

# ALERT BULLETIN

AB 2023:20/2-2

10/13/2023

2017070

TO: Boeing Commercial Airplane Company

INFO: FAA (AVP-1, AVP-200, AFS-200, AFS-900, AFS-260, AFS-100, AIR-720, AIR-780, AIR-360, SEA-AEG), A4A, ALPA, AMFA, ASAP, ATSG, CAPA, IAM, IBT, ICAO, ICASS, IFALPA, IPA, NTSB, PAMA, RAA, SWAPA, TWU

FROM: Becky L. Hooey, Director  
NASA Aviation Safety Reporting System

SUBJ: B737 Fuel Nozzle Maintenance Procedure

We recently received ASRS reports describing a safety concern that may involve your area of operational responsibility. We do not have sufficient details to assess either the factual accuracy or possible gravity of the report. It is our policy to relay the reported information to the appropriate authority for evaluation and any necessary follow-up. We feel you should be aware of the following:

ASRS received a report from a Maintenance Technician expressing concern with a fuel nozzle leak check Engineering Authorization that they feel is incomplete. Reporter stated the procedure does not have sufficient emphasis on the use of the nitrogen leak check that is not required by the procedure. Reporter cautioned that in-service engine fires could result.

To properly assess the usefulness of our alert message service, we would appreciate it if you would take the time to give us your feedback on the value of the information that we have provided. Please contact Dr. Becky Hooey at (408) 541-2854 or email at [becky.l.hooey@nasa.gov](mailto:becky.l.hooey@nasa.gov).



Aviation Safety Reporting System  
P.O. Box 189 | Moffett Field, CA | 94035-0189



## ACN 2017070

### DATE / TIME

Date of Occurrence	202307
Local Time Of Day	No Local Time Of Day Stated

### AIRCRAFT / EQUIPMENT X

Make Model Name	B737 Undifferentiated or Other Model
Operating Under FAR Part	121

### COMPONENT 1

Aircraft Component	Powerplant Fuel System
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### PERSON 1

Function - Maintenance	Technician
ASRS Report Number	2017070

### EVENTS

Anomaly	Aircraft Equipment Problem - Critical
Anomaly	Flight Deck / Cabin / Aircraft Event - Smoke / Fire / Fumes / Odor
Anomaly	Deviation / Discrepancy - Procedural - Maintenance
Anomaly	Deviation / Discrepancy - Procedural - Published Material / Policy
Detector - Person	Maintenance
Result - General	Maintenance Action

### NARRATIVE 1

EA (Engineering Authorization) doesn't require sufficient fuel nozzle leak check to prevent possible in-service engine fires. Nitrogen leak check with a leak test solution is a "CFM best practice" but has not been adopted by Company A in this EA, nor has Boeing included it in the remove and replace of the nozzles in their AMM (Aircraft Maintenance Manual). The nitro leak check can be found in the adjustment/test section just after fuel nozzle section. This nitrogen leak test needs to be included in the Leap 1B Fuel Nozzle post replacement work card.

Proof is a recent incident. During the required "idle leak check" after full set of fuel nozzles were replaced, our technicians discovered an oil leak, but no fuel leak. After a 70% part power engine run using bag method at drain lines, a significant fuel leak developed in the hot section. Other report [from weeks ago] of hot section fires support the need to do a best practice leak check. In the interim while tooling and leak detector liquid are on order, I feel need to require EA be revised to require a high power engine run after fuel nozzles are replaced or proper nitrogen test equipment tooling and leak detector can be used.

Suggested resolution – an immediate resolution. In the interim, while tooling and leak detector liquid are on delay due to availability of leak check – not owned – and tooling repairs needed, I relay this feedback from the technicians on the floor: Require EA be revised to require a high power engine run after fuel nozzles are replaced and a subsequent opening of the core cowl to inspect for fuel stains, leaks in manifold, and nozzles area.

### SYNOPSIS

B737 Technician reported that an EA (Engineering Authorization) does not have a sufficient fuel nozzle leak check process after fuel nozzle post-replacement work is completed. If the leak test is not performed and a potential problem goes undetected, the reporter states that it can lead to in-service engine fires.