

HPDE Technical Inspection Form

Tech inspection and completion of this form should be performed within one month of the date of the event.
All participants and instructors are required to go through the GVC BMWCCA Tech Line at every HPDE event.

The participant assumes full responsibility for the safety of this participating vehicle and for knowing the condition of each item listed below. **Inspection by a professional mechanic familiar with high-performance driving schools is MANDATORY FOR ALL NOVICE DRIVERS, and VERY STRONGLY ADVISED FOR ALL OTHERS.** Vehicles not professionally inspected, particularly those self-inspected by the owner, will undergo closer scrutiny by GVC Tech Staff at every event check-in.

Soft or hard-top; see footnote¹. Convertibles see footnote²

Date of Inspection:		HPDE Event Date:		
Driver's Name		License State/Prov:	Driver's Phone #	
Emergency Contact Name		Emergency Contact @ Event: Y <input type="radio"/> / N <input type="radio"/>	Emergency Phone #	
Vehicle Year/Make/Model		VIN#	License Plate Number:	

Wheels, Tires and Bearings	P	F		P	F
Wheels: proper offset; not rubbing, cracked, bent, out of balance;	<input type="checkbox"/>	<input type="checkbox"/>	Bearings: not loose, binding, whining, leaking.	<input type="checkbox"/>	<input type="checkbox"/>
Tires: No, cuts, patches or plugs. No more than 6 years old, At least H Speed Rating. Matching make and size by sets on Front and Rear. Measurable depth as required.	<input type="checkbox"/>	<input type="checkbox"/>	Tire Date Codes: LF RF LR RR		
Brakes, and pedal	P	F	Tire Make / Model Front Set:	Tire Size:	
Pedal Feel – Firm Brake Pedal	<input type="checkbox"/>	<input type="checkbox"/>	Tire Make / Model Rear Set:	Tire Size:	
Pads: 6mm min. thickness. If below 6mm must present back-up set at Tech check-in	<input type="checkbox"/>	<input type="checkbox"/>	Rotors/drums: no deep scoring, pitting, cracks. Exceed min. thickness	<input type="checkbox"/>	<input type="checkbox"/>
Fluid: DOT per mfr. specs. Fresh with a year, bled within 6 months	<input type="checkbox"/>	<input type="checkbox"/>	Date of last flush/bleed:		
Functioning Brake Lights- Mandatory					
Suspension, Steering and Driveline, Fluid, and hoses	P	F		P	F
Shocks/struts/springs: straight, no leaks, in good condition.	<input type="checkbox"/>	<input type="checkbox"/>	Steering bushings/bearings: in good condition, no free play	<input type="checkbox"/>	<input type="checkbox"/>
CV / Ball joints, rod ends: no excessive play, binding, vibration, shimmy, or leaking grease	<input type="checkbox"/>	<input type="checkbox"/>	Driveshaft/half-shafts: bolts torqued; balanced, no excessive play	<input type="checkbox"/>	<input type="checkbox"/>
Power steering lines: good overall condition, no leaks.	<input type="checkbox"/>	<input type="checkbox"/>	E36 & E46 BMW 3-series: Please see important tech note on p. 8 regarding power steering line failures		
Hoses: No coolant, fuel, oil, brake fluid, or PS leaks	<input type="checkbox"/>	<input type="checkbox"/>	Porsche GT3 and BMW E36/E46 series: Please see tech note regarding cooling system failures and remedies		
Motor, and Exhaust	P	F			
Condition: Running well, no excessive smoking (oil or otherwise)	<input type="checkbox"/>	<input type="checkbox"/>	Mounts: in good condition	<input type="checkbox"/>	<input type="checkbox"/>

¹ Open-top vehicles permitted are those with fixed, built-in rollover protection (e.g., Lotus Elise/Exige, Ferrari Spyder, Porsche Targa, T-top 'Vettes and pony cars). Vehicles with integrated retractable factory hardtops hard tops are not considered convertibles and are also permitted without modification.

² **Convertibles with retractable soft tops and/or full removable hard tops MUST have a sanctioning body approved cage and current Log Book (SCCA, NASA, ChampCar, etc).**

Throttle: no binding, full travel, returns freely	<input type="checkbox"/>	<input type="checkbox"/>	Belts: tensioned and in good condition, no cracks or fraying	<input type="checkbox"/>	<input type="checkbox"/>
Exhaust: No cracks, leaks; securely mounted	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Seats and Restraints – Please consult tech note on page 6 prior to completing this section. It is the owner's responsibility to ensure that aftermarket passenger safety equipment is installed per mfr. specifications. Installation by a knowledgeable technician is very strongly advised .	P	F	Seats and restraints equivalent for Driver & Passenger Fixed Racing Seat use requires a roll bar/roll cage and appropriate harnesses	<input type="checkbox"/>	<input type="checkbox"/>
DOT approved belts: 3- or 4 pt.	<input type="checkbox"/>	<input type="checkbox"/>	Seats: secure, good condition; appropriate type for restraints	<input type="checkbox"/>	<input type="checkbox"/>
Racing harnesses (5, 6, 7 pt.): SFI or FIA approved; no damage or fading.	<input type="checkbox"/>	<input type="checkbox"/>	SFI - Expiration date: FIA - Manufacture date:	<input type="checkbox"/>	<input type="checkbox"/>
Roll cage, roll bar, or harness bar padding in place	<input type="checkbox"/>	<input type="checkbox"/>	No contact with the helmeted head, SFI 45.1 closed-cell padding must be installed around head area for both driver and passenger.	<input type="checkbox"/>	<input type="checkbox"/>
Windshield, wipers, interior and mirrors	P	F	Windshield: No major cracks across driver's field of vision	<input type="checkbox"/>	<input type="checkbox"/>
Wipers: good condition, operating & functional	<input type="checkbox"/>	<input type="checkbox"/>	Mirrors: rear-view mirror <u>mandatory</u> ; securely mounted	<input type="checkbox"/>	<input type="checkbox"/>
Sun/moon roof closes and secures	<input type="checkbox"/>	<input type="checkbox"/>	Interior: no sharp edges. Loose mats/carpets must be removed	<input type="checkbox"/>	<input type="checkbox"/>
Battery – Securely mounted- Absolutely no zip ties	P	F	Battery is securely mounted. Absolutely no Zip ties.	<input type="checkbox"/>	<input type="checkbox"/>
Positive terminal and all other "hot" binding posts are covered	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

GVC BMW CCA RESERVES THE RIGHT TO EXCLUDE ANY VEHICLE FROM EVENTS, THAT IN OUR JUDGEMENT, DOES NOT MEET OUR MINIMUM SAFETY STANDARDS

INSPECTORS ARE NOT LIABLE FOR THE SAFETY OF THIS VEHICLE

Inspector (Print) _____ Inspector (Sign) _____ Date _____

DRIVERS/OWNERS: YOUR SIGNATURE ON THIS FORM INDICATES YOUR ACCEPTANCE OF THE FOLLOWING TERMS:

I acknowledge that the technical inspection performed on my automobile is solely for the purpose of meeting the driving school minimum standards for car preparation, and that no representation is made by the inspectors, or any other person selected by me, as to the vehicle's roadworthiness for street or track. No warranties are implied or expressed in passing or failing the inspection performed. I release the inspectors from any and all liability arising from their inspection. I acknowledge that ***I remain solely responsible at all times for the safety and roadworthiness of my vehicle*** and am not relying solely on the inspection in deciding whether or not to drive my automobile. I acknowledge that drivers/owners are solely responsible for ensuring that the pre-event technical inspection is performed adequately, that all problems identified during inspection have been corrected, and that the vehicle is safely prepared for a high-performance driving event.

The Genesee Valley Chapter of BMW CCA reserves the right to exclude any vehicle from the event for failing this safety inspection, or for any other reason pertinent to the safety of the school and its participants.

The Genesee Valley Chapter, BMW CCA, the event organizers, instructors, the inspecting facility and its personnel, the event facility, and its personnel, shall not be held liable for any incident involving you or your vehicle causing damage and/or injury.

Vehicle Owner (Print) _____ (Sign) _____ Date _____

Print (preferably double sided) all pages of this form and bring it to your inspecting garage.
Bring pages 1-2 of the completed, and signed form to event check-in.
Provide Page 3 to the inspecting garage if they request it.

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Vehicle Owner (Print)_____ (Sign)_____ Date_____

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Tech Inspection Shops

Below is a list of suggested independent shops and new car dealers in the GVC geographic region with the experience and expertise to inspect your vehicle for a GVC Ultimate Driving School. **All novice drivers (D students) MUST have their car inspected by a professional shop.** All other drivers are STRONGLY encouraged to do the same. You may choose one of the shops listed below, or other shops of your choosing with similar expertise.

Pre-event inspections are free at some, but not all listed shops. Necessary repairs to pass inspection are charged at the normal shop rate.

DRIVERS/OWNERS ARE SOLELY RESPONSIBLE FOR ENSURING THAT THE PRE-EVENT TECHNICAL INSPECTION IS PERFORMED ADEQUATELY, THAT ALL PROBLEMS IDENTIFIED DURING INSPECTION HAVE BEEN CORRECTED, AND THAT THE VEHICLE IS SAFELY PREPARED FOR A HIGH-PERFORMANCE DRIVING EVENT

Genesee Valley Chapter Area (WNY)

Eksten Autoworks 78 Bennington Dr. Rochester, NY 14616 585-621-8200 www.ekstenautoworks.com	Mr. Best Wrench 2401 Bedell Rd. Grand Island, NY 14072 716-773-2989 www.mrbestwrench.com
The Little Speed Shop 500 Lee Rd. Rochester, NY 14606 585-647-0339 www.thelittlespeedshop.com	Berg Racing 1660 Boulter Industrial Pkwy. Webster, NY 14580 585-545-4265 bergracing@gmail.com www.berg-racing.com
Towne BMW/MINI 8215 Main St. Williamsville, NY 14221 716-505-2100 www.townebmw.com www.townemini.com	BMW of Rochester 4250 W. Henrietta Rd. (NY Rt 15) Rochester, NY 14623 585-359-7373 www.bmwrochester.com
MINI of Rochester 3875 W. Henrietta Rd. Rochester, NY 14623 585-334-6464 www.miniofrochester.com	Gault Auto Sport BMW 2507 North St. Endicott, NY 13760 607-785-5028 www.gaultautosportbmw.com
Burdick BMW 5947 E. Circle Drive Cicero, NY 13039 315-459-6050 www.burdickbmw.com	Upstate Imports LLC (2 Locations) 2221 Erie Blvd E Syracuse, NY 13224 315-445-2277 9073 Oswego Rd. Baldwinsville, NY 13027 315-303-7309 www.upstateimports.com

HARNESSES, SEATS, AND ROLL-BAR/ROLL CAGE INSTALLATIONS**HARNESSES/SEATS**

1. We reserve the right to fail tech for cars with OEM or competition restraints in poor condition due to material failure, excessive age, or improper installation. All aftermarket **restraints must be installed following the manufacturer's specifications** for safe installation.
2. **If fixed back racing seats are installed, use of a Roll Bar or Roll Cage is mandatory, along with appropriate harnesses.**
3. **Seats must be compatible with the installed harnesses:** Seats must provide routing slots to prevent shoulder harnesses from slipping off the shoulders in an accident. The bottom edge of slots should allow belts to ride directly on shoulder or HANS device, NOT on the seat back. Seat bottoms must have routing slots that allow installation of anti-submarine belts according to manufacturer specifications when using 5-, 6-, or 7-point harnesses.



It is ***strongly recommended*** that cars equipped with 5-, 6-, or 7-point harnesses have seats *designed for their use*. We DO NOT permit the use of such harnesses with seats that have sloping seat backs lacking openings for shoulder belts, such as the OEM seats found in many Porsches (shown on the left) and older Corvettes. Unsupported shoulder harnesses will fall off the shoulders in an accident, rendering the entire restraint useless. Three-point DOT harnesses as installed by the manufacturer are the only belts approved for use with such seats.

4. **All non-DOT approved racing harnesses must carry an SFI or FIA rating.** Belts past expiration date are okay IF judged to be in good condition.
5. **Belts worn in accidents involving significant impacts are assumed to be damaged and MUST be replaced,** whether or not that damage is visible.
6. **Equal Restraint Rule:** *Harnesses and seats must be functionally equivalent (but not necessarily identical) for both driver and passenger.* If the driver uses a racing harness, a harness must also be available for the passenger. If the passenger only has 3-point belts, the driver must also use 3-point belts.

ROLL-OVER BARS, ROLL CAGES, HARNESS BARS

1. Roll-over bars, cages, or harness bars must be *securely and safely installed* in the vehicle.
2. **It is critical to prevent/minimize occupant contact with the bar/cage structure in an accident.**
 - a. Roll hoops and other structural supports should be far enough from the helmeted head of both driver and passenger to prevent/minimize contact in the event of an accident.
 - b. **Roll bars must be covered with closed-cell, SFI-approved padding** in the area around the driver's and passenger's heads, and is *highly recommended* anywhere else (knees/thighs/arms) that the belted occupants might contact the bar/cage in an accident.
 - c. Roll bar/cage structure must support seat backs in the case of seat back failure.
3. **Harnesses:**
 - a. Shoulder harnesses must be attached to the roll cage, harness bar, or chassis behind the driver and passenger, and ***all belts must be mounted as specified by the harness manufacturer.***
 - b. Shoulder harness attachment must be constrained to prevent the belts from sliding side to side when wrapped around a roll bar or harness bar.

Technical Note: BMW Power Steering Line Failures

On-track failures of the power-steering-return hose are of concern on E36 ('92-'99) and E46 ('99-'06) 3-Series BMWs. The failures have all been the same: the return hose separated from the power-steering rack cooler at the factory-crimped connection. This failure results in power-steering fluid being disgorged onto the track in a few seconds, creating a very serious hazard for the afflicted car and following vehicles. Of course, steering power-assist is lost as well. Please note that we have seen replacement OE hose assemblies also fail on their first track session, so replacing the power-steering cooler/return-hose assembly with stock parts has been shown to be ineffective in addressing the problem.

Although there is not complete consensus within the BMW-repair community as to the cause of these failures, many feel that the primary problem is that the return hose is too short, and that engine movement [probably most severe in the on-track environment] exacerbates the problem. Deteriorated engine and/or transmission mounts exacerbate drivetrain movement, and some feel that high temperatures may also be an extenuating factor.

In preparing your E36 or E46 for a track event, it is imperative that you carefully check your engine and transmission mounts for deterioration, separation and for excessive motion of the engine and/or transmission. This inspection is facilitated by the use of a long pry bar. If your car is prepared by someone other than yourself, ensure that he/she is advised of the problem and knows what to look for.

You should also seriously consider replacing the power-steering-return hose with a suitable piece of hose a few centimeters longer. BMW hose # 32-41-1-131-524 [12-mm ID (inside diameter), cut to length] is known to work in this application. You will also need two hose clamps # 11-15-1-727-509 [15-18-mm]. Some claim success with aftermarket high-temperature hose of 1/2-inch ID, but be advised that the BMW hose fits the nipple on the steering- cooler more tightly than do some nominal 1/2-inch ID hoses. In the photo, the ferrule is where the failure occurs.



We have added an item to the driver-school Tech Form regarding this hose failure, and at event-day Tech we will be looking to see if you have addressed the problem.

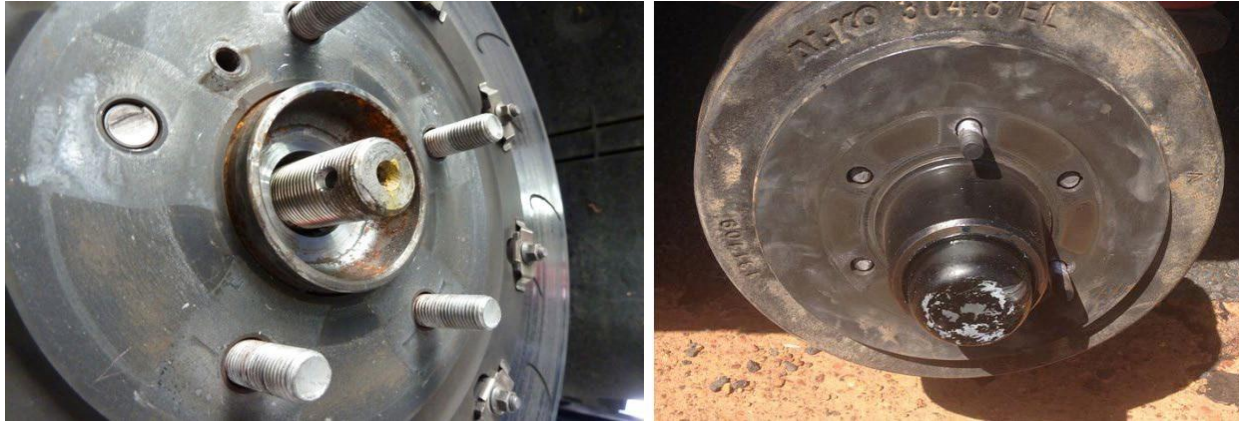
Replacing the return hose is a straightforward operation. After the car has been secured on jack stands or a lift and allowed to cool, begin by cutting the return hose and allowing the contents of the system to drain into a pan. Note that the return hose is the SMALLER of the two hoses attached to the power-steering-fluid reservoir. Then, CAREFULLY slit [as shown in the photo] and remove the ferrule/hose from the power-steering-cooler outlet. An abrasive wheel was used for the photo, but a cutting pliers will suffice. Ensure that the hose nipple under the ferrule is not damaged by the slitting operation. If it is damaged, you will need to procure a new cooler-return- hose assembly.

When the ferrule and hose have been removed from the cooler outlet, you should see a hose nipple like this:



Continue by removing the other end of the return hose from the power-steering-fluid reservoir, then cut the new hose to the appropriate length and install to the cooler and reservoir with two hose clamps. You may find that your removed hose contains a restriction orifice located about 10-cm from the reservoir. You can remove this orifice and push it into your new hose, securing the orifice with a third hose clamp. Refill the system with fresh Dexron ATF or other suitable fluid and bleed the system. Check for leaks and you should be done.

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Technical Note: Wheel Bolts/Studs/Nuts

When was the last time you checked your wheel studs or wheel bolts?

You've prepped your car for the track, got fresh brake pads, have plenty of tread on your tires, new oil and coolant. How about your wheel studs or wheel bolts? Did you know that wheel studs and bolts should be considered wear items, and their replacement should be accelerated on a car that sees track time? Wheel stud failure can lead to a serious accident. It's hard to analyze the studs or bolts yourself, and replacement is relatively inexpensive (less than \$200 per car), so we recommend that you inspect yours frequently and replace yours periodically for peace of mind.

