

# CATFORD ENGINEERING PRODUCTS

Mobile : 0418 641566

Email : sales@catford.com.au

Website : www.catford.com.au

## Black Line Clevis Cylinders

Rated Working Pressure 3000 PSI

Seal Kits available



| Part No. | Bore    | Stroke | Shaft Diameter | Closed Length     | Port Size              | Pin Diameter          | Price (Incl. GST)     |                       |                       |       |
|----------|---------|--------|----------------|-------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------|
| CR154    | 1 1/2"  | 4"     | 7/8"           | 14-1/4"           | 9/16" UNF<br>UN O-ring | 1"                    | \$187                 |                       |                       |       |
| CR156    |         | 6"     |                | 16-1/4"           |                        |                       | \$195                 |                       |                       |       |
| CR28     | 2"      | 8"     | 1-1/4"         | 20-1/4"           | 3/4" UNF<br>UN O-ring  |                       | \$209                 |                       |                       |       |
| CR210    |         | 10"    |                | 20-1/4"           |                        |                       | \$220                 |                       |                       |       |
| CR212    |         | 12"    |                | 22-1/4"           |                        |                       | \$230                 |                       |                       |       |
| CR214    |         | 14"    |                | 24-1/4"           |                        |                       | \$242                 |                       |                       |       |
| CR218    |         | 18"    |                | 28-1/4"           |                        |                       | \$253                 |                       |                       |       |
| CR224    |         | 24"    |                | 34-1/4"           |                        |                       | \$297                 |                       |                       |       |
| CR248    |         | 48"    |                | 58-1/4"           |                        |                       | \$490                 |                       |                       |       |
| CR256    |         | 6"     |                | 16-1/4"           |                        |                       | \$198                 |                       |                       |       |
| CR2512S  | 2-1/2"  | 12"    | 1-1/2"         | 22-1/4"           |                        |                       | 3/4" UNF<br>UN O-ring | \$242                 |                       |       |
| CR2512L  |         | 12"    |                | 24-1/4" Long Body |                        |                       |                       | \$262                 |                       |       |
| CR2518   |         | 18"    |                | 30-1/4" Long Body |                        |                       |                       | \$285                 |                       |       |
| CR2524   |         | 24"    |                | 36-1/4" Long Body |                        |                       |                       | \$350                 |                       |       |
| CR38     | 3"      | 8"     | 1-1/2"         | 20-1/4"           |                        |                       |                       | 3/4" UNF<br>UN O-ring | \$253                 |       |
| CR312S   |         | 12"    |                | 22-1/4"           |                        |                       |                       |                       | \$286                 |       |
| CR312L   |         | 12"    |                | 24-1/4" Long Body |                        |                       |                       |                       | \$300                 |       |
| CR316    |         | 16"    |                | 28-1/4"           |                        |                       |                       |                       | \$315                 |       |
| CR318S   |         | 18"    |                | 28-1/4"           |                        |                       |                       |                       | \$345                 |       |
| CR318L   |         | 18"    |                | 30-1/4" Long Body |                        |                       |                       |                       | \$365                 |       |
| CR324    |         | 24"    |                | 36-1/4" Long Body |                        |                       |                       |                       | \$440                 |       |
| CR358    |         | 8"     |                | 20-1/4"           |                        |                       |                       |                       | \$275                 |       |
| CR3516   | 3- 1/2" | 16"    | 1-3/4"         | 28-1/4" Long Body |                        |                       |                       |                       | 3/4" UNF<br>UN O-ring | \$399 |
| CR3524   |         | 24"    |                | 36-1/4" Long Body |                        |                       |                       |                       |                       | \$470 |
| CR48     | 4"      | 8"     | 2"             | 20-1/4"           |                        | 3/4" UNF<br>UN O-ring |                       |                       |                       | \$308 |
| CR412    |         | 12"    |                | 22-1/4"           |                        |                       |                       |                       |                       | \$390 |
| CR418    |         | 18"    |                | 28-1/4"           | \$462                  |                       |                       |                       |                       |       |
| CR424    |         | 24"    |                | 34-1/4"           | \$528                  |                       |                       |                       |                       |       |



# CATFORD ENGINEERING PRODUCTS

**Black Line Bush Cylinders**  
Rated Working Pressure 3000 PSI

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| Part No. | Bore   | Stroke | Shaft Diameter | Closed Length | Port Size | Eye Diameter | Eye Width |         | Price (Incl. GST) |
|----------|--------|--------|----------------|---------------|-----------|--------------|-----------|---------|-------------------|
|          |        |        |                |               |           |              | Body End  | Rod End |                   |
| BR2512   | 2-1/2" | 12"    | 1-1/2"         | 20"           | 3/4" UNF  | 3/4"         | 3-1/8"    | 2"      | \$225             |
| BR2518   |        | 18"    |                | 26"           |           |              | 3-1/8"    | 2"      | \$285             |
| BR2524   |        | 24"    |                | 32"           |           |              | 3-1/8"    | 2"      | \$310             |
| BR324    | 3"     | 24"    | 1-3/4"         | 32"           |           | 1"           | 3-5/8"    | 2-1/4"  | \$365             |
| BR3524   | 3-1/2" | 24"    | 2"             | 32"           |           | 4-1/8"       | 2-1/2"    | \$396   |                   |
| BR420    | 4"     | 20"    | 2-1/4"         | 32"           |           | 1-1/4"       | 4-3/4"    | 4"      | \$429             |



# CATFORD ENGINEERING PRODUCTS

**Black Line Tie Rod Clevis Cylinders Mobile : 0418 641566**

**Rated Working Pressure 2500 PSI**

**Seal Kits available**

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**Black Line Tie Rod Clevis Cylinders**

**Rated Working Pressure 2500 PSI**

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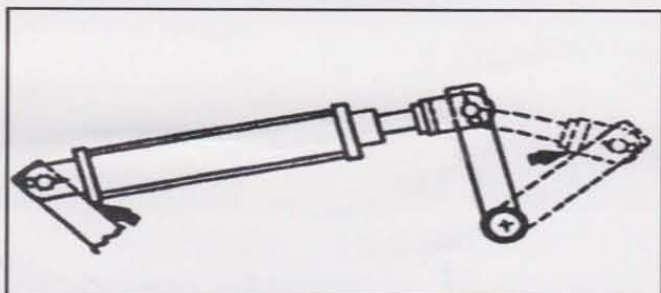
| Part No. | Bore   | Stroke | Shaft Diameter | Closed Length | Port Size | Pin Diameter | Price (Incl. GST) |
|----------|--------|--------|----------------|---------------|-----------|--------------|-------------------|
| TR28     | 2"     | 8"     | 1-1/8"         | 20-1/4"       | 3/8" NPT  | 1"           | \$165             |
| TR258    | 2-1/2" |        |                | 20-1/4"       |           |              | \$198             |
| TR38     | 3"     |        | 1-1/4"         | 20-1/4"       | 1/2" NPT  |              | \$210             |
| TR358    | 3-1/2" |        |                | 20-1/4"       |           |              | \$220             |
| TR2512   | 2-1/2" | 12"    | 1-1/8"         | 22-1/4"       | 3/8" NPT  |              | \$220             |
| TR312    | 3"     |        |                | 1-1/4"        |           |              | 22-1/4"           |
| TR316    |        | 16"    | 26-1/4"        |               | \$253     |              |                   |
| TR318    |        | 18"    | 28-1/4"        |               | \$264     |              |                   |
| TR48     |        | 4"     | 8"             |               | 20-1/4"   | \$275        |                   |





**"A 100% Australian Owned & Operated Company"**

## *COMMON CAUSES FOR HYDRAULIC CYLINDER FAILURES*

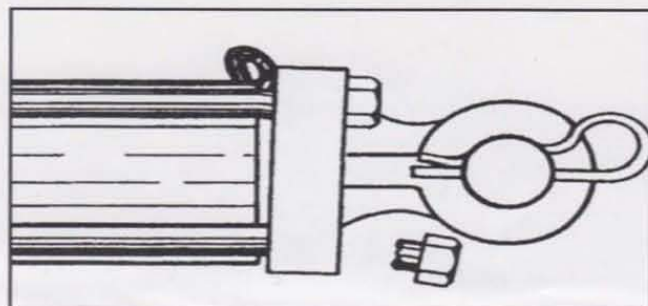


**BENT PISTON ROD NORMALLY CAUSED BY:  
BINDING IN ANY DIRECTION.**

This could have been avoided by taking the simple precaution of checking bracket clearances **BEFORE—DURING—AFTER** the cylinder was extended, and before using the cylinder under pressure.

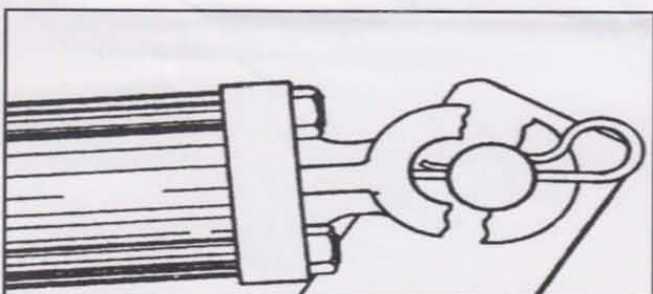
**STRETCHED TIE RODS BLOWN BODY SEAL  
NORMALLY CAUSED BY: TOO MUCH PRESSURE.**

Extruded static seal and possibly broken or stretched tie rods. To avoid this trouble check pressure rating of the cylinder against the pump pressure rating of the tractor, the cylinder is to be used on or with.



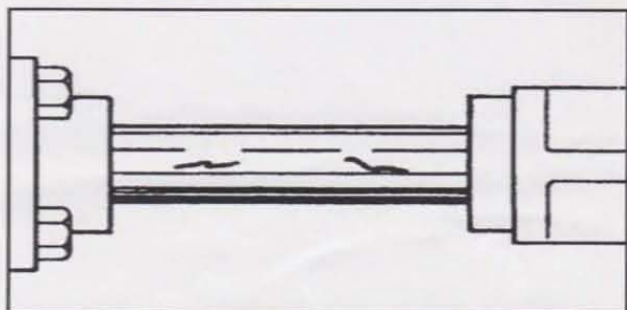
**BROKEN CLEVIS ENDS NORMALLY CAUSED BY:  
IMPROPER CLEARANCE IN THE MOUNTING BRACKETS.**

Clevis castings can be broken if clearances are not adequate to allow free movement of the cylinder when fully extended. Hydraulic cylinders exert a tremendous amount of force and if retarded before they reach the end of the stroke something has to give, often the clevis casting.



**ROUGH OR SCORED ROD.**

Tie rod cylinder rods are hard chrome plated and welded cylinders are chrome steel. They can be marked or scored. Protect the rods at all times and be sure that nothing hits or rubs it when it is extended. Rough places on the rod damages the seals and reduces their normal life, resulting in the necessity for frequent replacement.



**BROKEN HEAD CASTING NORMALLY CAUSED BY:  
BENT PISTON ROD.**

In case a rod becomes bent **DO NOT** attempt to pull the cylinder closed. To do so will almost invariably cause the head casting to crack or break.

