AERONAUTICAL CHARTING FORUM
Instrument Procedures Group
Meeting 14-02 – October 28, 2014

RECOMMENDATION DOCUMENT

FAA Control # 14-02-318

Subject: Charting LNAV Engagement Altitudes

Background/Discussion: As NEXTGEN progresses at an increased pace with the Optimization of Airspace and Procedures in the Metroplex (OAPM) implementations across the country, industry is seeing an unprecedented increase in the use of RNAV SIDs at busy airports. Additionally, ATC has begun using the new "Climb Via" clearance phraseology on these SIDs. This combination has highlighted a whole new set of issues for aircrews and ATC alike, in particular, charting issues that cause confusion in the cockpit. Recent discussions have spotlighted an inconsistency in the charting of LNAV Engagement Altitudes on SIDs. Issues in particular include:

1. Discrepancy of when LNAV engagement altitudes are presented on the plan view of both AeroNav Products and Jeppesen charts.
2. Inconsistency of how the chart planview designates a crossing altitude between charts at different airports of same manufacturer (i.e. AeroNav Products)
3. Inconsistency of how the chart planview designates an engagement altitude between manufacturers (AeroNav versus Jepp).

Examples will be provided as it is the best way to see the breadth of the problem, but in general some SIDs have them and some do not. In most cases they only contribute to chart clutter and no useful purpose (see attached charts). Additionally, they may be charted as "usable altitudes" such as "1800" or may show up as "less usable altitudes" such as "1861". It is possible that they are charted as "at", "at or below", or "at or above", but really serve no purpose other than to anchor the RNAV leg type. Also, Jepp has added a "climb to" on the planview (consistent with AeroNav products text) that may be confusing pilots that think it is an altitude restriction.

These inconsistencies have been showing up as ASRS/ASAP reports, complaints, and pilot deviations. Of the most recent errors, crews were leveling at the LNAV engagement altitude on new KOKC SIDs that are 500 ft. above the ground (a contributing factor could be that "Climb Via SID" clearance was issued instead of "Climb and Maintain"- the SID has no published constraints other than the LNAV engagement altitude.). Additionally, it has been shown that pilot knowledge of "LNAV engagement altitudes" is very low. In many cases, the designation is just ignored, producing an industry wide illusion of understanding. In fact, there appears to be very little published on the topic and the name alone is a misconception since a true "LNAV engagement altitude" varies by aircraft type and is designated by the manufacturer and certified by flight standards processes. There are also discussions occurring as to whether or not these LNAV engagement altitudes are "altitude constraints" at all and how they should be treated by ATC.

Some attached example procedures are:

KBNA(DANLS2), KLAX (HOLTZ9), KLGA (JUTES2), and KOKC(MUDDE1)

Additional examples can be found at:

KCLT (all SIDs), KDFW (AKUNA5), KIAH (MMUGS1), KBWI (TERPZ3), KABQ(ADYOS2), and KLAS(COWBY5)

Recommendations:
Brief research of Order 8260.46, Departure Procedure Program, and Order 8260.58, US Standard for PBN Instrument Procedure Design, has not shown much insight regarding the requirements of the altitude. The only reference discovered is a requirement that "LNAV engagement Altitude be at least 500 ft. above the ground."

1. FAA clearly define criteria requirements for the LNAV engagement altitude (or its appropriate designation).
2. Determine the need for charting and standards necessary that will prevent confusing interpretations.
3. The AIM, PCG and Instrument Procedures Handbook should be updated to incorporate the appropriate guidance necessary related to the LNAV engagement altitude.

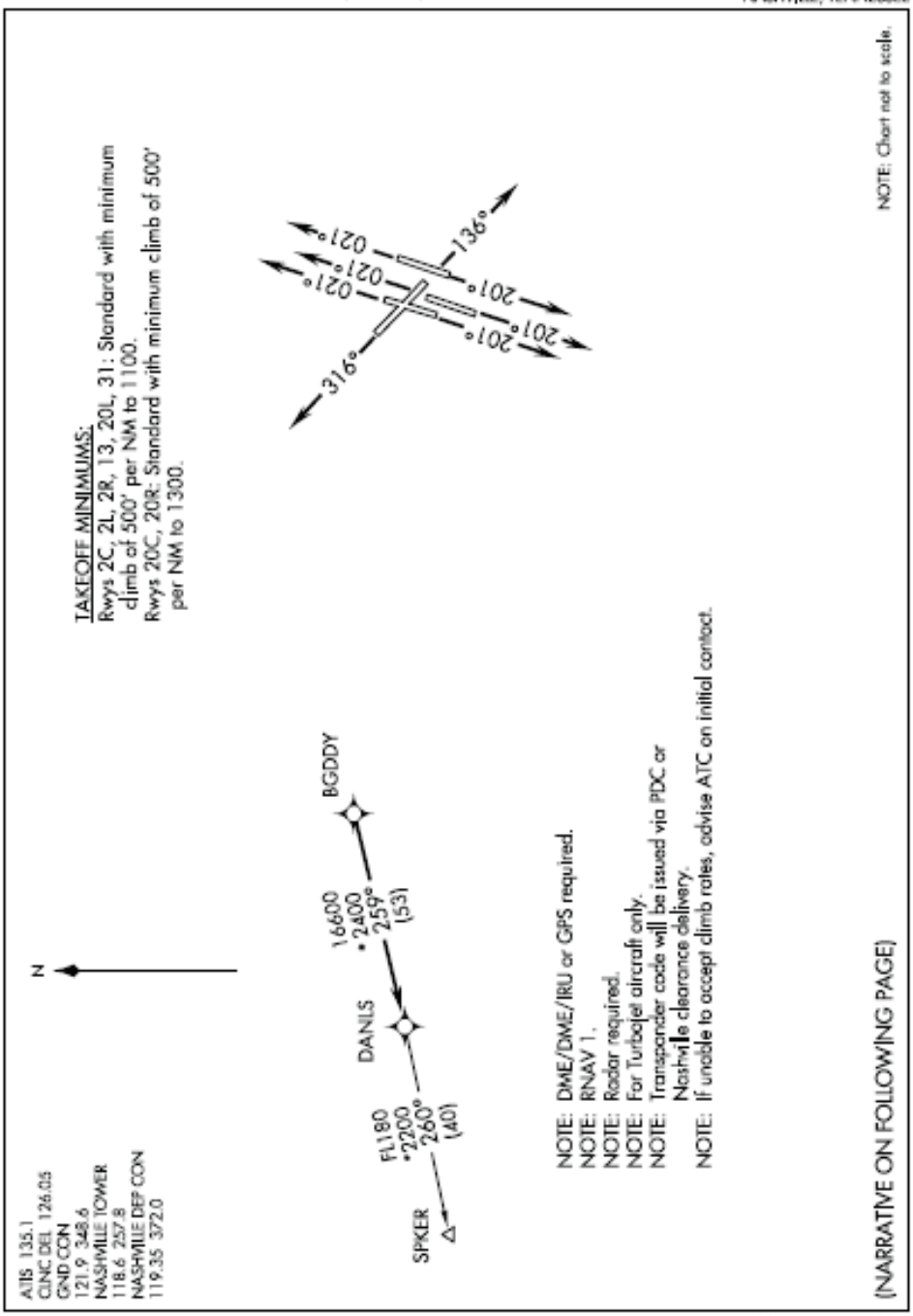
Comments:

Submitted by: Lev Prichard (APA) and Brian Townsend (AA)
Organization: Allied Pilots Association/American Airlines
Phone: 817-302-2150
FAX:
E-mail: lprichard@alliedpilots.org; townsendbd@gmail.com
Date: 8OCT14

(DANLS2.DANLS) 14205 SI-282 (FAA)

DANLS TWO DEPARTURE (RNAV)

NASHVILLE INTL (BNA)
NASHVILLE, TENNESSEE



SE-1, 18 SEP 2014 to 16 OCT 2014

SE-1, 18 SEP 2014 to 16 OCT 2014

DANLS TWO DEPARTURE (RNAV)
NASHVILLE, TENNESSEE
NASHVILLE INTL (BNA)
(DANLS2.DANLS) 14205

Attachment 1

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RWYS 2L/C/R: Climb heading 021° or assigned ATC heading, thence....
TAKEOFF RWY 13: Climb heading 136° or assigned ATC heading, thence....
TAKEOFF RWYS 20L/C/R: Climb heading 201° or assigned ATC heading, thence....
TAKEOFF RWY 31: Climb heading 316° or assigned ATC heading, thence....

....Expect radar vectors to BGDDY, then on track 259° to DANLS. Maintain 4000. Expect clearance to filed altitude within five (5) minutes after departure.

SPKER TRANSITION (DANLS2.SPKER):

TAKEOFF OBSTACLE NOTES:

Rwy 2L: Trees beginning 203' from DER, 489' right of centerline, up to 60' AGL/576' MSL.
Rwy 13: Blast fence obstruction light 335' from DER, 64' left of centerline, 6' AGL/595' MSL.
Trees beginning 2852' from DER, 28' right of centerline, up to 60' AGL/685' MSL.
Pole 3761' from DER, 726' right of centerline, 60' AGL/689' MSL.
Rwy 20C: Trees beginning 2089' from DER, 934' right of centerline, up to 60' AGL/623' MSL.
Rwy 20L: Trees beginning 1844' from DER, 720' left of centerline, up to 60' AGL/639' MSL.
Rwy 20R: Flagpole 1298' from DER, 777' right of centerline, 37' AGL/636' MSL.
Building 2183' from DER, 1083' right of centerline, 91' AGL/680' MSL.
Rwy 31: Ground 2' from DER, 498' left of centerline, 541' MSL.
LOC obstruction light 303' from DER, on centerline, 48' AGL/547' MSL.
Blast fence obstruction light 382' from DER, 50' left of centerline, 30' AGL/569' MSL.
Trees beginning 789' from DER, 331' right of centerline, up to 60' AGL/602' MSL.
Pole 1012' from DER, 429' left of centerline, 29' AGL/578' MSL.
Transmission tower 1882' from DER, 219' right of centerline, 61' AGL/610' MSL.
Pole 2037' from DER, 422' right of centerline, 47' AGL/596' MSL.
Transmission tower 2778' from DER, 83' left of centerline, 91' AGL/630' MSL.

SE-1, 18 SEP 2014 to 16 OCT 2014

Attachment 1 (continued)

KBNA/BNA
NASHVILLE INTL

JEPPESEN

18 JUL 14 (10-3A) Eff 24 Jul

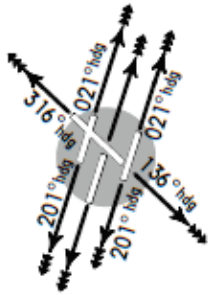
NASHVILLE, TENN
RNAV SID

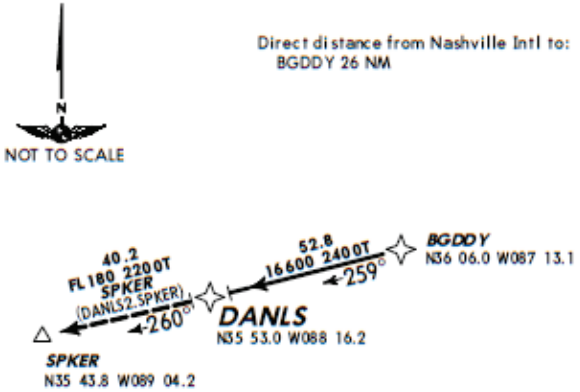
NASHVILLE Departure (R) 119.35

Apt Elev 599'

Trans level: FL180 Trans alt: 18000'
1. RADAR required. 2. DME/DME/IRU or GPS required. 3. RNAV 1. 4. For turbojet aircraft only. 5. Transponder code will be issued via PDC or Nashville Clearance Delivery. 6. If unable to accept climb rates, advise ATC on initial contact.

DANLS TWO RNAV DEPARTURE
(DANLS2.DANLS)





OBSTACLES
For TAKEOFF OBSTACLE NOTES see 10-3OB1.

This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwys 2L/C/R, 13, 20L, 31: Standard (or lower than standard, if authorized) with a minimum climb of 500' per NM to 1100'.
Rwys 20C/R: Standard (or lower than standard, if authorized) with a minimum climb of 500' per NM to 1300'.

Gnd speed-KT	75	100	150	200	250	300
500' per NM	625	833	1250	1667	2083	2500

RWY	INITIAL CLIMB
2L/C/R	Climb heading 021° or assigned ATC heading.
13	Climb heading 136° or assigned ATC heading.
20L/C/R	Climb heading 201° or assigned ATC heading.
31	Climb heading 316° or assigned ATC heading.

ROUTING

EXPECT RADAR vectors to BGDDY, then on track 259° to DANLS. MAINTAIN 4000'. EXPECT clearance to filed altitude within 5 minutes after departure.

CHANGES: Runway transitions, procedure renumbered.

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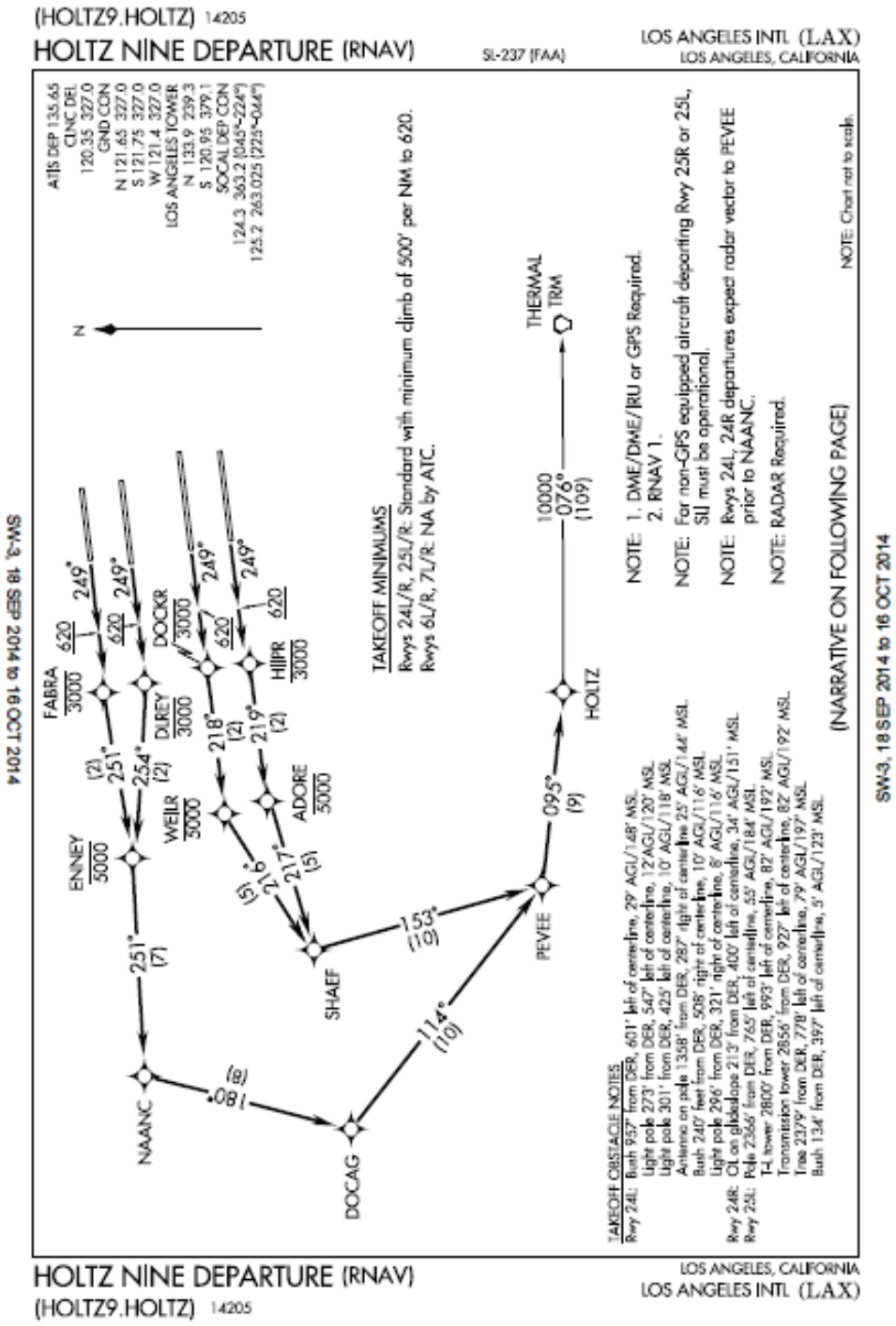
Attachment 2



Attachment 3

V

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 24R: Climb heading 249° to 620, then direct to cross FABRA at or below 3000, then via 251° track to cross ENNEY at or below 5000, then via depicted route to HOLTZ, Thence....
TAKE-OFF RUNWAY 24L: Climb heading 249° to 620, then direct to cross DLREY at or below 3000, then via 254° track to cross ENNEY at or below 5000, then via depicted route to HOLTZ, Thence....
TAKE-OFF RUNWAY 25R: Climb heading 249° to 620, then direct to cross DOCKR at or below 3000, then via 218° track to cross WEILR at or below 5000, then via depicted route to HOLTZ, Thence....
TAKE-OFF RUNWAY 25L: Climb heading 249° to 620, then direct to cross HIIPR at or below 3000, then via 219° track to cross ADORE at or below 5000, then via depicted route to HOLTZ, Thence....

. . . . . via THERMAL TRANSITION. Expect further clearance to filed altitude three minutes after departure.

THERMAL TRANSITION (HOLTZ9.TRM)

SW-3, 18 SEP 2014 to 16 OCT 2014

HOLTZ NINE DEPARTURE (RNAV)
LOS ANGELES, CALIFORNIA
LOS ANGELES INTL (LAX)
(HOLTZ9.HOLTZ) 07354

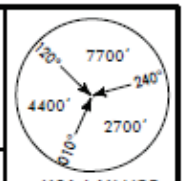
Attachment 3 (continued)

KLAX/LAX
LOS ANGELES INTL

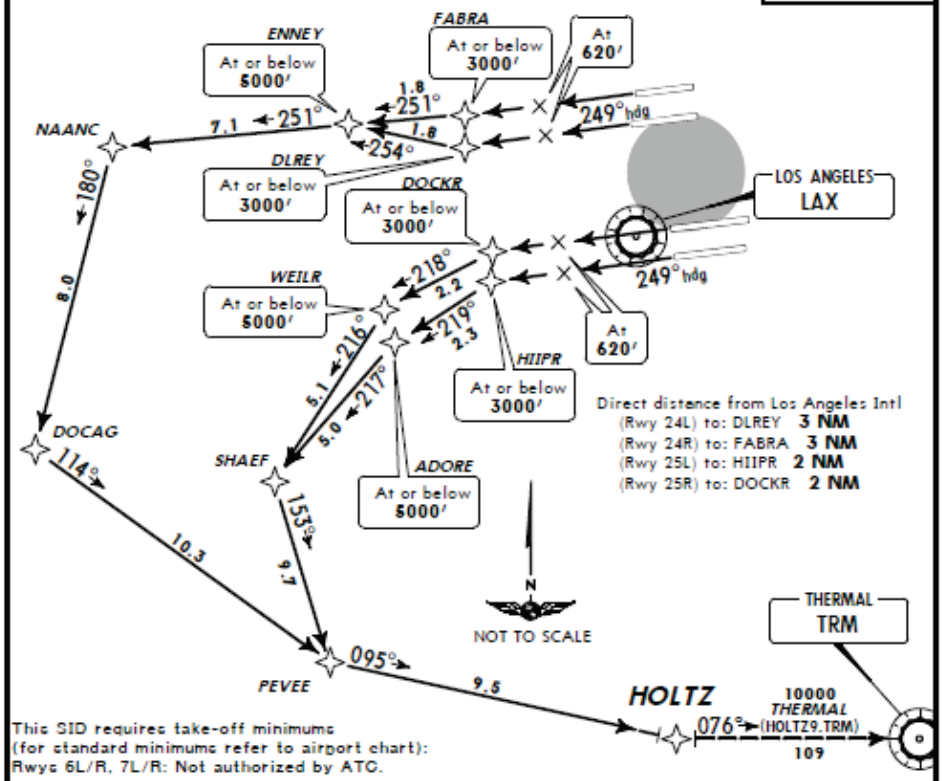
JEPPESEN
14 DEC 07 (10-3D) Eff 20 Dec

LOS ANGELES, CALIF
RNAV SID

SOCAL Departure (R)	Apt Elev	
124.3	126′	Trans level: FL180 Trans alt: 18000′ 1. DME/DME/IRU, or GPS required. 2. RADAR required. 3. RNAV 1. 4. For non-GPS equipped aircraft departing Rwys 25L/R, SLI must be operational. 5. Rwys 24L/R departures EXPECT RADAR vectors to PEVEE prior to NAANC.



HOLTZ NINE RNAV DEPARTURE (HOLTZ9.HOLTZ)



This SID requires take-off minimums (for standard minimums refer to airport chart):
Rwys 6L/R, 7L/R: Not authorized by ATC.
Rwys 24L/R, 25L/R: Standard (or lower than standard, if authorized) with minimum climb of 500′ per NM to **620′**.

Gnd speed-KT	75	100	150	200	250	300
500′ per NM	625	833	1250	1667	2083	2500

OBSTACLE

Rwy 24L: Bush 957′ from DER, 601′ LEFT of centerline, 29′ AGL/148′ MSL. Light pole 273′ from DER, 547′ LEFT of centerline, 12′ AGL/120′ MSL. Light pole 301′ from DER, 425′ LEFT of centerline, 10′ AGL/118′ MSL. Antenna on pole 1358′ from DER, 287′ RIGHT of centerline, 25′ AGL/144′ MSL. Bush 240′ from DER, 508′ RIGHT of centerline, 10′ AGL/116′ MSL. Light pole 296′ from DER, 321′ RIGHT of centerline, 8′ AGL/116′ MSL.

Rwy 24R: Obstacle lighting on glideslope 213′ from DER, 400′ LEFT of centerline, 34′ AGL/151′ MSL.

Rwy 25L: Pole 2366′ from DER, 765′ LEFT of centerline, 55′ AGL/184′ MSL. T-L tower 2800′ from DER, 993′ LEFT of centerline, 82′ AGL/192′ MSL. Transmission tower 2856′ from DER, 927′ LEFT of centerline, 82′ AGL/192′ MSL. Tree 2379′ from DER, 778′ LEFT of centerline, 79′ AGL/197′ MSL. Bush 134′ from DER, 397′ LEFT of centerline, 5′ AGL/123′ MSL.

RWY	INITIAL CLIMB
24L	Climb via 249° heading to **620′**, then direct to DLREY, then via 254° track to ENNEY, then via depicted route to HOLTZ.
24R	Climb via 249° heading to **620′**, then direct to FABRA, then via 251° track to ENNEY, then via depicted route to HOLTZ.
25L	Climb via 249° heading to **620′**, then direct to HIIPR, then via 219° track to ADORE, then via depicted route to HOLTZ.
25R	Climb via 249° heading to **620′**, then direct to DOCKR, then via 218° track to WEILR, then via depicted route to HOLTZ.

ROUTING

Via THERMAL transition. EXPECT further clearance to filed altitude three minutes after departure.

CHANGES: Rwy 25R initial climb, obstacles, renumbered.

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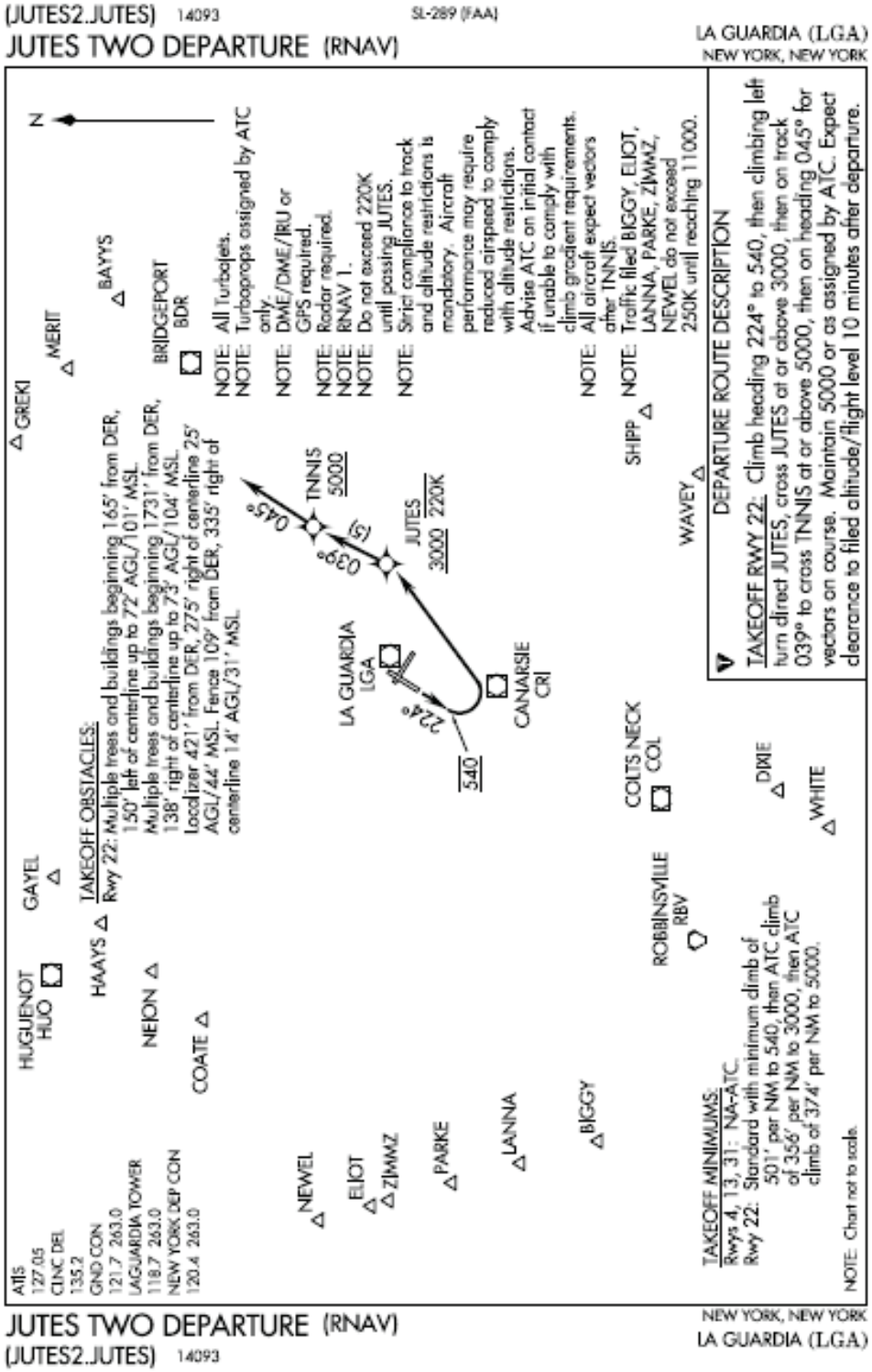
Attachment 4



Attachment 5

Attachment 6

KLGA/LGA
LA GUARDIA

JEPPESEN NEW YORK, NY
14 SEP 12 (10-3B) Eff 21 Sep RNAV SID

NEW YORK Departure (R)	Apt Elev	
120.4	21'	

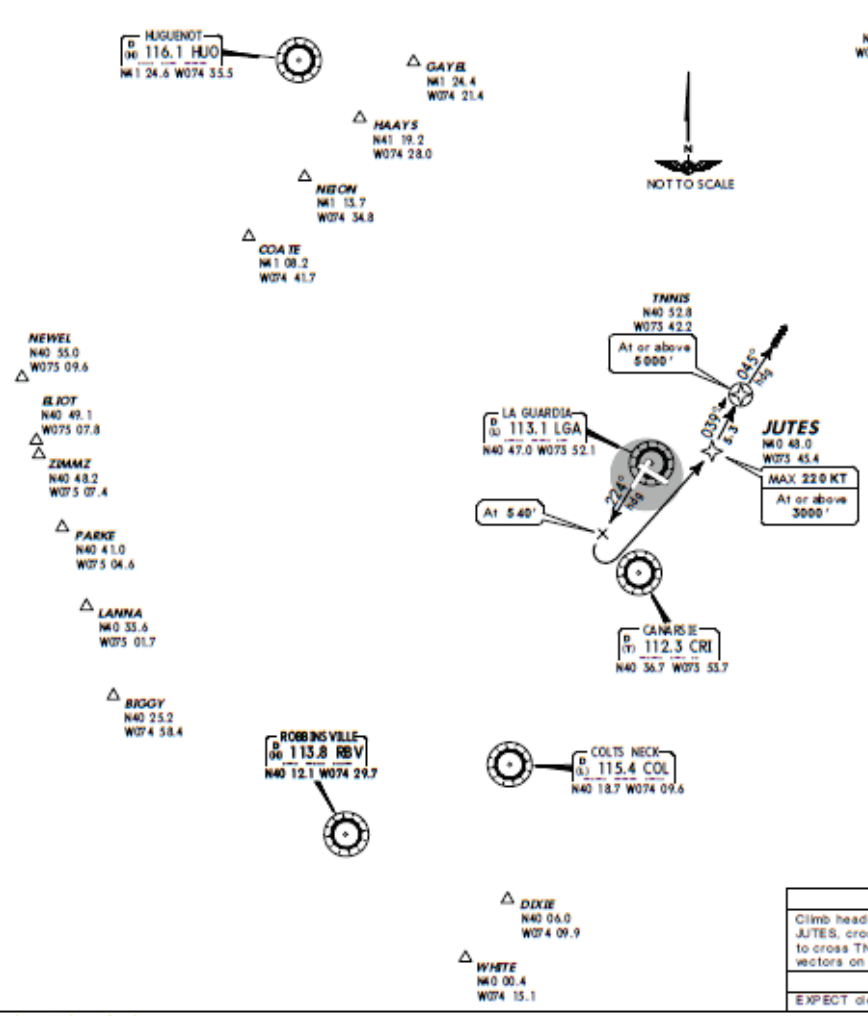
Trans level: FL180 Trans alt: 18000'
1. DME/DME/IRU or GPS required. 2. RNAV 1.
3. RADAR required. 4. All turbojets. 5. Turboprops assigned by ATC only.
6. Traffic filed BIGGY, ELIOT, LANNA, NEWEL, PARKE, ZIMMZ: Do not exceed 250 KT until reaching 11000'.

6. Strict compliance to track and altitude restrictions is mandatory. Aircraft performance may require reduced airspeed to comply with altitude restrictions. Advise ATC on initial contact if unable to comply with climb gradient requirements.
7. All aircraft EXPECT vectors after TNNIS.

JUTES TWO RNAV DEPARTURE (JUTES2.JUTES)

(RWY 22)

SPEED: DO NOT EXCEED 220 KT UNTIL PASSING JUTES



Direct distance from La Guardia Apt to:
JUTES 5 NM

OBSTACLES
Rwy 22: Multiple trees and buildings beginning 165' from DER, 150' LEFT of centerline, up to 72' AGL/101' MSL. Multiple trees and buildings beginning 1731' from DER, 138' RIGHT of centerline, up to 73' AGL/104' MSL. Localizer 421' from DER, 275' RIGHT of centerline, 25' AGL/44' MSL. Fence 109' from DER, 335' RIGHT of centerline, 14' AGL/31' MSL.

This SID requires take-off minimums (for standard minimums, refer to airport chart):
Rwys 4, 13, 31: Not authorized - ATC.
Rwy 22: Standard (or lower than standard, if authorized) with minimum climb of 501' per NM to **540'**, then ATC climb of 356' per NM to **3000'**, then ATC climb of 374' per NM to **5000'**.

Gnd speed-KT	75	100	150	200	250	300
356' per NM	445	593	890	1187	1483	1780
374' per NM	468	623	935	1247	1558	1870
501' per NM	626	835	1253	1670	2088	2505

INITIAL CLIMB	ALTITUDE
Climb heading 224° to **540'**, then climbing LEFT turn direct JUTES, cross JUTES at or above **3000'**, then on track 039° to cross TNNIS at or above **5000'**, then on heading 045° for vectors on course.	**MAINTAIN 5000'** or as assigned by ATC

ROUTING
EXPECT clearance to filed altitude/flight level within 10 minutes after departure.

CHANGES: Procedure revised, renumbered.

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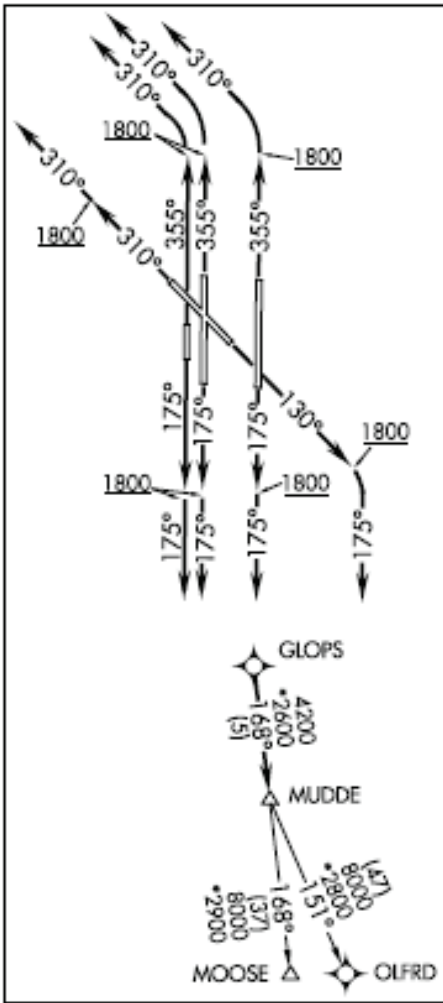
(MUDDE1.MUDDE) 14205 SL-301 (FAA)

MUDDE ONE DEPARTURE (RNAV)

WILL ROGERS WORLD (OKC)
OKLAHOMA CITY, OKLAHOMA

ATIS 125.85
CLNC DEL
124.35
GND CON
121.9 348.6
ROGERS TOWER
119.35 269.45
OKE CITY DEP CON
124.6 266.8



TAKEOFF OBSTACLE NOTES:
Rwy 35L: Post 48' from DER, 495' left of centerline, 8' AGL/1287' MSL.
Rwy 36: Obstruction light on windsock 674' from DER, 152' left of centerline, 25' AGL/1295' MSL.

TAKEOFF MINIMUMS:
Rwy 13, 17L/R, 18, 31, 35L/R, 36:
Standard with minimum climb of 500' per NM to 1800.

NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.
NOTE: RNAV 1.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RWY 13: Climb heading 130° to 1800, then right turn heading 175° or as assigned by ATC, expect radar vectors to GLOPS, thence. . . .
TAKEOFF RWY 17L/R, 18: Climb heading 175° to 1800, then heading 175° or as assigned by ATC, expect radar vectors to GLOPS, thence. . . .
TAKEOFF RWY 31: Climb heading 310° to 1800, then heading 310° or as assigned by ATC, expect radar vectors to GLOPS, thence. . . .
TAKEOFF RWY 35L/R, 36: Climb heading 355° to 1800, then left turn heading 310° or as assigned by ATC, expect radar vectors to GLOPS, thence. . . .

. . . .on track 168° to MUDDE, then on (transition). Maintain 5000 or as assigned by ATC. Expect filed altitude 10 minutes after departure.

MOOSE TRANSITION (MUDDE1.MOOSE):
OLFRD TRANSITION (MUDDE1.OLFRD):

SC-1, 18 SEP 2014 to 16 OCT 2014

SC-1, 18 SEP 2014 to 16 OCT 2014

MUDDE ONE DEPARTURE (RNAV)
OKLAHOMA CITY, OKLAHOMA
WILL ROGERS WORLD (OKC)
(MUDDE1.MUDDE) 14205

Attachment 7

KOKC/OKC
WILL ROGERS WORLD

JEPPESEN

18 JUL 14 (10-3B) Eff 24 Jul

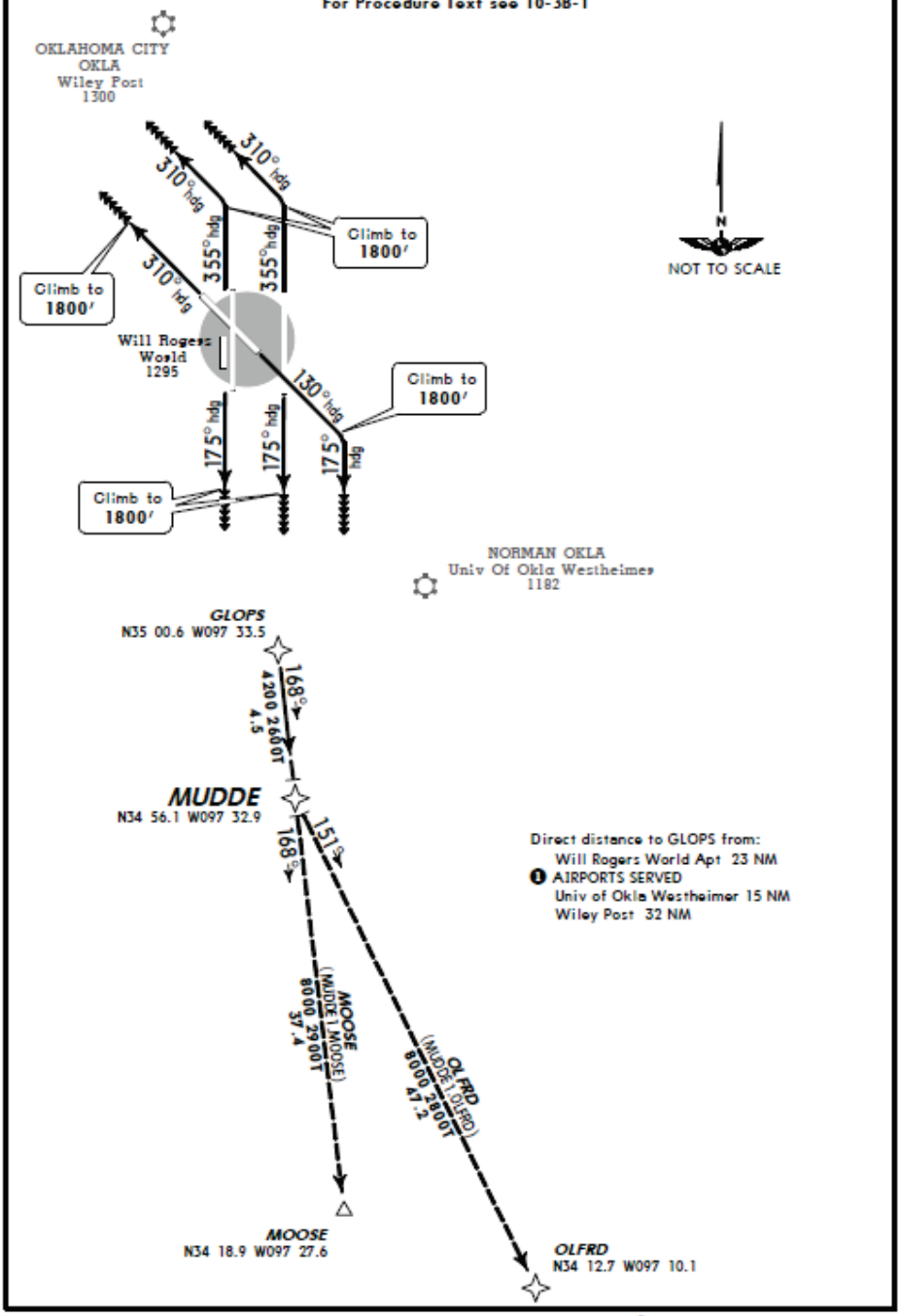
OKLAHOMA CITY, OKLA

RNAV SID

OKLAHOMA CITY Departure (R) 124.6	Apt Elev See Graphic	Trans level: FL180 Trans alt: 18000′ 1. RADAR required. 2. RNAV 1. 3. DME/DME/IRU or GPS required. 4. Also serves ❶

MUDDE ONE RNAV DEPARTURE (MUDDE1.MUDDE)

For Procedure Text see 10-3B-1



Direct distance to GLOPS from:
Will Rogers World Apt 23 NM
❶ AIRPORTS SERVED
Univ of Okla Westheimer 15 NM
Wiley Post 32 NM

CHANGES: New procedure at this airport.

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Attachment 8

MUDDE ONE RNAV DEPARTURE (MUDDE1.MUDDE)

For Procedure Graphic see 10-3B

PROCEDURE TEXT

This SID requires takeoff minimums (for standard minimums, refer to airport chart):

UNIV OF OKLA WESTHEIMER:
Rwys 3, 17, 21, 35: Standard (or lower than standard, if authorized) with minimum climb of 500' per NM to 1700'.

WILEY POST: Rwys 13, 17L/R, 31, 35L/R: Standard (or lower than standard, if authorized) with minimum climb of 500' per NM to 2100'.

WILL ROGERS WORLD:
Rwys 13, 17L/R, 18, 31, 35L/R, 36: Standard (or lower than standard, if authorized) with minimum climb of 500' per NM to 1800'.

Gnd speed-KT	75	100	150	200	250	300
500' per NM	625	833	1250	1667	2083	2500

OBSTACLE
For TAKEOFF OBSTACLE NOTES see 10-3OB1.

AIRPORT	INITIAL CLIMB
UNIV OF OKLA WESTHEIMER	**Rwy 3:** Climb on heading 031° to 1700', then LEFT turn heading 355° or as assigned by ATC. EXPECT RADAR vectors to GLOPS.
	Rwy 17: Climb on heading 175° to 1700', then heading 175° or as assigned by ATC. EXPECT RADAR vectors to GLOPS.
	Rwy 21: Climb on heading 211° to 1700', then LEFT turn heading 175° or as assigned by ATC. EXPECT RADAR vectors to GLOPS.
	Rwy 35: Climb on heading 355° to 1700', then heading 355° or as assigned by ATC. EXPECT RADAR vectors to GLOPS.
WILEY POST	**Rwy 13:** Climb heading 130° to 1800', then RIGHT turn heading 200° or as assigned by ATC. EXPECT RADAR vectors to GLOPS.
	Rwys 17L/R: Climb on heading 175° to 1800', then RIGHT turn heading 200° or as assigned by ATC. EXPECT RADAR vectors to GLOPS.
	Rwy 31: Climb on heading 310° to 1800', then RIGHT turn heading 335° or as assigned by ATC. EXPECT RADAR vectors to GLOPS.
	Rwys 35L/R: Climb on heading 355° to 1800', then LEFT turn heading 335° or as assigned by ATC. EXPECT RADAR vectors to GLOPS.
ROUTING	
From GLOPS on track 168° to MUDDE. Then on transition. MAINTAIN 3000' or as assigned by ATC. EXPECT filed altitude 10 minutes after departure.	

AIRPORT	INITIAL CLIMB
WILL ROGERS WORLD	**Rwy 13:** Climb heading 130° to 1800', then RIGHT turn heading 175° or as assigned by ATC. EXPECT RADAR vectors to GLOPS.
	Rwys 17L/R, 18: Climb heading 175° to 1800', then heading 175° or as assigned by ATC. EXPECT RADAR vectors to GLOPS.
	Rwy 31: Climb heading 310° to 1800', then heading 310° or as assigned by ATC. EXPECT RADAR vectors to GLOPS.
	Rwys 35L/R, 36: Climb heading 355° to 1800', then LEFT turn heading 310° or as assigned by ATC. EXPECT RADAR vectors to GLOPS.
ROUTING	
From GLOPS on track 168° to MUDDE. Then on transition. MAINTAIN 5000' or as assigned by ATC. EXPECT filed altitude 10 minutes after departure.	

CHANGES: New procedure at this airport.

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Attachment 8 (continued)

Initial Discussion – MEETING 14-02: New issue presented by Lev Prichard, Allied Pilots Association. ( ) Lev briefed the issue and talked about the Pilot Controller Procedure and Systems Integration (PCPSI) work group discussions on "Climb Via" vs. "climb and maintain" procedure differences. Discussions within the PCPSI led to the question of what are "LNAV engagement altitudes" and is this a procedure attribute that should be identified and called out to users on a chart? A lengthy group discussion followed (referencing examples on the presented the slides).Lev wrapped up the discussion with recommendations to define LNAV engagement altitude and to ascertain whether there is a need to identify it on procedures, explain it in published guidance, etc. Tom Schneider, AFS-420, advised there was never any intent to chart an "LNAV engagement altitude". We have VA-DF (Heading to an Altitude [VA] until Direct to Fix [DF]) altitudes to support various needs, such as diverging courses for simultaneous departure procedures. These charted altitudes are not specifically for LNAV engagement. There is a requirement that LNAV be engaged no later than 500 feet above the airport elevation, prior to the aircraft executing a turn (i.e., altitude to climb to before next leg type navigation). A discussion followed regarding how this came to be interpreted as a a constraining altitude and if it needs to appear on a chart or in the FMS. Tom asked the group where the ACF should go with the issue. Rick Dunham, AFS-420, briefed that they are reviewing FAA Order 8260.53, *Standard Instrument Departures That Use Radar Vectors to Join RNAV Routes,* criteria as it is absorbed by FAA 8260.58 and that AFS-420 would take a look at the guidance. Brad Rush, AJV-344, advised that by current criteria standards, all altitudes are "at-or-above" unless specifically stated otherwise, so that a pilot should never be leveling out on what is published as an at-or-above altitude on a Departure. Gary McMullen, Southwest Airlines, said in the short term, we should focus on VA/DF legs and publish all these altitudes as "at-or-above". The group discussed a host of human factor issues, including historical issues and pilot techniques. Tom discussed looking at policy guidance regarding departure instructions text to help procedure designers publish these in a more clearly understood fashion.

Status: AFS-420 will review FAA Order 8260.53 & FAA Order 8260.46 and other criteria. **Item Open:** AFS-420

MEETING 15-01: Tom Schneider, AFS-420, briefed ( ) on the last ACF discussion to remove the term "LNAV engagement altitude", by revising the Order 8260.46 language for a climbing altitude to support a turn without referring to it as an "LNAV engagement altitude." LNAV engagement is also referred to in Order 8260.53, which is being absorbed into Order 8260.58A, and steps are being taken to remove the term during the transfer. This term is not in the AIM/IPH. Lev Prichard, Allied Pilots Association, asked what this altitude is being called now and why. Tom said this is for the procedure developer, not the pilot, and we are saying there may be an altitude you need to reach before initiating the turn (a VA-DF scenario). It is then an at-or-above crossing altitude required before commencing a turn. Lev pointed out this would be a climbing constraint, and it is convoluted since it is driving whether "Climb Via" vs. "climb and maintain" situation exists. His conclusion is that it's become a "climb via" scenario. Group discussion followed on existing procedures and different flight director systems. Three examples of ways to handle these: San Antonio (KSAT) – fly heading assigned by ATC; Nashville (KBNA) – fly heading xxx; Houston (KIAH) – heading to altitude to heading. He believes the KSAT example works the best. The question was asked how you reach a standard solution. Tom said there are design constraints for text to be used for charting.

Tom advised that Order 8260.46 terminology for initial climb instructions is used when required departure instructions must specify the actual heading to be flown after takeoff. Any existing procedures with “fly runway heading” will eventually be changed. Rick Dunham, AFS-420, advised the RNAV language currently in the Order 8260.53, will go away when absorbed into Order 8260.58A, and he wants to ensure this is being looked at. Tom will look at the language used for KSAT for possible incorporation into Order 8260.46F. Lev restated his desire to make the departures look the same (standardize) as much as possible. Gary Fiske, AJV-82, stated his desire to maintain ATC flexibility. Tom said original policy with for “Radar Vectors To Join RNAV Routes” departures was no coding until you reached the IDF (it was intended for ATC to allow for whatever ATC wanted until that point), which has now changed.

Status: AFS-420 will look at KSAT language to consider additions to Order 8260.46F.
Item Open: AFS-420

MEETING 15-02: Tom Schneider, AFS-420, briefed that all references to “LNAV engagement altitude” in FAA Order 8260.46F have been deleted (was charted for VA-DF routing) and also they are being deleted during the transfer of FAA Order 8260.53 (Radar Vectors to RNAV) to FAA Order 8260.58A. Lev Prichard, APA, asked if those changes affect TERPs required altitudes (i.e., turning restriction vs. engagement altitude), which prompted a lengthy group discussion including: chart clutter; hybrid procedures; placing fixes to require navigation to those points; the AFS-420 IOU to look at San Antonio (SAT) procedure and associated language in FAA Order 8260.46F. Tom summarized that there are a variety of options in FAA Order 8260.46F for the procedure developer and the ATC facility to use when developing what is needed. This has been coordinated, commented on, and is currently up for AFS-1 signature (Note: Expect release within the next 30-45 days). Ted Thompson, Jeppesen, suggested closing this ACF item and Jeppesen will take an IOU to bring up any future issues that may arise with the FAA, or in another forum, if appropriate. There were no objections.

Status: Item Closed.