

GSP97BMW

Road Force Measurement® System

***Solves Vibration and
Tire Pull Problems That
Other Balancers and
Aligners Can't Fix.***



HUNTER
Engineering Company

GSP97BMW

Going far beyond the



Shown with optional Wheel Lift system and optional StraightTrak LFM feature.



Hunter's exclusive Road Force Measurement® System simulates a road test to identify radial force vibration and pull problems.*



Benefits of the

Solves Vibration Problems Balancers Won't Fix

Detects non-balance, radial-force-related problems associated with:

- Tire uniformity.
- Tire and rim runout.
- Wheel-to-balancer mounting error.
- Improper bead seating of tire to rim.

traditional functions of a wheel balancer...

The GSP97BMW measures radial and lateral tire forces and provides instructions for solving ride and handling problems that balancers and wheel aligners cannot fix.

Hunter's GSP97BMW is approved by the BMW Group and recommended for use in BMW, Mini and Rolls-Royce Motor Cars workshops throughout the world. It is proven by thousands of repair facilities worldwide as the industry standard in...



1. Wheel Balancing

2. Tire Road Force and Rim Eccentricity Measurement

3. Tire Pull Lateral Force Measurement*

Visit The
GSP9700
Wheel Balancing
Consumer and
Technical Website
www.gsp9700.com

GSP97BMW's "Three-In-One" Diagnostic Repair Capability:

■ Faster Troubleshooting & Repair

Quickly calculates the contributions of the rim and tire to radial vibration problems and presents the technician with easy step-by-step repair instructions.

■ Identifies Potential Vehicle Pull or Drift Problems*

The optional StraightTrak® LFM** feature measures lateral tire force, then applies that information to the set of tires, providing multiple placement choices to eliminate or minimize pull problems—an otherwise unfixable vehicle complaint during alignment service.

■ Dramatically Improves Ride Quality & Customer Satisfaction

Duplicates vibration measurement and tire/wheel matching methods previously used only by vehicle manufacturers to provide that "new car ride."

■ Increases Wheel Service Income

Establishes your shop as **the** vibration and handling control experts. Reduces comebacks and enables you to service vehicles that other shops turn away.

Road Force® Measurement

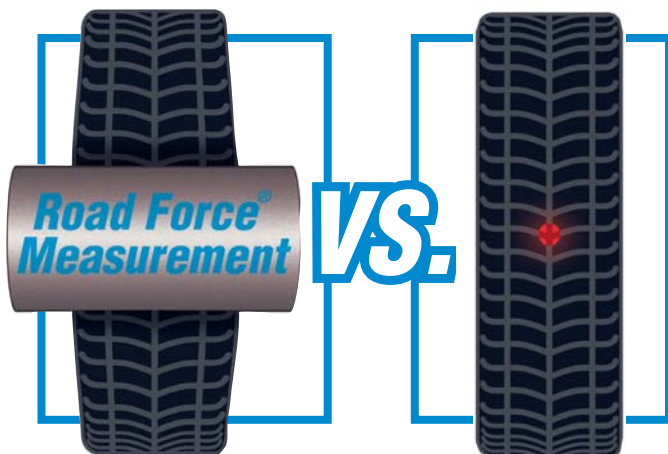
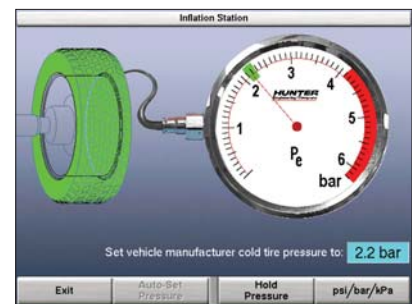


The exclusive Road Force Measurement® system applies up to 1,400 pounds (635 kg) against the tire. The loaded roller detects non-balance, radial-force-related vibrations caused by eccentricity and constructional variation of the tire and wheel. Unlike non-contact measurement, the roller samples the entire footprint of the tire including the sidewall's contribution to ride quality.

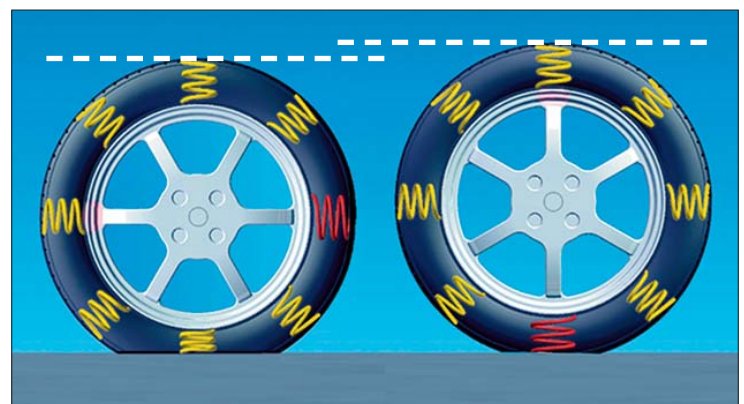
As an additional alternative to Road Force® mode, the operator may also choose a QuickMatch® mode to quickly measure loaded runout alone.



GSP97BMW's Inflation Station* provides proper inflation pressure and automatic prompting for the operator to ensure accurate testing and customer satisfaction.



Non-contact runout measurement systems often provide inconsistent results and do not take into consideration the contribution of tire sidewalls to vibration problems.



Lack of tire uniformity is a common and often hidden source of vibration. As a tire rolls, it flexes as if it were made of springs. Vibration results when tire stiffness is not uniform.

Rim Runout Measurement



The GSP97BMW measures lateral and radial rim runout without removing the tire from the rim and quickly indicates if runout is tire-related. Runout can also be measured at the actual bead seat on a bare rim.

The GSP97BMW slowly rotates the wheel automatically during measurement.* The GSP97BMW then calculates the contributions of the tire and the rim to the vibration problem and presents the technician with easy-to-follow repair instructions.

Slippage detection is also automatically monitored to ensure the technician achieves accurate measurements.



Rim runout can be measured without removing the tire...



... or directly at the bead seat on a bare rim.

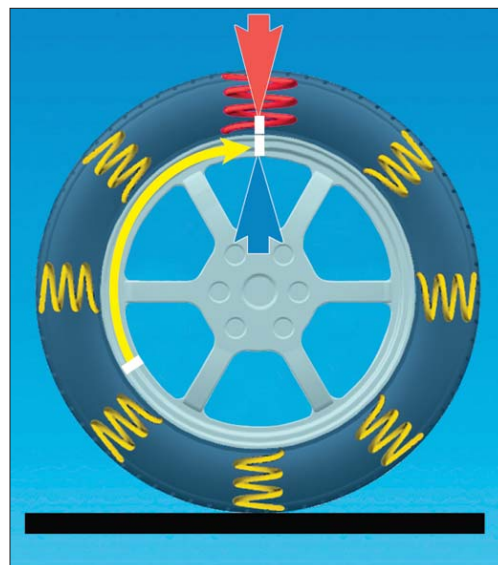
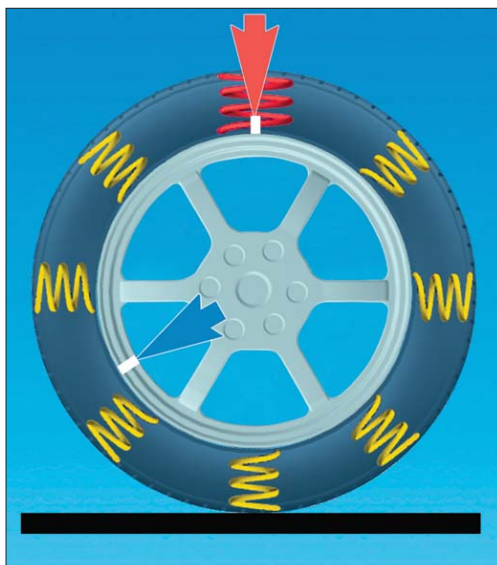
ForceMatching and Balance



Hunter's patented ForceMatching® feature cancels the stiffest point of tire radial force variation with the low spot on the rim. This helps eliminate vibration by minimizing the effects of radial force variation and rim runout.

QuickMatch® measurement may also be chosen to quickly

audit and matchmount with loaded runout instead of force calculations if greater time savings during cycle time is preferred. Once the correction is completed, the technician can continue with a precision wheel balance by instantly choosing the balancing method without key closure steps.



Offering the same service as new car vehicle manufacturers, the GSP97BMW matches the stiffest area or high spot on the tire with the lowest spot on the rim to cancel vibration caused by radial force variation and provide the smoothest possible ride.

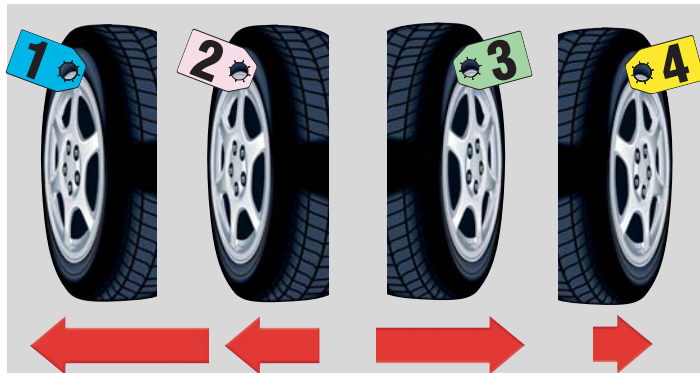
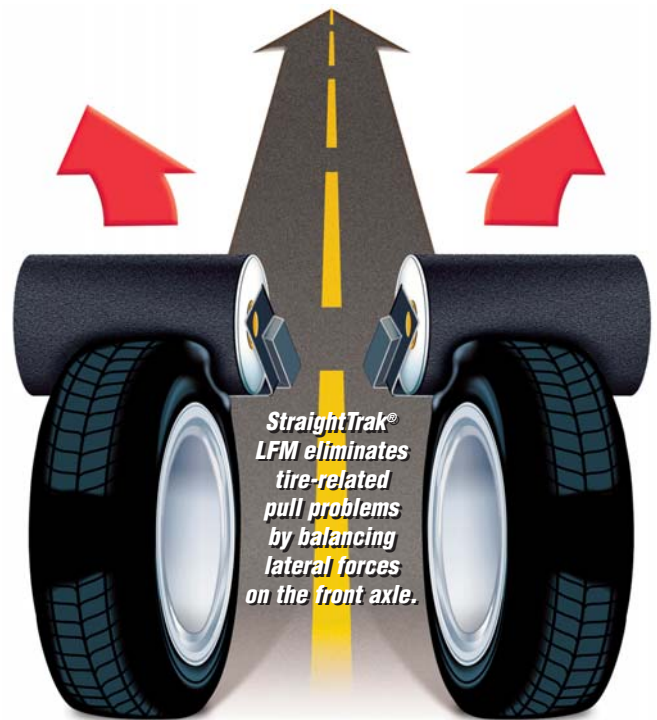
StraightTrak® Lateral Force Measurement

Solve Tire Pull Problems With the Hunter GSP97BMW That Alignment Service Can't Fix

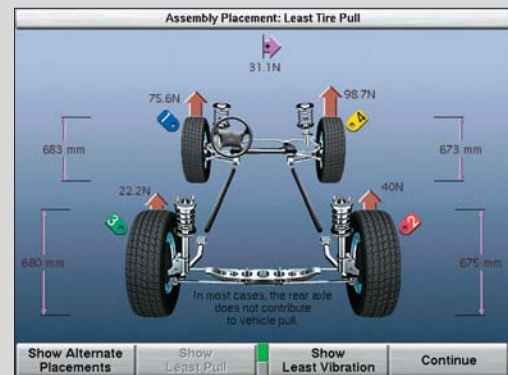
Tire-related pulls are caused by lateral forces in the tires. Lateral force is the amount of left or right pull force created as the tire rolls along the road. This condition may cause a vehicle to steer away from straight ahead. These forces are primarily created by conicity and cannot be detected during standard balancing or alignment service.

Deliver the Ultimate in Customer Satisfaction

The optional StraightTrak® LFM feature measures lateral tire force during the GSP97BMW's Road Force Measurement® test. The GSP97BMW then applies this lateral force information to the set of tires, providing the technician with optimal placement choices about the vehicle.



Tires are tagged and positioned on the vehicle to provide the least amount of vehicle pull and obtain the best straight ahead



Pull or drift caused by the lateral forces can be systematically minimized, offset or eliminated.



StraightTrak® LFM Integration

By partnering a StraightTrak LFM equipped Hunter GSP97BMW with a Hunter KDS wheel alignment system, the technician will finally be able to deliver the ultimate in customer satisfaction by achieving the four main wheel service criteria customers expect in vehicle ride quality:

- Proper Tire Wear
- Straight Vehicle Tracking
- Smooth Ride
- Straight Steering Wheel

Features That Make Expert Balancing Easier and Faster...

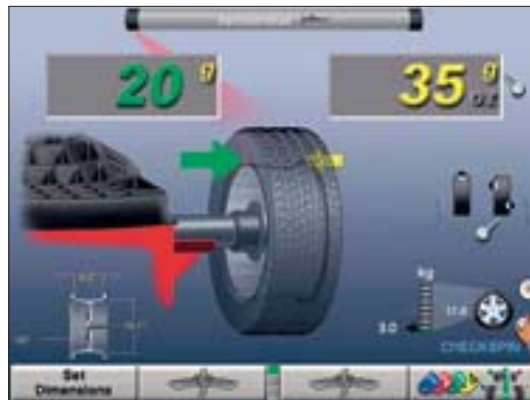
NEW!

The patented HammerHead™ Top-Dead-Center (TDC) weight placement laser is a new option for GSP wheel balancers that speeds clip-weight balancing service. Activated by the ServoDrive™ system, the HammerHead weight-placement laser lines are projected onto the top-dead-center of the rim flange when the wheel weight position is automatically located.

The HammerHead TDC laser increases balance accuracy, productivity and shop profitability and ensures weight attachment accuracy, resulting in more single-spin balances and superior ride satisfaction. An added fluorescent light illuminates the operator's work area.



Shown with optional wheel lift and HammerHead™ feature. HammerHead option can be added by ordering part #20-2166-1.



Top-dead-center laser lines are projected onto the rim flange when the wheel weight position is located.

Clip-Weight Placement



Precision wheel weight placement is fast and easy using the HammerHead TDC laser as a guide.



Angle errors from even slight misjudgment of the TDC location lead to an inferior and time-consuming balance with excessive checkspins.

Dataset® Arms Speed Floor-to-Floor Cycle Time

Inner Dataset® Arm



Inner Dataset® arm determines exact placement for weights and allows automatically measures weight positions on wheels up to a 30 inch (762 mm) diameter.

Automatic Double Dataset® Arms



Inner and Outer Dataset® arms speed wheel data direct-measure input and placement of clip-on or adhesive weights, increasing accuracy and allowing more single-spin balances.

NEW!

Automatic Weight Mode and Location Detection**

This feature eliminates the need for the technician to select balance modes, reducing service time and possible mode entry error. Balance mode is selected automatically based on the position chosen for the Inner Dataset arm or Outer Dataset arm.

When the technician places the Inner Dataset® arm...

... DOWN inside the wheel, the balancer automatically selects "Tape-Weight Mode".

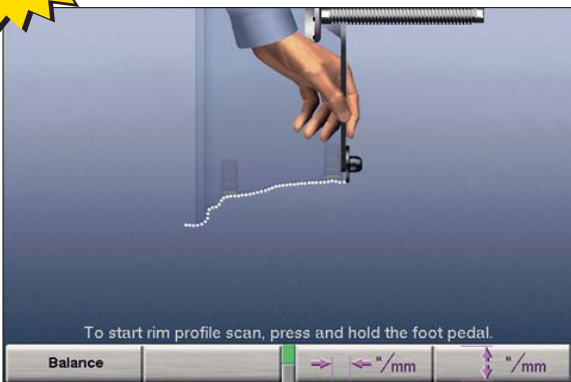


... UP on the wheel, the balancer automatically selects "Clip-Weight Mode".



NEW!

Rim Scan Feature**



The inner Dataset arm will trace the exact wheel contour and store the scanned distances and diameters for all available tape weight locations selected by the operator. Rim Scan also offers the benefits of Automatic Weight Positioning to increase the capability to single-spin balance with SmartWeight® technology.

Patch Balancing® Feature



The perfect choice for oversized custom wheels and tires. With 4x4 and street cruiser tire weights growing in size, with the Patch Balancing® feature solves excessive lead or adhesive weight balance problems by using weighted patch(s) inside the tire. Rim-mounted weights can be reduced or eliminated. Increase profits by balancing oversize tires that others turn away.

Features That Make Expert Balancing Easier and Faster...

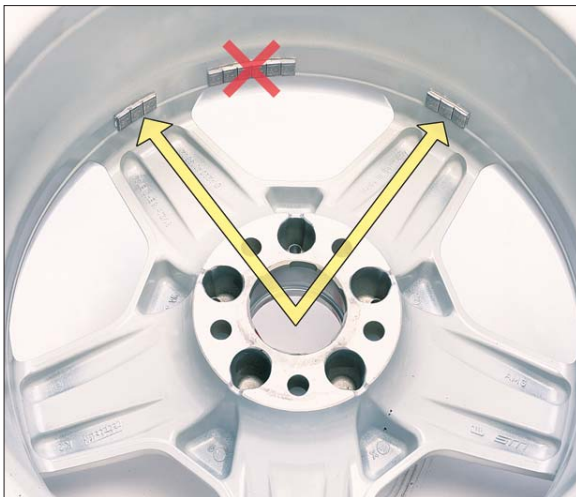
Determine Exact Weight Placement With...



BDC Adhesive Weight Placement Laser

- ServoDrive activated laser line automatically identifies the “Bottom-Dead-Center” position to assist with fast adhesive weight application.
- Helps guide operator to optimal location for correct weight placement for accurate phase angle.

Get Hidden and Alternative Weight Positioning With...



Split Spoke® & Split Weight® Modes*

- Split Spoke® mode automatically locates the best “out of sight” position for adhesive weight placement on custom wheels.
- Split Weight® mode offers multiple weight choices, reduces large weight inventories and avoids trim ring obstructions.

Get Fast Setup With...



AutoClamp* Feature

- The optional AutoClamp feature saves time and effort. The clamp adaptor is positioned and tightened automatically.
- There are no time-consuming shaft threads to take-up and no additional wing nut tightening required.

Get Instant Communication With...



Foot Pedal Data Entry

- Foot pedal also locks spindle for easier tightening and loosening of wing nut.
- Tapping the foot brake activates entry and storage of wheel data.

Achieve Accurate Measurement With...



Automatic Double Dataset® Arms

- Inner and Outer Dataset® arms speed entry of exact chosen weight location and double as measuring tools for lateral and radial runout.
- Speeds placement of clip-on or adhesive weights while increasing accuracy and single-spin balances.

Quickly Locate Weights With...



Servo Stop and Servo Push Drive Control*

- Servo Stop automatically rotates and positions wheel to each desired weight location (TDC or BDC) with the touch of a button or by simply pushing the wheel.

Prove Wheel Centering With...



Wheel CenteringCheck®* Feature

- This feature, **exclusive** to Hunter wheel balancers, ensures that the wheel is properly centered when mounted on the balancer.
- Uniquely eliminates guesswork when choosing mounting accessories or questioning set-up error on problematic wheels.

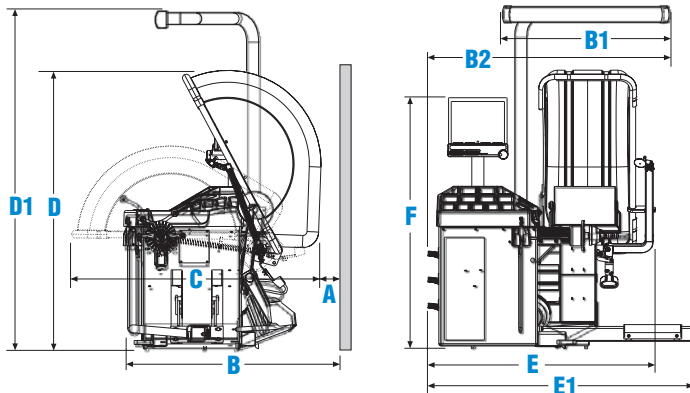
GSP97BMW Specifications

Power Requirements:	230 V (+10% -15%), 10 amp, 50/60 Hz, 1-ph (Power cable includes NEMA 20 amp plug, L6-20P)
Air Supply Requirements:	100-175 psi (7-12 bar)
Motor:	Programmable drive system and DC motor**
Shipping Weight:	Without Wheel Lift: 302 kg (664 lbs.) With Wheel Lift: 323 kg (711 lbs.)
Roller Force:	Variable up to 635 kg (1,400 lbs.)
Capacity:	
Rim Width:	38 mm (1.5 in.) to 520 mm (20.5 in.)
Rim Diameter:	254 mm (10 in.) to 762 mm (30 in.)
ALU:	191 mm (7.5 in.) to 1,016 mm (40 in.)
Maximum Tire Diameter:	1,016 mm (40 in.)
Maximum Tire Width:	508 mm (20 in.)
Maximum Tire Weight:	80 kg (175 lbs.)
Accuracy:	
Radial & Lateral Runout:	0.05 mm (0.002 in.)
Radial Force Measurement:	1.0 kg, 10N (2 lbs.)
Imbalance Resolution:	± 1.0 gms (± 0.05 oz)
Placement:	512 positions, ± 0.35°
Balancing Speed:	Variable rpm, direction and torque (0-300rpm)
Certification:	C.E., PTB, DIN IEC 38

Some dimensions, capacities and specifications may vary depending on tire and wheel configuration.



GSP92BMW Wheel Balancer shown with optional wheel lift and HammerHead™ feature.



GSP97BMW Dimensions
(shown with optional Wheel Lift and optional HammerHead feature)

A	254 mm (10 in.)	D	1854 mm (73 in.)
B	1562 mm (61.5 in.)	D1	2184 mm (86 in.)
B1	1041 mm (41 in.)	E	1435 mm (56.5 in.)
B2	1473 mm (58 in.)	E1	1676 mm (66 in.)
C	1575 mm (62 in.)	F	1626 mm (64 in.)

Wheel Balancers do not include adaptor kits as standard equipment. For adaptor options and details, see Form 3203T.

Standard Accessories

- 192-165-2:** Cone, BMW
- 175-340-2:** BMW Flange Plate Kit
- 46-511-2:** Spacer, Small Wheel (Mini Cooper)
- 76-379-2:** Shaft Ring, Cone Retainer
- 46-320-2:** Spacer
- 223-68-1:** Ring, Pressure
- 221-659-2:** Scraper, Adhesive Weight
- 65-72-2:** Calibration Weight, Balancer

Optional Accessories

- 20-2143-1:** Inkjet color printer and side mounted printer/accessory support kit
- 20-2166-1:** HammerHead Top-Dead-Center Clip-Weight Placement Laser

For further adaptor options and details, see Form 3203T.



LASER LIGHT
DO NOT STARE INTO THE BEAM OR VIEW
DIRECTLY WITH OPTICAL INSTRUMENTS
CLASS 2M LASER PRODUCT

LASER LIGHT
DO NOT VIEW DIRECTLY
WITH OPTICAL INSTRUMENTS
CLASS 1M LASER PRODUCT

Because of continuing technological advancements, specifications, models and options are subject to change without notice.

Cal-Check, CenteringCheck, Dataset, ForceMatching, HammerHead, MatchMaker, QuickMatch, Quick-Thread, Road Force, Road Force Measurement, SmartSpoke, SmartWeight, Spindle-Lok, Split Spoke, Split Weight, StraightTrak and WeightSaver are trademarks of Hunter Engineering Company.

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