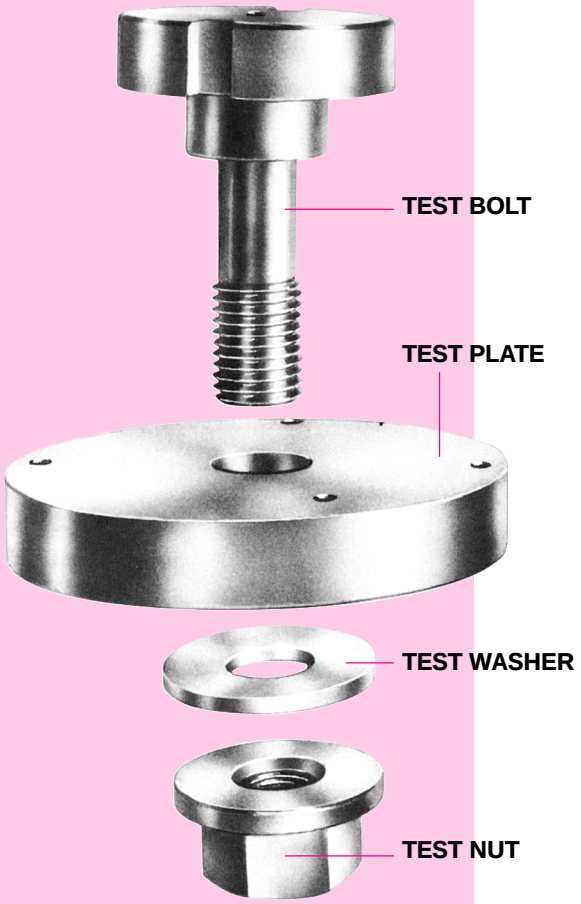
SKIDMORE-WILHELM
Manufacturing Company

Precision Test Bolt Assemblies

Provide Uniform Standards for Power Tool Testing



Precision Test Bolt Assemblies designed for use with Skidmore-Wilhelm Torque-Tension Testers become the basis for uniformly measuring and comparing output of power tools. The hardened test bolt sets are of special alloy steel with close tolerance ground threads. These precision-mating test parts minimize torquing variables, assuring uniform, duplicable test gauge readings. Due to their high strength and precision construction, the test bolt assemblies with normal care give lasting service.

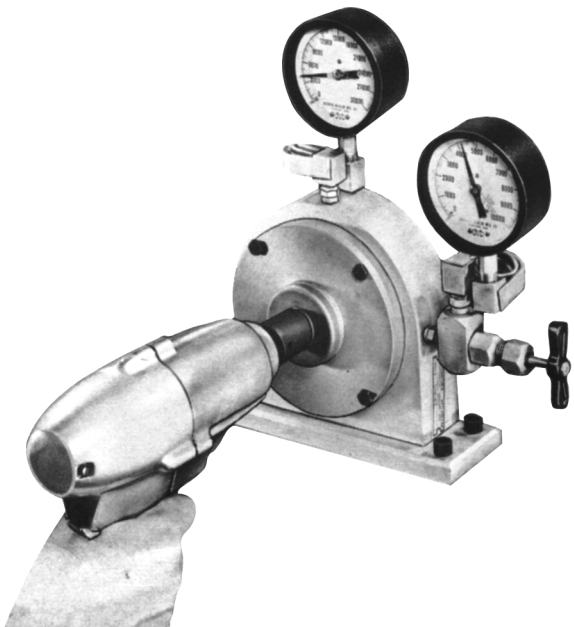
Wrench output readings obtained with the Test Bolt Assemblies may be profitably applied for preventive tool maintenance purposes; also to maintain production bolt torque-tension standards set by engineering. For example, by recording each new tool's output as registered on the bolt tension gauge, a "NORM"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

Simple recommended procedures for accurate tool testing are described on the next page. Test Bolt Assembly sizes are shown in the accompanying chart.

- **Compare and Verify Tool Output**
- **Assure Maintained Output to Tightening Standards**
- **Record Test Results for Periodic Preventive Maintenance Wrench Service**

Air Tool Torque – Tension Tester

Model J Torque – Tension Tester uses $^{5}/_{8}$" or $^{7}/_{8}$" Test Bolt Max. Capacity 30,000 lbs. Secondary gauge for low-range readings.



How to Verify Impact Tool Output

The key to a successful testing program is the ability to use a consistent testing standard. The itemized procedures below will let you do that. If the tool does not reach its “NORM” – using the standard test setup, then it can be determined that the tool is not operating at its full efficiency.

Problem

How can the output of power tools be measured accurately?

How can different power tools be compared?

How much output has a power tool lost since last overhauled?

Solution

Establish a standardized power tool testing program as outlined below, using Skidmore-Wilhelm Torque-Tension Testers and Precision Test Bolt Assemblies.

Program

1. Select proper size test bolt.
2. Apply recommended lubricant to bolt and nut.
3. Tighten test bolt assembly finger-tight.
4. Observe air pressure reading at tool.
5. Apply tool to test bolt assembly and tighten until the tool stalls or shuts off*.
6. Observe and record dial reading on the tester showing bolt tension.
7. Reverse tool and back off test bolt.
8. Repeat procedure two more times.
9. Determine average gauge reading, which becomes the “NORM” for that tool.
10. Make a record by tool and serial number of test parameters, including test bolt size, air pressure, “NORM”, date, etc.

• *Optional for non-torque controlled tools: Electrically-actuated adjustable air timer control, in air supply to tool, shuts off tool after selected drive intervals.*

How To Select A Test Bolt

When ordering, please specify test bolt size required from chart below. Note that the square drive size of the tool to be tested is the selection factor to be used in choosing correct test bolt size.

Tension Tester Model	Bolt Assembly Part No.	Test Bolt Size	Power Tool Sq. Dr.	Hex Socket	Max. “NORM”
S	S-105	5/16	1/4	3/8	5,000
J	J-110	5/8	1/4, 3/8, 1/2	9/16	15,000
J	J-114	7/8	1/2, 5/8, 3/4	7/8	30,000
M, ML, RL	R-112	3/4	1/2, 5/8, 3/4	1 1/4	30,000
M, ML, RL	R-116	1	3/4, 1	1 5/8	70,000
M, ML, RL	R-120	1 1/4	1, 1 1/4	2	110,000
H	H-116	1	3/4, 1	1 5/8	70,000
H	H-120	1 1/4	1, 1 1/4	2	110,000
H	H-124	1 1/2	1 1/4, 1 1/2	2 3/8	170,000
K	K-120	1 1/4	1, 1 1/4	2	110,000
K	K-124	1 1/2	1 1/4, 1 1/2	2 3/8	170,000
K	K-128	1 3/4	1 1/2, 1 3/4	2 3/4	225,000
K	K-132	2	1 3/4, 2	3 1/8	225,000
K	K-140	2 1/2	2 1/4, 2 1/2	3 7/8	225,000

Test Bolt Lubrication

To minimize friction variables during testing, the bolt assembly should be thoroughly lubricated, including the area under the bolt or nut face. Skidmore-Wilhelm recommends Keystone 122-C-5-X, an extreme-pressure grease for lowest friction coefficient.