



Flightdocs and Advisory Circular AC 120-78A

- 1. Overview:** Released on June 22, 2016, Advisory Circular (AC) 120-78A, cancels and replaces AC 120-78. This advisory circular provides standards and guidelines for the use of Electronic Signatures, Electronic Record Keeping and Electronic Manuals. This document provides an overview and details on how Flightdocs meets the standards and guidelines of the AC, as well as information that can be used by the operator to receive approval to use Electronic Signatures and Electronic Record Keeping in their operation.

This document does not contain procedures, processes or information for any one operator on how Electronic Record Keeping and eSignatures will be used in their operation. Note: This document is not a replacement for the Advisory Circular, and it is the responsibility of the operator to review and understand the FAA Advisory Circular prior to submitting application for approval or implementing these systems in their operation. Note: This document does not contain a response for every section of the advisory circular, as it only addresses the applicable functions within the Flightdocs system for Electronic Signatures and Electronic Record Keeping. It does not address Electronic Manuals, and most of the paragraphs pertaining to the operator's procedures, processes, manuals, certificate, etc.
- 2. Approval:** The approval for the use of the aforementioned systems comes from the FAA and is given to the aircraft operator. The system used for eSignatures and Electronic Record keeping does not receive approval, but must meet the requirements of the AC in order for the operator to receive approval. Flightdocs meets the standards and guidelines set forth in AC 120-78A.

 - a. As referenced in Paragraph 1-8e, *"There is No Requirement for Formal Approval, Acceptance, or Authorization for Part 61,63,65,91 (Excluding 91K), 137, or 183."*
 - b. For all other operators (91K,121,125,133,135,141,142,145,147) approval is required, and operators should reference AC 120-78A for details on the approval process and requirements.
- 3. eSignatures:** Paragraph 2-1 notes the standards for Electronic Signatures. Flightdocs meets or exceeds the standards for Electronic Signatures. The following points relate to the formats and criteria of the Flightdocs Electronic Signature (Fd eSignature):

In response to 2-1-b:

- A signature is associated with a unique username, assigned to an individual user. The username is typically an email address. Usernames cannot be shared, or distributed amongst multiple users.
- To enter the Flightdocs platform to access records, the user must have a valid username and password. In order to apply an Electronic Signature to a record, the user must be logged into the system with their username and password, and will need to select their name, and enter in a secondary personal identification number (PIN).



- The eSignature is in the form of a digital signature that the user can create using the Flightdocs iPad application, or can select a font in which to associated with their user as their eSignature. The passwords and PINs utilized to apply the electronic signature are hashed, meaning there is no way to decrypt and recreate or apply a false electronic signature.

In response to 2-1-c:

- The Flightdocs eSignature meets the requirements for an acceptable electronic signature as stated in this document, Paragraph 3.
- The signature is unique to the signatory, as a signature is related to a unique username, assigned to an individual user, with a unique password and PIN combination.
- Through the username, user ID, and data stored with a particular record, there are means to identify and authenticate a particular person as the signer.
- Through the process of setting up the electronic signature, the user creates or adopts a signature unique to their user. The user must actively use a “Sign” function to prompt the user for their username and PIN, in order to apply their signature to the record and data being signed.
- Once applied, the electronic signature will be permanently associated with the record that is being signed.
- The signature applied is unalterable, and is permanently affixed to the data and record.
- Users do not have the ability to alter the record, preserving the integrity of the signed document. In the event of an error, the user has the ability to correct the record, but this action will create a new “Version” of the document, leaving the original unaltered, giving the operator a full history and audit trail of any changes made to the record.
- With the combination of the adoption / creation of the electronic signature, username, password, and PIN, the signatory is not able to deny affixing the signature to a record.

In response to 2-1-d:

- Flightdocs uses hashing processes for both passwords and PINs, a more secure measure than encryption, meaning the user’s information cannot be decrypted.
- Once applied, the signature is permanently applied to the data and to the document (in a non-editable PDF).

In response to 2-2 (a-f):

- A signature is related to a unique username, assigned to an individual user. The username is typically an email address. Usernames cannot be shared, or distributed amongst multiple users.
- To enter the Flightdocs platform to access records, the user must have a valid username and password. In order to apply an Electronic Signature to a record, the user must be logged into the system with their username and password, and will need to select their name, and enter in a secondary personal identification number (PIN).



- Once applied, the user is notified in a “pop-up” notification that they have applied their signature to the record.
- In order to apply a signature to a record, users have to actively go to an eSignatures section of the form, select their username, click a button to sign, which prompts them to enter their PIN, apply and save. With the steps to apply an eSignature, it is not possible to un-intentionally sign a record.
- The signature is permanently associated to the record once applied. Prior to applying the signature, users have a clear view of the data and record that the signature is being applied to through the Flightdocs user interface.
- Users can easily navigate and search for records throughout the Flightdocs system, and view records that have signatures applied to them.
- With the combination of the adoption / creation of the electronic signature, username, password, and PIN, the signatory is not able to deny affixing the signature to a record.
- Access to records is restricted through username and password. Passwords are hashed (cannot be decrypted) and must meet Flightdocs standards (minimum of 8 characters, caps, lowercase, number and special character). The data and records stored in Flightdocs utilize AES 256 level encryption. Flightdocs employs the latest in intrusion protection and anti-virus software to prevent outside cyber attacks.
- The Flightdocs platform utilizes a “Versions” feature, essentially creating a snapshot of the data at the time of signature, while also keeping a permanent record of that document with the electronic signature affixed. An individual version of a document cannot be edited, modified or permanently deleted. In real world scenarios, an affective system must give the ability to error correct a record. The Flightdocs platform allows for an “Error Correction” function, allowing users to error correct a record. When doing so, a new eSignature must be re-affixed to the record. Once signed, the system captures a new version of data and the permanent record. A single compliance event can have unlimited versions of the record.
- Each “Version” has a unique identifier, allowing for full traceability to a particular record.
- All records are backed up multiple times. Flightdocs employs hourly incremental backups of records, as well as daily full backups of records. The full backup of records is done at multiple Tier 3, SSAE16 certified data centers, and is geo-replicated across these servers.

4. Electronic Records – The Flightdocs platform provides electronic records for maintenance events that provide better data integrity, accuracy and accessibility to what would otherwise be provided by a paper record.

In response to 3-2:

- The Flightdocs platform allows users to update and track compliance for individual

maintenance records. (ex. 100 HR inspection, component removal and installation, Airworthiness Directive, Service Bulletin, Discrepancy, MEL, NEF, or CDL). Electronic signatures can be used in updating any of the items described.

- The Flightdocs platform also allows users to group records completed onto an electronic logbook entry for a particular maintenance event, and apply electronic signatures to the electronic logbook entry.
- These records contain the information required as stated in applicable FARs, including the applicable aircraft and equipment, a description of the work being carried out, when the task was completed, total time and cycles, components removed, who carried out the task, etc.

In response to 3-3:

- Access to records is restricted through username and password. Passwords are hashed (cannot be decrypted) and must meet Flightdocs standards (minimum of 8 characters, caps, lowercase, number and special character). The data and records stored in Flightdocs utilize AES 256 level encryption. Flightdocs employs the latest in intrusion protection and anti-virus software to prevent outside cyber attacks.
- A record is kept of every transaction made to the system. As shown in the section concerning eSignatures, the system provides acceptable methods of tracking changes to the records in the system, and provides a complete audit trail for all updates made to records.
- Operators can make records available to the FAA and NTSB personnel as needed in an electronic or paper format (Temporary access, PDF, Excel).
- Users have the ability to routinely monitor the accuracy and effectiveness of the Flightdocs platform. All updated information is clearly visible and accessible to users with access to the platform.
- All records are backed up multiple times. Flightdocs employs hourly incremental backups of records, as well as daily full backups of records. The full backup of records is done at multiple Tier 3, SSAE16 certified data centers, and is geo-replicated across these multiple servers and locations. Users also have the ability to export data via Excel and PDF as needed.
- Access to records for a new operator can easily be established and transferred via the Flightdocs platform, electronic records (PDF, Excel) or exported and printed to paper hardcopy.
- Access to the Flightdocs system is easily restricted. Access can be granted via username and password, and can easily be de-activated. User permissions are very granular, allowing for restricted access to particular functions or modules within the system.
- Electronic Signatures are incorporated within the Flightdocs platform and meet the requirements of this advisory circular as well as the requirements set for by 14 CFR for the data required in each record.
- Flightdocs provides web and on-site training for use of the system. Recurring training is



available to users free of charge.

- In the event the operator wanted to move to another electronic record keeping system, they have the ability to export all records and provide them to the new electronic record keeping system provider.

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