

GABRIEL SUSPENSION TESTER

QUESTIONS & ANSWERS



Q: Is the Gabriel Suspension Tester easy to use and maintenance friendly?

A: This market leading equipment is designed to be hassle free and maintenance easy, however with all testing equipment some basic maintenance checks will be needed as well as a required routine calibration (12 monthly or when the equipment is moved). Regarding using the software interface, Gabriel South Africa have spent a great deal of time ensuring that the software is compliant to the local car park and user. Incorporating customised software installations, vehicle drop downs, automated part number selection and clear visual indicators, the progress of testing a vehicle is made as simple as possible. Also with the support of our development partners, specific customer requests in regards to reports and further development may be considered.

Q: I see that the testing equipment does not come with computers and printers why?

A: To reduce supply costs, Gabriel South Africa believe that you will be able to either use an existing computer and printer or purchase the items locally with a support contract much cheaper than if supplied through Gabriel.

Minimum PC Requirements

- OS: Win XP Pro or Win 7 (32 bits)
- Processor 1,6 GHz
- 2 Gig RAM DDR2
- 1 port PS2 mouse and 1 port PS2 keyboard and 3 USB ports or 5 ports USB 2.0 at back
- Video definition : 1024x768 (16M colours)
- 1 port RJ45 if network connection
- HDD 160 Go 7200 rpm
- Dimension: A4 (mini-PC) to fit it in the cabinet

Screen Requirements - Compatible with the video definition of the PC

Printer Requirements - Standard model, colour printer, no particular specification

Notes - We recommend using a power regulator to protect the computer equipment however please note that the Pit Version is delivered with a power regulator installed inside the cabinet.

No consequence to the warranty of the Suspension Testers if a power regulator is used. Otherwise, the electronic parts will be excluded from the warranty.

Q: If I decided on the “above the ground version”, will the Gabriel Suspension Tester move when vehicles drive on and off it?

A: With the exception of the “in the ground version” the equipment is designed in such a way to not be fixed to the ground and this design will allow you to decide on the most optimum location within your business. Normally though, owners who have decided on the location or intend to leave it in the same place for extended periods of time, will secure it or recess it into the floor.

Q: You have stated that the Gabriel Suspension Tester can be recessed into the ground?

A: Yes, We understand that once you have decided on the optimum location within your outlet you may wish to make the unit a more permanent addition while not incurring the expense of changing to an “in the ground” version. In this regard the machine has the ability to be recessed into the ground which will allow you to remove the ramps and have the testing pads in line with the floor.



TESTIMONIALS

"The Gabriel Suspension Tester is by far the most credible I have seen and the most user friendly. It proved without a doubt that we can increase shock sales by at least 20% and we will be rolling this out into branch network"
– **George Koffinas** Fitment Centre Owner – Cape Town

"Since implementing the Gabriel Suspension Tester, we have seen a dramatic change in our business and also our approach to selling suspension products. The complete solution is by far the best we have ever seen (World Class) and it is like having a Gabriel technician onsite 24/7. The reports available not only allow me total visibility on vehicles and customers entering into my company, but also the specifically designed customer reports immediately assisted in my sales staff to sell more product when normally we would have not"
– **Nazir Tayob** Fitment Owner – Malas Lifestyle Centre, Pretoria

THE 8 SIGNS OF WORN SHOCKS:



STEERING
WHEEL
VIBRATES



BALD
PATCHES
ON TYRES



CAR NOSE-
DIVES WHEN
BRAKING



CAR VEERS
EXCESSIVELY
IN SIDE WINDS



CAR DOES NOT
HUG THE ROAD
ON BENDS



OIL SEEPS FROM
YOUR SHOCK
ABSORBERS



EXCESSIVE
BOUNCE ON
ROUGH SURFACES



DENTED OR
DAMAGED
HOUSING

DISCLAIMERS

IN VIEW OF THE CONSUMER PROTECTION ACT, THE CUSTOMER MUST BE MADE AWARE OF THE FOLLOWING:

- Test results are only an indication of the state of the shock absorber performance.
- SUV/pick-up/4x4 vehicles should not be tested as results are not accurate.
- The interpretation of the test results must include a full inspection of the shocks, tyre pressures, suspension, steering rack and other components which will affect the results and the safety aspect of the vehicle.
- The test results may vary when testing shock absorber from different suppliers and in some instances may even fail.

Contact your Gabriel Sales Representative on
0861 242 886
to enquire about purchasing your shock tester.



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GabrielShocks



www.gabriel.co.za

Gabriel[®]

Gabriel is a premium brand of



**CONTROL
INSTRUMENTS**
AUTOMOTIVE

»» GABRIEL SUSPENSION TESTER



INTRODUCTION

Gabriel Shock Absorbers

Gabriel manufactures a comprehensive range of Shock Absorbers that are designed and engineered to suit the conditions of South African roads and also its vehicle park. Drivers who use Gabriel Shock Absorbers comment on the smooth ride of their vehicles, however Shock Absorbers are not just for comfort; as their primary purpose is to keep wheels in contact with the road surface.

Shock absorbers also affect the steering, handling and braking of your vehicle, which is why they are vital for safety. Our years of research and testing have resulted in Gabriel developing shock absorbers that are firm enough to prevent the wheels from leaving the surface of the road, but also flexible enough in their damping to ensure that the occupants are not directly subjected to the vehicle forces.

Gabriel Shock Absorbers also control the bouncing movement of the wheels by controlling the rate at which the suspension springs compress and extend. In so doing, the shock helps maintain traction and control of the body, as well as the pitch and roll of the car during cornering, braking and acceleration. With more accurate control and steering, **Gabriel Shock Absorbers enhance safety through good road holding.**

Gabriel Suspension Tester

Faulty or worn Shock Absorbers cannot easily be detected by the motorist as they wear out gradually over time. With this gradual wear the driver grows accustomed to this poorer ride quality, therefore making them unaware that the product needs replacing, which places both their and other people's lives at danger.

This danger lies with the primary function of a shock absorber "being it is designed to ensure that the tyres of a vehicle are kept in contact with the ground". **A Faulty or worn Shock Absorber** will work against this function and **could possibly lead to a serious accident** as well as added running costs associated to the vehicle.

Gabriel South Africa, in a Sub-Saharan exclusive partnership with Actia Muller BEM (a world leader in testing equipment), have developed a retail turnkey solution **in conjunction with local leading fitment centres**, to help identify worn or faulty Shock Absorbers in a quick and professional way. The solution allows trained staff to access a comprehensive database of local South African vehicles, automatically test the Shock Absorbers as a part of the vehicles suspension, report against the findings, recommend part numbers and supply a format to effectively quote a customer.

If used as a part of a process, local South African studies have shown **real in store unit growth of Shock Absorbers of between 20-25%**, as well as increases in complimentary suspension parts.

GABRIEL SUSPENSION TESTER

QUESTIONS & ANSWERS

Q: Will the Gabriel Suspension Tester work on all vehicles?

A: Currently the test equipment is rated to Passenger Vehicles with a maximum axle load of 2500kg. However Gabriel South Africa (in conjunction with Actia Muller BEM) are currently in development on a software upgrade that will qualify the same testing equipment for SUV's and 4x4 class vehicles as well as Fixed Axle Suspensions. Once this software upgrade is available, this will be offered to the market. Please note that the maximum GVM load requirements will not change.

Q: But what about lowered suspension and new vehicles?

A: There should be no reason to test the suspension of a new vehicle outside of specific cases, however if performed and the vehicle is not available on the selection screen, make sure that it matches the technical specifications of the tester. There is no guarantee that the result may be accurate against a new vehicle, as the design and suspension may not have been considered in the version of software you would be using. Further should the vehicle have lowered suspension, it is advisable not to use the "above ground vision" with standard ramps, rather use extended ramps or the "in the ground version"

Q: You state that the Gabriel Suspension Tester should pay for itself?

A: Most vehicle owners on the road are not aware that their shocks need replacing. By running proactive promotions and using the tester correctly and in conjunction with trained technical and sales staff, local South African Studies have shown real unit growth of between 20 – 25%. Please visit gabriel.co.za/suspension-tester for more information on programs available.

Q: What power supply do I need before considering purchasing this unit

A: The Standard Machines ideally run off a 400V 3 phases due to the torque of the motors, however a specifically ordered machine can run 220V mono but this reduction in power will reduce axle load capacity from 2500kg to 1500kg. The computer and printer equipment would need single phase 220V.

Q: Who will install, set up and maintain the unit, Gabriel?

A: In order to ensure optimum onsite support during and after the installation, Gabriel South Africa has appointed an experienced and professional company to manage this process through for you. Included in the supplied pricing is a breakdown of the costs in relation to Installation, Service and Maintenance Contracts.



SUSPENSION TESTER: THE SOLUTION



Solution Driven

Testing Time, Ease of Accuracy and Reporting, User and Consumer Interfaces were the three main drivers when developing a solution for local market and after working closely with recognised fitment centres in South Africa, Gabriel South Africa believe that the solution offered has met all of these criteria.

Unlike many other machines, **automated testing opposed to the old "bounce test" is the only true way to ensure that the frequency and displacement on a shock absorber is repeatedly achieved.**

Analysing the Shock Absorbers response to its variable resonance frequency ensures that the results obtained are independent of other factors such as vehicle load. The Gabriel Suspension Tester offers this functionality through a quick and easy 3 minute test.

The complete vehicle test involves:

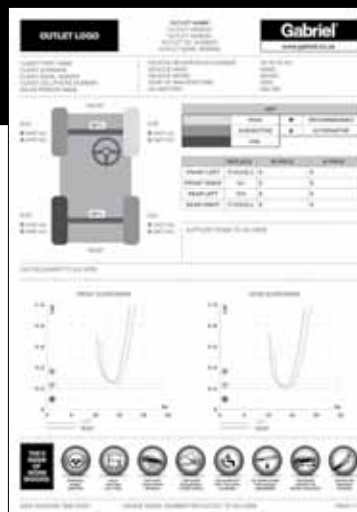
- Selecting the vehicle make, model and year from drop downs.
- Entering the Vehicle Registration, Kilometers and Driver or Owners details
- Driving the vehicles front axle onto the test equipment, whereby the test begins automatically after a vehicle is detected and a time delay accounts for pressure on the tester. The testing is done wheel by wheel and the results of the Shock Absorbers effectiveness are displayed for each wheel. The graph of the operating characteristic curve for each wheel and the effectiveness limit of the Shock Absorbers are displayed.
- Moving the vehicle forward and placing the rear axle onto the same test equipment, where the test is repeated.

Once tested, the printed or screen based report displays a simple **Green** (Pass), **Yellow** (Suspect) or **Red** (Fail) Coding. This is used in conjunction with a visual inspection to determine if a shock absorber needs to be replaced or not.

Local studies have shown that once a visual inspection concurs that either the Shock Absorbers or other Suspension Parts are faulty, the printed form can be used as a part of the sales process to increase the likely hood of a product transaction taking place, alternatively used through its unique quotation system using part numbers for the customer to consider later on.

All the data is stored within the testing machines software and many reports can be accessed directly or remotely.

REPORT EXAMPLES



Black and White



Colour

GABRIEL SUSPENSION TESTER: MACHINE OPTION 1



FIXED IN THE FLOOR VERSION

WITH CONSOLE

- **Fixed in the floor version with branded console (Code - 8003F021AMQZ0)
Delivered without PC, screen and printer**

This version is **designed to be a permanent addition to your operation and is placed into the floor** via the construction of a pit that will drain water as well as house the machines cabling. The power unit and the electronic control of the testing equipment are housed inside the supplied computer console. It's therefore compulsory to fix and protect all the connecting cables.

The solution also comes with a selection of Gabriel floor decals and other in-store elements to draw attention to the tester while also being used to market to customers.

Main technical specifications

- Dimension of the pit:
2350 x 590 x 280mm
- Bench weight (without console): 240kg
- Protective coating: Zinc-plated and black painting
- Dimension of plate: 640 x 250mm
- Maximum passage load: 2500kg
- Weighing capacity: 2500 daN
- Minimum axle passage: 850mm
- Maximum axle passage: 2100mm
- Engines 2 x 2,2 kW
- Supply voltage: 230 V (PC) and 400 V (tester) – 3ph
- Supply frequency: 50 or – 60 Hz

Recommended outlet use and machine advantages

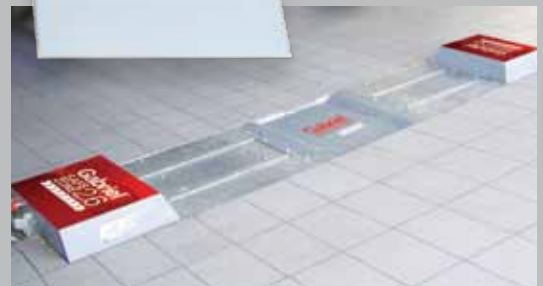
- This version is recommended for larger outlets that have enough space to allow the unit to be permanently fixed
- Designed to be fully integrated in the outlet traffic flow so avoiding any congestion
- Accommodates the testing of passenger vehicles with low ground clearance
- Also this version can be upgraded and integrated in a full vehicle pre-inspection test line including a brake tester and/or a slide slip tester if required
- The console cabinet houses the power unit and electronic control to the unit
- Installation plan N°110190-GC

GABRIEL SUSPENSION TESTER: MACHINE OPTION 2



FIXED ON THE FLOOR

FLAT VERSION



- **Fixed on the floor flat version (Code - 1004E020AFVO)
Delivered without PC, screen and printer**

This version **is designed to be placed on the ground without any civil engineering work.** The bench can be moved around until the optimum location is found and then it can be fixed (recommend). Its low central slope makes it possible to test vehicles with a ground clearance of 130mm otherwise ramp extensions (additional) can be added in order to allow very low ground clearance vehicles less than 100mm. The power unit and the electronic control of the tester are placed within the tester opposed to the other option which is housed inside the computer console. It's recommended to fix and (or at least) protect all the connecting cables above surface when using the machine.

The solution also comes with a selection of Gabriel floor decals to draw attention to the tester while also being used to market to customers.

Main technical specifications

- Bench dimensions with ramps: 3446 x 1983 x 230mm
- Minimum ground clearance: 130mm
- Bench weight (without console): 310kg
- Protective coating: Zinc-plated and grey painting
- Static load at the axle: 2500kg
- Dynamic load at the axle: 2000kg
- Minimum load at the axle: 0kg
- Amplitude of excitation: 25 - 0 Hz
- Scanning rate: +/- 3mm
- Dimension of plate: 640 x 250mm
- Weighing capacity: 2500 daN
- Minimum axle passage: 836mm
- Maximum axle passage: 2096mm
- Engines 2 x 2,2 kW
- Supply voltage: 400 V – 3ph
- Supply frequency: 50 or – 60 Hz

Recommended outlet use and machine advantages

- This version is recommended for all types of workshops especially for those not having enough space nor time to permanently install an in the ground tester.
- Quick and easy to install
- Movable when required
- Can be slightly recessed into the ground (if required) so by removing the ramps
- Does not need any civil engineering
- Installation plan n° 121351

GABRIEL SUSPENSION TESTER: MACHINE OPTION 3



MOBILE FLAT VERSION

- **Mobile flat version (Codes - 1004E020AFVO + 121364)**
Delivered with a handling kit to move the bench

This version **is designed in a kit format to be easily assembled and dismantled.** Supplied with a handling kit, this machine can be installed in less than 15 minutes. Its low central slope makes it possible to test vehicles with a ground clearance of 130mm otherwise ramp extensions (additional) can be added in order to allow very low ground clearance vehicles less than 100mm. The power unit and the electronic control of the tester are placed inside the computer console. It's recommended to protect all the connecting cables above surface when using the machine.

Main technical specifications

- Bench dimensions with ramps: 3446 x 1983 x 230 mm
- Minimum ground clearance: 130mm
- Bench weight: 310kg
- Protective coating: Zinc-plated and grey painting
- Static load at the axle: 2500kg
- Dynamic load at the axle: 2000kg
- Minimum load at the axle: 0kg
- Amplitude of excitation: 25 - 0 Hz
- Scanning rate: +/- 3mm
- Dimension of plate: 640 x 250mm
- Weighing capacity: 2500 daN
- Minimum axle passage: 836mm
- Maximum axle passage: 2096mm
- Engines with rotation direction reversion: 2 x 2,2 kW
- Supply voltage: 400 V (bench)– 3ph
- Supply frequency: 50 or – 60 Hz
- Emergency shutdown: 24 VAC
- USB2 connection to PC and CAN connection to Bluetooth module

Recommended outlet use and machine advantages

- This version is recommended for all types of outlets especially though with multiple sales points and companies who wish to use the equipment outside
- Very easy to move
- Convenient for outdoor use
- Can be transported in a van or a small trailer
- Installation plan n° 121352

