

OPERATING MANUAL

TT-120	TORQUE TESTER (0-120FT-LB)
TT-230	TORQUE TESTER (0-230FT-LB)
TT-500	TORQUE TESTER (0-500FT-LB)
TT-1000	TORQUE TESTER (0-1000FT-LB)
TT-3000	TORQUE TESTER (0-2400FT-LB)
TT-3000A	TORQUE TESTER (0-3000FT-LB)

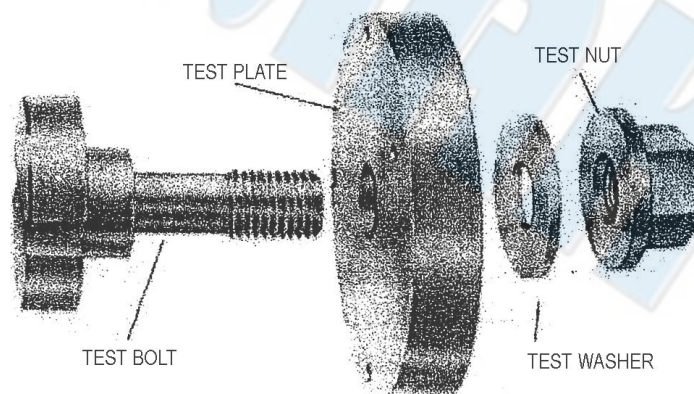
IMPORTANT

Read this instruction carefully before installing, operating, servicing or repair this device. Keep these instructions in a safe accessible place for further reference.

FORESEEN USE OF TOOL

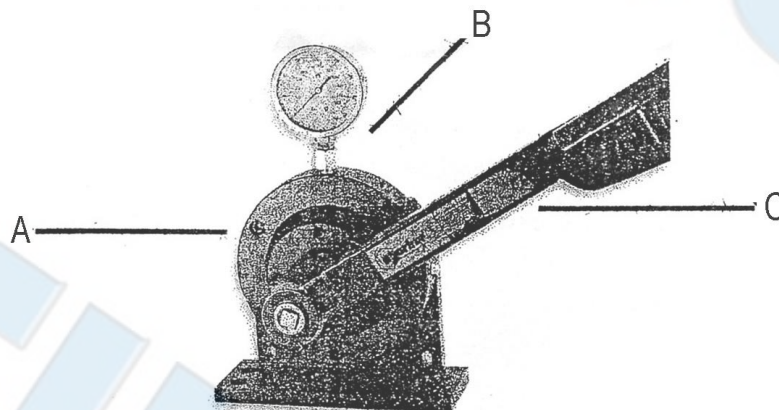
This Air Tool Torque-Tension Tester is designed by **SUMAKE** Industrial Co., Ltd. for an economic and precise tool torque measurement. An uniform measuring or comparing output of power tools relies on the precision test bolt assemblies. The hardened test bolt sets are of special alloy steel with close tolerance ground threaded.

Wrench output reading obtained from the Test Bolt Assemblies may be profitably applied for preventive tool maintenance purposes; also to maintain production bolt Torque-tension standards set by engineering. For example by recording each new tool's output as registered on the bolt tension gauge. A "NORM" is established for comparative purposes later when periodically, checking power tool performance. Any comparative output drop is a signal for service.



OPERATING

1. Use a Standard Torque Wrench (C) to establish the relationship between the torque received at the Test Nut (A) and the reading at the Dial Gauge (B). Set the torque wrench (C) to a desired torque value (in N-in, kg-m, or ft-lbs) and put a suitable socket on Test Nut (A). Tight the Test Nut in the clockwise direction until the set torque is attained, and then record the value from the Dial Gauge reading (in psi, bar, or kgf-cm²) which will become the "NORM" to the specific torque value set at the Standard Torque Wrench.
By repeating this procedure with different torque settings, you may make your own comparison chart to reflect the relationship of the output torque (in N-m, kg-m, or ft-lbs) and the reading (in psi, bar, or kgf-cm²).
2. Replace the Standard Torque Wrench by an intended power tool and repeat (1) again. Compare the readings from (2) and (1) to see the output difference between the power tool and "NORM".
3. Find the correct reading for the prototypes of each power tool model under a fixed air pressure and record reading as a "NORM" list. When in mass production, submit the selected samples for such test, with the same air pressure, to see whether the value is under a controlled tolerance. The comparison method is more use for maintenance and the performance of the same models.
4. The "Norm" list obtained from (3) can be used to check whether a power tools is still serviceable. Bearing in mind that any comparative drops in the reading is a signal for a repairing.
5. Should there is any doubt about the output of the tool having been repairing, have it and a new tool of the same model for the test. Compare these two readings to see if the repair is completed.



LUBRICATION

To minimize friction variables during testing, the bolt assembly should be thoroughly lubricated including the contact surface of the test bolt and the test copper piece face. **SUMAKE** recommends, an extremely pressure grease for lowest friction coefficient.

SAFETY

1. Before testing, be sure to put lubricating oil on the test nut, test bolt, and test copper pieces and keep the device clean and remove any metal chips from the assemblies to ensure its accuracy.
2. Before testing, be sure to tighten the nut and stick it on the copper piece. (Just tighten it by hand)
3. Set the Dial Gauge to ZERO by turning the Test Nut before starting each test.
4. Please use impact socket comply with international standards. (Do not use incorrect size or crack unit for testing.)
5. The base of test device must be well fixed.
6. Choose a proper test device for your specific application according to the test range. Do not overload the device. The test range of each test device is listed on the table below.

Item no.	Square Driver	The Recommend Test Torque Between (Ft-lb)	Test Range			Net Weight (Kg)
			NM	KG-M	FT-LBS	
TT-120	3/8"	20-90	0-163	0-17	0-120	13.2
TT-230	3/8"	50-200	0-312	0-32	0-23Q	13.2
TT-500	1/2"	50-400	0-678	0-69	0-500	31.7
TT-1000	3/4"	50-800	0-1356	0-138	0-1000	31.8
TT-3000	1"	100-2000	0-3254	0-332	0-2400	32.5
TT-3000A	1"	100-2800	0-4068	0-414	0-3000	47

7. It takes about 3-5 seconds to complete a test.
8. Keep the tool to be tested being concentric to the test device keep at the same center.
9. The test value will be more accurate, if it's based on the arithmetical mean from 3 test reading.

SIMPLE 1VAAINSTANCE METHODS

(Please refer to the exploded view)

Important: If any metal chips stick to the test device, please remove it softly.

1. Disassemble Nuts, Screws and Copper pieces. Remove the #1 Screw, #20 Rear End Plate, and then the #1 Nut. Finally use a wooden hammer to tap the #19 Test Bolt to remove the whole set of parts to clean or change.
2. Please use stain- removes oil for cleaning, and re-lubricate thoroughly.
3. Inspect if any scratch exists on copper pieces. Be sure to keep the surfaces smooth and have even thickness,
4. Don't disassemble the other parts. If any oil leakage, please have it repaired by a professional engineer or contact with your dealer.

LIMITED WARRANTY

SUMAKE was warranted to be free from defects in material and workmanship for 1 year from the date of purchase. We will repair or replace at our option any defective part(s) of unit, which proves to be defective in material or workmanship during this 1 year period.

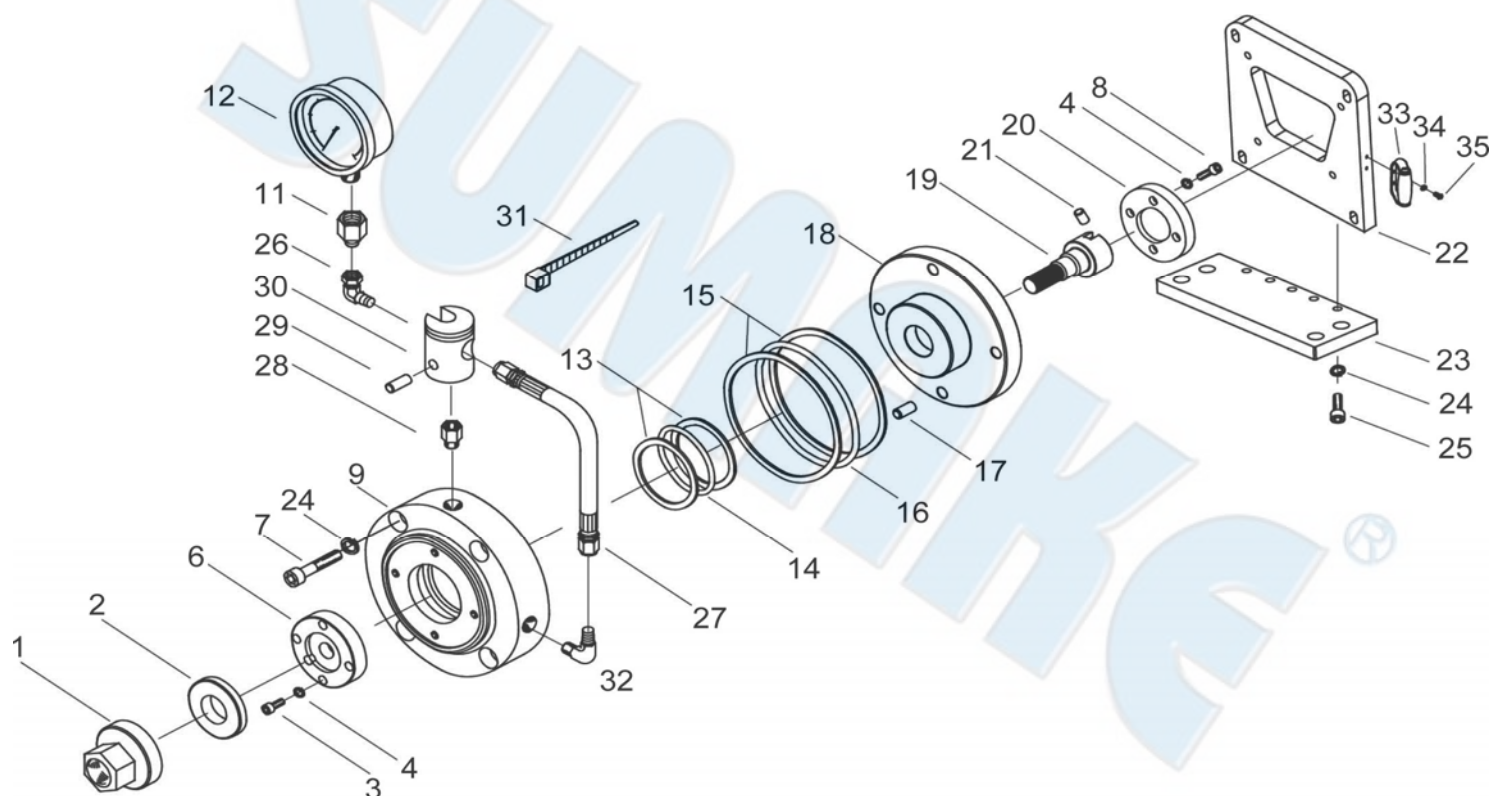
This warranty applies to the basis tool: It does not apply to normal wear and/or tear on attached accessories and consumable parts.

Naturally, repairs required by abuse, misuse, damage, or repair attempts are not covered by this warranty.

Return tools to Warranty Center transportation prepaid. Be certain to include your name, address, and evidence of the purchase data and description of the suspected defect.



TT-3000A TORQUE TESTER (0-3000FT-LB)



PARTS LIST

No.	Parts No.	Description	Q'ty
1	TT3000A-01	Test Nut (60mm)	1
2	TT3000A-02	Copper Test Washer	1
3	TT3000A-03	Screw	4
4	TT3000A-04	Spring Washer	8
6	TT3000A-06	Test Plate	1
7	TT3000A-07	Screw	4
8	TT3000A-08	Screw	4
9	TT3000A-09	Hydrant Cylinder	1
11	TT500-11	Connector	1
12	TT3000A-12	Dial Guage (700K)	1
13	TT3000A-13	Gasket	2
14	TT3000A-14	O-Ring	1
15	TT3000A-15	Gasket	2
16	TT3000A-16	O-Ring	1
17	TT3000A-17	Pin	1
18	TT3000A-18	Piston	1
19	TT3000A-19	Test Bolt	1
20	TT3000A-20	Rear End Plate	1
21	TT3000A-21	Pin	2
22	TT3000A-22	Bracket	1
23	TT500-23	Base	1

No.	Parts No.	Description	Q'ty
24	TT500-24	Spring Washer	9
25	TT500-25	Screw	5
26	TT500-26	Angel Joint	1
27	TT500-27	Hose	1
28	TT500-28	Copper Seat	1
29	TT500-29	Pin	1
30	TT500-30	PU Seat	1
31	TT500-31	Cable Tie	1
32	TT500-32	Angle Joint	1
33	TT3000A-33	D-Handle	2
34	TT3000A-34	Spring Washer	4
35	TT3000A-35	Screw	4
Accessorie & Repair Kits			
*	TT3000A-01	Test Nut (60mm)	1
*	TT3000A-02	Copper Test Washer	1
*	TT500-002	7pcs L Key Kits	1
*	TT500-003	Lubrication Oil	1
*	TT500-004	Operators Instructions	1
*	TT3000A-005	60mm Socket 1"	1
*	TT3000A-19	Test Bolt	1