

# MITSUBISHI

## ENGINE 6G7 SERIES

### WORKSHOP MANUAL

#### FOREWORD

This Workshop Manual contains procedures for removal, disassembly, inspection, adjustment, reassembly and installation, etc. for service mechanics.

All information, illustrations and product descriptions contained in this manual are current as at the time of publication. We, however, reserve the right to make changes at any time without prior notice or obligation.

Engine <Up to 2001> ..... **11A**

Engine <From 2002> ..... **11B**

#### FILING INSTRUCTION

Please keep these manual pages in the binder No. BN940001.

File these pages according to the signs "Added", "Revised" and "Deleted" on the "List of effective pages" which are interpreted below.

**Added:** File the pages with this sign additionally in your manual.

**Revised. Deleted:** Replace the existing pages with the corresponding pages with this sign.

Missing sheets will be supplied upon request.

# HOW TO USE THIS MANUAL

## CONTENTS

The preceding page contains GROUP INDEX which lists the group title and group number.

## PAGE NUMBERS

All page numbers consist of three sets of digits separated by a dash. The digits preceding the dash identify the number of the group and the second digits identify the section. The digits following the dash represent the consecutive page number within the section. The page numbers can be found on the top left or right of each page.

## TEXT

Unless otherwise specified, each service procedure covers all models. Procedures covering specific models and identified by the model codes, destination or similar designation (engine type, transmission type, etc.)

## SERVICE PROCEDURES

The service steps are arranged in numerical order and attentions to be paid in performing vehicle service are described in detail in SERVICE POINTS.

Group title

Section title

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Section number

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ENGINE – Cylinder Head and Valves

11A-8-1

**8. CYLINDER HEAD AND VALVES**  
**REMOVAL AND INSTALLATION <12-VALVE ENGINE>**

Cold  
73 7.3 53

33 3.3 23

Denotes non-reusable parts

**Removal steps**  

→ A 1. Cylinder head bolt

→ B 2. Cylinder head, valve assembly

→ C 3. Cylinder head gasket

→ D 4. Retainer lock

→ E 5. Valve spring retainer

→ F 6. Valve spring

→ G 7. Valve spring seat

→ H 10. Retainer lock

→ I 11. Valve spring retainer

→ J 12. Valve spring

→ K 13. Valve spring seat

→ L 14. Exhaust valve

→ M 15. Valve stem seal

→ N 16. Intake valve guide

→ O 17. Exhaust valve guide

→ P 18. Intake valve seat (primary)

→ Q 19. Intake valve seat (secondary)

→ R 20. Exhaust valve seat

→ S 21. Cylinder head

→ T 10. Retainer lock

→ U 11. Valve spring retainer

→ V 12. Valve spring

→ W 13. Valve spring seat

→ X 14. Exhaust valve

→ Y 15. Valve stem seal

→ Z 16. Intake valve guide

→ AA 17. Exhaust valve guide

→ AB 18. Intake valve seat (primary)

→ AC 19. Intake valve seat (secondary)

→ AD 20. Exhaust valve seat

→ AE 21. Cylinder head

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1ENQ101

Issue date

Publication number – Revision code

This number shows the sequence of removal or disassembly. For installation or reassembly, reverse the removal or disassembly steps.

Operating procedures, cautions, etc. on removal, installation, disassembly and reassembly are described.

Denotes service point for removal or disassembly.

NOTE:

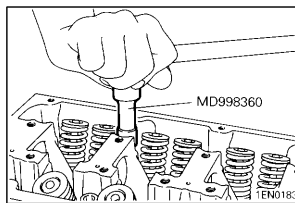
◀A▶ is used in 11A.  
▶A◀ is used in 11B.

Denotes service point for installation or disassembly.

NOTE:

▶A◀ is used in 11A.  
▶A◀ is used in 11B.

## ENGINE

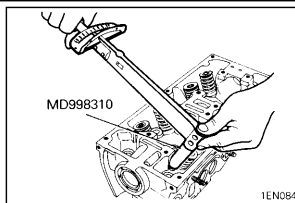


## Cylinder Head and Valves

11A-8-3

### SERVICE POINTS OF REMOVAL

#### ◀A▶ REMOVAL OF CYLINDER HEAD BOLT



#### ◀B▶ REMOVAL OF JET VALVE

- (1) When loosening a jet valve, hold the special tool securely so that it is not tilted with respect to the jet valve center line. Also avoid applying force abruptly.



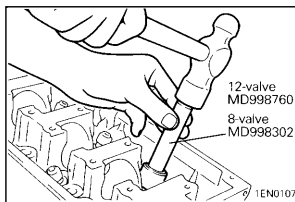
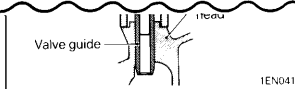
#### ◀C▶ REMOVAL OF RETAINER LOCK

- (1) Store removed valves, springs and other parts, tagged to indicate their cylinder No. and location for reassembly.

NOTE

The valve spring retainers of the 12-valve engine differ in size between the intake and exhaust sides. Therefore, use the following retainer holders.

- (4) After installing valve guides, insert new valves in them to check for sliding condition.
- (5) When valve guides have been replaced check for valve contact and correct valve seats as necessary.



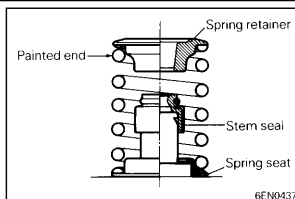
### SERVICE POINTS OF REASSEMBLY

#### ▶A◀ INSTALLATION OF VALVE STEM SEAL

- (1) Install the valve spring seat.
- (2) The special tool must be used to install the valve stem seal. Improper installation could result in oil leaking past the valve guide.

NOTE

The valve stem seal cannot be reused.



#### ▶B▶ INSTALLATION OF VALVE SPRING

- (1) Install the valve spring with the painted end on the rocker arm side.

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