

Assemblyinstructions compressor kit M113





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1. Reference to exploded views and parts lists

These installation instructions are completed by the exploded views and parts lists. This can be found here:

<https://gp-infinitas.com/downloads/>

Familiarize yourself with the parts lists and exploded views of the kit's parts scope, and check for completeness at the same time.

2. Notes before the conversion

Please be sure to follow the installation instructions and the specified tightening torques. Always pay attention to cleanliness and order when working on the engine.

It is advisable to read through the installation documentation in its entirety first.

In some cases, the conversion work is described using the vehicle C215 as an example. Other vehicles differ from this in detail. All significant differences are described in these instructions.

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3. Guide values for tightening torques

These tightening torques apply to all bolted joints with bolts of property class 8.8., except for bolted joints with special torque specifications..

Standard values for metric ISO - standard thread

M5	6 Nm / 4,4 Lb.ft
M6	10 Nm / 7,4 Lb.ft
M8	25 Nm / 18,4 Lb.ft
M10	49 Nm / 36,1 Lb.ft
M12	86 Nm / 63,4 Lb.ft
ASA oil inlet screw compressor M10x1	14 Nm / 10,3 Lb.ft
Hose clamp Width 9 mm	3 Nm / 2,2 Lb.ft
Hose clamp Width 12 mm	6 Nm / 4,4 Lb.ft

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4. Software customization

It is essential to read out the map and send it to at support@gp-infinitas.com before starting the conversion. We usually need two working days to process the map.

The software adjustment is done via the Genius Tool, here there are two different diagnosis sockets. The assignment of the Flash cable should be done when ordering.

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Instruction Genius Tool

Installation Software & Preparation

1. If necessary, download the installation software for the Genius Tool from this link <https://tinyurl.com/MyGeniusClient> to your laptop / PC and carry out the installation according to the instructions.
2. After the initial installation, the Genius Tool MUST be connected to a laptop / PC for an update.
3. Connect the Genius Tool to the PC and wait for your operating system to automatically detect the device.

After the update is complete, the client software and Genius Tool are ready to use.

Checklist before the start

Work through this checklist and only start work on the vehicle if the list has been completed in full.

Work through this checklist and start working on the car only when the list is complete.

- Vehicle connected to a charger
- Seat belt locked in buckle
- Ignition is activated. **CAUTION:** Do not start the vehicle.
- Disable additional display (or other devices, that access the CAN)en

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Vehiclesoftware readout

1. Connect the OBDII cable to the Genius Tool and to the vehicle's diagnostic socket. On the Genius Tool, the "**WORK**" menu appears, confirm with "**Select**" and start the automatic detection procedure. Do not disconnect the OBDII cable from the OBDII socket during reading / writing.
2. The tool has identified the correct protocol for the vehicle. Confirm and again Select WORK .
3. In the "**WORK**" menu, go to "**READ**" or "**ID**" and follow the instructions of the Genius Tool.
4. After the ECU readout is complete, disconnect the OBDII cable from the vehicle.

File Download to PC

1. Connect the Genius tool to the laptop / PC using the USB cable included in the kit,
launch the client software and click on the "**DOWNLOAD**" button.
2. The read vehicle data is then transferred from the Genius Tool to the laptop / PC, following the instructions for saving the file.
3. Then send the file saved on the laptop / PC by e-mail to support@gp-infinitas.com.

File upload to Genius Tool

1. After receiving the performance software programmed by Infinitas by e-mail, save this modified file on the laptop / PC.
2. Connect the with the USB cable included in the kit to the laptop / PC, start the client software and click on the button "**UPLOAD**".
3. The Performance Software File will then be transferred from the laptop / PC to the Genius Tool, following the instructions to save the file.
4. After uploading, close the client software and disconnect the Genius Tool from the laptop/PC. It is now ready, to transfer the performance software to your vehicle.



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File upload to engine control unit

1. Connect the OBDII cable to the Genius Tool and to the vehicle's diagnostic jack. Click "**WORK**" and follow the Genius Tool instructions.
2. Do not disconnect the OBDII cable from the OBDII jack while reading/writing.
3. After Genius Tool has finished installing the performance software, please confirm the process with "**OK**" and exit the menu. Then disconnect the OBDII cable from the vehicle and start the vehicle. The vehicle is now performance enhanced.

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5. Conversion preparation

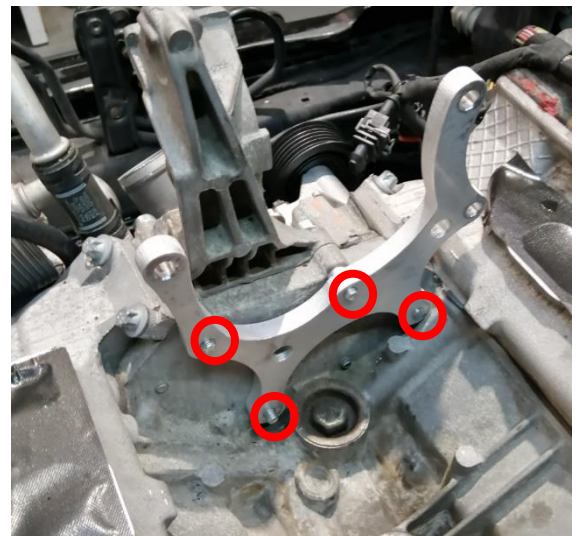
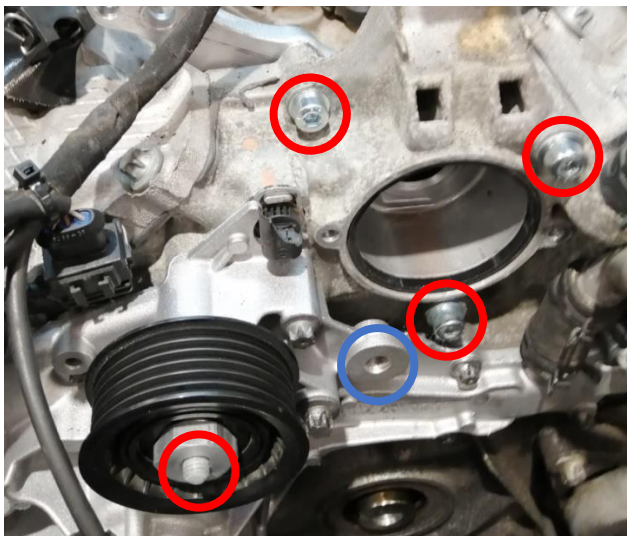
- Dismantle engine cover and air filter
- Dismantle fan, then protect cooler from damage
 - On vehicles with electric fans, note that one or two screws hold the fan frame at the bottom, depending on the model.
 - On vehicles with viscous fan loosen the viscous coupling with a special tool. Here is a normal right-hand thread installed, so turn counterclockwise to loosen.
- Drain cooling water
- Dismantle V-belt
- Dismantle the motor wiring harness cover, this is not applicable.
- Loosen motor wiring harness to a large extent
- EV - Ignition coils -...
- Dismantle secondary air pump
- Dismantle intake manifold
- Dismantle thermostat
- If necessary, dismantle. cooler
- Dismantle crankshaft pulley



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6. Installation belt drive and oil supply compressor

Mounting the base plate



- For the red marked 5 screws the threads from the original engine block must be drilled out. Use a 8,5mm drill bit for this.
- Cut a M10 thread in the blue marked hole, Do not forget the core hole.
- Attach base plate with all screws
 - Make sure that the threaded rod of the pulley protrudes approx. 1mm above the base plate.
- Push the base plate to the left (in the direction of travel) before final tightening.

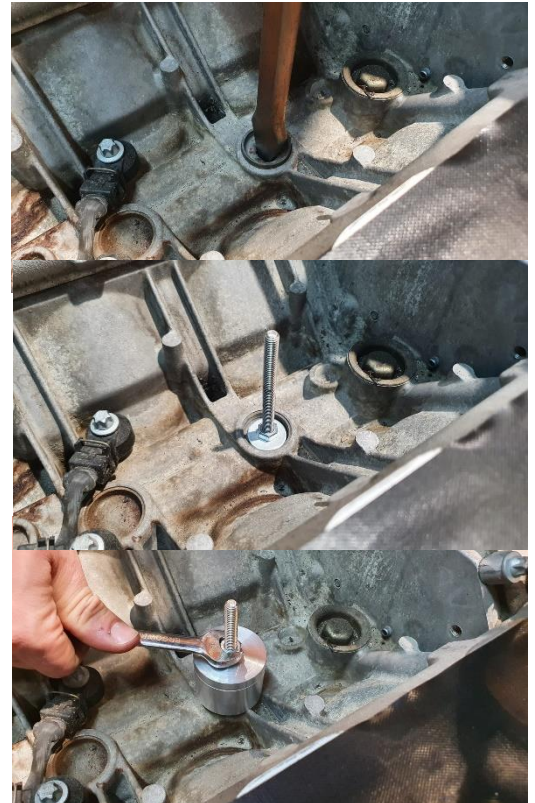
- Grind down the screw-on points of the thermostat. (left before, right after)
- Mount thermostat with sheet metal holder, but only tighten with reduced torque and secure with Loctite, as the sheet metal holder bends from approx. 8 Nm.



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Oil return

- The front plug in the V must be removed. For this purpose, carefully hammer in an 8 mm wide chisel transversely.
- Thread in the ground screw and turn it by 90 °
- 3xD Washerthread onto bolt and tighten with nut
- Thread the bushing over the screw
- By unscrewing another nut, remove the screw with plug from the engine block.



Oil inlet

- Loosen the sealing plug on the oil filter module
- Screw in oil inlet hose with banjo bolt and aluminium sealing rings instead of sealing plugs
- **Secure oil supply hose with a cable tie on the coolant pipe, here there is a risk of collision with the V-belt. After fitting the V-belt, be sure to check the distance again.**

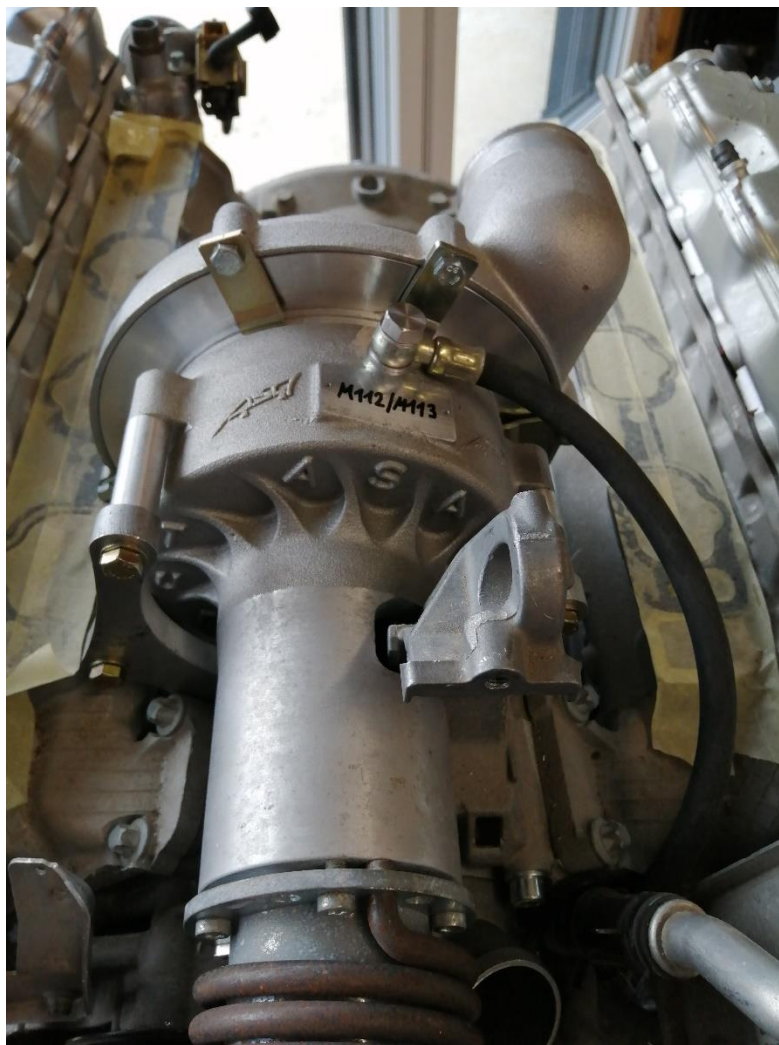


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Kompressor assembly

- Remove protective bag over oil return
- Grease the O-ring on the oil return connection.
- Cabletree to the back
- Threading the compressor
 - Pay attention to the O-ring of the oil return connection, it is easily jammed, if not otherwise possible help with a screwdriver.
Crushed O-rings should be replaced.
- Place the screws on the base plate with spacer sleeves, pay attention to the threadn, only tighten when all are in place .
- With the one on the left (in driving direction) the holder for the intake manifold switching valve is screwed on.
- Screw the front support to the water pump. Ensure that the assembly is stress-free.
- Screw on oil inlet hose (14Nm)

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- Install machined crankshaft pulley with spacer and compressor drive pulley.
- Install compressor pulley.
- Fit the V-belt. Do not tension at the tensioning pulley, but with a 32 mm wrench as shown in the following picture.

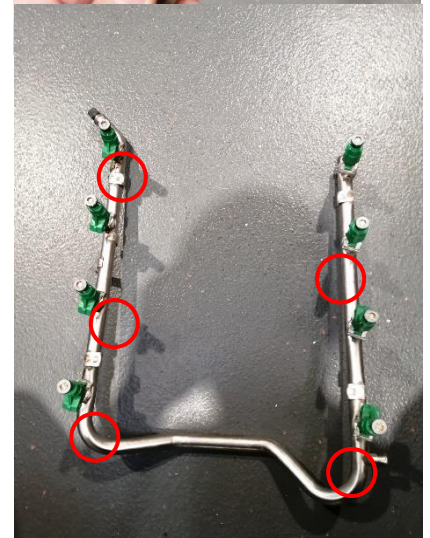
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7. installation air duct

- Fit intake manifolds with original gasket.
- Position and tighten the middle 3 screws.
 - Lift suction pipes slightly, to get better access to the screw heads .
- Install secondary air valves with original seals.
- Degrease throttle valve flange and apply engine sealant to .
- Degrease the throttle valve and screw it to the throttle valve flange with the original screws.
- Screw the throttle valve flange at the rear to the intake manifolds.
- Connect KGE, distance between flange and throttle valve could be a little too large, but is mountable and tight.
- Connect standard vacuum lines to throttle body flange.
 - The secondary air valves must also be connected here, as there is usually overpressure in the intake manifolds now.
- Cut EGR connecting piece to size and screw to throttle valve flange with original seal..
- Mount connecting tube between compressor and throttle valve flange.
- Mount Y-pipe.
- Carefully bend the tabs on the injection bar upwards.
- Mount the injection bar.
- Assemble wiring harness.
- Install the air filter. In the case of transversely installed air filters, cut out the air filter boxes and seal them with the plates supplied..
- Cut out the belt pulley from the engine cover.



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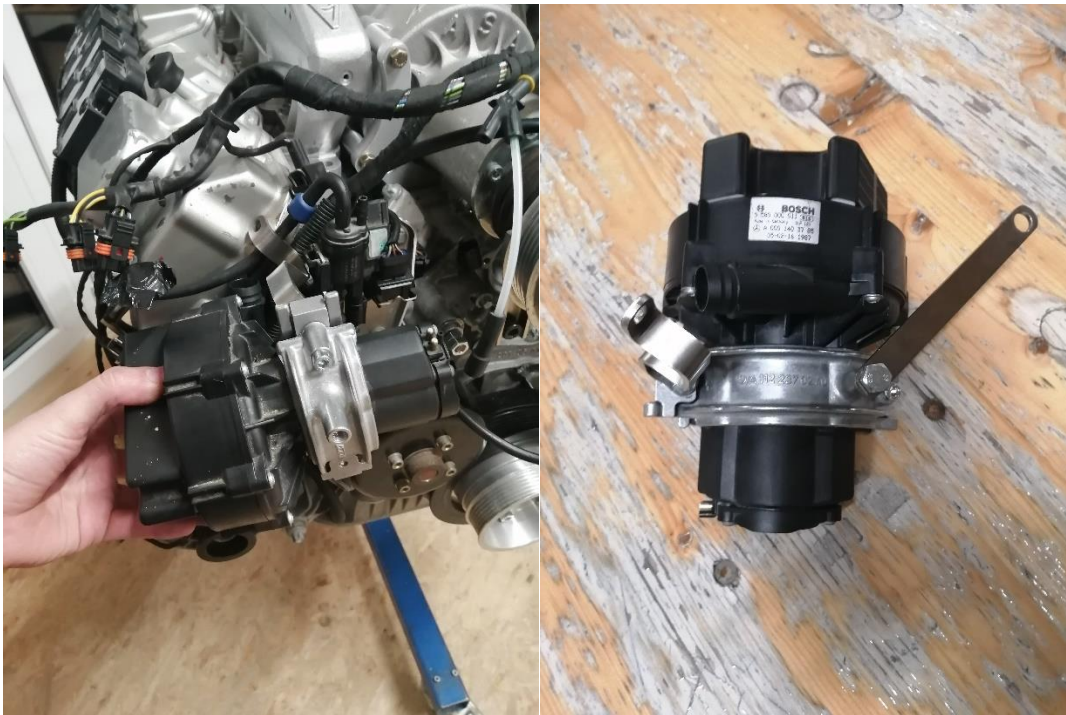
8. Coolant hose also relocate



- Cut out coolant breather line and install supplied adapter so that the belt pulley is free.
- When routing the vent line, make sure that it does not chafe anywhere.

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9. Relocate secondary air pump



- Mount the secondary air pump between the valve cover and the alternator using the bracket supplied.
- Reconnect with hose and elbows

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10. Fuel pressure boost

For vehicles with fuel pump on the underbody (W159/202/203/210/..)



- Clamp the pressure regulator in the return line from the fuel filter to the tank.
- Do not apply vacuum or pressure to the regulator. Only install a siphon to prevent the regulator from rusting and then adjust the pressure regulator to 5.5 bar fuel pressure with the engine running.
- Set fuel pressure with engine running to 5,5 bar
 - Unscrew cap nut
 - Loosen lock nut
 - Turn the adjusting screw a quarter turn clockwise.
 - Tighten the lock nut again
 - Start engine and measure fuel pressure
 - Repeat until 5,5 bar fuel pressure is present.
 - Screw the cap nut back on
 - Check again under load, if necessary repeat procedure
- Replace fuel pump with supplied fuel pump.
- Check all hoses for condition, replace severely porous hoses..



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For vehicles with Intank pumps (W203/209/W211/...)

- Remove the fuel filter and replace the original pressure can with the 5 bar pressure can supply. Make sure that the pressure can is securely and tightly mounted, otherwise there is a risk that the fuel pressure collapses.
- Remove fuel pump and replace with supplied pump.
- Detailed instructions follow.

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11. notes after the conversion

After the vehicle has been converted, the engine can be started. Delayed starting of the engine is caused by the work on the fuel system and disappears by itself. In the event of uneven engine running, leaks or other abnormalities, switch off the engine and rectify the cause.

A slight rattling of the compressor at idle is normal, if no centrifugal clutch was mounted, it is the tooth backlash that is stimulated by the vibrations of the engine to rattle. There are also videos about this on YouTube. Depending on the gear pairing and engine oil, the noise can vary greatly.

To check after the conversion, work through this checklist.

Components:

- | | |
|--|--|
| 1. Check belt drive, belt correctly fitted | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 2. Abrasion belt / belt drive detectable | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 3. Does the belt tensioner have enough tensioning travel | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 4. Oil line free of belt drive | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 5. Engine control unit infinitas Software flashed | <input type="checkbox"/> yes <input type="checkbox"/> no |

Operating fluids:

- | | |
|--|--|
| 6. Engine oil level checked | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 7. Leakage under vehicle | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 8. Leakage at oil supply of compressor | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 9. Leak in fuel supply line | <input type="checkbox"/> yes <input type="checkbox"/> no |

Other:

- | | |
|--|--|
| 10. Headlamp adjusted or checked | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 11. Error memory and adaptations checked and deleted | <input type="checkbox"/> yes <input type="checkbox"/> no |
| Sticker attached | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 12. Maintenance note created | <input type="checkbox"/> yes <input type="checkbox"/> no |

For trouble-free operation, observe the maintenance instructions for SK+ systems.

If you have any questions or problems please email support@gp-infinitas.com or phone 08252-90986-0.