



# Camshaft Specifications

## CAUTION!!

1. Always install new lifters (followers) with a new camshaft. Installing used lifters with a new camshaft can cause premature failure of both the camshaft and the lifters.
2. Do not allow the engine to run under 1500 RPM for the first 20 minutes. The first few minutes of the engine operation are the most critical and tests have shown that if there is no metal pickup or spalling during this period, the camshaft will wear as long as the other engine components.
3. With performance camshafts - usually you will have to advance the distributor timing (on the vibration damper) more than stock specifications.
4. When installing any high performance or racing camshafts into an engine, check to make sure there is adequate clearance between the valves and pistons and also make sure the valve springs do not compress solid.
5. On all engines equipped with roto-coils or valve rotors in either the intake or exhaust positions check for possible coil bind. You might have to change the valve spring and retainer - (using aftermarket high performance valve springs is an alternative).

Listed below is a group classification for the custom (or high) performance camshafts listed in this catalog - (the durations shown are based on .050 cam lift). The descriptions within each group show the characteristics of the cams in that group as well as any recommended modifications to the car or engine that will help get the desired performance.

### CLASS I (200° - 215°)

Good idle quality. Low RPM torque and mid range performance. Will work with stock or slightly modified engine. Manual or auto transmission.

### CLASS II (215° - 230°)

Fair idle quality. Good low to mid range torque and horsepower. Will work with stock or modified engine. Manual or auto transmission. Possibly lower vacuum than stock.

### CLASS III (230° - 245°)

Rough idle quality. Good mid to high RPM torque and horsepower. For use with manual or high stall auto transmission. May need improved carb, exhaust and ignition systems. Combination street and drag. Will have lower vacuum than stock.

### CLASS IV

Rough idle quality. Mid to high RPM torque and horsepower. For serious racing. Need proper selection of rear axle ratio and improvements in carburation and exhaust systems. For use with manual transmission or automatic with a very high stall converter. Will not have enough vacuum for power accessories.

***Melling Select Performance recommends using MELL-LUBE Engine Assembly Lube to prevent scoring or galling during engine start-up. MELL-LUBE also contains corrosion inhibitors to prevent rust and pitting to new engines. MELL-LUBE is not for use on cylinder walls or piston rings. MELL-LUBE now has 1,400 PPM zinc for better protection.***

Use Intake Spec's Duration @ .050 Cam Lift	Approx. RPM Power Range	Approx. Peak Torque
200°	1000-4500	2500
210°	1500-5000	2800
220°	2000-5500	3000
230°	2500-6000	3500
240°	3000-6500	4000
250°	3500-7000	4500
260°	4000-7500	5000
270°	4500-8000	5500

# CAMSHAFT SPECIFICATIONS

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
Opens	Closes	Duration	Opens	Closes	Duration							
C-10-P	EXH.											
	INT.											
C-400-P	EXH.											
	INT.											
C-410-P	INT.											
	EXH.											
CASC-2	EXH.	30 BBC	-7 ATC	203	70 BBC	42 ATC	292	.273	.450	111	1.65	HYD
	INT.	-12 BTC	35 ABC	203	-12 BTC	84 ABC	292	.273	.450	111		HYD
CASC-3	INT.	-17 BTC	31 ABC	194	21 BTC	83 ABC	284	.258	.425	113		HYD
	EXH.	38 BBC	-8 ATC	210	76 BBC	44 ATC	300	.282	.465	113		HYD
CASC-4	INT.	-17 BTC	36 ABC	199	12 BTC	94 ABC	286	.266	.458	115	1.72	HYD
	EXH.	35 BBC	-12 ATC	203	64 BBC	38 ATC	282	.274	.471	115		HYD
CASC-5	EXH.	34 BBC	-16 ATC	198	63 BBC	26 ATC	269	.246	.369	111	1.6	HYD
	INT.	-10 BTC	25 ABC	195	21 BTC	71 ABC	272	.240	.360	111		HYD
CCS-1	INT.	-10 BTC	25 ABC	168	21 BTC	71 ABC	286	.210	.315	108	1.5	0.015
	EXH.	34 BBC	-16 ATC	170	63 BBC	26 ATC	344	.224	.336	108		0.008
CCS-12	EXH.	13 BBC	24 ATC	170			344	.224	.320	108		0.006
	INT.	23 BTC	12 ABC	168			288	.210	.309	108		0.016
CCS-16	INT.	-5 BTC	19 ABC	194	25 BTC	63 ABC	268	.257	.351	102	1.3	HYD
	EXH.	29 BBC	-15 ATC	194	59 BBC	29 ATC	268	.257	.351	112		HYD
CCS-18	EXH.	10 BBC	-18 ATC	172	59 BBC	30 ATC	270	.221	.387	104	1.75	HYD
	INT.	-20 BTC	12 ABC	172	29 BTC	61 ABC	270	.221	.387	106		HYD
CCS-2	INT.	-11 BTC	-25 ABC	194	14 BTC	66 ABC	260	.260	.390	108	1.5	HYD
	EXH.	37 BBC	-14 ATC	203	62 BBC	29 ATC	271	.273	.410	116		HYD
CCS-20	EXH.	33 BBC	-17 ATC	196	63 BBC	27 ATC	270	.234	.412	119	1.75	HYD
	INT.	-14 BTC	30 ABC	196	16 BTC	74 ABC	270	.234	.412	107		HYD
CCS-21	INT.	-20 BTC	33 ABC	193	11 BTC	78 ABC	269	.234	.408	104		HYD
	EXH.	20 BBC	-7 ATC	193	51 BBC	38 ATC	269	.234	.408	116		HYD
CCS-22	INT.	-5 BTC	35 ABC	210	28 BTC	80 ABC	285	.259	.453	109		HYD
	EXH.	43 BBC	-10 ATC	213	77 BBC	37 ATC	297	.259	.453	117		HYD
CCS-23	INT.	-18 BTC	14 ABC	176	16 BTC	54 ABC	244	.234	.351	106	1.5	HYD
	EXH.	28 BBC	-14 ATC	194	48 BBC	25 ATC	259	.257	.385	112		HYD
CCS-24	INT.	-9 BTC	18 ABC	189	14 BTC	56 ABC	250	.248	.372	102		HYD
	EXH.	36 BBC	-14 ATC	202	63 BBC	26 ATC	269	.273	.409	116		HYD
CCS-25	INT.	-12 BTC	25 ABC	193	19 BTC	69 ABC	268	.234	.409	104	1.75	HYD
	EXH.	36 BBC	-13 ATC	203	66 BBC	34 ATC	280	.253	.442	116		HYD
CCS-26	INT.	-20 BTC	12 ABC	172	29 BTC	61 ABC	270	.222	.388	106		HYD
	EXH.	13 BBC	-3 ATC	190	56 BBC	40 ATC	276	.232	.406	98		HYD
CCS-27	INT.	-20 BTC	16 ABC	176	14 BTC	50 ABC	244	.234	.351	108	1.5	HYD
	EXH.	28 BBC	-14 ATC	194	54 BBC	25 ATC	259	.257	.385	112		HYD
CCS-29	INT.	-12 BTC	21 ABC	189			244	.274	.411	111		.006
	EXH.	30 BBC	-17 ATC	193			244	.280	.420	111		.018
CCS-3	EXH.	12 BBC	-20 ATC	172	12 BBC	30 ATC	262	.222	.333	107		HYD
	INT.	-22 BTC	14 ABC	172	13 BTC	70 ABC	263	.222	.333	107		HYD
CCS-30	INT.	-16 BTC	15 ABC	179	7 BTC	51 ABC	238	.231	.346	105		HYD
	EXH.	27 BBC	-11 ATC	196	51 BBC	25 ATC	256	.262	.394	109		HYD
CCS-31	EXH.	19 BBC	-6 ATC	193	50 BBC	37 ATC	268	.234	.411	109	1.75	HYD
	INT.	-6 BTC	19 ABC	193	24 BTC	63 ABC	268	.234	.411	96		HYD
CCS-32	INT.	21 BTC	25 ABC	204			284	.241	.386	112	1.6	HYD
	EXH.	27 BBC	20 ATC	205			284	.241	.386	114		HYD
CCS-33	EXH.	29 BBC	-13 ATC	196	53 BBC	23 ATC	256	.263	.394	111	1.5	HYD
	INT.	-10 BTC	26 ABC	194	14 BTC	62 ABC	256	.263	.394	108		HYD
CCS-34	EXH.	29 BBC	-13 ATC	196	53 BBC	23 ATC	256	.263	.394	111		HYD
	INT.	-10 BTC	26 ABC	196	14 BTC	62 ABC	256	.263	.394	108		HYD
CCS-35	EXH.	28 BBC	-15 ATC	193	54 BBC	24 ATC	258	.257	.384	112		HYD
	INT.	-20 BTC	16 ABC	176	14 BTC	50 ABC	244	.234	.351	108		HYD
CCS-36	EXH.	39 BBC	-17 AT	202			300	.280	.448	120	1.6	HYD
	INT.	-13 BTC	11 AB	178			260	.280	.448	100		HYD
CCS-37	EXH.	37 BBC	-10 ATC	207	63 BBC	28 ATC	271	.276	.414	114	1.5	HYD

## CAMSHAFT SPECIFICATIONS (Cont. )

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
		Opens	Closes	Duration	Opens	Closes	Duration					
CCS-38	INT.	-14 BTC	36 ABC	202	12 BTC	77 ABC	259	.269	.403	115		HYD
	EXH.	29 BBC	-14 ATC	195	57 BBC	25 ATC	282	.256	.386	112		HYD
CCS-39	INT.	-12 BTC	18 ABC	179	14 BTC	58 ABC	252	.234	.351	108		HYD
	EXH.	28 BBC	14 ATC	194	56 BBC	24 ATC	260	.257	.385	112		HYD
CCS-4	INT.	-17 BTC	16 ABC	179	16 BTC	56 ABC	252	.234	.350	106		HYD
	EXH.	-14 BTC	24 ABC	190	18 BTC	73 ABC	272	.229	.400	116	1.75	HYD
CCS-40	INT.	35 BBC	-17 ATC	198	68 BBC	31 ATC	280	.235	.412	109		HYD
	EXH.	-14 BTC	41 ABC	207	14 BTC	77 ABC	271	.274	.410	117	1.5	HYD
CCS-41	INT.	43 BBC	-9 ATC	214	74 BBC	26 ATC	280	.285	.427	117		HYD
	EXH.	-27 BTC	13 ABC	189	10 BTC	60 ABC	250	.248	.372	106		HYD
CCS-42	INT.	22 BBC	37 ATC	203	63 BBC	26 ATC	269	.273	.410	116		HYD
	EXH.	27 BBC	-13 ATC	194	50 BBC	28 ATC	258	.260	.390	111		HYD
CCS-5	INT.	-12 BTC	26 ABC	194	14 BTC	64 ABC	258	.260	.390	108		HYD
	EXH.	22 BBC	16 ATC	185			270	.271	.406	109		HYD
CCS-6	INT.	17 BTC	21 ABC	185			270	.271	.406	109		HYD
	EXH.	20 BTC	10 ABC	172			244	.222	.333	105		HYD
CCS-9	INT.	12 BBC	18 ATC	172			244	.222	.333	105		HYD
	EXH.	-19 BTC	27 ABC	188	25 BTC	71 ABC	276	.232	.406	113	1.75	HYD
CFC-1	INT.	24 BBC	-16 ATC	188	68 BBC	28 ATC	276	.232	.406	110		HYD
	EXH.	-13 BTC	17 ABC	184	6 BTC	43 ABC	229	.240	.360	103	1.5	0.016
CFC-3	INT.	17 BBC	-13 ATC	184	36 BBC	9 ATC	225	.239	.358	105		0.016
	EXH.	11 BBC	-13 ATC	178	36 BBC	24 ATC	240	.232	.348	111		HYD
CLT-1	INT.	-22 BTC	20 ABC	178	3 BTC	57 ABC	240	.232	.348	102		HYD
	EXH.			208				.273	.409			
CLT-2	INT.			208			264	.273	.409		1.45	0.006
	EXH.			204				.230	.345			
FCC-2	INT.			204			254	.231	.346		1.5	0.01
	EXH.			213				.276				0.012
FOV-9	INT.			213				.275				0.012
	EXH.	-17 BTC	29 ABC	184	20 BTC	90 ABC	254	.245	.367	112		HYD
HSC-11	INT.	23 BBC	-11 ATC	185	60 BBC	50 ATC	255	.245	.367	108		HYD
	EXH.			218				.267				0.011
HSC-12	INT.			225				.262				0.006
	EXH.			218				.267				0.011
HSC-3	INT.			225				.262				0.006
	EXH.			222			298	.271				0.006
HSC-4	INT.			218				.270				0.008
	EXH.			222			298	.271				MECH
HSC-5	INT.			218				.270				MECH
	EXH.			208				.256				0.008
HSC-8	INT.			214				.258				0.006
	EXH.			210				.226				0.008
HSC-9	INT.			208				.226				0.01
	EXH.			208				.226				0.008
MC1200	INT.			210				.226				0.008
	EXH.											
MC1210	INT.			194				.260				HYD
	EXH.			194				.260				HYD
MC1220	INT.			194				.260				HYD
	EXH.			194				.260				HYD
MC1230	INT.	-15 BTC	28 ABC	193	15 BTC	80 ABC	275	.272	.435	111	1.6	HYD
	EXH.	31 BBC	-18 ATC	193	61 BBC	34 ATC	275	.272	.435	115		HYD
MC1231	INT.	-14 BTC	18 ABC	184			254	.245	.424	106		HYD
	EXH.	35 BBC	-14 ATC	201			270	.259	.448	114		HYD
MC1232	INT.	12 BTC	25 ABC	193				.257	.445	108		HYD
	EXH.	38 BBC	-20 ATC	198				.264	.457	119		HYD
MC1234	INT.											
	EXH.											

## CAMSHAFT SPECIFICATIONS (Cont.)

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
Opens	Closes	Duration	Opens	Closes	Duration							
MC1235	EXH. INT.			212				.410			1.1	
MC1236	EXH. INT.							.410				
MC1237	EXH. INT.			192 192				.239 .239				HYD HYD
MC1238	INT. EXH.			210 210				.265 .265				HYD HYD
MC1239	EXH. INT.			219 217				.230 .230				.008 .013
MC1240	INT. EXH.	-20 BTC 24 BBC	21 ABC -12 ATC	181 192	12 BTC 57 BBC	72 ABC 38 ATC	248 250	.248 .267	.372 .401	108 110	1.5	HYD HYD
MC1241	INT. EXH.	-14 BTC 34 BBC	19 ABC -13 ATC	185 201	14 BTC 70 BBC	72 ABC 25 ATC	250 264	.240 .241	.415 .417	106 114	1.75	HYD HYD
MC1242	EXH. INT.	30 BBC -12 BTC	-15 ATC 27 ABC	195 195	61 BBC 19 BTC	31 ATC 74 ABC	273 273	.260 .260	.455 .455	113 109		HYD HYD
MC1243	EXH. INT.			182 182				.246 .246	.394 .394	97 97	1.6	HYD HYD
MC1244	INT. EXH.			182 182				.246 .246	.394 .394	123 123		HYD HYD
MC1245	EXH. INT.			208 197				.230 .210				HYD HYD
MC1246	INT. EXH.			229 229				.291 .291				HYD HYD
MC1247	INT. EXH.											
MC1248	INT. EXH.											
MC1249	INT. EXH.	-17 BTC 33 BBC	25 ABC -22 ATC	188 191	20 BTC 73 BBC	93 ABC 51 ATC	294 304	.252 .255	.453 .459	111 117	1.8	HYD HYD
MC1250	INT. EXH.	-16 BBC 32 BBC	22 ABC -21 ATC	188 191	21 BTC 70 BBC	92 ABC 49 ATC	293 299	.250 .255	.400 .408	109 117	1.6	HYD HYD
MC1251	INT. EXH.	-24 BTC 26 BBC	25 ABC -15 ATC	181 191	110 BTC 70 BBC	92 ABC 52 ATC	284 301	.252 .255	.403 .408	115 109		HYD HYD
MC1252	INT. EXH.			191 191				.267 .267				HYD HYD
MC1253	INT. EXH.	-22 BTC 27 BBC	26 ABC -14 ATC	184 193	8 BTC 58 BBC	66 ABC 29 ATC	254 267	.258 .269	.413 .430	114 110		HYD HYD
MC1254	EXH. INT.			186 186				.245 .245				HYD HYD
MC1255	EXH. INT.			190 192				.239 .248				HYD HYD
MC1256	INT. EXH.	-25 BTC 37 BBC	45 ABC -17 ATC	200 200	8 BTC 70 BBC	99 ABC 37 ATC	287 287	.260 .260	.416 .416	124 118		HYD HYD
MC1257	EXH. INT.	37 BBC -11 BTC	-17 ATC 31 ABC	200 200	70 BBC 22 BTC	37 ATC 85 ABC	287 287	.260 .260	.416 .416	118 110		HYD HYD
MC1258	EXH. INT.	25 BBC -15 BTC	-14 ATC 26 ABC	191 191	25 BBC 16 BTC	36 ATC 76 ABC	272 272	.261 .261	.392 .392	110 110	1.5	HYD HYD
MC1259	INT. EXH.			189 206				.263 .276	.394 .414	107 117		HYD HYD
MC1260	INT. EXH.			185 202				.275 .275	.412 .412	106 110		HYD HYD
MC1261	EXH. INT.	25 BBC -15BTC	-14 ATC 26 ABC	191 191	55 BBC 15 BTC	35 ATC 75 ABC	270 270	.260 .260	.417 .417	110 110	1.6	HYD HYD
MC1262	INT. EXH.	-13 BTC 33 BBC	18 ABC -17 ATC	205 196	15 BTC 61 BBC	75 ABC 18 ATC	270 259	.265 .265	.420 .420	112 116		HYD HYD
MC1263	EXH. INT.											
MC1265	INT.			184				.256				HYD

## CAMSHAFT SPECIFICATIONS (Cont.)

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
	EXH.	Opens	Closes	Duration	Opens	Closes	Duration					
MC1266	EXH.			185				.256				HYD
	EXH.											
	INT.											
MC1267	EXH.											
	INT.											
MC1268	INT.	-14 BTC	26 ABC	192	25 BTC	66 ABC	271	.248	.434	109	1.75	HYD
	EXH.	30 BBC	-18 ATC	192	69 BBC	22 ATC	271	.248	.434	115		HYD
MC1269	INT.	-18 BTC	27 ABC	191	19 BTC	67 ABC	266	.248	.434	109		HYD
	EXH.	28 BBC	-17 ATC	191	63 BBC	23 ATC	266	.248	.434	115		HYD
MC1270	INT.	-15 BTC	23 ABC	188	58 BTC	111 ABC	349	.248	.438	109		HYD
	EXH.	29 BBC	-21 ATC	188	102 BBC	67 ATC	349	.248	.438	115		HYD
MC1271	EXH.			216			250	.401	.401	115	1.0	HYD
	INT.			216			250	.401	.401	105		HYD
MC1272	INT.			196				.273				-
	EXH.			-				-				.009
MC1273	EXH.			209				.299				-
	INT.			-				-				.013
MC1274	INT.	17 BTC	20 ABC	183	16 BTC	58 ABC	254	.251	.376	108	1.5	HYD
	EXH.	30 BBC	-17 ATC	193	62 BBC	22 ATC	264	.268	.402	114		HYD
MC1275	EXH.	39 BBC	-11 ATC	208	70 BBC	24 ATC	274	.293	.439	115		HYD
	INT.	-17 BTC	45 ABC	208	13 BTC	84 ABC	277	.288	.432	121		HYD
MC1276	INT.			204				.297				N/A
	EXH.			N/A				.297				0.008
MC1277	EXH.			204				.297				N/A
	INT.			N/A				.297				0.01
MC1278	EXH.	40 BBC	-20 ATC	200	73 BBC	35 ATC	288	.260	.416	120	1.6	HYD
	INT.	-18 BTC	29 ABC	191	16 BTC	87 ABC	282	.252	.403	114		HYD
MC1279	INT.			188				.259				HYD
	EXH.			196				.259				HYD
MC1280	EXH.			196				.259				HYD
	INT.			188				.259				HYD
MC1281	INT.			230				.293				0.01
	EXH.			230				.293				N/A
MC1283	INT.			196				.267				HYD
	EXH.			196				.267				HYD
MC1284	EXH.			232				.293		101		
	INT.			232				.293		101		0.008
MC1285	INT.			232				.293		101		0.008
	EXH.			232				.293		101		
MC1286	EXH.			230				.293		100		
	INT.			230				.293		100		HYD
MC1287	EXH.	36 BBC	-8 ATC	208	74 BBC	42 ATC	296	.275	.440	112		HYD
	INT.	-10 BTC	26 ABC	196	26 BTC	68 ABC	274	.275	.440	108		HYD
MC1288	EXH.	32 BBC	-15 ATC	197	65 BBC	37 ATC	263	.279	.446	115		HYD
	INT.	-25 BTC	31 ABC	185	10 BTC	83 ABC	273	.263	.421	115		HYD
MC1289	EXH.											
	INT.											
MC1290	INT.	-13 BTC	27 ABC	194	13 BTC	65 ABC	268	.260		109		HYD
	EXH.	29 BBC	-7 ATC	202	57 BBC			.273		109		
MC1291	INT.	-14 BTC	34 ABC	200	15 BTC	75 ABC	270	.248	.421	114	1.7	HYD
	EXH.	37 BBC	-11 ATC	206	64 BBC	29 ATC	273	.253	.430	114		HYD
MC1292	INT.											
	EXH.											
MC1293	INT.											
	EXH.											
MC1294	INT.											
	EXH.											
MC1295	EXH.											
	INT.											

## CAMSHAFT SPECIFICATIONS (Cont. )

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
		Opens	Closes	Duration	Opens	Closes	Duration					
MC1296	EXH. INT.											
MC1297	INT. EXH.	-6 BTC 30 BBC	14 ABC -18 ATC	188 192	24 61	52 19	256 260	.255 .259	.407 .415	107.5 107.5	1.6	HYD HYD
MC1298	EXH. INT.											
MC1299	EXH. INT.											
MC1300	EXH. INT.			201 201				.334 .334				
MC1301	INT. EXH.			188 196				.259 .259				HYD HYD
MC1302	EXH. INT.			196 188				.259 .259				HYD HYD
MC1303	EXH. INT.			198 198				.287 .287	.430 .430	110 116	1.5-1	Hyd Hyd
MC1304	INT. EXH.			197 197				.272 .272	.408 .408	113 111		Hyd Hyd
MC1309	EXH. INT.											
MC1310	EXH. INT.											
MC1311	EXH. INT.											
MC1315	INT. EXH.			191 195				.276 .286	.415 .429	106 116		Hyd Hyd
MC1316	EXH. INT.			209 204				.284 .282	.483 .480	118 118	1.7-1	Hyd Hyd
MC1317	INT. EXH.			197 209				.292 .292	.496 .496	123 116		Hyd Hyd
MC1318	EXH. INT.											
MC1319	EXH. INT.											
MC1320	EXH. INT.			194 191				.285 .276	.428 .414	116 106	1.5-1	Hyd Hyd
MC1328	INT. EXH.											
MC1329	INT. EXH.											
MC1330	EXH. INT.											
MC1331	INT. EXH.											
MC1334	INT. EXH.			188 194				.274 .278	.411 .417	116 107		Hyd.
MC1335	INT. EXH.			202 208				.299 .306	.449 .460	116 117		Hyd.
MC1336	INT. EXH.			201 208				.297 .306	.446 .459	117 117		Hyd.
MC1337	EXH. INT.			195 191				.285 .276	.428 .414	116 106		Hyd.
MC1338	EXH. INT.											
MC1339	INT. EXH.											
MC1344	INT. EXH.											
MC1345	EXH.											

## CAMSHAFT SPECIFICATIONS (Cont.)

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
Opens	Closes	Duration	Opens	Closes	Duration							
	INT.											
MC1351	INT.											
	EXH.											
MC1352	EXH.			188				.295				
	INT.			193				.259				
MC1353	EXH.			193				.259				
	INT.			188				.259				
MC1360	INT.			214				.267				
	EXH.			267				.221				
MC1361	INT.			214				.267				
	EXH.			210				.221				
MC1362	EXH.	30 BBC	-13 ATC	197	61 BBC	30 ATC	271	.272	.409	112	1.5	HYD
	INT.	-15.5 BTC	32.5 ABC	197	15.5 BTC	75.5 ABC	271	.272	.409	113.75		HYD
MC1364	EXH.			175				0.17904				
	INT.			159				0.1776				
MC1365	INT.			176				0.3170				
	EXH.			212				0.2897				
MC1374	INT.											
	EXH.											
MC1375	EXH.											
	INT.											
MC1376	INT.			188				.255	0.408	110		HYD
	EXH.			190				.259	0.414	105		HYD
MC1377	INT.			188				.255	0.408	110		HYD
	EXH.			190				.259	0.414	105		HYD
MC1378	EXH.											
	INT.											
MC1379	EXH.											
	INT.											
MC1382	EXH.											
	INT.											
MC762	EXH.	30 BBC	-19 ATC	191	62 BBC	29 ATC	271	.259	.390	115		HYD
	INT.	-20 BTC	31 ABC	191	12 BTC	79 ABC	271	.259	.390	115		HYD
MC769	EXH.			232				.292		101		
	INT.			232				.292		101		0.008
MC794	EXH.			224				.259				MECH
	INT.			224				.259				MECH
MC797	INT.	17 ATC	29 ABC	192			276	.230	.403	113	1.75	HYD
	EXH.	26 BBC	14 BTC	192			276	.230	.403	110		HYD
MC803	EXH.			193				.256		109		
	INT.			189				.250		109		MECH
MC809	EXH.	32 BBC	-15 ATC	197	61 BBC	29 ATC	270	.265	.397	112	1.5	HYD
	INT.	-12 BTC	29 ABC	197	17 BTC	73 ABC	270	.265	.397	112		HYD
MC810	EXH.			230				.293		100		
	INT.			230				.293		100		HYD
MC814	INT.	-4 BTC	20 ABC	196	31 BTC	64 ABC	276	.246	.369	102		HYD
	EXH.	37 BBC	-17 ATC	200	61 BBC	35 ATC	294	.254	.381	117		HYD
MC816	INT.			222				.281				0.006
	EXH.			223				.283				0.006
MC817	INT.			220				.278				HYD
	EXH.			219				.279				HYD
MC820	EXH.			220				.276				HYD
	INT.			220				.276				HYD
MC821	INT.			202			240	.235	.390	120	1.7	HYD
	EXH.			216			234	.250	.416	120		HYD
MC822	INT.			220				.276				HYD
	EXH.			220				.276				HYD
MC830	EXH.			166				.214				HYD
	INT.			164				.212				HYD

## CAMSHAFT SPECIFICATIONS (Cont.)

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio)			Cam Lift	Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio
		Opens	Closes	Duration	Opens	Closes	Duration					
MC831	INT.			200			241					HYD
	EXH.											HYD
MC832	EXH.			200			241		.350			HYD
	INT.											HYD
MC835	INT.	23 BTC	22 ABC	188			254	.216	.356	108	1.6	HYD
	EXH.	29 BBC	14 ATC	188			254	.216	.355	116		HYD
MC836	EXH.	32 BBC	19 ATC	193			276	.245	.392	116		HYD
	INT.	19 BTC	24 ABC	193			276	.245	.392	107		HYD
MC839	EXH.			203				.225				MECH
	INT.			204				.225				MECH
MC840	EXH.			206				.220		122		
	INT.			206				.220		122		0.012
MC841	EXH.			205				.237				HYD
	INT.			205				.237				HYD
MTA-1	INT.	3o ATC	27o ABC	204	30o BTC	70o ABC	280	.280	.448	105o		HYD.
	EXH.	42o BBC	8o BTC	214	75o BBC	35o ATC	290	.295	.472	115o		HYD.
MTB-1	EXH.	44o BBC	10o BTC	214	77o BBC	33o ATC	290	.295	.472	117		HYD.
	INT.	5o ATC	29o ABC	204	28o BTC	72o ABC	280	.280	.448	107		HYD.
MTB-2	EXH.	41o BBC	17o BTC	204	74o BBC	26o ATC	280	.280	.448	119		HYD.
	INT.	12o ATC	26o ABC	194	21o BTC	69o ABC	270	.265	.424	109		HYD.
MTC-1	EXH.			214			288	.295	.433	117		HYD.
	INT.	5o ATC	29o ABC	204	27o BTC	71o ABC	278	.280	.420	107	1.5	HYD.
MTC-5	INT.	5o ATC	29o ABC	204	27o BTC	71o ABC	278	.280	.420	107		HYD.
	EXH.	44o BBC	10o BTC	214	76o BBC	32o ATC	288	.295	.443	117		HYD.
MTC-6	INT.	6o ATC	30o ABC	204	36o BTC	72o ABC	288	.270	.459	108	1.7	HYD.
	EXH.	40o BBC	12o BTC	208	86o BBC	32o ATC	298	.270	.459	116		HYD.
MTD-1	EXH.	44o BBC	10o BTC	214	76o BBC	32o ATC	288	.295	.443	117	1.5	HYD.
	INT.	5o ATC	29o ABC	204	27o BTC	71o ABC	278	.280	.420	107		HYD.
MTD-2	INT.	5o ATC	29o ABC	204	27o BTC	71o ABC	278	.280	.420	107		HYD.
	EXH.	44o BBC	10o BTC	214	76o BBC	32o ATC	288	.295	.443	117		HYD.
MTF-1	EXH.	44o BBC	10o BTC	214	77o BBC	33o ATC	290	.295	.472	117	1.6	HYD.
	INT.	5o ATC	29o ABC	204	28o BTC	72o ABC	280	.280	.448	107		HYD.
MTF-2	INT.	5o ATC	29o ABC	204	29o BTC	73o ABC	282	.280	.484	107	1.73	HYD.
	EXH.	44o BBC	10o BTC	214	78o BBC	34o ATC	292	.295	.510	117		HYD.
MTF-3	EXH.	44o BBC	10o BTC	214	78o BBC	34o ATC	292	.295	.511	117	1.75	HYD.
	INT.	5o ATC	29o ABC	204	29o BTC	73o ABC	282	.280	.485	107		HYD.
MTF-4	INT.	5o ATC	29o ABC	204	29o BTC	73o ABC	282	.280	.484	107	1.73	HYD.
	EXH.	44o BBC	10o BTC	214	78o BBC	34o ATC	292	.295	.510	117		HYD.
MTF-5	EXH.	44o BBC	10o BTC	214	77o BBC	33o ATC	290	.295	.472	117	1.6	HYD.
	INT.	5o ATC	29o ABC	204	28o BTC	72o ABC	280	.280	.448	107		HYD.
MTF-6	EXH.	44o BBC	10o BTC	214	77o BBC	33o ATC	290	.296	.475	114		HYD.
	INT.	5o ATC	29o ABC	204	28o BTC	72o ABC	280	.281	.451	106		HYD.
MTO-1	INT.	5o ATC	29o ABC	204	28o BTC	72o ABC	280	.280	.448	107		HYD.
	EXH.	44o BBC	10o BTC	214	77o BBC	33o ATC	290	.295	.472	117		HYD.
MTP-1	INT.	3o ATC	27o ABC	204	29o BTC	69o ABC	278	.280	.420	108	1.5	HYD.
	EXH.			214			288	.295	.443	118		HYD.
MTP-2	INT.	5o ATC	29o ABC	204	29o BTC	73o ABC	282	.280	.490	107	1.75	HYD.
	EXH.	44o BBC	10o BTC	214	78o BBC	34o ATC	292	.295	.516	117		HYD.
ROC-10	INT.	9 BTC	43 ABC	232	4 BTC	101 ABC	329	.296	.474	107	1.6	HYD
	EXH.	55 BBC	-3 ATC	232	94 BBC	55 ATC	329	.296	.474	119		HYD
RVO-D	INT.											
	EXH.											
SBC-11	INT.	-19 BTC	12 ABC	173	14 BTC	52 ABC	242	.207	.310	105	1.5	HYD
	EXH.	16 BBC	-14 ATC	182	54 BBC	34 ATC	262	.216	.324	106		HYD
SBC-12	EXH.	28 BBC	-14 ATC	194	69 BBC	31 ATC	280	.240	.384	110	1.6	HYD
	INT.	-14 BTC	14 ABC	180	17 BTC	54 ABC	251	.224	.359	104		HYD
SBC-13	INT.	-15 BTC	29 ABC	194	19 BTC	74 ABC	272	.251	.401	112		HYD
	EXH.	28 BBC	-14 ATC	194	69 BBC	31 ATC	280	.240	.384	110		HYD
SBC-14	EXH.	28 BBC	-12 ATC	196	66 BBC	30 ATC	276	.264	.422	110		HYD



## CAMSHAFT SPECIFICATIONS (Cont.)

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
		Opens	Closes	Duration	Opens	Closes	Duration					
SBC-15	INT.	-8 BTC	21 ABC	193	30 BTC	72 ABC	282	.250	.400	104		HYD
	EXH.	28 BBC	-14 ATC	194	68 BBC	31 ATC	280	.240	.384	110		HYD
SBC-16	INT.	-14 BTC	14 ABC	180	17 BTC	54 ABC	251	.224	.358	104		HYD
	EXH.	28 BBC	-14 ATC	194	66 BBC	31 ATC	280	.240	.384	110		HYD
SBC-3	INT.	-9 BTC	36 ABC	207	23 BTC	81 ABC	284	.269	.430	112		HYD
	EXH.	39 BBC	-12 ATC	207	71 BBC	33 ATC	284	.269	.430	116		HYD
SBC-4	EXH.	52 BBC	-7 ATC	225	95 BBC	53 ATC	328	.285	.453	120		HYD
	INT.	-18 BTC	32 ABC	194	11 BTC	91 ABC	282	.244	.388	114		HYD
SBC-5	EXH.	40 BBC	15 ATC	208			297	.252	.378	116	1.5	HYD
	INT.	12 BTC	24 ABC	189			276	.242	.363	109		HYD
SBC-8	EXH.	31 BBC	-12 ATC	194	66 BBC	37 ATC	283	.244	.401	112	1.6	HYD
	INT.	-15 BTC	29 ABC	194	18 BTC	74 ABC	272	.251	.391	112		HYD
SBOT-1	EXH.			196			276	.251	.401	112		HYD
	INT.			196			276	.251	.401	106		HYD
SDC-1	EXH.			200			285	.276				.010
	INT.			181			285	.276				.012
SDC-3	EXH.			219				.289				MECH
	INT.			219				.289				MECH
SDC-4	INT.			171				.222				0.014
	EXH.			175				.232				0.014
SDC-5	INT.											
	EXH.											
SDC-6	EXH.			205				.223				0.011
	INT.			206				.233				0.011
SDC-7	EXH.			226				.269				0.012
	INT.			226				.269				0.012
SDC-8	EXH.			227				.280				0.012
	INT.			227				.280				0.012
SFP-2	EXH.	38 BBC	-22 ATC	196	7 BBC	17 ATC	268	.244	.390	111		HYD
	INT.	-41 BTC	57 ABC	196	-13 BTC	10 ABC	268	.244	.390	129		HYD
SFP-4	INT.	-7 BTC	29 ABC	202	13 BTC	65 ABC	258	.256	.384	108	1.5	HYD
	EXH.	35 BBC	-13 ATC	202	53 BBC	14 ATC	247	.256	.384	114		HYD
SFP-5	INT.	12 BTC	28 ABC	192			202	.236	.340	107		0.017
	EXH.	38 BBC	6 ATC	206			206	.232	.341	115		0.01
SGM-1	EXH.	33 BBC	8 ATC	205			277	.278	.407	112		0.012
	INT.	18 BTC	24 ABC	186			252	.279	.419	111		0.02
SIH-1	EXH.	19 BBC	17 ATC	198			252	.236	.428	110	1.7	HYD
	INT.	21 BTC	25 ABC	188			260	.262	.445	111		HYD
SIH-3	EXH.	29 BBC	-11 ATC	198	62 BBC	22 ATC	264	.265	.440	110		0.025
	INT.	-12 BTC	14 ABC	182	19 BTC	45 ABC	244	.265	.440	103		0.025
SIH-5	INT.	-21 BTC	35 ABC	194	19 BBC	75 ABC	274	.272	.435	118	1.6	HYD
	EXH.	24 BBC	-10 ATC	194	64 BBC	30 ATC	274	.272	.435	107		HYD
SIH-6	EXH.	17 BBC	-13 ATC	184			210	.253	.405	105		HYD
	INT.	-15 BTC	11 ABC	176			174	.254	.406	103		HYD
SOC-10	INT.	-16 BTC	16 ABC	180	18 BTC	58 ABC	256	.247	.395	106		HYD
	EXH.	25 BBC	-18 ATC	187	63 BBC	34 ATC	277	.250	.400	112		HYD
SOC-12	EXH.	30 BBC	-18 ATC	192	67 BBC	27 ATC	274	.235	.376	114		HYD
	INT.	-14 BTC	6 ABC	172	20 BTC	48 ABC	248	.235	.376	100		HYD
SOC-14	INT.	-22 BTC	11 ABC	178	17 BTC	52 ABC	249	.247	.395	102		HYD
	EXH.	29 BBC	-13 ATC	187	60 BBC	16 ATC	256	.251	.401	116		HYD
SOC-9	EXH.	34 BBC	-14 ATC	200	73 BBC	38 ATC	291	.251	.401	112		HYD
	INT.	-13 BTC	20 ABC	187	25 BTC	72 ABC	277	.250	.400	106		HYD
SPC-10	EXH.	25 BBC	-15 ATC	190	68 BBC	28 ATC	276	.232	.406	110	1.75	HYD
	INT.	-18 BTC	28 ABC	190	25 BTC	71 ABC	276	.232	.406	113		HYD
SPC-11	INT.	-18 BTC	19 ABC	181	8 BTC	68 ABC	256	.233	.349	108	1.5	HYD
	EXH.	14 BBC	-13 ATC	181	40 BBC	36 ATC	256	.233	.349	104		HYD
SPC-12	INT.	-11 BTC	40 ABC	209	19 BTC	93 ABC	292	.252	.378	115		HYD
	EXH.	26 BBC	-17 ATC	189	54 BBC	30 ATC	264	.243	.364	112		HYD

## CAMSHAFT SPECIFICATIONS (Cont.)

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
		Opens	Closes	Duration	Opens	Closes	Duration					
SPC-13	INT.	-18 BTC	28 ABC	190	25 BTC	71 ABC	276	.232	.405	113	1.75	HYD
	EXH.	25 BBC	-13 ATC	190	69 BBC	28 ATC	276	.232	.405	110		HYD
SPC-15	EXH.			201				.239	.406			
	INT.			202			247	.240	.408		1.7	HYD
SPC-16	INT.	-14 BTC	14 ABC	223	17 BTC	54 ABC	270	.251	.417	123		.009
	EXH.	28 BBC	-14 ATC	223	68 BBC	31 ATC	265	.253	.421	123		.009
SPC-17	EXH.	24 BBC	-16 ATC	188	66 BBC	24 ATC	270	.231	.404	110	1.75	HYD
	INT.	-19 BTC	27 ABC	188	23 BTC	67 ABC	270	.231	.404	113		HYD
SPC-18	INT.	-19 BTC	27 ABC	188	23 BTC	67 ABC	270	.231	.404	113		HYD
	EXH.	24 BBC	-16 ATC	188	66 BBC	24 ATC	270	.231	.404	110		HYD
SPC-19	INT.			214			252	.262			1.7	HYD
	EXH.			214				.262				
SPC-2	INT.	-15 BTC	29 ABC	190	18 BTC	74 ABC	280	.251	.402	112	1.6	HYD
	EXH.	28 BBC	-14 ATC	190	69 BBC	31 ATC	280	.240	.384	110		HYD
SPC-3	EXH.	57 BBC	-1 ATC	236	86 BBC	44 ATC	310	.271	.407	119	1.5	HYD
	INT.	0 BTC	44 ABC	224	29 BTC	88 ABC	297	.270	.406	112		HYD
SPC-4	INT.	-7 BTC	25 BBC	198	21 BTC	70 ABC	271	.270	.404	106		HYD
	EXH.	40 BBC	-12 ATC	208	68 BBC	32 ATC	280	.272	.408	116		HYD
SPC-5	INT.	-6 BTC	26 ABC	200	26 BTC	78 ABC	284	.271	.407	106		HYD
	EXH.	41 BBC	-11 ATC	210	73 BBC	40 ATC	293	.274	.411	116		HYD
SPC-7	INT.	-7 BTC	39 ABC	212	21 BTC	84 ABC	285	.272	.408	113		HYD
	EXH.	50 BBC	-5 ATC	225	80 BBC	38 ATC	298	.271	.406	118		HYD
SPC-8	INT.	3 BTC	48ABC	231	32 BTC	92 ABC	304	.313	.469	112		HYD
	EXH.	54 BBC	6 ATC	240	84 BBC	51 ATC	315	.313	.469	115		HYD
SPC-9	EXH.	24 BBC	-15 ATC	189	52 BBC	32 ATC	264	.243	.364	110		HYD
	INT.	-11 BTC	20 ABC	189	17 BTC	67 ABC	264	.243	.364	105		HYD
SPD-11	EXH.	40 BBC	-11 ATC	209	74 BBC	39 ATC	293	.287	.431	116		HYD
	INT.	-7 BTC	33 ABC	206	22 BTC	74 BBC	284	.289	.434	110		HYD
SPD-16	INT.	-10 BTC	23 ABC	193	21 BTC	68 ABC	269	.238	.357	106		HYD
	EXH.	27 BBC	-13 ATC	194	64 BBC	28 ATC	272	.238	.357	110		HYD
SPD-20	INT.	-20 BTC	20 ABC	180	12 BTC	72 ABC	264	.248	.372	110		HYD
	EXH.	24 BBC	-12 ATC	192	57 BBC	38 ATC	275	.266	.399	108		HYD
SPD-22	INT.	-8 BTC	37 ABC	209	20 BTC	79 ABC	279	.286	.429	112		HYD
	EXH.	46 BTC	-6 ATC	220	79 BBC	30 ATC	289	.296	.444	116		HYD
SPD-24	EXH.	27 BBC	-13 ATC	194	64 BBC	28 ATC	272	.240	.360	110	15	HYD
	INT.	-10 BTC	23 ABC	193	21 BTC	68 ABC	269	.240	.360	106		HYD
SPD-25	INT.	-7 BTC	29 ABC	203	22 BTC	76 ABC	278	.273	.409	108	1.5	HYD
	EXH.	31 BBC	-9 ATC	203	61 BBC	37 ATC	278	.273	.409	111		HYD
SPD-27	EXH.	15 BBC	-8 ATC	187	40 BBC	34 ATC	254	.252	.378	102		HYD
	INT.	-15 BTC	22 ABC	187	10 BTC	64 ABC	254	.252	.378	108		HYD
SPD-28	EXH.	41 BBC	-4 ATC	217	63 BBC	30 ATC	274	.243	.437	104	1.8	HYD
	INT.	5 BTC	32 ABC	217	27 BTC	68 ABC	274	.243	.437	112		HYD
SPD-29	EXH.	41 BBC	-4 ATC	217	63 BBC	30 ATC	273	.243	.437	104		HYD
	INT.	5 BTC	32 ABC	217	27 BTC	66 ABC	273	.243	.437	112		HYD
SPD-3	INT.	-8 BTC	26 ABC	198	21 BTC	70 ABC	271	.270	.405	106	1.5	0.012
	EXH.	33 BBC	-10 ATC	203	56 BBC	24 ATC	260	.275	.412	112		0.01
SPD-30	INT.	5 BTC	28 ABC	213	29 BTC	59 ABC	268	.243	.437		1.8	HYD
	EXH.	45 BBC	-12 ATC	213	69 BBC			.243	.437			
SPD-31	INT.	-6 BTC	39 ABC	213	26 BTC	96 ABC	302	.298	.447	111	1.5	HYD
	EXH.	50 BBC	-5 ATC	225	83 BBC	61 ATC	324	.306	.459	115		HYD
SPD-32	INT.			232				.293		101		.008
	EXH.			232				.293		101		
SPD-33	INT.	5 BTC	28 ABC	213			268	.243	.437	110	1.8	HYD
	EXH.	45 BBC	12 BTC	213			268	.243	.437	110		HYD
SPD-34	INT.			194			267	.245	.433	113		HYD
	EXH.			190			264	.245	.433	113		HYD
SPD-35	EXH.			190				.245	.441			
	INT.			194			267	.245	.441			HYD
SRC-5	INT.	-11 BTC	27ABC	196	14 BTC	68 ABC	263	.266	.425	109	1.6	HYD

## CAMSHAFT SPECIFICATIONS (Cont.)

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
	EXH.	Opens	Closes	Duration	Opens	Closes	Duration					
SRC-6	EXH.	30 BBC	-14 ATC	196	56 BBC	26 ATC	263	.266	.425	112		HYD
	INT.	-17 BTC	22 ABC	185	12 BTC	66 ABC	259	.254	.406	109		HYD
SRC-8	EXH.	23 BBC	-18 ATC	185	53 BBC	25 ATC	259	.254	.406	111		HYD
	INT.	-19 BTC	29 ABC	190	9 BTC	73 ABC	262	.252	.443	115		HYD
SRC-9	INT.	-17 BTC	33 ABC	196	12 BTC	78 ABC	270	.265	.424	114		HYD
	EXH.	27 BBC	-11 ATC	196	56 BBC	34 ATC	270	.265	.424	110		HYD
SVO-A	EXH.	34 BBC	-17 ATC	197	57 BBC	10 ATC	247	.240	.360	113	1.5	0.016
	INT.	-8 BTC	25 ABC	197	18 BTC	55 ABC	253	.240	.360	109		0.018
SVW-1	EXH.			224			310	.405	.405	110	1.0	MECH
	INT.			224			298	.405	.405	110		MECH
SWC-1	EXH.			204			350	.371				0.018
	INT.			198			346	.220				0.012
SYB-13	INT.	-19 BTC	25 ABC	186	16 BTC	75 ABC	271	.232	.406	112	1.75	HYD
	EXH.	27 BBC	-21 ATC	186	62 BBC	29 ATC	271	.232	.406	114		HYD
SYB-16	INT.	-10 BTC	22 ABC	192	24 BTC	73 ABC	277	.244	.414	106	1.7	HYD
	EXH.	30 BBC	-18 ATC	192	64 BBC	33 ATC	277	.244	.414	114		HYD
SYB-19	INT.	-14 BTC	27 ABC	193	18 BTC	75 ABC	273	.253	.442	110	1.75	HYD
	EXH.	39 BBC	-13 ATC	206	72 BBC	35 ATC	287	.277	.485	116		HYD
SYB-2	INT.	-12 BTC	29 ABC	197			254	.262	.366	110	1.4	0.018
	EXH.	34 BBC	-18 ATC	196			244	.262	.366	116		0.018
SYB-21	INT.	-13 BTC	25 ABC	192	19 BTC	73 ABC	272	.247	.419	109	1.7	HYD
	EXH.	29 BBC	-11 ATC	198	65 BBC	43 ATC	291	.250	.425	111		HYD
SYB-22	INT.	-11 BTC	24 ABC	200	70 BTC	73 ABC	273	.252	.428	108		HYD
	EXH.	28 BBC	-15 ATC	200	59 BBC	34 ATC	273	.252	.428	111		HYD
SYB-23	INT.	-17 BTC	29 ABC	192	15 BTC	78 ABC	273	.247	.432	113	1.75	HYD
	EXH.	31 BBC	-12 ATC	199	65 BBC	38 ATC	281	.249	.435	111		HYD
SYB-24	INT.	-6 BTC	21 ABC	194	24 BTC	66 ABC	270	.260	.416	103	1.6	HYD
	EXH.	29 BBC	-5 ATC	194	59 BBC	31 ATC	270	.260	.416	112		HYD
SYB-25	INT.	-22 BTC	26 ABC	184	22 BTC	70 ABC	272	.230	.368	114		HYD
	EXH.	12 BBC	-8 ATC	189	45 BBC	40 ATC	265	.238	.380	104		HYD
SYB-26	EXH.	27 BBC	-15 ATC	192	58 BBC	31 ATC	269	.247	.395	111		HYD
	INT.	-13 BTC	16 ABC	183	17 BTC	60 ABC	257	.237	.379	104		HYD
SYB-27	EXH.											
	INT.											
SYB-29	EXH.	44 BBC	-3 ABC	221	81 BBC	48 ATC	307	.283	.481	110	1.7	HYD
	INT.	-17 BTC	43 ABC	206	16 BTC	91 ABC	287	.278	.472	120		HYD
SYB-30	INT.	-15 BTC	32 ABC	197	18 BTC	82 ABC	280	.260	.416	114	1.6	HYD
	EXH.	38 BBC	-9 ATC	209	71 BBC	42 ATC	293	.278	.443	114		HYD
SYB-31	EXH.	69 BBC	27 ATC	193	64 BBC	27 ATC	275	.229	.389	117	1.7	HYD
	INT.	25 BTC	71 ABC	185	21 BTC	70 ABC	259	.225	.382	106		HYD
SYB-32	INT.	-14 BTC	19 ABC	185	14 BTC	72 ABC	266	.240	.408	106		HYD
	EXH.	34 BBC	-13 ATC	201	70 BBC	25 ATC	275	.241	.409	114		HYD
SYB-33	INT.	-14 BTC	19 ABC	185	14 BTC	72 ABC	266	.240	.408	106		HYD
	EXH.	34 BBC	-13 ATC	201	70 BBC	25 ATC	275	.241	.409	114		HYD
SYB-35	INT.	-14 BTC	40 ABC	206	18 BTC	85 ABC	283	.278	.445	117	1.6	HYD
	EXH.	47 BBC	-6 ATC	221	82 BBC	42 ATC	304	.283	.453	113		HYD
SYB-36	INT.	-5 BTC	32 ABC	207			274	.264	.396	108	1.5	0.016
	EXH.	35 BBC	-8 ATC	207			274	.264	.396	112		0.014
SYB-37	INT.	-23 BTC	30 ABC	187	4 BTC	64 ABC	248	.237	.379	106	1.6	HYD
	EXH.	40 BTC	-31 ATC	189	70 BBC	-1 ATC	249	.238	.380	116		HYD
SYB-38	INT.	-12 BTC	24 ABC	192	20 BTC	70 ABC	274	.265	.424	108		HYD
	EXH.	30 BBC	-18 ATC	192	62 BBC	28 ATC	288	.265	.424	114		HYD
SYB-39	EXH.	34 BBC	-14 ATC	200	63 BBC	26 ATC	269	.239	.382	114		HYD
	INT.	-8 BTC	28 ABC	200	21 BTC	68 ABC	269	.239	.382	108		HYD
SYB-40	EXH.											
	INT.											
SYB-41	INT.							.225			1.7	HYD
	EXH.							.229				

## CAMSHAFT SPECIFICATIONS (Cont.)

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
		Opens	Closes	Duration	Opens	Closes	Duration					
SYB-43	EXH.	27 BBC	-15 ATC	192	61 BBC	33 ATC	274	.247	.419	111		HYD
	INT.	-12 BTC	16 ABC	184	20 BTC	64 ABC	264	.237	.402	104		HYD
SYB-44	INT.	16 BTC	36 ABC	208			275	.265	.424	111	1.6	HYD
	EXH.	45 BBC	7 ATC	208			275	.265	.424	121		HYD
SYB-45	EXH.	30 BBC	14 ATC	190			244	.240	.398	116		HYD
	INT.	19 BTC	25 ABC	190			244	.240	.398	108		HYD
SYB-46	EXH.	25 BBC	19 ATC	190			191	.240	.398	111		HYD
	INT.	14 BTC	30 ABC	190			191	.240	.398	113		HYD
SYB-47	INT.	14 BTC	30 ABC	190			258	.240	.384	113		HYD
	EXH.	25 BBC	19 ATC	190			258	.240	.384	111		HYD
SYB-48	EXH.			190				.239	.375	113	1.57	HYD
	INT.			202				.250	.392	113		HYD
SYB-49	EXH.	35 BBC	9 ATC	203			270	.263	.423	111	1.6	HYD
	INT.	12 BTC	32 ABC	203			270	.263	.423	111		HYD
SYB-50	INT.	18 BTC	30 ABC	199			272	.260	.419	110		HYD
	EXH.	37 BBC	11 ATC	199			272	.260	.419	118		HYD
SYB-51	EXH.	40 BBC	10 ATC	210			279	.278	.445	115		HYD
	INT.	10 BTC	40 ABC	210			279	.278	.445	115		HYD
SYB-8	INT.	-15 BTC	21 ABC	186	19 BTC	71 ABC	270	.232	.394	108	1.7	HYD
	EXH.	26 BBC	-20 ATC	186	60 BBC	30 ATC	270	.232	.394	113		HYD
SYB-9	INT.	-10 BTC	17 ABC	187	18 BTC	63 ABC	261	.238	.380	103	1.6	HYD
	EXH.	26 BBC	-19 ATC	187	54 BBC	27 ATC	261	.238	.380	113		HYD
TSC-1	EXH.			224				.264	.396			
	INT.			212			244	.262	.393		1.5	0.014
TSC-5	INT.											
	EXH.											
TSC-6	INT.			191				.197				0.012
	EXH.			191				.197				0.008
TSC-7	INT.											
	EXH.											
TSC-8	INT.											
	EXH.											

# CAMSHAFT SPECIFICATIONS

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
		Opens	Closes	Duration	Opens	Closes	Duration					
20402	INT.	10 BTC	44 ABC	234	42 BTC	84 ABC	306	.325	.520	107	1.6	HYD.
	EXH.	59 BBC	5 ATC	244	91 BBC	45 ATC	316	.339	.542	117		HYD.
21206	EXH.	49 BBC	5 BTC	224	82 BBC	38 ATC	300	.310	.496	117		HYD.
	INT.	5 TDC	39 ABC	224	38 BTC	82 ABC	300	.310	.496	107		HYD.
21300	EXH.	59 BBC	5 ATC	244	91 BBC	45 ATC	316	.339	.542	117		HYD.
	INT.	10 BTC	44 ABC	234	42 BTC	84 ABC	306	.325	.520	107		HYD.
22100	INT.	11 ATC	23 ABC	192	25 ATC	20 ABC	268	.234	.398	107	1.7	HYD.
	EXH.	37 BBC	14 BTC	203	68 BBC	69 ATC	278	.253	.430	117		HYD.
22107	INT.			208			280	.272	.408	107	1.5	HYD.
	EXH.			208			280	.272	.408	113		HYD.
22108	EXH.			194			270	.265	.398	104		HYD.
	INT.			184			260	.245	.388	104		HYD.
22109	EXH.			204			278	.280	.420	104		HYD.
	INT.	7 ATC	21 ABC	194	26 BTC	64 ABC	270	.265	.398	104		HYD.
22110	INT.	8 ATC	32 ABC	204	24 BTC	74 ABC	278	.280	.420	110		HYD.
	EXH.			214			288	.295	.443	110		HYD.
22111	EXH.			204			278	.281	.422	117		HYD.
	INT.			194			270	.265	.398	107		HYD.
22113	INT.	7 ATC	21 ABC	194	26 BTC	64 ABC	270	.265	.398	104		HYD.
	EXH.			204			278	.288	.420	117		HYD.
22114	EXH.			208			280	.280	.420	116		HYD.
	INT.			208			280	.280	.420	106		HYD.
22115	INT.			210			283	.290	.435	107		HYD.
	EXH.			216			286	.303	.455	117		HYD.
22116	INT.	18 ATC	28 ABC	190	26 BTC	71 ABC	277	.232	.406	113	1.75	HYD.
	EXH.	25 BBC	15 BTC	190	69 BBC	28 ATC	277	.232	.406	110		HYD.
22117	INT.	8 ATC	32 ABC	204	24 BTC	76 ABC	280	.253	.443	109		HYD.
	EXH.	36 BBC	12 BTC	204	68 BBC	32 ATC	280	.253	.443	115		HYD.
22118	EXH.	26 BBC	14 BTC	192	75 BBC	35 ATC	290	.230	.403	110		HYD.
	INT.	17 ATC	29 ABC	192	32 BTC	78 ABC	290	.230	.403	113		HYD.
22119	EXH.	41 BBC	8 BTC	213	70 BBC	34 ATC	284	.276	.414	116	1.5	HYD.
	INT.	7 ATC	29 ABC	202	21 BTC	70 ABC	271	.269	.404	108		HYD.
22120	INT.	7 ATC	29 ABC	202	21 BTC	70 ABC	271	.269	.404	108		HYD.
	EXH.	41 BBC	8 BTC	213	70 BBC	34 ATC	284	.276	.414	116		HYD.
22121	INT.	9 ATC	31 ABC	202	17 BTC	72 ABC	269	.269	.404	110		HYD.
	EXH.	37 BBC	10 BTC	207	63 BBC	28 ATC	271	.276	.414	114		HYD.
22123	INT.	10 ATC	33 ABC	203	18 BTC	73 ABC	271	.273	.410	111		HYD.
	EXH.	41 BBC	7 BTC	214	69 BBC	36 ATC	285	.273	.410	115		HYD.
22124	EXH.	37 BBC	4 BTC	213	65 BBC	38 ATC	283	.273	.410	112		HYD.
	INT.	7 ATC	29 ABC	202	20 BTC	71 ABC	271	.267	.401	108		HYD.
22125	EXH.	37 BBC	4 BTC	213	65 BBC	38 ATC	283	.273	.410	112		HYD.
	INT.	7 ATC	29 ABC	202	20 BTC	71 ABC	271	.267	.401	108		HYD.
22126	INT.			194			268	.265	.398	107		HYD.
	EXH.			214			288	.294	.441	117		HYD.
22127	INT.			190			261	.258	.439	106	1.7	HYD.
	EXH.			202			272	.273	.464	114		HYD.
22128	INT.			210			273	.319	.478	107		HYD.
	EXH.			214			277	.325	.487	117		HYD.
22129	INT.	9 BTC	27 ABC	198	27 BTC	66 ABC	273	.434	.502	108	1.5	HYD.
	EXH.	45 BBC	-11 ATC	210	78 BBC	78 ATC	288	.462	.496	116		HYD.
22131	INT.	-1 BTC	31 ABC	210	36 BTC	72 ABC	288	.462	.463	106		HYD.
	EXH.	41 BBC	-6 ATC	215	72 BBC	32 ATC	284	.469	.470	114		HYD.
22200	INT.	1 BTC	41 ABC	222	30 BTC	80 ABC	290	.298	.447	110		HYD.
	EXH.	49 BBC	7 BTC	222	78 BBC	32 ATC	290	.298	.447	118		HYD.
22201	EXH.			223			291	.333	.566	118	1.7	HYD.
	INT.			223			291	.333	.566	110		HYD.
22203	EXH.			224			298	.310	.465	117	1.5	HYD.
	INT.	0 TDC	34 ABC	214	32 BTC	76 ABC	288	.295	.443	107		HYD.
22204	INT.	0 TDC	34 ABC	214	34 BTC	78 ABC	292	.295	.502	107	1.7	HYD.

## CAMSHAFT SPECIFICATIONS (Cont.)

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
	EXH.	Opens	Closes	Duration	Opens	Closes	Duration					
22210	EXH.	49 BBC	5 BTC	224	83 BBC	39 ATC	302	.310	.527	117		HYD.
	EXH.	46 BBC	2 BTC	224	75 BBC	32 ATC	287	.307	.461	114	1.5	HYD.
	INT.	3 ATC	47 ABC	224	27 BTC	84 ABC	291	.300	.450	114		HYD.
22213	INT.			214			288	.295	.443	107		HYD.
	EXH.			214			288	.295	.443	117		HYD.
22214	INT.	2 ATC	36 ABC	214	32 BTC	80 ABC	292	.295	.502	109	1.7	HYD.
	EXH.	46 BBC	12 BTC	214	80 BBC	32 ATC	292	.295	.502	119		HYD.
22215	EXH.			220			295	.286	.429	112	1.5	HYD.
	INT.	2 BTC	38 ATC	220	32 BTC	83 ABC	295	.286	.429	108		HYD.
22216	EXH.	49 BBC	11 BTC	218	86 BBC	37 ATC	302	.282	.480	120	1.7	HYD.
	INT.	4 ATC	38 ABC	214	29 BTC	81 ABC	289	.271	.461	110		HYD.
22217	INT.	4 ATC	39 ABC	215	28 BTC	81 ABC	289	.272	.462	110		HYD.
	EXH.	49 BBC	10 BTC	219	86 BBC	36 ATC	301	.283	.481	120		HYD.
22218	EXH.	49 BBC	10 BTC	219	86 BBC	36 ATC	301	.283	.481	120		HYD.
	INT.	4 ATC	39 ABC	215	28 BTC	81 ABC	289	.272	.462	110		HYD.
22219	EXH.	48 BBC	4 BTC	224	80 BBC	34 ATC	293	.300	.510	117		HYD.
	INT.	3 ATC	47 ABC	224	29 BTC	85 ABC	293	.300	.510	114		HYD.
22220	EXH.	48 BBC	4 BTC	224	80 BBC	34 ATC	293	.300	.510	117		HYD.
	INT.	3 ATC	47 ABC	224	29 BTC	85 ABC	293	.300	.510	114		HYD.
22221	INT.			197			261	.289	.433	105	1.5	HYD
	EXH.	36BBC	-10ATC	206	64BBC	62ABC	276	.300	.450	114		HYD
22222	EXH.	41 BBC	-8 ATC	213	70 BBC	36 ATC	286	.273	.409	116		HYD
	INT.	-7 BTC	29 ABC	202	22 BTC	70 ABC	272	.269	.403	108		HYD
22223	INT.			224				.284	.483	113	1.7-1	Hyd
	EXH.			224				.284	.483	118		Hyd
22230	INT.			214			287	.296	.444	105	1.5	HYD
	EXH.			214			287	.296	.444	115		HYD
22232	INT.			220			304	.312	.468	106		HYD
	EXH.			231			287	.320	.480	114		HYD
22233	EXH.			224			300	.291	.437	109		HYD
	INT.			224			300	.291	.437	107		HYD
22234	INT.			224			283	.320	.480	107		HYD
	EXH.			230			291	.324	.486	113		HYD
22280	EXH.			224			287	.335	.502	113		HYD
	INT.			220			283	.330	.495	107		HYD
22296	EXH.	57 BBC	2 BTC	235	95 BBC	47 ATC	322	.297	.505	120	1.7	HYD.
	INT.	0 TDC	42 ABC	222	33 BTC	93 ABC	306	.294	.500	110		HYD.
22297	EXH.	50 BBC	-2 ATC	228	86 BBC	34 ATC	300	.510	.532	116		HYD
	INT.	0 BTC	36 ABC	216	36 BTC	72 ABC	288	.501	.509	108		HYD
22298	EXH.	55 BBC	-3 ATC	232	89 BBC	38 ATC	307	.500	.510	119	1.5	HYD
	INT.	2 BTC	40 ABC	222	36 BTC	81 ABC	297	.478	.501	109		HYD
22301	EXH.	46 BBC	4 ATC	230	72 BBC	35 ATC	287	.320	.480	111		HYD.
	INT.	8 BTC	42 ABC	230	34 BTC	73 ABC	287	.320	.480	107		HYD.
22302	EXH.	49 BBC	1 ATC	230	82 BBC	47 ATC	309	.302	.513	114	1.7	HYD.
	INT.	9 BTC	41 ABC	230	42 BTC	87 ABC	309	.302	.513	106		HYD.
22303	INT.	5 BTC	39 ABC	224	37 BTC	81 ABC	298	.310	.465	107	1.5	HYD.
	EXH.	54 BBC	0 TDC	234	85 BBC	39 ATC	304	.325	.488	117		HYD.
22304	INT.			232			308	.325	.487	106		HYD
	EXH.			234			308	.325	.487	110		HYD
22305	EXH.	59 BBC	5 ATC	244	90 BBC	43 ATC	316	.339	.509	117		HYD.
	INT.	10 BTC	44 ABC	234	41 BTC	82 ABC	303	.325	.488	107		HYD.
22306	INT.	9 BTC	41 ABC	230	36 BTC	86 ABC	302	.311	.529	110	1.7	HYD.
	EXH.	49 BBC	1 ATC	230	87 BBC	40 ATC	307	.325	.553	118		HYD.
22320	INT.	3 BTC	47 ABC	230	34 BTC	90 ABC	304	.302	.453	112	1.5	HYD.
	EXH.	51 BBC	1 ATC	230	82 BBC	42 ATC	304	.302	.453	116		HYD.
22385	INT.			237				.368	.625	109	1.7	HYD
	EXH.			245				.376	.639	115		HYD
22396	INT.	12 BTC	50 ABC	242	41 BTC	88 ABC	309	.306	.520	108		.020
	EXH.	60 BBC	2 ATC	242	83 BBC	32 ATC	295	.306	.520	120		.024

## CAMSHAFT SPECIFICATIONS (Cont. )

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
		Opens	Closes	Duration	Opens	Closes	Duration					
22397	INT.	10 BTC	44 ABC	234	37 BTC	79 ABC	296	.537	.528	107	1.5	HYD
	EXH.	56 BBC	2 ATC	238	83 BBC	37 ATC	300	.514	.528	117		HYD
22398	EXH.	56 BBC	2 ATC	238	83 BBC	37 ATC	300	.514	.500	117		HYD
	INT.	10 BTC	44 ABC	234	37 BTC	79 ABC	296	.537	.478	107		HYD
22400	EXH.	70 BBC	20 ATC	270	88 BBC	44 ATC	312	.341	.512	116		.024
	INT.	19 BTC	58 ABC	257	40 BTC	84 ABC	304	.329	.494	108		.022
22401	INT.	15 BTC	49 ABC	244	46 BTC	88 ABC	314	.340	.510	107		HYD.
	EXH.	63 BBC	11 ATC	254	95 BBC	53 ATC	328	.355	.533	117		HYD.
22402	INT.	14 BTC	46 ABC	240	32 BTC	68 ABC	280	.347	.520	106		.026
	EXH.	52 BBC	18 ATC	250	70 BBC	42 ATC	290	.347	.520	106		.026
22404	INT.	29 BTC	47 ABC	258	44 BTC	63 ABC	290	.360	.540	99		.026
	EXH.	63 BBC	21 ATC	266	78 BBC	37 ATC	298	.372	.558	111		.026
22407	INT.	16 BTC	54 ABC	250	39 BTC	82 ABC	294	.356	.576	108	1.7	.022
	EXH.	64 BBC	16 ATC	260	82 BBC	42 ATC	306	.376	.639	116		.026
22408	INT.	24 ATC	64 ABC	268	52 BTC	93 ABC	325	.382	.649	112		.022
	EXH.	72 BBC	24 ATC	276	96 BBC	49 ATC	325	.394	.670	108		.026
22410	EXH.	64 BBC	10 ATC	254	84 BBC	31 ATC	295	.394	.485	118	1.5	.030
	INT.	16 BTC	58 ABC	254	36 BTC	79 ABC	295	.323	.485	110		.030
22415	INT.	10 BTC	52 ABC	242	33 BTC	82 ABC	295	.305	.458	110		.020
	EXH.	68 BBC	6 ATC	254	94 BBC	34 ATC	308	.322	.484	122		.025
22427	EXH.	70 BBC	20 ATC	270	91 BBC	49 ATC	320	.341	.580	116	1.7	.026
	INT.	22 BTC	62 ABC	264	46 BTC	96 ABC	322	.329	.559	108		.022
22450	INT.	21 BTC	61 ABC	262	42 BTC	87 ABC	309	.341	.512	108	1.5	.022
	EXH.	71 BBC	22 ATC	273	90 BBC	48 ATC	318	.357	.536	116		.024
22460	EXH.			246			302	.339	.509	112		HYD
	INT.			246			302	.339	.509	106		HYD
22470	EXH.			266			297					
	INT.			255			287					
22471	EXH.			246			311	.337	.572	114		HYD
	INT.			240			305	.329	.559	110		HYD
22472	EXH.	54 BBC	11 ATC	245	92 BBC	37 ATC	329	.639	.480	115	1.7	HYD
	INT.	6 BTC	51 ABC	237	49 BTC	106 ABC	335	.625	.480	109		HYD
22480	EXH.			246			310	.336	.572	114		HYD
	INT.			241			305	.329	.559	110		HYD
22485	INT.	12 BTC	44 ABC	236	52 BTC	84 ABC	316	.561	.435	106		HYD
	EXH.	57 BBC	9 ATC	246	96 BBC	48 ATC	324	.578	.462	114		HYD
23103	EXH.	27 BBC	8 BTC	199	61 BBC	41 ATC	282	.274	.411	108	1.5	HYD.
	INT.	15 ATC	33 ABC	198	16 BTC	82 ABC	278	.273	.410	114		HYD.
23104	INT.	15 ATC	33 ABC	198	16 BTC	82 ABC	278	.273	.410	114		HYD.
	EXH.	27 BBC	8 BTC	199	61 BBC	41 ATC	282	.274	.411	108		HYD.
23123	EXH.	36 BBC	12 BTC	204	68 BBC	30 ATC	278	.280	.420	114		HYD.
	INT.	4 ATC	28 ABC	204	28 BTC	70 ABC	278	.280	.420	106		HYD.
23203	INT.	0 TDC	34 ABC	214	32 BTC	76 ABC	288	.295	.443	107		HYD.
	EXH.	49 BBC	5 BTC	224	81 BBC	37 ATC	298	.310	.465	117		HYD.
23204	EXH.	49 BBC	5 BTC	224	81 BBC	37 ATC	298	.310	.465	117		HYD.
	INT.	0 TDC	34 ABC	214	32 BTC	76 ATC	288	.295	.443	107		HYD.
23301	INT.	8 BTC	43 ABC	231	32 BTC	75 ABC	287	.320	.480	107		HYD.
	EXH.	46 BBC	5 ATC	231	70 BBC	37 ATC	287	.320	.480	111		HYD.
23302	INT.	7 BTC	43 ABC	230	37 BTC	83 BTC	300	.320	.480	107		HYD.
	EXH.	45 BBC	5 ATC	230	75 BBC	45 ATC	300	.320	.480	111		HYD.
23401	INT.	12 BTC	50 ABC	242	42 BTC	90 ABC	312	.347	.520	108		HYD.
	EXH.	54 BBC	18 ATC	252	84 BBC	56 ATC	320	.367	.550	110		HYD.
24106	INT.	12 ATC	16 ABC	184	18 BTC	61 ABC	258	.238	.381	103	1.6	HYD.
	EXH.	28 BBC	16 BTC	192	59 BBC	32 ATC	270	.247	.395	111		HYD.
24107	EXH.	38 BBC	9 BTC	209	70 BBC	42 ATC	292	.278	.445	114		HYD.
	INT.	14 ATC	32 ABC	198	18 BTC	82 ABC	280	.260	.416	114		HYD.
24108	INT.			190				0.257	0.412	106		HYD.
	EXH.											
24111	INT.			208			284	.280	.484	107	1.73	HYD

## CAMSHAFT SPECIFICATIONS (Cont.)

Part No.		SAE Specs@										
		Specs @ 0.50 Cam Lift			(0.06/Rocker Arm Ratio) Cam Lift			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
	EXH.	Opens	Closes	Duration	Opens	Closes	Duration					
24203	INT.	0 TDC	34 ABC	214	33 BTC	77 ABC	290	.295	.472	107	1.6	HYD.
	EXH.			224			300	.310	.496	117		HYD.
24204	INT.	0 TDC	34 ABC	214	34 BTC	78 ABC	292	.295	.510	107	1.73	HYD.
	EXH.	49 BBC	5 BTC	224	83 BBC	39 ATC	302	.310	.536	117		HYD.
24205	EXH.	49 BBC	5 BTC	224	83 BBC	39 ATCC	302	.310	.536	117		HYD.
	INT.	0 TDC	34 ABC	214	34 BTC	78 ABC	292	.295	.510	107		HYD.
24206	INT.	0 TDC	34 ABC	214	34 BTC	79 ABC	293	.296	.518	107	1.75	HYD.
	EXH.	49 BBC	5 BTC	224	83 BBC	40 ATC	303	.311	.544	117		HYD.
24207	INT.	5 BTC	39 ABC	224	39 BTC	84 ABC	303	.311	.544	107		HYD.
	EXH.	54 BBC	0 TDC	234	87 BBC	41 ATC	308	.325	.569	117		HYD.
24209	INT.	13 ATC	40 ABC	207	17 BTC	85 ABC	282	.278	.445	117	1.6	HYD.
	EXH.	47 BBC	6 BTC	221	83 BBC	41 ATC	304	.283	.453	113		HYD.
24210	INT.			224			300	.311	.498	107		HYD.
	EXH.			234			305	.325	.520	117		HYD.
24211	INT.	5 BTC	39 ABC	224	37 BTC	81 ABC	298	.310	.496	107		HYD.
	EXH.	54 BBC	0 TDC	234	85 BBC	39 ATCC	304	.325	.520	117		HYD.
24212	INT.	3 BTC	35 ABC	218	38 BTC	80 ABC	298	.288	.461	107		HYD.
	EXH.			218			298	.288	.461	119		HYD.
24213	EXH.	50 BBC	10 BTC	220	88 BBC	42 ATC	310	.290	.502	120	1.73	HYD.
	INT.	1 ATC	37 ABC	216	37 BTC	89 ABC	306	.285	.493	109		HYD.
24218	INT.	0 TDC	43 ABC	223	36 BTC	91 ABC	307	.292	.514	110	1.76	HYD.
	EXH.	44 BBC	1 BTC	223	80 BBC	47 ATC	307	.292	.514	114		HYD.
24224	EXH.	49 BBC	10 BTC	219	87 BBC	41 ATC	308	.292	.505	120	1.73	HYD.
	INT.	1 BTC	38 ABC	219	39 BTC	89 ABC	308	.292	.505	108		HYD.
24225	EXH.	49 BBC	11 BTC	218	80 ABC	34 ATC	298	.288	.461	119	1.6	HYD.
	INT.	3 BTC	35 ABC	218	38 BTC	84 ABC	298	.288	.461	107		HYD.
24226	INT.			212			289	.307	.491	107		HYD.
	EXH.			222			300	.318	.509	117		HYD.
24227	INT.			222			300	.318	.509	107		HYD.
	EXH.			232			309	.332	.532	117		HYD.
24280	INT.			220			286	.320	.512	109		HYD.
	EXH.			223			292	.320	.512	115		HYD.
24301	EXH.			230			288	.320	.512	111		HYD.
	INT.			230			288	.320	.512	107		HYD.
24302	INT.	7 BTC	43 ABC	230	39 BTC	85 ABC	304	.320	.554	107	1.73	HYD.
	EXH.	45 BBC	5 ATC	230	77 BBC	47 ATC	304	.320	.554	111		HYD.
24303	EXH.	54 BBC	0 TDC	234	86 BBC	41 ATC	307	.325	.562	117		HYD.
	INT.	5 BTC	39 ABC	224	39 BTC	82 ABC	307	.311	.538	107		HYD.
24305	INT.			227			298	.325	.520	107	1.6	HYD.
	EXH.			234			302	.325	.520	117		HYD.
24401	INT.	17 BTC	47 ABC	244	38 BTC	72 ABC	290	.329	.569	104	1.73	.026
	EXH.	54 BBC	20 ATC	254	79 BBC	41 ATC	300	.341	.590	108		.026
24406	INT.	15 BTC	49 ABC	244	47 BTC	90 ABC	317	.340	.595	107	1.75	.026
	EXH.	63 BBC	11 ATC	254	95 BBC	53 ATC	328	.355	.621	117		.026
25211	EXH.	49 BBC	5 BTC	224	82 BBC	38 ATC	300	.310	.496	117	1.6	HYD.
	INT.	0 TDC	34 ABC	214	33 BTC	77 ABC	290	.295	.472	107		HYD.
25309	INT.			244			314	0.297		110		HYD.
	EXH.			244			314			110		HYD.
25310	INT.			232			329		.474	112		
	EXH.			232			329		.474	114		
26204	INT.			214			288		.443	107		
	EXH.			224			298		.465	117		
26303	EXH.			236			310		.407	119		
	INT.			224			297		.407	112		
26308	INT.			231			304		.470	112		
	EXH.			240			315		.470	115		
27101	EXH.			224			N/A	.275	.429	115	1.56	.012
	INT.			214			N/A	.267	.416	105		.012



## CAMSHAFT SPECIFICATIONS (Cont. )

Part No.		Specs @ 0.50 Cam Lift			SAE Specs@ (0.06/Rocker Arm Ratio)			Cam Lift	Gross Valve Lift	Center Line C/L	Rocker Arm Ratio	Valve Lash Clearance
		Opens	Closes	Duration	Opens	Closes	Duration					
27201	EXH.			234			N/A	.283	.442	115		.012
	INT.			224			N/A	.275	.429	105		.012