

DOCKET NO.: SA-515
EXHIBIT NO. 11Q

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

DELTA AIR LINES COPY OF PRATT & WHITNEY'S
FEBRUARY, 1995 FPI INSPECTION REPORT

(3 PAGES)

Delta Air Lines, Inc.

Fax Cover Sheet

DATE: January 21, 1997 TIME 9:30 AM

TO: Frank S. Gattolin PHONE: [REDACTED]
 NTSB FAX: [REDACTED]

FROM: Mike Denaro PHONE: [REDACTED]
 FAA Liaison. Dept. 595 FAX: [REDACTED]

RE: Pratt and Whitney's February '95 Report

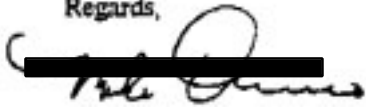
Number of pages including cover sheet- 3

Message

Enclosed are pages 58 and 59 of Pratt and Whitney's report regarding their observations and/or recommendations for Delta's Fluorescent Penetrant Inspection (FPI) - Fluorescent Magnetic Particle Inspection (FMPI) Lines

If you should have questions regarding this material or further requests, please advise

Regards,



Mike Denaro - FAA/NTSB Liaison

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2/95

3 Fluorescent Penetrant Inspection(FPI) - Fluorescent Magnetic Particle Inspection (FMPI)

- 3.1 Parts are routinely cleaned after FPI.
 - 3.1.1 To reduce process time, eliminate cleaning parts after FPI by aqueous deaning or vapor degreasing unless penetrant or developer interferes with subsequent processing. See P&W Field Note, 12/94 SPOP section. Prior to welding need to be cleaned.
- 3.3 There are two level 3 penetrant tanks at one end of the FPI line
 - 3.3.1 To reduce penetrant cost, use only one tank of the level 3 penetrant in place of the current two tanks since filling a tank cost \$10,000.
- 3.4 There is a level 3 and a level 4 post emulsified and the end of one end of the penetrant line.
 - 3.4.1 To reduce penetrant cost, eliminate the level 3 post emulsified penetrant (SPOP 82) that is used for rotating parts. The current level 4 post emulsified penetrant (SPOP 84) may be used for rotating parts in the main FPI line in its place.
- 3.5 The emulsifier tank has no means of agitation.
 - 3.5.1 Add low air pressure agitation to the emulsifier solution to enhance the removal action within the required emulsion time of penetrant from the part.
- 3.6 Delta's process standard only shows processes. There is no general information section available to the inspectors on FPI an FMPI.
 - 3.6.1 Create a generic FPI and FMPI section in the Delta standards which will provide inspectors with basic information regarding these processes similar to that in P&W Standard Practices Manual.
- 3.7. On the JPC cards for FMPI, the amperages for the shots are not specified. Consequently, the inspector must go to the microfilm or guess as to the amperage on the shots which can result in scrapping of a part due to an arc bum or insufficient magnetism that will not find a crack
 - 3.7.1 Specify on the JPC cards, the process and the amperage to FMPI. each part.

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3.8 **Data related to processes and products that P&W sends out by all reps wires and P&W FIELD NOTES are not reaching the appropriate shop supervision.**

3.8.1 **Insure that P&W all reps wires and FIELDS NOTES pertaining to products and processes are reaching the appropriate personnel.**