



NASA Autocross Car Classification Form (NXR-NXH)--2010 (v10.1)

Owner's Name _____ Date _____ Region _____
Car Number _____ Car Color _____ e-mail _____
Car Year _____ Make _____ Model _____ Trim _____
NASA-X Base Class _____ Base Weight Listing (from NASA-X Rules) _____ lbs.
2010 Declared Minimum Competition Weight (with driver) _____ lbs.

Proceed to calculate your vehicle's modification points assessment for up-classing purposes. Fill in the blanks with the number of modification points assessed for each item that affects your vehicle. You may leave the lines blank next to modifications that your vehicle does not have. Proceed to Page 2, and calculate all modification points' assessments, then fill in total points below. ALL Factory Options and Parts Not on the Base Trim Model Must Be Assessed Points!!!

_____ Total Number of Modification Points from assessments listed on pages 2 through 5 of this document
_____ Total Number of Points from * (+7) or ** (+14) from section 1.2 of the NASA-X Classing document
_____ Forced Induction Vehicles automatically enter +5 here (all turbocharged and/or supercharged cars)
[] Total Modification Points for Up-classing

- 20 thru 39 points - Up ONE Class
40 thru 59 points - Up TWO Classes
60 thru 79 points - Up THREE Classes
80 thru 99 points - Up FOUR Classes
100 thru 119 points - Up FIVE Classes
120 thru 139 points - Up SIX Classes
140 thru 159 points - Up SEVEN Classes
160 thru 179 points - Up EIGHT Classes
(180 or more points - up NINE classes)

Base Class: NX _____ Final Competition Class: NX _____

Any vehicle that exceeds the maximum points assessment set forth in this document (i.e. beyond class NASA-X R with 19 points added) may be excluded from the official event results and run only in an "EXPO" class, as determined by the NASA-X National Director or any NASA-X Regional Director.

For purposes of NASA-X points assessments, the term OEM will be defined as follows: Any part that is identical in size, shape, and functional characteristics compared to the part that originally came on the vehicle, from the manufacturer, as a standard feature of the base model as it is listed in section 1.2 of the current NASA-X National Classes document (factory options and specialty model parts are considered non-OEM) or is listed as a standard replacement part by the OEM manufacturer. Some parts that are produced by aftermarket manufacturers as generic replacement parts may not require a points assessment provided that: they are the same size and shape, and have the same functional characteristics as the OEM part, and that they provide no significant improvement in performance, longevity, or reliability. If you have any questions about the modification points, consult your NASA-X Director. Errors and omissions could result in disqualification and other penalties.

This current Classing Form summarizes the current NASA-X National Classes document available from http://www.nasaproracing.com/rules.htm . Participating NASA-X drivers may be required to file this form with regional or national NASA-X Officials before a specific season or event, TBA in advance. Otherwise please fill it out and save it for self-classing purposes before entering any NASA-X event.

TIRE POINTS:

- _____ 1) The following DOT-approved R-compound tires: Hankook Z214 (C90 & C91 compounds only), Hoosier A6 +13
- _____ 2) DOT-approved R-compound tires with a UTQG treadwear rating of 40 or less (examples: BFG R1, Goodyear Eagle RS, Hankook Z214 (C71, C70, C51, C50), Hoosier R6, Kumho V710, GAC/Koni & VRL Hoosier +10
- _____ 3) DOT-approved R-compound tires with a UTQG treadwear rating of 50 to 130 (ex. Kumho V700, Michelin Pilot Sport Cup, Nitto NT01, Pirelli PZero Corsa, Toyo R888, Toyo RA-1, Yokohama A048, etc) +7
- _____ 4) Non-DOT-approved racing slicks +30 (of any origin--re-caps and re-treads are not permitted)
- _____ 5) The following tire sizes will be used as the base tire size for each **Base Class** for all vehicles regardless of their OEM tire size(s). All vehicles in a given base class may use this tire size (or smaller) without a points assessment:

NXR: 335mm, NXU: 315mm, NXS: 305mm, NXA: 295 mm, NXB: 265mm, NXC: 255mm,
NXD: 245mm, NXE: 235mm, NXF: 215mm, NXG: 195mm, NXH: 175mm

Tire width points assessed or points credited are determined by the difference between the width of the **largest tire** on the vehicle and the assigned base tire size as follows:

Equal to or greater than: 10mm +1, 20mm +4, 30mm +7, 40mm +10, 50mm +13,
60mm +16, 70mm +19, 80mm +22, 90mm +25, 100mm +28, 110mm +31, 120mm +34, etc.

Equal to or less than: -10mm -1, -20mm -4, -30mm -7, -40mm -10, -50mm -13, -60mm -16,
-70mm -19, -80mm -22, -90mm -25, -100mm -28, -110mm -31, 120mm -34, etc.

Tire width is determined by the number printed on the tire sidewall by the manufacturer. If a tire does not have a manufacturer's printed number on the sidewall, then actual tread width measurement will be used. UTQG tread wear ratings are as of the date of the current version of the TT rules. Any new tire or tire with a changed UTQG tread wear rating must be evaluated by the NASA-X National Director before the rating will be legal for use in NASA-X classing. All DOT-approved tires must be available for purchase by the general public through Federal or state licensed tire dealers.

Base Class Tire Size _____ mm Actual Tire Size _____ mm Difference _____ mm #Points _____

Total Tire Modification Points

WEIGHT REDUCTION POINTS:

Weight reduction points are based on the actual vehicle minimum competition weight (with driver). Removal and lightening of non-essential parts is permitted unless stated otherwise in these rules. Modification of the OEM frame, sub-frame, and floor pan are not permitted. Removal or lightening of engine parts is permitted only as listed elsewhere in the current NASA-X rules & classing doc's.

If the base weight used for base classing purposes (listed in Section 1.2 of the 2010 NASA-X Classes document) minus minimum competition weight (with driver, able to be started and driven) is greater than: 5 lbs +1, 20 lbs +2, 35 lbs +3, 50 lbs +4, 65 lbs +5, 80 lbs +6, 95 lbs +7, 110 lbs +8, 125 lbs +9, 140 lbs +10, 155 lbs +11, 170 lbs +12, 185 lbs +13, 200 lbs +14, 215 lbs +15, 230 lbs +16, 245 lbs +17, 260 lbs +18, 275 lbs +19, 290 lbs +20, 305 lbs +21, 320 lbs +22, 335 lbs +23, 350 lbs +24, 365 lbs +25, 380 lbs +26, 395 lbs +27, 410 lbs +28, 425 lbs +29, 440 lbs +30, 455 lbs +31, 460 lbs +32, 475 lbs +33, 490 lbs +34, 505 lbs +35, etc...

Base Wt. _____ lbs. minus Min. Comp Wt. _____ lbs. = _____ lbs = _____ points

Total Weight Reduction Modification Points

ENGINE/DRIVETRAIN POINTS:

- __N/A__ 1) Engine swap: All engine swaps must be evaluated for new base classification by the NASA-X National Director on an individual basis, unless a base class for the particular swap is listed in 1.2 Base Classifications or in Appendix A. Please refer to section 1.5 of the 2010 NASA-X Classes document.
- __N/A__ 2) Increased number of camshafts or non-OEM (non-stock) head(s)/hybrids: same as 1), refer to section 1.5.
- __N/A__ 3) Non-OEM turbo or supercharger, or upgraded or modified turbo/supercharger: same as 1), refer to section 1.5.
- _____ 4) Increased displacement by: <1.5% +0, 1.5% to <5.5% +4, 5.5% to <7% +6, 7% to <10% +8, 10% to <15% +10, 15% to <20% +15, >20% +20. Formula to calculate % = current disp. divided by OEM disp., minus 1, x 100 = %
Ex: 407ci/351ci =1.16, minus 1= .16, x 100 = 16% (+15 pts); 1852cc/1799cc = 1.029 minus 1 = .029 x 100 = 2.9% (+4 pts)

- _____ 5) Modified or non-OEM camshaft(s) or cam timing gears +6 (for one or more)
- _____ 6) Valve size change, modified, ported or polished OEM head (other than simple shaving of the head only) +6
- _____ 7) Any modifications that result in increased engine compression ratio (including shaving the head or decking the block to factory specs): 0.50 or less +0, >0.50 +3, >1.0 +6, >2.0 +10, >3.0 +15
- _____ 8) De-stroked engine +4
- _____ 9) Replacement pulleys (other than for supercharger) or non-electrical fan removal +1
- ____N/A_____ 10) Port modification for rotary engine: same as 1), refer to section 1.5.
- _____ 11) Added dry sump oil system +7 (+14 if motor is lowered from OEM location)
- _____ 12) Aftermarket computer system (any non-OEM “stand-alone” or “piggyback”): +3 naturally aspirated, +10 forced induction
- _____ 13) Modification of the OEM air intake/box, air filter location, air piping to the turbo/supercharger/intercooler/throttle body/carburetor, or hood/fascia/fender air inlet(s), outlets, or vents +1 (air filter upgrade alone—0 pts.)
- _____ 14) Replacement pulley for OEM supercharger +4
- _____ 15) Aftermarket boost controller or modification/alteration of OEM vacuum lines that serve to function as a boost contr +4
- _____ 16) Aftermarket or modified wastegate actuator, wastegate, or vacuum line(s) that serve to control the wastegate actuator function or increase peak boost +3
- _____ 17) Add aftermarket intercooler +7
- _____ 18) Non-OEM or modified intercooler +4 (Intercooler sprayers are not permitted unless they came on the OEM base trim model of the vehicle).
- _____ 19) Non-OEM or modified/porting throttle body +2; independent throttle bodies +4
- _____ 20) Non-OEM, modified/ported, or deleted intake manifold: 4 cyl. +1, 6cyl. +2, 8 cyl. +3, 12A & 13B rotary +2, all other rotary +3
- _____ 21) Non-OEM or modified carburetor, fuel rail, fuel injectors, fuel pump(s), and/or fuel pressure regulator +2 (no points for fuel pump alone if using OEM fuel and timing maps, sensor inputs and ignition timing)
- _____ 22) Water injection system +6 (alcohol-water mixtures are not permitted)
- ____N/A_____ 23) Nitrous oxide injection is illegal
- _____ 24) Modification or porting of the exhaust manifold +2
- _____ 25) Aftermarket or modified header +2
- _____ 26) Non-OEM or modified exhaust piping, resonators, or mufflers downstream from the header, exhaust manifold, or turbo (does not include catalytic converter removal/upgrade) +2 (Note: Replacement of a failing OEM exhaust system may be permitted without a points assessment if the OEM Definition is strictly adhered to.)
- _____ 27) Removal, upgrade, or modification of catalytic converter(s). +1
- _____ 28) Non-OEM sequential (semi-automatic) or dog-ring (non-synchromesh) transmission (includes altered gear ratios) +7
- _____ 29) Upgrade number of forward gears in transmission or altered gear ratios +3
- _____ 30) Final drive ratio modification +3 (includes OEM sport package differentials for cars not listed separately in section 1.2 Base Classing)
- _____ 31) Added paddle/electronic shift +3
- _____ 32) Added limited slip differential or welded/locked differential +3
- _____ 33) Changed or modified limited slip differential (or welded/locked OEM LSD) +1
- _____ 34) Added traction control +3 (no points if proven disabled during competition)
- _____ 35) Relocation of engine/transmission between 1 and 10 inches of the OEM location +7 (note: Relocation of less than 1 inch is not assessed points, and more than 10 inches is not permitted without the approval of the NASA-X National Director.)
- _____ 36) Modification/upgrade from a fixed to a floating rear axle +3

Total Engine/Drivetrain Modification Points

SUSPENSION/BRAKES/CHASSIS POINTS:

- _____ 1) Non-OEM shocks/struts/dampers with an external reservoir or more than two ranges of adjustment—must still take points for springs below +10 (example: compression (bump) and both high & low rebound adjustments).
- _____ 2) Non-OEM shocks/struts/dampers with a “Piggy Back” external reservoir (fixed reservoir without a connecting hose) OR with shaft diameter 40mm or greater —must still take additional points for the springs below +7
- _____ 3) Non-OEM or modified/re-valved shocks/struts/dampers +3 (all others)(springs not included)
- _____ 4) Non-OEM or modified coil springs, leaf springs/spacers/brackets, or torsion bars +2
- _____ 5) Conversion of torsion bar/leaf spring suspension to coil spring and strut/shock suspension +2
- _____ 6) Add, replace, remove, or modify anti-roll bars (“sway” bars—front, rear, or both—may have spherical joints on the end links without additional points assessment) +2
- _____ 7) Replace or modify control arms (other than plates, shims, slots, or eccentric bolts/bushings for simple camber/caster adjustment only) or RWD/AWD rear trailing arms (may have spherical/metallic joint for the connection to the spindle/knuckle) +4

- _____ 8) Relocation of front suspension mounting points +6
- _____ 9) Relocation of rear suspension mounting points +6
- _____ 10) Changing the mounting orientation/design of the OEM shock and/or spring perch to invert them +1
- _____ 11) Using the alternate control arm mounting location on cars equipped OEM with multiple choices (example: to increase track width) +6
- _____ 12) Changing the orientation or design of an OEM mounting point or pick-up point of a control arm for a panhard bar or trailing arms +1
- _____ 13) Replaced or modified K-members that change the location of the lower control arms +8
- _____ 14) Tubular K(cross)-members that do not change the location of the lower control arms +2
- _____ 15) Bump steer kits or shimming of the steering rack +2
- _____ 16) Alteration of ball joints/dive angles +2
- _____ 17) Add panhard rod or Watt's link (regardless of whether the Watt's link replaces an OEM panhard rod or not) +4
- _____ 18) Replace or modify an OEM panhard rod or Watt's link +2
- _____ 19) Add torque arm +4
- _____ 20) Replace or modify an OEM torque arm +2
- _____ 21) Increase in track width greater than **four (4)** inches due to non-OEM axles, control arms, brake rotors/hats, wheel spacers, hubs, wheel offset, and/or camber adjustment +6 (measured from the inside of one tire to the outside of the opposite tire at ground level—averaging the measurements in front of and behind the contact patch to negate the effect of toe)
- _____ 22) Non-OEM rear trailing arms **on FWD vehicles** (for stiffness only, no change in suspension mount or pick-up points from stock) +1
- _____ 23) Non-OEM rear control arms on FWD vehicles (for stiffness and wheel alignment only, no change in suspension mount or pick-up points from stock) +1
- _____ 24) Non-OEM brake calipers +2
- _____ 25) Metallic replacement suspension bushings (Heim joints/spherical joints) +3 (except for pillow ball camber plate joints, sway bar end links already assessed points in 6) above, and control arm spindle/knuckle joints already assessed points in 7) above)
- _____ 26) Add front lower stress/arm brace (two attachment points maximum) +1
- _____ 27) Add front strut tower bar (two attachment points—bolted in or as component of the cage) +1
- _____ 28) Add rear strut tower bar (two attachment points—bolted in or as a component of the cage) +1
- _____ 29) **Add a third (or more) attachment point to front or rear strut tower bar (or replace an existing/OEM three point bar) +1**
- _____ 30) Add or modify other chassis stiffening devices or fabricated parts (such as lower strut braces or lower arm braces (with greater than two attachment points), subframe connectors, subframe braces, subframe mounts/bushings, etc) +3
- _____ 31) Non-OEM driver/cockpit adjustable sway bar or suspension settings +4
- _____ 32) Seam or stitch welding of the body/chassis +5

Total Suspension/Brakes/Chassis Modification Points

ROLLBAR/CAGE POINTS:

4- point roll bar and 6 or 8-point (**two main hoop, two rear brace, two front hoop, and either two front firewall or foot well optional mounting points**) roll cage designs constructed per the NASA CCR may be utilized without a NASA-X modification point assessment. Additional bars and/or attachment points within the driver's compartment that exceed the allowances in the CCR are also permitted. The following roll cage designs are permitted but will be assessed points as follows:

- _____ 1) One or more bars that penetrate the front bulkhead/firewall +2
- _____ 2) One or more bars that are welded to the chassis (directly or with a plate) anywhere farther than 6" from the end of **one of the above 6 or 8 listed** tubes where it terminates at a plate +2

Total Roll Bars/Cages Modification Points

Grand Total Of All Modification Points (Enter this number on page 1)

NO-POINTS MODIFICATIONS:

- 1) Rolled fender lips
- 2) Flared fenders
- 3) Sun/moonroof removal and cover roof hole.
- 4) Battery replacement/lightweight battery/dry cell
- 5) Air bag removal
- 6) OEM jack and spare tire removal
- 7) Floormat removal (required)
- 8) Wheels, studs, spacers, wheel bearings replacement/upgrade, hub modification/replacement, all with less than 4 inches of total track width gain, also [axle modification or replacement \(unless otherwise assessed points above\)](#).
- 9) Simple camber, caster, and toe adjustment by any method that does not alter suspension mounting points (unless the modification used is otherwise assessed points above). Bolt on camber/caster plates are not assessed points
- 10) Ride height adjustment (must still take points for springs and torsion bars above)
- 11) Air filter upgrade (without modification of the air filter housing or air intake system)
- 12) Radiator upgrade/shrouding/fascia modification (drilled or cut holes/slots) that only provides increased airflow to the radiator or oil/transmission coolers (without aerodynamic or engine air intake improvement)
- 13) Starter motor replacement
- 14) Alternator replacement (must be able to sustain vehicle operation without a battery)
- 15) Oil systems and coolers other than added dry sump
- 16) Motor mounts and inserts replacement/upgrade or modification (with up to 1 inch of relocation of the motor/transmission)
- 17) Engine rebuild with head shave, block decking and 0.020" overbore—provided that compression ratio is not increased by more than 0.5 and displacement is not increased by greater than 1.49%. Forged pistons and internals are legal; however, points must be assessed for de-stroking, and/or increased displacement and compression ratio if greater than the limits listed above. (Note: 0.020" overbore with OEM rods and overbore pistons will yield an increase in displacement of approximately 1.1% for most engines.)
- 18) Engine balancing and blueprinting
- 19) Spark plug wires, plugs, coil, ignition replacement/upgrade
- 20) Turbo blow-off valve upgrade, modification, or addition
- 21) Removal of the engine balance shaft and/or balance shaft drive mechanism
- 22) Lightweight flywheel and/or clutch assembly
- 23) Fuel: Any grade of commercially available unmodified gasoline or diesel--all octane levels of retail available race gas are permitted. No "home brewed" methanol/ethanol/alcohol mixtures are permitted. Methanol injection systems are illegal. Fuel additives are prohibited. Retail available E-85 is permitted.
- 24) Brake duct addition or modification, including electric fans (water sprayers are illegal). Two holes may be cut or drilled out of the front fascia for brake air ducts. Any hole providing improved intake air to the engine will be assessed one (1) point under Engine 13).
- 25) Non OEM brake pads and rotors
- 26) Brake lines, boosters, [proportioning valves](#), and master cylinder modification or replacement.
- 27) Emergency brake removal
- 28) Non-metallic replacement suspension bushings
- 29) Steering wheel replacement
- 30) Mirror addition, [removal](#), or replacement
- 31) Gear shifters and shift knob replacement/upgrade
- 32) Seat harnesses
- 33) Maximum of two hundred and fifty (250) lbs. of added ballast—All ballast must be of solid material (no fluids or shot pellets) and safely secured in any location on the vehicle approved by NASA technical inspectors. The preferred method is to use at least one (1) 3/8-inch grade-5 bolt, two (2) "fender" washers and a locking nut system for every fifteen (15) pounds of weight.
- 34) Data acquisition systems and/or telemetry
- 35) Non-OEM driver's seat
- 36) Non-OEM front passenger seat
- 37) Relocated battery
- 38) Adding a hardtop to a convertible and/or removal of convertible soft top/frame

- 39) Shock tower reinforcement plate (to strengthen tower shock mount location only--no bars)
- 40) Shock mount replacement/modification (only if already taking points for both shocks and springs)(may raise or lower mount location up to two (2) inches if no horizontal movement.)
- 41) Accelerator, brake, and clutch pedal modification or replacement.
- 42) Drive by wire to cable throttle conversion (throttle body must remain identical to OEM in both size and shape to avoid a +2 throttle body assessment).
- 43) OEM ECU/PCM reprogramming [via reflashing or replacement/aftermarket ROM chips or simple ROM boards](#) (The OEM ECU/PCM box/housing and hardware must be used).
- 44) [SAFC or VAFC \(Super Air Flow Converter/VTEC Control Air Flow Converter\)](#)
- 45) Non- OEM sensors or alteration of sensor inputs (such as non-programmable MAF or MAP voltage “clamps”)
- 46) Steering rack replacement or modification without geometry change (ratio changes)
- 47) Non-OEM valve springs and retainers
- 48) Ignition timing adjustments
- 49) NACA ducts, air ducts, or air hoses placed in a side window frame solely for purposes of driver cooling
- 50) Front wing/vent window removal and replacement with Lexan
- 51) Headlamps, headlight covers, and fog lights may all be removed, and the holes may be covered with material that replicates the shape of the OEM light/cover, leaving the shape of the OEM fascia intact. Uncovered holes may be used for brake ducts. Any hole providing improved intake air to the engine will be assessed one (1) point under Engine 13).
- 52) [OEM air conditioner system removal with or without A.C. delete pulley.](#)
- 53) [ABS \(anti-lock braking system\)--Only OEM systems offered specifically for the car model as a factory option. No OEM systems offered for a different car model or aftermarket systems are permitted.](#)
- 54) [EGR, smog pump, charcoal canister and associated vacuum line and hose removal.](#)
- 55) [The addition of a second fuel pump inside an OEM fuel tank, serving only as a transfer pump to help prevent fuel starvation, that is not connected to the fuel line providing fuel to the engine in any way, and does not increase the maximum fuel flow or pressure provided by the OEM fuel pump.](#)
- 56) Add, replace, or modify front fascia or air dam
- 57) Add, replace or modify a single front splitter/spoiler/wing/foil
- 58) Add, replace, or modify rear wing or spoiler
- 59) Add or modify canards/winglets
- 60) Add or fabricate any flat bottom/belly tray
- 61) Add rear diffuser, replace or modify OEM rear diffuser, rear bumper cover, or rear “fascia”
- 62) Add rear vertical panels in any location
- 63) Add or modify side skirts
- 64) Add vortex generator to roof, rear window, or rear deck lid
- 65) Front side window frame air dams/diverters (driver and/or passenger side)