

Charter Communication Flight Department

Standard Operating Procedures

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1.2 General Information

Definitions

LH/RH - Pilot station. Designation of seat position for accomplishing a given task because of proximity to the respective control/ indicator. Regardless of PF or PM role, the pilot in that seat performs tasks and responds to check-list challenges accordingly.

PF - Pilot Flying. The pilot responsible for controlling the flight of the aircraft

PIC - Pilot-in-Command. The pilot responsible for the operation and safety of an aircraft during flight time.

PM - Pilot Monitoring. The pilot who is not controlling the flight of the aircraft.

Flow Patterns

Flow patterns are an integral part of the SOP. Accomplish the cockpit setup for each phase of flight with a flow pattern, and then refer to the checklist to verify the setup. Use normal checklists as “done lists” instead of “do lists.”

Flow patterns are disciplined procedure; they require pilots who understand the aircraft systems/ controls and who methodically accomplish the flow pattern.

Checklists

Use a challenge-response method to execute any checklist. After the PF initiates the checklist, the PM challenges by reading the checklist item aloud. The PF is responsible for verifying that the items designated as PF or his seat position (i.e., LH or RH) are accomplished and for responding orally to the challenge. Items designated on the checklist as PM or by his seat position are the PM’s responsibility. The PM confirms the accomplishment of the item, and then responds orally to this own challenge. In all cases, the response by either pilot is confirmed by the other and any disagreement is resolved prior to continuing the checklist.

After the completion of any check list, the PM states “_____ checklist is complete.” This allows the PF to maintain situational awareness during checklist phases and prompts the PF to continue to the next checklist, if required.

Effective checklists are pertinent and concise. Use them the way they are written: verbatim, smartly, and professionally.

Omission of Checklists

While the PF is responsible for initiating checklists, the PM should ask the PF whether a checklist should be started if in his opinion, a checklist is overlooked. As an expression of good crew resource management, such prompting is appropriate for any flight situation: training, operations, or checkrides.

Challenge/No response

If the PM observes and challenges a flight deviation or critical situation, the PF should respond immediately. If the PF does not respond by oral communication or action, the PM must issue a second challenge that is loud and clear. If the PF does not respond after the second challenge, the PM must ensure the safety of the aircraft. The PM must announce that he is assuming control and then take the necessary actions to return the aircraft to a safe operating envelope.

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Abnormal/ Emergency Procedures

When any crewmember recognizes an abnormal or emergency condition, the PIC designates who controls the aircraft, who performs the tasks, and any items to be monitored. Following these designations, the PIC calls for the appropriate checklist. The crewmember designated on the checklist accomplishes the checklist items with the appropriate challenge/ response.

The pilot designated to fly the aircraft (i.e., PF) does not perform tasks that compromise this primary responsibility, regardless of whether he uses the autopilot or flies manually.

Both pilots must be able to respond to an emergency situation that requires immediate corrective action without reference to a checklist. The elements of an emergency procedure that must be performed without reference to the appropriate checklist are called memory or recall items. Accomplish all other abnormal and emergency procedures while referring to the printed checklist.

Accomplishing abnormal and emergency checklists differs from accomplishing normal procedure checklists in that the pilot reading the checklist states both the challenge and the response when challenging each item.

When a checklist procedure calls for the movement or manipulation of controls or switches critical to safety of flight (e.g., throttles, engine fire handles, fire bottle discharge switches), the pilot performing the action obtains verification from the other pilot that he is moving the correct control or switch prior to initiating the action.

Any checklist action pertaining to a specific control, switch or equipment that is duplicated in the cockpit is read to include its relative position and the action required (e.g., "Left Throttle - IDLE; Left Boost Pump - OFF").

Time Critical Situations

When the aircraft, passengers, and/or crew are in jeopardy, remember three things:

- FLY THE AIRCRAFT - Maintain aircraft control
- RECOGNIZE CHALLENGE - Analyze the situation.
- Respond - Take appropriate action.

Rejected Takeoffs

The aborted takeoff procedure is a preplanned maneuver; both crewmembers must be aware of and briefed on the types of malfunctions that mandate an abort. Assuming the crew trains to a firmly established SOP, either crewmember may call for an abort.

The PF normally commands and executes the takeoff abort for directional control problems or catastrophic malfunctions. Additionally, any indication of the following malfunctions prior to V1 is cause for an abort:

- Engine failure
- Engine fire
- Oil pressure light(s)
- Engine hot lights(s)
- Ground spoiler
- Reverser unlock
- Fuel pressure light(s)
- Pylon hot light(s)
- Aft equipment hot light

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NOTE: “Control means responsible for flight control of the aircraft, whether manual or automatic.

In addition to the above, the PF usually executes an abort prior to 80 KIAS for any abnormality observed.

When the PM calls an abort, the PF announces “Abort” or “Continues” and executes the appropriate procedure.

Critical Malfunctions in Flight

In flight, the observing crewmember positively announces a malfunction. As time permits, the other crewmember makes every effort to confirm/ identify the malfunction before initiating any emergency action.

If the PM is the first to observe any indication of a critical failure, he announces it and simultaneously identifies the malfunction to the PF by pointing to the indicator/ annunciator.

After verifying the malfunction, the PF announces his decision and commands accomplishment of those tasks assigned to him.

Non-Critical Malfunctions in Flight

Procedures for recognizing and verifying a non-critical malfunction or impending malfunction are the same as those used for time critical situations: use positive oral and graphic communication to identify and direct the proper response. Time, however, is not as critical and allows a more deliberate response to the malfunction. Always use the appropriate checklist to accomplish the corrective action.

Radio Tuning and Communication

The PM accomplishes navigation and communication radio tuning, identification, and ground communication. For navigation radios, the PM tunes and identifies all navigation aids. Before tuning the PF’s radios, he announces the NAVAID to be set. In tuning the primary NAVAID, the PM coordinates with the PF to ensure proper flight guidance panel selection. After tuning and identifying the PF’s NAVAID, the PM announces “(Facility) tuned and identified”.

Monitor NDB output anytime the NDB is in use as the NAVAID. Use the marker beacon audio as backup to visual annunciation for marker passage confirmation.

In tuning the VHF radios for ATC communication, the PM places the newly assigned frequency in the head not in preselect at the time of receipt. After contact on the new frequency, the PM retains the previously assigned frequency for reasonable time period.

Altitude Assignment

The PM sets the assigned altitude in the altitude selector and points to the alerter while orally repeating the altitude. The PM continues to point to the altitude selector until the PF verbally confirms the altitude assignment and altitude selector setting.

Pre-Departure Briefings

The PIC should conduct a pre-departure briefing prior to each flight to address potential problems, weather delays, safety considerations, and operational issues. Pre-departure briefings should include all crewmembers to enhance team-building and set the tone for the flight. The briefing may be formal or informal, but should include some standard items. The acronym AWARE works well to ensure no points are missed. This is also an opportunity to brief any takeoff or departure deviations from the SOP due to weather or runway conditions.

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Advising of Aircraft Configuration Change

If the PF is about to make an aircraft control or configuration change, he alerts the PM to the forthcoming change (e.g., go -around, speedbrake selections). If time permits, he also announces any abrupt flight path changes so there is always mutual understanding of the intended flight path. Time permitting; a PA announcement to the passengers precedes maneuvers involving unusual deck or roll angles.

Transitioning from Instrument to Visual Conditions

If visual meteorological conditions (VMC) are encountered during an instrument approach, the PM normally continues to make callouts for the instrument approach being conducted. However, the PF may request a changeover to visual traffic pattern callouts.

NOTE: The acronym AWARE stands for the following:

- Aircraft status
- Weather
- Airport information
- Route of flight
- Extra

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Phase of Flight SOP

1.3 Holding Short

PF	PNF
CALL "Taxi Checklist."	
	ACTION Complete Taxi Checklist.
	CALL "Taxi complete."
Takeoff Briefing	
ACTION Brief the following:	
<ul style="list-style-type: none">• Type of takeoff (auto assisted or manual)• Initial heading/course• Initial altitude• Airspeed limit (if applicable)• Clearance limit• Emergency return plan• Comments, input• SOP deviations.	
Consider the following: <ul style="list-style-type: none">• Impaired runway conditions• Weather• Obstacle clearance• SIDS• Abort.	

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Cleared for Takeoff	
CALL “Take Off Checklist”	

1.4 Takeoff Roll

PF	PNF
Setting Takeoff Power	
ACTION	
Engage autothrottles, or manually set appropriate takeoff EPR.	CALL “Power set”
At 60 KCAS	
	CALL “Power Set”
Takeoff EPR not achieved	
	CALL “EPR is low, increase power” When takeoff EPR is attained CALL “Power set”
At 80 KIAS	
ACTION Move left hand from nosewheel steering to yoke. States: “My yoke”	CALL “80 kts”
At V1	
ACTION Move right hand from Throttles to yoke.	CALL “V1”
At VR	
	CALL “Rotate”
ACTION Rotate to command Bar setting.	

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1.5 Normal Takeoff-Rejected

PF	PNF
Abort Prior to V1 Decision to reject takeoff.	
CALL "Abort"	CALL "Abort"

1.6 Engine Failure Above V1

PF	PNF
At V1	
	CALL "V1"
At VR	
	CALL "VR"

1.7 Climb

PF	PNF
At Positive Rate of Climb	
	CALL "Positive rate"
Only after PM's call	
CALL "Gear up"	
	CALL "Gear selected up" When gear indicated up, "Gear indicates up"
After Gear Retraction	
	ACTION Immediately accomplish attitude correlation check. <ul style="list-style-type: none">• PF's and PM's PFD displays agree• Pitch and bank angles acceptable.

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Climb (continued)

PF	PNF
At 400 feet	
CALL "Flaps Up,."	ACTION Retract flaps(if not set to 0) Set FLCH or other Vertical Mode
	CALL "Flaps up"
At 3,000 Ft. Above Airport Surface	and Clear of Traffic
CALL "Climb power."	
	ACTION Verify climb power.
	CALL "Climb power set
CALL "Climb Checklist."	ACTION Complete Climb checklist.
	CALL "Climb checklist complete"
At Transition Altitude	
ACTION Turn recognition lights off.	
CALL "29.92 set."	CALL "29.92 set"

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1.8 Cruise

PF	PNF
At 1,000 Ft Below Assigned Altitude	
	CALL “___ (altitude) for ___ (altitude).” (e.g., “9,000 for 10,000”)
CALL “___ (altitude) for ___ (altitude).” (e.g., “9,000 for 10,000.”)	
CALL “Cruise checklist”	
	ACTION Complete Cruise checklist.
	CALL “Cruise checklist complete”
Altitude Deviation in Excess of 100 Ft	
	CALL “Altitude”
CALL “Correcting”	
Course Deviation in Excess of One Half	Dot
	CALL “Course”
CALL “Correcting”	

1.9 Descent

PF	PNF
CALL “Descent checklist”	
	ACTION Complete Descent checklist.
	CALL “Descent checklist

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	complete.
At 1,000 Ft Above Assigned Altitude	
	CALL “____ (altitude) for ____ (altitude)” (e.g., “10,000 for 9,000)”
CALL “____ (altitude) for ____ (altitude).” (e.g., “10,000 for 9,000”).	
At Transition Level	
CALL “Altimeter set ____”	
	CALL “Altimeter set ____”
At 10,000 Ft	
	CALL “10,000 ft.”
CALL “Check. Speed 250 kts.”	
Maintain sterile cockpit below 10,000 ft above airport surface.	
At Appropriate Workload Time	
REVIEW	REVIEW
Review the following: <ul style="list-style-type: none"> • Weather • Field conditions • AT APPROPRIATE WORKLOAD TIME: • Approach to be executed • Field elevation • Appropriate minimum sector altitude(s) • Inbound leg to FAF, procedure turn direction and altitude • Final approach course heading and intercept altitude 	<ul style="list-style-type: none"> • Timing required • DA/MDA • MAP (non-precision) • VDP • Special procedures (DME, step-down, arc, etc.) • Type of approach lights in use (and radio keying procedures, if required) • Missed approach procedures • Runway information and conditions

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Descent (Continued)

PF	PNF
ACTION Brief the following: <ul style="list-style-type: none"> • Configuration • Approach speed • MSA • Approach course • FAF altitude • DA/MDA altitude • Field elevation 	<ul style="list-style-type: none"> • VDP • Missed approach <ul style="list-style-type: none"> - heading -altitude -intentions • Abnormal implications • Comments, input?
Accomplish as many check list items as possible. The Approach/ In Range checklist must be completed prior to the initial approach fix.	

1.10 ILS Approach

PF	PNF
Prior to Initial Approach Fix	
CALL “Approach/In Range checklist”.	
	ACTION Complete Approach/ In Range checklist.
	CALL “Approach/In Range checklist complete.”
CALL “Flaps 1”	
	CALL When flaps indicate 1, “flaps indicate 1”
After Level-Off on Intermediate Approach Segment	
CALL “Flaps 2.”	
	CALL “Flaps selected 2” When flaps indicate 2
At Initial Convergence of Course Deviation Bar	
CALL “Localizer/course alive.”	
	CALL “Localizer/ course alive.”

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ILS Approach (continued)

When Annunciators Indicate Localizer Capture	
CALL "Localizer captured."	
	CALL "Localizer captured."
At Initial Downward Movement of Glideslope Raw Data Indicator	
CALL "Glideslope alive."	
	CALL "Glideslope alive."
PF	PNF
At One Dot From Glideslope Intercept	
	CALL "One dot to go."
CALL "Gear down. Before Landing checklist.	
	CALL "Gear selected down." When gear indicates down, "Gear indicates down."
CALL "Flaps Full."	ACTION Complete Before Landing checklist.
	CALL "Flaps selected Full."
When Annunciator Indicates Glideslope Capture	
CALL "Glideslope captured."	CALL "Glideslope captured."
If the VOR on the PM's side is used for crosschecks on the intermediate segment, the PM's localizer and glideslope status calls are accomplished at the time the PM changes to the ILS frequency. This should be no later than at completion of the FAF crosscheck, if required. The PM should tune and identify his NAV radios to the specific approach and monitor.	

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1.11 ILS Missed Approach

PF	PNF
At DA(H)	
	CALL “Minimums. Missed Approach.”
CALL “Missed approach.”	
ACTION Activate TOGA. EPR set. Rotate to flight director Go-Around command.	ACTION Assist PF in setting power for go-around.
CALL “Flaps 2.”	
	CALL “Flaps selected 2”
At Positive Rate of Climb	
	CALL “Positive rate.”
CALL “Gear up.”	
	CALL “Gear selected up.” When gear indicates up, “Gear indicates up.”
	ACTION Announce heading and altitude for missed approach.
At V REF + 20 and 400 Ft above Airport Surface (Minimum)	
CALL “Flaps UP.”	
	CALL “Flaps selected UP.” When flaps indicate UP and stab checked, “Flaps indicate UP; stab checks.”
CALL “Climb checklist.”	
	ACTION Complete Climb checklist.
	CALL “Climb checklist complete.”

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1.12 ILS Approach Deviations

PF	PNF
- + One Half Dot- Glideslope	
	CALL “One half dot (high, low) and (increasing, holding, decreasing).”
CALL “Correcting.”	
- + One Half Dot - Localizer	
	CALL “One half dot (right, left) and (increasing, holding, decreasing).”
CALL “Correcting.”	
Target Airspeed	
	CALL “Speed (plus or minus) ____ (knots) and (increasing, holding, decreasing).”
CALL “Correcting.”	
Rate of Descent Exceeds 1,000 FPM	
	CALL “Sink ____ (amount) hundred and (increasing, holding, decreasing).”
CALL “Correcting.”	

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1.13 Non Precision Approach

PF	PNF
Prior to Initial Approach Fix	
CALL "Approach/In Range checklist."	
	ACTION Complete Approach/In Range checklist to flaps.
CALL "Flaps 1	
	CALL "Flaps selected 1"
After Level-Off on Intermediate Approach Segment	
CALL "Flaps 2."	
	CALL "Flaps selected 2"
At Initial Convergence of Course Deviation Bar	
CALL "Localizer/course alive."	
	CALL "Localizer/course alive."
At Initial Convergence of Course Deviation Bar	
CALL "Localizer/course alive."	
	CALL "Localizer/course alive."
When Annunciators Indicate Course Capture	
CALL "Localizer/course captured."	
	CALL "Localizer/course captured."
Prior to FAF	
	CALL "___ (number) miles/minutes from FAF."
CALL "Gear down. Before Landing checklist."	
	When gear indicates down, "Gear indicates down."
	ACTION Complete Before Landing checklist.

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Non-Precision Approach (continued)

PF	PNF
CALL "Flaps Full."	
	CALL "Flaps selected Full"
At FAF	
CALL "Outer marker." or "Final Approach fix."	CALL "Outer marker." or "Final Approach fix."
	ACTION Start timing. <ul style="list-style-type: none"> • Visually crosscheck that both altimeters agree. • Set MDA (or nearest 100 ft above) in altitude alerter. • Check PF and PM instruments. • Call FAF inbound.
At 1,000 Ft Above MDA	
	CALL "1,000 ft to minimums."
CALL "Check."	
At 500 Ft Above MDA	
	CALL "500 ft to minimums."
CALL "Check."	
<p>NOTE: An approach window has the following parameters:</p> <ul style="list-style-type: none"> • Within one dot CDI deflection or 5 degree bearing • IVSI less than 1,000 fpm • IAS no less than V REF or 0.6 AOA, whichever is less • No flight instrument flags with the landing runway or visual references not in sight • Landing configuration, except for full flaps non-precision or single engine approaches. <p>When within 500 ft above touchdown, the aircraft must be within the approach window. If the aircraft is not within this window, a missed approach must be executed.</p>	

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Non-Precision Approach (continued)

At 200 Ft Above MDA	
	CALL “200 ft to minimums.”
CALL “Check.”	
At 100 Ft Above MDA	
	CALL “100 ft to minimums.”
CALL “Check.”	
PF	PNF
At MDA	
	CALL “Minimums. _____ (time) to go.” Or “Minimums. _____ (distance) to go.”
At Point Where PM Sights Runway or Visual References	
	CALL “Runway (or visual reference) _____ o’clock.”
CALL “Going visual. Land.” or “Missed approach.”	

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1.4 Non-Precision Missed Approach

PF	PNF
At MAP	
	CALL “Missed approach point. Missed approach.”
CALL “Missed approach.”	
ACTION Activate TOGA. APR set. Rotate to flight director Go-Around command.	ACTION Assist PF in setting power for go-around. Set missed approach altitude in altitude alerter.
CALL “Flaps 2.”	CALL “Flaps selected 2”
At Positive Rate of Climb	
	CALL “Positive rate.”
CALL “Gear up.”	
	CALL “Gear selected up.” When gear indicates up, “Gear indicates up.”
	ACTION Announce heading and altitude for missed approach.
At V REF + 10 and 400 Ft Above Airport Surface (Minimum)	
CALL “Flaps UP.”	
	CALL “Flaps selected UP.” When flaps indicate UP and stab checked, “Flaps indicate UP; and stab checks.”
At 1,500 Ft (Minimum) Above Airport Surface and Workload Permitting	
CALL “Climb checklist.”	
	ACTION Complete Climb checklist.
	CALL “Climb checklist complete.

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1.15 Non-Precision Approach Deviations

PF	PNF
- + One Dot- Localizer/ VOR	
	CALL “One dot (high, low) and (increasing, holding, decreasing).”
CALL “Correcting.”	
- + 5 degrees At or Beyond Midpoint for NDB Approach	
	CALL “___(degrees off course) (right, left) and (increasing, holding, decreasing).”
CALL “Correcting.”	
Target Airspeed	
	CALL “Speed (plus or minus) _____ (knots) and (increasing, holding, decreasing).”
CALL “Correcting”	
Descent is - + 200 FPM of Briefed Rate	
	CALL “Sink _____ (amount) hundred and (increasing, holding, decreasing).”
CALL “Correcting.”	

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1.16 Visual Traffic Patterns

PF	PNF
Before Pattern Entry/Downwind (1,500 Ft Above Airport Surface)	
CALL "Approach/In Range checklist."	ACTION Complete Approach/In Range checklist to flaps.
CALL "Flaps 1."	
	CALL "Flaps selected 1"
Downwind	
CALL "Flaps 2 and Before Landing checklist."	
	CALL "Flaps selected 2."
CALL "Gear down."	
	CALL "Gear selected down." When gear indicates down, "Gear indicates down."
	ACTION Complete Before Landing checklist except for full flaps.
At 1,000 Ft above Airport Surface	
	CALL "1,000 AGL."
CALL "Check."	
At 500 Ft Above Airport Surface	
	CALL "500 AGL."
CALL "Check."	
CALL "Flaps Full."	CALL "Flaps selected Full"
At 200 Ft Above Airport Surface	
	CALL "200 AGL"
CALL "Check."	

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1.17 Landing

PF	PNF
At Point on Approach When PF Sights Runway or Visual Reference (Landing Assured)	
CALL "Landing Assured."	
	ACTION Continue with: <ul style="list-style-type: none"> • Speed check • Vertical speed check • Callouts • Gear down verification • Flap verification.
	CALL "Final gear and flaps recheck. Before Landing checklist Complete."
At 100 Ft Above Touchdown	
	CALL "100 ft."
At 50 Ft Above Touchdown	
	CALL "50ft."
At Thrust Reverser Deploy After Touchdown	
	CALL "Four lights; six lights."
At 70 KIAS	
	CALL "70 kts."
ACTION Start reverser levers slowly forward at 70 kts to reach idle RPM reverse by normal taxi speed.	

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