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Society of Automotive Engineers, Inc.
TWO PENNSYLVANIA PLAZA, NEW YORK, N.Y. 10001

AEROSPACE RECOMMENDED PRACTICE

ARP 1135

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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 specifications may be applicable and provide useful information.

3.1.1 Military Standards

MIL-S-8512 Support Equipment, Aeronautical

MIL-D-1000 Drawings and Data List

3.1.2 SAE Standards

SAE J498B Involute Splines, Serrations and Inspection (Conforms with ASA B5.15-1960) Supersedes ARP 911 (Inactive)

3.2 Material and Workmanship

3.2.1 Material - Material specified for use in fabrications should 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 should consist of three sub-assemblies (see Fig. 1):

a. Driver-wrench adapter (Fig. 2 and Fig. 3)
b. Wrench adapter to torqued part (Fig. 3 for spline details)
c. Holder-counter torque wrench

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

4.2 All splines shall be calculated to the SAE J498B Basic Dimension criteria for flat root side fit.

4.3 All adapters shall be designed separately to adapt to various units as required.

4.4 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

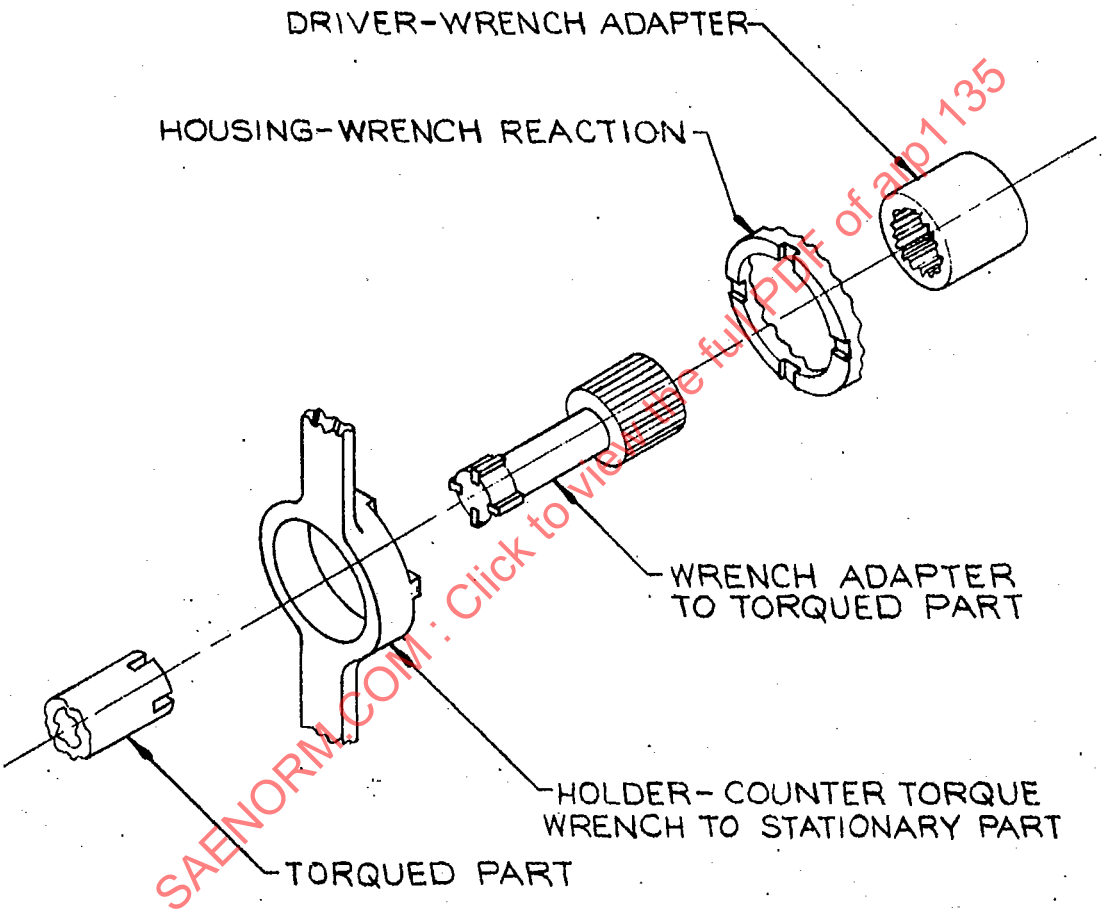

FIGURE 1

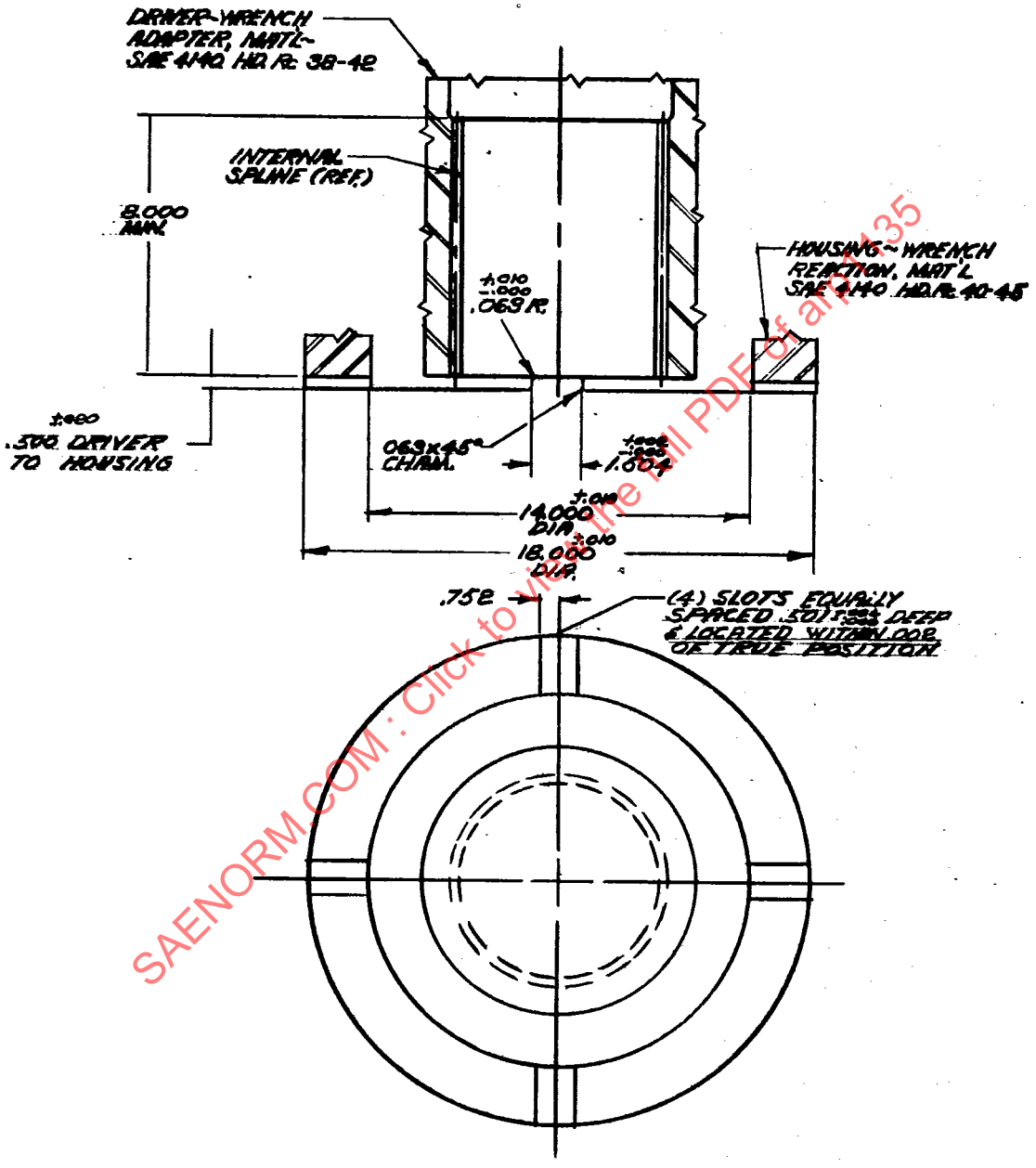

FIGURE 2