

PREFACE

This Service Manual describes the technical features and servicing procedures for the **KYMCOHipster125**.

Section 1 contains the precautions for all operations stated in this manual. Read them carefully before starting any operation.

Section 2 is the inspection/ adjustment procedures, safety rules and service information for each part, starting from periodic maintenance.

Sections 3 and 4 state the servicing procedures and cautions for the removal and installation of lubrication and fuel systems.

Sections 5 through 18 give instructions for disassembly, assembly and inspection of engine, chassis frame and electrical equipment.

Most sections start with an assembly or system illustration and troubleshooting for the section. The subsequent pages give detailed procedures for the section.

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The information and contents included in this manual may be different from the motorcycle in case specifications are changed.

KWANG YANG MOTOR CO., LTD.
OVERSEAS SALES DEPARTMENT
OVERSEAS SERVICE SECTION

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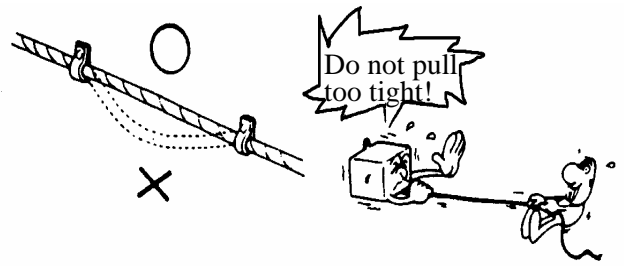


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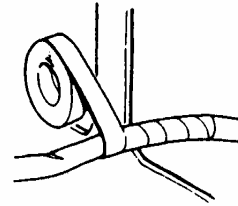
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1. GENERAL INFORMATION

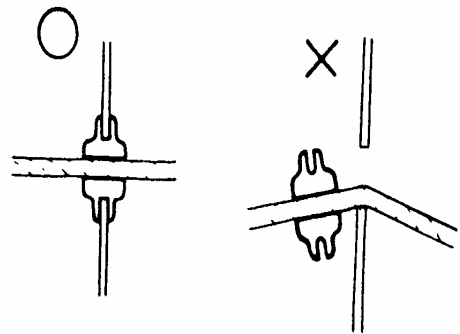
- Route harnesses so they are neither pulled tight nor have excessive slack.



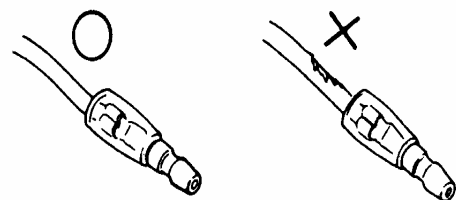
- Protect wires and harnesses with electrical tape or tube if they contact a sharp edge or corner.



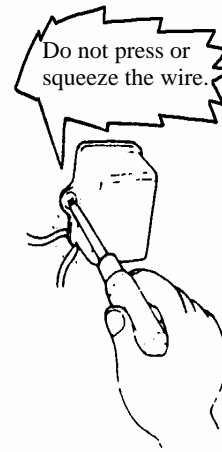
- When rubber protecting cover is used to protect the wire harnesses, it shall be installed securely.



- Do not break the sheath of wire.
- If a wire or harness is with a broken sheath, repair by wrapping it with protective tape or replace it.

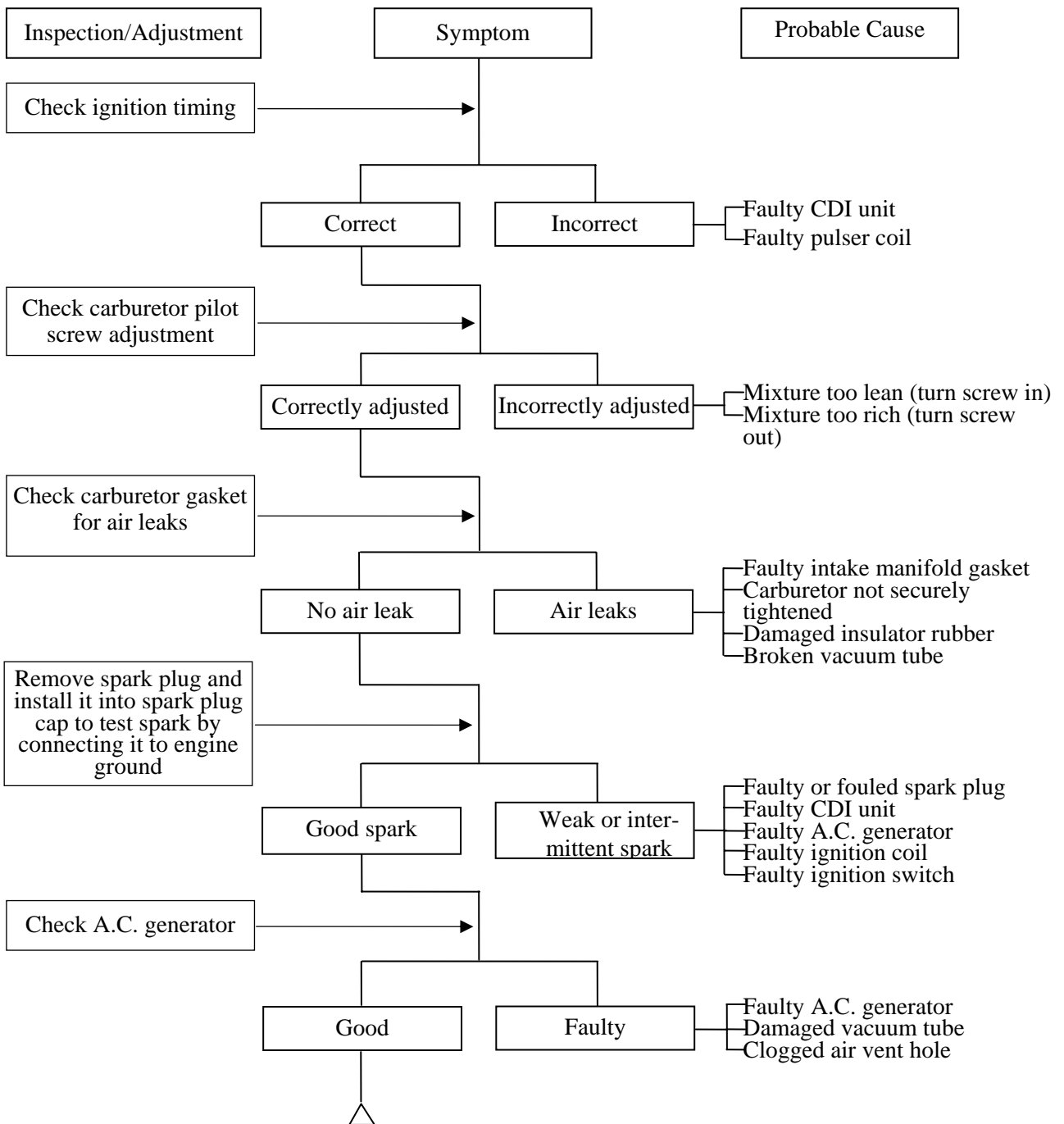


- When installing other parts, do not press or squeeze the wires.



1. GENERAL INFORMATION

POOR PERFORMANCE (ESPECIALLY AT IDLE AND LOW SPEEDS)



2. INSPECTION/ADJUSTMENT

the pilot screw.

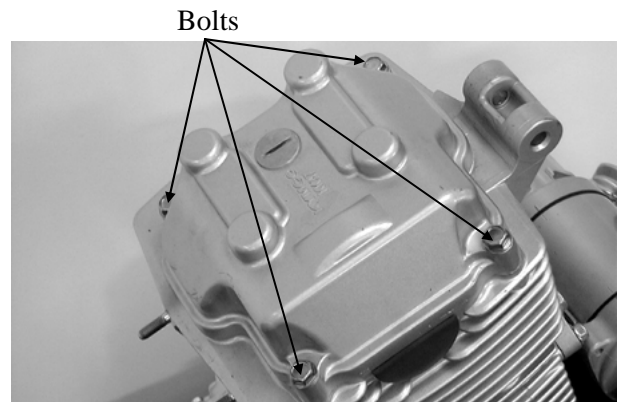
Cracks
Damage

Washer
Deformation

VALVE CLEARANCE

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

Remove four bolts.
Remove the cylinder head cover protector..
Remove the cylinder head cover.



Rotate the generator flywheel to locate the camshaft on the top dead center (TDC) and align the "T" mark on the flywheel with the mark on the left crankcase cover.

After adjustment, rotate the crankshaft several turns to make sure that the valve clearance is correct.

Inspect and adjust the valve clearance.

Valve Clearance: IN : 0.06mm
EX: 0.06mm

Cold Engine: IN: 0.05mm
EX: 0.05mm

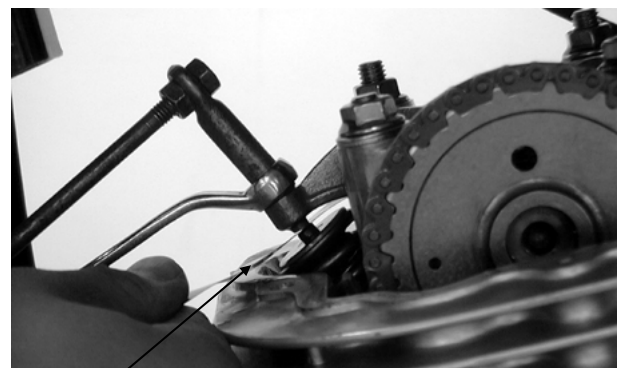
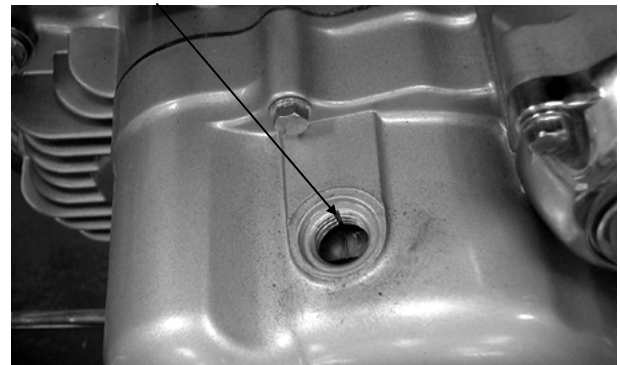
Loosen the lock nut and adjust by turning the adjusting bolt.

Special

Tappet Adjust E012

Check the valve clearance again after the lock nut is tightened.

"T" Mark



Feeler Gauge

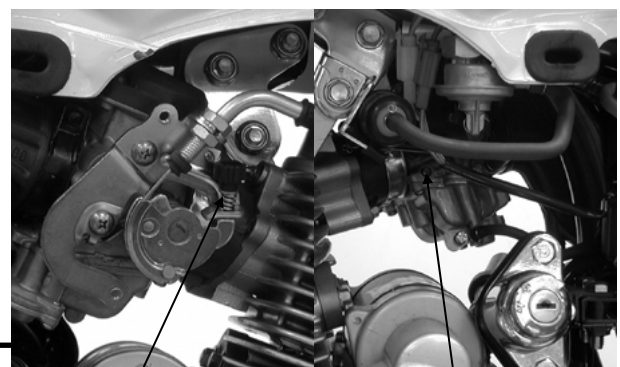
CARBURETOR IDLE SPEED

The engine must be warm for accurate idle speed inspection and adjustment.

Turn the throttle stop screw to obtain the specified idle speed.

Idle Speed: 1600±100rpm

When the engine misses or run erratic, adjust



When adjusting the carburetor, make sure to use a E/M tester.

3. LUBRICATION SYSTEM

OIL PUMP/OIL FILTER ROTOR REMOVAL

1. Remove the kick lever.
2. Disconnect the clutch cable.
3. Remove the right crankcase cover bolts and right crankcase cover.
4. Check the cover gasket, oil seal and O-ring for oil leaks or damage. Replace with new ones if necessary.

When installing, make sure to use a new right crankcase cover gasket.

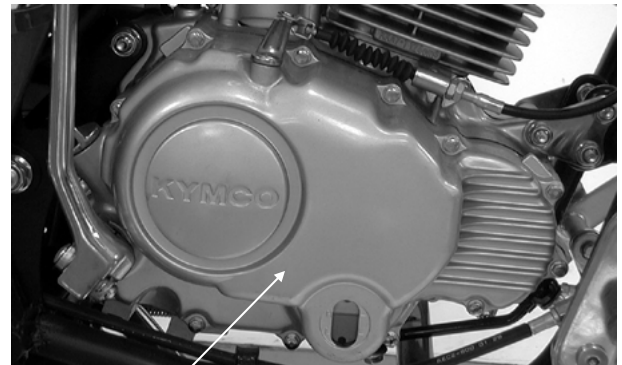
Remove the three screws attaching the oil filter rotor cover to remove the cover. Remove the oil filter rotor lock nut with a square socket and then remove the washer and oil filter rotor.

Remove the oil pump cap two bolts.

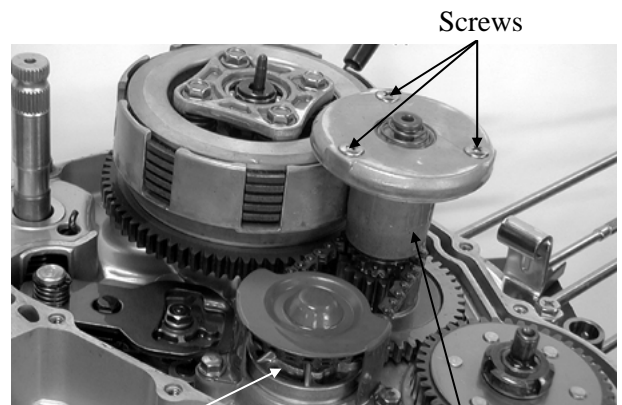
During installation, install the washer with the mark "OUTSIDE" facing up.

Remove the 6mm nut on top of the oil pump driven gear.

Remove the oil pump driven gear and chain. Remove the two oil pump mounting bolts. Remove the oil pump body.

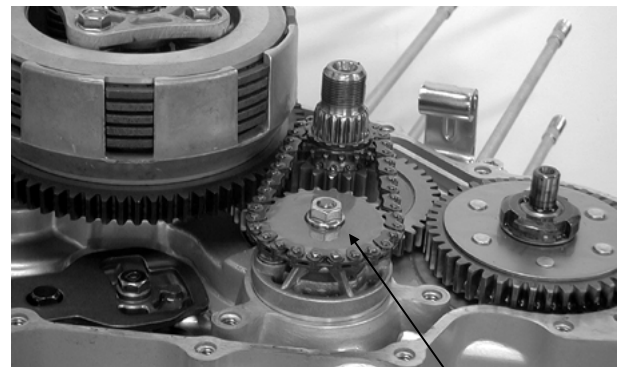


Right Crankcase Cover

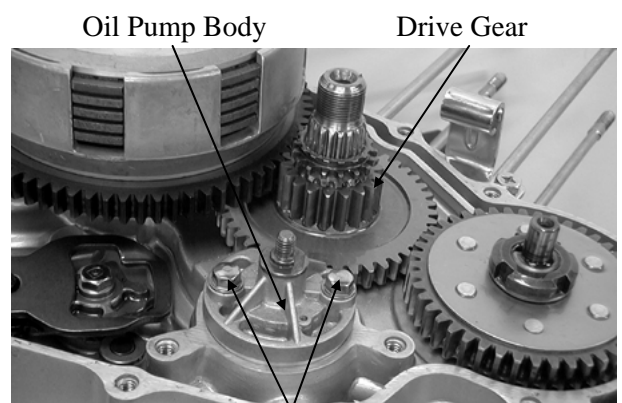


Oil Pump

Oil Filter Rotor



Oil Pump Driven Gear



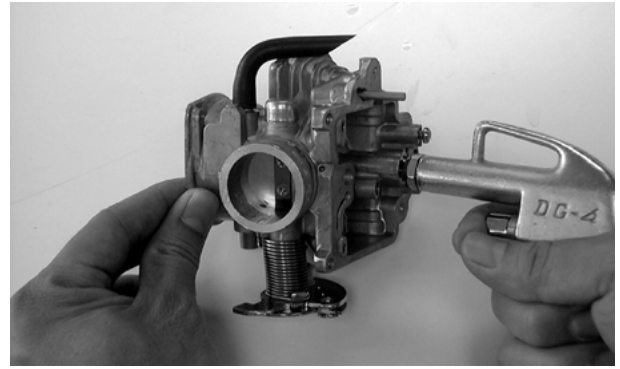
Oil Pump Body

Drive Gear

4. FUEL SYSTEM

Carburetor Cleaning

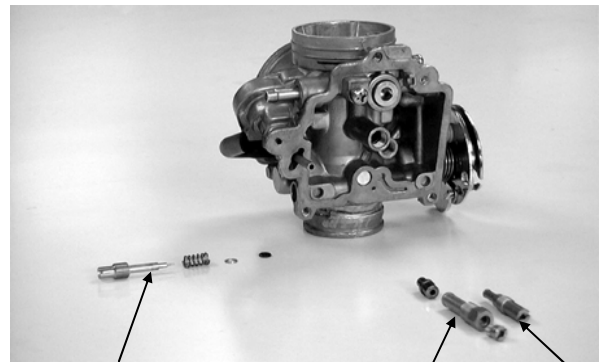
Blow compressed air through all passages of the carburetor body.



Slow Jet/Main Jet Installation

Install the slow jet.
Install the needle jet, needle jet holder and main jet.
Install the throttle stop screw and pilot screw.

- When installing the pilot screw, return it to the original position as noted during removal
- After the carburetor is installed, be sure to perform the Exhaust Emission



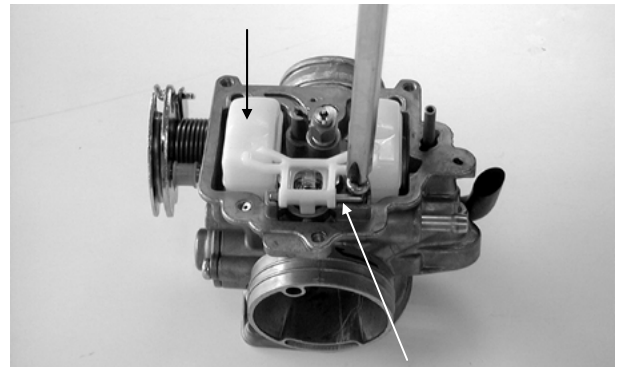
Pilot Screw

Main Jet

Slow Jet

Float

Install the float valve, float and float pin.



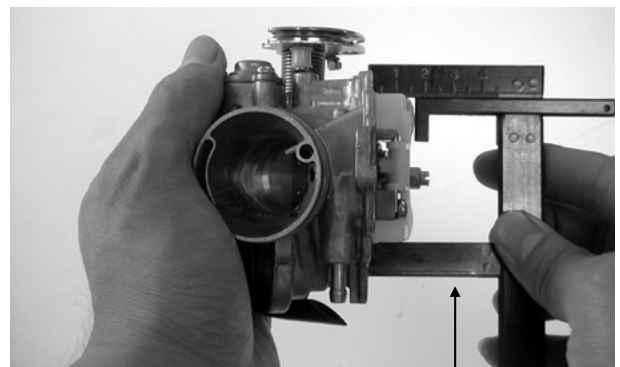
Float Pin

FLOAT LEVEL INSPECTION

Turn the carburetor upside down so that the float will go down to make the float valve contact the float valve seat.
Then slowly tilt the carburetor and measure the float level with the float level gauge while the float pin just contacts with float valve.

Float Level: 17mm

When adjusting, carefully bend the float pin.
Check the float for proper operation and then install the float chamber.



Float Level Gauge

6. CYLINDER HEAD/VALVES

HIPSTER125/150

SERVICE INFORMATION

GENERAL INSTRUCTIONS

- The cylinder head can be serviced with the engine installed in the frame. Coolant in the radiator and water jacket must be drained first.
- When assembling, apply molybdenum disulfide grease or engine oil to the valve guide movable parts and valve arm sliding surfaces for initial lubrication.
- The valve rocker arms are lubricated by engine oil through the cylinder head engine oil passages. Clean and unclog the oil passages before assembling the cylinder head.
- After disassembly, clean the removed parts and dry them with compressed air before inspection.
- After removal, mark and arrange the removed parts in order. When assembling, install them in the reverse order of removal.

SPECIFICATIONS

Item		Standard (mm)		Service Limit (mm)	
		RH30AA	RJ25AB	RH30AA	RJ25AB
Valve clearance (cold)	IN	0.06	0.06	—	—
	EX	0.06	0.06	—	—
Cylinder head compression pressure		13kg/cm ² –	13kg/cm ² –	—	—
Cylinder head warpage		—	—	0.05	0.05
Camshaft cam height	IN	30.800 30.920	30.800 30.920	30.75	30.75
	EX	30.411 30.531	30.411 30.531	30.26	30.26
Valve rocker arm I.D.	IN	12.00 12.015	12.00 12.015	12.10	12.10
	EX	12.00 12.015	12.00 12.015	12.10	12.10
Valve rocker arm shaft O.D.	IN	12.00 11.980	12.00 11.980	12.10	12.10
	EX	12.00 11.980	12.00 11.980	12.10	12.10
Valve seat width	IN	1.0	1.0	1.8	1.8
	EX	1.0	1.0	1.8	1.8
Valve stem O.D.	IN	5.00 5.012	5.00 5.012	4.925	4.925
	EX	5.00	5.00	4.925	4.925
Valve guide I.D.	IN	5.00 5.012	5.00 5.012	5.03	5.03
	EX	5.00 5.012	5.00 5.012	5.03	5.03
Valve stem-to-guide Clearance	IN	0.010 0.037	0.010 0.037	0.08	0.08
	EX	0.030 0.057	0.030 0.057	0.10	0.10

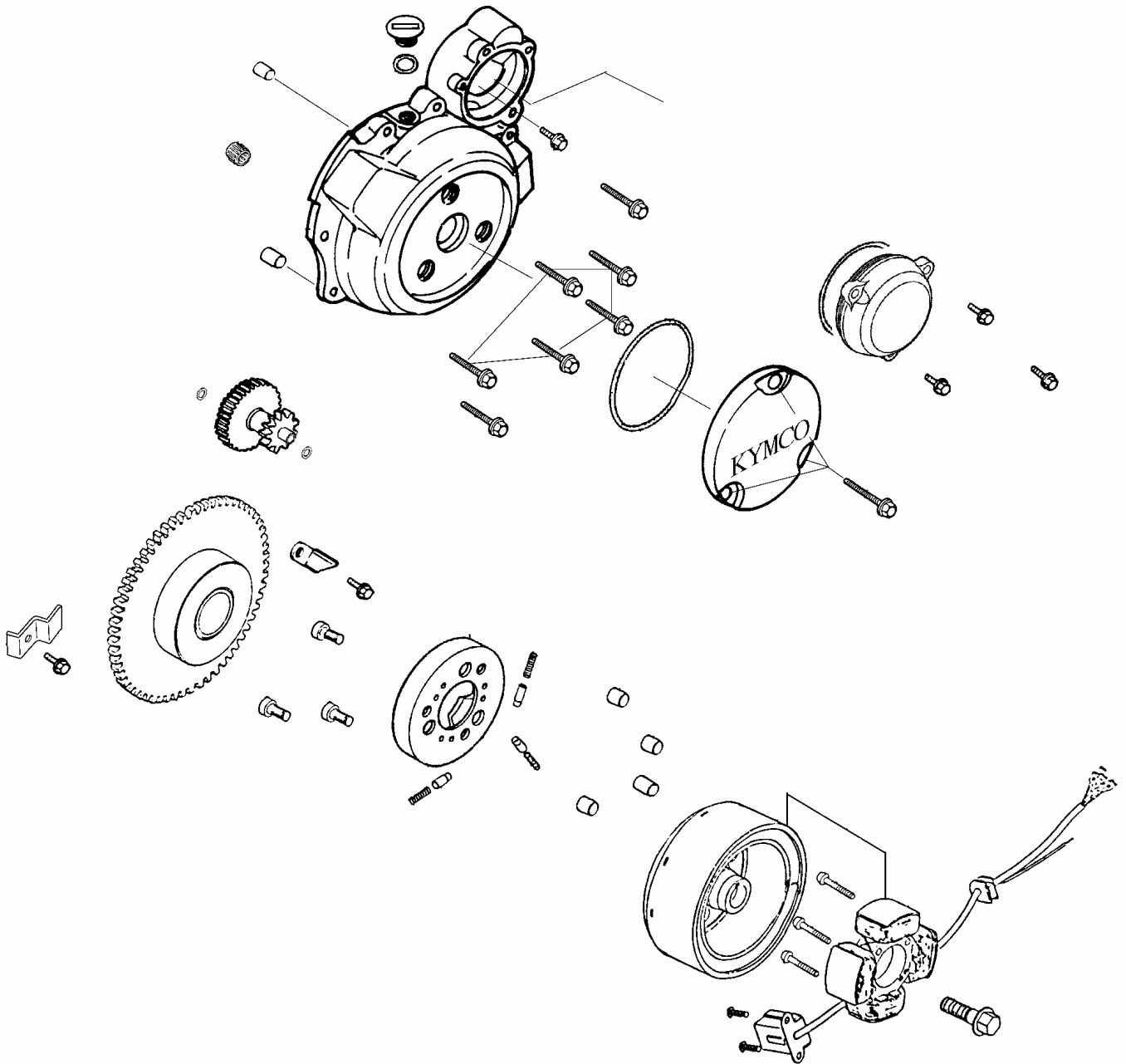
7. CYLINDER/PISTON

CYLINDER/PISTON



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PISTON REMOVAL	7-3
PISTON INSTALLATION	7-7
CYLINDER INSTALLATION	7-7

**8. STARTER MOTOR/GENERATOR/LEFT CRANK-
CASE COVER/STARTER CLUTCH/CAMSHAFT**  **KYMCO**
HIPSTER125/150



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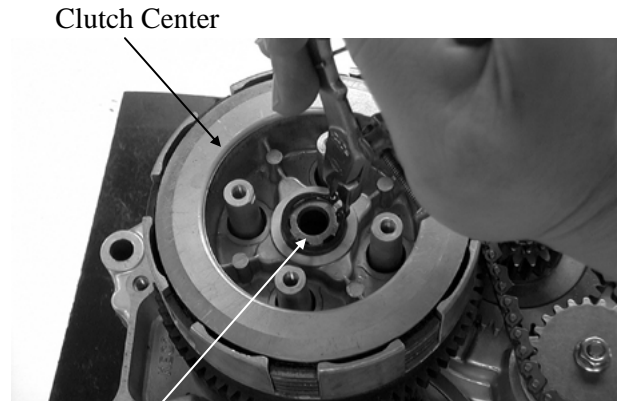
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9. CLUTCH/GEAR SHIFT MECHANISM

Remove the 20mm circlip using a pair of pliers and then remove the clutch center, clutch friction disks and plates.

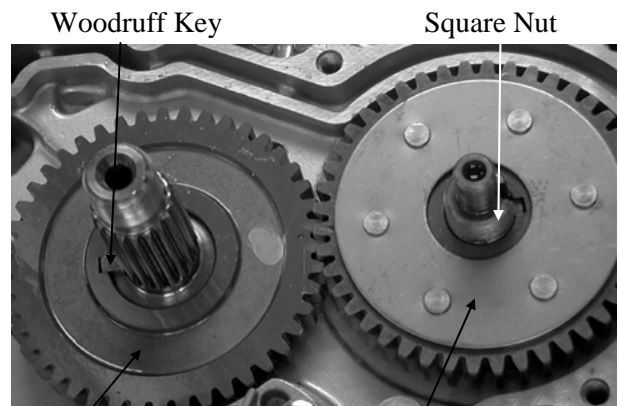
- When removing the circlip, do not expand it excessively to avoid deformation.
- Install the circlip with the chamfered side facing down.



20mm Circlip

Remove the balance shaft drive gear and woodruff key from the crankshaft. Remove the special flange gasket on the balance shaft driven gear, driven gear and woodruff key from the balance shaft. Remove the oil pump shaft.

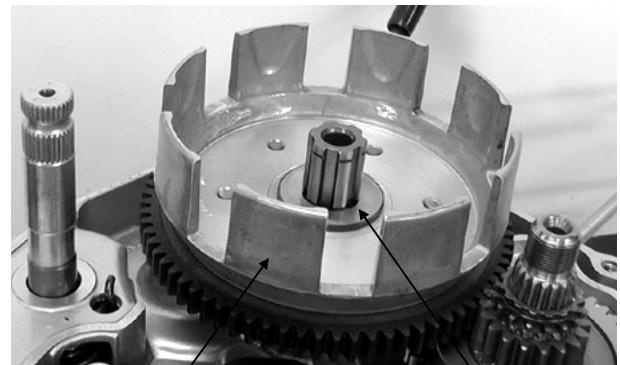
Be careful not to drop or lose the woodruff keys.



Drive Gear

Gear

Remove the thrust washer, clutch outer and outer guide.



Clutch Outer

Thrust Washer

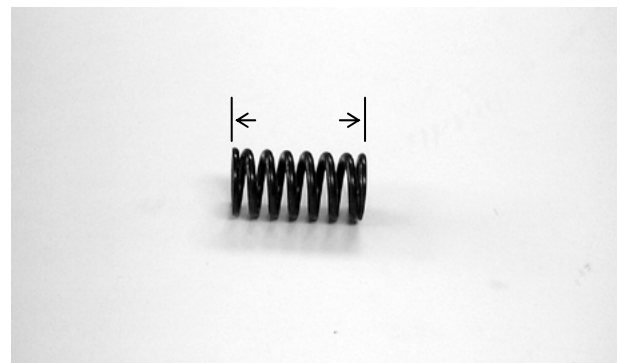
INSPECTION

CLUTCH TENSION SPRING

Measure each clutch tension spring free length.

Service Limit: 34.20mm

Replace the spring with a new one if it is shorter than the service limit.



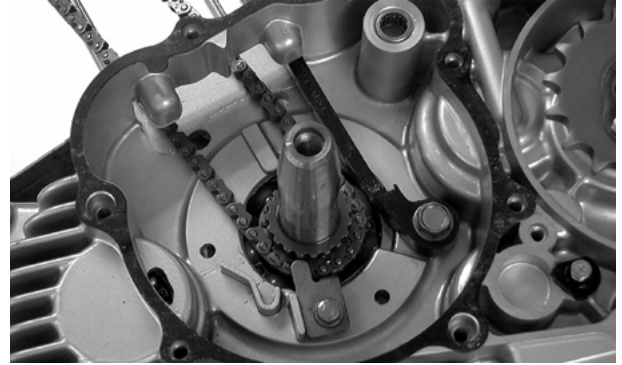
10. CRANKCASE/CRANKSHAFT/TRANSMISSION SYSTEM/STARTER SPINDLE

- Starter motor/generator/left crankcase cover/starter clutch/camshaft (Refer to Section 8.)
- Clutch/gear shift mechanism (Refer to Section 9.)

Turn the engine so that the left crankcase is facing up.
Remove the eleven crankcase attaching screws.
Separate the left and right crankcase halves.

Never pry the crankcase apart with a driver to avoid damaging the mating

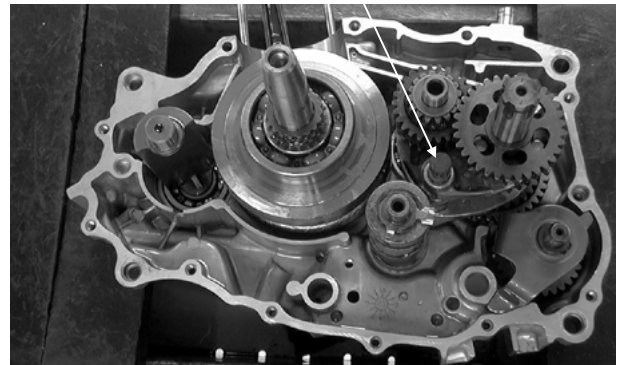
Slightly tap the crankcase to separate the crankcase halves using a plastic hammer.



Remove the gasket and dowel pins.

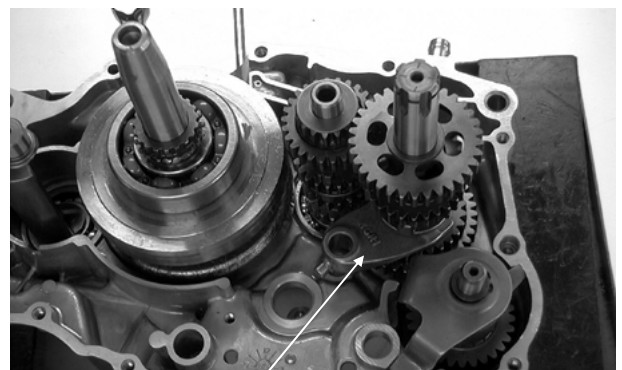
Be careful not to lose the gear shift spindle washer.

Transmission Fork Shaft



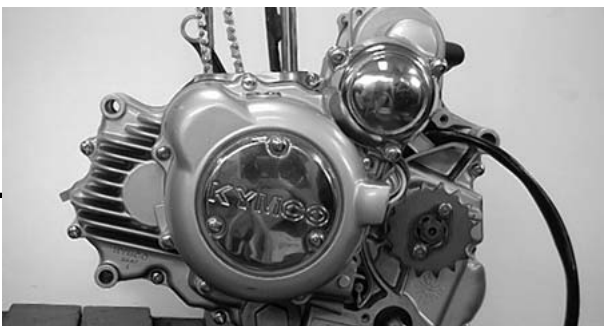
TRANSMISSION SYSTEM REMOVAL

Remove the transmission fork shaft and transmission forks.



Transmission Fork

Remove the transmission drum.



11. FRONT WHEEL/SUSPENSION/ STEERING

FRONT FORK

REMOVAL

Remove the front wheel. (Refer to 11-7.)
Remove the four front fender bolts and the front fender.
Remove the front brake caliper.
Loosen the upper and lower fork bridge bolts and the bolts attaching the front right and left turn signal lights.
Remove the right and left front forks.



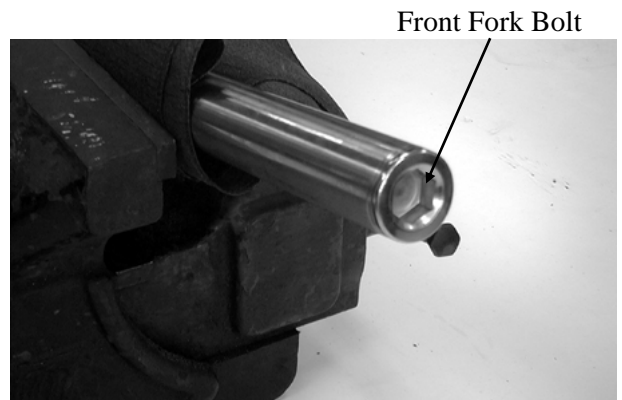
Lower Fork Bridge Bolt

DISASSEMBLY

Place shop towels under the front fork tube.
Use a vise to hold the front fork tube and remove the bolt.

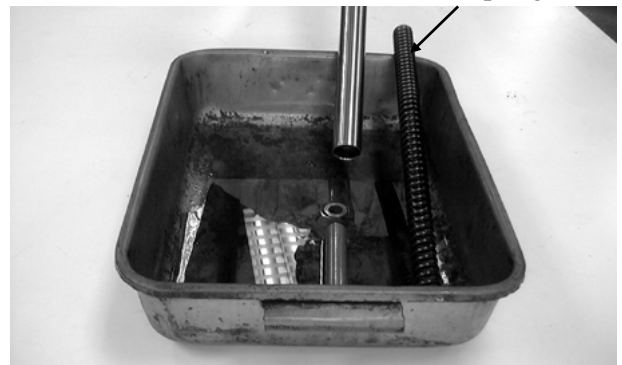
When removing the front fork bolt, be careful that the spring in the tube may spring out.

Remove the front fork spring from the front fork tube and compress the spring several times to squeeze out the engine oil.



Front Fork Bolt

Front Fork Spring



Use a vise to hold the front fork bottom tube and place shop towels under the bottom tube.
Remove the socket head bolt.

- When using the vise, do not tighten the front fork bottom tube excessively.
- If it is difficult to remove the socket head bolt, temporarily install the front fork spring and front fork bolt.

Remove the front fork piston and return spring. Remove the front fork bottom tube and the oil stopper.

6mm Socket Spanner



Remove the dust seal and snap ring. Take

- Do not damage the bottom tube when taking out the oil seal and circlip.
- Be sure to replace the removed oil seal and circlip with new ones during

TROUBLESHOOTING**Rear wheel wobbling**

- Bent rim
- Worn rear wheel bearing
- Loose or broken wheel spoke wires
- Faulty tire
- Improperly tightened axle nut
- Loose rear fork pivot nut

Soft suspension

- Weak shock absorber spring
- Improperly adjusted shock absorber
- Damper oil leaks

Hard suspension

- Improperly adjusted shock absorber

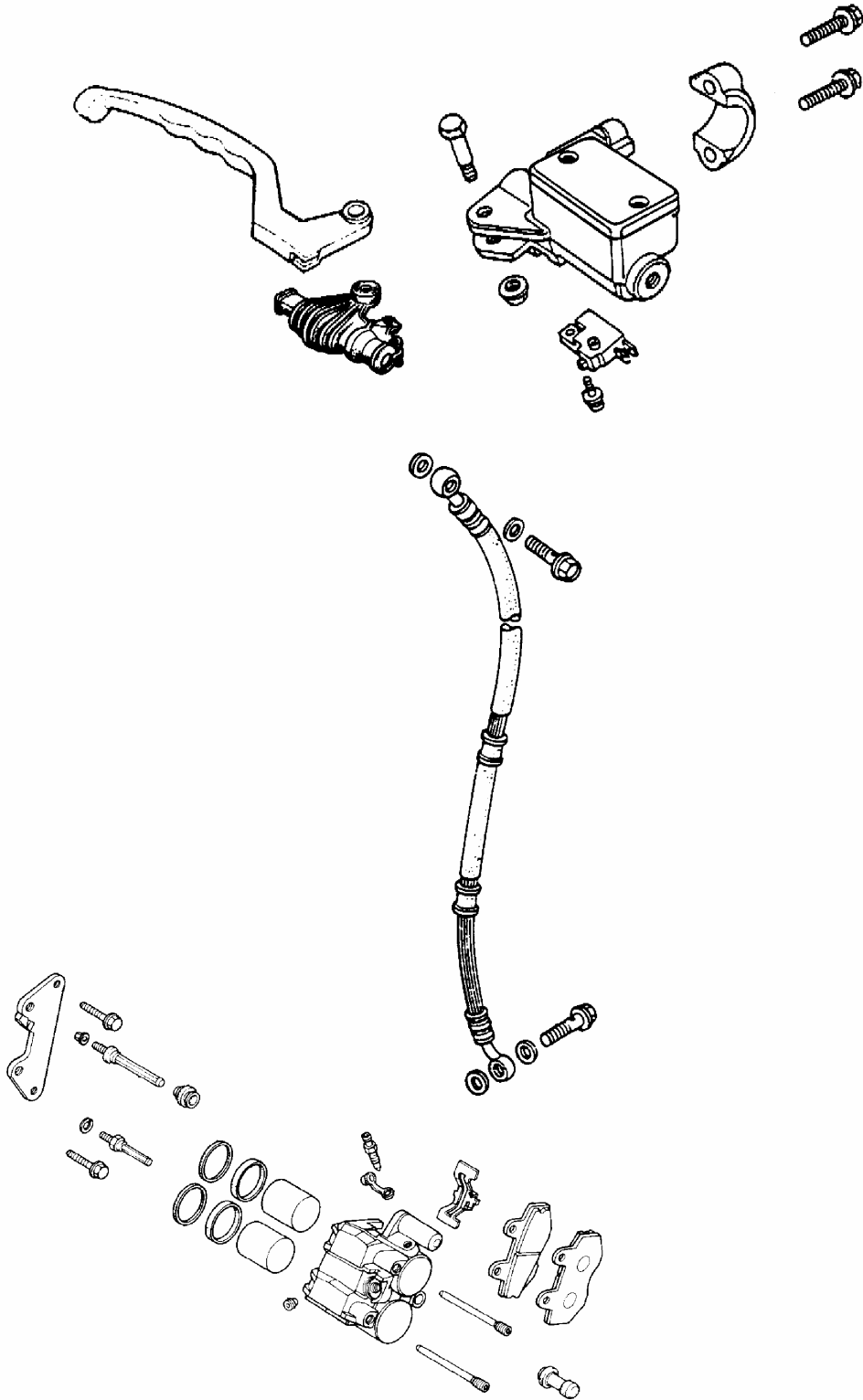
Rear suspension noise

- Bent rear shock absorber
- Loose shock absorber fasteners
- Insufficient damper oil

Poor brake performance

- Improperly adjusted brake
- Worn brake linings
- Contaminated or damaged brake linings
- Worn brake cam
- Worn brake drum
- Improperly installed brake linings
- Worn brake shoes at cam contacting area
- Worn camshaft

13. HYDRAULIC BRAKE



13. HYDRAULIC BRAKE

INSTALLATION

Install the brake caliper onto the right front fork and tighten the bolts.

Torque: 2.4 3.0kg-m

Connect the brake fluid tube to the brake caliper and tighten the fluid tube bolt.

Torque: 2.4 3.0kg-m

Add the recommended brake fluid into the brake reservoir and bleed air from the brake system. (Refer to 13-4.)



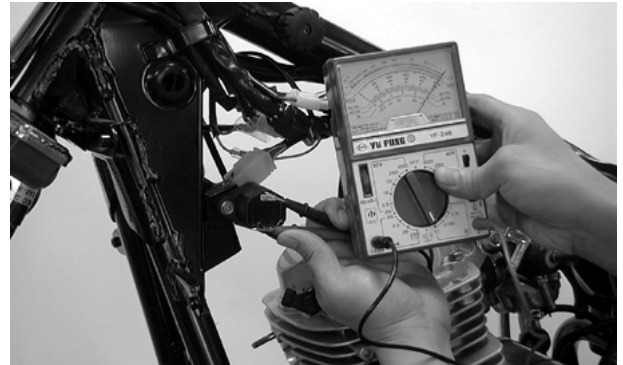
15. IGNITION SYSTEM

IGNITION COIL CONTINUITY TEST

Remove the left decorative cover under the fuel tank.

Disconnect the ignition coil black/yellow wire coupler and measure the resistance between the ignition coil primary wire terminals.

Resistance: $0.2 \square 0.3\Omega$



Remove the spark plug cap and measure the secondary coil resistance between the spark plug wire and the primary coil terminal.

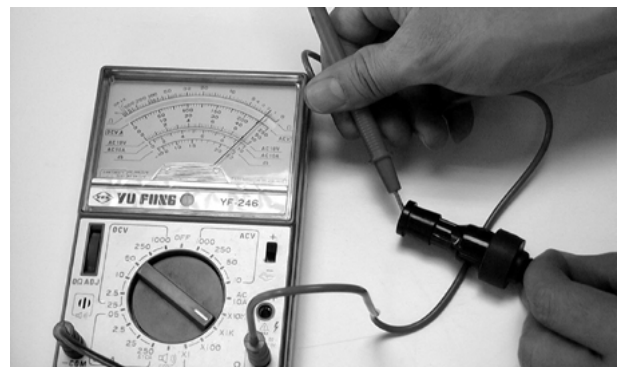
Resistance: $3.2 \square 4.8\Omega$ (without plug cap)



This test is for reference only. Accurate test should be performed with a CDI tester.

Measure the spark plug cap resistance. Remove the spark plug cap and measure the spark plug resistance.

Resistance: $4.2 \square 5.8K\Omega$



Measure the resistance in the XK Ω range.

17. STARTING SYSTEM

17

STARTING SYSTEM

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