



Evaluation of Impacts of JP-8+100 on Army Aviation and Ground Vehicles: Phase I Impact Study

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Problem: As the Army has converted to the “Single Fuel on the Battlefield” doctrine and extensively uses JP-8 in all diesel-powered ground material systems, there are concerns about the acceptability of JP-8+100 for Army systems as the Air Force uses JP-8+100 in the future.

Objective: The objective was to investigate the potential effects of JP-8+100 fuel on Army ground and aviation equipment and to determine the scope of any expected problems and possible benefits from its use.

Importance of Project: The potential effects of JP-8+100 fuel on Army ground and aviation equipment could have a major impact on operations and readiness.

Technical Approach: The Army JP-8+100 Evaluation Program involves a two-phase effort. Phase 1 consists of the impact study; phase 2 consists of acceptance testing.

The following tasks were defined and initiated under Phase 1:

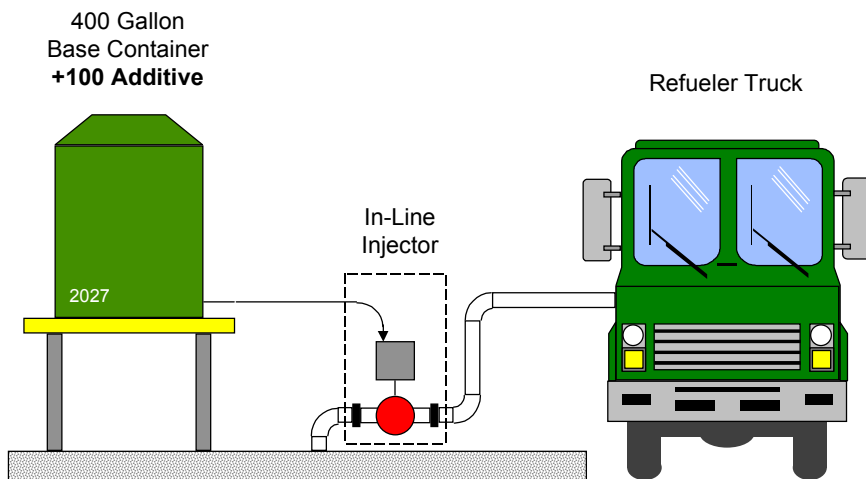
- Task 1 Identify scenarios where the Army may be exposed to JP-8+100.
- Task 2 Investigate/confirm elastomer and seal compatibility.

Task 3 Determine preliminary cost-benefit analysis for Army use of JP-8+100.

Task 4 Determine short-term impact for selected Army aviation and ground vehicles and equipment.

Accomplishments: Based on the results of this project, it is recommended that the Army maintain its “no-use” policy for JP-8+100. Although JP-8+100 is not detrimental to the performance, reliability, and safety of Army aircraft, there is no firewall to guard against contamination of Army ground equipment. Furthermore, there currently is no reliable field test to detect and quantify the presence of the +100 additive package.

If an accidental refueling occurs, it should be documented and the Army Petroleum Center contacted immediately for guidance. It is suggested that aircraft that are accidentally refueled be allowed to operate without restrictions in order to burn off the fuel in flight, thus avoiding issues of defueling. The aircraft should be considered free of JP-8+100 after three refuelings with JP-8. If defueling is necessary, it should be either into another aircraft or the fuel should be treated as hazardous waste.



JP-8+100 Injection System

It is suggested that if ground equipment is exposed to JP-8+100, it should be defueled immediately and the filter/coalescer be replaced. The fuel should be disposed as hazardous waste.

Army Special Forces were briefed on the risk of exposure to JP-8+100 when operating with the Air Force, and guidance was provided to how to minimize risk to a mission.

A field demonstration of the effects of JP-8+100 on aviation equipment is recommended.

Military Impact: The use of JP-8+100 may be detrimental to ground equipment, and may have potential benefits for aviation equipment.