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**NASA Autocross (NASA-X)
Official 2009 National Classes
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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.nasapracing.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 2009 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.

<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	Austin	Mini Cooper 1071S	NXF	1512
Acura	CL V6	NXF*	3470	Austin	Mini Cooper 1275S	NXF**	1433
Acura	CL-S	NXE	3510	BMW	135i Coupe ('08)	NXC*	3370
Acura	CL-S (6 spd)	NXE	3446	BMW	2002 ('68-'74)	NXG**	2282
Acura	Integra 1.6L ('86-'89)	NXF	2300	BMW	2002 ('75-'76) (2403 lb)	NXG*	2403
Acura	Integra 1.8L (non-VTEC)	NXF*	2529	BMW	2002tii	NXE	2225
Acura	Integra GS-R	NXE	2667	BMW	318 1.8L (E30)(pre-'92)	NXF*	2657
Acura	Integra Type-R	NXD	2600	BMW	318 (E36)('92-'98)(1.8L & 1.9L)	NXG**	2933
Acura	NSX 3.0L ('91-'96)	NXC**	3047	BMW	318 ti ('95-'99)	NXF*	2778
Acura	NSX	NXC**	3153	BMW	323 ('98-'00)(2.5L)	NXF*	3153
Acura	RL ('05-'07)	NXE	3984	BMW	325e (121 hp)	NXG**	2780
Acura	RL (pre'05)	NXG**	3920	BMW	325i (E30)('87-'91)(168hp)	NXF**	2855
Acura	RSX	NXF**	2734	BMW	325ic ('92)(168 hp)	NXF*	2990
Acura	RSX-S	NXD	2770	BMW	325i ('92-'95)(189 hp)	NXF**	3087
Acura	TL ('04-'05)	NXE*	3465	BMW	325 ('01-'06)(2.5L184 hp)	NXF**	3197
Acura	TL 3.2L ('06-'07)	NXE	3580	BMW	325i ('06)(3.0L 215hp)	NXE	3285
Acura	TL 3.5L ('07)	NXE**	3559	BMW	328 2.8L ('96-'00)	NXF**	3197
Acura	TL (pre '04)	NXF*	3487	BMW	328 ('07-'08) (3.0L 230 hp)	NXE	3351
Acura	TL-S	NXE	3558	BMW	330 ('01-'06)(225hp)	NXE	3285
Acura	TSX ('04-'07)	NXF**	3257	BMW	330 ('06)(255hp)	NXE**	3417
Alfa Romeo	1600 Spider	NXF	2250	BMW	335 3.0L ('07-'08)	NXD**	3571
Alfa Romeo	2000 Spider	NXE	2288	BMW	5 series (<226hp)(RWD)(inc '07)	NXF**	3494
Alfa Romeo	2600 Spider	NXF**	2683	BMW	5 series (RWD)('08)	NXE	3500
Alfa Romeo	Milano 2.5L ('87-'89)	NXF*	2907	BMW	540	NXE**	3803
Alfa Romeo	Milano 3.0L ('87-'89)	NXE	2907	BMW	M Coupe/Roadster (240hp)	NXD	3131
Audi	A3 2.0T (200 hp)('06-'07)	NXF**	3263	BMW	M Coupe (315 hp)	NXC**	3141
Audi	A3 3.2 AWD (250 hp)('06-'07)	NXE*	3660	BMW	M Roadster (315 hp)	NXC**	3141
Audi	A4 1.8T (150 hp)('97-'00)	NXF	2992	BMW	M3 (E30)(pre-'89)	NXE**	2733
Audi	A4 1.8T (150 hp)(AWD)('97-'99)	NXF	3241	BMW	M3 (E30)('89-'91)	NXE*	2865
Audi	A4 1.8T (170 hp)	NXF	3252	BMW	M3 (E36)('95-'99)	NXD*	3175
Audi	A4 2.0T (197 hp)('05-'07)	NXF*	3428	BMW	M3 (E46)('01-'06)	NXC**	3415
Audi	A4 2.0T AWD (200 hp)('05-'07)	NXF**	3549	BMW	M5 E28,E34('85-'93)	NXD*	3788
Audi	A4 2.8L (190 hp)	NXF**	3263	BMW	M5 E39 ('00-'03)	NXC**	3792
Audi	A4 3.0L (220 hp)	NXF**	3462	BMW	M5 E60 ('06-'08)	NXA	4012
Audi	A4 3.2L (255 hp)(AWD)('07)	NXE**	3671	BMW	M6	NXE*	3570
Audi	A6 2.7T (AWD)	NXE	3958	BMW	M6 ('06-'08)	NXA	3909
Audi	A6 4.2L ('00-'04)(AWD)	NXE*	4024	BMW	MINI Cooper ('01-'04)	NXF	2315
Audi	A6 4.2L ('05-'06)(AWD)	NXE**	4145	BMW	MINI Cooper ('05-'08)	NXG**	2546
Audi	A6 4.2L ('07)(AWD)	NXD	4222	BMW	MINI Cooper S ('02-'04)	NXE**	2513
Audi	A8 4.2L (AWD)('97-'03)	NXE**	4068	BMW	MINI Cooper S ('05-'08)	NXE**	2678
Audi	A8 4.2L (AWD)('03-'06)	NXE**	4288	BMW	MINI Cooper Works ('06-'07)	NXD*	2720
Audi	A8 4.2L (AWD)('07)	NXD	4288	BMW	Z3 4-cyl	NXF*	2701
Audi	A8 6.0L (AWD)('05-'07)	NXC	4729	BMW	Z3 6-cyl (2.5L)	NXE	2932
Audi	Coupe (110 hp)	NXG**	2507	BMW	Z3 6-cyl (2.8L)	NXE*	2943
Audi	Coupe (164 hp)	NXG**	3174	BMW	Z3 6-cyl (3.0L)	NXD	2943
Audi	RS 4 (4.2L) (AWD)('07)	NXB*	3957	BMW	Z4 2.5L	NXE	2932
Audi	S4 ('03-'07)(AWD)	NXC	3869	BMW	Z4 3.0L ('03-'05)	NXD	3000
Audi	S4 (pre '03)(AWD)	NXD	3593	BMW	Z4 3.0L (215 hp)('06-'08)	NXE*	3020
Audi	S8 ('01-'03)(AWD)	NXD**	4068	BMW	Z4 3.0L (255 hp)('06-'08)	NXD*	3108
Audi	TT (180 hp)('00-'06)	NXE	2822	BMW	Z4 M ('06-'08)	NXB	3197
Audi	TT (225 hp)('02-'06)(AWD)	NXD	3220	BMW	Z8	NXB*	3500
Audi	TT (250 hp)('04-'06)(AWD)	NXD	3351	Cadillac	Catera	NXG**	3762
Austin	Mini 1L (<40hp)	NXG	1358	Cadillac	CTS 2.8L ('05-'07)	NXF*	3509
Austin	Mini 1L, 1.1L (40 to 47hp)	NXG	1450	Cadillac	CTS 3.6L ('03-'07)	NXE*	3509
Austin	Mini Cooper (55hp)	NXG	1576	Cadillac	CTS-V ('04-'07)	NXC**	3847

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Cadillac	STS (4.6 V8) AWD ('05)	NXD	4295	Chrysler	Conquest Tsi (turbo)	NXF**	3050
Cadillac	STS (V6)('05-'07)	NXF**	3858	Chrysler	Crossfire (215hp) ('04-'07)	NXE	3010
Cadillac	STS (V8)('05-'07)	NXE**	3940	Chrysler	Crossfire SRT6 ('05-'06)	NXC**	3240
Cadillac	STS-V ('06-'07)	NXC*	4233	Chrysler	PT Cruiser	NXG	3147
Cadillac	XLR ('04-'07)	NXD**	3647	Chrysler	PT Cruiser GT	NXF**	3364
Cadillac	XLR-V 4.4L V8 ('07)	NXB	3810	Datsun	510 (96 hp)	NXF*	2040
Caterham	Super 7 (240 hp)	NXU	1150	Datsun	510 (L20B swap)	NXF**	2150
Chevrolet	Aveo ('04-'07)	NXG*	2365	Datsun	1600 Roadster ('66-'70)(96hp)	NXF	2030
Chevrolet	Camaro 3.1L	NXG*	3105	DeTomaso	Pantera	NXC*	3300
Chevrolet	Camaro 3.4L	NXG*	3306	Diasio	D962R	NXR	1400
Chevrolet	Camaro 3.8L	NXF*	3307	Dodge	Caliber RT 2.4L AWD ('07-'08)	NXF	3308
Chevrolet	Camaro 5.0L carb (170 hp)('87)	NXF**	3250	Dodge	Caliber SRT4 2.4L Turbo ('07-'08)	NXD**	3200
Chevrolet	Camaro SS ('98-'02)	NXD**	3433	Dodge	Charger 3.5L ('06-'07)	NXF**	3800
Chevrolet	Camaro SS ('96-'97)	NXD*	3439	Dodge	Charger 5.7L ('06-'07)	NXD*	4031
Chevrolet	Camaro Z28 ('98-'02)	NXD*	3439	Dodge	Charger SRT8 ('06-'07)	NXC	4160
Chevrolet	Camaro Z28 (pre '98)	NXE**	3441	Dodge	Magnum RT	NXE*	4180
Chevrolet	Cavalier	NXF	2617	Dodge	Magnum RT AWD	NXE**	4393
Chevrolet	Cavalier Z24	NXF*	2611	Dodge	Magnum SRT8	NXC	4260
Chevrolet	Cobalt 2.2L ('05-'08)	NXG*	2991	Dodge	Neon DOHC Coupe	NXF	2625
Chevrolet	Cobalt 2.4L ('06-'08)	NXF	2991	Dodge	Neon DOHC Sedan	NXF	2625
Chevrolet	Cobalt SS 2.0L (S/C)('05-'07)	NXE*	2991	Dodge	Neon SOHC Coupe	NXF	2450
Chevrolet	Cobalt SS (turbo)('08)	NXC*	2975	Dodge	Neon SOHC Sedan (1st gen)	NXF	2450
Chevrolet	Corvair (140hp)	NXF**	2500	Dodge	Neon SOHC Sedan (2nd gen)	NXF	2525
Chevrolet	Corvair (95,100hp)	NXG	2500	Dodge	Neon SRT4 ('03-05)	NXE*	2970
Chevrolet	Corvair Corsa Turbo	NXE*	2500	Dodge	Neon SRT4 ACR	NXE**	2900
Chevrolet	Corvair Monza GT Spyder	NXF**	2570	Dodge	Shelby Charger (110hp)	NXG**	2296
Chevrolet	Corvette '63-'82 (>200, <330 hp)	NXD	3200	Dodge	Shelby Charger (146hp)	NXF*	2500
Chevrolet	Corvette '63-'82 (>330,<425 hp)	NXC*	3200	Dodge	Shelby Charger GLHS (turbo)	NXE	2550
Chevrolet	Corvette '63-'82 (>425 hp)	NXB	3400	Dodge	Shelby Lancer	NXF	3000
Chevrolet	Corvette '63-'82 (200hp)	NXF**	3200	Dodge	Shelby Omni GLH (146 hp)	NXF*	2500
Chevrolet	Corvette C4 ('85-'91) non ZR-1	NXD**	3223	Dodge	Shelby Omni GLHS	NXE	2540
Chevrolet	Corvette C4 ('92-'96) (LT1)	NXC*	3203	Dodge	Stealth (DOHC)	NXE	3153
Chevrolet	Corvette C4 (LT4 option) (330 hp)	NXC**	3350	Dodge	Stealth (SOHC)	NXF	3086
Chevrolet	Corvette C5 (inc. FRC w/o Z51)	NXB*	3246	Dodge	Stealth Turbo ('91-'93)(AWD)	NXD	3803
Chevrolet	Corvette C5 (all w/ Z51)	NXA	3173	Dodge	Stealth Turbo ('94-'96)(AWD)	NXC	3671
Chevrolet	Corvette C6 ('05-'07)(Z51 ok)	NXA*	3179	Dodge	Stratus 4-cyl	NXG	3192
Chevrolet	Corvette C6 ('08)(LS3)	NXS	3217	Dodge	Stratus RT	NXF	3219
Chevrolet	Corvette GS	NXC**	3350	Dodge	Viper	NXS	3410
Chevrolet	Corvette Z06 ('-'04) & ZR-1 (C4)	NXA*	3118	Dodge	Viper ACR	NXU	3325
Chevrolet	Corvette Z06 ('06-'08)	NXU	3130	Dodge	Viper Comp. Coupe	NXR	2995
Chevrolet	Corvette ZR-1 (C6 '08+)	NXR	3300	Eagle	Talon 2.0L (135-140hp)	NXG**	2739
Chevrolet	Impala SS ('04-'05)	NXF*	3606	Eagle	Talon Turbo ('90-'94)	NXE	2789
Chevrolet	Impala SS ('06-'08)	NXE*	3711	Eagle	Talon Turbo ('95-'98)	NXE*	2866
Chevrolet	Impala SS ('94-'96)	NXF*	4036	Eagle	Talon Turbo AWD ('90-'94)	NXE*	3108
Chevrolet	Monte Carlo 3.9L LTZ ('06)	NXF**	3501	Eagle	Talon Turbo AWD ('95-'98)	NXE*	3153
Chevrolet	Monte Carlo SS 3.8L ('04-'05)	NXE	3391	Ferrari	308	NXD	3159
Chevrolet	Monte Carlo SS 5.3L ('06-'07)	NXD	3490	Ferrari	328	NXC**	2803
Chevrolet	Monte Carlo SS (pre '04)	NXF	3333	Ferrari	355	NXA*	2975
Chevrolet	S10 Extreme (180hp)	NXF	3216	Ferrari	360	NXS	3064
Chrysler	300 (3.5L) ('05-'07)	NXF*	3650	Ferrari	430	NXU	3197
Chrysler	300C (5.7L)('05-'07)	NXE**	4066	Ferrari	550	NXU	3726
Chrysler	300C (5.7L) (AWD)('05-'07)	NXE**	4273	Ferrari	612	NXU	4056
Chrysler	300C SRT8 ('05-'07)	NXC	4160	Ferrari	348 (<305 hp)	NXC*	3233
Chrysler	Cirrus 4-cyl	NXG*	3141	Ferrari	348 (320 hp)	NXB	3071
Chrysler	Conquest (turbo)	NXF**	2900	Ferrari	360 Challenge	NXR	2822

<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>	<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>
Ferrari	456GT	NXA*	3726	Ford	Pinto 2.3L	NXG*	2250
Ferrari	575M	NXU	3815	Ford	Pinto 2.8L	NXG*	2570
Ferrari	Enzo	NXR**	3009	Ford	Probe GT	NXF*	2815
Ferrari	F430	NXU	3197	Ford	Probe Turbo	NXF*	2730
Ferrari	Superamerica	NXS	3815	Ford	Sierra Cosworth 2.0L T (204 hp)	NXE**	2756
Ferrari	Testarossa	NXA	3660	Ford	Sierra Cosworth AWD (220 hp)	NXD*	2816
Fiat	124 Spider 1400	NXG**	2083	Ford	Shelby GT500 5.4L S/C ('07-'08)	NXA*	3920
Fiat	124 Spider 1600	NXF*	2116	Ford	Taurus GL	NXH**	3326
Fiat	124 Spider 1800	NXF**	2116	Ford	Taurus SHO	NXF**	3379
Fiat	124 Sport Spider 2000	NXG*	2359	Ford	Thunderbird Super Coupe/Turbo	NXF**	3536
Fiat	128 (55-60 hp)	NXG	1730	Ford	Thunderbird V6 (pre-'02)	NXH**	3536
Fiat	X1-9 1.3L	NXG*	1940	Ford	Thunderbird V8 ('02)	NXF**	3775
Fiat	X1-9 1.5L	NXG**	2030	Ford	Thunderbird V8 ('03+)	NXE	3775
Fiat	X1-9 2000	NXB*	1973	Ford	Thunderbird V8 ('90-'97)	NXF*	3536
Ford	Contour SVT	NXF**	3126	Geo	Metro 1.0L	NXH**	1804
Ford	Escort 1.9L	NXH*	2356	Geo	Metro 1.3L	NXH**	1940
Ford	Escort 2.0L	NXG*	2457	Geo	Prizm	NXF	2359
Ford	Escort GT (1.8L)	NXF	2375	Geo	Storm	NXG	2282
Ford	Escort ZX2	NXF	2400	Geo	Storm GSI	NXF*	2480
Ford	Escort ZX2 S/R	NXF	2450	Honda	Accord 2.0L (120hp)	NXG*	2670
Ford	EXP 1.6L ('82-'85)	NXG	2130	Honda	Accord 2.2L ('90-'97)(130hp)	NXG*	2800
Ford	F150 Lightning	NXE*	4670	Honda	Accord 2.3L	NXG**	2976
Ford	Festiva	NXH**	1797	Honda	Accord 2.4L ('03-'07)	NXF	3097
Ford	Focus (2.0L 16v) ('05-'08)	NXF	2580	Honda	Accord 2.7 V6 ('95-'97)	NXF	3219
Ford	Focus (2.0L 16v)('00-'04)	NXG**	2651	Honda	Accord 3.0 V6 ('03-'07)	NXE	3303
Ford	Focus (2.0L 8v)('00-'02)	NXG	2606	Honda	Accord 3.0 V6 ('98-'02)	NXF*	3197
Ford	Focus (2.3L 16v)('04)	NXF	2612	Honda	Civic 1.6L SOHC ('88-'91)	NXF	2291
Ford	Focus ST 2.3L 16v ('07)	NXF*	2636	Honda	Civic Base ('88-'91)	NXG	2127
Ford	Focus SVT (2.0L)('02-'04)	NXF**	2750	Honda	Civic Coupe 1.8L ('06-'08)	NXF*	2586
Ford	Focus ZX4 ST (2.3L)('05-'06)	NXF*	2636	Honda	Civic CX ('92-'95)	NXG	2094
Ford	GT	NXR**	3485	Honda	Civic del Sol S (<107hp)	NXG**	2302
Ford	Mustang Cobra ('93-'95)	NXE*	3354	Honda	Civic del Sol Si (<128hp)	NXF*	2414
Ford	Mustang Cobra ('96-'98)	NXC	3393	Honda	Civic del Sol VTEC (DOHC 1.6L)	NXE	2522
Ford	Mustang Cobra ('99 & '01)	NXC*	3285	Honda	Civic DX 1.5L 16v ('88-'91)	NXG**	2165
Ford	Mustang Cobra R ('00)	NXB*	3590	Honda	Civic EX 1.6L ('96-'00)	NXF	2440
Ford	Mustang Cobra R ('93)	NXD*	3248	Honda	Civic EX 1.7L ('01-'05)	NXF	2597
Ford	Mustang Cobra R ('95)	NXC*	3325	Honda	Civic Non-VTEC (92hp)	NXF	1950
Ford	Mustang Cobra SVT ('02+)	NXB*	3665	Honda	Civic Si 1.6L ('92-'95)	NXF	2390
Ford	Mustang GT ('05-'06)	NXD**	3450	Honda	Civic Si 1.6L ('99-'00)	NXF**	2612
Ford	Mustang GT ('07-'08)	NXC	3356	Honda	Civic Si 2.0L ('01-'05)	NXF*	2782
Ford	Mustang I4	NXH**	2699	Honda	Civic Si 2.0L ('06-'08)	NXE*	2877
Ford	Mustang I4 turbo	NXG*	3065	Honda	Civic Type R ('07) (JDM)(225 hp)	NXC	2792
Ford	Mustang I6	NXG	2800	Honda	Civic VX	NXG**	2094
Ford	Mustang Mach 1	NXC	3420	Honda	CRX DX 1.5L 16v ('88-'91)	NXG**	2103
Ford	Mustang SVO ('84-'86)	NXE	3036	Honda	CRX DX 12v ('85-'87)	NXG**	1865
Ford	Mustang V6 ('99-'08)	NXF**	3351	Honda	CRX HF	NXG	1967
Ford	Mustang V6 (pre-'99)	NXG**	3065	Honda	CRX Si 1.5L ('85-'87)	NXF**	1978
Ford	Mustang V8 ('64-'68 <272 hp)	NXF*	2980	Honda	CRX Si ('88-'91)	NXF*	2174
Ford	Mustang V8 ('69-'70 <291 hp)	NXF*	3250	Honda	CRX 1.6L DOHC VTEC	NXE	2436
Ford	Mustang V8 ('71-'73 <286 hp)	NXF	3560	Honda	Fit ('07-'08)	NXG*	2432
Ford	Mustang V8 ('79-'93 <226 hp)	NXE	3075	Honda	Prelude S ('92-'96)	NXG**	2775
Ford	Mustang V8 ('94-'98 <226 hp)	NXE*	3075	Honda	Prelude Si ('92-'96)	NXF*	2866
Ford	Mustang V8 ('99-'04)	NXE**	3273	Honda	Prelude Si (pre-'92)	NXF	2639
Ford	Pinto 1.6L	NXG	2000	Honda	Prelude VTEC ('93-'01)	NXF**	2954
Ford	Pinto 2.0L ('71-'74)	NXG	2235	Honda	S2000 (2.0L)('00-'03)	NXD**	2850

<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>	<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>
Honda	S2000 (2.2L)('04-'08)	NXC	2850	Lexus	SC430 ('02-'08)	NXE*	3840
Honda	S2000 CR (2.2L)('08)	NXC**	2813	Lincoln	LS (V8) ('03-'06)	NXE	3772
Hyundai	Accent 1.5L (105hp)	NXF*	2149	Lotus	Elise ('05-'07)	NXC**	1975
Hyundai	Accent 1.6L ('01-'08)	NXG**	2366	Lotus	Esprit (V8) TT	NXA	2968
Hyundai	Elantra 1.6L	NXG**	2500	Lotus	Esprit 4 Turbo	NXB	2866
Hyundai	Elantra 1.8L	NXF	2453	Lotus	Exige ('06)	NXB*	2015
Hyundai	Elantra 2.0L ('00-'08)	NXF	2626	Lotus	Exige S ('07)	NXA*	2077
Hyundai	Genesis 3.8L ('09)	NXE*	3750	Lotus	Exige 240R	NXS	2050
Hyundai	Genesis 4.6L ('09)	NXD**	4000	Mazda	323 (pre'95--82hp)	NXG	2075
Hyundai	Tiburon 2.0L ('03-'07)	NXG	2940	Mazda	323 GTX (1.6L T)	NXF	2645
Hyundai	Tiburon 2.0L ('97-'01)	NXF	2633	Mazda	626 2.0L	NXG	2864
Hyundai	Tiburon V6 2.7L ('03-'07)	NXF*	2986	Mazda	626 2.5L V6	NXF	3023
Infiniti	G20 ('93-'02)	NXG	2877	Mazda	Mazda3 (2.0L)('04-'06)	NXF*	2696
Infiniti	G20 ('91-'92)	NXF	2535	Mazda	Mazda3 (2.0L)('07-'08)	NXF	2780
Infiniti	G35 (incl. 6MT) (pre-'05)	NXD	3435	Mazda	Mazda3 (2.3L)('04-'06)	NXF*	2762
Infiniti	G35 (incl. 6MT)('05-'06)	NXD	3524	Mazda	Mazda3 (2.3L)('07-'08)	NXF	2930
Infiniti	G35 Coupe 6MT ('07)	NXD	3524	Mazda	Mazda6 2.3L ('03-'06)	NXF	3042
Infiniti	G35 (306 hp)(incl. Sport)('07-'08)	NXD*	3532	Mazda	Mazda6 2.3L ('07-'08)	NXG**	3091
Infiniti	G35x (AWD)('07-'08)	NXD**	3650	Mazda	Mazda6 3.0L (V6) ('03-'05)	NXF**	3243
Infiniti	I30 ('00-'01)	NXF**	3342	Mazda	Mazda6 3.0L (V6) ('06-'08)	NXF*	3320
Infiniti	I30 ('96-'99)	NXF*	3090	Mazda	Mazdaspeed Protegé (Turbo)	NXF**	2843
Infiniti	I35	NXE*	3342	Mazda	Mazdaspeed3 (turbo)('07-'08)	NXD*	3153
Infiniti	Q45 ('02-'07)	NXE*	4153	Mazda	Mazdaspeed6 (AWD)('06-'07)	NXD*	3589
Infiniti	Q45 (pre-'02)	NXF**	3895	Mazda	Miata 1.6L	NXF**	2182
Jaguar	S-Type 3.0L (235 hp)	NXF**	3777	Mazda	Miata 1.8L ('94-'97)	NXE	2293
Jaguar	S-Type 4.0L, 4.2L	NXE**	3874	Mazda	Miata 1.8L ('99-'05)	NXE	2299
Jaguar	S-Type R 4.2L S/C ('03-'04)	NXD**	4046	Mazda	Miata MX-5 ('06-'08)	NXE*	2474
Jaguar	S-Type R 4.2L S/C ('05-'07)	NXC	4075	Mazda	Miata MX-5 turbo ('05)	NXE*	2529
Jaguar	XJ Vanden Plas (<301 hp)	NXE*	3819	Mazda	MX-3	NXG*	2443
Jaguar	XJ8 3.5L	NXE	3613	Mazda	MX-3 GS	NXF	2582
Jaguar	XJ8 4.2L	NXE**	3613	Mazda	MX-6 (2.2L)(110hp)	NXG*	2560
Jaguar	XJ8 S/C ('00-'07)	NXC	4001	Mazda	MX-6 GT (turbo)	NXF*	2729
Jaguar	XJR ('98-'07)	NXC	3958	Mazda	MX-6 V6 ('92-'97)	NXF*	2800
Jaguar	XKR-SC ('00-'06)	NXC*	3865	Mazda	Protegé 1.6L	NXG	2493
Jaguar	XKR-SC ('07)	NXC**	3781	Mazda	Protegé 1.8L	NXF	2385
Jaguar	XKE	NXD*	3100	Mazda	Protegé 2.0L	NXF	2634
Jaguar	X-Type ('02-'07) AWD	NXE	3538	Mazda	Protegé 5	NXG*	2716
Kia	Rio	NXG**	2365	Mazda	Protegé MP3	NXG**	2725
Kia	Sephia	NXF	2472	Mazda	RX-7 12A	NXG**	2345
Kia	Spectra	NXG*	2701	Mazda	RX-7 13B	NXE	2800
Lamborghini	Diablo VT	NXU	3582	Mazda	RX-7 13B GSL-SE (1st Gen)	NXF**	2512
Lexus	GS300 ('06)	NXE	3536	Mazda	RX-7 TT	NXC**	2826
Lexus	GS300 ('93-'05)	NXF*	3649	Mazda	RX-7 Turbo II	NXD	2775
Lexus	GS350 ('07-'08)	NXD	3704	Mazda	RX-8 ('04-'08)	NXD	3045
Lexus	GS400	NXE**	3693	Mazda	RX-8 ('09)	NXD*	3045
Lexus	GS430 ('01-'07)	NXE**	3745	Mazda	RX-8 (197 hp)(Auto)('04-'05)	NXE	3053
Lexus	GS460 ('08)	NXD	3945	Mazda	RX-8 (212 hp)(Auto)('06-'07)	NXE*	3075
Lexus	IS250 ('06-'08)(6sp man.)	NXF	3450	Mercedes	190E 2.3 (16v)	NXF**	3030
Lexus	IS250 (AWD)('06-'08)	NXF**	3650	Mercedes	190E 2.6L ('86-'93)	NXF**	2955
Lexus	IS300	NXF**	3255	Mercedes	C230 ('02-'05)	NXF**	3305
Lexus	LS400	NXE	3890	Mercedes	C230 ('06-'07)	NXF**	3405
Lexus	LS430	NXE	3990	Mercedes	C280 ('94-'00)	NXF**	3316
Lexus	LS460 ('07-'08)	NXD	4244	Mercedes	C280 ('06-'07)	NXE	3460
Lexus	SC300	NXF*	3560	Mercedes	C32 AMG ('02-'04)	NXC*	3540
Lexus	SC400	NXE*	3655	Mercedes	C320 ('01-'05)	NXE	3428

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Mercedes	C55 AMG ('05-'06)	NXC**	3540	Mitsubishi	Lancer Evo X GSR ('08)(AWD)	NXB*	3500
Mercedes	CL65 AMG ('06)	NXA*	4654	Mitsubishi	Lancer Evo X MR ('08)(AWD)	NXB**	3500
Mercedes	CLK55 AMG ('04-'06)	NXC	3960	Mitsubishi	Mirage	NXG*	2183
Mercedes	CLK430 ('99-'01)	NXD*	3323	Mitsubishi	Mirage 1.8L	NXF	2293
Mercedes	CLK430 ('02-'03)	NXD	3485	Mitsubishi	Starion (turbo)	NXF**	2900
Mercedes	CLK500 ('03-'06)	NXD*	3585	Mitsubishi	Starion ESI-R (turbo)	NXF**	3050
Mercedes	CLK550 ('07)	NXC*	3965	Nissan	200SX 1.6L	NXF	2325
Mercedes	CLK63 AMG ('07)	NXA	3960	Nissan	200SX 2.0L ('80-'81)	NXG*	2500
Mercedes	E55 AMG ('03-'06)	NXB*	4087	Nissan	200SX 2.0L Turbo	NXE	2800
Mercedes	E55 AMG ('99-'02)	NXC*	3768	Nissan	200SX SE-R (2.0L)	NXF	2586
Mercedes	E63 AMG ('07)	NXA*	4035	Nissan	240SX	NXF**	2700
Mercedes	SL55 AMG ('03-'06)	NXB*	4280	Nissan	240SX (S14 220hp swap)	NXD*	2700
Mercedes	SL55 AMG ('07)	NXB*	4365	Nissan	240SX HICAS	NXE	2700
Mercedes	SL65 AMG ('07)	NXA*	4564	Nissan	240SX SOHC ('89-'90) (140hp)	NXF*	2684
Mercedes	SLK 320 ('01-'04)	NXE*	3120	Nissan	240Z	NXE	2425
Mercedes	SLK32 AMG ('02-'04)	NXB*	3220	Nissan	260Z	NXF**	2660
Mercedes	SLK55 AMG ('05-'07)	NXB	3420	Nissan	280Z	NXF**	2800
Mercury	Capri 1.6L (75hp)	NXG	2135	Nissan	280ZX	NXF**	2800
Mercury	Capri 2.0L ('71) (100hp)	NXF	2135	Nissan	280ZX Turbo	NXE	2800
Mercury	Capri 2.0L ('72-'74)	NXG*	2275	Nissan	300ZX all (Z31--'84-'88) NA	NXE	2668
Mercury	Capri 2.3L ('76-'77)	NXH**	2491	Nissan	300ZX Turbo (Z31--'84-'89)	NXE	3260
Mercury	Capri 2.6L, 2.8L ('72-'74)	NXF	2275	Nissan	300ZX NA (Z32) 2+2	NXE	3414
Mercury	Capri 2.8L ('76-'77)	NXH*	2800	Nissan	300ZX NA (Z32--'89-'96)	NXE*	3174
Mercury	Cougar 2.5L V6	NXF*	2892	Nissan	300ZX TT	NXD**	3480
Mercury	Marauder	NXE	4195	Nissan	350Z (287hp)('03-'05)(enth. ok)	NXC	3188
Merkur	XR4Ti	NXE	2920	Nissan	350Z (300hp)('06)(enth. ok)	NXC	3339
MG	Midget 1.1l, 1.3l, 1.5l	NXF	1515	Nissan	350Z (306hp)('07-'08)(enth. ok)	NXC*	3320
Mitsubishi	3000 VR-4 ('91-'93)(AWD)	NXD	3803	Nissan	350Z Nismo ('07-'08)	NXB	3350
Mitsubishi	3000 VR-4 ('94-'99)(AWD)	NXD**	3760	Nissan	350Z Roadster ('06)	NXD*	3602
Mitsubishi	3000GT (NA-DOHC)	NXE	3219	Nissan	350Z Track ('05-'06),35ann, GT	NXC*	3370
Mitsubishi	3000GT (NA-SOHC)	NXF	3131	Nissan	350Z Track Model ('03-'04)	NXC*	3225
Mitsubishi	Eclipse 2.4L (pre-'06)	NXG**	2965	Nissan	Altima 2.4L	NXF	2853
Mitsubishi	Eclipse 2.4L ('06-'08)	NXG*	3274	Nissan	Altima 2.5L ('02-'08)	NXF*	2992
Mitsubishi	Eclipse GT 3.8L ('06-'08)	NXE*	3472	Nissan	Altima 3.5L ('02-'06)	NXE*	3225
Mitsubishi	Eclipse GT 3.0L ('00-'05)	NXF**	3142	Nissan	Altima 3.5L ('07-'08)	NXE**	3268
Mitsubishi	Eclipse Turbo ('90-'94)	NXE	2778	Nissan	Altima 3.5L SE-R ('05-'06)	NXD	3279
Mitsubishi	Eclipse Turbo ('95-'98)	NXE*	2877	Nissan	GT-R ('08+)	NXU	3700
Mitsubishi	Eclipse Turbo ('99)	NXE	2970	Nissan	Maxima 3.5L ('02-'03)	NXE*	3239
Mitsubishi	Eclipse Turbo AWD ('92-'94)	NXE*	3093	Nissan	Maxima 3.5L ('04-'06)	NXE*	3471
Mitsubishi	Eclipse Turbo AWD ('95-'98)	NXE*	3157	Nissan	Maxima 3.5L ('07-'08)	NXE	3591
Mitsubishi	Eclipse Turbo AWD ('99)	NXE*	3270	Nissan	NX2000	NXF	2461
Mitsubishi	Galant 2.4L ('94-'03)	NXG*	2835	Nissan	Pickup ('90-'97)(2WD)	NXG**	2800
Mitsubishi	Galant 2.4L ('04-'07)	NXG	3428	Nissan	Pulsar NX 1.8L	NXF	2566
Mitsubishi	Galant 3.0L V6 (195hp)	NXF	3252	Nissan	Sentra 1.6L	NXF	2299
Mitsubishi	Galant 3.8L (230 hp)('02-'07)	NXF*	3616	Nissan	Sentra 1.8L ('00-'06)	NXG*	2590
Mitsubishi	Galant 3.8L Ralliart ('07)	NXF*	3748	Nissan	Sentra 2.0L ('07-'08)	NXG**	2853
Mitsubishi	Galant VR4 (AWD) ('91-'92)	NXE	3275	Nissan	Sentra SE ('98-'01)	NXF	2617
Mitsubishi	Lancer 2.0L ('02-'07)	NXG	2745	Nissan	Sentra SE-R 2.0L ('91-'94)	NXF	2467
Mitsubishi	Lancer 2.0L DE, SE ('08)	NXG*	3000	Nissan	Sentra SE-R 2.5L ('02-'06)	NXF*	2730
Mitsubishi	Lancer 2.4L ('04-'07)	NXF*	2843	Nissan	Sentra SE-R 2.5L ('07-'08)	NXF	3102
Mitsubishi	Lancer Evo VIII ('03-'05)(AWD)	NXC**	3263	Nissan	Sentra Spec V ('02-'06)	NXF**	2710
Mitsubishi	Lancer Evo VIII MR ('05)(AWD)	NXB	3263	Nissan	Sentra Spec V ('07-'08)	NXF**	3078
Mitsubishi	Lancer Evo IX ('06)(AWD)	NXB	3263	Noble	M12 GTO-3R (352 hp 3.0L V6)	NXU	2380
Mitsubishi	Lancer Evo MR ('06)(AWD)	NXB*	3285	Noble	M400 (425 hp 3.0L V6)	NXR	2337
Mitsubishi	Lancer Evo RS ('06)(AWD)	NXB	3219	Oldsmobile	Cutlass Calais 2.3L Int. (150hp)	NXF	2700

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Oldsmobile	Cutlass Calais 2.3L Int. (180hp)	NXF**	2730	Porsche	928 ('78-'82)(4.5L)	NXD	3200
Oldsmobile	Cutlass Calais 2.3L Quad442	NXF**	2730	Porsche	944 ('83-'87)	NXF**	2779
Oldsmobile	Cutlass Calais Quad442 W41	NXE*	2625	Porsche	944 2.5L ('88)	NXF**	2844
Opel	GT 1100	NXG	1918	Porsche	944 2.7L ('89)(162 hp)	NXF**	2866
Opel	GT1900	NXG*	2138	Porsche	944 S	NXE*	2975
Opel	Manta	NXG	2230	Porsche	944 S2	NXD*	2892
Peugeot	505 Turbo 2.2L ('86-'88)(150hp)	NXF*	2850	Porsche	944 Turbo ('86-'88)	NXD	2899
Peugeot	505 Turbo 2.2L ('88-'89)(180hp)	NXF**	2950	Porsche	944 Turbo S ('88-'89)	NXD**	2998
Plymouth	Laser Turbo ('90-'94)	NXE	2756	Porsche	959	NXR**	2970
Plymouth	Laser Turbo AWD ('92-'94)	NXE*	3073	Porsche	964 Carrera 2	NXD**	2970
Plymouth	Prowler	NXD*	2857	Porsche	964 Carrera 4 (AWD)	NXD**	3190
Pontiac	Fiero (4-cyl)	NXG	2590	Porsche	964 RS	NXC**	2706
Pontiac	Fiero (V6)	NXF*	2778	Porsche	964 RS America	NXC*	2820
Pontiac	Firebird 3.4L (V6)	NXG*	3306	Porsche	965 3.3L (Turbo II-'90-'92)	NXC**	3234
Pontiac	Firebird 3.8L	NXF*	3306	Porsche	965 3.6L (Turbo II-'93-'94)	NXB	3234
Pontiac	Firebird Firehawk	NXC	3481	Porsche	968	NXD*	2910
Pontiac	Firebird WS6	NXD**	3499	Porsche	968 Turbo S	NXB	2866
Pontiac	Formula ('98-'02)	NXD*	3452	Porsche	993 C2 ('94-'95)	NXC*	3064
Pontiac	Formula (pre-'98)	NXE**	3408	Porsche	993 C2 ('96-'99)	NXC**	3064
Pontiac	Formula '87 (5.0L, 215hp)	NXF**	3383	Porsche	993 C2S	NXC**	3064
Pontiac	Grand AM 2.3L (170,180hp)	NXF**	2852	Porsche	993 C4 (AWD)	NXC**	3175
Pontiac	Grand Am 3.4L (V6)	NXG**	3091	Porsche	993 C4S (AWD)	NXB	3197
Pontiac	Grand Prix GT 3.8L ('98-'04)	NXF	3484	Porsche	993 Cup	NXU	2464
Pontiac	Grand Prix GT 3.8L ('05-'06)	NXE	3484	Porsche	993 RS 3.8L	NXB*	2800
Pontiac	Grand Prix GTP ('99-'03)	NXF*	3464	Porsche	993 Turbo (AWD)	NXS	3300
Pontiac	Grand Prix GTP ('04-'06)	NXE	3583	Porsche	993 Turbo S (AWD)	NXS*	3203
Pontiac	Grand Prix GXP ('05-'08)	NXE**	3600	Porsche	996 C2 (3.4L) ('99-'01)	NXB	2910
Pontiac	Grand Prix SE 3.1L	NXG*	3384	Porsche	996 C2 (3.6L)('02-'04)	NXB*	2959
Pontiac	GTO ('04)	NXD*	3725	Porsche	996 C4 (3.4L)	NXB	3034
Pontiac	GTO ('05-'06)	NXC*	3725	Porsche	996 C4 (3.6L)	NXB	3267
Pontiac	Solstice ('06-'08)	NXE	2860	Porsche	996 C4S (3.6L)	NXA	3240
Pontiac	Solstice GXP (turbo)('07-'08)	NXC	2988	Porsche	996 GT2	NXU*	3130
Pontiac	Trans Am ('98-'02)	NXD*	3494	Porsche	996 GT3	NXU	2976
Pontiac	Trans Am (pre-'98)	NXE**	3477	Porsche	996 Cup	NXR	2550
Pontiac	Trans Am Turbo V6	NXD*	3346	Porsche	996 Turbo	NXA*	3388
Pontiac	Vibe 1.8L ('03-'07)	NXG*	2700	Porsche	996 Turbo S	NXS	3505
Pontiac	Vibe GT ('04-'06)	NXF	2780	Porsche	997 C4 ('06-'07)	NXA	3197
Pontiac	Vibe GT ('03)	NXF*	2780	Porsche	997 C4S ('06-'07)	NXA	3252
Porsche	911 ('63-'69)	NXE*	2248	Porsche	997 Carrera ('05-'07)	NXB*	3075
Porsche	911 ('70-'73)	NXE*	2375	Porsche	997 Club Coupe	NXA*	3053
Porsche	911 ('73-'77)	NXE*	2469	Porsche	997 CS ('05-'07)	NXA	3131
Porsche	911 ('78-'83)	NXE**	2552	Porsche	997 GT3 ('07)	NXU	3076
Porsche	911 ('84-'89)	NXD*	2756	Porsche	997 GT3 Cup	NXR	2536
Porsche	911 Carrera ('73-'77)	NXD*	2469	Porsche	997 Turbo AWD ('07)	NXU	3495
Porsche	911 Turbo 3.0L ('74-'77)	NXC**	2508	Porsche	Boxster ('97-'99)	NXE*	2822
Porsche	911 Turbo 3.3L ('77-'89)	NXC**	2937	Porsche	Boxster ('00-'02)	NXE**	2900
Porsche	911S ('67-'69)	NXD	2248	Porsche	Boxster ('02-'04)	NXD	2920
Porsche	911S ('70-'73)	NXD*	2374	Porsche	Boxster ('05-'06)	NXD*	2855
Porsche	912	NXF**	2095	Porsche	Boxster ('07)	NXD**	2855
Porsche	914-4	NXF**	2138	Porsche	Boxster S ('05-'06)	NXC*	2965
Porsche	914-6	NXE	2070	Porsche	Boxster S ('00-'02)	NXD**	2950
Porsche	924	NXF**	2344	Porsche	Boxster S ('03-'04)	NXC	2911
Porsche	924S ('87)	NXF**	2734	Porsche	Boxster S ('07)	NXC**	2965
Porsche	924S ('88)	NXE	2734	Porsche	Carrera GT	NXR**	3043
Porsche	924 Turbo	NXE*	2601	Porsche	Cayenne S ('03-'06)(AWD)	NXF*	4950

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Porsche	Cayenne Turbo ('08)(AWD)	NXC	5191	Suzuki	Swift ('94-'01)	NXG*	1930
Porsche	Cayman 2.7L ('07-'08)	NXD**	2866	Suzuki	Swift 1.3L GT ('89-'94)	NXF*	1900
Porsche	Cayman S 3.4L ('06-'08)	NXB	3075	Toyota	Camry 2.4L ('02-'06)	NXG*	3086
Renault	Alliance 1.4L (60hp)	NXG	2030	Toyota	Camry 2.4L ('07-'08)	NXG	3263
Renault	Alliance 1.7L (85hp)	NXG*	2030	Toyota	Camry 3.0L (V6)('97-'01)	NXF	3240
Renault	Alliance 2.0L GTA (95hp)	NXG**	2161	Toyota	Camry 3.0L (V6)('03-'05)	NXF*	3296
Rosion	Q1	NXR	2337	Toyota	Camry 3.3L (V6)('04-'05)	NXF*	3351
Saab	900 Turbo SPG ('85-'89)	NXF**	2875	Toyota	Camry 3.3L (V6)('06)	NXF	3450
Saab	900 Turbo SPG ('90-'91)	NXF**	2900	Toyota	Camry 3.5L (V6)('07-'08)	NXE*	3461
Saab	9000 Aero 2.3L Turbo ('93-'97)	NXE	3265	Toyota	Celica AllTrac ('88-'89)	NXE	3270
Saab	9-2X Aero ('05)(AWD)	NXD	3179	Toyota	Celica AllTrac ('90-'93)	NXE	3272
Saab	9-2X Aero ('06)(AWD)	NXD*	3208	Toyota	Celica GT ('00-'05)	NXF**	2425
Saab	9-3 Aero 2.0T & 2.0T ('04-'07)	NXF**	3175	Toyota	Celica GT ('77-'82)	NXG**	2460
Saab	9-3 Aero 2.8L ('06-'07)	NXE**	3285	Toyota	Celica GT ('83-'86)	NXG*	2500
Saab	9-3 Viggen ('99-'02)	NXE*	3170	Toyota	Celica GT ('87-'89)	NXG**	2455
Saab	9-5 2.3T	NXE*	3470	Toyota	Celica GT ('90-'99)	NXF	2600
Saab	9-5 Aero 2.3T & 2.3T ('02-'06)	NXE	3470	Toyota	Celica GT-S ('00-'05)	NXE*	2500
Saab	99 EMS ('72-'76)(2.0L)	NXG*	2560	Toyota	Celica GT-S ('83-'85)	NXG	2566
Saturn	Ion ('03-'04)	NXF	2653	Toyota	Celica GT-S ('86-'93)	NXF	2679
Saturn	Ion ('05-'07)	NXG**	2766	Toyota	Celica Supra (1st gen)	NXF**	2789
Saturn	Ion Redline ('04-'07)	NXE*	2945	Toyota	Corolla 1.8L ('03-'07)	NXF	2530
Saturn	Sky ('07-'08)	NXF**	2933	Toyota	Corolla FX-16 GT-S	NXF	2390
Saturn	Sky Redline ('07-'08)	NXC	2990	Toyota	Corolla GT-S 1.6L 16v ('84-'87)	NXF**	2200
Saturn	S-Series (DOHC) ('91-'02)	NXF	2437	Toyota	Corolla GT-S 1.6L 16v ('88-'89)	NXF	2390
Saturn	S-Series (SOHC) ('91-'02)	NXG*	2345	Toyota	Corolla SR5 ('79-'83)(3TC)	NXG	2185
Scion	tC ('05-'08)	NXF	2905	Toyota	Corolla XRS	NXF**	2670
Scion	xA ('04-'06)	NXG*	2340	Toyota	Echo	NXF**	2035
Scion	xB ('04-'06)	NXG	2415	Toyota	Matrix ('03-'07)	NXG*	2673
Subaru	Forester XT ('04-'05) (AWD)	NXF**	3225	Toyota	Matrix XRS (180 hp)('03-'04)	NXF*	2800
Subaru	Forester XT ('06-'07) (AWD)	NXE	3270	Toyota	Matrix XRS ('05-'06)	NXF	2800
Subaru	Impreza 1.8L (AWD)	NXG**	2605	Toyota	MR Spyder	NXE*	2195
Subaru	Impreza 1.8L (FWD)	NXG**	2325	Toyota	MR2 (1st Gen NA)	NXF*	2380
Subaru	Impreza 2.2L (AWD)	NXF**	2730	Toyota	MR2 2.2L DOHC	NXF*	2657
Subaru	Impreza 2.5L ('98-'01)(AWD)	NXE	2840	Toyota	MR2 SC	NXF**	2605
Subaru	Impreza 2.5L ('02-'05)(AWD)	NXF**	2972	Toyota	MR2 Turbo	NXE**	2825
Subaru	Impreza 2.5L ('06-'08)(AWD)	NXE	3016	Toyota	Paseo	NXG**	2025
Subaru	Legacy 2.2L ('90-'94)(AWD)	NXF	2830	Toyota	Prius	NXH	2932
Subaru	Legacy 2.2L ('95-'99)(AWD)	NXF*	2885	Toyota	Solara 3.3L ('04-'06)	NXF*	3419
Subaru	Legacy 2.2L T AWD ('91-'94)	NXF*	3100	Toyota	Solara 3.3L ('07-'08)	NXF	3440
Subaru	Legacy 2.5L ('00-'08)(AWD)	NXF**	3200	Toyota	Supra NA ('88-'92)	NXF**	3430
Subaru	Legacy GT ('05-'08)(AWD)(Turb)	NXD*	3300	Toyota	Supra NA ('94-'98)	NXE*	3265
Subaru	Legacy 3.0 AWD ('08)	NXE	3545	Toyota	Supra T	NXE	3534
Subaru	Outback 3.0 ('01-'04)(AWD)	NXF*	3630	Toyota	Supra TT	NXC**	3450
Subaru	Outback 3.0 ('05-'07)(AWD)	NXE	3610	Toyota	Tercel ('88-'90) (78hp)	NXG	2020
Subaru	Outback XT ('05-'06)(AWD)	NXE*	3415	Toyota	Yaris ('07)	NXG**	2293
Subaru	Outback XT ('07)(AWD)	NXE	3535	Triumph	GT6 MK I	NXF**	1905
Subaru	SVX (AWD)	NXE	3375	Triumph	GT6 MK III	NXE	1904
Subaru	WRX 2.0L ('02-'05) (AWD)	NXD	3085	Triumph	Spitfire MK 2 (75hp, 1147cc)	NXF*	1564
Subaru	WRX 2.5L ('06-'08)(AWD)	NXD*	3140	Triumph	TR4 ('61-'64)	NXF*	2240
Subaru	WRX 2.5L ('09)(AWD)	NXC*	3175	Triumph	TR6 ('69-'76)(2.5L S6 US Carb)	NXF*	2360
Subaru	WRX STI ('04-'07)(AWD)	NXB	3260	Triumph	TR6 ('69-'76)(2.5L S6 Fuel Inj)	NXD	2360
Subaru	WRX STI ('08-'09)(AWD)	NXB**	3395	Volvo	242 GLT ('81-'85)(turbo)	NXF	3072
Subaru	XT	NXG*	2455	Volvo	850 2.4L n.a. ('93-'97)	NXF	3180
Subaru	XT6 (AWD)	NXF*	2885	Volvo	C30 T5 2.5L turbo ('08)	NXE**	2970
Sunbeam	Tiger	NXE*	2575	Volvo	C70 T5 2.3 T Coupe ('01-'02)	NXE*	3200

<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>	<u>Make</u>	<u>Model</u>	<u>Class</u>	<u>Weight</u>
Volvo	C70 T5 2.3 T Conv. ('99-'04)	NXF**	3450	VW	GTI 1.8L 8v ('85-'92)	NXG*	2267
Volvo	C70 T5 ('06-'07)	NXF	3772	VW	GTI 1.8L DOHC	NXF*	2267
Volvo	P1800 ('61-'62)	NXF	2215	VW	GTI 1.8L turbo (150 hp)	NXF	2762
Volvo	S40 1.9 L ('00-'04)	NXF**	2767	VW	GTI 1.8L turbo (180hp)	NXF*	2934
Volvo	S40 2.4L ('04-'06)	NXF	3084	VW	GTI 2.0L 8v ('95-'98)	NXG*	2557
Volvo	S40 2.4L ('07)	NXG**	3234	VW	GTI 2.0L 8v ('99-'00)	NXH**	2765
Volvo	S40 T5 ('05)	NXE	3126	VW	GTI 2.0L DOHC (134 hp)	NXF*	2445
Volvo	S40 T5 ('06-'07)	NXF**	3278	VW	GTI 2.0L Turbo ('06-'08)(200hp)	NXF**	3100
Volvo	S40 T5 ('05-'07)(AWD)	NXE*	3447	VW	GTI 2.8L V6 (174hp)	NXF	3011
Volvo	S60 2.4L	NXF	3230	VW	GTI 2.8L V6 (200hp)	NXF**	3036
Volvo	S60 2.5L Turbo ('04-'06)(AWD)	NXE	3603	VW	GTI 337 (turbo)	NXF**	2857
Volvo	S60 2.5L Turbo ('07)(AWD)	NXF**	3651	VW	Jetta 1.6L	NXH**	2040
Volvo	S60 2.5L Turbo ('04-'06)(FWD)	NXF**	3393	VW	Jetta 1.8L DOHC	NXF*	2305
Volvo	S60 2.5L Turbo ('07)(FWD)	NXF*	3501	VW	Jetta 1.8L SOHC	NXG	2450
Volvo	S60 R ('04-'05)(AWD)	NXD*	3715	VW	Jetta 1.8L turbo GLI	NXF	3106
Volvo	S60 R ('06-'07)(AWD)	NXD*	3715	VW	Jetta 2.0L GLI DOHC	NXF*	2438
Volvo	S60 2.4L T5 ('05-'07)	NXE**	3393	VW	Jetta 2.0L SOHC	NXH	2934
Volvo	S60 2.3L T5 ('01-'04)	NXE*	3406	VW	Jetta 2.0L turbo ('06-'08)	NXF*	3259
VW	Beetle 1.8L T (150hp)('99-'05)	NXF	2820	VW	Jetta 2.5L I5 ('05-'07)	NXG	3230
VW	Beetle 1.9L TDI ('98-'03)	NXH**	2750	VW	Jetta 2.5L I5 ('08)	NXG**	3230
VW	Beetle 1.9L TDI ('04-'06)	NXH**	2850	VW	Jetta 2.8L VR6 12v ('94-'98)	NXF	2927
VW	Beetle 2.0L ('98-'05)	NXH**	2743	VW	Jetta 2.8L VR6 12v ('99-'02)	NXG**	3113
VW	Beetle 2.5L ('06-'08)	NXG**	2884	VW	Jetta 2.8L VR6 24v	NXF*	3179
VW	Beetle Turbo S ('02-'04)	NXF*	3005	VW	Passat 2.0L turbo ('06-'08)	NXF*	3305
VW	Corrado 1.8L DOHC, 2.0L DOHC	NXF**	2403	VW	Passat 2.8L	NXF*	3151
VW	Corrado 2.0L SOHC	NXG**	2418	VW	Passat 3.6L ('06-'08)	NXE*	3576
VW	Corrado G60 1.8L S/C	NXE*	2558	VW	Passat 3.6L ('06-'08)(AWD)	NXE*	3700
VW	Corrado VR6	NXF**	2733	VW	Passat W8 (AWD)	NXE	3918
VW	Golf 1.6L, 1.8L	NXG*	2120	VW	Rabbit 1.6L	NXH**	2000
VW	Golf 1.8L DOHC, 2.0L DOHC	NXF	2672	VW	Rabbit 1.6L Diesel (<'92)	NXH*	2270
VW	Golf 1.9L TDI ('99-'03)	NXH**	2750	VW	Rabbit 1.6L Turbo-Diesel (<'93)	NXH*	2300
VW	Golf 1.9L TDI ('04-'06)	NXH**	2850	VW	Rabbit 1.7L (74hp)	NXH**	2046
VW	Golf 2.0L, 1.4L & 1.6L DOHC	NXG*	2533	VW	Rabbit 2.5L ('06-'07)	NXG**	2975
VW	Golf 2.0L ('99-'06)	NXH**	2771	VW	Rabbit 2.5L ('08)	NXF	2975
VW	Golf 2.5L V5	NXF*	2732	VW	Rabbit GTI 1.8L (90hp)	NXG*	2120
VW	Golf 2.8L V6	NXF*	3102	VW	Scirocco 1.6L (75-78hp)	NXH**	2015
VW	Golf 2.8L VR6	NXE	2546	VW	Scirocco 1.7L (74hp)	NXH**	2040
VW	Golf R32 (AWD)('04)	NXD	3350	VW	Scirocco 1.8L DOHC	NXF*	2287
VW	Golf R32 (AWD)('08)	NXE*	3600	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 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) DOT-approved R-compound tires with a UTQG treadwear rating of 40 or less (ex. BFG R1, Hankook Z214, Hoosier R6/A6, Kumho V710, etc.--note: G.A.C. & VRL Hoosiers OK) +10
- 2) 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, Yokohama A048, etc.—note: see exception below in 3)) +7
- 3) Toyo RA-1 and Nitto NT555R11 +5
- 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 treadwear ratings are as of the date of the current version of the NASA-X rules. Any new tire or tire with a changed UTQG treadwear 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:

Any vehicle that has a competition weight (with driver)* that is more than 150 pounds lighter than the vehicle's base weight listing in section 1.2, and any vehicle that has had cutting or grinding of the body or chassis, or removal or lightening of parts either not listed below or on the list of No-Points Modifications, or not otherwise assessed points, is required to use the alternate method below, based on minimum competition weight, to determine weight reduction modification points. As well, a competitor may choose to use the alternate method to assess weight modification points at any time:

- 1) Removal of passenger front seat and seat belts +3
- 2) Removal of rear seat(s), seat belts, and/or rear shelf trim panel +3
- 3) Removal of trunk carpet, padding, insulation, sound deadening, or panels +1
- 4) Removal of rear carpet, floor padding, floor/door sill trim, panels, and/or sound deadening material +1
- 5) Removal of front carpet, padding, floor console, floor/door sill trim, panels (other than door panels), and/or sound deadening material +1
- 6) Removal of dashboard, instrument panel, brackets, and/or glove box +2
- 7) Removal of front passenger door panel, latches, and/or window/mechanisms +2
(No points assessed if passenger door is gutted for NASCAR style cage door bars— the bars must penetrate into the door necessitating door gutting)
- 8) Removal of driver's front door panel, latches, and/or window/mechanisms +2
(No points assessed if driver's door is gutted for NASCAR style cage door bars— the bars must penetrate into the door necessitating door gutting)
- 9) Removal of rear door panels, latches, and/or windows/mechanisms +4 (or +2 each side)
- 10) Lexan front windshield +3
- 11) Lexan rear window +3
- 12) Lexan side windows +2 (per pair)
- 13) Front bumper or support removal or modification +1
(Removal of less than 30% of the front bumper material for engine cooling purposes—0 pts.)
- 14) Rear bumper or support removal or modification +1
- 15) Aftermarket lightweight hood (or gutting) +1
- 16) Lightweight front fenders (composite or gutting) +1 (for each)
- 17) Lightweight body panels/quarter panels (composite or gutting) +4 (or +2 for each)
- 18) Heater core and/or heater blower/fan removal +1
(No points for air conditioning and condenser removal only)
- 19) Power steering removal +1
- 20) Undercoating removal +3

Alternate Method based on actual vehicle competition weight:

If the base weight used for base classing purposes (above in section 1.2) 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, 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 any NASA-X competition heat. Any driver/team who's 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) +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) +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
- 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 injectors, fuel pump, 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 (an alcohol-water mixture is permitted, but the driver must notify the Event Director and/or Control that it is being used.)
- 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 system 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) Non-OEM or modified exhaust piping, resonators, or mufflers downstream from the OEM catalytic converter(s) location(s) +1 (for basic “catback” exhaust or performance mufflers only—otherwise, must use 26) +2 if the vehicle has an aftermarket, modified, or deleted header/secondary/downpipe/pre-cat section/catalytic converter)
- 28) Removal, upgrade, or modification of catalytic converter(s). +1
- 29) Non-OEM sequential (semi-automatic) or dog-ring (non-synchromesh) transmission (includes altered gear ratios) +7
- 30) Upgrade number of forward gears in transmission or altered gear ratios +3
- 31) **Final drive ratio modification +3 (includes OEM sport package differentials for cars not listed separately in section 1.2 Base Classing)**
- 32) Added paddle/electronic shift +3
- 33) Added limited slip differential or welded/locked differential +3
- 34) Changed or modified limited slip differential (or welded/locked OEM LSD) +1
- 35) Added traction control +3 (no points if proven disabled during competition)
- 36) 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.)
- 37) **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 retail price of greater than \$600 (\$2400 total) or \$750 each if sold only as a coilover with spring included (\$3000 total). Also “Piggyback” external reservoir shocks/coilovers/dampers with a retail price of less than \$1050 per unit (\$4200 total)—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)(may have spherical/metallic joint(s) 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 3 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 (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 attachment point to front or rear strut tower bar (or replace existing 3 point) +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 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 a tube 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) 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 3 inches of total track width gain**
- 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, brake boosters, and master cylinder modification or replacement.
- 27) Emergency brake removal
- 28) Non-metallic replacement suspension bushings
- 29) Steering wheel replacement
- 30) Mirror addition 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 or chip (must use OEM ECU/PCM box/housing/hardware)**
- 44) **Programmable fuel systems without control of engine timing (such as SAFC, VAFC)**
- 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) **Add, replace, or modify front fascia or air dam**
- 53) **Add, replace or modify a single front splitter/spoiler/wing/foil**
- 54) **Add, replace, or modify rear wing or spoiler**
- 55) **Add or modify canards/winglets**
- 56) **Add or fabricate any flat bottom/belly tray**
- 57) **Add rear diffuser, replace or modify OEM rear diffuser, rear bumper cover, or rear “fascia”**
- 58) **Add rear vertical panels in any location**
- 59) **Add or modify side skirts**
- 60) **Add vortex generator to roof, rear window, or rear deck lid**
- 61) **Front side window frame air dams/diverters (driver and/or passenger side)**

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.

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)
- Select 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.

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.

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.