

UPDATE CARD

REPAIR
INSTRUCTIONS

ENGINE OVERHAULING

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**THIS UPDATE
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INTRODUCTION

This manual shows the overhaul procedures for the engine groups taking it that these groups have already been removed from the vehicle and set on a suitable stand.

The title-page of the manual lists the codes of the engine given in the text.

The specific manual for the vehicle in question, Volume I - Group 00 - Technical data - Identification of models, should be consulted to rapidly identify the engine belonging to the various models of vehicle.

This chapter also gives the technical data relative to the engine.

How to use this manual

The aim of this manual is to supply the Alfa Romeo Service Personnel with a tool enabling them to rapidly identify faults and to render the corrective interventions precise and efficient.

The manual illustrates the procedures relative to the dismantling operations and checks for the various engine groups. The procedures are illustrated in detail as is the use of the tools required. Appropriate symbols and explanations next to the main technical drawings facilitate a rapid and complete consultation of the manual.

The procedures illustrate complete disassembly procedures for the components which should only be carried out in their entirety when strictly necessary. The "refitting" procedures are normally obtained by reversing the operations followed for removal and only those assembly procedures which are significantly different are given in full.

All the information given in this manual is accurate at the time of publication.

Alfa Romeo reserves the right to make any modifications to its products that it deems necessary without warning. However the technical information and updates to this manual will be supplied as soon as possible.

Symbology

A specific symbology has been used in this manual to permit a rapid identification of the main technical information supplied.

The list of symbols is given below.

	removal/disassembly		left-hand thread		exhaust
	refitting/re-assembly		Lubricate only with engine oil		engine r.p.m.
	tighten to the torque		ovalization		taper
	caulk nut		eccentricity		flatness
	adjustment/regulation		diameter		linear dimension
	visual check		parallelism		service with grease
	lubricate		heating temperature		seal
	weight difference		service with engine oil		grease
	angular value		CAUTION!		WARNING!
	pressure				
	temperature				
	brake system air purge				
	surfaces to be treated				
	interference				
	play				
	intake				

Warnings for the operator

All the operations must be carried out with the greatest care to prevent damage occurring to the vehicle or persons.

- The use of Alfa Romeo specific tools are indicated for some procedures. These tools must be used to ensure safety and to avoid damaging parts involved in the procedure.
- To free parts which are solidly stuck together, tap with an aluminium or lead mallet if the parts are of metal. Use a wooden or resin mallet for light alloy parts.
- When dismantling ensure parts are marked correctly if required.
- When refitting lubricate the parts, if necessary, to prevent seizing and binding during the initial period of operation.
- Using adhesive paper or clean rags cover those parts of the engine which, following disassembly, present openings which may allow dust or foreign material to enter.
- When refitting, the tightening torques and adjustment data must be respected.
- When substituting the main component(s) the seal rings, oil seals, flexible washers, safety plates, self-locking nuts and all worn parts must also be replaced.
- Avoid marking the internal coverings in the passenger compartment.

Substitution of groups or disconnected parts must be carried out using original spare parts only. Only in this way can the suitability and perfect operation of each organ be guaranteed.

- The words **CAUTION** and **WARNING** accompany those procedures where particular care should be taken to prevent damage occurring to people or vehicle parts.



CAUTION:
used when insufficient care could cause damage to people



WARNING:
used when insufficient care could cause damage to the vehicle or its component parts.

- The safety regulations applied to workshops should be respected. Where necessary the manual also lists the specific precautions to be taken to prevent dangerous situations from arising.



When using chemical products follow the safety indications given on the safety cards which the supplier is obliged to deliver to the user (in Italy in compliance with D.M. n.46/1992).

NOTE:

It is possible that for certain subjects were not completed in time for printing. However these subjects are given and highlighted in the indices of the single groups. It is the duty of the Technical Services to supply documentation regarding these subjects as soon as possible through updates or "Technical Bulletins".

