

GE609

“the end of the Biturbo gremlins”

A “plug and play” replacement for fused relays Italamec 218, Italamec 609, or equivalent.
Compatible with all and only the 5 pins relays with integrated fuse and Italamec type pinout.

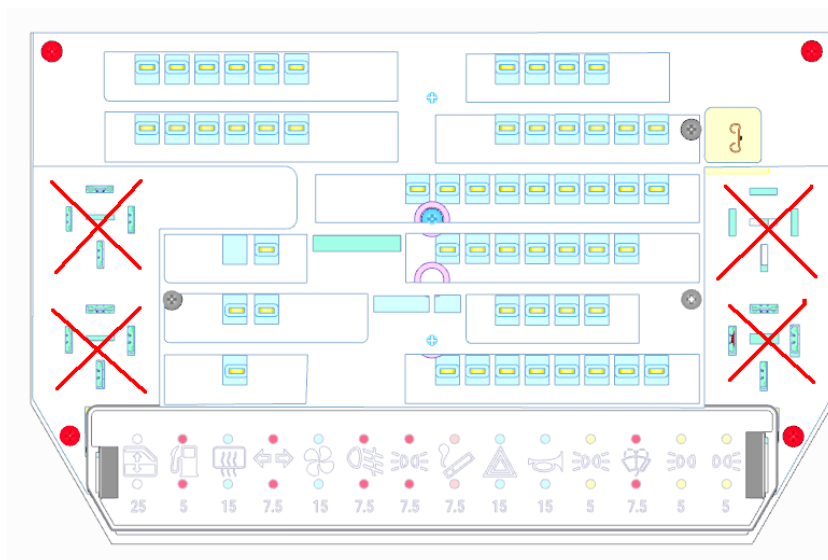


Replaces Maserati parts n. 313320135 / 313320106 / 313353106

User manual

WARNING: DO NOT USE ON THE BITURBOX FUSE BOX

USE ONLY TO REPLACE FUSED RELAYS ACCORDING TO THE INSTRUCTIONS



Foreword

Dear Customer,

With the successful development of the 'Biturbox' fuse box, which greatly improved the reliability of many Biturbo models, we have focused our attention on another critical component of our cars: the relays with integrated fuses, mostly manufactured by Italamec.

As the availability of new parts dwindled, finding suitable replacements for these relays became an impossible mission. We are therefore proud to introduce the custom designed GE609 relay. It is our sincere hope that this new offering will further enhance the overall reliability of our vehicles.

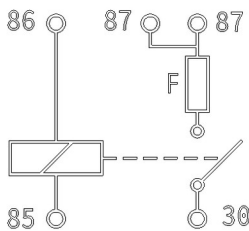
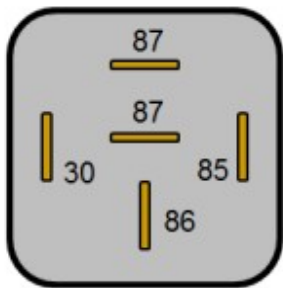
Ing. Maurizio Ferrari, Galileo Engineering

Contents

Description	Quantity
Relay GE609	1
Fuse cover	1
30A fuse	1
Metal bracket	1

Automotive temperature range -40°C / +125°C.

Compatible with all relays with integrated fuses whose pinout follows the following diagram.



GE609 was not tested on any animals, unsurprisingly. No Maserati cars were damaged during testing, either.

What is the GE609 relay

The GE609 relay serves as a versatile replacement for both the Italamec 218 (torpedo fuse) and Italamec 609 (blade fuse) fused relays. Additionally, please be aware that there may have been similar units produced by smaller companies over the years. Italamec was the preferred OEM choice for Maserati, reaffirming its reliability and quality.

When replacing a relay of the 218 type with a 'torpedo' fuse with a GE609 relay, you may need to make a slight adjustment by increasing the fuse value by one 'notch,' so to speak. Blade fuses are more precise and reliable than torpedo units. For instance, a 5A "torpedo" fuse can endure a current of 10A for at least 60 seconds, whereas a 7.5A blade fuse can handle a current of 10A for a duration ranging from 3 to 10 seconds. In simpler terms, blade fuses operate within a narrower time/current 'window,' ensuring greater dependability and precision.

In any case, always begin with fuse values as specified in your vehicle's owner's manual. These values are generally suitable, with only rare exceptions. Your safety and your vehicle's performance are our top priorities.

If you have already upgraded to our Biturbox fuse box, you are likely familiar with the advantages it offers. If you have not made the switch yet, we strongly recommend considering it.

This relay must NOT be used to replace the original relays found on the Biturbox itself. Use ONLY to replace fused relays with compatible pinout as explained on page 5 of this manual.

Warranty

Please carefully review the following Terms and Conditions of Sale before making a purchase:

The GE609 fused relay faithfully replicates the original circuit diagram of the fused relays found in many Biturbo models, while integrating state-of-the-art automotive relay technology.

It's important to note that this product is intended for installation in historic vehicles, which may have experienced alterations or aging of their electrical systems over time, in unpredictable ways. We strongly urge you to exercise utmost diligence in ensuring that the wiring related to the relay to be replaced has not been modified over the years.

Consequently, the GE609 relay is covered by a two-year warranty against product defects exclusively. We assure the quality of its construction, but the responsibility for its correct installation and application within the vehicle's system rests solely with the buyer.

In the event of a complaint, it may be necessary to return the component for a technical evaluation on our part. If a manufacturing defect is confirmed, we guarantee the replacement of the relay only.

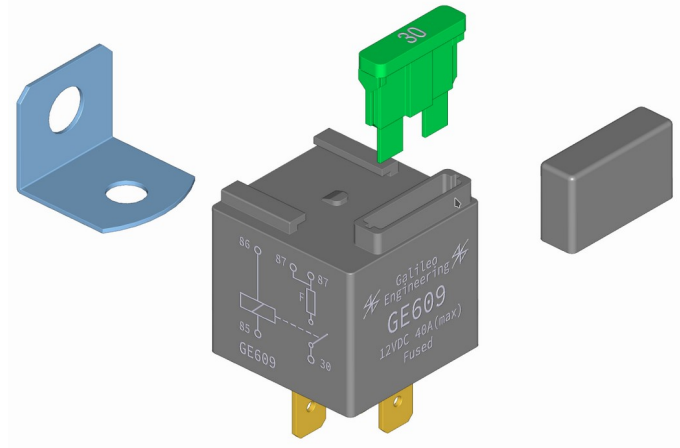
It is understood that under no circumstances shall the liability of Galileo Engineering exceed the value of the component. Galileo Engineering shall not be held accountable for any consequential damages.

Please proceed with your purchase only if you agree to these Terms and Conditions.

Before you start

Please ensure that your package includes the following items:

- 1 GE609 relay
- 1 complimentary 30A fuse
- 1 fuse cover
- 1 metal bracket



If any of the items listed above are missing from your package, please do not hesitate to contact us for assistance. Additionally, we recommend checking the latest version of the manual for any updates or important information related to your GE609 relay installation.

Before installation

Please pay attention to the following



Disconnect the negative wire of the battery before attempting any work on your car. Do not reconnect it until all work is done and verified.

May the Force not be with you!



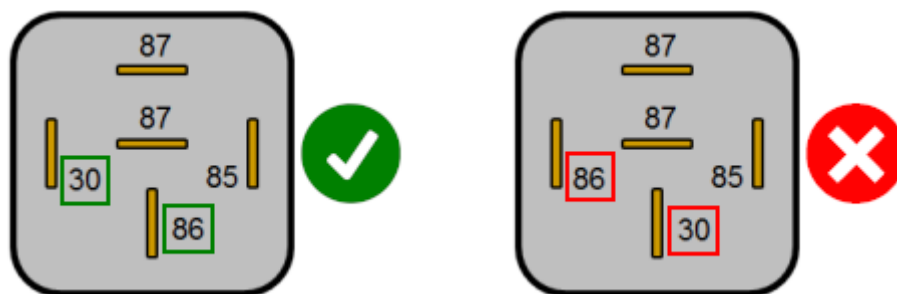
I'm no Jedi, and trust me, I haven't discovered any hidden powers either. In fact, every time I've tried to use the 'force' during a repair, something broke, or I ended up with a few bumps and bruises. When it comes to installing the GE609 relay you won't need any mystical powers. So, if you ever feel the urge to exert some 'force,' unless your name happens to be Skywalker, it's probably a good idea to pause and assess the situation. There's a good chance you'll find a less dramatic and more effective solution!

Installation

The GE609 relay includes a complimentary 30A fuse. Before installation, please consult your vehicle's manual to determine the correct fuse value for the relay you are replacing. If necessary, remove the protective cap and replace the 30A fuse with one of the same value as specified in your vehicle's manual.

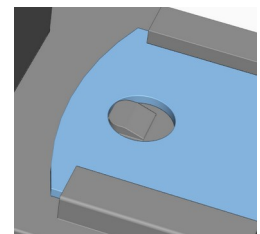
To proceed with the installation, follow these steps:

1. **Fuse Verification:** The GE609 relay includes a 30A complimentary fuse. Before installation, refer to your vehicle's manual to determine the correct fuse value for the relay you are replacing. If needed, remove the protective cap on the relay and replace the 30A fuse with one of the same value as specified in your vehicle's manual.
1. **Old Relay Removal:** Carefully remove the old relay from its current position.
2. **Pinout Compatibility Check:** Examine the pin configuration of the removed relay from the side with the pins. Note the numbers identifying each pin. Ensure that they correspond to the following diagram:



This step is crucial to confirm that the GE609 relay will function correctly in your vehicle's electrical system.

3. **Female Faston Inspection:** After removing the old relay, it is recommended to inspect the condition of the female fastons into which the GE609 relay will be inserted. Specifically, check for any signs of burns or short circuits.
4. **Optional Fixing Bracket:** The use of the fixing bracket is optional. If required, insert it into the appropriate guides until the retaining hook fully enters the hole in the bracket.
5. **Relay Insertion:** Insert the GE609 relay into its designated position, ensuring a secure fit.
6. **Fuse Protection:** Cover the fuse with the provided cap to protect it.



Testing

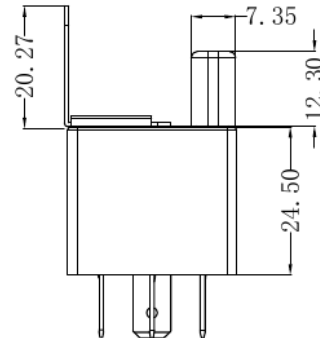
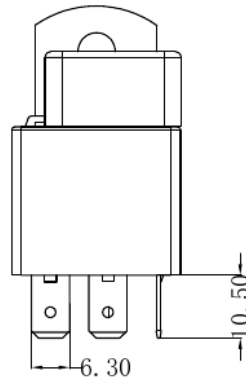
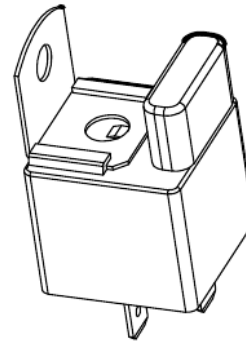
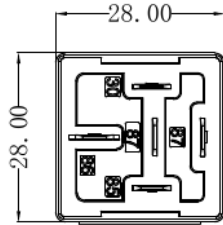
1. **Reconnect the Battery's Negative (Ground):** Begin by carefully reconnecting the negative (ground) terminal of your vehicle's battery. Ensure a secure connection.
2. **Functional Verification:** Once the battery is reconnected, verify that any device or system attached to the newly installed GE609 relay functions as expected. Test the relevant components or functions to ensure they operate correctly.

This testing phase is essential to confirm that the GE609 relay is properly installed and functioning as intended. If you encounter any issues or irregularities during this testing process, please consult your vehicle's manual or seek professional assistance to address any potential concerns.

Troubleshooting

Replacing the relay is typically a straightforward task, and if you've followed the instructions thus far, it should generally proceed without any issues. However, if the component or function corresponding to the relay doesn't activate as expected, please consider the following troubleshooting steps:

1. **Battery Reconnection:** Double-check that you have properly reconnected the vehicle's battery. A loose or disconnected battery connection can prevent the relay from functioning correctly.
2. **Fuse Condition:** Inspect the fuse associated with the relay. If the fuse is damaged or blown, replace it with one of the correct value as specified in your vehicle's manual, and then retest the component or function.
3. **Fuse Repeatedly Blowing:** If you've replaced the fuse once and notice that it blows immediately again, carefully investigate whether the service protected by the fuse has experienced a short circuit. Never replace the fuse with anything that compromises its protective function, such as a wire or a nail.
4. **Upgrading Fuse Rating:** If the fuse blows after some time following the relay's activation, consider using a slightly higher-rated fuse than the one initially installed. However, only attempt this if you are knowledgeable about Ohm's law. If you are unsure about this, it's advisable to consult an auto electrician before making any alterations to the electrical system. Make sure the auto electrician of your choice knows Ohm's law, too.
5. **Pinout Compatibility:** Ensure that the old relay had a compatible pinout and was of the same type as the GE609. This compatibility is essential for the proper functioning of the relay.
6. **Relay Testing:** If you suspect that the GE609 relay is the issue, follow these steps to test it:
 - Using a 9V battery, connect the positive and negative poles to pins marked 85 and 86 (polarity doesn't matter). You should hear the relay 'click' when it's energized.
 - As an additional test, measure the electrical resistance between pins 87 and 30. When the relay is energized, there should be continuity between these pins.



Technical specifications	
Nominal Voltage	12V DC
Min Operating Voltage	8V DC
Release Voltage	1.2V DC
Coil resistance	80Ω +/- 10%
Temperature range	-40°C / +125°C
Max Current	40A
Operating Life	100000 cycles

Need help? Press the large friendly orange button



and contact us at this address:

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The paper box that contained your GE609 may be recycled as paper. Keep this manual for future reference.