B777/B787 Europe (Atlantic) Reference Guide

Flight Planning

- ☐ Download (CCI):
  - Flight plan .....EFLIGHT PLAN, or JPD
  - Crew list ..... NS/NST
  - Track Message ..... SLS*EAST(WEST)/NO
- ☐ Evaluate Track Message:
  - check date/time for validity, date/time at 30°W
  - check remarks
  - compare track waypoints to body of flight plan
  - determine if on a PBCS track
- ☐ Current crew passports/visas. {FOM 20.4.5}
- ☐ Check Chart Change Notices/NOTAMS. {FOM 2.3.5, 2a.3.3}
- ☐ AIREP Form and plotting chart.
- ☐ Download WSI Weather Charts {FOM 3w.1.6}:
  - Wind Prog FL 340
  - High Level Sig Prog
  - Volcanic Ash Info (or SLA*VA/ALL DM)

Preflight {FOM Chapter 3}

- ☐ Fit for Duty {FOM 3g.1.3} ..... CCI/Preflight page
- ☐ General Declarations (if required).
- ☐ Customs declarations forms (if required)
- ☐ ETOPS Pre-Departure Check {FOM 3m.3.1} ....Entered in AML
- ☐ Review AML for ETOPS inflight verification check (see Approaching Oceanic Entry Point on page 3).
- ☐ Water/LAV Service..... Verify accomplished
- ☐ Security Search {FOM 3s.5}..... Verify accomplished
- ☐ B777 only, SEL 28 (AOM 20.1.1)
  - Aircraft nose numbers: 7AA - 7CA *only*
  - 700 pounds of additional fuel *must* appear on the flight plan when RLS FUEL is greater than 117,000 pounds.
- ☐ NOTOC.....Acknowledged (if applicable)
- ☐ Verify iPad EFBs current {FOM 25.4} and loaded with flight release. {FOM 3f.2}
- ☐ TSA Lavatory PA (US-bound flights). {FOM 3c.6.4}

Enroute

- ☐ Change ICAO STEP on VNAV CRZ page to 1000 feet when evaluating cruise altitudes at OEP (FP, highest acceptable, OPT/MAX/RECMD).
- ☐ **Logon CPDLC** – when approaching area with CPDLC (10-25 minutes prior to entry).

ACARS Area Weather

ARN	ESSA	Stockholm	SNN	EINN	Shannon
BDA	TXKF	Bermuda	THU	BGTL	Thule
BRU	EBBR	Brussels	WAW	EPWA	Warsaw
CDG	LFPG	Paris	YEG	CYEG	Edmonton
HEL	EFHK	Helsinki	YQX	CYQX	Gander
LGW	EGKK	London Gatwick	YUL	CYUL	Montreal
MAD	LEMD	Madrid	YYC	CYYC	Calgary
MAN	EGCC	Manchester	YYZ	CYYZ	Toronto
OSL	ENGM	Oslo	ZRH	LSZH	Zurich

CPDLC Logon
(Jeppesen Airway Manual - Europe/North America)

BIRD	Reykjavik	EGGX	Shanwick
CDQX	Gander Domestic	EGTT	London
CZEG	Edmonton	EISN	Shannon
CZQM	Moncton	ENOB	Bodo
CZQX	Gander Oceanic	KZWY	New York
CZUL	Montreal	LECB	Barcelona
CZVR	Vancouver	LECM	Madrid
CZWG	Winnipeg	LFFF	Paris
CZYZ	Toronto	LPPC	Portugal
EDUU	Rhein	LPPO	Santa Maria
EDYY	Maastricht	LSAG	Geneva
EGPX	Scottish Fir	LSAZ	Zurich

FIR Communication Formats
{FOM Sub-Chapter 7c}

Entering a participating flight information region (FIR), contact the FIR radio facility for HF frequency assignments and to establish a SELCAL watch. If the flight will exit the current FIR into another oceanic FIR use the following procedure:

After the radio operator responds, request a SELCAL check and state the next CTA:

Example: "Gander, American ##, SELCAL check, Shanwick next."

If the flight enters an oceanic CTA followed by ATS surveillance airspace (i.e., domestic airspace), follow the procedures described above with the exception that the next CTA should not be stated.

Example: "Shanwick Radio, American ##, SELCAL check."

Note: If the initial call is to a VHF radio operator, they will provide HF frequencies for SELCAL check/watch.

NAT HLA Clearances

1. A **separate clearance** is required prior to entry into North Atlantic High Level Airspace (NAT HLA).
   NAT HLA includes Bodo, Gander, New York*, Reykjavik, Santa Maria, and Shanwick (excluding Shannon/Brest transition) oceanic areas.
   *See New York Clearance - Western Atlantic Route System (WATRS) on page 2.
2. Use one of the following options to get a clearance: DATA LINK, ACARS or VOICE.
   - Data Link: B777-300, B787
   - COMM/COMPANY/Free Text: B777-200
   - If unable DATA LINK/COMPANY revert to VOICE

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Obtain Oceanic Clearance

Gander: 90 - 60 minutes prior to OEP
Shanwick: 90 - 30 minutes prior to OEP
Reykjavik: 25 - 20 minutes prior to OEP
Santa Maria: at least 40 minutes prior to OEP
Bodo: at least 30 minutes prior to OEP
(See Oceanic Clearances Exceptions on page 4.)

B777-300 and B787
DATALINK Clearance (CZQX, EGGX, BIRD, LPPO, ENOB)

1. COMM page - select.
2. FLIGHT INFORMATION menu – select.
3. OCEANIC CLEARANCE REQ – select.
4. Enter: FLIGHT NUMBER (if required), ENTRY POINT, ETA, ATC FACILITY (xxxx), FLIGHT LEVEL (3 digits), MACH. Use free text to add "ABLE FL XXX" (if required).
5. SEND.

Note: If unable, or requested, revert to voice.

B777-200
Clearance request - Gander Or Shanwick OCA

1. COMM page - select COMPANY - FREE TEXT page.
2. "G" for Gander or "S" for Shanwick.
3. Line 1 - G (or S)/ENTRY POINT/ETA/MACH (no decimals or leading zeros)/FLIGHT LEVEL (2 digits).

   Example line 1: G/TUDEP/1142/84/36
4. Line 2 - ABLE FL (3 digits).

   Example line 2: ABLE FL380

B777 and B787

After oceanic clearance request message sent:

First Message- "SENT TO GANDER/SHANWICK"(B777-200)

Second Message- "AALXXX RCL RECEIVED"

Eastbound: "IF NO CLEARANCE WITHIN 30 MINUTES OF OCEANIC ENTRY POINT REVERT TO VOICE"

Westbound: "IF NO CLEARANCE RECEIVED AFTER 15 MINUTES REVERT TO VOICE"

Third Message- "ATC OCEANIC CLEARANCE"

COMM alert COMM SWITCH - Press: SELECT PRINT Press ACPT (accept) on Glareshield Panel

Fourth Message- "CLEARANCE CONFIRMED"

New York Clearance - Western Atlantic Route System (WATRS)

Clearance if transiting New York Oceanic (WATRS) into NAT HLA (only from an FAA facility)

1. Clearance received at the departing station (VOICE, DCL or PDC) is a valid clearance through NAT HLA.
2. **No** other route clearance will be issued *unless* there is a change.
3. ATC will assign an **altitude** and **Mach** prior to OEP.

   Note: These two items plus the predeparture clearance routing constitute a valid clearance.
4. If cleared via a NAT HLA track, ATC may request (via CPDLC) that you verify your Track Message Identification # (TMI).

The response is given via ATC Free text on CPDLC or voice.

Voice – Eastbound {FOM 7c.4.5}

Gander OCA (CZQX): by VOICE

Gander Oceanic Clearance Delivery not available. Contact domestic controller 200 nm prior to oceanic entry point for oceanic clearance.

Reykjavik OCA (BIRD) – (Eastbound): by VOICE

Rule of thumb: Send RCL when 20-25 minutes from the Entry Point.

1. Data link: BIRD.
2. From Iceland Radio on HF.
3. Air crews approaching Reykjavik airspace from the Scottish and Stavanger areas can contact Iceland Radio on VHF primary 127.85, secondary 129.625 to obtain the oceanic clearance.
4. Entry from Edmonton/Murmansk: Contact Iceland Radio on HF, or ask domestic controller for clearance (JeppFD-Pro).

Voice – Westbound {FOM 7c.4.5}

Bodo OACC (ENOB): by voice

1. Contact Bodo on 127.725 not later than 15 minutes prior to entering BODO OACC or
2. BODO Radio on NAT HLA family D frequencies not later than 30 minutes prior to entering. SELCAL check is mandatory.

Reykjavik OCA (BIRD) – (Westbound): Entry over RATSU and points east by VOICE

1. Flights intending to enter NAT HLA Oceanic airspace via RATSU should not call Shanwick for an oceanic clearance. Call Iceland radio on VHF primary on 127.85, secondary 129.625 to obtain the oceanic clearance.
2. The required oceanic clearance will be issued by Reykjavik Control. There are three points established at the boundary of delegated airspace from Scottish to Reykjavik, BESGA, DEVBI and BARKU on routes to RATSU.
3. Reykjavik will issue oceanic clearances from those points. Aircraft that have not received their oceanic clearance prior to those points shall enter Reykjavik airspace at the domestic cleared flight level while awaiting such oceanic clearance.

Santa Maria OACC (LPPO): Voice or Data Link - at least 40 minutes prior to OCA

1. Call on VHF frequency 132.07/ HF 8906 and request oceanic clearance. Give: Entry Point and Time / Altitude and Mach Requested and SELCAL.
2. Standby on VHF or HF SELCAL for receipt of clearance.

   Read back the entire clearance on this frequency.

Shanwick OCA (EGGX): by voice (Data Link not available)

Note: Do not enter Shanwick OCA without clearance.

1. Contact Shanwick Oceanic Clearance Delivery on 123.95 anytime within VHF range.
2. Request clearance using clearance request format (see page 3).
3. Read back clearance using read back format (see page 3).
4. Contact Clearance Delivery to renegotiate an ACARS issued clearance.

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Voice Clearance Request and Read Back Formats

Clearance Request

"American XX requesting oceanic clearance, estimating ___ (entry fix) at ___Z, requesting FL___, Mach___" (And highest acceptable FL which can be maintained by OCA entry point).

Read Back – NAT HLA Clearance

"American ## is cleared via track__, TMI___, FL___, Mach___".

Read Back – Random Route or "Via Flight Planned Route"

"American # is cleared via, <fix>, <fix>, <fix>, <fix>, etc. Mach____, FL_____."

Note: If any doubt, give a full readback rather than an abbreviated one.

After Receipt of Oceanic Clearance {FOM 7i.3.5}

Fly the **clearance** not the flight plan (FP).

Accomplish the following clearance check:

PF and **PM-** separately review the oceanic clearance vs FMS.

- ☐ **PM** will compare the oceanic clearance to the FMS LEGS (expand all oceanic waypoints) and note any changes.
- ☐ **PF** will compare the oceanic clearance to the FMS LEGS (expand all oceanic waypoints); any differences will be immediately changed in the FMS by the **PF** while the **PM** confirms the accuracy of the changes

Note: Half-degree coordinates can only be checked by expanding the waypoints. Caution is required to ensure these coordinates are correctly entered in the FMS..

If Clearance Differs from Flight Plan (Re-Route)

- ☐ Advise dispatch of revised routing.
- ☐ Obtain new flight plan via FREE TEXT or correct current MFP.
- ☐ Obtain revised FLT PROGRESS/FPR.
- ☐ Plot revised route and label waypoints as required.
- ☐ Update winds for new route/altitude.

Note: In oceanic airspace, fly clearance as received until ATC issues further routing. Planned routing (from dispatch) should not be construed as an ATC clearance

1. Confirm master flight plan and oceanic clearance agree.
2. Plot route and label each waypoint (if not already accomplished) and proceed as follows:

   One pilot (**PM** or **PF**) will read aloud FMS waypoints while the *other* pilot checks them against the oceanic clearance/MFP and places a circle (◯) above the waypoint on the plotting chart or paper copy of MFP.

Prior to Oceanic Entry Point (OEP) {FOM 7i.2.7}

(Comply365> Charts/Diversion Guide> ETOPS Airspace Charts)

- ☐ Determine the ETOPS entry point utilizing the FIX page.

ETOPS Alternate Planning/Diversion Guide:

- ☐ Update alternate WX, forecast, and NOTAMs.
- ☐ Evaluate potential diversion airport(s): **FIRE**, Mechanical, Medical/Passenger.

Approaching Oceanic Entry Point

- ☐ Check assigned Mach in FMC.
- ☐ Confirm at cleared cruise altitude and set in FMC.
- ☐ If required, complete any **ETOPS In Flight Verification Check(s)**; such as an in flight engine check, an in flight APU start, etc., prior to ETOPS entry.

Note: Ensure the required AML entries are made prior to entering ETOPS airspace.

After Oceanic Entry Point

- ☐ Operational HF/SELCAL check (if not already done).
- ☐ Tune left VHF radio to 121.5 and right VHF to 123.45.
- ☐ Transponder to 2000 when 30 minutes past oceanic entry or as directed (REMINDERS page).
- ☐ Establish SLOP [see Strategic Lateral Offset Procedure(SLOP){FOM7c.4.5} on page 4].

CPDLC Message

1. Set max uplink delay to 300 seconds (see Set Max Uplink Delay on page 4 for more information).
2. Confirm assigned route (see Confirm Assigned Route on page 4 for more information).
3. Resume normal speed (see Resume Normal Speed on page 4 for more information).

Oceanic Procedures {FOM 7i.3.6}

Approaching Active Oceanic Waypoint

1. Both pilots must verify the expanded full Lat/Long waypoints for the next and the following waypoint agree with the flight plan and/or current ATC clearance.
2. Check course and distance between current active waypoint and the next waypoint agree with the flight plan or current ATC clearance.
3. Draw a diagonal line (∅) through the circle on the plotting chart adjacent to the waypoint (or paper MFP waypoint) to indicate verification was accomplished.

Waypoint Passage

1. Confirm next waypoint becomes active waypoint.
2. Verify autopilot is coupled to LNAV.
3. Draw a second diagonal line (⊗) through the circle on the plotting chart adjacent to the waypoint (or paper MFP waypoint) indicating passage.
4. Record time and fuel on FPR.
5. Complete AIREP Form/transmit report (if required).

Post Waypoint Position Check (2 Degrees or 10 Minutes)

1. Confirm aircraft symbol on programmed route.
2. Check cross track deviation from programmed route.
3. Verify LNAV engaged, active waypoint is correct.
4. Correct any anomalies or deviations.

Midpoint Check

1. Check ETA for active waypoint. If ETA has changed by 3 minutes or more from what was reported to ATC revise estimate using CPDLC, ATC free text, or voice. If transmitting position via ADS-C, no need to update ETA.
2. Check for satisfactory fuel quantity/balance and trend.

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Oceanic Exit {FOM 7i.3.8}

1. Confirm ATC clearance (if required).
2. If applicable, communicate acceptance/rejection of redispatch message. Redispatch may be received up to 2 hours prior; however, if not received within 1 hour from redispatch point, contact the dispatcher.
3. Request desired altitude and Mach from ATC.
4. Confirm SLOP offset is zero.

Note: Do not go direct to the oceanic exit point.

Standard Entry/Exit Briefing {FOM 7c.1.1}

Prior to PF or captain leaving the flightdeck or after any assigned pilot re-enters the flightdeck while enroute:

- ☐ PF brief/PM review aircraft status from FMA.
- ☐ PF brief additional items (aircraft systems status, weather, ATC clearance/frequency change).
- ☐ For a crew rest break the captain/PIC will brief:
  - a designated PIC
  - weather deviation options and procedures
  - current and *expect* clearances (e.g., redispatch, step climbs, etc.)
  - diversion options to include alternate airports and weather, departure from track/airway procedures, ETPs, and terrain awareness areas
  - any other operational considerations (e.g., datalink clearances, required radio frequency or transponder code changes)
  - crew rest location(s) (bunk or rest seat) as applicable

SATCOM Quick Reference

For ATC communications CPDLC/HF may be more effective.

SATCOM INMARSAT (B777)

1. MENU, SAT (2L), AA DISP #s [5R].
2. Select Dispatch Desk #.
3. For INMARSAT select ATC emergency from SAT MAIN MENU scratch pad, enter in 1L or 3L.
4. PLACE CALL (2R or 4R).

SATCOM INMARSAT (B787)

1. Select SAT on the TCP.
2. From the SAT PHONE page, if the desired dispatch desk (DSP DSK XX) or ground station is displayed in line 1L or 3L, proceed to step 4.
3. To select a ground station from the SAT DIRECTORY, select DIRECTORY at line 2R. Select the desired ground station to SAT 1 or SAT 2. The display will return to the SAT PHONE page.
4. If required, select a priority (EMG, HGH or LOW). Press the MAKE CALL for the desired SAT radio.

Strategic Lateral Offset Procedure(SLOP) {FOM7c.4.5}

SLOP is a standard operating procedure for the entire region and apply for organized tracks (OTS) and random routes. The options are a 1 or 2 nm offset to the right, or centerline.

Note: Aircraft (e.g., B787) able to perform offsets in tenths of nautical mile should do so as it contributes to risk reduction.

1. Offset using LNAV, not heading select.
2. Do not advise ATC or request ATC clearance.
3. Return to course by oceanic exit point by deleting offset.

Set Max Uplink Delay

1. Select ATC from Communication Main Menu.
2. Select LOGON/STATUS.
3. Set MAX UPLINK DELAY to 300 seconds.

Confirm Assigned Route

- ☐ Select DISPLAY REPORT prompt.
- ☐ ATC REPORT page shows SLOP as DEV.
- ☐ Select SEND.

Resume Normal Speed

Remove the speed restriction:

If the aircraft receives RESUME NORMAL SPEED (via CPDLC or voice), there is no longer a need to comply with a previously issued Mach. Advise ATC if speed will be adjusted plus or minus Mach 0.02 or more from last assigned mach.

2° and 5° Midpoint Check Technique

Enter 2° and 5° past waypoint-10 in RTE 2 LEGS.

Note: Do not modify RTE 1 LEGS.

Eastbound example for:

- **waypoint** W050: enter W048-10
- **midpoint** W045: enter W045-10

Note: The REMINDERS function can also be used.

Oceanic Clearances Exceptions

When operating in New York oceanic airspace, Moncton or Gander ACCs are responsible for delivering the oceanic clearance.

Note: If there are any questions regarding how to get an oceanic clearance, ask the domestic controller.

New York

If a flight enters New York oceanic at SLATN, JOBOC, or DOVEY **and** does not enter airspace delegated to either Moncton or Gander ACC, then fly the clearance received via CPDLC-DCL *unless* amended. New York ATC will confirm requested altitude and speed. The TMI is required during the readback if assigned an organized track.

Moncton

If a flight enters airspace delegated to Moncton ACC **and** returns to New York oceanic (via AVAST, NOVOK, or JEBBY) **and** does not enter Gander Domestic ACC airspace, then fly the clearance received via CPDLC-DCL *unless* amended. Moncton ATC will confirm requested altitude and speed.

Gander

If a flight enters airspace delegated to Gander ACC (DOPHN, JAROM, BOBTU, TALGO, or RAFIN) via Moncton ACC or New York oceanic **and** enters NAT airspace through either Gander or New York then request oceanic clearance with Gander oceanic via ACARS (data link) or voice.

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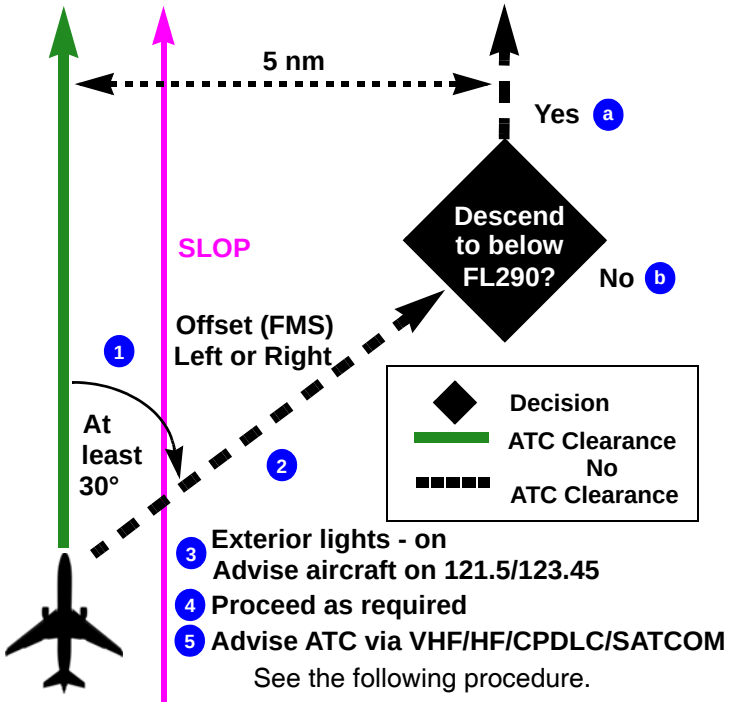
Contingencies

Departing Route/Track {FOM 7n.2.1}



See the following procedure.

If immediate action is not required, request a revised ATC clearance. If prior clearance cannot be obtained, accomplish the following until a revised clearance is received:

1. Turn at least 30° to the left or right (offset/LNAV) in order to intercept a 5 nm offset parallel track.
2. Maintain FL if able or minimize climb/descent rate.

Once established on a 5 nm parallel, same direction track/route offset, accomplish either:

a. Descend below FL290 (**recommended**) and once below FL290: establish/maintain an altitude that differs by 500 feet from altitudes normally used.

Note: Descent below FL290 is particularly applicable to operations where there is a predominant traffic flow (e.g., east-west) or parallel track system where the aircraft's diversion path will likely cross adjacent tracks or routes.

The descent can decrease the likelihood of conflicts with other aircraft, TCAS RA events, and delays in obtaining a revised ATC clearance.

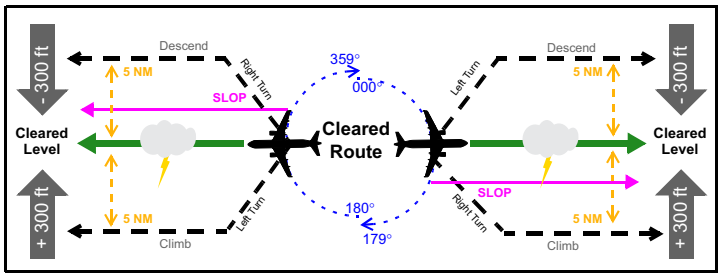
b. Climb/descend 500 feet and maintain an altitude that differs by 500 feet (1000 feet if above FL410) from altitudes normally used.

Caution: Altimetry system error may lead to less than actual 500 feet vertical separation and TCAS RAs may occur.

3. Turn exterior lights on and advise other aircraft on 121.5/123.45 "mayday or pan-pan" (as appropriate).
4. Proceed as required by the operational situation or ATC clearance (if obtained).
5. Advise ATC: "mayday or pan-pan" (as appropriate) using CPDLC, HF, SATCOM, or 121.5.

Weather Deviations {FOM 7n.3.1}

1. Request weather deviation clearance from ATC.
2. If clearance is denied or no communication is established and deviating:
   - *less than* 5 nm: remain at ATC assigned FL
   - 5 nm or *greater* with a magnetic track/route centerline:



Note: Climb or descent mandatory if deviation is 5 nm or *greater*.

3. Alert other aircraft on 121.5 or 123.45.
4. Watch for traffic. Turn on exterior lights.
5. When returning to track/route, be at assigned FL when *less than* 5 nm of centerline.

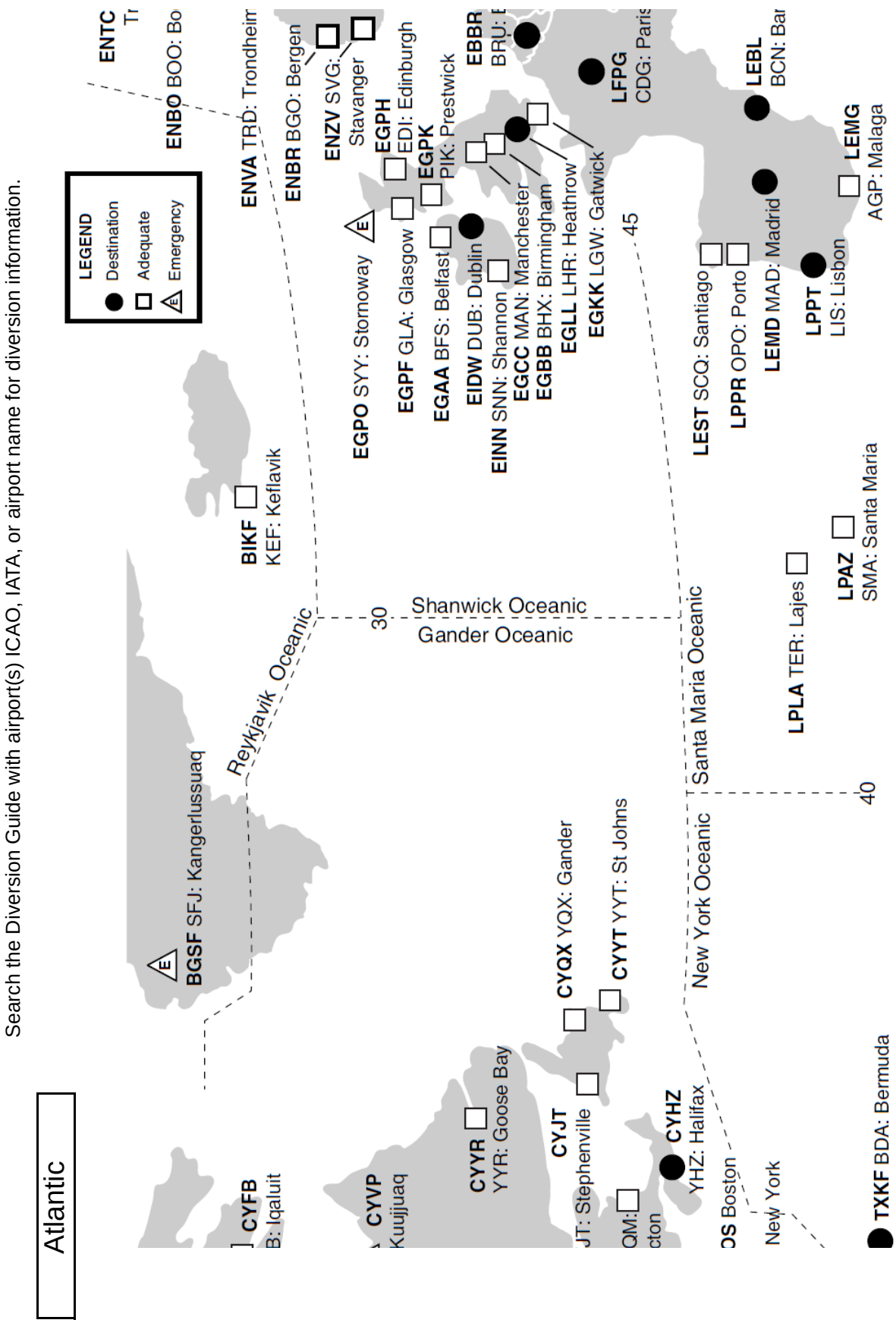
Loss of Cabin Pressure

Accomplish Departing Route/Track on page 5.

Caution: See Diversion Guide rapid depressurization procedures for flights north of 66°N over Greenland.

Medical {FOM 1p.2}

1. Refer to FOM> Fast Reference Links> Medical Emergencies.
2. Obtain revised clearance if required. If unable, accomplish Departing Route/Track on page 5.


Atlantic
Search the Diversion Guide with airport(s) ICAO, IATA, or airport name for diversion information.
LEGEND
Destination
Adequate
Emergency
ENTC
ENBO BOO: Bo
ENVA TRD: Trondheim
ENBR BGO: Bergen
ENZV SVG: Stavanger
EGPH EDI: Edinburgh
EGPK PIK: Prestwick
EGPO SYY: Stornoway
EGPF GLA: Glasgow
EGAA BFS: Belfast
EIDW DUB: Dublin
EINN SNN: Shannon
EGCC MAN: Manchester
EGBB BHX: Birmingham
EGLL LHR: Heathrow
EGKK LGW: Gatwick
EBBR BRU:
LFPG CDG: Paris
LEBL BCN: Bar
LEMG AGP: Malaga
LEST SCQ: Santiago
LPPR OPO: Porto
LEMD MAD: Madrid
LPPT LIS: Lisbon
LPAZ SMA: Santa Maria
LPLA TER: Lajes
BIKF KEF: Keflavik
BGSF SFJ: Kangerlussuaq
CYFB B: Iqaluit
CYVP Kuujjuaq
CYYR YYR: Goose Bay
CYJT JT: Stephenville
QM:
cton
CYQX YQX: Gander
CYYT YYT: St Johns
CYHZ YHZ: Halifax
OS Boston
New York
TXKF BDA: Bermuda
Reykjavik Oceanic
Shanwick Oceanic
Gander Oceanic
New York Oceanic
Santa Maria Oceanic
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40
45