

Failure Mode & Effects Analysis (FMEA)

An **FMEA** is a systematic, bottom-up way of identifying the failure modes of a system, item or function and determining the effects of each on the next higher level (or assembly). Normally considered an integral part of the preliminary and critical design efforts, the FMEA can also be used to compile a failure mode and effects summary (FMES) when evaluating inputs for the next higher level FMEA(s). When required, the FMES provides groupings of single failure modes which produce the same failure effects, i.e. for each unique failure effect, a list of the single failure modes that could cause its occurrence is shown.



The **FMEA** can be performed at any level. Thus, to avoid costly revisions and delays in the completion of the report, the scope of the requirement should be verified with the user requesting it before the work is started.

Commercial Programs:

In 1996, **SAE ARP4761** established the current guidelines for FMEA and many other analyses performed as part of the System Safety Assessment Process used to establish safety objectives and demonstrate compliance with **FAR/JAA 25.1309** and other Civil safety requirements.

Military Programs:

MIL-STD-1629 continues to be widely used as the guiding specification(s) for FMEA / FMECA. Moreover, where Military System Safety studies are required, **MIL-STD-882** is often used.

... for more [Info](#):

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