

Chapter 16 – *Electronic Product and Part Regulatory Documentation*

Revision 2019.1



ATA e-BUSINESS PROGRAM

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Highlights

Release History

Revision 2019.1 – Issued Mar 2019 – Updated document to align with latest regulations.

Revision 2009.1 – Initial Issue



Changes Incorporated

Revision 2019.1

CR #	Description
CR-2018-106_Ch16Updates	- Updated to support FAA Order 8130.21H and corresponding EASA, CASA and Transport Canada releases - Removed block 9, renumbered blocks 10 - 12 to become 9 - 11 - Blocks 13M, 14M, 16M, 17M, 18M within ManufacturedParts block became NewParts blocks 12N, 13a, 13c, 13d, 13e - Blocks 13R, 19R, 21R, 22R, 23R within ReworkedParts block became ReworkedParts blocks 12R, 14a, 14c, 14d, 14e - Blocks 16C, 17C, 13C, 14C within ConformanceAndTransferParts block became blocks 13d, 13e, 12c, 13aC - PSC enumeration updated to match latest regulations (but kept old enumerations present to support electronic transfer of old forms) - Moved LOT from block 10 to new block 12
Inherited from prior CSDD changes	- Increase length of PNR to 32 characters - Increase length of SER to 30 characters

How to Implement

Implementation of SPEC2000 is most feasible by chapter or, in some cases, by parts of a chapter. Since the majority of the chapters describe information exchange formats between companies, you should work with your trading partners on what parts of the specification to implement.

Implementation of many chapters is facilitated by the use of software provided by third parties, or often as a part of internal ERP or Maintenance Planning or Material Management software. Often times the majority of the information being exchanged already exists within a company's systems, and the main part of implementation involves mapping the data to formats described in the chapters.

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ATA e-Business Program
1275 Pennsylvania Avenue NW, Suite 1300
Washington, D.C. 20004-1707
Telephone (202) 626-4039
E-Mail: admin@ataebiz.org
Web: www.ataebiz.org

Chapter 16. Electronic Product and Part Regulatory Documentation

16-1. Overview

1. Purpose

This chapter provides a standardized set of data formats and implementation guidelines for the electronic exchange of regulatory documentation for aircraft products and parts.

2. General Description

Electronic documentation is the use of computer files to replace paper documents. To enable diverse databases and applications to correctly interpret the information, it's necessary that the data in these files be provided in a standard electronic format. This means that there is a single set of semantics for the data being exchanged, a single structure for the organization of the data, and a standard syntax for representing the data in digital form.

The initial scope of this chapter covers the Electronic Part Certification Form, and will be expanded over time to include specifications for the electronic exchange of other types of aircraft product and part regulatory documentation.

3. Benefits

The use of electronic formats and processes for the exchange of aircraft product and part regulatory documentation offers several distinct advantages over paper:

- Through the use of standard data semantics and structures, a higher degree of data reliability and consistency can be achieved.
- Through adoption of common, widely available digital security technologies, it's considerably more difficult to forge or alter data without it being detected and data can more easily be traced directly to the source.
- The frequency of lost, damaged, and unreadable documents can be significantly reduced.
- Through automated processes for generation, transmission, and processing of data, costly human errors can be greatly reduced.
- The cost and difficulty to store, retrieve, and analyze information can be substantially reduced.

4. Regulatory Impact

Much of the content in aircraft product and part documentation, as well as many of the processes for generating and exchanging the information, are governed by the regulatory authorities. In most cases, the regulatory guidance assumes that the information will be conveyed using paper forms. This specification is not intended to replace nor circumvent such guidance, but instead describe how the underlying intent and objectives can be met using electronic data formats and processes.

There are several regulatory guidelines for the use of electronic data in the aviation industry that have been issued by the Federal Aviation Administration and other civil aviation authorities. These include:

- **AC 120-78** - Acceptance And Use Of Electronic Signatures, Electronic Recordkeeping Systems, And Electronic Manuals

- **FAA Order 8000.79** - Use Of Electronic Technology And Storage Of Data
- **FAA-IR-02-05** - Aircraft Certification Guide for the Use of Electronic Technology and Alternative Methods of Storing Information
- **CAR 605.93** - Technical Records - General
- **CAR 103.04** - Record keeping
- **CAR 573.15** - Technical Records
- **CARS Standard 625.93** - Technical Records - General

5. XML Implementation

This specification employs the use of the eXtensible Markup Language (XML) as the standard format for exchange of electronic aircraft product and part documentation.

XML is the predominant technology for data interchange. XML has superior features to enable consistency in how information is described, a critical requirement for interoperability and system integration. As a result, XML is supported by many of the leading software applications, tools, and vendors.

The primary XML component of this specification is a set of XML Schemas. A schema is a template for the content and structure of an XML document. It describes the data elements that are used in a particular type of XML document (e.g., part certification form), as well as their data types, whether they're mandatory or optional, number of occurrences, and much more. By using a schema, a system can validate an XML file it receives to determine if it is compliant with the specification; and if so, it can correctly interpret the contents of each data element. This capability makes it possible to completely automate processing of the data.

6. Digital Security

As described above, an electronic data environment offers opportunities to enhance the integrity, reliability and consistency of aircraft product and part documentation. However, without proper protection, the electronic environment can open up even more vulnerabilities for improper data handling (either intentional or unintentional) than a paper-based process.

Fortunately, there are common, widely available digital security technologies and tools that can reduce this risk and often enable even a higher degree of trust in the quality and integrity of the data than in the paper world.

The main objectives for digital security in this specification are:

- 1. Authentication:** Provide a high level of assurance that the persons signing the data are who they purport to be.
- 2. Data Integrity:** Provide a high level of assurance that the data has not been altered or corrupted once it's been signed.
- 3. Non-Repudiation:** Provide traceability of data back to its source.

Note:	In some cases, with particularly sensitive data, Data Privacy may also be an objective. This would provide a high level of assurance that only the intended recipient of the data would be able to read it. However, this feature is not considered necessary for the document types described in this chapter (and consequently is not an objective of this chapter).
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To achieve the above objectives, this specification employs a set of open, internationally accepted digital security standards through the use of the World Wide Web Consortium (W3C) XML Signature recommendation. This standard consists of three components:

- 1. Digital Certificate** - A unique digital identification assigned by a trusted third party to an individual or organization.
- 2. Digital Signature** – Used by the owner of a digital certificate to digitally “sign” electronic files. A digital signature is an encrypted string of data based on a complex mathematical algorithm...to be distinguished from an electronic signature which is a facsimile of a handwritten signature (not used in this specification).
- 3. Public Key Infrastructure (PKI)** - The method for determining the currency and validity of the message sender’s digital certificate.

16-2. Electronic Part Certification Form

1. Purpose

1.1 Document Types

The Electronic Part Certification Form (e-Form) is used to transmit data corresponding to the following regulatory forms:

- CASA Form 1 (formerly Form 917)
- EASA Form 1
- FAA Form 8130-3
- TCCA FORM ONE (formerly Form 24-0078)

Additionally, the e-Form can be used to transmit data corresponding to the following non-regulatory forms. In cases where the sale or transfer of a part does not require a new Authorized Release Certificate, one of these e-Forms will be issued with a reference to the previous e-Form to provide traceability back to the Authorized Release Certificate governing airworthiness of the part.

- Certificate of Conformance (C of C)
- Transfer Document

1.2. Scope

This specification is limited to descriptions of the data and processes necessary for the exchange of electronic part certification forms. It does not include the internal processes that companies use to generate the data, authorize users or signers of the data, nor process, store, or repurpose the data.

The rationale for this approach is that such internal processes are specific to each company and are governed by company policies and procedures and/or regulatory guidance. The purpose of this specification is to facilitate communication of information between companies and therefore there is no need, nor is it desirable, to standardize internal company processes.

1.3. Regulatory Governance

This specification does not replace any regulatory requirements or guidance regarding the use of the forms listed in section 16-2.0 or any other applicable, government-mandated form. Any apparent conflicts between this specification and governing regulatory requirements should be reported to the Air Transport Association at admin@ataebiz.org. Proposed revisions to this specification and/or governing regulatory requirements will be coordinated between ATA and the relevant authorities in an effort to maintain consistency and accuracy in the specification.

2. Usage

2.1. Issuing Part Certification Forms

When issuing a part certification form, the data provider must first determine whether to produce an electronic form as per this specification, or a paper tag if the data recipient is unable to accept the electronic form, subject to agreement between the sender and receiver of the data.

If issuing an electronic part certification form, the data provider should provide a reference to the immediately previous part certification form that had been issued for the subject part, if one exists. This reference should be the Certificate Tracking Number (TDN) of the previous form, the Supplier Code (SPL) of the issuer of the

previous form, and an indicator whether the previous form was in electronic or paper format. The reference information should be provided in the Previous Certificate element in Block 12 of the current electronic form. If the previous form was in electronic format, it should be attached to the current form, with its digital signature intact, and transmitted to the data recipient.

If the data recipient is unable to accept electronic forms, the data provider must issue a new part certification form in paper format. If previous electronic forms exist for the subject part, the data provider should print copies of them and provide them to the recipient with the new, current paper form.

2.2. Digital Security Implementation

A digital certificate for the individual authorized to sign an electronic part certification form is required. This specification recommends a minimum Medium Software assurance level digital certificate as per ATA specification Spec 42. The company/organization identified in the digital certificate should correspond to the issuing organization identified in Block 4 of the Electronic Part Certification Form.

A digital signature in accordance with the W3C XML Signature Recommendation, and bound to the digital certificate described above, should be affixed to the electronic part certification form. By affixing a digital signature, the signer is attesting to the signed data as described in the relevant governing regulatory documentation.

This specification uses a “same file, detached” approach for the digital signature. This means that the digital signature is contained in the same computer file as the content being signed, but is not included within the content itself. Instead, the signed content is given a unique identifier by the data sender, and this unique id is referenced by the XML Signature as the data being signed. This approach was adopted because it allows the Schema definitions for the Signature and the Electronic Part Certification Form to be managed separately. It also allows the Signature Schema to be easily applied to other types of data as needed.

Using Public Key Infrastructure (PKI) tools and processes as described in ATA Spec 42, the data recipient must validate the digital signature applied to the electronic part certification form to determine whether or not the data had been altered once it had been signed. The data recipient must also validate the digital certificate assigned to the individual attesting to the airworthiness of the part in accordance with certificate validation procedures described in ATA Spec 42 to determine that the digital certificate was valid at the time it was used. The digital signature for the current electronic form and the signer's certificate must be validated upon receipt.

Digital signatures for previous, attached electronic forms may be also validated if necessary to determine whether those previous forms had been altered since they were signed. Recipients may also verify digital certificates used to digitally sign referenced previous Electronic Part Certification Forms.

2.2.2. Digital Certificate Expiration Considerations

Digital certificates have a limited lifetime which can create challenges in cases where it is necessary to validate the signature in the future. It may be necessary to validate that a signature was valid at the time of signing even if the certificate upon which the signature was based has since expired. There are two possible approaches for addressing this challenge:

1. Issue a new digital certificate (recommended Medium Software assurance level per ATA Spec 42) to an authorized individual and re-sign the Electronic Part Certification Form before the original digital certificate expires.
2. The preferred approach is to use long-life digital signatures as described in ATA Spec 42. This involves:
 - a. Applying a time-stamp at the time of signing to enable proof that the signature was performed at a specific point in time.
 - b. Provide proof that the digital certificate that was used to provide the digital signature was valid at that point in time.
 - c. Seal this information with an archive time-stamp. Prior to expiration of the archive time-stamp, this step will need to be repeated based on the anticipated requirements for long-term availability of the digitally signed Electronic Part Certification Form.

2.3. Implementation Guidelines

Although use of this specification is voluntary, the following guidelines shall be followed in order to be considered in compliance with this specification:

1. Each time a part is transferred or returned to service, a new electronic part certification form must be generated by the sender/seller/repairer of the part. All available previous electronic part certification forms from prior transfers/returns to service of the subject part should be attached as references for historical purposes.
2. Part Number is required for all uses of the electronic part certification form. This specification is not applicable for any materials that do not have a part number.
3. A separate electronic part certification form shall be issued for each part number.
4. A separate electronic part certification form shall be issued for each serial number or lot.
5. The choice of communication protocol should be left up to trading partners to decide. Users should select a protocol that provides features for reliable messaging and non-repudiation, including:
6. Unique message ID
7. Acknowledgement of message receipt
8. Time of transmission and receipt of messages
9. The information transmitted in Part Description (PDT) should be consistent with the part description in the IPC/IPL and Provisioning files (i.e., S, T, or V files)
10. The digitally signed electronic part certification form generated for a given transaction is considered the original document for that transaction.
11. An unaltered original electronic part certification form may be transmitted multiple times and each transmission is considered an original document.
12. Any paper forms printed from the electronic part certification form are considered copies.
13. The issuer of the electronic part certification form shall archive the digitally signed XML file, including any attached previous references, according to regulatory requirements.
14. The receiver of the electronic part certification form shall archive the digitally signed XML file, including any attached previous references, according to regulatory requirements.
15. The possessor of a part shall retain the current electronic form and all available previous electronic forms for that part for as long as the part remains under its possession, ownership, or control, as governed by regulatory authorities and/or as dictated by contractual agreement between trading partners.
16. Users should employ sufficient internal system security controls and procedures to provide a high level of assurance that archived electronic part certification forms can not be altered.
17. There is no need for a specific application of the electronic part certification form for split bulk shipments. In those cases, the supplier would issue new electronic forms for each shipment (e.g., transfer document, C of C, etc.) and reference/attach the previous electronic airworthiness certificate (e.g., FAA 8130-3, TCCA Form 1, EASA Form 1, etc.).
18. The optional KeyInfo element in the W3C XML Signature structure must be provided by the signer of the electronic part certification form

3. Data Requirements

This section provides a set of tables describing the data elements used for the various uses for the Electronic Part Certification Form, including their Text Element Identifiers (TEIs), cardinality, usage requirements, and any special remarks. Complete details regarding each data element can be found in the ATA Common Support Data Dictionary (CSDD) which accompanies this specification. The uses described in the following tables are:

1. New Part and Export Regulatory Requirements
2. Return to Service Regulatory Requirements
3. Certificate of Conformance / Transfer Document

Table 16-2.1 – Data Record – New Part Regulatory Requirements

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage*
	XML Schema Version Number	version	1	N/A	An attribute of the root element of the ATA_PartCertificationForm that provides the version number of the XML instance. This number should match the version number of the corresponding XML Schema to which the data is written.	M
	XML Instance Identification	id	1	N/A	An attribute of the root element of the ATA_PartCertificationForm that provides a unique identification for a specific XML instance. The id attribute of ATA_PartCertificationForm should be formatted as follows: ID-SSSSS-TDN, where ID is the literal string “ID” SSSSS = SPL (Supplier Code) of issuing organization found in Block4 TDN = the Form Tracking Number found in Block3 Each element of the id attribute shall be separated by a dash.	M

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage*
Block 1						M
	Approving National Aviation Authority/ Country	REF	1		One of either NAA or CNT is required	M
		Regulatory Authority	1	NAA		C
		Country Code	1	CNT		C
Block 2						M
	Form Identifier	Certificate Type	1	CET	Permitted Values: • CASA Form 1 • Certificate of Conformity • Certificate of Conformance • EASA Form 1 • FAA Form 8130-3 • TCCA FORM ONE	M
	Form Version Number or Date	Form Version Identifier	1	FVI	Attribute of Certificate Type Identifies the version of the corresponding paper form that is current at the time of creation of the electronic part certification form. The value of FVI should be identical to the form version printed on the corresponding paper form. Used to identify the correct stylesheet for transformation to PDF.	M
Block 3						M
	Form Tracking Number	Certificate Tracking Number	1	TDN	TDN, when used with Supplier Code (SPL) of the issuing organization in Block 4 provides a unique industry form tracking identification.	M
Block 4						M
Organization on whose						M
	Organization	REF				M

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage*
behalf the data is being issued		Supplier Code	1	SPL	SPL, when used with Certificate Tracking Number (TDN) in Block 3 provides a unique industry form tracking identification.	M
		Company Name	1	WHO		M
	Organization Address	REF				M
		Address Line	U	ADL		M
		City	1	CIY		M
		State/Province	1	STP		C
		Country Code	1	CNT		M
		Postal Code	1	ZIP		M
	Certificate Approval Reference Number	REF	1		One of PCH, CEN, or PRJ may be provided.	C
		Production Certificate Number	1	PCH		C
		Certificate Number	1	CEN		C
		Project Number	1	PRJ		C
Remote Issuer of Document					e.g., Direct Ship, Conformity at location other than PAH, Issuance of data at location other than issuer's main location, e.g., warehouse	C
	Organization	REF				M
		Supplier Code	1	SPL		M
		Company Name	1	WHO		M
	Organization Address	REF				M
		Address Line	U	ADL		M
		City	1	CIY		M
		State/Province	1	STP		C
		Country Code	1	CNT		M
		Postal Code	1	ZIP		M
Block 5						M

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage*
	Commercial Reference Number	REF			One or more of CPO, PSN, WON, BOX, or CTN must be provided.	M
		Customer Identification Code	1	CIC	Receiver of the data	M
		Customer Order Number	1	CPO	CPO should be provided if a customer purchase order exists	C
		Packing Sheet Number	1	PSN		C
		Work Order Number	U	WON		C
		Master Carton Number	U	BOX		C
		Contract Number	1	CTN		C
		Remarks Text	1	REM	Enter “N/A” if CPO, PSN, WON, BOX, or CTN is not applicable	C
Block 6						M
	Line Item Number	Line Item Number	1	LIN	Always "1"	M
Block 7						M
	Description	Part Description	1	PDT	The information transmitted in PDT should be consistent with the part description in the IPC/IPL and Provisioning files (i.e., S, T, or V files)	M
Block 8						M
	Manufacturer’s Part Number	REF	1			M
		Part Number	1	PNR		M
		Manufacturer Code	1	MFR		M
		Overlength Part Number	1	OPN		C
Block 9						M
	Quantity of parts	REF				M
		Quantity	1	QTY	Always “1” for serialized parts	M
		Unit of Measure Code	1	UNT		M
Block 10						M
	Serial Number	REF	1		One of SER, UST, UCN/SPL, USN or REM must be provided	M

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage* *
		Part Serial Number	1	SER		C
		Universal Serial Tracking Number	1	UST		C
		Unique Component Identification Number	1	UCN		C
		Supplier Code	1	SPL		C
		Universal Serial Number	1	USN		C
		Remarks Text	1	REM	Enter “N/A” if SER, UST, UCN/SPL or USN, is not applicable unless LOT (batch) number entered in block 12 in which case enter “See Block 12”	C
Block 11						M
	Status/Work	Part Status Code	U	PSC	Permitted Values: • NEW • PROTOTYPE	M
Block 12N						C
New Parts Data						C
	Restrictions	Part Usage Restrictions	U	PUR		C
	Compliance With AD or SB	REF	1			C
		Airworthiness Directive Number	U	ARW		C
		Service Bulletin Number	U	SBN		C
	Life Limited Parts History	Total Time Text	U	TTM	If provided, one of OTT or OPC must be provided along with the TRF	C
		Operating Time	1	OTT		C
		Operating Cycle Count	1	OPC		C
		Time/Cycle Reference Code	1	TRF		M
	Date of Manufacture	Manufacture Date	1	DMF		C

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage*
	Shelf Life Expiration	Expiration Date	1	EXP		C
	Lot / Batch Number	Lot Number	1	LOT	If part is not serialized but is part of a Lot/Batch controlled series of parts, enter LOT number here.	C
	Drawing Number And Revision Level and Revision Date	REF	U			C
		Control Specification or Drawing Number	1	SDN		M
		Manufacturer Code	1	MFR		M
		Revision Number	1	REV		M
		Revision Date	1	RVD		M
	Direct Shipment Authorization	Direct Ship Authority	1	DSA		C
	Newly Overhauled	Newly Overhauled Indicator	1	NOH		C
	Airworthiness Data Type	Airworthiness Data Type Code	1	ADC	Permitted Values: C - CONFORMITY INSPECTION D - AIRWORTHINESS APPROVAL — ENGINE [or PROPELLER].	C
	Conformity/Prototype Project Number	Conformity/Prototype Project Number	1	CPP	Mandatory for Conformity Usage.	C
	Deviations	Airworthiness Deviation Text	U	AWD		C
	Airline Stock Number	Airline Stock Number	1	ASN		C
	International Commodity Code	International Commodity Code	1	ICC		C
Manufacturer information required by an accredited distributor					Used for issuance of a U.S. domestic 8130-3 at an accredited distributor's facility.	C
	Organization	REF	1			M
		Supplier Code	1	SPL		M
		Company Name	1	WHO		M
		Address Line	U	ADL	Required if AddressData group provided	C

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage*
		City	1	CTY	Required if AddressData group provided	C
		Postal Code	1	ZIP	Required if AddressData group provided	C
		Country Code	1	CNT	Required if AddressData group provided	C
		State / Province	1	STP		C
	Previous Form Reference	REF	1			C
		Certificate Tracking Number	1	TDN		M
		Supplier Code	1	SPL	Should be the same value as in Block 4 SPL of the previous electronic part certification form being referenced.	M
		Certificate Type	1	CET		M
		previousCertificateFormat	1		Permitted Values: E – Electronic P - Paper	M
	Remarks	Remarks Text	U	REM		C
	Block 13a					C
	Manufacturing Conformance Indicator	Design Data Approval Code	1	DDA	Permitted Values: • A - Approved Design Data • N - Non-Approved Design Data	M
	Block 13c					M
	Approval Or Authorization Number	Airworthiness Authorization Reference Number	1	ARN		M
	Block 13d					M
	Name of the individual in whose name is the digital signature	Name	1	NME		M
	Block 13e					M
	Date that the digital signature is applied to the data	Date Stamp Date	1	DAT		M

* U = Unbounded

** M = Mandatory

C = Conditional

Table 16-2.2 – Data Record – Return to Service Regulatory Requirements

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage**
	XML Schema Version Number	version	1	N/A	An attribute of the root element of the Electronic Part Certification Form that provides the version number of the XML instance. This number should match the version number of the corresponding XML Schema to which the data is written.	M
	XML Instance Identification	id	1	N/A	An attribute of the root element of the Electronic Part Certification Form that provides a unique identification for a specific XML instance. The id attribute of ATA_PartCertificationForm should be formatted as follows: ID-SSSSS-TDN, where ID is the literal string "ID" SSSSS = SPL (Supplier Code) of issuing organization found in Block4 TDN = the Form Tracking Number found in Block3 Each element of the id attribute shall be separated by a dash.	M
Block 1						M
	Approving National Aviation Authority/ Country	REF	1		One of either NAA or CNT is required	M
		Regulatory Authority	1	NAA		M
		Country Code	1	CNT		C

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage**
Block 2						M
	Form Identifier	Certificate Type	1	CET	Permitted Values: - CASA Form 1 - EASA Form 1 - FAA Form 8130-3 - TCCA FORM ONE	M
	Form Version Number or Date	Form Version Identifier	1	FVI	Attribute of Certificate Type Identifies the version of the corresponding paper form that is current at the time of creation of the electronic part certification form. The value of FVI should be identical to the form version printed on the corresponding paper form. Used to identify the correct stylesheet for transformation to PDF.	M
Block 3						M
	Form Tracking Number	Certificate Tracking Number	1	TDN	TDN, when used with Supplier Code (SPL) of the issuing organization in Block 4 provides a unique industry form tracking identification.	M
Block 4						M
Organization on whose behalf the data is being issued						M
	Organization	REF	1			M
		Supplier Code	1	SPL	SPL, when used with Certificate Tracking Number (TDN) in Block 3 provides a unique industry form tracking identification.	M
		Company Name	1	WHO		M
	Organization Address	REF	1			M
		Address Line	U	ADL		M
		City	1	CIY		M
		State/Province	1	STP		C
		Country Code	1	CNT		M

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage**
		Postal Code	1	ZIP		M
	Certificate Approval Reference Number	Repair Agency Claimed Certificate Number	1	RCN		C
Block 5						M
	Commercial Reference Number	REF	1		One or more of CPO, PSN, WON, MRN, BOX, or CTN must be provided.	M
		Customer Identification Code	1	CIC	Receiver of the data	M
		Customer Order Number	1	CPO	CPO should be provided if a customer purchase order exists	C
		Packing Sheet Number	1	PSN		C
		Work Order Number	U	WON		C
		Maintenance Release Authorization Number	1	MRN		C
		Master Carton Number	U	BOX		C
		Contract Number	1	CTN		C
		Remarks Text	1	REM	Enter “N/A” if CPO, PSN, WON, MRN, BOX, or CTN is not applicable	C
Block 6					M	
	Line Item Number	Line Item Number	1	LIN	Always "1"	M
Block 7					M	
	Description	Part Description	1	PDT	The information transmitted in PDT should be consistent with the part description in the IPC/IPL and Provisioning files (i.e., S, T, or V files)	M
Block 8					M	
	Manufacturer’s Part Number	REF	1			M
		Part Number	1	PNR		M
		Manufacturer Code	1	MFR		M
		Overlength Part Number	1	OPN		C
Block 9					M	
	Quantity of parts	REF				M

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage**
		Quantity	1	QTY	Always “1” for serialized parts	M
		Unit of Measure Code	1	UNT		M
Block 10						M
	Serial Number	REF	1		One of SER, UST, LOT, UCN/SPL, USN or REM must be provided	M
		Part Serial Number	1	SER		C
		Universal Serial Tracking Number	1	UST		C
		Unique Component Identification Number	1	UCN		C
		Supplier Code	1	SPL		C
		Universal Serial Number	1	USN		C
		Remarks Text	1	REM	Enter “N/A” if SER, UST, UCN/SPL or USN, is not applicable unless LOT (Batch) number entered in block 12 in which case enter “See Block 12”	C
Block 11						M
	Status/Work	Part Status Code	U	PSC	Permitted Values: • INSPECTED • INSPECTED/TESTED • MODIFIED • OVERHAULED • REPAIRED • SEE BLOCK 12 • TESTED	M
Block 12R						M
	Remarks	Remarks Text	U	REM		C
	Other regulation	National Aviation Authority (NAA) Maintenance Requirement Description	U	NRD		C
	Previous Form Reference	REF				C
		Certificate Tracking Number	1	TDN		M

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage **
		Supplier Code	1	SPL	Should be the same value as in Block 4 SPL of the previous electronic part certification form being referenced.	M
		Certificate Type	1	CET		M
		previousCertificateFormat	1		Permitted Value List: E – Electronic P - Paper	M
Return to Service Parts Data					Either Remarks Text (REM) or Technical Data Type (TDT) must be provided.	C
	Maintenance Doc or Drawing Number And Rev Level	REF	U		If not applicable, use Remarks Text (REM) to describe the process or reference the documents used to return the part to service.	C
		Technical Data Type	1	TDT	Examples: • Design or drawing number • CMM (Component Maintenance Manual) • SI (Service Instruction) • SB (Service Bulletin) • EO (Engineering Order) • EA (Engineering Authorization) • AD (Airworthiness Directive) • SRM (Structural Repair Manual) • 337 (Major Repair Alteration Form) • WFM (Wiring Manual) • EM (Engine Shop Manual) • ECRA (Engineering Change Request Authority)	M
		Manufacturer Code	1	MFR		C
		Document Number	1	DIN		M
		Revision Number	1	REV		C
		Revision Date	1	RVD		C

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage **
	Repairs or Modifications Made	Repair/Modification Description	U	RMD		C
	Life Limited Parts History	Total Time Text	U	TTM	One of OTT or OPC must be provided	C
		Operating Time	1	OTT		C
		Operating Cycle Count	1	OPC		C
		Time/Cycle Reference Code	1	TRF		M
	Shelf life start date	Shelf Life Start Date	1	SLS		C
	Shelf Life Expiration	Expiration Date	1	EXP		C
	Lot or Batch Number	Lot Number	1	LOT	If part is not serialized but is part of a Lot/Batch controlled series of parts, enter LOT number here.	C
	Restrictions	Part Usage Restrictions	U	PUR		C
	Deviations From Customer Work Order	Airworthiness Deviation Text	U	AWD		C
	Airline Stock Number	Airline Stock Number	1	ASN		C
	International Commodity Code	International Commodity Code	1	ICC		C
	Remarks	Remarks Text	U	REM		C
Block 14a						M
	Airworthiness Regulation Code	Airworthiness Regulation Code	1	AWR	Permitted Values: • Part-145.A.50 Release to Service • CAR 571.10 Maintenance Release • 14 CFR 43.9 Return to Service • JAR 145 Release to Service	M
	NAA Maintenance Requirement Indicator	National Aviation Authority (NAA) Maintenance Requirement Indicator	1	NRI	Used for Dual Release	C
Block 14c						M
	Certificate Approval Reference Number	REF	1		One of PCH, CEN, RCN, PRJ, or UPI must be provided.	M

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage **
		Production Certificate Number	1	PCH		C
		Certificate Number	1	CEN		C
		Repair Agency Claimed Certificate Number	1	RCN		C
		Project Number	1	PRJ		C
		Unique Personal Identifier	1	UPI	Employee Number	C
Block 14d						M
	Name of the individual in whose name is the digital signature	Name	1	NME		M
Block 14e						M
	Date that the work is completed and the digital signature is applied to the data	Date Stamp Date	1	DAT		M

* U = Unbounded

** M = Mandatory

C = Conditional

Table 16-2.3 – Data Record – Certificate of Conformance or Conformity / Transfer Document

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage **
	XML Schema Version Number	version	1	N/A	An attribute of the root element of the Electronic Part Certification Form that provides the version number of the XML instance. This number should match the version number of the corresponding XML Schema to which the data is written.	M

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage **
	XML Instance Identification	id	1	N/A	An attribute of the root element of the Electronic Part Certification Form that provides a unique identification for a specific XML instance. The id attribute of ATA_PartCertificationForm should be formatted as follows: ID-SSSSS-TDN, where ID is the literal string "ID" SSSSS = SPL (Supplier Code) of issuing organization found in Block4 TDN = the Form Tracking Number found in Block3 Each element of the id attribute shall be separated by a dash.	M
Block 1					Not used	---
Block 2						M
	Form Identifier	Certificate Type	1	CET	Permitted Values: • Certificate of Conformance • Transfer Document Use "Certificate of Conformance" when transmitting a manufacturer's certificate of conformance. Use "Transfer Document" when transmitting a) a transfer document from facilities that may not issue an airworthiness document, such as distributors or leasing companies, or b) a transfer document for unserviceable parts.	M

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage **
	Form Version Number or Date	Form Version Identifier	1	FVI	Attribute of Certificate Type Identifies the version of the corresponding paper form that is current at the time of creation of the electronic part certification form. The value of FVI should be identical to the form version printed on the corresponding paper form. Used to identify the correct stylesheet for transformation to PDF.	C
Block 3						M
	Form Tracking Number	Certificate Tracking Number	1	TDN	TDN, when used with Supplier Code (SPL) of the issuing organization in Block 4 provides a unique industry form tracking identification.	M
Block 4						M
Organization on whose behalf the data is being issued						M
	Organization	REF				M
		Supplier Code	1	SPL	SPL, when used with Certificate Tracking Number (TDN) in Block 3 provides a unique industry form tracking identification.	M
		Company Name	1	WHO		M
	Organization Address	REF				M
		Address Line	U	ADL		M
		City	1	CIY		M
		State/Province	1	STP		C
		Country Code	1	CNT		M
		Postal Code	1	ZIP		M
	Certificate Approval Reference Number	REF	1		One of PCH, CEN, RCN, or PRJ may be provided.	C
		Production Certificate Number	1	PCH		C
		Certificate Number	1	CEN		C

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage**
		Repair Agency Claimed Certificate Number	1	RCN		C
		Project Number	1	PRJ		C
Remote Issuer of Document					e.g., Direct Ship, Conformity at location other than PAH, Issuance of data at location other than issuer’s main location, e.g., warehouse	C
	Organization	REF				M
		Supplier Code	1	SPL		M
		Company Name	1	WHO		M
	Organization Address	REF				M
		Address Line	U	ADL		M
		City	1	CIY		M
		State/Province	1	STP		C
		Country Code	1	CNT		M
		Postal Code	1	ZIP		M
Block 5					M	
	Commercial Reference Number	REF			One or more of CPO, PSN, WON, MRN, BOX, or CTN must be provided.	M
		Customer Identification Code	1	CIC	Receiver of the data	M
		Customer Order Number	1	CPO	CPO should be provided if a customer purchase order exists	C
		Packing Sheet Number	1	PSN		C
		Work Order Number	U	WON		C
		Maintenance Release Authorization Number	1	MRN		C
		Master Carton Number	U	BOX		C
		Contract Number	1	CTN		C
		Remarks Text	1	REM	Enter “N/A” if CPO, PSN, WON, MRN, BOX, or CTN is not applicable	C

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage **
Block 6						M
	Line Item Number	Line Item Number	1	LIN	Always "1"	M
Block 7						M
	Description	Part Description	1	PDT	The information transmitted in PDT should be consistent with the part description in the IPC/IPL and Provisioning files (i.e., S, T, or V files)	M
Block 8						M
	Manufacturer's Part Number	REF	1			M
		Part Number	1	PNR		M
		Manufacturer Code	1	MFR		M
		Overlength Part Number	1	OPN		C
		Remarks Text	1	REM	Always "N/A"	C
Block 9						M
	Quantity of parts	REF				M
		Quantity	1	QTY	Always "1" for serialized parts	M
		Unit of Measure Code	1	UNT		M
Block 10						M
	Serial Number	REF	1		One of SER, UST, UCN/SPL, USN or REM must be provided	M
		Part Serial Number	1	SER		C
		Universal Serial Tracking Number	1	UST		C
		Unique Component Identification Number	1	UCN		C
		Supplier Code	1	SPL		C
		Universal Serial Number	1	USN		C
		Remarks Text	1	REM	Enter "N/A" if SER, UST, UCN/SPL or USN, is not applicable unless LOT (batch) number entered in block 12 in which case enter "See Block 12"	C

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage **
Block 11						M
	Status/Work	Part Status Code	U	PSC	Permitted Values: • COMMERCIAL USE - UNSERVICEABLE • INSPECTED • INSPECTED/TESTED • INSTALLED • MODIFIED • NEW • NEW SURPLUS • OVERHAULED • PROTOTYPE • REPAIRED • SEE BLOCK 12 • STOLEN • TESTED • UNSALVAGEABLE • UNSERVICEABLE • USED	M
Block 12C						C
	Remarks	Remarks Text	U	REM		C
	Other regulation	National Aviation Authority (NAA) Maintenance Requirement Description	U	NRD		C
	Previous Form Reference	REF				C
		Certificate Tracking Number	1	TDN		M
		Supplier Code	1	SPL	Should be the same value as in Block 4 SPL of the previous electronic part certification form being referenced.	M
		Certificate Type	1	CET	Contains CET of previous certificate. See CSDD for full enumerations.	M

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage **
		previousCertificateFormat	1		Permitted Value List: E – Electronic P - Paper	M
New Parts Data						C
	Restrictions	Part Usage Restrictions	U	PUR		C
	Compliance With AD or SB	REF				C
		Airworthiness Directive Number	U	ARW		C
		Service Bulletin Number	U	SBN		C
	Life Limited Parts History	Total Time Text	U	TTM	One of OTT or OPC must be provided	C
		Operating Time		OTT		C
		Operating Cycle Count		OPC		C
		Time/Cycle Reference Code		TRF		M
	Date of Manufacture	Manufacture Date	1	DMF		C
	Shelf Life Expiration	Expiration Date	1	EXP		C
	Drawing Number And Revision Level and Revision Date	REF	U			C
		Control Specification or Drawing Number	1	SDN		M
		Manufacturer Code	1	MFR		M
		Revision Number	1	REV		M
		Revision Date	1	RVD		M
	Direct Shipment Authorization	Direct Ship Authority	1	DSA		C
	Newly Overhauled	Newly Overhauled Indicator	1	NOH		C

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage **
	Type of airworthiness data	Airworthiness Data Type Code	1	ADC	Permitted Value List: • C - CONFORMITY • D - AIR WORTHINESS APPROVAL — ENGINE [or PROPELLER]. FOR DOMESTIC SHIPMENTS ONLY	C
	Conformity/Prototype Project Number	Conformity/Prototype Project Number	1	CPP	Mandatory for Conformity Usage.	C
	Deviations	Airworthiness Deviation Text	U	AWD		C
	Airline Stock Number	Airline Stock Number	1	ASN		C
	International Commodity Code	International Commodity Code	1	ICC		C
Return to Service Parts Data						C
	Maintenance Doc or Drawing Number And Rev Level	REF	U			C
		Technical Data Type	1	TDT	Examples: • Design or drawing number • CMM (Component Maintenance Manual) • SI (Service Instruction) • SB (Service Bulletin) • EO (Engineering Order) • EA (Engineering Authorization) • AD (Airworthiness Directive) • SRM (Structural Repair Manual) • 337 (Major Repair Alteration Form) • WFM (Wiring Manual) • EM (Engine Shop Manual) • ECRA (Engineering Change Request Authority)	M
		Manufacturer Code	1	MFR		C
		Document Number	1	DIN		M
		Revision Number	1	REV		C
		Revision Date	1	RVD		C

	Business term	Data Element Name	Max Occ*	TEI	Remarks	Usage**
	Repairs or Modifications Made	Repair/Modification Description	U	RMD		C
	Life Limited Parts History	Total Time Text	U	TTM	One of OTT or OPC must be provided	C
		Operating Time	1	OTT		C
		Operating Cycle Count	1	OPC		C
		Time/Cycle Reference Code	1	TRF		M
	Shelf life start date	Shelf Life Start Date	1	SLS		C
	Shelf Life Expiration	Expiration Date	1	EXP		C
	Lot or Batch Number	Lot Number	1	LOT	If part is not serialized but is part of a Lot/Batch controlled series of parts, enter LOT number here.	C
	Restrictions	Part Usage Restrictions	U	PUR		C
	Deviations From Customer Work Order	Airworthiness Deviation Text	U	AWD		C
	Airline Stock Number	Airline Stock Number	1	ASN		C
	International Commodity Code	International Commodity Code	1	ICC		C
Block 13aC						C
	Additional conformance statement	Remarks Text	1	REM	Used to identify additional certifying language	M
Block 13d						M
	Name of the individual in whose name is the digital signature	Name	1	NME		M
Block 13e						M
	Date that the digital signature is applied to the data	Date Stamp Date	1	DAT		M

* U = Unbounded
** M = Mandatory
C = Conditional

16.3. Appendix 1 – XML Schema for Chapter 16

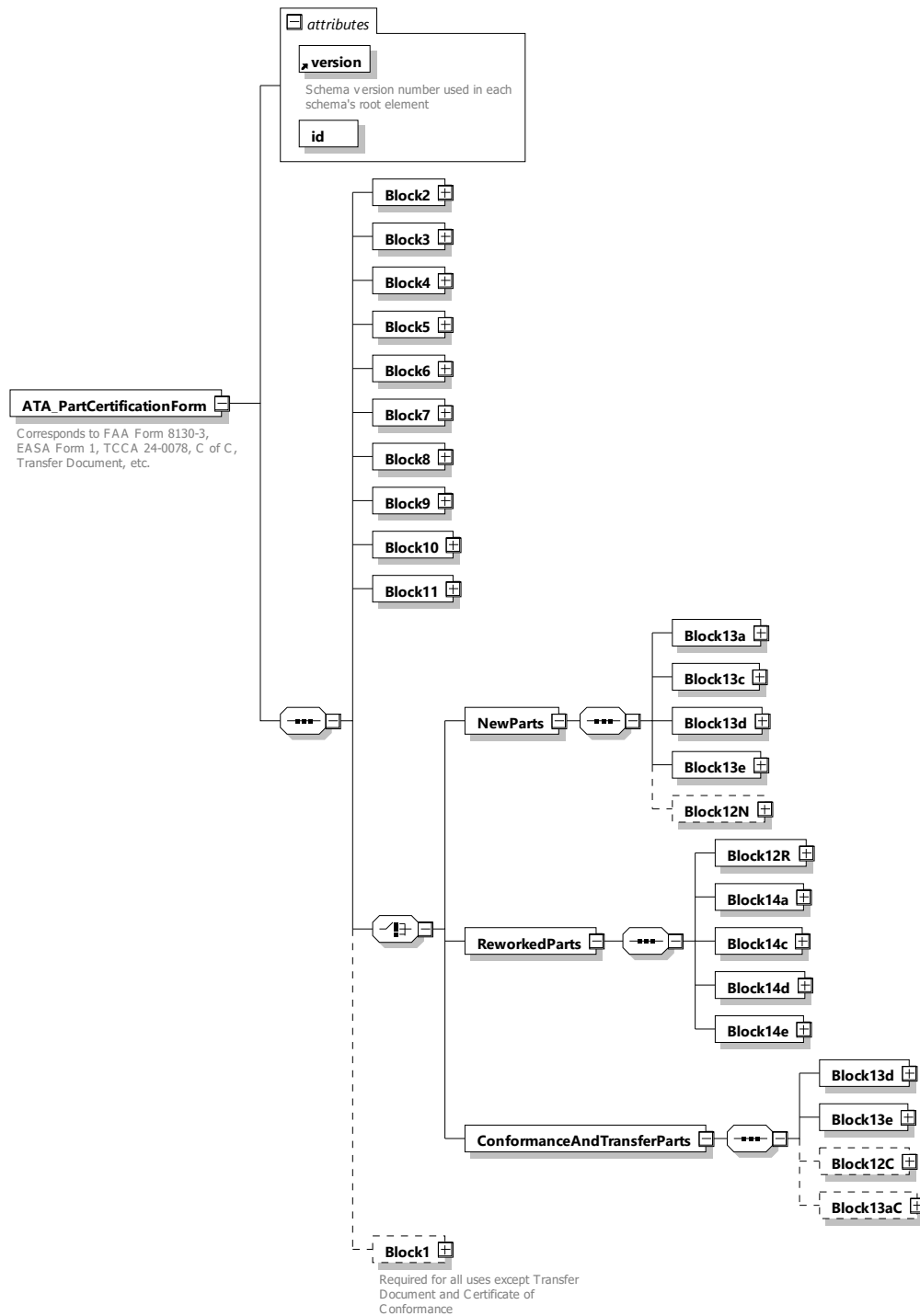
This appendix describes the use of XML for the exchange of Part Certification Data as described in Chapter 16.

Note:	All Chapter 16 XML Schema files are provided in the accompanying folders. The “ModularSchema” folder contains separate files for each schema per the modular structure described in figure A2-1 below. All of these files should be stored in the same file directory. The “FlatSchema” folder contains two files; a single schema file containing all relevant element and attribute definitions needed to produce or validate an ATA Part Certification Form instance, and the W3C_XML_Signature schema file needed to apply digital signatures to e-Forms. Both of these files should be stored in the same file directory. For more information, visit www.airlines.org/products/pubs/ or contact admin@ataebiz.org.
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1. Part Certification Form Schema

The message schema used for conveying part certification data is ATA_PartCertificationForm.xsd. This defines the content and structure of the Electronic Part Certification Form used for new parts data, return to service parts data, certificates of conformance, and transfer documents. The following diagram depicts the high-level structure of this schema:

Figure 16-2 XML Scheme Content Diagram



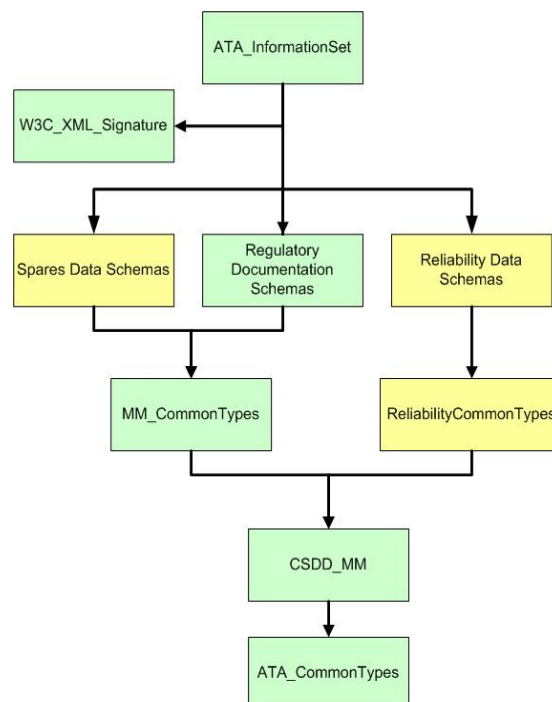
2. Reusable Data Structures

In addition to the message Schema, the following additional schema files are defined to identify reusable data structures. All of these additional Schemas must be used in conjunction with the message Schemas to fully define the transactions.

1. **ATA_CommonTypes** – This Schema defines reusable core data constructs that have no semantic value in themselves. Objects in the ATA_CommonTypes Schema may be used across all ATA e-Business functional areas.
2. **CSDD_MM** – This Schema defines the XML elements and attributes that correspond directly to data elements listed in the Common Support Data Dictionary. Some of these may be derived from ATA_CommonTypes. Objects in the CSDD_MM Schema may be used across any SPEC2000 functional areas.
3. **MM_CommonTypes** – This Schema defines reusable complex data constructs derived from objects in the CSDD_MM Schema. Objects in the MM_CommonTypes Schema may be used across any SPEC2000 functional areas.
4. **ATA_InformationSet** – This Schema defines the basic XML structure that is used for all SPEC2000 XML messages. It contains a generic message structure that can be used optionally with any of the functionally-specific data (e.g., Spares, Reliability, Part Certification). It also contains the XML Signature structure that can be applied to any dataset to provide user authentication and data integrity.
5. **W3C_XML_Signature** – This schema defines the Types, Elements, and Attributes used to apply Digital Signatures to XML Data. This schema conforms completely to the W3C Recommendation for XML Signature [W3C XML Signature, <http://www.w3.org/Signature/>]

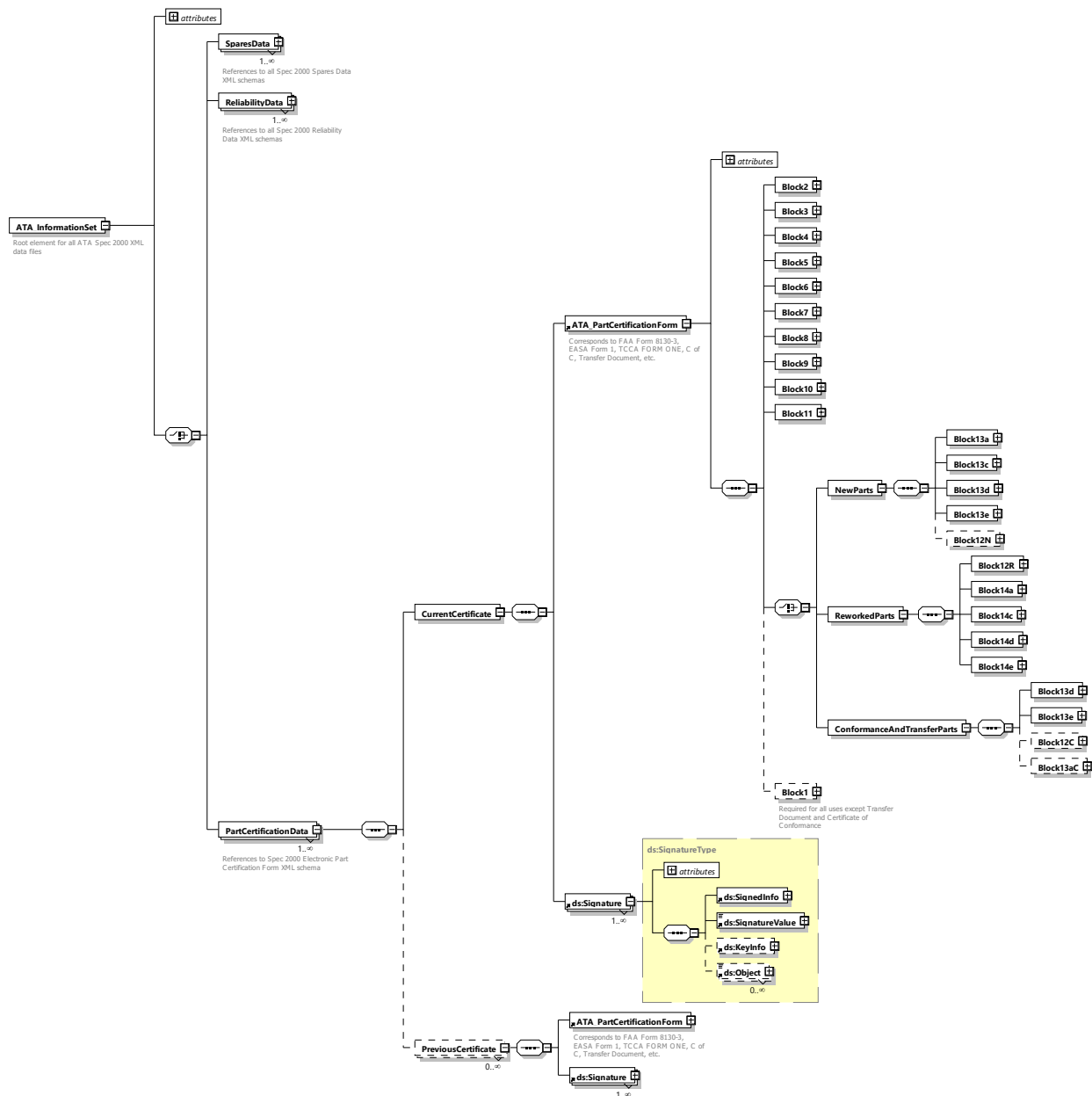
The following diagrams show the relational structure of the common schemas with the Part Certification Form schema.

Figure A2-1. XML Schema Modular Design – Conceptual View



Note: Schema files in yellow are not used in Chapter 16

Figure A2-2. XML Schema Modular Design – Schema View



3. PDF Transformation

A printable copy of the e-Form can facilitate content understanding and add specific benefit to some business usages (see section 0 “Usage”). Creation of a printable reference copy of the e-Form is accomplished by rendering the e-Form as Portable Document Format (PDF), where it can be viewed and printed from widely available PDF reader software. This specification employs a technology for accomplishing this purpose.

PDF has become a de facto standard for visual presentation. Adobe Acrobat PDF reader software is widely available with proven visualization and printing capability. XML document content can be rendered as PDF without altering the source XML file through the use of an eXtensible Stylesheet Language Transformation (XSLT) stylesheet and a “formatting objects” processor (FOP) interpreter. The XSLT stylesheet is written to contain FOP instructions for rendering XML data of a known XML schema to PDF.

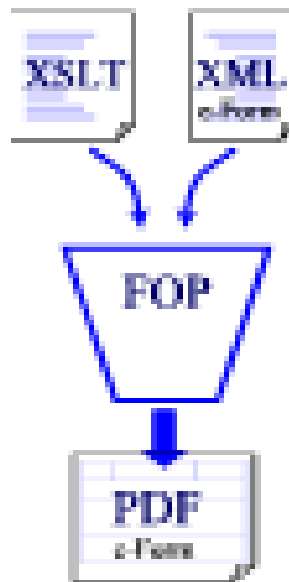
Future revisions of this specification may include sample W3C-compliant XSLT stylesheets for the e-Forms described in section 0 “Document Types”. Each XSLT stylesheet maps data identifiers (called “elements” and “attributes”) of the XML schema to positional layout locations of a PDF page. It also includes instructions to the FOP interpreter for creating the bordered, labeled text areas of the printable copy of the e-Form to provide a paper form “look and feel” in the PDF rendering. The XSLT also provides the rendering additional labeling or descriptive information for some data locations where necessary or helpful, such as fields on the paper form that may contain different types of data (e.g. blocks 5 and 12).

Note:	XSLT Stylesheets are not included in this version of Spec 2000 Chapter 16. Future revisions of this specification may include sample stylesheets.
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Implementing XSLT/FO technology occurs as shown below:

1. Both the XML e-Form and the XSLT stylesheet are identified to the FOP;
2. The FOP interprets the XSLT formatting instructions in the stylesheet and retrieves the e-Form data from the XML file;
3. The FOP renders and produces a PDF document that is a visual facsimile of the paper form. No data are changed in the original files.

Figure16-1. XML/PDF Transformation



Name	Address Line	Mod	2006
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DEFINITIONS		
Class	Definition	Source
Concept	A designation of the physical or mailing location of an organization or facility.	2000,

APPLICATION IN SPECIFICATIONS				
Source	Context	Key (e.g., Tag or TEI)	Type	Properties
2000	XSD	ADL	Element	Data Type: xs:string Min Length: 1 Max Length: 256 <u>Usages:</u> Chapter 16 Schema ATA_PartCertificationForm

Name	Airline Stock Number	Mod	2014
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ALSO KNOWN AS: Airline Part Number

DEFINITIONS		
Class	Definition	Source
Concept	A number assigned by the airline to identify and control the part in their inventory and control system.	2200,
Specific	Internal identification that has been applied to a part or unit in an airline's inventory. The Airline Stock Number is used in addition to other identification by the manufacturer or distributor of the part.	2000,

Name	Airline Stock Number	Mod	2014
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APPLICATION IN SPECIFICATIONS				
Source	Context	Key (e.g., Tag or TEI)	Type	Properties
2000	MSG & File	ASN	Data Element	Data Type: AN Min Length: 1 Max Length: 11 Cobol Picture: X(11) Decimals: 0 Usages: Chapter 12, 2, 5, 9 Command A1ADDPRT, A1CHANGE, A1STOCKS, A1UPDATE, P1PDINQY Record Type 21
2200	ML	alprtnbr	Element	Usages: DTD aipc, eipc, wm
2000	XSD	ASN	Element	Data Type: xs:string Min Length: 1 Max Length: 32 Usages: Chapter 11, 16 Schema AircraftEvent, ATA_PartCertificationForm, LRU_Removal, PieceParts, QuantityPerAircraft, ScheduledMaintenance, ServiceBulletin, ShopFindings

Name	Airworthiness Authorization Reference Number	Mod	2006
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DEFINITIONS		
Class	Definition	Source
Specific	The approval/authorization number of the authorized representative whose signature applies to airworthiness data.	2000,

APPLICATION IN SPECIFICATIONS				
Source	Context	Key (e.g., Tag or TEI)	Type	Properties
2000	XSD	ARN	Element	Data Type: xs:string Min Length: 1 Max Length: 32 <u>Usages:</u> Chapter 16 Schema ATA_PartCertificationForm

Name	Airworthiness Data Type Code	Mod	2006
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DEFINITIONS		
Class	Definition	Source
Specific	Indicates the applicability of the airworthiness data.	2000,

APPLICATION IN SPECIFICATIONS				
Source	Context	Key (e.g., Tag or TEI)	Type	Properties
2000	XSD	ADC	Element	Data Type: xs:string Min Length: 1 Max Length: 1 Permitted Value List: Airworthiness Data Type Codes Usages: Chapter 16 Schema ATA_PartCertificationForm

PERMITTED VALUES List Name: <i>Airworthiness Data Type Codes</i>		
Permitted Value	Default Value	Description
C		Indicates that the airworthiness data is being used to determine if the part conforms to the specified type design, prior to type certification.
D		Domestic Shipment - Indicates that the data is for airworthiness approval of new parts for domestic shipment only.
E		Engine/Propeller Approval - Indicates that the data is for airworthiness approval of an engine or propeller for domestic shipment only.
S		Split Shipment - Indicates supplemental data issued for splitting a bulk shipment from a Production Approval Holder (PAH)™s inventory/distribution facility.