

Introducing the C-Clipper™

Fact sheet v6

The one-shot installer for wrist pin clips

Introduced early in 2004, the C-Clipper was the perfect answer to some very old questions: I had it in my pliers a second ago, where did that clip go? How long is it going to take me, this time? Why am I the only guy left in the shop when there's piston assembling to do?

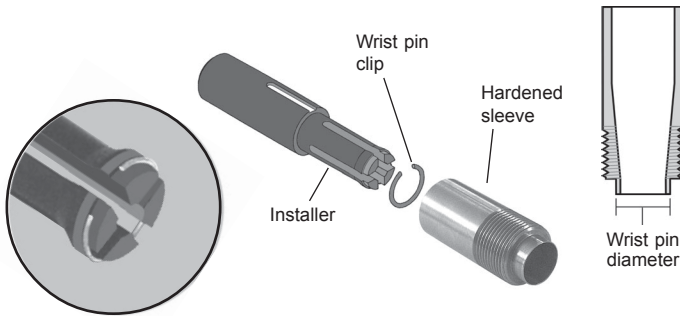
Traditional ways of installing wrist pin clips – especially the second one, with the piston installed – all demand a high degree of dexterity and patience. And luck, too, if the clip in question goes flying. Worse yet, conventional methods of installing clips can cause weakening to the point of failure. And that's a several thousand dollar headache.

C-Clipper takes all the effort and uncertainty out of the job. It's a surefire way of installing clips in just a few seconds, no matter what the make of piston or length of wrist pin. It works just as well installing the first clip on the bench, or the second clip on the engine assembly.

Originally offered only for 250 cc two-strokes with 18 mm pins, C-Clippers are now available for most two-strokes and four-strokes, especially those popular in power sport machines and motorcycle racing.

Here's how it works

The nose of the installer is a helix, like a screw, so one end of the clip sits above the other. When the installer is pushed through the necked-down bore of the sleeve its fingers are squeezed together, allowing one end of the clip to overlap the other. The clip springs open into its seating location once it clears the end of the sleeve.



It's as easy as pie

C-Clipper takes all the drudgery out of the job. No more fiddling with long-nose pliers and little screwdrivers. One push and you're done, in less than 15 seconds a side, *every time*.



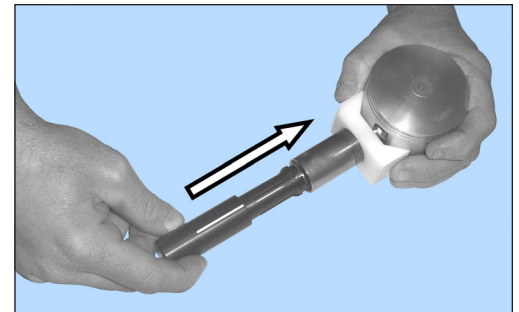
1

Seat the wrist pin clip on the installer nose



2

With the sleeve in its V-block, line it up with the wrist pin bore.



3

Push the installer home. **DONE!** No over-stressing of the clip, no marring of the bore.

Two kinds of C-Clippers

Across the whole family of pistons, two-stroke and four-stroke, there are only two general locations for wrist pin clips: 1. "Plain", just inboard of the piston's round surface, as in most two-strokes; 2. "Undercut", inboard of a (typically) flat cut-away surface below an overhanging shoulder, as in most large-bore four-strokes. The two locations call for two corresponding C-Clipper sleeves:

PLAIN SLEEVE



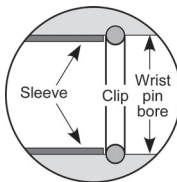
Plain C-Clipper sleeve
Use only with SHORT installer, and white DELRIN V-block, below

Plain piston

No undercut: wrist pin length just short of piston diameter

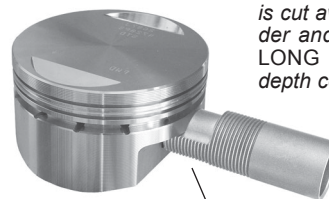
Depth setting

Sleeve depth is set just outboard of the wrist pin bore by rotating the sleeve in the threaded Delrin V-block straddling the piston.



UNDERCUT SLEEVE

Undercut pistons need an undercut sleeve!

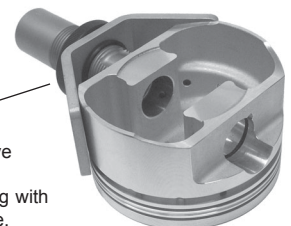


The threaded portion of the C-Clipper sleeve is cut away to clear the overhanging shoulder and skirt of the piston. Use only with LONG installer, and formed ALUMINUM depth control V-guide, below.

Undercut sleeve nose

Depth setting

Because an undercut sleeve can't be rotated, it uses a threaded depth adjuster ring with a formed aluminum V-guide.



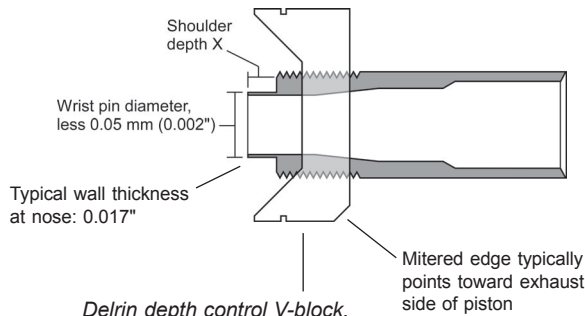
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Do I have to choose my sleeve, installer and depth control? **NO!** We do it for you. For many popular engines, kits are available off-the-shelf, see overleaf.



PLAIN SLEEVE

Dimension X varies with pin diameter:
 12 and 13 mm pins, X = 0.265"; 14, 15, and
 16 mm pins, X = 0.270"; 18 mm, X = 0.460"

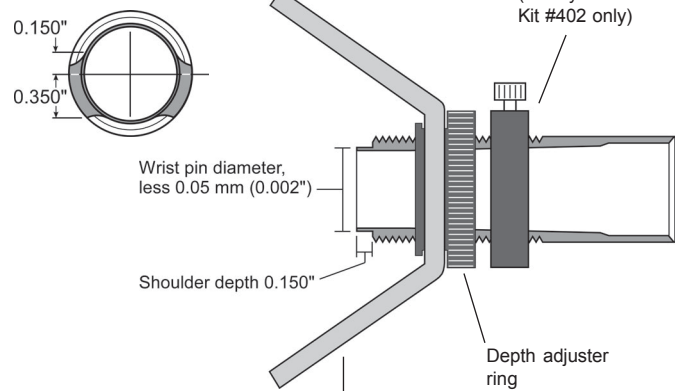


Delrin depth control V-block, available in sizes A, B and C

V-block	Piston diam.	Pin diams.
A	39 - 54 mm	12 and 13 mm
B	47 - 56 mm	14 and 15 mm
C	64 - 79 mm	16 and 18 mm

UNDERCUT SLEEVE

Undercut sleeve
 nose: typical wall
 thickness 0.018"



Aluminum depth control V-guide, available in sizes L and M

V-guide	Piston diam.
L	69 - 85 mm
M	85 - 99 mm

Plain sleeve C-Clipper kits

The table lists stock items. C-Clippers are available on longer delivery for all pin diameters from 10 mm to 24 mm. Kits include plain sleeve, short installer, and appropriate Delrin V-block.

Kit #	Pin diam.	V-block	Piston	Typical engines
304	12 mm	A	39 - 54 mm	50 & 65 cc 2-strokes: Honda, KTM, Polaris Sportsman 90, Scrambler
407	13 mm	A	39 - 54 mm	2-strokes: Legacy 80 cc, incl. Honda CR80, Suzuki, Yamaha
				4-strokes: Honda 50 & 70 cc, Badger/Raptor 80cc, Yamaha 90 cc, Kawasaki/Yamaha 110 cc
303	14 mm	B	47 - 56 mm	Most 80 and 85 cc 2-strokes: Honda, Kawasaki, Suzuki, Yamaha, etc.
301	15 mm	B	47 - 56 mm	Most 125 cc 2-strokes: Honda, Kawasaki, Suzuki, Yamaha, etc.
401	16 mm	C	64 - 79 mm	ATVs, Watercraft, Snowmobiles, etc.
302	18 mm	C	64 - 79 mm	Most 250 cc 2-strokes: Honda, Kawasaki, Suzuki, Yamaha, etc.

Undercut sleeve C-Clipper kits

The table lists stock items. C-Clippers are available on longer delivery for all pin diameters from 14 mm to 24 mm. Kits include plain sleeve, long installer, and appropriate aluminum V-guide.

Kit #	Pin diam.	V-guide	Piston	Typical engines
402	0.791"/0.792"	M	Standard & Big Bore	Harley-Davidson* Evolution Series, Buell
403	20 mm	M	85 - 99 mm	Most 4-strokes using 20 mm pins
404	16 mm	L	69 - 85 mm	Most 4-strokes using 16 mm pins
405	17 mm	L	69 - 85 mm	Most 4-strokes using 17 mm pins
406	18 mm	L	69 - 85 mm	Most 250 cc/18 mm 4-strokes
408	18 mm	M	85 - 99 mm	Most 400-450 cc/18 mm 4-strokes
409	19 mm	L	69 - 85 mm	Most 250 cc/19 mm 4-strokes
410	19 mm	M	85 - 99 mm	Most 400-450 cc/19 mm 4-strokes

* Including most after-market standard bore and big bore engines. Not available at this time for Harley-Davidson Twin Cam, Iron Sportster, and other legacy engines.

Compatibility

- Original equipment and aftermarket pistons for the *same engine* may use *different* diameter wrist pins. Check the piston you plan to use before ordering.
- In most cases we know that C-Clippers will work for you right out of the box. However, because there are literally thousands of pistons out there, we sometimes need specific dimensions. Call us toll free or e-mail.

BUX TOOLS LIMITED WARRANTY STATEMENT

BUX TOOLS, division of Bacon Machine Company, Inc., warrants to the end-user purchaser that its C-Clipper product will be free from defects in material and workmanship for 6 months following the date of purchase.

C-Clipper products alleged to be defective must be returned to BUX TOOLS within the warranty period, postage prepaid.

BUX TOOLS liability for its products is limited to repairing or replacing parts found by BUX TOOLS to be defective, or at BUX TOOLS option, to refunding the purchase price of such products. In no event is BUX TOOLS liable for incidental

or consequential damages arising out of or in connection with its products, such damages including, without limitation, loss of use, income or profit, or losses sustained as the result of injury or death, or loss of or damage to property, including engines assembled using BUX TOOLS products.

This warranty does not cover misuse of the product, including deformation of plastic components due to improper storage.

Purchasers unwilling to accept the terms of this limited warranty should contact BUX TOOLS before using any C-Clipper product.