SKIDMORE-WILHELM
MODEL K BOLT TENSION CALIBRATOR

OPERATING INSTRUCTIONS

The Model K is designed to test fasteners and/or impact wrenches. The unit weighs about 180 pounds and must be attached securely to a sturdy table or bench.

1) **FASTENER TESTING:** Attach the proper size plate to front of unit with four 5/16-18 screws (furnished). Install the proper size bushing in rear of unit, making sure that it is correctly positioned onto the dowel pins. Install washer and nut on bolt protruding through the tester and tighten to snug condition. The bolt and nut are now ready to be tightened to the desired clamp load.

2) **IMPACT WRENCH TESTING:** Attach test plate to the front of the unit with four 5/16-18 screws (furnished). Install test bolt through the rear of the unit and locate over the dowel pins. Attach the retainer over the bolt head to prevent the bolt from being pushed back. Install proper size brass washer and nut onto bolt. Before snugging up the nut and washer, apply test bolt lubricant (part # R-0050) to threads and mating surfaces to provide constant friction. After the nut has been snugged, it may be tightened by the impact wrench. After an appropriate interval, or when the wrench stalls, stop the tool and record the tension reading to establish the tool's test standard or norm. Operate the tool in reverse to back off the nut, and repeat the test.

MAINTENANCE INSTRUCTIONS

The accuracy of the tester can be checked at any time. The gage reads in pounds force and the application of a known compressive load on the piston will equal the gage reading. If the gage is off by the same amount at each interval, adjust the pointer by turning the small gear under the pointer with a small screwdriver. (The pointer itself is held while the screwdriver turns the gear only.)

This unit is completely self-contained and is designed to provide service with a minimum of maintenance. However, because it is a precision instrument, care should be taken to keep it clean and to avoid excessive shock to the gage. Periodically check the gap between the piston and the snap ring in the back of the unit. If the gap is more than 1/8", the tester is low on oil. Lack of oil will cause the piston to bottom against the body and therefor the gage will not show any increase in tension, mainly at the higher tension readings.

INSTALLING A NEW GAUGE

This procedure describes how to bleed the air from the hydraulic system and install a new gauge. We recommend use of Teflon thread tape for all pipe connections.

1) With the calibrator in the upright position, remove pipe plug, item 26. Insert an L-shaped standpipe or filler hose into the port.
2) Tip the unit on its side so that the gage port is at 12 o'clock. Disconnect the gauge from the body by removing the body tube fitting(18) from the calibrator body(1).
3) Disassemble the gauge and gauge mounting plate(15) from the calibrator by removing the three screws (19) in the back. Remove the gauge from the gauge mounting plate by removing the three screws with grommets.
4) Tap or push the piston (2) back against the snap ring (11) Add hydraulic oil (compatible with Buna-N) as needed through the standpipe until the oil comes out the gauge port.
5) Install one body tube fitting (18) in the gauge port. Insert one end of the copper tube in the fitting and tighten the connection. Add oil until it flows out the tube.
6) Remove the gauge fitting (17) from the old gauge and install it on the new gauge. Thread the other body tube fitting into the gage fitting(17) All of these parts must be filled with oil.
7) Assemble the new gauge on the mounting plate using the screws, grommets and jam nuts (20,21,22). Make sure that the gauge remains with the stem up so that oil does not run out.
8) Loosely connect the copper tube to the gauge and attach the gauge and mounting plate to the calibrator body. Tighten the tube connection.
9) Tip the unit back to its normal position and remove the standpipe. Replace the pipe plug, using pipe sealing tape. Tighten all connections and mounting screws as necessary.

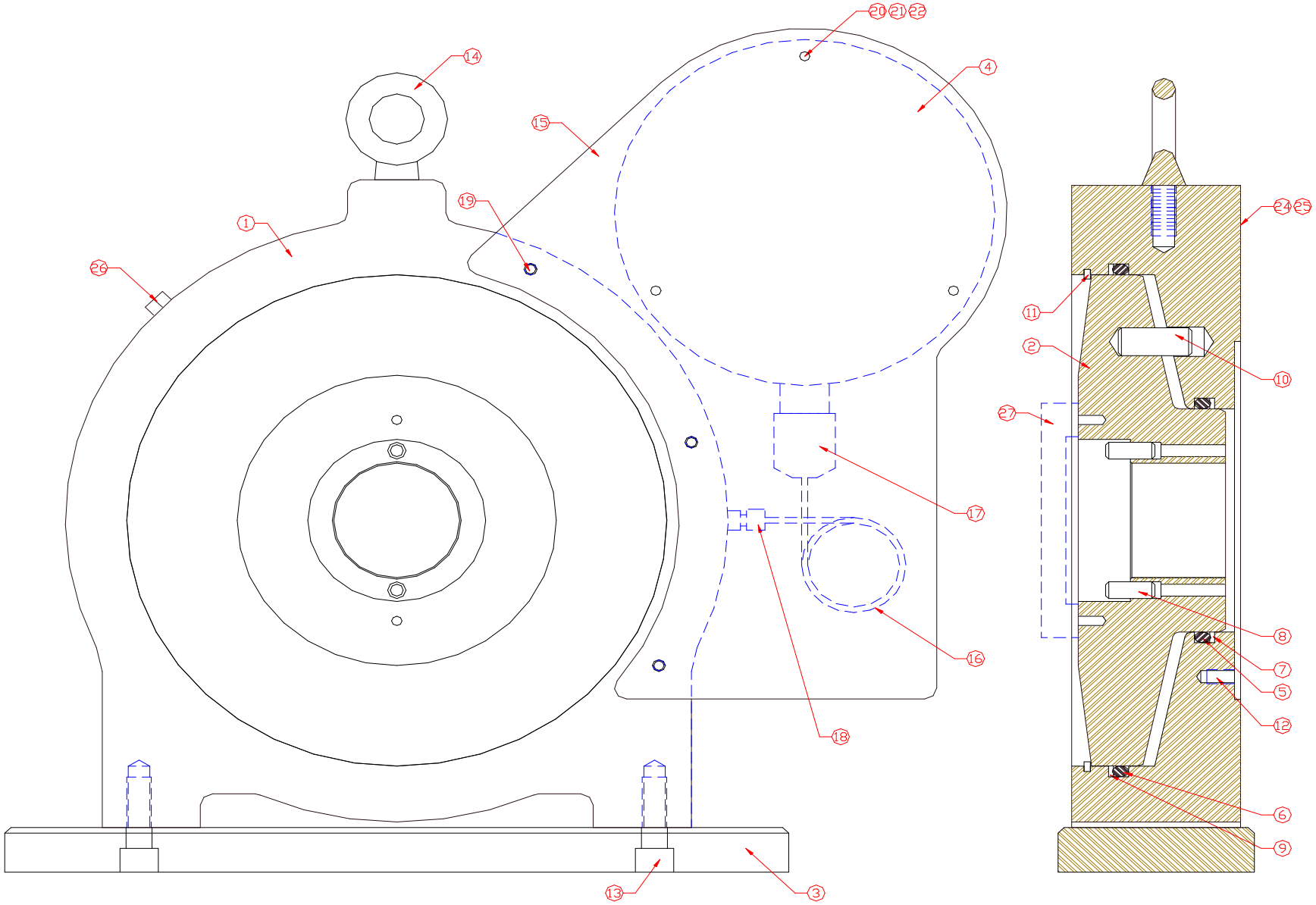
Where possible, final calibration of the gage should be done when it is connected to the calibrator.

REPLACING THE PACKING

1) Remove the gauge following instructions above and drain oil from the tester.
2) If there are no indicating marks on the body and piston, punch a small mark on any edge of the piston and another adjacent to it on the body. These will be used to locate position of the piston on re-assembly.
3) Remove the piston from the body and thoroughly clean.
4) Install new O rings and back-up washers, making sure that the back-up washers are installed on the side opposite the oil reservoir.
5) Carefully replace the piston to avoid tearing the packing. (Put a small amount of oil on the mating surfaces.) Line up marks from step 2 so that the dowel pin in the piston will enter the mating hole in the body. Replace the snap ring.
6) Fill the unit with oil and reassemble the gauge as explained above..

BILL OF MATERIAL FOR MODEL K

ITEM #	PART #	DESCRIPTION	QTY.
1	K-001	BODY	1
2	K-002	PISTON	1
3	K-003	BASE	1
4	K-007	GAUGE	1
5	K-008	SMALL O RING	1
6	K-009	LARGE O RING	1
7	K-010	SMALL BACK-UP WASHER	1
8	K-011	3/8” DOWEL PIN	2
9	K-012	LARGE BACK-UP WASHER	1
10	K-013	5/8” DOWEL PIN	1
11	K-014	SNAP RING	1
12	K-015	5/16-18 X 1-1/2” SHCS PLATE SCREW	4
13	K-017	1/2-13 X 1-1/2” SHCS BASE SCREW	4
14	K-018	EYE BOLT	1
15	K-019	GAUGE MOUNTING PLATE	1
16	K-020	1/8” COPPER TUBE	1
17	K-021	GAUGE FITTING	1
18	K-022	BODY FITTING	2
19	K-023	1/4-20 X 5/8 FHCS MTG PLATE SCREW	3
20	ML-016	1/4-20 X 1-1/4” HHCS GAGE SCREW	3
21	K-025	GROMMET	9
22	K-027	1/4-20 JAM NUT	3
23	K-028	1/2 X 3 CARRIAGE BOLT	2
24	M-018	NAMEPLATE	1
25	M-019	DRIVE SCREWS	2
26	M-021	1/4” PIPE PLUG	1
27	K-033	RETAINER	1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