SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.
485 LEXINGTON AVENUE
NEW YORK 17, N.Y.

AERONAUTICAL RECOMMENDED PRACTICE

ARP246A

Issued 10-1-49
Revised 11-15-59

POSITION TERMS AND NUMBERING SYSTEM FOR AIRCRAFT GAS TURBINE ENGINES

1. PURPOSE:

1.1 To establish conventional terminology regarding position in an aircraft gas turbine engine and to provide for a uniform system for identifying similar units (parts, assemblies, components, etc.) therein.

2. SCOPE:

2.1 Numbering as provided herein is intended for convenience in locating a particular unit in a group of like or similar units.

3. POSITION TERMS:

3.1 Front (Forward) End - The end into which air is introduced.

3.2 Rear (Aft) End - The end from which the jet or expanding gas is expelled.

3.3 Right and Left Sides - With the observer and engine facing forward, the right side of the engine will correspond with the observer's right and the left side with the observer's left. (See Fig. 1)

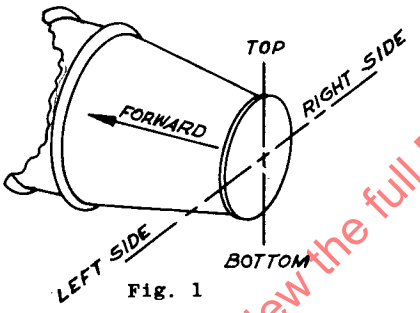

Fig. 1

4. POSITION NUMBERING:

4.1 General

4.1.1 All numbering begins with number 1.

4.1.2 Two or more similar units arranged around the engine are identified by numbers which start at the top center line and progress clockwise when viewed from the rear of the engine. If there is no unit on the top center line, numbering begins with the uppermost unit on the right hand side. (See Fig. 2)

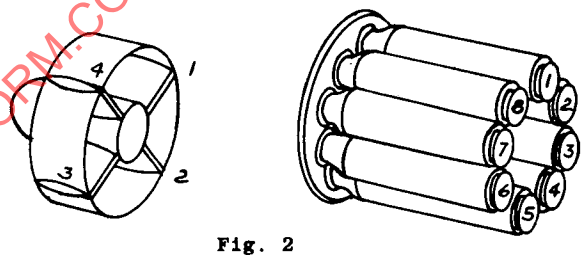

Fig. 2

4.1.3 Two or more similar units arranged along the engine are identified by numbers which start at the forward end and progress toward the rear.

4.1.4 Two or more similar units arranged radially in or on the engine are identified by numbers which start with the outermost unit and progress inward to the center.

4.1.5 Two or more similar units arranged around a line removed from, but parallel to, the engine centerline are identified by numbers which start at a suitable reference feature or mark and progress clockwise when viewed from the rear of the engine.

4.2 Compressor and Turbine Sections

4.2.1 Compressor and turbine stages are numbered from front to rear.

4.2.2 Compressor and turbine blades are referred to by stage and number.

4.2.2.1 The number one blade in any stage will be the first blade clockwise from a suitable reference feature or mark. The reference point to be used in this numbering system will be that on the rear of the stage being numbered except for the final stage which will utilize the reference point on the front side of the stage. If no reference point is available the number one blade position is chosen arbitrarily and marked.

4.2.3 Compressor and turbine vanes are referred to by stage, number and case section when applicable.

4.2.3.1 The number one vane in any stage of the upper compressor or turbine case is the first vane adjacent to the split line on the left side of the engine with numbering progressing clockwise.

4.2.3.2 The number one vane in any stage of the lower compressor or turbine case is the first vane adjacent to the split line on the right side of the engine with numbering progressing clockwise.

4.2.3.3 If the compressor or turbine case is not split, numbering for each stage shall follow the procedure of paragraph 4.1.2.

4.3 Bearings - Main shaft bearings are numbered in accordance with paragraph 4.1.3; however, gear set bearings are not normally position numbered.

4.4 Engine installations - Engines installed in aircraft are numbered from the extreme left to the extreme right when viewed from the rear of the aircraft.

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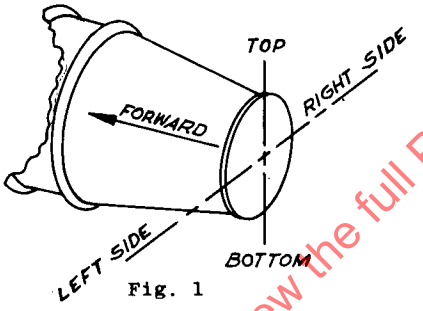

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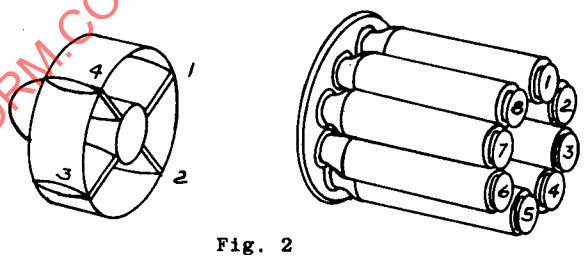

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