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**NASA Autocross (NASA-X)
Official 2010 National Classes
January 1, 2010, Version 10.1 ©**

1.1 General Car Classification

Every vehicle entered in a NASA-X event shall be listed in one of the following nationally recognized classes: NASA-X R (NXR), NASA-X U (NXU), NASA-X S (NXS), NASA-X A (NXA), NASA-X B (NXB), NASA-X C (NXC), NASA-X D (NXD), NASA-X E (NXE), NASA-X F (NXF), NASA-X G (NXG), and NASA-X H (NXH.) A separate “NOVICE” class may be offered on a regional basis.

Owners/drivers of participating vehicles may be required to fill out a NASA-X Car Classification Form before entering NASA-X national events or specific regional events. The form is available from <http://www.nasaproracing.com/rules.htm>

Any participant seeking classification of a vehicle not listed below or re-classification of the base class of a vehicle model or entire “model group” should make the request directly to the NASA-X National Director Jon Felton via e-mail to nasa-x@get-fast.net. Unlisted vehicles will default to the NASA-X R base class until evaluation has been completed, and will be included in later versions of this document as well as announced on <http://www.nasaforums.com>. Please refer to section 1.5 for further details about obtaining a new or adjusted base class.

1.2 Base Classification Table and Listed Base Weights

The chart on the following pages lists the nationally recognized NASA-X base classifications and base weights for the 2010 season.

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

Base classifications are for the standard base model (base trim package) of a vehicle, without factory options or upgrades.

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 based on Dyno testing are exempt from this additional five [+5] point assessment.)

<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>	<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>
Acura	CL 2.2L	NXG	3064	Audi	TT Quattro 3.2L ('08-'09)(AWD)	NXD**	3218
Acura	CL V6	NXF*	3470	Austin	Mini 1L (<40hp)	NXG	1358
Acura	CL-S	NXE	3510	Austin	Mini 1L, 1.1L (40 to 47hp)	NXG	1450
Acura	CL-S (6 spd)	NXE	3446	Austin	Mini Cooper (55hp)	NXG	1576
Acura	Integra 1.6L ('86-'89)	NXF	2300	Austin	Mini Cooper 1071S	NXF	1512
Acura	Integra 1.8L (non-VTEC)	NXF*	2529	Austin	Mini Cooper 1275S	NXF**	1433
Acura	Integra GS-R	NXE	2667	BMW	128i Coupe ('08-'09)	NXD	3250
Acura	Integra Type-R	NXD	2600	BMW	135i Coupe ('08)	NXC*	3370
Acura	NSX 3.0L ('91-'96)	NXC**	3047	BMW	2002 ('68-'74)	NXG**	2282
Acura	NSX	NXC**	3153	BMW	2002 ('75-'76) (2403 lb)	NXG*	2403
Acura	RL ('05-'07)	NXE	3984	BMW	2002tii	NXE	2225
Acura	RL (pre'05)	NXG**	3920	BMW	318 1.8L (E30)(pre-'92)	NXF*	2657
Acura	RSX	NXF**	2734	BMW	318 (E36)('92-'98)(1.8L & 1.9L)	NXG**	2933
Acura	RSX-S	NXD	2770	BMW	318 ti ('95-'99)	NXF*	2778
Acura	TL ('04-'05)	NXE*	3465	BMW	323 ('98-'00)(2.5L)	NXF*	3153
Acura	TL 3.2L ('06-'07)	NXE	3580	BMW	325e (121 hp)	NXG**	2780
Acura	TL 3.5L ('07)	NXE**	3559	BMW	325 (E30)('87-'91)(168hp)	NXF**	2855
Acura	TL (pre '04)	NXF*	3487	BMW	325is (E30)('87-'91)(168hp)	NXE	2885
Acura	TL-S	NXE	3558	BMW	325ic ('92)(168 hp)	NXF*	2990
Acura	TSX ('04-'07)	NXF**	3257	BMW	325 ('92-'95)(189 hp)	NXF**	3087
Alfa Romeo	1600 Spider	NXF	2250	BMW	325 ('01-'06)(2.5L184 hp)	NXF**	3197
Alfa Romeo	2000 Spider	NXE	2288	BMW	325i ('06)(3.0L 215hp)	NXE	3285
Alfa Romeo	2600 Spider	NXF**	2683	BMW	328 2.8L ('96-'00)	NXF**	3197
Alfa Romeo	Milano 2.5L ('87-'89)	NXF*	2907	BMW	328 ('07-'08) (3.0L 230 hp)	NXE	3351
Alfa Romeo	Milano 3.0L ('87-'89)	NXE	2907	BMW	330 ('01-'06)(225hp)	NXE	3285
Audi	A3 2.0T (200 hp)('06-'07)	NXF**	3263	BMW	330 ('06)(255hp)	NXE**	3417
Audi	A3 3.2 AWD (250 hp)('06-'07)	NXE*	3660	BMW	335 3.0L ('07-'08)	NXC**	3571
Audi	A4 1.8T (150 hp)('97-'00)	NXF	2992	BMW	5 series (<226hp)(RWD)(inc '07)	NXF**	3494
Audi	A4 1.8T (150 hp)(AWD)('97-'99)	NXF	3241	BMW	5 series (RWD)('08)	NXE	3500
Audi	A4 1.8T (170 hp)	NXF	3252	BMW	540	NXE**	3803
Audi	A4 2.0T (197 hp)('05-'07)	NXF*	3428	BMW	M Coupe/Roadster (240hp)	NXD	3131
Audi	A4 2.0T AWD (200 hp)('05-'07)	NXF**	3549	BMW	M Coupe (315 hp)	NXC**	3141
Audi	A4 2.8L (190 hp)	NXF**	3263	BMW	M Roadster (315 hp)	NXC**	3141
Audi	A4 3.0L (220 hp)	NXF**	3462	BMW	M3 (E30)(pre-'89)	NXE**	2733
Audi	A4 3.2L (255 hp)(AWD)('07)	NXE**	3671	BMW	M3 (E30)('89-'91)	NXE*	2865
Audi	A6 2.7T (AWD)	NXE	3958	BMW	M3 (E36)('95-'99)	NXD*	3175
Audi	A6 4.2L ('00-04)(AWD)	NXE*	4024	BMW	M3 (E46)('01-'06)	NXC**	3415
Audi	A6 4.2L ('05-'06)(AWD)	NXE**	4145	BMW	M5 E28,E34('85-'93)	NXD*	3788
Audi	A6 4.2L ('07)(AWD)	NXD	4222	BMW	M5 E39 ('00-'03)	NXC**	3792
Audi	A8 4.2L (AWD)('97-'03)	NXE**	4068	BMW	M5 E60 ('06-'08)	NXA	4012
Audi	A8 4.2L (AWD)('03-'06)	NXE**	4288	BMW	M6	NXE*	3570
Audi	A8 4.2L (AWD)('07)	NXD	4288	BMW	M6 ('06-'08)	NXA	3909
Audi	A8 6.0L (AWD)('05-'07)	NXC	4729	BMW	MINI Cooper ('01-'04)	NXF	2315
Audi	Coupe (110 hp)	NXG**	2507	BMW	MINI Cooper ('05-'08)	NXG**	2546
Audi	Coupe (164 hp)	NXG**	3174	BMW	MINI Cooper S ('02-'04)	NXE**	2513
Audi	RS 4 (4.2L) (AWD)('07)	NXB*	3957	BMW	MINI Cooper S ('05-'09)	NXE**	2678
Audi	S4 ('03-'07)(AWD)	NXC	3869	BMW	MINI Cooper Works ('06-'07)	NXD*	2720
Audi	S4 (pre '03)(AWD)	NXD	3593	BMW	MINI Cooper Works ('09)	NXD**	2680
Audi	S8 ('01-'03)(AWD)	NXD**	4068	BMW	Z3 4-cyl	NXF*	2701
Audi	TT (180 hp)('00-'06)	NXE	2822	BMW	Z3 6-cyl (2.5L)	NXE	2932
Audi	TT (225 hp)('02-'06)(AWD)	NXD	3220	BMW	Z3 6-cyl (2.8L)	NXE*	2943
Audi	TT (250 hp)('04-'06)(AWD)	NXD	3351	BMW	Z3 6-cyl (3.0L)	NXD	2943

<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>	<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>
BMW	Z4 2.5L	NXE	2932	Chevrolet	Impala SS ('04-'05)	NXF*	3606
BMW	Z4 3.0L ('03-'05)	NXD	3000	Chevrolet	Impala SS ('06-'08)	NXE*	3711
BMW	Z4 3.0L (215 hp)('06-'08)	NXE*	3020	Chevrolet	Impala SS ('94-'96)	NXF*	4036
BMW	Z4 3.0L (255 hp)('06-'08)	NXD*	3108	Chevrolet	Monte Carlo 3.9L LTZ ('06)	NXF**	3501
BMW	Z4 M ('06-'08)	NXB	3197	Chevrolet	Monte Carlo SS 3.8L ('04-'05)	NXE	3391
BMW	Z8	NXB*	3500	Chevrolet	Monte Carlo SS 5.3L ('06-'07)	NXD	3490
Buick	Gran Sport 455 ('70)	NXC*	3600	Chevrolet	Monte Carlo SS (pre '04)	NXF	3333
Cadillac	Catera	NXG**	3762	Chevrolet	S10 Extreme (180hp)	NXF	3216
Cadillac	CTS 2.8L ('05-'07)	NXF*	3509	Chrysler	300 (3.5L) ('05-'07)	NXF*	3650
Cadillac	CTS 3.6L ('03-'07)	NXE*	3509	Chrysler	300C (5.7L)('05-'07)	NXE**	4066
Cadillac	CTS-V ('04-'07)	NXC**	3847	Chrysler	300C (5.7L) (AWD)('05-'07)	NXE**	4273
Cadillac	STS (4.6 V8) AWD ('05)	NXD	4295	Chrysler	300C SRT8 ('05-'07)	NXC	4160
Cadillac	STS (V6)('05-'07)	NXF**	3858	Chrysler	Cirrus 4-cyl	NXG*	3141
Cadillac	STS (V8)('05-'07)	NXE**	3940	Chrysler	Conquest (turbo)	NXF**	2900
Cadillac	STS-V ('06-'07)	NXC*	4233	Chrysler	Conquest Tsi (turbo)	NXF**	3050
Cadillac	XLR ('04-'07)	NXD**	3647	Chrysler	Crossfire (215hp) ('04-'07)	NXE	3010
Cadillac	XLR-V 4.4L V8 ('07)	NXB	3810	Chrysler	Crossfire SRT6 ('05-'06)	NXC**	3240
Caterham	Super 7 (240 hp)	NXU	1150	Chrysler	PT Cruiser	NXG	3147
Chevrolet	Aveo ('04-'07)	NXG*	2365	Chrysler	PT Cruiser GT	NXF**	3364
Chevrolet	Camaro 3.1L	NXG*	3105	Datsun	510 (96 hp)	NXF*	2040
Chevrolet	Camaro 3.4L	NXG*	3306	Datsun	510 (L20B swap)	NXF**	2150
Chevrolet	Camaro 3.8L	NXF*	3307	Datsun	1600 Roadster ('66-'70)(96hp)	NXF	2030
Chevrolet	Camaro 5.0L carb (170 hp)('87)	NXF**	3250	DeTomaso	Pantera	NXC*	3300
Chevrolet	Camaro SS ('98-'02)	NXD**	3433	Diasio	D962R	NXR	1400
Chevrolet	Camaro SS ('96-'97)	NXD*	3439	Dodge	Caliber RT 2.4L AWD ('07-'08)	NXF	3308
Chevrolet	Camaro Z28 ('98-'02)	NXD*	3439	Dodge	Caliber SRT4 2.4L Turbo ('07-'08)	NXD**	3200
Chevrolet	Camaro Z28 (pre '98)	NXE**	3441	Dodge	Charger 3.5L ('06-'07)	NXF**	3800
Chevrolet	Cavalier	NXF	2617	Dodge	Charger 5.7L ('06-'07)	NXD*	4031
Chevrolet	Cavalier Z24	NXF*	2611	Dodge	Charger SRT8 ('06-'07)	NXC	4160
Chevrolet	Cobalt 2.2L ('05-'08)	NXG*	2991	Dodge	Magnum RT	NXE*	4180
Chevrolet	Cobalt 2.4L ('06-'08)	NXF	2991	Dodge	Magnum RT AWD	NXE**	4393
Chevrolet	Cobalt SS 2.0L (S/C)('05-'07)	NXE*	2991	Dodge	Magnum SRT8	NXC	4260
Chevrolet	Cobalt SS (turbo)('08)	NXC*	2975	Dodge	Neon DOHC Coupe	NXF	2550
Chevrolet	Corvair (140hp)	NXF**	2500	Dodge	Neon DOHC Sedan	NXF	2550
Chevrolet	Corvair (95,100hp)	NXG	2500	Dodge	Neon SOHC Coupe	NXF	2400
Chevrolet	Corvair Corsa Turbo	NXE*	2500	Dodge	Neon SOHC Sedan (1st gen)	NXF	2400
Chevrolet	Corvair Monza GT Spyder	NXF**	2570	Dodge	Neon SOHC Sedan (2nd gen)	NXF	2450
Chevrolet	Corvette '63-'82 (>200, <330 hp)	NXD	3200	Dodge	Neon SRT4 ('03-'05)	NXE*	2970
Chevrolet	Corvette '63-'82 (>330,<425 hp)	NXC*	3200	Dodge	Neon SRT4 ACR	NXE**	2900
Chevrolet	Corvette '63-'82 (>425 hp)	NXB	3400	Dodge	Shelby Charger (110hp)	NXG**	2296
Chevrolet	Corvette '63-'82 (200hp)	NXF**	3200	Dodge	Shelby Charger (146hp)	NXF*	2500
Chevrolet	Corvette C4 ('85-'91)	NXD**	3223	Dodge	Shelby Charger GLHS (turbo)	NXE	2550
Chevrolet	Corvette C4 ('92-'96) (LT1)	NXC*	3203	Dodge	Shelby Lancer	NXF	3000
Chevrolet	Corvette C4 (LT4 option) (330 hp)	NXC**	3350	Dodge	Shelby Omni GLH (146 hp)	NXF*	2500
Chevrolet	Corvette C5 (inc. FRC w/o Z51)	NXB*	3246	Dodge	Shelby Omni GLHS	NXE	2540
Chevrolet	Corvette C5 (all w/ Z51)	NXA	3173	Dodge	Stealth (DOHC)	NXE	3153
Chevrolet	Corvette C6 ('05-'07)(Z51 ok)	NXA*	3179	Dodge	Stealth (SOHC)	NXF	3086
Chevrolet	Corvette C6 ('08)(LS3)	NXS	3217	Dodge	Stealth Turbo ('91-'93)(AWD)	NXD	3803
Chevrolet	Corvette GS	NXC**	3350	Dodge	Stealth Turbo ('94-'96)(AWD)	NXC	3671
Chevrolet	Corvette Z06 ('01-'04)	NXA*	3118	Dodge	Stratus 4-cyl	NXG	3192
Chevrolet	Corvette Z06 ('06-'08)	NXU	3130	Dodge	Stratus RT	NXF	3219
Chevrolet	Corvette ZR-1	NXB	3500	Dodge	Viper	NXS	3410

<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>	<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>
Dodge	Viper ACR	NXU	3325	Ford	Mustang Cobra R ('93)	NXD*	3248
Dodge	Viper Comp. Coupe	NXR	2995	Ford	Mustang Cobra R ('95)	NXC*	3325
Eagle	Talon 2.0L (135-140hp)	NXG**	2739	Ford	Mustang Cobra SVT ('02+)	NXB*	3665
Eagle	Talon Turbo ('90-'94)	NXE	2789	Ford	Mustang GT ('05-'06)	NXD**	3450
Eagle	Talon Turbo ('95-'98)	NXE*	2866	Ford	Mustang GT ('07-'08)	NXC	3356
Eagle	Talon Turbo AWD ('90-'94)	NXE*	3108	Ford	Mustang I4	NXH**	2699
Eagle	Talon Turbo AWD ('95-'98)	NXE*	3153	Ford	Mustang I4 turbo	NXG*	3065
Ferrari	308	NXD	3159	Ford	Mustang I6	NXG	2800
Ferrari	328	NXC**	2803	Ford	Mustang Mach 1	NXC	3420
Ferrari	355	NXA*	2975	Ford	Mustang SVO ('84-'86)	NXE	3036
Ferrari	360	NXS	3064	Ford	Mustang V6 ('99-'08)	NXF**	3351
Ferrari	430	NXU	3197	Ford	Mustang V6 (pre-'99)	NXG**	3065
Ferrari	550	NXU	3726	Ford	Mustang V8 ('64-'68 <272 hp)	NXF*	2980
Ferrari	612	NXU	4056	Ford	Mustang V8 ('69-'70 <291 hp)	NXF*	3250
Ferrari	348 (<305 hp)	NXC*	3233	Ford	Mustang V8 ('71-'73 <286 hp)	NXF	3560
Ferrari	348 (320 hp)	NXB	3071	Ford	Mustang V8 ('79-'93 <226 hp)	NXE	3075
Ferrari	360 Challenge	NXR	2822	Ford	Mustang V8 ('94-'98 <226 hp)	NXE*	3075
Ferrari	456GT	NXA*	3726	Ford	Mustang V8 ('99-'04)	NXE**	3273
Ferrari	575M	NXU	3815	Ford	Pinto 1.6L	NXG	2000
Ferrari	Enzo	NXR**	3009	Ford	Pinto 2.0L ('71-'74)	NXG	2235
Ferrari	F430 Challenge	NXR	3000	Ford	Pinto 2.3L	NXG*	2250
Ferrari	Superamerica	NXS	3815	Ford	Pinto 2.8L	NXG*	2570
Ferrari	Testarossa	NXA	3660	Ford	Probe GT	NXF*	2815
Fiat	124 Spider 1400	NXG**	2083	Ford	Probe Turbo	NXF*	2730
Fiat	124 Spider 1600	NXF*	2116	Ford	Sierra Cosworth 2.0L T (204 hp)	NXE**	2756
Fiat	124 Spider 1800	NXF**	2116	Ford	Sierra Cosworth AWD (220 hp)	NXD*	2816
Fiat	124 Sport Spider 2000	NXG*	2359	Ford	Shelby GT500 5.4L S/C ('07-'08)	NXA*	3920
Fiat	128 (55-60 hp)	NXG	1730	Ford	Taurus GL	NXH**	3326
Fiat	X1-9 1.3L	NXG*	1940	Ford	Taurus SHO	NXF**	3379
Fiat	X1-9 1.5L	NXG**	2030	Ford	Thunderbird Super Coupe/Turbo	NXF**	3536
Fiat	X1-9 2000	NXB*	1973	Ford	Thunderbird V6 (pre-'02)	NXH**	3536
Ford	Contour SVT	NXF**	3126	Ford	Thunderbird V8 ('02)	NXF**	3775
Ford	Escort 1.9L	NXH*	2356	Ford	Thunderbird V8 ('03+)	NXE	3775
Ford	Escort 2.0L	NXG*	2457	Ford	Thunderbird V8 ('90-'97)	NXF*	3536
Ford	Escort GT (1.8L)	NXF	2375	Geo	Metro 1.0L	NXH**	1804
Ford	Escort ZX2	NXF	2400	Geo	Metro 1.3L	NXH**	1940
Ford	Escort ZX2 S/R	NXF	2450	Geo	Prizm	NXF	2359
Ford	EXP 1.6L ('82-'85)	NXG	2130	Geo	Storm	NXG	2282
Ford	F150 SVT Lightning	NXE*	4670	Geo	Storm GSI	NXF*	2480
Ford	Festiva	NXH**	1797	Honda	Accord 2.0L (120hp)	NXG*	2670
Ford	Focus (2.0L 16v) ('05-'08)	NXF	2550	Honda	Accord 2.2L ('90-'97)(130hp)	NXG*	2800
Ford	Focus (2.0L 16v)('00-'04)	NXG**	2600	Honda	Accord 2.3L	NXG**	2976
Ford	Focus (2.0L 8v)('00-'02)	NXG	2606	Honda	Accord 2.4L ('03-'07)	NXF	3097
Ford	Focus (2.3L 16v)('04)	NXF	2612	Honda	Accord 2.7 V6 ('95-'97)	NXF	3219
Ford	Focus ST 2.3L 16v ('07)	NXF*	2636	Honda	Accord 3.0 V6 ('03-'07)	NXE	3303
Ford	Focus SVT (2.0L)('02-'04)	NXF**	2750	Honda	Accord 3.0 V6 ('98-'02)	NXF*	3197
Ford	Focus ZX4 ST (2.3L)('05-'06)	NXF*	2636	Honda	Civic 1.6L SOHC ('88-'91)	NXF	2291
Ford	GT	NXR**	3485	Honda	Civic Base ('88-'91)	NXG	2127
Ford	Mustang Cobra ('93-'95)	NXE*	3354	Honda	Civic Coupe 1.8L ('06-'08)	NXF*	2586
Ford	Mustang Cobra ('96-'98)	NXC	3393	Honda	Civic CX ('92-'95)	NXG	2094
Ford	Mustang Cobra ('99 & '01)	NXC*	3285	Honda	Civic del Sol S (<107hp)	NXG**	2302
Ford	Mustang Cobra R ('00)	NXB*	3590	Honda	Civic del Sol Si (<128hp)	NXF*	2414

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Honda	Civic del Sol VTEC (DOHC 1.6L)	NXE	2522	Jaguar	S-Type R 4.2L S/C ('03-'04)	NXD**	4046
Honda	Civic DX 1.5L 16v ('88-'91)	NXG**	2165	Jaguar	S-Type R 4.2L S/C ('05-'07)	NXC	4075
Honda	Civic EX 1.6L ('92-'95)	NXF	2390	Jaguar	XJ Vanden Plas (<301 hp)	NXE*	3819
Honda	Civic EX 1.6L ('96-'00)	NXF	2440	Jaguar	XJ8 3.5L	NXE	3613
Honda	Civic EX 1.7L ('01-'05)	NXF	2597	Jaguar	XJ8 4.2L	NXE**	3613
Honda	Civic Non-VTEC (92hp)	NXF	1950	Jaguar	XJ8 S/C ('00-'07)	NXC	4001
Honda	Civic Si 1.6L ('92-'95)	NXF	2390	Jaguar	XJR ('98-'07)	NXC	3958
Honda	Civic Si 1.6L ('99-'00)	NXF**	2612	Jaguar	XKR-SC ('00-'06)	NXC*	3865
Honda	Civic Si 2.0L ('01-'05)	NXF*	2782	Jaguar	XKR-SC ('07)	NXC**	3781
Honda	Civic Si 2.0L ('06-'08)	NXE*	2877	Jaguar	XKE	NXD*	3100
Honda	Civic Type R ('07) (JDM)(225 hp)	NXC	2792	Jaguar	X-Type ('02-'07) AWD	NXE	3538
Honda	Civic VX	NXG**	2094	Jensen-Healey	2.0L ('73-'76)	NXE*	2240
Honda	CRX DX 1.5L 16v ('88-'91)	NXG**	2103	Kia	Rio	NXG**	2365
Honda	CRX DX 12v ('85-'87)	NXG**	1865	Kia	Sephia	NXF	2472
Honda	CRX HF	NXG	1967	Kia	Spectra	NXG*	2701
Honda	CRX Si 1.5L ('85-'87)	NXF**	1978	Lamborghini	Diablo VT	NXU	3582
Honda	CRX Si ('88-'91)	NXF*	2174	Lexus	GS300 ('06)	NXE	3536
Honda	CRX 1.6L DOHC VTEC	NXE	2436	Lexus	GS300 ('93-'05)	NXF*	3649
Honda	Fit ('07-'08)	NXG*	2432	Lexus	GS350 ('07-'08)	NXD	3704
Honda	Prelude S ('92-'96)	NXG**	2775	Lexus	GS400	NXE**	3693
Honda	Prelude Si ('92-'96)	NXF*	2866	Lexus	GS430 ('01-'07)	NXE**	3745
Honda	Prelude Si (pre-'92)	NXF	2639	Lexus	GS460 ('08)	NXD	3945
Honda	Prelude VTEC ('93-'01)	NXF**	2954	Lexus	IS250 ('06-'08)(6sp man.)	NXF	3450
Honda	S2000 (2.0L)('00-'03)	NXD**	2850	Lexus	IS250 (AWD)('06-'08)	NXF**	3650
Honda	S2000 (2.2L)('04-'08)	NXC	2850	Lexus	IS300	NXF**	3255
Honda	S2000 CR (2.2L)('08)	NXC**	2813	Lexus	LS400	NXE	3890
Hyundai	Accent 1.5L (105hp)	NXF*	2149	Lexus	LS430	NXE	3990
Hyundai	Accent 1.6L ('01-'08)	NXG**	2366	Lexus	LS460 ('07-'08)	NXD	4244
Hyundai	Elantra 1.6L	NXG**	2500	Lexus	SC300	NXF*	3560
Hyundai	Elantra 1.8L	NXF	2453	Lexus	SC400	NXE*	3655
Hyundai	Elantra 2.0L ('00-'08)	NXF	2626	Lexus	SC430 ('02-'08)	NXE*	3840
Hyundai	Genesis 3.8L ('09)	NXE*	3750	Lincoln	LS (V8) ('03-'06)	NXE	3772
Hyundai	Genesis 4.6L ('09)	NXD**	4000	Lotus	Elise ('05-'07)	NXC**	1975
Hyundai	Genesis Coupe 2.0L Turbo Track	NXC	3300	Lotus	Esprit (V8) NX	NXA	2968
Hyundai	Genesis Coupe 3.8 V6 Track	NXB	3350	Lotus	Esprit 4 Turbo	NXB	2866
Hyundai	Tiburon 2.0L ('03-'07)	NXG	2940	Lotus	Exige ('06)	NXB*	2015
Hyundai	Tiburon 2.0L ('97-'01)	NXF	2633	Lotus	Exige S ('07)	NXA*	2077
Hyundai	Tiburon V6 2.7L ('03-'07)	NXF*	2986	Lotus	Exige 240R, S240, S260	NXS	2050
Infiniti	G20 ('93-'02)	NXG	2877	Mazda	323 (pre'95--82hp)	NXG	2075
Infiniti	G20 ('91-'92)	NXF	2535	Mazda	323 GTX (1.6L T)	NXF	2645
Infiniti	G35 (incl. 6MT) (pre-'05)	NXD	3435	Mazda	626 2.0L	NXG	2864
Infiniti	G35 (incl. 6MT)('05-'06)	NXD	3524	Mazda	626 2.5L V6	NXF	3023
Infiniti	G35 Coupe 6MT ('07)	NXD	3524	Mazda	Mazda3 (2.0L)('04-'06)	NXF*	2696
Infiniti	G35 (306 hp)(incl. Sport)('07-'08)	NXD*	3532	Mazda	Mazda3 (2.0L)('07-'08)	NXF	2780
Infiniti	G35x (AWD)('07-'08)	NXD**	3650	Mazda	Mazda3 (2.3L)('04-'06)	NXF*	2762
Infiniti	I30 ('00-'01)	NXF**	3342	Mazda	Mazda3 (2.3L)('07-'08)	NXF	2930
Infiniti	I30 ('96-'99)	NXF*	3090	Mazda	Mazda6 2.3L ('03-'06)	NXF	3042
Infiniti	I35	NXE*	3342	Mazda	Mazda6 2.3L ('07-'08)	NXG**	3091
Infiniti	Q45 ('02-'07)	NXE*	4153	Mazda	Mazda6 3.0L (V6) ('03-'05)	NXF**	3243
Infiniti	Q45 (pre-'02)	NXF**	3895	Mazda	Mazda6 3.0L (V6) ('06-'08)	NXF*	3320
Jaguar	S-Type 3.0L (235 hp)	NXF**	3777	Mazda	Mazdaspeed Protegé (Turbo)	NXF**	2843
Jaguar	S-Type 4.0L, 4.2L	NXE**	3874	Mazda	Mazdaspeed3 (turbo)('07-'09)	NXD*	3153

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Mazda	Mazdaspeed6 (AWD)(06-07)	NXD*	3589	Mercedes	SLK55 AMG ('05-'07)	NXB	3420
Mazda	Miata 1.6L	NXF**	2182	Mercury	Capri 1.6L (75hp)	NXG	2135
Mazda	Miata 1.8L ('94-'97)	NXE	2293	Mercury	Capri 2.0L ('71) (100hp)	NXF	2135
Mazda	Miata 1.8L ('99-'05)	NXE	2299	Mercury	Capri 2.0L ('72-'74)	NXG*	2275
Mazda	Miata MX-5 ('06-'08)	NXE*	2474	Mercury	Capri 2.3L ('76-'77)	NXH**	2491
Mazda	Miata MX-5 turbo ('05)	NXE*	2529	Mercury	Capri 2.6L, 2.8L ('72-'74)	NXF	2275
Mazda	MX-3	NXG*	2443	Mercury	Capri 2.8L ('76-'77)	NXH*	2800
Mazda	MX-3 GS	NXF	2582	Mercury	Cougar 2.5L V6	NXF*	2892
Mazda	MX-6 (2.2L)(110hp)	NXG*	2560	Mercury	Marauder	NXE	4195
Mazda	MX-6 GT (turbo)	NXF*	2729	Merkur	XR4Ti	NXE	2920
Mazda	MX-6 V6 ('92-'97)	NXF*	2800	MG	Midget 1.1l, 1.3l, 1.5l	NXF	1515
Mazda	Protegé 1.6L	NXG	2493	Mitsubishi	3000 VR-4 ('91-'93)(AWD)	NXD	3803
Mazda	Protegé 1.8L	NXF	2385	Mitsubishi	3000 VR-4 ('94-'99)(AWD)	NXD**	3760
Mazda	Protegé 2.0L	NXF	2634	Mitsubishi	3000GT (NA-DOHC)	NXE	3219
Mazda	Protegé 5	NXG*	2716	Mitsubishi	3000GT (NA-SOHC)	NXF	3131
Mazda	Protegé MP3	NXG**	2725	Mitsubishi	Eclipse 2.4L (pre-'06)	NXG**	2965
Mazda	RX-3 ('72-'78) (12A)	NXG**	2280	Mitsubishi	Eclipse 2.4L ('06-'08)	NXG*	3274
Mazda	RX-7 12A	NXG**	2345	Mitsubishi	Eclipse GT 3.8L ('06-'08)	NXE*	3472
Mazda	RX-7 13B	NXE	2800	Mitsubishi	Eclipse GT 3.0L ('00-'05)	NXF**	3142
Mazda	RX-7 13B GSL-SE (1st Gen)	NXF**	2512	Mitsubishi	Eclipse Turbo ('90-'94)	NXE	2778
Mazda	RX-7 NX	NXC**	2826	Mitsubishi	Eclipse Turbo ('95-'98)	NXE*	2877
Mazda	RX-7 Turbo II	NXD	2775	Mitsubishi	Eclipse Turbo ('99)	NXE	2970
Mazda	RX-8 ('04-'08)	NXD	3045	Mitsubishi	Eclipse Turbo AWD ('92-'94)	NXE*	3093
Mazda	RX-8 ('09)	NXD*	3045	Mitsubishi	Eclipse Turbo AWD ('95-'98)	NXE*	3157
Mazda	RX-8 (197 hp)(Auto)(04-'05)	NXE	3053	Mitsubishi	Eclipse Turbo AWD ('99)	NXE*	3270
Mazda	RX-8 (212 hp)(Auto)(06-'07)	NXE*	3075	Mitsubishi	Galant 2.4L ('94-'03)	NXG*	2835
Mercedes	190E 2.3 (16v)	NXF**	3030	Mitsubishi	Galant 2.4L ('04-'07)	NXG	3428
Mercedes	190E 2.6L ('86-'93)	NXF**	2955	Mitsubishi	Galant 3.0L V6 (195hp)	NXF	3252
Mercedes	C230 ('02-'05)	NXF**	3305	Mitsubishi	Galant 3.8L (230 hp)(02-'07)	NXF*	3616
Mercedes	C230 ('06-'07)	NXF**	3405	Mitsubishi	Galant 3.8L Ralliart ('07)	NXF*	3748
Mercedes	C280 ('94-'00)	NXF**	3316	Mitsubishi	Galant VR4 (AWD) ('91-'92)	NXE	3275
Mercedes	C280 ('06-'07)	NXE	3460	Mitsubishi	Lancer 2.0L ('02-'07)	NXG	2745
Mercedes	C300 ('08)	NXE	3460	Mitsubishi	Lancer 2.0L DE, SE ('08)	NXG*	3000
Mercedes	C32 AMG ('02-'04)	NXC*	3540	Mitsubishi	Lancer 2.4L ('04-'07)	NXF*	2843
Mercedes	C320 ('01-'05)	NXE	3428	Mitsubishi	Lancer Evo VIII ('03-'05)(AWD)	NXC**	3263
Mercedes	C55 AMG ('05-'06)	NXC**	3540	Mitsubishi	Lancer Evo VIII MR ('05)(AWD)	NXB	3263
Mercedes	CL65 AMG ('06)	NXA*	4654	Mitsubishi	Lancer Evo IX ('06)(AWD)	NXB	3263
Mercedes	CLK55 AMG ('04-'06)	NXC	3960	Mitsubishi	Lancer Evo MR ('06)(AWD)	NXB*	3285
Mercedes	CLK430 ('99-'01)	NXD*	3323	Mitsubishi	Lancer Evo RS ('06)(AWD)	NXB	3219
Mercedes	CLK430 ('02-'03)	NXD	3485	Mitsubishi	Lancer Evo X GSR ('08)(AWD)	NXB*	3500
Mercedes	CLK500 ('03-'06)	NXD*	3585	Mitsubishi	Lancer Evo X MR ('08)(AWD)	NXB**	3500
Mercedes	CLK550 ('07)	NXC*	3965	Mitsubishi	Lancer Ralliart ('09)	NXC	3450
Mercedes	CLK63 AMG ('07)	NXA	3960	Mitsubishi	Mirage	NXG*	2183
Mercedes	E55 AMG ('03-'06)	NXB*	4087	Mitsubishi	Mirage 1.8L	NXF	2293
Mercedes	E55 AMG ('99-'02)	NXC*	3768	Mitsubishi	Starion (turbo)	NXF**	2900
Mercedes	E63 AMG ('07)	NXA*	4035	Mitsubishi	Starion ESI-R (turbo)	NXF**	3050
Mercedes	SL55 AMG ('03-'06)	NXB*	4280	Nissan	200SX 1.6L	NXF	2325
Mercedes	SL55 AMG ('07)	NXB*	4365	Nissan	200SX 2.0L ('80-'81)	NXG*	2500
Mercedes	SL65 AMG ('07)	NXA*	4564	Nissan	200SX 2.0L Turbo	NXE	2800
Mercedes	SLK 320 ('01-'04)	NXE*	3120	Nissan	200SX SE-R (2.0L)	NXF	2586
Mercedes	SLK32 AMG ('02-'04)	NXB*	3220	Nissan	240SX	NXF**	2700
Mercedes	SLK 350 ('05-'08)	NXC	3230	Nissan	240SX (S14 220hp swap)	NXD*	2700

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Nissan	240SX HICAS	NXE	2700	Opel	Manta	NXG	2230
Nissan	240SX SOHC ('89-'90) (140hp)	NXF*	2684	Peugeot	505 Turbo 2.2L ('86-'88)(150hp)	NXF*	2850
Nissan	240Z	NXE	2425	Peugeot	505 Turbo 2.2L ('88-'89)(180hp)	NXF**	2950
Nissan	260Z	NXF**	2660	Plymouth	Laser Turbo ('90-'94)	NXE	2756
Nissan	280Z	NXF**	2800	Plymouth	Laser Turbo AWD ('92-'94)	NXE*	3073
Nissan	280ZX	NXF**	2800	Plymouth	Prowler	NXD*	2857
Nissan	280ZX Turbo	NXE	2800	Pontiac	Fiero (4-cyl)	NXG	2590
Nissan	300ZX all (Z31--'84-'88) NA	NXE	2668	Pontiac	Fiero (V6)	NXF*	2778
Nissan	300ZX Turbo (Z31--'84-'89)	NXE	3260	Pontiac	Firebird 3.4L (V6)	NXG*	3306
Nissan	300ZX NA (Z32) 2+2	NXE	3414	Pontiac	Firebird 3.8L	NXF*	3306
Nissan	300ZX NA (Z32--'89-'96)	NXE*	3174	Pontiac	Firebird Firehawk	NXC	3481
Nissan	300ZX NX	NXD**	3480	Pontiac	Firebird WS6	NXD**	3499
Nissan	350Z (287hp)('03-'05)(enth. ok)	NXC	3188	Pontiac	Formula ('98-'02)	NXD*	3452
Nissan	350Z (300hp)('06)(enth. ok)	NXC	3339	Pontiac	Formula (pre-'98)	NXE**	3408
Nissan	350Z (306hp)('07-'08)(enth. ok)	NXC*	3320	Pontiac	Formula '87 (5.0L, 215hp)	NXF**	3383
Nissan	350Z Nismo ('07-'08)	NXB	3350	Pontiac	Grand AM 2.3L (170,180hp)	NXF**	2852
Nissan	350Z Roadster ('06)	NXD*	3602	Pontiac	Grand Am 3.4L (V6)	NXG**	3091
Nissan	350Z Track ('05-'06),35ann, GT	NXC*	3370	Pontiac	Grand Prix GT 3.8L ('98-'04)	NXF	3484
Nissan	350Z Track Model ('03-'04)	NXC*	3225	Pontiac	Grand Prix GT 3.8L ('05-'06)	NXE	3484
Nissan	370Z ('09)(6 sp. manual)	NXB*	3300	Pontiac	Grand Prix GTP ('99-'03)	NXF*	3464
Nissan	370Z Sport Model ('09)	NXB**	3300	Pontiac	Grand Prix GTP ('04-'06)	NXE	3583
Nissan	370Z Nismo ('09)	NXA*	3300	Pontiac	Grand Prix GXP ('05-'08)	NXE**	3600
Nissan	Altima 2.4L	NXF	2853	Pontiac	Grand Prix SE 3.1L	NXG*	3384
Nissan	Altima 2.5L ('02-'09)	NXF*	2992	Pontiac	GTO ('04)	NXD*	3725
Nissan	Altima 3.5L ('02-'06)	NXE*	3225	Pontiac	GTO ('05-'06)	NXC*	3725
Nissan	Altima 3.5L ('07-'08)	NXE**	3268	Pontiac	Solstice ('06-'08)	NXE	2860
Nissan	Altima 3.5L SE-R ('05-'06)	NXD	3279	Pontiac	Solstice GXP (turbo)('07-'08)	NXC	2988
Nissan	GT-R ('09+)	NXU	3700	Pontiac	Trans Am ('98-'02)	NXD*	3494
Nissan	Maxima 3.5L ('02-'03)	NXE*	3239	Pontiac	Trans Am (pre-'98)	NXE**	3477
Nissan	Maxima 3.5L ('04-'06)	NXE*	3471	Pontiac	Trans Am Turbo V6	NXD*	3346
Nissan	Maxima 3.5L ('07-'08)	NXE	3591	Pontiac	Vibe 1.8L ('03-'07)	NXG*	2700
Nissan	NX2000	NXF	2461	Pontiac	Vibe GT ('04-'06)	NXF	2780
Nissan	Pickup ('90-'97)(2WD)	NXG**	2800	Pontiac	Vibe GT ('03)	NXF*	2780
Nissan	Pulsar NX 1.8L	NXF	2566	Porsche	911 ('63-'69)	NXE*	2248
Nissan	Sentra 1.6L ('87-'88)(8v)(69hp)	NXG	2250	Porsche	911 ('70-'73)	NXE*	2375
Nissan	Sentra 1.6L (16v)	NXF	2299	Porsche	911 ('73-'77)	NXE*	2469
Nissan	Sentra 1.8L ('00-'06)	NXG*	2590	Porsche	911 ('78-'83)	NXE**	2552
Nissan	Sentra 2.0L ('07-'08)	NXG**	2853	Porsche	911 ('84-'89)	NXD*	2756
Nissan	Sentra SE ('98-'01)	NXF	2617	Porsche	911 Carrera ('73-'77)	NXD*	2469
Nissan	Sentra SE-R 2.0L ('91-'94)	NXF	2520	Porsche	911 Turbo 3.0L ('74-'77)	NXC**	2508
Nissan	Sentra SE-R 2.5L ('02-'06)	NXF*	2730	Porsche	911 Turbo 3.3L ('77-'89)	NXC**	2937
Nissan	Sentra SE-R 2.5L ('07-'08)	NXF	3102	Porsche	911S ('67-'69)	NXD	2248
Nissan	Sentra Spec V ('02-'06)	NXF**	2710	Porsche	911S ('70-'73)	NXD*	2374
Nissan	Sentra Spec V ('07-'08)	NXF**	3078	Porsche	912	NXF**	2095
Noble	M12 GTO-3R (352 hp 3.0L V6)	NXU	2380	Porsche	914-4	NXF**	2138
Noble	M400 (425 hp 3.0L V6)	NXR	2337	Porsche	914-6	NXE	2070
Oldsmobile	Cutlass Calais 2.3L Int. (150hp)	NXF	2700	Porsche	924	NXF**	2344
Oldsmobile	Cutlass Calais 2.3L Int. (180hp)	NXF**	2730	Porsche	924S ('87)	NXF**	2734
Oldsmobile	Cutlass Calais 2.3L Quad442	NXF**	2730	Porsche	924S ('88)	NXE	2734
Oldsmobile	Cutlass Calais Quad442 W41	NXE*	2625	Porsche	924 Turbo	NXE*	2601
Opel	GT 1100	NXG	1918	Porsche	928 ('78-'82)(4.5L)	NXD	3200
Opel	GT1900	NXG*	2138	Porsche	944 ('83-'87)	NXF**	2779

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Porsche	944 2.5L ('88)	NXF**	2844	Porsche	Cayenne S ('03-'06)(AWD)	NXF*	4950
Porsche	944 2.7L ('89)(162 hp)	NXF**	2866	Porsche	Cayenne Turbo ('08)(AWD)	PTC	5191
Porsche	944 S	NXE*	2975	Porsche	Cayman 2.7L ('07-'08)	NXD**	2866
Porsche	944 S2	NXD*	2892	Porsche	Cayman S 3.4L ('06-'08)	NXB	3075
Porsche	944 Turbo ('86-'88)	NXD	2899	Renault	Alliance 1.4L (60hp)	NXG	2030
Porsche	944 Turbo S ('88-'89)	NXD**	2998	Renault	Alliance 1.7L (85hp)	NXG*	2030
Porsche	959	NXR**	2970	Renault	Alliance 2.0L GTA (95hp)	NXG**	2161
Porsche	964 Carrera 2	NXD**	2970	Rosion	Q1	NXR	2337
Porsche	964 Carrera 4 (AWD)	NXD**	3190	Saab	900 Turbo SPG ('85-'89)	NXF**	2875
Porsche	964 RS	NXC**	2706	Saab	900 Turbo SPG ('90-'91)	NXF**	2900
Porsche	964 RS America	NXC*	2820	Saab	9000 Aero 2.3L Turbo ('93-'97)	NXE	3265
Porsche	965 3.3L (Turbo II--'90-'92)	NXC**	3234	Saab	9-2X Aero ('05)(AWD)	NXD	3179
Porsche	965 3.6L (Turbo II--'93-'94)	NXB	3234	Saab	9-2X Aero ('06)(AWD)	NXD*	3208
Porsche	968	NXD*	2910	Saab	9-3 Aero 2.0T & 2.0T ('04-'07)	NXF**	3175
Porsche	968 Turbo S	NXB	2866	Saab	9-3 Aero 2.8L ('06-'07)	NXE**	3285
Porsche	993 C2 ('94-'95)	NXC*	3064	Saab	9-3 Viggen ('99-'02)	NXE*	3170
Porsche	993 C2 ('96-'99)	NXC**	3064	Saab	9-5 2.3T	NXE*	3470
Porsche	993 C2S	NXC**	3064	Saab	9-5 Aero 2.3T & 2.3T ('02-'06)	NXE	3470
Porsche	993 C4 (AWD)	NXC**	3175	Saab	99 EMS ('72-'76)(2.0L)	NXG*	2560
Porsche	993 C4S (AWD)	NXB	3197	Saturn	Ion ('03-'04)	NXF	2653
Porsche	993 Cup	NXU	2464	Saturn	Ion ('05-'07)	NXG**	2766
Porsche	993 RS 3.8L	NXB*	2800	Saturn	Ion Redline ('04-'07)	NXE*	2945
Porsche	993 Turbo (AWD)	NXS	3300	Saturn	Sky ('07-'08)	NXF**	2933
Porsche	993 Turbo S (AWD)	NXS*	3203	Saturn	Sky Redline ('07-'08)	NXC	2990
Porsche	996 C2 (3.4L) ('99-'01)	NXB	2910	Saturn	S-Series (DOHC) ('91-'02)	NXF	2437
Porsche	996 C2 (3.6L)('02-'04)	NXB*	2959	Saturn	S-Series (SOHC) ('91-'02)	NXG*	2345
Porsche	996 C4 (3.4L)	NXB	3034	Scion	tC ('05-'08)	NXF	2905
Porsche	996 C4 (3.6L)	NXB	3267	Scion	xA ('04-'06)	NXG*	2340
Porsche	996 C4S (3.6L)	NXA	3240	Scion	xB ('04-'06)	NXG	2415
Porsche	996 GT2	NXU*	3130	Subaru	Forester XT ('04-'05) (AWD)	NXF**	3225
Porsche	996 GT3	NXU	2976	Subaru	Forester XT ('06-'07) (AWD)	NXE	3270
Porsche	996 Cup	NXR	2550	Subaru	Impreza 1.8L (AWD)	NXG**	2605
Porsche	996 Turbo	NXA*	3388	Subaru	Impreza 1.8L (FWD)	NXG**	2325
Porsche	996 Turbo S	NXS	3505	Subaru	Impreza 2.2L (AWD)	NXF**	2730
Porsche	997 C4 ('06-'07)	NXA	3197	Subaru	Impreza 2.5L ('98-'01)(AWD)	NXE	2840
Porsche	997 C4S ('06-'07)	NXA	3252	Subaru	Impreza 2.5L ('02-'05)(AWD)	NXF**	2972
Porsche	997 Carrera ('05-'07)	NXB*	3075	Subaru	Impreza 2.5L ('06-'08)(AWD)	NXE	3016
Porsche	997 Club Coupe	NXA*	3053	Subaru	Legacy 2.2L ('90-'94)(AWD)	NXF	2830
Porsche	997 CS ('05-'07)	NXA	3131	Subaru	Legacy 2.2L ('95-'99)(AWD)	NXF*	2885
Porsche	997 GT3 ('07)	NXU	3076	Subaru	Legacy 2.2L T AWD ('91-'94)	NXF*	3100
Porsche	997 GT3 Cup	NXR	2536	Subaru	Legacy 2.5L ('00-'08)(AWD)	NXF**	3200
Porsche	997 Turbo AWD ('07)	NXU	3495	Subaru	Legacy GT ('05-'08)(AWD)(Turb)	NXD*	3300
Porsche	Boxster ('97-'99)	NXE*	2822	Subaru	Legacy 3.0 AWD ('08)	NXE	3545
Porsche	Boxster ('00-'02)	NXE**	2900	Subaru	Outback 3.0 ('01-'04)(AWD)	NXF*	3630
Porsche	Boxster ('02-'04)	NXD	2920	Subaru	Outback 3.0 ('05-'07)(AWD)	NXE	3610
Porsche	Boxster ('05-'06)	NXD*	2855	Subaru	Outback XT ('05-'06)(AWD)	NXE*	3415
Porsche	Boxster ('07)	NXD**	2855	Subaru	Outback XT ('07)(AWD)	NXE	3535
Porsche	Boxster S ('05-'06)	NXC*	2965	Subaru	SVX (AWD)	NXE	3375
Porsche	Boxster S ('00-'02)	NXD**	2950	Subaru	WRX 2.0L ('02-'05) (AWD)	NXD	3085
Porsche	Boxster S ('03-'04)	NXC	2911	Subaru	WRX 2.5L ('06-'08)(AWD)	NXD*	3140
Porsche	Boxster S ('07)	NXC**	2965	Subaru	WRX 2.5L ('09)(AWD)	NXC*	3175
Porsche	Carrera GT	NXR**	3043	Subaru	WRX STi ('04-'07)(AWD)	NXB	3260

<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>	<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>
Subaru	WRX STI ('08-'09)(AWD)	NXB**	3395	Triumph	TR4 ('61-'64)	NXF*	2240
Subaru	XT	NXG*	2455	Triumph	TR6 ('69-'76)(2.5L S6 US Carb)	NXF*	2360
Subaru	XT6 (AWD)	NXF*	2885	Triumph	TR6 ('69-'76)(2.5L S6 Fuel Inj)	NXD	2360
Sunbeam	Tiger	NXE*	2575	Volvo	242 (2.3L) ('83-'85)	NXG	2840
Suzuki	Swift ('94-'01)	NXG*	1930	Volvo	242 GLT ('81-'85)(turbo)	NXF	3072
Suzuki	Swift 1.3L GT ('89-'94)	NXF*	1900	Volvo	850 2.4L n.a. ('93-'97)	NXF	3180
Toyota	Camry 2.4L ('02-'06)	NXG*	3086	Volvo	C30 T5 2.5L turbo ('08)	NXE**	2970
Toyota	Camry 2.4L ('07-'08)	NXG	3263	Volvo	C70 T5 2.3 T Coupe ('01-'02)	NXE*	3200
Toyota	Camry 3.0L (V6)('97-'01)	NXF	3240	Volvo	C70 T5 2.3 T Conv. ('99-'04)	NXF**	3450
Toyota	Camry 3.0L (V6)('03-'05)	NXF*	3296	Volvo	C70 T5 ('06-'07)	NXF	3772
Toyota	Camry 3.3L (V6)('04-'05)	NXF*	3351	Volvo	P1800 ('61-'62)	NXF	2215
Toyota	Camry 3.3L (V6)('06)	NXF	3450	Volvo	S40 1.9 L ('00-'04)	NXF**	2767
Toyota	Camry 3.5L (V6)('07-'08)	NXE*	3461	Volvo	S40 2.4L ('04-'06)	NXF	3084
Toyota	Celica AllTrac ('88-'89)	NXE	3270	Volvo	S40 2.4L ('07)	NXG**	3234
Toyota	Celica AllTrac ('90-'93)	NXE	3272	Volvo	S40 T5 ('05)	NXE	3126
Toyota	Celica GT ('00-'05)	NXF**	2425	Volvo	S40 T5 ('06-'07)	NXF**	3278
Toyota	Celica GT ('77-'82)	NXG**	2460	Volvo	S40 T5 ('05-'07)(AWD)	NXE*	3447
Toyota	Celica GT ('83-'86)	NXG*	2500	Volvo	S60 2.4L	NXF	3230
Toyota	Celica GT ('87-'89)	NXG**	2455	Volvo	S60 2.5L Turbo ('04-'06)(AWD)	NXE	3603
Toyota	Celica GT ('90-'99)	NXF	2600	Volvo	S60 2.5L Turbo ('07)(AWD)	NXF**	3651
Toyota	Celica GT-S ('00-'05)	NXE*	2500	Volvo	S60 2.5L Turbo ('04-'06)(FWD)	NXF**	3393
Toyota	Celica GT-S ('83-'85)	NXG	2566	Volvo	S60 2.5L Turbo ('07)(FWD)	NXF*	3501
Toyota	Celica GT-S ('86-'93)	NXF	2679	Volvo	S60 R ('04-'05)(AWD)	NXD*	3715
Toyota	Celica Supra (1st gen)	NXF**	2789	Volvo	S60 R ('06-'07)(AWD)	NXD*	3715
Toyota	Corolla 1.8L ('03-'07)	NXF	2530	Volvo	S60 2.4L T5 ('05-'07)	NXE**	3393
Toyota	Corolla FX-16 GT-S	NXF	2390	Volvo	S60 2.3L T5 ('01-'04)	NXE*	3406
Toyota	Corolla GT-S 1.6L 16v ('84-'87)	NXF**	2200	VW	Beetle 1.8L T (150hp)('99-'05)	NXF	2820
Toyota	Corolla GT-S 1.6L 16v ('88-'89)	NXF	2390	VW	Beetle 1.9L TDI ('98-'03)	NXH**	2750
Toyota	Corolla SR5 ('79-'83)(3TC)	NXG	2185	VW	Beetle 1.9L TDI ('04-'06)	NXH**	2850
Toyota	Corolla XRS	NXF**	2670	VW	Beetle 2.0L ('98-'05)	NXH**	2743
Toyota	Echo	NXF**	2035	VW	Beetle 2.5L ('06-'08)	NXG**	2884
Toyota	Matrix ('03-'07)	NXG*	2673	VW	Beetle Turbo S ('02-'04)	NXF*	3005
Toyota	Matrix XRS (180 hp)('03-'04)	NXF*	2800	VW	Corrado 1.8L DOHC, 2.0L DOHC	NXF**	2403
Toyota	Matrix XRS ('05-'06)	NXF	2800	VW	Corrado 2.0L SOHC	NXG**	2418
Toyota	MR Spyder	NXE*	2195	VW	Corrado G60 1.8L S/C	NXE*	2558
Toyota	MR2 (1st Gen NA)	NXF*	2380	VW	Corrado VR6	NXF**	2733
Toyota	MR2 2.2L DOHC	NXF*	2657	VW	Golf 1.6L, 1.8L	NXG*	2120
Toyota	MR2 SC	NXF**	2605	VW	Golf 1.8L DOHC, 2.0L DOHC	NXF	2672
Toyota	MR2 Turbo	NXE**	2825	VW	Golf 1.9L TDI ('99-'03)	NXH**	2750
Toyota	Paseo	NXG**	2025	VW	Golf 1.9L TDI ('04-'06)	NXH**	2850
Toyota	Prius	NXH	2932	VW	Golf 2.0L, 1.4L & 1.6L DOHC	NXG*	2533
Toyota	Solara 3.3L ('04-'06)	NXF*	3419	VW	Golf 2.0L ('99-'06)	NXH**	2771
Toyota	Solara 3.3L ('07-'08)	NXF	3440	VW	Golf 2.5L V5	NXF*	2732
Toyota	Supra NA ('88-'92)	NXF**	3430	VW	Golf 2.8L V6	NXF*	3102
Toyota	Supra NA ('94-'98)	NXE*	3265	VW	Golf 2.8L VR6	NXE	2546
Toyota	Supra T	NXE	3534	VW	Golf R32 (AWD)('04)	NXD	3350
Toyota	Supra NX	NXC**	3450	VW	Golf R32 (AWD)('08)	NXE*	3600
Toyota	Tercel ('88-'90) (78hp)	NXG	2020	VW	GTI 1.8L 8v ('85-'92)	NXG*	2267
Toyota	Yaris ('07)	NXG**	2293	VW	GTI 1.8L DOHC	NXF*	2267
Triumph	GT6 MK I	NXF**	1905	VW	GTI 1.8L turbo (150 hp)	NXF	2762
Triumph	GT6 MK III	NXE	1904	VW	GTI 1.8L turbo (180hp)	NXF*	2934
Triumph	Spitfire MK 2 (75hp, 1147cc)	NXF*	1564	VW	GTI 2.0L 8v ('95-'98)	NXG*	2557

<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>	<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>
VW	GTI 2.0L 8v ('99-'00)	NXH**	2765	VW	Jetta 2.8L VR6 24v	NXF*	3179
VW	GTI 2.0L DOHC (134 hp)	NXF*	2445	VW	Passat 2.0L turbo ('06-'08)	NXF*	3305
VW	GTI 2.0L Turbo ('06-'08)(200hp)	NXF**	3100	VW	Passat 2.8L	NXF*	3151
VW	GTI 2.8L V6 (174hp)	NXF	3011	VW	Passat 3.6L ('06-'08)	NXE*	3576
VW	GTI 2.8L V6 (200hp)	NXF**	3036	VW	Passat 3.6L ('06-'08)(AWD)	NXE*	3700
VW	GTI 337 (turbo)	NXF**	2857	VW	Passat W8 (AWD)	NXE	3918
VW	Jetta 1.6L	NXH**	2040	VW	Rabbit 1.6L	NXH**	2000
VW	Jetta 1.8L DOHC	NXF*	2305	VW	Rabbit 1.6L Diesel (<'92)	NXH*	2270
VW	Jetta 1.8L SOHC	NXG	2450	VW	Rabbit 1.6L Turbo-Diesel (<'93)	NXH*	2300
VW	Jetta 1.8L turbo GLI	NXF	3106	VW	Rabbit 1.7L (74hp)	NXH**	2046
VW	Jetta 2.0L GLI DOHC	NXF*	2438	VW	Rabbit 2.5L ('06-'07)	NXG**	2975
VW	Jetta 2.0L SOHC	NXH	2934	VW	Rabbit 2.5L ('08)	NXF	2975
VW	Jetta 2.0L turbo ('06-'08)	NXF*	3259	VW	Rabbit GTI 1.8L (90hp)	NXG*	2120
VW	Jetta 2.5L I5 ('05-'07)	NXG	3230	VW	Scirocco 1.6L (75-78hp)	NXH**	2015
VW	Jetta 2.5L I5 ('08)	NXG**	3230	VW	Scirocco 1.7L (74hp)	NXH**	2040
VW	Jetta 2.8L VR6 12v ('94-'98)	NXF	2927	VW	Scirocco 1.8L DOHC	NXF*	2287
VW	Jetta 2.8L VR6 12v ('99-'02)	NXG**	3113	VW	Scirocco 1.8L SOHC	NXG*	2120

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

Base classifications are for the standard base model (base trim package) of a vehicle, without factory options or upgrades.

1.3 Up-Classing System

If a 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.** NASA-X Officials will attempt to use less invasive techniques for monitoring NASA-X rules compliance than is expected in NASA roadracing & TT classes. As such, penalties for non-compliance with the rules will be harsh, and may include disqualification and expulsion from further NASA-X competition with a single infraction, regardless of the nature of the infraction. Competitors are encouraged to seek clarification of any rule and/or inspection of any modified or non-OEM part they are unsure about, before competition, from their NASA-X Regional Director or the NASA-X National Director.

If your car accrues 20 or more points you 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

120 thru 139 points - Up SIX Classes
140 thru 159 points - Up SEVEN Classes
160 thru 179 points - Up EIGHT Classes
180 or more points – Up NINE Classes

Any vehicle that exceeds the maximum points assessment set forth in this document (i.e. beyond class NASA-X R with 19 points added) may be excluded from the official event results and run only in an “EXPO” class, as determined by the NASA-X National Director or any NASA-X Regional Director. Examples include extremely modified versions of cars that already started in a higher base class as well as many purpose-built “pro” racecars.

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 based on Dyno testing are exempt from this additional five [+5] point assessment.)

1.3.A. TIRES:

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

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

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

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

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

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

1.3.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. Removal or lightening of engine parts is permitted only as listed elsewhere in these rules:

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

*Minimum competition weight is the vehicle's lightest weight with the driver and safety gear, during official timed runs at any NASA-X. Any driver whose vehicle at impound does not meet the minimum weight that they have declared on their car classification sheet will be disqualified and may lose all accrued points for the season if the number of modification points based on the lighter actual weight puts the car in a higher competition class.

1.3.C. ENGINE/DRIVETRAIN:

- 1) Engine swap: All engine swaps must be evaluated for new base classification by the NASA-X National Director on an individual basis, unless a base class for the particular swap is listed above in 1.2 Base Classifications or in Appendix A. Please refer to section 1.5.
- 2) Increased number of camshafts or non-OEM (non-stock) head(s)/hybrids: same as 1), refer to section 1.5.
- 3) Non-OEM turbo or supercharger, or upgraded or modified turbo/supercharger: same as 1), refer to section 1.5.
- 4) Increased displacement by: <1.5% +0, 1.5% to <5.5% +4, 5.5% to <7% +6, 7% to <10% +8, 10% to <15% +10, 15% to <20% +15, >20% +20.
Formula to calculate % = current disp. divided by OEM disp., minus 1, x 100 = %
Example: 407ci/351ci = 1.16, minus 1 = .16, x 100 = 16% (+15 pts)
Example: 1852cc/1799cc = 1.029 minus 1 = .029 x 100 = 2.9% (+4 pts)
- 5) Modified or non-OEM camshaft(s) or cam timing gears +6 (for one or more)
- 6) Valve size change, modified, ported or polished OEM head (other than simple shaving of the head only) +6
- 7) Any modifications that result in increased engine compression ratio (including shaving the head or decking the block to factory specs):
0.50 or less +0, >0.50 +3, >1.0 +6, >2.0 +10, >3.0 +15
- 8) De-stroked engine +4
- 9) Replacement pulleys (other than for supercharger) **or non-electrical fan removal** +1
- 10) Port modification for rotary engine: same as 1), refer to section 1.5.
- 11) Added dry sump oil system +7 (+14 if motor is lowered from OEM location)
- 12) Aftermarket computer system (any non-OEM "stand-alone" or "piggyback"):
+3 naturally aspirated, **+10** forced induction

- 13) Modification of the OEM air intake/box, air filter location, air piping to the turbo/supercharger/intercooler/throttle body/carburetor, or hood/fascia/fender **air inlet(s), outlets, or vents** +1 (air filter upgrade alone—0 pts.)
- 14) Replacement pulley for OEM supercharger +4
- 15) Aftermarket boost controller or modification/alteration of OEM vacuum lines that serve to function as a boost controller +4
- 16) Aftermarket or modified wastegate actuator, wastegate, or vacuum line(s) that serve to control the wastegate actuator function or increase peak boost +3
- 17) Add aftermarket intercooler +7
- 18) Non-OEM or modified intercooler +4 (**Intercooler sprayers are not permitted unless they came on the OEM base trim model of the vehicle**).
- 19) Non-OEM or modified/porting throttle body +2; independent throttle bodies +4
- 20) Non-OEM, modified/porting, or deleted intake manifold: 4 cyl. +1, 6cyl. +2, 8 cyl. +3, 12A & 13B rotary +2, all other rotary +3
- 21) Non-OEM or modified carburetor, fuel rail, fuel injector(s), and/or fuel pressure regulator +2 (no points for fuel pump alone if using OEM fuel and timing maps, sensor inputs and ignition timing)
- 22) Water injection system +6 (**alcohol-water mixtures are not permitted**)
- 23) Nitrous oxide injection is illegal
- 24) Modification or porting of the exhaust manifold +2
- 25) Aftermarket or modified header +2
- 26) **Non-OEM or modified exhaust piping, resonators, or mufflers downstream from the header, exhaust manifold, or turbo.(does not include catalytic converter removal/upgrade)** +2 (Note: Replacement of a failing OEM exhaust system may be permitted without a points assessment if the OEM Definition is strictly adhered to.)
- 27) Removal, upgrade, or modification of catalytic converter(s). +1
- 28) Non-OEM sequential (semi-automatic) or dog-ring (non-synchromesh) transmission (includes altered gear ratios) +7
- 29) Upgrade number of forward gears in transmission or altered gear ratios +3
- 30) Final drive ratio modification +3 (includes OEM sport package differentials for cars not listed separately in section 1.2 Base Classing)
- 31) Added paddle/electronic shift +3
- 32) Added limited slip differential or welded/locked differential +3
- 33) Changed or modified limited slip differential (or welded/locked OEM LSD) +1
- 34) Added traction control +3 (no points if proven disabled during competition)
- 35) Relocation of engine/transmission between 1 and 10 inches of the OEM location +7 (note: Relocation of less than 1 inch is not assessed points, and more than 10 inches is not permitted without the approval of the NASA-X National Director.)
- 36) Modification/upgrade from a fixed to a floating rear axle +3

1.3.D. SUSPENSION/BRAKES/CHASSIS:

- 1) Non-OEM shocks/struts/dampers with an external reservoir or more than two ranges of adjustment—must still take points for springs below +10 (example: compression (bump) and both high & low rebound adjustments).
- 2) **Non-OEM shocks/struts/dampers with a “Piggy Back” external reservoir (fixed reservoir without a connecting hose) OR with shaft diameter 40mm or greater** —must still take additional points for the springs below +7

- 3) Non-OEM or modified/re-valved shocks/struts/dampers +3 (all others)(springs not included)
- 4) Non-OEM or modified coil springs, leaf springs/spacers/brackets, or torsion bars +2
- 5) Conversion of torsion bar/leaf spring suspension to coil spring and strut/shock suspension +2
- 6) Add, replace, remove, or modify anti-roll bars (“sway” bars—front, rear, or both—may have spherical joints on the end links without additional points assessment) +2
- 7) Replace or modify control arms (other than plates, shims, slots, or eccentric bolts/bushings for simple camber/caster adjustment only) or RWD/AWD rear trailing arms (may have spherical/metallic joint for the connection to the spindle/knuckle) +4
- 8) Relocation of front suspension mounting points +6
- 9) Relocation of rear suspension mounting points +6
- 10) Changing the mounting orientation/design of the OEM shock and/or spring perch to invert them +1
- 11) Using the alternate control arm mounting location on cars equipped OEM with multiple choices (example: to increase track width) +6
- 12) Changing the orientation or design of an OEM mounting point or pick-up point of a control arm for a panhard bar or trailing arms +1
- 13) Replaced or modified K-members that change the location of the lower control arms +8
- 14) Tubular K(cross)-members that do not change the location of the lower control arms +2
- 15) Bump steer kits or shimming of the steering rack +2
- 16) Alteration of ball joints/dive angles +2
- 17) Add panhard rod or Watt’s link (regardless of whether the Watt’s link replaces an OEM panhard rod or not) +4
- 18) Replace or modify an OEM panhard rod or Watt’s link +2
- 19) Add torque arm +4
- 20) Replace or modify an OEM torque arm +2
- 21) Increase in track width greater than four (4) inches due to non-OEM axles, control arms, brake rotors/hats, wheel spacers, hubs, wheel offset, and/or camber adjustment +6 (measured from the inside of one tire to the outside of the opposite tire at ground level—averaging the measurements in front of and behind the contact patch to negate the effect of toe)
- 22) Non-OEM rear trailing arms on FWD vehicles (for stiffness only, no change in suspension mount or pick-up points from stock) +1
- 23) Non-OEM rear control arms on FWD vehicles (for stiffness and wheel alignment only, no change in suspension mount or pick-up points from stock) +1
- 24) Non-OEM brake calipers +2
- 25) Metallic replacement suspension bushings (Heim joints/spherical joints) +3 (except for pillow ball camber plate joints, sway bar end links already assessed points in 6) above, and control arm spindle/knuckle joints already assessed points in 7) above)
- 26) Add front lower stress/arm brace (two attachment points maximum) +1
- 27) Add front strut tower bar (two attachment points—bolted in or as component of the cage) +1
- 28) Add rear strut tower bar (two attachment points—bolted in or as a component of the cage) +1
- 29) Add a third (or more) attachment point to front or rear strut tower bar (or replace an existing/OEM three point bar) +1
- 30) Add or modify other chassis stiffening devices or fabricated parts (such as lower strut braces or lower arm braces (with greater than two attachment points), subframe connectors, subframe braces, subframe mounts/bushings, etc) +3
- 31) Non-OEM driver/cockpit adjustable sway bar or suspension settings +4
- 32) Seam or stitch welding of the body/chassis +5

1.3.E. ROLL BARS/CAGES:

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

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

1.3.F. NO-POINTS MODIFICATIONS:

- 1) Rolled fender lips
- 2) Flared fenders
- 3) Sun/moonroof removal and cover roof hole.
- 4) Battery replacement/lightweight battery/dry cell
- 5) Air bag removal
- 6) OEM jack and spare tire removal
- 7) Floor mat removal (required)
- 8) Wheels, studs, spacers, wheel bearings replacement/upgrade, hub modification/replacement, all with less than 4 inches of total track width gain, also axle modification or replacement (unless otherwise assessed points above).
- 9) Simple camber, caster, and toe adjustment by any method that does not alter suspension mounting points (unless the modification used is otherwise assessed points above). Bolt on camber/caster plates are not assessed points.
- 10) Ride height adjustment (must still take points for springs and torsion bars above)
- 11) Air filter upgrade (without modification of the air filter housing or air intake system)
- 12) Radiator upgrade/shrouding/fascia modification (drilled or cut holes/slots) that only provides increased airflow to the radiator or oil/transmission coolers (without aerodynamic or engine air intake improvement)
- 13) Starter motor replacement
- 14) Alternator replacement (must be able to sustain vehicle operation without a battery)
- 15) Oil systems and coolers other than added dry sump
- 16) Motor mounts and inserts replacement/upgrade or modification (with up to 1 inch of relocation of the motor/transmission)
- 17) Engine rebuild with head shave, block decking and 0.020" overbore—provided that compression ratio is not increased by more than 0.5 and displacement is not increased by greater than 1.49%. Forged pistons and internals are legal; however, points must be assessed for de-stroking, and/or increased displacement and compression ratio if greater than the limits listed above. (Note: 0.020" overbore with OEM rods and overbore pistons will yield an increase in displacement of approximately 1.1% for most engines.)
- 18) Engine balancing and blueprinting
- 19) Spark plug wires, plugs, coil, ignition replacement/upgrade
- 20) Turbo blow-off valve upgrade, modification, or addition
- 21) Removal of the engine balance shaft and/or balance shaft drive mechanism
- 22) Lightweight flywheel and/or clutch assembly

- 23) Fuel: Any grade of commercially available unmodified gasoline or diesel--all octane levels of retail available race gas are permitted. No "home brewed" methanol/ethanol/alcohol mixtures are permitted. Methanol injection systems are illegal. Fuel additives are prohibited. Retail available E-85 is permitted.
- 24) Brake duct addition or modification, including electric fans (water sprayers are illegal). Two holes may be cut or drilled out of the front fascia for brake air ducts. Any hole providing improved intake air to the engine will be assessed one (1) point under Engine 13).
- 25) Non OEM brake pads and rotors
- 26) Brake lines, boosters, [proportioning valves](#), and master cylinder modification or replacement.
- 27) Emergency brake removal
- 28) Non-metallic replacement suspension bushings
- 29) Steering wheel replacement
- 30) Mirror addition, [removal](#), or replacement
- 31) Gear shifters and shift knob replacement/upgrade
- 32) Seat harnesses
- 33) Maximum of two hundred and fifty (250) lbs. of added ballast—All ballast must be of solid material (no fluids or shot pellets) and safely secured in any location on the vehicle approved by NASA technical inspectors. The preferred method is to use at least one (1) 3/8-inch grade-5 bolt, two (2) "fender" washers and a locking nut system for every fifteen (15) pounds of weight.
- 34) Data acquisition systems and/or telemetry
- 35) Non-OEM driver's seat
- 36) Non-OEM front passenger seat
- 37) Relocated battery
- 38) Adding a hardtop to a convertible and/or removal of convertible soft top/frame
- 39) Shock tower reinforcement plate (to strengthen tower shock mount location only--no bars)
- 40) Shock mount replacement/modification (only if already taking points for both shocks and springs)(may raise or lower mount location up to two (2) inches if no horizontal movement.)
- 41) Accelerator, brake, and clutch pedal modification or replacement.
- 42) Drive by wire to cable throttle conversion (throttle body must remain identical to OEM in both size and shape to avoid a +2 throttle body assessment).
- 43) OEM ECU/PCM reprogramming [via reflashing or replacement/aftermarket ROM chips or simple ROM boards \(The OEM ECU/PCM box/housing and hardware must be used\)](#).
- 44) [SAFC or VAFC \(Super Air Flow Converter/VTEC Control Air Flow Converter\)](#)
- 45) Non- OEM sensors or alteration of sensor inputs (such as non-programmable MAF or MAP voltage "clamps")
- 46) Steering rack replacement or modification without geometry change (ratio changes)
- 47) Non-OEM valve springs and retainers
- 48) Ignition timing adjustments
- 49) NACA ducts, air ducts, or air hoses placed in a side window frame solely for purposes of driver cooling
- 50) Front wing/vent window removal and replacement with Lexan
- 51) Headlamps, headlight covers, and fog lights may all be removed, and the holes may be covered with material that replicates the shape of the OEM light/cover, leaving the shape of the OEM fascia intact. Uncovered holes may be used for brake ducts. Any hole providing improved intake air to the engine will be assessed one (1) point under Engine 13).
- 52) [OEM air conditioner system removal with or without A.C. delete pulley.](#)

- 53) ABS (anti-lock braking system)--Only OEM systems offered specifically for the car model as a factory option. No OEM systems offered for a different car model or aftermarket systems are permitted.
- 54) EGR, smog pump, charcoal canister and associated vacuum line and hose removal.
- 55) The addition of a second fuel pump inside an OEM fuel tank, serving only as a transfer pump to help prevent fuel starvation, that is not connected to the fuel line providing fuel to the engine in any way, and does not increase the maximum fuel flow or pressure provided by the OEM fuel pump.
- 56) Add, replace, or modify front fascia or air dam
- 57) Add, replace or modify a single front splitter/spoiler/wing/foil
- 58) Add, replace, or modify rear wing or spoiler
- 59) Add or modify canards/winglets
- 60) Add or fabricate any flat bottom/belly tray
- 61) Add rear diffuser, replace or modify OEM rear diffuser, rear bumper cover, or rear "fascia"
- 62) Add rear vertical panels in any location
- 63) Add or modify side skirts
- 64) Add vortex generator to roof, rear window, or rear deck lid
- 65) Front side window frame air dams/diverters (driver and/or passenger side)

1.4 Vehicle Inspection/Impound

NASA-X series administration reserves the right to perform random vehicle inspections and/or impounds at any time that the vehicle is at the track facility. These inspections may be done for the purpose of rules compliance verification or for safety inspection. Inspections may be a simple visual verification or car weight measurement, or may be complex, involving internal inspection of parts assemblies using bore scopes, diagnostic computers, compression testing/whistlers, Dyno testing, and/or disassembly and removal of parts for analysis. Although a rare occurrence, any requested disassembly will be the responsibility of the driver/owner to perform or to arrange for another mechanic to perform under the observation of a NASA tech inspector. The driver/owner will bear all financial responsibility for such disassembly and reassembly, regardless of whether or not the vehicle is found to be in compliance.

1.5 New Listings & Testing Procedures

The following rules apply to:

- Standard production cars for which a base class is not already listed in section 1.2
- Special/non-production cars for which a base class is not already listed in section 1.2
- Cars that have an added, modified, or upgraded turbocharger or supercharger
- Cars that have a non-OEM head(s) or increased number of camshafts (hybrid engines)
- Engine swap vehicles that have been designated as requiring dynamometer testing

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

The following factors will be taken into account when classing the car: wt./hp ratio, total weight, high torque in the usable rpm range, body style, engine location, drivetrain type, advanced technology/engineering in OEM suspension, brakes, drivetrain, and aerodynamics, and dry

sumps (if engine is lowered). The owner/driver may also be required to submit the maximum dynamometer horsepower and torque numbers, and the minimum competition weight of the vehicle (with driver) to the NASA-X National Director prior to the car's first competition. Any competitor wishing to drive a car meeting the above criteria without a certified Dyno report will compete in the NXR class until thorough base classing has been completed. 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.

A certified Dyno report consists of three separate, reproducible Dyno tests with SAE correction. 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. The owner/driver may elect to submit a higher horsepower number for the purposes of reassigning a base class to ensure that any Dyno testing done at another location or at the track by the NASA Officials will show hp ratings equal to or less than those provided by the owner/driver. 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 Dyno test results using a Mustang dynamometer will have 10% added to the maximum horsepower reading \(Mustang Dyno awhp x 1.1 = certified awhp\).](#) Each Regional NASA-X Director may retain the option to specify which business locations will be the approved centers for that particular region. 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 discretion, a NASA-X Director may require an updated certified Dyno report (at the driver's/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. 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 NASA-X Car Classification Form.](#)

For compliance testing, the dynamometer operator and the NASA-X 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.

Penalties---If a car is tested by NASA Officials, and found to have a higher hp rating than was submitted for base classification purposes, the following formula will be used to determine possible penalty assessment. One (1) “penalty” point will be assessed for any deviation above the submitted peak hp number. Then, one (1) additional penalty point will be assessed for every 3 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 reclassified based on its actual competition weight and Dyno power output is found to weigh less than the minimum weight listed on its Car Classification Form, it will be assessed two (2) penalty points for any deviation below the listed weight, followed by one (1) additional penalty point for each 10 pounds below the listed minimum competition weight.

1.6 OEM Definition, Updating and Backdating Rules

For the purposes of NASA-X points assessments, the term OEM will be defined as follows: Any part that is identical in size, shape, and functional characteristics compared to the part that originally came on the vehicle, from the manufacturer, as a standard feature of the base model as it is listed in section 1.2 Base Classifications (factory options and specialty model parts are considered non-OEM) or is listed as a standard replacement part by the OEM manufacturer. Some parts that are produced by aftermarket manufacturers as generic replacement parts may not require a points assessment provided that: they are the same size and shape, and have the same functional characteristics as the OEM part, and that they provide no significant improvement in performance, longevity, or reliability. If it is determined in impound that such a part does not meet the above description, the driver may be disqualified. Consultation with the NASA-X National 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 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 NASA-X base classification listing for a non-base trim model. NOTE: optional “sport package” cars will incur points for any parts that are different from the base model, such as final drive ratios or stiffer springs for example, if these cars are not listed on a separate line in section 1.2 Base Classifications.

Updating and backdating of parts between different model years of the same vehicle model is legal provided that the competing vehicle is in the same or higher base class than the donor vehicle, and that the entire assembly is replaced. 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 NASA-X National 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 the approval of the NASA-X National Director. Any update or backdate involving parts that could provide a total weight reduction of greater than 15 pounds needs to be evaluated by the NASA-X National Director.

1.7 Special Circumstances

In the event that a “large part swap” has occurred between the competing vehicle and a donor vehicle of the same model type in a higher base class, and the swap has resulted in a very large points assessment that would place the competing vehicle at a higher classification level than the donor vehicle, the competing vehicle may jump base classifications up to the donor car’s base class, and not take the points assessment for any parts identical to the donor car. However, if there are any parts on the competing vehicle that are not on the donor car that could be considered a performance advantage, and they do not meet the requirements of the updating/backdating rule, then those parts must either be assessed points or replaced with the part from the donor vehicle. Additionally, the NASA-X National Director must individually evaluate this type of base class jump for any other potential differences (besides parts) between the two cars, such as horsepower, weight, suspension, and aerodynamics to ensure that no additional points’ assessments are necessary.

In the event that a specialty or upgraded version of a vehicle, that is individually listed in 1.2 Base Classifications, has had so many of its “specialty” parts replaced or modified that a points assessment results in a situation where a hypothetical lower base classed “standard” model can be upgraded to be identical to it, but end up in a lower competition class, the specialty or upgraded version vehicle may be granted a waiver to “jump down” to the standard model’s base class. Then, it must be assessed points for all of its features that differ from the standard model. This will also require a specific evaluation and approval by the NASA-X National Director.

Appendix A—Pre-Approved Engine Swaps

Acura Integra B18C1 (GSR 170 hp) swapped into a Honda Civic (2300#). The swap will result in the Civic moving up to the NXD base class with a base weight listing of 2300.

Acura Integra B18C5 (ITR 195 hp) swapped into a Honda Civic (2300 lb). The swap will result in the Civic moving up to the NXC base class with a base weight listing of 2300.

Acura Integra Type R (JDM 220hp) swapped into an Acura Integra RSX Type S (US). The swap will result in the RSX Type S moving up to the NXD* base class with a base weight listing of 2770.

Audi 80 2.0L (108/113hp) swapped into an '81 VW Scirocco 1.7L (74hp) body. The swap will result in the Scirocco moving up to the NXF** class, with a base weight of 2040.

BMW E36 325i 2.5L (189hp) swapped into a BMW E30 325i (2855#). The swap will result in the E30 moving up to the NXE* base class with a base weight listing of 2855.

BMW E36 328 2.8L (190 hp) swapped into BMW E36 318ti (2778 lbs). The swap will result in the E36 318ti moving up to the NXE* base class with a base weight listing of 2865.

Eagle Talon turbo 2.0L 16v (210 hp) swapped into an Eagle Talon non-turbo 2.0L (4g63) chassis/body of equal weight. The swap will result in the car moving to the Eagle Talon Turbo's base class of NXE with a base weight listing of 2889.

Ford Escort LX SPI 2.0L SOHC (110 hp) swapped into '91-'96 Ford Escort LX. The swap will result in the Escort LX Hatchback moving to the NXG** base class with a base weight listing of 2391 lbs. and the Escort LX Wagon moving to the NXG* base class with a base weight listing of 2484.

Ford Escort ZX2 Zetec 2.0l VVT (130hp) swapped into '91-'96 Ford Escort LX. The swap will result in the Escort LX (hatchback and wagon) moving to the NXF* base class with a base weight listing of 2391.

Ford Mustang '69 351W (290 bhp, 232 net hp)(NXF*) swapped into a '66 Ford Mustang 289W (271 bhp, 217 net hp)(NXF*). The swap will result in an increase in the '66 Mustang's listed base weight by 210 lbs to 3190 lbs if the alternate method of weight reduction mod points is used. If not, a +11 point assessment will be made.

Mazda 323 GTX ('90-'94) BP-T 1.8L (176 hp) swapped into '91-'96 Ford Escort LX. The swap will result in the Escort LX (hatchback and wagon) moving to the NXD base class with a base weight listing of 2391.

Mazda 626 KLZE 2.5L (JDM 200hp) swapped into '91-'96 Ford Escort LX. The swap will result in the Escort LX Hatchback moving to the NXC base class with a base weight listing of 2391 lbs. and the Escort LX Wagon moving to the NXD** base class with a base weight listing of 2484.

Mazda Miata '94-'97 1.8L (128 hp), using the 1.6L ECU, swapped into '90-'93 Mazda Miata 1.6L (116hp) body. The swap will result in the '90-'93 Miata moving to the NXE base class, with a base weight listing of 2275 lbs. As well, the '90-'93 Miata may update other non-ECU parts from the '94-'97 Miata.

Nissan CA18DET (175hp) swapped into an '89-'94 Nissan 240SX (140hp). The swap will result in the Nissan 240SX moving to the NXE base class, with a base weight listing of 2700.

Nissan (JDM) S13 SR20DET (200hp) swapped into a Nissan 240SX (155hp) body (NXF**). The swap will result in the Nissan 240SX moving to the NXD base class, with a base weight of 2700.

Nissan (JDM) SR20VE (187hp, 145ft-lbs) ('97-'01 auto) swapped into a Nissan Sentra SE-R Spec V (175 hp, 180 ft-lbs, 2.5L, NXF**)--does not include SR20VE from '01-current 6sp manual (204hp). The swap will result in the Nissan Sentra SE-R Spec V moving up to the NXE base class, with a base weight listing of 2740.

Nissan (JDM or USA) VG30DETT (300ZXTT) (300hp) engine swapped into a Nissan 300ZX Z-32 2+2 (na)(3414 lb) (222hp) body. The swap will result in the Nissan 300ZX Z-32 2+2 (n.a) moving up to the NXD** base class, with a listed base weight of 3480 lbs. This swap does not apply to the 300ZX Coupe (3219 lbs).

Pontiac Firebird 3.4L V6 (160hp) swapped into an '88 Fiero 2.8L (140hp). The swap will result in the Fiero moving from NXF* to NXE with a listed base weight of 2778.

Pontiac Grand Am '99 3.4L V6 (175hp) swapped into an '88 Pontiac Fiero (4 cylinder). The swap will result in the Fiero moving to the NXE* base class (from NXG), with a base weight listing of 2590.

VW JettaA 2.0L 16V (134hp) ('90) swapped into a '78 VW Scirocco 1.6L (75hp) body. The swap will result in the Scirocco moving up to NXE* (from NXH**) with a base weight listing of 2040.

VW Scirocco 2.0L 8v (ABA) (115hp) swapped into an '80 VW Scirocco 1.7L (74hp) body. The swap will result in the Scirocco moving up to the NXF* base class (from NXH**), with a base weight listing of 2040.

VW Scirocco 1.8 L 8v (90hp) swapped into an '81 VW Scirocco 1.7L (74 hp) body. The swap will result in the Scirocco moving up to the NXG** base class (from NXH**), with a base weight listing of 2040.

Appendix B—Technical Bulletins for Specific Models

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 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 '90-'93, '95 (with VIN's higher than 14193), '96-'97, and '99-'00 Mazda Miata ECU 4.0MHz "clock" crystal, and the OEM '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 is approved for use in NASA-X without a points assessment. Any other changes to the Watts link will require a points assessment per the NASA-X 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-OEM sleeves added, modification of the OEM sleeves, or other modification to the runners, the car will need to be re-classed based on Dyno testing.

Honda 2000:

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".