

DOCKET NO. SA-515

EXHIBIT NO 8G

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, DC

ANE-180 EVALUATION REPORT
OF PRATT & WHITNEY QUALITY SYSTEM
September 30, 1996

ATTACHMENT I
PHASE I REPORT (PRATT & WHITNEY)
(32 PAGES)



U.S. Department
of Transportation
Federal Aviation
Administration

ACSEP Number
96NE055

ACSEP Evaluation Report

Facility:

Pratt & Whitney
East Hartford, CT

Start Date:

7/29/96

End Date:

8/2/96

Surveillance MIDO:

ANE MIDO 41

Prepared By:

~~Michael J. Lightbown~~
Michael J. Lightbown
FAA ACSEP Evaluation Team Leader

Date:

8/5/96

Location of Objective Evidence:

Originals with Team Leader

1

TEAM MEMBERS

Name	Office	Discipline	Specialty	Training Status (E or T)*
Rita Truax	ANE MISO 42	ASI		
Dan Kerman	ANE 140	ASE		
Richard Jennings	AIR 230	ASE		

* E = Evaluator-in-training T = Team Leader-in-training

2

ACSEP EVALUATION SPECIAL EMPHASIS ITEMS

ACSEP NO. 96NE055

PROJECT NO. PE13NE-D

NOTE TO MIO MANAGER AND COGNIZANT PRINCIPAL INSPECTOR

Do to the nature of this ACSEP Evaluation all special emphasis items have been documented in the attached narratives form the team members. It is highly recommended that these reports be reviewed to gain a clear understanding of the evaluation.

NOTE TO ACO MANAGER AND ASSIGNED PROJECT ENGINEER

SEE ABOVE

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SPECIAL AUDIT OF PRATT & WHITNEY

As a result of the failure of PW JT8D-219, #1 Fan Hub on Delta Flight Airlines flight #1288 at Pensacola, Florida, on July 6, 1996 a special Quality System audit was initiated by the Manufacturing Inspection Office (MIO) of the Engine & Propeller Directorate, Burlington, MA. The scope of the audit was limited to the following ACSEP Subsystems:

Supplier Control
Material Review Board
Internal Audit
Design Data

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The audit was conducted from July 29 through August 2, 1996. The audit team was comprised of:

Michael J. Lightbown, Team Leader, (MRB)
Dan Kerman, Aviation Safety Engineer (Design Data, ESA)
Rich Jennings, Aviation Safety Engineer, (Internal Audit)
Rita Truax, Aviation Safety Inspector, (Supplier Control)

An audit inbriefing was conducted on Monday July 29 at 9:00 a.m., at Pratt & Whitney, 400 Main St, East Hartford, CT. The following were in attendance:

The FAA Team
Richard Gidius, P&W, FAA, Principal Inspector
William Sparaco, acting for Roger Chericoni, Quality VP
Treva Kendall, P&W FAA Liaison
Andrew Brindisi, P&W FAA Liaison, Manager
Rich Hoyle
Harrie Rand
Rich Strong
Jim Mloganoski
Mike Palazzi

Michael Lightbown explained the purpose and scope of the audit.

P&W presentation included an overview of the current structure specifically the "Product Center" concept now in place in P&W. In addition, Bill Sparaco provided a detailed presentation on the P&W initiative toward ISO 9001 certification and the changes to the Quality System since the last ACSEP Evaluation in October 1994.

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The following is an outline of what transpired during the audit.

P&W is currently undergoing a revamp of the Quality System aligning with the ISO 9001 structure. To accomplish this the current Quality Assurance Manual (QAM), which is FAA approved, has been restructured into two documents, the Pratt & Whitney Quality Manual, which is the top document and reflects the P&W quality policy (1st Level), the second is the Pratt & Whitney System Level Procedures (SLP's) (2nd Level) which are procedures covering all work centers, the Work Instructions (3rd Level) are Product Center unique. Each work center is allowed to have working level procedures which must be structured to meet the intent of the System Level Procedures and the Quality Manual. Current FAA policy does not require PI's to review or approve these instructions (3rd Level). At P&W the PI is notified when *significant* changes take place in the work instructions. Significant is defined as anything "policy" related.

The Principal Inspector is currently reviewing the Quality Manual and the System Level Procedures and expects to have this accomplished within six to eight weeks. P&W is currently scheduled for an ACSEP Evaluation in early *October, 1996. Based on the PI review and approval of the new system it is my recommendation the ACSEP be scheduled later in the year and that it remain a national evaluation.

**The decision has been made to conduct the ACSEP Evaluation in April 1997.*

The "Product Center Concept" was initiated at P&W in early 1993 and was approved by the FAA PI at that time. Detailed flowcharts attached depict the structure now in place.

The Quality oversight for this organization is two fold. An Operations & Audit, "Core", Quality function provides Product Center Audits and Special Audits over all Product Centers. Secondly, and in addition to "Core" each Product Center is responsible to maintain a quality function providing internal audit and supplier audit to suppliers under their control.

It should be clearly understood, this audit concentrated on the first and second level of the P&W system and the work instructions of International Product Center and the General Machine Product Center. This accounts for ONLY two (2) of eleven (11) Centers within the P&W system.

A review and audit of the Material Review Board at the, "Core Level" was conducted. The current procedures were reviewed and evaluated to the ACSEP Evaluation Criteria. Special emphasis was placed on the Preliminary Review (PR)

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as applied to foreign suppliers. No concerns were noted. P&W followed the procedures as written.

A further review of the "Product Center area" was conducted at the International Operations Business Unit. This included receiving, storage MRB and shipping. It was noted that this particular unit has recently (Nov 95) been reorganized. Although the on site interviewee was extremely helpful and knowledgeable of the system the area did not have procedures available. In addition, the MRB Crib in this area lacked the required control outlined in P&W MRB Procedures. This was brought to the attention of P&W management who assured this area will be audited beginning Monday August 5, 1996. It is recommended the FAA Principal Inspector be provided with the audit results and any corrective action plan as a result this audit.

It was determined by the team leader that this issue would not be documented as a finding at this time allowing the transition to be completed. It should be noted a recommendation is being made to the Manufacturing Office (ANE 180) to conduct a followup evaluation prior to the rescheduled ACSEP by the same team. This would not only be directed at this issue but all findings, observations, and recommendations.

The Pratt & Whitney Internal Audit "Core Level" function was evaluated and found to be operating within the current P&W procedures. Internal audit schedules, plans, findings, and corrective actions were reviewed and found to be in accordance with the procedures. There is direct line on communications from the audit function to the Quality Vice President in matters such as corrective action. Documented findings were reviewed and found to be accurate and well written in regards to the detail of the finding. Corrective actions were timely and detailed. All auditors interviewed were well informed and knowledgeable of their functions.

As required by P&W Procedures, P&W QAM, internal audits are also required at the "Product Center" Level. The International Operations Product Center internal audit system is virtually non-existent, no Product Center procedures, no schedule, and no audits. This resulted in a documented finding.

The General Machining Product Center was audited for the internal audit function and found to be in compliance.

As required by P&W Procedures, P&W, QAM, external audits (supplier) audits are required to be performed by "Product Centers". The International Operations Product Center has an unapproved procedure to cover this function. There is lack

of discipline to the procedure covering lack of schedule and independence of auditor. This resulted in a documented finding.

Much discussion and questions were pointed at the Engineering Source Approval (ESA, see PWA Spec 370). This one issue crosses both the engineering and quality disciplines within both P&W and the FAA. I recommend FAA Engineering and Manufacturing revisit this process in order to clarify each others role in the cycle. Due to the complexity of this entire issue, ESA will be addressed in a separate briefing paper to be accomplished by Dan Kerman (ANE 140).

Flow charts for MRB, Supplier Control, Internal/External Audit, and Organizational are included in this package. It is important to review these charts in order to appreciate the complexity of the systems in question.

Time permitted a review of the Blue Etch Non-Destructive Test (NDT) process being applied to #1 Fan Hubs recalled as a result of AD 96-15-06.

All Pratt & Whitney employees were extremely cooperative during the evaluation. All requests were responded to in a timely fashion and to the detail requested.

It should be noted that this is an interim report and that open, undocumented items remain in the discussion stages between P&W and the FAA audit team.

Michael J. Lightbown
Team Leader

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J.S. Department of Transportation
Federal Aviation Administration

ACSEP Record of Findings / Observations

ACSEP No:
96NE055

Project No:
PE13NE-D

Evaluation Criteria Number:	15M1	Controlling Document:	United Technologies Pratt & Whitney Quality Assurance Manual Rev. 3/14/95, FAA-Approved 4/5/95	Applicable FAR Section:	21.165
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Required Condition:

Item P17.2.1, paragraph four, under Section P17 of the Quality Assurance Manual (QAM) provides the requirements of the Product Centers to have an audit function that reports directly to their Quality Manager.

Item P17.2.2 of the same Section of the QAM, requires audits, their planning, scheduling and follow-up, to be in accordance with documented procedures.

Encountered Condition:

Discussed with Facility

In evaluating the Internal Audit activities of the International Operations Product Center, the Quality function of the Product Center could provide no objective evidence of an internal audit schedule, or that internal audits are being accomplished. Further more, the Product Center could provide no objective evidence that an internal audit procedure had been developed.

Attachment: QAM Procedure P17, Internal Quality Audits dated 3/14/95, 3 pages.

Signature of Evaluator: Richard E. Jennings	Office Symbol AIR-230	Date 8/1/96
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AA Form 8100-6 (12-93)

8



QUALITY ASSURANCE MANUAL

SECTION P17

Page 1 of 3

P17 INTERNAL QUALITY AUDITS PRIVATE

P17.1 SCOPE – This section establishes the policy for evaluating the Pratt & Whitney Quality Program, which includes; All Pratt & Whitney facilities, Suppliers, Partners, or other external sources whose activities may affect the quality of products or services furnished by Pratt & Whitney to its customers. The audit policy herein is designed to assess the effectiveness of the Quality Program, provide management with a key tool for achieving quality objectives and to monitor the effectiveness of corrective action taken.

P17.2 POLICY – Audit of the Pratt & Whitney Quality Program shall be conducted to verify whether quality activities and results comply with planned arrangements, determine the effectiveness of the Quality System and to verify that compliance with established policy, systems and procedures is maintained.

All Pratt & Whitney Quality Program: policies, procedures, systems, processes, products and activities of Large Commercial Engines (LCE), Government Engines and Space Propulsion (GESP), Technical and Operations shall be subject to audit. Audits shall be performed in a manner to effectively assess existing conditions and operations.

P17.2.1 RESPONSIBILITY FOR AUDITS – Pratt & Whitney Business Units have the primary responsibility for verifying that systems and controls are in place to assure full compliance with their respective contractual and regulatory requirements. Audit activity of the Pratt & Whitney Quality Program is conducted at various levels. Audit shall be performed by personnel independent of the activity being audited.

Group Systems Assurance, reporting directly to the Vice President, Quality Assurance and Product Integrity, is responsible for overall Group Product Integrity audit. The extent of Group Systems Assurance activities extend to all Pratt & Whitney operating units.

Quality Operations and Audit, reporting directly to the Vice President, Quality Assurance and Product Integrity, is responsible for overall audit of the Product Centers and Product Delivery Center, Operations.

The Product Delivery Center and Product Centers shall have an audit function, reporting directly to their Quality Manager, that is responsible for audit of the Quality program activities within their respective Centers and at their suppliers.

Operations, International Product Quality, is responsible to the Vice President, Quality Assurance and Product Integrity, for audit of foreign Partners, Suppliers or other foreign sources.

The Office of Continuous Improvement, reporting directly to the Director of Total Quality Operations, for GESP, Office of Vice President, Propulsions LCE, and designated Technical personnel coordinate audit activity and resulting reports for their respective areas and suppliers.

Software quality assurance audits are conducted by Technical Unit, Management Information Systems, Software Quality Assurance, north/south. Reference sections P1 and P22 of this manual.

Issued 03/14/95

Circ. No. 95P17A-1

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9



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SECTION P17

Page 2 of 3

P17.2.1.1

MATERIALS CONTROL LABORATORY (MCL), NONDESTRUCTIVE TEST (NDT) – MCL NDT and/or Product Center NDT shall perform audits on systems used for Quality NDT, including personnel, to assure continued conformance with established procedures. NDT audits shall include:

- Random audits of operating NDT systems and personnel for compliance to procedures and processes.
- Over-inspection of items previously inspected by quality NDT personnel.
- Review of inspection records for accuracy and completeness.
- Review of audit and over-inspection trend data.

Materials Control Laboratory, Nondestructive Test, may use the Performance Review Institute (PRI) Third Party Accreditation Program for the purpose of providing audits of supplier quality NDT systems and NDT personnel performing inspections for conformance to P&W NDT Specifications per the Materials Control Laboratory, Manual.

Materials Control Laboratory, Nondestructive Test, shall ensure a requirement for immediate notification by the PRI Third Party Accreditation Program when a system breakdown occurs at any supplier. Materials Control Laboratory, Nondestructive Test, shall, as appropriate, review implementation of corrective/preventative action.

Pratt & Whitney suppliers using PRI Third Party Accreditation Audits must be certified by Materials Control Laboratory, Nondestructive Test, to the requirements of the applicable NDT Method Specification.

P17.2.2

PROCEDURES – Audits, their planning, scheduling and follow-up activities to verify and record implementation and effectiveness of corrective actions taken, shall be carried out in accordance with documented procedures.

P17.2.3

SCHEDULE – Audit shall be scheduled on the basis of the status and importance of the activity to be audited.

P17.2.4

PRODUCTS – manufactured by Pratt & Whitney, and its suppliers, partners, or other external sources shall be subject to over-inspection to verify the effectiveness of the quality program.

P17.2.5

AUDITS OF SUPPLIERS / PARTNERS – shall be coordinated with the applicable Product Delivery Center, Product Center or GESPP purchasing responsible personnel, and with program management personnel, when applicable.

P17.2.6

NOTIFICATION – shall be given to the appropriate Management/Supervision of Pratt & Whitney, Supplier, Partner, or other source prior to performing an audit.

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10



QUALITY ASSURANCE MANUAL

SECTION P17

Page 3 of 3

- P17.27** **AUDIT RESULTS/FINDINGS** - shall be documented and shall be brought to the attention of the Management/Supervision responsible for the area/function/activity audited. Management/Supervision responsible for the area/function/activity audited shall take timely corrective action on deficiencies found by the audit.
- P17.28** **FOLLOW-UP** - Follow-up audit shall verify and record the implementation and effectiveness of corrective action taken.
- P17.29** **AUDIT REPORTS** - Summary reports of audit results and indicated trends shall be prepared quarterly. Report copies shall be sent to The Vice President, Quality Assurance and Product Integrity, cognizant Quality/Manufacturing Managers/Directors, Product/Product Delivery Center General Managers, Operations and GESP, and involved LCE and Technical management. Management shall use audit reports as an integral part of the overall management review system.
- P17.2.10** **HARDWARE QUALITY AUDIT** - The applicable Product Center, Product Delivery Center or GESP is responsible for all hardware audit activity for raw materials, parts, assemblies and components. These audits/reviews are conducted on Pratt & Whitney and supplier-manufactured items to ensure that the inherent design/reliability features were not compromised during manufacturing and test.
- P17.2.10.1** Audit of hardware shall be conducted in a manner that promotes compliance to specification, contract requirement and company policy. Supplier, Partner or other external source items are subject to audit at the source and/or upon receipt at Pratt & Whitney. Documented procedures will provide the necessary instructions. This independent audit/review identifies deficiencies and nonconformances and provides for prompt corrective action.
- P17.2.10.2** Quality audit of hardware may include Government participation. Performance of audit is subject to review by Government Representative.
- P17.2.11** **JOINT AND/OR SPECIAL AUDITS** - When requested and agreed to by Management of the affected areas, auditors from one organizational area may perform audits for another organizational area or may perform audits jointly with auditors from other organizational areas. With approval of the Vice President, Quality Assurance and Product Integrity or Director, Total Quality Operations, as applicable, audits may be performed jointly with external or customer auditors.

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I.S. Department of Transportation
Federal Aviation Administration

ACSEP Record of Findings / Observations

ACSEP No:
96NE055

Project No:
PE13NE-D

Evaluation Criteria Number:	10Q1	Controlling Document:	United Technologies Pratt & Whitney Quality Assurance Manual Rev. 3/14/95, FAA-Approved 4/5/95	Applicable FAR Section:	21.165
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Required Condition:

Pratt & Whitney's Material Control Laboratory (MCL) Material Section C-10, paragraphs 1 and 3.1 state in part: This section establishes duties & procedures for MCL Supplier Metallurgical Engineers (SME) with regard to surveillance of suppliers compliance with the requirements of P&W specification PWA-300 (control of Materials, Processes, and Parts). SME reports survey results on Laboratory Control at Source (LCS) surveillance report and product specific check lists quarterly, yearly, or after each visit as applicable.

Encountered Condition:

Discussed with Facility

ME surveillance report records reviewed for:

- a. Carlton Forge Works, Paramount, CA, indicated no reports available since October 1995.
- b. Ladish Co., Inc., Cudahy, WI, indicated no reports available for the 3rd and 4th quarter 1995.

Note: Carlton Forge and Ladish Co. have quarterly reporting requirements.

Attachment: MCL Manual Section C-10, pages 1 & 2, dated 11/30/95

Signature of Evaluator:

Rita Truax

Office Symbol

NE-MISO-42

Date

8/1/96

FA Form 8100-6 (12-93)

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12



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**MATERIALS CONTROL
LABORATORY MANUAL**

Section C-10
Page 1 of 5
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Revised 11-30-95
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MCL Internal Procedures

SUPPLIER METALLURGICAL CONTROL AND SURVEILLANCE BY SUPPLIER QUALITY ASSURANCE

1. SCOPE:

This section establishes duties and procedures for Materials Control Laboratory (MCL) Supplier Metallurgical Engineers (SME) with regard to surveillance of suppliers' compliance with the requirements of FWA 300, as amplified by MCL Manual Sections and Supplier Authorizations. Surveillance of Laboratory Control at Source (LCS) suppliers by Supplier Quality Assurance (SQA) is also addressed.

2. DUTIES:

Survey laboratory controls at LCS suppliers and at qualified sources of chemical/metallurgical processing as follows:

- 2.1 Assure supplier complies with FWA 300, MCL Manual Section F-17, MCL Supplier Authorization, FWA specifications, and MCL Manuals F and Y sections as applicable.
- 2.2 Assure second tier sources used by LCS suppliers are capable of and qualified to perform the work required on P&W parts.
- 2.3 Report survey results, verify nonconformances and evaluate root causes, obtain written corrective action for nonconformances and verify implementation and effectiveness.
- 2.4 Review and approve manufacture of materials which require MCL source qualification.
- 2.5 SME is responsible to ensure that in-house laboratories submit yearly correlation test specimens per MCL Manual Section F-23.
- 2.6 Maintain surveillance of Nondestructive Testing (NDT) systems at P&W qualified NDT laboratories.

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13

Attack 11

3. PROCEDURE:

3.1 When LCS, Engineering Source Approval (ESA), or Source Qualification is requested, the SME initiates a survey of the supplier's ability to comply with applicable MCL Manual Sections. If survey (and a trial demonstration period for LCS) shows good results, MCL issues a Supplier Authorization (or a notification letter for Source Qualification) to supplier's Quality Control Manager, or Representative, to document agreed upon controls. MCL notifies requester and P&W divisions about new LCS supplier.

3.1.1 SME performs surveillance of LCS supplier's laboratory controls to verify continued conformance to the requirements of MCL Manual Section F-17 at the following frequencies:

- b. Finished Part Suppliers:** Nonrotor - once per 6 months
Rotor (incl. mainshaft bearings) - once per 2 months
Packaging parts ("P" prefix) - once per 12 months

3.1.2 SME reports survey results on LCS Surveillance Report, MCL Form F-6897 and product specific check lists quarterly, yearly or after each visit, as applicable.

3.1.3 SME performs and reports an audit overinspection at least once per surveillance report period. SME chooses a part at final inspection and traces path from start to finish through all processing and testing to assure all requirements were met.

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14



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<input checked="" type="checkbox"/> System <input type="checkbox"/> Safety No. <u>3</u>		<input type="checkbox"/> System <input type="checkbox"/> Isolated <input type="checkbox"/> FAR No. _____			

Required Condition:
Pratt & Whitney's Quality Assurance Manual Section P17, paragraphs P17.2.1 and 2.2 state in part: International Product Quality (IPQ) is responsible to the Vice President, Quality Assurance and Product Integrity for audit of foreign partners, suppliers or other foreign sources. Audits, their planning, scheduling and follow-up activities shall be carried out in accordance with documented procedures. Audits shall be performed by personnel independent of the activity being audited. IPQ Policy Statement No.1 2 states: Post award audits will be conducted at appropriate four year intervals.

Encountered Condition: Discussed with Facility

Review of the IPQ resulted in the following:

- a. The only existing procedure on external surveys and audits (Policy Statement No. 2) shows no evidence of Quality Assurance Publications Approval.
- b. All 1996 and some completed audits are scheduled to be performed/completed by personnel responsible for suppliers/partners.
- c. No evidence of 1995 audit schedule.
- d. Number of audits completed: 1996 (1); 1995 (0); 1994 (5 includes 2 per-awards). IPQ maintains responsibility for 61 suppliers/partners.
- e. • MTU, Germany, alliance agreement, major rotating modules - last audit January 1986.
• KHI, Japan, partner, major rotating parts - last audit January 1987.
• Techspace Aero, Belgium, and Eldim, The Netherlands, partners, major rotating parts - last audits August 1987 and October 1990 respectively.

- Attach:**
1. P & W QA Manual Section 17 dtd 3/14/95
 2. IPQ Statement No. 2 dtd 7/19/95
 3. IPQ External Audit Schedule
 4. IPQ External Audit Schedule dtd 3/7/96

Signature of Evaluator:	Office Symbol	Date
Rita Truax	NE-MISO-42	8/1/96

15



QUALITY ASSURANCE MANUAL

SECTION P17

Page 1 of 3

P17 INTERNAL QUALITY AUDITS

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Software quality assurance audits are conducted by Technical Unit, Management Information Systems, Software Quality Assurance, north/south. Reference sections P1 and P22 of this manual.

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16



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SECTION P17

Page 2 of 3

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P17.2.1.1

MATERIALS CONTROL LABORATORY (MCL), NONDESTRUCTIVE TEST (NDT) – MCL NDT and/or Product Center NDT shall perform audits on systems used for Quality NDT, including personnel, to assure continued conformance with established procedures. NDT audits shall include:

- Random audits of operating NDT systems and personnel for compliance to procedures and processes.
- Over-inspection of items previously inspected by quality NDT personnel.
- Review of inspection records for accuracy and completeness.
- Review of audit and over-inspection trend data.

Materials Control Laboratory, Nondestructive Test, may use the Performance Review Institute (PRI) Third Party Accreditation Program for the purpose of providing audits of supplier quality NDT systems and NDT personnel performing inspections for conformance to P&W NDT Specifications per the Materials Control Laboratory, Manual.

Materials Control Laboratory, Nondestructive Test, shall ensure a requirement for immediate notification by the PRI Third Party Accreditation Program when a system breakdown occurs at any supplier. Materials Control Laboratory, Nondestructive Test, shall, as appropriate, review implementation of corrective/preventative action.

Pratt & Whitney suppliers using PRI Third Party Accreditation Audits must be certified by Materials Control Laboratory, Nondestructive Test, to the requirements of the applicable NDT Method Specification.

PRIVATE

P17.2.2

PROCEDURES – Audits, their planning, scheduling and follow-up activities to verify and record implementation and effectiveness of corrective actions taken, shall be carried out in accordance with documented procedures.

P17.2.3

SCHEDULE – Audit shall be scheduled on the basis of the status and importance of the activity to be audited.

P17.2.4

PRODUCTS – manufactured by Pratt & Whitney, and its suppliers, partners, or other external sources shall be subject to over-inspection to verify the effectiveness of the quality program.

P17.2.5

AUDITS OF SUPPLIERS / PARTNERS – shall be coordinated with the applicable Product Delivery Center, Product Center or GESP purchasing responsible personnel, and with program management personnel, when applicable.

P17.2.6

NOTIFICATION – shall be given to the appropriate Management/Supervision of Pratt & Whitney, Supplier, Partner, or other source prior to performing an audit.

Issued 03/14/95 Circ. No. 95P17A-1





QUALITY ASSURANCE MANUAL

SECTION P17

Page 3 of 3

- P17.2.7** **AUDIT RESULTS/FINDINGS** – shall be documented and shall be brought to the attention of the Management/Supervision responsible for the area/function/activity audited. Management/Supervision responsible for the area/function/activity audited shall take timely corrective action on deficiencies found by the audit.
- P17.2.8** **FOLLOW-UP** – Follow-up audit shall verify and record the implementation and effectiveness of corrective action taken.
- P17.2.9** **AUDIT REPORTS** – Summary reports of audit results and indicated trends shall be prepared quarterly. Report copies shall be sent to The Vice President, Quality Assurance and Product Integrity, cognizant Quality/Manufacturing Managers/Directors, Product/Product Delivery Center General Managers, Operations and GESP, and involved LCE and Technical management. Management shall use audit reports as an integral part of the overall management review system.
- P17.2.10** **HARDWARE QUALITY AUDIT** – The applicable Product Center, Product Delivery Center or GESP is responsible for all hardware audit activity for raw materials, parts, assemblies and components. These audits/reviews are conducted on Pratt & Whitney and supplier-manufactured items to ensure that the inherent design/reliability features were not compromised during manufacturing and test.
- P17.2.10.1** Audit of hardware shall be conducted in a manner that promotes compliance to specification, contract requirement and company policy. Supplier, Partner or other external source items are subject to audit at the source and/or upon receipt at Pratt & Whitney. Documented procedures will provide the necessary instructions. This independent audit/review identifies deficiencies and nonconformances and provides for prompt corrective action.
- P17.2.10.2** Quality audit of hardware may include Government participation. Performance of audit is subject to review by Government Representative.
- P17.2.11** **JOINT AND/OR SPECIAL AUDITS** – When requested and agreed to by Management of the affected areas, auditors from one organizational area may perform audits for another organizational area or may perform audits jointly with auditors from other organizational areas. With approval of the Vice President, Quality Assurance and Product Integrity or Director, Total Quality Operations, as applicable, audits may be performed jointly with external or customer auditors.

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Issued 03/14/95

Circ. No. 95P17A-1

18



S. Department of Transportation
Federal Aviation Administration

ACSEP Record of Findings / Observations

ACSEP No:
96NE055

Project No:
PE13NE-D

Evaluation Criteria Number: 4P1	Controlling Document: United Technologies Pratt & Whitney Quality Assurance Manual Rev. 3/14/95, FAA-Approved 4/5/95	Applicable FAR Section: 21.165
--	---	---------------------------------------

FINDING System Safety No. 4 **OBSERVATION** System Isolated FAR No. _____

Required Condition:

Paragraph 370 of PWA 370, "Engineering Source Approval", requires that a process approval record be issued for significant changes. Significant changes include new tooling, sequence of operations, a change in any process which could result in cracking, or location within a plant.

Encountered Condition: Discussed with Facility

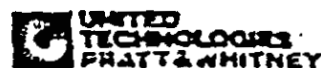
Several process approval records were observed in which tooling was changed and/or operation sequence. These approvals were classified as insignificant.

Attachments: Process approval records for Hub Front, P&W P/N 5000501, Plant: Volvo Flygmotor AB Sweden, 11 pages, various dates for 1986, 1987, 1988.

Signature of Evaluator: <i>[Signature]</i> Dan Kerman	Office Symbol: ANE-141	Date: 8/1/96
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19

PROCESS APPROVAL RECORD



P&W Plant & Dept. No. or Supplier Name & Location VOLVO FLYGMOTOR AB SWEDEN	Part Name HUB FRONT	Part No. 5000501 (303201)
Process Requiring Approval (e.g., Forging, Machining, Casting, Coating) MARKING/TURNING	Engine Model JT8D-200	Material Spec./Process Spec. PWA 1215
Process Identification (including revision)		
<input type="checkbox"/> Original Submittal	<input checked="" type="checkbox"/> Revised Process	<input checked="" type="checkbox"/> Production
<input type="checkbox"/> Experimental		

Description of Process Revision including Operation No. (if applicable):

OP. 20 0-168009 SHEET 3(3) MARKING ADDED

OP. 30 0-168010 MARK CANCELLED AND INCL. TO OP. 20

OP. 50 0-168012 SHEET 4(4) MARKING ADDED

SHEET NO. 3(4) MEASURE $\varnothing 224.332 \pm 0.03$ WAS $\varnothing 224.332 \pm 0.05$ SAME REVISION IS DONE IN ALT. DRAWING 0-167044 SHEET 4(4)

OP. 60 0-168013 MARK CANCELLED AND INCL. TO OP. 50.

Originator (Print and Sign) MANUF. ENGR. ROLF SOHLBERG 706C	Phone 94874	Date 12/10/87
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P&W Comments: (See Note)*

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First submittal	Significant change	<input checked="" type="checkbox"/> Insignificant change
-----------------	--------------------	--

DISTRIBUTION OF DISPOSITIONED FORM:

All Processes:

MCL _____

MER/MET _____

Project Engr. _____

P&W Processes:

Mfg. Engr. Files _____

Resp. Center Q. A. Mgr. _____

Supplier Processes:

Purchasing _____

QA _____

DISPOSITION: (See Note)*

Approved Limited Approval

Conditional Approved Disapproved

Process approval does not relieve the supplier of responsibility for conformance to all drawing and purchase order requirements.

Sohlberg 12/11/87 DATE

APPROVALS

MCL	
MER/MET	
Insp. Methods (P&W processes)	
Proj. Engr. (when requested by MER/MET)	

*Note: To be completed by MER/MET. Comments and recommendations by other approvers shall be supplied separate. MER/MET to be included in the final comments and disposition.

PROCESS APPROVAL RECORD



P&W Part & Dist. No. or Supplier Name & Location VOLVO FLYGMOTOR AB SWEDEN	Part Name HUB FRONT	Part No. 5000501
Process Requiring Approval (e.g., Forging, Machining, Casting, Coating) CLEANING	Engine Model JT80-200	Material Spec./Process Spec. PWA 1215
Process Identification (including revision) OP. SHEET 0-167350		

Original Submittal
 Revised Process
 Production
 Experimental

Description of Process Revision including Operation No. (if applicable):

OP. NO. 250

1. OP. SHEET 0-167621 CANCELLED

2. OP. SHEET 0-167350 ARE GOING TO BE USED WITH FOLLOWING CHANGES:

SHEET NO 1 IS REWRITTEN AND VFA-PART NO 303340 (800115) IS REPLACED BY VFA PART NO.

303201 (5000501) SHEET NO. 2 CANCELLED.

Originator (Print and Sign) MANUF. ENG. ROLF SOHLBERG 706C	<i>Rolf Sohlberg</i>	Phone 94874	Date 12/8/87
--	----------------------	-----------------------	------------------------

P&W Comments: (See Note)*

PRIVATE

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First submittal	Significant change	<input checked="" type="checkbox"/> Insignificant change
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DISTRIBUTION OF DISPOSITIONED FORM:

All Processes:

MCL _____

MER/MET _____

Project Engr. _____

P&W Processes:

Mfg. Engr. Files _____

Resp. Center Q. A. Mgr. _____

Supplier Processes:

Purchasing _____

SQA _____

DISPOSITION: (See Note)*

Approved Limited Approval
 Conditional Approved Disapproved

Process approval does not relieve the supplier of responsibility for conformance to all drawing and purchase order requirements.

SOPR [Signature] 12/11/87

APPROVALS:	DATE
MCL _____	
MER/MET _____	
Insp. Methods (P&W processes) _____	
Proj. Engr. (when requested by MER/MET) _____	

*Note: To be completed by MER/MET. Comments and recommendations by other approvers shall be supplied separately. MER/MET to be included in the final comments and disposition.

PROCESS APPROVAL RECORD



P&W Plant & Dept. No. or Supplier Name & Location VOLVO FLYGMOTOR AB SWEDEN	Part Name HUB FRONT	Part No. 5000501
Process Requiring Approval (e.g., Forging, Machining, Casting, Coating) BROACHING/INSPECT	Engine Model JT8D-200	Material Spec./Process Spec. PWA 1215
Process Identification (including revision)		
<input type="checkbox"/> Original Submittal <input checked="" type="checkbox"/> Revised Process <input checked="" type="checkbox"/> Production <input type="checkbox"/> Experimental		

Description of Process Revision including Operation No. (if applicable):

OP. NO 90 BROACHING 0-167053 INSPECT 0-167054 ARE REPLACED BY 0-168016 WITH FOLLOWING CHANGES.

- 1. TEXTNOTES ARE TRANSLATED TO ENGLISH**
- 2. STEER IN YELLOWMARKED HOLE ADDED.**
- 3. SHEET NO. 4 ADDED**
- 4. OPERATIONDESCRIPTION SHEET NO. 2 ADDED.**

Originator (Print and Sign) MANUF. ENGR. ROLF SOHLBERG 706C	<i>Rolf Sohlberg</i>	Phone 94874	Date 12/8/87
P&W Comments: (See Note)*			

PRIVATE

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First submittal	Significant change	<input checked="" type="checkbox"/> Insignificant change
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DISTRIBUTION OF DISPOSITIONED FORM:

- All Processes:
- MCL _____
 - MER/MET _____
 - Project Engr. _____
- P&W Processes:
- Mfg. Engr. Files _____
 - Resp. Center Q. A. Mgr. _____
- Supplier Processes:
- Purchasing _____
 - SOA _____

DISPOSITION: (See Note)*

- Approved
- Conditional Approved
- Limited Approval
- Disapproved

Process approval does not relieve the supplier of responsibility for conformance to all drawing and purchase order requirements.

APPROVALS:

SOPR _____ *R/S/87* _____
DATE

MCL	
MER/MET	
Insp. Methods (P&W processes)	
Proj. Engr. (when requested by MER/MET)	

*Note: To be completed by MER/MET. Comments and recommendations by other approvers shall be supplied separately. MER/MET to be included in the final comments and disposition.

22

PROCESS APPROVAL RECORD



P&W Plant & Dept. No. or Supplier Name & Location VOLVO FLYGMOTOR AB SWEDEN	Part Name HUB FRONT	Part No. 5000501
Process Requiring Approval (e.g., Forging, Machining, Casting, Coating) MACHINING	Engine Model JT8D-200	Material Spec./Process Spec. PWA 1215
Process Identification (including revision) <input type="checkbox"/> Original Submittal <input checked="" type="checkbox"/> Revised Process <input type="checkbox"/> Production <input type="checkbox"/> Experimental		

Description of Process Revision including Operation No. (if applicable):

WE HAVE INSTALLED NEW SUTTON-BARREL MACH. IN THE DISKSHOP WHICH WE ARE GOING TO USE FOR TUMBLING HUB-FRONT PART NO: 5000501 (MACH N.O. 2108107)

THE OPERATORS, MACH. EQUIPMENT, TOOLS, PARAMETERS ETC. ARE THE SAME AS FOR APPROVAL METHOD IN THE OLD MACHINE.

Originator (Print and Sign) MANUF. ENG. R. SOHLBERG	Phone 94874	Case 9/18/87
P&W Comment: (See Note) <i>Is significant per B. WYSOCKI 9/19/87. SQPR reviewed visually and done visually 1st piece and accepted it.</i>		

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First submittal	Significant change	<input checked="" type="checkbox"/> Insignificant change
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DISTRIBUTION OF DISPOSITIONED FORM:

All Processes:

MCL _____

MER/MET _____

Project Engr. _____

P&W Processes:

Mfg. Engr. Files _____

Resp. Center Q. A. Mgr. _____

Supplier Processes:

Purchasing _____

SOA _____

DISPOSITION: (See Note)

Approved Limited Approval

Conditional Approved Disapproved

Process approval does not relieve the supplier of responsibility for conformance to all drawing and purchase order requirements.

SQPR [Signature] 9/18/87

APPROVALS:

MCL	
MER/MET	
Insp. Methods (P&W processes)	
Proj. Engr. (when requested by MER/MET)	

*Note: To be completed by MER/MET. Comments and recommendations by other approvers shall be supplied separate MER/MET to be included in the final comments and disposition.

24

PROCESS APPROVAL RECORD



P&W Plant & Dept. No. or Supplier Name & Location VOLVO FLYGMOTOR AB SWEDEN	Part Name HUB	Part No. 5000501/303201
Process Requiring Approval (e.g., Forging, Machining, Casting, Coating)	Engine Model JT8D-200	Material Spec./Process Spec.
Process Identification (Including revision)	<input type="checkbox"/> Original Submittal	<input checked="" type="checkbox"/> Revised Process
	<input checked="" type="checkbox"/> Production	<input type="checkbox"/> Experimental

Description of Process Revision including Operation No. (If applicable):

FOLLOWING OPERATIONS AND OP NO ARE CHANGED IN OP SEQ LIST NO 2.

NEW OP SEQ LIST NO 3 FOR HUB PART NO. 5000501 IS ENCLOSED FOR APPROVAL.

MARKINGOP.NO. 30 SHEET 0-168010 CANCELLED INCLUDED IN OP. 20

MARKINGOP.NO. 60 SHEET 0-168013 " INCLUDED IN OP. 50

1. OP. 90 BROACHING SLOTS AND INSP. SLOTS CO-ORDINATED TO ONE OP. 0-168016

OP. 95 INSP. SLOTS CANCELLED.

Originator (Print and Sign) MANUF. ENG. ROLF SOHLBERG 706C	Phone 94874	Date 12/8/87
P&W Comments: (See Note)		

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<input type="checkbox"/> First submittal	<input type="checkbox"/> Significant change	<input checked="" type="checkbox"/> Insignificant change
--	---	--

DISTRIBUTION OF DISPOSITIONED FORM:

All Processes:

MCL _____

MER/MET _____

Project Engr. _____

P&W Processes:

Mfg. Engr. Files _____

Resp. Center Q. A. Mgr. _____

Supplier Processes:

Purchasing _____

SQA _____

DISPOSITION: (See Note)

Approved Limited Approval

Conditional Approved Disapproved

Process approval does not relieve the supplier of responsibility for conformance to all drawing and purchase order requirements.

APPROVALS: *SQPR* *12/8/87* DATE

MCL	
MER/MET	
Insp. Methods (P&W processes)	
Proj. Engr. (when requested by MER/MET)	

*Note: To be completed by MER/MET. Comments and recommendations by other approvers shall be supplied separate MER/MET to be included in the final comments and disposition.

75

PROCESS APPROVAL RECORD



W Plant & Dept. No. or Supplier Name & Location VOLVO FLYGMOTOR AB SWEDEN	Part Name HUB FRONT	Part No. 5000501
Process Requiring Approval (e.g., Forging, Machining, Casing, Coating) ANTIGALL TREATMENT PWA 474	Engine Model JT8D-200	Material Spec./Engine Spec. PWA 1213
Process Identification (including revision) 0-168032	<input type="checkbox"/> Original Submittal	<input checked="" type="checkbox"/> Revised Process
	<input checked="" type="checkbox"/> Production	<input type="checkbox"/> Experimental

Description of Process Revision including Operation No. (if applicable):

WE HAVE INSTALLED A NEW OVEN. IN THE DISKSHOP, WHICH WE WANT TO USE FOR BAKING THE ANTIGALLANT IN OP. NO 250.

WE HAVE BAKED A TEST PANEL PER PWA 474. SEE ENCLOSED LAB. TEST.

THE OVEN HAVE ALSO BEEN TESTED AND APPROVED BY OUR DEP. FOR CALIBRATION SERVICE..

Originator (Print and Sign) MANUF. ENGR. ROLF SOHLBERG 706C	<i>Rolf Sohlberg</i>	Phone 94874	Ext. 020488
P&W Comments: (See Note)*			

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<input type="checkbox"/> First submittal	<input type="checkbox"/> Significant change	<input checked="" type="checkbox"/> Insignificant change
--	---	--

DISTRIBUTION OF DISPOSITIONED FORM:

All Processes:

MCL _____

MER/MET _____

Project Engr. _____

P&W Processes:

Mfg. Engr. Files _____

Resp. Center Q. A. Mgr. _____

Supplier Processes:

Purchasing _____

SQA _____

DISPOSITION: (See Note)*

Approved Limited Approval

Conditional Approved Disapproved

Process approval does not relieve the supplier of responsibility for conformance to all drawing and purchase order requirements.

SQPR [Signature] 2/12/88

APPROVALS: _____ DATE _____

MCL	
MER/MET	
Insp. Methods (P&W processes)	
Proj. Engr. (when requested by MER/MET)	

*Note: To be completed by MER/MET. Comments and recommendations by other approvers shall be supplied separate. MER/MET to be included in the final comments and disposition.

20

PROCESS APPROVAL RECORD



P&W Plant & Dept. No. or Supplier Name & Location VOLVO FLYGMOTOR AB SWEDEN	Part Name HUB FRONT	Part No. 5000501
Process Requiring Approval (e.g., Forging, Machining, Casting, Coating) MACHINING	Engine Model JT80-200	Material Spec./Process Spec. PWA 1215
Process Identification (including revision) 0-168015	<input type="checkbox"/> Original Submittal	<input checked="" type="checkbox"/> Revised Process
		<input checked="" type="checkbox"/> Production <input type="checkbox"/> Experimental

Description of Process Revision including Operation No. (if applicable):

OP. NO 80 PREBORING

OP DESCRIPTION + TOOL LIST: DRILL 12.3 STD, 11.0 STD CANCELLED AND REPLACED BY DRILL V4-1326399:1:2 (SEE ENCLOSED DRAWING).

SPEED, FEED AND COOLANT ARE THE SAME AS APPROVED METHOD.

Originator (Print and Sign) MANUF. ENGR. ROLF SOHLBERG 706C	Phone 94874	Date 2/11/88
P&W Comments: (See Note)*		

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<input type="checkbox"/> First submittal	<input type="checkbox"/> Significant change	<input checked="" type="checkbox"/> Insignificant change
--	---	--

DISTRIBUTION OF DISPOSITIONED FORM:

All Processes:

MCL _____

MER/MET _____

Project Engr. _____

P&W Processes:

Mfg. Engr. Files _____

Resp. Center Q. A. Mgr. _____

Supplier Processes:

Purchasing _____

SCA _____

DISPOSITION: (See Note)*

Approved Limited Approval

Conditional Approved Disapproved

Process approval does not relieve the supplier of responsibility for conformance to all drawing and purchase order requirements.

SOPR _____ **2/12/88**

APPROVALS: _____ DATE _____

MCL	
MER/MET	
Insp. Methods (P&W processes)	
Proj. Engr. (when requested by MER/MET)	

*Note: To be completed by MER/MET. Comments and recommendations by other approvers shall be supplied separate MER/MET to be included in the final comments and disposition.



PROCESS APPROVAL RECORD



P&W Plant & Dept. No. or Supplier Name & Location W2110 FL.YGM. AB. SWEDEN	Part Name HUB-FRONT	Part No. 3000501
Process Requiring Approval (e.g., Forging, Machining, Casting, Coating) MACHINING	Engine Model JTBD-200	Material Spec./Process Spec. PWA-1215

Process Identification (Including revision): **OPSHEET 0-168011**

Original Submittal Revised Process Production Experimental

Description of Process Revision including Operation No. (if applicable): **OP. NO: 40**

SET UP INSTR. 0-168011 1/1

REF. ITEM 395.5 WAS 396

PROGR. INSTR. NO: 5 OFFSET NO: 7 WAS NO: 6 } CAUSE: TYPICAL

— 1 — NO: 4 — 1 — NO: 6 WAS NO: 7 } ERR

Originator (Print and Sign) **MANUF. ENGR. ROLF SCHLBERG RS** **94874** **8/30**

P&W Comments: (See Note)*

PRIVATE

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<input type="checkbox"/> First submittal	<input type="checkbox"/> Significant change	<input checked="" type="checkbox"/> Insignificant change
--	---	--

DISTRIBUTION OF DISPOSITIONED FORM:

All Processes:

MCL _____

MER/MET _____

Project Engr. _____

P&W Processes:

Mfg. Engr. Files _____

Resp. Center O. A. Mgr. _____

Supplier Processes:

Purchasing _____

SOA _____

DISPOSITION: (See Note)*

Approved Limited Approval

Conditional Approved Disapproved

Process approval does not relieve the supplier of responsibility for conformance to all drawing and purchase order requirements.

APPROVALS:

SOA _____ **4/12/88**

MCL _____

MER/MET _____

Insp. Methods (P&W processes) _____

Proj. Engr. (when requested by MER/MET) _____

*Note: To be completed by MER/MET. Comments and recommendations by other approvers shall be supplied separate. MER/MET to be included in the final comments and disposition.

28

PROCESS APPROVAL RECORD



P&W Plant & Mfg. No. or Supplier Name & Location KVLVD 714671 AB. SWEDEN	Part Name HUB-FRONT	Part No. 5000501
Process Requiring Approval (e.g., Forging, Machining, Casting, Coating) MACHINING	Engine Model JTBD-200	Material Spec./Process Spec. PWA-1213

Process Identification (Production Revision)

OP. SHEET 0-168014 Original Submittal Revised Process Production Experimental

Description of Process Revision Including Operation No. (if applicable): **OP. NO. TO SET-UP INSTR 0-168014 // REF. ITEM A297.8 WAS 299.8**

Originator (Print and Sign): **MANUF. ENGR. ROLF SOHLBERG** **R** **94874** **3/30/88**

P&W Comments: (See Note)

PRIVATE

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<input type="checkbox"/> First submittal	<input type="checkbox"/> Significant change	<input checked="" type="checkbox"/> Insignificant change
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DISTRIBUTION OF DISPOSITIONED FORM:

All Processes:

MCL _____

MER/MET _____

Project Eng. _____

P&W Processes:

Mfg. Engr. Files _____

Resp. Center O. A. Mgr. _____

Supplier Processes:

Purchasing _____

SQA _____

DISPOSITION: (See Note)*

Approved Limited Approval

Conditional Approved Disapproved

Process approval does not relieve the supplier of responsibility for conformance to all drawing and purchase order requirements.

APPROVALS:

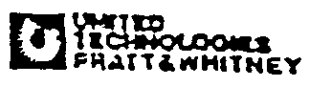
SQA _____ **4/12/88** DATE

MCL	
MER/MET	
Insp. Methods (P&W processes)	
Proj. Engr. (when requested by MER/MET)	

*Note: To be completed by MER/MET. Comments and recommendations by other approvers shall be supplied separate. MER/MET to be included in the final comments and disposition.

19

PROCESS APPROVAL RECORD



P&W Part & Desc. No. or Supplier Name & Location WALID T. YGH. AB. SWEDEN	Part Name HUB-FRONT	Part No. 3000501
Process Requiring Approval (e.g., Forging, Machining, Casting, Coating) MACHINING	Engine Model JTD-200	Material Spec./Process Spec. PLWA-1215

Process Identification (Including Revision): **OP SHEET 0-168015** Original Submittal Revised Process Production Experimental

Description of Process Revision including Operation No. (if applicable): **OP. NO: 60**

SHEET NO: 1 CANCELLED DRILLING TIE BOLT HOLE MOVED INTO SHEET NO: 2. AND ALL SHEET NUMBERS ARE CHANGED NOW VALID OP. DRAWING IS 0-168015 1(2) 2(2) WITH FOLLOWING CHANGES: SHEET NO: 1 PARTLY REDRAWN WITH PREDRILLING ADDED. DIM ON DRILL VL-13,600 CHANGE FROM # 2.94 UNTIL # 2.90 ADJUSTED TOL. FOR HOLE DIA # 2.85 +0.07

Originator (Print and Sign): **MARLIF. ENGR. ROLF SOHLBERG** **ES** **94874** **4/18/88**

P&W Comments: (See Note) * **NO CHANGES IN SPEEDS OR FEEDS OR OTHER PARAMETERS.**

PRIVATE

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<input type="checkbox"/> First submittal	<input type="checkbox"/> Significant change	<input checked="" type="checkbox"/> Insignificant change
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DISTRIBUTION OF DISPOSITIONED FORM:

All Processes:
 MCL _____
 MER/MET _____
 Project Engr. _____

P&W Processes:
 Mfg. Engr. Files _____
 Resp. Center O. A. Mgr. _____

Supplier Processes:
 Purchasing _____
 SQA _____

DISPOSITION: (See Note)*

Approved Limited Approval
 Conditional Approved Disapproved

Process approval does not relieve the supplier of responsibility for conformance to all drawing and purchase order requirements.

SQPR PROJECT 4/12/88

APPROVALS:

MCL	DATE
MER/MET	
Insp. Methods (P&W processes)	
Proj. Engr. (when requested by MER/MET)	

*Note: To be completed by MER/MET. Comments and recommendations by other approvers shall be supplied separate. MER/MET to be included in the final comments and disposition.

PROCESS APPROVAL RECORD



Part Name & Desc. No. of Supplier Name & Location Volvo Flymotor AB, Sweden	Part Name Hub-Front	Part No. 5000427 6000501
Process Reasoning Approval (Mg., Forging, Machining, Coating, Casting) Drill	Engine Model JT80-200	Material Spec./Process Spec. P&W 1215
Process Identification (Producing Process) On sheet 167853	<input type="checkbox"/> Original Submittal	<input checked="" type="checkbox"/> Revised Process
	<input checked="" type="checkbox"/> Production	<input type="checkbox"/> Experimental

Description of Process Revision including Operation No. (if applicable):
We want to have machine 15203:05 for all boring in op 100
All parameters tools, coolant etc are the same as for approved method in 0-167503.

Note: P&W SQPR not available to review of this process sheet.

Originator (Print and Sign) Manuf eng Åke Miller	Phone 948 73	Date 12-09-86
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P&W Comments: (See Note)*

<input type="checkbox"/> First submittal	<input type="checkbox"/> Significant change	<input checked="" type="checkbox"/> Insignificant change
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DISTRIBUTION OF DISPOSITIONED FORM:

- All Processes:**
- MCL _____
 - MER/MET _____
 - Project Engr. _____
- P&W Processes:**
- Mfg. Engr. Files _____
 - Resp. Center O. A. Mgr. _____
- Supplier Processes:**
- Purchasing _____
 - SQA _____

DISPOSITION: (See Note)*

- Approved
- Conditional Approved
- Limited Approval
- Disapproved

Process approval does not relieve the supplier of responsibility for conformance to all drawing and purchase order requirements.

APPROVALS:

NAME	DATE
MCL <i>[Signature]</i>	9/23/86
MER/MET <i>[Signature]</i>	
Sup. Methods (P&W processes)	
Prod. Engr. (when required by MER/MET)	

*Note: To be completed by MER/MET. Comments and recommendations by other approvers shall be supplied separate. MER/MET to be included in the final comments and disposition.

PRIVATE

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30



J.S. Department of Transportation
Federal Aviation Administration

ACSEP Record of Findings / Observations

ACSEP No:
96NE055

Project No:
PE13NE-D

Evaluation Criteria Number:	15M2	Controlling Document:	United Technologies Pratt & Whitney Quality Assurance Manual Rev. 3/14/95, FAA-Approved 4/5/95	Applicable FAR Section:	21.165
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FINDING		OBSERVATION			
<input type="checkbox"/> System	<input type="checkbox"/> Safety	No. _____	<input type="checkbox"/> System	<input checked="" type="checkbox"/> Isolated	<input type="checkbox"/> FAR No. <u> / </u>

Required Condition:

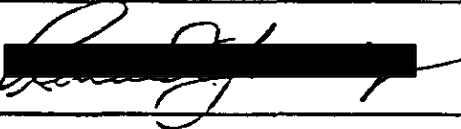
Item 4.5, of Operation Quality Audit Procedure No. 6.0.0AB, "Audits of P&W Product Centers", revised date 8/10/95, requires the Manager, Quality Operations and Audit, or his delegate, to issue Quarterly reports summarizing audit activities. This same requirement is listed as Item 6.4 of Operation Quality Audit Procedure No. 17.1.1, "Audits of Pratt & Whitney Product Centers, Major Departments & Business Units", dated 6/14/96.

Note: Operation Quality Audit Procedure (OQAP) No 17.1.1 was being used by the Operation and Audit Organization, however is was not certain that OQAP No. 6.0.0AB has been officially canceled.

Encountered Condition: Discussed with Facility

The last Quarterly Report was issued on January 29, 1996 for 4th quarter 1995. The Company could provide no objective evidence of the completion of Quarterly Reports for the 1st and 2nd quarters of 1996.

- Attachments:**
1. Operation Quality Audit Procedure No 17.1.1, 5 pages, dated 6/14/96.
 2. Operation Quality Audit Procedure No. 6.0.0AB, 4 pages, dated 8/10/96.
 3. Quarterly Report for 4th Quarter 1995, 4 pages, 1/29/96.

Signature of Evaluator:	Office Symbol	Date
Richard E. Jennings 	AIR-230	8/1/96

31



U.S. Department of Transportation
Federal Aviation Administration

ACSEP Record of Findings / Observations

ACSEP No:
96NE055

Project No:
PE13NE-D

Evaluation Criteria Number: 10Q5	Controlling Document: United Technologies Pratt & Whitney Quality Assurance Manual Rev. 3/14/95, FAA-Approved 4/5/95	Applicable FAR Section: 21.165
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FINDING <input type="checkbox"/> System <input type="checkbox"/> Safety No. _____	OBSERVATION <input type="checkbox"/> System <input checked="" type="checkbox"/> Isolated <input type="checkbox"/> FAR No. <u>2</u>
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Required Condition:

Pratt & Whitney Buyer's Manual of Procurement Policies & Procedures, dated 8/15/95, paragraph 4.1.5 states: "Technical & quality requirements for a part/item are flowed down utilizing the purchase order, engineering drawing, quality assurance data sheet (QAD), and requirement control card (RCC)."

Encountered Condition: Discussed with Facility

Pratt & Whitney's Purchase Order No. P821756-M6L dated 10/5/95 issued to Samsung Aerospace Industries, Korea, does not contain the requirement control card.

- Attachment:**
1. P&W Buyers Manual, page 12, dated 8/15/95.
 2. P&W Purchase Order No. P821756 dated 10/5/95, 2 pages.

Signature of Evaluator: Rita Truax	Office Symbol NE-MISO-42	Date 8/1/96
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FAA Form 8100-6 (12-93)

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32