



AEROSPACE RECOMMENDED PRACTICE

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

485 Lexington Ave., New York, N. Y. 10017

ARP 911

Issued 6-20-66
Revised

STANDARDIZATION OF DRIVE END OF HYDRAULIC OR GEARED TORQUE WRENCHES FOR USE TO AN UPPER LIMIT OF 500,000 INCH POUNDS

1. **PURPOSE** - The purpose of this recommended practice is to provide recommendations for the design of a series of components which, when used as prescribed, will provide a wrench capable of producing up to 500,000 in.-lb of torque.
2. **SCOPE** - This recommended practice covers the dimensions of an inside splined driver-wrench adapter, envelope of the housing-wrench reaction, the mechanical method of adapting the driver-wrench adapter to the wrench adapter driven end, and the housing-wrench reaction to the holder-counter torque.

3. **GENERAL REQUIREMENTS**

- 3.1 **Reference Standards** - The following military specifications may be applicable and provide useful information.

MIL-S-8512 Support Equipment, Aeronautical

MIL-D-1000 Drawings and Data List

3.2 **Material and Workmanship**

- 3.2.1 **Material** - Material specified for use in fabrications shall be of the highest quality suitable for the purpose.
- 3.2.2 **Workmanship** - All details shall be in accordance with the best manufacturing practices.

4. **DETAIL REQUIREMENTS**

- 4.1 The design configuration shall consist of three sub-assemblies (see Figure 1):

- a. Driver-wrench adapter (Figure 2)
- b. Wrench adapter to torqued part
- c. Holder-counter torque wrench

All components shall be designed with a safety factor of 3-to-1, based on yield strength at rated wrench power.

- 4.2 All adapters shall be designed separately to adapt to various units as required.
- 4.3 Dimensional requirements not specified herein are to be such that all details subject to normal replacement, be interchangeable with any and all components.

PREPARED BY SAE COMMITTEE EG-1,
AEROSPACE PROPULSION SYSTEMS SUPPORT EQUIPMENT

SAE Technical Board rules provide that: "All technical reports, including standards, approved and practices recommended, are advisory only. Their use by anyone engaged in industry or trade is entirely voluntary. There is no agreement to adhere to any SAE standard or recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents."

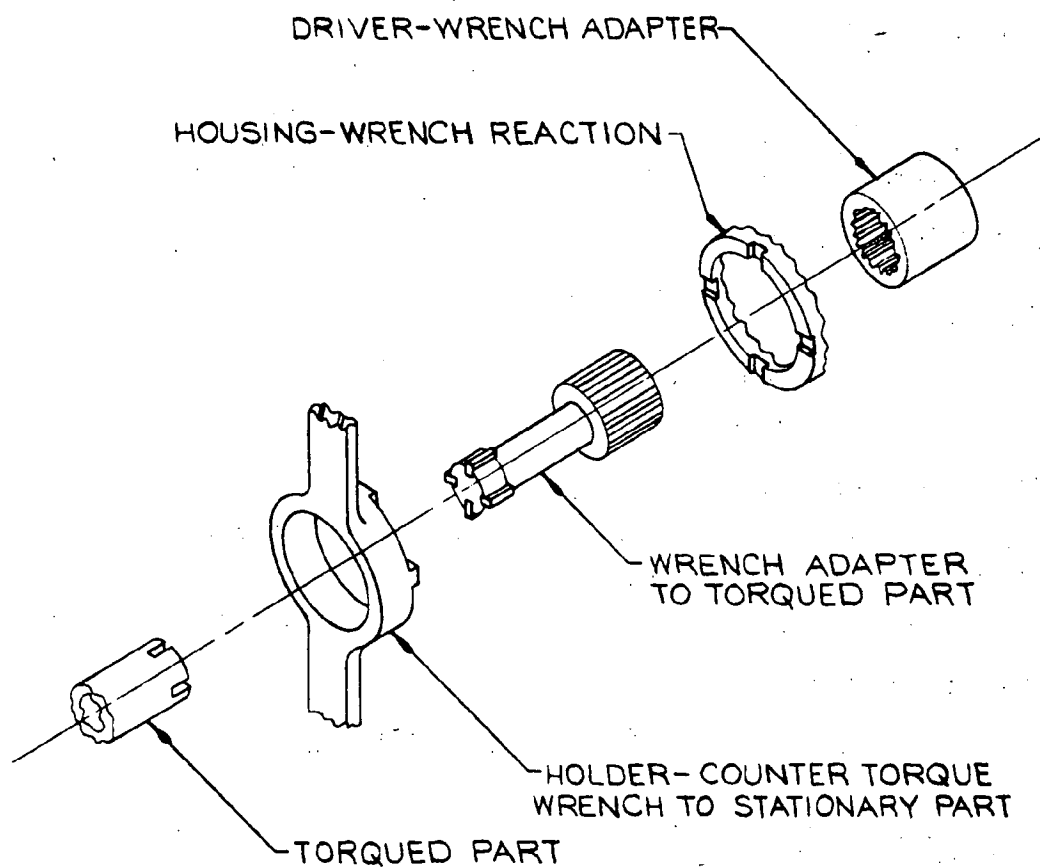


Figure 1