

# AMC HYDRAULIC FLAT TAPPET

1964-1998

199 232 234 (Requires kit for 5/16" valves) 242 (4.0L) 258 (4.2L) 6 cylinder

Description (Note: See pages 6-7 for a detailed explanation of each Performance Level)	Part Number	C.I.D. Group	Grind	Lobe Sep.	Advertised Duration @ .050"		Duration @ .050"		Gross Lift 1.6 / 1.6		Suitable Component Kit
<b>BAJA BEAST / Performance Level 1</b> Better than stock cam, big mid-range power. RPM Power Range: 700 to 3800	<b>44902</b>	ALL CID	238HDP	112°	238°	246°	194°	202°	.432"	.453"	<b>84047 or 84042</b>
<b>BAJA BEAST / Performance Level 2</b> Strong upper bottom/top end power. RPM Power Range: 1800 to 4250 / Redline: 5000 plus	<b>44915</b>	ALL CID	280HDP	112°	280°	280°	208°	208°	.448"	.448"	<b>84047 or 84042</b>
<b>POWER COMPU-PRO / Performance Level 1</b> Enhances Mileage and torque in stock engines. RPM Power Range: Idle to 3500 / Redline: 4000 plus	<b>44242 MTO</b>	ALL CID	242HDP	110°	242°	250°	184°	192°	.411"	.413"	<b>84047</b>
<b>POWER COMPU-PRO / Performance Level 2</b> Perfect combination power/mileage with extended rpm's. RPM Power Range: 1500 to 4000 / Redline: 4250 plus	<b>44243</b>	ALL CID	256HDP	112°	256°	264°	194°	204°	.437"	.445"	<b>84047</b>
<b>ULTRA PERFORMANCE COMPU-PRO / Performance Level 3</b> Street/strip cam. Super top end power. RPM Power Range: 2000 to 5000 / Redline: 5500 plus	<b>44245</b>	ALL CID	278HDP	112°	278°	284°	212°	218°	.462"	.475"	<b>84047 or 84042</b>
<b>Performance Level 4</b> Impressive horsepower increase with little low end loss. Don't let the lower duration numbers fool you. Nice idle sound. RPM Power Range: 2000 to 5000 / Redline: 5500 plus	<b>44246</b>	ALL CID	266HDP	110°	266°	270°	218°	222°	.490"	.501"	<b>84047 or 84042</b>
<b>Performance Level 4</b> Impressive horsepower increase with little low end loss. Don't let the lower duration numbers fool you. Nice idle sound. RPM Power Range: 2000 to 5000 / Redline: 5500 plus	<b>44247</b>	ALL CID	274HDP	114°	274°	278°	222°	230°	.518"	.526"	<b>84047 or 84042</b>
<b>Performance Level 4</b> Impressive horsepower increase with little low end loss. Don't let the lower duration numbers fool you. Nice idle sound. RPM Power Range: 2000 to 5000 / Redline: 5500 plus	<b>44248</b>	ALL CID	278HDP	112°	278°	283°	226°	236°	.518"	.526"	<b>84047 or 84042</b>
<b>CUSTOM GROUND HYDRAULIC</b> Special order hydraulic lifter camshaft ground to your specifications. Call with all engine data incl. head flow data, valve sizes, operating power range, etc when ordering.	<b>00144H</b>	ALL CID	<b>Refer to www.crower.com for camshaft recommendation</b>								

Note: These cams use .000" intake and exhaust valve lash.

Note: 2000 and up with electric fuel pump require a different cam core. Please specify when ordering

1989 - Later 199 - 258 Use a 3/8" valve stem size

## MECHANICAL FLAT TAPPET

Note: "MTO" denotes that this item is not usually stocked but is Made To Order in 2-3 days.

Description (Note: See pages 6-7 for a detailed explanation of each Performance Level)	Part Number	C.I.D. Group	Grind	Lobe Sep.	Advertised Duration @ .050"		Duration @ .050"		Gross Lift 1.6 / 1.6		Suitable Component Kit
<b>PRO-STREET / Performance Level 3</b> Strong upper bottom to mid-range power. RPM Power Range: 1800 to 4500 / Redline: 6000 plus.	<b>44311</b>	ALL CID	282FDP	112°	282°	287°	238°	242°	.480"	.486"	<b>84247</b>
<b>PRO-STREET / Performance Level 4</b> Exhibits strong mid-range to top end performance. RPM Power Range: 2000 to 6000 / Redline: 7000 Plus.	<b>44312</b>	ALL CID	292FDP	110°	292°	298°	248°	250°	.499"	.512"	<b>84247</b>
<b>CUSTOM GROUND HYDRAULIC</b> Special order solid lifter camshaft ground to your specifications. Call with all engine data incl. head flow data, valve sizes, operating power range, etc when ordering.	<b>00144M</b>	ALL CID	<b>Refer to www.crower.com for camshaft recommendation</b>								

Note: These cams use .022" intake, .024" exhaust valve lash.

Note: 2000 and up with electric fuel pump require a different cam core Please specify when ordering

### ENGINEERED COMPONENT KITS

Part No.	Lifters	Springs	Retainers	Remarks	Lifters in Component Kit are available with COOLFACE & CAMSAVER options
<b>84047</b>	66031-12	68313-12	87050-12	<b>Hydraulic Lifter.</b> For rpm Up to 6000. 11/32" valve	
<b>84042<sup>1</sup></b>	66031-12	68404-12	87044-12	<b>Hydraulic Lifter.</b> 1989-up 5/16" valve, includes #86106B Keeper.	
<b>84247</b>	66945-12	68390X3-12	87050-12	<b>Solid Lifter.</b> For rpm over to 7000. 11/32" valve. Race Only	

#### Spring pressure:

68313-12 Seat: 1.850" @ 104 lbs / Nose: 1.360" @ 254 lbs / Coil bind: 1.085" (Stock O.D., no machine work).  
68390X3-12 Seat: 1.800" @ 115 lbs / Nose: 1.300" @ 331 lbs / Coil bind: 1.110" (Machine work).  
68404-12 Seat: 1.600" @ 110 lbs / Nose: 1.100" @ 287 lbs / Coil bind: .880"  
\* Machine work required, specify 3/8 pilot shaft when ordering.

<sup>1</sup> Machine work required

#### Optional Lifters:

**66031RM3-12** - High-Lube CamSaver hydraulic lifters  
**66945X980-12** - Coolface solids

Note: Longer pushrods may be required to achieve proper hydraulic lifter preload (.050" off snap-ring). Use checking pushrod.

Your RPM range will vary depending on your Cylinder Head Air Flow Data & Cubic Inches.

Valve timing events are available online at: [www.crower.com](http://www.crower.com)

# HYDRAULIC FLAT TAPPET



1966-1991

290 304 343 360 (5.9L) 390 401 V8

Description (Note: See pages 6-7 for a detailed explanation of each Performance Level)	Part Number	C.I.D. Group	Grind	Lobe Sep.	Advertised Intake	Duration @ .050" Exhaust	Gross Lift 1.6 / 1.6 Intake	Suitable Component Kit
<b>BAJA BEAST / PERFORMANCE LEVEL 1</b> Excellent low end and mid-range power. RPM Power Range: 1500 to 4000 / Redline: 5000 Plus.	<b>NEW 45915</b>	290 304 343	258HDP	112°	258°	264°	204° 210° .445"	<b>84045 Upgrade 84045X3</b>
<b>POWER COMPU-PRO / Performance Level 2</b> Excellent low end and mid-range power and extended rpm range for spirited street and off-road driving. A perfect combination of mileage and power. Modifications should include small diameter tube headers, low restriction dual exhaust, aftermarket manifold, increased cfm carburetor and reworked or performance ignition. Increase in compression ratio to 9.5:1 is recommended for maximum output. Works well with automatic transmission or 4-speed. RPM Power Range: 1700 to 4500 / Redline: 5500 Plus.	<b>45240 MTO</b>	290 304 343	270HDP	112°	270°	276°	210° 220° .450"	<b>84045 Upgrade 84045X3</b>
<b>POWER COMPU-PRO / Performance Level 2</b> Broadest power range we've ever had for these engines. Previously only available as custom order, now available. Use Camsaver lifters. RPM Power Range: 1500 to 4800 / Redline: 5500 Plus.	<b>45249 MTO</b>	290 304 343	276HDP	112°	262°	266°	214° 218° .480"	<b>84045 Upgrade 84045X3</b>
<b>HIGH PERFORMANCE COMPU-PRO / Performance Level 3</b> Intended for the performance oriented hot-street application, these cams offer an extended rpm range with emphasis on upper bottom to top end power. Performance gears, headers, dual exhaust, larger than stock cfm carburetor, performance manifold and increased compression (9.5:1 to 10.5:1) are required. Works well with automatic transmission if matched with proper ring and pinion gears and/or high stall converter. RPM Power Range: 1800 to 5000 / Redline: 6000 Plus.	<b>NEW 45246</b>	290 304 343	293HDP	114°	293°	293°	223° 223° .477"	<b>84145 Upgrade 84145X3</b>
	<b>45243</b>	390 401	284HDP	112°	284°	290°	228° 234° .512"	<b>84145 Upgrade 84145X3</b>
<b>HIGH PERFORMANCE COMPU-PRO / Performance Level 4</b> Intended for the performance oriented hot-street application, these cams offer an extended rpm range with emphasis on upper bottom to top end power. Performance gears, headers, dual exhaust, larger than stock cfm carburetor, performance manifold and increased compression (9.5:1 to 10.5:1) are required. Works well with automatic transmission if matched with proper ring and pinion gears and/or high stall converter. RPM Power Range: 1800 to 5000 / Redline: 6000 Plus.	<b>45247</b>	390 401	305HDP	112°	305°	315°	234° 244° .520"	<b>84145 Upgrade 84145X3</b>
<b>HI-DRAULIC HAULER / Performance Level 4</b> Strong mid to top end torque. Rough Idle. RPM Power Range: 2500 to 6000 / Redline: 6500 Plus.	<b>45210 MTO</b>	390 401	290HDP	108°	290°	298°	226° 236° .498"	<b>84145 Upgrade 84145X3</b>
<b>CUSTOM GROUND HYDRAULIC</b> Special order hydraulic lifter camshaft ground to your specifications. Call with all engine data incl. head flow data, valve sizes, operating power range, etc when ordering.	<b>00145H</b>	ALL CID	<b>Refer to <a href="http://www.crower.com">www.crower.com</a> for camshaft recommendation</b>					

Note: These cams use .000" intake and exhaust valve lash.

**Note:** "MTO" denotes that this item is not usually stocked but is Made To Order in 2-3 days.

## ENGINEERED COMPONENT KITS

Part No.	Lifters	Springs	Retainers	Remarks
<b>84045</b>	66031-16	68313-16	87049- 16 <sup>A</sup>	<b>Hydraulic Lifter.</b>
<b>84045X3</b>	66031X3-16	68313-16	87049- 16 <sup>A</sup>	<b>CamSaver Hydraulic Lifter.</b>
<b>84145</b>	66031-16	68390X3-16	87049- 16	<b>Dual Spring</b>
<b>84145X3</b>	66031X3-16	68390X3-16	87049- 16	<b>Dual W/CamSaver Lifter</b>

### Spring pressure:

68313-16 Seat: 1.750" @ 95 lbs / Nose: 1.250" @ 267 lbs / Coil bind: 1.030"  
68390X3-16 Seat: 1.800" @ 116 lbs / Nose: 1.250" @ 284 lbs / Coil bind: 1.030"  
(Stock O.D., no machine work).

### Crowder Recommends ZDDPlus for all Flat Tappet Cams

**ZDDPlus™** contains 42,700 ppm of phosphorus and 57,300 ppm of zinc. When a 4-ounce bottle of ZDDPlus™ is added to 5 quarts of oil, it is diluted 41:1, which contributes 1047 ppm of phosphorus and 1397ppm of zinc to whatever the oil may or may not already contain.  
**Part #86092 - 4oz Bottle of ZDDPlus & Paste**

A. Some 1973-74 engines were equipped with 11/32 exhaust valves and rotators. Order 87049-8 and 87050-8 steel retainers, and 86071-8 and 86072-8 valve stem seals.

\* Machine work required, specify 3/8 pilot shaft when ordering.

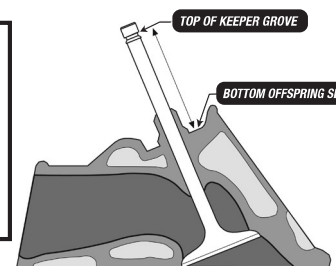
**Note:** If exceeding 7500 rpm, high pressure springs and titanium retainers may be required. See spring and retainer specs or contact Crowder for proper recommendations.

Valve timing events are available online at: [www.crower.com](http://www.crower.com)

## SEE THE FOLLOWING PAGE FOR SPECS ON ACCESSORIES

### Diagram 1. Calculating Installed Spring Height

Measure the height from top of keeper groove to bottom of spring seat. Refer to the "height" column of your retainer and add or subtract the amount given from the original overall measurement. See Page 148



**Note:** If heads have been extensively modified (machined spring pockets, longer valves, etc.) contact Crowder for proper spring, keeper, cup and retainer recommendations. Have your keeper/seat measurement available.

**Your RPM range will vary depending on your Cylinder Head Air Flow Data & Cubic Inches.**



# MECHANICAL FLAT TAPPET

1966-1991

290 304 343 360 (5.9L) 390 401 V8

Description (Note: See pages 6-7 for a detailed explanation of each Performance Level)	Part Number	C.I.D. Group	Grind	Lobe Sep.	Advertised Duration @ .050"		Duration @ .050"		Gross Lift 1.6 / 1.6		Suitable Component Kit
<b>COMPU-PRO / Performance Level 4</b> High torque, all purpose camshaft with emphasis on mid-range power. RPM Power Range: 2500 to 6000 / Redline: 7000 plus.	<b>45315</b>	360 401	282FDP	108°	282°	287°	240°	242°	.478"	.486"	<b>84345 Upgrade 84345X980</b>
<b>COMPU-PRO / Performance Level 4</b> High torque, all purpose camshaft with emphasis on mid to top end power. RPM Power Range: 3000 to 6500 / Redline: 7500 Plus.	<b>45316 MTO</b>	360 401	292FDP	108°	292°	298°	246°	250°	.499"	.509"	<b>84345 Upgrade 84345X980</b>
<b>COMPU-PRO / Performance Level 5</b> Does it all. Brutal power throughout the power range. RPM Power Range: 3500 to 7500 / Redline: 8000 Plus.	<b>45317</b>	290 343	304FDP	108°	304°	310°	258°	262°	.534"	.549"	<b>84345 Upgrade 84345X980</b>
<b>CUSTOM GROUND SOLID</b> Special order solid lifter camshaft ground to your specifications. Call our technical support staff for personalized camshaft assistance.	<b>00145M</b>	360 401	<b>Refer to <a href="http://www.crower.com">www.crower.com</a> for camshaft recommendation</b>								

Note: These cams use .022" intake, .024" exhaust valve lash.

**Roller cam available, please call Crower with your head flow numbers & application for a custom grind.**

## ENGINEERED COMPONENT KITS

Part No.	Lifters	Springs	Retainers	Seals	Remarks
<b>84345</b>	66945-16	68390X3-16 <sup>A</sup>	87049- 16 <sup>A</sup>	86071-16	<b>Solid Lifter.</b> For high rpm. Limited street use.
<b>84345X980</b>	66945X980-16	68390X3-16 <sup>A</sup>	87049- 16 <sup>A</sup>	86071-16	<b>CoolFace Solid Lifter.</b> For high rpm. Limited street use.

### Spring pressure:

68390X3-16 Seat: 1.800" @ 115 lbs / Nose: 1.300" @ 331 lbs / Coil bind: 1.110" (Machine work).

A. Some 1973-74 engines were equipped with 11/32 exhaust valves and rotators. Order 87049-8 and 87050-8 steel retainers, and 86071-8 and 86072-8 valve stem seals.

\* Machine work required, specify 38 pilot shaft when ordering.

**Note:** If exceeding 7500 rpm, high pressure springs and titanium retainers may be required. See spring and retainer specs or contact Crower for proper recommendations.

Valve timing events are available online at: [www.crower.com](http://www.crower.com)

### Crower Recommends ZDDPlus for all Flat Tappet Cams

**ZDDPlus™** contains 42,700 ppm of phosphorus and 57,300 ppm of zinc. When a 4-ounce bottle of ZDDPlus™ is added to 5 quarts of oil, it is diluted 41:1, which contributes 1047 ppm of phosphorus and 1397ppm of zinc to whatever the oil may or may not already contain.

**Part #86092 - 4oz Bottle of ZDDPlus & Paste**

**Note:** "MTO" denotes that this item is not usually stocked but is Made To Order in 2-3 days.

**Note:** If using guide plates, heat-treated pushrods (RC 60 series) are required. See pushrods or contact Crower.

**Note:** When installing solid or roller lifter camshafts, screw-in rocker studs are required. Contact Crower.

**Your RPM range will vary depending on your Cylinder Head Air Flow Data & Cubic Inches.**



**DON'T SEE YOUR FAVORITE PART # ?**  
IT MAY STILL BE AVAILABLE  
**CALL THE CROWER**  
TECH. DEPT FOR INFO.