

# *FLIGHT TECHNOLOGIES AND PROCEDURES DIVISION*



## *TSOC*

### *Training Statement of Compliance*

#### **A Training Provider's Guide for Obtaining FAA Acceptance**

*Version 3.1*

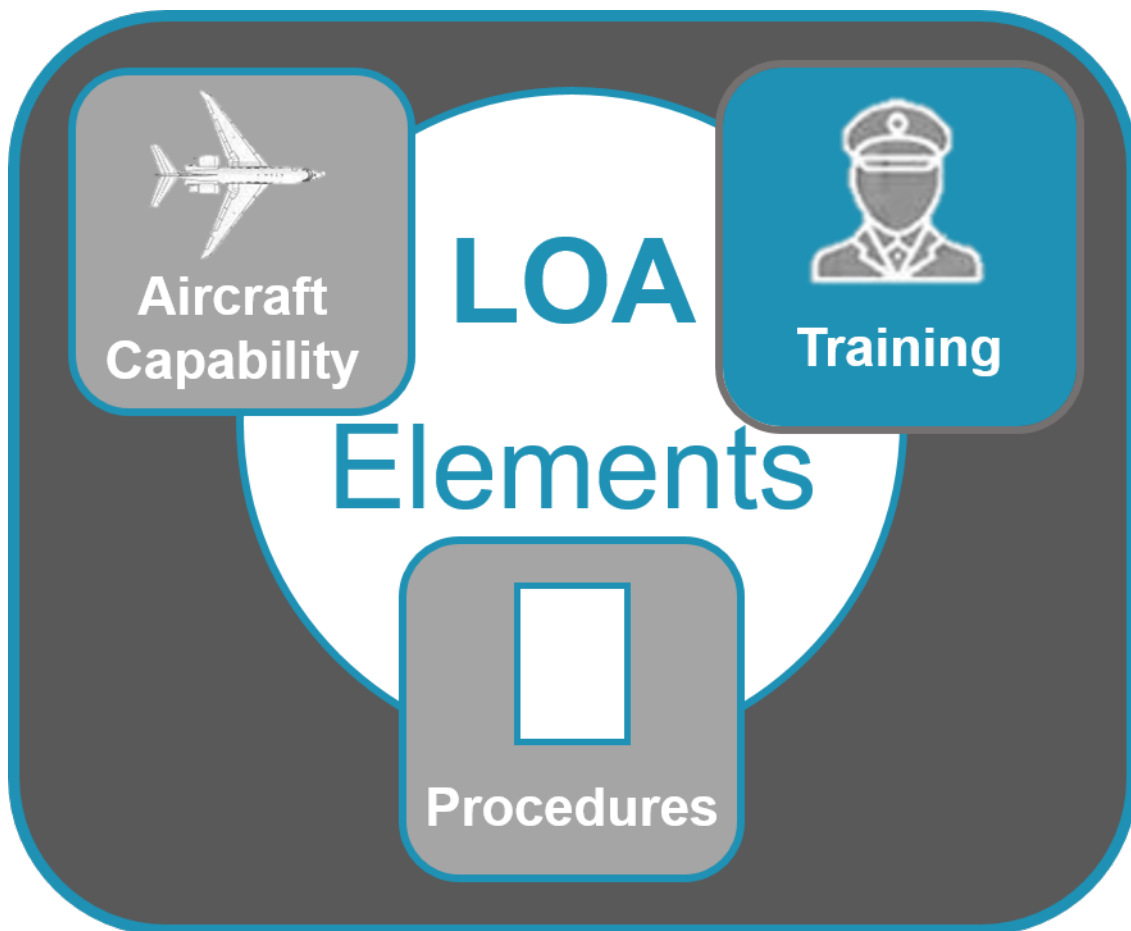
***Inspectors reviewing this application refer to:***

***FAA Order 8900.1, VOL 3 , CH 54, SEC 6***

**NextGEN**



FLIGHT TECHNOLOGIES AND PROCEDURES DIVISION



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# Document Changes

Version	Date	Description of Change
1.0	10/26/2021	Initial Operating Capability (IOC) version
2.0	4/18/2022	<ul style="list-style-type: none"><li>• Inserted instruction text to ASI on cover</li><li>• Revised paragraph 1.1, p. 1</li><li>• Add D095 to Table 1-1 and added note to bottom of table p. 1</li><li>• Moved application form to Section 2, p.3</li><li>• Deleted Section 1.4 <i>old</i> p.3 and p.4</li><li>• Added a field to 2.1, p. 3</li><li>• Revised 2.2, p.3</li><li>• Deleted row 1 in Table E-1, p. E1</li><li>• Deleted row 1 in Table F-1, p. F1</li></ul>
2.1	7/15/2022	<ul style="list-style-type: none"><li>• Renamed all input fields for uniqueness in Appendix A through Appendix G</li></ul>
2.2	10/18/2022	<ul style="list-style-type: none"><li>• Edit to 3rd item in paragraph 1.2</li></ul>
3.0	5/15/2023	<ul style="list-style-type: none"><li>• Revised document with multiple edits and changes</li></ul>
3.1	8/7/2024	<ul style="list-style-type: none"><li>• Corrected broken links</li></ul>

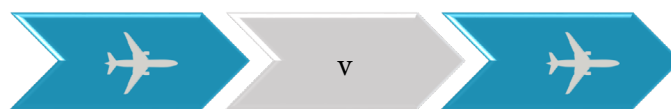
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TSOC  
Application Guide  
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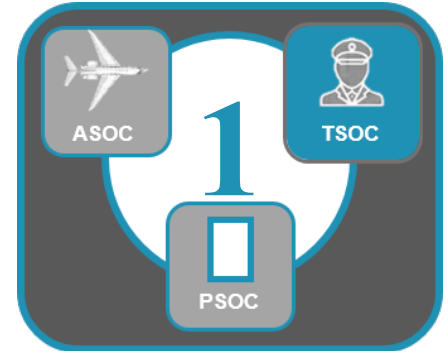
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## SECTION 1: INTRODUCTION



# Section 1 | Introduction

## 1.1 Overview

This guide identifies the documentation and information that should be included in an application requesting acceptance of a Training Statement of Compliance (TSOC). This guide will help ensure the application includes the documentation FAA policy specialists need to verify the training compliance stated in the TSOC. An FAA-accepted TSOC is a critical component of the Streamlined Part 91 Operational Approval Application.

**Table 1-1 LOAs applicable to a TSOC**

LOA	Title
A056	Data Link Communications <b>Note:</b> <i>FANS or ATN may be authorized</i>
B036	Oceanic and Remote Continental Navigation Using Multiple Long-Range Navigation Systems (M-LRNS) <b>Note:</b> <i>Only RNP 2, 4, and 10 may be authorized</i>
B039	Operations in North Atlantic High Level Airspace (NAT HLA)
B046	Operations in Reduced Vertical Separation Minimum (RVSM) Airspace
B054	Oceanic and Remote Airspace Navigation Using a Single Long-Range Navigation System.
C048	Enhanced Flight Vision System (EFVS) Operations <b>Note:</b> <i>Only EFVS Operations to 100 feet above the TDZE may be authorized</i>
C052	Straight-in Non-Precision, Approach Procedure with Vertical Guidance (APV), and Category I Precision Approach and Landing Minima - All Airports <b>Note:</b> <i>Only GNSS approaches with LNAV, LP, LNAV/VNAV, or LPV minima may be authorized.</i>
C063	Area Navigation (RNAV) and Required Navigation Performance (RNP) Terminal Operations <b>Note:</b> <i>Only RNP 1 and RNAV 1 may be authorized.</i>
C073	Vertical Navigation (VNAV) Instrument Approach Procedures (IAP) Using Minimum Descent Altitude (MDA) as a Decision Altitude (DA)/Decision Height (DH)

## SECTION 1: INTRODUCTION



# TSOC

## 1.2 Application Process

This guide serves as an application for TSOC acceptance application when all sections have been filled out and supporting documentation attached. Contacting the FAA's Streamlined Part 91 Operational Approval Specialist or your certificate management office prior to preparing/submitting an application is recommended and may facilitate the review process.

1. Fill out the information and attach the documentation requested in [Section 2](#).  
**Note:** Providing the references in the appendices and/or providing easy access to courseware may facilitate the specialist's review of the application.
2. Email the completed application to the Flight Technologies and Procedures Division. The subject line of the email should read "Request for TSOC Acceptance".

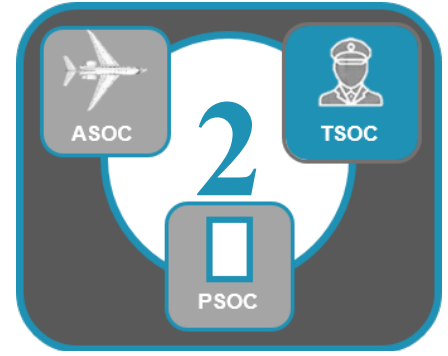
**Visit the following web-page for more information on**  
[Streamlined Part 91 Operational Approvals](#)

***We appreciate any feedback to improve this application guide.***

Contact the Flight Technologies and Procedures Division at:  
**Email: 9-AWA-AVS-AFS-400-Flight-Technologies-Procedures@faa.gov**



## SECTION 2: TSOC ATTACHMENTS



# Section 2 | Application

## 2.1 Application Information

Date:

### Training Provider Information:

Business Name:

Contact Name and Position:

Contact Phone:

Contact Email:

Select the statement that applies.

This is an initial application to accept a TSOC for A056, C048, C052, C063 or C073 (Aircraft Specific)

Aircraft (MMS):

This is an initial application to accept a TSOC for B036, B036, B046 or B054 (Not Aircraft Specific)





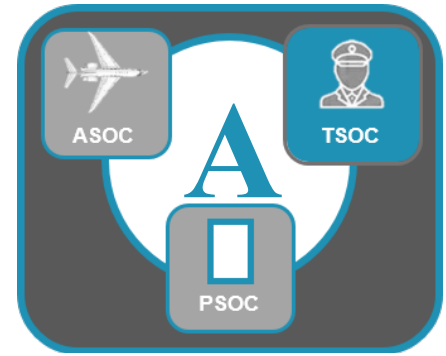
## SECTION 2: TSOC ATTACHMENTS



### 2.2 Application Attachments

Check Box	TSOC Attachments
	<b>Current Training Statement of Compliance (TSOC).</b> Attach the current TSOC if you are requesting to have it renewed. A TSOC may need to be re-accepted if the signature is expiring.
	<b>Proposed Training Statement of Compliance (TSOC).</b> Attach the proposed TSOC. The industry standard template for a TSOC is found on the <a href="#">GAMA website</a> .
	<p><b>Training Curriculum.</b> Attach the training curricula/courses listed on the TSOC. The appendices of this guide lists the minimum training content for each LOA. Application processing will be facilitated if the compliant training content in the appendices of this guide are highlighted in the courseware.</p> <p><b>Note:</b> In the case that a curriculum is too large to attach/email it is also acceptable to:</p> <ol style="list-style-type: none"> <li>1. For each course listed in the TSOC, include the module(s) with the learning objective(s) and the expected learning outcome(s).</li> <li>2. Provide generic access to an online course for the FAA. Clear instructions for accessing the online courses should be attached to the application.</li> </ol>





## Appendix A | A056 Training Compliance

### A.1 A056, Data Link Communications

The overarching guidance for an A056 authorization is Advisory Circular [AC 90-117](#), *Data Link Communication* for required training items in the appropriate AC rule language. As a quick reference, Table A-1 and Table [A-2](#) below lists ground training subjects and procedural training respectively. A training course or combination of courses listed in compliance with A056 crew training requirements on a TSOC should address these topics.

Under the reference column, enter the name of the course and the location within the course where the subject is covered.

**Table A-1 A056 Ground Training Subjects**

Item Number	Ground Training Subjects <i>Note: For subsequent ground training, only the new, revised, or emphasized items need be addressed.</i>	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
1	Normal pilot response to data link communication messages to include: ROGER (downlink message (DM) 3)/WILCO (DM0), UNABLE (DM1), or STANDBY (DM2) of a data link communication message;	
2	Message elements in the message set used in each environment (e.g., ground, oceanic, en route) including terms, abbreviations, and conventions;	
3	RCP/Required Surveillance Performance (RSP) specifications and their performance requirements;	
4	Data link communication terminology (e.g., Controller-Pilot Data Link Communication (CPDLC) and Automatic Dependent Surveillance-Contract (ADS-C) reporting contracts);	
5	Chart depictions of data link communication services;	
6	Implementation of reduced separation with associated data communication system requirements to comply with RCP 240 and RSP 180 or other possible performance requirements associated with their routes;	

**APPENDIX A: LOA A056**



Item Number	Ground Training Subjects <i>Note: For subsequent ground training, only the new, revised, or emphasized items need be addressed.</i>	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
7	Data link communications system theory (relevant to operational use);	
8	Operations involving data link communication services;	
9	Nominal and unacceptable performance;	
10	Normal and non-normal use;	
11	Data link communication events and reporting;	
12	AFM and AFM Supplement limitations;	
13	Crew Resource Management (CRM) of independent message verification, discussion, and action;	
14	Minimum equipment list (MEL), deferrable items, and procedures;	
15	Human factors specific to the operating environment and operation of installed communication equipment;	
16	Proper use of flight plan designators for data link operations in U.S. domestic airspace and, if applicable, in oceanic and remote continental airspace.	



**APPENDIX A: LOA A056**



**Table A-2 A056 Procedural Training**

<b>Item Number</b>	<b>Procedural Training</b> <i>Note: this can be ground or flight training but must be specific to the aircraft M/M/S</i>	<b>Reference</b> <i>(Include course name and location of where the topic is addressed within the course)</i>
1	Proper use of data link communication controls, procedures, and limitations.	
2	Logon/notification procedures and reestablishing system operation after loss of network logon/notification.	
3	Display features.	
4	Weather deviations, offsets, and waypoint sequencing.	
5	Advisories and annunciation.	
6	Timely and correct responses to data link communication failures.	
7	Recognition of data link communications system failures and data link communication issues unique to the air carrier or operator.	
8	Appropriate interaction with the Air Traffic Service Unit (ATSU) following data link communication messages that are not acceptable.	
9	CRM. Independent message verification, discussion, and action (see paragraph 5.2.1).	

**APPENDIX A: LOA A056**



Item Number	Procedural Training <i>Note: this can be ground or flight training but must be specific to the aircraft M/M/S</i>	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
10	Understanding, accepting, receiving, rejecting, or canceling messages.	
11	Storing and retrieving messages.	
12	Loading messages into appropriate controls/displays for use (e.g., flight management system (FMS)) formulating and sending messages.	
13	Departures and departure transitions are not included in the loadable route uplink and must be manually entered by the pilot into the FMS when provided in the Departure Clearance (DCL). Refer to the NAS Data Communications Guide.	
14	Loading message requests from the FMS (e.g., flight plan waypoints into data link communication for transmission, if applicable).	
15	Managing the communications systems.	
16	Establishing and terminating system operation.	
17	Switching use of Radio Frequency (RF) media (if this is a pilot-controllable feature).	
18	Items particular to an air carrier's implementation or the uniqueness of its aircraft capability and/or procedures.	
19	Applicable message sets, expected transmission times, failure annunciations, constraints, and limitations.	

**APPENDIX A: LOA A056**



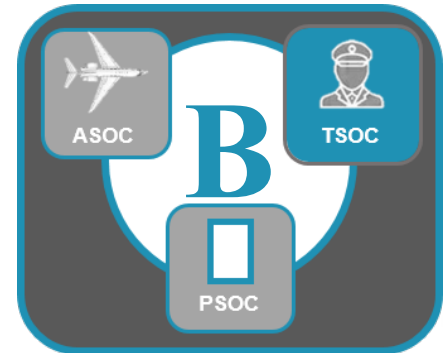
Item Number	Procedural Training <i>Note: this can be ground or flight training but must be specific to the aircraft M/M/S</i>	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
20	CRM in responding to data link communication exchanges.	
21	Data link communication modes of operation.	
22	Normal and non-normal pilot operating procedures.	
23	Conditional clearances and the adherence to certain conditions or restrictions such as changing a flight level based on a time or place.	



**APPENDIX A: LOA A056**



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## Appendix B | B036, B039, or B054 Training Compliance

### B.1 B036, B039, or B054 , Oceanic and Remote Continental Operations and Required Navigation Performance (RNP)

The overarching guidance for oceanic and remote continental authorizations is found in Advisory Circular [AC 91-70](#), *Oceanic and Remote Continental Airspace Operations* and [AC 90-105](#), *Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System and in Oceanic and Remote Continental Airspace* for required training items in the appropriate AC rule language. As a quick reference, Table B-1 and [B-2](#) lists ground training subjects and [Table B-3](#) lists procedural training. A training course or combination of courses listed in compliance with B036, B039 or B054 crew training requirements on a TSOC must address these topics.

Under the reference column, enter the name of the course and the location within the course where the subject is covered.

**Note:** Operators are encouraged to use manufacturer recommended training and operating procedures.

**Table B-1 B036, B039 or B054 Ground Training for Oceanic and Remote Continental Subjects**  
([AC 91-70](#))

Item Number	Ground Training Subjects	Reference (Include course name and location of where the topic is addressed within the course)
1	Title 14 CFR (applicable parts).	
2	ICAO SARPs.	
3	ICAO measurement standards.	
4	Use of oceanic flight planning charts.	

**APPENDIX B: LOA B036, B039, B054**



Item Number	Ground Training Subjects	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
5	Sources and content of international flight publications.	
6	Itinerary planning and overflight clearances.	
7	Meteorology, including significant weather (SIGWX) charts, prognostic weather charts, tropopause prognostic charts, and Terminal Aerodrome Forecasts (TAF), as well as contingency procedures for weather diversions.	
8	Preparation of international flight plans, plotting charts, and operational flight plans/flight logs, to include ETP calculations. These include the Communications, Navigation, and Surveillance capability codes appropriate to your aircraft and your operational authorization.	
9	Specific airspace requirements, to include communications, navigation, and surveillance equipment requirements, as well as operational procedures related to Reduced Vertical Separation Minimum (RVSM) and RNP.	
10	Long-range, air-to-ground communication procedures, including all data link and satellite communications (SATCOM) voice operations, as applicable.	
11	En route and terminal procedures—differences from U.S. procedures.	
12	Use of oceanic checklists.	
13	Oceanic error risk mitigations.	
14	Understanding of Strategic Lateral Offset Procedures (SLOP).	



**APPENDIX B: LOA B036, B039, B054**



Item Number	Ground Training Subjects	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
15	Air traffic clearances, to include proper terminology and phraseology.	
16	Emergency and contingency procedures (see Appendix F, Special Procedures for In-Flight Contingencies in Oceanic and Remote Continental Airspace), including required emergency equipment, SAR techniques, navigation equipment failure techniques, and communication equipment failure techniques.	
17	Specialized training, if conducting operations in areas of magnetic unreliability (AMU), as applicable.	
18	Use of polar/remote area checklists.	
19	Polar/remote area error risk mitigations.	

**Table B-2 B036, B039 or B054 Ground Training for Required Navigation Performance (RNP) Subjects ([AC 90-105](#))**

Item Number	Ground Training Subjects	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
1	Required Navigation Performance (RNP) systems	
2	The information in this AC, as applicable;	
3	The meaning and proper use of aircraft equipment/navigation capability codes used on the flight plan;	

**APPENDIX B: LOA B036, B039, B054**



Item Number	Ground Training Subjects	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
4	A waypoint may be a flyover in one procedure and the same way-point may also be a flyby in another procedure;	
5	Required equipment for RNP operations;	
6	Aircraft automation, mode annunciations, changes, alerts, interactions, reversions, and degradations;	
7	Functional integration with other aircraft systems;	
8	Meaning of route discontinuities and appropriate flightcrew procedures;	
9	Types of navigation sensors used by the RNP system and their annunciations;	
10	Turn anticipation with consideration to speed and altitude effects;	
11	Interpretation of electronic displays and symbols;	
12	Understanding the operational conditions used to support RNP operations (e.g., appropriate selection of course deviation indicator (CDI) scaling (lateral deviation display scaling));	
13	If applicable, the importance of maintaining the published path and maximum airspeeds while performing RNP operations with Radius to Fix (RF) legs;	



**APPENDIX B: LOA B036, B039, B054**



Item Number	Ground Training Subjects	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
14	Monitoring procedures for each phase of flight (e.g., monitor PROG or LEGS page);	
15	Automatic and/or manual setting of the required RNP value;	
16	Know how offsets are applied, the functionality of their particular navigation system and the need to advise air traffic control (ATC) if this functionality is not available;	
17	Operator-recommended automation use for phase of flight and workload, including methods to minimize cross-track (XTK) error to maintain route centerline;	
18	Receiver/transmitter (R/T) phraseology for RNP applications;	
19	Flightcrew contingency procedures for a loss of RNP capability; and	
20	Understanding the performance requirement to couple the autopilot (AP)/flight director (FD) to the navigation system's lateral guidance on RNP procedures, if required.	



**APPENDIX B: LOA B036, B039, B054**



**Table B-3 B036, B039, and B054 Procedural Training** ([AC 90-105](#))

Item Number	Procedural Training	Reference (Include course name and location of where the topic is addressed within the course)
1	Verify currency and integrity of aircraft navigation data;	
2	If applicable, obtain a receiver autonomous integrity monitoring (RAIM) prediction for the planned RNP operation;	
3	Verify successful completion of RNP system self-tests;	
4	Initialize navigation system position;	
5	Adhere to speed and/or altitude constraints associated with RNP operations;	
6	Verify waypoints and flight plan programming;	
7	Perform a manual or automatic runway update (with takeoff point shift for Inertial Reference Units (IRU) only);	
8	Fly direct to a waypoint;	
9	Fly a course/track to a waypoint;	

**APPENDIX B: LOA B036, B039, B054**

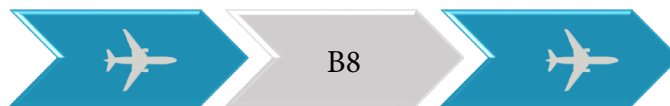


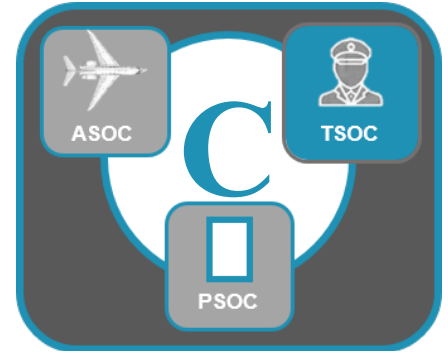
Item Number	Procedural Training	Reference (Include course name and location of where the topic is addressed within the course)
10	Intercept a course/track;	
11	Fly vectors, and rejoin an RNP route/procedure from the 'heading' mode;	
12	Insert and delete route discontinuity;	
13	Remove and reselect navigation sensor input;	
14	When required, confirm exclusion of a specific navigation aid or navigation aid type (distance measuring equipment (DME) and very high frequency omni-directional range (VOR) only);	
15	Change arrival airport and alternate airport;	
16	Verify the RNP value set in the flight management system (FMS) matches the equipment capability and authorizations as annotated in the flight plan; and	
17	Perform parallel offset function if capability exists.	

**APPENDIX B: LOA B036, B039, B054**



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## Appendix C | B046 Training Compliance

### C.1 B046 , Reduced Vertical Separation Minimum (RVSM)

The overarching guidance for a B046 authorizations is Advisory Circular [AC 91-85](#), *Authorization of Aircraft and Operators for Flight in Reduced Vertical Separation Minimum (RVSM) Airspace* for required training items in the appropriate AC rule language. As a quick reference, Table C-1 lists ground training subjects. A training course or combination of courses listed in compliance with B046 crew training requirements on a TSOC must address these topics.

Under the reference column, enter the name of the course and the location within the course where the subject is covered.

**Note:** Operators are encouraged to use manufacturer recommended training and operating procedures.

**Table C-1 B046 Ground Training for RVSM**

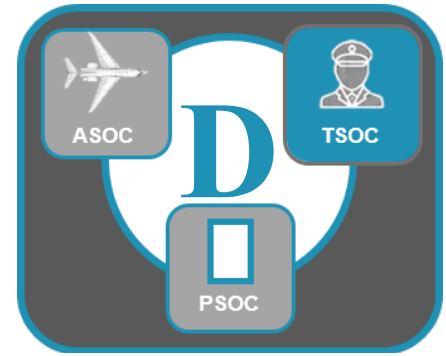
Item Number	Ground Training Subjects	Reference (Include course name and location of where the topic is addressed within the course)
1	Description of RVSM airspace, including Flight Level Allocation Schemes (FLAS).	
2	Flight planning for RVSM aircraft.	
3	Preflight procedures.	
4	Procedures before RVSM airspace entry.	
5	In-flight procedures.	



**APPENDIX C: LOA B046**



Item Number	Ground Training Subjects	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
6	RVSM pilot air traffic control (ATC) phraseology.	
7	Contingency procedures after entering RVSM airspace.	
8	Postflight procedures.	
9	Non-RVSM aircraft.	
10	Altitude-keeping performance monitoring.	
11	Minimum equipment list (MEL).	
12	Traffic Alert and Collision Avoidance System (TCAS) considerations for RVSM (if TCAS-equipped).	
13	RVSM oceanic operations (if applicable).	
14	International operations (if applicable).	
15	Severe turbulence and Mountain Wave Activity (MWA).	



## Appendix D | C048 Training Compliance

### D.1 C048, Enhanced Flight Vision System (EFVS)

The overarching guidance for Enhanced Flight Vision System (EFVS) authorizations is found in Advisory Circular [AC 90-106](#), *Enhanced Flight Vision Systems* and in 14 CFR Part 61, [§61.66](#) and Part 91, [§91.176](#) for required training items in the appropriate AC rule language. As a quick reference, Table D-1 lists ground training subjects and [Table D-2](#) lists flight training. A training course or combination of courses listed in compliance with C048 crew training requirements on a TSOC must address these topics.

Under the reference column, enter the name of the course and the location within the course where the subject is covered.

**Table D-1 C048 Ground Training for EFVS**

Item Number	Ground Training Subjects <i>Note: EFVS courses must be FAA-Approved and administered by an authorized training provider.</i>	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
1	Those portions of this chapter that relate to EFVS flight operations and limitations, including the Airplane Flight Manual or Rotorcraft Flight Manual limitations;	
2	EFVS sensor imagery, required aircraft flight information, and flight symbology;	
3	EFVS display, controls, modes, features, symbology, annunciations, and associated systems and components;	
4	EFVS sensor performance, sensor limitations, scene interpretation, visual anomalies, and other visual effects;	
5	Preflight planning and operational considerations associated with using EFVS during taxi, takeoff, climb, cruise, descent and landing phases of flight, including the use of EFVS for instrument approaches, operating below DA/DH or MDA, executing missed approaches, landing, rollout, and balked landings;	



**APPENDIX D: LOA C048**



Item Number	Ground Training Subjects <i>Note: EFVS courses must be FAA-Approved and administered by an authorized training provider.</i>	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
6	Weather associated with low visibility conditions and its effect on EFVS performance;	
7	Normal, abnormal, emergency, and crew coordination procedures when using EFVS;	
8	Interpretation of approach and runway lighting systems and their display characteristics when using an EFVS.	

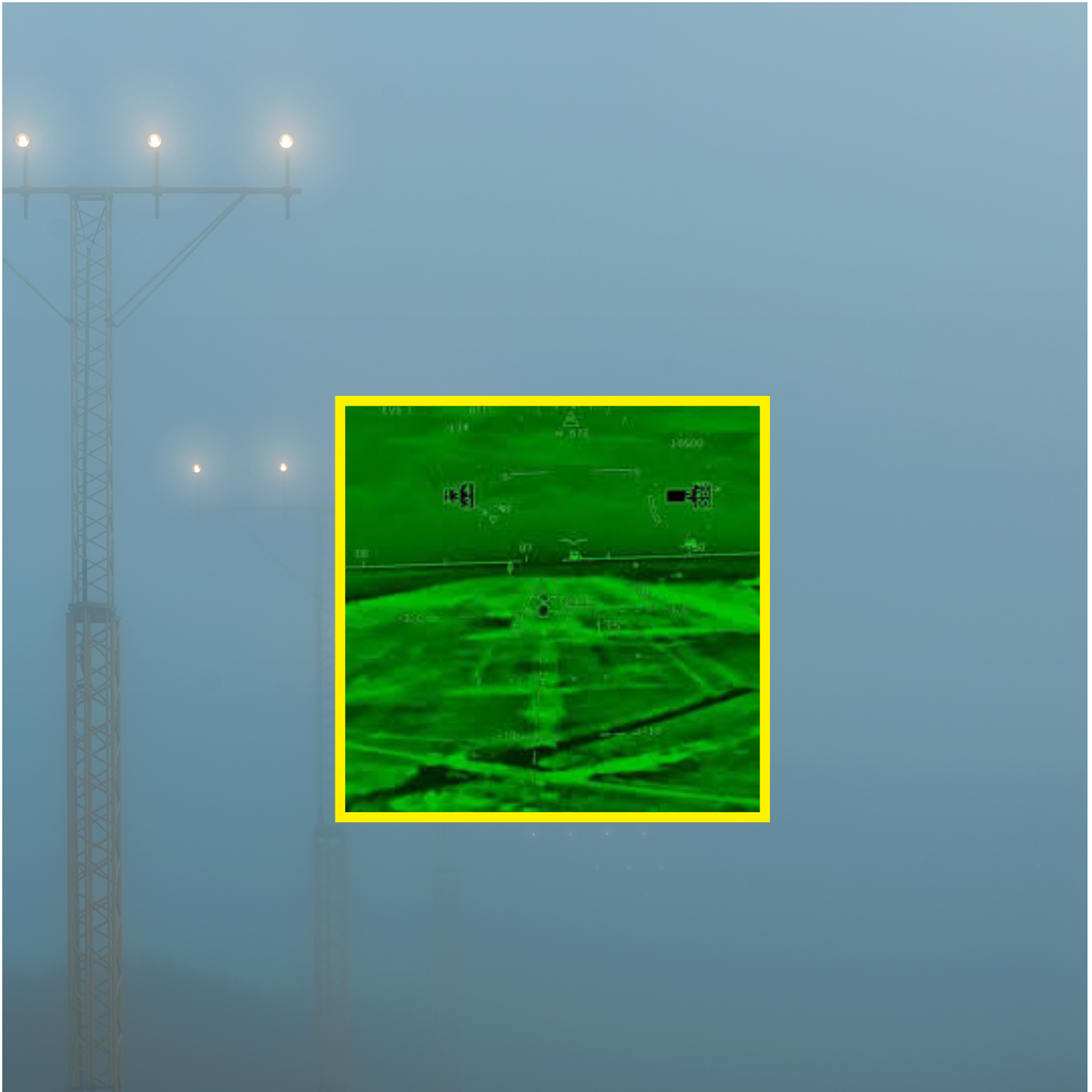
**Table D-2 C048 Procedural Training**

Item Number	Flight Training	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
1	Preflight and inflight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes and associated systems, and adjustments for brightness and contrast under day and night conditions;	
2	Proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings;	
3	Proper piloting techniques for the use of EFVS during instrument approaches, to include operations below DA/DH or MDA under both day and night conditions;	
4	Determining enhanced flight visibility;	
5	Identifying required visual references appropriate to the EFVS operation to 100 feet above the TDZE;	
6	Transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment;	





Item Number	Flight Training	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
7	Normal, abnormal, emergency, and crew coordination procedures when using an EFVS.	

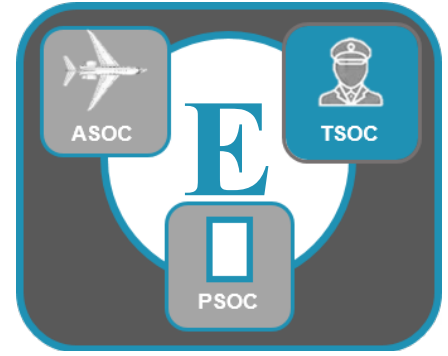


**APPENDIX D: LOA C048**



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## Appendix E | C052 Training Compliance

### E.1 C052 , Straight-In CAT I Instrument Approaches

The overarching guidance for a C052 authorization is found in Advisory Circular [AC 90-107](#), *Guidance for Localizer Performance with Vertical Guidance and Localizer Performance without Vertical Guidance Approach Operations in the U.S. National Airspace System* for required training items in the appropriate AC rule language. As a quick reference, Table E-1 lists ground training subjects and [Table E-2](#) lists procedural training. A training course or combination of courses listed in compliance with C048 crew training requirements on a TSOC must address these topics.

Under the reference column, enter the name of the course and the location within the course where the subject is covered.

**Note:** Operators are encouraged to use manufacturer recommended training and operating procedures.

**Table E-1 C052 Ground Training for Straight-In CAT I Instrument Approaches**

Item Number	Ground Training Subjects	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
1	The meaning and proper use of aircraft equipment/navigation suffixes.	
2	Procedure characteristics as determined from chart depiction and textual description.	
3	Use of navigation system including procedure selection and ILS look-alike principle: <ul style="list-style-type: none"> <li>a. Methods to select approaches (i.e., procedure name menus or channel number) and confirming correct approach ID/reference path identifier (RPI).</li> <li>b. No manual change of waypoints included in the approach.</li> <li>c. Flying the procedure.</li> </ul>	

**APPENDIX E: LOA C052**



Item Number	Ground Training Subjects	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
4	Distinction between ILS flight guidance cues and LPV guidance cues.	
5	Required navigation equipment for approach operations using WAAS or any operational restrictions/limitations, as outlined in the AFM, RFM, AFMS, OpSpec, Mspec, or LOA.	
6	Levels of automation, mode annunciations, changes, alerts, interactions, reversions, and degradations.	
7	Functional integration with other aircraft systems.	
8	Set-up and interpretation of electronic displays and symbols.	
9	Use of LNAV mode(s).	
10	Use of VNAV mode(s).	
11	Understanding the performance requirement and the fail-down capabilities of the system.	
12	ATC procedures/phraseology.	
13	Functionality of vector to final mode.	

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Item Number	Ground Training Subjects	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
14	Flightcrew contingency procedures for a loss of GPS and/or WAAS capability to emphasize maintaining separation from terrain, obstacles and other aircraft.	
15	Impact of aircraft integrations that incorporate both (WAAS) LPV/LP capability and baro-VNAV capability.	
16	Alternate airport requirements and selection of an alternate airport.	

**Table E-2 C052 Procedural Training**

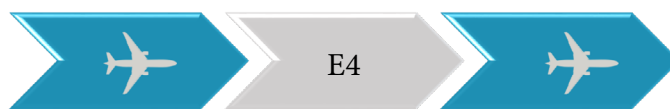
Item Number	Procedural Training	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
1	<p>Set up an fly a procedure with vertical guidance (LPV or LNAV/VNAV)</p> <p><b>Part 91 :</b> The operator should review the operational and training considerations as detailed in paragraphs 8 and 9. After completing these actions, the operator may conduct LPV and LP approach operations to a published DA and MDA, respectively. An LOA is not required when eligibility is based on the AFM, RFM or AFMS and provisions of this AC.</p>	



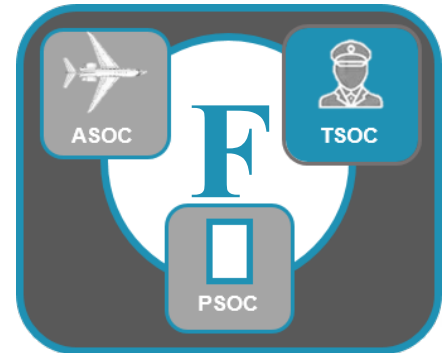
**APPENDIX D: LOA C048**



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## Appendix F | C063 Training Compliance

### F.1 C063 , Area Navigation (RNAV) and Required Navigation Performance (RNP) Terminal Operations

The overarching guidance for a C063 authorization is found in Advisory Circular [AC 90-100](#), U.S. Terminal and En Route Area Navigation (RNAV) Operations and [AC 90-105](#), Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System and in Oceanic and Remote Continental Airspace. Table F-1 lists ground training subjects and [Table F-2](#) lists procedural training. A training course or combination of courses listed in compliance with C048 crew training requirements on a TSOC must address these topics.

Under the reference column, enter the name of the course and the location within the course where the subject is covered.

**Note:** Operators are encouraged to use manufacturer recommended training and operating procedures.

**Table F-1 C063, RNAV and RNP Terminal Operations Ground Training**

Item Number	Ground Training Subjects	Reference (Include course name and location of where the topic is addressed within the course)
1	The meaning and proper use of Aircraft Equipment/Navigation Suffixes.	
2	Procedure characteristics as determined from chart depiction and textual description;	
3	Depiction of waypoint types (flyover and flyby) as well as associated aircraft flightpaths;	
4	A waypoint may be a flyover in one procedure and the same waypoint may also be a flyby in another procedure;	

**APPENDIX F: LOA C063**



Item Number	Ground Training Subjects	Reference (Include course name and location of where the topic is addressed within the course)
5	Depiction of path terminators, associated aircraft flightpaths, altitude, and speed restrictions;	
6	Understanding of the navigation equipment regarding lateral and vertical capture from an RNP routing to an instrument landing system (ILS) or Ground Based Augmentation System (GBAS) Landing System (GLS);	
7	Awareness of possible false vertical and lateral captures during a transition on an ILS capture;	
8	<p>Procedure characteristics as determined from chart depiction and textual description to include:</p> <ul style="list-style-type: none"> <li>a. Depiction of waypoint types (flyover and flyby) and path terminators (provided in Appendix 3 and any other types used by the operator) as well as associated aircraft flight paths.</li> <li>b. Required navigation equipment for operation on RNAV routes, DPs, and STARs (for example, DME/DME/IRU and GPS/GNSS).</li> <li>c. Phraseology. Some RNAV procedures may incorporate the use of “Descend via” clearances. Pilots should be familiar with the correct use of the terminology and procedures as mentioned in AIM (refer to Air Traffic Procedures, Arrival Procedures).</li> </ul>	





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Item Number	Ground Training Subjects	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
9	<p>RNAV system-specific information:</p> <ul style="list-style-type: none"><li>a. Levels of automation, mode annunciations, changes, alerts, interactions, reversions, and degradation.</li><li>b. Functional integration with other aircraft systems.</li><li>c. The meaning and appropriateness of route discontinuities as well as related flightcrew procedures.</li><li>d. Monitoring procedures for each phase of flight (for example, monitor PROG or LEGS page).</li><li>e. Types of navigation sensors (for example, DME, IRU, GPS/GNSS) utilized by the RNAV system and associated system prioritization/weighting/logic.</li><li>f. Turn anticipation with consideration to speed and altitude effects.</li><li>g. Interpretation of electronic displays and symbols.</li></ul>	



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Item Number	Ground Training Subjects	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
10	<p>RNAV equipment operating procedures, as applicable, including how to perform the following actions:</p> <ul style="list-style-type: none"> <li>a. Verify currency of aircraft navigation data.</li> <li>b. Verify successful completion of RNAV system self-tests.</li> <li>c. Initialize RNAV system position.</li> <li>d. Retrieve and fly a DP or STAR with appropriate transition.</li> <li>e. Adhere to speed and/or altitude constraints associated with a DP or STAR.</li> <li>f. Make a runway change associated with a DP or STAR.</li> <li>g. Verify waypoints and flight plan programming.</li> <li>h. Perform a manual or automatic runway update (with takeoff point shift, if applicable).</li> <li>i. Fly direct to a waypoint.</li> <li>j. Fly a course/track to a waypoint.</li> <li>k. Intercept a course/track.</li> <li>l. Be vectored off and rejoin a procedure.</li> <li>m. Determine cross-track error/deviation.</li> <li>n. Insert and delete/clear route discontinuity.</li> <li>o. Remove and reselect navigation sensor input(s).</li> <li>p. When required, confirm exclusion of a specific navigation aid or navigation aid type.</li> <li>q. Insert and delete a lateral offset.</li> <li>r. Change the arrival airport and alternate airport.</li> <li>s. Insert and delete a holding pattern.</li> </ul>	



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Item Number	Ground Training Subjects	Reference (Include course name and location of where the topic is addressed within the course)
11	Operator-recommended levels of automation for phase of flight and workload, including methods to minimize cross-track error to maintain procedure centerline.	
12	Contingency procedures for RNAV failures.	

**Table F-2 C063 Procedural Training**

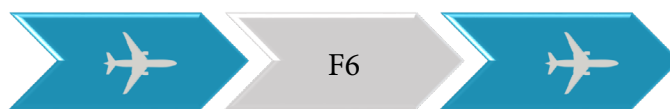
Item Number	Procedural Training	Reference (Include course name and location of where the topic is addressed within the course)
1	This training program should provide sufficient training (for example, simulator, training device, or aircraft) on the aircraft's RNAV system to the extent that the pilots are not just task oriented.	
2	Retrieve and fly an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition);	
3	Select the appropriate STAR or SID for the active runway in use and be familiar with procedures to deal with a runway change;	
4	Selecting/arming the navigation system for an ILS or GLS transition;	

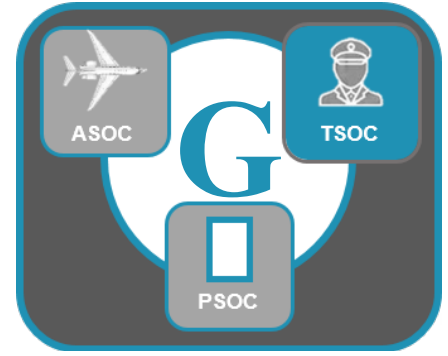


**APPENDIX F: LOA C063**



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## Appendix G | C073 Training Compliance

### G.1 C073 , Vertical Navigation (VNAV) Instrument Approach Procedures (IAP) Using Minimum Descent Altitude (MDA) as a Decision Altitude (DA)/Decision Height (DH)

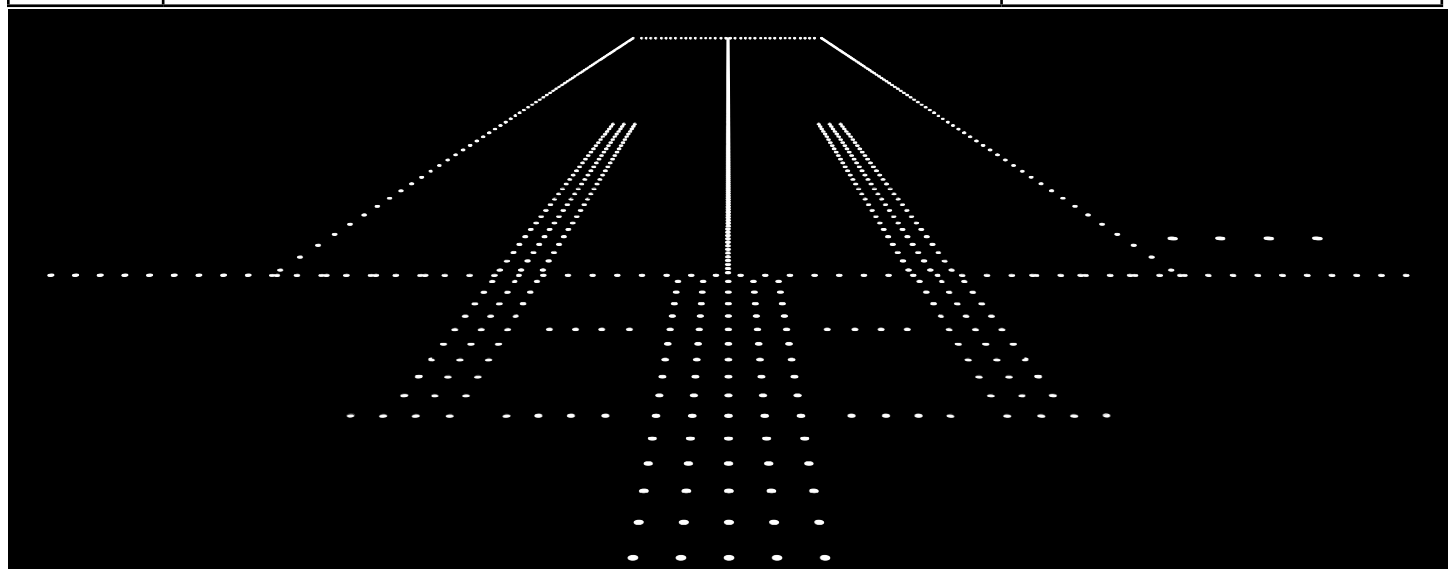
The overarching guidance for a C073 authorization is found in FAA [ORDER 8900.1, V3CH18SEC5](#) for required training items in the appropriate AC rule language. As a quick reference, Table G-1 has the expected procedural training. A training course or combination of courses listed in compliance with C073 crew training requirements on a TSOC must address these topics.

Under the reference column, enter the name of the course and a location within that course where the subject is covered.

**Note:** Operators are encouraged to use manufacturer recommended training and operating procedures.

**Table G-1 C073 Procedural Training**

Item Number	Procedural Training <i>Note: this can be ground or flight training</i>	Reference <i>(Include course name and location of where the topic is addressed within the course)</i>
1	Proficient with VNAV and the IAPs to be flown.	



**APPENDIX G: LOA C073**



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