

Maintenance Guide

Square Drive Hydraulic Torque Wrench

TU Series

TU-2

TU-3

TU-7

TU-11



torquing **UP**[™]

Maintenance Supplies



1. TU-3 shown for demonstration purposes 2. Teflon tape 3. Center punch 4. 5/32" punch 5. 1/4" punch
6. 3/8" punch 7. Breaker bar with 7/8" socket 8. TU-3 gland wrench 9. 1/8" allen wrench 10. Brass drift
11. 1/4" allen wrench 12. Marine moly 13. Hammer (18 oz.) 14. Ratchet 15. Light grease



Remove factory
installed
reaction arm

With 1/8" allen wrench gently remove top shroud screw



Remove top shroud



Note tension on shroud. The shroud will spring open, once screw is removed

Remove bottom shroud screw
with 1/8" allen wrench



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Hydraulic Torque Wrenches

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Remove torque chart
engraved shroud
and set aside

Torque/Pressure Chart


Pump Pressure (P.S.I.)	Tool Output (FT./LBS.)
1000	330
1200	395
1400	460
1600	525
1800	590
2000	655
2200	722
2400	789
2600	856
2800	923
3000	990
3200	1057
3400	1124



Remove run down
spring for slotted drive
plate

Displaying run down
spring





Remove square drive
retaining pin with 1/8"
allen wrench

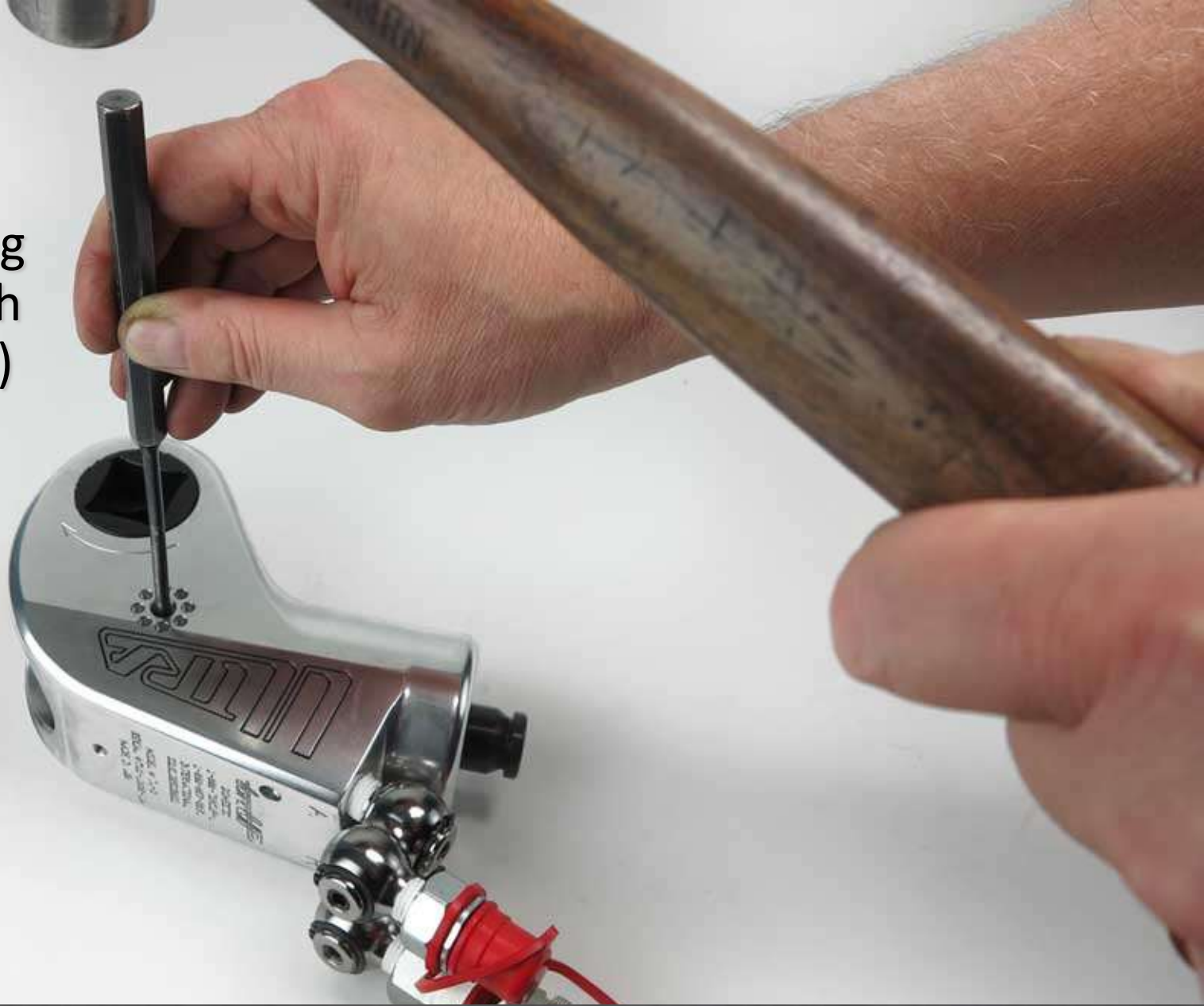
Remove square drive



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Remove
roll pin using
5/32" punch
and (18 oz.)
hammer



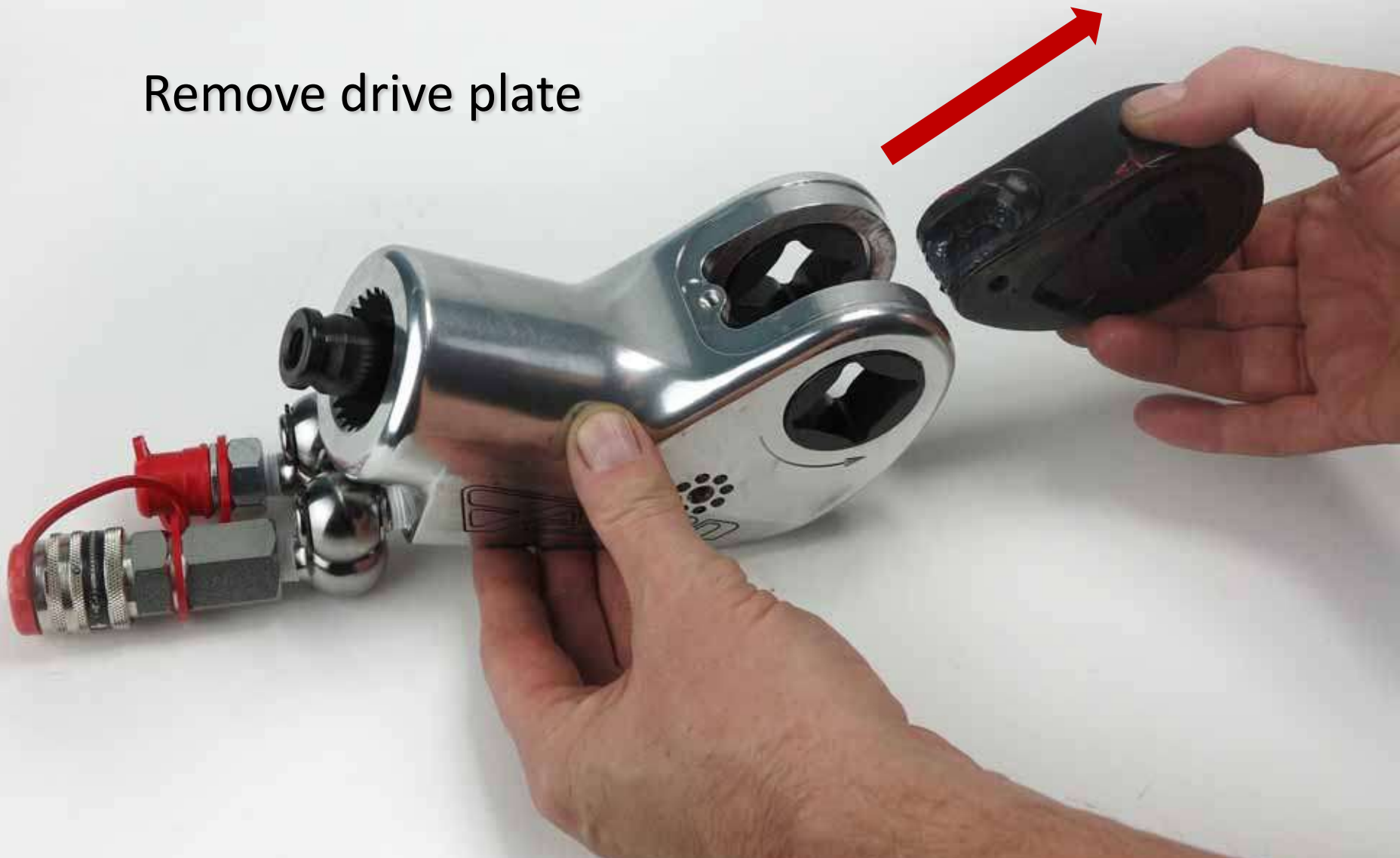
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Roll pin removed



Remove drive plate



Remove sleeves and
on older tools, the
sleeve o-rings



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Remove segment and
ratchet from
drive plate



Segment spring



Be aware of tension on segment spring to prohibit spring ejection




Use a vise to place
tool in

Remove both
swivels from tool with
 $\frac{1}{4}$ " allen wrench
and place aside

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Turn tool around in
vice and insert gland
wrench into gland



Gland wrench
installed

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Use breaker bar
with 7/8" socket
on top of gland
wrench and
loosen



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Remove gland
(showing threads)
and put aside



Brass gland
with rod seal




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Housing showing
gland removed

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Place rag in vice and
under tool
to catch parts

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Use hammer and
3/8" punch
placed in
end plug



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With hammer(18oz.)
hit down on
3/8" punch

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Showing piston rod
assembly and end plug
resting on rag

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Clean and inspect parts



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Reassemble tool by
first putting housing
into vise

Light grease used to
reassemble tool



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Apply grease to end
plug and end plug seal



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Place end plug
into housing

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Press down
until end
plug seats itself

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Hit down on end plug
with brass drift and
(18oz.) hammer until
end plug is $\frac{1}{4}$ " below
original seated position



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Grease piston rod
and
piston rod seal
and
place into housing



Piston rod
assembly
positioned
in housing

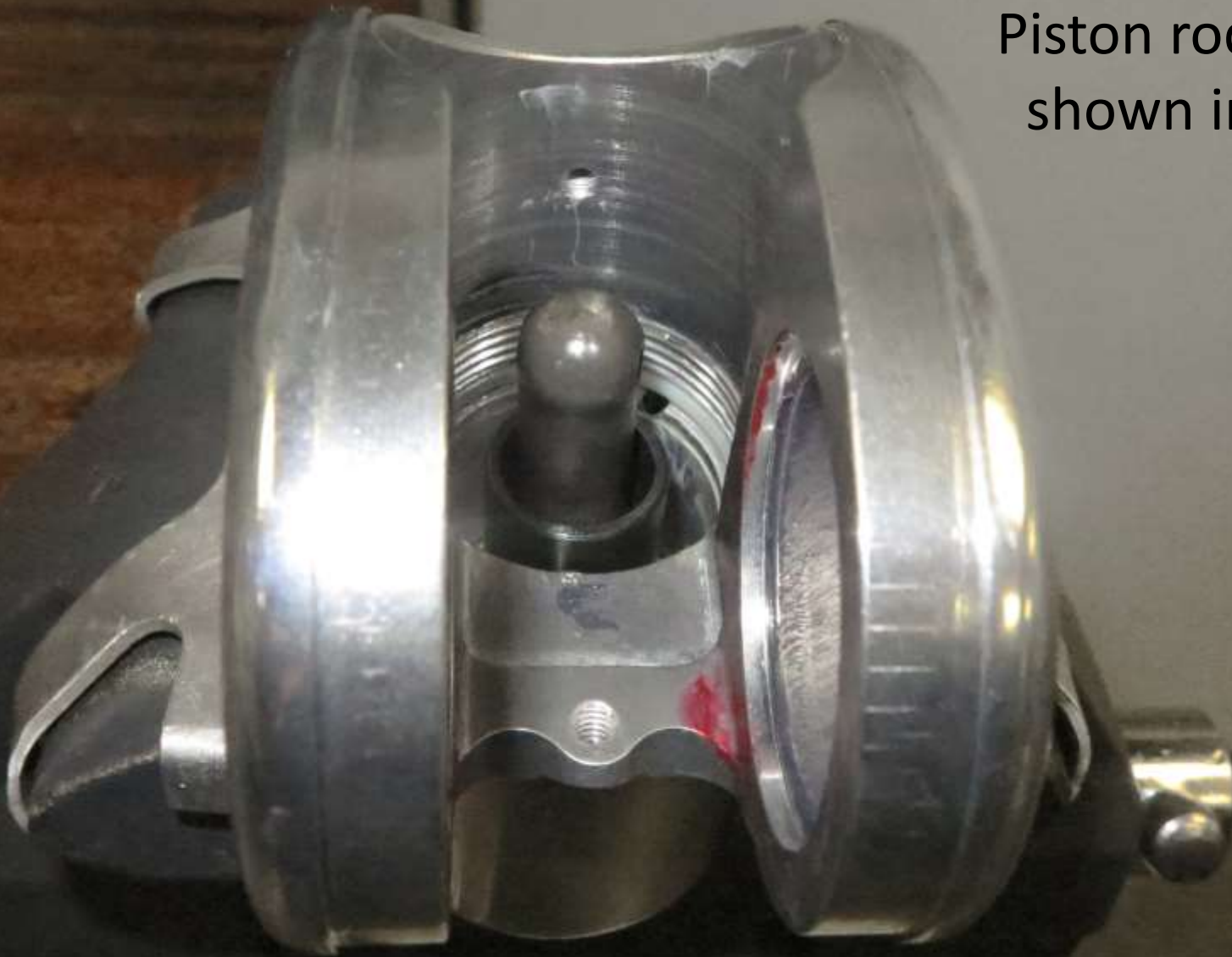
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Hit down on piston rod assembly with brass drift and hammer, driving both the piston rod assembly and end plug to the bottom of the housing bore



Piston rod assembly
shown in position



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Place gland
with rod
seal into position



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Place gland wrench
into gland

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Tighten gland
into position using a
7/8" socket



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Gland fully tightened
should be flush with
housing

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Using center punch,
positioned on the line
separating the brass and
aluminum, put a “stay” so
the gland will not loosen
during operation of the tool



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Grease inside of the
drive plate

Grease piston area of the drive plate



Wrong Direction



Correct Direction





Install ratchet and
segment in drive plate.
Install segment spring


Be aware of tension on segment
spring to prohibit spring ejection

Install second segment
spring and you
have completed
drive plate assembly



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Remove old teflon tape
and wrap 1st and 2nd
swivels with new tape

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Place tool in vise
and reinstall both swivels
with 1/4" allen wrench
and tighten into advance
port and retract port




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Reinstall sleeves and
sleeve "O" rings





Reinstall
opposite side
sleeves
and “O” rings

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Line up piston with
1/8" allen wrench



Install drive
plate assembly



Drive plate assembly
positioned in housing



Line up piston
rod and drive
plate with
5/32" punch

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View showing 5/32"
punch passing through
housing, drive plate
and piston rod





Remove 5/32" punch

View showing roll pin
being inserted into tool



View showing roll pin partially
inserted into drive plate



Drive roll pin into position using a ¼" punch and (18oz.) hammer



Picture shows
roll pin *is NOT*
engaged



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Picture shows
roll pin *IS*
engaged



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Insert square drive



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Tighten square
drive screw with 1/8"
allen wrench



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Reinstall run
down spring



Run down
spring installed



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Reinstall bottom
shroud screw 1/8"
allen wrench



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Reinstall top
shroud screw with
1/8" allen wrench



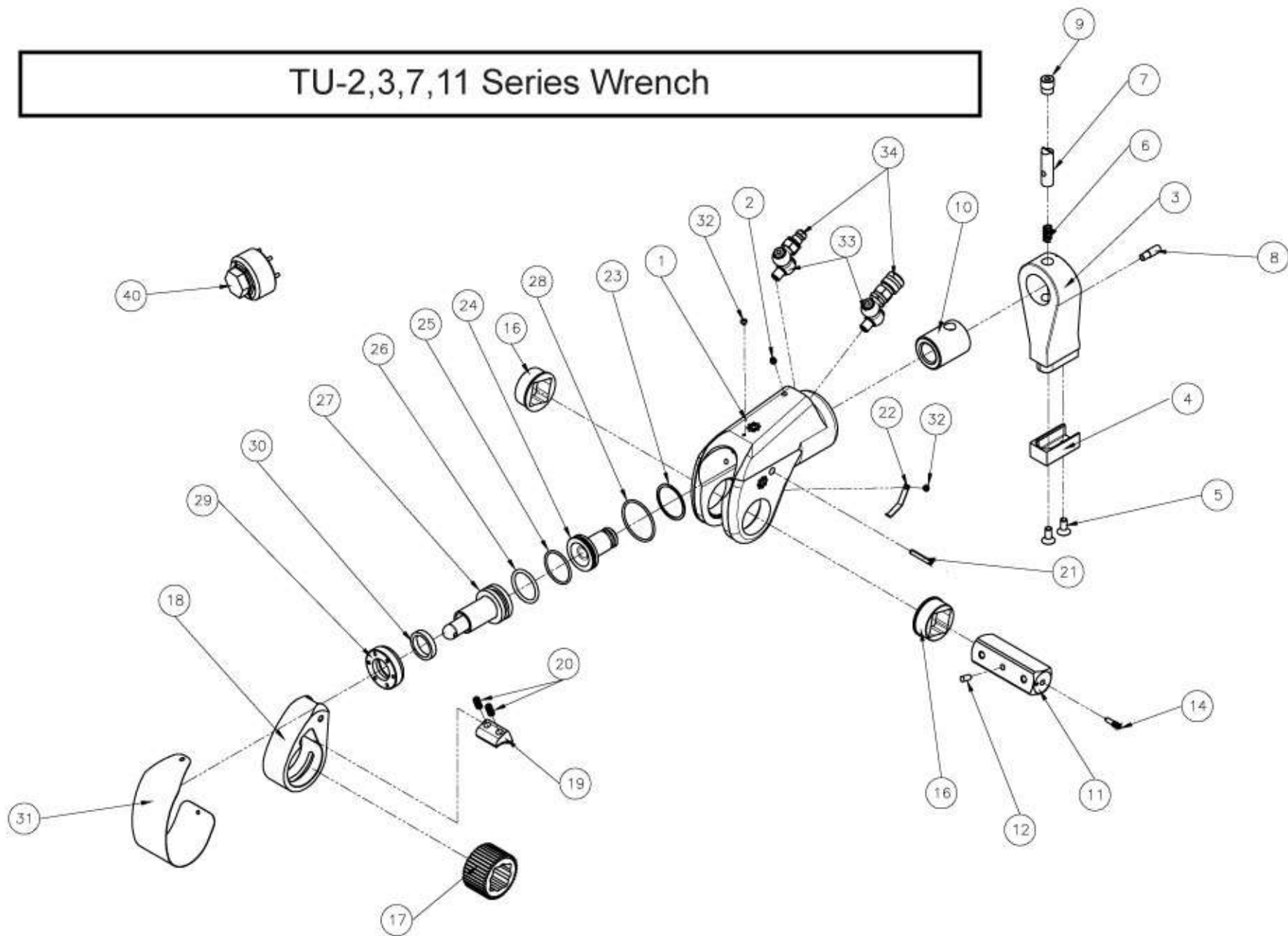
Assembly
completed



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TU-2,3,7,11 Series Wrench



Part# TU-3 Year 2010

Serial # prior
to TU-3-1018-01

Part# TU-7 Year 2011

Serial # prior to TU-7-11XX-XX

TU-2, TU-3, TU-7 and TU-11 OLD Style Part Numbers

	Part	TU-2	TU-3	TU-7	TU-11
1	Housing	TU-2-01	TU-3-01	TU-7-01	TU-11-01
2	Housing Threaded Plug	N/A	N/A	N/A	TU-11-39
3	Reaction Arm	TU-2-03-1	TU-3-03-1	TU-7-03-1	TU-11-03-1
4	Reaction Arm Cover	TU-2-03-7	TU-3-03-7	TU-7-03-7	TU-11-03-7
5	Cover Screws	TU-2-03-8	TU-3-03-8	TU-7-03-8	TU-11-03-8
6	Reaction Arm Spring	TU-2-03-6	TU-3-03-6	TU-7-03-6	TU-11-03-6
7	Locking Pin	TU-2-03-3	TU-3-03-3	TU-7-03-3	TU-11-03-3
8	Retract Button	TU-2-03-4	TU-3-03-4	TU-7-03-4	TU-11-03-4
9	Reaction Arm Screw	TU-2-03-5	TU-3-03-5	TU-7-03-5	TU-11-03-5
10	Spline sleeve	TU-2-03-2	TU-3-03-2	TU-7-03-2	TU-11-03-2
11	Square Drive	TU-2-11-1	TU-3-11-1	TU-7-11-1	TU-11-11-1
12	Ball Plunger	TU-2-11-3	TU-3-11-3	TU-7-11-3	TU-11-11-3
14	Locking Pin	TU-2-11-2	TU-3-11-2	TU-7-11-2	TU-11-11-2
16	Sleeve	TU-2-13	TU-3-13	TU-7-13	TU-11-13
17	Ratchet	TU-2-05	TU-3-05	TU-7-05	TU-11-05
18	Drive Plate	TU-2-09	TU-3-09	TU-7-09	TU-11-09
19	Drive Segment	TU-2-07	TU-3-07	TU-7-07	TU-11-07
20	Drive Segment Spring	TU-2-27	TU-3-27	TU-7-27	TU-11-27
21	Roll Pin	TU-2-19	TU-3-19	TU-7-19	TU-11-19
22	Flat Spring	N/A	TU-3-53	TU-7-53	TU-11-53
22	Sleeve Ring	TU-2-51	N/A	N/A	N/A
22	Ball Plunger	N/A	N/A	N/A	N/A
23	Smalley Ring	TU-2-43	TU-3-43	TU-7-43	N/A
24	End Plug	TU-2-15	TU-3-15	TU-7-15	TU-11-15
25	End Plug Seal	TU-2-37	TU-3-37	TU-7-37	TU-11-37
26	Piston Seal	TU-2-33	TU-3-33	TU-7-33	TU-11-33
27	Piston Rod Assembly	TU-2-17	TU-3-17	TU-7-17	TU-11-17
28	Gland Seal	TU-2-35	TU-3-35	TU-7-35	TU-11-35
29	Cylinder Gland	TU-2-21	TU-3-21	TU-7-21	TU-11-21
30	Rod Seal	TU-2-31	TU-3-31	TU-7-31	TU-11-31
31	Shroud	TU-2-23	TU-3-23	TU-7-23	TU-11-23
32	Shroud Screws	TU-2-25	TU-3-25	TU-7-25	TU-11-25
33	Swivel (2 req)	STU-4M-4M	STU-4M-4M	STU-4M-4M	STU-4M-4M
34	Coupler Set	HC-S-100	HC-S-100	HC-S-100	HC-S-100
35	Threaded Retainer	N/A	N/A	N/A	N/A
36	Sleeve Retainer Clips	N/A	N/A	N/A	N/A
37	Cover Roll Pin	N/A	N/A	N/A	N/A
40	Gland Wrench	ATU-2-GW	ATU-3-GW	ATU-7-GW	ATU-11-GW
41	Piston Inner Seal	N/A	N/A	N/A	N/A
42	Piston Outer Seal	N/A	N/A	N/A	N/A
~	Reaction Arm Assembly	TU-2-03	TU-3-03	TU-7-03	TU-11-03
~	Square Drive Assembly	TU-2-11	TU-3-11	TU-7-11	TU-11-11

Part# TU-3 Year 2010

Serial # prior
to TU-3-1018-01

Part# TU-7 Year 2011

Serial # prior to TU-7-11XX-XX

TU-2, TU-3, TU-7 and TU-11 NEW Style Part Numbers

	Part	TU-2	TU-3	TU-7	TU-11
1	Housing	TU-2-01	TU-3-01-U	TU-7-01-U	TU-11-01
2	Housing Threaded Plug	N/A	N/A	N/A	TU-11-39
3	Reaction Arm	TU-2-03-1	TU-3-03-1	TU-7-03-1	TU-11-03-1
4	Reaction Arm Cover	TU-2-03-7	TU-3-03-7	TU-7-03-7	TU-11-03-7
5	Cover Screws	TU-2-03-8	TU-3-03-8	TU-7-03-8	TU-11-03-8
6	Reaction Arm Spring	TU-2-03-6	TU-3-03-6	TU-7-03-6	TU-11-03-6
7	Locking Pin	TU-2-03-3	TU-3-03-3	TU-7-03-3	TU-11-03-3
8	Retract Button	TU-2-03-4	TU-3-03-4	TU-7-03-4	TU-11-03-4
9	Reaction Arm Screw	TU-2-03-5	TU-3-03-5	TU-7-03-5	TU-11-03-5
10	Spline sleeve	TU-2-03-2	TU-3-03-2	TU-7-03-2	TU-11-03-2
11	Square Drive	TU-2-11-1	TU-3-11-1	TU-7-11-1	TU-11-11-1
12	Ball Plunger	TU-2-11-3	TU-3-11-3	TU-7-11-3	TU-11-11-3
14	Locking Pin	TU-2-11-2	TU-3-11-2	TU-7-11-2	TU-11-11-2
16	Sleeve	TU-2-13	TU-3-13-U	TU-7-13-U	TU-11-13
17	Ratchet	TU-2-05	TU-3-05	TU-7-05	TU-11-05
18	Drive Plate	TU-2-09	TU-3-09-U	TU-7-09-U	TU-11-09
19	Drive Segment	TU-2-07	TU-3-07	TU-7-07	TU-11-07
20	Drive Segment Spring	TU-2-27	TU-3-27	TU-7-27	TU-11-27
21	Roll Pin	TU-2-19	TU-3-19	TU-7-19	TU-11-19
22	Flat Spring	N/A	TU-3-53	TU-7-53	TU-11-53
22	Sleeve Ring	TU-2-51	N/A	N/A	N/A
22	Ball Plunger	N/A	N/A	N/A	N/A
23	Smalley Ring	TU-2-43	TU-3-43	TU-7-43	N/A
24	End Plug	TU-2-15	TU-3-15	TU-7-15	TU-11-15
25	End Plug Seal	TU-2-37	TU-3-37	TU-7-37	TU-11-37
26	Piston Seal	TU-2-33	TU-3-33	TU-7-33	TU-11-33
27	Piston Rod Assembly	TU-2-17	TU-3-17-U	TU-7-17-U	TU-11-17
28	Gland Seal	TU-2-35	TU-3-35	TU-7-35	TU-11-35
29	Cylinder Gland	TU-2-21	TU-3-21	TU-7-21	TU-11-21
30	Rod Seal	TU-2-31	TU-3-31	TU-7-31	TU-11-31
31	Shroud	TU-2-23	TU-3-23-U	TU-7-23-U	TU-11-23
32	Shroud Screws	TU-2-25	TU-3-25	TU-7-25	TU-11-25
33	Swivel (2 req)	STU-4M-4M	STU-4M-4M	STU-4M-4M	STU-4M-4M
34	Coupler Set	HC-S-100	HC-S-100	HC-S-100	HC-S-100
35	Threaded Retainer	N/A	N/A	N/A	N/A
36	Sleeve Retainer Clips	N/A	N/A	N/A	N/A
37	Cover Roll Pin	N/A	N/A	N/A	N/A
40	Gland Wrench	ATU-2-GW	ATU-3-GW	ATU-7-GW	ATU-11-GW
41	Piston Inner Seal	N/A	N/A	N/A	N/A
42	Piston Outer Seal	N/A	N/A	N/A	N/A
~	Reaction Arm Assembly	TU-2-03	TU-3-03	TU-7-03	TU-11-03
~	Square Drive Assembly	TU-2-11	TU-3-11	TU-7-11	TU-11-11



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Refer to the tool manual for safety and regulations.