MOTO GUZZI

GRISO

workshopmanual

1288 5 00/2005-11

Cod. 8140904 UK

INTRODUCTION 0

SUMMARY

0.1. INTRODUCTION 3
0.1.1. FOREWORD 3
0.1.2. REFERENCE MANUALS 4
0.1.3. ABBREVIATIONS/SYMBOLS/CONVENTIONS 5

0.1. INTRODUCTION

0.1.1. FOREWORD

This manual provides the information required for normal servicing.
This publication is intended for use by **Moto Guzzi** Dealers and their qualified mechanics; many concepts have been omitted on purpose as their inclusion would be superfluous. Since complete mechanical explanations have not been included in this manual, the reader must be familiar with basic notions of mechanics, as well as with basic repair procedures. Without such familiarity, repairs and checks could be ineffective and even hazardous. Since the repair and vehicle check instructions are not exhaustive, special care must be taken to avoid damage and injury. **Moto Guzzi s.p.a.** undertakes to constantly improve the design of its products and their literature to ensure that the customer is satisfied of the product. The main technical modifications and changes in repair procedures are communicated to all **Moto Guzzi** dealers and agencies world-wide. Such modifications will be entered in subsequent editions of the manual. Should you need assistance or clarifications about the inspection and repair procedures, please contact the **Moto Guzzi** SERVICE DEPT., they will be glad to give you any information on the matter, or supply you with any detail on updates and technical changes applied to the vehicle.

Moto Guzzi s.p.a. reserves the right to make changes to its products at any time, barring any such changes as may alter the essential features of a product as specified in the relevant manual.

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For further details, see (REFERENCE MANUALS).

First edition: November 2005

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0.1.2. REFERENCE MANUALS

PARTS CATALOGUES

guzzi part# (description)							
GU078_00	I	F	D	NL	E	UK	USA

OWNER'S MANUALS

guzzi part# (description)						
06.90.00.00	I	F	D	NL	E	UK
06.90.00.01				USA		

CHASSIS WORKSHOP MANUAL

guzzi part# (description)						
8140900				I		
8140901				F		
8140902				D		
8140903				E		
8140904				UK		
8140905				USA		
8CM0095	I		F	D	E	UK
8CM0096				USA		

ENGINE WORKSHOP MANUAL

guzzi part# (description)					
8CM0093	I	F	D	E	UK
8CM0094			USA		

0.1.3. ABBREVIATIONS/SYMBOLS/CONVENTIONS

= number
< = less than
> = greater than
≤ = less than or equal to
≥ = greater than or equal to
~ = approximately
∞ = infinity
°C = degrees Celsius (centigrade)
°F = degrees Fahrenheit
± = plus or minus
A.C. = alternating current
A = Ampere
Ah = Ampere per hour
API = American Petroleum Institute
AT = high voltage
AV/DC = Anti-Vibration Double Countershaft
bar = pressure measurement (1 bar = 100 kPa)
D.C. = direct current
cc = cubic centimetres
CO = carbon monoxide
CPU = Central Processing Unit
DIN = German industrial standards (Deutsche Industrie Norm)
DOHC = Double Overhead Camshaft
ECU = Electronic Control Unit
rpm = revolutions per minute
HC = unburnt hydrocarbons
ISC = Idle Speed Control
ISO = International Standardization Organization
kg = kilograms
kgm = kilogram metre (1 kgm = 10 Nm)
km = kilometres
km/h = kilometres per hour
kΩ = kilo Ohm
kPa = kiloPascal (1 kPa = 0.01 bar)
KS = clutch side (from the German "Kupplungsseite")
kW = kilowatt
l = litres
LAP = racetrack lap
LED = Light Emitting Diode
LEFT SIDE = left-hand side
m/s = metres per second
max = maximum
mbar = millibar (1 mbar = 0.1 kPa)
mi = miles
MIN = minimum
MPH = miles per hour
MS = flywheel side (from the German "Magnetoseite")
MΩ = MegaOhm
N.A. = Not Available
N.O.M.M. = Motor Octane Number
N.O.R.M. = Research Octane Number
Nm = Newton metre (1 Nm = 0.1 kgm)
Ω = ohm
PICK-UP = pick-up
BDC = Bottom Dead Centre
TDC = Top Dead Centre
PPC = Pneumatic Power Clutch
RIGHT SIDE = right-hand side
SAE = Society of Automotive Engineers
SAS = Secondary Air System

TEST = diagnostic check
T.B.E.I. = crown-head Allen screw
T.C.E.I. = cheese-head Allen screw
T.E. = hexagonal head
T.P. = flat head screw
TSI = Twin Spark Ignition
UPSIDE-DOWN = inverted fork
V = Volt
W = Watt
Ø = diameter

GENERAL INFORMATION 1

SUMMARY

1.1 STRUCTURE OF THE MANUAL 3
1.1.1 CONVENTIONS USED IN THE MANUAL 3
1.1.2 SAFETY WARNINGS 4
1.2 GENERAL RULES 5
1.2.1 BASIC SAFETY RULES 5
1.3 DANGEROUS ELEMENTS 8
1.3.1 WARNINGS 8
1.4 RUNNING-IN 11
1.4.1 RUNNING-IN 11
1.5 POSITION OF THE SERIAL NUMBERS 12
1.5.1 POSITION OF THE SERIAL NUMBERS 12

1.1 STRUCTURE OF THE MANUAL

1.1.1 CONVENTIONS USED IN THE MANUAL

- This manual is divided in sections and subsections, each covering a set of the most significant components. For quick reference, see the summary of sections.
- Unless expressly specified otherwise, assemblies are reassembled by reversing the assembly procedure.
- The terms "left" and "right" are referred to the motorcycle when viewed from the riding position.
- Motorcycle operation and basic maintenance are covered in the "OWNER'S MANUAL".

In this manual any variants are identified with these symbols:

OPT	optional
✱	catalytic version
-	all versions
MP	national certification
SF	European certification (EURO 1 limits)

VERSION:

I	Italy	GR	Greece	MAL	Malaysia
UK	United Kingdom	NL	Holland	RCH	Chile
A	Austria	CH	Switzerland	HR	Croatia
P	Portugal	DK	Denmark	AUS	Australia
SF	Finland	J	Japan	USA	United States of America
B	Belgium	SGP	Singapore	BR	Brazil
D	Germany	SLO	Slovenia	RSA	South Africa
F	France	IL	Israel	NZ	New Zealand
E	Spain	ROK	South Korea	CDN	Canada

1.1.2 SAFETY WARNINGS

The symbols and warnings used throughout this manual have the following meanings:

Safety warning. When you find this symbol on the vehicle or in the manual, be careful of the potential risk of personal injury. Disregarding the instructions identified by this symbol may compromise the safety of the user, the motorcycle and third parties.

DANGER
Indicates a potential hazard which may result in serious injury or even death.

WARNING
Indicates a potential hazard which may result in minor personal injury or damage to the vehicle.

NOTE *The word "NOTE" in this manual identifies important information or instructions.*

1.2 GENERAL RULES

1.2.1 BASIC SAFETY RULES

CARBON MONOXIDE
When an operation must be performed with the engine running, position the motorcycle outdoors in a well-ventilated area.
Never run the engine in an enclosed place.
Use an exhaust emission extraction system when working indoors.

DANGER
Exhaust gases contain carbon monoxide, a poisonous gas which, if inhaled, may cause loss of consciousness or even death.

FUEL

DANGER
The fuel used to operate engines is highly flammable and becomes explosive under particular conditions.
Refuelling and maintenance operations should be carried out in a well-ventilated area, with the engine off.
Do not smoke when refuelling or in the proximity of sources of fuel vapours. Avoid contact with bare flames, sources of sparks and any other source which may ignite fuel or lead to explosion.

DO NOT DISPOSE OF FUEL IN THE ENVIRONMENT.

KEEP AWAY FROM CHILDREN.

HOT COMPONENT PARTS
The engine and exhaust component parts become hot when the engine is running and will stay hot for some time after the engine has been stopped.
Wear insulating gloves before handling these components or allow for the engine and the exhaust system to cool down before proceeding.

USED GEARBOX AND FORK FLUIDS

DANGER
Wear latex gloves when servicing.
Prolonged or repeated contact with gear fluid may cause severe skin damage.
Wash your hands thoroughly after handling.
Dispose of it through the nearest waste oil reclamation firm or through the supplier.
Wear latex gloves when servicing.

DO NOT DISPOSE OF FLUID IN THE ENVIRONMENT.

KEEP AWAY FROM CHILDREN.

BRAKE FLUID

WARNING
Brake fluid can damage plastic, rubber or painted parts. When servicing the brake system, protect all such parts with a clean cloth.
Always wear safety glasses when servicing the brake system.
Brake fluid is highly irritant. Avoid contact with the eyes.
In case of contact with the eyes, rinse thoroughly with cool, clean water and immediately seek medical attention.

KEEP AWAY FROM CHILDREN.

HYDROGEN GAS AND BATTERY ELECTROLYTE

DANGER
The battery electrolyte is a toxic, caustic substance containing sulphuric acid and thus able to cause severe burns in case of contact.
Wear close-fitting gloves and protective clothing when handling this fluid.
In case of contact with the skin, rinse thoroughly with fresh water.
Always use eye protection as even a very small amount of the battery fluid can cause blindness. If battery fluid comes in contact with the eyes, flush thoroughly with water for fifteen minutes and contact an eye specialist immediately.
If battery fluid is swallowed accidentally, drink plenty of water or milk. Seek medical attention immediately and keep drinking milk of magnesia or vegetable oil in the meantime.
The battery gives off explosive gases. Keep the battery well away from any sources of ignition, such as flames, sparks, or any heat sources; do not smoke near the battery.
Make sure the area is well ventilated when servicing or refilling the battery.

KEEP AWAY FROM CHILDREN.

Battery fluid is corrosive.
Avoid spillage. Take special care not to spill battery fluid on plastic parts.
Make sure that the electrolyte fluid you are using is the suitable type for your battery.

GENERAL PRECAUTIONS AND INFORMATION

Follow these instructions closely when repairing, disassembling or reassembling the motorcycle or its components.

DANGER
Using bare flames is strictly forbidden when working on the motorcycle. Before servicing or inspecting the motorcycle: stop the engine and remove the key from the ignition switch; allow for the engine and exhaust system to cool down; where possible, lift the motorcycle using adequate equipment placed on firm and level ground. Be careful of any parts of the engine or exhaust system which may still be hot to the touch to avoid scalds or burns.
Never put mechanical parts or other vehicle components in your mouth when you have both hands busy. None of the motorcycle components are edible. Some components are harmful to the human body or toxic.
Unless expressly indicated otherwise, reassemble the units by repeating the disassembly operations in reverse order. Where a procedure is cross-referred to relevant sections in the manual, proceed sensibly to avoid disturbing any parts unless strictly necessary. Do not use polishing pastes on matt paints.
Never use fuel instead of solvent to clean the motorcycle.
Do not clean rubber or plastic parts or the seat with alcohol, petrol or solvents. Use only water and mild soap.
Always disconnect the battery negative (-) lead before soldering any electrical components.
When two or more persons service the same motorcycle together, special care must be taken to avoid personal injury.
For further warnings, see DANGEROUS ELEMENTS

BEFORE DISASSEMBLING ANY COMPONENTS

- Clean off all dirt, mud, and dust and clear any foreign objects from the vehicle before disassembling any components.
- Use the model-specific special tools where specified.

DISASSEMBLING THE COMPONENTS

- Never use pliers or similar tools to loosen and/or tighten nuts and bolts. Always use a suitable spanner.
- Mark the positions of all connections (hoses, wiring, etc.) before disconnecting them. Identify each connection using a distinctive symbol or convention.
- Mark each part clearly to avoid confusion when refitting.
- Thoroughly clean and wash any components you have removed using a detergent with low flash point.
- Mated parts should always be refitted together. These parts will have seated themselves against one another during running as a result of normal wear and tear and should never be mixed up with other similar parts when refitting.
- Certain components are matched-pair parts and should always be replaced as a set.
- Keep away from heat sources.