
Space systems — Early operations —

**Part 2:
Initialization plan**

Systèmes spatiaux — Opérations initiales —

Partie 2: Plan d'initialisation

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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms, definitions and abbreviated terms	1
3.1 Terms and definitions	1
3.2 Abbreviated terms	2
4 Initialization plan	2
4.1 Introduction clause of the initialization plan	2
4.2 Referenced documentation	2
4.3 Nomenclature	3
4.4 Purpose of spacecraft initialization plan	4
4.5 Plan description	4
4.6 Initialization configuration requirements	5
4.7 Ground-system requirements	6
4.8 Procedural initialization requirements	7
4.9 Spacecraft initialization team	8
4.10 Detailed procedural checklists	9
Bibliography	11

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10784-2 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

ISO 10784 consists of the following parts, under the general title *Space systems — Early operations*:

— *Part 1: Spacecraft initialization and commissioning*

— *Part 2: Initialization plan*

— *Part 3: Commissioning report*

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Introduction

The three parts of ISO 10784 provide spacecraft (SC) manufacturers and operators with a specific form and format for writing SC initialization plans and commissioning reports required to configure and verify the SC to perform normal mission operations. Often, SC manufacturers and operators have defined these plans and reports uniquely for each programme, or regional, national and corporate organizations have unique initialization plans and commissioning reports. The three parts of ISO 10784 aim at establishing a common language and form for SC stakeholders. The use of one form and format will simplify stakeholder understanding of initialization and commissioning activities.

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Space systems — Early operations —

Part 2: Initialization plan

1 Scope

A general definition of initialization is that it begins at separation of the spacecraft (SC) from the launcher. In some cases, a more exact definition will be that initialization begins in flight, upon planned change in mode or state of the SC from the launch configuration. Commissioning is completed when the SC, including its payload, is certified for initial mission operations. Prior to certification for mission operations, the SC is described as a test article in the three parts of ISO 10784. ISO 10784 does not include a requirement for contingency plans, but does include a statement of the need for contingency planning.

This part of ISO 10784 provides SC manufacturers and operators with a specific form and format to write spacecraft initialization plans required to configure and verify the SC to perform normal mission operations. Since the SC is considered a test article at this phase of its operational life, ISO 17566 is used as a normative reference in constructing the initialization plan. It provides SC manufacturers, operators and other stakeholders with a common language and form to verify and document spacecraft initialization prior to normal SC mission operations.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 10784-1, *Space systems — Early operations — Part 1: Spacecraft initialization and commissioning*

ISO 17566, *Space systems — General test documentation*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1

commissioning

certification of a spacecraft as ready for mission operations

3.1.2

early operations

period from initialization to commissioning for mission operations

3.1.3

initialization

initial functional and operational checkout of a spacecraft following separation from the launch vehicle

3.2 Abbreviated terms

LV	launch vehicle
PL	payload
SC	spacecraft

4 Initialization plan

4.1 Introduction clause of the initialization plan

4.1.1 General

The introduction clause is a preliminary element which shall be used to give general information or commentary about the technical content of the initialization plan and about the reasons prompting its preparation. Because the spacecraft is not yet certified for operations, it is described as a test article. The introduction shall include a brief description of initialization and its objectives. It shall not contain requirements.

4.1.2 Objective

The objective subclause shall specify the desired initialization outcome in terms of SC certification, acceptance or other development. The objective may reference other clauses or subclauses which appear later in the document.

4.1.3 Scope

The scope subclause shall define, without ambiguity, the SC, the range of testing covered by the plan and the applicability of the plan in relation to fulfilling SC initialization objectives.

The initialization plan document shall provide input information for the generation of overall commissioning objectives. The initialization plan document may be a part of the overall spacecraft programme test plan.

4.1.4 Background

The background subclause is optional. If included, it may discuss the background of the spacecraft programme if that information benefits the overall understanding of the initialization plan.

4.2 Referenced documentation

4.2.1 General

This clause shall provide a list of the documents to which reference is made in the initialization plan.

Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

4.2.2 Normative references

Normative references are published standards and specifications that provide requirements or constraints for initialization. The required format for the list of normative references is shown below.

Document number	Document description	Revision level/Release date

4.2.3 Applicable references

Applicable references are programme-related documents that provide requirements or constraints for initialization. The required format for the list of applicable references is shown below.

Document number	Document description	Revision level/Release date

4.2.4 Informative references

Informative references are documents included for information only. Such references amplify or clarify the document content but do not contain requirements applicable to the initialization plan. They can be standards, other publications or drawings, for instance. The required format for the list of informative references is shown below.

Document number	Document description	Revision level/Release date

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4.3 Nomenclature

4.3.1 Terms and definitions

The terms and definitions subclause shall provide the definitions necessary for the understanding of certain terms used in the initialization plan. The terms and definitions subclause shall include only those items specific to the initialization plan concerned. In some cases, a project dictionary or glossary may be referenced.

4.3.2 Symbols

The symbols subclause shall provide a list of the symbols necessary for the understanding of the initialization plan.

Unless there is a need to list symbols in a specific order to reflect technical criteria, all symbols should be listed in alphabetical order.

The symbols subclause shall include only those items specific to the initialization plan concerned.

4.3.3 Acronyms

The acronyms subclause shall provide a list of the acronyms necessary for the understanding of the initialization plan.

The acronyms subclause shall include only those items specific to the initialization plan concerned.

4.3.4 Abbreviated terms

The abbreviated terms subclause shall define the abbreviated terms used in the initialization report.