ELECTRONIC QRH (EQRH) V3.5.9

USER GUIDE – Rev H

20 APR 2026

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Reference	UG-EQRH20262004
Confidentiality	eQRH Customers ONLY

RECORD OF REVISIONS

Revision	Date	Chapters	Description of Changes
RevA	24 AUG 2023	All	Initialization of the document for eQRH V3.5.1 delivery.
RevB	22 FEB 2024	All	Update for eQRH V3.5.3 Delivery.
RevC	16 MAY 2024	REF	Update for eQRH V3.5.4 Delivery.
RevD	10 FEB 2025	REF	Update for eQRH V3.5.5 Delivery.
RevE	03 JUN 2025	REF	Update for eQRH V3.5.6 Delivery.
RevF	20 OCT 2025	REF	Update for eQRH V3.5.7 Delivery.
RevG	16 Feb 2026	4.2.8	Precisions added on the magenta information display
RevH	18 Feb 2026	4.2.8	Precisions added on the magenta information display

TABLE OF REFERENCES

N°	Title	Reference	Issue	Date
[REF 1]	Flight Ops Doc Manager User Guide	UG0600624	-	-
[REF 2]	eQRH Installation Guide	IG-EQRH20230824	RevE	16 JUN 2024
[REF 3]	eQRH Administration Guide	AG-EQRH20230824	RevD	16 JUN 2024

LIST OF ACRONYMS

Acronym	Definition
A/C	Aircraft
ABN	ABNormal Procedure
ATA	Air Transport Association
C/L	CheckList
ECAM	Electronic Centralized Aircraft Monitor
EFB	Electronic Flight Bag
EFF	Electronic Flight Folder
eQRH	electronic Quick Reference Handbook
FCOM	Flight Crew Operating Manual
FLT OPS	FLighT OPerationS
FODM	Flight Operations Documentation Manager
FSA	Flysmart+
HMI	Human Machine Interface
NCL	Normal CheckList
NP	Normal Procedure
OEB	Operations Engineering Bulletin
OS	Operating System
PF	Pilot Flying
PM	Pilot Monitoring
SOP	Standard Operational Procedure

Acronym	Definition
TDU	Temporary Document Unit
XML	eXtensible Mark-up Language

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TABLE OF FIGURES

1 INTRODUCTION

This document is the User Guide of the electronic QRH (eQRH) application. The eQRH is a software application that is used to display one or several Quick Reference Handbook (QRH) manuals. The eQRH application is available on devices with Windows Operating System (e.g. tactile tablets and laptops) or Apple Operating System (iPad tablets).

The purpose of this document is to provide general information on how to use the eQRH application.

The eQRH can be used in various configurations, depending on the Operator environment:

- Standalone application
- As part of Flysmart+ environment
- As part of a third party EFB.

Note that the integration of the eQRH in a third party EFB is under the Operator responsibility and is not described in this document.

The eQRH application design is common to Windows and Apple operating systems. However, some specific features are applicable for each operating system.

They will be highlighted in this document via the following symbols:

Description of features that are available only on Windows devices.

Description of features that are available only on iPad devices.

The eQRH application's color-coded philosophy is consistent with the Flysmart+ philosophy as described below:

Data origin / User action	Color coding	RGB
Focus, Action to be performed	Light Blue	0/153/255
Performed actions in checklists	Green	0/255/0
Performed steps in procedures Conditional steps (IF steps) Data which cannot be updated Information in procedures Info, notes	White	255/255/255
Cautions	Amber	252/179/34
Warnings	Red	255/0/0
Hyperlinks	Hyperlink Blue	0/204/255
Data coming from another application (ie EFF app)	Yellow	255/255/0
Data coming from avionics	Magenta	255/51/204
Data entered by the user	Cyan	58/222/230

Figure 1: eQRH Color Coding

EQRH FIRST START

CHAPTER 02

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2 EQRH FIRST START

The following sections describe the use of eQRH as standalone application or as part of Flysmart+ environment.

2.1 Standalone eQRH

On Windows devices, double-click on the “eQRH.exe” application to start the eQRH. This file is available in the eQRH installation folder:

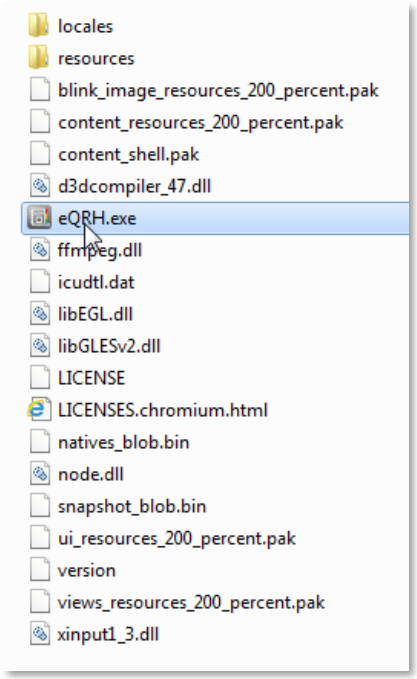

Figure 2: eQRH.exe Start

On iPad, the application can be started from the eQRH desktop icon:

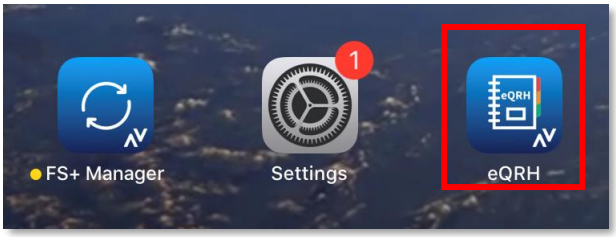

Figure 3: iPad eQRH Icon

2.2 eQRH as Part of Flysmart+ Environment

The eQRH application can be included in the Flysmart+ environment. The following paragraphs describe how the application is used on Windows and Apple devices.

Refer to Chapter 5 FLYSMART+ INTERACTIONS for more details about the other interactions between Flysmart+ and the eQRH application.

On Windows, select the “EQRH” button on the “FLT OPS MENU” or the top bar to start the eQRH application:

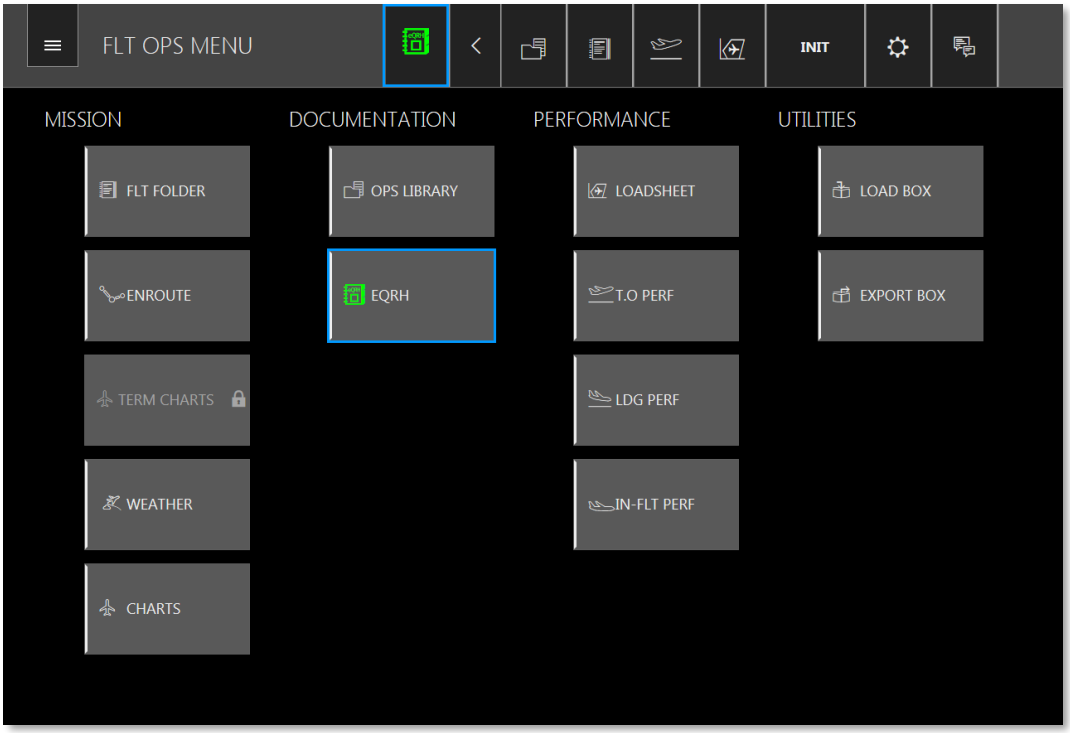

Figure 4: Flysmart+ Menu on Windows

On iPad, the eQRH can be started via the eQRH icon in the My Flight page of Flysmart+ or in the bottom bar of Flysmart+ applications.
The bar at the bottom of Flysmart+ contains all available Flysmart+ applications, including the eQRH.

Figure 5: eQRH Icon in “My Flight” Page

Figure 6: eQRH Icon in the Flysmart+ Applications Bottom Bar

2.3 eQRH as Part of Mission+ Environment

The eQRH application can be included in the Mission+ environment on Apple devices.

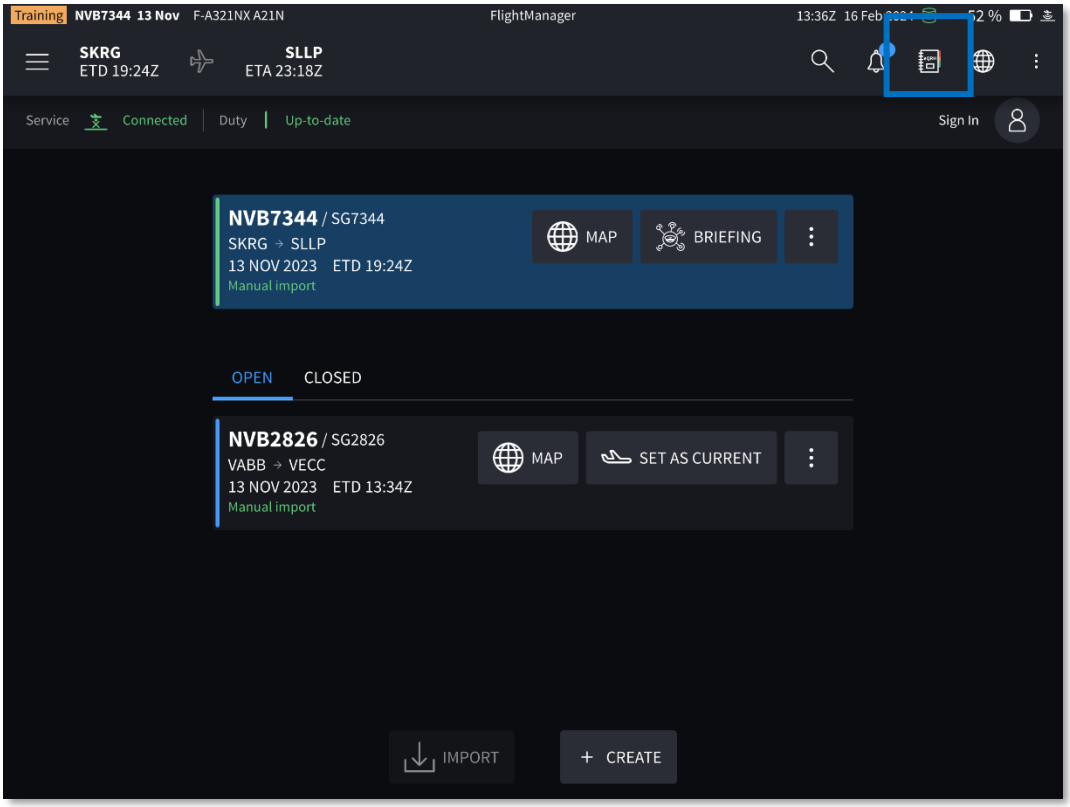

Figure 7: eQRH in Mission+

2.4 eQRH Loads Presentation

As for other Flysmart+ applications, the contents of the eQRH application is based on loads that can be updated and customized, in accordance with the documentation revision cycles and the Operator policy.

The eQRH application operates with all of the following loads:

- The **Data Load(s)** contains the QRH data (checklists, procedures, etc.) and fleet information (applicable aircraft types and aircraft registrations). It is possible to install one or more data loads. Each of them can be applicable to one or more aircraft types and one or more aircraft registrations,
- The **Configuration Load** defines the customization and the behavior of the eQRH interface. This load is optional. If it is not included, the application uses a default customization,
- The **Version Load** (Windows only) contains the EFB version.

The loads installation process is different on Windows devices and iPad. They are described in the following two paragraphs.

2.5 Loads Installation on Windows

Open the application on Windows environment.
The eQRH application performs a scan of each drive of the computer to search for the load files in a “load” folder. (Refer to the Administration Guide in order to identify the scanned folders)

At the eQRH launch, the eQRH application performs the following actions, depending on the result of the scan:

- If new loads are detected, the following INFORMATION message appears to inform about the availability of new loads:

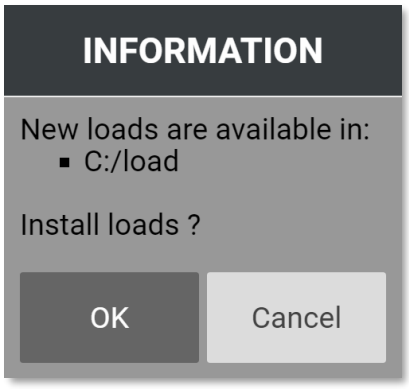

Figure 8: Install Loads

- If no version load or data load is available, and no data was previously installed, the eQRH installs the demonstration QRH (“QRH_DEMO”)
- If there are already loads installed in the eQRH application and the same loads are available in the load folder, the eQRH application starts with the installed data.

Select “OK” to confirm the new loads installation, or “Cancel” to disregard the loads available in the load folder.

If “OK” is selected, a progress bar will display the installation status:

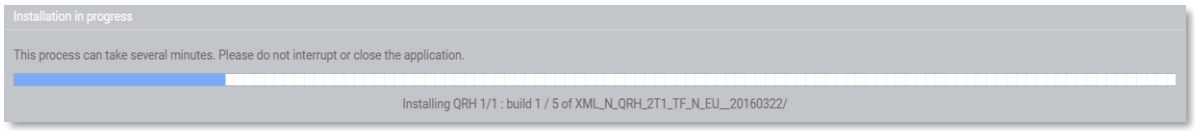

Figure 9: Installation Progress Bar

If the loads installation is successful, the following message appears:

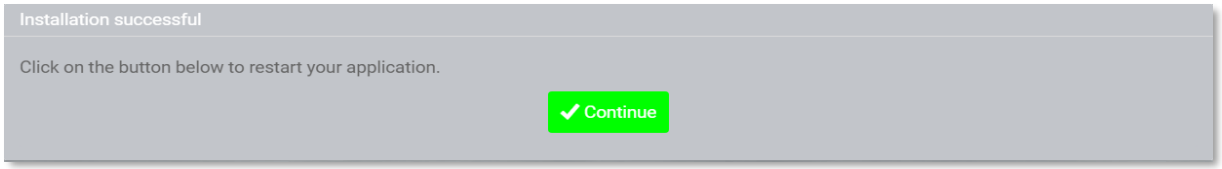

Figure 10: Installation Successful

Select the “Continue” button to open the eQRH application with the newly installed data.

2.6 Loads Installation on iPad

On iPad, the eQRH application starts with the latest installed loads. If no loads were installed, the application installs the demonstration QRH (“QRH_DEMO”).

When new QRH data is available, the Administrator updates the Flysmart+ Gateway with the QRH loads (new EFB release).

Note
The Flysmart+ Gateway is a dedicated Administrator ground tool used to update EFB data on the iPad.

To download the latest EFB release, the “FS+ Manager” application is used. If this application is not installed on the device, it is available on the Apple store.

From the “My Aircraft” page of the eQRH application, select the “Update” button to open the “FS+ Manager” application:

Figure 11: Update Button

The “FS+ Manager” appears:

Figure 12: FS+ Manager

The current EFB version appears at the top of the “FS+ Manager” application.
Fill in the “ACCOUNT SETTINGS” section with the following information:

- SERVER (URL or IP address and port used)
- USERNAME
- PASSWORD.

Note
The user profile is defined by the Administrator in the Flysmart+ Gateway. There are two types of user profiles: Test profile and Operational profile.

The “APPLICATIONS” section indicates the available Flysmart+ applications in addition to the eQRH with the corresponding statuses.

The three possible update statuses are the following ones:

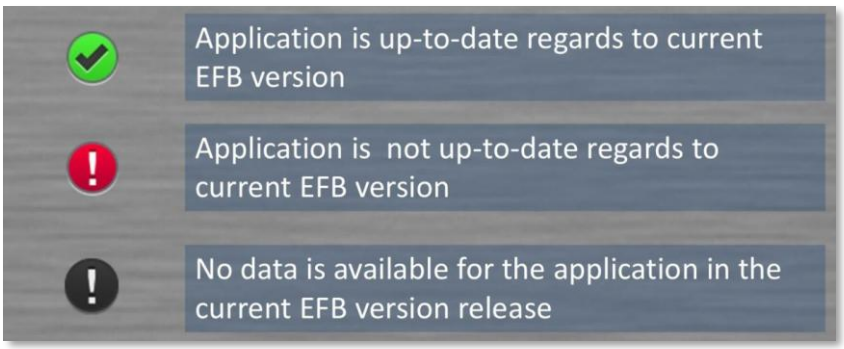

Figure 13: Applications Update Statuses in Flysmart+ Manager

Select “Update all” to update the eQRH application (and other Flysmart+ applications) with the applicable EFB release.

Figure 14: “Update all” Button

The status of each application update is displayed at the end of the update process.

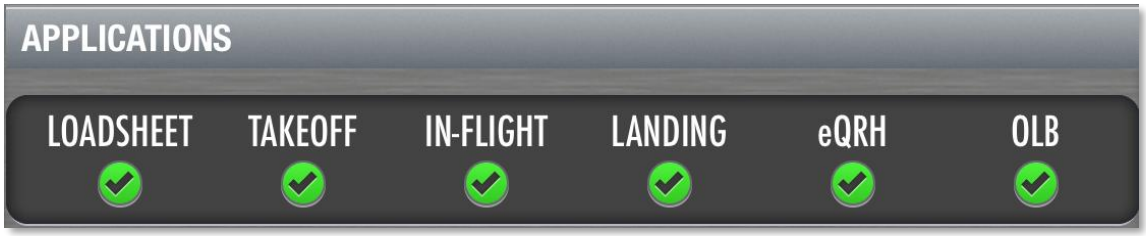

Figure 15: “APPLICATIONS” Statuses after Update

MY AIRCRAFT PAGE

CHAPTER 03

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3 MY AIRCRAFT PAGE

At eQRH start, the “My Aircraft” page appears.

The iPad and Windows interfaces are slightly different. These differences are highlighted in the following illustrations.

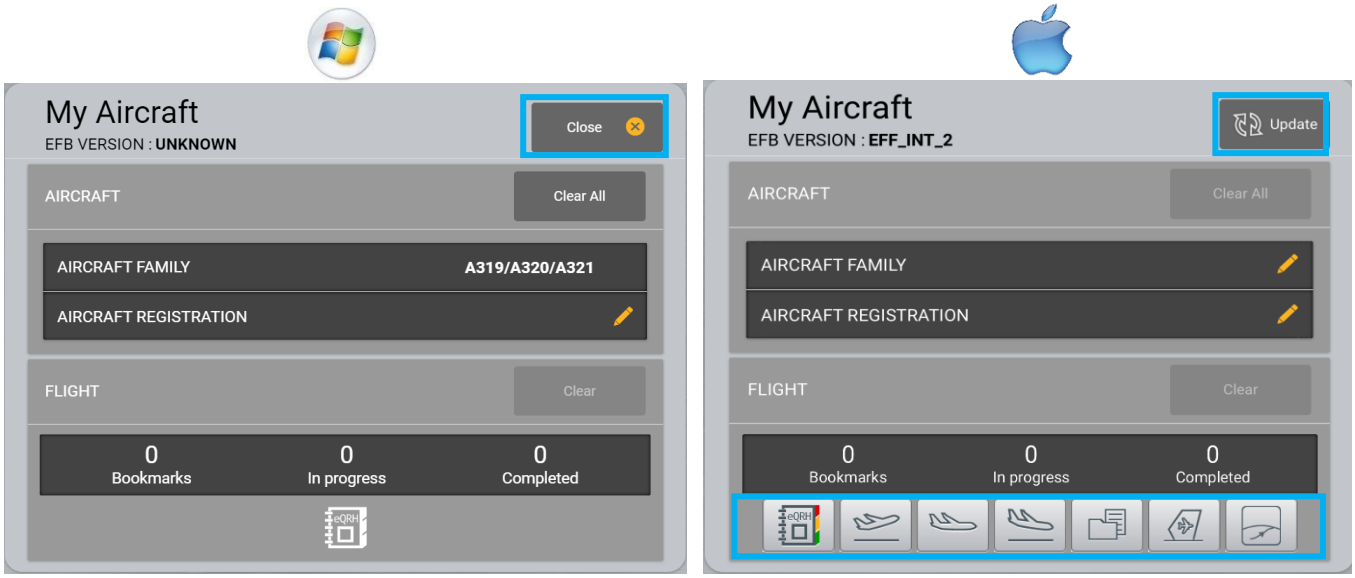

Figure 16: My Aircraft Page on Windows and Apple Devices

On Windows, a “Close” button permits to close the eQRH application.

On iPad, an “Update” button permits the upload of new QRH data (Refer to chapter 2.5 Loads Installation on iPad for details about the upload process).
The Flysmart+ bar at the bottom provides access to the available Flysmart+ applications. This bar displays the buttons of the Flysmart+ applications installed on the iPad device. These buttons are updated at each eQRH start.

At the top of the “My Aircraft” page, the “EFB VERSION” field indicates the version of the Flysmart+ Gateway release defined by the Administrator.

The “My Aircraft” page displays both “AIRCRAFT” and “FLIGHT” sections that are described in the following chapters.

3.1 AIRCRAFT Section

This section is used to define the aircraft characteristics. The AIRCRAFT FAMILY and AIRCRAFT REGISTRATION are mandatory. The eQRH icon is inactive if any of these parameters is not defined.

- **AIRCRAFT FAMILY**: This field displays, via a drop-down list, the available aircraft families in the QRH data load(s). If only one aircraft family is available, this aircraft family is selected by default.

- **AIRCRAFT REGISTRATION**: This field displays, via a drop-down list, the available aircraft registrations in the QRH data load(s). If only one aircraft registration is available, it is selected by default.

When the AIRCRAFT FAMILY and/or AIRCRAFT REGISTRATION fields are not defined, a “pen” icon appears to indicate that they are mandatory.

Figure 17: Pen Icon

Select the “pen” icon to open the drop-down list. The drop-down list contains a search field at its top.

When the number of aircraft registrations is 12 or less, the selection of the aircraft registration can be performed directly in the AIRCRAFT REGISTRATION list. The search function may be manually activated by selecting the search field.

When the number of aircraft registrations is more than 12, the search function is automatically activated to help to quickly find the applicable aircraft registration.

The eQRH virtual keyboard or the tablet native keyboard can then be used to search the applicable AIRCRAFT REGISTRATION.

Figure 18: eQRH Virtual Keyboard

Note
The eQRH virtual keyboard is designed for an optimum use of the search function in high workload situations. It contains only the characters required for the eQRH application.

The Administrator can decide, as per Operator policy, to deactivate the eQRH virtual keyboard and use the virtual keyboard of the device.

With the virtual keyboard, the user can write the first characters of the MSN or AIRCRAFT REGISTRATION of the current aircraft.
The search function continuously filters the list of aircraft corresponding to the characters entered.
From this list, the user can select the applicable aircraft.
The selected AIRCRAFT REGISTRATION then appears in blue (color code for user's selection).

Figure 19: Aircraft Modification

The user may select again the AIRCRAFT REGISTRATION field to open again the drop-down list and modify the selection.
In the drop-down list, the selected AIRCRAFT REGISTRATION is highlighted in the list with a "✓" symbol:

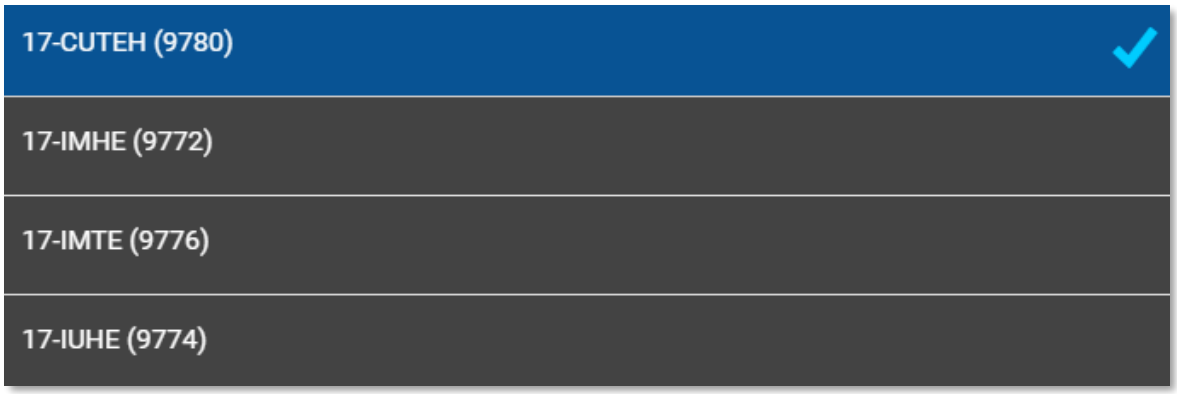

Figure 20: AIRCRAFT REGISTRATION Drop-Down List

Note
When the A/C registration is selected, the AIRCRAFT REGISTRATION is displayed in cyan (pilot entry). When there is only one value available (selected by default), the AIRCRAFT REGISTRATION appears in white.

Note
When the eQRH is included in the Flysmart+ environment, the selected AIRCRAFT REGISTRATION is automatically obtained if already defined in Flysmart+ applications and is displayed in cyan.

Note
When the AIRCRAFT information is automatically obtained from another application than Flysmart+ (i.e. EFF application), the AIRCRAFT REGISTRATION appears in yellow.

Note
When the A/C FAMILY is automatically determined from the AIRCRAFT REGISTRATION, the A/C FAMILY appears in white otherwise (when the A/C FAMILY is set by the user) in cyan.

3.2 FLIGHT Section

This section provides a summary of eQRH statuses, in addition to the number of bookmarks for the selected aircraft:

- **BOOKMARKS**: Number of bookmarked items
- **IN PROGRESS**: Number of in progress procedures and checklists
- **COMPLETED**: Number of completed procedures and checklists.

3.3 Clear Functions

The “Clear” button becomes active when the value of at least one of the fields of the FLIGHT section is different from 0.

At the end of a flight leg, the “Clear” button can be selected to reset all the fields of the FLIGHT section. The same aircraft will be used for the next flight leg. However, if some bookmarked procedures are stored, their number will still appear in the BOOKMARKS field after the “Clear” (for additional information on the difference between bookmark items and a stored bookmarks, please refer to chapter 4.1.2.1 BOOKMARKS Section).

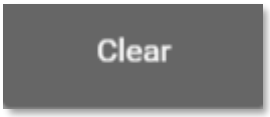

Figure 21: “Clear” Button

The “Clear all” button becomes active when at least the aircraft family is selected in the “AIRCRAFT” section.
At the end of a flight duty, the “Clear all” button can be selected to reset all the fields of the AIRCRAFT and FLIGHT sections.

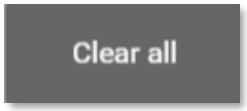

Figure 22: “Clear all” Button

3.4 Close Application

On Windows devices, a “Close” button is displayed at the top right of the page.
Select the “Close” button to close the eQRH, the following CAUTION message appears:

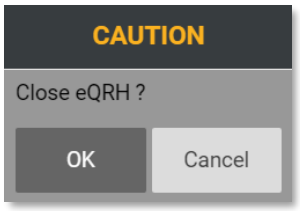

Figure 23: Close Pop-Up

Select “OK” to close the eQRH application.

On iPad, the eQRH application can be closed like any other iPad application, using the basic iOS feature.

3.5 eQRH Button

When the aircraft information (AIRCRAFT FAMILY and AIRCRAFT REGISTRATION) is filled, the eQRH icon at the bottom of the page becomes colored and active.

Select the “eQRH” button to display the QRH of the selected aircraft.

Figure 24: eQRH Button

3.6 Avionics Connection

When the EFB is connected to the avionics via FOMAX (A320/A330) or WAP (A380) interfaces, an additional section is displayed.
This section (AVNCS CONNECTION) provides the status of the connection and when connected the name of the network.
When connected to the network, the SYNCHRO AVIONICS button becomes available. When the SYNCHRO AVIONICS is selected, the avionics parameters are retrieved and used to reset the eQRH Application context.

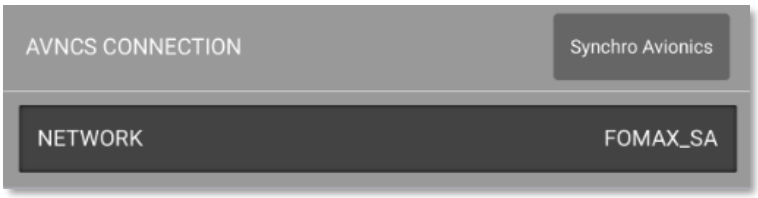

Figure 25: AVNCS CONNECTION section on Windows and Apple Devices

EQRH DISPLAY

CHAPTER 04

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4 EQRH DISPLAY

After a click on the eQRH button on the “My Aircraft” page, a CAUTION pop-up appears. Carefully check the selected aircraft registration before starting the eQRH operations.

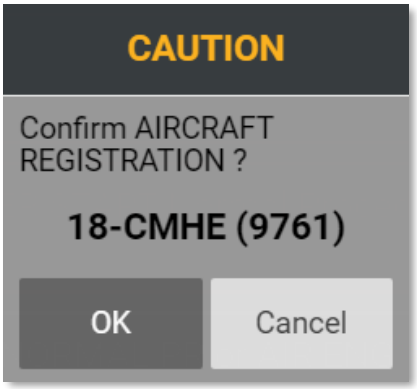


Figure 26: Aircraft Confirmation

Select “OK” to confirm the selected aircraft registration or select “Cancel” to cancel the selected aircraft registration and go back to the “My Aircraft” page.

When the AIRCRAFT REGISTRATION is confirmed, the eQRH displays the QRH data of the selected aircraft.

By default, with A320 and A330/A340 Families aircraft, the eQRH displays the Operations Engineering Bulletin (OEB) tab, to permit the flight crew to check the OEBs before starting the normal operations of the aircraft (as per Airbus SOPs).

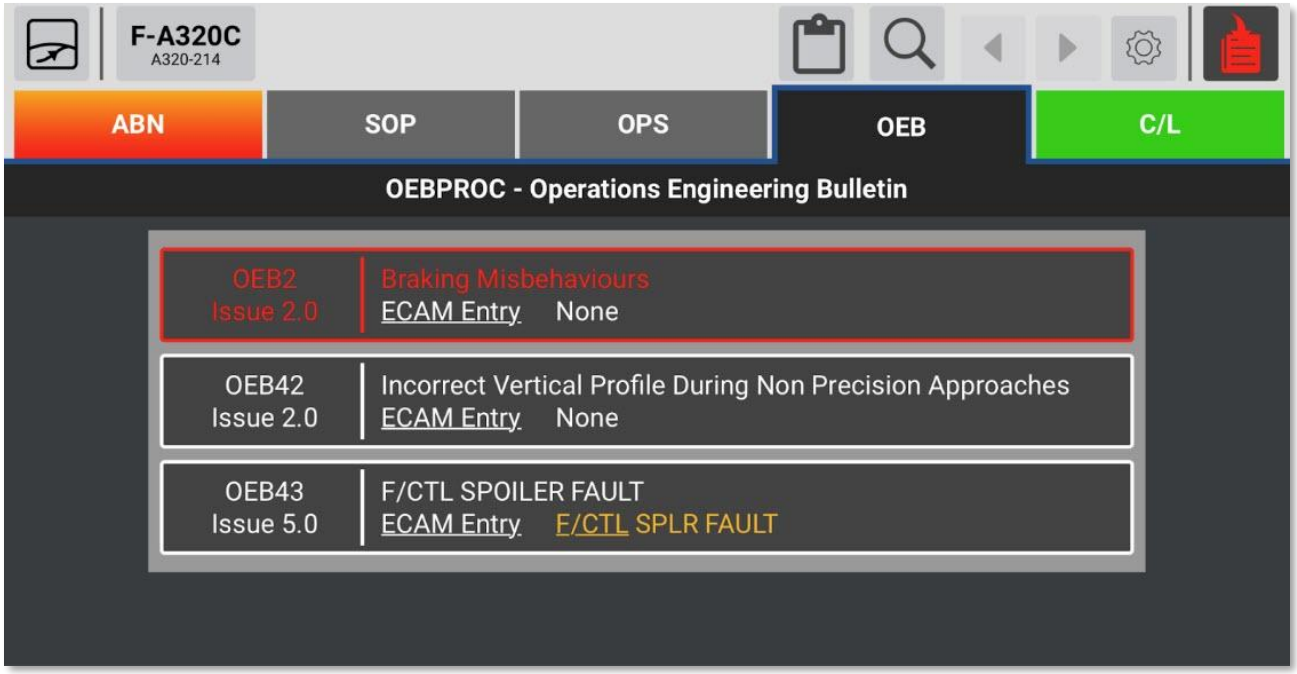


Figure 27: Example of A320/A330/A340 eQRH HMI

A350 and A380 QRHs, by default, only contain the ABN tab.

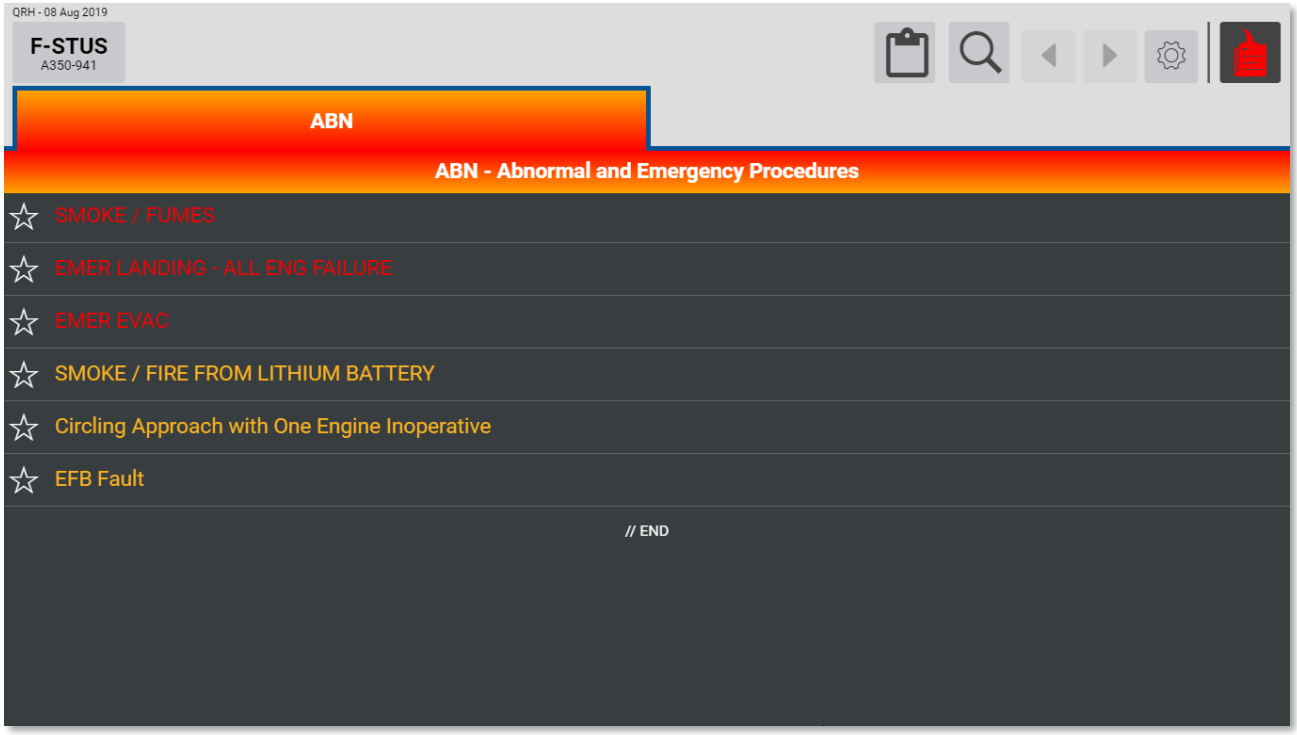


Figure 28: Example of A350/A380 eQRH HMI

It's also possible to add the OEB tab thanks to a configuration load.

4.1 eQRH Header

The eQRH header displays operational information and contains some functions that are detailed in the following paragraphs:

Figure 29: eQRH Header

4.1.1 Flight Information

The Aircraft button which displays the selected aircraft registration and aircraft type permits to access the “My Aircraft” page:

Figure 30: “My Aircraft” Button

If the “My Aircraft” button is selected, the following CAUTION pop-up appears to avoid unintended display of the “My Aircraft” page:

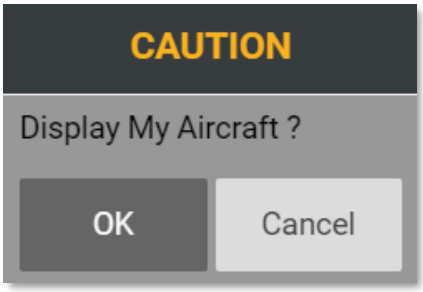


Figure 31: CAUTION Pop-Up

Select “OK” to go back to the “My Aircraft” page or select “Cancel” to keep the display of the QRH data.

Above the “My Aircraft” button, the QRH revision date appears:

Figure 32: QRH Revision Date

If the uploaded data is not valid, the following message appears in red, instead of the QRH revision date: “DO NOT USE FOR FLIGHT / DATA NOT COMPATIBLE”.
If the displayed data is a demonstration version, the following message appears in red, instead of the QRH revision date: “DO NOT USE FOR FLIGHT / DEMO DATA”.

If one of these two messages appears, contact your EFB Administrator to obtain a correct version. Otherwise, the eQRH application is ready for use.

On the right of the eQRH header, the following functions are available:

- Working List
- Search
- Previous and Next Buttons
- Options
- Rapid access to some Emergency Procedures.

Figure 33: Right Section of the eQRH Header

These functions are described in the following chapters.

4.1.2 Working List

Figure 34: "Working List" Button

Select the "Working List" button to open the "Working List" page. This page provides a summary of the eQRH statuses in addition to the bookmarked items. If any item is selected in this list, the item content is displayed.

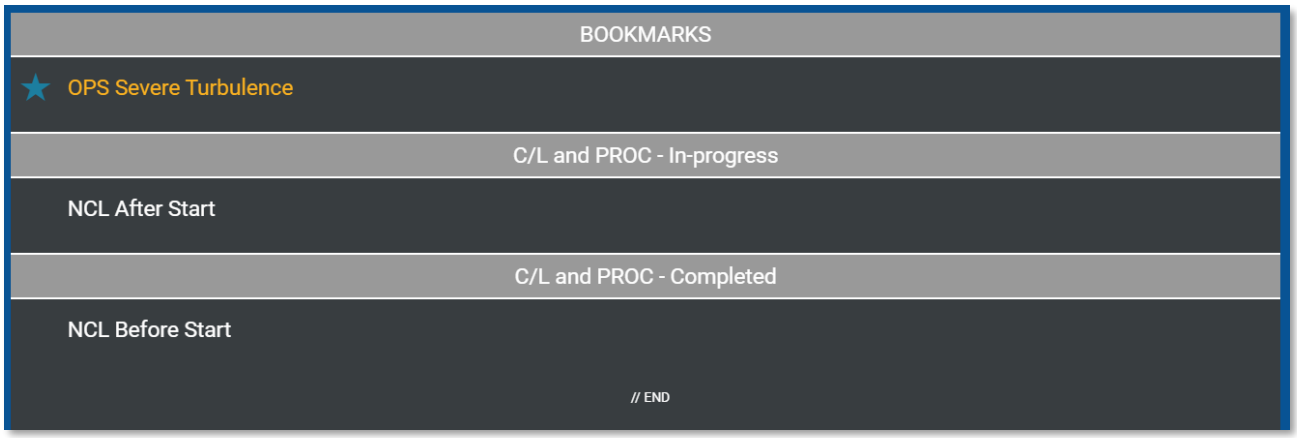


Figure 35: "Working List" Page

4.1.2.1 BOOKMARKS Section

All the bookmarked items are listed in the BOOKMARKS section. It is possible to bookmark any item that has a star icon on its left:

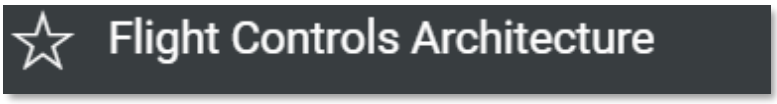


Figure 36: Example of an eQRH Item with a Star Icon

Click one time on the white star to bookmark the corresponding item. The star now appears in blue:

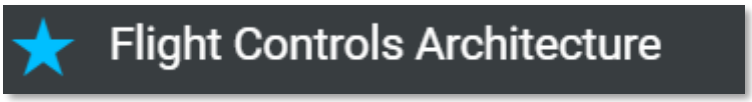


Figure 37: Example of a Bookmarked Item

Click a second time on the star to store the bookmarked item. The star appears in blue with a white padlock:

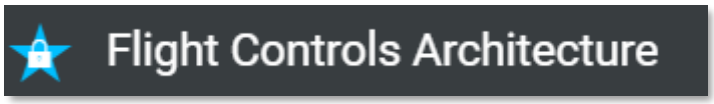


Figure 38: Example of a Stored Bookmark

Click a third time on the star icon of the item to cancel the bookmark. The star appears in white again.

4.1.2.2 "C/L and PROC – IN PROGRESS" Section

The "C/L and PROC – IN PROGRESS" section lists all the "in progress" and "Completed" checklists and procedures.

A checklist or procedure is considered "In Progress", when both of the following apply:

- At least one step of the checklist or the procedure is validated,

  And
- The checklist or procedure is not completed (selection of COMPLETE button).

Note that the number of in progress checklists and procedures appears in white on a red circle next to the Working List icon, when at least one is in progress.

Figure 39: "Working List" Button with In Progress Checklists and Procedures

4.1.2.3 "C/L and PROC – COMPLETED" Section

The "C/L and PROC – COMPLETED" section lists all the completed procedures and checklists.

A checklist or procedure is considered "completed" when the "COMPLETE" button at the bottom of the procedure or checklist has been validated.

Note
When the interactivity is deactivated, the "C/L and PROC – IN PROGRESS" and "C/L and PROC – COMPLETED" sections do not appear. The interactivity activation is managed by the EFB Administrator.

Note
On iPad devices, the Flysmart+ applications bar appears at the bottom of the "Working List". This bottom bar displays the Flysmart+ applications available on the device (refer to chapter 2.2 eQRH as Part of Flysmart+ Environment).

Click anywhere out of the "Working List" page to close it.

4.1.3 Search Function

Figure 40: "Search" Button

Select the "Search" button to open the search window.

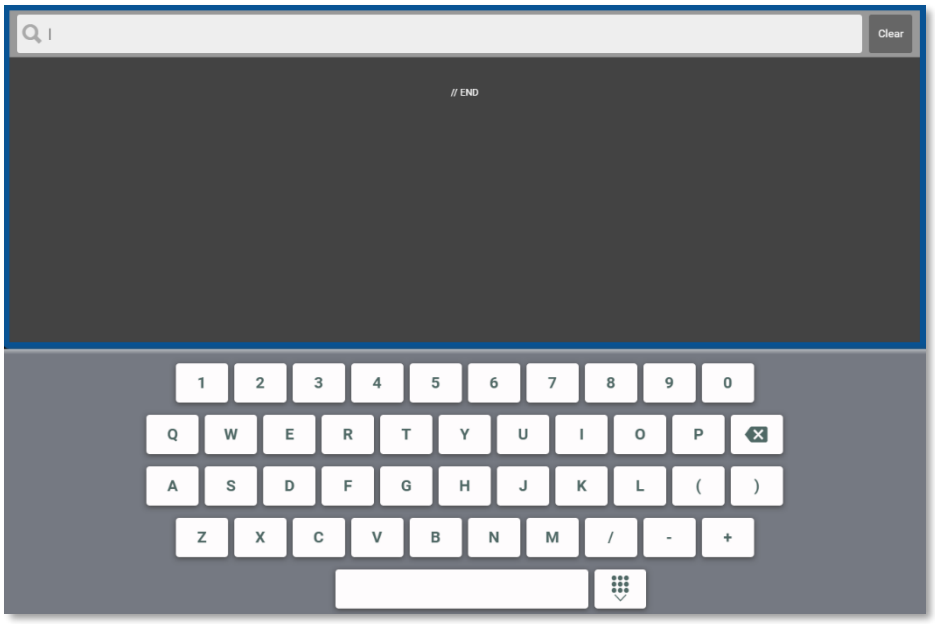


Figure 41: Search Function Window

The search keywords can be entered in the search field. The search function interactively suggests all the QRH items that contain the entered keywords in their title.

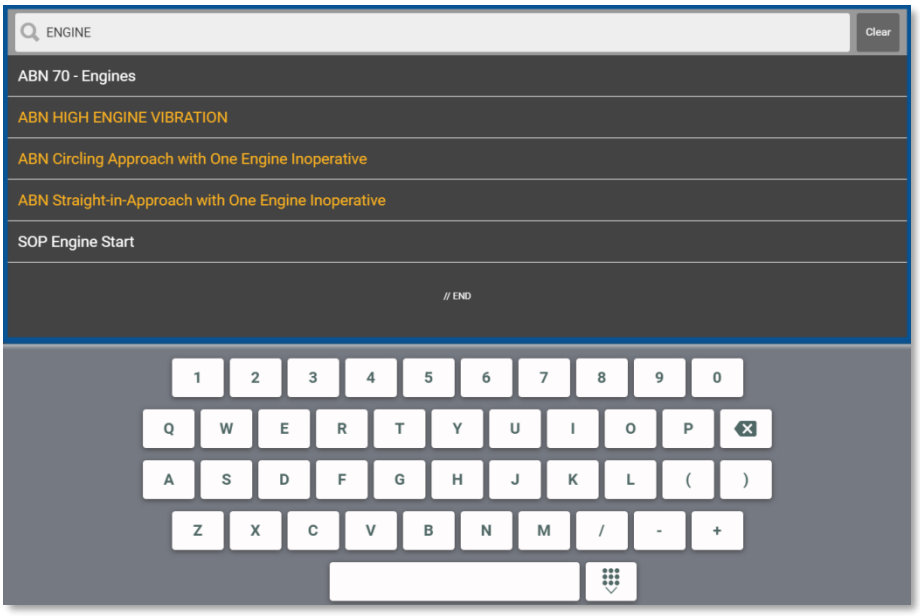


Figure 42: Search Example

Select the “Clear” button to clear the search field.

Figure 43: “Clear” Button

Select the “Delete” button on the keyboard to delete the last character. A long tap (more than 1 second) on the delete button clears the search field.

Figure 44: “Delete” Button

Select the “Hide Keyboard” button to hide the keyboard.

Figure 45: “Hide Keyboard” Button

Select any item in the search list to display its content.
Otherwise, tap anywhere out of the search page to close the search window.

4.1.4 Previous and Next Functions

Figure 46: "Previous" & "Next" Buttons

These buttons enable the navigation in the history of displayed QRH items.

Note
The navigation history does not include tabs.

Click on the "Previous" button to go back in the history of navigation.
Click on the "Next" button to go forward in the history of navigation.

4.1.5 Options Function

Figure 47: "Options" Button

Select the "Options" button to display the options list.

4.1.5.1 Brightness

The "Brightness" option enables the adjustment of the brightness of the screen.
Move the cursor to the left to reduce the brightness, or move it to the right to increase the brightness:

Figure 48: Brightness Cursor

Note
On Windows, the brightness is not linked to the device's brightness.
Caution: the brightness reduction may be cumulated in the eQRH and the tablet.

On iPad, the brightness is linked to the iPad brightness. Any modification of the brightness in this option will modify the device's brightness.

On both Windows and iPad, the brightness option can be deactivated by the administrator (Refer to eQRH Administration Guide for more details). Then, the brightness is no longer available in the Options.

4.1.5.2 Default Font Size

The "Default Font Size" option enables the adjustment of the font size of all the QRH items. Five sizes are available: P1, P2, P3, P4 and P5. By default, the selected font size is the P2 one.

Figure 49: Default Font Size

The font size modification persists after the eQRH is closed.

On iPad, two additional options are available:

4.1.5.3 eQRH Screen Rotation Lock

Select the "eQRH Screen Rotation Lock" button to lock or unlock the eQRH orientation (portrait or landscape display).

Figure 50: eQRH Screen Rotation Lock

When the screen rotation is locked, a padlock appears in the circled arrow:

Figure 51: Screen Rotation Locked

4.1.5.4 *Export eQRH Report*

Figure 52: Export eQRH Report Option

The “Export eQRH Report” option enables the export of the eQRH report. The eQRH report contains the details of all the performed steps from the eQRH start.

Select the “Export” button to create an email that contains the eQRH report. Complete the recipient’s email address if necessary (the Administrator can define a default addressee, refer to the eQRH Administration Guide [REF 3]), and send the message.

Note
This function is available only if an email account is configured in the iPad.

eQRH Report are available as well in the native Apple FILES application, that can be accessed directly on the device:

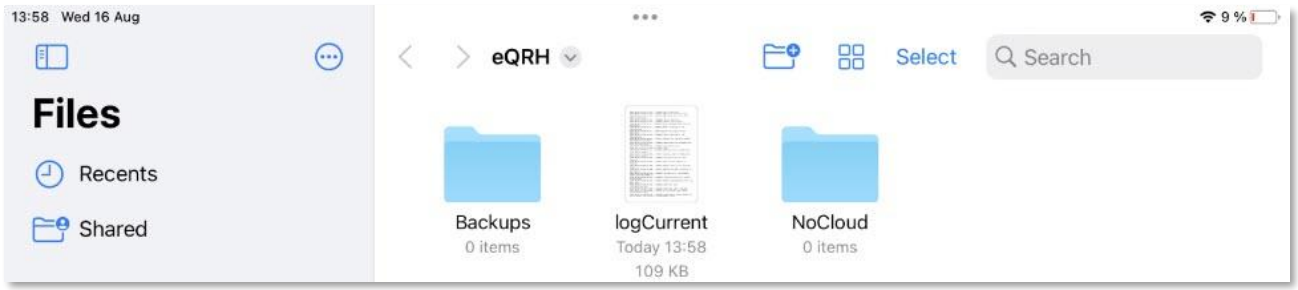


Figure 53: eQRH Report in FILES application

On Windows devices, the eQRH reports are available in the “logCurrent” and “logOld” files stored in the “log” folder of the eQRH installation directory.

Note
The “logCurrent” file is continuously updated with new eQRH information, until it reaches a defined size. When this size is reached, the content of “logCurrent” is copied and replaces the content of “logOld” file, and the “logCurrent” file starts to log again from an empty content.

The size and the folder of the log files can be customized by the administrator. Refer to eQRH Administration Guide [REF 3] for more details.

Click anywhere out of the “Options” pop-up window to close it.

4.1.6 Rapid Access Icon

Figure 54: “Rapid Access” Icon

Select the “Rapid Access” icon for a rapid access to a predefined list of emergency procedures:

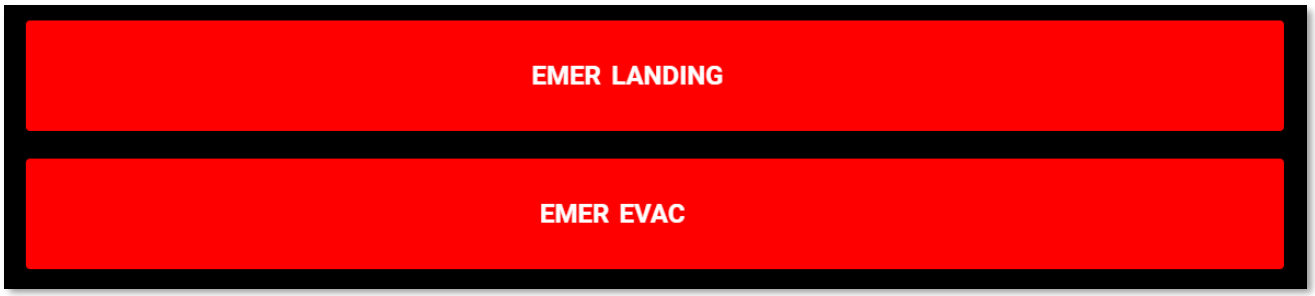


Figure 55: Rapid Access Procedures

The emergency procedures that appear in this rapid access window are the ones available on the cover page of the related paper QRH.

Select any emergency procedure button to display the corresponding procedure.

Note
- If no procedure is available in the rapid access list, the “Rapid Access” icon does not appear in the eQRH header
- If only one procedure is available in the rapid access list, the selection of the “Rapid Access” icon directly displays the content of this procedure
- If at least two procedures are available in the rapid access list, the selection of the “Rapid Access” icon displays the list of the available procedures (as in the illustration above).

4.2 eQRH Tabs

The eQRH displays tabs that correspond to the QRH sections. The QRH sections are accessible via their respective tab buttons.

Remember that, by default, A350 and A380 QRHs contain only the ABN tab.

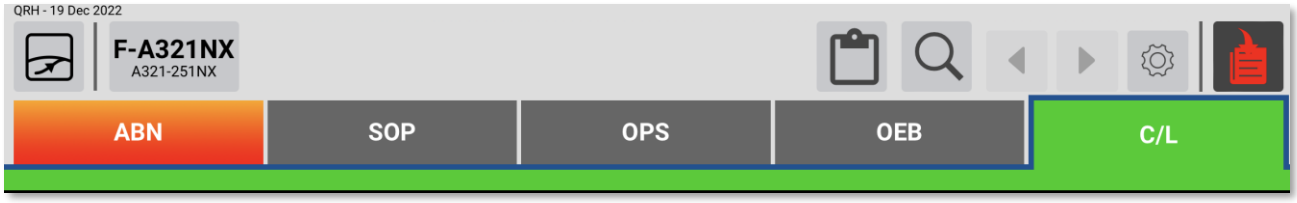


Figure 56: eQRH Tabs

- **OEB**: Operations Engineering Bulletins / **SOP**: Normal Procedures / **OPS**: Operational Data

  These buttons appear by default in white on a grey background,
  These buttons appear in white on a black background when selected.

Figure 57: Default and Selected OEB Button Layouts

- **C/L**: Normal checklist

  The C/L button appears by default in white on a green background,
  The C/L button layout is not modified when selected.

Figure 58: C/L Button

- **ABN**: Abnormal and Emergency Procedures

  The ABN button appears by default in white on a red/orange background,
  The ABN layout is not modified when selected.

Figure 59: ABN Button

The content of each eQRH tab can be configured in accordance with 3 different layouts:

- Default: Items are listed successively in the tab with a grey background,
- Effective OEB: Items are listed with an OEB layout,
- Normal Checklist: Items are listed with a normal checklist layout.

The following chapters describe the content of each eQRH tab.

4.2.1 OEB: Operations Engineering Bulletin *(If Applicable)*

At the eQRH start, the OEBPROC tab automatically appears and permits the flight crew to check the OEBs before starting the normal operations of the aircraft (as per Airbus SOPs).

4.2.1.1 OEB List Display

In the OEBPROC tab, the procedures are listed in the following order:

- Red OEBs are listed first. They are classified in the ascending sequence of their OEB numbers,
- White OEBs are listed after the red ones. They are classified in the ascending sequence of their OEB numbers.

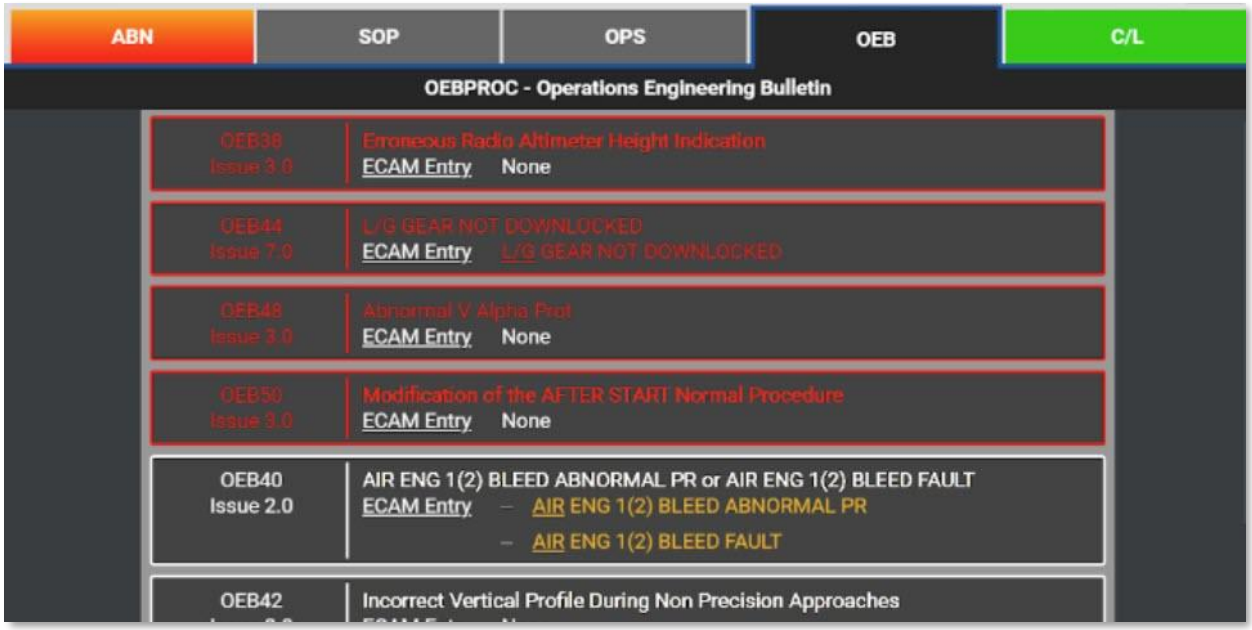


Figure 60: Operations Engineering Bulletin Layout

For the A320 and A330/A340 aircraft families, this tab is mandatory, and always appears in the eQRH, even if no OEB procedure is applicable. In this specific case, a message appears to indicate that no OEB is applicable for the selected aircraft.

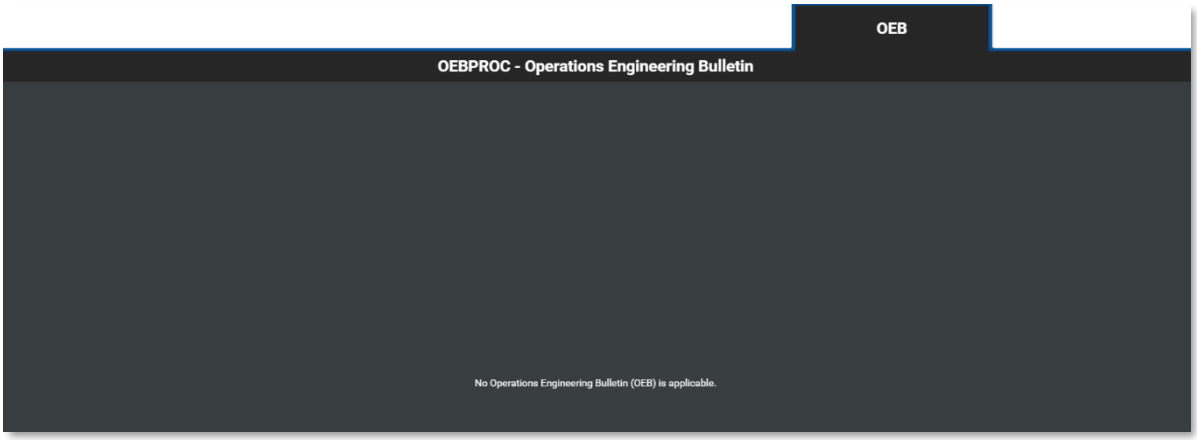


Figure 61: eQRH with No OEB Applicable

4.2.1.2 OEBPROC Table Content

The OEBPROC displays the following:

- The first column, that provides:
  - The OEB number
  - The issue of the OEB.
- The second column, that provides:
  - The OEB procedure title, that complies with the following color code:
    - Red for Emergency OEB procedures
    - Amber for Abnormal OEB procedures
    - White otherwise
  - The associated ECAM alert, if any.

4.2.1.3 OEB Procedure Content

Select any OEB to open the corresponding content.

The top of the page provides the following OEB information:

- The OEB number (in the same color as the OEB)
- The OEB issue (in the same color as the OEB)
- The OEB title (in red for Emergency OEB procedures or in amber for Abnormal OEB procedures)
- The “Show OEB explanation” button to access the explanation of the OEB when available.

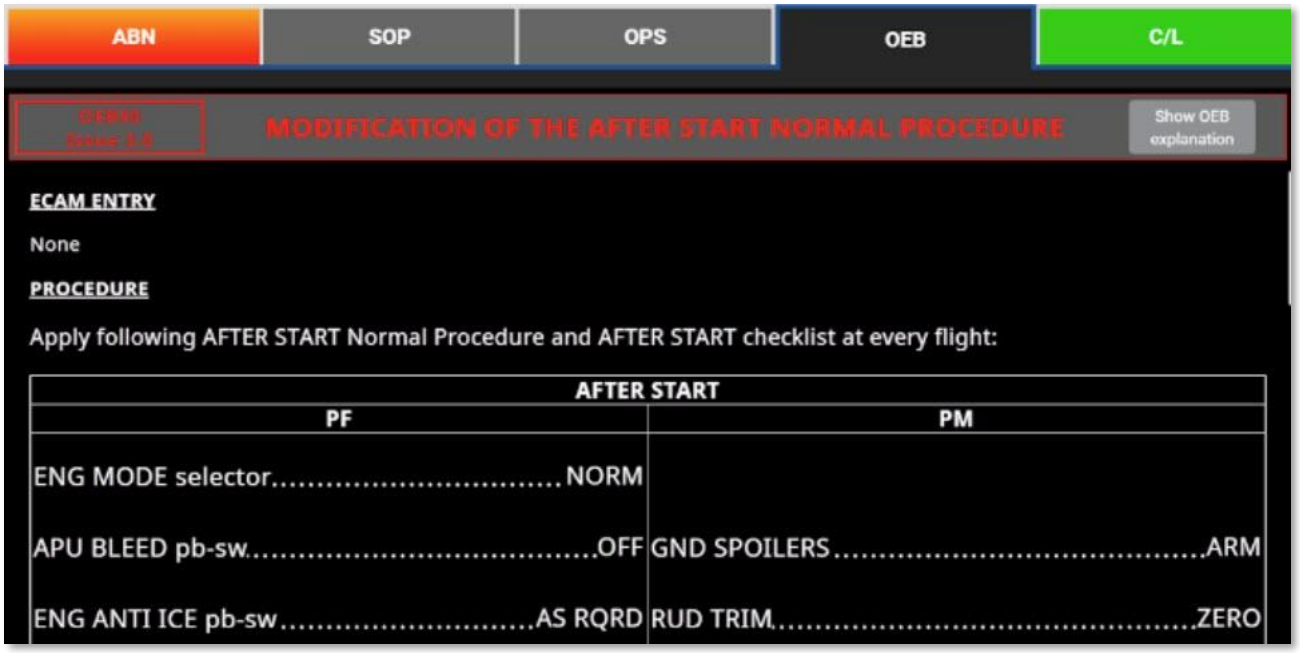


Figure 62: OEB Procedure Example

OEBs can contain conditions. Successively expand all the conditions of the OEB to consult the OEB content.

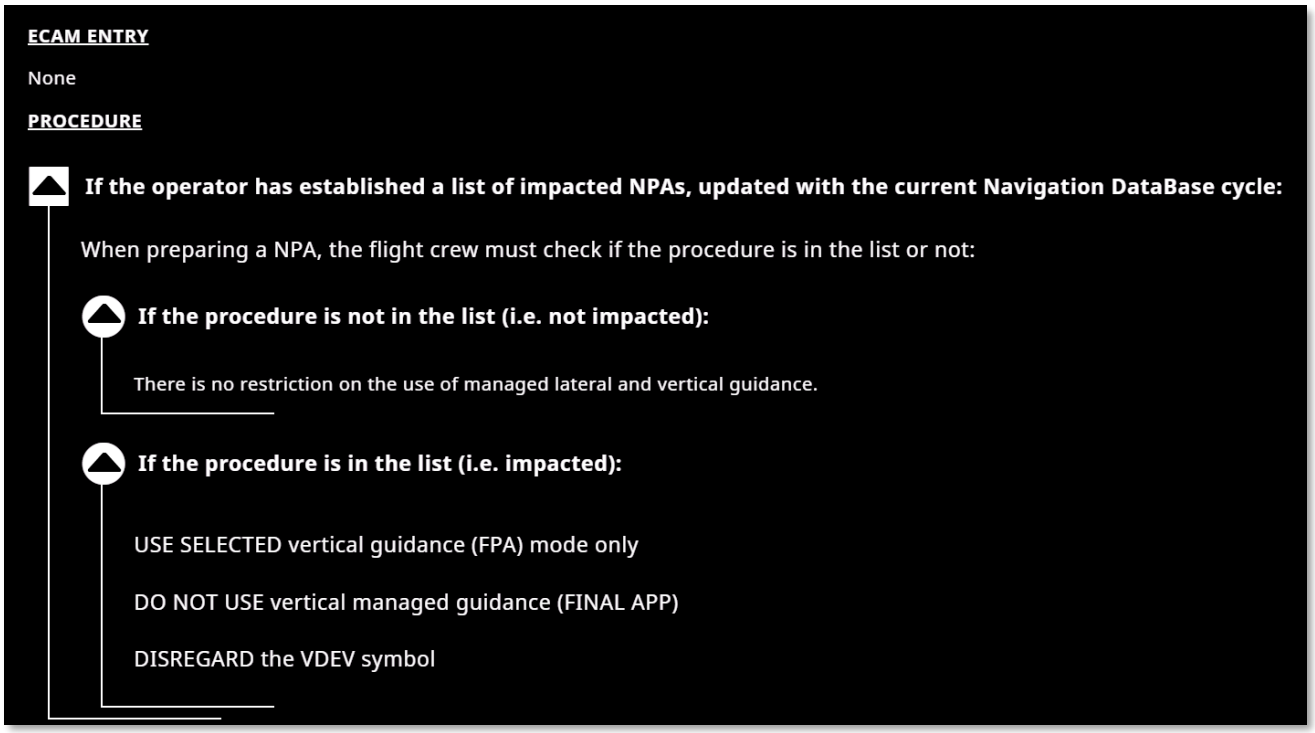


Figure 63: Conditions Expanded for Consultation

Select the “Show OEB explanation” button to display the explanation of the OEB.

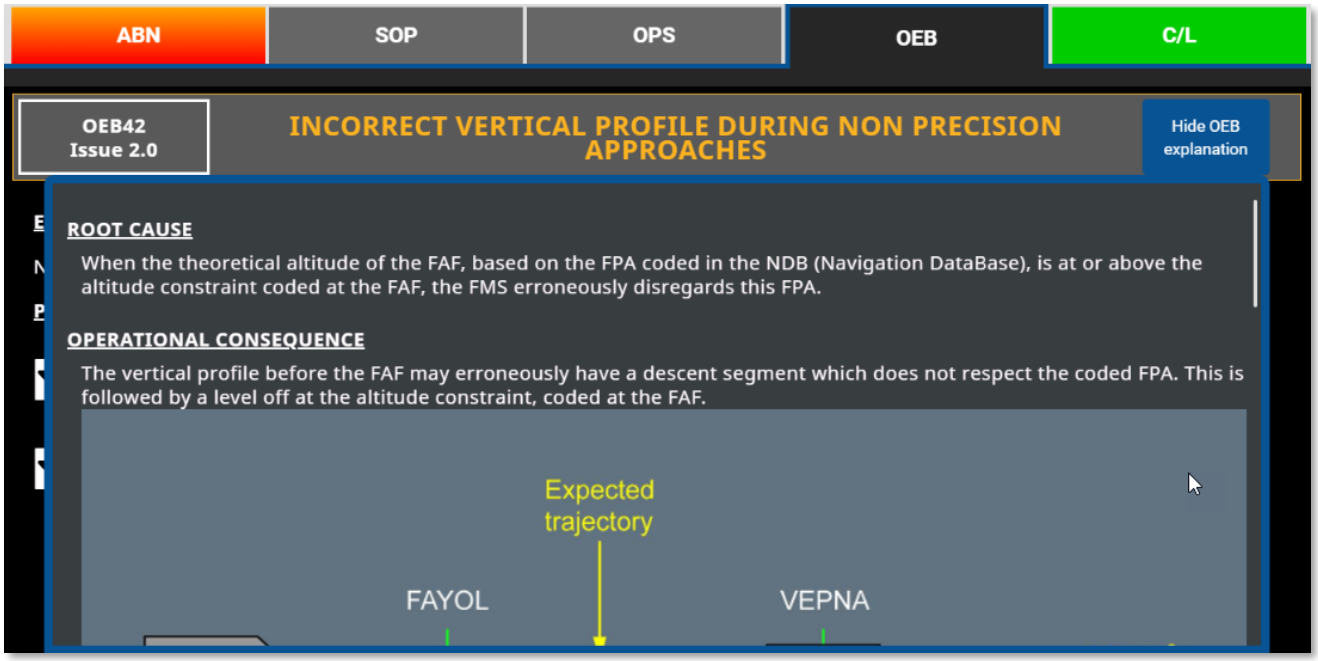


Figure 64: OEB Explanation Display

Select the “Hide OEB explanation” button to close the explanation popup.

Select the “OEB” tab button to display again the list of OEBs.

4.2.2 C/L: Normal Checklist *(If Applicable)*

Select the “C/L” button to display the “NCL - Normal Checklist” tab.

4.2.2.1 C/L Tab Content

The “NCL - Normal Checklist” tab contains a list of checklists and additional information.

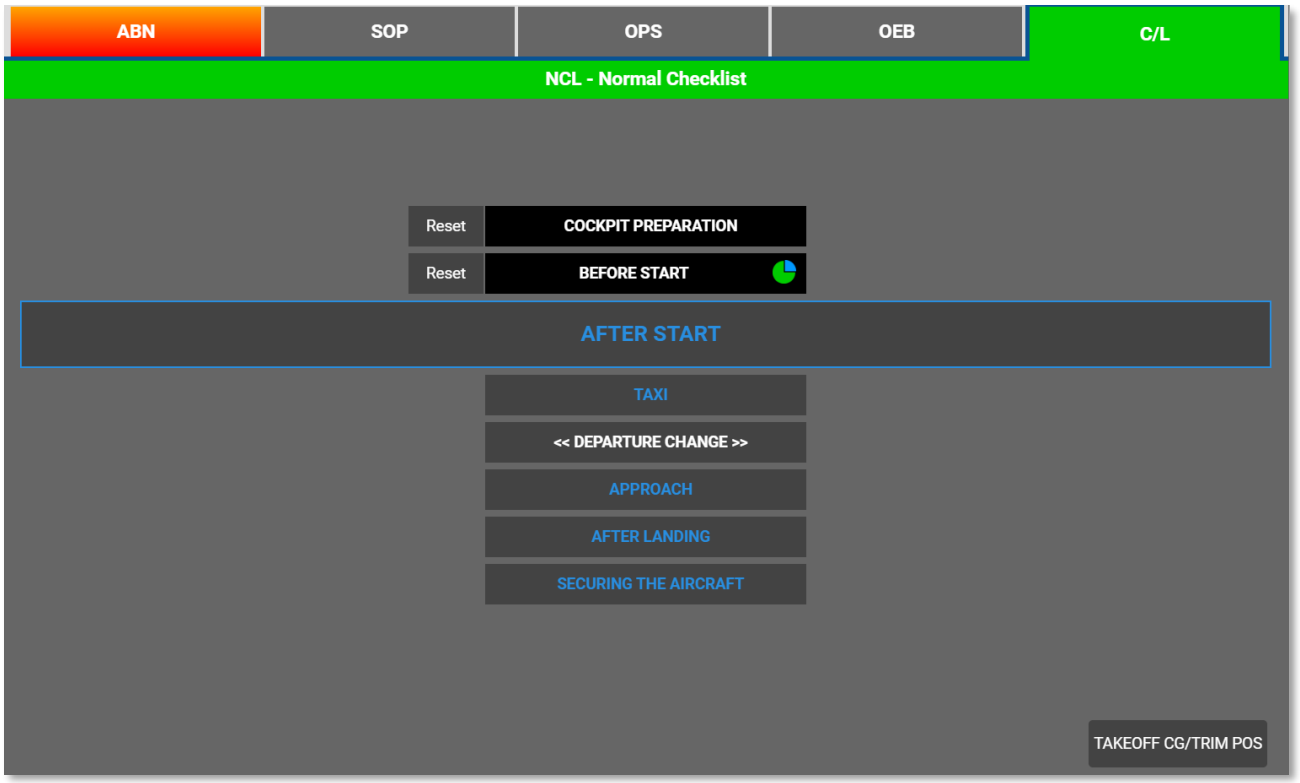


Figure 65: Normal Checklist

The checklists displayed in white and surrounded by chevrons are optional checklists that should be executed under specific conditions.
The eQRH application manages a current checklist concept. The current checklist is always displayed in the center of the screen and highlighted in a grey frame.
When the current checklist is completed, the next non-optional checklist becomes the new current checklist. The list of checklists is then scrolled up.
At any time, you can manually navigate in the list and select any checklist to execute it. This checklist becomes the new current checklist.

In addition, on the right bottom corner of the “C/L” tab, there is also a button to access the TakeOff, Centre of Gravity (CG) and Trim position.

4.2.2.2 Checklist Completion

The checklist name appears in blue on grey background when the associated checklist is not initiated.

Figure 66: Checklist Not Initiated

When the checklist has at least one step validated but is not completed, the checklist name still appears in blue on grey background, with a pie chart symbol displayed on the right side of the checklist button.

Figure 67: Checklist Not Completed with at Least One Item Validated

The checklist name appears in white on black background when the associated checklist is completed.

Figure 68: Checklist Completed

When the checklist is completed with at least one step that was not validated, a pie chart symbol also appears on the right side of the checklist button.

Figure 69: Checklist Completed With at Least One Item Not Validated

When the checklist is optional, the checklist appears in white surrounded by chevrons on grey background.

Figure 70: Optional Checklist

4.2.2.3 Reset Function

When a checklist is completed, a “RESET” button appears on its left in the Normal Checklist menu. Select this button to reset the selected checklist and all the subsequent checklists.

When a “RESET” button is selected, a CAUTION message appears to avoid unintended checklist resets.

Figure 71: Reset Confirmation

Select “OK” to confirm the reset of the selected checklist, and all the subsequent ones if any.
Select “Cancel” to cancel the checklist reset.

4.2.2.4 Checklist Display

Select a checklist button to display the corresponding checklist. The checklist title appears at the top of the checklist page.

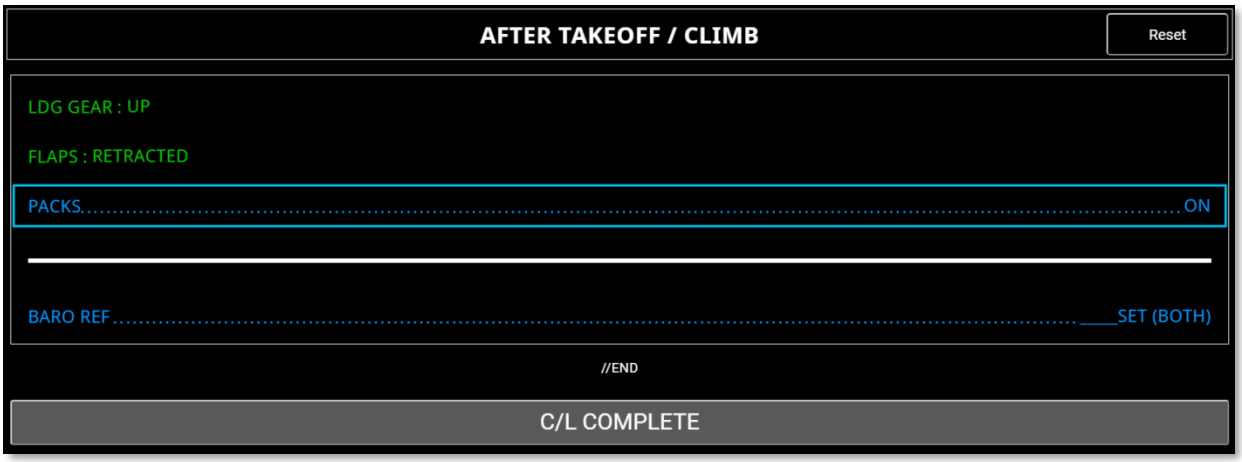


Figure 72: Checklist Content

The checklist page displays the challenge/response lines to be validated. Each line appears by default in blue. The “challenge” item appears on the left side and the “response” appears on the right side.

The first challenge/response to be validated is automatically focused (cyan rectangle around the action).
When the challenge is completed, validate it via a tap on the blue frame.
When validated, the challenge/response is displayed in green, the dots disappear, and the focus automatically moves to the next step to validate.

Note
If a challenge/response is not applicable, the focus can be moved on any other challenge/response via a tap on the related line.

When at least one challenge/response of the checklist page is validated, a “Reset” button appears next to the checklist page title. The reset button may be used to reset all the checklist items. A reset will also trigger the reset of all the subsequent checklists.

Select the “C/L COMPLETE” button at the bottom of the page to complete the checklist.

Figure 73: C/L COMPLETE Button

When the checklist is completed, the following applies:

- The checklist content is faded,
- The elements of the checklist can no longer be validated unless a reset is triggered,
- The eQRH automatically displays the C/L tab content and highlights the next non-optional checklist.

At any moment, select the “C/L” tab to return to the C/L tab content.
In case of optional checklist, select the “C/L COMPLETE & RESET” button at the bottom of the page to complete and automatically reset the checklist.

Figure 74: C/L COMPLETE & RESET Button

When the checklist is completed, the following applies:

- The optional checklist is closed,
- The eQRH automatically displays the C/L tab content and highlights the latest non-optional checklist not completed.

4.2.2.5 TakeOff CG Trim Position

When clicking on the button “TakeOff CG/Trim Pos”, and if dynamic diagram data are available, the illustration below is displayed instead of the usual CG-TRIM image.

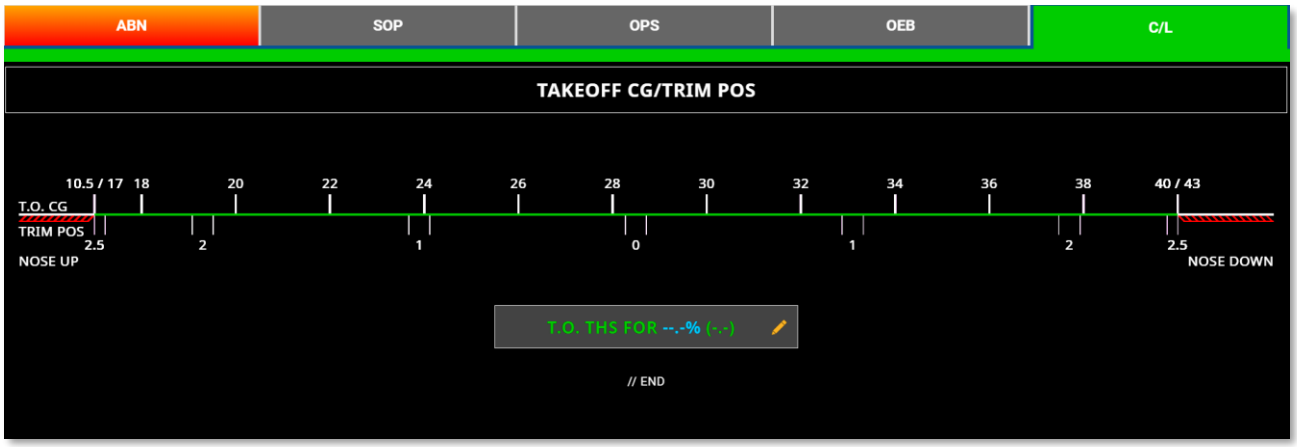


Figure 75: TakeOff CG/Trim Pos

The illustration allows to calculate the Trim Position by entering the TakeOff Center of Gravity.

Figure 76: Popup to enter the TakeOff Center of Gravity

When entering the Center of Gravity, the illustration is updated to display the corresponding Trim position value.

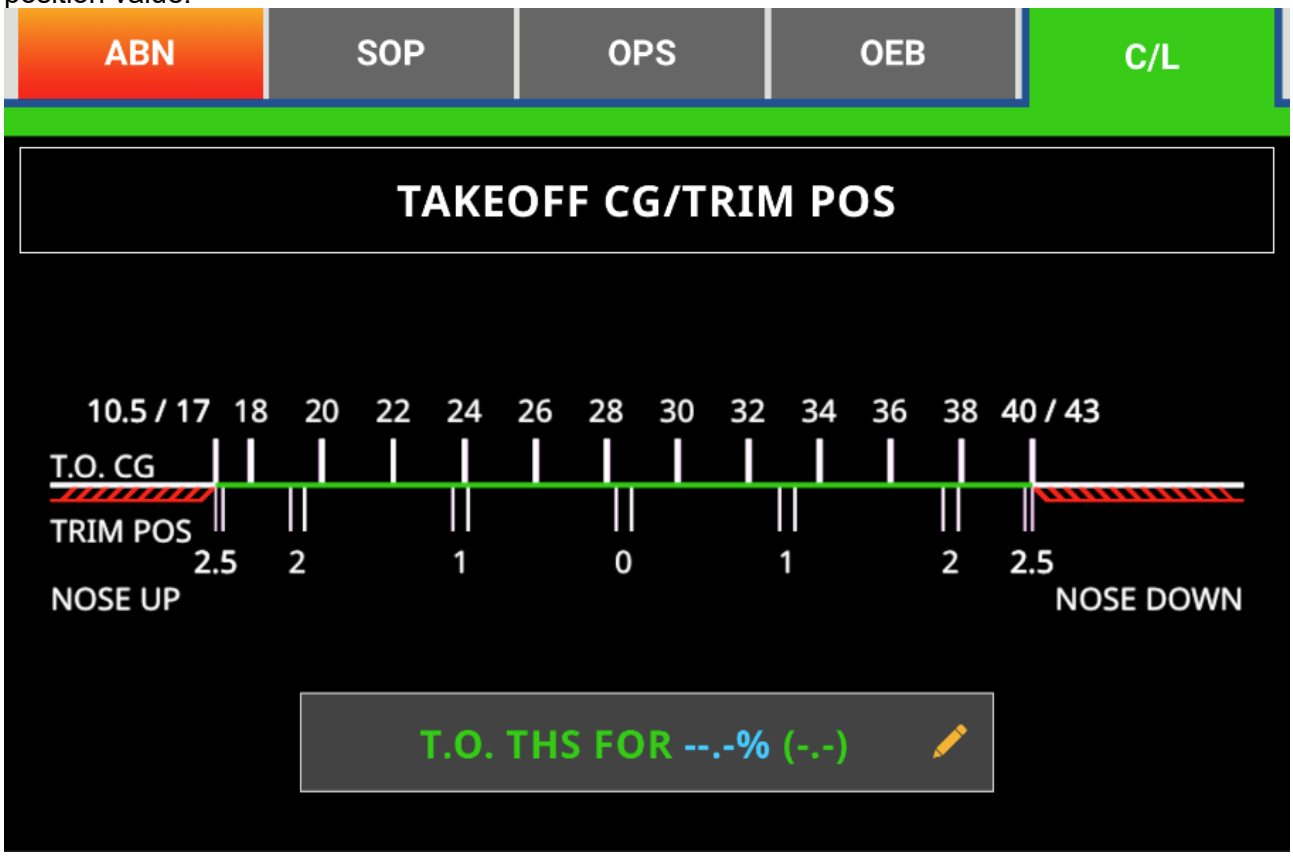


Figure 77: Trim Position for a Center of Gravity of 23.8%

Note
The scale of the Trim position shows intervals associated to rounded values.

4.2.3 ABN: Abnormal and Emergency Procedures

Select the “ABN” button to open the “ABN – Abnormal and Emergency Procedures” tab.

By default, the “ABN” button is on the left side of the screen.
In the “ABN – Abnormal and Emergency Procedures” tab, the abnormal procedures are grouped by systems:

- The left side of the “ABN” tab lists the aircraft systems,
- The right side of the “ABN” tab lists the procedures of the selected system.

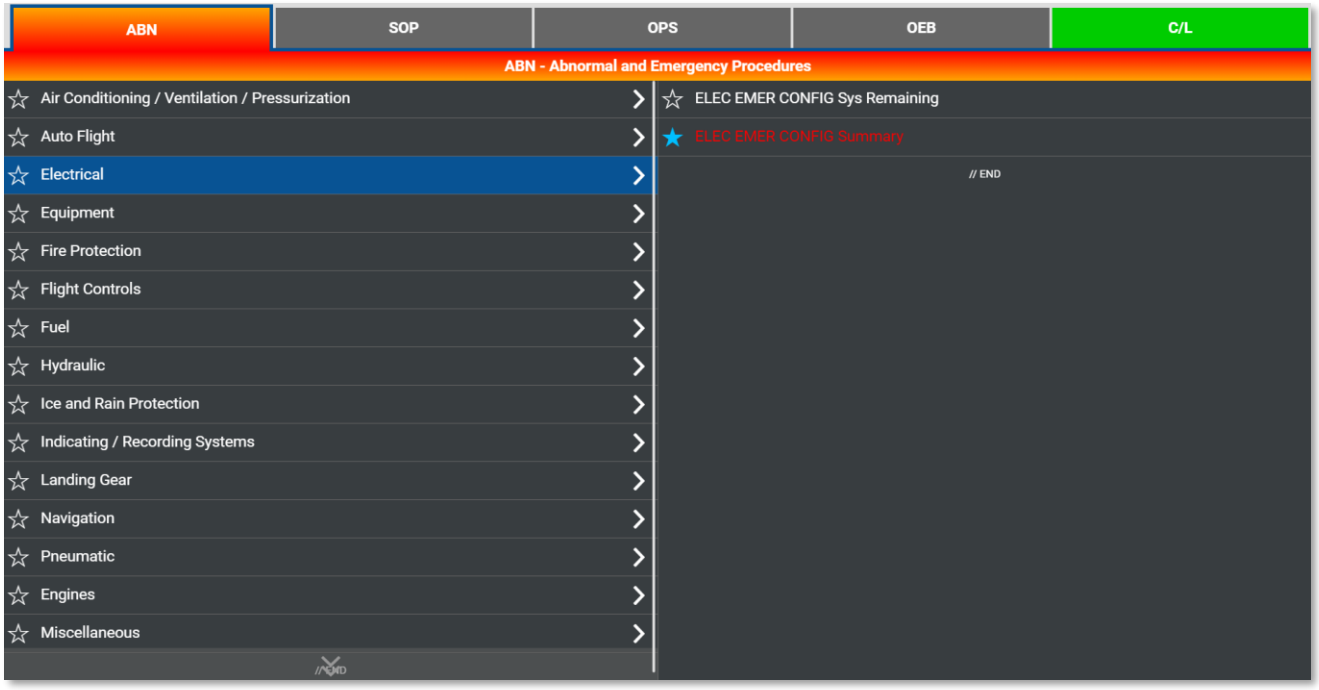


Figure 78: ABN Tab

4.2.3.1 System List

All the systems are listed on the left side and appear in white on a grey background.
Select any system to display the related procedures.

4.2.3.2 Procedures List

The color of the procedure title complies with the procedure type:

- Red: Emergency procedures
- Amber: Abnormal procedures
- White: Descriptions (in this case, no interactivity is applicable).

Select a procedure title to display the corresponding procedure.

4.2.3.3 Procedure Display

The title of the selected procedure appears at the top of the procedure page.

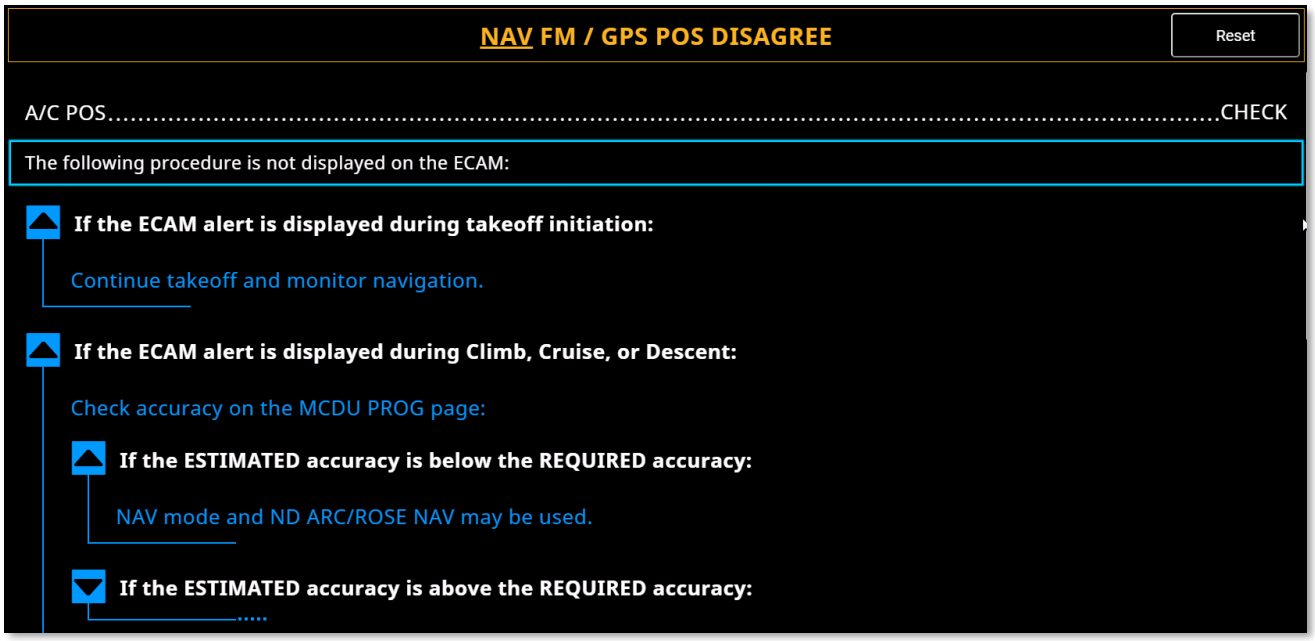


Figure 79: ABN Procedure

Procedures content appears as follows:

- “Commands” and “Challenge/Responses” appear in blue,
- Conditions and Information appear in white,
- Warnings and Cautions appear respectively in red and amber.

When an action is focused, perform the action, and tap in the blue focus to validate it.
When the action is validated, both of the following occur:

- The text of the action appears in white,
- The focus moves to the next step to be performed.

The ABN procedure content can contain conditions, refer to the chapter 4.3.2.3 Conditions for more details about the conditions management.

Select the “COMPLETE” button to complete the procedure.

Figure 80: COMPLETE Button

The procedure is then faded.

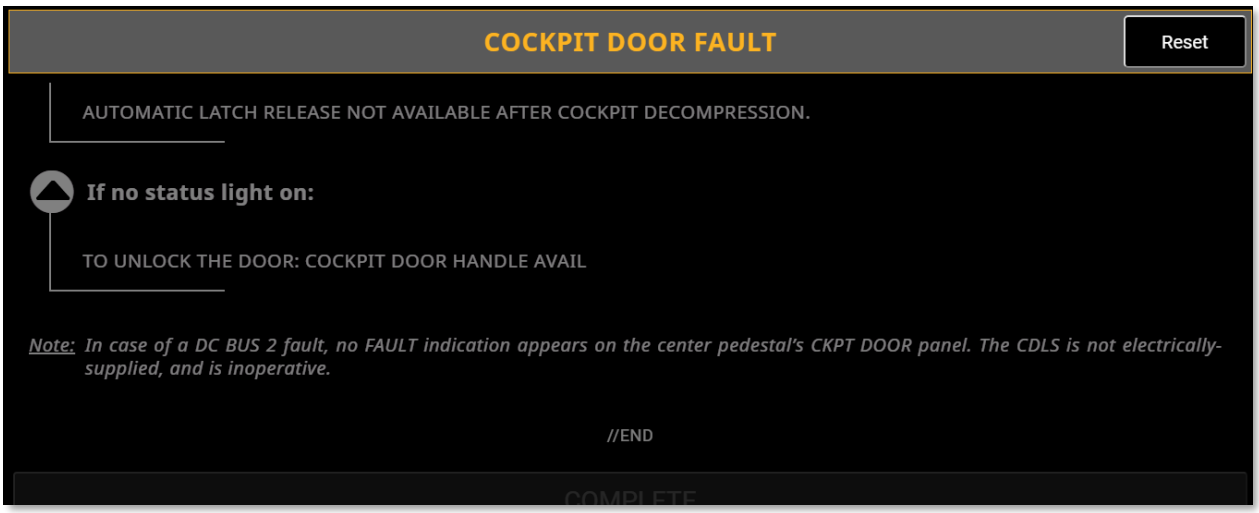


Figure 81: Completed ABN Procedure

When at least one action of the page is validated or if the procedure is completed, a “Reset” button appears on the right of the name of the ABN procedure.

Select the “Reset” button to reset the procedure. A CAUTION pop-up appears to avoid any unintended reset.

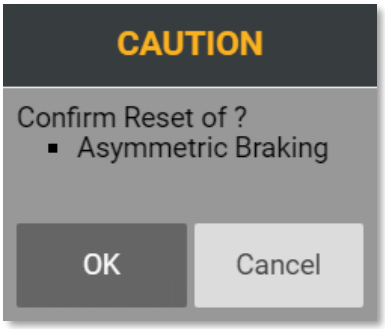


Figure 82: Reset Confirmation Pop-up

Select “OK” to confirm the reset of the procedure, or “Cancel” to cancel the reset.

Procedures can include links to other procedures.

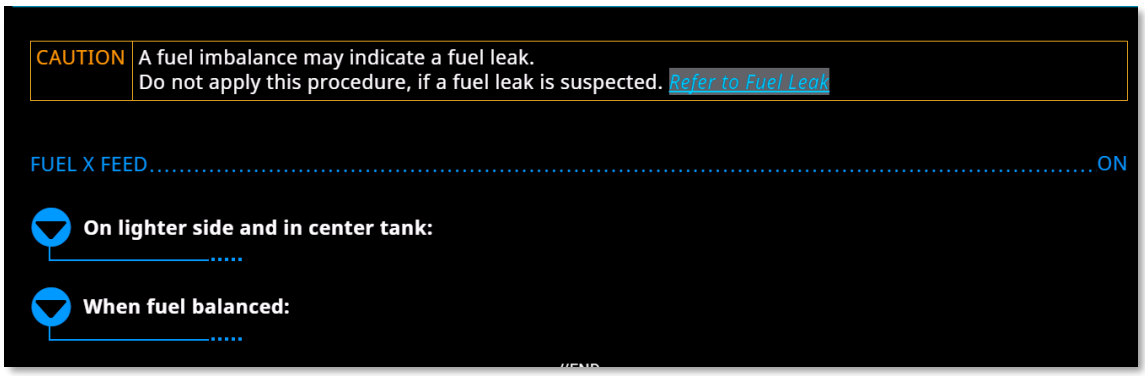


Figure 83: Example of Link to Another Procedure

Click on the link to display the associated procedure. Then, you can use the “Previous” button to go back to the current procedure (Refer to the chapter 4.1.4 Previous and Next Functions).

Note
The procedures related to smoke situations are displayed with a larger font to provide a better legibility in smoky situations.

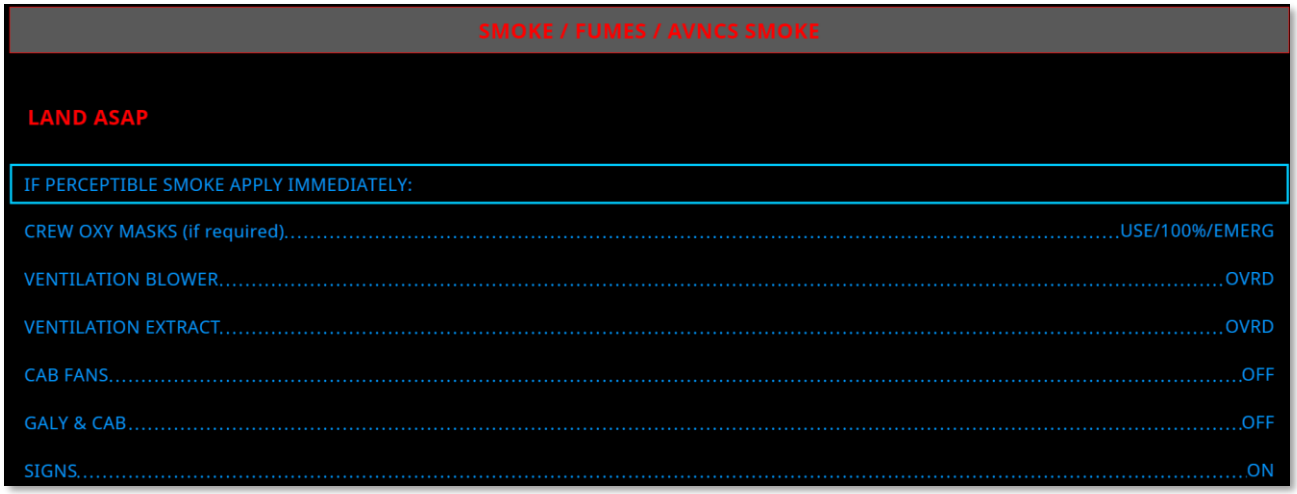


Figure 84: Larger Font Size for Smoke Procedures

Select the “ABN” button to go back to the main abnormal procedures page.

4.2.4 SOP: Normal Procedures *(If Applicable)*

Select the SOP button to display the “NP – Normal Procedures” tab. This tab lists all the normal procedures.

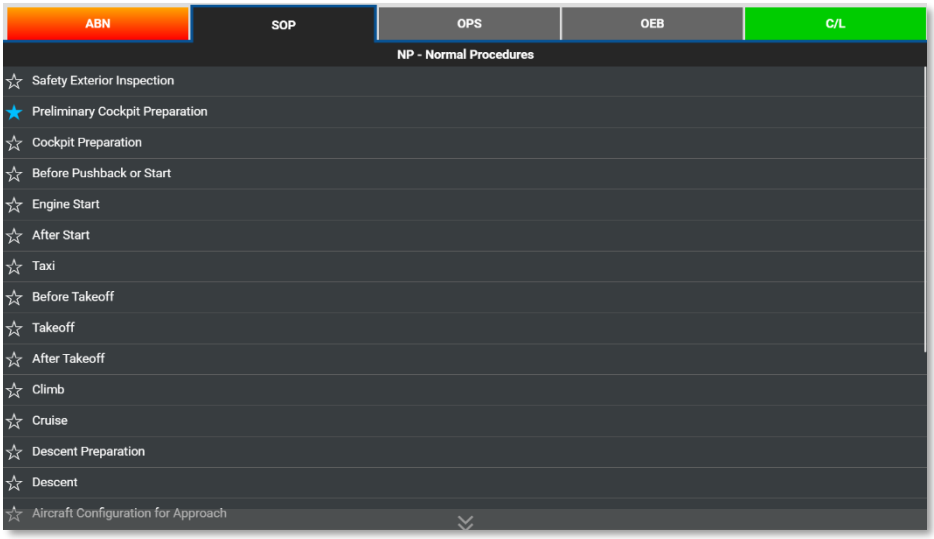


Figure 85: Normal Procedures Tab

Select any procedure title to display the corresponding procedure.
The name of the procedure appears at the top of the description page.
Then, the procedure page is separated in two columns:

- PF: Pilot Flying,
- PM: Pilot Monitoring.

Each column describes the action to be performed respectively by the “Pilot Flying” (PF) and the “Pilot Monitoring” (PM). The actions that appear in the middle of the page can be performed either by the Pilot Flying or the Pilot Monitoring.

BEFORE PUSHBACK OR START

PF	PM
LOADSHEET.....CHECK	LOADSHEET.....CHECK
FOB.....CHECK	FOB.....CHECK
FMS TO DATA.....CHECK/REVISE AS RQRD	REVISED FMS TO DATA.....XCHECK
SEATING POSITION.....ADJUST	SEATING POSITION.....ADJUST
HUD.....DEPLOY	
HUD display mode.....AS RQRD	
HUD brightness.....ADJUST	
FMS PERF TO page.....SELECT	FMS F-PLN page.....SELECT
	EXT PWR.....CHECK AVAIL
	EXT PWR DISCONNECTION.....REQUEST
BEFORE START C/L down to the line.....COMPLETE	BEFORE START C/L down to the line.....COMPLETE

Figure 86: Normal Procedure Description

The SOP procedure pages are displayed in read only mode, they are not interactive.

Select the “SOP” button to go back to the main normal procedures page.

4.2.5 OPS: Operational Data *(If Applicable)*

Select the OPS button to display the “OPS – Operational Data” tab. This tab lists the QRH Operational Data.

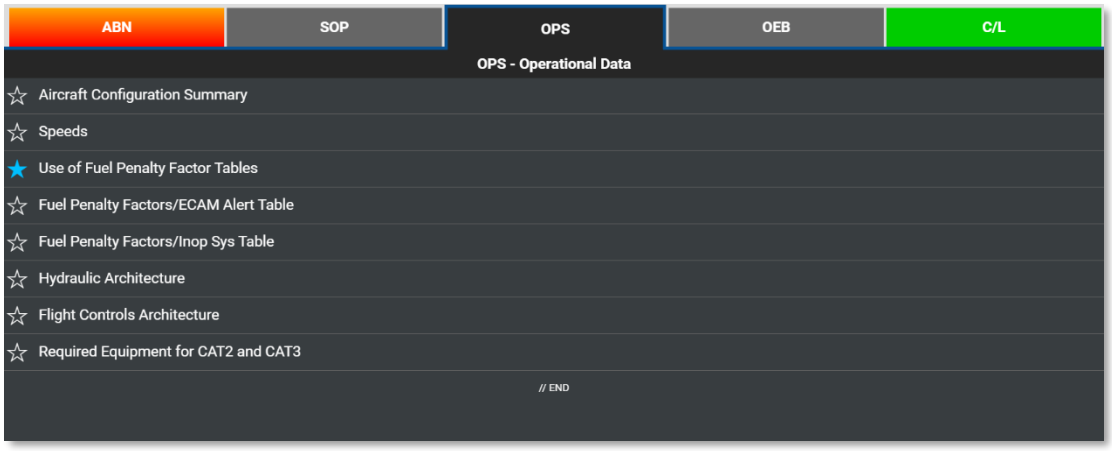


Figure 87: Operational Data

Select any Operational Data title to display the corresponding operational data.
The selected Operational Data title appears at the top of the description page.
The OPS procedure pages are displayed in read only mode, they are not interactive.

Select the “OPS” button to go back to the operational data tab.

4.2.6 Operator Additional Tabs

The Operators have the possibility to add other tabs in the eQRH by adding additional sections in the XML QRH manual. The additional tabs can be configured (name, color, layout, etc.) by the EFB Administrator via the eQRH Packager (refer to the eQRH Administration Guide [REF 3]).

4.2.7 Temporary Document Unit

Some items (procedures, operational data) may contain Temporary Document Units (TDU).
The TDU appears as follows:

- At the top of a TDU, the creation date of the TDU appears in yellow,
- Then, the reason for change of the TDU is displayed (collapsed by default). Select the circle icon to open the TDU reason for change,
- The portion of the procedure/data concerned by the TDU is highlighted with a yellow dashed line displayed on its right.

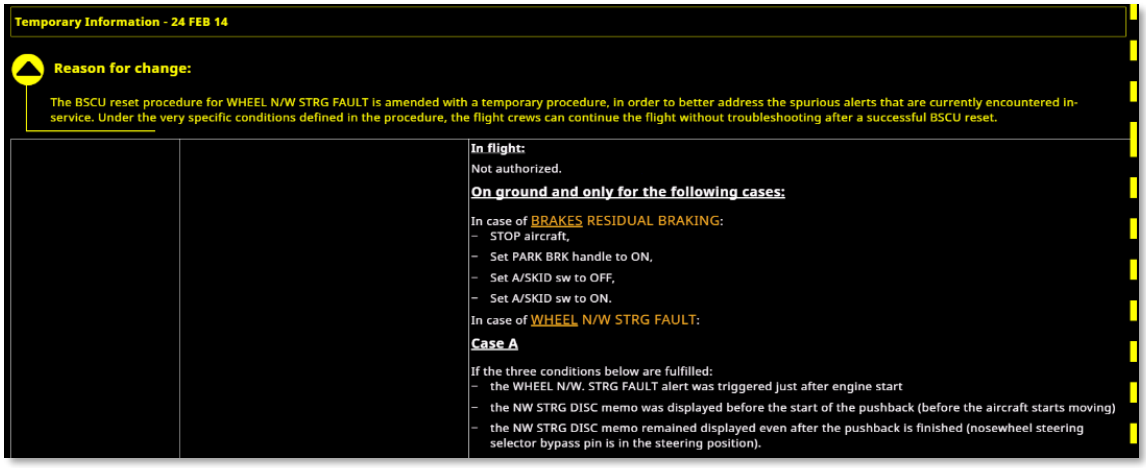


Figure 88: Temporary Document Unit

4.2.8 Double Layer Mechanism

The eQRH application implements a “double layer” display mechanism that permits the flight crew to detect the display of spurious or erroneous data. Two layers of text are sent separately to the eQRH device display: a main layer (normal display colors) and a control layer (magenta color). If one layer of data is erroneously displayed by the device, then the two layers do not overlay exactly and the control layer in magenta color is visible to the flight crew.

The purpose of the mechanism is to make very unlikely the possibility of displaying incorrect data not detected by the flight crew.

An example of this mechanism, with a simulated erroneous display, is provided in the following illustration. It corresponds to the loss of a Challenge/Response line (FLAPS……RETRACTED) in the main layer.

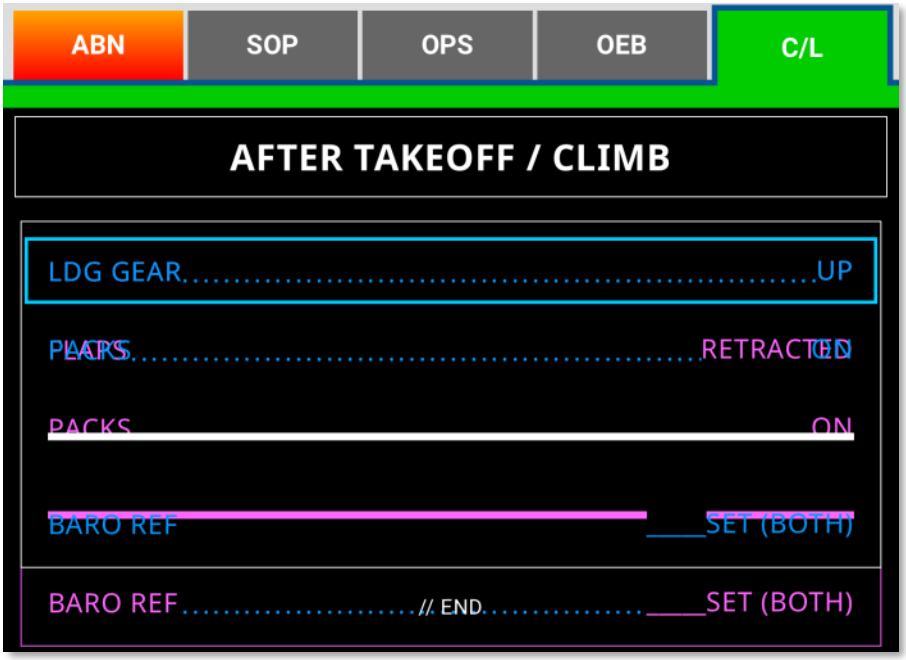


Figure 89: Example of Double Layer Display

If a magenta layer is visible, the application detected a data corruption.
This data corruption could be due to a data usage by the device or to the device memory.

Note
Reload of the procedure can fix the data corruption case,
Otherwise the fallback procedure should be applied.

4.3 Gestures in the eQRH

The aim of this chapter is to describe the possible physical interactions with the eQRH application.

4.3.1 Gestures

The eQRH application is optimized for touchscreen devices. Touch gestures are implemented in the eQRH to ease the navigation and to enhance the legibility of the eQRH content.

4.3.1.1 Tap

Interactive buttons and content can be selected via a tap on the device screen.

4.3.1.2 Swipe

Apply a horizontal movement on the screen with two fingers to swipe from an item to previous/next one in the same eQRH section:

- From the right to the left, to swipe from an item to the next one:

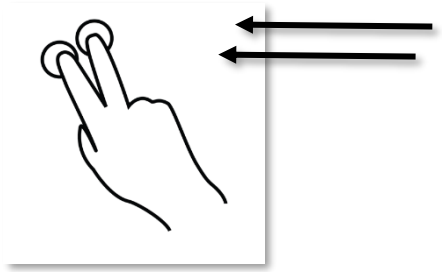


Figure 90: Next Page Swipe

- From the left to the right, to swipe from an item to the previous one:

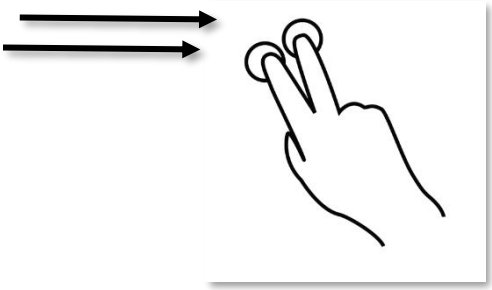


Figure 91: Previous Page Swipe

The navigation is limited to the current section. A message appears when the user reaches the first or the last item of a section.

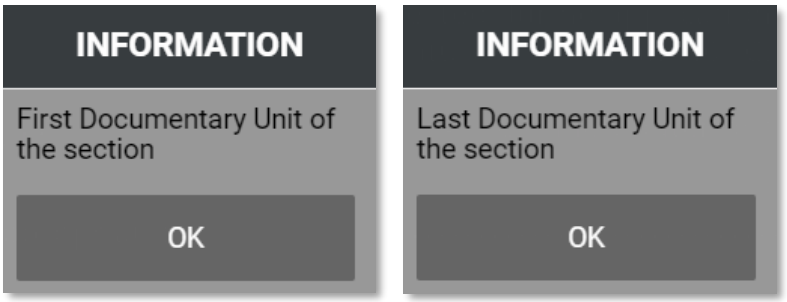


Figure 92: First and Last Documentary Units of the Section

4.3.1.3 Zoom In and Out

Pinch on the screen to zoom in or zoom out. This permits to display a larger or smaller font size. Larger font sizes may enhance the content legibility in degraded visibility situations.

Figure 93: Zoom In

Double tap on the screen to restore the default text size.

Note
The zoom function is not available for the illustrations.

4.3.2 Interactivity

Several interactive functions are available in the procedures and checklists pages.

4.3.2.1 Focus

Select a step to focus it. This action will display a cyan rectangle around the selected item.
Select another item, to move the blue rectangle to this item.
If the focus is manually moved, and after 10 seconds without any action, the focus fades-out smoothly and disappears. The focus can be set again by selecting the applicable item and in that case the selection box will not disappear.

Figure 94: Focused Element

4.3.2.2 Validate and Invalidate

Tap on a focused item to validate it.
The color of the item text is modified after validation:

- From blue to green for checklists
- From blue to white for abnormal procedures.

The focus automatically moves to the next item to validate.

Tap on a validated item to move the focus on it. A second tap cancels the item validation (in this case, the item appears with its initial color again).

4.3.2.3 Conditions

The eQRH content may contain conditions. The conditions may be collapsed by default, to permit the user to see immediately the procedure structure.

Note
The conditions are expanded for emergency procedures that are accessible from the Rapid Access icon. In fact, these procedures may have to be performed in time-constraining situations. Therefore, the conditions are expanded by default to ease the flight crew task.

When a condition is collapsed, the following applies:

- The condition icon includes a triangle pointing downward,
- The blue line below the button contains dashed line at its end.

Figure 95: Collapsed Condition

Tap on a condition icon to expand the condition. Then, the following applies:

- The content of the condition appears inside the condition,
- The condition icon includes a triangle pointing upward,
- A plain line replaces the previous dashed line.

Figure 96: Expanded Condition

Click again on the condition button to collapse the content.

To validate a condition, tap on the text of the condition. Then, the following apply:

- The condition icon and the line turn white,
- The condition is automatically expanded,
- The focus is set to the first item to be validated within the condition.

Figure 97: Validated Condition

A condition may include other conditions:

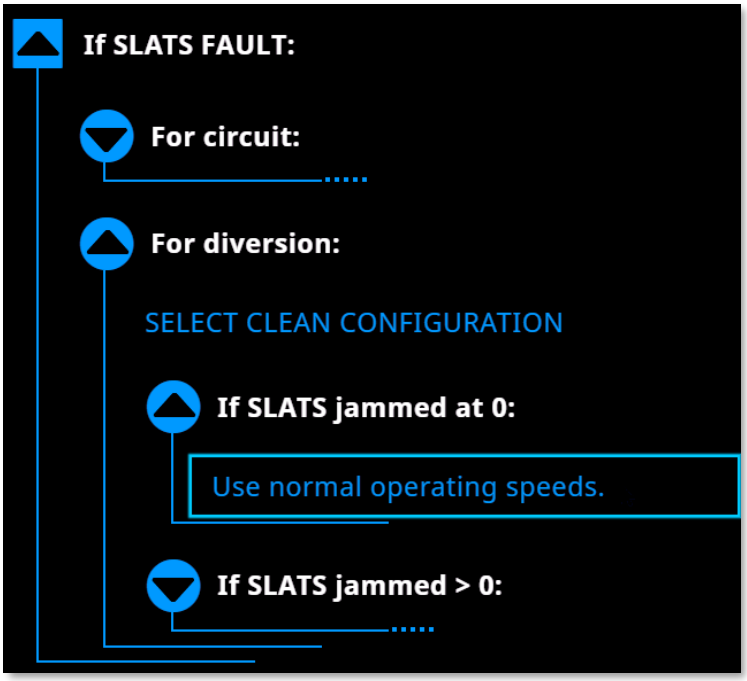


Figure 98: Example of Conditions Tree View

The validation of an item in a condition:

- Validates the item,
- Validates all the conditions of a higher level.

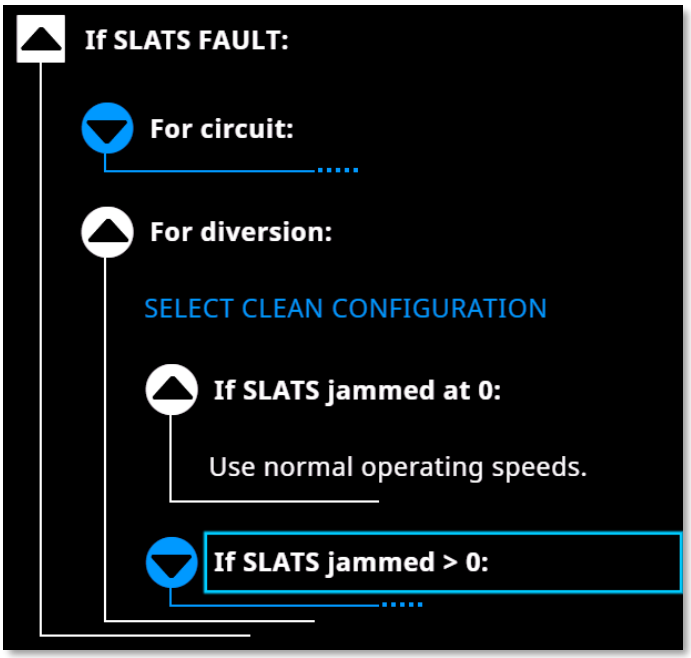


Figure 99: Condition Levels Validation

There are two types of conditions:

- Exclusive conditions, indicated by a square button:

Figure 100: Exclusive Condition Button

- Non-exclusive conditions, indicated by a circle button:

Figure 101: Non-Exclusive Condition Button

The validation of an exclusive condition deactivates the other exclusive conditions.

These conditions can no longer be validated but may be expanded for consultation.

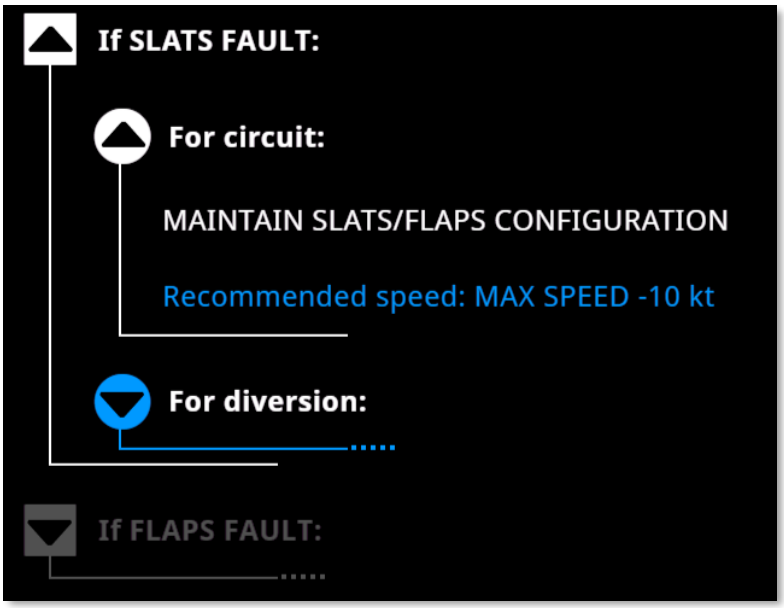


Figure 102: Exclusive Condition Validation

Note that a condition with only one applicable step is named “direct condition”. In this case, the circle or square are not expandable, and they have the following shapes, respectively:

Figure 103: Non-Exclusive Direct Condition

Figure 104: Exclusive Direct Condition

4.3.2.4 COMPLETE Button

The “ABN” and “C/L” description pages contain a COMPLETE button at their bottom. This button sets procedures and checklists statuses to “COMPLETE”.

4.3.2.5 RESET Button

In the “ABN” and “C/L” description pages, a RESET button becomes active when at least one action is validated.

Select the “RESET” button, a caution message appears to avoid unintended resets:

Figure 105: Reset Confirmation

4.3.2.6 COMPLETE & RESET Button

The optional checklists contain a COMPLETE & RESET button at their bottom. This button closes the checklist and resets it.

4.3.2.7 eQRH Close

On Windows devices, to close the eQRH application, select the “Close” button on the “My Aircraft” page:

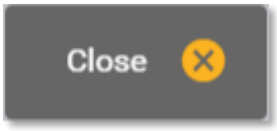


Figure 106: “Close” Button

The following CAUTION pop-up appears to avoid unintended close:

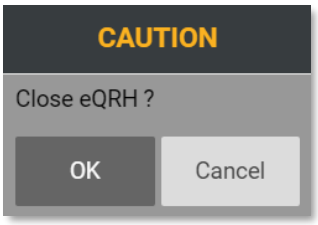


Figure 107: “Close” Pop-Up

Select the “OK” button to close the application.

Note
When the eQRH is included in the Flysmart+ environment, it is also possible to close the eQRH application via the Flysmart+ menu banner (refer to Chapter 5.1 Windows Environment).

On iPad, the eQRH application can be closed like any other iPad application, via basic iPadOS features.

FLYSMART+ INTERACTIONS

CHAPTER 06

skywise

5 FLYSMART+ INTERACTIONS

When the eQRH is included in the Flysmart+ environment, specific navigation features are used. They are described in the following paragraphs.

5.1 Windows Environment

On eQRH for Windows, a floating menu icon appears at the top of the screen. By default, this icon is not deployed:

Figure 108: Flysmart+ Floating Menu Icon

Select this floating menu to deploy the task bar that provides access to the other Flysmart+ applications and some specific features:

Figure 109: Flysmart+ Floating Menu

Select the “Menu” button to display the Flysmart+ menu:

Figure 110: Menu Button

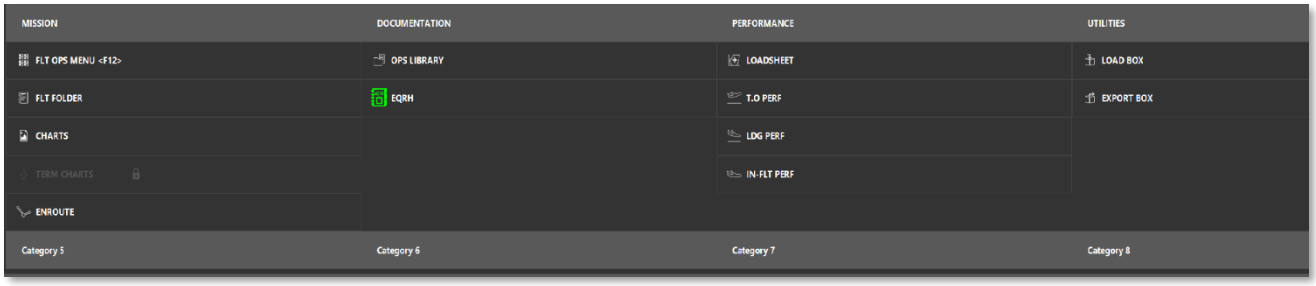


Figure 111: Flysmart+ Menu

Select the “Floating Menu Options” button to access the options:

Figure 112: Floating Menu Options Button

Select CLOSE APPLICATION to close the eQRH application.

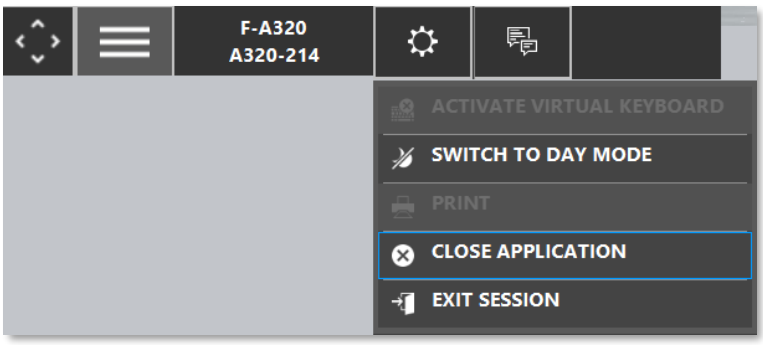


Figure 113: Close Application

5.2 iPad Environment

On eQRH for iPad, the Flysmart+ menu bar appears at the bottom of the Flysmart+ applications. Select any application icon to access the corresponding application.

In the eQRH application, a similar menu is available in the Working List of the eQRH application (refer to the chapter 4.1.2 Working List).

Figure 114: Flysmart+ Bottom Banner

MISSION+ INTERACTIONS

CHAPTER 06

skywise

6 MISSION+ INTERACTIONS

When the eQRH is included in the Mission+ environment, specific navigation features are used. They are described in the following paragraphs.

The eQRH application is accessible from Mission+

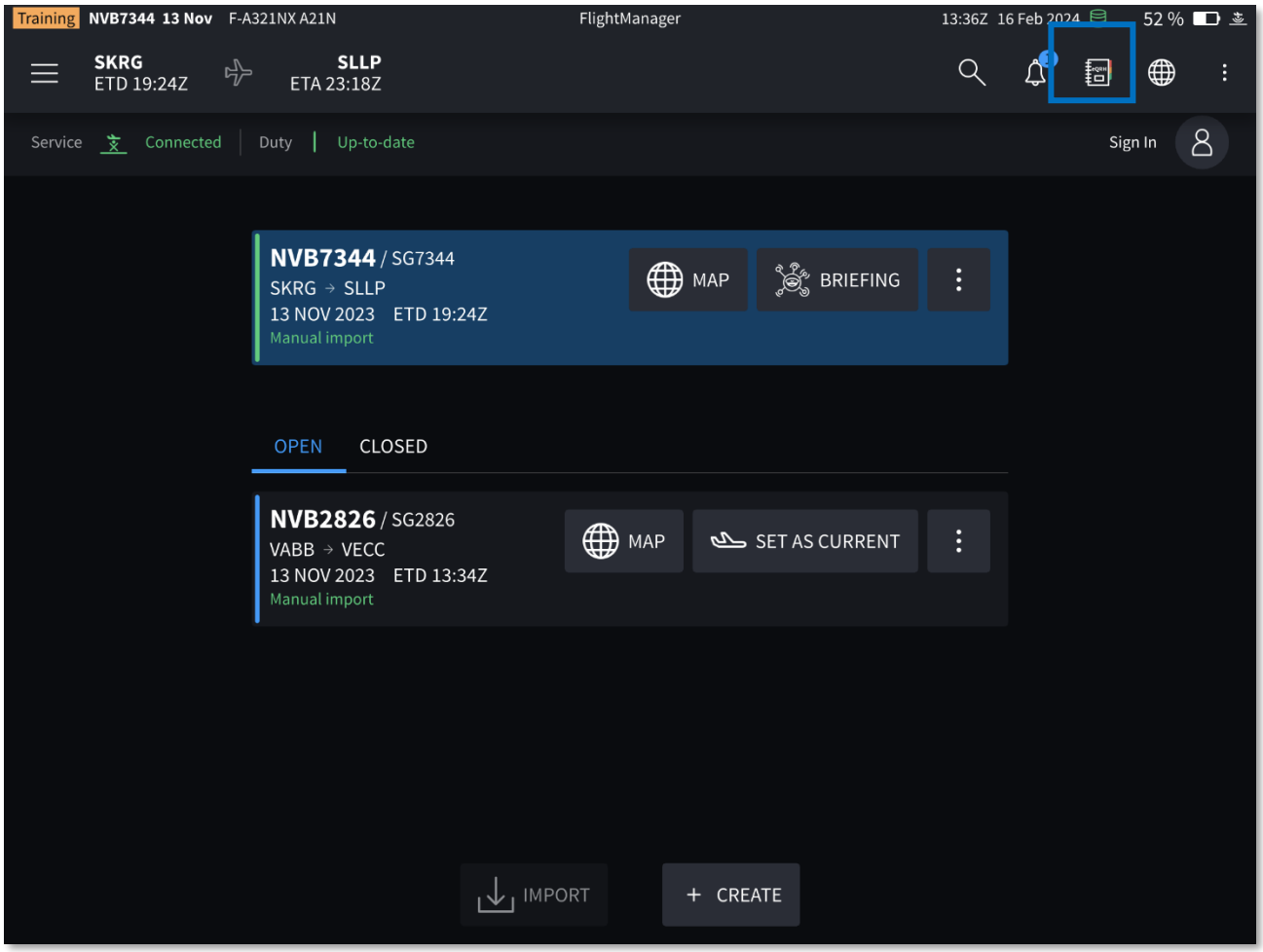


Figure 115: eQRH from Mission+ Application

Mission+ is accessible from eQRH *My Aircraft* page, using the dedicated icon.

Figure 116: Mission+ from eQRH My Aircraft page

Mission+ can also be accessed directly via the associated icon in the upper shell of the eQRH application:

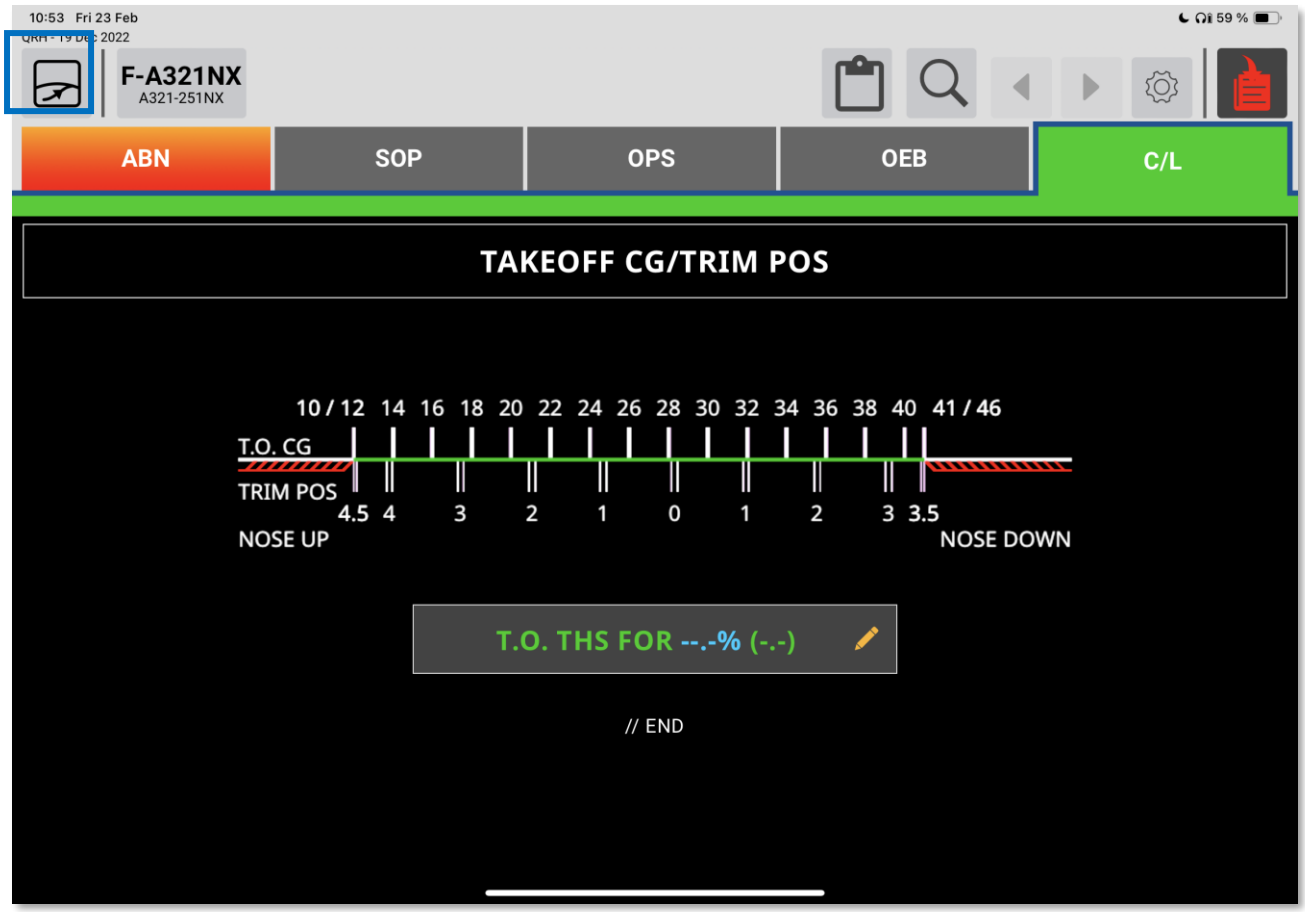


Figure 117: Access to Mission+ from eQRH Application

CUSTOMER SUPPORT

CHAPTER 07

skywise

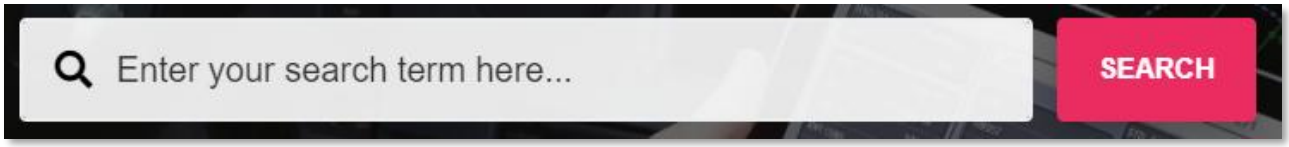
7 CUSTOMER SUPPORT

For any information about our Flysmart+ products, please consult our Support Web Portal (https://www.skywise.com/support) where you can find:

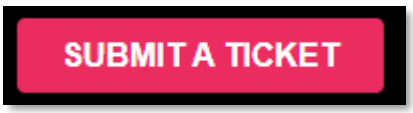
- The latest roadmaps
- The Operational Documentation
- The Announcements
- The FAQs.

For any support need, please feel free to:

- Use our search engine:



- Open a support ticket:



Note: You do not have a SKYWISE Support account?

CLICK HERE and complete the form