

Hunter Training Supports OEM Programs



Members of Toyota's U.S. training staff and Hunter's Director of Training Byron Morgan (left) at Hunter's Bridgeton, Missouri Research and Training Center.



Hunter Product Manager Dave Scribner, New York Regional Manager Leon Pianka and Mercedes-Benz USA field engineers and managers review the Rolling Smooth wheel vibration diagnostics and service training program at the automaker's Montvale, New Jersey Test Service Center.



Ed Clark, Hunter's OEM Technical Support Specialist works with alignment audit technicians and Ford engineers at assembly plants throughout the Detroit region.

Comprehensive training support is an added value that places Hunter equipment far ahead of its competitors. Each year, at regional centers throughout the U.S. and Canada, Hunter staff train thousands of students, experienced technicians, OEM engineers and staff, and other automotive service professionals. In addition to teaching standard programs for passenger cars and heavy-duty trucks, Hunter staff often work with their OEM counterparts to create special programs and field seminars to meet automakers' specific needs.

Hunter Highlights

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Hunter Highlights

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News and Trends of the Automotive Service Industry

Choosing Hunter is a "Best Practice"



Mercedes Benz



With the goal of being recognized as an industry "Best Practice", Hunter vigorously supports its OEM partners as they work to build quality, innovation, excitement and satisfaction. Auto and truck makers worldwide already choose Hunter technology for use in their assembly plants, R&D facilities, training centers and dealer service departments. From design

and development to after-sale service, Hunter is part of the process. Hunter equipment is also approved and often required by every major OEM equipment program, ensuring that dealerships can better spend their time building sales and customer satisfaction and not managing difficult service issues.



DSP400 Pit Serves Engineering Platforms at Milford Proving Grounds



Two aligner installations provide Hunter with an important opportunity to evaluate its equipment on the new and experimental vehicle designs tested at the facility.

Dual Hunter aligners with DSP400 Sensors in pit configurations serve all engineering platforms at General Motors' Milford Proving Grounds building 104. The newest addition to GM's vehicle-engineering project headquarters, building 104 is at the center of GM's plan to define and implement "best practices" throughout the organization. With 150 service bays, the building covers more than five acres. Hunter GSP9700 technology is also employed in the flagship engineering complex.



Proving Grounds staff designed this unique Hunter DSP400 Sensor target storage apparatus to meet their specialized alignment and audit requirements.



Mirroring a typical shop configuration, the Hunter-equipped test bays include an upper and lower pit for quick and convenient access to a vehicle's wheel wells and underside.



Designated "North" and "South" Pit Racks, these Hunter alignment systems serve the entire Milford vehicle engineering operation.



Hunter Featured in Goodwrench Commercials



The technicians in these commercials are the real thing. They were selected from Goodwrench Service shops nationwide.



These Hunter DSP400 Alignment Sensor targets at Hunter's Livonia Training Center helped GM present a high-tech look to its high quality Goodwrench Service.



Hunter's OCL360 On-Car Brake Lathe, also featured prominently in the commercials, shows the GM Dealer Equipment program color scheme.

Hunter has a "starring" role in a series of Goodwrench Service TV commercials now airing nationwide. The ads are comprised of fast moving segments of actual Goodwrench technicians working in a Hunter-equipped shop. To capture the look of an actual Goodwrench Service dealership, GM filmed the ads at Hunter's Livonia, Michigan training center. Twenty separate commercials were edited from the week-long shooting schedule.

GM TechLink Cites GSP9700 as Solution to Most Common Customer "Dissatisfier"

GM TechLink recently featured Hunter's GSP9700 as the ideal tool for solving wheel-related shake and vibration, "...one of the most common customer dissatisfiers." The article explains the most common causes of shake and vibration – runout, imbalance and radial force variation – and the GSP9700 procedures to remedy them. The publication also cites the ability to handle each of these vibration issues using a single piece of equipment as a major advantage to service providers.

GM TechLink, the monthly magazine for GM Dealership Service Professionals, is published by General Motors Parts and Service Operations.

Wheel and Tire Balancing
 Consider a Chevrolet TrailBlazer traveling at 60 miles per hour. The P245/70R16 tires have a diameter of 29.6 inches. At 60 miles per hour, they're turning 703 rpm, so a tire is out of balance, at that speed it introduces 703 vibrations per minute into the vehicle. The tire is slipping the pavement 12 times per second going to notice that!

Actually, the related shake or vibration is one of the most common customer dissatisfiers, and it's most easily noticed when driving on curbside, out-of-round, imbalance, and radial force variation (RFV). Each one of these conditions can result in shake or vibration, but the causes and cures are different for each. They are not necessarily related, but each of them must be addressed.

Here's where to find guidance in S1: "Dissat" the vehicle - General Information - Vibration Diagnosis and Correction - Diagnostic Information and Procedures - Vibration Analysis - Tire and Wheel

The Vibration Analysis chart contains through-test procedures. The exact path you will follow depends on what you find. In general, you'll check in this order: runout, imbalance, and RFV.

Runout (Out-of-Round)
 If it's tempting to start with wheel balance, but it's important to measure wheel runout first. If runout is the cause of the vibration, balancing won't fix it. But removing the wheel/tire assembly to check balance can disturb runout. This is because a small amount of runout in the wheel may cancel or accentuate a larger amount of runout in the mounting surface, depending on which position the wheel is mounted. This is referred to as "stack-up" of runout.

Whenever runout is measured two ways, on-vehicle and off-vehicle. The on-vehicle balance, according to the diagnostic chart:

Tip! Be sure to check for foreign materials, particularly inside the wheels, and particularly when the vehicle has been driven in snow, silt or off-road conditions. Correcting an imbalance condition may be as simple as removing a chunk of mud.

The readily available off-vehicle, two-plane dynamic balancer is the equipment of choice for checking and correcting imbalance.

As with any precision tool, proper calibration, proper maintenance, and proper use are all important in obtaining satisfactory results.

Radial Force Variation
 Radial force variation (RFV) refers to variations within the construction of the tire. All tires have spikes in the various dies. These resulting different spikes do not cause problems unless they are excessive.

vehicle measurement includes possible runout of not only the wheel and tire but also the mating hub/brake flange and the wheel and tire assembly. Further, it may be necessary to measure runout of just the wheel, with the tire dismounted. The diagnostic chart explains how to interpret and correct various runout conditions you detect.

One of the repair methods is called match-mounting (factoring). This procedure permits you to move the tire on the wheel to determine if the low and high fashion, it may be possible to match-mount the wheel to the mounting flange. See S1 for details.

Imbalance
 Whenever balance is fairly easy to understand, and of all the conditions mentioned here, offers the most visible evidence. The weights are there for everyone to see. However, if runout or RFV is the cause of the vibration, checking balance is not going to fix the condition.

That having been said, there is an appropriate time to check and correct.

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Third Hunter 611 Aligner Added at Dearborn Mustang and Cobra Assembly Plant



Hunter Series 611 Alignment Systems audit high-speed assembly alignment and serve as a benchmark at Ford's Dearborn production facility.

Ford has installed a third Series 611 Alignment System with DSP400 Sensors to audit Mustang and Cobra models exiting the line at the auto maker's historic Dearborn assembly plant. Technicians there pull vehicles from the 200,000-plus annual

production run and use the Hunter aligners to quickly and accurately measure them against specification. Locally, Ford Engineers refer to Hunter as the "Umpire" in production alignment because it settles all debate concerning alignment settings.

Experimental Vehicles Tire Lab Adds Five GSP9700s



The Tire Uniformity Grader or "TUG", visible behind the glass partition, now shares lab space with the same Hunter GSP9700 Vibration Control Systems that are available to Ford dealership service departments.

Ford recently took delivery of five Hunter GSP9700 Vibration Control Systems for its Experimental Vehicles Tire Laboratory in Dearborn, Michigan. GSP9700 technology was first introduced to the Tire Lab in 1998. Shortly after, the lab endorsed its capabilities in a letter to Hunter: "...it mirrors the Akron Standard unit for tire force variation measurement and tire/wheel matching.

This unit does its job at a very reasonable cost, and we are recommending it to all of our NVH personnel for any tire related vibration/handling issues." The Tire Lab's equipment order also included several Hunter TC3500 Euro-style tire changers. An ideal match for the GSP9700, the TC3500 deftly handles the most sophisticated and difficult-to-mount tire and rim combinations.

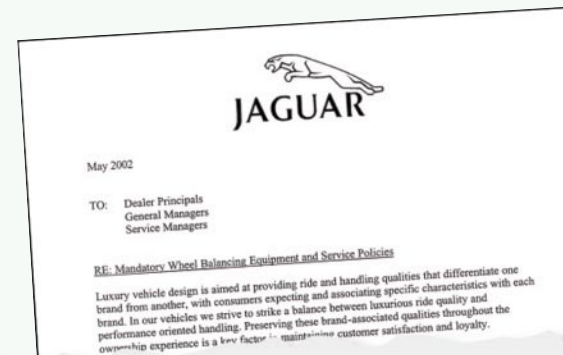
GSP9700 Required for Jaguar Dealer Service



Jaguar recently added Hunter's GSP9700 Vibration Control System to its minimum required tools and equipment list making it mandatory equipment for Jaguar dealership service. Hunter responded by developing a GSP97JAG package to meet the specific needs of Jaguar dealers. In addition to the award-winning GSP9700 standard features, the GSP97JAG package includes exclusive wheel mounting cones and adaptor plates. A printer provides a hard copy of simulated road tests for customer consultation or management records.



Jaguar of Novi's sophisticated building design is a testament to the luxury and quality embodied in the cars sold and serviced at the Michigan dealership. The 38,000 square foot facility includes a service department that is almost exclusively Hunter-equipped.



So that our retailer network can maintain the driving dynamics customers expect from their Jaguar, particularly with regard to balanced ride and handling, we have added the following equipment to the Jaguar Cars minimum required tools and equipment list:

- Road Force Variation (RFV) measuring tire balancer (e.g. Hunter 9700/9712) with printer and monitor
- Specialized mounting flange and cones



Technicians at Jaguar's U.S. Headquarters Technical Center in New Jersey use the GSP9700 to isolate wheel vibration. Jaguar, an early advocate of GSP9700 technology, recently named it minimum required equipment for dealer service.



Mercedes-Benz

Mercedes-Benz USA Technical and Education Centers Choose Hunter



Mercedes-Benz USA technical staff use two Hunter HTA-MB alignment systems at the carmaker's headquarters in Montvale, New Jersey. The systems include Hunter 12,000-lb. capacity 4-post MKS alignment racks with extended runways that easily accommodate top-end Mercedes-Benz vehicles including the new Maybach.



Viper Engineering Center Relies on Hunter Technology

DAIMLER CHRYSLER



Hunter OEM Program Director Jeff Kern and Viper Team Leader Bill Adams set up an alignment on a Viper test vehicle.

DaimlerChrysler Viper Engineering Center staff rely on Hunter undercar technology to support testing and evaluation of the Viper model and other special performance vehicle projects. The facility is equipped with a Hunter RM lift, Series 611 console and DSP308-HFSS electronic sensors for alignment work. Viper engineers and technicians also use off-the-shelf GSP9700 Vibration Control Systems and Hunter TC3500 tire changers to mount, balance and remove force variation from the high-performance wheel assemblies used in vehicle testing.

Hunter Sales Representative William Keyes and a Viper Engineering staff member measure the radial force variation of a high-performance Viper wheel assembly.



GSP9700 Approved by Volkswagen AG

Hunter's GSP9700 with the StraightTrak™ Lateral Force Measurement feature has been added to the full line of Hunter equipment approved by Volkswagen AG for use in its workshops worldwide. The approved unit, V.A.G part number VAS6230, displays the V.A.G Workshop Equipment Quality seal of approval and conforms to the V.A.G Workshop Equipment Color Concept.



Volkswagen of America engineering and training staff discuss vibration issues with Hunter Detroit-area Sales Representative William Keyes at Hunter's Livonia, Michigan Training Center.

The VAS6230 features an available integral wheel lift that allows a technician to mount wheels weighing up to 175 lbs. The V.A.G-approved GSP9700 is now required equipment for new Audi RS6 dealers.

