cascade™

Technical Bulletin

Number 128 October 1983

Cylinder Rod End Anchor Nut Removal and Installation

MODELS: All Cascade "C" and "D" series attachments except Pivot Arm Paper Roll Clamps and Load Push/Pulls.

PROBLEM: Removal of the cylinder anchor nut with an air wrench may cause the piston nut to loosen.

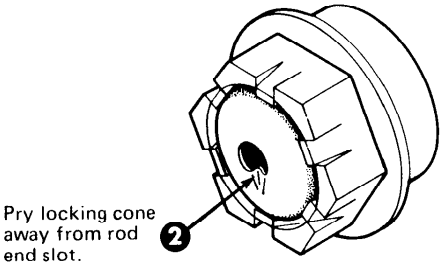
SOLUTION: **"C" SERIES ATTACHMENTS** - Pry the locking cone completely away from the slot in the cylinder rod end. Follow the service procedures below.

"D" SERIES ATTACHMENTS - Use a wrench on the hex rod washer to keep the cylinder rod from rotating while removing the anchor nut.

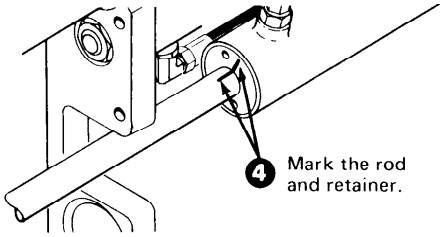
1. Extend the cylinder rods to mid stroke. Do not fully extend the rods.
2. **"C" Series Attachments** - Pry the locking cone completely away from the slot in the rod end with a screw driver or small punch. If the locking cone is destroyed, the nut assembly must be replaced. See nut application chart at right.

   "D" Series Attachments - Proceed to step 3.
3. Remove oil and dirt from the cylinder rod and retainer with cleaning solvent.
4. Mark the rod and retainer as shown with a marking pen. Do not use "scratches" to mark. The marks on the rod and retainer must remain lined up during anchor nut removal.

"C" Series



Model	Anchor Nut Part No.
C2, C3, C5 (Carton Clamp) 20C, 35C	665641
20C (Appliance Clamp)	665560
C3 (Roll Clamp), C4, C5, 60C	665642
C6, C7	665643
20D, 25D, 35D	667625
40D, 50D, 60D	667688



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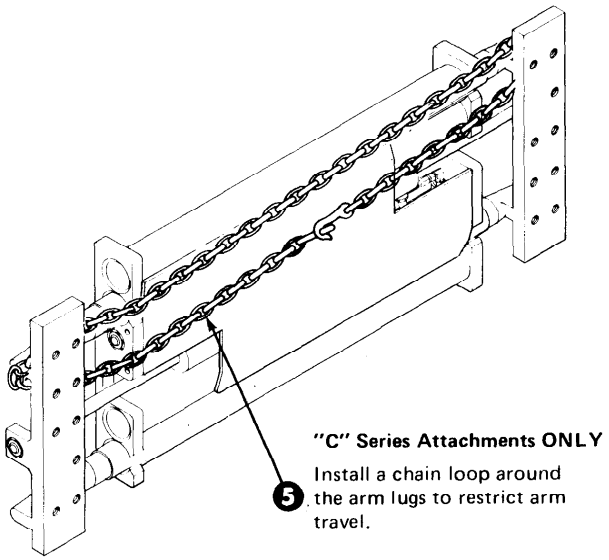
5. **"C" Series Attachments Only**- Install a chain loop around the arms to restrict arm travel. The chain must meet or exceed the work load rating specification for your clamp model shown in the chart. Power the attachment arms out against the chains while performing step 6.

   When powering out the arms against the chains a high friction area is being created against the arm lug, counterbored washer and cylinder rod shoulder. This should keep the rod from turning while removing the nut.

WARNING: The chain must meet or exceed the work load rating specification for your clamp model shown in the chart.

Model	Applied Load-Lbs.	Chain Work Load Rating - Lbs. (one loop - two equal tension legs)
C2, 20C	10,000	5,000
C3	12,5000	6,250
C4, 35C	18,000	9,000
C5	24,000	12,000
C6, 60C	28,000	14,000
C7	36,000	18,000
C8	40,000	20,000

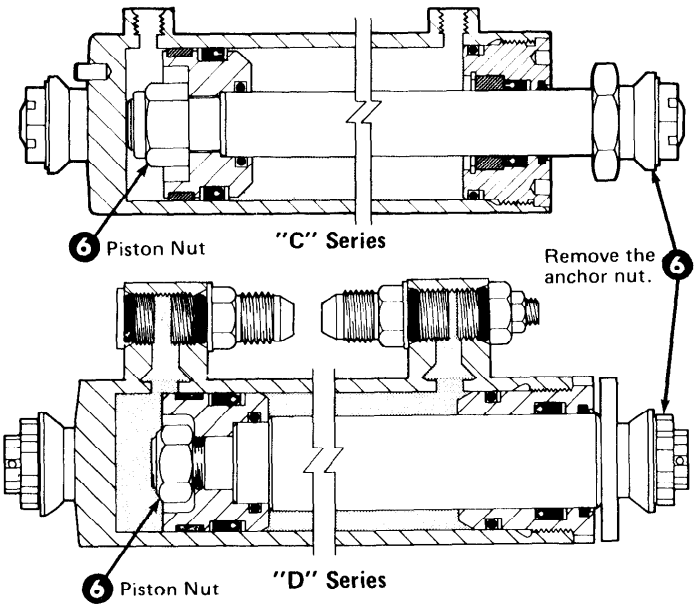


WARNING: Do not use air/impact tools for cylinder rod end anchor nut removal.

6. Remove the anchor nut. On a "D" series attachment use a wrench on the hex rod washer to keep the cylinder rod from rotating. If the rod has turned during nut removal, the cylinder must be disassembled to retighten the piston nut to the torque values shown below.

WARNING: Failure to retighten the piston nut if the rod has rotated during disassembly may cause rod disengagement from the piston.

Model	Piston Nut Torque Values
C2, C3, 20C, 35C	60–70 ft.-lbs.
C3 (Roll Clamp), C4, C5	140–170 ft.-lbs.
C4 (Roll Clamp), C6, C7, 60C	300–350 ft.-lbs.
20D, 25D, 35D	55–70 ft.-lbs.
40D, 50D, 60D	90–110 ft.-lbs.



7. **"C" Series Attachments**- Install the rod washer with the counterbore facing the nut. Engage the rod end into the arm lug. Apply anti-seize compound to the rod threads. With the chain loop around the arms, power the attachment arms out against the chains while installing and tightening the nuts to the torque values below.

   "D" Series Attachments- Install the rod beveled washer with the beveled side facing the nut. Engage the rod end into the arm lug. Apply anti-seize compound to the rod threads. Install the nut and tighten to the torque values below while holding the beveled washer with a wrench.

Model	Anchor Nut Torque Values
C2, C3, C5 (Carton Clamp) 20C, 35C	55–65 ft.-lbs.
C3 (Roll Clamp), C4, C5, 60C	130–150 ft.-lbs.
C6, C7	200–230 ft.-lbs.
All "D" Series	150–175 ft.-lbs.

8. **"C" Series Attachments**- Lock the nut in place by staking the locking cone into the rod end slot with a case hardened chisel. Positive engagement is required.

   "D" Series Attachments- Install the nut retainer and cotter pin.