mm(0.04 in)
	lateral	...	1 mm(0.04 in)
Rear wheel:			
Type		Cast wheel	...
Rim size		MT3.50×10	...
Rim material		Aluminum	...
Rim runout limit	radial	...	1 mm(0.04 in)
	lateral	...	1 mm(0.04 in)
Front disc brake:			
Type		Single	...
Disc outside diameter × thickness		180×4.0mm (7.1×0.16 in)	180×3.5 mm (7.1×0.14in)
Pad thickness		6 mm(0.24 in)	0.8 mm(0.03 in)
Master cylinder inside diameter		11 mm(0.4 in)	...
Caliper cylinder outside diameter		34.93 mm(1.38 in)	...
Brake fluid type		DOT #4(or DOT #3)	...
Rear drum brake:			
Type		Leading, trailing	...
Drum inside diameter		130 mm(5.12 in)	131 mm(5.16 in)
Shoe thickness		4 mm(0.16 in)	2 mm(0.08 in)
Brake lever:			
Brake lever free play (front at lever side)		2~5 mm(0.08~0.20 in)	...
Brake lever free play (rear)		10~20 mm(0.39~0.79 in)	...
Throttle cable free play		3~5 mm(0.12~0.20 in)	...

TIGHTENING TORQUES
CHASSIS

Part to be tightened	Thread size	Tightening torque			Remarks
		Nm	m•kg	ft•lb	
Frame and engine bracket	M 12	84	8.4	61	
Engine bracket, compression rod and engine	M 10	45	4.5	31	
Rear carrier	M 6	13	1.3	9.4	
Rear shock absorber and frame	M 10	30	3.0	22	
Rear shock absorber and engine	M 8	16	1.6	12	
Steering ring nut	M 25	22	2.2	16	See
Handle holder and steering shaft	M 10	43	4.3	37	"page3-18"
Brake hose and master cylinder	M 8	20	2.0	14	
Fuel tank	M 6	10	1.0	7	
Fuel cock	M 6	7	0.7	5.1	
Fuel sender	M 5	4	0.4	2.9	
Box	M 6	7	0.7	5.1	
Seat lock assembly	M 6	7	0.7	5.1	
Plastic parts & cover	M 5	2	0.2	1.4	
Footrest board	M 6	7	0.7	5.1	
Front wheel axle and nut	M 10	70	7.0	51	
Rear wheel axle and nut	M 14	120	12.0	87	
Rear brake cam lever	M 6	10	1.0	7.2	
Front brake caliper and front fork	M 8	23	2.3	16.6	S
Brake disc and hub	M10	20	2.0	14.5	
Brake hose and caliper	M 8	23	2.3	16.6	
Brake caliper and bleed screw	M 5	6	0.6	4.3	

ELECTRICAL

Item	Standard	limit
Ignition timing:		
Ignition timing (B.T.D.C.)	14˚ at 5,000 r/min	...
Advanced type	Fixed	...
C.D.I.:		
Pickup coil resistance/color	248 ~ 372Ω at 20˚C (68˚F)	...
	(W/R-W/L)	...
Source coil resistance/color	640 ~ 960 Ω at 20˚C (68˚F)	...
	(B/ R-G/W)	...
C.D.I. unit model/manufacturer	5PJ/TIIC	...
Ignition coil:		
Model/manufacturer	4WX/TIIC	...
Minimum spark gap	6 mm (0.24 in)	...
Primary winding resistance	0.32~0.48 Ω at 20˚C (68˚F)	...
Secondary winding resistance	5.68~8.52kΩ at 20˚C (68˚F)	...
Spark plug cap:		
Type	Resin	...
Resistance	5 kΩ	...
Charging System/Type:	Flywheel magneto	...
C.D.I. Magneto:		
Model/Manufacturer	5PJ/TIIC	...
Nominal output	12V 85W/5,000 rpm	
Charging current	0.6A at 3,000r/min	...
	1.2A at 8,000r/min	...
Charging voltage	13~14V at 4,000 rpm	...
Charging Coil Resistance (Color)	0.48~0.72 Ω (White-Black)	...
Lighting Coil Resistance (Color)	0.4~0.6 Ω (Yellow/Red- Black)	...
Lighting Voltage	12~15V (3,000~8,000 rpm)	...
Rectifier:		...
Model/Manufacturer	3GF/Taichung	...
Capacity	8A	...
Withstand voltage	18V	...
Battery:		
Specific gravity	1.320	...
Electric starter system:		
Type	Constant mesh type	...
Starter motor:		
Model/manufacturer/ID number	4WX/shulin	...
Output	0.14 kw	...
Armature coil resistance	0.0648 ~ 0.0792 Ω at 20˚C (68˚F)	...
Brush overall length	6.5 mm (0.26 in)	3 mm (0.12 in)
Spring force	5.49 ~ 8.24 N	400g
	(360~540 g) (12.69~19.04 oz)	
Commutator diameter	16.1 mm (0.63 in)	15.1 mm (0.59 in)
Mica undercut (depth)	1.05 mm (0.04 in)	...
Starter relay:		
Model/manufacturer	4WX/Shulin	...
Amperage rating	20A	...
Coil resistance	54~66 Ω	...