

All cam timings are Ducati or Vender figures except where noted. Lift figures are at the cam except where noted. Where noted, lift figures are from Ducati. All lift at the cam figures and lobe centers measured by me with the same instrument. Megacycle sheet is from the mid to late 80's. Syd's Cycles numbers are from the mid to late 80's. The 4 graphs represent cams timed and lift checked at the valve in the head with crank degree wheel and depth dial. Cams on graphs; Red + White

Derma Race, Orange and White
springer Race, Green and White
350 SCR cam, Red 250 Mark III
Diana (in my Jupiter 450), and F1 #7
NCR Race cams.

Enjoy,
Jim Pianetta
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Bike	Color code	Cam Timing		Lift at The Cam		Base Circles		Comments Source
		Intake open close BTDC ABDC	Exhaust open close BBDC ATDC	IN EX	IN EX			
N/C								
250 GT	Black	52/52	75/27					To engine # 87422 measured cams all from small port heads
	Violet	20/70	50/30	7.75	7.6	24.15	24.5	
250 GT	Violet	20/70	50/30	7.65	7.65	24.9	24.8	
	Violet	20/70	50/30	7.8	7.7	24.35	24.35	
250 Monza	Violet	20/70	50/30	7.60	7.60	24.8	24.7	
	Violet	20/70	50/30	7.8	7.7	24.35	24.45	White paint on cam
250 SCR 4sp	White			7.8	7.8	24.4	24.4	
250 SCR 5sp	White	32/75	55/44	8.2	8.0	23.75	23.85	
250 SCR 5sp	White	32/75	55/44	8.3	8.0	24.4	24.3	
250 SCR 5sp	White	32/75	55/44	8.2	8.05	24.45	24.3	
250 MKIII 4sp	Red	62/68	75/55	8.60	8.05	23.55	23.45	
250 MKII 4sp	Red	62/68	75/55	8.65	8.45			
250 MKIII 4sp	Red	62/68	75/55	8.5	7.85	23.7	23.65	
250 MKII 5sp	Gray	62/76	70/48	8.95	8.4	22.9	22.8	
250 M1	Gray	62/76	70/48	9.05	8.45	22.8	22.75	
350 Sebring	Violet	20/70	50/30	7.5	7.5	24.9	24.8	Lift per Ducati

All Timing figures per
Ducati manuals, handbooks,

Bike	Color Code	Cam Timing		Lift at		Base		Comments Source
		Intake open close BTDC ABDC	Exhaust open close BBDC ATDC	The Cam IN EX		Circles IN EX		
W/C								
250 Monza	Violet	20/70	50/30	7.5	7.5			'68 owners manual
250 SCR	White	35/75	55/35	7.5	7.3			'68 owners manual
250 SCR	White	27/75	60/32	8.2	8.0			'70 owners manual
250 MKIII	Gray	62/76	70/48	8.55	8.0	21.8	22.7	'68 owners manual
250 MKIII D	Blue+white	60/70	70/50	9.0	8.4	22	21.95	'68 Owners Manual
250 MIII D	Blue+White	70/82	80/65	9.0	8.35	21.9	21.95	'70 Owners Manual
350 SCR	Green+White	65/76	80/50	10.0	8.5			'68 owners manual
350 Sebring	Violet	20/70	50/30	7.5	7.5			'68 owners manual
350 SCR	Green+White	70/84	80/64	9.25	8.45	20.35	20.35	'70 Owners manual
350 MKIII	Green+White	65/76	80/50	10.0	8.5			'68 Owners manual
350 MKIII	Green+White	70/84	80/64	9.85	8.25	20.3	20.55	'70 owners manual
			Another Gw	9.7	8.5	last Data		
			Another Gw	9.85	8.8	20.7	20.8	
350 KIII D	Blue+White	60/70	70/50	9.0	8.4	22	21.95	'68 Owners manual
350 KIII D	Blue+White	70/82	80/65	9.05	8.35	21.85	21.35	'70 Owners manual

Bike	Color code	Cam Timing				Lift at The Cam		Base Circles		Comments Source
		Intake open BTDC	close ABDC	Exhaust open BBDC	close ATDC	IN	EX	IN	EX	
w/c 350 MKIID		I suspect this was in the very 1st Derno 350's Cycle alluded to in 1970 article				10.15	9.7	20.75	21	Sound in very early MKIID Head
450 SCR	White	27	75	60	32	8.2	8.05	21.25	21.85	
450 MKII	White	27	75	60	32	8.2	8.05			
450 MKIII	Blue + Black	Barbados 450 Springer Race? ¹⁴ 14 ME 11? At Valve				10.05	9.2			1974 only Was in Jack's 79 MKIII
450 MKIII D	Blue + White	70	82	80	65	9.05	8.4	2.2	2.2	
450 RT	Blue + white	70	82	80	65	9.05	8.25	Lost Data		
450 RT competition						9.85	9.55			
Race Derno 250/350	Red + white	At Valve				12	8.5			
250/350	Red + white	At cam				12.25	11.05	20.2	21.55	Randy Wings 250 Race Cam
250/350	Red + white	At cam				12.5	11.05	21.1	19.55	English copy of Syd's 350 Race Cam
250/350	Red + white	At cam				12.45	11.8	20.15	22.3	English copy of Syd's 350 Race Cam
450 NCR copy	Red + white	At cam				13.10	12.0	Lost figures Measured, not told		Giacomato
		At Valve				12.05	11.0			
		At cam				13.7	12.15			
		At Valve				12.6	11.2			
450 NCR Jack's 450 Race Cam	Red + white	At cam				12.6	11.2			NCR Race Giacomato via cam

Bike	Color Code	Cam Timing				Lift at The Cam		Base Circles		Comments Source
		Intake open close BTDC ABDC	Exhaust open close BBDC ATDC			IN	EX	IN	EX	
Singles Race	Springer									
Syd's Springer Race	#1	55 / 90	80 / 70			10.7	10.4			Syd's
Syd's Race	#2	49 / 88	50 / 79			9.5	9.3			Spec
Syd's Race	#2	51 / 77	77 / 51			10.6	10.5			Sheet
Syd's Race	I bought this one					10.65	9.75	24.1	24.1	my measurements
Strong running 450 Race	but still not stable		same cam	{ @ cam	{ @ Valve	9.75	9.00			installed @ Valve
V-2 450 Race	V2-03-002	54 / 71	85 / 38			12	11	Need head modification to install		V-2 spec sheet
Ducati Singles Race	Orange & White	63 / 88	80 / 65			10.35	9.2	Lost Data		in head
			@ valve - installed			9.5	8.45			
Singles Race	Norris	51 / 77	77 / 51			10.4	10.35	31.15	31.05	Actual @ cam
			Norris card			10.6	10.6			cam card from Norris

Bike	Color Code	Cam Intake open close BTDC ABDC	Timing Exhaust open close BBDC ATDC	Lift at The Cam IN EX	Base Circles IN EX	Comments Source
Twins						
750 Sport '74				8.75 8.1	21.75 22.7	
750 Sport Race				10.95 9.6 9.6 8.8	Last Data	Syd's Cycler Actual lift @ valve
900 SS '78		63 / 83	80 / 58	11.1 10.7	20.5 20.53	
900 SD '78		63 / 83	80 / 58	10.95 10.6	20.6 20.4	
Factory Imola's	Syd's cam installed	65 / 95 70 / 95 65 / 98	95 / 55 95 / 50 90 / 58	13.1 11.9 12.05 10.95 12.05 10.95	Lift @ Cam Lift @ Valve Lift @ Valve	Factory specs Actual Front Actual Rear

MID - LATE 80'S MEGACYCLE CAMS

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90 MITCHELL BOULEVARD ■ SAN RAFAEL, CALIFORNIA 94903 ■ 415 472-3195 ■ FAX 415 472-1497

DUCATI 250/350 (valve spring single)

Hardfaced cam on customer core.
\$198.00 New billet cam, no core needed.
49.00 Rocker arms, weld and grind, cost each.

CAM NUMBER	VALVE LIFT	DURATION AT .040"	LOBE CENTERS	DESCRIPTION AND APPLICATION	INTAKE OPEN/CLOSE EXHAUST OPEN/CLOSE	RUNNING CLEARANCE
564-00	.412" / .390"	283° / 302°	102.5" / 104"	High performance race profile. Good throttle response/ mid-range. Check all clearances.	39 b/c/64 a/c 75 b/c/47 a/c	.005" .007"
564-390	.418" / .415"	308° / 308°		Norris race profile. Best with high compression piston.	51 b/c/77 a/c 77 b/c/51 a/c	.006" .012"
Stock	.358"	268°		Stock 250 for your reference.		

DUCATI 860 (valve spring twins)

Hardfaced cams on customer cores.
\$308.00 New billet cams, no cores needed.
49.00 Rocker arms, weld and grind on exchange cores, cost each.
114.00 Valve spring kit with titanium tops.

CAM NUMBER	VALVE LIFT	DURATION AT .040"	LOBE CENTERS	DESCRIPTION AND APPLICATION	INTAKE OPEN/CLOSE EXHAUST OPEN/CLOSE	RUNNING CLEARANCE
565-20	.412" / .390"	283° / 302°	102.5" / 104"	All around road race. Good mid-range and some added top-end. Check clearances.	39 b/c/64 a/c 75 b/c/47 a/c	.005" .007"

DUCATI 450 DESMO single

New billet cam, no core needed.
\$254.00
49.00 Rocker arms, weld and grind on customer parts, cost each.

CAM NUMBER	VALVE LIFT	DURATION AT .040"	LOBE CENTERS	DESCRIPTION AND APPLICATION	INTAKE OPEN/CLOSE EXHAUST OPEN/CLOSE	RUNNING CLEARANCE
563-00	.410" / .390"	306° / 298°		Road race profile.	50 b/c/75 b/c 75 b/c/44 a/c	

DUCATI DESMO Twins (Early Bevel Gear Drive)

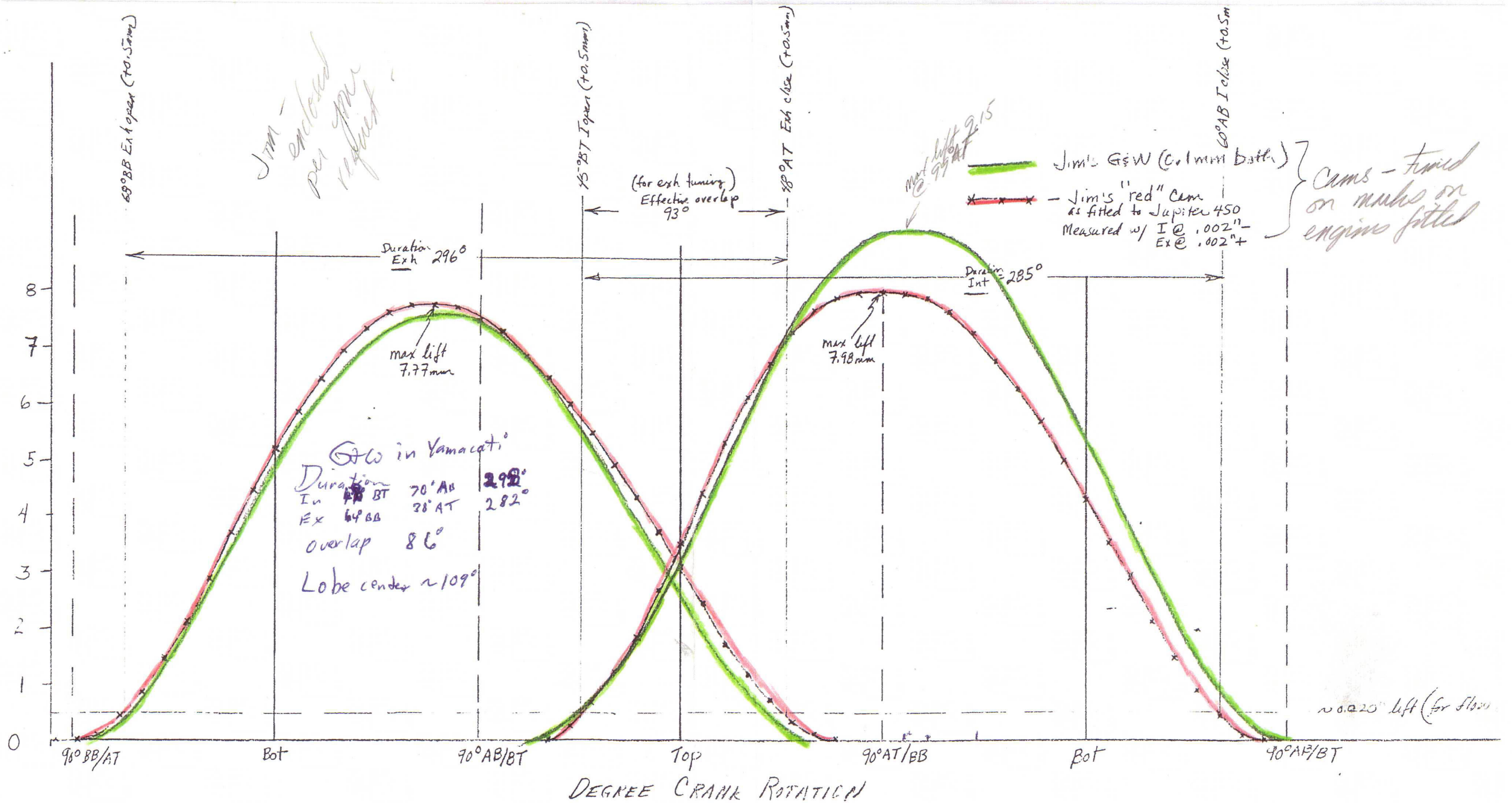
New billet cams, per pair, no core needed.
\$464.00
53.00 Rocker arms, weld and grind on customer parts, cost each.

CAM NUMBER	VALVE LIFT	DURATION AT .040"	LOBE CENTERS	DESCRIPTION AND APPLICATION	INTAKE OPEN/CLOSE EXHAUST OPEN/CLOSE	RUNNING CLEARANCE
566-00	.464" / .429"	305° / 292°	106" / 106"	Road race. Stock mid-range and top-end. Use modified pistons. Check clearances.	39 b/c/71 a/c 72 b/c/40 a/c	n/a n/a
566-x15				Imola Profile—reproduction		

DUCATI DESMO 750 PANTAH (belt drive) also F1-B

New billet cams, per pair, no core needed.
\$464.00
53.00 Rocker arms, weld and grind on customer parts, cost each.

CAM NUMBER	VALVE LIFT	DURATION AT .040"	LOBE CENTERS	DESCRIPTION AND APPLICATION	INTAKE OPEN/CLOSE EXHAUST OPEN/CLOSE	RUNNING CLEARANCE
561-x2	.447" / .410"	305° / 305°	102.5" / 102.5"	High performance profile. Reproduction of NCR-07.	50 b/c/75 a/c 75 b/c/50 a/c	n/a n/a
561-x3	.447" / .410"	305° / 305°	106.5" / 106.5"	NCR-07 with 4 degree wider lobe center for more top-end.	46 b/c/79 a/c 79 b/c/46 a/c	n/a n/a



--- GFW JPB (10/85)
 --- OGW JCM's (?)
 --- Desmo 250/350 firm 5yd (Megajoule?)

JPB 350 springer racer (Orange cam?)
 settings as found (on motor?)
 from S. Angel
 clean: 0.007" both valves (0.18mm)

Exh - actual lift @ valve
 INT - approx gauge @ 20° x to valve
 Correction = 0.94 (approx)
 also problems w/ top skating
 over retainers because of 4

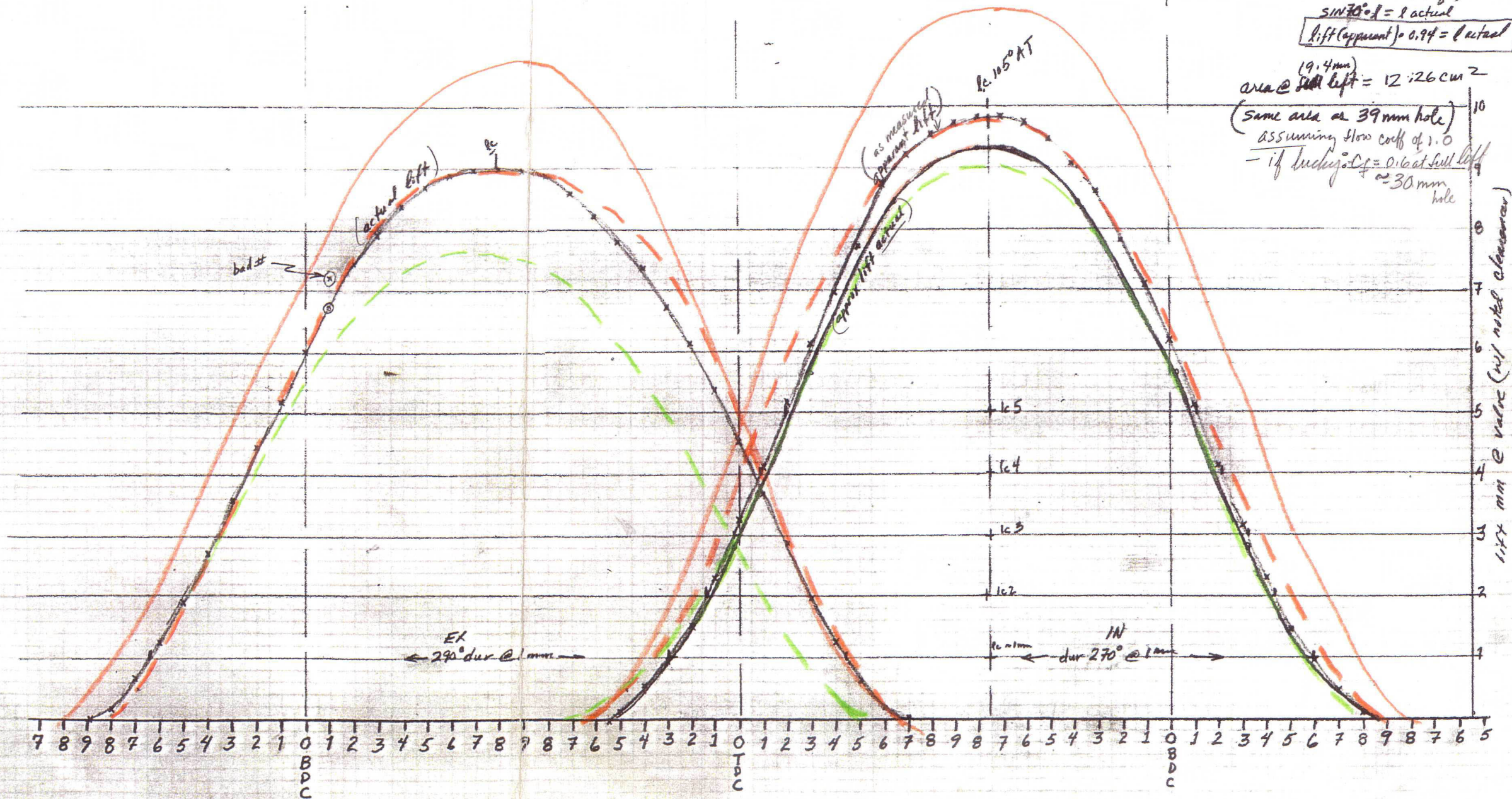
$\sin 70^\circ \cdot l = l_{\text{actual}}$
 $l_{\text{lift (apparent)}} = 0.94 = l_{\text{actual}}$

(19.4mm)
 area @ full lift = 12.26 cm²

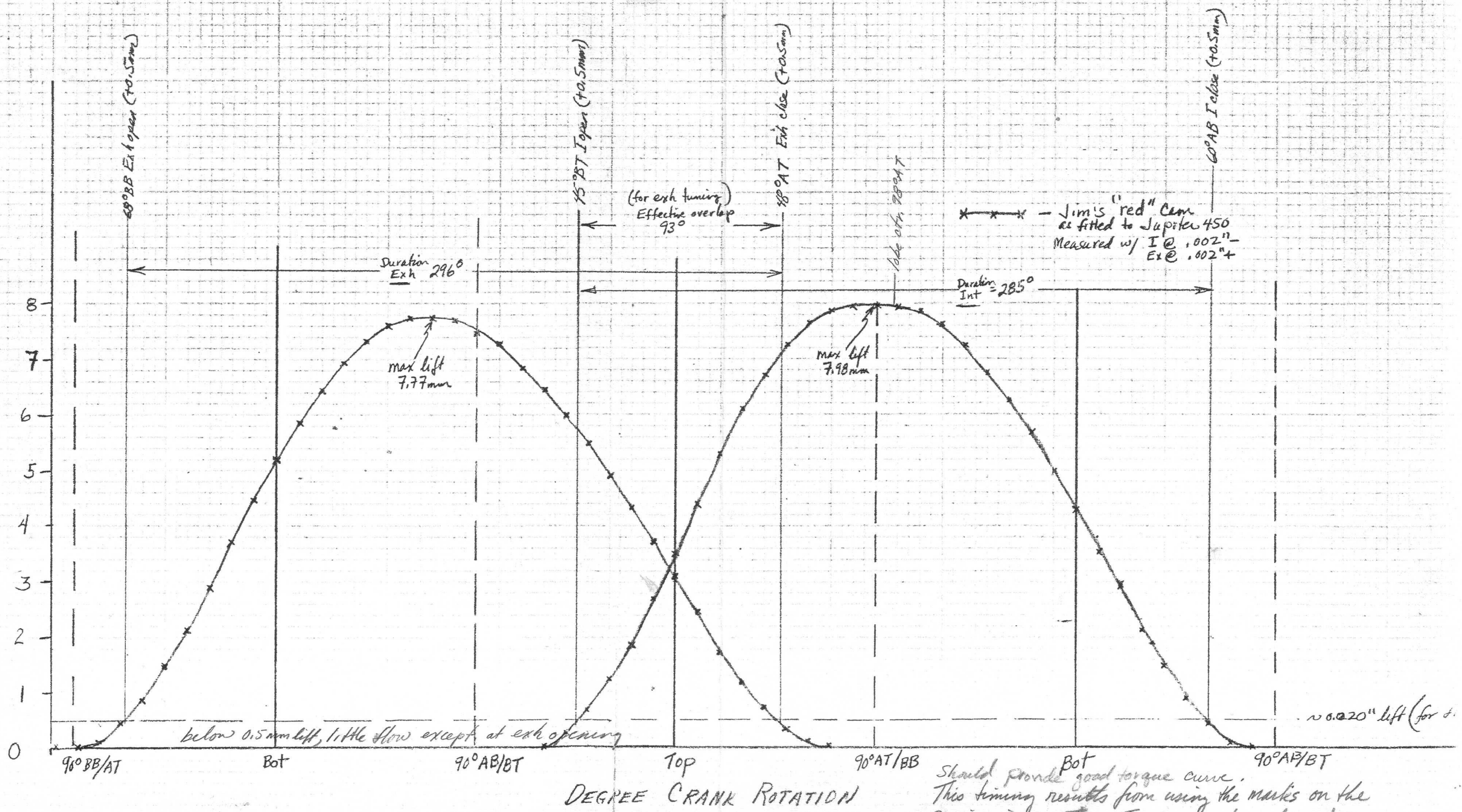
(Same area as 39mm hole)

assuming flow coeff of 1.0

- if lucky $C_d = 0.6$ at full lift
 ≈ 30mm hole



Lift in mm (1mm = 0.040")



Should provide good torque curve.
This timing results from using the marks on the engine in question. Timing can be advanced or retarded in 8.8° increments by juggling timing gears a

Fl #7 0-0 - Front w/ 0.25mm
 X-X - Rear w/ 0.35mm
 Race Cam

Orange-White
 Factory Spring
 Race Cam

l.c. @ 1.0
 $2.8 = 28^\circ = 110^\circ$
 68
 $0.20 = 15^\circ = 110^\circ$
 55

adv 8.6°
 l.c. 101.4°

Ret cr 1T?
 Adv cm 1T?

