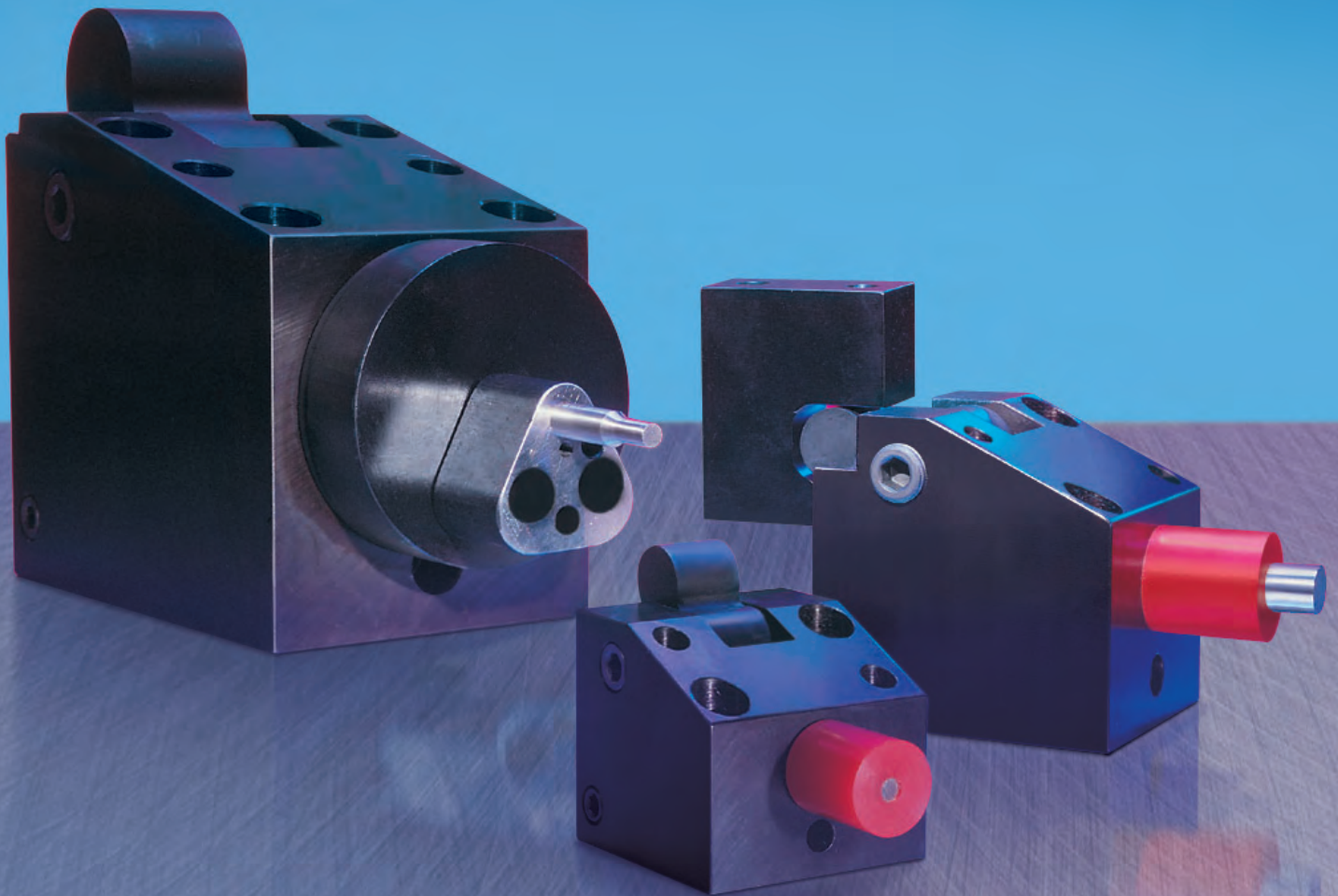


READY

THE INNOVATOR OF OUR INDUSTRY®

CAMDRIVE®
*Interchangeable,
In Stock and Loaded with Options*



CAMDRIVE® - The Compact Cam with "Interchangeable Precision"

Why Build & Repair Cams?

CAMDRIVE® Benefits:

- Low cost, versatile design
- Fits in smallest die space
- Fast delivery . . . even for options
- Interchangeable tolerances, metric
- Hardened components, high production
- All units come equipped with a mechanical die spring return . . . a READY SuperSpring®

How to Select the Right Unit:

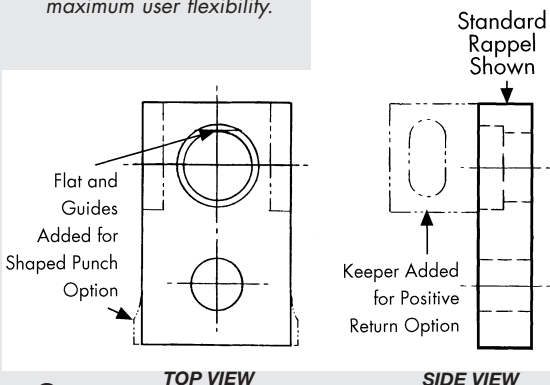
1. Choose the model number from page 5 which covers the required point diameter (D) and stroke (A).
2. Confirm that the model's tonnage exceeds the total force (piercing + stripping) required. Total Force = (hole perimeter x material thickness x material tensile strength) + stripping force from page 3 table.
3. Select options on pages 4 and 5. PLEASE NOTE: point size on standard punches must be specified.

CAMDRIVE® Do's & Don'ts

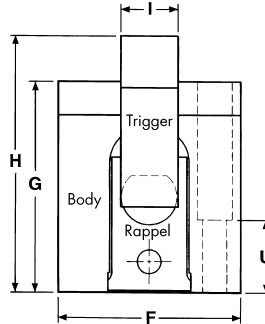
- DO:** key in back of unit to resist force.
- DO:** effect piercing in last quarter of max stroke **A**.
- DO:** remember punch stroke equals press stroke (1:1 ratio).
- DON'T:** mount CAMDRIVE® greater than $\pm 15^\circ$ without using angle mount option trigger. Note: $\pm 30^\circ$ max angle with option. No positive return on angle mounts.
- DON'T:** overstroke the unit.
Max trigger stroke = 90% of A

The CAMDRIVE® Rappel

The *rappel* is an internal component that differs with each available option. A *rappel* can always be changed to a different configuration later providing maximum user flexibility.

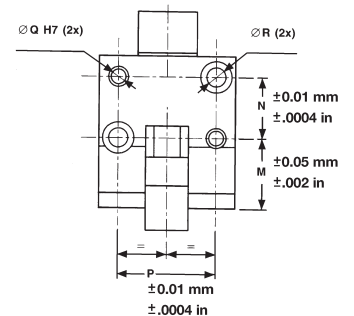


End View



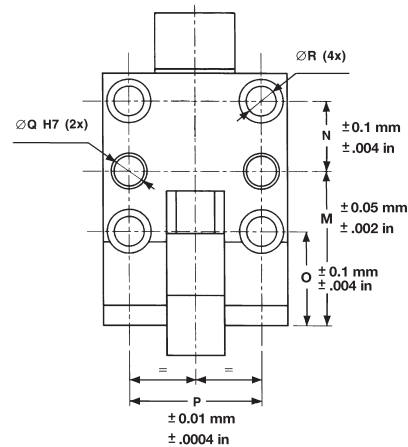
Top View

TYPE C-XXXX-11
for shorter strokes



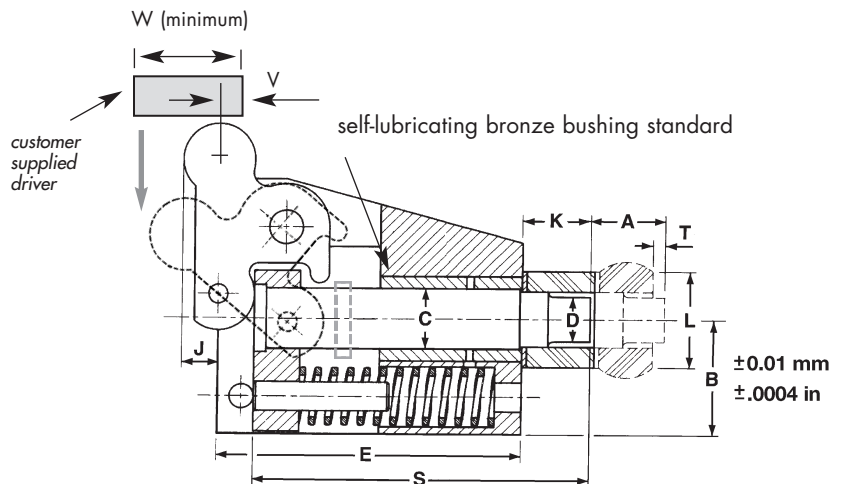
Top View

TYPE C-XXXX-12/-13
for longer strokes



Side View

(with fully closed stroke)



NOTE: Maximum trigger stroke = A Minimum trigger stroke = 75% of A
Maximum work stroke = 90% of A

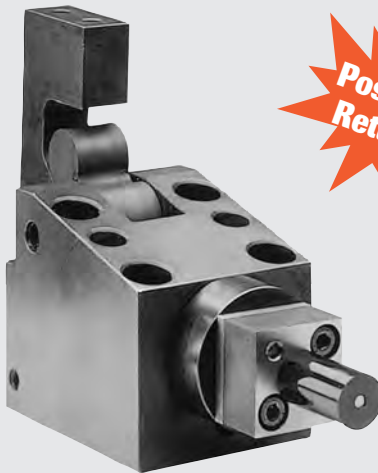
All dimensions in mm and inch, except when otherwise stated.
All dimensions are nominal unless tolerance is stated.

| CATALOG REFERENCE | C-0250- | | C-0375- | | C-0500- | | C-0625- | | C-1000- | | C-1500- | | |
|---|-------------------|-----------------------------------|-----------------------------------|----------------------------------|------------------------------------|-------------------------------------|-----------------------------------|---------------------|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | -11 | -12 | -11 | -12 | -11 | -12 | -11 | -12 | -12 | -13 | -12 | -13 | |
| Metric Tonne US Ton | 1 1.1 | | 2 2.2 | | 3 3.3 | | 5 5.5 | | 10 11 | | 18 19.8 | | |
| Max. Strip Force (daN)* Max. Strip Force (lbs.) | 170 382 | | 200 450 | | 210 472 | | 320 719 | | 510 1146 | | 560 1259 | | |
| Point D | mm inch | 1.5 to 4.7 .059 to .185 | 3.2 to 7.9 .125 to .311 | 4.7 to 11 .185 to .433 | 9.5 to 14.2 .374 to .559 | 14.3 to 22.4 .560 to .882 | 22.5 to 31 .883 to 1.22 | | | | | | |
| E | mm inch | 51 2.008 | 76 2.992 | 64 2.520 | 91 3.582 | 75 2.952 | 98 3.858 | 87 3.425 | 112 4.409 | 126 4.960 | 158 6.220 | 168 6.614 | 231 9.094 |
| Max. Stroke A | mm inch | 9.5 .374 | 19 .748 | 13 .512 | 22 .866 | 16 .630 | 25 .984 | 19 .748 | 28 1.102 | 32 1.26 | 50 1.968 | 38 1.496 | 63 2.480 |
| B | mm inch | 22 .866 | | 32 1.260 | | 36 1.417 | | 42 1.654 | | 48 1.889 | | 67 2.638 | |
| C | mm inch | 6 .236 | | 10 .394 | | 13 .512 | | 16 .630 | | 25 .984 | | 38 1.496 | |
| F | mm inch | 51 2.008 | | 64 2.520 | | 68 2.677 | | 78 3.071 | | 92 3.622 | | 105 4.133 | |
| G | mm inch | 47 1.850 | | 63 2.480 | | 75 2.953 | | 87 3.425 | | 106 4.173 | | 146 5.748 | |
| H | mm inch | 59 2.323 | | 75 2.953 | | 91 3.583 | | 106 4.173 | | 129 5.079 | | 180 7.087 | |
| I | mm inch | 15 .591 | | 19 .748 | | 22 .866 | | 24 .945 | | 28 1.102 | | 41 1.614 | |
| J | mm inch | 6 .236 | | 5 .197 | | 6.5 .256 | | 9 .354 | | 15 .591 | | 24 .945 | |
| K | mm inch | 22 .866 | | 22 .866 | | 22 .866 | | 22 .866 | | 28.5 1.122 | | 41.5 1.634 | |
| L | mm inch | 18 .709 | | 21 .826 | | 23 .906 | | 28 1.102 | | 45 1.772 | | 63 2.480 | |
| M | mm inch | 26 1.024 | 50 1.968 | 32 1.260 | 57 2.244 | 38 1.496 | 59 2.323 | 42 1.654 | 66 2.598 | 77 3.031 | 110 4.331 | 105 4.134 | 168 6.614 |
| N | mm inch | 18 .708 | | 23 .906 | | 30 1.181 | | 35 1.377 | | 35 1.377 | | 45 1.772 | |
| O | mm inch | - --- | 26 1.024 | - --- | 32 1.260 | - --- | 38 1.496 | - --- | 42 1.654 | 50 1.969 | | 62 2.441 | |
| P | mm inch | 37 1.457 | | 46 1.811 | | 50 1.968 | | 56 2.205 | | 66 2.598 | | 79 3.110 | |
| Q | mm | 6 | | 8 | | 8 | | 10 | | 16 | | 16 | |
| R | mm | M6 | | M8 | | M8 | | M10 | | M14 | | M14 | |
| S | mm inch | 63 2.480 | 88 3.465 | 75 2.953 | 102 4.016 | 84.5 3.327 | 107.5 4.232 | 94 3.700 | 119 4.685 | 139.5 5.492 | 171.5 6.752 | 190.5 7.500 | 253.5 9.980 |
| T | mm inch | 6 .236 | | 6 .236 | | 6 .236 | | 6 .236 | | 9 .354 | | 9 .354 | |
| U | mm inch | 15 .591 | | 20 .787 | | 25 .984 | | 25 .984 | | 30 1.181 | | 40 1.575 | |
| V | mm inch | 6 .236 | | 6 .236 | | 9 .354 | | 9 .354 | | 12 .472 | | 18 .708 | |
| W | mm inch | 19 .748 | | 19 .748 | | 25 .984 | | 30 1.181 | | 33 1.300 | | 50 1.968 | |

These are metric tools. *1 daN = 2.24 lbs.; 1 mm = .0394 in. All dimensions are nominal unless tolerance is stated.

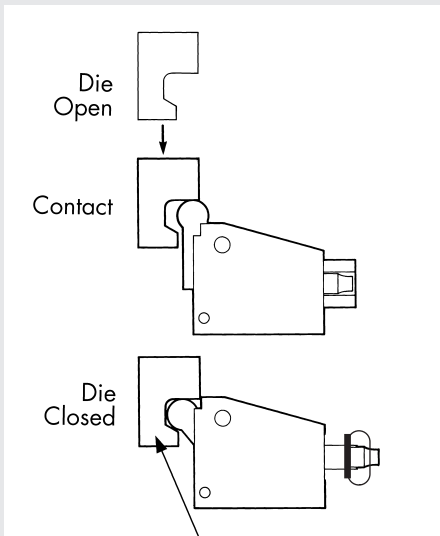
Popular CAMDRIVE® Options

One Design, Easily Adaptable for a Wide Range of Special Needs. Versatility and Precision by Interchangeable Internal Components.

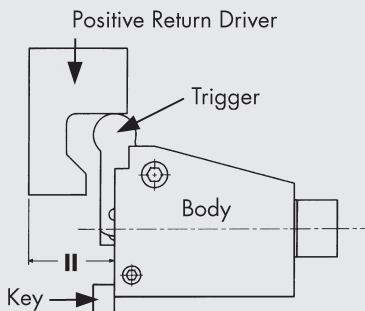


Positive Return

How the Positive Return Option Works . . .



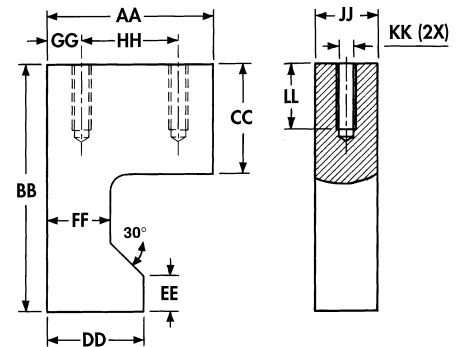
As Die Opens, Driver Lifts Trigger Creating a Positive Return.



POSITIVE RETURN OPTION

- Available on all units except the angle mount option.
- Can be used when mounting at angles of $\pm 15^\circ$.
- Conversion kit contains driver and appropriate rappel.
- Why risk die damage!

Positive Return Driver



Positive Return Driver Dimensions

| Catalog Reference | | C-0250 | C-0375 | C-0500 | C-0625 | C-1000 | C-1500 |
|-------------------|------|--------|--------|--------|--------|--------|--------|
| AA | mm | 30 | 40 | 50 | 55 | 58 | 82 |
| | inch | 1.181 | 1.574 | 1.968 | 2.165 | 2.283 | 3.228 |
| BB | mm | 45 | 50 | 60 | 70 | 85 | 115 |
| | inch | 1.772 | 1.968 | 2.362 | 2.756 | 3.346 | 4.528 |
| CC | mm | 21 | 25 | 29 | 34 | 40 | 50 |
| | inch | .827 | .984 | 1.142 | 1.339 | 1.574 | 1.968 |
| DD | mm | 17 | 27 | 33 | 35 | 37 | 48 |
| | inch | .669 | 1.063 | 1.299 | 1.377 | 1.457 | 1.890 |
| EE | mm | 8 | 9 | 10 | 11 | 13 | 15 |
| | inch | .315 | .354 | .394 | .433 | .511 | .591 |
| FF | mm | 11 | 21 | 25 | 25 | 25 | 32 |
| | inch | .433 | .827 | .984 | .984 | .984 | 1.260 |
| GG | mm | 6 | 8 | 10 | 12.5 | 14 | 20 |
| | inch | .236 | .315 | .394 | .492 | .551 | .787 |
| HH | mm | 18 | 24 | 30 | 30 | 30 | 42 |
| | inch | .709 | .945 | 1.181 | 1.181 | 1.181 | 1.654 |
| II | mm | 24 | 34 | 41 | 46 | 53 | 74 |
| | inch | .945 | 1.339 | 1.614 | 1.811 | 2.087 | 2.913 |
| JJ | mm | 15 | 19 | 22 | 24 | 28 | 41 |
| | inch | .591 | .748 | .866 | .945 | 1.102 | 1.614 |
| KK | mm | M6 | M6 | M8 | M10 | M12 | M16 |
| | inch | M6 | M6 | M8 | M10 | M12 | M16 |
| LL | mm | 16 | 16 | 20 | 20 | 25 | 32 |
| | inch | .630 | .630 | .787 | .787 | .984 | 1.260 |

These are metric tools.

All dimensions are nominal unless tolerance is stated.

SELF-LUBRICATING BRONZE BUSHING STANDARD:

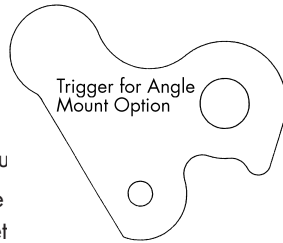
- Standard on all models.
- Meets U.S. automotive standards.
- Eliminates the need for a grease fitting.
- Requires virtually no maintenance while increasing life.
- Ideal for automotive dies.

SHAPED PUNCH OPTION:

- Round punch blank with flat on head supplied with this option.
- Rappel is equipped with a matching flat tangent to punch body diameter (C). (see CAMDRIVE® rappel page 2)
- Rappel also is guided in CAMDRIVE® body for precision (see CAMDRIVE® rappel page 2).
- Special shaped punches per print available, longer delivery and at extra charge.

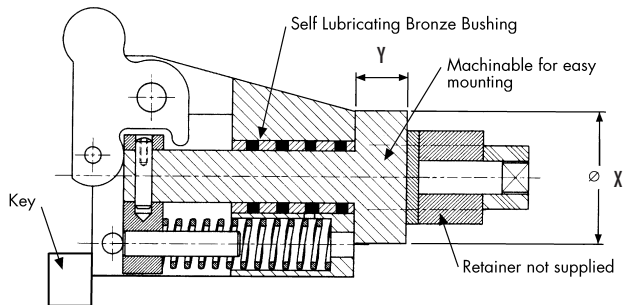
ANGLE MOUNT OPTION:

- Used when mounting at $\pm 15^\circ - 30^\circ$ (max.)
- Unit comes with trigger for angle mou
- Positive Return option is not available with angle mount. Call READY for det



RETAINER MOUNT OPTION:

- Mount standard retainers to machinable face.
- Use the standard or special tools you select.
- This option available only on:
C-0625-11/-12, C-1000-12/-13 and C-1500-12/-13
- Positive Return option available, special rappel (page 2).



Retainer Mount Dimensions

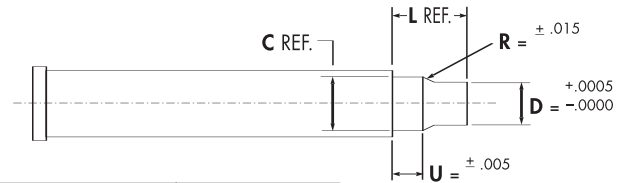
| Catalog Reference | C-0625-11 C-0625-12 | C-1000-12 C-1000-13 | C-1500-12 C-1500-13 |
|-------------------|------------------------|------------------------|------------------------|
| X mm | 50 | 64 | 80 |
| X inch | 1.969 | 2.520 | 3.149 |
| Y mm | 20 | 25 | 30 |
| Y inch | .787 | .984 | 1.181 |

All dimensions are nominal unless tolerance is stated.

STANDARD PUNCH OPTIONS:

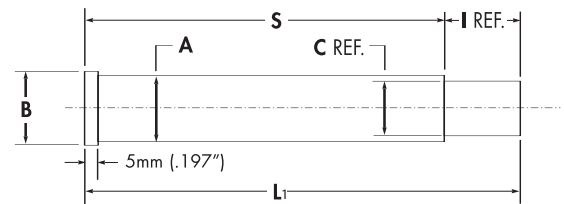
- READY offers CAMDRIVE® punches in two point configurations; custom round pointed (please specify "D" dimension at time of order) and in a punch blank configuration (customer to grind point).
- Piercing must take place during the last 25% of stroke. Allow additional stroke for punch re-sharpening, when applicable. Do not exceed 90% of stroke.
- READY recommends sharpening a punch no more than two times during the course of its life.
- Special ejector style punches also available upon request. Refer to the chart below for dimensional data.

CAMDRIVE® Metric Punch (pointed to order)



| Model | L | C | U |
|-----------|-------|-------|------|
| 250 mm | 22 | 4.7 | 9.4 |
| 250 inch | .866 | .185 | .370 |
| 375 mm | 22 | 7.9 | 9.4 |
| 375 inch | .866 | .311 | .370 |
| 500 mm | 22 | 11 | 9.4 |
| 500 inch | .866 | .433 | .370 |
| 625 mm | 22 | 14.2 | 9.4 |
| 625 inch | .866 | .559 | .370 |
| 1000 mm | 28.5 | 22.4 | 12.7 |
| 1000 inch | 1.122 | .882 | .500 |
| 1500 mm | 41.5 | 31 | 19 |
| 1500 inch | 1.634 | 1.220 | .748 |

CAMDRIVE® Metric Punch Blank

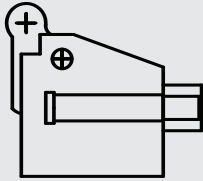


| Model | A | B | C | S | L ₁ | I |
|--------------|-------|-------|-------|-------|----------------|-------|
| 250-11 mm | 6 | 9 | 4.7 | 41 | 63 | 22 |
| 250-11 inch | .236 | .354 | .185 | 1.614 | 2.480 | .866 |
| 250-12 mm | 6 | 9 | 4.7 | 66 | 88 | 22 |
| 250-12 inch | .236 | .354 | .185 | 2.599 | 3.465 | .866 |
| 375-11 mm | 10 | 13 | 7.9 | 53 | 75 | 22 |
| 375-11 inch | .394 | .512 | .311 | 2.087 | 2.953 | .866 |
| 375-12 mm | 10 | 13 | 7.9 | 80 | 102 | 22 |
| 375-12 inch | .394 | .512 | .311 | 3.150 | 4.016 | .866 |
| 500-11 mm | 13 | 16 | 11 | 63.5 | 85.5 | 22 |
| 500-11 inch | .512 | .630 | .433 | 2.500 | 3.366 | .866 |
| 500-12 mm | 13 | 16 | 11 | 85.5 | 107.5 | 22 |
| 500-12 inch | .512 | .630 | .433 | 3.366 | 4.232 | .866 |
| 625-11 mm | 16 | 19 | 14.2 | 72 | 94 | 22 |
| 625-11 inch | .630 | .748 | .559 | 2.835 | 3.701 | .866 |
| 625-12 mm | 16 | 19 | 14.2 | 97 | 119 | 22 |
| 625-12 inch | .630 | .748 | .559 | 3.819 | 4.685 | .866 |
| 1000-12 mm | 25 | 28 | 22.4 | 111 | 139.5 | 28.5 |
| 1000-12 inch | .984 | 1.102 | .882 | 4.370 | 5.492 | 1.122 |
| 1000-13 mm | 25 | 28 | 22.4 | 143 | 171.5 | 28.5 |
| 1000-13 inch | .984 | 1.102 | .882 | 5.630 | 6.752 | 1.122 |
| 1500-12 mm | 38 | 41 | 31 | 149 | 190.5 | 41.5 |
| 1500-12 inch | 1.496 | 1.614 | 1.220 | 5.866 | 7.500 | 1.634 |
| 1500-13 mm | 38 | 41 | 31 | 212 | 253.5 | 41.5 |
| 1500-13 inch | 1.496 | 1.614 | 1.220 | 8.346 | 9.980 | 1.634 |

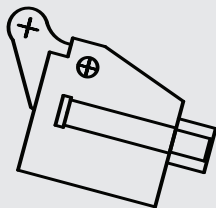
How To Order a CAMDRIVE®

Standard Model

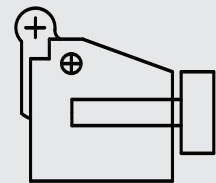
(specify D = for ground point)



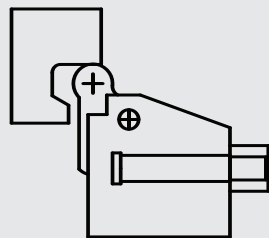
Angle Mount Option - AM



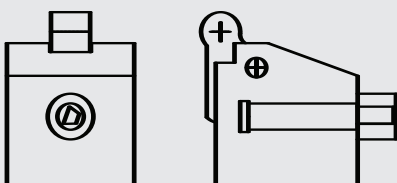
Retainer Mount Option - RM



Positive Return Option - PR



Shaped Punch Option - SP



Follow these simple steps and build your part number (s) by filling in the chart below:

1. Review "How to Select the Right Unit" on page 2 or fill out Worksheet on page 7 and fax it to us and we will assist you in your selection.
2. Determine what options you require from pages 4 & 5.
3. Select the part number from the chart below.

| Model and Stroke | Angle Mount -AM* | Retainer Mount -RM | Positive Return -PR* | Shaped Punch -SP |
|------------------|------------------|--------------------|----------------------|------------------|
| C-0250-11 | | N/A | | |
| C-0250-12 | | N/A | | |
| C-0375-11 | | N/A | | |
| C-0375-12 | | N/A | | |
| C-0500-11 | | N/A | | |
| C-0500-12 | | N/A | | |
| C-0625-11 | | | | |
| C-0625-12 | | | | |
| C-1000-12 | | | | |
| C-1000-13 | | | | |
| C-1500-12 | | | | |
| C-1500-13 | | | | |

* = Angle Mount option not available with Positive Return option

Sample Part

C-0250-11-AM-SP = C-0250-11
Short stroke unit, Angle Mount, Shaped Punch

C-0625-12-RM-PR = C-0625-12
Long stroke unit, Retainer Mount, Positive Return

C-0500-11, "D"=.375 = C-0500-11
Short stroke unit with punch point ground to .375"

C-0500-11 = C-0500-11
Short stroke unit with blank punch point (per C dim on page 5)

Selecting the right **READY CAMDRIVE®** is as easy as **1 . . . 2 . . . 3**
Copy and fax this worksheet for FAST QUOTES

1 Company: _____
 Contact Name: _____ Title: _____
 Address: _____
 City, State, Zip: _____
 Telephone: _____ Fax: _____
 Email Address: _____

2 Please describe your application criteria

Part Material: _____
 Part Thickness: _____
 Tensile Strength: _____
 Length of Cut: _____

Cam Requirements

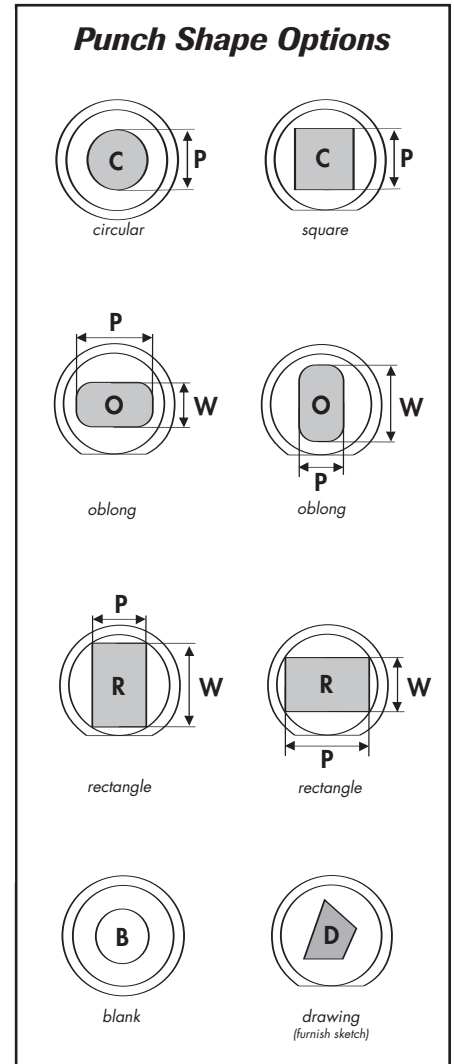
Cam Tonnage Required: _____
 Cam Stroke Required: _____
 Stripping Force Required: _____

Options (Please circle one)

Positive Return Option? Yes / No Retainer Mount Option? Yes / No
 Angle Mount Option? Yes / No Shape Punch Option? Yes / No

Specifications

3 Number of Cams Required: _____
 CAMDRIVE® Model Number: _____
 Punch Shape (Please circle one):
 Circular / Square / Oblong / Rectangle / Blank / Drawing
 Punch Point Dimensions: P= _____ W= _____
 Punch Material (A2 standard): A2 / M2 / M2 w/TiN / M2 Nitrided
 Style Punch (Solid Is standard): Solid / Ejector



Submitted by: _____
date: _____

Reviewed by: _____
date: _____

Quote Reference # _____
date _____

READY

AN ISO 9000 COMPANY



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