DAELIM

SERVICE MANUAL

SERVICE MANUAL

Roadwin

DAELIM MOTOR

HOW TO USE THIS MANUAL

This manual describes effective maintenance procedure for the VJF125 manufactured by DAELIM Motor Co., Ltd.
To ensure safety and optimal operating conditions of the vehicle, carry out regular inspections according to the maintenance schedule (Section 2).
Sections 1 through 2 provide information on overall vehicle; and section 3 describes maintenance procedure for the engine, frame and electrical systems.
To facilitate use of this manual, each page starts with disassembly and system diagrams, service information, and troubleshooting guide. If you cannot find the cause of trouble, refer to Section 21: Troubleshooting.

CONTENTS

1. GENERAL INFORMATION

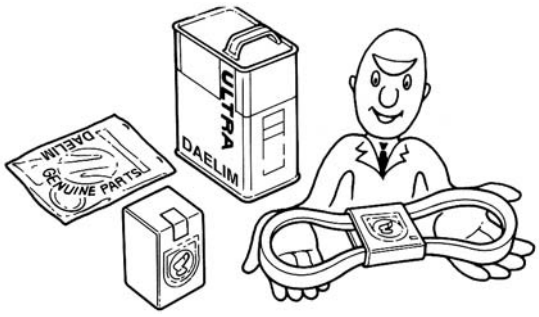
SERVICE INFORMATION

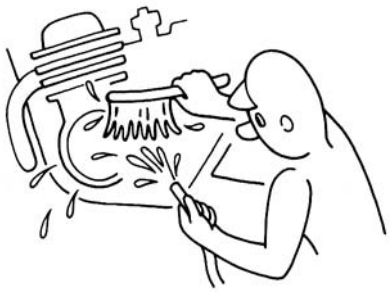
⚠ WARNING

1. Do not run the engine for a long time in closed or not well-ventilated area because the exhaust gas contains toxic substances such as carbon monoxide, hydrocarbon, nitric oxide.
2. The battery fluid(lean sulfuric acid) is extremely toxic. It is dangerous if skin is exposed to it or if it enters into the eye. Be careful in handling. When exposed to the battery fluid, wash it with water and get a medical check up.(store the battery fluid in a safe place to avoid touching by the children)
3. Pay attention not to be burned and always put on the protection gears because the engine or the muffler is hot right after engine stops.
4. Gasoline is extremely flammable. Maintenance must be performed in the place free of the open fire or electric spark.
5. When more than two person are working, always pay attention to other worker's action and always have safety in mind.
6. The skin exposed to used engine oil can be a major reason of the skin cancer. Pay attention not to be exposed and wash carefully with soap and water after handling.
7. If compressed air is used to clean the brake, dust scattered in the air can be breathed in by workers. Please take action not to scatter dust in the brake cleaner, etc.
8. Flammable nitrogen gas is generated during charging the battery so charging must be performed in well-ventilated area and free of the open fire and spark.

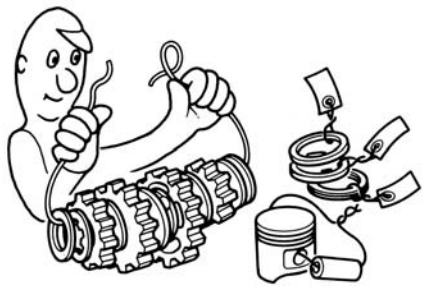
SERVICE RULES

1. Parts and lubrication oil must be DAELIM genuine or recommended parts.
2. Before maintenance, remove deposit or dust from the chasis.



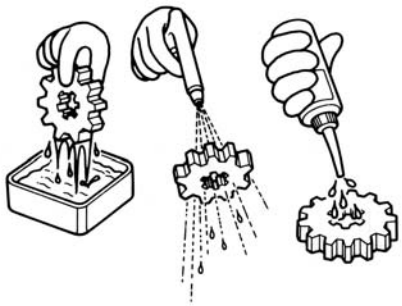


3. Store the parts of each system discriminatively to install each part in the right place.



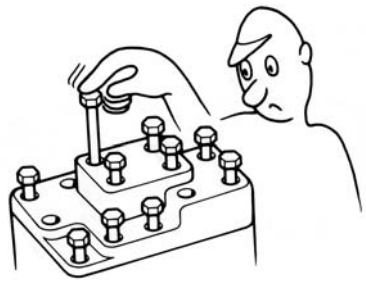
4. After removing gasket, O-ring, piston pin clip and cotter pin, always replace them with the new one. When removing the snap ring, it can be easily missed after transformation or installation.

5. Clean the parts after the overhaul and before the test and remove the cleaning oil with compressed air. Apply oil to seal face during installation.

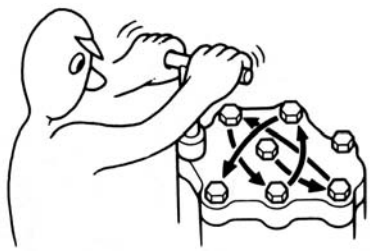


6. Check necessary place and measure necessary data during installation. When installing, return to the state before removing.

7. Align the bolts to uniform the tightening points before tightening them when you don't know the bolt length.



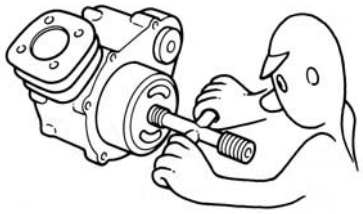
8. Bolts, nuts and pieces must be tightened from the bigger diameter to the smaller one, from inside to outside and diagonally with the specified torque.



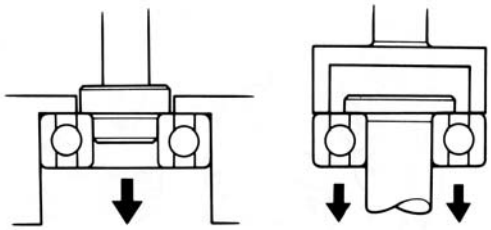
9. Check to see if the rubber part is worn out when removing it and replace it if necessary. Some rubber part is weak to gasoline and kerosene, so pay attention not to soak with gasoline or oils.

10. Recommended grease must be applied to or filled in the specified place.

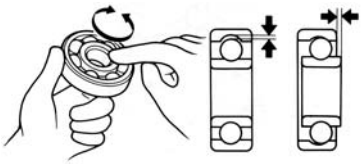
11. Maintenance needed to use the specialized tools must be performed with the right tool.



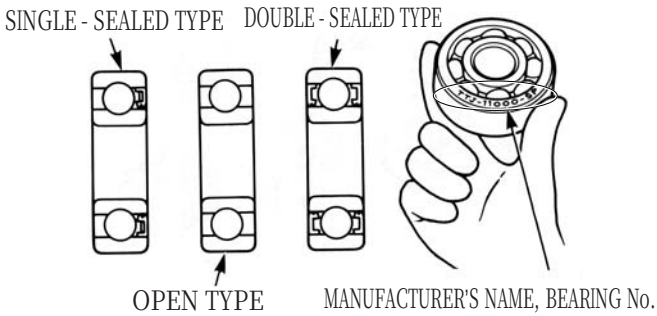
12. Never reuse the ball bearing removed with the ball applied pressure when removing press-fitted the bearing.



13. Check the smooth rotation of inner or outer race of the ball bearing by rotating it manually.
    - Replace the ball bearing having excessive axial/ longitudinal hanging.
    - Wipe the ball bearing likely to have hanging with cleaning oil.(except double-sided sealed type ball bearing)
    - Replace the ball bearing of which press-fitted part is slacked at the case or shaft.

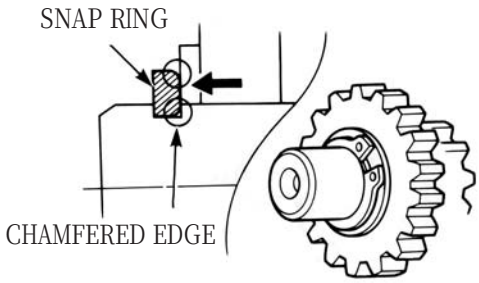


14. Pay attention to installation direction in case of the single-sided sealed ball bearing. Install the open-direction or double-sided sealed bearing in the way that the face marked with manufacturer and size should direct to the outer axle.



15. When blowing the ball bearing with compressed air after cleaning, keep the race from rotating. High speed rotation of the race may damage the bearing. Prior to installation, apply oil or grease to the bearing.

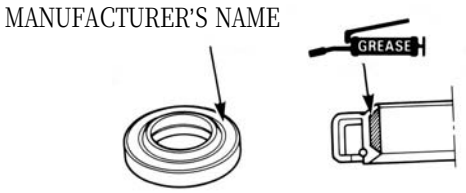
16. Install the snap ring so that chamfered side directs to the load-applied side. After installation, check the proper installation by rotating the snap ring.



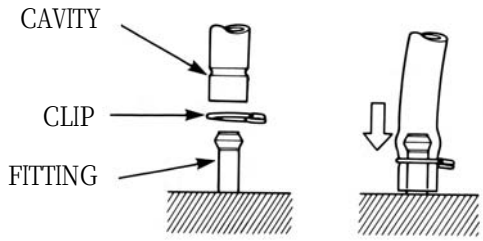
17. Check each part for proper tightening and operation after installation.

18. The brake fluid and coolant can damage the painted plastic or rubber parts. Keep these parts from contacting with them and wash these parts with water in case of contact.

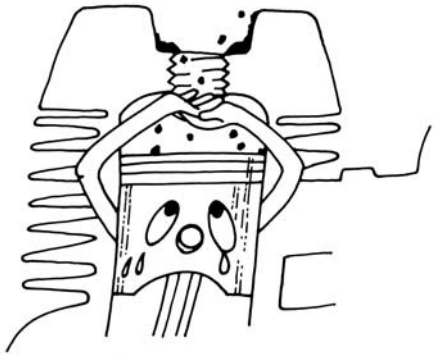
19. Install the oil seal so that the manufacturer marked surface directs outer surface.(direction not covered with oil)
    - Pay attention not to bend or damage the lip.
    - Apply the grease to the lip.



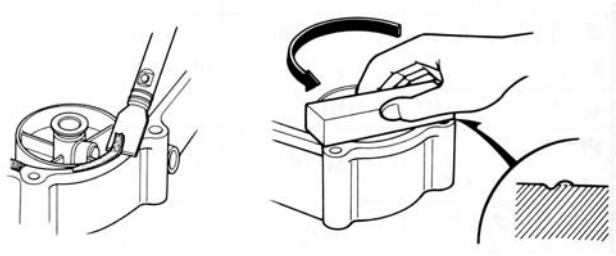
20. Connect the tube until the tube fully inserted in the joint. Install the clip if it is supplied. Replace the tube having slacked end.



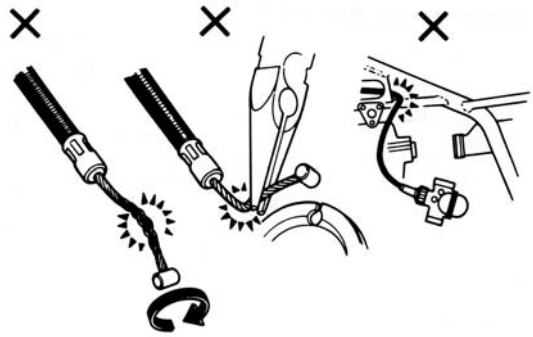
21. Keep the pneumatic system interior or the engine interior from the infiltration of dust.



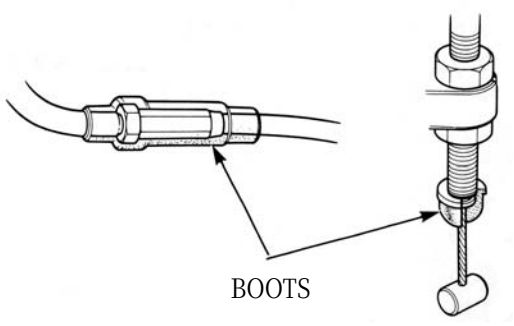
22. Install the gasket mounted in the contact surface of each case of the engine while removing gasket material completely. Remove damaged contact surface by wiping with the oil stone equally.



23. Pay attention not to bend the cable excessively. Transformed or damaged cable may cause malfunction or damage.

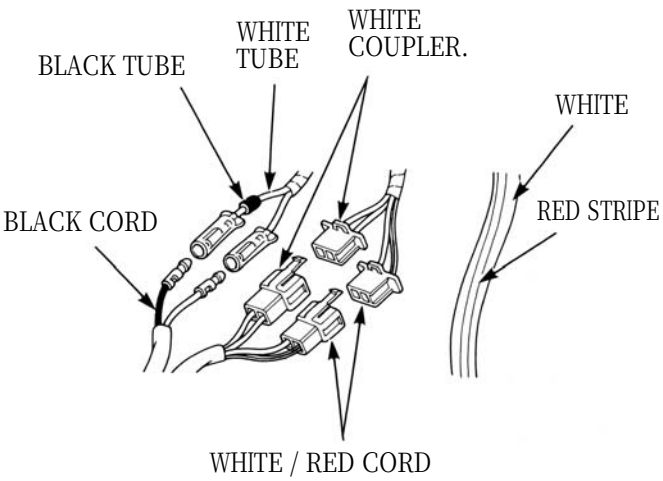


24. Install the boots with the installing groove by inserting the boots into the groove.

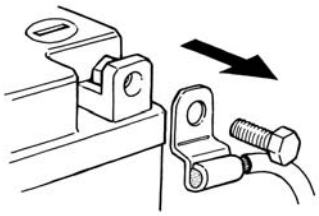


CAUTION WHEN WIRING

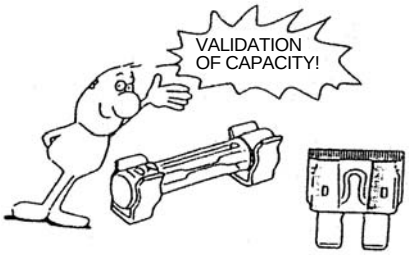
- Each cord must be connected depending on its color. When connecting different cord, attach color tube around the connector. Connect the coupler to the connector with same color and same pin number.
- Identify the two-colored cord by main color first and then spriped color .



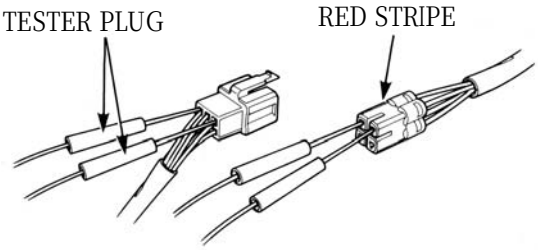
- When disconnecting the battery, the minus terminal must be disconnected first.
- Make sure that the tool such as spanner do not contact with the frame.



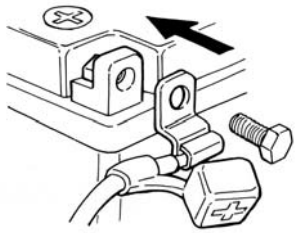
- If the fuse is short-circuited, find out the cause and repair. Replace with the fuse having the specified capacity.



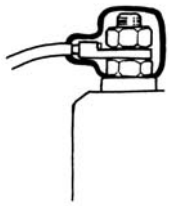
- When measuring voltage or resistance of the cord terminal using tester, contact the tester plug behind of the coupler. Pay attention not to open the cord terminal and contact the tester plug from the front of the coupler in case of water-proof coupler.



- Recheck the condition of contact, securing and continuity of each part after maintenance.
- When connecting the battery, the plus terminal must be connected first.
- After connecting the terminal, apply the grease to the terminal.



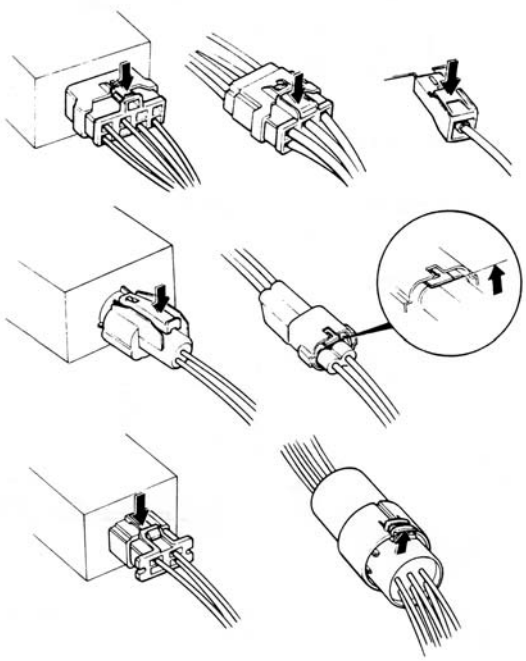
- Connect covers to the terminal after maintenance.



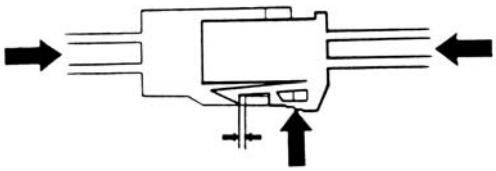
- If there is rust in the terminal, remove the rust with sand paper prior to connecting.

- Turn off the main switch before connecting/disconnecting.
- Release the lock to disconnect the lock of the coupler.
- The lock of the coupler has two types according to releasing method(press type and pull type) so release it properly according to the shape.

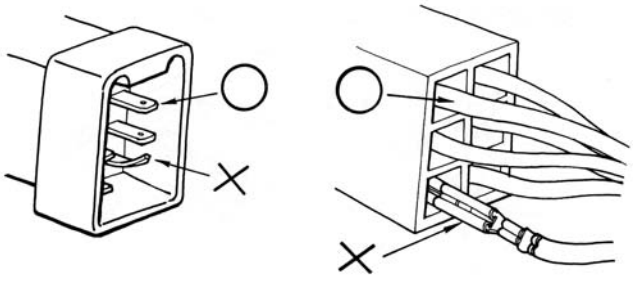
- Typical releasing method of the coupler is illustrated in the following.



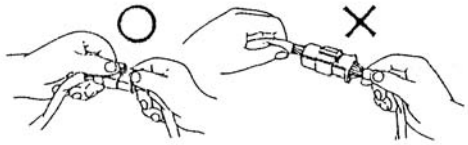
- Release the lock by inserting the coupler slightly and then narrowing connection to remove the coupler.



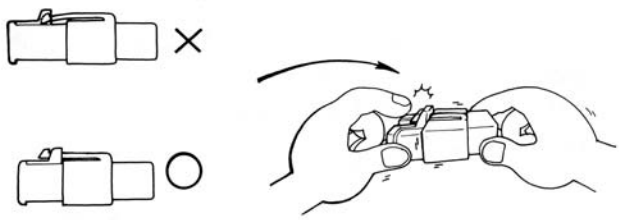
- Check to see if there is bended terminal and secure it to avoid disconnecting.



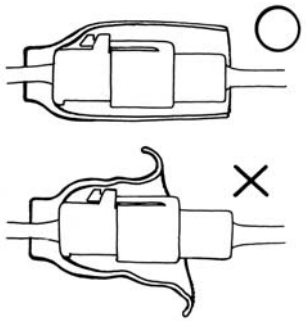
- When disconnecting the coupler, disconnect it while holding the coupler body. Pull while holding the wire harness cord and do not remove the coupler connection.



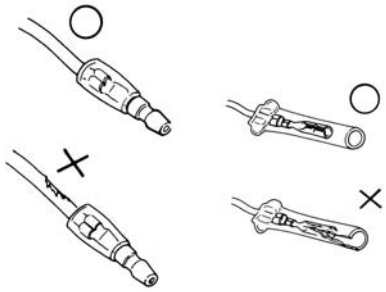
- Insert the lock of the coupler until the lock is fully secured.



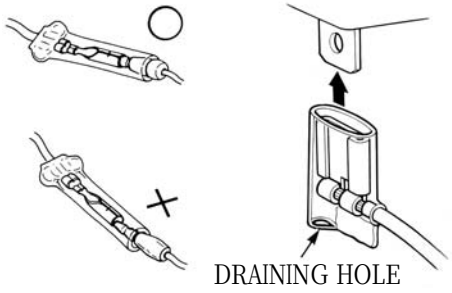
- Pay attention not to damage the vinyl cover of the coupler.



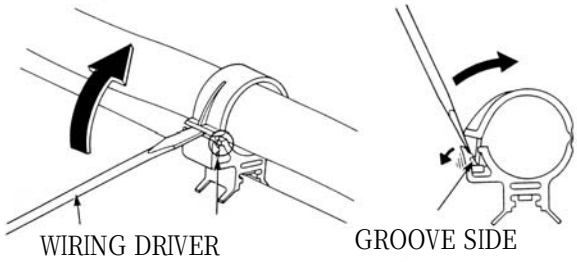
- If the wire harness coating is damaged, repair by winding vinyl tape or replace it.
- Prior to connecting the connector, make sure that the cover is not damaged and the mess terminal is not opened.



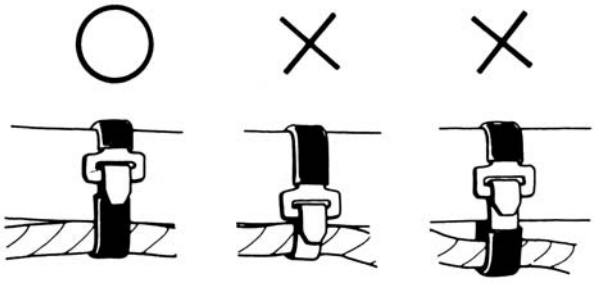
- Insert the connector until the vinyl cover is fully inserted into the terminal.
- The opening of the vinyl cover must face at the ground direction but in case of the plain connector, the draining opening must face at the sky direction.



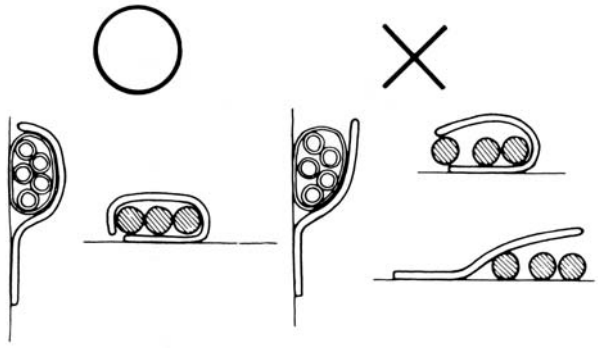
- When removing T-start, broaden the groove of T-start using the wiring driver and release the torque.
- Connect the harness and the hose to T-start and then insert until the groove is locked.
- When removing T-start from the frame, replace it with the new one.



- Wire band must be secured firmly in the specified location of the frame. In case of aluminium band, secure the wire harness to the coated part.

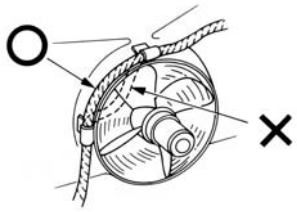


- Secure the wire harness firmly using the clamp.

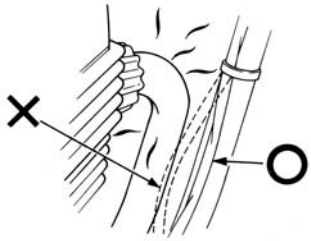


- In case of the weld clamp, do not clamp in the welded part.

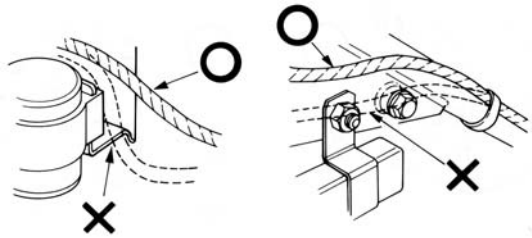
- When clamping the wire harness, make sure that the harness is not contacted with the shaft or rotating part.



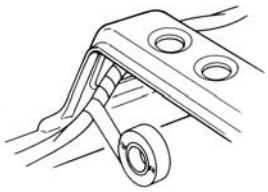
- When clamping the wire, pay attention not to contact with hot part.



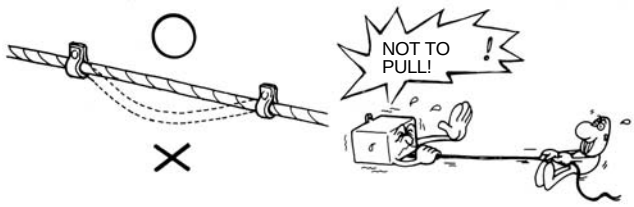
- The wire harness must be routed without contacting with the end of the lamp or any sharp edge.
- The wire harness must be routed without contacting with the end of the bolt or the piece.



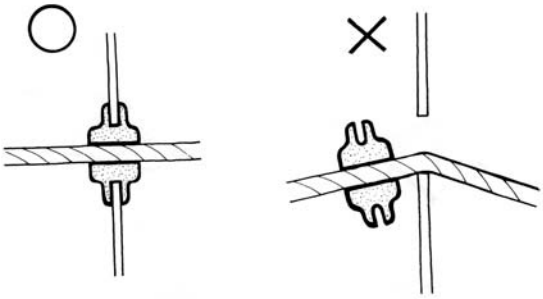
- In case that the wire harness is contacted with the end or the sharp edge, protect both parts with tube or tape.



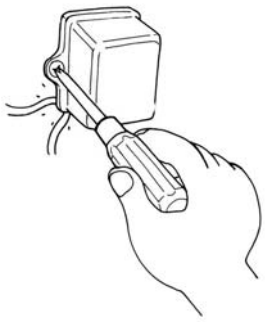
- The wire must not hang down or be pulled excessively.



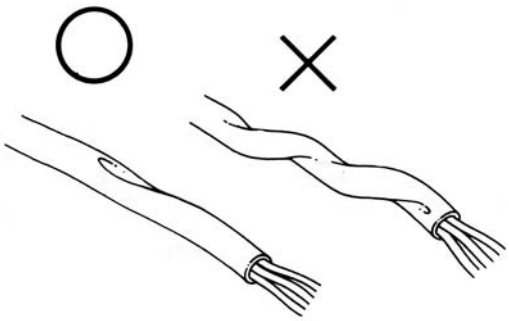
- If necessary, lock the wire harness properly.



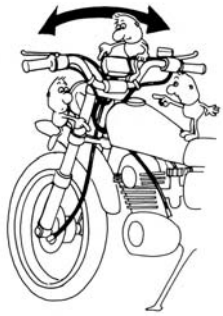
- When mounting parts, make sure that the wire harness is not pressed by the parts.



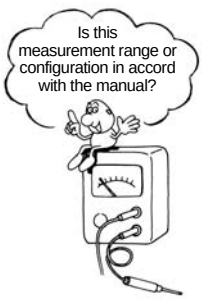
- Do not twist the wire harness.



- Wire the wire harness not to be pulled or expanded when the handle is turned to the right or the left completely. Avoid excessive bending or chewing and interference with the engine.

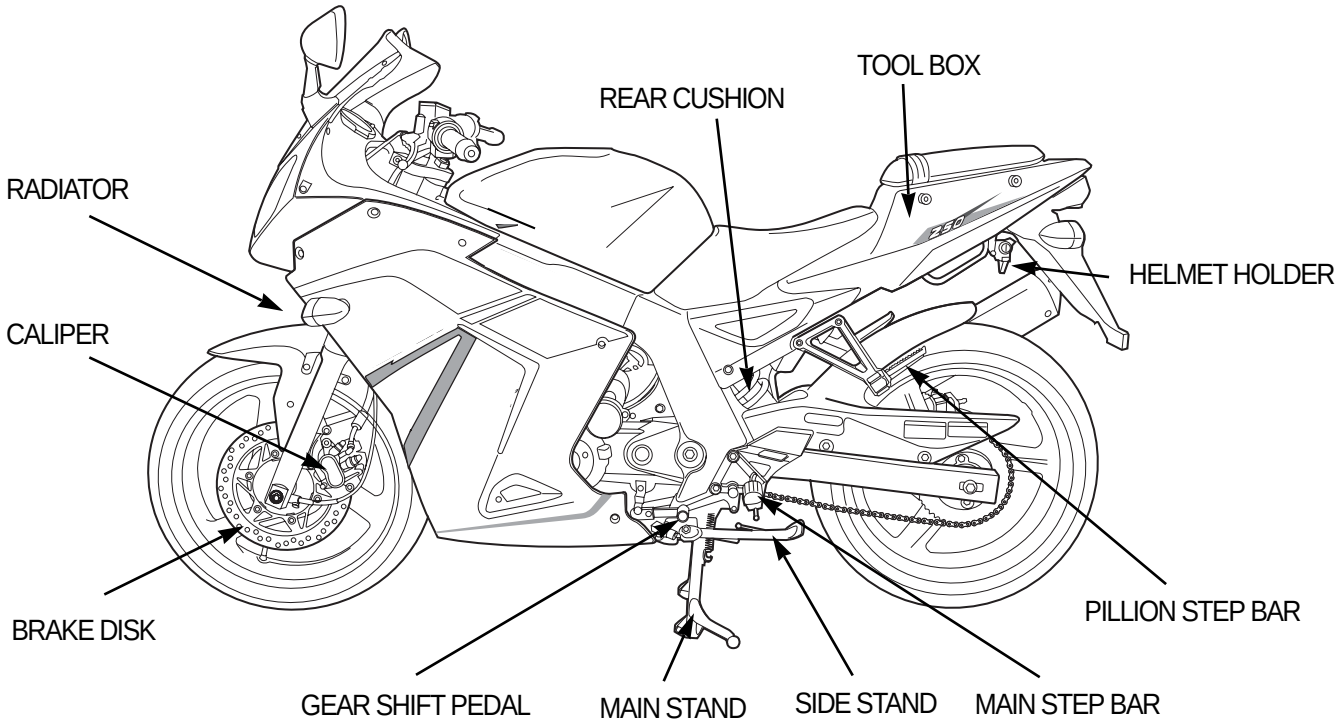


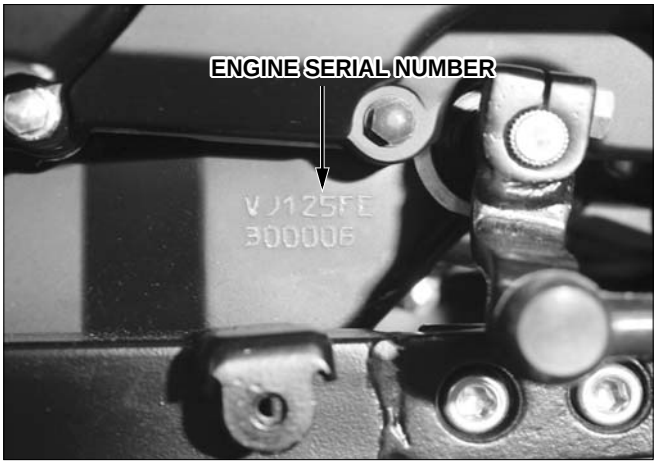
- Prior to using the tester, please read the manual carefully and understand the contents.
- When testing the resistance of the tester, the zero adjustment must be performed before testing.



- Do not drop or throw the parts especially semiconductor contained parts because these parts may be damaged by the impact of the drop.

MODEL IDENTIFICATION





ENGINE SERIAL NUMBER LOCATION

- The engine serial number is stamped on left crankcase.

FRAME SERIAL NUMBER LOCATION

- The frame serial number is stamped on the left side of steering head.

SPECIFICATIONS

ITEM		SPECIFICATIONS
DIMENSIONS	OVERALL LENGTH	2,025mm
	OVERALL WIDTH	778mm
	OVERALL HEIGHT	1,180mm
	WHEEL BASE	1,380mm
	SEAT HEIGHT	780mm
	GROUND CLEARANCE	139mm
	DRY WEIGHT	173kgf
	CURB WEIGHT	292kgf
FRAME	TYPE	Double Cradle
	FRONT SUSPENSION / STROKE	Telescopic / 130mm
	REAR SUSPENSION / STROKE	Swingarm / 28mm
	FRONT TIRE SIZE (TYPE)	110/70-17 54P (Tubeless)
	REAR TIRE SIZE (TYPE)	140/60-17 69P (Tubeless)
	TIRE PRESSURE 1 PERSON FRONT	2.00kgf/cm²(200kPa)
	REAR	2.00kgf/cm²(200kPa)
	2 PERSON FRONT	2.00kgf/cm²(200kPa)
	REAR	2.25kgf/cm²(225kPa)
	FRONT BRAKE	Hydraulic Disk
	REAR BRAKE	Hydraulic Disk
	FUEL CAPACITY	14.85 ℓ
	FUEL RESERVE CAPACITY	4.0 ℓ
	CASTER ANGLE	25.2°
	TRAIL	93.5mm
	FRONT FORK OIL CAPACITY	265±2.5cc
ENGINE	TYPE	Liquid 4-stroke DOHC(4 Valve)
	CYLINDER NUMBER, ARRANGEMENT	1 Cylinder, 20° Inclined from vertical
	BORE AND STROKE	56.5 X 49.5mm
	DISPLACEMENT	124.1cm³
	COMPRESSION RATIO	11.8:1
	VALVE TRAIN	DOHC Chain Drive
	OIL CAPACITY	1.5 ℓ After Disassembly
		1.35 ℓ After Draining and Oil Filter Change
		1.3 ℓ After Draining
	LUBRICATION SYSTEM	Wet Pressing and Spray
	AIR FILTRATION TYPE	Paper Filter
	CYLINDER COMPRESSION	13.0kgf/cm² (600rpm)
	INTAKE VALVE OPEN	23° BTDC
	CLOSED	55° ABDC (1.12mm Lift)
	EXHAUST VALVE OPEN	66.3° BBDC
	CLOSED	23.6° ATDC (1.12mm Lift)
	VALVE CLEARANCE INTAKE	0.15±0.02mm
	(A COOLING-OFF PERIOD) EXHAUST	0.20±0.02mm
	ENGINE DRY WEIGHT	32.0kgf

ITEM		SPECIFICATIONS
DRIVE TRAIN	CLUTCH TYPE	Multiplate Wet Clutch / 5
	TRANSMISSION TYPE	Constant Mesh
	GEAR RATIO 1st	3.200(37/12 T)
	2nd	2.143(32/17 T)
	3rd	1.438(29/21 T)
	4th	1.095(23/21 T)
	5th	0.923(24/26 T)
	GEARSHIFT PATTERN	Left foot operated return system Down 1-N-2-3-4-5 Up
ELECTRICAL	IGNITION TYPE	Full Transisterized
	IGNITION TIMING	18° BTDC / 1,600(rpm)
	FULL ADVANCE	30° BTDC / 8,500(rpm)
	AC GENERATOR	12V-17A/5,000(rpm)
	BATTERY CAPACITY	12V 10AH
	SPARK PLUG	CR9EH - 9
	SPARK PLUG GAP	0.8 - 0.9mm
	FUSE CAPACITY	30A
	STARTING SYSTEM	Starter Motor
	HEADLIGHT	55W/55W
	POSITION LAMP	5W
	TURN SIGNAL LAMP	10W × 4
	STOP/TAIL LIGHTS	21W/5W
	SPEEDOMETER LAMP	3W
	NEUTRAL INDICATOR LAMP	LED × 1
	HIGH BEAM INDICATOR LAMP	LED
	WINKER INDICATOR LAMP	LED
	LICENCE PLATE LAMP	5W
	TACHOMETER LAMP	LED × 1
	MALFUNCTION INDICATOR LAMP	LED

TORQUE VALUES

ENGINE

ITEM	Q'TY	THREAD DIA (mm)	TORQUE kgf.m,(N.m)	REFERENCE
CAM HOLDER BOLT(SHBOLT)	8	M6×1.0	1.0~1.2	Apply Engine Oil
CYLINDER HEAD SPECIAL SOCKET NUT	4	M10×1.25	3.5~4.5	Apply Engine Oil
CYLINDER HEAD COVER BOLT	4	M6×1.0	0.8~1.2	
CAM CHAIN TENSIONER PIVOT BOLT	1	M6×1.0	0.8~1.2	
CAM CHAIN TENSIONER LIFTER BOLT	2	M6×1.0	1.0~1.4	
CAM CHAIN TENSIONER LIFTER SCREW	1	M6×1.0	0.35~0.5	
PRIMARY DRIVE GEAR NUT	1	M16×1.0	6.0~7.0	Apply Engine Oil
CLUCH LOCK NUT	1	M16×1.0	6.0~7.0	Apply Engine Oil
FLYWHEEL BOLT	1	M12×1.25	5.0~6.0	Apply Engine Oil
STARTER CLUTCH SOCKET BOLT	3	M8×1.25	3.0~3.4	Remove negative screw
BEARING SET PLATE BOLT	2	M6×1.0	1.0~1.4	Remove negative screw
OIL FILTER COVER SOCKET BOLT	3	M10×1.25	1.0~1.4	
SHIFT DRUM STOPPER ARM BOLT	1	M6×1.0	1.0~1.4	
DRIVE SPROCKET BOLT	2	M6×1.0	1.0~1.4	
R.CRANKCASE COVER BOLT	12	M6×1.0	1.0~1.2	
OIL FILTER COVER BOLT	1	M6×1.0	1.0~1.2	
L.CRANKCASE COVER BOLT	7	M6×1.0	1.0~1.2	
A.C GENERATOR CAP	1	M14×1.5	0.4~0.8	
CRANKSHAFT HOLE CAP	1	M30×1.5	1.0~2.0	
CRANKCASE BOLT	10	M6×1.0	1.0~1.2	
SPARK PLUG	1	M10×1.25	1.0~1.2	
START MOTOR NUT	1	M6×1.0	1.0~1.4	
TAPPET ADJUST HOLE CAP	1	M36×1.5	1.0~2.0	
ENGIN TEMPERATURE SENSOR	1	M12×1.25	1.0~2.0	

FRAME

ITEM	Q'TY	THREAD DIA (mm)	TORQUE kgf.m,(N.m)	REFERENCE
REAR ENGIN HANGER BOLT(UPPER)	1	M10×1.25	4.5~5.5	
REAR ENGIN HANGER BOLT(UNDER)	1	M10×1.25	5.0~6.0	
FRONT ENGIN HANGER BOLT(UPPER/UNDER)	2	M10×1.25	4.5~5.5	
FRONT ENGIN HANGER PLATE BOLT	4	M8×1.25	2.4~3.0	
STEERING HANDLE PIPE BOLT	2	M8×1.25	2.4~3.0	
SIDE STAND PIVOT SCREW	1	M10×1.25	1.0~2.0	
SIDE STAND PIVOT NUT	1	M10×1.25	4.0~5.0	HEX NUT
SPEEDOMETER GEAR BOX SCREW	1	M 5×0.8	0.35~0.5	
REAR AXLE NUT	1	M14×1.5	8.0~10.0	U- NUT
DRIVE SPROKET NUT	4	M10×1.25	5.5~6.5	U- NUT
REAR BRAKE OIL BOLT	2	M10×1.25	3.4~4.0	

FRAME

ITEM	Q'TY	THREAD DIA (mm)	TORQUE kgf.m,(N,m)	REFERENCE
REAR CALIPER BRACKET BOLT	2	M8×1.25	2.8~3.4	
REAR MASTER CYLINDER HOLDER SOCKET BOLT	2	M6×1.0	1.0~1.4	
FRONT AXLE NUT	1	M14×1.5	5.5~6.5	U-NUT
FRONT BRAKE DISK BOLT	6	M8×1.25	4.0~4.5	
BRAKE OIL BOLT (FRONT/REAR)	4	M10×1.25	3.0~4.0	
CALIPER BRACKET BOLT (FRONT/REAR)	4	M8×1.25	2.8~3.4	
FRONT MASTER CYLINDER HOLDER BOLT	2	M6×1.0	1.0~1.4	
STEERING STEM NUT	1	M22×1.0	6.0~9.0	
STEERING TOP THREAD	1	M22×1.0	0.25~0.35	
FORK TOP BRIDGE PINCH BOLT	2	M8×1.25	2.4~3.0	
BOTTOM BRIDGE PINCH BOLT	2	M8×1.25	3.0~4.0	
FORK HANDLE PIPE MOUNTING BOLT	2	M8×1.25	2.4~3.0	
SWINGARM PIVOT NUT	1	M14×1.25	8.0~10.0	U-NUT
REAR CUSHION UPPER/UNDER BOLT	2	M10×1.25	3.5~4.5	
CHAIN SLIDER SCREW	2	6mm Tapping	0.5~0.7	
L. DOWNTUBE COMP 'B'	4	M8×1.25	4.0~4.5	
HANDLE WEIGHT SOCKET BOLT	2	M8×1.25	1.8~2.5	
REAR BRAKE DISK SOCKET BOLT	5	M8×1.25	4.0~4.5	

*Torque specifications listed above are for important fastener. Other should be tighten to the standard torque values below.

TYPE	TORQUE		TYPE	TORQUE	
	kgf · m	N · m		kgf · m	N · m
5mm BOLT, NUT	4.0~6.0	0.45~0.6	5mm SCREW	3.4~5.0	0.35~0.5
6mm BOLT, NUT	8~12	0.8~1.2	6mm SCREW, FLANGE BOLT (Include SH type)	7~11	0.7~1.1
8mm BOLT, NUT	18~25	1.8~2.5	6mm FLANGE BOLT, NUT	9.8~14	1.0~1.4
10mm BOLT, NUT	29~39	3.0~4.0	8mm FLANGE BOLT, NUT	24~29	2.4~3.0
12mm BOLT, NUT	49~59	5.0~6.0	10mm FLANGE BOLT, NUT	34~44	3.5~4.5

*SH(Small Head) : It describe 6mm bolt of 8mm flange bolt.

SYMBOLS / ABBREVIATIONS

The following symbols are used in this manual to represent job-related warnings or cautions.

SYMBOL	MEANING	SYMBOL	MEANING
⚠ WARNING	Indicates dangerous area. Serious accident may result if instructions are not followed.	⚠ CAUTION	Indicates important work. Minor injury or vehicle part damage may result if instruction are not followed.
		⚠ NOTE	Indicates general safety matters. Provides safety and appropriate handling procedures.

The following symbols indicate needed lubrication steps, the changing of parts, and required specialized tools, etc. when performing maintenance.

SYMBOL	CAUTION
	Use recommended engine oil, unless otherwise specified.
	Use molybdenum oil solution (mixture of the engine oil and molybdenum grease with the ratio 1:1)
	Use multi-purpose grease (Lithium based multi-purpose grease NLG #2 or equivalent)
	Use molybdenum disulfide grease (containing more than 3% molybdenum disulfide, NLGI #2 or equivalent)
	Use molybdenum disulfide paste containing more than 40% molybdenum disulfide, NLGI #2 or equivalent)
	Use silicone grease
	Apply a locking agent. Use the agent of the middle strength, unless otherwise specified
	Apply sealant
	Replace the parts with new ones before assembly
	Use brake fluid, DOT3 or DOT4. Use the recommended brake fluid, unless otherwise specified
	Use Fork or Suspension Fluid
	Use special tool
	Use option tool. These tools are obtained as you order parts.
(⇨3-1)	Indicates reference page. (Example : Refer to page 3-1)

Special grease, etc. that do not correspond to the above are indicated without using symbols.

TOOLS

SPECIAL		COMMON	
DESCRIPTION	REF. SEC.	DESCRIPTION	REF. SEC.
CLUTCH CENTER HOLDER	8	WRENCH, 8×9mm	2
ACG ROTOR PULLER	9	ADJUSTING WRENCH, B	2
VALVE GUIDE DRIVER	10	LOCK NUT WRENCH, 20×24mm	6
VALVE GUIDE REAMER	10	EXTENSION BAR	8, 14
UNIVERSAL BEARING PULLER	12	FLY WHEEL HOLDER	8, 9
BEARING REMOVER SET	12	VALVE SPRING COMPRESSOR	10
THREAD ADAPTER	12	DRIVER	12, 14, 15
ASSEMBLY SHAFT	12	ATTACHMENT	12, 14, 15
CRANK CASE ASSEMBLY COLOR	12	PILOT	12, 14, 15
BALL RACE DRIVER	14	FORK SEAL DRIVER BODY	14
STEERING STEM DRIVER	14	BEARING REMOVER HEAD	15
FORK SEAL DRIVER	14	BEARING REMOVER SHAFT	15
STEERING STEM SOCKET	14	LOCK NUT(M8)	10
SNAP RING PLIERS	16		

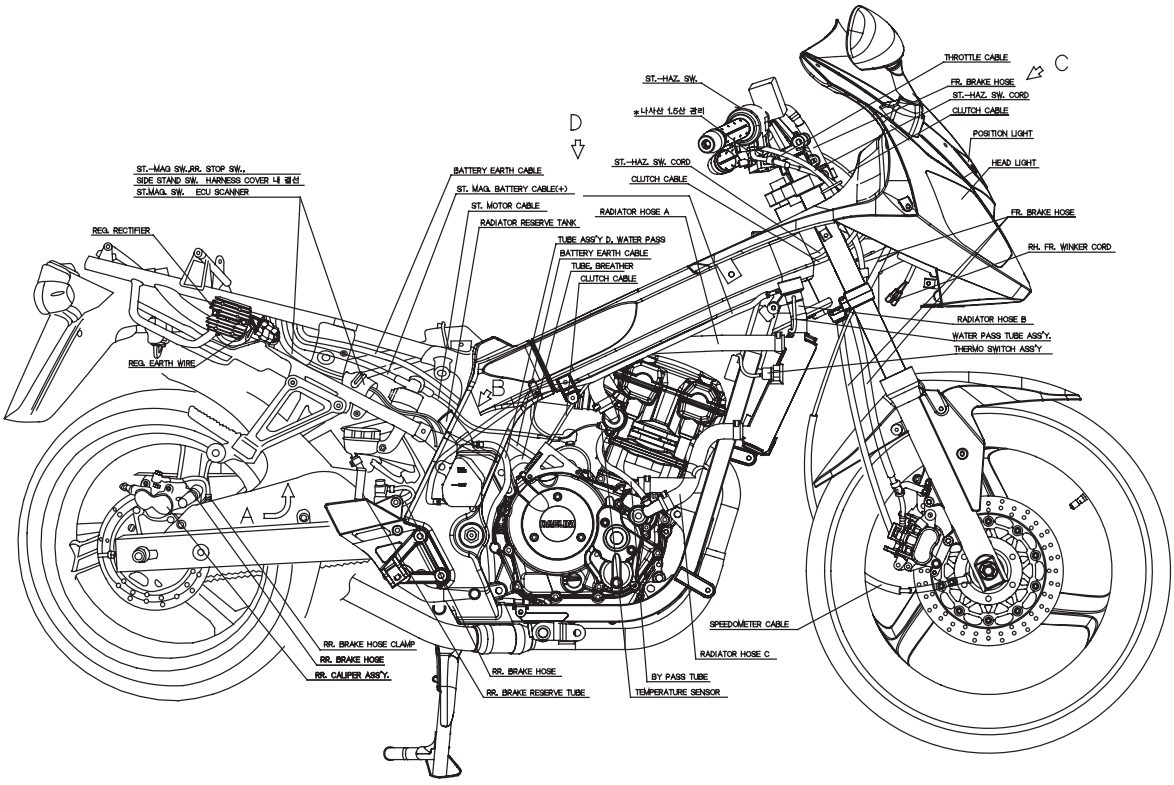
TESTER, GAUGE

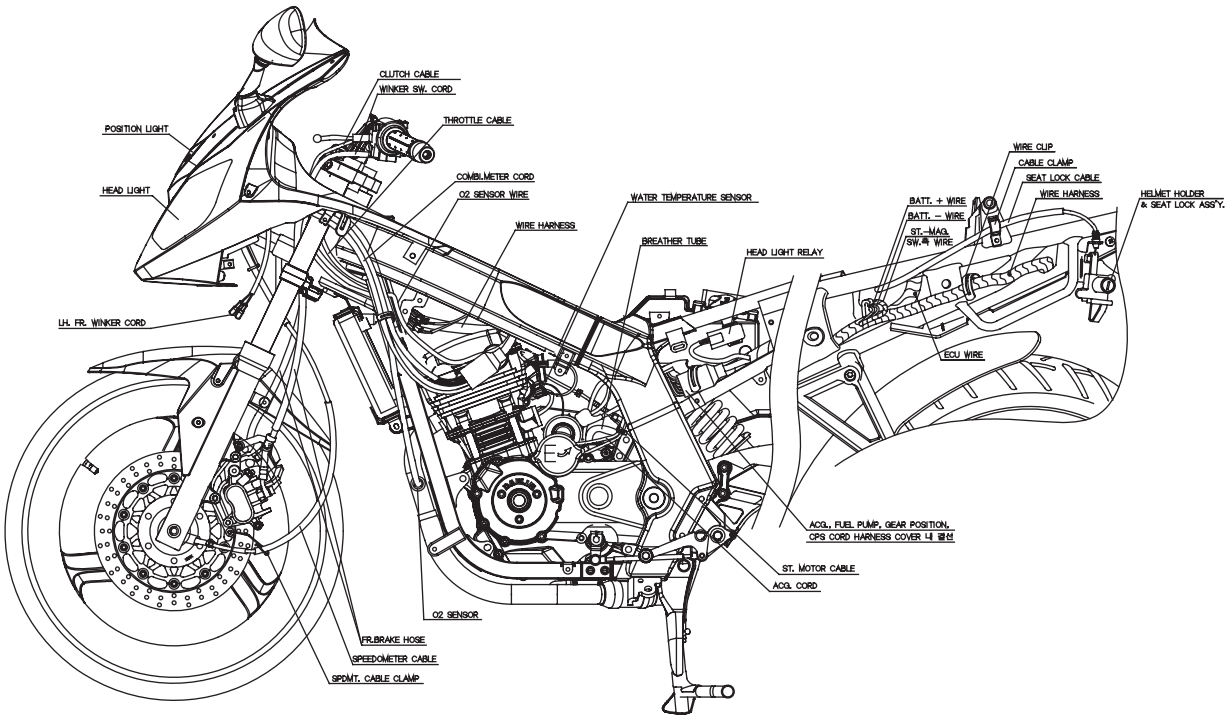
DESCRIPTION	REFERENCE SECTION	REMARK
COMPRESSION GAUGE	2	
DIGITAL MULTI TESTER	17, 18	
PVA TESTER	17, 18	
BATTERY TESTER	18	
TESTER RECORDER	5	

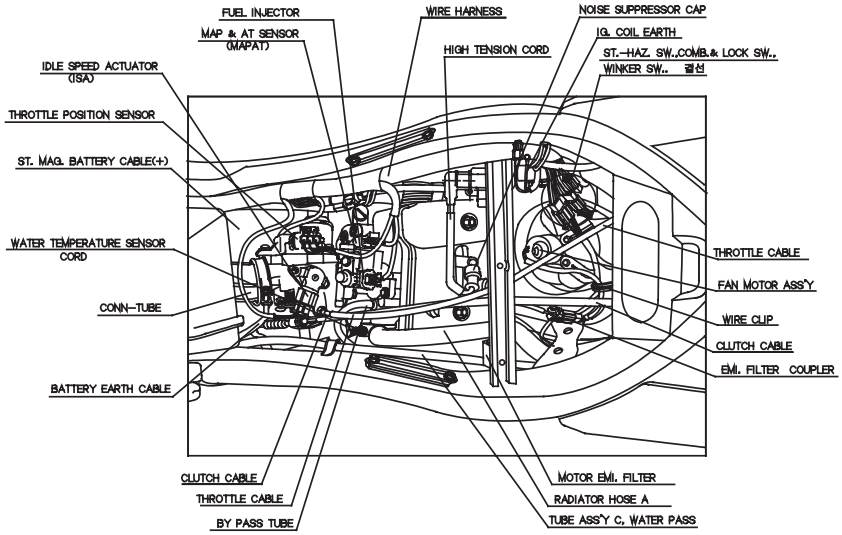
VALVE SEAT CUTTER

DESCRIPTION	REFERENCE SECTION	REMARK
VALVE SEAT CUTTER 45°	10	24.5mm IN, EX
VALVE SEAT CUTTER 35°	10	23mm IN
VALVE SEAT CUTTER 35°	10	20mm EX
VALVE SEAT CUTTER 60°	10	22mm IN, EX
CUTTER HOLDER 5mm	10	Use with Valve Seat

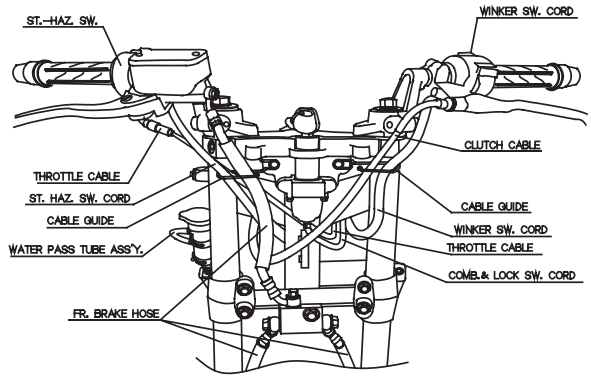
WIRING DIAGRAM



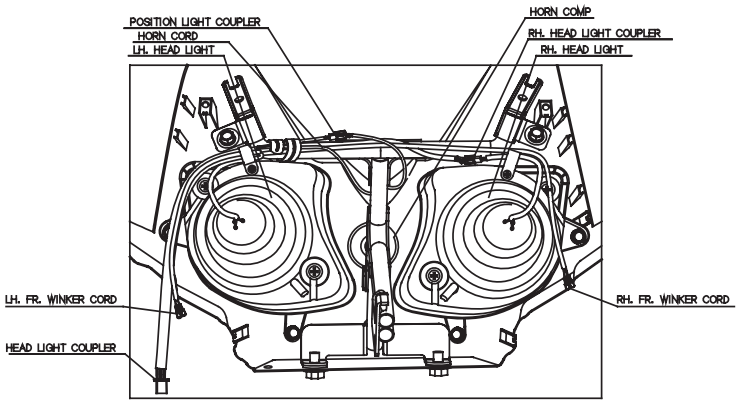




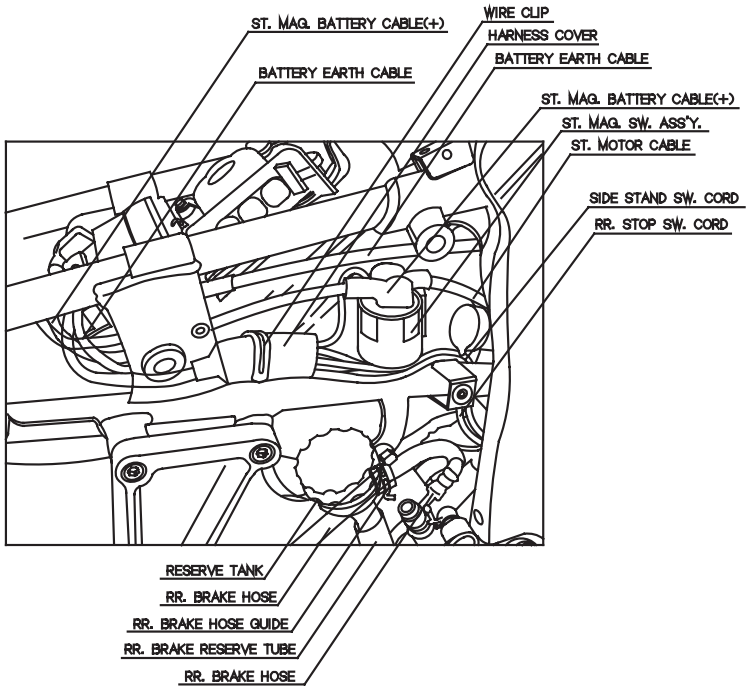
DETAIL OF VIEW D



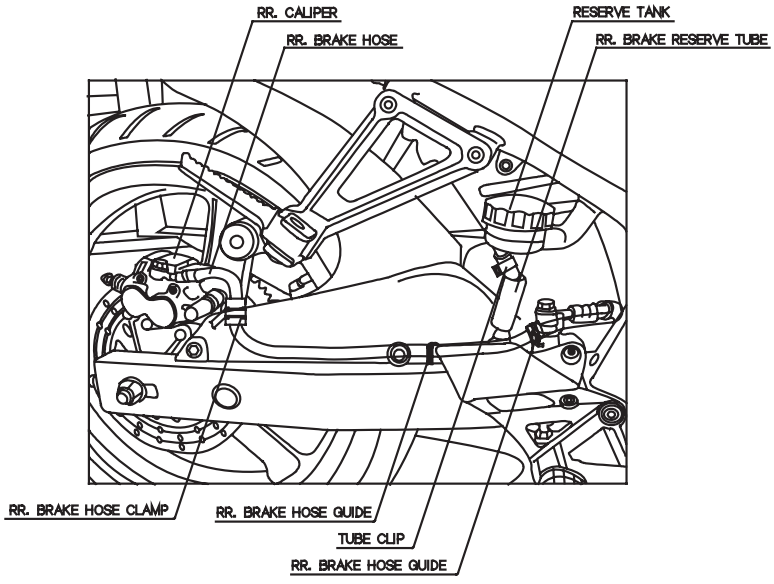
DETAIL OF VIEW C



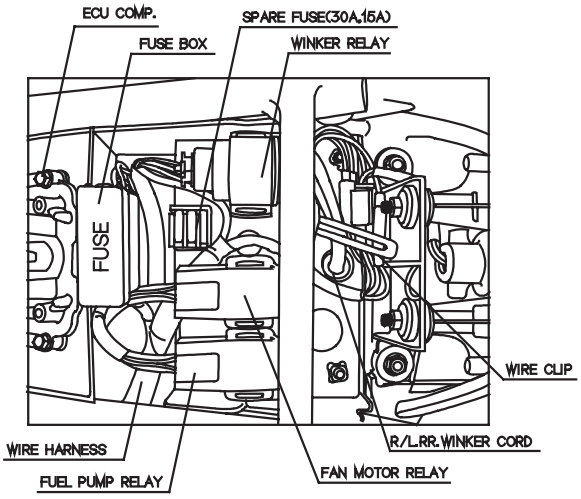
DETAIL OF HEAD LIGHT CASE PART



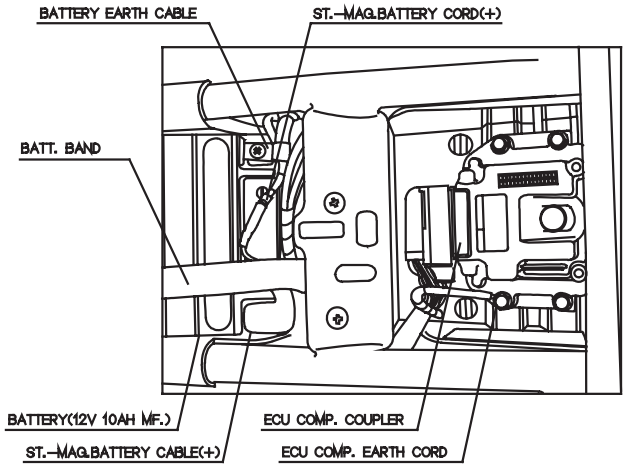
DETAIL OF VIEW B



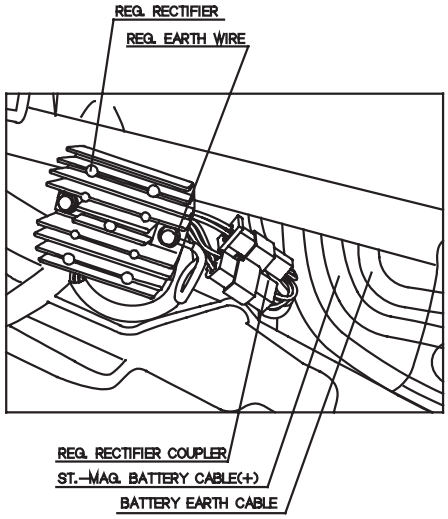
DETAIL OF VIEW A



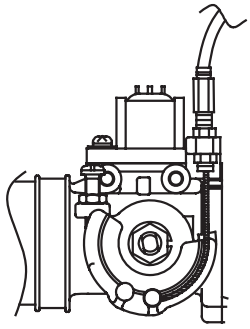
DETAIL OF FUSE BOX PART



DETAIL OF BATTERY PART



DETAIL OF REG. RECTIFIER PART



DETAIL OF THROTTLE BODY PART

MEMO

2. INSPECTIONS/ADJUSTMENTS

SERVICE INFORMATION

⚠ WARNING

- The exhaust gas contains poisonous substance. Do not keep engine idling in a closed or poorly ventilated place for a long period of time.

⚠ NOTE

- For information on engine oil and oil filter, refer to sections 3-3 and 3-4.
- Stand the main stand prior to beginning work.

SPECIFICATIONS

THROTTLE GRIP PLAY		2~6mm
SPARK PLUG		CR9EH-9
SPARK PLUG GAP		0.8~0.9mm
VALVE CLEARANCE	IN.	0.15mm
	EX.	0.20mm
CARBURETOR IDLE SPEED		1,600rpm±100rpm
CYLINDER COMPRESSION		13.0kgf/㎠ (600rpm)
DRIVE CHAIN SLACK		10~20mm
REAR BRAKE PEDAL FREE PLAY		10~20mm
CLUTCH LEVER FREE PLAY		10~20mm

TIRES

COLD TIRE PRESSURE	DRIVER ONLY	FRONT	2.00kgf/㎠ (200kPa, 29psi)
		REAR	2.00kgf/㎠ (200kPa, 29psi)
	DRIVER AND A PASSENGER	FRONT	2.00kgf/㎠ (200kPa, 29psi)
		REAR	2.25kgf/㎠ (225kPa, 32psi)
TIRE SIZE		FRONT	110/70-17 54S
		REAR	140/60-17 69S
TIRE 凹PART MINIMUM-DEPTH		FRONT	5.5mm
		REAR	7.0mm

TORQUE VALUES

SPARK PLUG	1.0~1.2kgf-m
CYLINDER HEAD COVER BOLT	0.8~1.2kgf-m
AC GENERATOR CAP	0.4~0.8kgf-m
HOLE CAP 30mm	0.6~1.0kgf-m
AIR CLEANER CASE COVER SCREW	0.4~0.8kgf-m
REAR AXLE NUT	8.0~10.0kgf-m
DRIVE SPROCKET BOLT	1.0~1.4kgf-m
DRIVEN SPROCKET NUT	5.6~6.5kgf-m

TOOLS

WRENCH, 8 × 9mm
COMPRESSION GAUGE

MAINTENANCE SCHEDULE

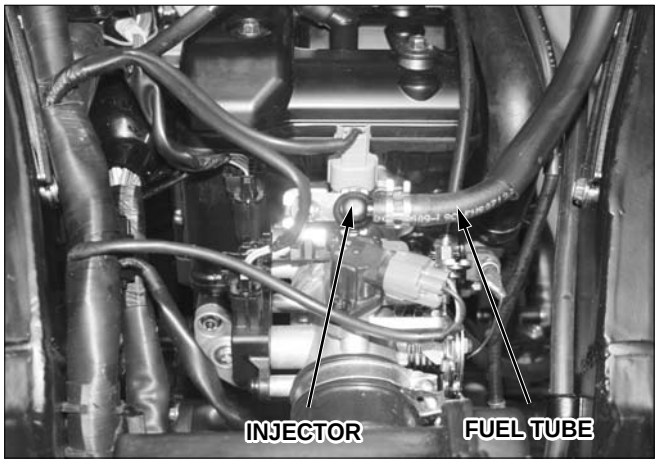
- Perform the Self Inspections Before Operation at each scheduled maintenance period.
  I : INSPECT AND CLEAN, ADJUST, LUBRICATE OR REPLACE IF NECESSARY.
  R : REPLACE L : LUBRICATE C : CLEAN A : ADJUST

	ITEM \ FREQUENCY	ODOMETER READING(NOTE 1)					REMARK
		x 1000Km	1/2	4	8	12	
		MONTH		6	12	18	
*	FUEL LINE		I	I	I	I	
*	FUEL FILTER			R	R	R	
*	THROTTLE GRIP OPERATION			I	I	I	
	AIR CLEANER ELEMENT			R	R	R	NOTE (2)
	SPARK PLUG			I	R	I	
*	VALVE CLEARANCE		I	I	I	I	
*	ENGINE OIL		R	R	R	R	
**	ENGINE OIL FILTER ELEMENT		R	R	R	R	
	OIL FILTER SCREEN		C	C	C	C	
*	DRIVE CHAIN		Every 1,000㎞ : I and L				
*	BRAKE FLUID			I	I	I	NOTE (3)
	BRAKE /PAD WEAR			I	I	I	
*	BRAKE SYSTEM		I	I	I	I	
*	BRAKE STOP SWITCH			I	I	I	
*	HEADLIGHT AIM			I	I	I	
	CLUTCH SYSTEM		I	I	I	I	
	SIDE STAND			I	I	I	
*	SUSPENSION			I	I	I	
**	BOLTS, NUTS, FASTENERS		I		I		
**	WHEELS/TIRES			I	I	I	
	STEERING HEAD BEARING		I		I		
	RADIATOR COOLANT		I	I	R	I	
	RADIATOR CORE		I	I	I	I	
	RADIATOR CAP		I	I	I		

* If you do not have the appropriate tools or information to conduct maintenance, or if you feel you are not capable to perform maintenance on this vehicle, contact authorized dealers or repair shops for maintenance and repairs.

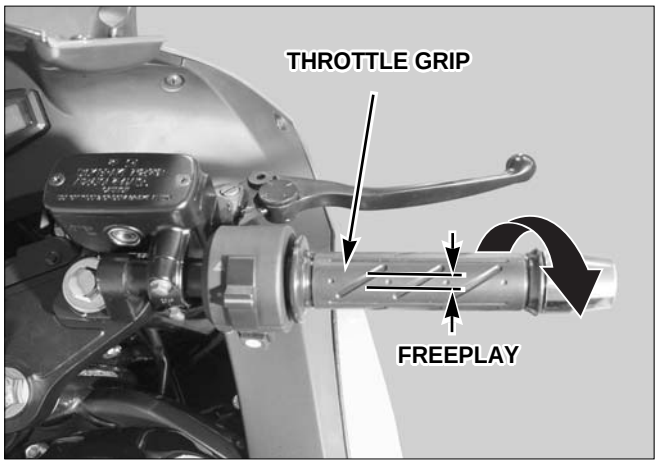
** To ensure safety, inspections and maintenance of these parts must be carried out by dealers, or repair centers.

NOTES : (1) After the odometer reading exceeds 1,200Km, repeat maintenance service at intervals indicated in the table.
(2) Service more frequently when riding in unusually wet or dusty areas.
(3) Replace every 2 years, or at indicated odometer interval, whichever comes first. Replacement requires mechanical skill.



FUEL LINE (FUEL TUBE)

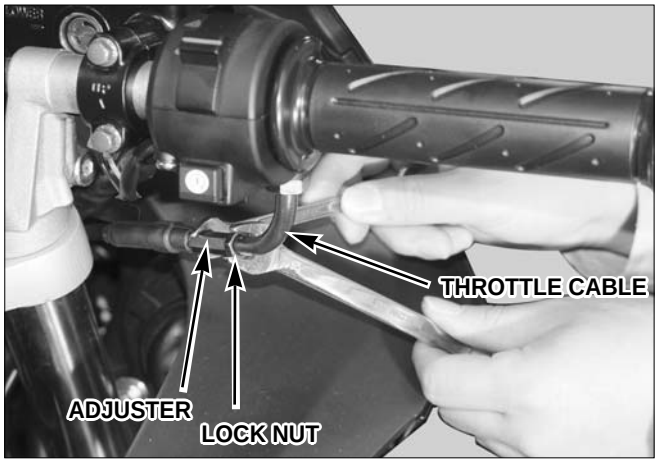
- Check the connection between injector and fuel tube.
- Check the fuel tube for deterioration, damage or leakage. Replace it if necessary.



THROTTLE GRIP OPERATION

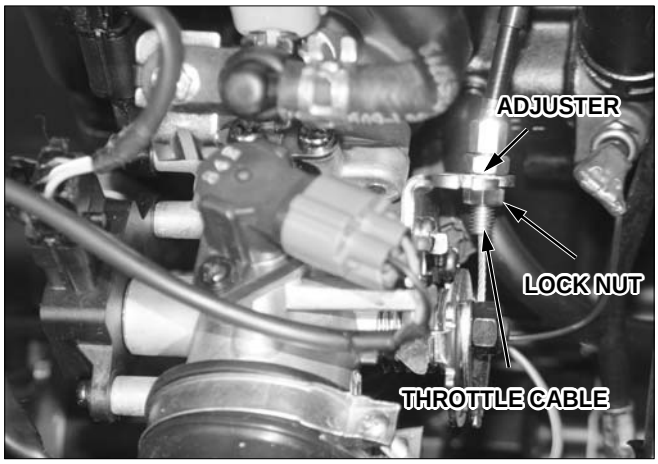
- Check if the throttle grip operates smoothly in all steering positions.
- If not operating smoothly, check the deterioration, damage and kink of the throttle cable.
- Measure the free play at the throttle grip.

FREE PLAY : 2~6mm

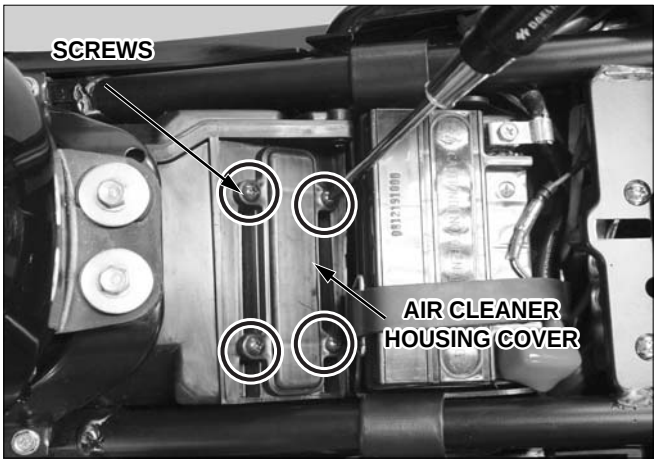


- For simple adjustment, use the adjuster under the throttle grip.

- Adjust the free play by loosening the lock nut and turning the adjuster.
- After adjusting, tighten the lock nut.



- Major adjustments are made with the lower adjuster.
- Adjust the free play by loosening the lock nut and turning the adjuster.
- After adjustment, tighten the lock nut securely.
- Recheck the throttle operation.
- Replace any damaged parts, if necessary.



AIR CLEANER

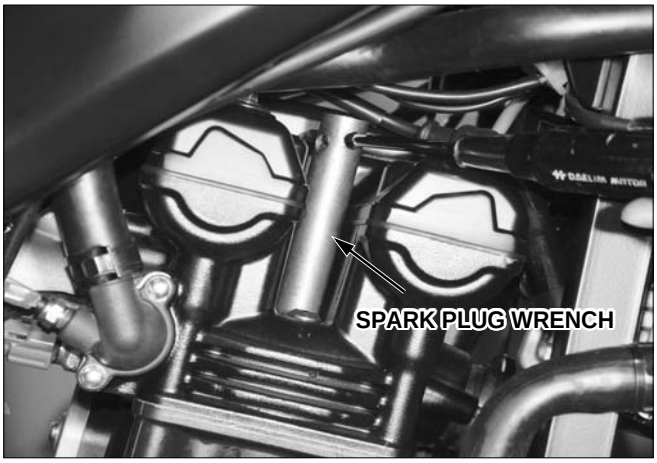
- Remove the seat. (⇨13-2)
- Loosen the 4 screws, remove the air cleaner cover.

- Remove the air cleaner element.
- Also replace the filter any time it is excessively dirty or damage.

- Install in the reverse order of removal.

⚠ NOTE

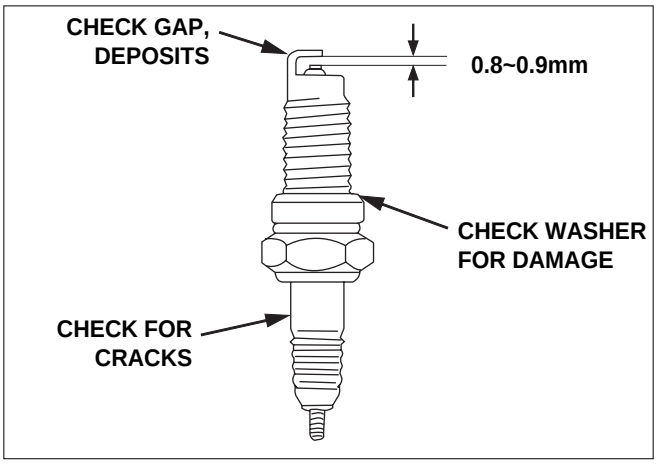
- Do not reuse the filter element to clean by compressed air.



SPARK PLUG

- Remove the spark plug cap.
- Check the plug for damage, contamination or deposits.
- If the spark plug is severely contaminated or damaged, raplace with a new one. If the plug can be reused after removing only the carbon, use plug cleaner and wire brush to clean the plug.
- Always use a feeler gauge to check the gap.

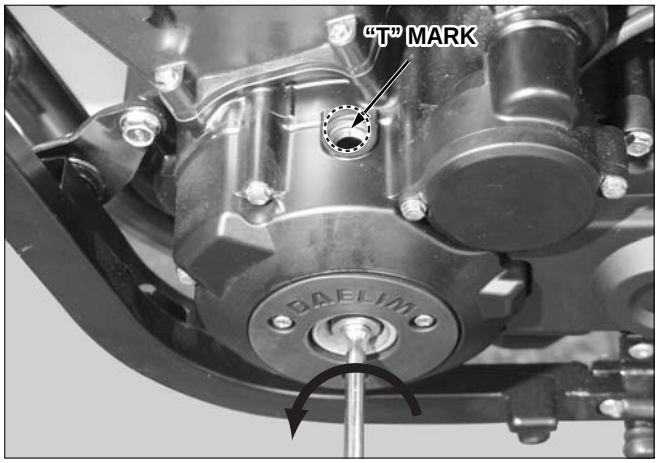
GENUINE PLUG : CR9EH-9
SPARK PLUG GAP : 0.8~0.9mm
TORQUE : 1.1kgf · m



⚠ CAUTION

- Make sure there is no dirt or debris on the seat of the spark plug hole before inserting the spark plug.
- To prevent damage to the cylinder head, handtighten the spark plug before using a wrench to tighten to the specified torque.
- Do not overtighten the spark plug.

- Assemble the spark plug.



VALVE CLEARANCE

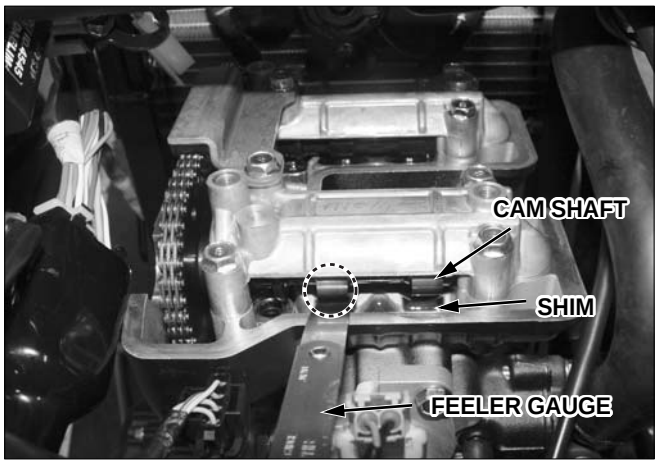
⚠ NOTE

- Inspect and adjust valve clearance while the engine is cold. (below 35° C/95°F)

- Remove the cylinder head cover.
- Remove the A.C generator cap and crankcase hole cap.
- Rotate the flywheel counterclockwise to align the "T" mark with the index mark on the left crankcase cover.
- Make sure the piston is at TDC(Top Dead Center) on the compression stroke.

- Measure the valve clearance with a feeler gauge.

VALVE CLEARANCE : INTAKE : 0.15mm
EXHAUST : 0.20mm

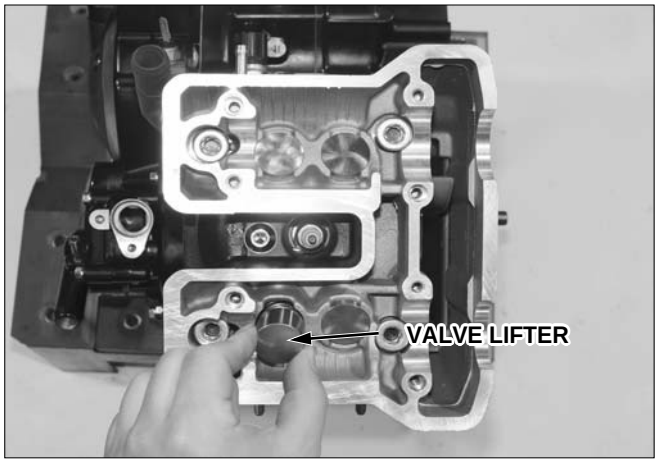


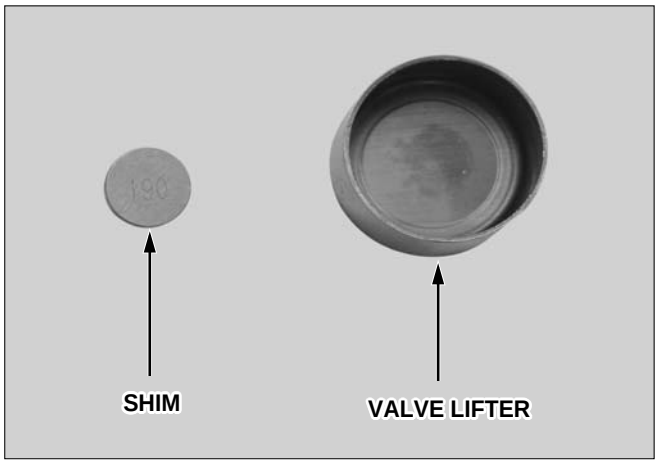
SHIM ADJUSTMENT

- If the valve clearance is out of standard, adjust the shim as below.
  - Remove the camshaft.
  - Remove the valve lifter and shim.

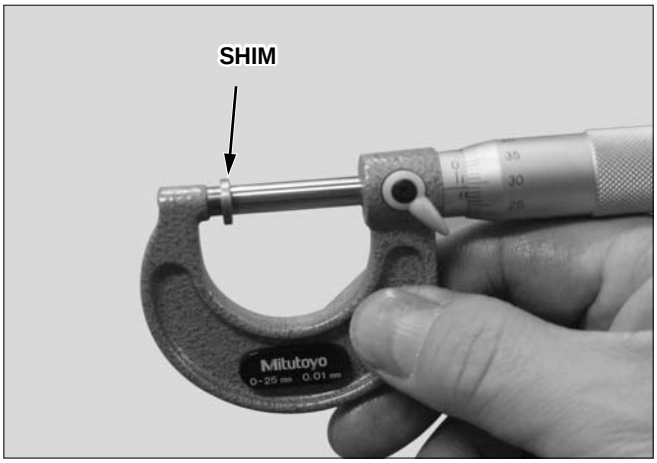
⚠ NOTE

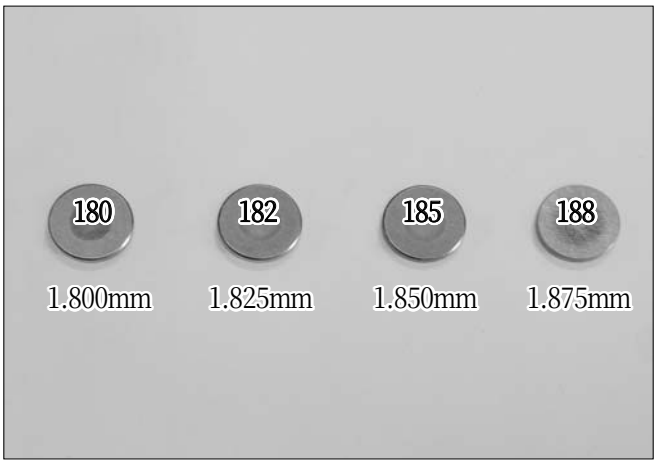
- If the valve lifter is to be removed, use the special tool.
- Be careful not to drop the shim into the cylinder when remove the shim with valve lifter.
- If it is too difficult to remove the shim, use a tweezer or magnet.
- Valve lifter, and shim should be preserved on the assembly position distinguishably.





- Remove the valve lifter and clean by compressed air.
- Mop the oil from the attached area of shim, and measure and record the thinkness with a micrometer.





NOTE

- The type of shim is 33
- The clearance of shim is 1,500mm to 2,300mm with 0.025mm clearance.

- Demanded thickness of shim :A
- Recorded clearance of the valve lifter : B
- Specified clearance of the valve lifter : C
  (In :0.15mm / Ex : 0.20mm)
- Removed thickness of the shim : D
- how to calculate : A = (B-C)+D
  Example)
  B : 0.06mm
  D : 1.875mm
  C : 0.15mm(IN)
  A = (0.06-0.15)+1.875mm
  New thickness of the shim : 1.775mm

NOTE

- Meaure the thickness of new shim and removed shim, using a micrometer accurately.
- If the demanded thickness of shim is over 2,300mm, check the valve seat and remove the carbon deposit and modify the valve seat.

- Install the chosen shim into the valve spring retainer.
- Apply the molybdenum to wet side of valve lifter and install the lifter.
- Install the cam shaft and rotate the crank shaft for many timed and recheck the valve clearance after setting the shim.
- Apply the engine oil to O-ring of pulse generator cover cap and install the cap.

TORQUE : 0.6kgf-m

CYLINDER COMPRESSION PRESSURE

- Warm up the engine to normal operating temperature.
- Stop the engine, disconnect the spark plug caps and spark plug. install the compression gauge. open the throttle completely and crank the engine with the starter motor until the gauge reading stops rising.

Tool:compression gauge.

NOTE

- The maximum reading is usually reached within 4~7seconds
- compression 13.0kg f/㎠

If compression is low, check the following
-Incorrect valve clearance adjustment.
-Valve leakage.
-Leak the gasket from the cylinder head.
-Worn piston/cylinder.
If compression is high, check the following
-Carbon deposits on the piston head, cylinder head.