



Motorcycle Art

**F4** - 1000



MV AGUSTA F4 1000 S - S 1+1 - AGO - TAMBURINI

Workshop engine manual

# Workshop engine manual

MV AGUSTA F4 1000 S - S+1 - AGO - TAMBURINI

**F4**

**1000**

**MV AGUSTA**



## Statement

This manual, to be used by the MV Agusta authorised workshops has been realised with the purpose of assisting authorised personnel in maintenance and repairs operations of the motorcycle. The knowledge of technical data herein noted, determines the complete professional training of the technician.

With purpose of making the reading of this manual immediately comprehensible, the paragraphs have been aligned with detailed illustrations that highlight the argument dealt with.

## Useful advice

To prevent any problems and to reach an excellent final result, MV Agusta recommends keeping to the following guidelines:

- In the case of an eventual repair, evaluate the client's impressions who states that there is an abnormal functioning of the motorcycle and to formulate the right questions to clarify the symptoms of the problem.
- Clearly diagnose the cause of the abnormality. The basic fundamental theories can be absorbed by reading this manual that must necessarily be integrated to the personal experience and the participation of training courses that are periodically organised by MV Agusta.
- Rationally plan the repair to avoid slack periods, e.g. the collection of spare parts, the preparation of tools and equipment, etc.
- To reach the part to be repaired limiting the work to the essential operations. With regards to this, a valid help would be to consult this manual with regards to the sequences of removal demonstrated in this manual.

### Informative note

MV Agusta S.p.A. is committed to a policy of continuous improvement of their products. For this reason, there could be slight differences between that which is written here and the motorcycle on which repairs and/or maintenance are about to be carried out. MV Agusta models are exported to many countries where different norms in relation to the highway code and homologation procedures are valid. Hoping that you will comprehend these problems, MV Agusta S.p.A. reserves the right to make modifications to its products and technical documentation at any moment and without prior announcement.



### Respect and defend the environment

Everything that we do has repercussions on the entire planet and its resources.

MV Agusta, wanting to protect the interest of the people, would like to make the client and the technicians of the technical assistance centres aware and to adopt modalities of use of the motorcycle and the disposal of its parts in full respect of the norms in force in terms of environmental pollution, disposal and the recycling of waste.



# General Index

**GENERAL DESCRIPTION .....**

**A**

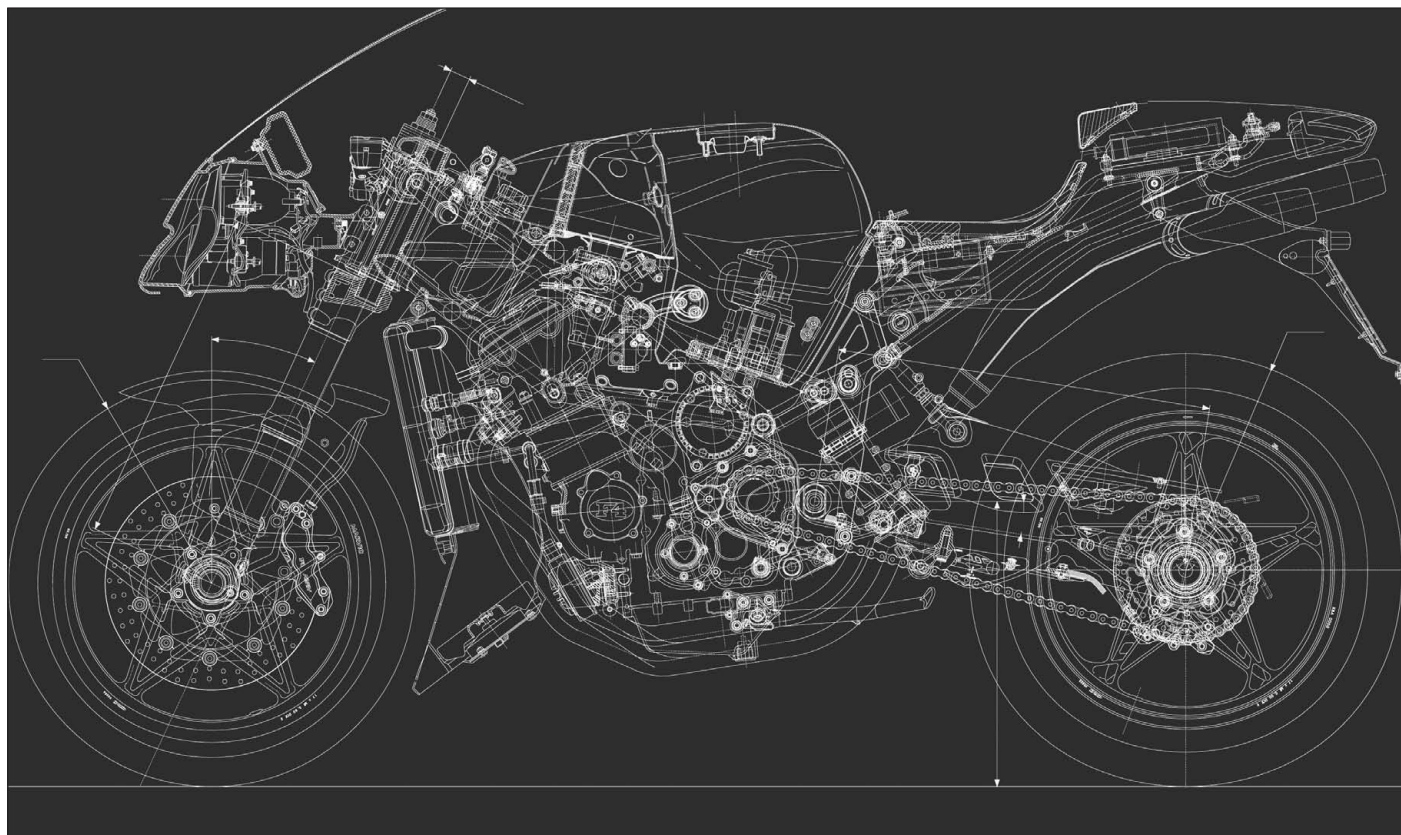
**F4 S - S1+1 - AGO - MT ENGINE .....**

**B**



## General description

A



**SECTION A**  
Revision 0



A

SUMMARY

HOW TO CONSULT THIS MANUAL .....	PAGE 3
THE PURPOSE OF THIS MANUAL .....	PAGE 3
GLOSSARY AND SYMBOLS .....	PAGE 4
RIGHT HAND AND LEFT HAND STANDARD .....	PAGE 6
SAFETY .....	PAGE 7
OBSERVATIONS .....	PAGE 9
INDEX .....	PAGE 9
OPERATIVE TECHNICAL SPECIFICATIONS .....	PAGE 10



## General description

### HOW TO CONSULT THIS MANUAL

#### Order of the subjects

This manual is divided into chapters that deal with the sub-groups of the motorcycle.

To quickly find the chapter required, the pages of each chapter are marked with a reference mark aligned to the relative item in the general index.



#### Display of the operations

The operations of disassembly, assembly, removal and control are presented with the help of illustrations (designs and photographs).

The illustrations contain symbols that indicate the procedure, special tools and other information. See the symbols lists for their significance.

The procedures are described step after step.

#### EXAMPLE

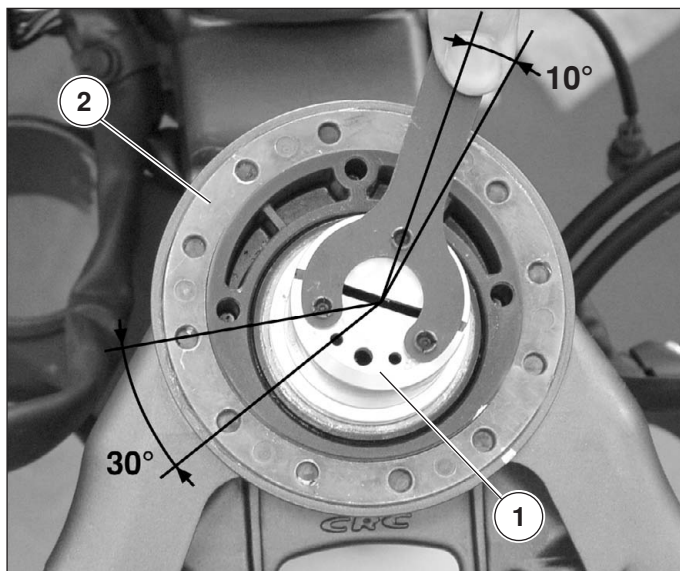
##### Steering pin tightening

Screw in the steering pin flange ring, without tightening.

**This operation must be done manually.**

Check that the steering base is at the end of its travel, to the right.

Using the special tool **N. 800091645**, tighten the ring (1) by rotating it  $10^\circ$  calculated approximately as one third of the movement between the two holes of the ring (2) of the steering head (see the figure).



### PURPOSE OF THE MANUAL

Principally, this manual has been written for MV Agusta dealers and qualified mechanics.

It is not possible to document all the knowledge necessary for a mechanic in a manual. Those who utilise it must have a basic knowledge of mechanical concepts and the inherent procedures in the techniques of repairing motorcycles. Without this knowledge, The maintenance and repair operations can render the motorcycle unsafe for use.

#### Updates

MV Agusta S.p.A. is committed to a policy of continuous updating of the models produced. The modifications and significant changes to the specifications and the procedures will be communicated to the official dealers and will appear in future editions of this manual.

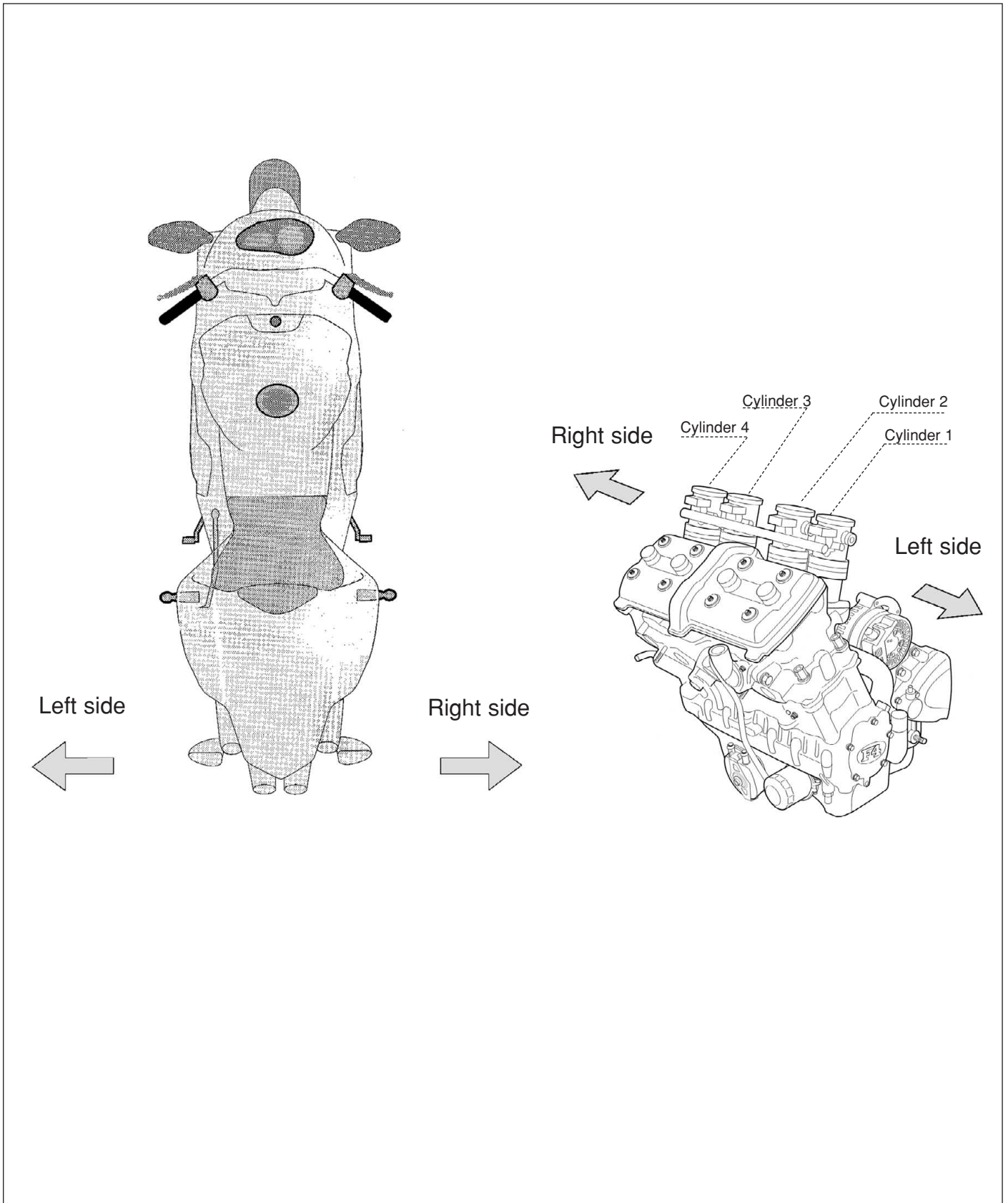
*All information, instructions and technical data included in this manual are based upon information on the product updated at the moment of going to print. MV Agusta S.p.A. reserves the right to carry out changes at any moment without prior notice and without incurring any obligation.*



## General description

### A RIGHT HAND AND LEFT HAND STANDARD

To clarify the right hand and left hand standard that is used in this manual, herewith below is a diagram of the motorcycle and the engine against which are indicated the right and left sides.







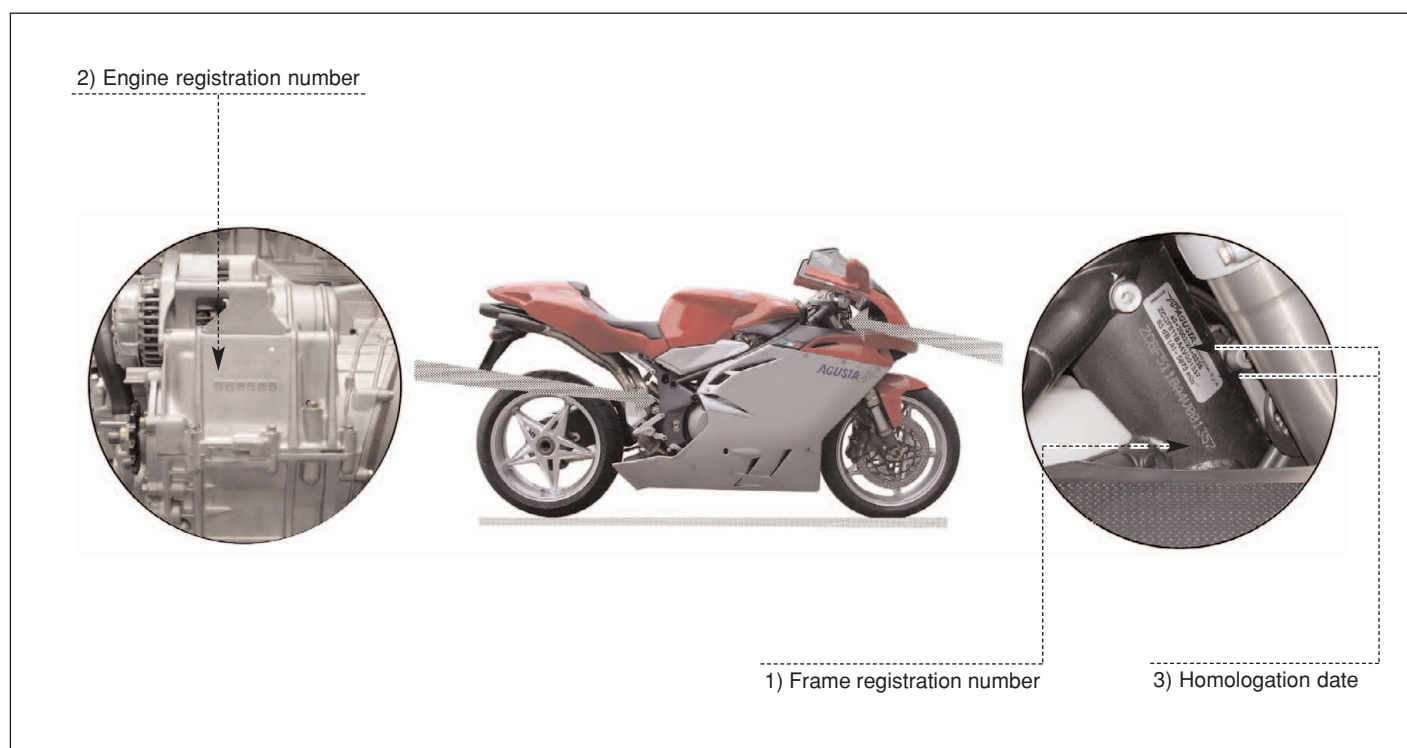
## General description

### A OPERATIVE TECHNICAL SPECIFICATIONS

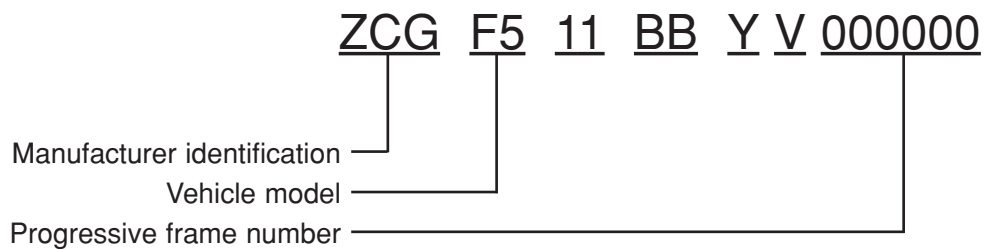
#### MOTORCYCLE IDENTIFICATION

The registration number of the motorcycle is stamped on the right side of the steering head.

The engine registration number is stamped on the upper engine casing, near the forks.



Below is an example of the designation of the frame registration number:





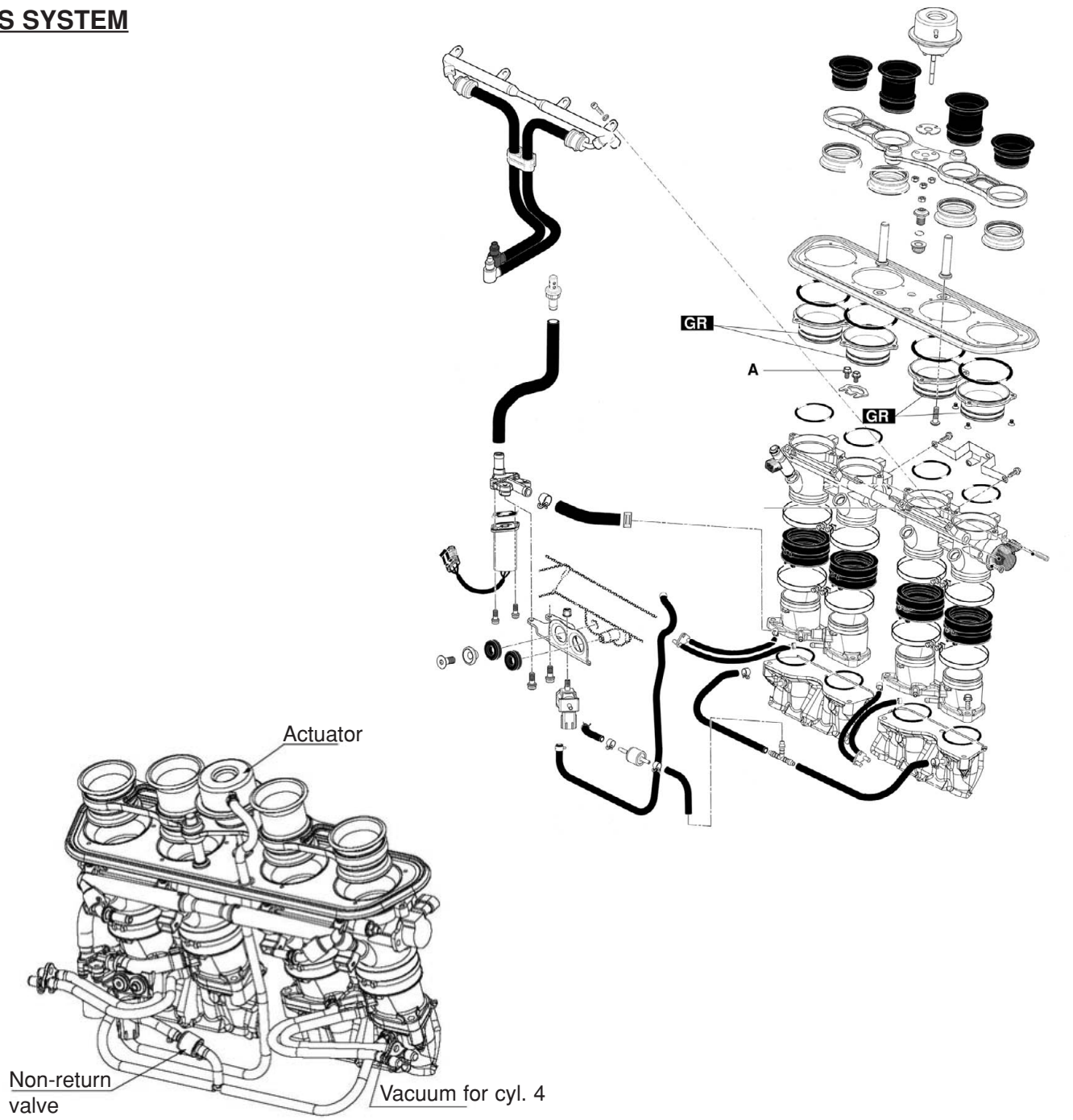
SUMMARY

<b>B</b>	TABLE OF CLAMPING TORQUES .....	PAGE	3
	TABLE OF MAINTENANCE .....	PAGE	5
	CO ADJUSTMENT .....	PAGE	13
	CYLINDER HEAD .....	PAGE	15
	TSS SYSTEM .....	PAGE	19
	DISTRIBUTION CONTROL UNITS.....	PAGE	25
	CYLINDER AND PISTON UNIT .....	PAGE	45
	CLUTCH .....	PAGE	51
	GEAR CHANGE AND GEAR CONTROL.....	PAGE	57
	ELECTRIC COMPONENTS .....	PAGE	64
	OIL PUMP .....	PAGE	66
	WATER PUMP.....	PAGE	68
	STARTING.....	PAGE	72
	BEDPLATE AND DRIVE SHAFT .....	PAGE	74



# Engine F4 1000 S - S1+1 - AGO - MT

## TSS SYSTEM



Tightening torque	A	B	C	D	E	F	G	H	I	L
	N·m	5-7								
Thread blockers										

<b>OIL</b>	Apply motor oil	<b>SS</b>	Apply silicone sealing
<b>NO OIL</b>	Do not apply neither oil nor other types of substances	<b>HSC</b>	Apply HSC Molikote
<b>GR</b>	Apply grease	<b>M</b>	Apply mastic for gaskets

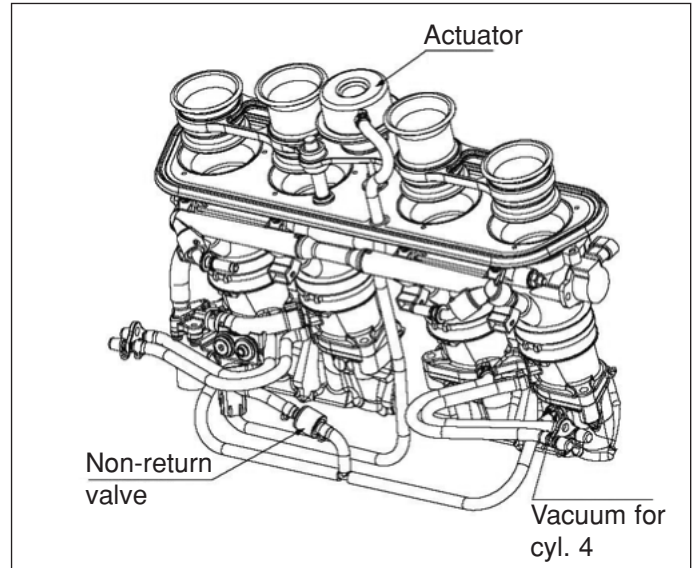


## TSS system

The TSS system installed on the MV Agusta F4 Massimo Tamburini makes it possible to change the geometry of the intake system, thus ensuring maximum performance at all engine speeds. The system can alter two fundamental parameters:

- The overall length of the intake manifold.
- The diameter of the intake manifold.

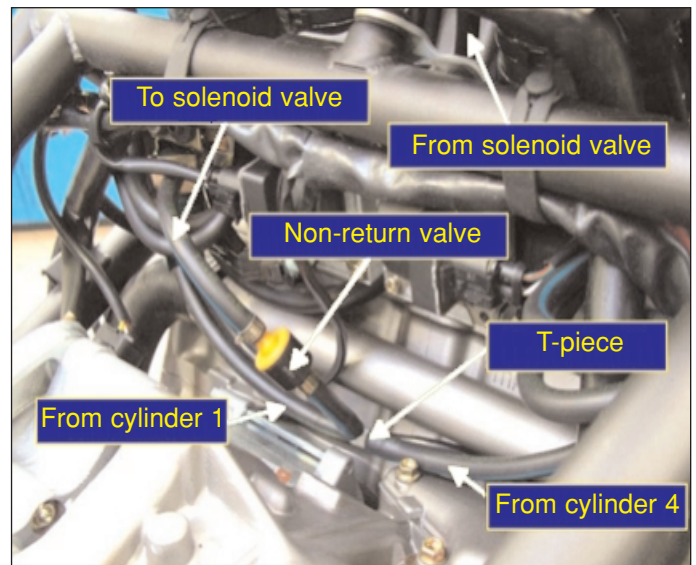
A pneumatic system governed by an electronic control unit allows the intake horns to be lifted and lowered. This makes it possible to increase the overall length of the intake manifold and to reduce its cross-sectional area, thus making for optimum performance at medium/low engine speeds. At high engine speeds the horns are moved away from the throttled body, making the intake manifold considerably shorter and leaving the largest cross-sectional area open so as to second the breathing requirements of the engine.



The following is a description of the procedure used for the fitting, which requires much more attention than the removal.

The TSS system requires no maintenance. It is however advisable to check its operation by following these steps:

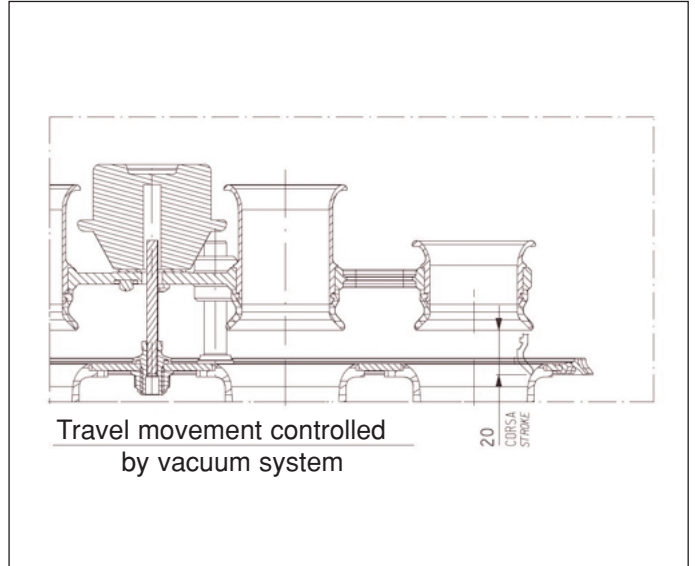
- Remove the airbox.
- Start the engine and let it idle for a few seconds. Rev up the engine to 5000 rpm a couple of times; the horns should come into contact with the throttled body.
- Turn off the engine.
- Check that the horns remain in contact with the throttled body for at least 20 seconds after the engine has stopped.



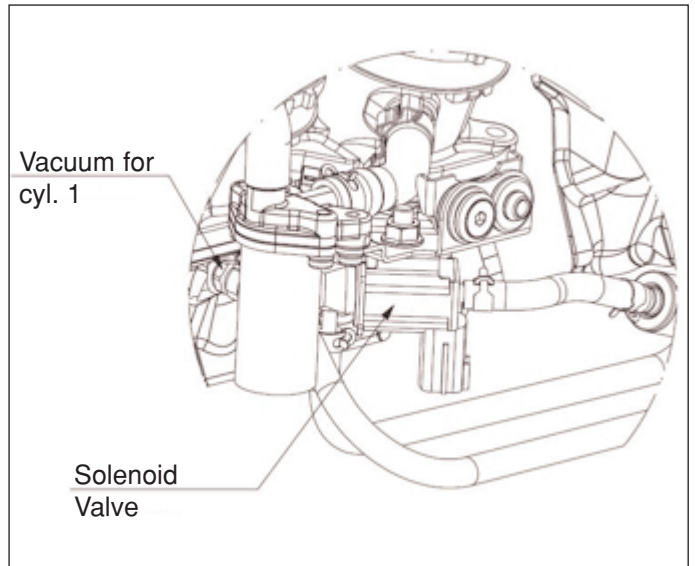


## Engine F4 1000 S - S1+1 - AGO - MT

**WARNING:** If the horns move to the farthest position before 20 seconds, or if they do not come into contact with the throttled body, check the seal of the vacuum movement system.



### Detail of the vacuum system control valve



Position the TSS system retaining plates and manually turn in the M5 screws until they come into contact with the plate.

