



DUTY TIME

DEFINITIONS:

Flight Duty Period (FDP): the time between report for duty involving flying and the block in of the last flying segment

Theater: a geographical area in which the distance between the flightcrew member's FDP departure point (or the departure point for the first in a series of FDPs) and arrival point differ by no more than 60 degrees longitude.

Acclimated: a condition in which a flightcrew member has been in a theater for 72 hours or has been given at least 36 consecutive hours free from duty.

LIMITS:

Max Scheduled FDP:

30 minutes less than the value derived from FAR Tables B and C (refer to PWA *Section 12 D.1.*)

Max Actual FDP: The value derived from the FAR Table B or C

- For report time use the local time for the city to which the pilot is acclimated.
- If pilot is not acclimated to a theater encompassing that FDP starting point, he subtracts 30 minutes from the FDP limit shown.
- If a pilot is rerouted to remove or add flying segments to his FDP, the rerouted schedule must comply with the limitations in the tables as if it were an original schedule.
- If a flight diverts prior to reaching its destination, the continuation flight to the original destination is not considered to change the number of flight segments and does not change the FDP limit.

Max Actual FDP Without Extension

A pilot will not be rerouted to remain on an FDP in excess the applicable limit in Table B or C

FDP Extensions

- An FDP limit may be extended up to 2 hours with pilot concurrence.
 - An extension of a pilot's actual FDP limit beyond 30 minutes is allowed only once between 30 hour rest breaks
 - A pilot's FDP limit extension cannot cause an exceedance of that pilot's cumulative duty limits
 - An FDP that is assigned to a pilot during a short call period must be completed within the FDP limit plus 4 hours as measured from the start of the short call period, not to exceed 16 hours for an unaugmented crew.

Table B Unaugmented FDP Limits

Scheduled Time of Report (Acclimated Time)	Maximum Flight Duty Period - Unaugmented Operations Based on Number of Flight Segments						
	1	2	3	4	5	6	7+
00:00 - 03:59	9:00	9:00	9:00	9:00	9:00	9:00	9:00
04:00 - 04:59	10:00	10:00	10:00	10:00	9:00	9:00	9:00
05:00 - 05:59	12:00	12:00	12:00	12:00	11:30	11:00	10:30
06:00 - 06:59	13:00	13:00	12:00	12:00	11:30	11:00	10:30
07:00 - 11:59	14:00	14:00	13:00	13:00	12:30	12:00	11:30
12:00 - 12:59	13:00	13:00	13:00	13:00	12:30	12:00	11:30
13:00 - 16:59	12:00	12:00	12:00	12:00	11:30	11:00	10:30
17:00 - 21:59	12:00	12:00	11:00	11:00	10:00	9:00	9:00
22:00 - 22:59	11:00	11:00	10:00	10:00	9:00	9:00	9:00
23:00 - 23:59	10:00	10:00	10:00	9:00	9:00	9:00	9:00

Table C Augmented FDP Limits

Scheduled Time of Report (Acclimated Time)	Maximum Flight Duty Period - Augmented Operations Based on Rest Facility and Number of Pilots					
	Class 1 Rest Facility		Class 2 Rest Facility		Class 3 Rest Facility	
	3 Pilots	4 Pilots	3 Pilots	4 Pilots	3 Pilots	4 Pilots
00:00 - 05:59	15:00	17:00	14:00	15:30	13:00	13:30
06:00 - 06:59	16:00	18:30	15:00	16:30	14:00	14:30
07:00 - 12:59	17:00	19:00	16:30	18:00	15:00	15:30
13:00 - 16:59	16:00	18:30	15:00	16:30	14:00	14:30
17:00 - 23:59	15:00	17:00	14:00	15:30	13:00	13:30

Max Scheduled Duty Period for an FDP Followed by a DH (Section 12 D.4.):

Scheduled: 30 minutes less than the time shown in FAR Table B or C

Actual: 1 hour beyond the scheduled limit

Note: A deadhead flight segment(s) that is scheduled to operate after the last non-deadhead flight segment in an FDP will not be included in the number of flight segments in such FDP under Table B.

Max Scheduled Duty Period for DH Only Duty Periods (Section 12 D.4.):

Scheduled: 1 hour beyond the least restrictive limit shown in FAR Table B or C appropriate to the crew(s) operating the deadhead flight(s)

Actual: 1 hour beyond the scheduled limit. DH only duty periods may be extended indefinitely with pilot concurrence.

Section 12 D. 5.

IT IS WITHIN THE SOLE DISCRETION OF EACH INDIVIDUAL PILOT TO DECIDE IN ANY GIVEN SITUATION WHETHER HE IS FIT FOR DUTY AND WILL REMAIN ON DUTY BEYOND HIS APPLICABLE FDP OR DUTY PERIOD LIMIT. A PILOT’S DECISION NOT TO REMAIN ON DUTY BEYOND SUCH LIMIT WILL BE ACCEPTED WITHOUT CHALLENGE BY CREW TRACKING.

Latest Allowable Takeoff Time (LATT) to remain within FDP limits (Max Duty Time LATT),

A pilot is not allowed to take off unless the planned flight time plus taxi time at destination will allow him to block in prior to exceeding his applicable FDP limit. The Flight Plan Addendum includes the LATT to remain within duty limits for all pilots assigned to the flight.

Duty time LATT example:

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FAR 117 LATEST ALLOWABLE TAKEOFF TIMES
DL/1234/01/RLS 01   ATL-DTW 01JAN14
*****
*
**** LATEST ALLOWABLE TAKEOFF TIME                ****
**** DUE MAXIMUM FLIGHT DUTY PERIOD LIMIT        ****

CAPTAIN           ROTATION ID/DATE ATL 0001/01JAN
DUTY LATT DUE MAX FDP LIMIT                        01/2300Z
DUTY LATT DUE MAX FDP WITH EXTENSION APPLIED:    02/0100Z
FIRST OFFICER     ROTATION ID/DATE ATL 0001/01JAN
DUTY LATT DUE MAX FDP LIMIT:                      01/2300Z
DUTY LATT DUE MAX FDP WITH EXTENSION APPLIED:    01/2330Z
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In this example, due to a previous extension, the First Officer is only extendable by 30 minutes.

ROTATION DISPLAY EXAMPLE

ATL PILOT 7ER *** ROTATION OPER
U367 POS-AB EFFECTIVE NOV16 CHECK IN AT 20.46
ACTUAL REPORT TIME 2046

DAY FLT T DEPARTS ARRIVES C BLK M/U TURN M EQP
16 147 *ATL 2216 SCL 0940 9.24 M 7ER
SCL 34.10/INTERCONTINENTAL SCL 9.24BL

9.24TL

A- PWA FDP/SKD MAX/ACT MAX 10.54/13.30/16.00
LAST ACCLIMATED CITY-ATL REST CLASS-2 14.00/16.00/13.00
B- PWA FDP/SKD MAX/ACT MAX 10.54/13.30/16.00
LAST ACCLIMATED CITY-ATL REST CLASS-2 14.00/16.00/13.00

PAY REPORT TIME 2020/18 ACTUAL REPORT TIME 2020/18
18 146 SCL 2150 ATL 0543 9.53 M
9.53BL

9.53TL

A- PWA FDP/SKD MAX/ACT MAX 11.23/13.30/16.00
LAST ACCLIMATED CITY-ATL REST CLASS-2 14.00/16.00/13.00
B- PWA FDP/SKD MAX/ACT MAX 11.23/13.30/16.00
LAST ACCLIMATED CITY-ATL REST CLASS-2 14.00/16.00/13.00
REGULAR--21.00TL 19.17BL 1.43CR 0.00MU
RESERVE- 21.00TL 19.17BL 1.43CR 0.00MU
ROT GUAR POS A - N/A POS B - N/A

TAFB 57.27CR
TAFB 57.27EX

11.23/13.30/16.00 actual scheduled duty time/Max scheduled duty time/ Max FDP with Max allowable extension

- This FDP is scheduled for 11:23.
- The maximum permitted by *Section 12 D. 1.* is 13:30
- Maximum FDP with extension for this pilot is 16:00

14.00/16.00/13.00 Max FDP without extension/Max FDP with max allowable extension/block time limit

- This pilot's actual max FDP is 14:00 without any extension
- This pilot's FDP is extendable to 16:00
- This pilot's max FAR flight time is 13:00 (Note that his max contractual flight time is 12:00, which is not displayed - reference *Section 12 E. 2.*

FLIGHT TIME

DEFINITION:

Flight time is the time beginning when an aircraft first moves for the purpose of flight or repositioning and ending when the aircraft comes to a stop at the next destination or at the point of departure.

LIMITATIONS:

Cumulative Flight Time Limits:

- 100 hours in any 672 consecutive hours (twenty eight 24-hour periods)
- 1,000 hours in any 365 consecutive calendar days

Maximum Flight Time in an FDP:

- 4-pilot crew = 17 hours (FAR); no PWA limit
- 3-pilot crew = 12 hours (PWA); 13 hours FAR limit
- 2-pilot crew = Table A (FAR), not to exceed 8 hours if trans-oceanic (PWA)

Flight time limit as displayed on a rotation:

Table A to Part 117 Unaugmented Operations		0188	POS-A	EFFECTIVE JUL10	CHECK IN AT 14:20	ACTUAL REPORT TIME 1420	ON DUTY						
Maximum Flight Time Limits		DAY	FLT	T	DEPARTS	ARRIVES	C	BLK	M/U	TURN	M	EQP	ACT/MAX
Time of Report (Acclimated)	Maximum Flight Time (hours)	10	X2038	ATL	1559	DCA.1806	2.07		1.54	980			
0000-0459	8		X1739	DCA	2000	ATL.2145	1.45	0.11	0.48				
0500-1959	9		X1571	ATL	2233	CAK.0002	1.29	0.15		970	10.12/12.20		
2000-2359	8	CAK	29.28/COURTYARD CANTON										
			1 ROOM		ORIGINALLY BOOKED FOR FLT 1571/10JUL		5.21BL		5.25DC				
		A-	LAST ACCLIMATED CITY-ATL		REST CLASS-		12.00/14.00/		9.00				

BLOCK LATT: FAR 117 does not allow extensions of the flight time limit.

Therefore a "block" latest allowable takeoff time (LATT) worksheet is provided with the updated weather paperwork. The block LATT is calculated based on previous block hours flown during the duty period, the pushback time and the ETE from takeoff to block-in.

Block LATT Example:

****			LATEST ALLOWABLE TAKEOFF TIME	

****			DUE MAXIMUM FLIGHT TIME LIMIT	

	<u>18:15</u>	PLUS	00:20	EQUALS <u>18:35</u>
	OUT		MAX TAXI	BLOCK LATT

In this example, taxi time in excess of 20 minutes will result in a planned exceedance of the block hour limit. If the block out time is 1815, the pilot cannot takeoff after 18:35.

REST

DEFINITION: Rest means having no present responsibility for work.

- Time spent on long or short call or performing any duty for Delta (e.g., DH) is not rest.
- A pilot cannot be made to call the company or answer a phone call during rest; he can **voluntarily** answer a call or make contact with the Company.
- A pilot on a layover is not required to respond to an attempted contact by the Company.
- Rest must be **prospectively known and assigned**, which means the pilot must be notified of both the start time and duration of a scheduled rest period before the rest period begins.
- After a pilot begins an assigned rest period, that rest period cannot be extended by notification from the company.
- The company may attempt to call a pilot during a rest period. If the pilot voluntarily chooses to answer a phone call, the FAA does not view the phone call as disruptive and interrupting the rest period. However, the pilot's sleep opportunity may be interrupted. If the pilot determines that the phone call has interrupted his required sleep opportunity (i.e., he cannot get back to sleep), the pilot has an obligation to report this to the company and his schedule must be adjusted as necessary.

REST REQUIREMENTS

Prior to the start of any FDP or short call period:

- 30 hours in the preceding 168 consecutive hours (seven 24-hour periods)
- 10 hours immediately preceding the FDP or short call with at least 8 hours uninterrupted sleep opportunity (8 hours behind the door)

After traveling more than 60° longitude during an FDP or series of FDPs and being away from base for more than 168 consecutive hours

- A minimum of 56 hours, which must include 3 physiological nights (the time period including both 1am and 7am, pilot's base time)

IROP PROCEDURE:

If the end of a duty period is delayed sufficiently to reduce a scheduled rest period to less than 10 hours preceding an FDP, contact Crew Tracking (CT) via phone to establish a new report time for the next duty period. If CT is unavailable, send an ACARS message to dispatch and Crew Tracking informing them of your new earliest report time, with the following considerations:

- Report time will be no earlier than block-in plus 10 hours and 30 minutes.
- Transportation should be planned to arrive at the airport at the new report time.
- Pilots must receive an 8 hour sleep opportunity in their hotel room
- Pilots may agree to a departure time no earlier than 30 minutes after report

RESERVE

PRE-RELEASE SCHEDULE CHECK: Reserve pilots are required to check their schedule via iCrew or VRU after block in and prior to release of their current rotation. They can be assigned:

1. A rotation reporting as soon as 12 hours after release,
2. Short call beginning as soon as 12 hours after release, and/or
3. Rest beginning as early as release time.

Note: In the absence of any of these assignments, the pilot transitions to Long Call status upon release.

LONG CALL LEASH: long call pilots have a “12-hour leash,” as follows:

- Crew Scheduling will attempt to notify a long call pilot of a rotation, short call period, or rest period, and place the assignment on his schedule in iCrew.
- A long call pilot has no obligation to check his schedule while on call.
- A long call pilot is not required to report for a rotation or begin short call earlier than:
 - 12 hours after the first attempted contact by Crew Scheduling.
 - 10 hours after the end of his last non-fly day, if the assignment was made no later than 9 hours prior to the end of the non-fly day.
 - 12 hours after the end of a vacation day
- A long call pilot will be released from duty during the 12 hours immediately preceding the start of a short call period or assigned rotation.

LONG CALL PILOTS:

- Are not required to acknowledge any assignments.
- Are notified of assignments by:
 - telephone contact from Crew Scheduling, and/or
 - electronic placement of rotations or short call periods on their schedules prior to release from a rotation, or prior to nine hours before the end of the last non-fly day (other than a vacation day) before an on-call day.
- Are not required to be contactable in the 12 hours prior to the report of an assigned rotation.
- **Must inform** Crew Scheduling no later than 3 hours prior to the scheduled report of a rotation or short call assignment, if not fit for duty.
- **If assigned a rest period:**
 - On the pre-release schedule check may begin rest upon release, or
 - Via direct telephone contact may be placed on rest immediately, or
 - if not contacted directly by Crew Scheduling, may have such rest period begin no earlier than 2 hours following the first attempted contact. In such case, the pilot must inform the Company no later than 9 hours after first attempted contact if he was unable to begin his rest as scheduled.

SHORT CALL

LIMITS AND REQUIREMENTS:

- Short call periods are limited by the PWA to a maximum duration of 12 hours.
- A pilot on short call is required to be within the general area of his base and promptly available for contact by Crew Scheduling, and must be able to promptly report for an awarded/assigned rotation.
- A pilot traveling to his base to begin a short call period may inform Crew Scheduling at the time he becomes aware of his conversion to short call that he will not be available for contact during the first two hours of his short call period, with the following limitation:
 - It must be the pilot's first on-call day.

If a pilot exercises this option, he must be able to report for a rotation no later than two hours after the start of his short call period.

- Immediately upon completing a short call period, a reserve pilot reverts to long call status.

FDP LIMIT FOR A SHORT CALL ASSIGNMENT:

- Scheduled FDP must end no later than the earlier of:
 - FDP report time plus FDP limit from FAR Table B or C, or
 - RAP start time plus FAR Table C value (augmented crew) plus 4 hours, including FDP extensions, or
 - RAP start time plus FAR Table B value (unaugmented crew) plus 4 hours, including FDP extensions.

EXAMPLE OF A ROTATION ASSIGNED TO A SHORT CALL PILOT

NYC PILOT 7ER *** ROTATION OPER
 B639 POS-B EFFECTIVE MAY13 CHECK IN AT 18.28
 ACTUAL REPORT TIME 1828

DAY FLT T DEPARTS ARRIVES C BLK M/U TURN M EQP
 13 410 JFK 1958 FRA 1020 8.22 M 7ER
 FRA 25.25/NOVOTEL MAINZ 8.22BL

8.22TL

B- PWA FDP/SKD MAX/ACT MAX 10.22/11.32/11.32
 LAST ACCLIMATED CITY-ATL REST CLASS-2 14.00/16.00/13.00

PAY REPORT TIME 1215/15 ACTUAL REPORT TIME 1215/15
 15 107 FRA 1345 JFK 1636 8.51 M
 8.51BL

8.51TL

B- PWA FDP/SKD MAX/ACT MAX 10.51/14.30/16.30
 LAST ACCLIMATED CITY-ATL REST CLASS-2 14.30/16.30/13.00

REGULAR--17.13TL 17.13BL 0.00CR 0.00MU
 RESERVE- 17.13TL 17.13BL 0.00CR 0.00MU
 ROT GUAR POS B - N/A

TAFB 46.38CR
 TAFB 46.38EX

- SC began at 1200, rotation reported at 1828
- Max scheduled FDP is 14:00 (referencing FAR Table C)
- Max FDP (14:00) plus 4:00 = 18:00
- Rap = 6:28 (SC start time of 12:00 until report of 18:28)
- Max actual and max extendable FDP are the same 11.32/11.32. This pilot's FDP limits are affected by the time spent on SC.
- Duty LATT from the Flight Plan Addendum for this example (assuming :30 departure taxi time, 7:42 ETE and :10 arrival taxi time):

FAR 117 LATEST ALLOWABLE TAKEOFF TIMES

DL/410/13/RLS 01 JFK_FRA 13MAY14

*

**** LATEST ALLOWABLE TAKEOFF TIME ****

**** DUE MAXIMUM FLIGHT DUTY PERIOD LIMIT ****

CAPTAIN ROTATION ID/DATE NYC B639/13MAY

DUTY LATT DUE MAX FDP LIMIT 14/0434Z

DUTY LATT DUE MAX FDP WITH EXTENSION APPLIED: 14/0634Z

FIRST OFFICER ROTATION ID/DATE NYC B639/13MAY

DUTY LATT DUE MAX FDP LIMIT: 14/0208Z

DUTY LATT DUE MAX FDP WITH EXTENSION APPLIED: 14/0208Z

FIRST OFFICER ROTATION ID/DATE NYC B649/13MAY
DUTY LATT DUE MAX FDP LIMIT 14/0434Z
DUTY LATT DUE MAX FDP WITH EXTENSION APPLIED: 14/0634Z

FATIGUE RISK MANAGEMENT SYSTEM FOR 777

Delta has an approved FRMS for four-man operations on the Boeing 777. This FRMS increases the FAR FDP limit for designated operations and removes the block time limit with the following conditions:

- Max Scheduled duty time= Report to release
- Max Actual FDP = 20:30 (extendable to 22:30))
- No limit on flight time (shown on rotation display as **99.59**)
- Pre-duty rest of at least 24 hours scheduled (48 hours for JNB- ATL) in accordance with the following table:

FRMS Operation	Planned/Minimum Pre-Duty Rest
ATL-JNB	24/18
JNB-ATL	48/40
0700-1659L from the U.S.	24/13
1700-0659L from the U.S.	24/20
Anytime to the U.S. (except from JNB)	24/20

Note: The pre-duty rest can be reduced to the minimum due to late completion of prior duty periods only, not for short notice trip assignments

- 56 hours minimum rest, including 3 physiological nights, required upon return.

SHORT CALL ASSIGNMENT TO AN FRMS SEGMENT.

Assigning an FRMS segment to a pilot who is on short call is subject to both of the following conditions:

- The pilot must have 24 hours of prospective rest immediately preceding the short call start time. This prevents a pilot from being assigned an FRMS while on short call unless he is first assigned a 24-hour rest period that ends at his short call start time (time spent on long call is not rest).
- The pilot must be able to complete the assigned FDP within the limits of the FRMS duty time plus a maximum of four hours, including the RAP (time between the short call start time and the report time of the rotation) and any extensions.

FRMS ROTATION EXAMPLE

%%%%%%%%%

% 1 ATL B029 %

%%%%%%%%%

ATL PILOT 777 *** ROTATION OPER
 B029 POS-AB EFFECTIVE NOV14 CHECK IN AT 20.30
 ACTUAL REPORT TIME 2030

DAY FLT T DEPARTS ARRIVES C BLK M/U TURN M EQP
 14 8 *ATL 2200 DXB 2020 14.20 M 777
 DXB 23.39/JW MARRIOTT DXB 14.08BL 9.35DC

A- PWA FDP/SKD MAX/ACT MAX 15.50/15.50/17.50
 LAST ACCLIMATED CITY-ATL REST CLASS-1 20.30/22.30/99.59

B- PWA FDP/SKD MAX/ACT MAX 15.50/15.50/17.50
 LAST ACCLIMATED CITY-ATL REST CLASS-1 20.30/22.30/99.59

PAY REPORT TIME 2055/16 ACTUAL REPORT TIME 2055/16
 16 7 DXB 2225 ATL 0546 *15.21 M 777
 15.21BL 9.16DC

A- PWA FDP/SKD MAX/ACT MAX 16.51/16.51/18.51
 LAST ACCLIMATED CITY-ATL REST CLASS-1 20.30/22.30/99.59

B- PWA FDP/SKD MAX/ACT MAX 16.51/16.51/18.51
 LAST ACCLIMATED CITY-ATL REST CLASS-1 20.30/22.30/99.59

- FRMS max scheduled duty limit (PWA): This is the time from scheduled report to scheduled block-in. It is calculated as follows:
 - 1:30 from scheduled report time to scheduled push, plus
 - Scheduled Block time (i.e. 14.20 on the 14th and 15.21 on the 16th),
 - Results in 15.50 on the 14th and 16.51 on the 16th.
- A pilot may give his concurrence to continue to the FRMS limit of 20.30, extendable to 22.30. However, a pilot will not be rerouted or required to remain on an FRMS FDP more than two hours beyond his MAX scheduled limit (17.50 / 18.51 as shown above). A pilot's decision not to continue beyond this time will be accepted without question by Crew Tracking.

ACARS Latest Allowable Takeoff Time (LATT) alerts/monitoring

LATT times are automatically monitored beginning at OUT time +2 minutes. If any required crewmember is within 30 minutes of a block or duty LATT an ACARS message will be sent to the aircraft providing the LATT time and employee number(s) of the affected crewmember(s). Monitoring continues until an OFF event is recorded. A corresponding chime will be sent only with alerts that occur at OUT+2.

If a crew pushes back with a flight segment planned to be completed within the max actual FDP limit, but is delayed prior to take off to the extent that an extension is necessary, an ACARS message stating FDP EXTENSION APPLIED will be sent to the aircraft. There will be no chime associated with this message.

LATT MSG

FAR 117
LATEST TAKEOFF TIME

0933631 02/0054Z BLOCK
0614988 02/0054Z BLOCK

LATT MSG

FAR 117
LATEST TAKEOFF TIME

0843905 31/2347Z FDP
0142056 31/2347Z FDP

FDP EXTENTION APPLIED