



# Blue Racer Cam Listings

## Blue Racer Applications

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## BlueRacer Hydraulic And Mechanical Cams

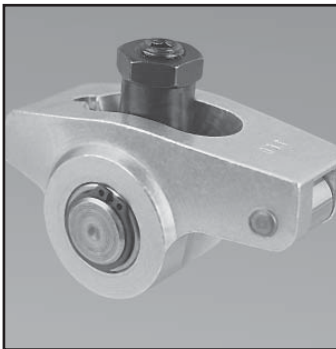
### Computer-Designed Cams for Street Performance

- Outstanding "HP-Per-Dollar" value for street performance or mild street/strip applications.
- Hydraulic lobe profiles using the latest in state-of-the-art computer software.
- Precision made exclusively by Crane Cams in Daytona Beach.
- Max power plus Crane Cams' famous lobe-to-lobe accuracy.
- For optimum HP, torque and RPM match with BlueRacer valve train components.
- Coverage for popular V-8 engines; small & big block Chev, Ford Windsor, Cleveland & 460, Holden V8 and small block Chrysler.
- For use with stock or aftermarket performance engine and valve train components.
- Use with either Crane replacement or anti-pump lifters with Crane's exclusive anti pump up design, giving increased upper RPM power or Blue Racer chilled iron base hydraulic lifters for increased durability. (Available for Chev & Holden engines).

## BlueRacer Performance Rocker Arms

### BlueRacer Extruded Aluminum, Full-Roller Rockers

- CNC-machined, extruded billet aluminum main bodies for strength and deflection resistance.
- Dyno-proven to add up to 25 HP over stock rockers!
- Needle-Bearing Fulcrum reduces operating friction, lowers oil temp, improves off-idle response.
- Roller Tip reduces valve guide wear.
- Precision machined, heat treated steel locking adjusting nuts included at no extra cost!
- Made by Crane Cams, the World's Largest Maker of Aluminum Rockers!
- Small and Big-Block Chevy, Ford Windsor, Cleveland & 460, and Holden V8.  
For small block Chrysler engines, Crane gold race roller rockers are available.



## Super Lube Concentrate

### For Cam & Lifter Installation

Super Lube Break-In Concentrate is an anti-wear additive formulated with a high concentration of special zinc dithiophosphate to provide sustained protection against cam lobe and lifter scuffing and wear. This is especially important when using modern oils that have been compounded for use with roller-type camshafts. In many oils the Zinc compound has been eliminated, causing the potential for excessive wear on run-in. This oil supplement is to be added to the engine oil for the initial break-in period after the installation of a new camshaft and lifters.

**Part No. 99003-1;** - 8-ounce container



# Chevrolet V-8, 1957-94 (Except Hyd. Roller)

## 262, 267, 283, 302, 305, 307, 327, 350, 400 cu. in., Hydraulic

### Performance Cams - Hydraulic

| APPLICATION AND BASIC RPM  | CAM USE      | GRIND NO.                           | CAM PART NO. | LIFTERS                        | Deg. Dur. @ .050 Cam Lift Int./Exh. | Deg. Adv. Dur. Int. Exh. | Deg. Lobe Separation | Running Clearance -Hot- Int./Exh. | Gross Valve Lift Int. Exh. |
|--|--------------|-------------------------------------|--------------|--------------------------------|-------------------------------------|--------------------------|----------------------|-----------------------------------|----------------------------|
| <b>HYDRAULIC</b> - Smooth idle, good low end torque, economy and throttle response. Use as stock replacement.<br><b>BASIC RPM 1000-3200</b>  | Street       | CD194-11 <sup>c</sup>               | 975213       | C37-16<br>99277-16<br>C817C-16 | 194<br>204                          | 256<br>262               | 112                  | .000<br>.000                      | .398<br>.420               |
| <b>HYDRAULIC</b> - Good idle, good low end torque & throttle response. Works well with minimal modifications.<br><b>BASIC RPM 1500-4000</b>  | Street       | CD204-11 <sup>c</sup>               | 975850       | C37-16<br>99277-16<br>C817C-16 | 204<br>214                          | 270<br>280               | 112                  | .000<br>.000                      | .420<br>.442               |
| <b>HYDRAULIC</b> - Good idle with lobe Good all round performance with basic intake and exhaust modifications, strong low-mid range torque.<br><b>BASIC RPM 2000-4800</b>  | Street       | CD214-11 <sup>c</sup>               | 975848       | C37-16<br>99277-16<br>C817C-16 | 214<br>224                          | 280<br>290               | 112                  | .000<br>.000                      | .442<br>.465               |
| <b>HYDRAULIC</b> - Fair idle with lobe, strong low-mid range street and strip performance. Works well in autos with basic street modifications.<br><b>BASIC RPM 2000-4800</b>  | Street Strip | CD218-11 <sup>c</sup>               | 975886       | C37-16<br>99277-16<br>C817C-16 | 218<br>218                          | 284<br>284               | 110                  | .000<br>.000                      | .450<br>.450               |
| <b>HYDRAULIC</b> - Fair idle with lobe, use as replacement for 350H.P. 327 cam. Good mid-range horsepower with wide power band.<br><b>BASIC RPM 2200-5200</b>  | Street Strip | CD222-11 <sup>c</sup>               | 975806       | C37-16<br>99277-16<br>C817C-16 | 222<br>222                          | 306<br>306               | 114                  | .000<br>.000                      | .447<br>.447               |
| <b>HYDRAULIC</b> - Fair idle with lobe, good mid range, upper RPM horsepower and torque. Good street and strip performance when used with correct intake, exhaust and gearing.<br>Supercharger – Nitrous Cam<br><b>BASIC RPM 2200-5400</b> | Street Strip | CD224-11 <sup>c</sup>               | 975892       | C37-16<br>99277-16<br>C817C-16 | 224<br>234                          | 290<br>300               | 114                  | .000<br>.000                      | .465<br>.488               |
| <b>HYDRAULIC</b> - Rough idle suits hot street type vehicle. Good mid range horsepower, needs converter etc. in auto trans vehicles.<br><b>BASIC RPM 2800-5600</b>   | Street Strip | CD230-11 <sup>d</sup>               | 975835       | 99277-16<br>C817C-16           | 230<br>230                          | 292<br>292               | 109                  | .000<br>.000                      | .480<br>.480               |
| <b>HYDRAULIC</b> - Rough idle suits hot street type vehicle. Good mid range horsepower, needs converter etc. in auto trans vehicles.<br>Supercharger – Nitrous Cam<br><b>BASIC RPM 2800-6000</b>   | Street Strip | CD235-11 <sup>d</sup><br><b>NEW</b> | 975893       | 99277-16<br>C817C-16           | 234<br>234                          | 300<br>300               | 114                  | .000<br>.000                      | .488<br>.488               |
| <b>HYDRAULIC</b> - Rough idle suits hot street type vehicle. Good mid range horsepower, needs converter etc. in auto trans vehicles.<br>Supercharger – Nitrous Cam<br><b>BASIC RPM 2800-6500</b>   | Street Strip | CD234-11 <sup>d</sup>               | 975888       | 99277-16<br>C817C-16           | 234<br>244                          | 300<br>310               | 114                  | .000<br>.000                      | .488<br>.510               |
| <b>HYDRAULIC</b> - Rough idle suits hot street type vehicle. Good mid range horsepower, needs converter etc. in auto trans vehicles.<br>Supercharger – Nitrous Cam<br><b>BASIC RPM 3000-6700</b>   | Street Strip | CD243-11 <sup>d</sup><br><b>NEW</b> | 975894       | 99277-16<br>C817C-16           | 244<br>254                          | 310<br>320               | 114                  | .000<br>.000                      | .510<br>.533               |

**Performance Valve Train Components For Hydraulic Cams On Next Page**

## Performance Valve Train Components For Hydraulic Cams

| Hydraulic Lifters  | Valve Springs           | Retainers               | Locks             | V.S. Seals            | P/Rods                | Timing Chain Kit        | Roller Rockers      |
|--|-------------------------|-------------------------|-------------------|-----------------------|-----------------------|-------------------------|---------------------|
| C37-16 OEM   | 99848-16 <sup>C</sup>   | 99915-16 <sup>C</sup>   | 99041-1HT         | 99820-16 <sup>F</sup> | 11660-16              | REC1000 ECONO           | 3060 <sup>G,K</sup> |
| 99277-16 <sup>A</sup>  | 99838-16 <sup>D,F</sup> | 99944-16 <sup>D,E</sup> | 99097-1 Mach Stl. |                       | 11621-16              | RCS1000 PREMIUM         | 3061 <sup>H,K</sup> |
| 817C-16 <sup>B</sup>   | 96874-16 <sup>E,F</sup> |                         |                   |                       | 95635-16 <sup>L</sup> | RCS1050 Torr/Nit. Gears | 3062 <sup>I,K</sup> |
| Valve Springs: * Use CR99893-16/ CR99953-19 Retainers for Hi-RPM use or Valve Lifts over .500" |                         |                         |                   |                       |                       |                         | 3063 <sup>J,K</sup> |

## Chevrolet V-8, 1957-94 (Except Hyd. Roller) 262, 267, 283, 302, 305, 307, 327, 350, 400 cu. in., Mechanical

### Performance Cams - Mechanical

| APPLICATION AND BASIC RPM   | CAM USE    | GRIND NO. | CAM PART NO. | LIFTERS  | Deg. Dur. @ .050" Cam Lift Int./Exh. | Deg. Adv. Dur. Int. Exh. | Deg. Lobe Separation | Running Clearance -Hot-Int. Exh. | Gross Valve Lift Int. |
|---|------------|-----------|--------------|----------|--------------------------------------|--------------------------|----------------------|----------------------------------|-----------------------|
| <b>MECHANICAL</b> - Rough idle suits strip, oval track or pro- street with auto and 3500 stall. Great mid range horsepower and torque.<br><b>BASIC RPM 3200-6700</b>                          | Strip Oval | CD244-11  | 975900       | 99250-16 | 244<br>252                           | 280<br>288               | 106                  | .026<br>.026                     | .518<br>.536          |
| <b>MECHANICAL</b> - Rough idle suits strip or oval track. Good mid and upper RPM horsepower and torque.<br><b>BASIC RPM 3800-6700</b>   | Strip Oval | CD250-11  | 975902       | 99250-16 | 250<br>260                           | 285<br>295               | 106                  | .026<br>.028                     | .533<br>.555          |
| <b>MECHANICAL</b> - Rough idle suits strip or larger oval track. Good mid and upper RPM horsepower and torque.<br><b>BASIC RPM 4200-7000</b>  | Strip Oval | CD256-11  | 975904       | 99250-16 | 256<br>264                           | 292<br>300               | 105                  | .026<br>.026                     | .545<br>.563          |
| <b>MECHANICAL</b> - Rough idle suits strip only vehicle with all normal race modifications. Good upper RPM horsepower and torque.<br>Supercharger - Nitrous Cam<br><b>BASIC RPM 4000-7500</b> | Strip      | CD264-11  | 975808       | 99250-16 | 264<br>272                           | 325<br>332               | 112                  | .026<br>.026                     | .563<br>.581          |

### Performance Valve Train Components - Mechanical Cams

| Lifters  | Valve Springs         | Retainers | Locks             | V.S. Seals            | Pushrods              | Timing Chain Kit         | Roller Rockers      |
|----------|-----------------------|-----------|-------------------|-----------------------|-----------------------|--------------------------|---------------------|
| 99250-16 | 96877-16 <sup>F</sup> | 99943-16  | 99097-1 Mach Stl. | 99820-16 <sup>F</sup> | 11621-16              | RCS1000 Premium          | 3060 <sup>G,K</sup> |
|          |                       |           |                   |                       | 95635-16 <sup>L</sup> | RCS 1050 Torr/Nit. Gears | 3061 <sup>H,K</sup> |
|          |                       |           |                   |                       |                       |                          | 3062 <sup>I,K</sup> |
|          |                       |           |                   |                       |                       |                          | 3063 <sup>J,K</sup> |

**IMPORTANT NOTE: CR99003-1 Crane super lube must be used during run-in of all Hydraulic & solid flat tappet cams.**

<sup>A</sup> Anti-Pump Lifters

<sup>B</sup> Chilled Iron Base Lifters

<sup>C</sup> Use CR 99848-16 V/Springs, No Machining Required & CR 99915-16 Retainers.

<sup>D</sup> Use CR 99838-16 1.465" Dual V/Springs & CR 99944-16 Retainers. For Hi-RPM use or Valve Lifts over .500". Cyl heads Require Machining.

<sup>E</sup> If Using +.100" length Valves use CR 96874-16 with CR 99944-16 Retainers.

<sup>F</sup> Must Machine Heads.

<sup>G</sup> 1.5 x 3/8"

<sup>H</sup> 1.5 x 7/16"

<sup>I</sup> 1.6 x 3/8"

<sup>J</sup> 1.6 x 7/16"

<sup>K</sup> Not suitable for Self-Aligning or centre bolt Valve cover applications.

<sup>L</sup> Pro Series 1/pce, Heavy Wall Heat Treated Pushrods.

# CHRYSLER V8 64-91

273-318-340-360 cu. in.

## Hydraulic Lifter Camshafts

| APPLICATION AND BASIC RPM   | CAM USE | GRIND NO. | CAM PART NO. | LIFTERS            | Deg. Dur. & .050 Cam Lift Int. Exh. | Deg. Adv. Dur. Int. Exh. | Deg. Lobe Separation | Running Clearance -Hot- Int. Exh. | Gross Valve Lift Int. |
|---|---------|-----------|--------------|--------------------|-------------------------------------|--------------------------|----------------------|-----------------------------------|-----------------------|
| *HYDRAULIC - Smooth idle, good low end torque, economy and throttle response. Use as stock replacement.<br>BASIC RPM 1000-3200                                | Street  | CD181-69  | 971209       | C89-16<br>99278-16 | 181<br>192                          | 240<br>248               | 109                  | .000<br>.000                      | .373<br>.400          |
| HYDRAULIC - Good idle, good low end torque & throttle response. Works well with minimal modifications.<br>BASIC RPM 1500-4000                                 | Street  | CD204-69  | 971817       | C89-16<br>99278-16 | 204<br>214                          | 270<br>280               | 112                  | .000<br>.000                      | .420<br>.443          |
| *HYDRAULIC - Good idle with lope. Excellent low-mid range performance & economy. Use as 340 275HP replacement.<br>BASIC RPM 2000-4800                         | Street  | CD210-69  | 971210       | C89-16<br>99278-16 | 210<br>220                          | 268<br>276               | 114                  | .000<br>.000                      | .429<br>.444          |
| *HYDRAULIC - Good idle with lope. Good all round performance with basic intake and exhaust modifications, strong low-mid range torque.<br>BASIC RPM 2000-4800 | Street  | CD214-69  | 971816       | C89-16<br>99278-16 | 214<br>224                          | 280<br>290               | 112                  | .000<br>.000                      | .443<br>.465          |
| HYDRAULIC - Fair idle with lope, strong low mid range performance. Works well in auto with basic modifications.<br>BASIC RPM 2200-5000                        | Street  | CD216-69  | 971837       | C89-16<br>99278-16 | 216<br>216                          | 284<br>284               | 110                  | .000<br>.000                      | .454<br>.454          |

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

## Chrysler-Dodge-Plymouth V-8, 1964-87 (Except Hyd. Roller) 318 cu.in., (1967-86), 273, 340, 360 cu. in., (1964-87) Hydraulic

### Performance Cams

| APPLICATION AND BASIC RPM   | CAM USE | GRIND NO. | CAM PART NO. | LIFTERS            | Deg. Dur. @ .050" Cam Lift Int./Exh. | Deg. Adv. Dur. Int. Exh. | Deg. Lobe Separation | Running Clearance -Hot- Int. Exh. | Gross Valve Lift Int. Exh. |
|---|---------|-----------|--------------|--------------------|--------------------------------------|--------------------------|----------------------|-----------------------------------|----------------------------|
| HYDRAULIC - Good idle, good low end torque & throttle response. Works well with minimal modifications.<br><b>BASIC RPM 1500-4000</b>          | Street  | CD204-69  | 971817       | C89-16<br>99278-16 | 204<br>214                           | 270<br>280               | 112                  | .000<br>.000                      | .420<br>.443               |
| HYDRAULIC - Fair idle with lobe, strong low mid range performance. Works well in auto with basic modifications.<br><b>BASIC RPM 2200-5000</b> | Street  | CD216-69  | 971837       | C89-16<br>99278-16 | 216<br>216                           | 284<br>284               | 110                  | .000<br>.000                      | .454<br>.454               |

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

### Performance Valve Train Components

| Hydraulic Lifters | Pushrods              | Valve Springs         | Retainers | Timing Chain Kit           | Roller Rockers                   |
|-------------------|-----------------------|-----------------------|-----------|----------------------------|----------------------------------|
| C89-16 OEM        | 69691-16 <sup>v</sup> | 99835-16 <sup>w</sup> | 99948-16  | RCS5000 Premium (R/master) | 69790-1 (1.5 ratio) <sup>x</sup> |
| 99278-16 A/Pump   |                       |                       |           |                            | 69791-1 (1.6 ratio) <sup>x</sup> |

<sup>v</sup> For use with hydraulic cams with adjustable Rocker Arms.

<sup>w</sup> Standard Diameter valve Springs, no machining required.

<sup>x</sup> Use with CR 69691-16 pushrods for hydraulic cam applications.

**IMPORTANT NOTE: CR99003-1 Crane super lube must be used during run in of all hydraulic and solid flat-tappet cams.**

**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 camshafts and lifters can be installed in these engines, providing the appropriate kit components are used.

## Ford V-8, "Cleveland", 1970-82 302, 351C, 351M, 400 cu. in.

### Performance Cams

#### CHRYSLER V8 64-91

273-318-340-360 cu. in.

#### Hydraulic Lifter Camshafts

| APPLICATION AND BASIC RPM   | CAM USE | GRIND NO. | CAM PART NO. | LIFTERS            | Deg. Dur. & .050 Cam Lift Int. Exh. | Deg. Adv. Dur. Int. Exh. | Deg. Lobe Separation | Running Clearance -Hot- Int. Exh. | Gross Valve Lift Int. |
|---|---------|-----------|--------------|--------------------|-------------------------------------|--------------------------|----------------------|-----------------------------------|-----------------------|
| *HYDRAULIC - Smooth idle, good low end torque, economy and throttle response. Use as stock replacement.<br>BASIC RPM 1000-3200                                | Street  | CD181-69  | 971209       | C89-16<br>99278-16 | 181<br>192                          | 240<br>248               | 109                  | .000<br>.000                      | .373<br>.400          |
| HYDRAULIC - Good idle, good low end torque & throttle response. Works well with minimal modifications.<br>BASIC RPM 1500-4000                                 | Street  | CD204-69  | 971817       | C89-16<br>99278-16 | 204<br>214                          | 270<br>280               | 112                  | .000<br>.000                      | .420<br>.443          |
| *HYDRAULIC - Good idle with lope. Excellent low-mid range performance & economy. Use as 340 275HP replacement.<br>BASIC RPM 2000-4800                         | Street  | CD210-69  | 971210       | C89-16<br>99278-16 | 210<br>220                          | 268<br>276               | 114                  | .000<br>.000                      | .429<br>.444          |
| *HYDRAULIC - Good idle with lope. Good all round performance with basic intake and exhaust modifications, strong low-mid range torque.<br>BASIC RPM 2000-4800 | Street  | CD214-69  | 971816       | C89-16<br>99278-16 | 214<br>224                          | 280<br>290               | 112                  | .000<br>.000                      | .443<br>.465          |
| HYDRAULIC - Fair idle with lope, strong low mid range performance. Works well in auto with basic modifications.<br>BASIC RPM 2200-5000                        | Street  | CD216-69  | 971837       | C89-16<br>99278-16 | 216<br>216                          | 284<br>284               | 110                  | .000<br>.000                      | .454<br>.454          |

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

NOTE: For 302 - 351c - 351m - 400, Footnotes, see next page.

### Performance Valve Train Components (Hydraulic Cams)

| Lifters            | Valve Springs         | Retainers             | Locks                           | V.S Seals | Pushrods | Timing Chain Kit | Rockers                         |
|--------------------|-----------------------|-----------------------|---------------------------------|-----------|----------|------------------|---------------------------------|
| C35-16OEM          | 96801-16 <sup>A</sup> | 99944-16 <sup>C</sup> | 99041-1 H.T. <sup>C</sup>       | 99820-16  | 52621-16 | REC3080 ECONO    | 52745-16 <sup>F</sup>           |
| 99280-16 Anti-Pump | 96877-16 <sup>B</sup> | 99948-16 <sup>D</sup> | 99097-1 mach. Stl. <sup>C</sup> |           | 95648-16 | RCS3080 Premium  | 13744-16 <sup>G</sup> Energizer |
|                    |                       |                       | L77006 m/Groove. <sup>D</sup>   |           |          |                  | 3064 <sup>G</sup> Blue Racer    |

## Ford V-8, "Cleveland", 1970-82

302 - 351 ci. in.

### Mechanical Lifter Camshafts

CHRYSLER V8 64-91

273-318-340-360 cu. in.

### Hydraulic Lifter Camshafts

| APPLICATION AND BASIC RPM | CAM USE | GRIND NO. | CAM PART NO. | LIFTERS | Deg. Dur. & .050 Cam Lift Int. Exh. | Deg. Adv. Dur. Int. Exh. | Deg. Lobe Separation | Running Clearance -Hot- Int. Exh. | Gross Valve Lift Int. |
|---------------------------|---------|-----------|--------------|---------|-------------------------------------|--------------------------|----------------------|-----------------------------------|-----------------------|
|                           |         |           |              |         |                                     |                          |                      |                                   |                       |

## Performance Valve Train Components - Mechanical Cams

| Lifters  | Valve Springs         | Retainers             | Locks                          | V.S Seals             | Pushrods              | Timing Chain Kit | Rockers                            |
|----------|-----------------------|-----------------------|--------------------------------|-----------------------|-----------------------|------------------|------------------------------------|
| 99257-16 | 96870-16 <sup>K</sup> | 99944-16 <sup>C</sup> | 99097-1 Mach Stl. <sup>C</sup> | 99820-16 <sup>K</sup> | 52680-16 <sup>H</sup> | RCS3080 Premium  | 3064 <sup>G,K</sup> Blue Racer     |
|          |                       | 99948-16 <sup>D</sup> | L77006 m/Groove. <sup>D</sup>  |                       | 95650-16 <sup>I</sup> |                  | 27750-16 <sup>J,K</sup> Crane Gold |

**IMPORTANT NOTE: CR99003-1 Crane super lube must be used during run-in of all Hydraulic & solid flat tappet cams.**

**IMPORTANT NOTE:** If your hydraulic lifter preload is excessive, this can be easily remedied by using a Rocker Arm Pedestal Shim Kit p/n 99170-1.

**IMPORTANT NOTE:** 351C can have single or multigroove valves.

<sup>A</sup> Use 96801-16 springs. Standard Diameter. No machining required.

<sup>B</sup> Use 96877-16 Springs. Must machine cyl. heads.

<sup>C</sup> Use with 11/32" Single groove valves.

<sup>D</sup> Use with 11/32" Multi-groove valves. **Note - Multigroove valves not recommended for Hi-performance Applications.**

<sup>E</sup> 8.40" Use with Hydraulic Cams.

<sup>F</sup> Bolt-on Rocker kit complete/No machining required. Energizer Diecast.

<sup>G</sup> 1.70 x 7/16 Stud mount needs CR52650-1 guide plates & CR99159-16 studs and hardened pushrods.

<sup>H</sup> 8.50" Heat treated 5/16". Use with solid cams.

<sup>I</sup> 8.50" Heat treated heavy wall 5/16" Pro series. Use with solid cams.

<sup>J</sup> 1.73 x 7/16 stud mount Gold Race series. needs CR 52650-1 guide plates & CR99159-16 studs and hardened pushrods.

<sup>K</sup> Must Machine Cyl. Heads.



**Ford V-8, "Windsor" 1962-93 Firing Order: 1-5-4-2-6-3-7-8**  
**221, 255, 260, 289, 302, cu. in., 5.0L (Non-H.O), (Non Hydraulic-Roller)**  
**Performance Hydraulic Cams**

CHRYSLER V8 64-91

273-318-340-360 cu. in.

Hydraulic Lifter Camshafts

| APPLICATION AND BASIC RPM   | CAM USE | GRIND NO. | CAM PART NO. | LIFTERS            | Deg. Dur. & .050 Cam Lift Int. Exh. | Deg. Adv. Dur. Int. Exh. | Deg. Lobe Separation | Running Clearance -Hot- Int. Exh. | Gross Valve Lift Int. |
|---|---------|-----------|--------------|--------------------|-------------------------------------|--------------------------|----------------------|-----------------------------------|-----------------------|
| *HYDRAULIC - Smooth idle, good low end torque, economy and throttle response. Use as stock replacement.<br>BASIC RPM 1000-3200                                | Street  | CD181-69  | 971209       | C89-16<br>99278-16 | 181<br>192                          | 240<br>248               | 109                  | .000<br>.000                      | .373<br>.400          |
| HYDRAULIC - Good idle, good low end torque & throttle response. Works well with minimal modifications.<br>BASIC RPM 1500-4000                                 | Street  | CD204-69  | 971817       | C89-16<br>99278-16 | 204<br>214                          | 270<br>280               | 112                  | .000<br>.000                      | .420<br>.443          |
| *HYDRAULIC - Good idle with lope. Excellent low-mid range performance & economy. Use as 340 275HP replacement.<br>BASIC RPM 2000-4800                         | Street  | CD210-69  | 971210       | C89-16<br>99278-16 | 210<br>220                          | 268<br>276               | 114                  | .000<br>.000                      | .429<br>.444          |
| *HYDRAULIC - Good idle with lope. Good all round performance with basic intake and exhaust modifications, strong low-mid range torque.<br>BASIC RPM 2000-4800 | Street  | CD214-69  | 971816       | C89-16<br>99278-16 | 214<br>224                          | 280<br>290               | 112                  | .000<br>.000                      | .443<br>.465          |

**Ford V-8, "Windsor" 1969-93 Firing Order: 1-3-7-2-6-5-4-8**  
**351W, 1969-93 and 302 cu. in., 5.0L H.O, (Non Hydraulic-Roller)**  
**Performance Hydraulic Cams**

CHRYSLER V8 64-91

273-318-340-360 cu. in.

Hydraulic Lifter Camshafts

| APPLICATION AND BASIC RPM  | CAM USE | GRIND NO. | CAM PART NO. | LIFTERS            | Deg. Dur. & .050 Cam Lift Int. Exh. | Deg. Adv. Dur. Int. Exh. | Deg. Lobe Separation | Running Clearance -Hot- Int. Exh. | Gross Valve Lift Int. |
|--|---------|-----------|--------------|--------------------|-------------------------------------|--------------------------|----------------------|-----------------------------------|-----------------------|
| *HYDRAULIC - Smooth idle, good low end torque, economy and throttle response. Use as stock replacement.<br>BASIC RPM 1000-3200 | Street  | CD181-69  | 971209       | C89-16<br>99278-16 | 181<br>192                          | 240<br>248               | 109                  | .000<br>.000                      | .373<br>.400          |

**Performance Valve Train Components**

| Lifters               | Valve Springs         | Retainers | Locks                 | V.S Seals             | Pushrods              | Timing Chain Kit | Roller Rockers        |
|-----------------------|-----------------------|-----------|-----------------------|-----------------------|-----------------------|------------------|-----------------------|
| C35-16 OEM            | 96803-16 <sup>F</sup> | 99946-16  | 99041-1 H.T           | 99820-16 <sup>A</sup> | 95616-16 <sup>B</sup> | REC 3010 ECONO   | 11746-16 <sup>D</sup> |
| 99280-16<br>Anti Pump |                       |           | 99097-1<br>Mach. Stl. |                       | 95618-16 <sup>B</sup> | RCS 3010 Premium | 44746-16 <sup>E</sup> |
|                       |                       |           |                       |                       | 95643-16 <sup>C</sup> |                  |                       |

## Ford V-8, "385 Series", 1968-97 370, 429, 460, 512 cu. in. (Including SVO 512 "Crate Motor")

CHRYSLER V8 64-91

273-318-340-360 cu. in.

Hydraulic Lifter Camshafts

| APPLICATION AND BASIC RPM  | CAM USE | GRIND NO. | CAM PART NO. | LIFTERS            | Deg. Dur. & .050 Cam Lift Int. Exh. | Deg. Adv. Dur. Int. Exh. | Deg. Lobe Separation | Running Clearance -Hot- Int. Exh. | Gross Valve Lift Int. |
|--|---------|-----------|--------------|--------------------|-------------------------------------|--------------------------|----------------------|-----------------------------------|-----------------------|
| *HYDRAULIC - Smooth idle, good low end torque, economy and throttle response. Use as stock replacement.<br>BASIC RPM 1000-3200 | Street  | CD181-69  | 971209       | C89-16<br>99278-16 | 181<br>192                          | 240<br>248               | 109                  | .000<br>.000                      | .373<br>.400          |

### Performance Valve Train Components

| Hydraulic Lifters | Heat Treated P/RODS   | Valve Springs         | Locks              | Retainers | Timing Chain Kit | Roller Rockers        |
|-------------------|-----------------------|-----------------------|--------------------|-----------|------------------|-----------------------|
| C35-16 OEM        | 95651-16 <sup>G</sup> | 96801-16 <sup>I</sup> | 99041-1 H.T        | 99944-16  | RCS4000 Premium  | 3064 <sup>J</sup>     |
| 99280-16 A/Pump   | 95653-16 <sup>H</sup> |                       | 99097-1 Mach. Stl. |           |                  | 13744-16 <sup>J</sup> |

**IMPORTANT:** Check your hydraulic lifter preload, with your original pushrods, to first determine if different pushrods may be required. On 1972-97 engines, if your hydraulic lifter preload is excessive, this can be remedied by using a Rocker Arm Pedestal Shim Kit PN#99170-1.

**NOTE:** To provide the most accurate valve adjustment on hydraulic lifter camshafts, in other than 429 Super C.J. engines, a method of effecting valve adjustment is required. On 1968-71 engines equipped with bottleneck type studs, using positive locking nuts will permit valve adjustment. On 1972-97 engines, the heads can be machined to use screw-in studs and pushrod guideplates.

<sup>G</sup> 8.550 Pro Series

<sup>H</sup> 8.650 Pro Series suits Super CJ

<sup>I</sup> Standard diameter valve springs, no machining required.

<sup>J</sup> 1.7 ratio, 7/16" stud, requires 7/16" rocker arm studs and pushrod guideplates & heat-treated pushrods.

### FOOTNOTES FOR CAMS ON PAGE 9 (289 - 302 - 351W)

**IMPORTANT NOTE: CR99003-1 Crane super lube must be used during run-in of all Hydraulic & solid flat tappet cams.**

**NOTE:** Many 1985-87 302 engines, all 1988-97 302 passenger car engines, all 1996-00 302 truck engines, all 1985-95 302 H.O., and all 1994-97 351 Windsor engines are equipped with hydraulic roller camshafts and lifters. Conventional hydraulic camshafts and lifters can be easily installed in these engines, providing the appropriate kit components are used. EFI engines must use standard firing order Cams (1-3-7-2-6-5-4-8).

**NOTE:** Ford 221 thru 302 camshafts can be used in 351 Windsor engines if the engine is changed to 221 thru 302 firing order (1-5-4-2-6-3-7-8).  
Ford 351W firing order is 1-3-7-2-6-5-4-8.

**NOTE:** To provide the most accurate valve adjustment on hydraulic lifter camshafts, the heads can be machined to accept screw-in studs (on engines not originally equipped). On engines equipped with bottleneck type studs, using positive locking nuts will permit valve adjustment. For engines equipped with pedestal mounted rocker arms and hydraulic lifters, excessive lifter preload can be easily remedied by using a Rocker Arm Pedestal Shim Kit (99170-1).

<sup>A</sup> Must machine cylinder heads.

<sup>B</sup> 289-302W - Check exact length required, 95616-16 = 6.810", 95618-16 = 6.90".

<sup>C</sup> ProSeries 8.150" suits 351W.

<sup>D</sup> 1.6 x 3/8" stud.

<sup>E</sup> 1.70 Pedestal mount, non-adjustable for 77 on heads.

<sup>F</sup> Standard Diameter Springs - No machining required.

## Holden V8 1969-87

### 253-304-308 cu. in.

### Hydraulic Lifter Cams

| APPLICATION AND BASIC RPM   | CAM USE      | GRIND NO.                           | CAM PART NO. | LIFTERS   | Deg. Dur. @ .050" Cam Lift Int. Exh. | Deg. Adv. Dur. Int. Exh. | Deg. Lobe Separation | Running Clearance -Hot- Int. Exh. | Gross Valve Lift Int. Exh. <sup>M</sup> |
|---|--------------|-------------------------------------|--------------|---|--------------------------------------|--------------------------|----------------------|-----------------------------------|---|
| <b>HYDRAULIC</b> - Smooth idle, dual pattern cam for everyday street driving and light duty towing. Good fuel economy and throttle response.<br><b>BASIC RPM 1200-3800</b>                                    | Street       | CD194-24<br><b>Chart A</b><br>(p12) | 976806       | C73-16 <sup>A</sup><br>99284-16 <sup>B</sup><br>C969C-16 <sup>C</sup> | 194<br>204                           | 260<br>270               | 110                  | .000<br>.000                      | .424<br>.448                            |
| <b>HYDRAULIC</b> - Good idle, good low end torque and throttle response. Works well with minimal modifications.<br><b>BASIC RPM 1500-4000</b>   | Street       | CD204-24<br><b>Chart A</b><br>(p12) | 976803       | C73-16 <sup>A</sup><br>99284-16 <sup>B</sup><br>C969C-16 <sup>C</sup> | 204<br>204                           | 270<br>270               | 110                  | .000<br>.000                      | .448<br>.448                            |
| <b>HYDRAULIC</b> - Good idle with lope. Good all round performance with basic intake and exhaust modifications, strong low-mid range torque.<br><b>BASIC RPM 2000-4800</b>                                    | Street Strip | CD214-24<br><b>Chart A</b><br>(p12) | 976800       | C73-16 <sup>A</sup><br>99284-16 <sup>B</sup><br>C969C-16 <sup>C</sup> | 214<br>214                           | 280<br>280               | 110                  | .000<br>.000                      | .472<br>.472                            |
| <b>HYDRAULIC</b> - Fair idle with lope, good mid range - upper RPM horsepower and torque. Good street and strip performance when used with correct intake, exhaust and gearing.<br><b>BASIC RPM 2200-5400</b> | Street Strip | CD224-24<br><b>Chart A</b><br>(p12) | 976801       | C73-16 <sup>A</sup><br>99284-16 <sup>B</sup><br>C969C-16 <sup>C</sup> | 224<br>224                           | 290<br>290               | 110                  | .000<br>.000                      | .496<br>.496                            |

## HOLDEN V8 88-97

### 304-350 cu. in. EFI (with flat tappet)

### Hydraulic Lifter Camshafts

| APPLICATION AND BASIC RPM   | CAM USE | GRIND NO.                           | CAM PART NO. | LIFTERS   | Deg. Dur. @ .050" Cam Lift Int. Exh. | Deg. Adv. Dur. Int. Exh. | Deg. Lobe Separation | Running Clearance -Hot- Int. Exh. | Gross Valve Lift Int. Exh. <sup>M</sup> |
|---|---------|-------------------------------------|--------------|---|--------------------------------------|--------------------------|----------------------|-----------------------------------|---|
| <b>HYDRAULIC</b> - Good idle, good low end torque and throttle response. Works well with minimal modifications.<br>Equivalent to HSV 185i-215i cam. (92061394)<br><b>BASIC RPM 1500-4000</b>                  | Street  | CD206-88<br><b>Chart A</b><br>(p12) | 976810       | C73-16 <sup>A</sup><br>99284-16 <sup>B</sup><br>C969C-16 <sup>C</sup> | 206<br>206                           | 272<br>272               | 112                  | .000<br>.000                      | .448<br>.448                            |
| <b>HYDRAULIC</b> - Fair idle with lope, strong low-mid range street and strip performance. Works well in autos with basic street modifications.<br><b>BASIC RPM 2300-5300</b>                                 | Street  | CD218-88<br><b>Chart A</b><br>(p12) | 976811       | C73-16 <sup>A</sup><br>99284-16 <sup>B</sup><br>C969C-16 <sup>C</sup> | 218<br>218                           | 284<br>284               | 110                  | .000<br>.000                      | .471<br>.471                            |
| <b>HYDRAULIC</b> - Fair idle with lope, good mid range - upper RPM horsepower and torque. Good street and strip performance when used with correct intake, exhaust and gearing.<br><b>BASIC RPM 2500-5900</b> | Street  | CD228-88<br><b>Chart A</b><br>(p12) | 976812       | C73-16 <sup>A</sup><br>99284-16 <sup>B</sup><br>C969C-16 <sup>C</sup> | 228<br>228                           | 294<br>294               | 110                  | .000<br>.000                      | .471<br>.471                            |

Footnotes For Holden Cams On Page 12.

## \* Holden V8 253/304/308 Valve Train Parts Chart (A)

| Valve Springs | Retainers | Valve Locks       | V.S. Seals            | Pushrods              | Timing Chain Kit | Roller Rockers          |
|---------------|-----------|-------------------|-----------------------|-----------------------|------------------|-------------------------|
| 99848-16      | 99915-16  | 99041-1 HT        | 99820-16 <sup>D</sup> | 24621-16 <sup>E</sup> | REC6000 ECONO    | 24744-16 <sup>G D</sup> |
|               |           | 99097-1 Mach. Stl |                       | 95654-16 <sup>F</sup> | RCS6000 Premium  | 24745-16 <sup>H</sup>   |
|               |           |                   |                       |                       |                  | 3066 <sup>D</sup>       |
|               |           |                   |                       |                       |                  | 3067 <sup>J</sup>       |
|               |           |                   |                       |                       |                  | 28758-16 <sup>K D</sup> |

<sup>A</sup> OEM Lifters

<sup>B</sup> Anti-Pump Lifters

<sup>C</sup> Chilled Iron Base Lifters

<sup>D</sup> Must Machine Cylinder Heads

<sup>E</sup> C/Moly 8.688"

<sup>F</sup> ProSeries 1/pce. Heavy Wall 8.700" (+.012")

<sup>G</sup> Energizer 1.65 Ratio x7/16 Stud Mount

<sup>H</sup> Energizer Bolt-On Kit 1.65 Ratio - No Machining Required

<sup>I</sup> Blue Racer 1.65 Ratio x7/16 Stud Mount

<sup>J</sup> Blue Racer Bolt-On Kit 1.65 Ratio - No Machining Required

<sup>K</sup> GoldRace 1.65 Ratio x7/16 Stud Mount

<sup>M</sup> All valve lifts shown are 1.6:1. If using Roller Rockers Ratio is 1.65:1 and lift will increase.