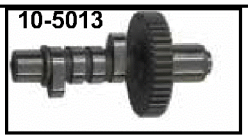
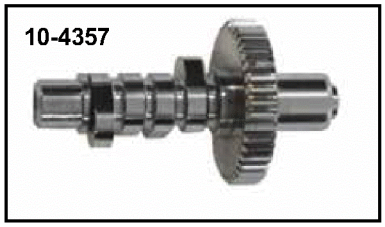
ANDREWS 1948-84 Big Twin Cam

VT No.	Year	Grind	Timing @ .053	Duration Shovel	Valve Lift Pan		Application
CAMS FOR STREET AND DRAG APPLICATIONS							
Stock (Front Cyl.) H/D Cams			-6/46	220	.390	.412	Stock H/D front cylinder timing
		44/20	244	.390	.412	Listed	for Comparison
Stock (rear cyl.) H/D Cams			14/38	232	.390	.412	Stock H/D front cylinder timing
		44/20	244	.390	.412	Listed	for Comparison
10-2011	1948-69		21/41	242	.405	.425	Mild street; Panheads and Shovelheads, smooth idle more power through
10-2020	1970-77	**J**					R.P.M. range. Bolts in with no head work.
10-2030	1978-84						
10-2270	1948-69		21/43	244	.450	.470	Street/Drags; bolts into Shovelheads (except some 1980-81) with no head work. More
—	1970-77	**A**					mid-.range and high-end power. Idle smoothness is unaffected.
10-2260	1948-69		19/43	242	.450	.470	Bolt in cam that requires no head work. More mid range and hi end power. Idle
10-2263	1970-77	**A2**					unaffected.
10-2267	1978-84						
10-2310	1948-69		21/43	244	.450	.470	"A" Intake and long duration exhaust for cooler running and more high-end power.
10-2320	1970-77	**AB**					Both in street cam (except 80-81).Okay. for Hydraulic Lifters.
10-2331	1978-84						
10-2351	1948-69		26/50	256	.485	.507	Street Drags: More mid range and high end power, smooth idle. Best cam for modified
10-2353	1970-77	**B2**					74/80 cubic inch and small strokers. Spring spacing required.
10-2358	1978-84						
10-2430	1970-77		24/52	256	.450	.470	Hydraulic version of a "B" cam. Usually a bolt in but spring spacing may be required on
10-2440	1978-84	**BH**					1980-81 Shovelheads.
10-2510	1948-69		32/56	268	.510	.535	Hotter version of "B" grind. Great street cam especially for 84/88 cubic inch strokers;
	1970-77	**6**					maximum torque available from 2500 to 6500 R.P.M.
10-2530	1978-84						
10-2264	1948-69		29/53	262	.510	.535	Upgraded version of original #6 Grind. Great street cam for 84/88 inch strokers. Maximum
10-2265	1970-77	**7**					Torque available from 2200 to 6500 R.P.M.
10-2266	1978-84						
10-2600	1948-69		37/61	278	.525	.550	Best production cam made for big street engines. Strokers from 84" to 96" will really turn
10-2610	1970-77	**C**					on with this cam. Broad torque range pulls from 2000 to 7000+ R.P.M.
10-2620	1978-84						
CAMS FOR LOW COMPRESSION ENGINES							
10-2420	1948-69			B			Bolt In
10-2130	1948-69		16/36	232	.427	.450	This is the low compression piston version of "A" grind cam for 74 and 80 cubic inch
10-2140	1970-77	**1**					engines with 7.5 compression ratio pistons.
10-2150	1978-84						
10-2340	1970-77		15/35	230	.490	.512	Low compression piston version of a "B" grind cam. More power through R.P.M. range
10-2350	1978-84	**2**					for engines with 7.5 compression pistons.
10-2630	1948-69		23/43	246	.514	.540	High lift, short duration for motors 84 cubic inch engines or larger. More power for small
10-2640	1970-77	**3**					strokers with 7.5 compression pistons.
10-2650	1978-84						
HIGH PERFORMANCE & DRAGSTER CAMS							
10-2740	1948-69		28/56	264	.590	.210	Street Drags: 88+ cubic inch engines maximum mid-range torque cam 3000/6500 RPM.
10-2750	1970-77	**M**					OK for low compression on street. Andrews springs and collars make installation easy.
10-2760	1978-84						
10-2850	1948-69		32/64	276	.530	.222	Drags: Broad tip design for maximum mid-range power for strokers from 88 cubic inches
10-2860	1970-77	**9**					and larger. Requires Andrews springs and collars for head set up and installation.
10-2870	1978-84						
10-2890	1948-69		34/70	284	.580	.230	Maximum output dragster cam for BIG motors from 92" cubic inch and up.
10-2900	1970-77	**10**	70/34	284	.580		This cam is for best torque up to 6500 R.P.M. Requires Andrews springs and collars.
10-2910	1978-84						
10-2800	1948-69		36/68	284	.590	.235	Dragster: 88+ cubic inches, 10.5+ pistons light frames. Maximum high-end power at
10-2820	1970-77	**Z**					high R.P.M. Pulls from 4000 to 75000+ R.P.M. Andrews springs and collars recommended.



Competition Cams

VT No.	Year	Application Hydraulic	P/N	Duration @ 053		Valve Lift		Valve Timing Open/Close		Lift @ TDC	
				Intake	Exhaust	Intake	Exhaust	Intake	Exhaust	Intake	Exhaust
10-5009	78-84	Very good torque and mid-	SHV4000	236	236	.450"	.450"	14/42	42/14	.093"	.093"
10-5010	70-77	range. Good roll on power.	SHV-4001								
10-5011	78-84	Good torque strong mid-	SHV4010	236	236	.485"	.485"	14/42	42/14	.093"	.093"
10-5012	70-77	range and good roll on power.	SHV-4011								
10-5013	78-84	Valve springs needed.	SHV4020	242	242	.485"	.485"	17/45	45/17	.103"	.103"
10-5014	70-77	Increased midrange over	SHV-4021								
10-5016	70-77	Performance cam. Use with carb,	SHV-4031	252	252	.485"	.485"	22/50	50/22	.120"	.120"
		pipes and valve springs.									
10-5017	78-84	Pulls strong all thru power band.	SHV4040	242	252	.485"	.485"	17/45	50/22	.103"	.120"
10-5018	70-77	Need carb, pipes and valve springs.	SHV-4041								
10-5019	78-84	Hot Street or strip cam in light bike.	SHV4050	260	270	.550"	.550"	24/56	61/29	.128"	.145"
10-5020	70-77	Must have carb, pipes and head work	SHV-4051								
		Pulls to 7,000 R.P.M.									



1948-84 Big Twin Cam

CRANE Cams

The Leader in Performance Technology

SPECIFICATIONS

VT No.	YEAR	DURATION @ .053" OPEN/CLOSE[a] INT.	DURATION @ .053" OPEN/CLOSE[a] EXH.	GROSS VALVE LIFT INT.	GROSS VALVE LIFT EXH.	SERIES & GRIND NUMBER	TYPE & APPLICATION
10-8252 **10-8253** **10-8254**	1948-69 1970-77 1978-84	248 24/44 Cam lift at TDC: Int: .126" Exh: .130"*	248 44/24	.455[b] .479[c]	.455[b] .479[c]	Hydraulic 300H	**HYDRAULIC** - Bolt-in. Broad power range for streetable performance. Works Fireball well with stock compression or increased up to 10:1. Low and mid range improvement. Does not require valve spring change. Works well with stock carburetor and exhaust or performance parts.
10-4380 **10-4381** **10-4382**	1948-69 1970-77 1978-84	244 20/44 Cam lift at TDC: Int: .108" Exh: .108"*	244 44/20	.455[b] .479[c]	.455[b] .479[c]	Fireball 296A	**MECHANICAL** - Bolt-in performance throughout the power range. Also recommended for increased torque in heavy bikes with heavy loads. No spring change required. Works well with stock carburetor and exhaust. Does not have Cranes multi-indexed gear. Replaces A.
10-4383 **10-4384** **10-4385**	1948-69 1970-77 1978-84	256 26/50 Cam lift at TDC: Int: .129" Exh: .129"*	256 50/26	.490[b] .516[c]	.490[b] .516[c]	Fireball 308B	**MECHANICAL** - Performance cam. Can be used with stock compression but works well with 10.5:1 compression ratio. Mid range and top end improvement. Heads must be clearanced and may require valve spring change to install. Works well with performance exhaust, carburetor and cylinder head work. Replaces B.
10-4357 **10-4364**	1970-77 1978-84	244 22/42 Cam lift at TDC: Int: .125" Exh: .128"*	244 42/22	.450[b] .474[c]	.450[b] .474[c]	Hydraulic Hi-Roller H288B	**HYDRAULIC** - Bolt-in performance throughout the power range, Also recommended for increased torque in heavy bikes with heavy loads. No spring change required. Works well with stock carburetor and exhaust.
10-4358 **10-4365**	1970-77 1978-84	244 18/46 Cam lift at TDC: Int: .110" Exh: .132"*	254 51/23	.450[b] .474[c]	.450[b] .474[c]	Hydraulic Hi-Roller H288-2B	**HYDRAULIC** - Mild performance. Can be used with stock springs, carburetor and exhaust or performance systems. Increased horsepower throughout RPM range.
10-4352 **10-4359** **10-4366**	1948-69 1970-77 1978-84	254 25/49 Cam lift at TDC: Int: .137" Exh: .128"*	264 62/22	.450[b] .474[c]	.450[b] .474[c]	Hydraulic Hi-Roller H298-2B	**HYDRAULIC** - Performance can be used with performance type carburetor and exhaust. Increased mid-range and top end horsepower. Check valve-to-valve clearance.
10-4368	1978-84	252 24/48 Cam lift at TDC: Int: .124" Exh: .124"*	252 48/24	.450[b] .474[c]	.450[b] .474[c]	Hi-Roller H298B	**MECHANICAL** - Bolt-in mild performance. Can use stock springs, carburetor and exhaust. Increased mid-range and top end horsepower. No increase in compression ratio required.
10-4353 **10-4360** **10-4367**	1948-69 1970-77 1978-84	262 29/53 Cam lift at TDC: Int: .140" Exh: .140"*	262 53/29	.450[b] .474[c]	.450[b] .474[c]	Hi-Roller H298B	**MECHANICAL** - Mild performance. Works well with high performance carburetor and exhaust system. Can use stock springs, but check valve-to-valve clearance.
10-4356	1948-69	266 31/55 Cam lift at TDC: Int: .152" Exh: .155"*	266 55/31	.525[b] .553[c]	.525[b] .553[c]	Hi-Roller 310B	**MECHANICAL** - High performance street and drags. Increased compression ratio and/or cubic inches required. Must change valve springs and check spring travel, piston-to-valve, and valve-to-valve clearances.
10-4355 **10-4362** **10-4369**	1948-69 1970-77 1978-84	268 32/56 Cam lift at TDC: Int: .152" Exh: .152"*	268 56/32	.485[b] .511[c]	.485[b] .511[c]	Hi-Roller 304B	**MECHANICAL** - Streetable high performance. Increased compression ratio and/or cubic inches required. Must change valve springs and check spring travel, piston-to-valve, and valve-to-valve clearances.
10-4371	1948-69	276 36/60 Cam lift at TDC: Int: .172" Exh: .160"*	276 64/32	.550[b] .579[c]	.550[b] .579[c]	Hi-Roller 320B	**MECHANICAL** - Street and drag cam for high performance engines. Increased cubic inches required for best results. Head work required for proper spring travel, piston-to-valve, and valve-to-valve clearances.
10-4374 **10-4375** **10-4376**	1948-69 1970-77 1978-84	286 41/65 Cam lift at TDC: Int: .192" Exh: .164"*	286 73/33	.575[b] .606[c]	.575[b] .606[c]	Hi-Roller 330B	**MECHANICAL** - Drag cam for large cubic engines. Head work required for proper spring travel, piston-to-valve, and valve-to-valve clearances, also to insure maximum performance. Camshafts having over .450" valve lift in 1948-69 engines, will need to have front exhaust lobe-to-circuit breaker drive gear clearance checked.

Camshafts having over .450" valve lift in 1948-57 engines, will need to have front intake lobe-to-case clearance checked.

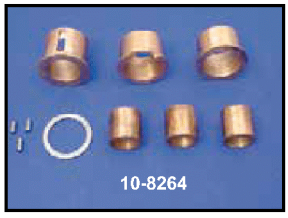
* To convert cam lift to valve lift, multiply the cam lift figure by the rocker arm ratio: Shovelhead - 1.425; Panhead - 1.5.

[a] Opening and closing figures for camshafts with the multiple keyway gear are based on the gear installed in the "0" position.

[b] Gross valve lift for Shovelhead with 1.425 rocker arm ratio.

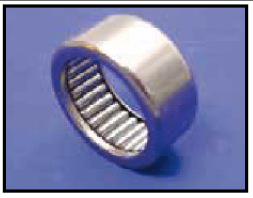
[c] Gross valve lift for Panhead with 1.5 rocker arm ratio.

Note: All Crane Cams are shipped with red cam gear.



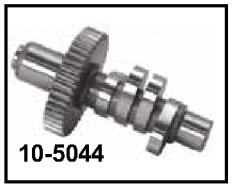
Sifton Cam Bushing Kits. Big Twin type includes cam and gear shaft bushings/bearings with lock pins and thrust plate.

VT No.	Year
10-8264	1936-53
10-8263	1954-57
10-8262	1958-69
10-8261	1970-72
10-8260	1973-92



Cam Needle Bearings feature full compliment roller design. OEM# 9058. Fits 1958-99 Big Twin.

VT No.	Brand
12-0397	V-Twin
12-0316	Torrington


10-5044

S&S Cam

VT No.	Year	S&S#	Application	Valve Timing* Intake Open/Close	Valve Timing* Exhaust Open/Close	Valve Duration Intake	Valve Duration Exhaust	Valve Lift Shovel/Pan	Lift @ TDC+ Intake	Lift @ TDC+ Exhaust	Requirements Spring Spacing	Requirements Lifter Type
10-5043 **10-5044** **10-5045**	1948-69 1970-77 1978-84	S&S 450S	Engines up to 88"with up +8.5:1. Good low and mid range torque.	18°/38°	40°/18°	236°	238°	.475"/.453"	.158"	.152"	No Bolt In	Hydraulic
10-5050 **10-5051** **10-5052**	1948-69 1970-77 1978-84	S&S 514	80"/84" to 96" engines with 8.5:1 or less CR. Good mid range.	23°/43°	43°/23°	246°	246°	.514"/.540"	.169"	.169"	Yes	Solid
10-5046 **10-5047** **10-5048**	1948-69 1970-77 1978-84	S&S 560S	88" to 103" engines with 9:1 to 10:1 CR Strong power throughout RPM range.	20°/55°	60°/20°	255°	260°	.587"/.560"	.168"	.164"	Yes	Solid

***Note:** Timing designation is function of zero lash @ .053" off base circle.

+Lifts at TDC are measured at the valve and are for reference only. Overlap valve lifts must be checked on assembled motor. Minimum valve to valve clearance of .040" is recommended.

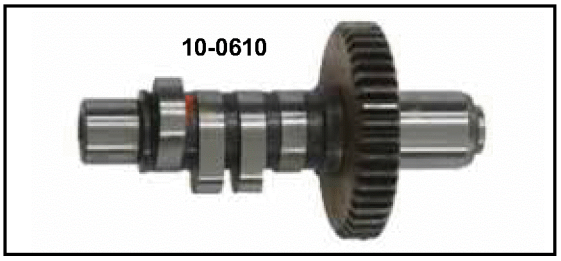
Sifton Cam

48-1327

48-0368

48-1208

Sifton Patches.
VT No. Style
48-1327 Logo
48-0368 Handshake
48-1208 Cam


10-0610

For Identification check these applications:
1978-86 New Shovelhead and 1977 Low Rider
1970-77 Alternator Shovelhead

For 1948-84 Big Twins

VT No.	Year	Cam	Degrees	At .053	Lift	TDC	Travel to	Free
Side Kick Cam is similar to 102 but with more top end power. Requires no head work to install. Do not use with hydraulic tappets.								
—	Late 1948-69	103	Opens	Closes	Total	TDC	Coil Bind	Travel
10-0610	Late 1970-77	Inlet	28°	57°	.390	.174	.420	.470
10-0611	Late 1978-84	Exhaust	53°	27°	.390	.174	.420	.470
Aristocrat Cam shows significant gain over stock, requires no head work to install. Fits 1948-up. Do not use with hydraulic tappets.								
—	1948-69	102	Opens	Closes	Total	TDC	Coil Bind	Travel
10-0601	Late 1970-77	Inlet	32°	56°	.412	.200	.440	.490
10-0602	1978-84	Exhaust	53	28	.412	.185	.440	.490
Avenger Cam performs best in 86" and 93"cubic inch engines with 4-Speed works well with hydraulic, perform best with solid lifters.								
10-0603	1948-69	109	Opens	Closes	Total	TDC	Coil Bind	Travel
10-0604	Late 1970-77	Inlet	32.5°	50°	.440	.211	.470	.520
		Exhaust	58.5	30°	.440	.200	.470	.520
Crusader Cam is a good cam for low end and mid range and is designed to be used with hydraulic lifters.								
—	1948-69	107	Opens	Closes	Total	TDC	Coil Bind	Travel
10-0668	Late 1970-77	Inlet	29°	54°	.440	.193	.470	.520
10-0669	1978-84	Exhaust	53°	25°	.440	.164	.470	.520

CUBIC INCH CHART
Stock 74 Stock 80

BORE	STROKE	3 1/2"	3.968	4 1/4"	4 1/2"	4 5/8"	4 3/4"	5.00
	3 5/16"	61"						
	3 7/16"	64.8	73.7	78.7	83.4	85.7	88.0	92.8
	3 1/2"	67.2	76.3	81.6	86.6	89.0	91.4	96.1
	3 5/8"	72.1	81.7	87.4	92.9	95.5	99.0	103.2
	3 11/16"	74.6	84.7	90.7	96.1	98.8	101.5	106.8
	3 13/16"	79.9	90.6	97.0	102.8	103.7	108.9	114.2
	3 7/8"	82.3	93.4	100.1	100	108.9	111.9	117.8
	4.00	87.9	99.7	106.8	113.0	116.1	119.3	125.6
	4 1/8"	93.4	106.0	113.5	120.2	123.5	126.9	133.6
	4 1/4"	99.2	112.6	120.5	127.6	131.1	134.7	141.8