

# MEGACYCLE CAMS

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## YAMAHA 650/750 TWIN (1968—1985)



Hardfaced cam, on customer core (#25000, 25030 etc).  
Modified firing order. Hardfaced on customer core.

Specify the profile and crank phasing.

#103-Y R/D valve spring kit with aluminum tops.

#130-Y R/D valve spring kit with **titanium tops**.

Rocker arms, weld & grind customer parts, price each.

YA-132 80mm cylinder sleeve.

Wiseco 10:1 piston 80mm X 20mm (3150XC, S423, CW20)

Wiseco 10:1 piston 81mm X 20mm (3189XC, S423, CW20)

Adjustable cam sprocket - press on assembly (see photo).

W-2732 80mm head gasket.

Kit # 250-W750 10:1 street compression

includes: 2 Wiseco 80 mm pistons, rings, pin and clips

2 80 mm cylinder sleeves.

1 W-2732 80-81 mm head gasket.

22mm wrist pin in 1968 to 1972 models (early)

20mm wrist pin in 1973 to 1984 models (late)

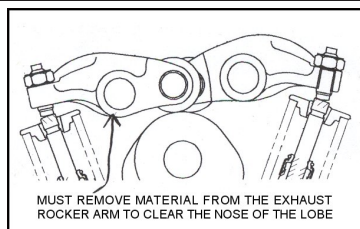
34 tooth cam sprocket = EARLY 1968 to 1972

36 tooth cam sprocket = LATE 1973 to 1984

Timing is measured at .040" lift (zero clearance)

CAM NUMBER	VALVE LIFT	DURATION AT .040"	LOBE CENTERS	DESCRIPTION AND APPLICATION	INTAKE OPEN/CLOSE EXHAUST OPEN/CLOSE	RUNNING CLEARANCE
250-00	.420"	272°	110°	OK with stock pistons & guides. Valve springs 103-Y are recommended. Improved mid-range power.	26 btc/66 abc	.006"
	.420"	272°	104°		60 bbc/32 atc	.006"
250-20	.415"	250°	104°	New all around street cam. OK with stock pistons & guides. Springs # 103-Y recommended. Improved mid-range power.	21 btc/49 abc	.010"
	.400"	246°	104°		47 bbc/19 atc	.012"
250-30	.440"	271°	103.5°	Use modified pistons and springs #103-Y. Best all around "torque" cam. Great throttle response and strong top-end pull. Guide modification needed.	32 btc/59 abc	.005"
	.440"	271°	103.5°		59 bbc/32 atc	.007"
250-40	.480"	265°	105.5°	Race cam. Use 11:1 pistons and #130-Y springs. Best acceleration cam. Must shorten guides .080"	27 btc/58 abc	.006"
	.480"	265°	105.5°		58 bbc/27 atc	.007"
250-50	.550"	284°	104°	New full race grind TDC lift with lash IN = .200" EX = .181"	38 btc/66 abc	.010"
	.520"	280°	108°		68 bbc/32 atc	.012"
250-x57	.505"	281°	102.5°	Top-end power. Must use racing pistons and springs. Modify spring base/seats. Must shorten guides .080"	38 btc/63 abc	.006"
	.515"	281°	107.5°		68 bbc/33 atc	.006"
Stock	.360"	234°		Stock 650 for your reference.		

## YAMAHA RAPTOR 700 (2006—2007)



Hardfaced cam on customer core (with flange).

Extra cost to remove & replace mechanism.

KPM #80-80410 valve spring kit with **titanium tops**. OK to .480"

R/D #152-Y valve spring kit with **titanium tops**. OK to .440"

CAM NUMBER	VALVE LIFT	DURATION AT .040"	LOBE CENTERS	DESCRIPTION AND APPLICATION	INTAKE OPEN/CLOSE EXHAUST OPEN/CLOSE	RUNNING CLEARANCE
294-x1	.420"	246°	106°	OK with stock valve springs. ?___ stock piston. Improved torque & mid-range power.	17 btc/49 abc	.005"
	.385"	244°	106°		48 bbc/16 atc	.008"
TDC LIFT in .093" ex .085"						
294-x2	.480"	264°	104°	Must use spring kit #80-80410. & 11:1 piston. ** Must GRIND FOR CLEARANCE.	28 btc/54 abc	.005"
	.445"	260°	104°		56 bbc/26 atc	.008"
TDC LIFT in .142" ex .132"						
294-x4	.480"	264°	108°	Must use spring kit #80-80410. & 11:1 piston. ** Must GRIND FOR CLEARANCE.	24 btc/ 60abc	.005"
	.445"	260°	108°		58 bbc/22 atc	.008"
Stock	.386"	237°	106.5°	Stock cam #1S3 12170-00 TDC Lift in .071" ex .061"	12 btc/45 abc	.005"
	.347"	235°	107.5°		45 bbc/10 atc	.007"

\*\* When installing the 294-x2 & 294-x4 cam it is necessary to remove material from the exhaust rocker arm to clear the increased lift of the cam lobe. SEE DIAGRAM. Valve spring kit #80-80410 must be installed with cam 294-x2. This is the only kit currently available which will allow the .480" intake valve lift. Other valve spring kits do not have adequate travel to accommodate the .480" lift.

All timing is quoted at .040" lift at the valve with zero checking clearance unless otherwise stated.