

Product: 2006-2009 Yamaha XC50V, XC50W_, XC50X_, XC50Y_ Motorcycle Service Repair Workshop Manual
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YAMAHA

2006 - 2009

Model : XC50V, XC50W_, XC50X_, XC50Y_

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EAS00000

**XC50V 2005
SERVICE MANUAL**
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NOTICE

This manual was produced by the Yamaha Motor Taiwan 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 Taiwan 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 dealers 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!



The Safety Alert Symbol means ATTENTION] BECOME ALERT! YOUR



_____ y or death
to the scooter operator, a bystander or a person inspecting or repairing the

CAUTION:

A CAUTION indicates special precautions that must be taken to avoid dam-

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.

CYLINDER AND PISTON ENG

E480001
CYLINDER AND PISTON

④

⑤

⑦

Order	Job/Part	Qty	Remarks
	Removing the cylinder and piston		Remove the parts in the order listed. Refer to "CYLINDER HEAD".
1	Cylinder head	1	
2	Timing chain guide(exhaust side)	1	
3	Cylinder	1	
4	Case cap	1	
5	Reed valve assembly	1	
6	Dowel pin	2	
7	Cylinder gasket	1	Refer to * INSTALLING THE PISTON AND CYLINDER.
8	Piston pin clip	2	
9	Piston pin	1	Refer to * REMOVING THE CYLINDER AND PISTON.
10	Piston	1	Refer to * INSTALLING THE PISTON AND CYLINDER.
	Piston ring set	1	For installation, reverse the removal procedure.

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CYLINDER AND PISTON ENG

E480002
REMOVING THE CYLINDER AND PISTON

1. Remove:
 - piston pin clip ①
 - piston pin ②
 - piston ③

CAUTION:

Do not use a hammer to drive the piston pin out.

NOTE:

- Before removing the piston pin clip, cover the crankcase opening with a clean rag to prevent the piston pin clip from falling into the crankcase.
- Before removing the piston pin, deburr the piston pin clip's groove and the piston's pin bore area. If both areas are deburred and the piston pin is still difficult to remove, remove it with the piston pin puller set ④.

Piston pin puller set
90890-01304(YU-01304)

2. Remove:
 - top ring
 - 2nd ring
 - oil ring

NOTE:

When removing a piston ring, open the end gap with your fingers and lift the other side of the ring over the piston crown.

5-28

① GEN INFO 	② SPEC 	
③ CHK ADJ 	④ CHAS 	
⑤ ENG 	⑥ COOL 	
⑦ CARB 	⑧ ELEC 	
⑨ TRBL SHTG 	⑩ 	
⑪ 	⑫ 	
⑬ 	⑭ 	
⑮ 	⑯ 	⑰ 
⑱ 	⑲ 	⑳ 
㉑ 	㉒ 	㉓ 
㉔ 	㉕ New	

EAS00008

SYMBOLS

The following symbols are not relevant to every vehicle.

Symbols ① to ⑨ indicate the subject of each chapter.

- ① General information
- ② Specifications
- ③ Periodic checks and adjustments
- ④ Chassis
- ⑤ Engine
- ⑥ Cooling system
- ⑦ Carburetor(s)
- ⑧ Electrical system
- ⑨ Troubleshooting

Symbols ⑱ to ㉓ in the exploded diagrams indicate the types of lubricants and lubrication points.

- ⑱ Engine oil
- ⑲ Gear oil
- ⑳ Molybdenum-disulfide oil
- ㉑ Wheel-bearing grease
- ㉒ Lithium-soap- based grease
- ㉓ Molybdenum-disulfide grease

Symbols ㉔ to ㉕ in the exploded diagrams indicate the following.

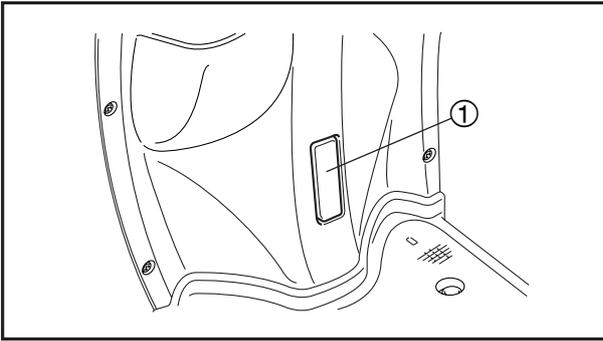
- ㉔ Apply locking agent (LOCTITE®)
- ㉕ Replace the part

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**CHAPTER 1
GENERAL INFORMATION**

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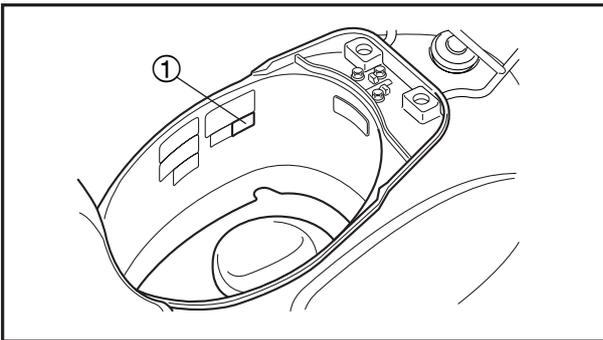
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GENERAL INFORMATION SCOOTER IDENTIFICATION

EAS00017

VEHICLE IDENTIFICATION NUMBER

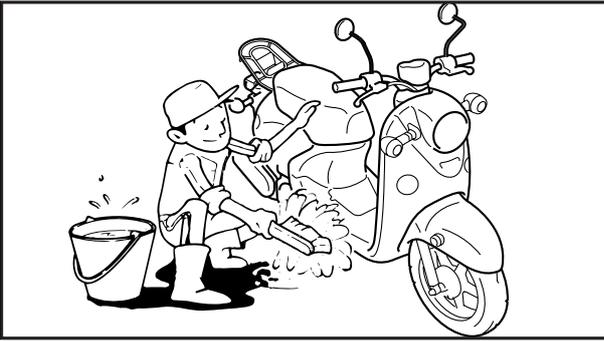
The vehicle identification number ① is stamped into the steering head pipe.



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MODEL LABEL

The model label ① is affixed to the trunk. This information will be needed to order spare parts.

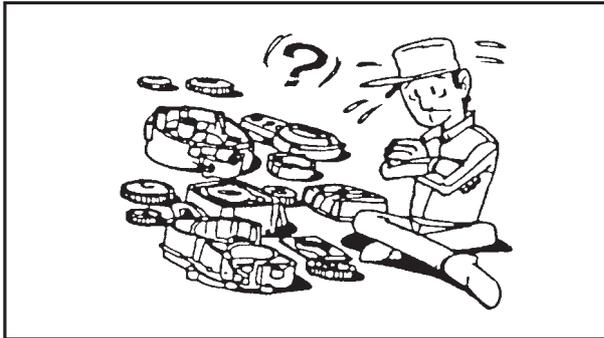


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IMPORTANT INFORMATION

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 the "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
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.



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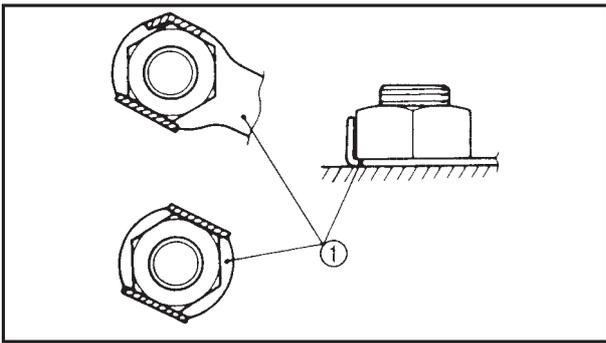
REPLACEMENT PARTS

Use only genuine Yamaha parts for all replacements. Use oil and grease recommended 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

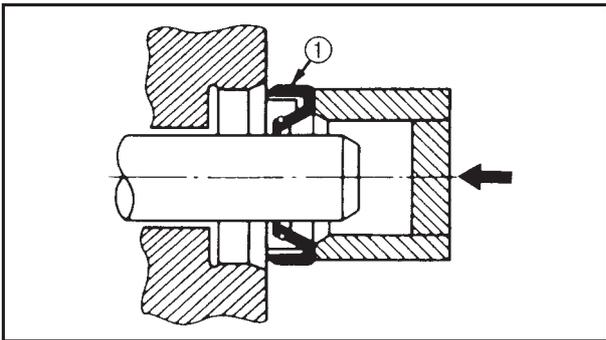
1. When overhauling the engine, replace all gaskets, seals and O-rings. All gasket surfaces, oil seal lips and O-rings must be cleaned.
2. During reassembly, properly oil all mating parts and bearings and lubricate the oil seal lips with grease.



EAS00023

LOCK WASHERS/PLATES AND COTTER PINS

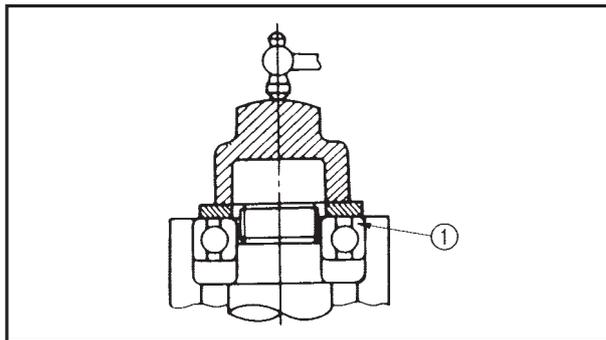
After removal, replace all lock washers/plates ① and cotter pins. After the bolt or nut has been tightened to specification, bend the lock tabs along a flat of the bolt or nut.



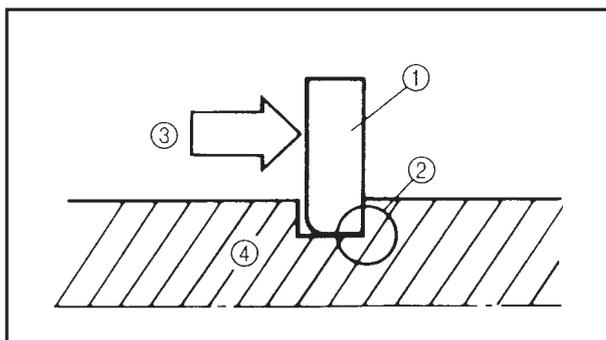
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BEARINGS AND OIL SEALS

Install bearings and oil seals so that the manufacturer's marks or numbers are visible. When installing oil seals, lubricate the oil seal lips with a light coat of lithium-soap-based grease. Oil bearings liberally when installing, if appropriate.



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

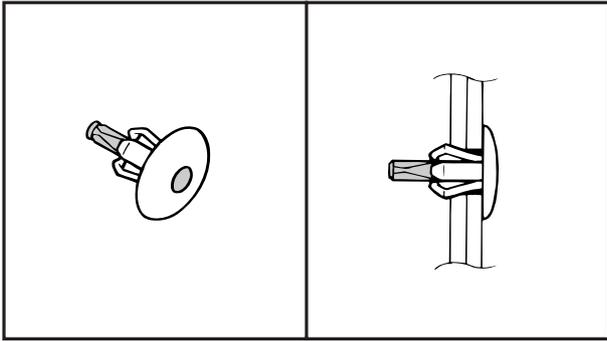


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CIRCLIPS

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.

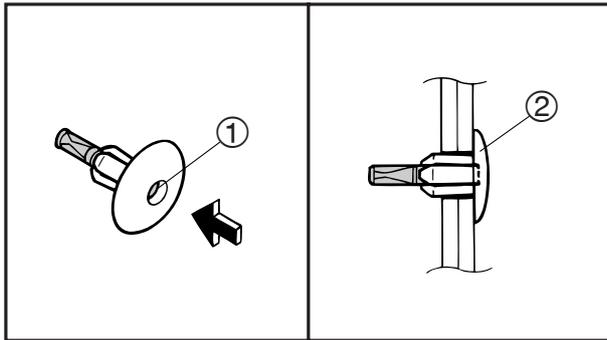
④ Shaft



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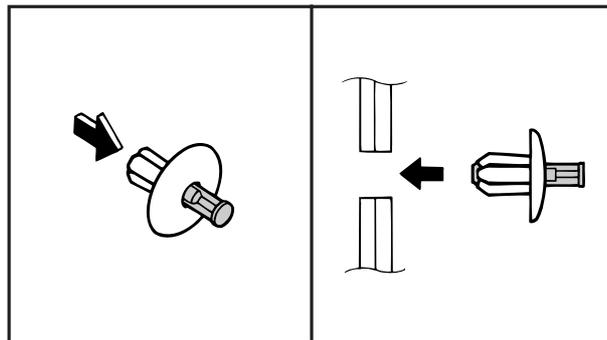
Notes 3 on equipment preparation
Push Rivet (Push type)

Assembly status of the Push Rivet (Push type)

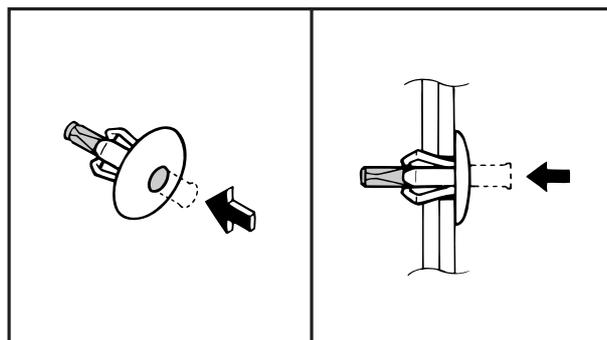


Disassembling

1. Press Center Pin ① inward to release the Lock.
2. Remove the Push Rivet main body ②.



1. Restore the Center Pin, replace the Push



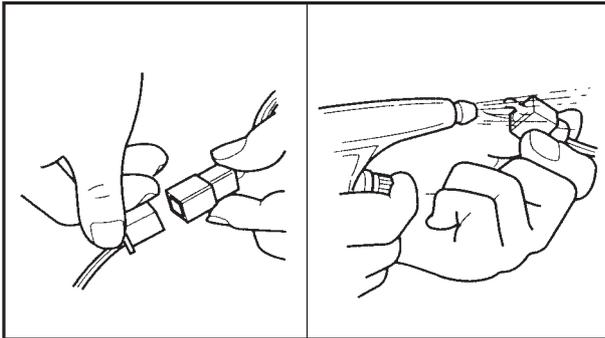
2. Push in the Center Pin until leveling off with the surface position of the Push Rivet main body.

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CHECKING THE CONNECTIONS

Check the leads, couplers, and connectors for stains, rust, moisture, etc.

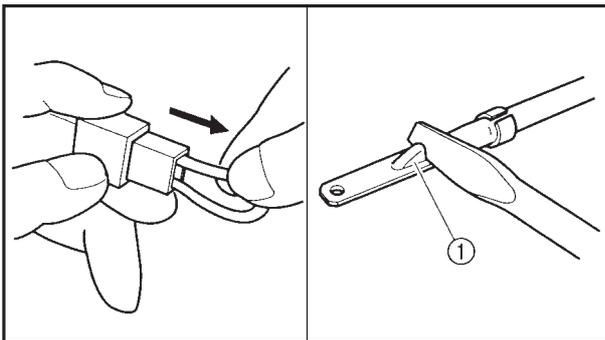
1. Disconnect:
 - lead
 - coupler
 - connector



2. Check:
 - lead
 - coupler
 - connector

Moisture → Dry with an air blower.

Rust/stains → Connect and disconnect several times.



Connect properly.

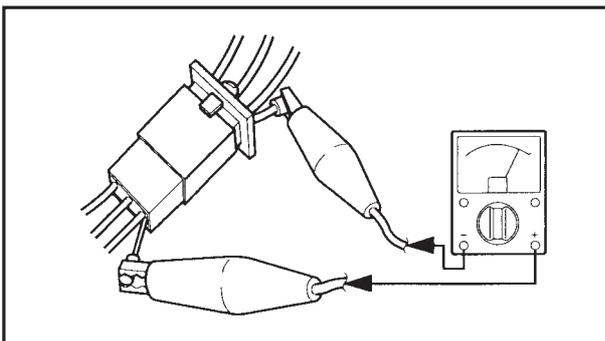
_____ on the terminal is flattened, bend it _____

- lead
- coupler
- connector

NOTE: _____

Make sure all connections are tight.

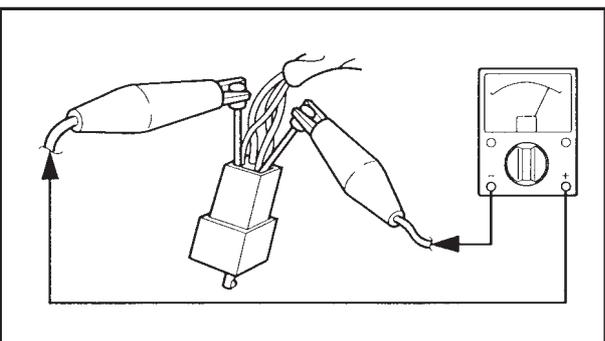
5. Check:
 - continuity (with the pocket tester)



	Pocket tester 90890-03112 (YU-03112-C)
---	--

NOTE: _____

- If there is no continuity, clean the terminals.
- When checking the wire harness, perform steps (1) to (3).
- As a quick remedy, use a contact revitalizer available at most part stores.

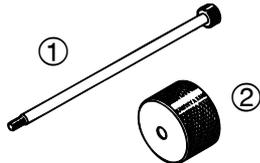
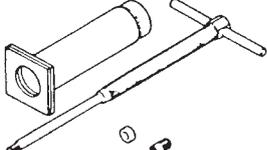
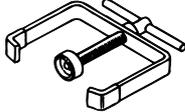
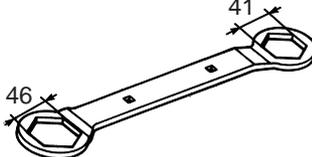
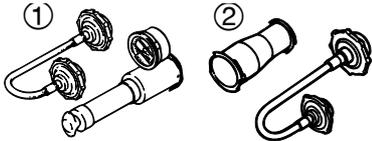


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SPECIAL TOOLS

The following special tools are necessary for complete and accurate tune-up and assembly. Use only the appropriate special tools as this will help prevent damage caused by the use of inappropriate tools or improvised techniques. Special tools, part numbers or both may differ depending on the country.

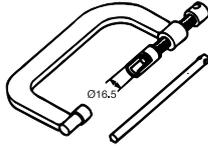
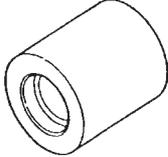
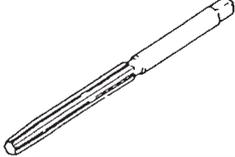
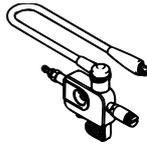
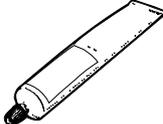
When placing an order, refer to the list provided below to avoid any mistakes.

Tool NO.	Tool name / Function	Illustration
90890-01085 YU-01083-2 90890-01084 YU-01083-3	Slide hammer bolt (8mm) ① Weight ② These tools are needed to remove the camshaft.	
90890-01235 YU-01235	Rotor holding tool This tool is used to remove the flywheel	
90890-01268 YU-01268		
90890-01304 YU-01304		
90890-01312 YM-01312-A	This gauge is used to measure the fuel level in the float chamber.	
90890-01337 YM-33285 YM-33285-6	Clutch spring holder These tool are used for removing the nut with holding the compression spring.	
90890-01348 YM-01348	Lock nut wrench This tool is used when removing or installing the secondary sheave nut.	
90890-01325 YU-24460-01 90890-01352 YU-33984	Radiator cap tester① Radiator cap tester adapter② This tester and its adapter are needed for checking the cooling system.	



Tool NO.	Tool name / Function	Illustration
90890-01367 YM-A9409-7 90890-01400 YM-A9409-3	Fork seal driver weight① Fork seal driver attachment(Ø30mm)② This tool is used when installing the fork seal.	
90890-01384 YM-33299	Oil seal guide This tool is used for protecting the oil seal lip when installing the secondary sliding sheave.	
90890-01403 YU-A9472	Steering nut wrench This tool is used to loosen and tighten the steering ring nut.	
90890-01701 YS-01880-A	Sheave holder	
90890-03079 YM-34483		
90890-03081 YU-33223		
90890-03112 YU-03112-C	This instrument is invaluable for checking the electrical system.	
90890-06760	Digital tachometer This tool is needed for detecting engine rpm.	
90890-03141 YU-03141	Timing light This tool is needed for detecting ignition timing.	



Tool NO.	Tool name / Function	Illustration
90890-04019 YM-04019 90890-04148 YM-04148	Valve spring compressor Compressor adapter(Ø16.5mm) These tools are used when removing or installing the valve and the valve spring.	
90890-04111 YM-04111	Valve guide remover (4.0 mm) This tool is used to remove or install the valve guides.	
90890-04112 YM-04112	Valve guide installer (4.0 mm) This tool is used to install the valve guides.	
90890-04113 YM-04113	Valve guide remover (4.0 mm)	
90890-06754 YM-34487		
90890-85505 ACC-11001-05-01		

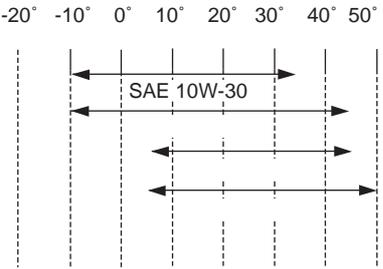
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SPECIFICATIONS**GENERAL SPECIFICATIONS**

Item	Standard	Limit
Model code	3D11 (for USA) 3D12 (for CAN)
Dimensions		
Overall length	1665 mm(65.6in)	...
Overall width	630 mm(24.8in)	...
Overall height	1005 mm(39.6in)	...
Seat height	715 mm(28.2in)	...
Wheelbase	1160 mm(45.7in)	...
Ground clearance	85 mm(3.4in)	...
Minimum turning radius	1800mm(70.9in)	...
Weight		
Wet (without oil and a full fuel tank)	81 kg(179lb)	...
Dry (without oil and fuel)		
Maximum load (total of carg and accesso		

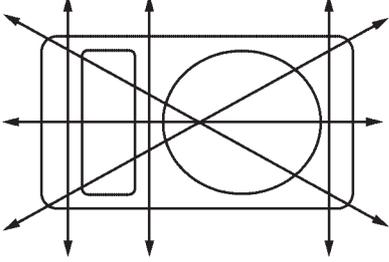
ENGINE SPECIFICATIONS

Item	Standard	Limit
<p>Engine Engine type Displacement Cylinder arrangement Bore × stroke Compression ratio Engine idle speed Vacuum pressure at engine idle speed(AI OFF) Standard compression pressure (at sea level)</p>	<p>Liquid-cooled, 4-stroke, SOHC 0.049L(49cm³) Forward inclined single cylinder 38.0 × 43.5 mm 12:1 2000~2400 r/min 34.7 kpa (260 mmHg) 1450 kPa (14.5kgf/cm²) at 700 r/min</p>	<p>... </p>
<p>Fuel Recommended fuel Fuel tank capacity Total (including reserve)</p>	<p>Regular unleaded gasoline</p>	<p>... </p>
<p>Engine oil Lubrication system Recommended oil</p>  <p>Quantity Periodic oil change Total amount</p>	<p>Wet sump</p> <p>0.73~0.83 L (0.67~0.76 Imp qt, 0.80~0.90 US qt) 0.8~0.9L (0.74~0.83 Imp qt, 0.87~0.98 US qt)</p>	<p>... </p>
<p>Final gear oil Recommended oil Periodic oil change Total amount</p>	<p>SAE10W-30 SE motor oil 0.09~0.11L (0.08~0.10 Imp qt, 0.10~0.12 US qt) 0.11~0.13L (0.10~0.12 Imp qt, 0.12~0.14 US qt)</p>	<p>... </p>

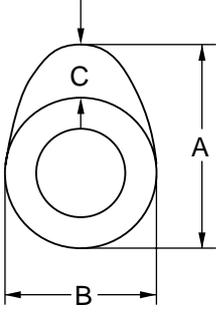
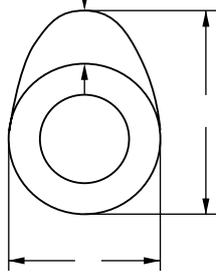
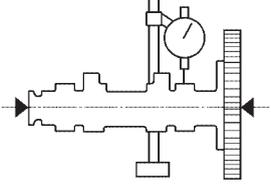
ENGINE SPECIFICATIONS

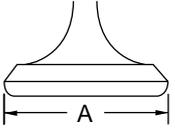
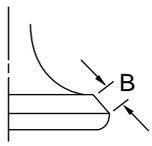
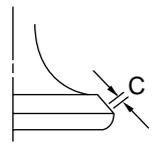
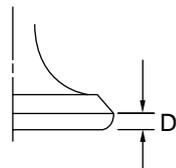
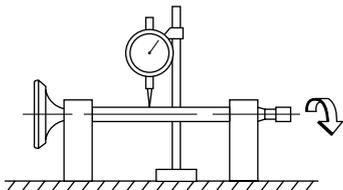
SPEC



Item	Standard	Limit
Oil filter Oil filter type	Wire mesh	...
Oil pump Oil pump type Inner rotor to outer rotor tip clearance Outer rotor to pump housing clearance Oil pump housing to inner rotor and outer rotor clearance	Trochoid 0.15 mm or less 0.13-0.18 mm 0.07-0.12 mm	... 0.23mm 0.25mm 0.19mm
Cooling system Radiator capacity Radiator cap opening pressure Valve relief pressure Radiator core Width Height Depth Coolant reservoir Capacity <From low to full lever> Water pump Water pump type Max. impeller shaft tilt	0.26L 93.3~122.7 kpa (0.95~1.25kgf/cm ² , 13.53~17.79 psi) 1.1kpa (0.01kgf/cm ² , 0.16 psi) 133.3mm
Starting system type		
Spark plug Model (manufacturer) × quantity Spark plug gap	0.7~0.8mm	...
Cylinder head Volume Max. warpage  11110304	3.1~3.5cm ³ 0.05 mm



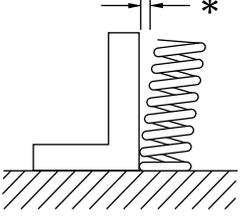
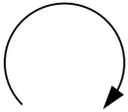
Item	Standard	Limit
<p>Camshaft</p>		
<p>Drive system Intake camshaft lobe dimensions</p>	<p>Chain drive (left)</p>	<p>...</p>
		
<p>Measurement A Measurement B Measurement C</p>	<p>30.158~30.258 mm 25.082~25.182 mm 5.2077mm</p>	<p>30.058 mm 24.982 mm ...</p>
<p>Exhaust camshaft lobe dimensions</p>		
		
<p>Measurement A Measurement B Measurement C</p>	<p>30.158~30.258 25.020~25.120 5.2077mm</p>	<p>...</p>
<p>Max. camshaft runout</p>	<p>...</p>	<p>0.03 mm</p>
 <p style="text-align: center; font-size: small;">11131R02</p>		

Item	Standard	Limit
Timing chain		
Model/number of links	Morse 92RH2005 / 82	...
Tensioning system	Automatic	...
Valve, valve seats, valve guides		
Valve clearance (cold)		
Intake	0.10~0.16 mm	...
Exhaust	0.18~0.24 mm	...
Valve dimensions		
 Head Diameter	 Face Width	 Seat Width
 Margin Thickness		
Valve head diameter A		
Intake		
Exhaust		
Valve face width B		
Intake		
Exhaust		
Valve seat width C		
Intake		
Exhaust		
Valve margin thickness D		
Intake		
Exhaust		
Valve stem diameter		
Intake		
Exhaust	3.960~3.975 mm	3.930 mm
Valve guide inside diameter		
Intake	4.000~4.012 mm	4.050 mm
Exhaust	4.000~4.012 mm	4.050 mm
Valve stem to valve guide clearance		
Intake	0.010~0.037 mm	0.080 mm
Exhaust	0.025~0.052 mm	0.100 mm
Valve stem runout	...	0.010 mm
		
Valve seat width		
Intake	0.9~1.1 mm	1.6mm
Exhaust	0.9~1.1 mm	1.6mm

ENGINE SPECIFICATIONS

SPEC

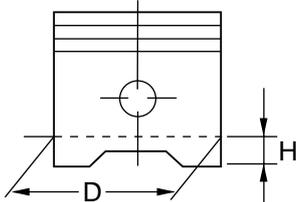
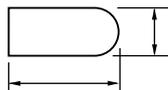
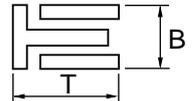


Item	Standard	Limit
Valve springs		
Free length		
Intake	39.35 mm	37.38 mm
Exhaust	41.57 mm	39.49 mm
Installed length (valve closed)		
Intake	28.0mm	...
Exhaust	30.0mm	...
Compressed spring force (installed)		
Intake	91.1~104.9N(9.3~10.7kg)	...
Exhaust	107.9~124.1N (11.0~12.7kg)	...
Spring tilt		
		
Intake	...	2.5 °/1.7 mm
Exhaust	...	2.5 °/1.8 mm
Winding direction (top view)		
Intake		
Exhaust		
Valve seat reformed	Yes	...
Cylinder		
Cylinder arrangement	Forward inclined single cylinder	...
Bore x stroke	38.0 x 43.5 mm	...
Compression ratio	12:1	...
Bore	38.000~38.010 mm	...
Max. taper	...	0.05 mm
Max. out-of-round	...	0.05 mm

ENGINE SPECIFICATIONS

SPEC

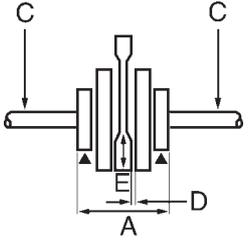


Item	Standard	Limit
Piston		
Piston-to-cylinder clearance Diameter D	0.010~0.035 mm 37.975~37.990 mm	0.150mm ...
		
Height H	5.0 mm	...
Piston pin bore (in the piston)		
Diameter	10.002~10.013 mm	10.043 mm
Offset	0.35~0.65mm	...
Offset direction	Intake side	...
Piston pin		
Outside diameter	9.996~10.000 mm	9.976 mm
Piston rings		
Top ring		
		
Ring type	Barrel	...
Dimensions (B × T)	0.8 × 1.65mm	...
End gap (installed)	0.05~0.15 mm	...
Ring side clearance	0.02~0.08 mm	0.13 mm
2nd ring		
		
Ring type	Taper	...
Dimensions (B × T)	0.8 × 1.5mm	...
End gap (installed)	0.05~0.17 mm	0.52mm
Ring side clearance	0.02~0.06 mm	0.12mm
Oil ring		
		
Dimensions (B × T)	1.5 × 1.6 mm	...
End gap (installed)	0.2~0.7 mm	...
Ring side clearance	0.03~0.15 mm	...

ENGINE SPECIFICATIONS

SPEC



Item	Standard	Limit
Rocker arm/rocker arm shaft Rocker arm inside diameter Rocker arm shaft outside diameter Arm-to-shaft clearance	10.000~10.015mm 9.981~9.991 mm 0.009~0.034 mm
Connecting rod Connecting rod length Small end inside diameter	79.95~80.05 mm 10.015~10.028mm
Crankshaft  Width A Max. runout C Big end side clearance D Big end radial clearance	42.45~42.50 mm ... 0.15~0.45 mm	... 0.03mm

ENGINE SPECIFICATIONS



Item	Standard	Limit
Clutch		
Clutch type	Automatic centrifugal	...
Clutch shoe thickness	3.7 mm	2.0mm
Clutch shoe spring free length	30.1±0.4mm	...
Clutch housing inside diameter	107 mm	...
Compression spring free length	128 mm	...
Weight outside diameter	15.0 mm	14.5 mm
Clutch-in revolution	3450~3850 r/min	...
Clutch-stall revolution	4350~5350 r/min	...
V-belt		
V-belt width	16.8 mm	15.8mm
Transmission		
Transmission type	V-belt automatic	...
Primary reduction system	Helical gear	...
Primary reduction ratio	48/13 (3.692)	...
Secondary reduction system		
Secondary reduction ratio		
Single speed automatic		
Max. main axle runout		
Max. drive axle runout		
Air filter type		
Carburetor		
Model (manufacturer) × quantity	NCV18 (KEIHIN) × 1	...
ID mark	3D11 00	...
Venturi tube bore(pr		
Venturi tube bore(secondary)	Ø16.6	...
Main jet	#82	...
Main air jet	#80	...
Jet needle	N425-FBC00	...
Neddle jet	N426-36628	...
Slow air jet	#82	...
Pilot outlet	Ø0.9	...
Slow jet	#35/35	...
Bypass 1	Ø0.7	...
Bypass 2	Ø0.7	...
Bypass 3	Ø0.7	...
Valve seat size	Ø1.6	...
Starter jet	#38	...
Starter air jet	Ø1.5	...
Throttle valve size	N503-69E00	...
Fuel level (using fuel level gauge)	6.6~7.6mm	...
Engine idle speed	2000~2400 r/min	...
CO% (air induction system ON)	Less than 3.5%	...
CO% (air induction system OFF)	5.5~6.5 %	...
Oil temperature (°C)	55~65 °C	...



CHASSIS SPECIFICATIONS

Item	Standard	Limit
Frame		
Frame type	Steel tube underbone	...
Caster angle	24 °	...
Trail	70 mm	...
Front wheel		
Wheel type	Cast wheel	...
Rim		
Size	J10 x MT2.15	...
Material	Aluminum	...
Wheel travel	59mm	...
Wheel runout		
Max. radial wheel runout	...	1.0 mm
Max. lateral wheel runout	...	1.0 mm
Rear wheel		
Wheel type		
Rim		
Size		
Material		
Wheel travel		
Wheel runout		
Max. radial wheel runout		
Max. lateral wheel runout		
Front tire		
Tire type		
Size	90/90-10 41J	...
Model (manufacturer)	C-922 (CHENG SHIN)	...
Tire pressure (cold)		
0~55 kg	150kpa (1.5 kgf/cm ² , 22 psi)	...
55~158 kg	150kpa (1.5 kgf/cm ² , 22 psi)	...
Min. tire tread depth	...	0.8mm
Rear tire		
Tire type	Tubeless	...
Size	90/90-10 41J	...
Model (manufacturer)	C-922 (CHENG SHIN)	...
Tire pressure (cold)		
0~55 kg	175kpa (1.75 kgf/cm ² , 25 psi)	...
55~158 kg	175kpa (1.75 kgf/cm ² , 25 psi)	...
Min. tire tread depth	...	0.8mm

CHASSIS SPECIFICATIONS



Item	Standard	Limit
Front brake		
Brake type	Drum brake	...
Operation	Right-hand operation	...
Brake lever free play (at lever end)	10~20mm	...
Brake drum inside diameter	110 mm	110.5mm
Lining thickness	4.0mm	2.0mm
Rear brake		
Brake type	Drum brake	...
Operation	Left-hand operation	...
Brake lever free play (at lever end)	10~20mm	...
Brake drum inside diameter	110 mm	110.5mm
Lining thickness	4.0mm	2.0mm
Front suspension		
Suspension type	Telescopic	...
Front fork type	Coil spring/grease damper	...
Front fork travel		
Spring		
Free length		
Installed length		
Spring rate (K1)		
Spring stroke (K1)		
Optional spring available		
Inner tube outer diameter		
Inner tube bending limit		
Steering system		
Steering bearing type		
Lock to lock angle (left)		
Lock to lock angle (Right)	45°	...
Rear suspension		
Suspension type	Unit swing	...
Rear shock absorber assembly type	Coil spring/oil damper	...
Rear shock absorber assembly travel	55mm	...
Spring		
Free length	192.5mm	...
Installed length	182.5mm	...
Spring rate (K1)	24.82N/mm (2.53kgf/mm)	...
Spring rate (K2)	39.27N/mm (4.00kgf/mm)	...
Spring rate (K3)	60.50N/mm (6.17kgf/mm)	...
Spring stroke (K1)	0~25mm	...
Spring stroke (K2)	25~43mm	...
Spring stroke (K3)	43~55mm	...
Optional spring available	No	...



ELECTRICAL SPECIFICATIONS

Item	Standard	Limit
System voltage	12V	...
Ignition system		
Ignition system type	C.D.I.	...
Ignition timing	13 ° B.T.D.C. at 2200 r/min	...
Advancer type	Digital	...
Pickup coil resistance /color	248~372 Ω / W/R-W/L	...
C.D.I. unit model (manufacturer)	1P4 (T-MORIC)	...
Ignition coil		
Model (manufacturer)	X7A (T-MORIC)	...
Minimum ignition spark gap	6mm	...
Primary coil resistance	0.168~0.252 Ω at 20 ° C	...
Secondary coil resistance	2.4~3.6 k at 20 ° C	...
Spark plug cap		
Material		
Resistance		
Charging system		
System type		
Model (manufacturer)		
Nominal output		
Stator coil resistance /color		
Lighting coil resistance /color		
Voltage regulator		
Regulator type		
Model (manufacturer)	SH656-12 (SHIN DEN GEN)	...
No load regulated voltage(DC)	14.1~14.9 V	...
Rectifier		
Model (manufacturer)	SH656-12 (SHIN DEN GEN)	...
Rectifier capacity(DC)	8A	...
Withstand voltage	200V	...
Battery		
Battery type (manufacturer)	GTX5L-BS (GS)	...
Battery voltage capacity	12V 4AH	...
Specific gravity	1.330	...
Ten hour rate amperage	4AH	...
Headlight type	Halogen bulb	...
Indicator light (voltage/wattage×quantity)		
Turn signal indicator light	14 V 3.0 W × 2	...
High beam indicator light	12 V 1.7W × 1	...
Water temperature indicator light	14 V 3.0W × 1	...

ELECTRICAL SPECIFICATIONS



Item	Standard	Limit
Bulbs (voltage/wattage x quantity)		
Headlight	12 V 35W/35W x 1	...
Tail/brake light	12 V 5W/21 W x 1	...
Front turn signal light	12 V 10 W x 2	...
Rear turn signal light	12 V 10 W x 2	...
Speedometer lighting	12 V 1.7 W x 2	...
Electric starting system		
System type	Constant mesh	...
Starter motor		
Model (manufacturer)	5STF (T-MORIC)	...
Suction voltage	12V	...
Power output	0.25 kW	...
Brushes		
Overall length	7.0 mm	3.5mm
Quantity	2	...
Spring force		
Commutator diameter		
Commutator resistance		
Mica undercut (depth)		
Starter relay		
Model (manufacturer)		
Amperage		
Coil resistance		
Suction voltage		
Horn		
Horn type		
Model (manufacturer)		
Max. amperage	1.5 A	...
Performance	98~108db/2m	...
Coil resistance	4.05~4.55Ω	...
Turn signal relay		
Relay type	Full transistor	...
Model (manufacturer)	5CA9 (TA YOUNG)	...
Self-cancelling device built-in	NO	...
Turn signal blinking frequency	75~95 cycles/min	...
Wattage	10 W x 2 + 1.7 W+ AP	...
Fuel sender		
Model (manufacturer)	5ST1 (CHAO LONG)	...
Sender unit resistance-full	6~8 Ω	...
Sender unit resistance-empty	93.5~96.5 Ω	...
Head light relay		
Model (manufacturer)	5EB 10 (OMRON)	...
Coil resistance	90~110 Ω	...
Diode	YES	...

ELECTRICAL SPECIFICATIONS



Item	Standard	Limit
Throttle position sensor		
Output voltage (throttle opens)	2.8~3.4V	...
Output voltage (throttle closes)	0.625~0.775V	...
Radiator fan		
Model (manufacturer)	5ST-00 (LUNTAI)	...
Running rpm	10000 r/min	...
Thermostat switch		
Model (manufacturer)	5ST (NIPPON THERMOSTAT)	...
Thermo unit		
Model (manufacturer)	5JJ (NIPPON THERMOSTAT)	...
Coil resistance at 80 °C	3.413~4.006 kΩ	...
Coil resistance at 105 °C	1.645~1.855 kΩ	...
Fuse (amperage × quantity)		
Main fuse	7.5A×1	...