07/16/2021

FEDERAL AVIATION ADMINISTRATION FLIGHT STANDARDS SERVICE GRAPHIC DEPARTURE PROCEDURES (DP)

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL Altitudes are minimum altitudes unless otherwise indicated Ceilir

ngs are in feet above airport elevation. Dis	stances are in nautical miles.	Visibilities are in statue miles or fe	et RVR unless otherwise indicated.
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DP NAM	<u>//E</u>					NUMBER	DP COMPUTER CODE	SUPERSEDED NUMBER	DATED	ACTUAL EFFECTIVE DATE
LEONA						FOUR	LOA4.LOA	THREE	06/22/2017	07 OCT 2021
TYPE:	OBSTACLE	COPTER	SID	SPECIAL	RNAV					
			\boxtimes							
										QUALITY
DP ROU	TE DESCRIPTIO	ON:								20
GEORG	E BUSH INTERO	CONTINENTAL	HOUSTON	(KIAH)						HECKER

GEORGE BUSH INTERCONTINENTAL/HOUSTON (KIAH)

ALL RUNWAYS: CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT. MAINTAIN 16000. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE. THENCE ...

WILLIAM P HOBBY (KHOU)

TAKEOFF RWY 4, 13L, 13R, 22: CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT, MAINTAIN 16000. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE, THENCE ... TAKEOFF RWY 31L: CLIMB ON HEADING 310.96 TO 800 BEFORE TURNING. THEN CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT. MAINTAIN 16000. EXPECT FILED ALTITUDE 10 MINUTES

AFTER DEPARTURE. THENCE ...

TAKEOFF RWY 31R: CLIMB ON HEADING 310.94 TO 800 BEFORE TURNING, THEN CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT, MAINTAIN 16000. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE, THENCE ...

ELLINGTON (KEFD)

TAKEOFF ALL RUNWAYS: CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT. MAINTAIN ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE. THENCE ...

SUGAR LAND RGNL (KSGR)

TAKEOFF RWY 17: CLIMB ON HEADING 170.28 TO 1500 BEFORE TURNING. WHEN ENTERING CONTROLLED AIRSPACE. CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT. MAINTAIN ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE. THENCE ...

TAKEOFF RWY 35: CLIMB ON HEADING 350.28 TO 1100 BEFORE TURNING. WHEN ENTERING CONTROLLED AIRSPACE, CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT. MAINTAIN ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE, THENCE ...

HOUSTON-SOUTHWEST (KAXH)

TAKEOFF RWY 9: CLIMB ON HEADING 089.22 TO 2000 BEFORE TURNING. WHEN ENTERING CONTROLLED AIRSPACE, CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT, MAINTAIN ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE, THENCE ...

TAKEOFF RWY 27: CLIMB ON HEADING 269.23 TO 2200 BEFORE TURNING. WHEN ENTERING CONTROLLED AIRSPACE, CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT. MAINTAIN ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE. THENCE ...

HOUSTON EXECUTIVE (KTME)

TAKEOFF RWY 18: WHEN ENTERING CONTROLLED AIRSPACE, CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT. MAINTAIN ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE. THENCE ...

TAKEOFF RWY 36: CLIMB ON HEADING 355.25 TO 700 BEFORE TURNING, WHEN ENTERING CONTROLLED AIRSPACE, CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT, MAINTAIN ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE. THENCE ...

SCHOLES INTL AT GALVESTON (KGLS)

TAKEOFF RWY 14, 18, 36: WHEN ENTERING CONTROLLED AIRSPACE, CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT. MAINTAIN ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE. THENCE ...

TAKEOFF RWY 32: CLIMB ON HEADING 318.12 TO 800 BEFORE TURNING. WHEN ENTERING CONTROLLED AIRSPACE. CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT. MAINTAIN ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE. THENCE ...

LA PORTE MUNI (KT41)

TAKEOFF RWY 5: CLIMB ON HEADING 046.34 TO 500 BEFORE TURNING. WHEN ENTERING CONTROLLED AIRSPACE. CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT. MAINTAIN ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE. THENCE ...

TAKEOFF RWY 12: CLIMB ON HEADING 121.17 TO 500 BEFORE TURNING, WHEN ENTERING CONTROLLED AIRSPACE, CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT, MAINTAIN

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ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE, THENCE ...

TAKEOFF RWY 23: WHEN ENTERING CONTROLLED AIRSPACE, CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT. MAINTAIN ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE, THENCE ...

TAKEOFF RWY 30: CLIMB ON HEADING 301.18 TO 700 BEFORE TURNING. WHEN ENTERING CONTROLLED AIRSPACE, CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT. MAINTAIN ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE, THENCE ...

ALL OTHER AIRPORTS

ALL RUNWAYS: WHEN ENTERING CONTROLLED AIRSPACE, CLIMB ON ASSIGNED HEADING FOR RADAR VECTORS TO WLLIS INT. MAINTAIN ATC ASSIGNED ALTITUDE. EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE, THENCE ...

...ON LOA R-147 TO LOA VORTAC.

TRANSITION ROUTES (GRAPHIC DEPICTION ONLY):

TRANSITION NAME	TRANSITION COMPUTER CODE	FROM FIX/NAVAID	<u>TO</u> <u>FIX/NAVAID</u>	COURSE		MEA	MOCA	CROSSING ALTITUDE/FIXES
RANGR	LOA4.FUZ	LOA VORTAC	DOLEY INT	333.60 (LOA R-334)	67.25	10000		
			FUZ VORTAC	309.92 (FUZ R-130)	58.16	FL180		
ARDMORE	LOA4.ADM	LOA VORTAC	DOLEY INT	333.60 (LOA R-334)	67.25	10000		
			ADM VORTAC	335.74 (ADM R-156)	127.37	FL180		
BONHAM	LOA4.BYP	LOA VORTAC	CQY VORTAC	340.67 & 342.54 (LOA R-341 & CQY R-163)	64.84	10000		
			BYP VORTAC	353.42 (BYP R-173)	80.95	FL180		

PROCEDURAL DATA NOTES:

NOTE: RADAR REQUIRED.

NOTE: EXCEPT FOR AIRCRAFT DESTINED ACT OR THE DFW TERMINAL AREA, ALL AIRCRAFT FILING THE LEONA SID MUST FILE ONE OF THE PUBLISHED TRANSITIONS VIA FUZ (LOA4.FUZ), ADM (LOA4.ADM), OR BYP (LOA4.BYP).

RANGER TRANSITION: FOR AIRCRAFT OVERFLYING WEST/NORTHWEST OF THE DFW TERMINAL AREA FL240 AND ABOVE.

ARDMORE TRANSITION: FOR AIRCRAFT OVERFLYING NORTH/NORTHWEST OF THE DFW TERMINAL AREA FL240 AND ABOVE.

BONHAM TRANSITION: FOR AIRCRAFT OVERFLYING/LANDING TUL VORTAC FL240 AND ABOVE.

TAKEOFF MINIMUMS:

GEORGE BUSHI NTERCONTINENTAL/HOUSTON (KIAH)

RWY 8L, 8R, 9, 27, 15L, 15R, 26L, 26R, 33L, 33R: STANDARD.

WILLIAM P HOBBY (KHOU)

RWY 4, 13L, 13R, 31L, 31R: STANDARD. RWY 22: STANDARD WITH MINIMUM CLIMB OF 290 FT PER NM TO 1500.

ELLINGTON (KEFD)

RWY 4, 17L, 17R, 35L, 35R: STANDARD.

RWY 22: 200-1 1/4 OR STANDARD WITH MINIMUM CLIMB OF 214 FT PER NM TO 300 OR ALTERNATIVELY WITH STANDARD TAKEOFF MINIMUMS AND A NORMAL 200 FT PER NM CLIMB GRADIENT, TAKEOFF MUST OCCUR NO LATER THAN 1400 FT PRIOR TO DER.

CONROE-NORTH HOUSTON RGNL (KCXO)

RWY 1, 14, 19, 32: STANDARD.

DAVID WAYNE HOOKS MEMORIAL (KDWH)

RWY 17L, 35R: NA - ENVIRONMENTAL.

WALIZ.

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WATERWAY 17. 35: NA - AIR TRAFFIC. RWY 17R. 35L: STANDARD.

SUGAR LAND RGNL (KSGR)

RWY 17, 35: STANDARD.

HOUSTON-SOUTHWEST (KAXH)

RWY 9, 27: STANDARD.

HOUSTON EXECUTIVE (KTME)

RWY 18, 36: STANDARD.

WEST HOUSTON (KIWS)

RWY 15, 33: STANDARD.

SCHOLES INTL AT GALVESTON (KGLS) RWY 14, 18, 32, 36: STANDARD.

TEXAS GULF COAST RGNL (KLBX)

RWY 17, 35: STANDARD.

LA PORTE MUNI (KT41)

RWY 5, 12, 23, 30: STANDARD.

TAKEOFF OBSTACLES NOTES:

SEE FORM 8260-15A, TAKEOFF MINIMUMS AND OBSTACLE DEPARTURE PROCEDURES (ODP).

CONTROLLING OBSTACLES:

WILLIAM P HOBBY (KHOU)

RWY 22, 31L, 31R: 2049 FT MSL TOWER 293430.00N/0952938.00W.

OBSTACLE MANDATING ODP ROUTE DEVELOPMENT: RWY 31R, 31L 2049 FT MSL TOWER 293430.00N/0952938.00W.

ELLINGTON (KEFD)

RWY 22: 192 FT MSL WATER TOWER, 293521.00N/0951048.09W.

SUGAR LAND RGNL (KSGR)

RWY 17: 2049 FT MSL TOWER 293415.70N/0953038.30W. RWY 35: 2049 FT MSL TOWER 293435.00N/0953037.00W.

HOUSTON-SOUTHWEST (KAXH)

RWY 9, 27: 2049 FT MSL TOWERS 293341.00N/0953005.00W.

HOUSTON EXECUTIVE (KTME)

RWY 36: 546 FT MSL TOWER 295050.00N/0955259.00W.

SCHOLES INTL AT GALVESTON (KGLS)

OBSTACLES MANDATING ODP ROUTE DEVELOPMENT: RWY 32: 2013 FT MSL TOWER 291800.65N/0950640.27W.

LA PORTE MUNI (KT41)

OBSTACLES MANDATING ODP ROUTE DEVELOPMENT: RWY 5: 334 FT MSL STACK 294201.00N/0950211.00W. RWY 12: 499 FT MSL STACK 293747.00N/0950316.00W. RWY 30: 584 FT MSL TOWER 294253.26N/0950540.31W.

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DP NAME LEONA	<u>NUMBER</u> FOUR	DP COMPUTER CODE LOA4.LOA	SUPERSEDED NUMBER THREE	DATED 06/22/2017	ACTUAL EFFECTIVE DATE 07 OCT 2021

LOST COMMUNICATIONS PROCEDURES:

ADDITIONAL FLIGHT DATA:

CHART: MEA 4000 WILLIS INT TO LOA VORTAC. CHART: TNV R-047 AT WILLIS INT. CHART: ACT R-046 AT DOLEY INT.

GEORGE BUSH INTERCONTINENTAL/HOUSTON (KIAH) - CHART: TOP ALTITUDE: 16000. WILLIAM P HOBBY (KHOU) - CHART: TOP ALTITUDE: 16000. ELLINGTON (KEFD) - CHART: TOP ALTITUDE: ASSIGNED BY ATC. CONROE-NORTH HOUSTON RGNL (KCXO) - CHART: TOP ALTITUDE: ASSIGNED BY ATC. DAVID WAYNE HOOKS MEMORIAL (KDWH) - CHART: TOP ALTITUDE: ASSIGNED BY ATC. SUGAR LAND RGNL (KSGR) - CHART: TOP ALTITUDE: ASSIGNED BY ATC. HOUSTON-SOUTHWEST (KAXH) - CHART: TOP ALTITUDE: ASSIGNED BY ATC. HOUSTON EXECUTIVE (KTME) - CHART: TOP ALTITUDE: ASSIGNED BY ATC. WEST HOUSTON (KIWS) - CHART: TOP ALTITUDE: ASSIGNED BY ATC. SCHOLES INTL AT GALVESTON (KGLS) - CHART: TOP ALTITUDE: ASSIGNED BY ATC. TEXAS GULF COAST RGNL (KLBX) - CHART: TOP ALTITUDE: ASSIGNED BY ATC.

REFERENCE MAG VAR: KHOU 3E EPOCH YR: 2015.

AIRPORTS SERVED:

AIRPORT NAME	AIRPORT ID	CITY	<u>STATE</u>
GEORGE BUSH INTERCONTINENTAL/HOUSTON	KIAH	HOUSTON	ТХ
WILLIAM P HOBBY	KHOU	HOUSTON	ТХ
ELLINGTON	KEFD	HOUSTON	ТХ
CONROE-NORTH HOUSTON RGNL	КСХО	HOUSTON	ТХ
DAVID WAYNE HOOKS MEMORIAL	KDWH	HOUSTON	ТХ
SUGAR LAND RGNL	KSGR	HOUSTON	ТХ
HOUSTON-SOUTHWEST	KAXH	HOUSTON	ТХ
HOUSTON EXECUTIVE	KTME	HOUSTON	ТХ
WEST HOUSTON	KIWS	HOUSTON	ТХ
SCHOLES INTL AT GALVESTON	KGLS	GALVESTON	ТХ
TEXAS GULF COAST RGNL	KLBX	ANGLETON/LAKE JACKSON	ТХ
LA PORTE MUNI	KT41	LA PORTE	TX 20
			CHECKER

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DP NAME	NUMBER DI	P COMPUTER CODE	SUPERSEDED NUMBER	DATED	ACTUAL EFFECTIVE DATE
LEONA	FOUR	LOA4.LOA	THREE	06/22/2017	07 OCT 2021
COMMUNICATIONS: ATIS: IAH, HOU, EFD, CXO, DWH, SGR, TME. AWOS/ASOS: IAH, HOU, EFD, CXO, DWH, SGR, AXH, TME, GLS, LBX. CTAF: CXO, DWH, SGR, AXH, TME, IWS, GLS, LBX, T41. CLNC DEL: IAH, HOU, CXO, DWH, SGR, AXH, TME, IWS, GLS, LBX, T41. DEP CON: IAH, HOU, EFD, CXO, DWH, SGR, AXH, TME, IWS, GLS, LBX, T41. GND CON: IAH, HOU, EFD, CXO, DWH, SGR, GLS, TME. TWR: IAH, HOU, EFD, CXO, DWH, SGR, GLS, TME. CPDLC: IAH, HOU.					
FIXES AND/OR NAVAIDS: CHART: ACT VORTAC, TNV VOR/DME, TUL VORTAC.					
REMARKS: ABBREVIATED AMENDMENT LEONA FOUR AMENDMENT DOES NOT SATISFY PERIODIC REVIEW REQUIF	REMENTS.				
FLIGHT INSPECTED BY			OFFICE	DATE	
PROCESSED IAW AIRCRAFT OPERATIONS GROUP (AJF-10) MEMO, APRIL FLIGHT INSPECTION REVIEW NOT REQUIRED.	29, 2020 SUBJECT:	Digitally signed by			OVAL 172
DEVELOPED BY Digitally signed by		Jun 28, 2021	OFFICE	DATE	20 Sittecker
JON DENTON (JOHN KEEFER) Jun 28, 2021			AJV-A432	05/04/2021	-CUN
Digitally signed by LONNIE EVERHART			OFFICE	DATE	TITLE
LONNIE EVERHART Jun 28, 2021			AJV-A430		MANAGER
REQUIRED EFFECTIVE DATE ROUTINE					
COORDINATED WITH:					
	<u>other</u> : Zhu, ho axh, iws	DU APP CON, IAH ATCT, H 5, TME, DWH, CXO, GLS, T	IOU ATCT, DWH ATCT, EFD 741, LBX.	ATCT, SGR ATCT, AM	GR: IAH, HOU, EFD, SGR,
CHANGES - REASONS:					

- CHANGED "CLIMB HEADING" TO "CLIMB ON HEADING" FOR THE FOLLOWING AIRPORTS AND RUNWAYS; KHOU RWY 31L, 31R, KSGR RWY 17, 35, KAXH RWY 9, 27, KTME RWY 36, KGLS RWY 32, KT41 RWY 5, 12, 30. 8260.46G COMPLIANCE.
- 2. REMOVED RUNWAYS 17 AND 35 FROM KHOU DP ROUTE DESCRIPTION. RUNWAYS HAVE BEEN REMOVED.
- 3. CHANGED DP ROUTE DESCRIPTION LA PORTE MUNI RWY 05 TO RWY 5. 8260.46G COMPLIANCE.
- 4. ADDED TAKEOFF TO ALL AIRPORTS RUNWAYS IN DP ROUTE DESCRIPTION. 8260.46G COMPLIANCE.
- 5. CHANGED DEPARTING GEORGE BUSH INTERCONTINENTAL/HOUSTON (KIAH) TO GEORGE BUSH INTERCONTINENTAL/HOUSTON (KIAH) IN DP ROUTE DESCRIPTION. STANDARDIZATION OF AIRPORT ENTRIES.
- 6. CHANGED DEPARTING WILLIAM P HOBBY (KHOU) TO WILLIAM P HOBBY (KHOU) -STANDARDIZATION OF AIRPORT ENTRIES.
- 7. CHANGED DEPARTING ELLINGTON (KEFD) TO ELLINGTON (KEFD). STANDARDIZATION OF AIRPORT ENTRIES.
- 8. REPLACED TAKEOFF OBSTACLE NOTES WITH SEE FORM 8260-15A, TAKEOFF MINIMUMS AND OBSTACLE DEPARTURE PROCEDURES (ODP). 8260.46G COMPLIANCE.
- 9. ADDED REFERENCE MAG VAR: KHOU 3E EPOCH YR: 2015. 8260.46G COMPLIANCE.
- 10. REMOVED KHOU RWY 17, 35 FROM TAKEOFF MINIMUMS. RUNWAYS HAVE BEEN REMOVED.
- 11. REMOVED KHOU RWY 17 FROM CONTROLLING OBSTACLES. RUNWAYS HAVE BEEN REMOVED.
- 12. REMOVED KHOU CONTROLLING OBSTACLE RWY 4: 174 FT MSL BUILDING 293935.00N0951526.00W. NO 40:1 PENETRATIONS PER ODP.
- 13. ADDED IAH, HOU TO CPDLC COMMUNICATION. CPDLC IS AVAILABLE AT THESE AIRPORTS.
- 14. UPDATED ALL REFERENCES FROM LOA3. TO LOA4. UPDATED WITH AMENDMENT.
- 15. ADDED OBSTACLE MANDATING ODP ROUTE DEVELOPMENT: RWY 31R, 31L 2049 FT MSL TOWER 293430.00N/0952938.00W TO KHOU CONTROLLING OBSTACLES. 8260.46G COMPLIANCE.

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16. ADDED SGR, TME TO ATIS IN COMMUNICATION. - ATIS IS AVAILABLE AT THESE AIRPORTS.

17. UPDATED PROCEDURE DATA NOTE: EXCEPT FOR AIRCRAFT DESTINED ACT OR THE DFW TERMINAL AREA, ALL AIRCRAFT FILING THE LEONA SID MUST FILE ONE OF THE PUBLISHED TRANSITIONS VIA FUZ (LOA3.FUZ), ADM (LOA3.ADM), OR BYP (LOA3.BYP). TO EXCEPT FOR AIRCRAFT DESTINED ACT OR THE DFW TERMINAL AREA, ALL AIRCRAFT FILING THE LEONA SID MUST FILE ONE OF THE PUBLISHED TRANSITIONS VIA FUZ (LOA4.FUZ), ADM (LOA4.ADM), OR BYP (LOA4.BYP). - UPDATE WITH AMENDED PROCEDURE.

18. ADDED TME TO GND CON AND TWR IN COMMUNICATIONS. - GND CON AND TWR IS AVAILABLE AT THIS AIRPORT.

19. CHANGED KHOU TAKEOFF MINIMUMS RWY 13L, 13R, 31L, 31R, 35 STANDARD TO RWY 4, 13L, 13R, 31L, 31R: STANDARD. - PER ODP.

20. REMOVED KHOU TAKEOFF MINIMUMS FROM RWY 4: 300-1 OR STANDARD WITH MINIMUM CLIMB OF 270 FT PER NM TO 300. - PER ODP.

