



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

January 3, 2018

Attachment 15 – Air Canada’s Non-Precision Approach Guidance

OPERATIONAL FACTORS/HUMAN PERFORMANCE

DCA17IA148

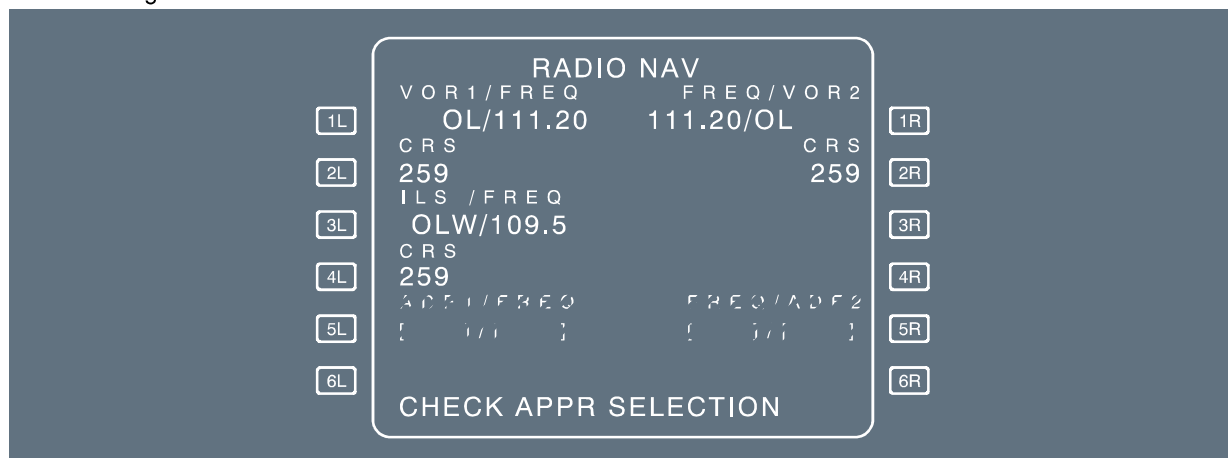
**SELECTION**

The ILS approach is selected when the APPR pb of the FCU is pressed and:

- An ILS approach or a runway only or no approach is inserted in the Flight Management flight plan (ARRIVAL page), and an ILS frequency is set in on the MCDU, or
- Both radio management panels are set to NAV and each one has the ILS frequency and course set in.

CHECK APPROACH SELECTION MESSAGE

If the flight crew inserts a non-ILS approach into the flight plan, and then uses the RAD NAV page to tune an ILS manually, the MCDU displays “CHECK APPR SELECTION”. This message is a reminder that the available APPR guidance modes are APP NAV and FINAL.



NON PRECISION APPROACH

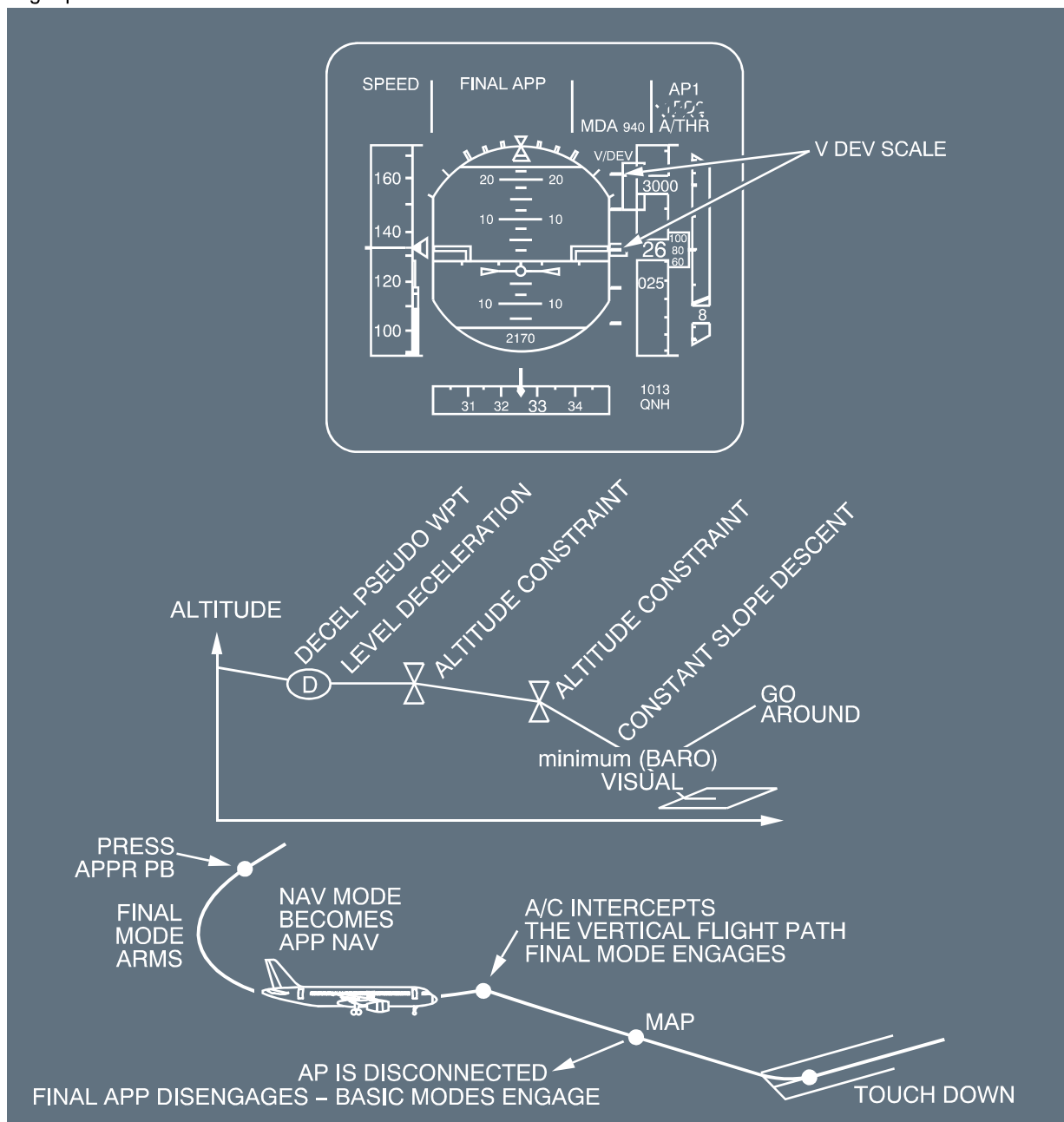
GENERAL

Ident.: 2-22_30-80-30-20-00012388.0090001 / 24 MAR 16

Applicable to: 461-464, 473

This mode guides the aircraft laterally and vertically down to the minimum along the final descent profile computed by the FMGS.

This mode is used to fly a non-ILS approach (VOR, VOR/DME, NDB (if ADF), RNAV...) as inserted into the flight plan.



The non-ILS approach includes the following managed modes:

- APP NAV mode for lateral guidance
- FINAL mode for vertical guidance.

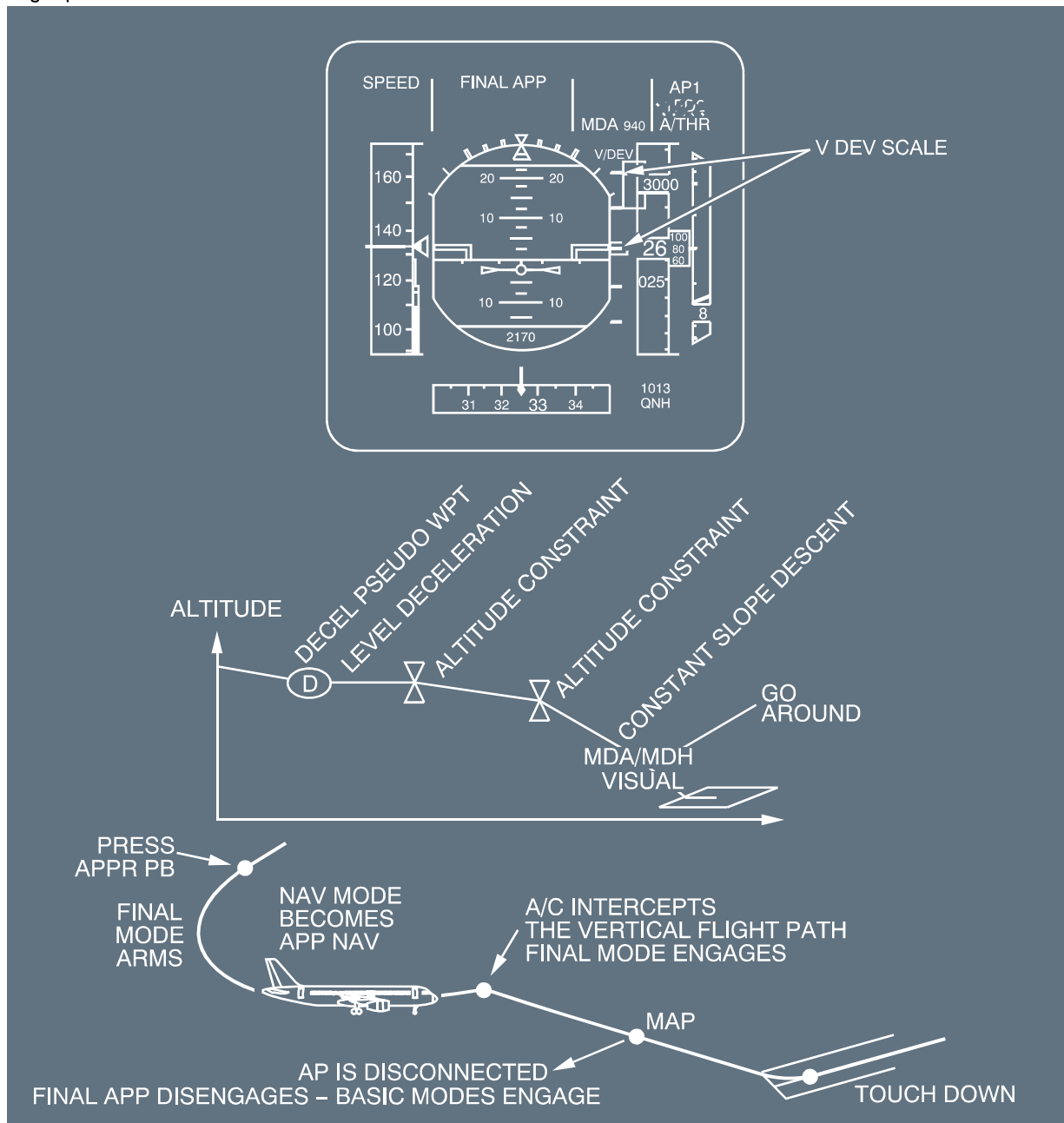
GENERAL

Ident.: 2-22_30-80-30-20-00012388.0089001 / 23 DEC 15

Applicable to: 225-226, 228, 232, 241-242, 286-287

This mode guides the aircraft laterally and vertically down to the Minimum Descent Altitude (MDA) or Minimum Descent Height (MDH) along the final descent profile computed by the FMGS.

This mode is used to fly a non-ILS approach (VOR, VOR/DME, NDB (if ADF), RNAV...) as inserted into the flight plan.



The non-ILS approach includes the following managed modes:

- APP NAV mode for lateral guidance
- FINAL mode for vertical guidance.

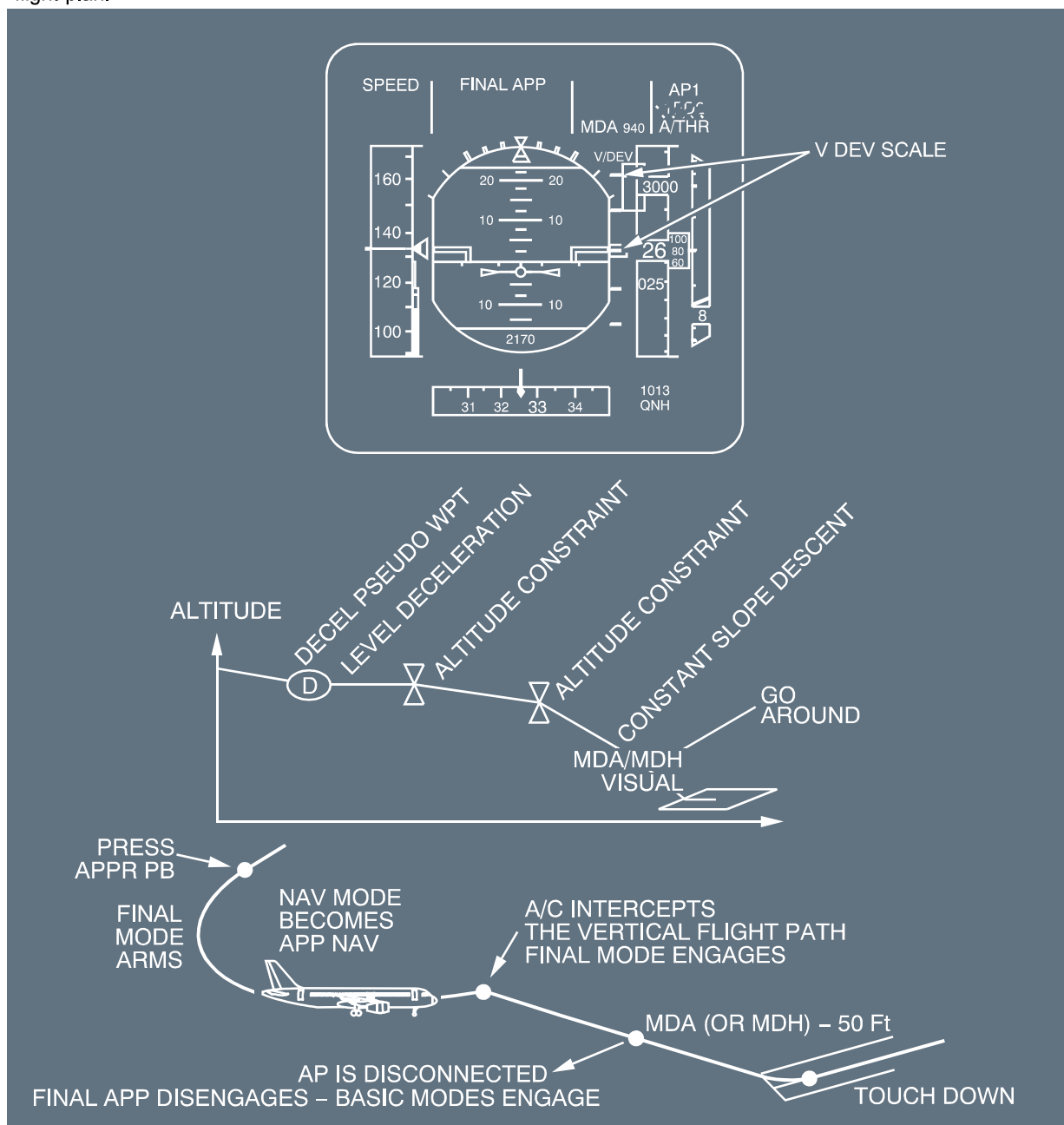
GENERAL

Ident.: 2-22_30-80-30-20-00012388.0005001 / 24 MAR 16

Applicable to: 201-213, 215-222, 235-240, 258, 260-261, 264-271, 274-275, 280, 282, 285, 401-405, 408, 411, 415-416, 451-460

This mode guides the aircraft laterally and vertically down to the Minimum Descent Altitude (MDA) or Minimum Descent Height (MDH) along the final descent profile computed by the FMGS.

This mode is used to fly a non-ILS approach (VOR, VOR/DME, NDB (if ADF ), RNAV...) as inserted into the flight plan.



The non-ILS approach includes the following managed modes:

- APP NAV mode for lateral guidance
- FINAL mode for vertical guidance.

 Flight Operations A319/A320/A321	AUTO FLIGHT - FLIGHT GUIDANCE AP/FD COMMON MODES – APPROACH	P4 27 JUL 16
---	---	------------------------

SELECTION

Ident.: 2-22_30-80-30-20-00012389.0001001 / 23 DEC 15

Applicable to: **ALL**

A non-ILS approach (VOR, VOR/DME, NDB (if ADF ), RNAV) is selected if the active flight plan calls for it (and it has been inserted in that flight plan).

ARMING CONDITIONS

Ident.: 2-22_30-80-30-20-00012390.0001001 / 23 DEC 15

Applicable to: **ALL**

The flight crew arms the APP NAV and FINAL modes by pressing the APPR pb on the FCU, if all of the following conditions are met:

- The aircraft is above 400 ftAGL
- The flight plan is valid (lateral and vertical profile)
- The active flight plan has selected a non-ILS approach
- GA mode is not engaged.

The FMA displays “FINAL” and “APP NAV” in blue.

If NAV mode was already engaged, APP NAV engages immediately.

DISARMING CONDITIONS

Ident.: 2-22_30-80-30-20-00012391.0001001 / 27 JUL 16

Applicable to: **201-213, 215-222, 225-226, 228, 232, 235-242, 258, 260-261, 264-271, 274-275, 280, 282, 285-287, 401-405, 408, 411, 415-416, 451-463, 473**

FINAL and APP NAV modes are disarmed if the flight crew:

- Presses the APPR pb , or
- Presses the LOC pb arming the LOC mode, or
- Engages the GO AROUND mode.

DISARMING CONDITIONS

Ident.: 2-22_30-80-30-20-00012391.0006001 / 27 JUL 16

Applicable to: **464**

FINAL and APP NAV modes are disarmed when:

- The flight crew presses the APPR pb , or
- The flight crew presses the LOC pb , or
- The flight crew selects a precision approach instead of the approach currently armed, or
- The flight crew engages the GO AROUND mode.

NOTE:

- *after pressing the LOC pb , the LOC mode is armed*
- *after the selection of a precision approach, the flight crew must press the APPR pb to arm the new approach*