



**ORPCA**  
**2008 High Performance Driver Education**  
**Vehicle Tech Inspection**

*A vehicle inspection is required to participate in our HPDE events*

Revised  
**Jan. 29, 2008**  
**drc**  
**Rev 6**

**Instructions:**

- 1) Print the first 5 pages of this form
- 2) Complete the Owner & Vehicle Information section
- 3) **Sign and Date,**
- 4) Take this form to your repair shop or dealer for an inspection
- 5) Bring the Completed form to your First HPDE day of the season

A proof-of-inspection card will be issued to the owner at that time and is to be used during track tech for the 2008 DE season.

*I understand that I am responsible for the suitability, condition, and safe operation of my vehicle at ORPCA Driver Education events. I am fully liable for this vehicle's condition and operation, and hereby release, defend, indemnify and hold harmless the Technical Inspector, Inspector's affiliated shop or business (if any), ORPCA and any and all of its Officers, Directors, Event Chairs, driving event volunteers, driving event entrants, members, and Portland International Raceway from any liability in ORPCA organized Driver Education events. I further agree to release, waive, discharge, and covenant not to sue any of the aforementioned parties.*

**Owner Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_



**Owner & Vehicle Information**

Name: \_\_\_\_\_

Mailing Address(street/city/state/zip): \_\_\_\_\_

Email: \_\_\_\_\_

Eve Phone: \_\_\_\_\_ Day Phone: \_\_\_\_\_

Vehicle Year / Make / Model/ Color: \_\_\_\_\_

Vehicle VIN: \_\_\_\_\_ License Plate \_\_\_\_\_

Modifications: \_\_\_\_\_

**Inspection Information**

This form is a guideline to the owner based on past experience with cars participating in HPDE events. Many of the areas that this covers are areas that go unattended for long periods of time. This inspection is intended to notify you of some of the possible deficient maintenance conditions and ensure that you remedy them before you join us at the circuit. It is by no means a complete list of possible issues. Having this inspection done does not guarantee that the vehicle will stand up to the rigors of an HPDE event.

**Inspector:** *Please examine the vehicle with respect to the below ORPCA inspection guidelines, and select either a Pass, Fail, or N/A (not applicable to this vehicle) grade based on your judgment of the vehicle versus ORPCA's description. **All items must marked as pass, fail or N/A.** This vehicle will be used at high speeds on a closed circuit course and will be subject to high forces, heat, and other mechanical stresses. Note any deficiencies to the owner. Please make a copy for your records and give the customer the original after the inspection is complete.*

<b>SHOP NAME:</b>	<b><u>Overall Condition:</u></b>  <b>PASS</b> _____ <b>FAIL</b> _____
<b>INSPECTED BY:</b>	
<b>DATE:</b>	

Item	Description	Pass	N/A	Fail
<b>Engine</b>				
1.	No oil leaks or drips from oil lines, engine, or reservoirs. Oil filter tight. Wetness OK as long as there is no active dripping or grease buildup.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	No coolant fluid leaks from lines or reservoirs. Cap tight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Belts properly adjusted and in good condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Throttle linkage operates freely with strong return springs intact (except e-throttle cars).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Battery mounted securely with metal or original hardware, in good condition and not leaking. All caps must be intact and secure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Engine and transmission mounts in good condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Notes/Comments

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**Brakes**

7.	Hydraulic fluid reservoir intact with no leaks, cap tight, fluid clear (except specifically colored fluids) and full. Fluid should be bled and replaced frequently. Do not mix silicone fluid with other types. Silicone fluid is not recommended for street cars.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Brake lines intact under car and at wheels. Flexible lines attached correctly to prevent binding.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	Pads/shoes of sufficient depth – 50% or more material remaining is recommended	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	Rotors / drums in good condition. Adequate thickness, no cracks (minor spider cracks around holes OK), no warpage / runout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Notes/Comments

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**Suspension & undercarriage**

11.	Front and rear wheel bearings adjusted for correct play.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	Suspension arms attached securely and undamaged.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	Ball joints and steering tie rods in good condition with minimal play and no leakage evident.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	Anti-sway bars attached securely and mounted properly. Drop links aligned properly and in good condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	Shock absorbers in good operating condition with no leaks and securely attached.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	No rust near structural members or attachment points, attachment points on body strong and secure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Item	Description	Pass	N/A	Fail
<b>Suspension &amp; undercarriage (cont.)</b>				
17.	Exhaust system intact, no leaks, hung securely, does not touch bodywork when moved by hand. Mufflers required for all events; must be installed securely and without leaks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	Half-shafts & CV boots secure with no leaks or tears. If applicable, Guibo and center support bearing in good condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Notes/Comments

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**Steering**

19.	Power Steering reservoir intact, filled and with no leaks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	Steering rack & boots in good operating condition with no fluid leaks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	Steering wheel operates freely and is securely attached. Adjustable columns must have functioning locking mechanism.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Notes/Comments

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**Interior**

22.	All seats securely attached to floor at all possible points; front seatbacks intact and securely attached to base; seatback locks functional; headrests as delivered from the manufacturer and adjusted properly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	Manufacturer installed seat belts for front seat positions, in excellent condition with no fraying or brittleness, securely attached and in correct working order. Shoulder adjustment mechanism working properly and secure. NOTE: See section below for aftermarket occupant restraint system requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.	Pedals operate freely and return to rest position strongly. Brake pedal firm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.	Sufficient roll-over protection – Open cars: Any make of car delivered with factory-installed roll over protection meets the minimum standards for PCA DE events. In these cars the soft-top must be in the up position or the hard top installed. If a car does not have factory installed roll over protection, a structural roll bar must be installed, which meets the "broomstick" rule (the driver's helmeted head is below a bar placed on top of the rollbar and windshield).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.	Optional fire extinguisher mounted securely using metal fasteners (no plastic brackets) within reach of driver.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Item	Description	Pass	N/A	Fail
<b>Interior (cont.)</b>				
27.	Storage compartment doors securely attached and latch properly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.	Rearview mirror installed securely and usable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Notes/Comments				

**Exterior**

29.	All glass securely attached and free of cracks (includes headlights). Minor divots and stars OK if less than 1 inch diameter. Lexan or Plexiglass windows OK. Driver's window must be operable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	All doors securely latch and operate both inside and outside the car.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31.	Gas cap in good working condition and without leakage of fluid or vapor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.	Fuel supply & return lines securely and safely attached to vehicle.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.	Tires in good condition with no sidewall bubbles, cracking, cord or belts showing. No leaks or temporary repairs. DOT-approved tires must have visible tread depth. Vehicle must have same tire brand and type at all corners and identical tires on each axle. Tires must be speed-rated for the maximum vehicle speed capability (generally VR or ZR). Check for adequate inflation pressure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.	Wheels in excellent condition with no bends, cracks or damage. Valves attached securely and with caps. Valve braces attached correctly and securely (if applicable).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.	Wheel bolts or lugs have engagement depth equal to <i>at least</i> the fastener's diameter. Fasteners torqued to manufacturer's recommended level (see vehicle manual). All fasteners of same type per wheel. Wheel studs cannot protrude past the wheels/tires	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.	Body modifications securely attached with no dangerous edges or points visible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37.	No or very minimal visible body rust.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.	Mirror(s) securely attached. Street cars must have at least 1 exterior mirror on driver side; non-street cars need only interior mirror.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39.	All existing brake light(s) functional. Non-street cars need at least 1 brake light.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40.	Windshield wipers functional. Optional for non-street cars which will not be operated in the rain.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Notes/Comments

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## Aftermarket (non-OEM) Passenger Restraint Equipment installation requirements

**Harness Systems:** If the participant chooses to install a 5 or 6 point harness system several changes to the automobile must be made to create a safe occupant restraint system. Harnesses must include an antisubmarine strap and be mounted in an approved manner consistent the manufacturer's instructions.

The Harness system must be used in conjunction with a seat which has the supplied routing holes for the shoulder and anti-submarine belts. All pieces of the restraint system must be installed in accordance with the manufacturer's instructions.

This means that a seat is required to have the proper routing holes for the harness as supplied by the seat manufacturer for the shoulder and anti-submarine straps. The shoulder straps should be mounted at ~90 degrees to the axis of your spine or at most 40 degrees down from horizontal. Harness bars are an acceptable way to ensure that the proper angle is achieved and the harness belts must be attached to the vehicle in compliance with the harness manufacturer's instructions. When a HANS device is used, the restraints shall be installed in compliance with the device manufacturer's recommendations.

Because the addition of the harness system means that the occupants are fastened upright in the vehicle, a properly padded roll bar or roll cage is strongly encouraged to complete the SYSTEM. The use of one without the other may result in an unsafe environment and is not a COMPLETE SYSTEM.

Due to UV degradation and wear the harness webbing must be replaced every five years. The installation or purchase date of the harnesses are the beginning of this period. Please make sure to maintain proof of purchase or installation.

In general 4 point restraint systems that do not incorporate antisubmarine technology are not allowed in vehicles at ORPCA HPDE events. If the vehicles owner can produce documentation that proves certification by the manufacturer that the 4 point system is suitable for use on their vehicle and incorporates antisubmarine technology then this system will be allowed provided it is installed in compliance with the manufacturer's instructions

Note: There are only a few expectations to the 4 point rule above for non-Porsche automobiles. None of these apply to a Porsche AG Manufactured vehicle. Vehicles manufactured by Porsche AG must be equipped with a 5 or more point harness system with antisubmarine belt if such a system is installed.

Note: Please bring a copy of the manufacturers certification for your vehicle and the installation instructions with you to the tech inspection site so the inspector can verify compliance. If you do not supply this documentation then the tech inspector may fail your vehicle.

Item	Description	Pass	N/A	Fail
42	Aftermarket restraint system installed per manufacturers specifications and the requirements documented above.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Speed Rating

In Germany some highways do not have speed limits and high speed driving is permitted. Speed ratings were established to match the speed capability of tires with the top speed capability of the vehicles to which they are applied. Speed ratings are established in kilometers per hour and subsequently converted to miles per hour (which explains why speed ratings appear established at "unusual" mile per hour increments). Despite the tire manufacturer's ability to manufacture tires capable of high speeds, none of them recommend the use of their products in excess of legal speed limits.

Speed ratings are based on laboratory tests where the tire is pressed against a large diameter metal drum to reflect its appropriate load, and run at ever increasing speeds (in 6.2 mph steps in 10 minute increments) until the tire's required speed has been met.

It is important to note that speed ratings only apply to tires that have not been damaged, altered, under-inflated or overloaded. Additionally, most tire manufacturers maintain that a tire that has been cut or punctured no longer retains the tire manufacturer's original speed rating, even after being repaired because the tire manufacturer can't control the quality of the repair.

Over the years, tire speed rating symbols have been marked on tires in any of three ways shown in the following examples:

225/50SR16                      225/50SR16 89S                      or 225/50R16 89S

Each of these was an acceptable method of identifying speed ratings.

Early tires had their speed rating symbol shown "within" the tire size, such as 225/50SR16. Tires using this type of branding were not to have been produced after 1991.

225/50SR16	112 mph, 180 km/h
225/50HR16	130, 210 km/h
225/50VR16	in excess of 130 mph, 210 km/h

Beginning in 1991, the speed symbol denoting a fixed maximum speed capability of new tires must be shown only in the speed rating portion of the tire's service description, such as 225/50R16 89S. The most common tire speed rating symbols, maximum speeds and typical applications are shown below:

M	81 mph	130 km/h	
N	87 mph	140km/h	Temporary Spare Tires
P	93 mph	150 km/h	
Q	99 mph	160 km/h	Studless & Studdable Winter Tires
R	106 mph	170 km/h	H.D. Light Truck Tires
S	112 mph	180 km/h	Family Sedans & Vans
T	118 mph	190 km/h	Family Sedans & Vans
U	124 mph	200 km/h	
H	130 mph	210 km/h	Sport Sedans & Coupes
V	149 mph	240 km/h	Sport Sedans, Coupes & Sports Cars

When Z-speed rated tires were first introduced, they were thought to reflect the highest tire speed rating that would ever be required, in excess of 240 km/h or 149 mph. While Z-speed rated tires are capable of speeds in excess of 149 mph, how far above 149 mph was not identified. That ultimately caused the automotive industry to add W- and Y-speed ratings to identify the tires that meet the needs of new vehicles that have extremely high top-speed capabilities.

W	168 mph	270 km/h	Exotic Sports Cars
Y	186 mph	300 km/h	Exotic Sports Cars

While a Z-speed rating still often appears in the tire size designation of these tires, such as 225/50ZR16 91W, the Z in the size signifies a maximum speed capability in excess of 149 mph, 240 km/h; the W in the service description indicates the tire's 168 mph, 270 km/h maximum speed.

225/50ZR16	in excess of 149 mph, 240 km/h
205/45ZR17 88W	168 mph, 270 km/h
285/35ZR19 99Y	186 mph, 300 km/h

Most recently, when the Y-speed rating indicated in a service description is enclosed in parentheses, such as 285/35ZR19 (99Y), the top speed of the tire has been tested in excess of 186 mph, 300 km/h indicated by the service description as shown below:

285/35ZR19 99Y	186 mph, 300 km/h
285/35ZR19 (99Y)	in excess of 186 mph, 300 km/h

As vehicles have increased their top speeds into Autobahn-only ranges, the tire speed ratings have evolved to better identify the tires capability, allowing drivers to match the speed of their tires with the top speed of their vehicle.

Courtesy of the Tire Rack web site.