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NASA Performance Touring (NASA PT)

Official 2014 National Rules

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Version 9.2.1, January 15, 2014

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1 Definitions and Claims

NASA Performance Touring (NASA PT) is an automobile competition series focused on road course competition, and shall function as an advertising and marketing tool for the series sponsors, the independent sponsors of each team, as well as the official sanctioning body of the series. The trade name, “NASA Performance Touring (NASA PT)”, and these rules are the property of the National Auto Sport Association, Incorporated[®]; located at P.O. Box 2366, Napa Valley, CA 94558; 510-232-NASA (6272).

2 Sanctioning Body

The NASA PT series is sanctioned by the National Auto Sport Association (NASA). All events are governed by these rules, applicable addendums, prima facie rules, as well as those found in the latest version of the NASA *Club Codes and Regulations*[®] (CCR).

3 Intent

The intent of these rules is to provide mandates to ensure that all vehicles are modified within clearly established limits, so as to ensure an even platform, in which a contest of driving skill may provide the most talented drivers with great rewards. These rules provide the NASA series administration a guideline to use when making decisions regarding NASA PT. The intent of the rules and safety considerations will be the overriding factors in making such decisions, as opposed to a constrained interpretation of the rules based on phraseology or verbiage. The rules shall be applied in a logical manner that seeks to provide competitors a safe and fair venue for competition.

If a performance modification is not specifically allowed by the rules, it is prohibited. A permitted item cannot be modified to perform either a prohibited function, or the function of an item that would otherwise be assessed points under the modification rules. Vehicle legality is the sole responsibility of the driver.

4 Purpose

NASA PT provides a venue for spirited on-track competition with a high degree of both safety and convenience. NASA PT, along with its sister series, NASA ST and SU provide a home for nearly every type of racecar to compete in a fair and logical competition environment.

5 The Classes

5.1 General Car Classification

5.1.1 Base Classes and Modification Points

NASA PT consists of 5 competition classes, PTB, PTC, PTD, PTE, and PTF. In addition, there are two classes (G & H) that are listed for purposes of base classing only. There will be no competition in either of these classes. Vehicle model groups are defined for classification purposes in Section 5.2 by those vehicles equipped at their original year, make, model and equipment level specifications, without factory options. **Unless otherwise specified in the base class listing, a vehicle's U.S. domestic market base trim model (BTM), without factory upgrades or options, will be used for purposes of base classing and modification points assessment.** The vehicles that are specifically listed and classed below that were never available for retail sale in the U.S.A. will use the base trim package of the vehicle in its primary domestic market. All other non-USDM models need to be assessed by the National PT Director for base classification. Vehicle model groups in Classes B to H, and "STSU" (Super Touring, Super Unlimited) are listed as follows below under their base classification in Section 5.2. **One asterisk * denotes a seven (7) point initial assessment, and two asterisks ** denotes a fourteen (14) point initial assessment that gets added to the total number of Modification Points for the purpose of up-classing.**

Cars may be up-classed as defined below in Section 5.3 based on vehicle modifications. **All factory options and other modifications by the factory that are not included in the basic trim package of a model** (or in the non-basic trim package specifically listed below in 5.2 to assign a PT base class), **must be assessed Modification Points as in Section 5.3.** OEM special edition cars that are not listed under the base classifications need to be verified with National PT Director to determine the correct base class, or whether they will simply be assessed modification points for all factory upgrades compared to their standard counterparts. New cars will be classified as they enter competition on a provisional basis. The National PT Director will determine the classifications, and they will be posted on the Performance Touring website <http://performancetouring.com> in the Rules section. Any changes to base classifications, rules revisions or additions, and Technical Bulletins will also be released on the Performance Touring website <http://performancetouring.com> in the Rules section, and will supercede these rules. Links to these sections will also be provided in the Performance Touring forum at www.nasforums.com. Any modification waiver(s) approved by the National PT Director for an individual competitor's vehicle will be by e-mail, and a copy of the e-mail must be attached to the competitor's Car Classification Form.

Once a vehicle exceeds the limits of the PTB class (by initial base classing into "STSU", up-classing due to modification points, or surpassing the "Adjusted Weight/Horsepower Ratio" limit), it will be classed in either Super Touring 3 (ST3), Super Touring 2 (ST2), Super Touring

1 (ST1), or Super Unlimited (SU) based on the criteria set forth in the NASA Super Touring and Super Unlimited Rules. The definition of the term “Adjusted Weight/Power Ratio” and the method of calculation are located in Appendix A of these rules. Note that the weight tables and [Modification Factors](#) used to calculate the “Adjusted Weight/Power Ratio” in Super Touring differ from those used in Performance Touring (and Time Trial B-F). **The minimum “Adjusted Weight/Power Ratio” for any car in PTB is 10.50:1, regardless of how many points it has, or which base class it begins in. Any car with an “Adjusted Wt/Hp Ratio” lower than this cannot compete in PT, and moves to the ST race series.**

Some NASA race classes and NASA guest classes for purpose-built racecars have been assigned a PT competition classification in 5.2.1. Provided that a vehicle complies with all of the rules for its race class, it is exempt from upclassing in Section 5.3. If the vehicle does not comply with all of the rules of its race class (including tires), then it will need to be re-classified by the National PT Director. [Drivers of those vehicles must have an official copy of those rules at the track, available for use during tech inspection.](#) Purpose built racecars and kit cars that do not have a base classification may run in the Super Touring ~~R1, Super Touring R3~~, or Super Unlimited classes, depending on their “Adjusted Weight/Power Ratio”. However, some could possibly be classed into lower level classes on an individual basis as they present for competition. Competitors seeking base classification of their vehicle should contact the National PT Director by e-mail (greg@nasa-tt.com). New cars will be classified as they enter competition on a provisional basis.

All cars with engine swaps, aftermarket forced induction, an upgraded or modified turbocharger/ supercharger, increased number of camshafts, non-OEM heads, or a ported rotary engine, need to be evaluated individually by the NASA National PT Director to determine the correct base class. The competitor must send an e-mail to the National PT Director (greg@nasa-tt.com) to request the re-classification.

5.1.2 Minimum Adjusted Weight/Power Ratios for each Class

Each competition class has been assigned a minimum “Adjusted Weight/Power Ratio”. Regardless of how many points a car has, or which base class it begins in, it may not exceed the minimum “Adjusted Weight/Power Ratio” for its competition class. Any vehicle found competing with an “Adjusted Weight/Power Ratio” less than the minimum level assigned below will be disqualified, and additional penalties (Section 6.4) may be assessed.

PTB	10.50:1
PTC	12.00:1
PTD	14.25:1
PTE	16.50:1
PTF	19.50:1

The “Adjusted Weight/Power Ratio” is calculated using the actual chassis dynamometer maximum horsepower of the vehicle, the actual, measured post-race/qualifying minimum competition weight with driver (Or, at the discretion of the Series Director, the Minimum Competition Weight listed on the PT Car Classification Form if the vehicle was either not weighed in impound, or the Dyno inspection was done at a random time), and other factors such as body type, transmission type, tire type and size. **The method used to calculate the**

“Adjusted Weight/Power Ratio” is fully described in Appendix A. These minimum “Adjusted Weight/Power Ratios” are not a substitute for base classing followed by calculation of modification points to determine the Final Competition Class. They are an additional limitation placed on vehicles to help achieve a level platform for competition in each class.

Dynamometer testing procedures are outlined in 5.4. However, it is noteworthy that dynamometer tests must be conducted on a Dynojet Model 248 or 224 for front and rear wheel drive vehicles, and on a Dynojet, Mustang, Dyno Dynamics, or Dynapack for AWD cars, in a commercial facility that offers dynamometer testing as part of their business and is open to the public. All (AWD) Dyno test results using a Mustang or Dyno Dynamics dynamometer will have 10% added to the maximum horsepower reading to obtain the number that will be used to calculate the “Adjusted Weight/Power Ratio” (Mustang/Dyno Dynamics Dyno awhp x 1.1 = Maximum awhp for wt/hp calculation).

It is not a requirement for all drivers to submit Dyno testing results, or for that matter, to have their vehicles Dyno tested before competition. However, each driver/owner is responsible for ensuring that the vehicle is compliant with the above “Adjusted Weight/Power Ratio” restrictions. If the driver/owner is unsure of the chassis dynamometer maximum horsepower of the vehicle, or if the car is close to the limit for its class, NASA recommends that the driver/owner do appropriate testing of the vehicle before competition.

Vehicles that have more than one fuel/timing program or “map” in the computer/ECU/PCM must submit their estimated horsepower level for each of those fuel/timing “maps” regardless of which one will be used during competition. As well, the method used to switch between these “maps” must be clearly written on the PT Car Classification Form.

Any hardware that allows a competitor or crew member to wirelessly connect to the ECU at any time during competition or post-competition impound is strictly prohibited, regardless of whether such hardware is external or internal to the ECU, and regardless of the direction of data flow.

NASA is actively conducting research on the use of in-car GPS monitoring units as an alternate method of compliance testing of horsepower output. Traqmate GPS data acquisition monitoring will be used in 2014 as an additional method of non-invasive compliance testing, but not as the sole reason for disqualification. If NASA elects to begin compliance testing with GPS units without Dyno testing confirmation, competitors will be given adequate notice prior to their use, including details of the units to be used, so that they may do their own testing if desired.

Exception to 5.1.2:

- 1) The size 245 BFG R1 and R1S tires will be assessed a Modification Factor of +0.4 for tire size (and not the listed +0.8) when calculating the “Adjusted Weight/Power Ratio”.
- 2) The size 275 BFG R1 and R1S tires will not be assessed a Modification Factor for tire size (i.e. not the listed +0.4) when calculating the “Adjusted Weight/Power Ratio”.

5.2 Base Classifications

5.2.1 Approved NASA Racecar and Guest Racecar Competition PT Classes

These NASA racecar and guest racecar classifications are valid provided that the car meets all of the requirements and restrictions of its own class rules, including tire size and brand if applicable. As well, specific restrictions and specifications that must be adhered to are listed for some of the below models in Appendix C (see Appendix C for details).

<u>Race Class</u>	<u>PT Class</u>
Allison Legacy	PTD (see Appendix C)
Legends (all)	PTC
Panoz '97-'99 GTRA	PTB (see Appendix C)
RSR	PTB
Spec Racer Ford	PTB

5.2.2 Base Classification Table and Listed Base Weights

Any tube-frame, never street legal, monocoque purpose-built racecar, vehicle not approved by the DOT, TUV or Japanese government for street use, or production vehicle that does not retain the OEM frame rails [and rear frame cross beam](#) and/or unibody*, strut towers, floor pan, inner/inboard side of the fender wells ([any non-horizontal aspect](#))**, transmission tunnel, rocker panels, windshield frame location, and sub-frame/[suspension cross-member](#), or is converted (partially or wholly) to a tube-frame design, that is not otherwise classed below or in Appendix B, will default to the Super Unlimited/[Super Touring](#) classes until evaluated by the National PT and/or ~~ST Director~~ for possible homologation into another class. Individual cars may be approved for classing or re-classing by the National PT Director using the vehicle's actual dynamometer measured maximum chassis horsepower and torque, and the Minimum Competition Weight of the vehicle (with driver).

* a) Frame rails, [sub-frames/suspension cross-members](#), and unibodies may have maximum diameter 0.75 (3/4) inch holes drilled into them for purposes other than lightening, such as for the attachment of ancillary parts. Cutting and channeling is not permitted. b) Frame rails may have maximum diameter 1.25 (1-1/4) inch holes drilled solely for the purpose of the placement of jacking lugs/plates. [Modification Points may apply as indicated in 5.3.](#)

** The inner/inboard side of the fender well ([any non-horizontal aspect](#)) may have holes cut specifically for the purpose of the passage of brake ducts, external shock reservoirs, and brake lines/ABS wires. Plastic fender liners may be modified and/or removed, [provided that the fender well itself is not constructed of plastic.](#)

Any vehicle that has been re-classed by the National PT Director and has had a change to either its base class or its base weight in this table since the re-classification was approved MUST be re-submitted for re-classification.

All Official (Dyno) Re-classifications sent by the National PT Director prior to [November 1, 2012](#) must be re-submitted so the re-classification can be verified, and an updated Official Re-Classification e-mail can be sent.

<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Wt.</u>	<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Wt.</u>
Acura	CL 2.2L	PTG	3064	Audi	TT (180 hp)('00-'06)	PTE	2822
Acura	CL V6	PTF*	3470	Audi	TT (225 hp)('02-'06)(AWD)	PTD	3220
Acura	CL-S	PTE	3510	Audi	TT (250 hp)('04-'06)(AWD)	PTD	3351
Acura	CL-S (6 spd)	PTE	3446	Audi	TT Quattro 3.2L ('08-'09)(AWD)	PTD**	3218
Acura	ILX 2.4L ('13)	PTE	3000	Audi	TT RS 2.5 Coupe ('12-'13)(AWD)	PTB**	3420
Acura	Integra 1.6L ('86-'89)	PTF	2300	Austin	Mini 1L (<40hp)	PTG	1358
Acura	Integra 1.8L (non-VTEC)('90-'93)	PTF*	2575	Austin	Mini 1L, 1.1L (40 to 47hp)	PTG	1450
Acura	Integra 1.8L (non-VTEC)('93-'01)	PTF*	2625	Austin	Mini Cooper (55hp)	PTG	1576
Acura	Integra GS-R	PTE	2667	Austin	Mini Cooper 1071S	PTF	1512
Acura	Integra Type-R	PTD	2600	Austin	Mini Cooper 1275S	PTF**	1433
Acura	NSX 3.0L ('91-'96)	PTC**	3047	BMW	128i Coupe ('08-'09)	PTD	3250
Acura	NSX	PTC**	3153	BMW	135i Coupe ('08-'12)	PTC**	3370
Acura	RL ('05-'07)	PTE	3984	BMW	135i Convertible ('08-'12)	PTC	3600
Acura	RL (pre'05)	PTG**	3920	BMW	1 M Coupe ('11)(3.0L turbo)	PTB**	3370
Acura	RSX	PTF**	2734	BMW	2002 ('68-'74)	PTG**	2282
Acura	RSX-S	PTD	2770	BMW	2002 ('75-'76) (2403 lb)	PTG*	2403
Acura	TL ('04-'05)	PTE*	3465	BMW	2002tii	PTE	2225
Acura	TL 3.2L ('06-'07)	PTE	3580	BMW	318 1.8L (E30)(pre-'92)	PTF*	2657
Acura	TL Type-S 3.5L ('07-'08)	PTE**	3559	BMW	318 (E36)('92-'98)(1.8L & 1.9L)	PTG**	2933
Acura	TL (pre '04)	PTF*	3487	BMW	318 ti ('95-'99)	PTF*	2778
Acura	TL-S ('02-'03)	PTE	3558	BMW	323 ('98-'00)(2.5L)	PTF*	3153
Acura	TL 6-spd MT SH-AWD ('10-'11)	PTD**	3840	BMW	325e (121 hp)	PTG**	2780
Acura	TSX ('04-'07)	PTF**	3257	BMW	325 (E30)('87-'91)(168hp)	PTF**	2855
Alfa Romeo	164 ('91-'93)(FWD) (183 hp)	PTF*	3325	BMW	325is (E30)('87-'91)(168hp)	PTE	2885
Alfa Romeo	1600 Spider	PTF	2250	BMW	325ic ('92)(168 hp)	PTF*	2990
Alfa Romeo	2000 Spider	PTE	2288	BMW	325 ('92-'95)(189 hp)	PTF**	3087
Alfa Romeo	2600 Spider	PTF**	2683	BMW	325 ('01-'06)(2.5L184 hp)	PTF**	3197
Alfa Romeo	Milano 2.5L ('87-'89)	PTF*	2907	BMW	325i ('06)(3.0L 215hp)	PTE	3285
Alfa Romeo	Milano 3.0L ('87-'89)	PTE	2907	BMW	328 2.8L ('96-'98)(E36)	PTF**	3197
Audi	A3 2.0T (200 hp)('06-'07)	PTF**	3263	BMW	328 2.8L ('99-'00)(E46)	PTF**	3260
Audi	A3 3.2 AWD (250 hp)('06-'07)	PTE*	3660	BMW	328i ('07-'12) (3.0L 230 hp)	PTE	3350
Audi	A4 1.8T (150 hp)('97-'00)	PTF	2992	BMW	328i ('12) (2.0L turbo)	PTD	3425
Audi	A4 1.8T (150 hp)(AWD)('97-'99)	PTF	3241	BMW	330 ('01-'06)(225hp)	PTE	3285
Audi	A4 1.8T (170 hp)	PTF	3252	BMW	330 ('06)(255hp)	PTE**	3417
Audi	A4 2.0T (197 hp)('05-'07)	PTF*	3428	BMW	335i ('07-'12) (3.0L turbo)	PTC**	3571
Audi	A4 2.0T AWD (200 hp)('05-'07)	PTF**	3549	BMW	5 series (<226hp)(RWD)(inc '07)	PTF**	3494
Audi	A4 2.8L (190 hp)	PTF**	3263	BMW	5 series (RWD)('08)	PTE	3500
Audi	A4 3.0L (220 hp)	PTF**	3462	BMW	540	PTE**	3803
Audi	A4 3.2L (255 hp)(AWD)('07)	PTE**	3671	BMW	M Coupe/Roadster (240hp)	PTD	3131
Audi	A6 2.7T (AWD)	PTE	3958	BMW	M Coupe (315 hp)	PTC**	3141
Audi	A6 4.2L ('00-04)(AWD)	PTE*	4024	BMW	M Roadster (315 hp)	PTC**	3141
Audi	A6 4.2L ('05-'06)(AWD)	PTE**	4145	BMW	M3 (E30)(pre-'89)	PTE**	2733
Audi	A6 4.2L ('07)(AWD)	PTD	4222	BMW	M3 (E30)('89-'91)	PTE*	2865
Audi	A8 4.2L (AWD)('97-'03)	PTE**	4068	BMW	M3 (E36)('95-'99)	PTD*	3175
Audi	A8 4.2L (AWD)('03-'06)	PTE**	4288	BMW	M3 (E46)('01-'06)	PTC**	3415
Audi	A8 4.2L (AWD)('07)	PTD	4288	BMW	M3 Convertible (E46)('01-'06)	PTC	3780
Audi	A8 6.0L (AWD)('05-'07)	PTC	4729	BMW	M3 (E90, E92, E93)('08-'11)	PTB**	3625
Audi	Coupe (110 hp)	PTG**	2507	BMW	M5 E28,E34('85-'93)	PTD*	3788
Audi	Coupe (164 hp)	PTG**	3174	BMW	M5 E39 ('00-'03)	PTC**	3792
Audi	RS 4 (4.2L) (AWD)('07)	PTB*	3957	BMW	M5 E60 ('06-'08)	STSU	
Audi	S4 ('03-'07)(AWD)	PTC	3869	BMW	M6	PTE*	3570
Audi	S4 (pre '03)(AWD)	PTD*	3593	BMW	M6 ('06-'08)	STSU	
Audi	S8 ('01-'03)(AWD)	PTD**	4068	BMW	MINI Clubman S ('08-'10)	PTE*	2800

<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Wt.</u>	<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Wt.</u>
BMW	MINI Clubman Works ('09-'11)	PTD**	2890	Chevrolet	Camaro ZL1 ('12)	STSU	
BMW	MINI Clubman Works ('12-'13)	PTC	2830	Chevrolet	Cavalier	PTF	2617
BMW	MINI Cooper ('01-'04)	PTF	2315	Chevrolet	Cavalier Z24	PTF*	2611
BMW	MINI Cooper ('05-'10)	PTG**	2546	Chevrolet	Cobalt 2.2L ('05-'08)	PTG*	2991
BMW	MINI Cooper ('11-'12)	PTF	2535	Chevrolet	Cobalt 2.4L ('06-'08)	PTF	2991
BMW	MINI Cooper S ('02-'04)	PTE**	2513	Chevrolet	Cobalt SS 2.0L (S/C)('05-'07)	PTE*	2991
BMW	MINI Cooper S ('05-'10)	PTE**	2678	Chevrolet	Cobalt SS (turbo)('08)	PTC*	2975
BMW	MINI Cooper Works ('06-'08)	PTD*	2720	Chevrolet	Corvaire (140hp)	PTF**	2500
BMW	MINI Cooper Works ('09-'11)	PTC*	2680	Chevrolet	Corvaire (95,100hp)	PTG	2500
BMW	MINI Cooper Works ('12-'13)	PTC*	2710	Chevrolet	Corvaire Corsa Turbo	PTE*	2500
BMW	Z3 4-cyl	PTF*	2701	Chevrolet	Corvaire Monza GT Spyder	PTF**	2570
BMW	Z3 6-cyl (2.5L)	PTE	2932	Chevrolet	Corvette '63-'82 (>200, <330 hp)	Dyno	3200
BMW	Z3 6-cyl (2.8L)	PTE*	2943	Chevrolet	Corvette '63-'82 (>330, <425 hp)	Dyno	3200
BMW	Z3 6-cyl (3.0L)	PTD	2943	Chevrolet	Corvette '63-'82 (>425 hp)	Dyno	3400
BMW	Z4 2.5L	PTE	2932	Chevrolet	Corvette '63-'82 (200hp)	Dyno	3200
BMW	Z4 3.0L ('03-'05)	PTD	3000	Chevrolet	Corvette C4 ('85-'91)	PTD**	3223
BMW	Z4 3.0L (215 hp)('06-'08)	PTE*	3020	Chevrolet	Corvette C4 ('92-'96) (LT1)	PTC*	3203
BMW	Z4 3.0L (255 hp)('06-'08)	PTD*	3108	Chevrolet	Corvette C4 (LT4 option) (330 hp)	PTC**	3350
BMW	Z4 M ('06-'08)	PTB	3197	Chevrolet	Corvette C5 (inc. FRC w/o Z51)	STSU	
BMW	Z4 sDrive30i ('09-'11)	PTD*	3240	Chevrolet	Corvette C5 (all w/ Z51)	STSU	
BMW	Z4 sDrive35i ('09-'11) (turbo)	PTC**	3450	Chevrolet	Corvette C6 ('05-'07)(Z51 ok)	STSU	
BMW	Z4 sDrive35is ('11) (turbo)	PTB	3520	Chevrolet	Corvette C6 ('08)(LS3)	STSU	
BMW	Z8	PTB*	3500	Chevrolet	Corvette GS ('96)	PTC**	3350
Buick	Gran Sport 455 ('70)	PTC*	3600	Chevrolet	Corvette GS ('10+)	STSU	
Cadillac	ATS 2.0L (turbo)('13)	PTC	3360	Chevrolet	Corvette Z06 ('01-'04)	STSU	
Cadillac	ATS 2.0L AWD (turbo)('13)	PTC	3540	Chevrolet	Corvette Z06 ('06-'08)	STSU	
Cadillac	ATS 2.5L ('13)	PTE*	3360	Chevrolet	Corvette ZR-1 ('90-'95)	PTB*	3500
Cadillac	ATS 3.6L ('13)	PTB	3360	Chevrolet	Cruze 1.4L Turbo ('11-'12)	PTF	2950
Cadillac	ATS 3.6L AWD ('13)	PTB	3540	Chevrolet	Cruze 1.8L ('11)	PTG*	3000
Cadillac	Catera	PTG**	3762	Chevrolet	Cruze 1.4L Turbo Eco ('11-'12)	PTF	2950
Cadillac	CTS 2.8L ('05-'07)	PTF*	3509	Chevrolet	HHR SS ('08-'10)	PTD*	3280
Cadillac	CTS 3.6L ('03-'07)	PTE*	3509	Chevrolet	Impala SS ('04-'05)	PTF*	3606
Cadillac	CTS-V ('04-'07)	PTC**	3847	Chevrolet	Impala SS ('06-'08)	PTE*	3711
Cadillac	CTS-V ('09-'11)	STSU		Chevrolet	Impala SS ('94-'96)	PTF*	4036
Cadillac	CTS-V Sports Wagon ('11)	STSU		Chevrolet	Malibu ('08-'11) 2.4L	PTG*	3415
Cadillac	STS (4.6 V8) AWD ('05)	PTD	4295	Chevrolet	Monte Carlo 3.9L LTZ ('06)	PTF**	3501
Cadillac	STS (V6)('05-'07)	PTF**	3858	Chevrolet	Monte Carlo SS 3.8L ('04-'05)	PTE	3391
Cadillac	STS (V8)('05-'07)	PTE**	3940	Chevrolet	Monte Carlo SS 5.3L ('06-'07)	PTD	3490
Cadillac	STS-V ('06-'07)	PTC*	4233	Chevrolet	Monte Carlo SS (pre '04)	PTF	3333
Cadillac	XLR ('04-'07)	PTD**	3647	Chevrolet	S10 Extreme (180hp)	PTF	3216
Cadillac	XLR-V 4.4L V8 ('07)	PTB	3810	Chevrolet	Sonic (1.4L turbo)('12)	PTF**	2600
Caterham	Super 7 (240 hp)	STSU		Chevrolet	Sonic (1.8L)('12)	PTF*	2600
Chevrolet	Aveo ('04-'07)	PTG*	2365	Chevrolet	Spark ('13-'14)	PTG	2270
Chevrolet	Camaro 3.1L	PTG*	3105	Chevrolet	Volt ('11-'12)	PTF	3780
Chevrolet	Camaro 3.4L	PTG*	3306	Chrysler	300 (3.5L) ('05-'07)	PTF*	3650
Chevrolet	Camaro 3.8L	PTF*	3307	Chrysler	300C (5.7L)('05-'07)	PTE**	4066
Chevrolet	Camaro 5.0L carb (170 hp)('87)	PTF**	3250	Chrysler	300C (5.7L) (AWD)('05-'07)	PTE**	4273
Chevrolet	Camaro SS ('98-'02)	PTC	3433	Chrysler	300C SRT8 ('05-'07)	PTC	4160
Chevrolet	Camaro SS ('96-'97)	PTD**	3439	Chrysler	Cirrus 4-cyl	PTG*	3141
Chevrolet	Camaro SS ('10-'11)	PTB*	3860	Chrysler	Conquest (turbo)	PTF**	2900
Chevrolet	Camaro SS ('12)	PTB**	3800	Chrysler	Conquest Tsi (turbo)	PTF**	3050
Chevrolet	Camaro Z28 ('98-'02)	PTD**	3439	Chrysler	Crossfire (215hp) ('04-'07)	PTE	3010
Chevrolet	Camaro Z28 (pre '98)	PTE**	3441	Chrysler	Crossfire SRT6 ('05-'06)	PTC**	3240

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Chrysler	PT Cruiser	PTG	3147	Ferrari	348 (320 hp)	PTB	3071
Chrysler	PT Cruiser GT	PTF**	3364	Ferrari	360 Challenge	STSU	
Datsun	510 (96 hp)	PTF*	2040	Ferrari	456GT	STSU	
Datsun	510 (L20B swap)	PTF**	2150	Ferrari	575M	STSU	
Datsun	1600 Roadster ('66-'70)(96hp)	PTF	2030	Ferrari	Enzo	STSU	
DeTomaso	Pantera	PTC*	3300	Ferrari	F430	STSU	
Diasio	D962R	PTR	1400	Ferrari	Superamerica	STSU	
Dodge	Caliber RT 2.4L AWD ('07-'08)	PTF	3308	Ferrari	Testarossa	STSU	
Dodge	Caliber SRT4 2.4L Turbo ('07-'08)	PTD**	3200	Fiat	124 Spider 1400	PTG**	2083
Dodge	Challenger R/T ('09-'10)	PTD**	4140	Fiat	124 Spider 1600	PTF*	2116
Dodge	Challenger SRT8 ('08-'10)	PTC*	4140	Fiat	124 Spider 1800	PTF**	2116
Dodge	Charger 3.5L ('06-'07)	PTF**	3800	Fiat	124 Sport Spider 2000	PTG*	2359
Dodge	Charger 5.7L ('06-'07)	PTD*	4031	Fiat	128 (55-60 hp)	PTG	1730
Dodge	Charger SRT8 ('06-'10)	PTC*	4140	Fiat	500 ('12-'13)(USA)	PTG*	2400
Dodge	Magnum RT	PTE*	4180	Fiat	500 Albarth (1.4L T)(('12-'13)(USA)	PTE*	2590
Dodge	Magnum RT AWD	PTE**	4393	Fiat	X1-9 1.3L	PTG*	1940
Dodge	Magnum SRT8	PTC	4260	Fiat	X1-9 1.5L	PTG**	2030
Dodge	Neon DOHC Coupe	PTF	2550	Fiat	X1-9 2000	PTB*	1973
Dodge	Neon DOHC Sedan	PTF	2550	Ford	Contour SVT	PTF**	3126
Dodge	Neon SOHC Coupe	PTF	2400	Ford	Escort 1.9L	PTH*	2356
Dodge	Neon SOHC Sedan (1st gen)	PTF	2400	Ford	Escort 2.0L	PTG*	2457
Dodge	Neon SOHC Sedan (2nd gen)	PTF	2450	Ford	Escort GT (1.8L)	PTF	2375
Dodge	Neon SRT4 ('03-'05)	PTE*	2970	Ford	Escort ZX2	PTF	2400
Dodge	Neon SRT4 ACR	PTE**	2900	Ford	Escort ZX2 S/R	PTF	2450
Dodge	Shelby Charger (110hp)	PTG**	2296	Ford	EXP 1.6L ('82-'85)	PTG	2130
Dodge	Shelby Charger (146hp)	PTF*	2500	Ford	F150 SVT Lightning	PTE*	4670
Dodge	Shelby Charger GLHS (turbo)	PTE	2550	Ford	Festiva	PTH**	1797
Dodge	Shelby Lancer	PTF	3000	Ford	Fiesta ('11-'12)	PTG**	2575
Dodge	Shelby Omni GLH (146 hp)	PTF*	2500	Ford	Focus (2.0L 16v)(('00-'04)	PTG**	2600
Dodge	Shelby Omni GLHS	PTE	2540	Ford	Focus (2.0L 16v)(('05-'11)	PTF	2550
Dodge	Stealth (DOHC)	PTE	3153	Ford	Focus (2.0L 16v)(('12-'13)	PTF*	2820
Dodge	Stealth (SOHC)	PTF	3086	Ford	Focus (2.0L 8v)(('00-'02)	PTG	2606
Dodge	Stealth Turbo ('91-'93)(AWD)	PTD	3803	Ford	Focus (2.3L 16v)(('04)	PTF	2612
Dodge	Stealth Turbo ('94-'96)(AWD)	PTC	3671	Ford	Focus ST 2.3L 16v ('07)	PTF*	2636
Dodge	Stratus 4-cyl	PTG	3192	Ford	Focus ST 2.0L (turbo)(('13)	PTD**	2910
Dodge	Stratus RT	PTF	3219	Ford	Focus SVT (2.0L)(('02-'04)	PTF**	2750
Dodge	Viper	STSU		Ford	Focus ZX4 ST (2.3L)(('05-'06)	PTF*	2636
Dodge	Viper ACR	STSU		Ford	GT	STSU	
Dodge	Viper Comp. Coupe	STSU		Ford	Mustang Boss 302 ('12)	STSU	
Eagle	Talon 2.0L (135-140hp)	PTG**	2739	Ford	Mustang Boss 302 ('13)	STSU	
Eagle	Talon Turbo ('90-'94)	PTE	2789	Ford	Mustang Cobra ('93)	PTE*	3354
Eagle	Talon Turbo ('95-'98)	PTE*	2866	Ford	Mustang Cobra ('94-'95)	PTE*	3354
Eagle	Talon Turbo AWD ('90-'94)	PTE*	3108	Ford	Mustang Cobra ('96-'98)	PTC	3393
Eagle	Talon Turbo AWD ('95-'98)	PTE*	3153	Ford	Mustang Cobra ('99 & '01)	PTC*	3285
Ferrari	308	PTD	3159	Ford	Mustang Cobra R ('00)	PTB*	3590
Ferrari	328	PTC**	2803	Ford	Mustang Cobra R ('93)	PTD*	3248
Ferrari	355	STSU		Ford	Mustang Cobra R ('95)	PTC*	3325
Ferrari	360	STSU		Ford	Mustang Cobra SVT ('02+)	PTB*	3665
Ferrari	430	STSU		Ford	Mustang GT ('05-'06)	PTD**	3450
Ferrari	550	STSU		Ford	Mustang GT ('07-'09)	PTC	3356
Ferrari	612	STSU		Ford	Mustang GT ('10)	PTC	3530
Ferrari	348 (<305 hp)	PTC*	3233	Ford	Mustang GT ('11-'12)	PTB	3770

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Ford	Mustang GT ('13)	STSU		Honda	Civic CX ('92-'95)	PTG	2094
Ford	Mustang I4	PTH**	2699	Honda	Civic del Sol S (<107hp)	PTG**	2302
Ford	Mustang I4 turbo	PTG*	3065	Honda	Civic del Sol Si (<128hp)	PTF*	2414
Ford	Mustang I6	PTG	2800	Honda	Civic del Sol VTEC (DOHC 1.6L)	PTE	2522
Ford	Mustang Mach 1	PTD**	3450	Honda	Civic DX 1.5L 16v ('88-'91)	PTG**	2165
Ford	Mustang SVO ('84-'86)	PTE	3036	Honda	Civic EX 1.6L ('92-'95)	PTF	2390
Ford	Mustang V6 (pre-'99)	PTG**	3065	Honda	Civic EX 1.6L ('96-'00)	PTF	2440
Ford	Mustang V6 ('99-'04)	PTF**	3351	Honda	Civic EX 1.7L ('01-'05)	PTF	2597
Ford	Mustang V6 ('05-'09)	PTF**	3351	Honda	Civic Non-VTEC (92hp)	PTF	1950
Ford	Mustang V6 ('10)	PTE	3350	Honda	Civic Si 1.6L ('92-'95)	PTF	2390
Ford	Mustang V6 ('11-'12)	PTD**	3600	Honda	Civic Si 1.6L ('99-'00)	PTF**	2612
Ford	Mustang V6 ('13)	PTC*	3400	Honda	Civic Si 2.0L ('01-'05)	PTF*	2782
Ford	Mustang V8 ('64-'68 <272 hp)	PTF*	2980	Honda	Civic Si 2.0L ('06-'11)	PTE*	2877
Ford	Mustang V8 ('69-'70 <291 hp)	PTF*	3250	Honda	Civic Si 2.4L ('12)	PTE**	2820
Ford	Mustang V8 ('71-'73 <286 hp)	PTF	3560	Honda	Civic Si 2.4L ('13)	PTE**	2860
Ford	Mustang V8 ('79-'86 <226 hp)	PTE	3075	Honda	Civic Type R ('07) (JDM)(225 hp)	PTC	2792
Ford	Mustang V8 LX ('87-'93 <226 hp)	PTE	3075	Honda	Civic VX	PTG**	2094
Ford	Mustang V8 GT ('87-'93 <226 hp)	PTE	3120	Honda	CRX DX 1.5L 16v ('88-'91)	PTG**	2103
Ford	Mustang V8 ('94-'98 <226 hp)	PTE*	3075	Honda	CRX DX 12v ('85-'87)	PTG**	1865
Ford	Mustang V8 ('99-'04)	PTE**	3273	Honda	CRX HF	PTG	1967
Ford	Pinto 1.6L	PTG	2000	Honda	CRX Si 1.5L ('85-'87)	PTF**	1978
Ford	Pinto 2.0L ('71-'74)	PTG	2235	Honda	CRX Si ('88-'91)	PTF*	2174
Ford	Pinto 2.3L	PTG*	2250	Honda	CRX 1.6L DOHC VTEC	PTE	2436
Ford	Pinto 2.8L	PTG*	2570	Honda	CR-Z (1.5L Hybrid)('11)	PTF	2650
Ford	Probe GT	PTF*	2875	Honda	Fit ('07-'08)	PTG*	2432
Ford	Probe Turbo	PTF*	2730	Honda	Fit ('09-'12)	PTG**	2500
Ford	Sierra Cosworth 2.0L T (204 hp)	PTE**	2756	Honda	Prelude S ('92-'96)	PTG**	2775
Ford	Sierra Cosworth AWD (220 hp)	PTD*	2816	Honda	Prelude Si ('92-'96)	PTF*	2866
Ford	Shelby GT500 5.4L S/C ('07-'09)	STSU		Honda	Prelude Si (pre-'92)	PTF	2639
Ford	Shelby GT500 5.4L S/C ('10-'11)	STSU		Honda	Prelude VTEC ('93-'01)	PTF**	2954
Ford	Taurus GL	PTH**	3326	Honda	S2000 (2.0L)('00-'03)	PTD**	2850
Ford	Taurus SHO	PTF**	3379	Honda	S2000 (2.2L)('04-'08)	PTC	2850
Ford	Thunderbird Super Coupe/Turbo	PTF**	3536	Honda	S2000 CR (2.2L)('08)	PTC**	2813
Ford	Thunderbird Turbo Coupe	PTF*	3450	Hyundai	Accent 1.5L (105hp)	PTF*	2149
Ford	Thunderbird V6 (pre-'02)	PTH**	3536	Hyundai	Accent 1.6L ('01-'08)	PTG**	2366
Ford	Thunderbird V8 ('02)	PTF**	3775	Hyundai	Elantra 1.6L	PTG**	2500
Ford	Thunderbird V8 ('03+)	PTE	3775	Hyundai	Elantra 1.8L	PTF	2453
Ford	Thunderbird V8 ('90-'97)	PTF*	3536	Hyundai	Elantra 2.0L ('00-'08)	PTF	2626
Geo	Metro 1.0L	PTH**	1804	Hyundai	Genesis 3.8L ('09-'10)	PTE*	3750
Geo	Metro 1.3L	PTH**	1940	Hyundai	Genesis 4.6L ('09-'10)	PTD**	4000
Geo	Prizm	PTF	2359	Hyundai	Genesis Coupe 2.0L Turbo ('10-'12)	PTD*	3300
Geo	Storm	PTG	2282	Hyundai	Genesis Coupe 2.0L Turbo ('13)	PTC	3360
Geo	Storm GSI	PTF*	2480	Hyundai	Genesis Coupe 2.0L T Track ('10-'12)	PTC	3300
Honda	Accord 2.0L (120hp)	PTG*	2670	Hyundai	Genesis Coupe 3.8 V6 Track ('10-'12)	PTB	3350
Honda	Accord 2.2L ('90-'97)(130hp)	PTG*	2800	Hyundai	Genesis Coupe 3.8 V6 Track ('13)	PTB**	3380
Honda	Accord 2.3L	PTG**	2976	Hyundai	Sonata 2.4L ('09-'10) (auto ok)	PTG**	3260
Honda	Accord 2.4L ('03-'07)	PTF	3097	Hyundai	Tiburon 2.0L ('03-'07)	PTG	2940
Honda	Accord 2.7 V6 ('95-'97)	PTF	3219	Hyundai	Tiburon 2.0L ('97-'01)	PTF	2633
Honda	Accord 3.0 V6 ('03-'07)	PTE	3303	Hyundai	Tiburon V6 2.7L ('03-'07)	PTF*	2986
Honda	Accord 3.0 V6 ('98-'02)	PTF*	3197	Hyundai	Tiburon V6 GT LTD 2.7L ('06-'08)	PTF	3150
Honda	Accord 3.5 V6 ('08-'12)(AT ok)	PTD	3350	Hyundai	Veloster 1.6L ('12-'13)	PTF	2584
Honda	Civic 1.6L SOHC ('88-'91)	PTF	2291	Hyundai	Veloster 1.6L Turbo ('13)	PTE	2925
Honda	Civic Base ('88-'91)	PTG	2127	Infiniti	G20 ('93-'02)	PTG	2990
Honda	Civic Coupe 1.8L ('06-'08)	PTF*	2586	Infiniti	G20 ('91-'92)	PTF	2535

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Infiniti	G35 (incl. 6MT) (pre-'05)	PTD	3435	Lotus	Esprit 4 Turbo	PTB	2866
Infiniti	G35 (incl. 6MT)('05-'06)	PTD	3524	Lotus	Exige ('06)	PTB*	2015
Infiniti	G35 Coupe 6MT ('07)	PTD	3524	Lotus	Exige S ('07)	STSU	
Infiniti	G35 (306 hp)(incl. Sport)('07-'08)	PTD*	3532	Lotus	Exige 240R, S240, S260	STSU	
Infiniti	G35x (AWD)('07-'08)	PTD**	3650	Maserati	GranTurismo	PTB*	4140
Infiniti	G37 (7 sp auto)('09-'11)	PTC**	3630	Mazda	323 (pre '95--82hp)	PTG	2075
Infiniti	I30 ('00-'01)	PTF**	3342	Mazda	323 GTX (1.6L T)	PTF	2645
Infiniti	I30 ('96-'99)	PTF*	3090	Mazda	626 2.0L	PTG	2864
Infiniti	I35	PTE*	3342	Mazda	626 2.5L V6	PTF	3023
Infiniti	Q45 ('02-'07)	PTE*	4153	Mazda	Mazda2 ('11)	PTG*	2355
Infiniti	Q45 (pre-'02)	PTF**	3895	Mazda	Mazda3 (2.0L)('04-'06)	PTF*	2696
Jaguar	S-Type 3.0L (235 hp)	PTF**	3777	Mazda	Mazda3 (2.0L)('07-'10)	PTF	2780
Jaguar	S-Type 4.0L, 4.2L	PTE**	3874	Mazda	Mazda3 (2.3L)('04-'06)	PTF*	2762
Jaguar	S-Type R 4.2L S/C ('03-'04)	PTD**	4046	Mazda	Mazda3 (2.3L)('07-'09)	PTF	2930
Jaguar	S-Type R 4.2L S/C ('05-'07)	PTC	4075	Mazda	Mazda3 (2.5L)('10)	PTF*	2930
Jaguar	XJ Vanden Plas (<301 hp)	PTE*	3819	Mazda	Mazda6 2.3L ('03-'06)	PTF	3042
Jaguar	XJ8 3.5L	PTE	3613	Mazda	Mazda6 2.3L ('07-'08)	PTG**	3091
Jaguar	XJ8 4.2L	PTE**	3613	Mazda	Mazda6 3.0L (V6) ('03-'05)	PTF**	3243
Jaguar	XJ8 S/C ('00-'07)	PTC	4001	Mazda	Mazda6 3.0L (V6) ('06-'08)	PTF*	3320
Jaguar	XJR ('98-'07)	PTC	3958	Mazda	Mazdaspeed Protegé (Turbo)	PTF**	2843
Jaguar	XJS ('88-'91)	PTF**	3915	Mazda	Mazdaspeed3 (turbo)('07-'09)	PTD*	3153
Jaguar	XKR-SC ('00-'06)	PTC*	3865	Mazda	Mazdaspeed3 (turbo)('10-'13)	PTD*	3215
Jaguar	XKR-SC ('07)	PTC**	3781	Mazda	Mazdaspeed6 (AWD)('06-'07)	PTD*	3589
Jaguar	XKE	PTD*	3100	Mazda	Miata 1.6L	PTF**	2182
Jaguar	X-Type ('02-'07) AWD	PTE	3538	Mazda	Miata 1.8L ('94-'97)	PTE	2330
Jensen-Healey	2.0L ('73-'76)	PTE*	2240	Mazda	Miata 1.8L ('99-'00)	PTE	2400
Kia	Forte (2.0L) ('10-'12)	PTF	2780	Mazda	Miata 1.8L VVT ('01-'05)	PTE*	2400
Kia	Forte 5-door (2.0L) ('11-'12)	PTF	2780	Mazda	Miata MX-5 ('06-'13)	PTE*	2525
Kia	Rio ('06-'11)	PTG**	2355	Mazda	Miata MX-5 turbo ('04-'05)	PTE*	2600
Kia	Rio ('12-'13)	PTF*	2440	Mazda	MX-3	PTG*	2443
Kia	Sephia	PTF	2472	Mazda	MX-3 GS	PTF	2582
Kia	Spectra	PTG*	2701	Mazda	MX-6 (2.2L)(110hp)	PTG*	2560
Lamborghini	Diablo VT	STSU		Mazda	MX-6 GT (turbo)	PTF*	2729
Lexus	GS300 ('06)	PTE	3536	Mazda	MX-6 V6 ('92-'97)	PTF*	2800
Lexus	GS300 ('93-'05)	PTF*	3649	Mazda	Protegé 1.6L	PTG	2493
Lexus	GS350 ('07-'08)	PTD	3704	Mazda	Protegé 1.8L	PTF	2385
Lexus	GS400	PTE**	3693	Mazda	Protegé 2.0L	PTF	2634
Lexus	GS430 ('01-'07)	PTE**	3745	Mazda	Protegé 5	PTG*	2716
Lexus	GS460 ('08)	PTD	3945	Mazda	Protegé MP3	PTG**	2725
Lexus	IS250 ('06-'08)(6sp man.)	PTF	3450	Mazda	RX-3 ('72-'78) (12A)	PTG**	2280
Lexus	IS250 (AWD)('06-'08)	PTF**	3650	Mazda	RX-7 12A	PTG**	2345
Lexus	IS F ('08-'09)	PTB*	3780	Mazda	RX-7 13B	PTE	2800
Lexus	IS300	PTF**	3255	Mazda	RX-7 13B GSL-SE (1st Gen)	PTF**	2512
Lexus	LS400	PTE	3890	Mazda	RX-7 TT (3rd Gen)	PTC**	2826
Lexus	LS430	PTE	3990	Mazda	RX-7 Turbo II (2nd Gen)	PTD	2775
Lexus	LS460 ('07-'08)	PTD	4244	Mazda	RX-8 ('04-'08)	PTD	3045
Lexus	SC300	PTF*	3560	Mazda	RX-8 ('09-'11)	PTD*	3045
Lexus	SC400	PTE*	3655	Mazda	RX-8 R3 ('09-'11)	PTC	3045
Lexus	SC430 ('02-'08)	PTE*	3840	Mazda	RX-8 (197 hp)(Auto)('04-'05)	PTE	3053
Lincoln	LS (V8) ('03-'06)	PTE	3772	Mazda	RX-8 (212 hp)(Auto)('06-'07)	PTE*	3075
Lotus	Elan M100 ('91-'92)(turbo)	PTD	2250	Mercedes	190E 2.3 (16v)	PTF**	3030
Lotus	Elise ('05-'07)	PTC**	1975	Mercedes	190E 2.6L ('86-'93)	PTF**	2955
Lotus	Esprit (V8) TT	STSU		Mercedes	C230 ('02-'05)	PTF**	3305

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Mercedes	C230 ('06-'07)	PTF**	3405	Mitsubishi	Galant 3.8L (230 hp)('02-'07)	PTF*	3616
Mercedes	C280 ('94-'00)	PTF**	3316	Mitsubishi	Galant 3.8L Ralliart ('07)	PTF*	3748
Mercedes	C280 ('06-'07)	PTE	3460	Mitsubishi	Galant VR4 (AWD) ('91-'92)	PTE	3275
Mercedes	C300 ('08)	PTE	3460	Mitsubishi	Lancer 2.0L ('02-'07)	PTG	2745
Mercedes	C32 AMG ('02-'04)	PTC*	3540	Mitsubishi	Lancer 2.0L DE, SE ('08)	PTG*	3000
Mercedes	C320 ('01-'05)	PTE	3428	Mitsubishi	Lancer 2.4L ('04-'07)	PTF*	2843
Mercedes	C43 AMG ('98-'00)	PTC	3450	Mitsubishi	Lancer Evo VIII ('03-'05)(AWD)	PTC**	3263
Mercedes	C55 AMG ('05-'06)	PTC**	3540	Mitsubishi	Lancer Evo VIII MR ('05)(AWD)	PTB	3263
Mercedes	CL55 AMG (5.4L)('01-'02)	PTC	4100	Mitsubishi	Lancer Evo IX ('06)(AWD)	PTB	3263
Mercedes	CL65 AMG ('06)	STSU		Mitsubishi	Lancer Evo MR ('06)(AWD)	PTB*	3285
Mercedes	CLK55 AMG ('04-'06)	PTC	3960	Mitsubishi	Lancer Evo RS ('06)(AWD)	PTB	3219
Mercedes	CLK430 ('99-'01)	PTD*	3323	Mitsubishi	Lancer Evo X GSR ('08)(AWD)	PTB*	3500
Mercedes	CLK430 ('02-'03)	PTD	3485	Mitsubishi	Lancer Evo X MR ('08)(AWD)	PTB**	3500
Mercedes	CLK500 ('03-'06)	PTD*	3585	Mitsubishi	Lancer Ralliart ('09)	PTC	3450
Mercedes	CLK550 ('07)	PTC*	3965	Mitsubishi	Mirage	PTG*	2183
Mercedes	CLK63 AMG ('07)	STSU		Mitsubishi	Mirage 1.8L	PTF	2293
Mercedes	E55 AMG ('03-'06)	PTB*	4087	Mitsubishi	Starion (turbo)	PTF**	2900
Mercedes	E55 AMG ('99-'02)	PTC*	3768	Mitsubishi	Starion ESI-R (turbo)	PTF**	3050
Mercedes	E63 AMG ('07)	STSU		Nissan	200SX 1.6L	PTF	2325
Mercedes	SL55 AMG ('03-'06)	PTB*	4280	Nissan	200SX 2.0L ('80-'81)	PTG*	2500
Mercedes	SL55 AMG ('07)	PTB*	4365	Nissan	200SX 2.0L Turbo	PTE	2800
Mercedes	SL65 AMG ('07)	STSU		Nissan	200SX SE-R (2.0L)	PTF	2565
Mercedes	SLK 320 ('01-'04)	PTE*	3120	Nissan	240SX	PTF**	2700
Mercedes	SLK32 AMG ('02-'04)	PTB*	3220	Nissan	240SX HICAS	PTE	2700
Mercedes	SLK 350 ('05-'08)	PTC	3230	Nissan	240SX SOHC ('89-'90) (140hp)	PTF*	2684
Mercedes	SLK55 AMG ('05-'07)	PTB	3420	Nissan	240Z	PTE	2425
Mercury	Capri 1.6L (75hp)	PTG	2135	Nissan	260Z	PTF**	2660
Mercury	Capri 2.0L ('71) (100hp)	PTF	2135	Nissan	280Z	PTF**	2800
Mercury	Capri 2.0L ('72-'74)	PTG*	2275	Nissan	280ZX	PTF**	2800
Mercury	Capri 2.3L ('76-'77)	PTH**	2491	Nissan	280ZX Turbo	PTE	2800
Mercury	Capri 2.6L, 2.8L ('72-'74)	PTF	2275	Nissan	300ZX all (Z31--'84-'88) NA	PTE	2668
Mercury	Capri 2.8L ('76-'77)	PTH*	2800	Nissan	300ZX Turbo (Z31--'84-'89)	PTE	3260
Mercury	Cougar 2.5L V6	PTF*	2892	Nissan	300ZX NA (Z32) 2+2	PTE	3414
Mercury	Marauder	PTE	4195	Nissan	300ZX NA (Z32--'89-'96)	PTE*	3174
Merkur	XR4Ti	PTE	2920	Nissan	300ZX TT	PTD**	3480
MG	Midget 1.1l, 1.3l, 1.5l	PTF	1515	Nissan	350Z (287hp)('03-'05)(enth. ok)	PTC	3188
Mitsubishi	3000 VR-4 ('91-'93)(AWD)	PTD	3803	Nissan	350Z (300hp)('06)(enth. ok)	PTC	3339
Mitsubishi	3000 VR-4 ('94-'99)(AWD)	PTD**	3760	Nissan	350Z (306hp)('07-'08)(enth. ok)	PTC*	3320
Mitsubishi	3000GT (NA-DOHC)	PTE	3219	Nissan	350Z Nismo ('07-'08)	PTB	3350
Mitsubishi	3000GT (NA-SOHC)	PTF	3131	Nissan	350Z Roadster ('06)	PTD*	3602
Mitsubishi	Eclipse 2.4L (pre-'06)	PTG**	2965	Nissan	350Z Track ('05-'06),35ann, GT	PTC*	3370
Mitsubishi	Eclipse 2.4L ('06-'08)	PTG*	3274	Nissan	350Z Track Model ('03-'04)	PTC*	3225
Mitsubishi	Eclipse GT 3.8L ('06-'08)	PTE*	3472	Nissan	370Z ('09)(6 sp. manual)	PTB*	3300
Mitsubishi	Eclipse GT 3.0L ('00-'05)	PTF**	3142	Nissan	370Z Sport Model ('09)	PTB**	3300
Mitsubishi	Eclipse Turbo ('90-'94)	PTE	2778	Nissan	370Z Nismo ('09)	STSU	
Mitsubishi	Eclipse Turbo ('95-'98)	PTE*	2877	Nissan	Altima 2.4L	PTF	2853
Mitsubishi	Eclipse Turbo ('99)	PTE	2970	Nissan	Altima 2.5L ('02-'09)	PTF*	2992
Mitsubishi	Eclipse Turbo AWD ('92-'94)	PTE*	3093	Nissan	Altima 3.5L ('02-'06)	PTE*	3225
Mitsubishi	Eclipse Turbo AWD ('95-'98)	PTE*	3157	Nissan	Altima 3.5L ('07-'08)	PTE**	3268
Mitsubishi	Eclipse Turbo AWD ('99)	PTE*	3270	Nissan	Altima 3.5L SE-R ('05-'06)	PTD	3279
Mitsubishi	Galant 2.4L ('94-'03)	PTG*	2835	Nissan	GT-R ('09+)	STSU	
Mitsubishi	Galant 2.4L ('04-'07)	PTG	3428	Nissan	Maxima 3.5L ('02-'03)	PTE*	3239
Mitsubishi	Galant 3.0L V6 (195hp)	PTF	3252	Nissan	Maxima 3.5L ('04-'06)	PTE*	3471

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Nissan	Maxima 3.5L ('07-'08)	PTE	3591	Pontiac	Vibe GT ('04-'06)	PTF	2780
Nissan	NX2000	PTF	2520	Pontiac	Vibe GT ('03)	PTF*	2780
Nissan	Pickup ('90-'97)(2WD)	PTG**	2800	Porsche	911 ('63-'69)	PTE*	2248
Nissan	Pulsar NX 1.8L	PTF	2566	Porsche	911 ('70-'73)	PTE*	2375
Nissan	Sentra 1.6L ('87-'88)(8v)(69hp)	PTG	2250	Porsche	911 ('73-'77)	PTE*	2469
Nissan	Sentra 1.6L (16v)	PTF	2299	Porsche	911 ('78-'83)	PTE**	2552
Nissan	Sentra 1.8L ('00-'06)	PTG*	2590	Porsche	911 ('84-'89)	PTD*	2756
Nissan	Sentra 2.0L ('07-'08)	PTG**	2853	Porsche	911 Carrera ('73-'77)	PTD*	2469
Nissan	Sentra SE ('98-'01)	PTF	2617	Porsche	911 Turbo 3.0L ('74-'77)	PTC**	2508
Nissan	Sentra SE-R 2.0L ('91-'94)	PTF	2520	Porsche	911 Turbo 3.3L ('77-'89)	PTC**	2937
Nissan	Sentra SE-R 2.5L ('02-'06)	PTF*	2800	Porsche	911S ('67-'69)	PTD	2248
Nissan	Sentra SE-R 2.5L ('07-'08)	PTF	3102	Porsche	911S ('70-'73)	PTD*	2374
Nissan	Sentra Spec V ('02-'06)	PTF**	2710	Porsche	912	PTF**	2095
Nissan	Sentra Spec V ('07-'08)	PTF**	3078	Porsche	914-4	PTF**	2138
Noble	M12 GTO-3R (352 hp 3.0L V6)	STSU		Porsche	914-6	PTE	2070
Noble	M400 (425 hp 3.0L V6)	STSU		Porsche	924 ('77-'79)	PTG**	2635
Oldsmobile	Cutlass Calais 2.3L Int. (150hp)	PTF	2700	Porsche	924S ('87)	PTF**	2734
Oldsmobile	Cutlass Calais 2.3L Int. (180hp)	PTF**	2730	Porsche	924S ('88)	PTE	2734
Oldsmobile	Cutlass Calais 2.3L Quad442	PTF**	2730	Porsche	924 Turbo	PTE*	2601
Oldsmobile	Cutlass Calais Quad442 W41	PTE*	2625	Porsche	928 ('78-'82)(4.5L)	PTD	3200
Opel	GT 1100	PTG	1918	Porsche	944 ('83-'87)	PTF**	2779
Opel	GT1900	PTG*	2138	Porsche	944 2.5L ('88)	PTF**	2844
Opel	Manta	PTG	2230	Porsche	944 2.7L ('89)(162 hp)	PTF**	2866
Peugeot	505 Turbo 2.2L ('86-'88)(150hp)	PTF*	2850	Porsche	944 S	PTE*	2975
Peugeot	505 Turbo 2.2L ('88-'89)(180hp)	PTF**	2950	Porsche	944 S2	PTD*	2892
Plymouth	Laser Turbo ('90-'94)	PTE	2756	Porsche	944 Turbo ('86-'88)	PTD	2899
Plymouth	Laser Turbo AWD ('92-'94)	PTE*	3073	Porsche	944 Turbo S ('88-'89)	PTD**	2998
Plymouth	Prowler	PTD*	2857	Porsche	959	STSU	
Pontiac	Fiero (4-cyl)	PTG	2590	Porsche	964 Carrera 2	PTD**	2970
Pontiac	Fiero (V6)	PTF*	2778	Porsche	964 Carrera 4 (AWD)	PTD**	3190
Pontiac	Firebird 3.4L (V6)	PTG*	3306	Porsche	964 RS	PTC**	2706
Pontiac	Firebird 3.8L	PTF*	3306	Porsche	964 RS America	PTC*	2820
Pontiac	Firebird Firehawk	PTC*	3481	Porsche	965 3.3L (Turbo II--'90-'92)	PTC**	3234
Pontiac	Firebird WS6	PTC	3499	Porsche	965 3.6L (Turbo II--'93-'94)	PTB	3234
Pontiac	Formula ('98-'02)	PTD**	3452	Porsche	968	PTD*	2910
Pontiac	Formula (pre-'98)	PTE**	3408	Porsche	968 Turbo S	PTB	2866
Pontiac	Formula '87 (5.0L, 215hp)	PTF**	3383	Porsche	993 C2 ('94-'95)	PTC*	3064
Pontiac	Grand AM 2.3L (170,180hp)	PTF**	2852	Porsche	993 C2 ('96-'99)	PTC**	3064
Pontiac	Grand Am 3.4L (V6)	PTG**	3091	Porsche	993 C2S	PTC**	3064
Pontiac	Grand Prix GT 3.8L ('98-'04)	PTF	3484	Porsche	993 C4 (AWD)	PTC**	3175
Pontiac	Grand Prix GT 3.8L ('05-'06)	PTE	3484	Porsche	993 C4S (AWD)	PTB	3197
Pontiac	Grand Prix GTP ('99-'03)	PTF*	3464	Porsche	993 Cup	STSU	
Pontiac	Grand Prix GTP ('04-'06)	PTE	3583	Porsche	993 RS 3.8L	PTB*	2800
Pontiac	Grand Prix GXP ('05-'08)	PTE**	3600	Porsche	993 Turbo (AWD)	STSU	
Pontiac	Grand Prix SE 3.1L	PTG*	3384	Porsche	993 Turbo S (AWD)	STSU	
Pontiac	GTO ('04)	PTD*	3725	Porsche	996 C2 (3.4L) ('99-'01)	PTB	2910
Pontiac	GTO ('05-'06)	PTC*	3725	Porsche	996 C2 (3.6L)('02-'04)	PTB*	2959
Pontiac	Solstice ('06-'08)	PTE	2860	Porsche	996 C4 (3.4L)	PTB	3034
Pontiac	Solstice GXP (turbo)('07-'08)	PTC	2988	Porsche	996 C4 (3.6L)	PTB	3267
Pontiac	Trans Am ('98-'02)	PTD*	3494	Porsche	996 C4S (3.6L)	STSU	
Pontiac	Trans Am (pre-'98)	PTE**	3477	Porsche	996 GT2	STSU	
Pontiac	Trans Am Turbo V6	PTD*	3346	Porsche	996 GT3	STSU	
Pontiac	Vibe 1.8L ('03-'07)	PTG*	2700	Porsche	996 Cup	STSU	

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Porsche	996 Turbo	STSU		Saturn	S-Series (SOHC) ('91-'02)	PTG*	2345
Porsche	996 Turbo S	STSU		Scion	tC ('05-'10)	PTF	2905
Porsche	997 C4 ('06-'07)	STSU		Scion	tC ('11)	PTF**	3030
Porsche	997 C4S ('06-'07)	STSU		Scion	xA ('04-'06)	PTG*	2340
Porsche	997 Carrera ('05-'07)	PTB*	3075	Scion	xB ('04-'06)	PTG	2415
Porsche	997 Club Coupe	STSU		Scion	FR-S Coupe ('13)	PTD	2885
Porsche	997 CS ('05-'07)	STSU		Subaru	BRZ Coupe ('13)	PTD	2885
Porsche	997 GT3 ('07)	STSU		Subaru	Forester XT ('04-'05) (AWD)	PTF**	3225
Porsche	997 GT3 Cup	STSU		Subaru	Forester XT ('06-'07) (AWD)	PTE	3270
Porsche	997 Turbo AWD ('07)	STSU		Subaru	Impreza 1.8L (AWD)	PTG**	2605
Porsche	Boxster ('97-'99)	PTE*	2822	Subaru	Impreza 1.8L (FWD)	PTG**	2325
Porsche	Boxster ('00-'02)	PTF**	2900	Subaru	Impreza 2.2L (AWD)	PTF**	2730
Porsche	Boxster ('02-'04)	PTD	2920	Subaru	Impreza 2.5L ('98-'01)(AWD)	PTE	2840
Porsche	Boxster ('05-'06)	PTD*	2855	Subaru	Impreza 2.5L ('02-'05)(AWD)	PTF**	2972
Porsche	Boxster ('07-'08)	PTD**	2855	Subaru	Impreza 2.5L ('06-'08)(AWD)	PTE	3016
Porsche	Boxster ('09-'10)	PTC	2880	Subaru	Legacy 2.2L ('90-'94)(AWD)	PTF	2830
Porsche	Boxster S ('05-'06)	PTC*	2965	Subaru	Legacy 2.2L ('95-'99)(AWD)	PTF*	2885
Porsche	Boxster S ('00-'02)	PTD**	2950	Subaru	Legacy 2.2L T AWD ('91-'94)	PTF*	3100
Porsche	Boxster S ('03-'04)	PTC	2911	Subaru	Legacy 2.5L ('00-'08)(AWD)	PTF**	3200
Porsche	Boxster S ('07-'08)	PTC**	2965	Subaru	Legacy GT ('05-'08)(AWD)(Turb)	PTD*	3300
Porsche	Boxster S ('09-'10)	PTB	2985	Subaru	Legacy 3.0 AWD ('08)	PTE	3545
Porsche	Boxster Spyder ('11)	PTB**	2880	Subaru	Outback 3.0 ('01-'04)(AWD)	PTF*	3630
Porsche	Carrera GT	STSU		Subaru	Outback 3.0 ('05-'07)(AWD)	PTE	3610
Porsche	Cayenne S ('03-'06)(AWD)	PTF*	4950	Subaru	Outback XT ('05-'06)(AWD)	PTE*	3415
Porsche	Cayenne Turbo ('08)(AWD)	PTC	5191	Subaru	Outback XT ('07)(AWD)	PTE	3535
Porsche	Cayman 2.7L ('07-'08)	PTC	2900	Subaru	SVX (AWD)	PTE	3375
Porsche	Cayman 2.9L ('09-'12)	PTC**	2920	Subaru	WRX 2.0L ('02-'05) (AWD)	PTD	3085
Porsche	Cayman S 3.4L ('06-'08)	PTB	3075	Subaru	WRX 2.5L ('06-'08)(AWD)	PTD*	3140
Porsche	Cayman S 3.4L ('09-'12)	PTB**	3150	Subaru	WRX 2.5L ('09-'12)(AWD)	PTC*	3175
Porsche	Cayman S 3.4L ('14)	STSU		Subaru	WRX STi ('04-'07)(AWD)	PTB	3260
Porsche	Cayman R 3.4L ('11-'12)	STSU		Subaru	WRX STi ('08-'12)(AWD)	PTB**	3395
Renault	Alliance 1.4L (60hp)	PTG	2030	Subaru	XT	PTG*	2455
Renault	Alliance 1.7L (85hp)	PTG*	2030	Subaru	XT6 (AWD)	PTF*	2885
Renault	Alliance 2.0L GTA (95hp)	PTG**	2161	Sunbeam	Tiger	PTE*	2575
Rossion	Q1	STSU		Suzuki	Swift ('94-'01)	PTG*	1930
Saab	900 Turbo SPG ('85-'89)	PTF**	2875	Suzuki	Swift 1.3L GT ('89-'94)	PTF*	1900
Saab	900 Turbo SPG ('90-'91)	PTF**	2900	Suzuki	SX4 Sport ('08-'09)	PTF	2665
Saab	9000 Aero 2.3L Turbo ('93-'97)	PTE	3265	Suzuki	SX4 Sport ('10)	PTF	2750
Saab	9-2X Aero ('05)(AWD)	PTD	3179	Toyota	Camry 2.4L ('02-'06)	PTG*	3086
Saab	9-2X Aero ('06)(AWD)	PTD*	3208	Toyota	Camry 2.4L ('07-'08)	PTG	3263
Saab	9-2X Linear ('05-'06)(AWD)	PTE	3030	Toyota	Camry 3.0L (V6)('97-'01)	PTF	3240
Saab	9-3 Aero 2.0T & 2.0T ('04-'07)	PTF**	3175	Toyota	Camry 3.0L (V6)('03-'05)	PTF*	3296
Saab	9-3 Aero 2.8L ('06-'07)	PTE**	3285	Toyota	Camry 3.3L (V6)('04-'05)	PTF*	3351
Saab	9-3 Viggen ('99-'02)	PTE*	3170	Toyota	Camry 3.3L (V6)('06)	PTF	3450
Saab	9-5 2.3T	PTE*	3470	Toyota	Camry 3.5L (V6)('07-'08)	PTE*	3461
Saab	9-5 Aero 2.3T & 2.3T ('02-'06)	PTE	3470	Toyota	Celica AllTrac ('88-'89)	PTE	3270
Saab	99 EMS ('72-'76)(2.0L)	PTG*	2560	Toyota	Celica AllTrac ('90-'93)	PTE	3272
Saturn	Ion ('03-'04)	PTF	2653	Toyota	Celica GT ('00-'05)	PTF**	2425
Saturn	Ion ('05-'07)	PTG**	2766	Toyota	Celica GT ('77-'82)	PTG**	2460
Saturn	Ion Redline ('04-'07)	PTE*	2945	Toyota	Celica GT ('83-'86)	PTG*	2500
Saturn	Sky ('07-'08)	PTF**	2933	Toyota	Celica GT ('87-'89)	PTG**	2455
Saturn	Sky Redline ('07-'08)	PTC	2990	Toyota	Celica GT ('90-'99)	PTF	2600
Saturn	S-Series (DOHC) ('91-'02)	PTF	2437	Toyota	Celica GT-S ('00-'05)	PTE*	2500

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Toyota	Celica GT-S ('83-'85)	PTG	2566	Volvo	S60 2.5L Turbo ('04-'06)(AWD)	PTE	3603
Toyota	Celica GT-S ('86-'93)	PTF	2679	Volvo	S60 2.5L Turbo ('07)(AWD)	PTF**	3651
Toyota	Celica ST ('90-'93)	PTG	2600	Volvo	S60 2.5L Turbo ('04-'06)(FWD)	PTF**	3393
Toyota	Celica Supra (1st gen)	PTF**	2789	Volvo	S60 2.5L Turbo ('07)(FWD)	PTF*	3501
Toyota	Corolla 1.8L ('03-'07)	PTF	2530	Volvo	S60 R ('04-'05)(AWD)	PTD*	3715
Toyota	Corolla FX-16 GT-S	PTF	2390	Volvo	S60 R ('06-'07)(AWD)	PTD*	3715
Toyota	Corolla GT-S 1.6L 16v ('84-'87)	PTF**	2200	Volvo	S60 2.4L T5 ('05-'07)	PTE**	3393
Toyota	Corolla GT-S 1.6L 16v ('88-'89)	PTF	2390	Volvo	S60 2.3L T5 ('01-'04)	PTE*	3406
Toyota	Corolla SR5 ('79-'83)(3TC)	PTG	2185	Volvo	S60 3.0L T6 R ('13-'14)(AWD-T)	PTD**	3850
Toyota	Corolla XRS	PTF**	2670	VW	Beetle 1.8L T (150hp)('99-'05)	PTF	2820
Toyota	Echo	PTF**	2035	VW	Beetle 1.9L TDI ('98-'03)	PTH**	2750
Toyota	Matrix ('03-'07)	PTG*	2673	VW	Beetle 1.9L TDI ('04-'06)	PTH**	2850
Toyota	Matrix XRS (180 hp)('03-'04)	PTF*	2800	VW	Beetle 2.0L ('98-'05)	PTH**	2743
Toyota	Matrix XRS ('05-'06)	PTF	2800	VW	Beetle 2.5L ('06-'08)	PTG**	2884
Toyota	MR Spyder	PTE*	2195	VW	Beetle Turbo S ('02-'04)	PTF*	3005
Toyota	MR2 (1st Gen NA)	PTF*	2380	VW	Corrado 1.8L DOHC, 2.0L DOHC	PTF**	2403
Toyota	MR2 2.2L DOHC	PTF*	2657	VW	Corrado 2.0L SOHC	PTG**	2418
Toyota	MR2 SC	PTF**	2605	VW	Corrado G60 1.8L S/C	PTE*	2558
Toyota	MR2 Turbo	PTE**	2825	VW	Corrado VR6	PTF**	2733
Toyota	Paseo	PTG**	2025	VW	Golf 1.6L, 1.8L	PTG*	2120
Toyota	Prius	PTH	2932	VW	Golf 1.8L DOHC, 2.0L DOHC	PTF	2672
Toyota	Solara 3.3L ('04-'06)	PTF*	3419	VW	Golf 1.9L TDI ('99-'03)	PTH**	2750
Toyota	Solara 3.3L ('07-'08)	PTF	3440	VW	Golf 1.9L TDI ('04-'06)	PTH**	2850
Toyota	Supra NA ('88-'92)	PTF**	3430	VW	Golf 2.0L TDI ('10)	PTG**	3000
Toyota	Supra NA ('94-'98)	PTE*	3265	VW	Golf 2.0L, 1.4L & 1.6L DOHC	PTG*	2533
Toyota	Supra T	PTE	3534	VW	Golf 2.0L ('99-'06)	PTH**	2771
Toyota	Supra TT	PTC**	3450	VW	Golf 2.5L I5	PTF*	2732
Toyota	Tacoma X-Runner ('05-'10)	PTF	3805	VW	Golf 2.8L V6	PTF*	3102
Toyota	Tercel ('88-'90) (78hp)	PTG	2020	VW	Golf 2.8L VR6	PTE	2546
Toyota	Yaris ('07-'11)	PTG**	2280	VW	Golf R ('12) 2.0L Turbo	PTD**	3300
Toyota	Yaris ('12)	PTG**	2280	VW	Golf R32 (AWD)('04)	PTD	3350
Triumph	GT6 MK I	PTF**	1905	VW	Golf R32 (AWD)('08)	PTE*	3600
Triumph	GT6 MK III	PTE	1904	VW	GTI 1.8L 8v ('85-'92)	PTG*	2267
Triumph	Spiritfire MK 2 (75hp, 1147cc)	PTF*	1564	VW	GTI 1.8L DOHC	PTF*	2267
Triumph	TR4 ('61-'64)	PTF*	2240	VW	GTI 1.8L turbo (150 hp)	PTF	2762
Triumph	TR6 ('69-'76)(2.5L S6 US Carb)	PTF*	2360	VW	GTI 1.8L turbo (180hp)	PTF*	2934
Triumph	TR6 ('69-'76)(2.5L S6 Fuel Inj)	PTD	2360	VW	GTI 2.0L 8v ('95-'98)	PTG*	2557
Volvo	242 (2.3L) ('83-'85)	PTG	2840	VW	GTI 2.0L 8v ('99-'00)	PTH**	2765
Volvo	242 GLT ('81-'85)(turbo)	PTF	3072	VW	GTI 2.0L DOHC (134 hp)	PTF*	2445
Volvo	850 2.4L n.a. ('93-'97)	PTF	3180	VW	GTI 2.0L Turbo ('06-'09)(200hp)	PTF**	3100
Volvo	850 T-5R ('95), R ('96-'97)	PTE*	3240	VW	GTI 2.0L Turbo ('10-'11)(200hp)	PTE	3070
Volvo	C30 T5 2.5L turbo ('08)	PTE**	2970	VW	GTI 2.8L V6 (174hp)	PTF	3011
Volvo	C70 T5 2.3 T Coupe ('01-'02)	PTE*	3200	VW	GTI 2.8L V6 (200hp)	PTF**	3036
Volvo	C70 T5 2.3 T Conv. ('99-'04)	PTF**	3450	VW	GTI 337 (turbo)	PTF**	2857
Volvo	C70 T5 ('06-'07)	PTF	3772	VW	Jetta 1.6L	PTH**	2040
Volvo	P1800 ('61-'62)	PTF	2215	VW	Jetta 1.8L DOHC	PTF*	2305
Volvo	S40 1.9 L ('00-'04)	PTF**	2767	VW	Jetta 1.8L SOHC	PTG	2450
Volvo	S40 2.4L ('04-'06)	PTF	3084	VW	Jetta 1.8L turbo GLI	PTF	3106
Volvo	S40 2.4L ('07)	PTG**	3234	VW	Jetta 1.9L TDI ('04-'06)	PTH**	2950
Volvo	S40 T5 ('05)	PTE	3126	VW	Jetta 2.0L GLI DOHC	PTF*	2438
Volvo	S40 T5 ('06-'07)	PTF**	3278	VW	Jetta 2.0L SOHC	PTH	2934
Volvo	S40 T5 ('05-'07)(AWD)	PTE*	3447	VW	Jetta 2.0L turbo ('06-'08)	PTF*	3259
Volvo	S60 2.4L	PTF	3230	VW	Jetta 2.5L I5 ('05-'07)	PTG	3230

<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Wt.</u>	<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Wt.</u>
VW	Jetta 2.5L I5 ('08)	PTG**	3230	VW	Rabbit 1.6L Diesel (<'92)	PTH*	2270
VW	Jetta 2.8L VR6 12v ('94-'98)	PTF	2927	VW	Rabbit 1.6L Turbo-Diesel (<'93)	PTH*	2300
VW	Jetta 2.8L VR6 12v ('99-'02)	PTG**	3113	VW	Rabbit 1.7L (74hp)	PTH**	2046
VW	Jetta 2.8L VR6 24v	PTF*	3179	VW	Rabbit 2.5L ('06-'07)	PTG**	2975
VW	Passat 2.0L turbo ('06-'08)	PTF*	3305	VW	Rabbit 2.5L ('08)	PTF	2975
VW	Passat 2.8L	PTF*	3151	VW	Rabbit GTI 1.8L (90hp)	PTG*	2120
VW	Passat 3.6L ('06-'08)	PTE*	3576	VW	Scirocco 1.6L (75-78hp)	PTH**	2015
VW	Passat 3.6L ('06-'08)(AWD)	PTE*	3700	VW	Scirocco 1.7L (74hp)	PTH**	2040
VW	Passat W8 (AWD)	PTE	3918	VW	Scirocco 1.8L DOHC	PTF*	2287
VW	Rabbit 1.6L	PTH**	2000	VW	Scirocco 1.8L SOHC	PTG*	2120

5.3 Up-Classing System

Modifications and Point Assessments:

If a car accrues 20 or more points it will be bumped up in Class. There is no limit—a car with a high level of modifications might move up several Classes.

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

One (1) asterisk * on a base class assignment denotes a 7 point initial assessment, and two (2) asterisks ** denotes a 14 point initial assessment that is added to the total number of modification points to determine the final competition class.

FORCED INDUCTION VEHICLES will add an additional five (+5) points to the total number of Modification Points to determine the final competition class. (Forced induction vehicles that have been classed or re-classed by the National PT Director based on Dyno testing are exempt from this additional five (+5) point assessment.)

All factory options and other modifications by the factory that are not included in the base trim model (BTM) of the Vehicle Model Group must be assessed points. In general, if a BTM item is either removed or re-located, it shall be considered to have been “modified”.

A. TIRES:

- 1) The following DOT-approved R-compound tires: BFG R1S, Hoosier Wet DOT (if used in dry conditions—see section 5.6) +15
- 2) The following DOT-approved R-compound tires: BFG R1, Goodyear Eagle RS AC (auto-cross), Hankook Z214 (C90 & C91 compounds only), Hoosier A6 +13
- 3) The following DOT-approved R-compound tires and those with a UTQG treadwear rating of 40 or less not listed otherwise in these rules: [Maxxis RC-1](#) (examples: Goodyear Eagle RS, Hankook Z214 (C71, C70, C51, C50), Hoosier R6, Kumho V710, etc. (note: Grand Am Continental Tire Sports Car Challenge tires OK) +10
- 4) The following DOT-approved R-compound tires: Toyo Proxes RR, Hankook TD +9
- 5) The following DOT-approved R-compound tires and those with a UTQG treadwear rating of 50 to 130: [Maxxis RC-1](#) (ex. Kumho V700, Michelin Pilot Sport Cup, Nitto NT01, Pirelli PZero Corsa, Toyo R888, Toyo RA-1, Yokohama A048, etc.) +7
- 6) DOT-approved (non-R-compound) tires with a UTQG treadwear rating of 120-200 (examples: Toyo R1R, Dunlop Direzza Sport Z1 Star Spec, Bridgestone Potenza RE070, Kumho Ecsta XS, Yokohama Advan A046 & Neova AD08, Hankook R-S3) +2
- 7) Non-DOT-approved racing slicks +30 (of any origin--re-caps and re-treads are not permitted)
- 8) 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) or their Final Competition Class. All vehicles in a given base class may use this tire size (or smaller) without a points assessment:

PTB: 265mm, PTC: 255mm, PTD: 245mm, PTE: 235mm, PTF: 215mm,

PTG: 195mm, PTH: 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, unless stated otherwise in these rules. If a tire does not have a manufacturer's printed number on the sidewall, then actual tread width measurement (**not contact patch**) will be used. UTQG tread wear ratings are as of the date of the current version of the PT rules. Any new tire or tire with a changed UTQG tread wear rating must be evaluated by the National PT Director before the rating will be legal for use in NASA PT classing. All DOT-approved tires must be available for purchase by the general public through Federal or state licensed tire dealers. Tire treatments and softeners are not permitted.

Exception(s) to A.8): The Hoosier 255/35-18 (A6 & R6) will be assessed points based on its actual 275mm size (and not the 255mm listed on the sidewall)

Note: Exception to 5.1.2:

- 1) The size 245 BFG R1 and R1S tires will be assessed a Modification Factor of +0.4 for tire size (and not the listed +0.8) when calculating the "Adjusted Weight/Power Ratio".
- 2) The size 275 BFG R1 and R1S tires will not be assessed a Modification Factor for tire size (I.e. not the listed +0.4) when calculating the "Adjusted Weight/Power Ratio".

B. WEIGHT REDUCTION:

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 (see 5.2.2). Removal or lightening of engine parts is permitted only as listed elsewhere in these rules. The exterior surface of the roof, hood, body panels, and doors must maintain their BTM size and shape unless listed otherwise in these rules.

If the base weight used for base classing purposes (above in 5.2.2) minus minimum competition weight (with driver*) 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, 470 lbs +32, 485 lbs +33, 500 lbs +34, 515 lbs +35, etc...

*Minimum Competition Weight is the vehicle's lightest weight with the driver and safety gear, during any competition session. Any driver/team whose vehicle at impound does not meet the minimum weight that they have declared on their Car Classification Form will be disqualified if the number of modification points based on the lighter actual weight puts the car in a higher competition class. As well, additional penalties may be assessed (section 6.4 and 5.4.3) for failing to meet the listed weight on the Car Classification Form.

C. ENGINE:

- 1) Engine swap: All engine swaps must be evaluated for new base classification by the National PT Director on an individual basis. Competitors must submit an e-mail request for re-classification of the vehicle. A printed copy of the Official Re-Class e-mail from the National PT Director must be attached to the PT Car Classification Form. Almost all engine swaps will require chassis Dyno testing of the competition-ready vehicle (See section 5.4 for Dyno Re-classing, Testing, and Re-class request procedures).
- 2) Increased number of camshafts, non-BTM (non-stock) head(s)/hybrids, port modified rotary engines, and non-BTM/upgraded/modified turbo or superchargers all require Dyno Re-classing by the National PT Director. A printed copy of the Official Re-Class e-mail from the National PT Director must be attached to the PT Car Classification Form. (See section 5.4 for Dyno Re-classing, Testing, and Re-class request procedures). This includes all OEM/BTM forced induction vehicles with an upgraded or modified turbo or supercharger. After re-classification, Modification Points will not be assessed for weight reduction or engine. However, if the power output of the vehicle is later increased, the participant will have to get the vehicle Re-classed again.
- 3) Aftermarket computer system (any non-BTM “stand-alone” or “piggyback”):
+3 naturally aspirated, +10 forced induction
- 4) Modification of the BTM 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.)
- 5) Non-BTM, deleted, or modified/porting throttle body +2; independent throttle bodies +4
- 6) Non-BTM or modified carburetor, fuel rail, fuel injectors, fuel pump(s), and/or fuel pressure regulator +2 (no points for fuel pump alone if using BTM fuel and timing maps, sensor inputs and ignition timing)
- 7) Non-BTM, modified/porting, or deleted intake manifold: 4 cyl. +1, 6cyl. +2, 8 cyl. +3, 12A & 13B rotary +2, all other rotary +3
- 8) Water injection system +6 (alcohol-water mixtures are not permitted)
- 9) Nitrous oxide injection is not permitted.
- 10) Replacement pulleys (other than for supercharger) or non-electrical fan removal +1
- 11) Replacement pulley for BTM supercharger or replacement of any pulley that affects BTM supercharger speed +4
- 12) Aftermarket boost controller or modification/alteration of BTM vacuum lines that serve to function as a boost controller +4
- 13) Aftermarket or modified wastegate actuator, wastegate, or vacuum line(s) that serve to control the wastegate actuator function or increase peak boost +3
- 14) Add aftermarket intercooler +7
- 15) Non-BTM or modified intercooler +4 (Intercooler sprayers are not permitted unless they came on the OEM base trim model of the vehicle).
- 16) 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 = %
Example: 1852cc/1799cc = 1.029 minus 1 = .029 x 100 = 2.9% (+4 pts.)
- 17) Modified or non-BTM camshaft(s), rocker arms, push rods, lifters, or cam timing gears +6 (for one or more)
- 18) Valve size change, modified, ported or polished BTM head (other than simple shaving of the head only) +6

- 19) 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
- 20) De-stroked engine +4
- 21) Added dry sump oil system +7 (+14 if motor is lowered from BTM location)
- 22) Modification or porting of the exhaust manifold +2
- 23) Aftermarket or modified header +2 (note--in almost all cases will require C.24) points also)
- 24) Non-BTM or modified exhaust piping, resonators, or mufflers downstream from the header primary, exhaust manifold, or turbo.(does not include catalytic converter—see C.25) +2
(Note: Replacement of a failing BTM exhaust system may be permitted without a points assessment if the BTM definition in 5.5 BTM Definition is strictly adhered to.)
- 25) Removal, upgrade, or modification of catalytic converter(s). +1 (note--in most cases will require C.24) points also if removed).

D. DRIVETRAIN:

- 1) Non-BTM sequential (semi-automatic) or dog-ring (non-synchromesh) transmission (includes altered gear ratios) +7 (does not include automatic transmissions utilizing a torque converter)
- 2) Double clutch transmissions with altered gear ratios +6 (do not also assess D.3 & D.4)
- 3) Modify number of forward gears in transmission or altered gear ratios +3
- 4) Added paddle/electronic shift +3
- 5) Added limited slip differential or welded/locked differential +3
- 6) Changed or modified limited slip differential (or welded/locked BTM LSD) +1
- 7) Added traction control +3 (no points if proven disabled during competition)
- 8) Relocation of engine/transmission between 1 and 10 inches of the BTM location +7
(note: Relocation of less than 1 inch is not assessed points. Original engine location shall be based on the BTM rear face of the engine block and the BTM crankshaft centerline.)
- 9) Modification/upgrade from a fixed to a floating rear axle +3

E. SUSPENSION:

- 1) Non-BTM shocks/struts/dampers with an external reservoir or more than two ranges of adjustment—must still take points for springs below +8 (example: compression (bump) and both high & low rebound adjustments).
- 2) Non-BTM 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 +5
- 3) Non-BTM or modified/re-valved shocks/struts/dampers +3 (all others)(springs not included)
- 4) Changing the mounting orientation/design of the BTM shock and/or spring perch in order to invert the front shocks/struts (includes non-BTM inverted shocks/struts) +1
- 5) Non-BTM or modified coil springs, leaf springs/spacers/brackets, or torsion bars +2
- 6) Conversion of torsion bar/leaf spring suspension to coil spring and strut/shock suspension +2
- 7) Add, replace, remove, or modify anti-roll bars (“sway” bars—front, rear, or both) or end links—may have spherical joints on the end links and/or relocation of the mounting points without additional points assessment +2
- 8) Non-BTM driver/cockpit adjustable sway bar or suspension settings +4

- 9) Replace, modify, or remove 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
- 10) Non-BTM rear control arms on FWD vehicles (for stiffness and wheel alignment only, no change in suspension mount or pick-up points from stock) +1 (if both front and rear use E.9)
- 11) Non-BTM rear trailing arms on FWD vehicles (for stiffness only, no change in suspension mount or pick-up points from stock) +1
- 12) Using the alternate control arm mounting location on cars equipped BTM with multiple choices (example: to increase track width) +6
- ~~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~~
- 13) Relocation of front suspension mounting points +6
- 14) Relocation of rear suspension mounting points +6
- 15) Bump steer kits or shimming of the steering rack +2
- 16) Alteration of ball joints/dive angles +2
- 17) Add panhard rod or Watts link (regardless of whether or not the Watts link replaces a BTM panhard rod or the panhard rod replaces a BTM Watts link) (may have spherical joints without an additional points assessment) +4
- 18) Replace or modify a BTM panhard rod or Watt's link (may have spherical joints without an additional points assessment) +2
- 19) Add torque arm (may have spherical joints without an additional points assessment) +4
- 20) Replace or modify a BTM torque arm (may have spherical joints without an additional points assessment) +2
- 21) Add a third link to the rear suspension that does not penetrate the floor (may have spherical joints without an additional points assessment) +4
- 22) Metallic and/or spherical-design replacement suspension bushings +3 (except for pillow ball camber plate joints, sway bar end links already assessed points in E.7) above, control arm spindle/knuckle joints already assessed points in E.9) above, and panhard rod, Watts link, torque arm, and third links already assessed in E.19), E.20), E.21), and E.22) above.)

F. BRAKES/CHASSIS

- 1) Non-BTM, modified, or relocated brake calipers and/or brake caliper brackets and/or brake rotor diameter +2
- 2) Add front lower stress/arm brace (two attachment points maximum) +1
- 3) Add a third or fourth attachment point to a front or rear strut tower bar (or replace an existing/BTM three point bar) +1 (Additional attachment points must not be tied to any other type of mounting point with anything other than sheet metal)
- 4) Add or modify other chassis stiffening devices or fabricated parts (such as lower stress/arm braces with greater than two attachment points, sub-frame connectors, sub-frame braces, sub-frame mounts, and non-rubber/non-Poly sub-frame bushings, etc) +3
- 5) Increase in track width greater than four (4) inches due to non-BTM 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)

G. AERODYNAMICS:

- 1) Add, replace, or modify front fascia and/or air dam +3 (except as provided for in I.c.3), I.f.3), I.h.14) of the No-Points Modification list) The air dam must be vertical (5° tolerance) and must not protrude from the side of the vehicle or it will be assessed an additional +3 points. for G.2 below. Additional points must be assessed below for any component of the added, replaced, or modified fascia or air dam that performs the functions of G.2) and G.3) below.
- 2) Add, replace or modify a single flat, horizontal, front splitter/~~spoiler/wing/foil~~ +3 This part may extend horizontally past the side of the vehicle no greater than five inches, with no limit on frontward protrusion. If any portion of this part that protrudes from the side of vehicle is not parallel to the ground, then additional points must be assessed for canards in G.4) below. No material, filler, or part may extend the vertical reach of the BTM front fascia without taking fascia/air dam modification points above (G.1). ~~An added spoiler, wing, or foil must originate no higher than 3 inches above the bottom edge of the BTM front fascia or additional points must be assessed above for G.1)~~
- 3) Add or modify canards/winglets (includes portions of an added/modified/replaced fascia that provide a downward force other than that listed in G.2) above) +2
- 4) Add, replace, or modify rear wing and/or spoiler +4 (a rear wing or spoiler may not exceed a height of eight (8) inches above the roofline (or BTM windshield height for convertibles), or a width greater than the width of the car body. (note: additional points must be assessed for end plates that are greater than twelve inches in height---G.8) below)
- 5) Add or fabricate flat bottom/belly tray (rearward of the centerline of the front axle) +5
- 6) Add rear diffuser (note: additional points must be assessed for any vertical panels incorporated into a rear diffuser that are greater than five inches in height---G.8) below) +2
- 7) Replace or modify BTM rear diffuser, rear bumper cover, or rear “fascia” (note: additional points must be assessed for any vertical panels incorporated into a rear diffuser that are greater than five inches in height---G.8) below) +1
- 8) Add rear vertical panels in any location (note: see G.3), G.6), G.7), and G.10)) +2
- 9) Add or modify side skirts (side skirts must be vertical or an OEM option only, and cannot connect to any other aero component) +2
- 10) Add vortex generator to roof, rear window, or rear deck lid (note: additional points must be assessed for any vertical panels incorporated into a vortex generator that are greater than five inches in height--G.8) above) +1
- 11) Removal of the front windshield/windshield frame +7 (raking is not permitted)
- 12) Front side window frame air dams/diverters (driver and/or passenger side) +2
- 13) Add a non-OEM hardtop to a convertible that is not the identical shape and size of either the BTM or OEM option hardtop for that car model +5 (note: The top must not extend rearward of the front edge of the rear deck lid.) (“Fastback” tops and toneau covers are not permitted.)

Note: Active aerodynamic modifications (including, but not limited to, computerized, cockpit adjustable, self-adjusting, and OEM/BTM, etc.) are not permitted.

H. ROLL CAGES:

6-point (two main hoop, two rear brace, two forward hoop) roll cage designs constructed per the NASA CCR may be utilized without a PT Modification Point assessment. Two additional attachment points for either two foot-well bars or two bars to the front firewall (one on each side) may be added without a PT Modification Point assessment. Additional bars and/or gusseting

within the structure of the cage are permitted without a PT Modification Point assessment. Gusseting of the 6 (CCR) attachment points listed above is permitted without a PT Modification Point assessment provided that the gussets are attached to the tube no further than six (6) inches from the end of the tube, and to the chassis no further than six (6) inches from the end of the tube where it terminates at the plate. Up to three additional attachment points solely for the purpose of bars connecting “NASCAR” style driver-side door bars to the rocker panel are permitted without a PT Modification Point assessment. Additional attachment points within the driver’s compartment that exceed these allowances are also permitted, but will be assessed points as follows:

- 1) One or more bars that penetrate the front bulkhead/firewall +2
- 2) Any other attachment point to the chassis +2

(Note: It is considered a safety hazard to cut through bars without removing them in order to avoid the Modification Point assessments above.)

I. NO-POINTS MODIFICATIONS:

a. Tires

- 1) Tire pressure monitoring systems (TPMS) (Pressure release valves are not permitted.)

b. Weight Reduction

- 1) Sun/moonroof removal and cover roof hole.
- 2) Battery replacement/lightweight battery/dry cell
- 3) Air bag removal (must be removed or disabled)
- 4) Floor mat removal (required)
- 5) BTM jack and spare tire removal, pneumatic/air jack(s) addition
- 6) BTM air conditioner system removal with or without A.C. delete pulley--no point assessment for C.10).
- 7) Lexan windshield, rear window, and rear passenger side windows (windshield must be 3/16” minimum thickness). (See section 7 Safety regarding front side windows) No uncovered holes are permitted in rear windows. Holes covered with tape or other non-porous material preventing air movement are permitted. Rear window removal without replacement is not permitted.
- 8) Front wing window/frame removal and replacement with Lexan

c. Engine

- 1) 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 [with the exception that rotary engine vehicles may add any commercially available oil designed for two-stroke engines as a "pre-mix](#). Retail available E-85 is permitted.
- 2) Air filter upgrade (without modification of the air filter housing or air intake system)
- 3) 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)
- 4) Starter motor replacement

- 5) Alternator replacement and/or relocation
- 6) Spark plug wires, plugs, coil, ignition replacement/upgrade
- 7) BTM ECU/PCM reprogramming via reflashing or replacement/aftermarket ROM chips or simple ROM boards (The BTM ECU/PCM box/housing and hardware must be used).
- 8) SAFC or VAFC (Super Air Flow Converter/VTEC Control Air Flow Converter)
- 9) Non-BTM sensors or alteration of sensor inputs (such as non-programmable MAF or MAP voltage “clamps”)
- 10) Ignition timing adjustments
- 11) Drive by wire to cable throttle conversion (throttle body must remain identical to BTM in both size and shape to avoid a +2 throttle body assessment).
- 12) Oil systems and coolers other than added dry sump
- 13) Oil catch tanks/cans
- 14) Valve cover replacement or modification
- 15) Carburetor jetting modification
- 16) Carburetor vacuum port blocking
- 17) The addition of a second fuel pump, 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 BTM fuel pump
- 18) 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, **they must be of equal or heavier weight than the BTM parts**, and 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.) **If forged internals used are lighter than the BTM internals, then Dyno Re-classing (Section 5.4) should be used to prevent disqualification.**
- 19) Engine balancing and blueprinting
- 20) Removal of the engine balance shaft and/or balance shaft drive mechanism
- 21) Non-BTM valve springs and retainers, piston rings, and rotary apex seals
- 22) Turbo blow-off valve upgrade, modification, or addition
- 23) Header and exhaust piping external wrapping, coatings, and/or paint. (The original OEM identification markings must still be legible on all exhaust components that are not assessed points on the Car Classification Form.)
- 24) EGR, smog pump, charcoal canister and associated vacuum line and hose removal.
- 25) Cryogenic treatment of engine components.
- 26) Removal of BTM coolant hoses to the throttle body (**without throttle body modification.**)

d. Drivetrain

- 1) Wheels, wheel studs, wheel bearings replacement/upgrade, hub modification/replacement, axle modification or replacement (unless otherwise assessed points above). Spindles/steering knuckles may be modified or replaced as a No-Points modification to allow for hub size change provided that there are no changes in suspension geometry or mounting point locations (such as tie rod connection height, ball joint connection location/height, etc.)
- 2) Replaced or lightweight flywheel, clutch assembly, and/or driveshaft
- 3) Motor, transmission, and differential mounts and inserts/bushings replacement/upgrade or modification (with up to 1 inch of relocation of the motor/transmission)
- 4) Final drive ratio modification

- 5) Cryogenic treatment of transmission and differential components
- 6) Transmission and Differential coolers
- 7) Differential housings (see D.5) & D.6) if there are LSD modifications)

e. Suspension

- 1) 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--such as control arm, ball joint, and relocated mounting point modifications). Slotting of the BTM bolt holes and removal of material from the top surface of the BTM strut/shock tower to the extent necessary to allow simple camber/caster adjustment is permitted.). Bolt on camber/caster plates are not assessed points.
- 2) Ride height adjustment (must still take points for springs and torsion bars above)
- 3) Non-metallic **and/or non-spherical type** replacement suspension bushings
- 4) 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.)
- 5) **Inverted rear shocks/struts.**

f. Brakes/Chassis

- 1) Non-BTM brake pads and rotors (BTM rotor diameter may not be changed; otherwise, F.1 shall apply)
- 2) Brake lines, boosters, proportioning valves, and master cylinder modification, replacement, and bracing.
- 3) 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 C.4).
- 4) 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.
- 5) Emergency brake removal
- 6) 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 safety 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. (supersedes Section 15.20 of the NASA CCR)
- 7) Seam welding of the body/**unibody**
- 8) Shock tower reinforcement plate (to strengthen tower shock mount location only--no bars)
- 9) Add front strut tower bar (two attachment points—bolted in or as component of the cage)
- 10) Add rear strut tower bar (two attachment points—bolted in or as a component of the cage)
- 11) **Rubber and Polyurethane sub-frame bushings (not Delrin, metal, or other materials)**

g. Aerodynamics

- 1) Undertray/ belly pan forward of the centerline of the front axle
- 2) No aero points for removal of convertible soft top/frame and/or adding a hardtop to a convertible provided that the hardtop must be either a BTM, OEM option, or BTM/OEM option shape and size only, and must use a sealed rear window. (i.e., lightweight ok, but no tops with non-OEM aero features).

h. Body

- 1) Rolled fender lips
- 2) Flared fenders (Alteration of the inner aspect of fender wells is not permitted, i.e. “tubbing”)
- 3) Steering wheel replacement
- 4) Mirror addition, removal, or replacement
- 5) Gear shifters and shift knob replacement/upgrade
- 6) Seat harnesses (must be compliant with NASA CCR)
- 7) Non-BTM driver’s seat
- 8) Non-BTM front passenger seat
- 9) Relocated Battery
- 10) Accelerator, brake, and clutch pedal modification or replacement.
- 12) Steering rack replacement or modification (without geometry change unless taking points for E.18). Rack ratio change is permitted. Change from BTM power steering to manual, and/or modification of the power steering pump requires the point assessment for engine pulley in C.10).
- 13) NACA ducts, air ducts, or air hoses placed in a side window frame solely for purposes of driver cooling.
- 14) Headlamps, headlight covers, and fog lights may all be removed, and the holes may be covered with material that replicates the shape of the BTM light/cover, leaving the shape of the BTM 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 C.4).
- 15) Removal of the spare tire floor section of the rear hatch space for the purpose of placement of a fuel cell (only).
- 16) The transmission tunnel may be modified for the purpose of installing a competition driver seat. The floor pan must remain in its original position.
- 17) Data acquisition systems—Telemetry **directly or indirectly from/to the ECU** is not permitted.
- 18) Dashboard modification, removal, and/or replacement
- 19) Hood pin addition or replacement, including “Aero” type hood pins.
- 20) **Fiberglass/carbon fiber doors are permitted provided that the exact BTM body lines are maintained, the doors are still on hinges, and they have an operational external handle.**

Note: For NASA racecars/guest classes that are given a base classification in 5.2.1, these modifications must also be legal under the racecar’s class rules. The race class rules for these cars take precedence over this list.

Note: Many of the modifications listed above can/will alter the overall weight of the vehicle. While these modifications are not assessed points individually, and additional weight reduction methods are permitted without individual points assessment (as stated under Weight Reduction), the overall weight of the vehicle and driver (Minimum Competition Weight) will be used to assess points and/or penalties for all vehicles.

5.4 Dyno Re-Classing and Testing Procedures

5.4.1 National PT Director Assigned Re-Classing

The following rules apply to:

Cars that have:

- 1) An added, modified, or upgraded turbocharger or supercharger.
- 2) Non-BTM head(s) or increased number of camshafts (hybrid engines).
- 3) An engine swap that has been designated as requiring dynamometer testing by the National PT Director (almost all swaps)
- 4) A Rotary Engine that has been ported.

And:

All other vehicles that have been designated by the National PT Director to be classed based upon dynamometer testing. A driver/owner may submit a request for a Dyno Re-class for a vehicle that does have one of the above four situations that requires one, but it may not be approved. (Note: only NASA members may request a reclassification from the National PT Director)

(The Dyno testing procedures listed in this section also apply whenever dynamometer testing is used as a non-invasive tool to help determine technical compliance with the classification rules for any car.)

5.4.2 Re-class Request Procedures

An owner/driver must submit the following information, by e-mail, to the National PT Director (greg@nasa-tt.com), in order to request a Re-classification and new Base Class, before the vehicle can enter competition if the Re-class is required as designated in 5.4.1 above (See Appendix C for the few pre-approved Dyno Re-classes):

- 1) Your name, NASA home region, and series (PT, TT, or both)
- 2) Competition vehicle--year, make, model, subtype and trim type (if applicable)
- 3) Reason for the request (FI, swap, heads, rotary porting, hybrid, not required, etc.)
- 4) If a swap: Engine--model #/name, disp, #cyl, valvetrain/VVT?, F/I?, OEM crank Hp & Tq.
- 5) Dynojet dynamometer maximum Hp and Tq (if AWD, then Dynojet, Dynopack, Mustang, or Dyno Dynamics dyno numbers)
- 6) Amount of extra Hp requested for "Dyno Variance" (1-3% recommended over above max Hp)
- 7) Minimum Competition Weight (with driver)

Or, an owner/driver can submit 1-6 above, along with:

- 7) The specific requested new base class, including number of asterisks (7 points each), instead of the vehicle weight. The new Minimum Competition Weight will then be provided in the Official Re-class e-mail response.

The extra Hp requested in 6) above, is to help ensure that any Dyno testing done at another location or at the track by the PT Officials will show hp ratings equal to or less than those provided by the owner/driver.

Once a vehicle is re-classed based on Dyno testing and Minimum Competition Weight, an Official Re-class e-mail will be sent to the competitor, stating the new base class, the new base

tire size, and the maximum Dyno horsepower and Minimum Competition Weight limits, as well as any other specific limitations for that particular re-classification. The new base tire size will match the new base class. The competitor will then complete the PT Car Classification Form, but will not assess any points for Section 5.3.B (Weight Reduction) or 5.3.C (Engine). Modification Points will be assessed for all other non-BTM modifications. The competitor must not exceed the limits of either power or weight listed in the Dyno Re-class e-mail in order to prevent disqualification. If the vehicle is modified, and the power level or weight has changed, a new request for Re-class must be sent to the National PT Director.

The Certified Dyno report will consist of both the Dyno sheet with three separate, reproducible Dyno tests with SAE correction (with the identifying information listed in 5.4.3) and a completed ST/PT/TT Dyno Certification Form. The competitor must include a copy of the Official Re-class e-mail, along with the Certified Dyno report when submitting the PT Car Classification Form to the Regional PT (or Race) Director before competition.

Any vehicle that has been re-classed by the National PT Director and has had a change to either its base class or its base weight in the table in Section 5.2.2 since the re-classification was approved, MUST be re-submitted for re-classification.

All Official re-classifications sent by the National PT Director prior to November 1, 2012 must be re-submitted so the re-classification can be verified, and an updated Official Re-Classification e-mail can be sent.

All competitors will be required to include the latest Certified Dynamometer (Dyno) report and minimum weight in their vehicle logbook at all times. Any subsequent modifications or adjustments done to the car that could alter power output will require repeat Dyno testing, and a new Certified Dyno report. NASA Officials may request repeat Dyno testing at any other time.

5.4.3 Dyno Testing Procedures

A certified Dyno report consists of three separate, reproducible Dyno tests with SAE correction, with the car owner's name, car number, car year/make/model, shop name and phone number, and Dyno operator's name on the Dyno sheet, accompanied by a completed ST/PT/TT Dyno Certification Form. Dyno testing should be done with the vehicle at normal operating temperature, with at least 28 psi tire pressure (but should be at normal operating tire pressure if higher), and in 4th gear unless the car has a six or seven speed transmission. If the vehicle has more than five gears, then the testing should be done in the gear closest to a 1:1 ratio. The highest peak horsepower number of the three tests will be used as the official certified horsepower for weight to horsepower calculations. A smoothing factor up to five (5) is permitted. All Dyno graphs must show decreasing power for 300 rpm from the peak horsepower level, or the car must reach the rev-limiter during the Dyno testing.

Dynamometer tests must be conducted on a Dynojet Model for front and rear wheel drive vehicles, and on a Dynojet, Mustang, Dyno Dynamics, or Dynapack for AWD cars, in a commercial facility that offers dynamometer testing as part of their business and is open to the public. All (AWD) Dyno test results using a Mustang or Dyno Dynamics dynamometer will have 10% added to the maximum horsepower reading to obtain the number that will be used to calculate the "Adjusted" Weight/Power Ratio (Mustang or Dyno Dynamics Dyno awhp x 1.1 = Maximum awhp for wt/hp calculation). Each Regional PT Director may retain the option to

specify which business locations will be the approved centers for that particular region. Please check with the PT Director in your area for instructions.

Certified Dyno reports are potentially valid for up to a maximum of three years (provided that no changes have been made to the vehicle that would alter Dyno readings). However, at his/her discretion, a NASA PT Director may require an updated certified Dyno report (at the driver/owner's expense) after one year from the date of the previous report.

Dynamometer tests are official and certified when performed by series Officials. It is the responsibility of the competitor to be within power levels on any Dyno that NASA officials choose to use for testing. The Dynojet will be the preferred Dyno for all vehicles, and will be used exclusively when available. As AWD Dyno availability is limited, NASA Officials may use any of the four AWD Dynos listed above. AWD drivers need to be especially careful that their cars will be compliant on any official Dyno that is available.

Vehicles may not have any adjustments during the competition day to systems that allow adjustment of horsepower levels that would serve to alter Dyno readings (unless granted specific permission by the Series Director). Examples of such systems are driver-adjustable electronic tuning and engine timing advance devices, fuel pump output modification devices, boost controllers, adjustable MAP and MAF voltage clamps, and any other system that could alter the Dyno readings when measured for compliance purposes. Any restriction device placed in the air intake system must be clearly identified as such and marked to indicate its dimensions. Vehicles that have more than one fuel/timing program or "map" in the computer/ECU/PCM must submit a certified Dyno report (3 pulls) for each of those fuel/timing "maps" regardless of which one will be used during competition. As well, the method used to switch between these "maps" must be clearly written on the PT Car Classification Form.

Any hardware that allows a competitor or crew member to wirelessly connect to the ECU at any time during competition or post-competition impound is strictly prohibited, regardless of whether such hardware is external or internal to the ECU, and regardless of the direction of data flow.

For compliance testing, the dynamometer operator and the PT Director or NASA Official will determine the dynamometer testing procedures and how many test runs will be performed for any given car being tested in order to obtain accurate test data. Prior to the dynamometer inspection the competitor may top off any fluids needed to ensure the engine and drivetrain are not damaged during testing. The fluids must be added with a NASA Official present. No other modifications or adjustments may be made to the car. To ensure fairness, a NASA Official, or an individual appointed by a NASA Official, will operate any cars being inspected on the dynamometer. SAE correction with a smoothing factor of five (5) will be used. Any run that results in an erratic or non-reproducible result may be dismissed by NASA officials.

NASA is actively conducting research on the use of in-car GPS monitoring units as an alternate method of compliance testing of horsepower output. Traqmate GPS data acquisition monitoring will be used in 2014 as an additional method of non-invasive compliance testing, but not as the sole reason for disqualification. If NASA elects to begin compliance testing with GPS units without Dyno testing confirmation, competitors will be given adequate notice prior to their use, including details of the units to be used, so that they may do their own testing if desired.

At any event where dynamometer testing (or GPS compliance testing once it is approved) is not available, Performance Touring Officials will use the maximum chassis Dyno horsepower level from the certified Dyno report submitted with the PT Car Classification Form along with the actual vehicle weight after competition to calculate the “Adjusted Weight/Power Ratio” for that vehicle. Alternatively, at their discretion, Performance Touring Officials may have the vehicle sealed and transported for off-site Dyno testing at a later date. At events where Dyno testing (or GPS compliance testing once it is approved) is available, Performance Touring Officials at their option will use either: a) the maximum chassis Dyno horsepower level from the certified Dyno report submitted with the PT Car Classification Form along with the actual vehicle weight after competition to calculate the “Adjusted Weight/Power Ratio” for that vehicle; or b) the results of Dyno testing either requested by Performance Touring Officials or performed due to a protest at the track to calculate the “Adjusted Weight/Power Ratio”. Furthermore, at the discretion of the Series Director, the Minimum Competition Weight listed on the PT Car Classification Form may be used for the calculation if the vehicle was either not weighed in impound, or the Dyno inspection was done at a random time.

5.4.4 Dyno Re-class Specific Penalties

If a car is tested by Officials, and found to have a higher maximum horsepower than was [approved on the Official Re-class e-mail](#) and submitted for base classification purposes on the Car Classification Form, it will be considered a “Procedural Violation” (see Section 6.4 Penalties), and the following formula will be used to determine penalty assessment. One (1) “penalty” Modification Point will be assessed for every one (1) horsepower above the submitted number. The total number of penalty points will be added to the car’s current number of Modification Points to determine if the car has illegally competed in a class that is too low.

If a vehicle that has been [Dyno Re-classed](#) based on its actual competition weight and Dyno power output is found to weigh less than the Minimum Competition Weight listed on its Car Classification Form, it will be assessed two (2) penalty Modification Points for any deviation below the listed weight, followed by one (1) additional penalty Modification Point for each five (5) pounds below the listed Minimum Competition Weight. Following the NASA CCR 17.8, there will be a five (5.0) pound leeway allowed during the first time the vehicle is weighed for that event (weekend). There will be no leeway at subsequent weighings for the remainder of the event. Appropriate penalties will then be assessed per the PT rules (6.4), including a penalty for a Procedural Violation for any vehicle failing to meet the Minimum Competition Weight listed on the Car Classification Form.

5.5 BTM (Base Trim Model) Definition, Updating and Backdating Rules

For the purposes of NASA PT [Modification](#) Points assessments, the term BTM 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 trim model as it is listed in section 5.2 Base Classifications (factory options and specialty model parts are considered non-BTM) or is listed as a standard replacement part by the manufacturer (OEM). 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 BTM part, and that they provide no significant improvement in performance, longevity, or reliability. If it is determined in impound that such a

part does not meet the above description, the driver may be disqualified. Consultation with the Regional PT Director prior to competition is advised for any driver using a vehicle with replacement parts that fall under this exception.

All factory optional parts, upgrades, and modifications to vehicle specifications must be assessed points, unless they legally fall under the update/backdate rule or are on the list of No-Points Modifications. **Base classifications are for the standard base model (base trim package) of a vehicle, without factory options or upgrades**, unless there is a specific PT base classification listing in 5.2 for a non-base trim model.

Updating ~~and backdating~~ of parts between different model years of the same vehicle model is legal provided that the competing vehicle is **both in the same model group listing (same line) in the Table in 5.2.2, and in the same generation of that vehicle model, ~~of the vehicle in the same or higher base class than the donor vehicle~~**, and that the entire assembly is replaced. **Backdating of parts between different model years of the same vehicle model is legal provided that the competing vehicle is both in the same generation and is in the same or higher base class.** No interchange of parts between assemblies is permitted in order to create a new assembly. Updating or backdating (without a points assessment) with specialty models or between two cars that have model names with different numbers or letters in them is prohibited, unless specifically approved by the National PT Director. The purpose of this rule is to equalize similar cars in the same (or lower) class, not to allow the creation of vehicles that were never manufactured or homologated. Motors and engine parts cannot be swapped under the update/backdate rule without specific approval by the National PT Director.

5.6 Rain Competition/Racing

In the event of rain and/or significant standing/running water on the track surface immediately before a competition session, the Race and/or Series Director may declare that competition session as a "Rain Session." As well, during a race with less than half the laps completed, a Race Director may black flag the race, declare a "Rain Session/Race", and then resume the race after the competitors have been given time to change to rain tires.

If the competition session is declared a "Rain Session" as above, any DOT-approved rain tire of the same size or smaller than listed on the Car Classification Form, as used in the prior dry competition session or race, can be used by the competitor in place of the dry tire. Tire points assessed will remain the same as listed on the "dry setup" Car Classification Form, regardless of whether or not the rain tire compound and size would otherwise yield fewer points or tire size points credit. Similarly, anti-roll (sway) bars may be loosened or removed, without a change in suspension points from the prior "dry setup" Car Classification Form. The purpose of this rule is to allow for these rain setup changes to the vehicles without: 1) the need for changes to the Car Classification Forms prior to the session, and 2) so that a competitor does not gain a points advantage by changing tire size, compound, or sway-bar setup.

6 **Forms, Inspection, Protests, Penalties**

All aspects of NASA CCR Section 17.0 Vehicle Legality Inspection shall be enforced except as defined below.

6.1 Car Classification Forms

All competitors will submit a completed Performance Touring Car Classification Form (and certified Dyno report if re-classed under 5.4) to the Regional PT Director or Race Director (if there is no PT Director) prior to the first qualifying session of a race day. Once a form has been submitted during a season, if there are no modifications to the vehicle, a new form does not need to be submitted at subsequent races in that NASA region. However, if there are any changes to the vehicle that would alter the modification points for that vehicle in any way, either a new form needs to be submitted, or the PT Director may allow the driver to revise the old form (again, prior to any qualifying sessions that the vehicle is run in with the new modifications). Failure to comply with the correct procedure regarding Classification Forms is a violation of the rules that may be penalized, regardless of whether or not the vehicle's competition class has changed. The Car Classification Form substitutes for the class rules and vehicle specification sheet that would be present under a traditional racing paradigm. As such, the Form needs to be kept up to date, and accurate at all times. Any competitor that has not submitted a Car Classification Form will, at least, be penalized for a Procedural Violation, and may be disqualified or moved to the Super Unlimited race class. When a competitor competes in a different NASA region or at a NASA Championship event, a new PT Car Classification Form must be submitted prior to competition [to the PT Director for that event](#). Forms can be downloaded here <http://www.nasaproring.com/rules/> or from the link on the www.performancetouring.com website.

A driver may choose to compete at any time in a higher level PT class than would be dictated by the Performance Touring Car Classification system. A car may be modified an unlimited number of times, and substitute vehicles may be used provided they comply with all PT rules. Substitution of a vehicle or class change after the qualifying session is completed will result in the new vehicle/re-classed vehicle being placed at the back of its class in pre-grid.

6.2 Vehicle Inspection

All completed PT Car Classification Forms will be available from the PT Director (or Race Director if there is no Regional PT Director) for review by any competing driver by request while at the track. Performance Touring vehicles are subject to detailed inspection by any NASA Technical Inspector and visual inspection by Performance Touring competitors at any time when the car is at the track or at prearranged mutually agreed upon times when the car is not at the track. Performance Touring Directors and NASA Officials retain the right to request any disassembly or other procedure required to verify vehicle compliance. At random times or at the discretion of NASA Officials, any car may be ordered to report for rules compliance on a chassis dynamometer. All Performance Touring competitors have the option to be present for official chassis dynamometer testing; however, the results of Dyno testing are the property of NASA, and will only be shown to Performance Touring Officials, who will let the competitor know whether or not the vehicle was compliant, and may show the competitor the results at their discretion. [Competitors must comply with any request by PT Officials to review and/or download ECU program "maps" using the competitor's programming hardware and software, when such equipment is used by the competitor.](#) As well, competitors may have GPS accelerometers placed in/on their vehicles at any time by Performance Touring Officials to help verify rules compliance. And, as stated above in Section 5.4.2, GPS monitoring may become an acceptable substitute for Dyno testing.

6.3 Protests

Protests of another competitor's vehicle, for good cause, may be filed up to 30 minutes after the completion of a race or qualifying session, with the Race Director. A specific part does not need to be specified in the protest **if the protest is about power levels**, but an explanation of why the vehicle is being protested is required. Frivolous and "nuisance" protests may result in some type of punitive action against the protesting party. Any protest requesting a Dyno test of a competitor's vehicle will require the protesting competitor to submit a cash deposit in the amount necessary for NASA to obtain the Dyno test. If the protest is found to be valid, the deposit shall be returned to the protesting party, and the competitor that was found to be non-compliant will be required to pay for the Dyno test. If the vehicle is found to be compliant, the protesting party will forfeit the deposit, and it will be used to pay for the Dyno test.

In addition, if a driver believes that a competitor is compliant under the Performance Touring rules, but that the vehicle is grossly misclassified, he may report this information to the National PT Director, who will evaluate the case, and determine if any changes in the PT base classifications or rules are necessary in order to meet the goal in PT rule 4 Purpose of having a "fair and logical competition environment". All potential rule changes will be evaluated by the NASA National Executives to ensure necessity, appropriateness, and fairness.

6.4 Penalties

Cheating and non-compliance are not welcome and will be subject to harsh penalties. Penalties will be assessed as follows, although the Race Director may choose to assess more severe penalties for blatant cheating, including expulsion from the Performance Touring Series on the first offense. Any Procedural Violation of the rules that is found after a qualifying session, but before a race will result in the vehicle moving to the back of its class on the pre-grid. Any Procedural Violation that is found after a race will result in the loss of one position place in the final results. The following are all Procedural Violations: failure to revise or resubmit a Car Classification Form after new modifications have been made, incorrectly assessing modification points, failure to note all modifications that require a points assessment, failing a dyno test or vehicle weight measurement by any amount, and providing any incorrect information on the Car Classification Form.

The Regional penalty for competing with a vehicle in a class lower than that dictated by the Performance Touring Classification system, or otherwise found to be non-compliant with the rules for its declared class, regardless of driver/owner intentions, will be a two race disqualification for the previous two races in that Region for the first offense. A second offense in the same Region will result in a loss of half of the season points, a two race suspension, and disqualification from the race. At third offense in the same Region, there will be a loss of all season points and a four race suspension. **Any Regional disqualification or suspension for vehicle non-compliance will result in zero points that cannot be dropped.**

Either the Regional PT Director or the Regional Race Director will report by e-mail all disqualifications under the above paragraph to the National PT Director, who will maintain a log of all disqualifications for non-compliance with classing rules. The National penalty for any driver disqualified three times in one season (regardless of Region) will be revocation of eligibility to compete in the NASA Championships (in any series). The fourth offense in two seasons (regardless of Region) will result in permanent ejection from the PT, TT, and ST series.

Any decision by NASA Officials during an event may be appealed per the NASA CCR.

7 Safety

All of the rules listed in the NASA CCR Sections 15 and 16 will apply, except, the following rules will supersede those listed in the CCR:

CCR 15.6—Roll cages may be built to provide additional chassis stiffening, including tubes that penetrate the firewall. However, additional tubes and attachment points will be assessed modification points as stated in 5.3.H Roll Cages

CCR 15.8—An electrical master cut-off switch is required.

CCR 15.9—Steering wheel lock removal is **highly** recommended, but not required.

CCR 15.16—An approved suitable racing seat is required.

Air bags must be disabled or removed.

Front driver and passenger side fixed/Lexan windows are specifically not permitted unless they are factory installed during the manufacturing of the vehicle. Both front side windows must otherwise be in the down position while on track.

Per the NASA CCR, any driver displaying rough, negligent, or unsportsmanlike conduct will receive harsh penalties, which may include loss of points, suspension, and/or monetary fines at the discretion of NASA Officials.

In addition to the passing rules in the NASA CCR, along any straight section of the track, whether attempting to pass or attempting to prevent a pass, a driver that forces another competitor to drive off the racing surface in order to prevent car-to-car contact will be penalized by the Race Director. The penalty will be solely at the discretion of the Race Director, but the suggested minimum penalty for such a dangerous and unsportsmanlike maneuver is disqualification and a one race suspension.

8 Car Appearance

8.1 Numbers and Class Designation

All NASA PT cars must display the car's number on both sides and the front and rear of the car. Numbers must be of a contrasting color to the car or otherwise clearly visible, at least 10-inches tall with a 1.5-inch stroke for the sides, and four (4) inches tall for the front and rear. NASA PT cars must also display a class designation on both sides and the front and rear of the car in a four-inch height in contrasting color to the car. Class Designations shall be PT followed by the group number. For example, a "B" Group competitor would display "PTB" as a class designation. Drivers are also encouraged to place their class designation in contrasting colors on the inside of their front window, so that a driver in front of them can easily determine in his rear view mirror if the cars are in his class or not. The NASA PT Director may require this additional identifier, especially if there are multiple vehicles competing that are the same model and color, but in different classes.

8.2 General Car Appearance

All vehicles must be in good condition and appearance. Vehicles with excessive body damage, primed body panels, etc., are not permitted. The vehicle must meet the “50/50” rule, which means it must look undamaged and straight at fifty (50) mph from fifty (50) feet away.

Appendix A—“Adjusted Weight/Power Ratio” Calculation for PTB-PTF

All PTB-PTF cars are subject to a limit on their “Adjusted Weight/Power Ratio”, where exceeding that limit would bump the car into a higher PT class or into the Super Touring (ST) classing system.

Note: The weight tables for PTB-PTF listed here are significantly different than for Super Touring (ST)

The “Adjusted Weight/Power Ratio” for each vehicle can be calculated based on a simple competition weight to peak chassis dynamometer horsepower ratio (wt/hp), followed by the adjustment of the resulting ratio by adding to or subtracting from it, based on the list of “Modification Factors” below. Competition weight is defined as the minimum weight of the vehicle, with driver, any time that it competes in a timed session.

Note: Peak chassis dynamometer horsepower and dynamometer testing procedures are defined in Section 5.4.

(AWD cars utilizing a Mustang or Dyno Dynamics Dyno for testing must multiply the hp result by 1.1)

The “Modification Factor” listed after each item below is added or subtracted from the actual measured wt/hp ratio to determine the “Adjusted Weight/Power Ratio” that determines vehicle legality in each PTB-PTF class.

_____ Base Wt/HP Ratio (_____ lbs competition weight / _____ peak chassis horsepower)

_____ Body Type: 4-door Sedan or 5-door Wagon = +0.4

_____ Transmission: Dog-ring/straight-cut gears (non-synchromesh),
sequential/paddle shift/semi-automatic = -0.2

Note: No assessment for an automatic transmission utilizing a torque converter.

_____ Drivetrain: AWD = -0.5
FWD = +1.0

_____ Tires: Non-DOT approved tires = -0.75 (*Note: GACTSCCS tires exempt*)
Size 10.5” (267mm) to 9.6” (244mm) non-DOT approved = +0.4
Size 9.5” (241mm) or smaller non-DOT approved = +0.8
Size 275 mm to 250 mm (DOT approved) = +0.4 (BFG R1 & R1S 275 excluded)
Size 245 mm or smaller (DOT approved) = +0.8 (BFG R1 & R1S 245 excluded)
Note: Tire modification factors are additive, if two or more are applicable.
Note: Tire modification factors are applied based on the widest tire on the car.

_____ Competition Weight:

Equal to or **less** than:

3200 lbs -0.05	2750 lbs -0.50	2300 lbs -0.95	1850 lbs -1.40
3150 lbs -0.10	2700 lbs -0.55	2250 lbs -1.00	1800 lbs -1.45
3100 lbs -0.15	2650 lbs -0.60	2200 lbs -1.05	1750 lbs -1.50
3050 lbs -0.20	2600 lbs -0.65	2150 lbs -1.10	1700 lbs -1.55
3000 lbs -0.25	2550 lbs -0.70	2100 lbs -1.15	1650 lbs -1.60
2950 lbs -0.30	2500 lbs -0.75	2050 lbs -1.20	1600 lbs -1.65
2900 lbs -0.35	2450 lbs -0.80	2000 lbs -1.25	1550 lbs -1.70
2850 lbs -0.40	2400 lbs -0.85	1950 lbs -1.30	1500 lbs -1.75
2800 lbs -0.45	2350 lbs -0.90	1900 lbs -1.35	1450 lbs -1.80

Equal to or **greater** than:

3300 lbs +0.05	3550 lbs +0.35	3800 lbs +0.65	4050 lbs +0.90
3350 lbs +0.10	3600 lbs +0.40	3850 lbs +0.70	4100 lbs +0.95
3400 lbs +0.15	3650 lbs +0.45	3900 lbs +0.75	4150 lbs +1.00
3450 lbs +0.20	3700 lbs +0.55	3950 lbs +0.80	4200 lbs +1.05
3500 lbs +0.30	3750 lbs +0.60	4000 lbs +0.85	4250 lbs +1.10

Note: If between 3201 lbs and 3299 lbs, there is no modification factor.

Note: All vehicle weights will be measured to the tenth of a pound (xxxx.x), then rounded off to the nearest pound for all calculations. Any weight ending in “.5” (xxxx.5x) will be rounded up or down to the benefit of the competitor.

_____ **“ADJUSTED WEIGHT/POWER RATIO”**

PTB 10.50:1 minimum PTC 12.00:1 minimum PTD 14.25:1 minimum
 PTE 16.50:1 minimum PTF 19.50:1 minimum

Example Calculations of “Adjusted Wt/Power Ratio”

Example: 1995 BMW M3, with OEM transmission, on DOT approved
 245 size tires, weighing 3051 lbs, with peak chassis dyno power of 215 hp:
 $3051/215 = 14.19$, plus 0.8 (DOT 245mm tires), minus 0.15 (weight less than 3100 lbs)
 $= 14.84$ (PTD)

Example: 1990 Honda CRX Si, with OEM transmission, on DOT approved 225 size
 tires, weighing 2101 lbs, with 120 peak hp:
 $2101/120 = 17.51$, plus 1.0 (FWD), plus 0.8 (DOT 245mm tires), minus 1.10 (weight
 less than 2150 lbs) $= 18.21$ (PTE)

Appendix B—Technical Bulletins for Specific Models/Items

Allison Legacy (PTD):

Maximum Dynojet 105 rwhp/140 ft-lbs

Minimum competition weight: 1675 lbs

All vehicles must comply with the Allison Legacy Race Series 2010 Rule Book

(note: Allison Legacy cars built for the 2012 Pro 4 Stock Car Road Racing Series have not been approved for PT at the time of this publication. The can compete in STR)

BMW E46 models in the 1999–2006 range:

Allowance of repair and/or prevention of rear sub-frame connection point failures as noted in the settlement of the class action lawsuit settled 8-10-09 with BMW. The following modifications are permitted without a Modification Point or Modification Factor assessment, and are not intended as performance enhancing modifications:

The material used cannot exceed 0.110” (inches) in thickness. Plates may be trimmed to fit the area being repaired or reinforced. Any vertical offset of the sub-frame or suspension caused by the use of these plates is legal. Holes are allowed for the existing fasteners and for additional holes for rosette welds. Existing cracks or damage may be welded before the repair.

1. One plate (A) not to exceed 206MM x 108mm in size. Two bends are allowed to contour to chassis but must be included in overall size.
2. One plate (B) not to exceed 163mm x 81mm in size. One bend allowed to contour to chassis but must be included in overall size.
3. Two plates (C) not to exceed 134mm x 73mm in size, (one plate per side).
4. Two plates (D) not to exceed 66mm x 42mm in size, (one plate per side).
5. Two plates (E) not to exceed 82mm x 92mm in size, (one plate per side).

Plates (A), (B), (C), and (D), must be placed between the sub-frame and differential carrier and can be attached to the underbody by welding or bonding. Plate (E) can only be used in the trunk area to cover the access hole made to weld the top of the sub-frame connections, and can be attached by welding or bonding.

GACTSCCS Tires:

Grand Am Continental Tire Sports Car Challenge Series tires are exempt from the -0.75 Modification Factor for Non-DOT approved tires when calculating the Adjusted Wt/Hp Ratio. [They will use the tire size Modification Factors for DOT approved tires.](#) As well, they are +10 point tires under section 5.3.A.3. (Does not include “Rolex series” tires).

Lotus Elise and Exige:

The Lotus Elise and Exige optional rear toe link brace, along with the spherical joint that replaces the ball joint and attaches to the inboard end of the toe link bar are no-points modifications. OEM geometry, suspension mounting points, the outboard end joint on the toe link, and the toe link bar itself must remain stock.

Similar aftermarket braces that meet the above requirements will also be no-points modifications (even if they have spherical joints on the static ends of the brace itself). Aftermarket kits that include a replacement toe link bar will be assessed +1 point. Aftermarket kits that change the outboard toe link joint to a spherical/heim joint will be assessed an additional +3 pts. for "metallic replacement suspension

bushings". Aftermarket kits that do not use the OEM/BTM mounting locations for the toe link ends will be assessed an additional +6 pts. for "relocation of rear suspension mounting points".

Mazda Miata ('90-'97):

Replacement of the OEM/BTM '90-'93, '95 (with VIN's higher than 14193), '96-'97, and '99-'00 Mazda Miata ECU 4.0MHz "clock" crystal, and the OEM/BTM '94 and '95 (with VIN's lower than 14193) Mazda Miata ECU 8.0MHz "clock" crystal with an aftermarket crystal of different frequency, sometimes referred to as "overclocking" of the ECU, is permitted as a no-points modification.

Mazda RX-7 (1st Generation):

A Watts link plate that puts the center pin into double shear for safety purposes only (and has been approved previously for Pro7 use in the SoCal region), is approved for use in PT and TT without a points assessment. Any other changes to the Watts link will require a points assessment per the PT/TT Rules.

Mazda RX-7 13B:

1. Modification of the Variable Dynamic Intake (VDI) by removal of the actuator mechanism, and permanently wiring the VDI open will be a No-Points Modification.
2. Modification of the 5th and 6th port runners, by removal of the actuator mechanism, actuator rods, and removal of the sleeves themselves, will be a No-Points Modification. As well, removal of the actuator mechanism and actuator rods, and fixing the sleeves in the open position will also be a No-Points Modification. However, under either circumstance, if there is any filler material added, non-BTM sleeves added, modification of the BTM sleeves, or other modification to the runners, the car will need to be re-classed based on Dyno testing.

Nissan Sentra:

The Scott Russell linkage shall be deemed to be equivalent to a BTM Watts link when assessing points for Suspension mods E.20 and E.21.

Panoz GTRA (PTB):

'97-'99 Panoz GTRA 5.0l spec race car: PTB/TTB
maximum Dynojet rwhp: 235 hp
maximum Dynojet torque: 305 ft-lbs
minimum competition weight (with driver): 2925 lbs
maximum tire width: 275mm
permitted tires: all DOT approved available OTC in the USA
wheels: open
alignment: open to adjustment
ride height/corner balance: open via coilover adjustment
suspension/body/aero/cage/transmission: as built
(may use either Koni yellow 30-1695 (front) and 30-1696 (rear) rebound adjustable shocks, OR Koni black 30-1695 SP8 (front) and 30-1696 SP8 (rear) rebound adjustable shocks, Tremec 3550 5 speed, Brembo 325mm floating brakes--pads open)

S2000 and Adjustable Ball Joints:

S2000's, and all other cars, that are using aftermarket adjustable ball joints to gain camber, must take the +2 point assessment for "Alteration of ball joints/dive angles".

Appendix C—Pre-Approved Dyno Re-classing

The following pre-approved Official Dyno Re-classes may be used without e-mailing the National PT Director. The driver should print out the page, and submit it along with the Certified Dyno Report and the PT Car Classification Form to the regional PT Director.

Mazda Miata '90-'93 (1.6L), no motor swap, non-BTM head, or F/I:

Your '90-'93 Mazda Miata 1.6L with a maximum 127 rwhp on a Dynojet, and a Minimum Competition Weight (w/driver) of 2295 lbs, will have a new PT/TT base class of PTE/TTE. Your new base tire size is 235mm. You will not assess modification points for Section B. Weight Reduction or Section C. Engine Mods. However, all other modifications, including transmission and LSD, that are not standard items on a base trim '90-'93 Mazda Miata must be assessed points, **with the following exception. Only +1 point will be assessed, instead of +3 points under section 5.3.F.4 for the use of a 1997 Miata sub-frame brace, IF the vehicle is also being assessed for size 205 tires, +3 for a Mazdaspeed front chin spoiler, +2 for bump steer/shimming due to the use of Miata "R" model tire rod ends, and +2 for the use of Mazdaspeed sway bars.** You must be compliant with the above listed maximum Dynojet HP and Minimum Competition Weight during any tech. inspection.

This option may only be used with a PTE/TTE or higher Final Competition Class.

Please keep a copy of this e-mail and the most recent Dynojet sheets and Dyno Certification Form with the vehicle log book as proof of re-classing. Also, turn in a copy of this e-mail, the Dynojet sheets, and the Dyno Certification Form with your PT/TT Car Classification Form to your Regional PT/TT Director.

Note that the car will still need to be compliant with the Minimum Adjusted Wt/Hp Ratio for whichever Competition Class you choose to run in.

This is an Official, approved, Dyno Re-Class copied from the current PT Rules, Appendix C

Mazda Miata '94-'97 (1.8L), no motor swap, non-BTM head, or F/I:

Your '94-'97 Mazda Miata 1.8L with a maximum 128 rwhp on a Dynojet, and a Minimum Competition Weight (w/driver) of 2355 lbs, will have a new PT/TT base class of PTE/TTE. Your new base tire size is 235mm. You will not assess modification points for Section B. Weight Reduction or Section C. Engine Mods. However, all other modifications, including transmission and LSD, that are not standard items on a base trim '94-'97 Mazda Miata must be assessed points. You must be compliant with the above listed maximum Dynojet HP and Minimum Competition Weight during any tech. inspection.

This option may only be used with a PTE/TTE or higher Final Competition Class.

Please keep a copy of this e-mail and the most recent Dynojet sheets and Dyno Certification Form with the vehicle log book as proof of re-classing. Also, turn in a copy of this e-mail, the Dynojet sheets, and the Dyno Certification Form with your PT/TT Car Classification Form to your Regional PT/TT Director.

Note that the car will still need to be compliant with the Minimum Adjusted Wt/Hp Ratio for whichever Competition Class you choose to run in.

This is an Official, approved, Dyno Re-Class copied from the current PT Rules, Appendix C

[Mazda Miata '99-'00 \(1.8L\), no motor swap, non-BTM head, or F/I:](#)

Your '99-'00 Mazda Miata 1.8L with a maximum 130 rwhp on a Dynojet, and a Minimum Competition Weight (w/driver) of 2390 lbs, will have a new PT/TT base class of PTE/TTE. Your new base tire size is 235mm. You will not assess modification points for Section B. Weight Reduction or Section C. Engine Mods. However, all other modifications, including transmission and LSD, that are not standard items on a base trim '99-'00 Mazda Miata must be assessed points. You must be compliant with the above listed maximum Dynojet HP and Minimum Competition Weight during any tech. inspection.

This option may only be used with a PTE/TTE or higher Final Competition Class.

Please keep a copy of this e-mail and the most recent Dynojet sheets and Dyno Certification Form with the vehicle log book as proof of re-classing. Also, turn in a copy of this e-mail, the Dynojet sheets, and the Dyno Certification Form with your PT/TT Car Classification Form to your Regional PT/TT Director.

Note that the car will still need to be compliant with the Minimum Adjusted Wt/Hp Ratio for whichever Competition Class you choose to run in.

This is an Official, approved, Dyno Re-Class copied from the current PT Rules, Appendix C

[Mazda Miata '01-'05 \(1.8L\), no motor swap, non-BTM head, or F/I:](#)

Your '01-'05 Mazda Miata 1.8L with a maximum 130 rwhp on a Dynojet, and a Minimum Competition Weight (w/driver) of 2405 lbs, will have a new PT/TT base class of PTE/TTE. Your new base tire size is 235mm. You will not assess modification points for Section B. Weight Reduction or Section C. Engine Mods. However, all other modifications, including transmission and LSD, that are not standard items on a base trim '01-'05 Mazda Miata must be assessed points. You must be compliant with the above listed maximum Dynojet HP and Minimum Competition Weight during any tech. inspection.

This option may only be used with a PTE/TTE or higher Final Competition Class.

Please keep a copy of this e-mail and the most recent Dynojet sheets and Dyno Certification Form with the vehicle log book as proof of re-classing. Also, turn in a copy of this e-mail, the Dynojet sheets, and the Dyno Certification Form with your PT/TT Car Classification Form to your Regional PT/TT Director.

Note that the car will still need to be compliant with the Minimum Adjusted Wt/Hp Ratio for whichever Competition Class you choose to run in.

This is an Official, approved, Dyno Re-Class copied from the current PT Rules, Appendix C