

## Hyosung - Aquila 650

ELECTRICAL SYSTEM  
COOLING SYSTEM  
GROUP INDEX

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### FOREWORD

This manual has been prepared on the basis of the latest specification at the time of publication.

If modification has been made since then, difference may exist between the content of this manual and the actual vehicle.

Illustrations in this manual are used to show the basic principles of operation and work procedures.  
They may not represent the actual vehicle exactly in detail.

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This manual contains an introductory description on HYOSUNG and procedures for its inspection/service and overhaul of its main components. Other information considered as generally known is not included.

Read GENERAL INFORMATION section to familiarize yourself with outline of the vehicle and MAINTENANCE and other sections to use as a guide for proper inspection and service. This manual will help you know the vehicle better so that you can assure your customers of your optimum and quick service.

### WARNING

This manual is intended for those who have enough knowledge and skills for servicing HYOSUNG vehicles. Without such knowledge and skills, you should not attempt servicing by relying on this manual only.

Instead, please contact your nearby authorized HYOSUNG motorcycle dealer.

HOW TO USE THIS MANUAL  
TO LOCATE WHAT YOU ARE  
LOOKING FOR:

1. The text of this manual is divided into sections.
2. As the title of these sections is listed on the previous page as GROUP INDEX, select the section where you are looking for.

3. Holding the manual as shown at the right will allow you to find the first page of the section easily.
4. On the first page of each section, its contents are listed. Find the item and page you need.

### COMPONENT PARTS

Example: Front wheel

### SYMBOL

Listed in the table below are the symbols indicating instructions and other information necessary for servicing and meaning associated with them respectively.

#### DEFINITION SYMBOL

Apply THREAD LOCK 1324.

Apply brake fluid.

Measure in voltage range.

Measure in resistance range.

Measure in current range.

Use special tool.

Use engine coolant.

Torque control required. Data beside it indicates specified torque.

Apply oil. Use engine oil unless otherwise specified.

Apply SUPER GREASE A.

Apply SILICONE GREASE.

Apply MOLY PASTE.

Apply BOND 1215.

Use fork oil.

#### DEFINITION SYMBOL

Apply SUPER GREASE C.

### NOTE

Difference between photographs and actual motorcycles depends on the markets.

### GENERAL INFORMATION

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#### 1-1 GENERAL INFORMATION

Please note, however, that the warning and cautions contained in this manual cannot possibly cover all potential hazards relating to the servicing, or lack of servicing, of the motorcycle. In addition to the WARNING and CAUTION stated, you must use good judgement and basic mechanical safety principles. If you are unsure about how to perform a particular service operation, ask a more experienced mechanic for advice.

### GENERAL PRECAUTIONS

#### WARNING / CAUTION / NOTE

Please read this manual and follow its instructions carefully. To emphasize special information, the symbol and the words WARNING, CAUTION and NOTE have special meanings. Pay special attention to the messages highlighted by these signal words.

#### CAUTION

Indicates a potential hazard that could result in vehicle damage.

#### WARNING

Indicates a potential hazard that could result in death or injury.

#### NOTE

Indicates special information to make maintenance easier or instructions cleaner.

#### WARNING

Proper service and repair procedures are important for the safety of the service mechanic and the safety and reliability of the vehicle.

When 2 or more persons work together, pay attention to the safety of each other.

When it is necessary to run the engine indoors, make sure that exhaust gas is forced outdoors.

When working with toxic or flammable materials, make sure that the area you work in is well-ventilated and that you follow all of the material manufacturers instructions.

Never use gasoline as a cleaning solvent.

To avoid getting burned, do not touch the engine, engine oil, exhaust system or radiator during or for a while after engine operation.

After servicing fuel, oil, engine coolant, exhaust or brake systems, check all lines and fittings related to the system for leaks.

### GENERAL INFORMATION 1-2

#### WARNING

If parts replacement is necessary, replace the parts with HYOSUNG Genuine Parts or their equivalent.

When removing parts that are to be reused, keep them arranged in an orderly manner so that they may be reinstalled in the proper order and orientation.

Be sure to use special tools when instructed.

Make sure that all parts used in reassembly are clean, and also lubricated when specified.

When use of a certain type of lubricant, bond, or sealant is specified, be sure to use the specified type.

When removing the battery, disconnect the negative cable first and then positive cable. When reconnecting the battery, connect the positive cable first and then negative cable, and replace the terminal cover on the positive terminal.

When performing service to electrical parts, if the service procedures do not require use of battery power, disconnect the negative cable at the battery.

Tighten cylinder head and case bolts and nuts, beginning with larger diameter and ending with smaller diameter, from inside to outside diagonally, to the specified tightening torque.

# BL Motorcycles Ltd

## Professional Workshop Manual - English Translation

Whenever you remove oil seals, gaskets, packing, O-rings, locking washers, cotter pins, circlips, and certain other parts as specified, be sure to replace them with new ones. Also, before installing these new parts, be sure to remove any material left over from the mating surfaces.

Never reuse a circlip. When installing a new circlip, take care not to expand the end gap larger than required to slip the circlip over the shaft. After installing a circlip, always ensure that it is completely seated in its groove and securely fitted.

Do not use self-locking nuts a few times over.

Use a torque wrench to tighten fasteners to the torque values when specified. Wipe off grease or oil if a thread is smeared with them.

After reassembly, check parts for tightness and operation.

### WARNING

To protect the environment, do not unlawfully dispose of used motor oil and other fluids: batteries, and tires.

To protect Earth's natural resources, properly dispose of used vehicles and parts.

### SERIAL NUMBER LOCATION

The frame serial number or V.I.N. (Vehicle Identification Number) is stamped on the steering head tube.

The engine serial number is located on the left downside of crankcase assembly.

These numbers are required especially for registering the machine and ordering spare parts.

### FRAME SERIAL NUMBER

### ENGINE SERIAL NUMBER

## 1-3 GENERAL INFORMATION

### FRONT FORK OIL

Use fork oil: TELLUS #32

### BRAKE FLUID

Specification and classification (Front brake): DOT3 or DOT4

(Rear brake): DOT4

Grade Over SL

10W/40

Classification system API

SAE

If an SAE 10W/40 motor oil is not available, select an alternative according to the following chart.

Use a premium quality 4-stroke motor oil to ensure longer service life of your motorcycle.

## FUEL, OIL AND ENGINE COOLANT RECOMMENDATIONS

### FUEL

Gasoline used should be graded 91 octane (Research Method) or higher. An unleaded gasoline type is recommended.

### ENGINE OIL

### ENGINE OIL SPECIFICATION

### WARNING

Don't mix the unrecommended oil. It could damage the engine.

When refilling the oil tank, don't allow the dust to get inside.

Mop the oil spilt.

Don't put the patch on the cap. It could disturb the oil to be provided and damage the engine.

### WARNING

Since the brake system of this motorcycle is filled with a glycol-based brake fluid by the manufacturer, do not use or mix different types of fluid such as silicone-based and petroleum-based fluid for refilling the system, otherwise serious damage will result.

Do not use any brake fluid taken from old or used or unsealed containers. Never re-use brake fluid left over from a previous servicing, which has been stored for a long period.

### GENERAL INFORMATION 1-4

#### 1-5 GENERAL INFORMATION

#### ENGINE COOLANT

Use an anti-freeze/engine coolant compatible with an aluminum radiator, mixed with distilled water only.

#### WATER FOR MIXING

Use distilled water only. Water other than distilled water can corrode and clog the aluminum radiator.

#### ANTI-FREEZE/ENGINE COOLANT

The engine coolant perform as a corrosion and rust inhibitor as well as anti-freeze. Therefore, the engine coolant should be used at all times even though the atmospheric temperature in your area does not go down to freezing point. Hyosung recommends the use of HYOSUNG COOLANT anti-freeze/engine coolant. If this is not available, use an equivalent which is compatible with an aluminum radiator.

#### LIQUID AMOUNT OF WATER/ENGINE COOLANT

For engine coolant mixture information, refer to cooling system section, page 5-1

### CAUTION

Mixture of anti-freeze/engine coolant should be limited to 60%. Mixing beyond it would reduce its efficiency. If the anti-freeze/engine coolant mixing ratio is below 50%, rust inhabiting performance is greatly reduced. Be sure to mix it above 50% even though the atmospheric temperature does not go down to the freezing point.