









COMPLETE CAM SPECIFICATIONS

Application	Camshaft Series/ Grind Number	RPM POWER RANGE	Camshaft PART NUMBER/ Emissions Code	See pg. 293 LIFTERS	Degrees Duration @ .050" Int/Exh.	Advertised Degrees Duration Int/Exh.	Degrees Lobe Separation	Open/Close @ .050" Cam Lift Int/Exh	Lash Hot Int. Exh.	Gross Lift Int. Exh.
Hydraulic Lifter Camshafts										
Brute low end torque, smooth idle, daily usage, fuel economy, 1600-2200 cruise RPM, 7.75 to 8.75 compression ratio advised.	H-248-2	800-4200	693971*	99278-16	192 204	248 260	112	(11) 23 39 (15)	.000 .000	.400 .427
										
Great low end torque and HP, smooth idle, daily usage, off road, towing, economy, mild marine performance, also mild turbocharged, 2200-2600 cruise RPM, 8.0 to 9.5 compression ratio advised.	H-260-2	1200-4800	693901* 693902*^a	99278-16	204 216	260 272	112	(5) 29 45 (9)	.000 .000	.427 .454
										
Good low end and mid range torque and HP, good idle, daily usage, off road, towing, economy, mild marine performance, also mild turbocharged, 2400-2800 cruise RPM, 8.5 to 10.0 compression ratio advised.	Z-268-2	1200-5000	693511* 693512*	99278-16	212 220	268 276	112	(1) 33 47 (7)	.000 .000	.459 .480
										
Good low end to mid range torque, good idle, daily usage, off road, highway towing, fuel efficiency plus performance, 2600-3000 cruise RPM, 8.75 to 10.0 compression ratio advised.	Energizer 272 H10	1800-5200	15005* 150052*^a	99278-16	216 216	272 272	110	3 23 43 (7)	.000 .000	.454 .454
										
Good low end and mid range torque and HP, good idle, daily usage and off road, towing, performance and fuel efficiency, marine performance, 2600-3000 cruise RPM, 8.75 to 10.5 compression ratio advised.	H-272-2	1800-5400	693941* 693942*^a	99278-16	216 228	272 284	112	1 35 51 (3)	.000 .000	.454 .480
										
Good low end and mid range torque and HP, good idle, daily usage and off road, towing, performance and fuel efficiency, marine performance, 2600-3000 cruise RPM, 8.75 to 10.5 compression ratio advised.	Z-276-2	1800-5600	693521* 693522*^a	99278-16	220 228	276 284	110	5 35 49 (1)	.000 .000	.480 .501
										
Excellent mid range torque, rough idle, moderate performance usage, limited oval track, mild bracket racing, auto trans w/3000+ converter, serious off road, 9.5 to 11.0 compression ratio advised.	H-222/3200-6	2200-5600	690141*	99278-16 99378-16*^b	222 222	294 294	106	9 33 41 1	.000 .000	.480 .480
										
Good mid range torque and HP, fair idle, daily performance usage, mild bracket racing, mild supercharged, small nitrous system, 3000-3400 cruise RPM, 9.5 to 10.75 compression ratio advised.	H-278-2	2200-5800	693801* 693802*^a	99278-16 99378-16*^b	222 234	278 290	114	2 40 56 (2)	.000 .000	.467 .494
										

RPM range shown is for average usage. These cam profiles will RPM higher, depending upon application.

NOTE: For maximum performance, and to provide the most accurate valve adjustment on hydraulic lifter camshafts, the use of our **69770-16** adjustable rocker arms and **69691-16** pushrods is highly recommended.

NOTE: Early 1986-91 318 (5.2L) and early 1987-91 360 (5.9L) engines are equipped with hydraulic roller camshafts and lifters. Conventional hydraulic, mechanical, or roller camshafts and lifters can be installed in these engines, providing the appropriate kit components are used.

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Custom Grind Cams Also Available – Call 866-388-5120 or go to cranecams.com for ordering information

CRANE VALVE TRAIN COMPONENTS

See pg. 358	See pg. 337	See pg. 350	See pg. 362	See pg. 360	See pg. 306	See pg. 328	See pg. 312	See pg. 315	See pg. 320
VALVE SPRING AND RETAINER KITS	VALVE SPRINGS	RETAINERS	VALVE STEM SEALS	VALVE STEM LOCKS	PUSHRODS	TIMING CHAIN AND GEAR ASSEMBLY	CAST ROCKER ARMS	— ALUMINUM ROCKERS — CRANE CLASSIC/ ENERGIZER	GOLD RACE
69308-1 ^c	99835-16 ^c	99948-16			69621-16 ^e	69975-1 ^f	69770-16 ^g 69771-16 ^h		69790-1 ⁱ 69791-1 ^j
69308-1 ^c	99835-16 ^c	99948-16			69621-16 ^e	69975-1 ^f	69770-16 ^g 69771-16 ^h		69790-1 ⁱ 69791-1 ^j
69308-1 ^c	99835-16 ^c	99948-16			69621-16 ^e	69975-1 ^f	69770-16 ^g 69771-16 ^h		69790-1 ⁱ 69791-1 ^j
69308-1 ^c	99835-16 ^c	99948-16			69621-16 ^e	69975-1 ^f	69770-16 ^g 69771-16 ^h		69790-1 ⁱ 69791-1 ^j
69308-1 ^c	99835-16 ^c	99948-16			69621-16 ^e	69975-1 ^f	69770-16 ^g 69771-16 ^h		69790-1 ⁱ 69791-1 ^j
69308-1 ^c	99835-16 ^c	99948-16			69621-16 ^e	69975-1 ^f	69770-16 ^g 69771-16 ^h		69790-1 ⁱ 69791-1 ^j
	99838-16 ^d	99948-16	99822-16 ^d		69621-16 ^e	69975-1 ^f	69770-16 ^g 69771-16 ^h		69790-1 ⁱ 69791-1 ^j
69308-1 ^c	99835-16 ^c	99948-16			69621-16 ^e	69975-1 ^f	69770-16 ^g 69771-16 ^h		69790-1 ⁱ 69791-1 ^j

Section Continued 

- a** Cam and lifter kit, includes installation lubricants.
- b** Optional Hi Intensity hydraulic lifters, see page 292 for details.
- c** Contains standard diameter valve springs, no machining required.
- d** Must machine cylinder heads.
- e** Heavy wall, heat treated, for use with adjustable rocker arms.
- f** Performance steel billet gears and roller chain set.

- g** 1.5 ratio iron rocker arms, adjustable, must use appropriate Crane pushrods (shafts not included).
- h** 1.6 ratio iron rocker arms, adjustable, must use appropriate Crane pushrods (shafts not included).
- i** 1.5 ratio aluminum rocker arm kit with rocker shafts, adjustable, must use appropriate Crane pushrods.
- j** 1.6 ratio aluminum rocker arm kit with rocker shafts, adjustable, must use appropriate Crane pushrods.

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Application	Camshaft Series/ Grind Number	RPM POWER RANGE	Camshaft PART NUMBER/ Emissions Code	See pg. 293 LIFTERS	Degrees	Advertised	Degrees	Degrees	Open/Close	Lash	Gross
					Duration @ .050" Int/Exh.	Degrees Duration Int/Exh.	Lobe Separation	@ .050" Cam Lift Int/Exh	Hot Int. Exh.	Lift Int. Exh.	
Hydraulic Lifter Camshafts											
Good mid range to upper RPM torque and HP, fair idle, moderate performance usage, bracket racing, 340+ cu.in., 3200-3600 cruise RPM, 9.5 to 11.0 compression ratio advised.	H-288-2	2600-6000	694301*	99278-16	226	288	110	8 38	.000	.458	
			694302* ^a	99378-16 ^b	230	292	50 0	.000	.465		
			3								
Good mid range torque, fair idle, moderate performance usage, mild bracket racing, auto trans w/2500+ converter, 3400-3800 cruise RPM, serious off road, 9.5 to 11.0 compression ratio advised.	Energizer 284 H12	3000-6200	15006*	99278-16	228	284	112	7 41	.000	.480	
			150062* ^a	99378-16 ^b	228	284	51 (3)	.000	.480		
			3								
Performance usage, good mid range torque & HP, bracket racing; Street, Heavy, etc., auto trans w/3000+ converter, oval track; Street Stock, Enduro, etc., 1/4-3/8 mile, radical off road, 10.0 to 11.5 compression ratio advised.	H-228/3200-25-8	3000-6200	690591*	99278-16	228	284	108	11 37	.000	.480	
				99378-16 ^b	234	290	50 4	.000	.494		
			3								
Performance usage, strong mid range to upper RPM torque and HP, bracket racing, auto trans w/3000+ converter, 10.0 to 11.5 compression ratio advised.	H-232/3360-6	3200-6400	690221*	99278-16	232	304	106	14 38	.000	.504	
				99378-16 ^b	232	304	46 6	.000	.504		
			3								
Good mid range to upper RPM torque and HP, rough idle, performance usage, auto trans w/3000+ converter, 3800-4200 cruise RPM, radical street, also mild super-charged, nitrous, 340+ cu.in., 10.0 to 11.5 compression ratio advised.	H-302-2	3200-6800	694561*	99278-16	232	302	114	7 45	.000	.504	
				99378-16 ^b	242	312	60 2	.000	.528		
			3								
Moderate competition, good upper RPM HP, performance usage, bracket racing, 360+ cu.in., auto trans w/3500+ converter, 360+ cu.in., 10.5 to 12.0 compression ratio advised.	H-312-2	3600-7000	694571*	99278-16	242	312	108	18 59	.000	.528	
				99378-16 ^b	252	322	44 13	.000	.552		
			3								
Moderate competition, good upper RPM HP, bracket racing, 360+ cu.in., auto trans w/3500+ converter, oval track 3/8-1/2 mile, 360+ cu.in., 11.5 to 13.0 compression ratio advised.	H-244/3439-6	3800-7000	690711*	99278-16	244	300	106	20 44	.000	.516	
				99378-16 ^b	244	300	52 12	.000	.516		
			3								
Moderate competition only, good upper RPM HP, bracket racing, auto trans w/3500+ converter, 360+ cu.in., good with aluminum cylinder heads, 12.5 minimum compression ratio advised.	H-252/3680-2-10	4400-7200	690241*	99278-16	252	324	110	21 51	.000	.552	
				99378-16 ^b	262	334	66 16	.000	.576		
			3								

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