

Maintenance Guide

Low Profile Hydraulic Torque Wrench

TX Series Cylinder

TX-2, TX-4 & TX-8



torqu

Maintenance Supplies



1. TX-4 Cylinder for demonstration purposes 2. TX-4 gland wrench 3. 1/4" allen wrench
4. Brass drift 5. 5/32" allen wrench 6. Hammer (18oz) 7. TX-4 insertion tool 8. Teflon tape
9. Marine moly 10. 1/4" punch 11. 1/8" punch 12. Light grease

Remove slider pin using
1/8" punch and hammer



Slider pin after removal




Remove sliders (2) with
1/8" punch



Sliders after removal





Vise used in the
next several steps

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With ¼" allen wrench
remove 1st swivel



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With ¼" allen wrench
remove 2nd swivel and
set aside



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Use 5/32" allen
wrench to remove
cover screw



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Remove end cover



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Cover retract port
with rag



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Hit down with
hammer on middle of
end plug with brass or
aluminum drift



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Hit down until end
plug is below level of
retaining rings



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Showing end plug
below retaining rings

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Remove 1st
retaining ring

Remove 2nd
retaining ring
and set aside



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Place insertion
tool on cylinder



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Place cylinder
over vise so
internal parts
may fall
out into rag



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With a hammer hit
down on piston rod
end with brass or
aluminum drift



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A close-up photograph showing a hand pointing to a piston rod and end plug that are falling into a rag. The piston rod is a long, cylindrical metal component, and the end plug is a smaller, rectangular metal piece. The rag is a light-colored, textured fabric. The background shows a metallic structure, likely part of a hydraulic torque wrench.

Piston rod and end
plug will fall into rag

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The image shows the disassembled components of a hydraulic torque wrench. On the left is the main body, a large, silver-colored metal casting with a central opening. To its right is the piston rod, a long, dark metal rod with a hexagonal base. Further right is the end plug, a small, dark, cylindrical component. In the foreground is the insertion tool, a square metal block with a circular opening. The components are arranged on a dark, textured metal surface.

Cylinder, piston rod,
end plug and
insertion tool

Clean and inspect
parts

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Place tool in vise



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A close-up photograph of a hydraulic torque wrench's cylinder gland. The central component is a dark, cylindrical metal rod with a hexagonal cross-section at the top. It is held in place by a complex, light-colored metal housing with several curved, flange-like sections. The background is a blurred industrial setting with a wooden surface on the left and a light-colored wall on the right.

Displaying
cylinder gland

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Gland wrench inserted
into cylinder gland

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A close-up photograph showing a person's hand using a black metal gland wrench to turn a cylindrical metal gland. The wrench is inserted into the side of the gland, and the hand is positioned to turn it counter-clockwise. The background is a blurred industrial setting with a wooden surface and a grey metal structure.

Loosen cylinder gland
with gland wrench
(counter clockwise)

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Cylinder gland
removed

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Displaying rod seal
inside housing



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Insert small screw
driver or pick to
remove rod seal

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Rod seal
removed

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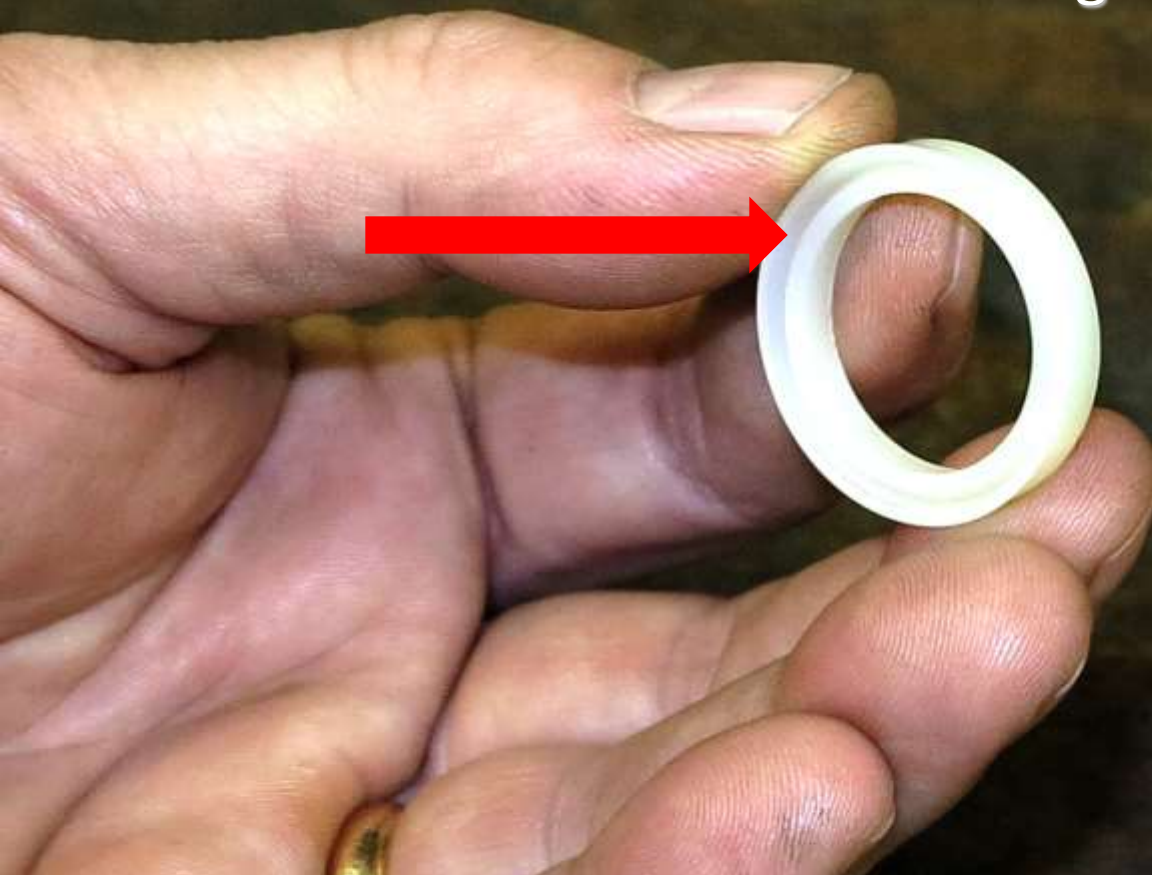
A close-up photograph showing a person's hand holding a blue cloth and cleaning a white, ring-shaped rod seal. The background is a blurred workshop floor with various tools.

Clean and
inspect rod seal

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NOTE: On the rod seal, one side is grooved and one side is flat. Insert grooved side face down into housing




A close-up photograph showing a person's hand inserting a green rod seal into a metal housing. The housing is held in a vise. The seal is being pushed into a central bore of the housing. The background is a workshop setting with a wooden surface and a blue wall.

Insert rod seal
into housing

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A close-up photograph of a hydraulic torque wrench's internal rod seal assembly. A person's finger is pointing to the rod seal, which is seated in a housing. The assembly consists of a central rod, a seal, and a housing. The background is a blurred workshop setting.

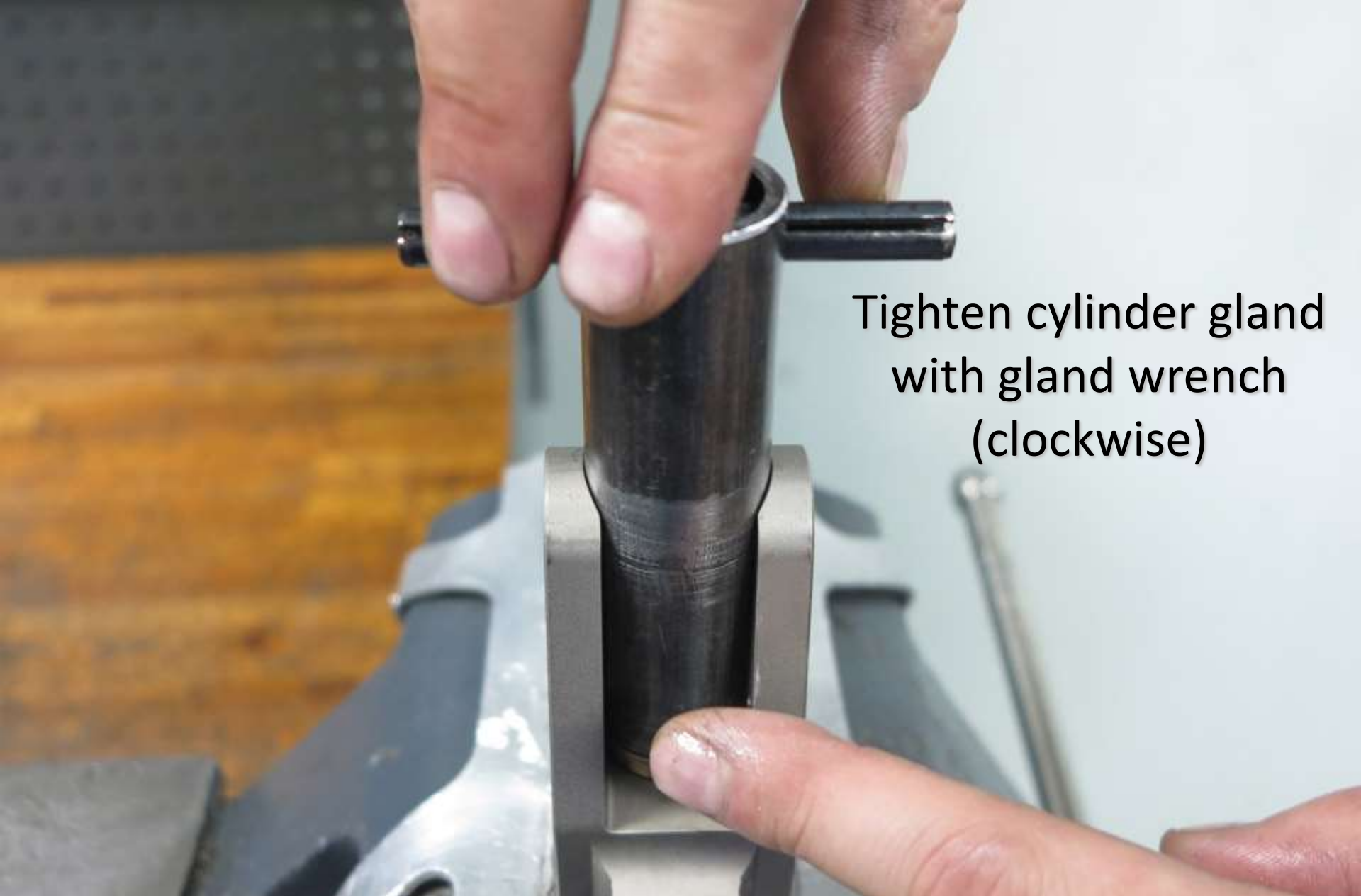
Rod seal
seated in housing

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Install
cylinder gland



Tighten cylinder gland
with gland wrench
(clockwise)

Gently tap with 18oz
hammer to ensure
gland is secure.
Remove gland wrench
and set aside



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Place insertion
tool on cylinder



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Use a light grease
to assemble tool



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Apply grease inside
peanut shape of
insertion tool



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Apply grease around
piston o-ring seal

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Align piston rod with
insertion tool making
sure “hook” is facing
in correct direction

Push down on piston
rod until flush with
top of insertion tool




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With hammer, hit down
on middle of piston rod
using a brass or
aluminum drift





Make sure piston rod
is below level of
insertion tool

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Regrease
insertion tool



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Grease end
plug seal

Place end plug into
insertion tool making
sure it is level; front to
back and side to side



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With hammer, hit
down on middle of
end plug with brass or
aluminum drift



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A close-up photograph of a hydraulic torque wrench's end plug assembly. The assembly is made of polished metal and features a central hole with a complex internal profile. The text "End plug should be below level of insertion tool" is overlaid in the upper right corner of the image.

End plug should be
below level of
insertion tool

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Install 1st
retaining ring

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Install 2nd
retaining ring

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With hammer,
hit down on
piston rod "end"
with brass or
aluminum drift



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Place cylinder
back in vice



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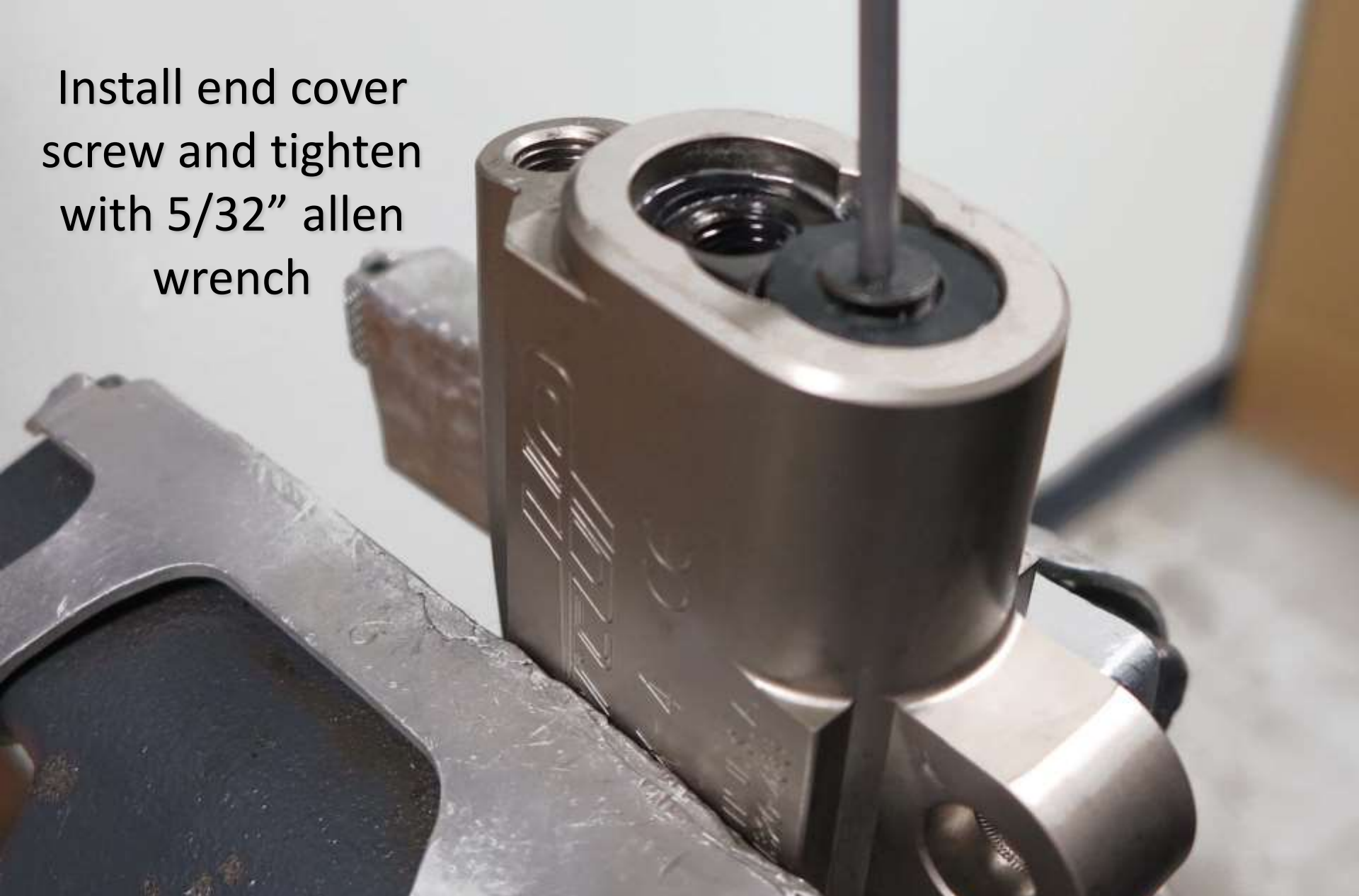
Install end cover



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Install end cover
screw and tighten
with 5/32" allen
wrench



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Remove old teflon
tape from both swivels
and wrap swivels with
new tape



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With ¼" allen wrench
install swivel with male
coupler into advance
port (end plug)

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With ¼" allen wrench,
install 2nd swivel with
female coupler into
retract port (cylinder)



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Install slider into tool.
One side of slider has
a bigger diameter hole
than the other

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Using moly grease; grease both sides of piston where
sliders will rest



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Set 1st
slider
into place

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Set 2nd
slider
into place

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Showing sliders
resting on
both
sides of
piston rod

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Align slider holes with
1/8" punch



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Place slider pin
through access hole
and into slider

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Hit down on slider pin
with hammer until
flush with cylinder

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Hit down on slider pin
with $\frac{1}{4}$ " punch until
pin is flush with
outside of slider



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Brush moly grease
on sliders



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Completed cylinder



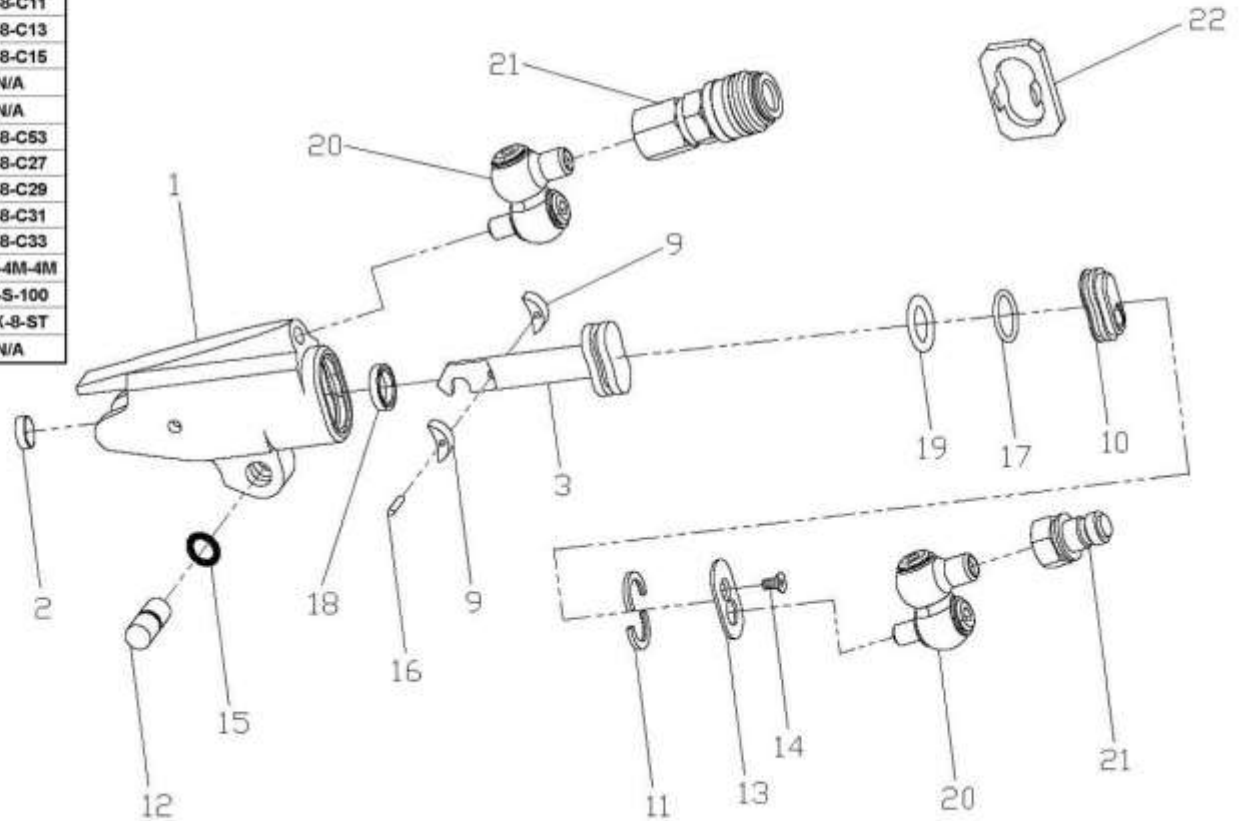
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TX-2 TX-4 and TX-8 Cylinder Part Numbers

Part	TX-2	TX-4	TX-8
1 HOUSING	TX-2-C01	TX-4-C01	TX-8-C01
2 PISTON BRASS BUSHING	N/A	TX-4-C51	TX-8-C51
PISTON ROD ASSEMBLY	TX-2-C03	TX-4-C03	TX-8-C03
3 PISTON ROD	TX-2-C03-1	TX-4-C03-1	TX-8-C03-1
4 PISTON CAP	N/A	N/A	N/A
5 VALVE BALL	N/A	N/A	N/A
6 VALVE SPRING	N/A	N/A	N/A
7 VALVE HOLLOW LOCK	N/A	N/A	N/A
9 SLIDER	TX-2-C09	TX-4-C09	TX-8-C09
10 END CAP	TX-2-C11	TX-4-C11	TX-8-C11
11 RETAINING RING	TX-2-C13	TX-4-C13	TX-8-C13
12 LINK PIN	TX-2-C15	TX-4-C15	TX-8-C15
13 END COVER	TX-2-C17	TX-4-C17	N/A
14 END COVER SCREWS	TX-2-C23	TX-4-C23	N/A
15 LINK RETAINING SPRING	TX-2-C53	TX-4-C53	TX-8-C53
16 SLIDER PIN	TX-2-C27	TX-4-C27	TX-8-C27
17 END PLUG SEAL	TX-2-C29	TX-4-C29	TX-8-C29
18 ROD SEAL	TX-2-C31	TX-4-C31	TX-8-C31
19 PISTON O-RING	TX-2-C33	TX-4-C33	TX-8-C33
20 SWIVEL (2 Required)	STX-8M-4M	STX-4M-4M	STX-4M-4M
21 COUPLER ASSEMBLY	HC-S-100	HC-S-100	HC-S-100
22 SEAL INSERTION TOOL	ATX-2-ST	ATX-4-ST	ATX-8-ST
23 END PLUG WRENCH	N/A	N/A	N/A

Cylinder Breakdown





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