

SUMMARY SHEET
Airworthiness Directive Implementation Aviation Rulemaking Committee
Service Information Working Group

Primary Report and Recommendation	Draft Revision to ATA Spec 111 to Improve the Lead Airline Process Task 1, Recommendation 2, Bullet 3 Task 2, Recommendation 3, Bullet 1 Task 2, Recommendation 3: Bullet 2 Task 2, Recommendation 3, Bullet 3
Secondary Report and Recommendation	None
Assigned Members	Ed Carter (Boeing) Ron Pekny (American Airlines) Gil DaCosta (FAA – AEG) Joe Nolan (Alaska Airlines) Joe White (Air Transport Association) Jim Ursitti (US Airways) Paul Comeau (Southwest Airlines)
Links to Other Working Groups	AD Implementation Working Group

WORKING GROUP REVIEW OF ISSUE/PROBLEM

Under Part 39 of the Federal Aviation Regulations ([14 CFR 39](#)), the FAA issues Airworthiness Directives (ADs) to mandate action by airplane owners/operators to correct "unsafe conditions". Experience has shown that the most effective and efficient means of identifying and responding to potential safety-related problems, and determining and resolving unsafe conditions, requires aggressive fact finding and coordination among and between equipment manufacturers, airplane operators and the government airworthiness authority. Note that foreign Equipment Manufacturers and/or Design Approval Holders will use their respective processes as appropriate.

Air Transport Association of America, Inc. (ATA) has published Specification 111 “*Airworthiness Concern Coordination Process*” (ACCP) to provide a method to coordinate the resolution of unsafe conditions. The ACCP is a cooperative process that allows the commercial aviation industry to capitalize on the expertise of equipment manufacturers, airline operators and the Federal Aviation Administration (FAA) to address an unsafe condition with optimum effectiveness, timeliness and efficiency. The purpose of the process is to produce the most effective resolution by enhancing communications between the principle parties that could be affected.

Currently, Specification 111 states that an ACCP starts with the identification of a “potential airworthiness concern” and the gathering of related data and information. Subsequently, when the concern is determined to be a “safety-related problem” that the FAA decides to resolve by AD, FAA comes under ex parte constraints and the “Lead Airline Process”, a subcomponent of the ACCP, begins and runs in parallel (ie, The OEM and carriers collaborate to develop corrective service instructions). At any time during an ACCP, culminating with the release of a NPRM or urgent AD, the FAA may request data or information, including requests from those participating in Lead Airline subcomponent. This summary sheet refers to this organization and

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terminology. As an additional issue of terminology, this summary sheet refers to OEMs rather than DAHs. Although Specification 111 processes can and have been performed in coordination with other DAHs (eg, PAHs, STC holders), those efforts are best addressed with ad-hoc arrangements. The vast majority of AD initiatives involve only airplane or engine OEMs.

A primary objective of the process is to develop, to the greatest extent possible, original equipment manufacturer (OEM) service bulletins (SBs) and/or other approved service instructions that will be incorporated by reference to accomplish the technical, maintenance, logistic and other requirements of Airworthiness Directives (ADs), and the needs of operators in implementing those requirements. The involvement of principal parties early in the development of service instructions is crucial in meeting this objective. Ideally, the process facilitates FAA development of an AD through straightforward incorporation by reference of service instructions. If effectively coordinated, the process will yield the following benefits, which are considered specific objectives and measurements of the success of the process:

- Foster mutual understanding and awareness of safety issues, risks and margins.
- Foster appropriate compliance through clear and concise technical data.
- Minimize differences between the coordinated and the final service instructions required to address the unsafe condition.
- Minimize differences between the manufacturer's service instructions and instructions in the AD.
- Minimize occurrences of corrections to ADs, including corrective revisions and supercedures of ADs.
- Minimize the need for Alternate Methods of Compliance (AMOCs), and AD extensions and exemptions.

However, ATA Specification 111 has not been updated since 2000 and does not reflect today's OEM and air carrier internal processes. The Working Group was assigned to:

- Review and update ATA Specification 111 to address issues identified in the ADCRT Task 1 and Task 2 reports.
- Develop metrics and a process to periodically review the Lead Airline process to ensure continued effectiveness of the process
- Coordinate the update of ATA Specification 111 with OEMs and all affected parties.

REGULATIONS AND GUIDANCE IDENTIFIED FOR REVIEW

Air Transport Association (ATA) Specification 111

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WORKING GROUP PROPOSAL TO ADDRESS THE RECOMMENDATION(S)/FINDING(S)

The proposal includes drafting a revision to ATA Specification 111. The draft revision will include:

- Guidance on the coordination of airworthiness concerns and potential unsafe issues between OEMs, air carriers and the regulatory authority. The specification has been revised to provide more specific guidance on the coordination of airworthiness concerns. Reference ATA Specification 111.
- See ATA Spec 111, section 2-2-1, Step 3 where the following was added:

Once an airworthiness concern has been identified or brought to the attention of the air carrier, the OEM or the FAA as a potential safety-related problem that may become an unsafe condition, the OEM should notify the designated Lead Airline and together they should determine whether ATA participation is required. Participation of the ATA is recommended when the issue involves multiple fleets or may cause significant operational and/or economic impact to operators. When an airworthiness concern affects multiple fleets, it is recommended that all affected lead airlines be contacted to determine if multiple lead airline calls are warranted. The Lead Airline also should determine whether a repair station, component manufacturers, or STC holder is relevant to an emerging issue, and should participate in the process.

It is a responsibility of the Lead Airline and expected of any other party involved in a lead airline process (eg, OEM, FAA) to notify ATA as soon as an airworthiness concern portends urgent rulemaking (ie, an immediately adopted rule or emergency AD), or if the evolving issue resolution may be contentious or appears flawed. The objective is to ensure that the process contributes to the development of service instructions, particularly in urgent situations.

The OEM shall initiate the Airworthiness Concern Coordination Process by issuing correspondence to the Lead Airline and any other airlines deemed appropriate. The invitation of airlines other than the Lead Airline is at the sole discretion of the Lead Airline. The correspondence generally should include the logistics (date, time, and instructions) of the proposed meeting; typically a telephone call which may be augmented by an on-line meeting.

a. The correspondence should include the following information:

- 1) Background*
- 2) Issue*
- 3) Applicable model airplane/system*
- 4) Existing manufacturer service information (Service Letter, SB, etc.)*

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- 5) *Anticipated action, if available*
- 6) *Anticipated schedule/milestones*
- 7) *Cognizant OEM points of contact, telephone and e-mail addresses*
- 8) *Fact finding needs*
- 9) *Action requested by OEM/FAA*
- 10) *FAA's position(if known)*
- 11) *Other related information*

Appendix A provides a standard form that may be used by individuals who are tasked with providing the initial notification of a safety-related problem to the FAA, ATA or the Lead Airline. The information listed above is addressed in the form; however, other information specified in the form may not be available at the time of initial notification. This information should be provided when it becomes available.

- See ATA Spec 111, section 2-2-2, Step 4 where the following was added/revised:
 - *The manufacturer should review the relevant facts to determine if a safety-related problem actually exists and advise the Lead Airline and the FAA. If it was determined that the ATA should be involved, the equipment manufacturer will also advise the ATA. If the assessment indicates that there is no safety implication and the FAA concurs, the Airworthiness Concern Coordination Process is concluded. Otherwise, the process continues as follows.*
- See ATA Specification 111, Section 2-2-4, Step 5, which has been revised to read:
 - *Determine Recommended Action Plan. The equipment manufacturer should work with the Lead Airline and other affected airlines, if applicable, to formulate potential solutions and develop an action plan to implement the solution to resolve the safety-related problem. The equipment manufacturer should keep the Lead Airline and other affected parties advised. A preferred method for the equipment manufacturer to keep all parties informed is through publishing data on the web or through other existing communications systems.*
 - *The equipment manufacturer will collect the operator consensus recommendation and individual operator comments. Note that this activity should not be confused with the coordination or the collection of comments in response to a Notice of Proposed Rulemaking (NPRM).*
 - *The recommended action plan may include the availability of service instructions, equipment applicability, inspection thresholds and intervals, hardware modifications, maintenance changes or new part introduction, etc. For purposes of drafting service instructions that will be incorporated by reference in*

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airworthiness directives, the equipment manufacturer shall determine the maximum possible compliance time that will ensure adequate margins of safety with minimum risk to the affected fleet.

- *Advise FAA of Recommended Action Plan. The equipment manufacturer should advise the FAA of the recommended action plan. The FAA may comment on the suitability of the plan, and any feedback should be addressed in the plan. Although the OEM and the FAA also may discuss safety issues and potential safety issues as part of the ACCP and outside of the Lead Airline Process, the OEM should notify the Lead Airline and initiate the Lead Airline process at the first stage of service instruction development in support of the FAA’s intention to resolve the issue by adopting an AD.*
- *Develop Recommended Solution. The equipment manufacturer should coordinate with the Lead Airline, and other airlines as required, the development of the accomplishment portion of the service instructions for the appropriate elements of the recommended action plan. A draft of the accomplishment instructions should be forwarded to the Lead Airline and other affected airlines as required, for review and comment unless mutually agreed otherwise. Equipment manufacturers should also forward any draft supporting documentation (i.e. Airworthiness Limitations or Instructions for Continued Airworthiness) for Lead Airline review.*
- *Evaluate Solution/Prototype. If a service bulletin kit or special inspection is involved, the equipment manufacturer should validate or prototype the respective hardware and instructions, as appropriate, prior to their release. Consideration should be given to inviting the responsible ACO/ECO engineer and/or AEG personnel to witness the SB validation. In certain cases, particularly “high risk” corrective actions, the development of effective service instructions will require, in addition to the manufacturer's validation process, that the Lead Airline or an arranged alternate airline prototype the instructions.*
- *A discussion of the advantages and objectives of prototyping is provided in [Appendix G](#). Depending on several factors, such as configuration and availability of equipment and personnel, the Lead Airline should perform prototype installation actions as required to verify the feasibility of implementing the service instructions. In its decision to prototype and the extent of any prototyping, the Lead Airline should take into consideration whether the service instructions are complex; of inordinate potential impact; workmanship intensive, vulnerable to de-modification, or otherwise “high risk”; or cover an issue that has eluded resolution despite having been addressed in earlier service instructions or ADs. In some cases, the Lead Airline may determine that a desk review of the service instructions is appropriate.*
- *The Lead Airline may request any operator to perform the prototype installation. The equipment manufacturer will generally have specialists on site to document any findings. If OEM personnel do not participate in the prototype, the airline*

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performing the prototype will forward resultant comments and recommendations to the equipment manufacturer.

- *Finalize/Submit Corrective Action Documentation. The manufacturer will release the final documentation (e.g., service bulletin) after reviewing and incorporating appropriate comments. The equipment manufacturer will advise other operators of any significant changes in the final documentation that have been identified as a result of the prototyping or overall lead airline review.*
- See ATA Specification 111, Appendix E (Manufacturer Responsibilities) which has been revised to read:
 - *The Manufacturer should communicate any information available to the FAA when they receive an initial report of a potential airworthiness concern.*
 - *The Manufacturer will conduct a preliminary assessment of the airworthiness concern to determine if it is a potential safety related problem. This may include discussions with the appropriate Lead Airline to determine fleet experience, etc.*
 - *If the reported concern is determined to be a potential safety related problem the Manufacturer should communicate the concern to the FAA, ATA (if deemed appropriate) and the Lead Airline. If issues affect multiple fleets, the Manufacturer will assist in the determination of the appropriate Lead Airline.*
 - *Once the Airworthiness Concern Coordination Process has been initiated, the manufacturer shall inform all other affected parties. This may be accomplished through publishing data on the web or through other existing communications systems.*
 - *The Manufacturer, in consultation with the Lead Airline, is responsible for the determination of an action plan, development of the recommended solution, working with an airline to prototype the service instructions, as necessary, and finalizing the corrective action. The Manufacturer should consult with the Lead Airline to determine whether a suitable candidate airplane is available for installation of a prototype, and to assure that the Manufacturer's documentation is adequate to support required airline action.*
 - *The Manufacturer should assure that a complete assessment has been made of parts requirements, spares availability, and procurement lead times, and assure that the recommended compliance times are consistent with with safety management system principles, parts availability and, if feasible, with maintenance phase check programs (See Step 5.a. in paragraph 2-2-3.).*
 - *The Manufacturer should assure that the manufacturer's documentation is adequate to support required airline action and, if an AD is appropriate, that the documentation is in a form that, whenever possible, facilitates incorporation by reference by FAA.*

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- *The manufacturer should provide a draft copy of any service information to the Lead Airline for review. This should include the actual draft SB, including general notes, critical step designations and any other related documentation considered Instructions for Continued Airworthiness such as, but not limited to, AWL, AMM, SRM, IPC, etc.*
- *The Manufacturer should conduct follow up coordination with the FAA to confirm the FAA position on possible regulatory action to mandate the recommended solution.*
- See ATA Specification 111, Appendix F (Service Information) which has been revised to read:

Ideally, an AD will not require different actions than those required by the manufacturer's service information. The following are typical factors that can cause differences between the AD and the service information:

- *If the statement, "contact the manufacturer" is used for required actions, it causes the FAA to include in the AD a provision that directs the operator to the FAA for approval of procedures, thus deviating from the service information.*
- *The service information should contain general notes allowing for the use of operator equivalent processes and procedures. This allowance is generally given by stating "refer to" a given procedure. Note that procedures that shall be performed "in accordance with" a given reference must not be deviated from without approval.*
- *The compliance time should be stated using appropriate terminology and allowing for a grace period, (e.g., "Prior to the accumulation of XX total landings, or within XX hours, whichever occurs later") to allow the operators maximum flexibility in planning.*
- *Service information should not contain a compliance period that references the "next convenient maintenance visit." This terminology can not be used in an AD and, therefore, could cause a difference between the AD and the service information.*
- *Similarly, compliance times that specify a calendar date can not be used in an AD unless engineering analysis establishes a direct relationship between the date and either the compliance threshold or the grace period. Therefore, it is not advisable to use calendar dates in the compliance time of service information addressing an unsafe condition.*
- *If a terminating action exists but is not included in the service instructions it may be required by the AD. This could create a difference between the AD and the service instructions. Therefore, any known terminating actions should be included in the service instructions.*

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- *To avoid confusion and possible misinterpretation, consistent terminology for corrective actions should be sought. For example, ensure that the action (e.g., "detailed visual inspection") has the same meaning among the manufacturer, operators and the FAA and is used consistently throughout the service instructions.*
- *To avoid requiring airlines to process individual requests for Alternative Methods of Compliances, a revision to FAA-approved service instructions that provides accomplishment instructions for an AD should be processed as an Alternative Method of Compliance and include a statement that the revision constitutes an Alternative Method of Compliance to that AD.*
- *Service instructions should be written and traceable to avoid situations where previous AD compliance requirements are inadvertently undone or modified through normal air carrier routine maintenance practices.*
- *Service instructions should not specify re-inspection of its modifications "when in the area". If re-inspection is required, the instructions should detail more specific criteria for the inspection (e.g., 'If the seal to the tank is broken when installing a component in that compartment, then re-inspect the ...'.*
- *Illustrations should clearly show the area where the work is to be performed and may also use various methods to differentiate between data provided for reference and data provided to perform the work.*
- *Figures containing specific dimensions shall always include a tolerance in the figure or in the general notes.*
- *The service information should contain adequate general notes to allow flexibility (alternate parts/hardware, sequencing of steps, alternate tooling, and the ability to install either new parts or reinstall parts that were previously removed, etc.).*

If the service information is considered to be complex (i.e. multiple compliance times, configurations, conditions, and alternative corrective actions) a logic diagram or flowchart should be considered as an appendix.

- Guidance for collecting data related to the effectiveness of the coordination process. A new appendix, Metrics, has been added to Spec 111. The following are the proposed new metrics to measure the effectiveness of the coordination process:
 - The number of times an Airworthiness Directive (AD) is revised
 - The number of Notice for Proposed Rulemaking (NPRM) comments received for a particular AD

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- The number of global Alternate Methods of Compliances (AMOC) issued for an AD.

Reference ATA Specification 111, Appendix H

- Guidance related to revising the specification document. A new appendix, Metrics, has been added to Spec 111. Appendix H states, “The ATA will poll the OEMs and ACOs/ECOs annually to gather the needed data for the metrics. Results will be tabulated by the ATA and measured against established standards. When results show deficiency within the ACCP, the ATA will review the program for potential enhancements.
- New section on communications during compliance crisis situations. The section will address crisis communications among ATA and carriers and the interface of that communication system and those of the FAA and OEM, which are addressed in the Compliance Crisis Communications Summary Sheet (T-2, R-10). The intent is to conduct a Lead Airline Process for significant, newsworthy compliance concerns that stays ahead of media reports, and advocates and uses sound engineering and coordination in times of heightened public sensitivity.
- A revised statement in Specification 111 of compliance periods that, risk analysis permitting, would capture the majority of intermediate and scheduled heavy maintenance visits of US operators.

ALTERNATIVES CONSIDERED

No alternatives were considered. The actions defined in the recommendation were very clear that the goal was to revise the specification to incorporate current business processes, measure the effectiveness of the process, and to consider including an AD compliance section into the specification. These defined tasks were relatively straightforward.

IMPLEMENTATION PLAN

Implementation includes creating and publishing a revision to ATA Specification 111. It will be up to each OEM, air carrier, and regulatory authority to determine which portions of the specification, if any, they will choose to implement and how the tasks recommended in the specification will be accomplished.

The ATA will make the specification available to aviation organizations normally not involved with ATA Lead Airline Process evolutions so that they may arrange similar process specifications, as necessary.

The OEMs, air carriers, and regulatory authorities should also provide training to organizations and individuals that implement the process. ATA Specification 111 is expected to be revised by June 2011, however, the actual process of revising and releasing Spec 111 is outside the purview of the Service Information Working Group. The working groups will provide its draft revision to

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ATA. ATA and the ATA Airworthiness Committee will review publish the revised specification by the June date.

ASSUMPTIONS/CONSTRAINTS

None

ISSUES FOR WORKING GROUP CONSIDERATION

Implementation of the recommendations contained in the updated specification may impact AD Development, AD Implementation, and FAA Organization/Procedures Working Groups. The Working Groups will be given an opportunity to review the revision to the specification and their comments will be considered and implemented when appropriate.

ISSUES FOR ARC CONSIDERATION

None

FINDING No. 1 – TAKEN FROM TASK 1 REPORT, FINDING No. 2

In the current method of writing SBs, the accomplishment instructions of an SB do not distinguish between instructions that satisfy the safety intent of the AD and instructions that merely serve to complete the overall work package. This contributed to unnecessary questions of compliance and requests for AMOCs.

AD 2006–15–15 (a class 2 AD specifies wire bundle routing and modifications that were very prescriptive subsets of SWPM practices. As a result, it is possible that in subsequent maintenance, an air carrier or repair station maintenance technician could demodify some or all of the installation and render it noncompliant with the AD through the use of the standard practices defined in the SWPM, if he or she were unaware the wiring was an AD-required installation.

The Lead Airline Process contributed to the development of both SB revisions proposed in the rulemaking process culminating with AD 2006–15–15. However, the level of specificity of SB instructions addressed in that process did not in all cases match the level of detail that arose during the audit. In addition, not all of the differences in the configurations of the applicable airplanes were addressed during the Lead Airline Process. Consequently, the SB instructions did not prevent questions of compliance or installations that were noncompliant.

Several air carriers implemented the SB before the AD was issued in some airplanes. At least one air carrier interviewed did not recognize the importance of the prescriptive criteria in the AD and did not revisit and reevaluate their earlier work for compliance with the prescriptive requirements in the AD.

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FINDING NO. 2 – TAKEN FROM TASK 2 REPORT, FINDING NO. 3

The Team found the Lead Airline Process supports industry collaboration objectives, but may need to be updated to reflect today's OEM and air carrier supporting internal processes. As the aviation industry business environment has changed, the impact thresholds for activating full network coordination and full-scale prototyping have increased.

RECOMMENDATION NO. 1.

- A goal of the Lead Airline Process should be to contribute to clear and accurate service instructions that avoid prescriptive processes where standard practices are available and applicable. Ideally these instructions contribute to effective implementation by a technician. The process should lend particular attention to developing service instructions involving previous overlapping ADs or a series of ADs or SBs on (1) the same component, (2) wiring and other actions dependent on workmanship, and (3) class 220 type actions that are easily reversible in future maintenance. In these cases, prototyping of proposed service instructions on in-service airplanes is particularly important, and OEM participation should be considered. The process should—
 - Identify differences in airplane configurations relevant to the proposed service instructions.
 - Ensure lead airlines are selected according to qualifications, capability, and commitment to the process.
 - Predispose service instructions to support AD compliance planning objectives cited in the two bullet points directly below.
- The ATA should periodically review the Lead Airline Process to ensure the continuing effectiveness of the process.
- The ATA should coordinate the update to ATA Specification 111 with the OEM. This will help to streamline and better integrate the Lead Airline Process with OEM fleet support processes.

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APPENDIXES

None