DCA21FA085

OPERATIONAL FACTORS

Attachment 5
United 777 Flight Manual {Excerpts}
October 27, 2022

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FLIGHT MANUAL

REV 5-20

				QRC	**Normal Checklists**				
Rev Summary	**Bulletins**	**0** Intro	**1** Limitations	**2** Non-Normals	**3** Normals	**3-1** ORCA Operations	**4** Supplementary	**5** Performance	**6** Systems
				Index	Autoland	ORCA Guide	Deicing/ Anti-Icing	Non-Normal Landing Dist *(200A)*	
					Non-ILS/GLS App Matrix		X-Bleed Start	Non-Normal Landing Dist *(200B)*	
					RNAV (GPS/GNSS) and RNAV RNP		Runway Change	Non-Normal Landing Dist *(200C)*	
					LOC, VOR, or NDB		QNH Meters Airport Operations	Non-Normal Landing Dist *(322)*	
					PRM		GPS Interference	Recommended Brake Cooling Schedule	

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Non-Normals
Unannunciated

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Overweight Landing *u*

Condition: A landing at greater than the maximum landing weight is needed.

Note: *The autoland system is not certified for landings at weights exceeding max landing weight. The autopilot must be disconnected prior to touchdown when conducting an overweight coupled approach.*

A return to land on the takeoff runway is always acceptable, due to accelerate stop distance requirements for takeoff. Runways other than the takeoff runway require checking appropriate landing performance data.

1   Choose one:

◆ **Landing gross weight is *greater* than the performance limit weight, *or* one engine is inoperative:**

GND PROX FLAP OVRD switch . . . . OVRD

Note: *Use flaps 20 and VREF20 for landing, and flaps 5 for go-around. This gives greater climb capability.*

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◆ **Landing gross weight is *less than or equal to* the performance limit weight *and* both engines are running normally:**

Enter the landing gross weight on the APPROACH REF page.

▶▶ **Go to step 2**

2   Choose one:

◆ **Target is at or below *(200A/B/C)* 160 knots, *(322)* 170 knots:**

Note: *Use flaps 30 and VREF30 for landing, and flaps 20 for go-around.*

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◆ **Target is *above* *(200A/B/C)* 160 knots, *(322)* 170 knots:**

Note: *Use flaps 25 and VREF25 for landing, and flaps 20 for go-around. This gives greater margin to the flap placard speed.*

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0.20.1
Introduction
Normal Operations

Chapter 0	**INTRODUCTION**
Section 20	**NORMAL OPERATIONS**

GENERAL

The Normals chapter contains standard operating procedures (SOPs) divided into flows, procedures, and checklists.

FLOWS

Flows are a suggested, but not mandatory, order for the most efficient method to accomplish a procedure. In some cases, a flow is represented by an illustration.

PROCEDURES

Normal procedures are the specific actions and steps accomplished for a given phase of flight or event. Normally a procedure is written in a step format but may also be in paragraph form. In addition, the pilot conducting the procedural item may be indicated in brackets (e.g., [C] preceding the step).

CHECKLISTS

Normal checklists contain the minimum items needed to operate the aircraft safely. The items on a normal checklist are first accomplished in a procedure (typically when accomplishing a flow) then confirmed through a challenge and response process. Do not accomplish normal checklists from memory. Normal checklists include:

- Items essential to safety of flight that are not monitored by an alerting system

- Items essential to safety of flight that are monitored by an alerting system but, if not done, would likely result in a catastrophic event if the alerting system fails

- Items needed to meet regulatory requirements

- Items needed to maintain fleet commonality

- Items that enhance safety of flight and are not monitored by an alerting system (e.g., autobrakes)

- Items that could result in injury to personnel or damage to equipment if not accomplished.

The Captain is responsible for ensuring that all checklists are completed.

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NORMAL CHECKLIST OPERATION

CHECKLIST INITIATION

The Captain normally calls for the required checklists on the ground, and the PF normally calls for the required checklists in flight. While it is the Captain's responsibility to ensure that each checklist is accomplished at the appropriate time, the First Officer must be aware of the checklist status and advise the Captain if a checklist is not accomplished at the appropriate time.

CHECKLIST PROCEDURES

The point at which the associated flow should be initiated is normally defined in the General section preceding the flow. Normal checklists are accomplished after completing all respective procedural flow items unless otherwise stated in the checklist description. The checklist procedure description will indicate if certain procedural flow items are to be accomplished after the checklist is read and called "Complete."

Each item will be challenged out loud by the designated pilot unless otherwise noted. The responding pilot visually confirms that the challenged action has been properly accomplished and responds appropriately to the challenge, confirming the action or describing the configuration.

Additionally:

- When referencing an altimeter setting in response to a checklist item, both pilots verbally state altimeter setting, including units of measurement (e.g., inches, millibars or hectopascals).

- Items with an underscore have an associated numerical value(s) or switch with multiple selections (e.g., reference speeds, altimeter settings including units of measure, autobrakes, etc.), and have the value(s) or switch position stated as described in the expanded section.

- Items with an accompanying descriptor in parentheses (e.g., V1) do not require the descriptor be announced. For example, in the callout ___ (V1), only the speed is required to be announced, not V1.

- Any item listing an *As required* response is responded to by the actual configuration or condition as described in the expanded section.

- When responses are required by both pilots [F, C], or [PM, PF], the pilot reading the checklist replies *first* followed by a cross-check and identical reply from the other pilot.

- If a checklist item is not installed in a particular aircraft, the pilot nevertheless challenges the item and the response is "Not installed."

- Any action that has not been performed or completed when challenged must be completed before the next challenge is read. If performance of the challenged action cannot be completed immediately, the pilot responding replies with "Stand by" or other suitable response to indicate that further reading of the checklist is suspended until the item can be accomplished.

CHECKLIST INTERRUPTION
General
Attempt to accomplish checklists before or after high workload phases of flight. Pilots may need to stop a checklist momentarily to do other tasks. With ECL operative, continue the checklist with the next step. If the ECL is inoperative and either a pilot is not certain where the checklist was stopped or the interruption was not momentary, accomplish the entire checklist from the start.

Phase Lines
Certain checklists contain an interruption point called a phase line. Dashed phase lines delineate a point where a checklist may be interrupted to wait for the remaining steps to be accomplished. This is used to provide a better pacing of the checklist.

CHECKLIST COMPLETION
The pilot performing the checklist confirms all items have been accomplished and then calls "_____ Checklist complete." The "_____ Checklist complete" call closes the loop on the checklist process.

ELECTRONIC CHECKLIST (ECL) OPERATION
Operation with the electronic normal checklist is the same as the printed normal checklist except that there is no need to read aloud or visually confirm items that are complete (green).

Closed-loop (sensed) checklist items change from white to green when the action is taken. The PM checks off any open-loop (not sensed) item and verifies that all closed-loop items are green. See the Systems chapter, Flight Instruments, Displays, for a complete description of the ECL system.

UNATTENDED FLIGHT DECK
If the flight deck is left unsupervised (all pilots away from the flight deck) prior to the Preflight Checklist, all previously accomplished flows must be re-accomplished in their entirety.