

# Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2008

## Appendix K Data Stratified by Vehicle Type, Engine Type and Valves Per Cylinder

Compliance and Innovative Strategies Division  
and  
Transportation and Climate Division

Office of Transportation and Air Quality  
U.S. Environmental Protection Agency

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*This technical report does not necessarily represent final EPA decisions or positions. It is intended to present technical analysis of issues using data that are currently available. The purpose in the release of such reports is to facilitate the exchange of technical information and to inform the public of technical developments.*



Table K-1

## Characteristics of 1975 to 2008 Carbureted Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ----> LAB ADJ ADJ ADJ 55/45 CITY HWY COMP	WGHT LB	VOL CU-FT	ENGINE CID HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG				
1986	3805	0.345	29.8	22.8	29.1	25.3	2871	105.7	160	96	14.0	107	0.658	0.0330	36.6	2755	3872
1987	2871	0.268	30.6	23.5	29.3	25.9	2802	102.9	148	92	14.3	106	0.688	0.0322	36.4	2731	3756
1988	1747	0.163	32.5	25.0	30.5	27.3	2725	101.7	131	88	14.3	105	0.746	0.0319	37.2	2846	3803
1989	973	0.097	33.2	25.4	31.0	27.8	2703	100.0	118	87	14.1	105	0.799	0.0322	37.4	2817	3768
1990	121	0.014	31.2	23.6	29.4	26.1	2966	106.0	148	96	14.0	106	0.765	0.0326	38.0	2762	4111
1991	3	0.000	39.2	30.4	34.3	32.2	2078	88.1	73	64	14.4	101	0.877	0.0308	33.6	2857	2966
1992	1	0.000	41.0	31.6	35.7	33.5	2087	88.6	73	66	14.1	102	0.904	0.0317	34.9	2970	3095
2006	1	0.000	16.4	11.0	16.2	13.5	3595	55.8	271	484	4.6	239	1.792	0.1351	24.2	746	1369

## Percent of Carbureted Cars:

MODEL YEAR	DRIVETRAIN FRONT	DRIVETRAIN 4WD	TRANSMISSION MANUAL	TRANSMISSION LOCK
1986	66.7	2.0	34.1	50.0
1987	72.6	2.7	37.3	51.7
1988	82.0	1.0	43.8	51.9
1989	89.9	0.1	41.2	53.4
1990	73.0	0.0	40.6	59.4
1991	100.0	0.0	100.0	0.0
1992	100.0	0.0	100.0	0.0
2006	0.0	0.0	17.5	82.5

Table K-2

## Characteristics of 1975 to 2008 TBI 2 Valve Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ----> LAB ADJ ADJ ADJ 55/45 CITY HWY COMP	WGHT LB	VOL CU-FT	ENGINE CID HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG				
1986	3132	0.284	28.5	21.7	27.9	24.2	2999	108.8	158	98	14.1	107	0.637	0.0326	36.3	2649	3954
1987	3274	0.305	29.3	22.2	28.7	24.8	2920	107.4	147	97	13.9	107	0.671	0.0330	36.3	2683	3901
1988	3027	0.282	30.7	23.2	29.7	25.9	2840	107.0	141	97	13.7	108	0.709	0.0339	36.9	2795	3945
1989	2345	0.234	29.7	22.1	29.2	25.0	2954	107.9	157	105	13.4	110	0.699	0.0351	37.1	2737	3999
1990	1477	0.168	30.5	22.6	29.8	25.5	2925	105.5	145	101	13.5	109	0.717	0.0344	37.4	2725	3949
1991	1446	0.170	29.5	21.5	29.2	24.6	3032	106.8	164	108	13.3	110	0.698	0.0352	37.4	2669	4011
1992	688	0.085	29.5	21.6	28.6	24.6	3099	109.6	180	111	13.5	110	0.682	0.0349	38.0	2770	4200
1993	579	0.069	30.6	22.3	29.4	25.4	3037	110.0	166	104	13.7	108	0.690	0.0336	38.5	2864	4257
1994	431	0.051	34.2	25.1	31.6	28.0	2622	100.4	118	84	14.3	104	0.741	0.0318	37.2	2916	3722
1995	109	0.012	38.9	28.8	34.4	31.4	2365	102.6	93	73	14.6	102	0.831	0.0308	37.9	3374	3881
1996	86	0.011	42.5	31.4	36.7	33.9	2144	99.9	86	65	14.7	101	0.778	0.0306	37.0	3486	3701
1997	67	0.008	40.3	29.6	34.8	32.1	2201	90.5	75	67	14.8	101	0.889	0.0304	35.9	2970	3247
1998	11	0.001	53.6	38.1	46.1	41.9	2000	89.7	60	55	15.7	97	0.917	0.0275	41.9	3761	3761
1999	8	0.001	50.3	35.4	43.5	39.3	2000	88.0	61	55	15.7	97	0.902	0.0275	39.3	3458	3458
2000	5	0.001	50.8	35.8	43.0	39.3	2000	88.0	61	55	15.7	97	0.902	0.0275	39.3	3461	3461

## Percent of TBI 2 Valve Cars:

MODEL YEAR	DRIVETRAIN FRONT	DRIVETRAIN 4WD	TRANSMISSION MANUAL	TRANSMISSION LOCK
1986	85.4	0.0	10.0	66.2
1987	92.7	0.2	14.9	59.1
1988	95.4	1.3	19.9	69.1
1989	91.6	0.8	14.3	75.2
1990	93.1	1.0	14.0	76.4
1991	80.8	1.0	15.3	81.5
1992	70.1	0.0	19.5	72.1
1993	77.7	1.1	24.8	69.7
1994	100.0	0.0	30.3	58.0
1995	100.0	0.0	39.9	25.4
1996	100.0	0.0	42.9	0.0
1997	100.0	0.0	26.3	0.0
1998	100.0	0.0	100.0	0.0
1999	100.0	0.0	100.0	0.0
2000	0.0	0.0	100.0	0.0

Table K-3

## Characteristics of 1975 to 2008 TBI 3 Valve Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	VOL CU-FT	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG	
			LAB 55/45	ADJ CITY	ADJ HWY			ADJ COMP	CID								HP
1989	246	0.025	34.5	26.5	32.0	28.9	2508	101.0	98	90	12.9	109	0.918	0.0359	36.3	2925	3667
1991	72	0.008	34.9	26.1	32.8	29.0	2602	91.9	97	95	12.7	110	0.979	0.0366	37.8	2681	3475
1992	60	0.007	34.2	25.4	32.0	28.3	2750	91.9	97	95	13.3	108	0.979	0.0345	39.2	2620	3602
1993	41	0.005	35.3	26.2	32.5	29.0	2596	91.9	97	90	13.2	108	0.928	0.0347	37.7	2676	3464

## Percent of TBI 3 Valve Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1989	99.6	0.4	53.4	46.6
1991	100.0	0.0	59.5	0.0
1992	100.0	0.0	47.4	0.0
1993	100.0	0.0	61.5	0.0

Table K-4

## Characteristics of 1975 to 2008 TBI 4 Valve Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	VOL CU-FT	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG	
			LAB 55/45	ADJ CITY	ADJ HWY			ADJ COMP	CID								HP
1988	194	0.018	38.1	29.9	34.6	31.9	2379	94.5	91	71	15.0	101	0.775	0.0298	38.1	3029	3604
1989	199	0.020	36.2	28.0	32.9	30.2	2434	95.8	91	92	12.3	111	1.012	0.0381	36.9	2908	3538
1990	382	0.043	36.5	28.0	33.1	30.3	2513	97.7	94	91	12.7	109	0.971	0.0363	38.1	2964	3724
1991	344	0.040	35.5	27.3	31.8	29.3	2589	95.8	93	97	12.5	111	1.041	0.0375	38.1	2827	3649
1992	95	0.012	31.7	24.0	28.9	26.1	2744	93.9	98	106	12.3	113	1.076	0.0386	35.9	2459	3373
1993	93	0.011	31.1	23.2	28.7	25.6	2856	102.6	106	120	11.6	117	1.121	0.0417	36.8	2656	3775

## Percent of TBI 4 Valve Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1988	100.0	0.0	57.1	42.9
1989	99.8	0.0	53.9	46.1
1990	100.0	0.0	59.2	40.8
1991	100.0	0.0	45.5	54.5
1992	100.0	0.0	16.3	83.7
1993	99.9	0.0	30.7	65.7

Table K-5

## Characteristics of 1975 to 2008 Port 2 Valve Fixed Timing Cars

MODEL YEAR	SALES (000)	FRAC	<---- LAB 55/45	FUEL ADJ CITY	ECONOMY ADJ HWY	----> ADJ COMP	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1986	3698	0.336	25.6	19.2	25.9	21.8	3271	109.2	187	136	11.7	119	0.768	0.0414	35.7	2411	3928
1987	3815	0.356	25.2	18.8	25.7	21.5	3307	110.4	192	139	11.6	120	0.762	0.0418	35.6	2396	3953
1988	4713	0.439	26.0	19.2	26.4	22.0	3319	111.0	193	136	11.9	118	0.736	0.0409	36.6	2463	4084
1989	4804	0.480	26.1	19.1	26.4	22.0	3321	112.2	190	135	12.0	118	0.739	0.0406	36.6	2490	4123
1990	4388	0.498	25.9	18.8	26.4	21.8	3407	112.9	194	139	12.0	118	0.739	0.0405	37.2	2486	4218
1991	4162	0.488	26.3	19.0	26.6	22.1	3351	112.7	190	143	11.6	120	0.768	0.0423	37.1	2521	4193
1992	4574	0.564	26.4	18.8	26.9	22.1	3372	113.0	193	147	11.4	122	0.777	0.0432	37.3	2518	4235
1993	4773	0.564	27.2	19.3	27.4	22.7	3306	112.3	188	141	11.6	120	0.766	0.0423	37.5	2573	4234
1994	4533	0.539	26.8	18.9	27.1	22.3	3389	112.8	195	147	11.5	121	0.766	0.0428	37.8	2540	4283
1995	4377	0.466	27.0	18.8	27.5	22.5	3402	113.8	198	158	11.0	125	0.804	0.0457	38.3	2588	4363
1996	3273	0.415	27.0	18.8	27.3	22.4	3426	112.7	196	159	10.9	125	0.822	0.0460	38.4	2542	4337
1997	3374	0.405	27.4	19.0	27.5	22.6	3383	113.2	191	159	10.8	126	0.840	0.0463	38.3	2578	4335
1998	3052	0.383	27.1	18.6	27.2	22.3	3391	111.9	194	164	10.6	127	0.848	0.0478	37.8	2513	4243
1999	2943	0.351	27.1	18.5	26.9	22.2	3412	111.6	195	163	10.7	127	0.843	0.0472	37.9	2491	4234
2000	3157	0.346	27.3	18.6	27.0	22.3	3449	112.2	194	168	10.6	128	0.868	0.0481	38.5	2519	4334
2001	2694	0.320	27.6	18.6	27.1	22.4	3452	112.3	195	170	10.4	129	0.875	0.0487	38.8	2535	4365
2002	2466	0.297	28.2	18.9	27.3	22.8	3428	111.9	196	171	10.3	130	0.883	0.0495	39.1	2568	4387
2003	2044	0.257	27.1	18.1	26.6	22.0	3625	113.7	208	184	10.0	132	0.893	0.0505	39.9	2524	4558
2004	1670	0.221	26.9	17.7	26.4	21.8	3648	114.3	219	194	9.7	135	0.891	0.0531	39.8	2506	4572
2005	1621	0.202	27.1	17.8	26.3	21.8	3712	116.3	222	201	9.7	137	0.918	0.0537	40.5	2553	4733
2006	1297	0.162	26.4	17.3	25.9	21.3	3806	116.6	238	221	9.2	142	0.931	0.0576	40.7	2509	4771
2007	693	0.086	25.4	16.7	24.9	20.6	3806	112.9	239	219	9.5	142	0.922	0.0569	39.1	2341	4447
2008	462	0.054	24.5	16.0	24.6	20.0	4009	114.0	267	240	8.9	147	0.897	0.0606	40.1	2289	4618

## Percent of Port 2 Valve Fixed Timing Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1986	62.8	1.1	23.1	62.5
1987	65.3	0.9	20.1	67.4
1988	69.9	0.5	15.8	71.2
1989	74.3	0.8	13.0	73.5
1990	80.0	0.2	10.1	79.1
1991	82.0	0.1	10.3	80.3
1992	83.3	0.7	8.1	83.7
1993	84.1	0.2	9.8	83.5
1994	78.6	0.7	8.8	86.9
1995	78.9	0.1	10.0	89.9
1996	78.4	0.5	9.9	90.1
1997	81.8	0.4	9.8	90.2
1998	84.0	0.1	9.0	90.8
1999	83.1	0.0	8.8	91.2
2000	81.7	0.0	9.8	90.1
2001	83.6	0.0	8.2	91.1
2002	85.3	0.0	8.4	91.5
2003	80.4	1.4	5.4	94.6
2004	77.0	0.0	5.9	94.1
2005	76.4	0.4	4.4	95.6
2006	70.2	0.9	3.9	96.1
2007	57.5	0.6	7.0	93.0
2008	48.8	0.0	5.9	94.1

Table K-6

## Characteristics of 1975 to 2008 Port 3 Valve Fixed Timing Cars

MODEL YEAR	SALES (000)	FRAC	<---- LAB 55/45	FUEL ADJ CITY	ECONOMY ADJ HWY	----> ADJ COMP	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1986	169	0.015	32.2	25.1	30.4	27.3	2626	92.1	112	105	11.8	114	0.943	0.0401	35.8	2500	3304
1987	185	0.017	32.4	24.9	30.9	27.3	2654	92.7	114	106	11.8	114	0.939	0.0401	36.3	2519	3369
1988	282	0.026	28.9	21.9	27.9	24.4	3051	107.6	131	122	11.9	116	0.942	0.0400	37.3	2633	4010
1989	567	0.057	28.4	21.3	27.5	23.9	3019	102.4	132	121	11.9	116	0.920	0.0401	36.2	2458	3710
1990	386	0.044	29.0	21.7	28.0	24.3	2915	99.9	131	119	11.8	116	0.915	0.0408	35.6	2453	3564
1991	451	0.053	31.5	23.6	29.5	26.2	2710	102.2	113	103	12.4	112	0.921	0.0379	35.6	2702	3640
1992	299	0.037	31.7	23.7	29.6	26.3	2667	100.6	114	104	12.2	113	0.923	0.0387	35.2	2682	3543
1993	211	0.025	35.2	26.4	31.8	28.8	2451	96.8	92	92	12.5	110	0.988	0.0373	35.5	2827	3443
1994	155	0.018	36.0	27.0	31.9	29.2	2392	96.3	89	85	13.0	108	0.955	0.0356	35.2	2843	3392
1995	102	0.011	37.1	26.9	34.2	30.2	2475	99.6	90	91	12.7	109	1.004	0.0368	37.4	3015	3727
1996	74	0.009	36.4	26.1	33.5	29.5	2478	100.7	91	91	12.7	109	1.002	0.0367	36.6	2975	3684
1997	83	0.010	35.3	25.0	33.0	28.6	2641	100.7	102	105	12.2	113	1.025	0.0391	37.9	2928	3814
1998	119	0.015	31.8	22.2	30.2	25.8	3116	104.6	138	150	11.1	124	1.058	0.0459	39.9	2745	4193
1999	175	0.021	30.1	20.9	28.8	24.5	3246	99.5	155	166	10.7	128	1.052	0.0486	39.4	2511	3937
2000	162	0.018	29.0	20.0	27.8	23.6	3403	105.4	162	173	10.8	129	1.054	0.0484	39.8	2534	4214
2001	174	0.021	26.1	17.8	25.0	21.2	3731	103.0	205	219	9.2	142	1.067	0.0571	39.4	2222	4078
2002	168	0.020	25.5	17.4	24.2	20.6	3727	103.0	199	213	9.5	140	1.071	0.0557	38.3	2162	3960
2003	186	0.023	23.8	16.2	22.8	19.3	3971	98.3	233	255	8.4	151	1.098	0.0636	38.5	1925	3819
2004	127	0.017	23.5	15.8	22.4	19.0	4037	101.5	233	254	8.7	150	1.088	0.0624	38.5	1952	3942
2005	105	0.013	23.9	16.0	22.8	19.3	4031	100.1	234	253	8.7	150	1.079	0.0622	39.0	1944	3920
2006	61	0.008	21.2	14.1	20.7	17.2	4261	106.7	299	320	7.3	169	1.065	0.0756	36.8	1840	3971
2007	36	0.004	20.4	13.6	19.9	16.6	4362	100.2	292	306	8.1	162	1.024	0.0697	36.1	1609	3709
2008	25	0.003	21.4	14.2	20.8	17.4	3956	79.4	281	296	8.0	163	1.019	0.0724	34.6	1348	2723

## Percent of Port 3 Valve Fixed Timing Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1986	100.0	0.0	65.9	34.1
1987	100.0	0.0	53.1	46.9
1988	89.8	0.0	39.2	60.8
1989	84.2	0.0	41.0	59.0
1990	81.9	1.3	42.1	50.6
1991	97.9	1.4	38.7	59.5
1992	99.9	0.1	43.9	56.0
1993	99.0	1.0	55.9	30.7
1994	100.0	0.0	50.0	28.8
1995	100.0	0.0	35.8	35.7
1996	100.0	0.0	32.1	38.3
1997	85.9	0.0	33.3	66.7
1998	55.0	0.0	18.3	81.7
1999	46.9	0.0	14.0	86.0
2000	45.0	0.0	13.5	86.5
2001	15.8	5.9	13.2	86.8
2002	15.1	5.5	12.3	87.7
2003	0.0	3.2	0.3	99.7
2004	0.0	22.1	0.1	99.9
2005	0.0	28.6	0.0	100.0
2006	0.0	13.0	2.7	97.3
2007	0.0	24.3	37.7	62.3
2008	0.0	0.0	56.5	43.5

Table K-7

## Characteristics of 1975 to 2008 Port 4 Valve Fixed Timing Cars

MODEL YEAR	SALES (000)	FRAC	<---- LAB 55/45	FUEL ADJ CITY	ECONOMY ADJ HWY	----> ADJ COMP	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1986	176	0.016	27.8	21.4	26.9	23.6	3032	89.0	125	144	10.6	124	1.150	0.0470	36.1	2112	3189
1987	560	0.052	29.7	22.7	28.6	25.1	3067	98.9	125	130	11.5	119	1.046	0.0423	38.8	2536	3849
1988	772	0.072	28.9	21.9	28.0	24.4	3085	98.2	131	137	11.1	121	1.046	0.0441	37.9	2430	3728
1989	879	0.088	28.6	21.5	27.7	24.0	3082	99.4	132	139	11.0	122	1.054	0.0449	37.2	2419	3702
1990	1998	0.227	28.9	21.7	27.5	24.1	3021	98.5	125	134	11.2	121	1.068	0.0440	36.6	2399	3609
1991	1826	0.214	28.7	21.4	27.2	23.9	3040	98.1	129	138	10.9	122	1.076	0.0451	36.4	2369	3582
1992	2015	0.249	29.0	21.3	27.8	24.1	3103	101.5	129	138	11.1	122	1.069	0.0443	37.5	2485	3819
1993	2357	0.279	28.9	21.0	27.9	24.0	3140	103.7	138	142	11.0	122	1.035	0.0448	37.8	2527	3921
1994	2620	0.311	28.6	20.6	27.7	23.7	3170	104.7	143	147	10.9	124	1.037	0.0456	37.6	2514	3942
1995	3879	0.413	29.2	20.8	28.4	24.1	3146	105.1	141	148	10.7	125	1.060	0.0466	38.0	2561	3991
1996	3528	0.447	28.8	20.3	28.1	23.7	3206	107.5	147	152	10.7	125	1.046	0.0469	38.0	2571	4091
1997	3856	0.463	28.9	20.2	28.2	23.7	3205	107.1	146	153	10.7	126	1.052	0.0471	38.0	2563	4085
1998	3276	0.411	29.4	20.4	28.5	24.0	3241	108.0	145	153	10.7	125	1.065	0.0467	39.0	2617	4212
1999	3736	0.446	28.8	19.8	27.9	23.4	3344	109.3	150	162	10.5	127	1.083	0.0480	39.2	2580	4295
2000	3539	0.388	28.2	19.4	27.2	22.9	3365	110.1	152	165	10.5	128	1.083	0.0484	38.6	2539	4254
2001	2954	0.351	28.0	19.1	26.9	22.7	3419	110.7	154	164	10.6	127	1.067	0.0476	38.9	2528	4315
2002	2624	0.316	27.6	18.8	26.2	22.3	3408	109.7	158	173	10.2	131	1.103	0.0502	37.9	2459	4170
2003	2206	0.277	28.6	19.4	26.9	23.0	3353	108.3	153	165	10.4	129	1.089	0.0488	38.5	2504	4180
2004	2229	0.296	28.6	19.1	27.0	22.9	3410	111.5	156	174	10.1	131	1.121	0.0506	39.0	2566	4364
2005	2062	0.257	28.5	19.0	26.7	22.7	3476	113.1	157	179	9.9	132	1.142	0.0510	39.4	2579	4485
2006	1736	0.217	28.2	18.8	26.4	22.5	3549	115.9	161	187	9.8	134	1.167	0.0521	39.9	2607	4638
2007	2028	0.253	29.6	19.6	27.7	23.6	3457	112.5	155	181	9.9	133	1.171	0.0516	40.8	2680	4601
2008	2407	0.282	29.0	19.3	27.2	23.1	3532	112.4	168	194	9.6	136	1.165	0.0538	40.9	2631	4611

## Percent of Port 4 Valve Fixed Timing Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1986	56.6	0.0	72.2	23.1
1987	83.4	0.0	43.9	54.1
1988	91.5	1.2	35.2	63.5
1989	85.4	4.5	30.5	66.9
1990	89.1	2.8	32.1	67.2
1991	83.0	5.1	35.8	62.6
1992	78.6	2.8	30.5	68.8
1993	89.8	3.5	25.7	73.3
1994	92.0	0.2	23.1	75.2
1995	84.4	2.6	20.5	77.7
1996	93.6	2.8	15.8	82.8
1997	93.6	3.2	13.9	86.1
1998	93.4	4.2	11.7	87.6
1999	94.8	3.5	9.2	89.6
2000	92.0	3.2	7.4	89.9
2001	93.9	3.7	8.4	89.9
2002	90.6	5.7	10.4	88.9
2003	88.0	5.2	13.7	85.5
2004	89.9	7.1	10.4	87.8
2005	79.2	11.0	9.2	87.7
2006	76.1	9.6	9.1	87.3
2007	83.0	10.0	8.9	89.8
2008	72.5	13.4	9.2	88.6

Table K-8

## Characteristics of 1975 to 2008 Port 5 Valve Fixed Timing Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ----> LAB 55/45	ADJ CITY	ADJ HWY	ADJ COMP	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1997	8	0.001	28.0	19.3	28.2	23.1	3341	101.6	109	150	10.8	124	1.376	0.0451	38.6	2347	3916
1998	33	0.004	29.0	19.8	28.9	23.8	3463	109.8	109	150	11.1	122	1.376	0.0434	41.3	2620	4539
1999	73	0.009	28.6	19.4	28.6	23.4	3471	112.5	109	150	11.1	122	1.376	0.0433	40.7	2644	4590
2000	111	0.012	28.1	19.4	26.8	22.8	3374	104.4	116	166	10.2	129	1.416	0.0490	38.5	2397	4035
2001	182	0.022	27.6	19.0	26.3	22.4	3409	101.1	117	175	9.8	132	1.490	0.0512	38.2	2278	3859
2002	201	0.024	27.5	18.6	26.5	22.3	3582	102.7	122	186	9.7	134	1.552	0.0519	40.0	2323	4120
2003	212	0.027	28.2	19.0	26.8	22.7	3581	107.0	120	182	9.8	132	1.539	0.0510	40.6	2435	4349
2004	160	0.021	27.8	18.5	26.4	22.3	3660	106.5	121	184	10.0	132	1.534	0.0502	40.8	2383	4351
2005	64	0.008	28.3	18.8	26.8	22.6	3636	103.6	112	175	10.2	129	1.561	0.0483	41.2	2346	4263
2006	6	0.001	29.7	19.9	27.4	23.6	3840	87.9	109	174	10.8	127	1.596	0.0460	45.4	2083	4001
2007	2	0.000	20.3	13.4	20.2	16.6	4134	100.6	254	344	6.6	179	1.354	0.0835	34.4	1672	3457
2008	2	0.000	20.2	13.4	20.1	16.6	4165	100.9	254	344	6.7	178	1.354	0.0829	34.5	1671	3469

## Percent of Port 5 Valve Fixed Timing Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1997	31.8	68.2	34.9	65.1
1998	76.8	23.2	49.1	50.9
1999	80.3	19.7	33.6	66.4
2000	72.5	27.5	48.7	51.3
2001	64.2	35.8	56.5	43.5
2002	68.7	31.3	31.0	65.3
2003	74.4	25.6	30.0	62.7
2004	64.5	35.5	24.8	67.1
2005	71.1	28.9	23.5	64.4
2006	95.5	4.3	11.1	10.2
2007	0.0	97.5	50.7	49.3
2008	0.0	100.0	56.5	43.5

Table K-9

## Characteristics of 1975 to 2008 Port 2 Valve Variable Timing Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ----> LAB 55/45	ADJ CITY	ADJ HWY	ADJ COMP	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1992	5	0.001	18.2	13.3	18.0	15.3	4500	50.0	303	322	7.4	165	1.063	0.0716	34.4	765	1721
1993	0	0.000	17.9	12.9	18.1	15.1	4000	82.3	329	345	6.4	181	1.049	0.0862	30.2	1242	2484
1994	0	0.000	16.6	11.0	19.8	14.2	4500	90.8	340	377	6.6	182	1.109	0.0838	32.0	1290	2902
1995	8	0.001	22.2	15.5	23.0	18.6	3581	57.7	229	275	7.1	165	1.209	0.0768	33.2	1061	1930
1996	8	0.001	21.0	14.6	21.5	17.5	3646	68.2	236	296	6.8	172	1.276	0.0816	32.2	1193	2225
1997	7	0.001	21.3	14.7	21.8	17.7	3597	65.1	230	292	6.8	171	1.282	0.0816	32.0	1152	2105
1998	3	0.000	21.4	14.8	21.6	17.7	3806	78.3	253	286	7.2	165	1.152	0.0754	33.6	1362	2676
1999	3	0.000	22.0	15.0	22.7	18.3	4153	118.0	266	304	7.3	165	1.149	0.0735	37.9	2168	4476
2001	38	0.005	25.6	17.4	24.9	20.8	3455	101.8	173	177	9.7	132	1.023	0.0512	36.0	2124	3659
2005	71	0.009	36.3	24.7	31.2	28.1	3000	116.6	110	131	11.1	120	1.188	0.0435	42.1	3274	4911
2006	158	0.020	28.3	18.9	26.6	22.6	3605	116.2	202	212	9.3	142	1.062	0.0580	40.9	2692	4780
2007	513	0.064	28.5	18.6	27.6	22.9	3836	117.1	212	205	9.5	137	0.973	0.0535	43.9	2691	5150
2008	425	0.050	27.6	17.7	27.9	22.4	3961	117.8	223	223	9.1	142	0.999	0.0564	44.4	2645	5239

## Percent of Port 2 Valve Variable Timing Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	51.5	48.5
1994	0.0	0.0	100.0	0.0
1995	0.0	0.0	79.7	7.2
1996	0.0	34.9	14.3	14.6
1997	0.0	29.3	78.1	9.7
1998	0.0	11.7	59.3	30.6
1999	0.0	84.7	0.0	100.0
2001	98.1	0.0	46.2	53.8
2005	100.0	0.0	8.5	91.5
2006	93.4	3.2	7.3	92.7
2007	100.0	0.0	0.9	99.4
2008	96.8	0.0	0.0	100.0

Table K-10

## Characteristics of 1975 to 2008 Port 3 Valve Variable Timing Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	VOL CU-FT	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG	
			LAB 55/45	ADJ CITY	ADJ HWY			ADJ COMP	CID								HP
2005	54	0.007	22.8	15.2	22.0	18.5	3969	96.4	283	310	7.0	170	1.090	0.0781	36.7	1788	3542
2006	86	0.011	22.4	15.0	21.5	18.1	4269	108.6	270	299	7.7	163	1.113	0.0713	38.6	1962	4287
2007	45	0.006	23.2	15.3	22.7	18.8	3763	98.0	280	301	6.8	171	1.074	0.0803	35.4	1843	3464
2008	52	0.006	22.7	15.1	22.1	18.4	4024	96.1	282	310	7.1	169	1.094	0.0768	37.0	1770	3559

## Percent of Port 3 Valve Variable Timing Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2005	0.0	0.0	54.8	45.2
2006	0.0	17.2	35.1	64.9
2007	0.0	0.0	71.0	29.0
2008	0.0	0.0	60.8	39.2

Table K-11

## Characteristics of 1975 to 2008 Port 4 Valve Variable Timing Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	VOL CU-FT	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG	
			LAB 55/45	ADJ CITY	ADJ HWY			ADJ COMP	CID								HP
1990	54	0.006	23.0	17.1	22.6	19.3	4000	111.9	249	252	8.3	151	1.013	0.0630	38.7	2165	4330
1991	208	0.024	30.2	22.2	29.4	25.2	3141	99.7	145	157	10.5	127	1.104	0.0482	40.0	2614	3979
1992	366	0.045	28.5	20.8	27.7	23.7	3256	99.7	150	167	10.2	129	1.133	0.0498	39.1	2471	3888
1993	402	0.047	29.2	21.2	28.1	24.2	3213	96.8	140	161	10.3	128	1.168	0.0487	39.0	2401	3772
1994	675	0.080	30.2	21.8	29.0	24.9	3216	98.8	132	150	10.8	124	1.154	0.0459	40.2	2509	3980
1995	914	0.097	29.7	21.2	28.5	24.4	3275	102.3	142	159	10.4	127	1.135	0.0479	40.1	2535	4105
1996	912	0.116	29.8	21.2	28.7	24.5	3222	103.3	141	155	10.5	126	1.113	0.0474	39.6	2562	4089
1997	933	0.112	29.2	20.6	28.1	23.9	3294	101.2	149	167	10.2	130	1.137	0.0498	39.6	2469	4012
1998	1423	0.179	29.5	20.6	28.3	24.1	3283	103.7	146	163	10.3	129	1.122	0.0491	39.6	2529	4119
1999	1360	0.162	28.8	20.0	27.6	23.4	3318	104.5	150	171	10.0	131	1.135	0.0508	39.0	2480	4090
2000	2070	0.227	29.3	20.2	27.9	23.7	3253	105.6	147	172	9.8	132	1.171	0.0523	38.7	2542	4100
2001	2265	0.269	30.6	21.0	28.6	24.6	3203	104.9	142	166	10.0	131	1.167	0.0511	39.8	2651	4180
2002	2748	0.331	30.3	20.6	28.3	24.3	3308	108.1	148	172	10.0	132	1.162	0.0514	40.3	2669	4374
2003	3186	0.401	30.6	20.6	28.7	24.5	3296	107.8	148	176	9.8	133	1.180	0.0527	40.5	2686	4384
2004	3223	0.428	30.2	20.2	28.3	24.1	3371	108.2	151	181	9.8	134	1.191	0.0529	40.8	2658	4429
2005	3815	0.475	30.8	20.5	28.6	24.4	3344	109.0	149	177	9.9	133	1.184	0.0520	41.0	2713	4485
2006	4459	0.558	30.5	20.2	28.4	24.2	3433	108.5	154	188	9.6	135	1.211	0.0538	41.7	2671	4539
2007	4428	0.552	31.1	20.6	28.9	24.7	3452	108.2	156	190	9.6	136	1.210	0.0541	42.7	2720	4640
2008	4568	0.535	31.4	20.8	29.2	24.9	3458	108.7	156	192	9.5	137	1.220	0.0545	43.2	2757	4716

## Percent of Port 4 Valve Variable Timing Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1990	0.0	0.0	0.0	100.0
1991	64.9	0.0	29.0	71.0
1992	60.4	0.0	31.0	64.8
1993	67.3	0.0	30.0	65.9
1994	80.6	0.0	28.4	69.1
1995	83.2	0.0	23.0	74.4
1996	87.0	0.0	23.7	76.1
1997	74.8	0.0	21.3	77.9
1998	83.6	0.1	17.4	82.2
1999	83.1	0.2	17.1	82.3
2000	82.6	0.8	16.1	83.6
2001	79.9	2.1	14.0	85.0
2002	84.7	2.9	12.6	87.2
2003	83.2	2.7	11.9	88.1
2004	80.5	4.5	11.6	88.3
2005	84.2	4.1	10.9	89.1
2006	78.6	5.4	10.7	89.0
2007	81.1	5.2	9.5	79.6
2008	82.3	5.8	11.7	76.1



Table K-12

## Characteristics of 1975 to 2008 Port 5 Valve Variable Timing Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	VOL CU-FT	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG	
			LAB 55/45	ADJ CITY	ADJ HWY			ADJ COMP	CID								HP
1995	0	0.000	13.7	9.5	14.5	11.5	4000	50.0	213	375	6.1	191	1.761	0.0937	23.1	577	1153
1996	0	0.000	13.8	9.5	14.7	11.6	3500	50.0	213	375	5.5	203	1.761	0.1071	20.4	582	1018
1997	1	0.000	13.8	9.5	14.7	11.6	3500	50.0	213	375	5.5	203	1.761	0.1071	20.3	581	1017
1998	38	0.005	24.2	16.3	25.2	20.1	3701	108.1	169	196	9.5	136	1.156	0.0533	37.3	2186	4051
1999	67	0.008	24.1	16.1	25.4	20.0	3689	111.4	170	197	9.5	136	1.156	0.0535	37.1	2251	4158
2000	56	0.006	23.8	16.3	23.7	19.6	3736	119.3	178	211	9.1	140	1.180	0.0565	36.6	2351	4377
2001	75	0.009	23.7	16.0	23.4	19.4	3767	115.1	177	211	9.2	140	1.188	0.0561	36.6	2243	4230
2002	38	0.005	25.0	16.9	24.4	20.4	3787	115.1	177	213	9.2	141	1.197	0.0564	38.8	2371	4494
2003	39	0.005	24.8	16.6	24.1	20.1	3975	115.5	178	219	9.5	140	1.218	0.0550	40.3	2357	4688
2004	36	0.005	22.9	15.3	22.2	18.6	4159	110.6	213	275	8.3	156	1.275	0.0662	39.2	2113	4415
2005	30	0.004	23.6	15.7	22.7	19.0	4124	109.9	209	273	8.2	155	1.310	0.0657	39.5	2132	4366
2006	14	0.002	23.1	15.4	22.1	18.7	4310	104.9	237	309	7.6	164	1.300	0.0715	40.3	1956	4247

## Percent of Port 5 Valve Variable Timing Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1995	0.0	0.0	100.0	0.0
1996	0.0	0.0	100.0	0.0
1997	0.0	0.0	100.0	0.0
1998	20.0	78.7	24.7	74.7
1999	42.9	55.6	16.5	82.3
2000	48.0	50.9	19.9	80.1
2001	42.0	57.0	14.3	85.7
2002	54.7	43.5	7.6	92.4
2003	59.6	38.1	0.8	90.8
2004	28.6	65.6	14.8	85.2
2005	21.2	78.2	13.4	83.0
2006	0.0	100.0	8.4	91.6

Table K-13

## Characteristics of 1975 to 2008 GDI 4 Valve Fixed Timing Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	VOL CU-FT	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG	
			LAB 55/45	ADJ CITY	ADJ HWY			ADJ COMP	CID								HP
2008	164	0.019	30.2	20.0	28.4	24.1	3547	107.2	138	185	9.6	134	1.363	0.0520	42.7	2581	4577

## Percent of GDI 4 Valve Fixed Timing Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2008	99.0	1.0	22.3	73.2

Table K-14

## Characteristics of 1975 to 2008 GDI 4 Valve Variable Timing Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	VOL CU-FT	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG	
			LAB 55/45	ADJ CITY	ADJ HWY			ADJ COMP	CID								HP
2008	109	0.013	27.9	18.4	26.6	22.3	3786	98.8	179	269	7.8	159	1.556	0.0705	42.9	2250	4243

## Percent of GDI 4 Valve Variable Timing Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2008	30.9	6.1	14.2	85.5

Table K-15

## Characteristics of 1975 to 2008 Diesel 2 Valve Fixed Timing Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	VOL CU-FT	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG	
			LAB 55/45	ADJ CITY	ADJ HWY			ADJ COMP	CID								HP
1986	35	0.003	40.5	32.0	37.5	34.3	2906	106.2	123	74	17.8	97	0.584	0.0246	50.2	3759	5329
1987	27	0.003	30.5	24.3	27.5	25.7	3584	110.8	172	129	13.4	113	0.737	0.0355	46.5	2909	5135
1988	1	0.000	37.4	29.5	33.6	31.3	3000	95.9	152	93	14.6	105	0.612	0.0310	47.0	3003	4505
1989	4	0.000	45.5	35.0	41.6	37.9	2813	103.0	102	55	20.6	91	0.541	0.0195	53.3	3928	5491
1990	4	0.000	36.7	28.1	33.4	30.5	3280	107.5	141	93	16.9	102	0.643	0.0273	50.6	3398	5424
1991	11	0.001	35.3	26.9	32.0	29.2	3346	107.4	148	96	16.6	102	0.635	0.0276	49.4	3267	5293
1992	5	0.001	32.3	24.5	29.4	26.6	3691	110.2	154	115	14.9	107	0.737	0.0308	49.1	3011	5415
1994	1	0.000	27.8	20.0	26.9	23.0	5000	123.7	210	148	15.2	109	0.705	0.0296	57.5	2843	7108
1995	0	0.000	27.8	19.9	26.8	22.9	5000	123.7	210	148	15.2	109	0.705	0.0296	57.3	2833	7083
1996	5	0.001	47.2	33.8	42.7	37.8	3500	119.6	116	90	16.5	100	0.776	0.0257	66.2	4525	7919
1997	3	0.000	49.6	35.0	44.7	39.4	3323	110.1	116	90	15.8	101	0.776	0.0272	65.5	4340	7227
1998	12	0.001	51.1	35.8	45.5	40.3	3000	100.7	116	90	14.6	104	0.776	0.0300	60.5	4062	6093
1999	9	0.001	52.1	36.5	45.2	40.7	3000	99.9	116	90	14.7	104	0.776	0.0300	61.1	4067	6101
2000	21	0.002	49.8	34.3	43.8	38.9	3000	100.0	116	90	14.8	104	0.776	0.0300	58.6	3902	5854
2001	22	0.003	49.1	33.5	43.1	38.2	3103	100.1	116	90	15.2	103	0.776	0.0291	59.4	3839	5942
2002	33	0.004	47.8	32.3	42.2	37.1	3226	101.7	116	90	15.7	102	0.776	0.0281	59.9	3793	6106
2003	29	0.004	49.9	33.5	43.1	38.3	3207	105.7	116	90	15.6	102	0.776	0.0282	61.5	4063	6529
2004	22	0.003	44.3	29.1	39.8	34.3	3319	106.7	117	105	14.3	107	0.897	0.0317	57.1	3680	6102
2005	23	0.003	43.4	28.5	38.5	33.5	3470	111.0	117	105	14.8	106	0.899	0.0303	58.0	3712	6446
2006	45	0.006	44.5	29.9	37.6	33.9	3474	105.1	116	100	15.4	104	0.862	0.0288	58.8	3560	6185

## Percent of Diesel 2 Valve Fixed Timing Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1986	72.5	0.0	70.5	10.9
1987	13.4	0.0	13.8	0.0
1988	0.0	0.0	0.0	0.0
1989	91.6	0.0	91.6	0.0
1990	44.8	0.0	44.8	0.0
1991	44.4	0.0	44.4	0.0
1992	20.1	0.0	20.1	0.0
1994	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0
1996	100.0	0.0	100.0	0.0
1997	100.0	0.0	100.0	0.0
1998	100.0	0.0	100.0	0.0
1999	100.0	0.0	96.4	3.6
2000	100.0	0.0	68.6	31.4
2001	100.0	0.0	60.1	39.9
2002	100.0	0.0	43.1	56.9
2003	100.0	0.0	68.5	31.5
2004	100.0	0.0	50.0	50.0
2005	100.0	0.0	38.9	61.1
2006	100.0	0.0	36.7	63.3

Table K-16

## Characteristics of 1975 to 2008 Diesel 4 Valve Fixed Timing Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	VOL CU-FT	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG	
			LAB 55/45	ADJ CITY	ADJ HWY			ADJ COMP	CID								HP
1995	5	0.001	34.5	25.1	31.9	28.2	4000	106.4	183	134	13.7	112	0.732	0.0335	56.3	2996	5992
1996	3	0.000	35.8	25.6	33.5	29.1	4000	110.3	183	134	13.7	112	0.732	0.0335	58.2	3212	6424
1997	3	0.000	33.9	24.1	31.5	27.5	4000	110.1	182	134	13.7	112	0.736	0.0335	54.9	3022	6044
1998	3	0.000	34.9	24.1	33.6	28.3	4000	110.1	182	174	11.1	125	0.956	0.0435	56.6	3117	6235
1999	5	0.001	34.8	23.9	33.2	28.1	4000	110.1	182	174	11.1	125	0.956	0.0435	56.3	3098	6196
2005	6	0.001	35.5	23.1	33.4	28.0	4000	111.6	197	201	9.9	134	1.020	0.0502	56.0	3127	6254
2006	5	0.001	35.5	23.1	33.4	28.0	4000	111.6	197	201	9.9	134	1.020	0.0502	56.0	3127	6254
2007	9	0.001	34.3	22.6	31.8	27.0	4078	114.2	182	210	7.9	136	1.155	0.0518	55.0	3081	6302
2008	3	0.000	33.5	22.2	30.9	26.4	4180	117.6	182	211	7.7	135	1.157	0.0509	55.2	3099	6509

## Percent of Diesel 4 Valve Fixed Timing Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1995	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	100.0
1998	0.0	0.0	0.0	100.0
1999	0.0	0.0	0.0	100.0
2005	0.0	0.0	0.0	100.0
2006	0.0	0.0	0.0	100.0
2007	0.0	5.2	0.0	100.0
2008	0.0	12.0	0.0	100.0

Table K-17

## Characteristics of 1975 to 2008 Diesel 2 Valve Variable Timing Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	VOL CU-FT	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG	
			LAB 55/45	ADJ CITY	ADJ HWY			ADJ COMP	CID								HP
2005	6	0.001	36.1	23.4	34.2	28.6	3500	110.6	121	134	12.3	116	1.107	0.0383	50.0	3159	5529

## Percent of Diesel 2 Valve Variable Timing Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2005	100.0	0.0	0.0	100.0

Table K-18

## Characteristics of 1975 to 2008 Hybrid Cars

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	VOL CU-FT	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG	
			LAB 55/45	ADJ CITY	ADJ HWY			ADJ COMP	CID								HP
2000	6	0.001	76.4	51.8	63.0	57.3	2000	50.0	61	67	11.0	103	1.098	0.0335	57.3	2867	2867
2001	3	0.000	71.2	49.3	56.3	52.9	2111	50.0	61	66	11.1	102	1.084	0.0315	55.9	2658	2794
2002	25	0.003	58.4	43.7	42.0	42.8	2933	96.3	89	70	17.8	96	0.786	0.0239	62.6	4097	6059
2003	47	0.006	56.9	40.8	42.8	41.9	2982	100.1	84	80	11.7	100	0.957	0.0269	62.5	4189	6261
2004	71	0.009	62.4	45.0	44.7	44.8	2994	108.4	88	79	10.9	99	0.901	0.0263	67.3	4883	7317
2005	168	0.021	59.1	41.8	43.0	42.5	3054	110.6	100	95	9.8	105	0.918	0.0305	65.9	4800	7291
2006	123	0.015	62.0	44.0	44.5	44.3	3029	109.2	92	91	10.2	103	0.984	0.0296	67.4	4887	7376
2007	275	0.034	56.7	40.8	40.8	40.8	3297	110.9	108	105	10.0	106	0.963	0.0311	67.6	4636	7502
2008	318	0.037	55.4	39.9	40.0	40.0	3351	110.9	111	109	10.0	107	0.967	0.0316	67.4	4571	7487

## Percent of Hybrid Cars:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2000	100.0	0.0	100.0	0.0
2001	100.0	0.0	55.8	0.0
2002	100.0	0.0	2.6	0.0
2003	100.0	0.0	13.8	0.0
2004	100.0	0.0	6.6	0.0
2005	100.0	0.0	3.0	11.5
2006	100.0	0.0	0.4	3.4
2007	98.8	0.0	0.0	2.9
2008	97.9	1.1	0.0	3.7

Table K-19

## Characteristics of 1975 to 2008 Port 2 Valve Fixed Timing Vans

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	
			LAB 55/45	ADJ CITY	ADJ HWY		ADJ COMP	CID						HP
1999	1281	0.875	22.0	15.4	21.2	18.0	4331	229	183	11.4	125	0.806	0.0422	39.2
2000	1325	0.784	22.4	15.6	21.5	18.3	4306	226	182	11.5	125	0.812	0.0423	39.6
2001	954	0.774	21.6	15.0	20.7	17.6	4602	241	204	11.0	128	0.855	0.0443	40.8
2002	890	0.716	22.8	15.7	21.6	18.5	4407	226	194	11.0	127	0.865	0.0441	41.1
2003	914	0.742	23.4	16.0	22.2	19.0	4381	226	196	10.9	128	0.874	0.0448	41.7
2004	454	0.477	23.0	15.5	21.9	18.6	4445	233	198	10.9	128	0.857	0.0446	41.4
2005	919	0.620	23.6	15.9	22.3	19.0	4388	224	199	10.8	129	0.890	0.0453	41.7
2006	617	0.529	23.5	15.7	22.3	18.9	4504	226	198	11.1	128	0.880	0.0440	42.6
2007	360	0.411	23.7	15.8	22.7	19.1	4443	227	198	10.9	128	0.877	0.0447	42.5
2008	213	0.239	23.8	16.0	22.4	19.1	4678	219	186	12.1	122	0.848	0.0395	44.8

## Percent of Port 2 Valve Fixed Timing Vans:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1999	72.6	3.1	0.0	100.0
2000	75.2	3.5	0.0	100.0
2001	60.3	11.2	0.0	100.0
2002	78.1	4.2	0.0	100.0
2003	77.8	6.8	0.0	100.0
2004	77.7	4.6	0.0	100.0
2005	89.1	2.2	0.0	100.0
2006	87.3	2.0	0.0	100.0
2007	91.1	1.1	0.0	100.0
2008	82.3	2.8	0.0	100.0

Table K-20

## Characteristics of 1975 to 2008 Port 4 Valve Fixed Timing Vans

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	ENGINE			0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
			LAB 55/45	ADJ CITY	ADJ HWY		ADJ COMP	CID	HP					
1999	62	0.043	25.6	18.0	24.1	20.8	3998	148	150	12.5	117	1.015	0.0375	41.6
2000	112	0.066	24.6	17.3	22.9	19.9	4000	150	159	12.0	120	1.061	0.0397	40.0
2001	69	0.056	23.9	16.9	21.8	19.3	4045	151	158	12.1	119	1.043	0.0391	39.0
2002	93	0.075	22.0	15.3	20.6	17.8	4570	184	176	12.3	120	0.966	0.0384	40.8
2003	77	0.062	21.5	14.9	20.0	17.4	4706	193	182	12.3	121	0.952	0.0386	41.1
2004	59	0.062	21.6	14.4	21.1	17.6	4897	206	190	12.2	122	0.926	0.0388	43.0
2005	191	0.129	23.5	15.8	22.2	18.9	4494	191	194	11.2	127	1.022	0.0435	42.4
2006	125	0.107	24.9	16.7	23.3	19.9	4288	198	212	10.2	134	1.076	0.0494	42.7
2007	104	0.118	24.5	16.5	23.0	19.6	4370	207	222	9.9	136	1.071	0.0506	42.9
2008	287	0.322	24.1	16.0	23.1	19.4	4558	230	214	10.7	132	0.934	0.0469	44.3

## Percent of Port 4 Valve Fixed Timing Vans:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1999	100.0	0.0	0.0	100.0
2000	100.0	0.0	0.0	100.0
2001	100.0	0.0	0.0	100.0
2002	100.0	0.0	0.0	100.0
2003	100.0	0.0	0.0	100.0
2004	100.0	0.0	0.0	100.0
2005	81.1	18.9	0.0	60.5
2006	84.1	15.9	0.0	55.9
2007	84.8	15.2	0.0	68.5
2008	96.3	3.7	0.0	100.0

Table K-21

## Characteristics of 1975 to 2008 Port 2 Valve Variable Timing Vans

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	ENGINE			0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
			LAB 55/45	ADJ CITY	ADJ HWY		ADJ COMP	CID	HP					
2006	4	0.004	24.1	16.0	23.4	19.5	4500	237	240	9.4	140	1.013	0.0533	43.9
2007	71	0.081	24.1	16.0	23.4	19.5	4500	237	240	9.4	140	1.013	0.0533	43.9
2008	22	0.024	24.0	15.9	23.3	19.4	4500	237	240	9.4	140	1.013	0.0533	43.7

## Percent of Port 2 Valve Variable Timing Vans:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2006	100.0	0.0	0.0	100.0
2007	100.0	0.0	0.0	100.0
2008	100.0	0.0	0.0	100.0

Table K-22 Characteristics of 1975 to 2008 Port 4 Valve Variable Timing Vans

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ----> LAB ADJ ADJ ADJ 55/45 CITY HWY COMP	WGHT LB	ENGINE CID HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1999	120	0.082	24.1 16.7 23.4 19.7	4210	195 196	10.5	130	1.008	0.0467	41.6
2000	253	0.150	24.0 16.5 23.3 19.6	4241	197 197	10.5	130	1.004	0.0466	41.6
2001	209	0.170	24.3 16.7 23.2 19.8	4295	200 207	10.2	133	1.041	0.0484	42.4
2002	259	0.209	24.3 16.7 23.2 19.7	4287	200 226	9.5	139	1.133	0.0527	42.3
2003	241	0.196	24.3 16.5 23.2 19.6	4342	203 229	9.5	139	1.129	0.0527	42.6
2004	439	0.461	24.9 16.7 23.8 20.1	4474	206 233	9.6	139	1.132	0.0520	44.9
2005	371	0.250	25.2 16.8 24.2 20.3	4500	207 242	9.4	141	1.165	0.0538	45.8
2006	420	0.361	25.3 16.8 24.3 20.4	4488	207 229	9.8	137	1.108	0.0511	45.9
2007	342	0.390	25.1 16.7 23.9 20.2	4500	212 250	9.2	143	1.179	0.0555	45.4
2008	369	0.415	25.4 16.9 24.2 20.4	4500	212 252	9.1	144	1.188	0.0559	46.0

Percent of Port 4 Valve Variable Timing Vans:

MODEL YEAR	DRIVETRAIN FRONT	DRIVETRAIN 4WD	TRANSMISSION MANUAL	TRANSMISSION LOCK
1999	100.0	0.0	0.0	100.0
2000	100.0	0.0	0.0	100.0
2001	100.0	0.0	0.0	100.0
2002	100.0	0.0	0.0	100.0
2003	100.0	0.0	0.0	100.0
2004	94.1	5.9	0.0	100.0
2005	93.5	6.5	0.0	100.0
2006	95.1	4.9	0.0	100.0
2007	97.7	2.3	0.0	100.0
2008	95.1	4.9	0.0	100.0

Table K-23 Characteristics of 1975 to 2008 Port 2 Valve Fixed Timing SUVs

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ----> LAB ADJ ADJ ADJ 55/45 CITY HWY COMP	WGHT LB	ENGINE CID HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1999	2024	0.715	19.2 13.7 18.2 15.8	4543	272 203	10.9	129	0.752	0.0448	35.7
2000	2360	0.751	19.3 13.7 18.1 15.8	4588	269 206	10.9	129	0.774	0.0451	36.1
2001	2059	0.597	19.8 14.1 18.3 16.1	4573	261 212	10.6	131	0.821	0.0464	36.8
2002	2181	0.521	19.4 13.6 18.1 15.8	4796	269 232	10.3	135	0.866	0.0484	37.8
2003	1883	0.457	19.2 13.4 17.9 15.6	5029	278 237	10.5	134	0.856	0.0472	39.0
2004	2063	0.438	19.5 13.4 18.1 15.7	4921	278 239	10.2	136	0.859	0.0486	38.6
2005	1433	0.351	20.1 13.8 18.7 16.2	4857	271 240	10.1	137	0.888	0.0493	39.3
2006	951	0.253	19.9 13.6 18.5 16.0	4848	268 240	10.2	137	0.893	0.0494	38.8
2007	1311	0.307	20.9 14.3 19.5 16.8	5033	274 252	10.0	138	0.916	0.0499	42.4
2008	1178	0.242	21.2 14.4 19.9 17.1	4940	267 246	10.1	137	0.917	0.0495	42.2

Percent of Port 2 Valve Fixed Timing SUVs:

MODEL YEAR	DRIVETRAIN FRONT	DRIVETRAIN 4WD	TRANSMISSION MANUAL	TRANSMISSION LOCK
1999	0.0	66.3	4.6	95.4
2000	0.0	69.5	4.0	96.0
2001	10.5	56.9	3.4	96.6
2002	3.3	64.2	2.6	97.3
2003	1.9	62.3	2.6	97.4
2004	3.9	65.6	2.4	97.6
2005	8.5	67.7	2.5	97.5
2006	3.7	70.7	3.8	96.2
2007	7.9	60.5	3.0	97.0
2008	9.4	60.3	3.4	96.6

Table K-24

## Characteristics of 1975 to 2008 Port 3 Valve Fixed Timing SUVs

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->				WGHT LB	ENGINE			0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
			LAB 55/45	ADJ CITY	ADJ HWY	ADJ COMP		CID	HP						
1999	52	0.018	20.3	14.7	18.6	16.6	5000	215	232	10.7	133	1.080	0.0464	41.4	
2000	36	0.011	20.8	15.0	18.8	16.9	5500	195	215	12.1	125	1.103	0.0391	46.4	
2001	40	0.012	20.8	14.8	19.0	16.8	5500	214	231	11.6	129	1.085	0.0420	46.3	
2002	43	0.010	19.1	13.7	17.0	15.4	5000	227	237	10.5	135	1.059	0.0475	38.5	
2003	36	0.009	18.8	13.5	16.6	15.1	5138	239	243	10.5	135	1.024	0.0472	38.7	
2004	19	0.004	18.8	13.5	16.4	15.0	5535	245	246	11.0	132	1.007	0.0444	41.5	
2005	21	0.005	18.7	13.3	16.4	14.9	5047	247	252	10.1	138	1.018	0.0497	37.7	
2006	11	0.003	18.5	12.7	17.3	15.0	5023	303	304	8.5	153	1.001	0.0605	37.6	
2007	39	0.009	18.7	12.7	17.8	15.2	5205	289	296	9.0	149	1.026	0.0570	39.6	
2008	33	0.007	19.0	12.8	18.5	15.5	5077	286	302	8.7	152	1.056	0.0595	39.4	

## Percent of Port 3 Valve Fixed Timing SUVs:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1999	0.0	31.6	0.0	100.0
2000	0.0	0.0	0.0	100.0
2001	0.0	100.0	0.0	100.0
2002	0.0	100.0	0.0	100.0
2003	0.0	100.0	0.0	100.0
2004	0.0	100.0	0.0	100.0
2005	0.0	100.0	0.0	100.0
2006	0.0	100.0	0.0	100.0
2007	0.0	86.0	0.0	100.0
2008	0.0	78.9	0.0	100.0

Table K-25

## Characteristics of 1975 to 2008 Port 4 Valve Fixed Timing SUVs

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->				WGHT LB	ENGINE			0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
			LAB 55/45	ADJ CITY	ADJ HWY	ADJ COMP		CID	HP						
1999	663	0.234	22.9	16.7	20.5	18.5	3969	174	176	11.1	126	1.031	0.0442	36.7	
2000	652	0.207	22.8	16.6	20.2	18.4	3988	170	171	11.3	124	1.026	0.0428	36.6	
2001	887	0.257	22.6	16.1	20.5	18.2	4019	180	184	10.8	128	1.044	0.0461	36.5	
2002	958	0.229	21.9	15.5	19.8	17.6	4121	192	189	10.7	129	0.999	0.0463	36.3	
2003	892	0.217	22.5	15.6	20.6	18.1	4113	198	195	10.5	131	1.003	0.0476	37.2	
2004	957	0.203	22.1	15.3	20.3	17.7	4275	209	211	10.1	134	1.028	0.0496	37.9	
2005	754	0.185	24.0	16.5	21.6	19.1	3967	179	190	10.4	130	1.068	0.0478	37.9	
2006	706	0.188	24.9	17.0	22.6	19.8	3887	178	180	10.6	128	1.028	0.0465	38.6	
2007	664	0.155	24.3	16.6	22.2	19.4	4211	193	224	9.8	138	1.150	0.0526	40.8	
2008	835	0.172	24.4	16.7	22.2	19.4	4185	194	218	9.8	137	1.121	0.0516	40.6	

## Percent of Port 4 Valve Fixed Timing SUVs:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1999	8.0	65.1	12.9	87.1
2000	7.3	63.2	10.0	90.0
2001	16.9	62.2	7.0	93.0
2002	16.0	56.7	8.6	91.1
2003	26.4	55.0	5.6	89.9
2004	21.3	64.0	5.6	92.6
2005	41.6	47.4	6.1	93.6
2006	49.6	42.0	5.1	94.9
2007	45.6	49.3	2.5	97.5
2008	38.1	50.3	2.9	97.1

Table K-26 Characteristics of 1975 to 2008 Port 2 Valve Variable Timing SUVs

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->				WGHT LB	ENGINE			0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
			LAB 55/45	ADJ CITY	ADJ HWY	ADJ COMP		CID	HP						
2006	55	0.015	25.8	17.2	24.6	20.7	4000	213	255	8.2	152	1.197	0.0637	41.5	
2007	146	0.034	18.6	12.5	18.2	15.2	5683	327	351	8.6	158	1.075	0.0611	43.1	
2008	117	0.024	19.1	12.9	18.2	15.5	5335	300	311	9.0	151	1.042	0.0576	41.3	

Percent of Port 2 Valve Variable Timing SUVs:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2006	57.4	42.6	0.0	100.0
2007	0.0	92.6	1.2	98.8
2008	0.0	88.8	2.3	97.7

Table K-27 Characteristics of 1975 to 2008 Port 3 Valve Variable Timing SUVs

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->				WGHT LB	ENGINE			0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
			LAB 55/45	ADJ CITY	ADJ HWY	ADJ COMP		CID	HP						
2005	117	0.029	18.0	12.3	16.8	14.5	6000	330	300	9.9	142	0.909	0.0500	43.6	
2006	187	0.050	18.9	12.9	17.7	15.3	5559	294	291	9.6	144	1.013	0.0527	42.4	
2007	61	0.014	18.6	12.4	18.3	15.2	6000	330	300	9.9	142	0.909	0.0500	45.6	
2008	29	0.006	18.5	12.4	18.0	15.1	6000	330	300	9.9	142	0.909	0.0500	45.3	

Percent of Port 3 Valve Variable Timing SUVs:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2005	0.0	42.9	0.0	100.0
2006	0.0	62.3	0.0	100.0
2007	0.0	0.0	0.0	100.0
2008	0.0	0.0	0.0	100.0



Table K-28 Characteristics of 1975 to 2008 Port 4 Valve Variable Timing SUVs

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG			
			LAB 55/45	ADJ CITY	ADJ HWY	ADJ COMP								
1999	91	0.032	23.6	17.0	21.5	19.1	4000	183	220	9.2	140	1.202	0.0550	38.2
2000	95	0.030	23.2	16.6	21.1	18.7	4058	188	224	9.2	140	1.193	0.0551	38.1
2001	464	0.134	22.5	16.0	20.5	18.2	4096	185	215	9.7	137	1.171	0.0523	37.4
2002	1007	0.240	22.4	15.6	20.8	18.1	4233	205	228	9.5	139	1.121	0.0535	38.4
2003	1306	0.317	22.5	15.6	20.8	18.1	4333	206	230	9.6	139	1.122	0.0528	39.3
2004	1655	0.351	22.4	15.4	20.8	18.0	4462	220	241	9.5	141	1.106	0.0537	40.2
2005	1733	0.424	22.3	15.2	20.5	17.9	4504	218	243	9.5	141	1.122	0.0538	40.2
2006	1735	0.462	22.4	15.3	20.6	18.0	4563	217	239	9.7	139	1.110	0.0522	41.0
2007	1986	0.464	23.9	16.3	21.8	19.1	4356	203	234	9.5	140	1.168	0.0536	41.7
2008	2466	0.507	24.2	16.4	22.3	19.3	4449	207	245	9.4	142	1.188	0.0546	43.1

Percent of Port 4 Valve Variable Timing SUVs:

MODEL YEAR	DRIVETRAIN FRONT	DRIVETRAIN 4WD	TRANSMISSION MANUAL	TRANSMISSION LOCK
1999	24.5	75.5	0.0	100.0
2000	32.6	61.6	0.0	100.0
2001	23.6	66.4	3.4	96.6
2002	16.9	68.1	1.8	98.0
2003	15.4	69.1	1.8	94.0
2004	17.9	64.5	1.6	94.5
2005	14.9	70.5	1.2	94.6
2006	16.9	68.0	1.3	94.2
2007	27.6	62.3	1.6	90.4
2008	32.1	60.0	1.4	87.6

Table K-29 Characteristics of 1975 to 2008 Port 5 Valve Variable Timing SUVs

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG			
			LAB 55/45	ADJ CITY	ADJ HWY	ADJ COMP								
2004	18	0.004	18.0	12.3	17.1	14.6	5500	255	310	9.0	150	1.216	0.0564	40.2
2005	7	0.002	18.0	12.3	17.0	14.6	5500	255	310	9.0	150	1.216	0.0564	40.1
2006	4	0.001	18.0	12.3	17.0	14.6	5500	255	310	9.0	150	1.216	0.0564	40.1

Percent of Port 5 Valve Variable Timing SUVs:

MODEL YEAR	DRIVETRAIN FRONT	DRIVETRAIN 4WD	TRANSMISSION MANUAL	TRANSMISSION LOCK
2004	0.0	100.0	0.0	100.0
2005	0.0	100.0	0.0	100.0
2006	0.0	100.0	0.0	100.0

Table K-30 Characteristics of 1975 to 2008 GDI 4 Valve Variable Timing SUVs

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG			
			LAB 55/45	ADJ CITY	ADJ HWY	ADJ COMP								
2008	97	0.020	22.3	15.2	20.8	17.9	4671	184	274	8.7	149	1.544	0.0590	41.7

Percent of GDI 4 Valve Variable Timing SUVs:

MODEL YEAR	DRIVETRAIN FRONT	DRIVETRAIN 4WD	TRANSMISSION MANUAL	TRANSMISSION LOCK
2008	27.6	72.4	0.0	100.0

Table K-31 Characteristics of 1975 to 2008 Diesel 2 Valve Fixed Timing SUVs

MODEL YEAR	SALES		<---- FUEL ECONOMY ---->				WGHT LB	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
	(000)	FRAC	LAB 55/45	ADJ CITY	ADJ HWY	ADJ COMP		CID	HP					
2004	1	0.000	22.8	15.4	21.8	18.4	6000	300	310	9.7	145	1.033	0.0517	55.3
2006	1	0.000	21.7	14.8	20.0	17.4	6000	300	310	9.6	145	1.033	0.0517	52.2
2007	0	0.000	21.7	14.8	20.0	17.4	6000	300	310	7.2	145	1.033	0.0517	52.2
2008	1	0.000	21.7	14.8	20.0	17.4	6000	300	310	7.1	145	1.033	0.0517	52.2

Percent of Diesel 2 Valve Fixed Timing SUVs:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2004	0.0	100.0	0.0	100.0
2006	0.0	100.0	0.0	100.0
2007	0.0	100.0	0.0	100.0
2008	0.0	100.0	0.0	100.0

Table K-32 Characteristics of 1975 to 2008 Diesel 4 Valve Fixed Timing SUVs

MODEL YEAR	SALES		<---- FUEL ECONOMY ---->				WGHT LB	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
	(000)	FRAC	LAB 55/45	ADJ CITY	ADJ HWY	ADJ COMP		CID	HP					
2005	8	0.002	28.1	19.4	24.7	22.1	4500	171	160	13.1	116	0.936	0.0356	49.7
2006	7	0.002	27.2	19.0	23.5	21.3	4500	171	160	10.1	116	0.936	0.0356	48.0
2007	1	0.000	25.2	17.5	22.2	19.9	4945	183	215	9.0	129	1.175	0.0435	49.2
2008	18	0.004	26.1	18.0	23.2	20.7	4921	183	215	8.3	129	1.177	0.0440	50.9

Percent of Diesel 4 Valve Fixed Timing SUVs:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2005	0.0	100.0	0.0	100.0
2006	0.0	100.0	0.0	100.0
2007	0.0	89.0	0.0	100.0
2008	0.0	64.6	0.0	100.0

Table K-33 Characteristics of 1975 to 2008 Diesel 4 Valve Variable Timing SUVs

MODEL YEAR	SALES		<---- FUEL ECONOMY ---->				WGHT LB	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
	(000)	FRAC	LAB 55/45	ADJ CITY	ADJ HWY	ADJ COMP		CID	HP					
2007	3	0.001	27.0	18.5	24.0	21.3	5381	182	215	7.6	126	1.181	0.0403	57.2

Percent of Diesel 4 Valve Variable Timing SUVs:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2007	0.0	100.0	0.0	100.0

Table K-34

## Characteristics of 1975 to 2008 Hybrid SUVs

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	
			LAB 55/45	ADJ CITY	ADJ HWY		ADJ COMP	CID						HP
2005	11	0.003	37.6	28.8	26.9	27.7	4000	140	135	11.7	112	0.964	0.0337	55.4
2006	100	0.027	35.3	27.3	25.2	26.1	4397	189	193	7.8	127	1.016	0.0437	57.3
2007	61	0.014	35.4	26.9	25.8	26.3	4261	180	186	8.5	126	1.028	0.0435	56.0
2008	91	0.019	35.2	27.1	25.4	26.1	4612	196	194	8.4	125	0.997	0.0414	60.2

## Percent of Hybrid SUVs:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2005	39.3	60.7	0.0	0.0
2006	28.3	71.7	0.0	0.0
2007	43.1	56.9	0.0	12.2
2008	25.1	71.2	0.0	2.9

Table K-35

## Characteristics of 1975 to 2008 Port 2 Valve Fixed Timing Pickup Trucks

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	
			LAB 55/45	ADJ CITY	ADJ HWY		ADJ COMP	CID						HP
1999	2349	0.923	19.7	14.0	18.5	16.1	4565	275	208	10.9	130	0.763	0.0453	36.7
2000	2280	0.873	20.3	14.4	18.9	16.5	4391	262	205	10.8	130	0.786	0.0462	36.3
2001	2197	0.872	19.3	13.6	18.0	15.7	4642	279	221	10.5	133	0.795	0.0473	36.5
2002	1958	0.822	19.0	13.4	17.6	15.4	4832	287	236	10.3	136	0.822	0.0487	37.2
2003	2116	0.855	19.6	13.7	17.9	15.8	4749	275	230	10.5	134	0.834	0.0479	37.5
2004	1695	0.676	19.3	13.5	17.6	15.5	4971	291	253	10.0	139	0.864	0.0507	38.5
2005	1360	0.591	19.3	13.3	17.8	15.5	5053	294	260	9.9	140	0.879	0.0514	39.2
2006	1112	0.508	19.7	13.6	18.1	15.9	5083	292	257	10.1	139	0.875	0.0505	40.3
2007	1168	0.555	19.9	13.7	18.5	16.1	5214	298	271	9.8	142	0.903	0.0517	41.9
2008	1165	0.551	20.2	13.9	18.7	16.3	5278	298	273	9.9	142	0.908	0.0514	43.0

## Percent of Port 2 Valve Fixed Timing Pickup Trucks:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1999	0.0	45.7	15.1	84.9
2000	0.0	38.1	14.8	85.2
2001	0.0	39.4	9.5	90.5
2002	0.0	44.7	6.1	93.9
2003	0.0	40.4	7.8	92.2
2004	0.0	44.6	5.1	94.9
2005	0.0	44.5	3.5	96.5
2006	0.0	41.2	4.2	95.8
2007	0.0	43.7	1.7	98.3
2008	0.0	45.1	3.3	96.7

Table K-36

## Characteristics of 1975 to 2008 Port 3 Valve Fixed Timing Pickup Trucks

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ---->			WGHT LB	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	
			LAB 55/45	ADJ CITY	ADJ HWY		ADJ COMP	CID						HP
2007	16	0.008	19.2	12.9	18.6	15.6	5000	280	292	8.8	150	1.043	0.0584	39.1
2008	15	0.007	18.4	12.4	17.7	15.0	5296	295	338	8.3	159	1.136	0.0632	39.6

## Percent of Port 3 Valve Fixed Timing Pickup Trucks:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2007	0.0	64.2	0.0	100.0
2008	0.0	35.4	0.0	100.0

Table K-37 Characteristics of 1975 to 2008 Port 4 Valve Fixed Timing Pickup Trucks

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ----> LAB ADJ ADJ ADJ 55/45 CITY HWY COMP	WGHT LB	ENGINE CID HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1999	196	0.077	23.6 17.3 20.8 19.0	3544	170 159	10.8	125	0.935	0.0449	33.7
2000	332	0.127	21.6 15.8 19.1 17.4	3993	204 186	10.6	128	0.918	0.0462	34.7
2001	322	0.128	22.2 16.2 19.5 17.8	3932	196 180	10.8	127	0.928	0.0455	35.1
2002	423	0.178	21.8 15.7 19.2 17.5	4031	200 181	11.0	126	0.912	0.0445	35.4
2003	358	0.145	22.4 15.9 19.7 17.9	4005	200 182	10.8	127	0.926	0.0452	36.0
2004	339	0.135	21.6 15.3 19.1 17.2	4147	208 188	10.9	128	0.919	0.0451	35.8
2005	40	0.017	27.5 19.0 24.2 21.7	3696	144 151	11.7	120	1.046	0.0408	40.1
2006	33	0.015	28.1 19.3 25.0 22.2	3595	142 150	11.5	121	1.051	0.0416	40.0
2007	97	0.046	22.9 16.0 20.1 18.1	4195	241 236	9.0	143	0.980	0.0565	38.0
2008	88	0.042	22.4 15.7 19.7 17.8	4304	241 236	9.2	142	0.980	0.0553	38.2

Percent of Port 4 Valve Fixed Timing Pickup Trucks:

MODEL YEAR	DRIVETRAIN FRONT	DRIVETRAIN 4WD	TRANSMISSION MANUAL	TRANSMISSION LOCK
1999	0.0	40.6	46.4	41.4
2000	0.0	40.2	29.2	64.6
2001	0.0	33.6	28.9	64.4
2002	0.0	31.5	25.3	69.8
2003	0.0	33.9	25.4	68.5
2004	0.0	33.8	23.1	70.0
2005	0.0	20.7	40.8	59.2
2006	0.0	22.5	39.6	60.4
2007	0.0	39.1	6.8	93.2
2008	0.0	40.3	17.0	83.0

Table K-38 Characteristics of 1975 to 2008 Port 2 Valve Variable Timing Pickup Trucks

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ----> LAB ADJ ADJ ADJ 55/45 CITY HWY COMP	WGHT LB	ENGINE CID HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
2006	0	0.000	15.2 10.6 14.2 12.4	6500	330 445	7.7	173	1.348	0.0685	40.2
2007	112	0.053	21.1 14.4 19.6 17.0	4630	241 204	11.0	129	0.852	0.0445	39.3
2008	87	0.041	22.0 14.8 20.9 17.8	4347	241 215	10.3	134	0.876	0.0486	38.5

Percent of Port 2 Valve Variable Timing Pickup Trucks:

MODEL YEAR	DRIVETRAIN FRONT	DRIVETRAIN 4WD	TRANSMISSION MANUAL	TRANSMISSION LOCK
2006	0.0	100.0	0.0	100.0
2007	0.0	21.6	10.2	89.8
2008	0.0	43.7	0.0	100.0

Table K-39 Characteristics of 1975 to 2008 Port 3 Valve Variable Timing Pickup Trucks

MODEL YEAR	SALES (000)	FRAC	<---- FUEL ECONOMY ----> LAB ADJ ADJ ADJ 55/45 CITY HWY COMP	WGHT LB	ENGINE CID HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
2004	358	0.143	18.1 12.6 16.7 14.6	5833	330 300	9.7	144	0.909	0.0515	42.7
2005	322	0.140	18.2 12.6 16.6 14.6	5835	330 300	9.7	144	0.909	0.0515	42.7
2006	325	0.149	18.0 12.5 16.5 14.5	5828	330 300	9.7	144	0.909	0.0516	42.2
2007	229	0.109	18.2 12.6 16.7 14.6	5848	330 300	9.7	144	0.909	0.0514	42.8
2008	264	0.125	18.5 12.8 17.1 15.0	5880	330 300	9.8	144	0.910	0.0511	44.0

Percent of Port 3 Valve Variable Timing Pickup Trucks:

MODEL YEAR	DRIVETRAIN FRONT	DRIVETRAIN 4WD	TRANSMISSION MANUAL	TRANSMISSION LOCK
2004	0.0	69.0	0.0	100.0
2005	0.0	67.4	0.0	100.0
2006	0.0	67.4	0.0	100.0
2007	0.0	69.9	0.0	100.0
2008	0.0	74.3	0.0	100.0

Table K-40 Characteristics of 1975 to 2008 Port 4 Valve Variable Timing Pickup Trucks

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY			WGHT LB	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	
			LAB 55/45	ADJ CITY	ADJ HWY		ADJ COMP	CID						HP
2004	115	0.046	24.0	16.5	22.1	19.3	4020	204	207	9.7	136	1.017	0.0517	38.7
2005	577	0.251	21.5	14.9	19.5	17.2	4450	244	243	9.4	142	1.002	0.0545	38.3
2006	714	0.326	21.6	14.9	19.5	17.3	4458	239	238	9.5	140	1.004	0.0532	38.4
2007	482	0.229	21.2	14.6	19.4	17.0	4798	256	267	9.4	144	1.043	0.0547	40.6
2008	494	0.234	20.6	14.2	19.0	16.6	5041	271	316	8.9	154	1.144	0.0608	41.6

Percent of Port 4 Valve Variable Timing Pickup Trucks:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2004	0.0	38.0	8.5	91.5
2005	0.0	42.2	11.7	88.3
2006	0.0	44.1	10.6	89.4
2007	0.0	43.3	11.9	88.1
2008	0.0	46.4	12.0	88.0

Table K-41 Characteristics of 1975 to 2008 Diesel 2 Valve Fixed Timing Pickup Trucks

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY			WGHT LB	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	
			LAB 55/45	ADJ CITY	ADJ HWY		ADJ COMP	CID						HP
1999	0	0.000	18.9	13.5	17.7	15.5	6000	395	180	15.0	113	0.456	0.0300	46.4

Percent of Diesel 2 Valve Fixed Timing Pickup Trucks:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
1999	0.0	100.0	0.0	100.0

Table K-42 Characteristics of 1975 to 2008 Hybrid Pickup Trucks

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY			WGHT LB	ENGINE		0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	
			LAB 55/45	ADJ CITY	ADJ HWY		ADJ COMP	CID						HP
2004	0	0.000	21.2	15.4	17.9	16.7	5318	325	295	9.1	148	0.908	0.0556	44.4
2005	1	0.000	21.2	15.3	17.9	16.7	5151	325	295	6.5	149	0.908	0.0574	43.0
2006	3	0.001	21.3	15.2	18.4	16.9	5346	325	295	6.8	147	0.908	0.0553	45.0
2007	0	0.000	21.7	15.5	18.7	17.1	5211	325	295	6.7	149	0.908	0.0567	44.6

Percent of Hybrid Pickup Trucks:

MODEL YEAR	DRIVETRAIN		TRANSMISSION	
	FRONT	4WD	MANUAL	LOCK
2004	0.0	63.7	0.0	100.0
2005	0.0	30.2	0.0	100.0
2006	0.0	69.3	0.0	100.0
2007	0.0	42.3	0.0	100.0