



AEROSPACE RECOMMENDED PRACTICE

Society of Automotive Engineers, Inc.
400 COMMONWEALTH DRIVE, WARRENDALE, PA. 15096

ARP 246B

Issued 10-1-49
Revised 8-1-76

ORIENTATION OF ENGINE AXIS, COORDINATE AND NUMBERING SYSTEMS FOR AIRCRAFT GAS TURBINE ENGINES

1. PURPOSE

To establish an orientation standard for aircraft gas turbine engines and their component parts.

2. SCOPE

2.1 Orientation of the engine, engine axis and coordinate system referred to herein shall be the conventional terminology used in all references to aircraft gas turbine engines.

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

3. ENGINE ORIENTATION

3.1 Front (Forward) End: The end nearest the first stage of the engine compressor.

3.2 Rear (Aft) End: The end from which the jet of 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)

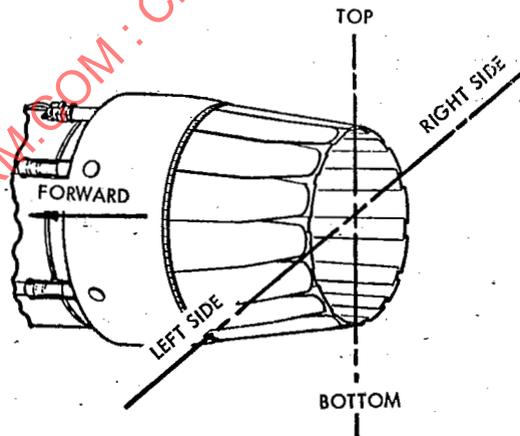


FIGURE 1

3.4 Engine Installations: Engines installed in aircraft are numbered from extreme left to the extreme right when viewed from the rear of the aircraft. Engine axes that are a common distance from the center line of the aircraft shall be numbered from front to rear or from bottom to top of the aircraft as appropriate.

3.5 Exceptions: When an engine configuration does not meet the practices defined in this standard, the most suitable terms will be applied and clearly defined in the engine manufacturer's drawings and publications.

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 infringement of patents."

ARP 246B

- 2 -

4. ENGINE COORDINATES

- 4.1 Coördiantes: A system of rectilinear coordinates when required shall have their origins and directions as shown in Fig. 2. A suitable reference feature (normally a flange) shall be chosen for the X plane origin.

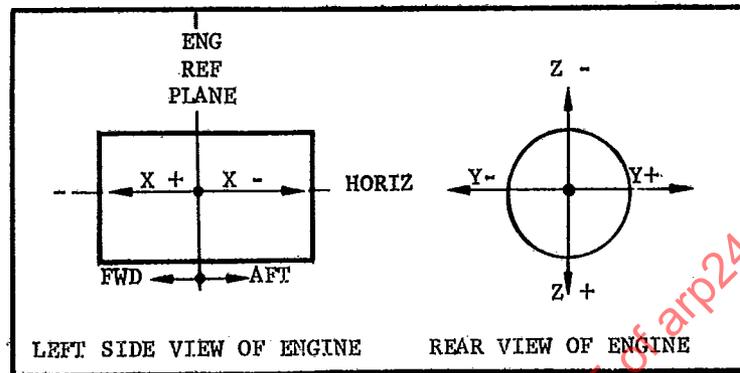


FIGURE 2

5. NUMBERING OF ENGINE COMPONENTS

5.1 General:

- 5.1.1 All numbering begins with number 1.
- 5.1.2 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. 3)

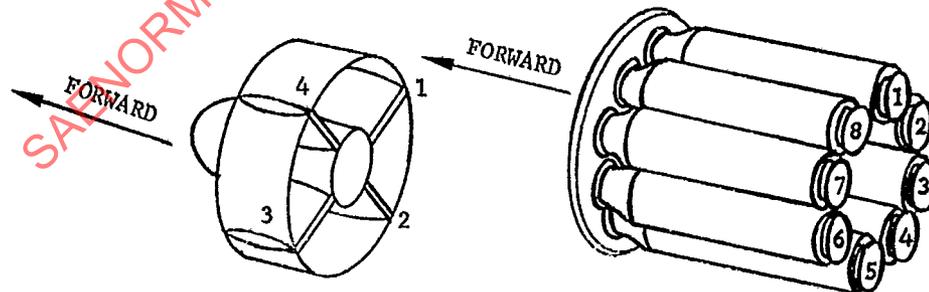


FIGURE 3

- 5.1.3 Two or more similar units arranged along the engine are identified by numbers which start at the forward end and progress toward the rear.
- 5.1.4 Two or more similar units arranged either radially or concentrically in or on the engine are identified by numbers which start with the innermost unit and progress outward from the centerline.
- 5.1.5 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.