DEDICATED TO HELPING BUSINESS ACHIEVE ITS HIGHEST GOALS.

NBAA

Pilot Briefing:
Climb Via, Descend Via, Speed Adjustments

NBAA Domestic Operations Committee

Rev: 4.00 January, 2024

Acknowledgments

NBAA gratefully acknowledges the assistance of the following groups in the preparation of this program:

- Jeppesen, Inc.
  - Jeppesen navigation data and charts furnished for this program are for training & familiarization purposes only. They are not to be used for navigation purposes
- Performance-Based Aviation Rulemaking Committee (PARC) Pilot and Controller Procedures & System Integration (PCPSI) Working Group
- FAA's PBN Policy and Support Group
- FAA Flight Standards - Performance Based Flight Systems Branch (AFS-470)
- Nav Canada

New & Revised Air Traffic Procedures

Climb Via, Descend Via, & Speed Adjustments

- United States: Effective April 3, 2014
- ***ICAO: Effective November 10, 2016***
- Introduces the “Climb Via” clearance
- Updates the “Descend Via” clearance
- Revises & expands on ATC clearance phraseology supporting speed adjustments
- Provides ATC with new clearance/phraseology options
- Reduces frequency congestion
- Reduction in hear-back/read-back errors

ICAO Climb Via & Descend Via

10 November 2016

- Adopted to further world-wide harmonization of ATC clearance
- Allows ATC and aircrew to communicate and understand detailed clearance information that would otherwise require long and potentially complex transmissions

Overview:

- Simple, intuitive phraseology for issuing a clearance to laterally & vertically navigate a departure or an arrival
- Pilots must be familiar with the application of these types of clearances:
  - "**Climb Via/Descend Via**"
  - Climb/Descend Via "**Except Maintain**"
  - Climb/Descend "**and Maintain**"
  - "**Climb and Maintain**" or "**Descend and Maintain**"
  - Speed Phraseology
- Purpose of this program is to provide this familiarization
  - Definitions
  - Examples of operational application
  - U.S. Quick Reference Card

Pilots Need To Know

FAA “Climb Via” & “Descend Via”

- ***“Climb Via”:***
  - An abbreviated ATC clearance that requires compliance with a procedure’s lateral path, associated speed restrictions and altitude restrictions along the cleared route or procedure until climbing to the “Top Altitude” published on the SID
- ***“Descend Via”:***
  - An abbreviated ATC clearance that requires compliance with a published procedure’s lateral path and associated speed restrictions and provides a pilot-discretion descent to comply with published altitude restrictions until descending to the “Bottom Altitude” published on the STAR

Pilots Need To Know

FAA "Climb Via/Descend Via **Except Maintain**"

- Execute the Climb Via clearance to an ATC assigned "Top Altitude"
- Execute a Descend Via clearance to an ATC assigned "Bottom Altitude"

Pilots Need To Know

FAA “Climb and Maintain” or “Descend and Maintain”

- Pilot is expected to vacate current altitude and commence an ***unrestricted climb/descent*** to comply with the clearance
- For aircraft already climbing via a SID, or descending via a STAR, published altitude restrictions ***are deleted*** unless re-issued by ATC
- Speed restrictions always ***remain in effect*** unless the controller explicitly cancels or amends the speed restrictions

Pilots Need To Know

FAA Speed Phraseology

- ***"Climb Via" or "Descend Via" :***
  - Absent any qualifying instructions, issuance of a climb or descend via clearance ***cancels*** a previously issued ATC speed adjustment and provides pilot discretion to adjust speed while requiring compliance with upcoming restrictions
  - ATC ***may require*** compliance with a previous ATC-issued speed adjustment using phraseology:
    - "*Proceed direct FNCHR, maintain three zero zero knots until FNCHR , **then** descend via the FNCHR one arrival, landing north*"
  - Where there are no upcoming speed restrictions, issuance of a "*Proceed direct (WP name), climb/descend via ....*" cancels a previously issued speed adjustment and authorizes speed at pilot's discretion as appropriate for the phase of flight, ensuring compliance with 14 CFR 91.117
- ***"Resume Normal Speed":***
  - Cancels ATC issued speed restrictions and instructs pilot to return to normal aircraft speed where no restrictions are published on the procedure/route currently being flown
  - It does not delete speed restrictions on upcoming segments of flight (e.g., a STAR later in the flight)
  - This does not relieve the pilot of those speed restrictions which are applicable to 14 CFR Section 91.117
- ***"Resume Published Speed" :***
  - Cancels ATC issued speed restrictions; pilot is expected to comply with speeds published on the SID/STAR
- ***"Delete Speed Restrictions" :***
  - Cancels ATC assigned, and
  - Cancels all published speed restrictions on a charted procedure

Pilot/Controller Phraseology

- Pilots shall respond to “Climb Via” or “Descend Via” clearances by repeating the clearance **verbatim**; phrases such as “on the SID” or “descending on the arrival” ***are not acceptable*** and can create additional workload with unnecessary controller queries
- When changing frequencies or on initial contact advise ATC of current altitude, “Climbing/Descending Via” procedure name, and runway transitions if assigned; if issued an altitude or speed not contained on the SID/STAR, advise ATC of restrictions issued by the prior controller

Pilot/Controller Phraseology

Examples:

“Southwest Seven Eleven leaving two thousand climbing via the Laura Two departure.”

“Delta Fifty Eight climb via SID except cross MKALA at or above seven thousand.”

“American One Twenty proceed direct ROCKR, cross ROCKR at or above one zero thousand, climb via the BIZEE Two departure.”

“United Thirty Five cleared to Johnston Airport, Scott One departure, JONEZ transition, Q-one forty five, climb via SID except maintain flight level one eight zero.”

“JetBlue Six Zero Two leaving flight level two one zero descending via the IVANE two arrival landing south.”

“Delta One Twenty One leaving flight level one niner zero, descending via the EAGUL Five arrival runway two-six transition."

Pilot/Controller Initial Contact Phraseology

Proper Phraseology Conveys Intent

Do note use non-standard phraseology with a “Climb Via” or “Descend Via” clearance:

“On the SID”

“Climbing on the SID”

“On the RUUDY Five”

“Descending on the arrival”

“On the EAGUL arrival”

Use Standard Phraseology

Informs ATC That The Aircraft Will Comply With Published Restrictions On The SID Or STAR

“Leaving two thousand, eight hundred climbing via the Cowboy Six”

“Leaving flight level two, two zero, descending via the SEEVR Four...”

Informs ATC That The Aircraft Will Not Comply With Published Restrictions SID Or STAR

“Leaving two thousand, eight hundred, climbing to one four thousand”

“Leaving one seven thousand, eight hundred, descending to one zero thousand”

ICAO Climb Via SID & Descend Via STAR

- Cleared Level is expectedly stated:
  - *"FASTAIR 345 DESCEND VIA STAR TO 3 000 FEET"*
  - *"FASTAIR 345 CLIMB VIA SID TO FL 100"*
- Climb Via SID & Descend Via STAR are **NOT** "at pilot's discretion". Pilots must vacate altitude upon receipt and acknowledgment of clearance
  - Exception: Canada – remains a "when ready" climb or descent clearance
- Climb/Descend Unrestricted cancels both level and speed restrictions:
  - *"FASTAIR 345 CLIMB UNRESTRICTED TO FL 070"*
  - *"FASTAIR 345 DESCEND UNRESTRICTED TO 4 000 FEET"*
- Provision for tactical cancelation of level and/or speed restrictions
  - *"FASTAIR 345 DESCEND VIA STAR TO 2 000 FEET CANCEL LEVEL RESTRICTION AT BATON"*
  - *"FASTAIR 345 CLIMB VIA SID TO FL 080 CANCEL SPEED RESTRICTION AT TRUNK"*

ICAO Climb Via SID & Descend Via STAR

- Speed control instructions remain in effect unless explicitly cancelled or amended by the controller:
  - ATC-assigned speed restrictions are not canceled with a Climb Via SID or Descend Via STAR clearance as long as the speed does not contradict State rules
  - Maintain last assigned speed until State rules require a speed reduction

- **Canada Only**: Unless specifically stated by ATC, an instruction to "*Resume Normal Speed*" does not cancel speed restrictions that are applicable to published procedures of upcoming segments of flight
  - Upcoming speed restrictions on the SID or STAR will be adhered to. However, the speed is at the pilot's discretion until the next published speed restriction

ICAO Climb Via SID & Descend Via STAR

Summary of Differences:

USA	ICAO
Top/Bottom altitudes are charted *DESCEND VIA* EAGUL6 ARRIVAL	Always assign an altitude. *DESCEND VIA STAR [TO] (altitude)*
DESCEND AND MAINTAIN (altitude) = DELETE RESTRICTIONS	*DESCEND UNRESTRICTED [TO] (altitude)*= DELETE RESTRICTIONS ABOVE THE CLEARANCE ALTITUDE
DELETE SPEED RESTRICTION	*SPEED RESTRICTION CANCELLED*
DELETE ALTITUDE RESTRICTION	*ALTITUDE RESTRICTION CANCELLED*
DESCEND/CLIMB VIA – Cancels previously issued speed – comply with published speeds	DESCEND/CLIMB VIA – Does not cancel a previously issued speed

ICAO Climb Via SID & Descend Via STAR

Summary of Differences:

USA	ICAO
DESCEND VIA – pilot's discretion descent to meet speed & altitude constraints	*DESCEND VIA* – pilot to begin descent immediately to comply with altitude constraints
Uses the STAR/SID name and number with descend/climb via clearances	Does not use specific STAR/SID name with descend/climb via clearances

Briefing Topics

Climb Via

Descend Via

Speed Adjustments

ICAO

Additional Resources

Please click on the above picture to access the program pertaining to “Climb Via”, “Descend Via” and ATC speed adjustments. Within each briefing, you will have the option to return to this menu.

Exit Program

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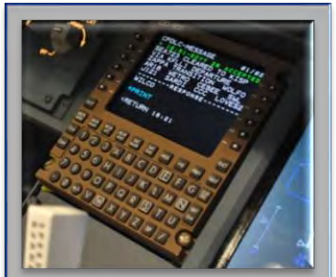
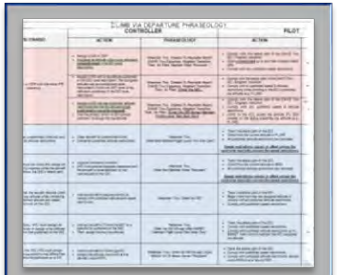
Briefing Topics – Climb Via (CV)

Terminology

Operational Application



Predeparture Clearance (PDC)



Briefing Card

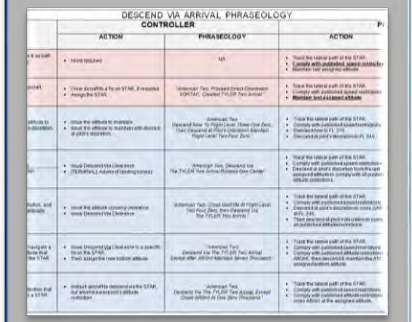
FAA "Climb Via" Video

Return To Briefing Topic Main Menu

Briefing Topics – Descend Via (DV)

Terminology

Operational Application



Briefing Card

Return To Briefing Topic Main Menu

Briefing Topics – Additional Resources

FAA Climb Via & Descend Via InFO

Frequently Asked Questions

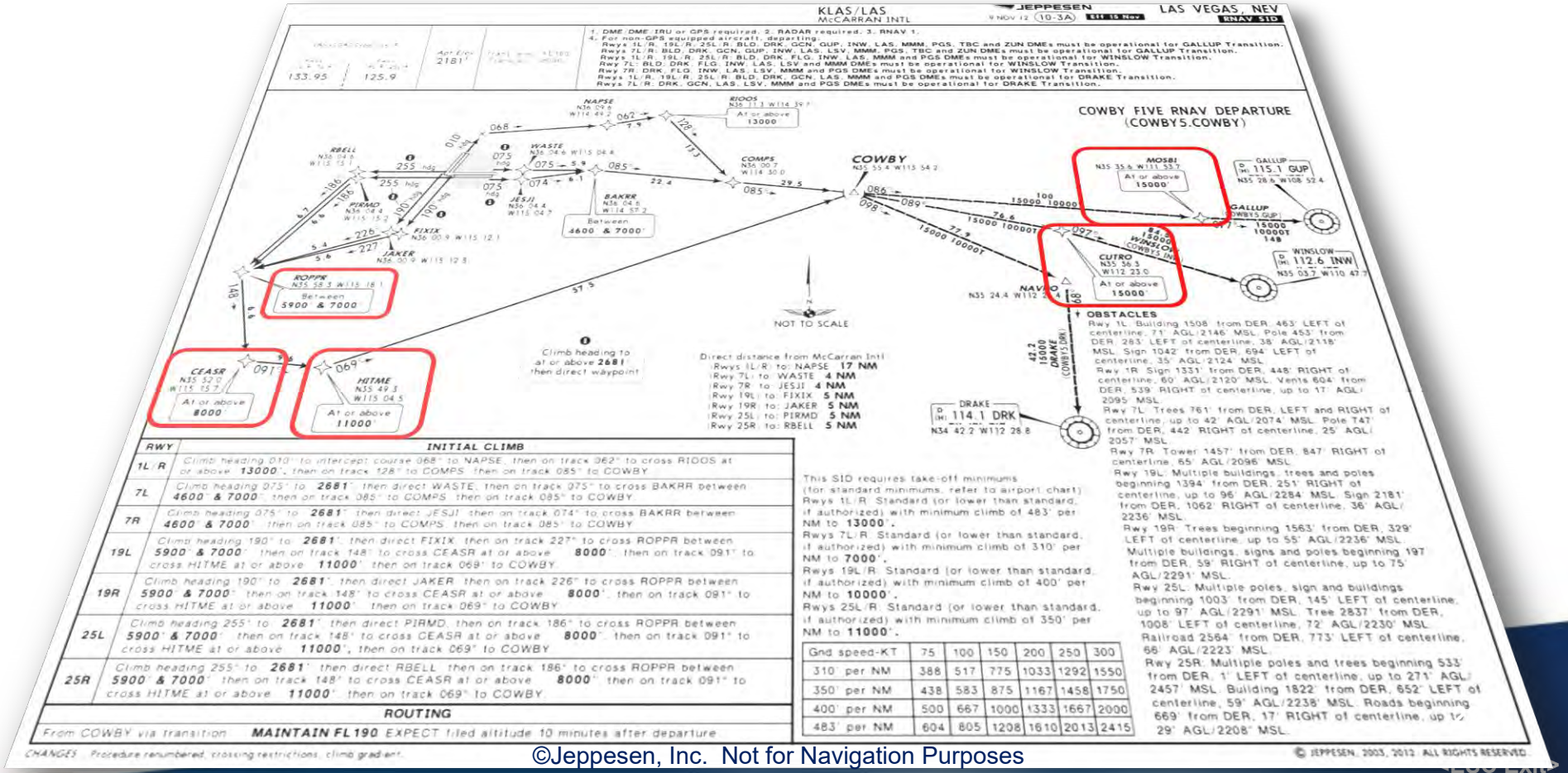
NextGEN

FAA PBN Resources

Return To Briefing Topic Main Menu

Climb Via:

An abbreviated ATC clearance that requires compliance with the procedure lateral path, associated speed restrictions, and altitude restrictions along the cleared route or procedure.



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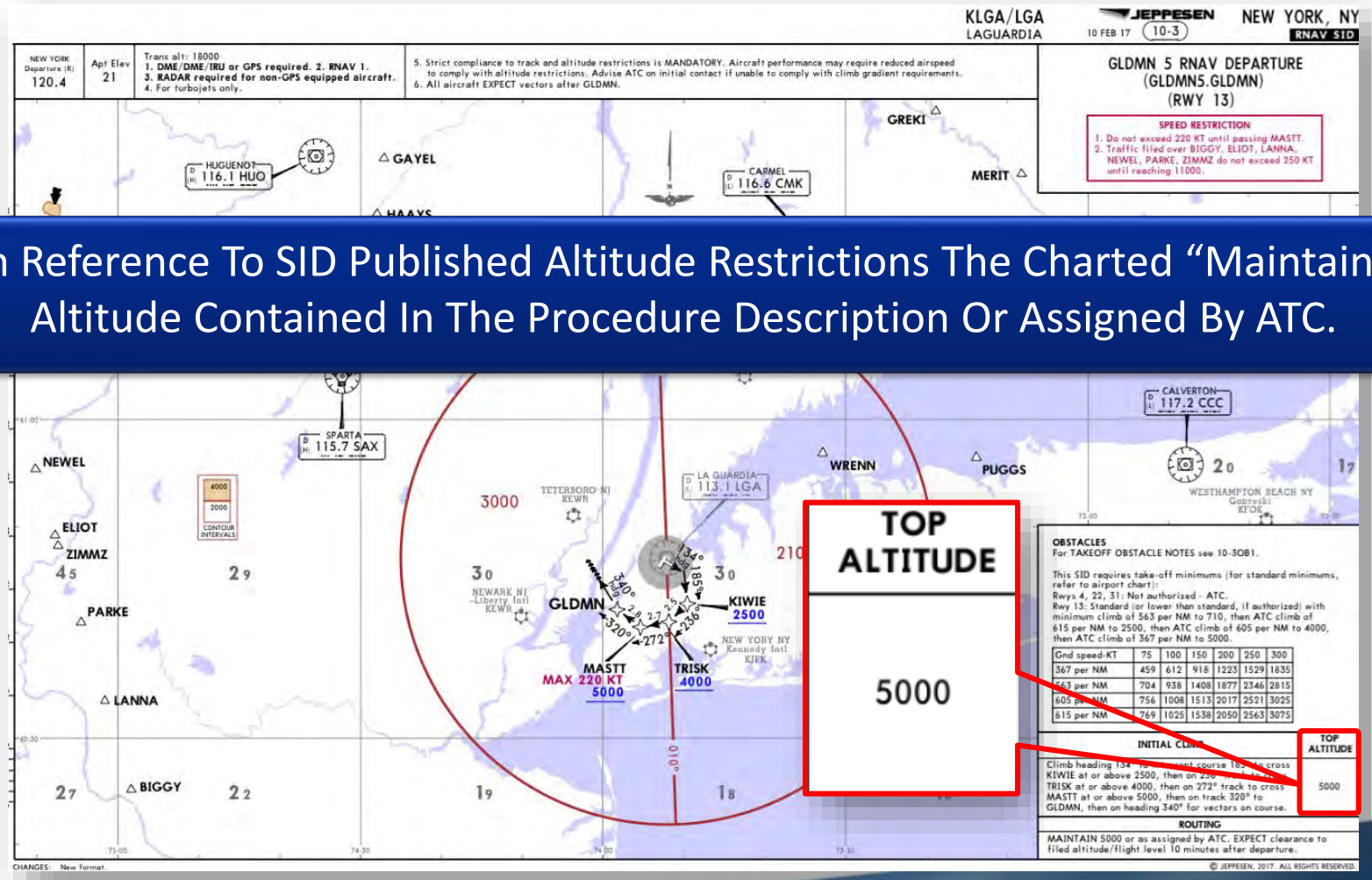
Climb Via (AIM 5-2-8 e 4)

Authorizes Pilot To:

- When used in the IFR departure clearance, in a PDC, DCL*, or when subsequently cleared after departure to a waypoint depicted on a SID, to join a procedure after departure or resume a procedure
- When vertical navigation is interrupted and an altitude is assigned to maintain which is not contained on the published procedure, to climb from that previously assigned altitude at pilot's discretion to the altitude depicted for the next waypoint
  - ATC must ensure obstacle clearance until the aircraft is established on the lateral and vertical path of the SID
- Once established on the depicted departure, to climb and to meet all published or assigned altitude and speed restrictions

*DCL = Departure Clearance Via Data Link FANS 1/A Aircraft/Operators

Top Altitude:



In Reference To SID Published Altitude Restrictions The Charted "Maintain" Altitude Contained In The Procedure Description Or Assigned By ATC.

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Top Altitude

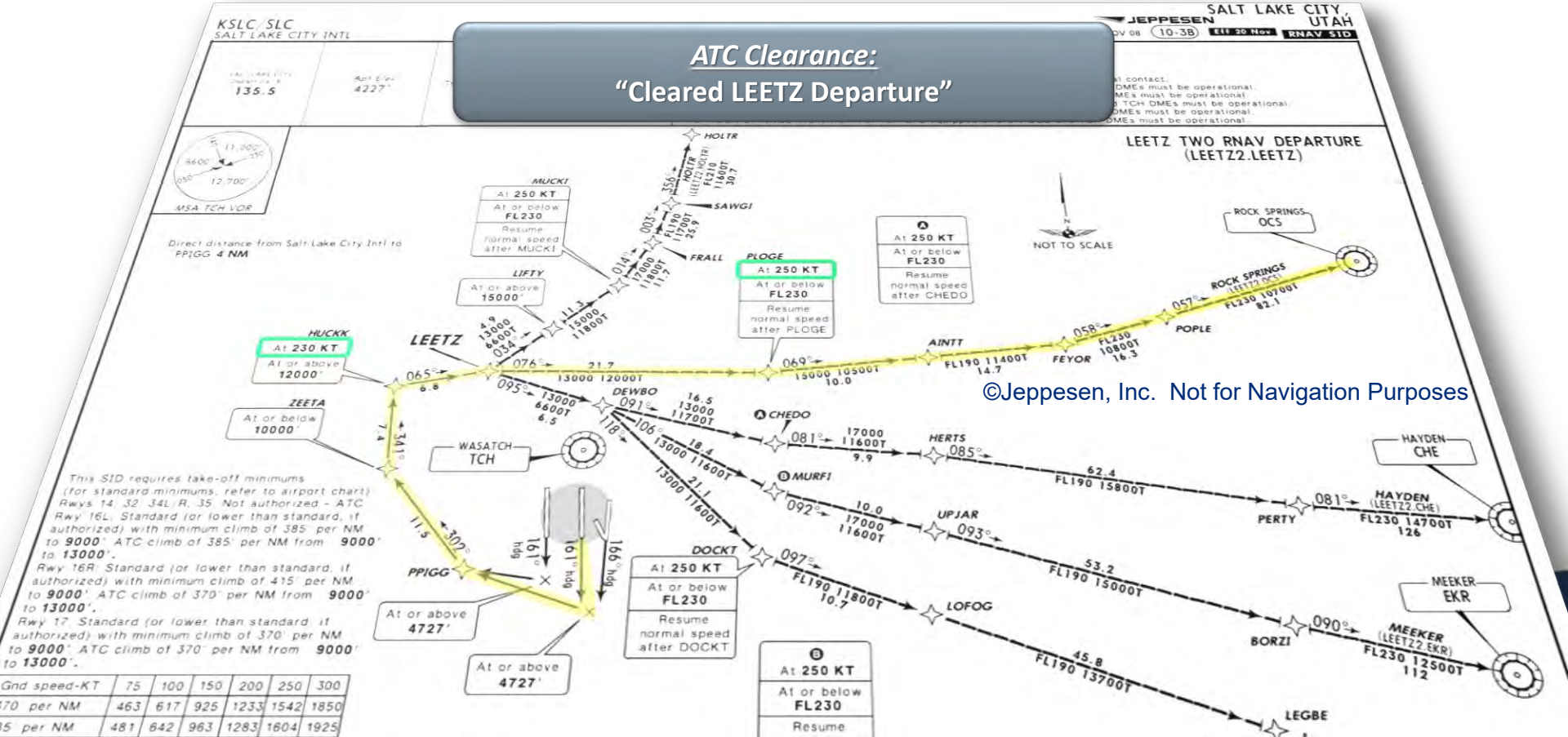
- May be published for all runways & transitions
- May be runway/transition specific
- May be departure airport specific
- It is ***not***:
  - The altitude filed in the IFR flight plan
  - The "expect" altitude in the IFR clearance or published on the SID

RWY	INITIAL CLIMB	TOP ALTITUDE
17C	Climb heading 176° to intercept course 157° to NAVYE, then on track 107° to cross JGIRL at or above 5000', then on depicted route to GRABE.	10000'
17R	Climb heading 176° to intercept course 155° to NAVYE, then on track 107° to cross JGIRL at or above 5000', then on depicted route to GRABE.	
18L	Climb heading 176° to intercept course 193° to BPARK, then on track 255° to cross YAMEL at or above 5000', then on depicted route to GRABE.	
18R	Climb heading 176° to intercept course 192° to BPARK, then on track 255° to cross YAMEL at or above 5000', then on depicted route to GRABE.	
31L/R	Climb heading assigned by ATC, EXPECT RADAR vectors to GRABE, MAINTAIN 5000'.	5000'
35L/C	Climb heading 356° to 1120', then direct CUZEN, cross CUZEN at or above 5000', then on track 004° to cross YUNGG at or above 7000', then on depicted route to GRABE.	10000'
36L/R	Climb heading 356° to 1120', then direct HAZKL, cross HAZKL at or above 5000', then on track 349° to cross RYNNE at or above 7000', then on depicted route to GRABE.	

RWY	INITIAL CLIMB	TOP ALTITUDE
34L	Climb heading 341° to 4727', then direct WETIK, then on depicted route to NSIGN.	FL230
34R	Climb heading 341° to 4727', then LEFT turn direct RATTO, then on depicted route to NSIGN.	
35	Climb heading 346° to 4727', then LEFT turn direct MELEC, then on depicted route to NSIGN.	

An ATC Clearance That Includes An IFR Departure Procedure

- Is a clearance to fly the depicted route & assigned transition
- Is a clearance requiring compliance with published speed restrictions
- **<u>However, altitude assignment & vertical navigation is a separate clearance</u>**



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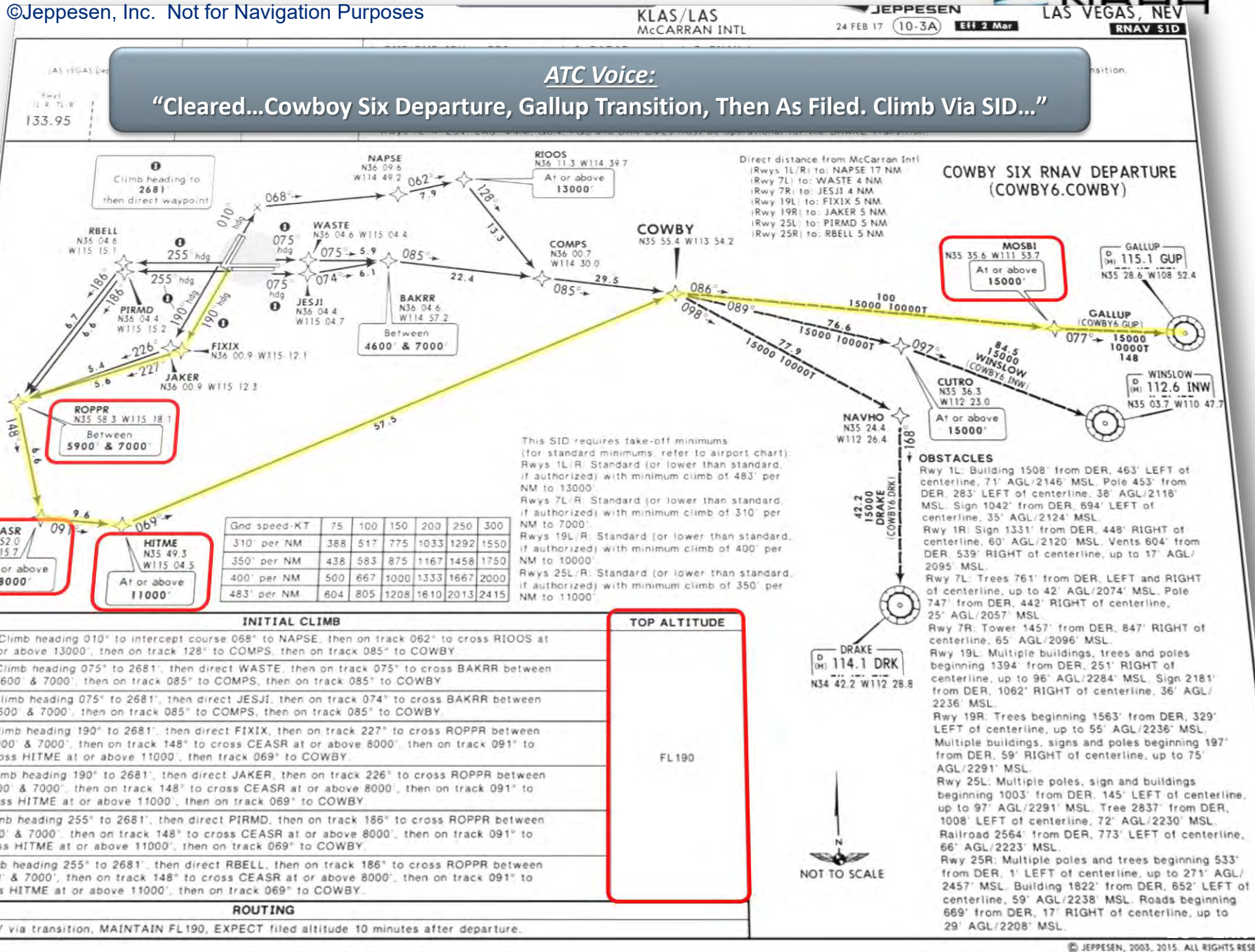
ATC Voice:

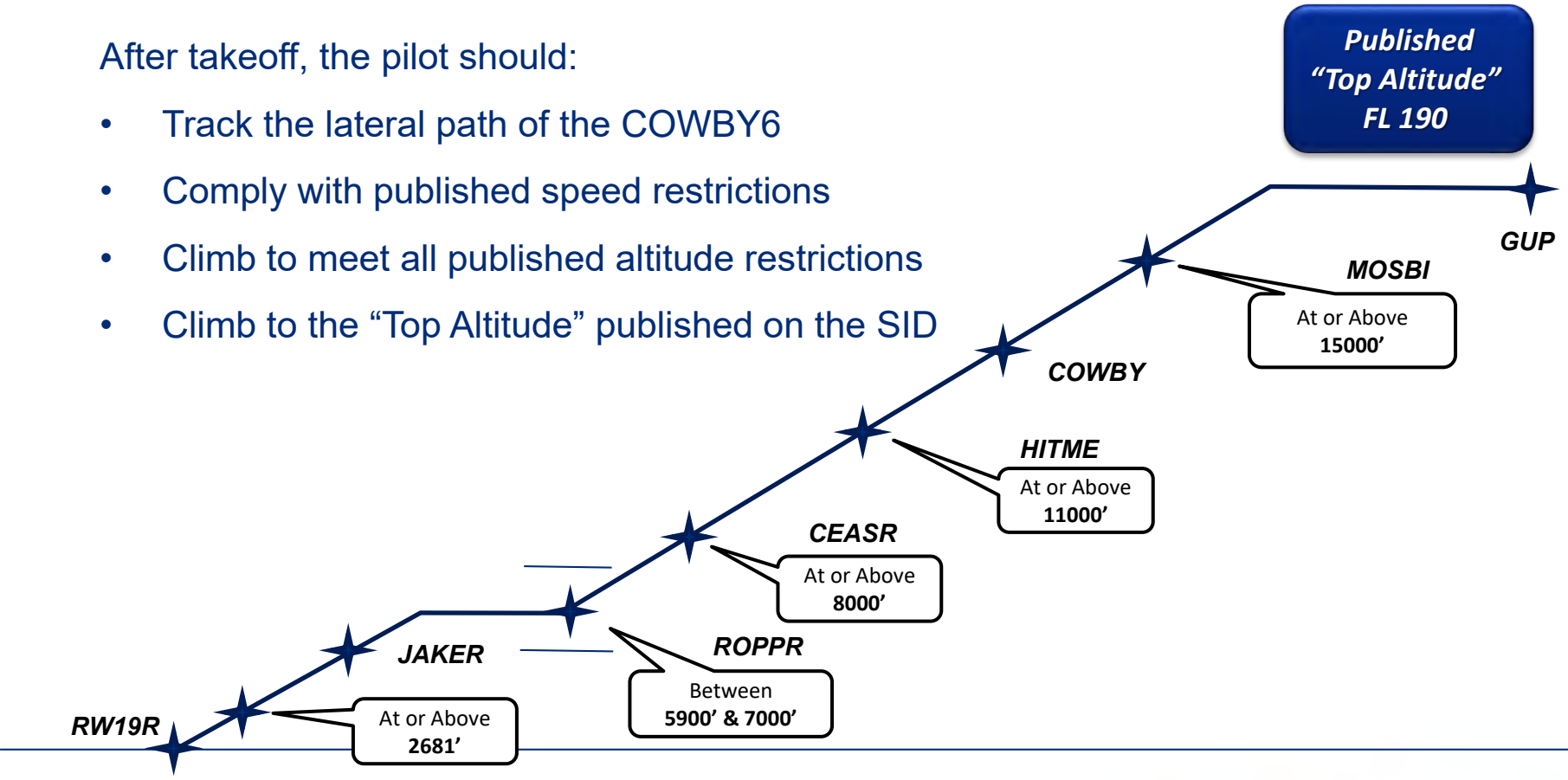
"Cleared…Cowboy Six Departure, Gallup Transition, Then As Filed. Climb Via SID…"



"Climb Via SID" Clearance

After takeoff, the pilot should:

- Track the lateral path of the COWBY6
- Comply with published speed restrictions
- Climb to meet all published altitude restrictions
- Climb to the "Top Altitude" published on the SID



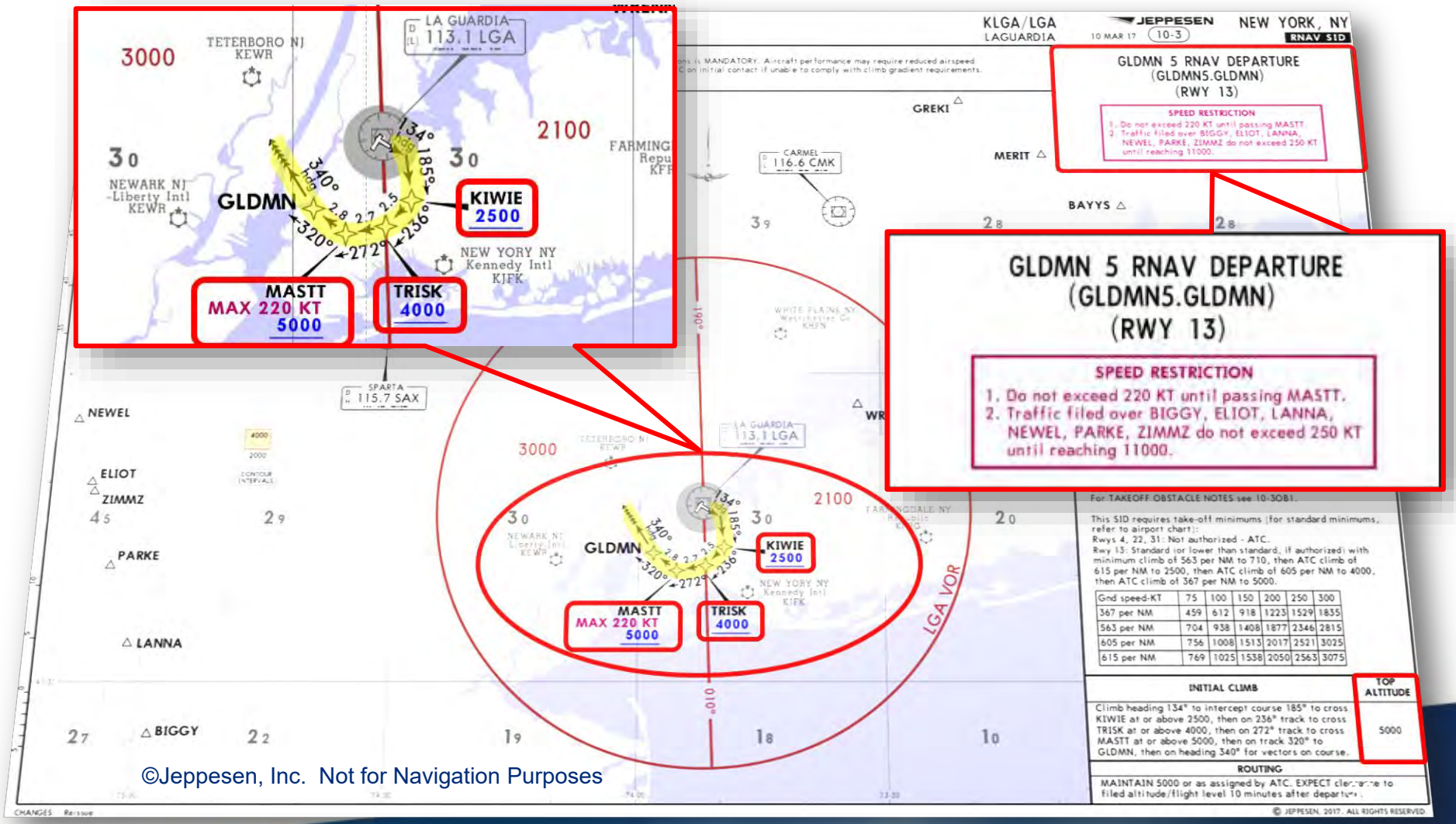
Pilot/Controller Initial Contact Phraseology

"Las Vegas Departure,
Gulfstream Six Five Zero Golf Alpha,
Leaving Two Thousand Eight Hundred,
Climbing Via The Cowboy Six Departure"

"Gulfstream Six Five Zero Golf Alpha,
Las Vegas Departure, Radar Contact"

ATC Voice:

"Cleared…GLDMN Five Departure, Radar Vectors ZIMMZ, Then As Filed. Climb Via SID…"



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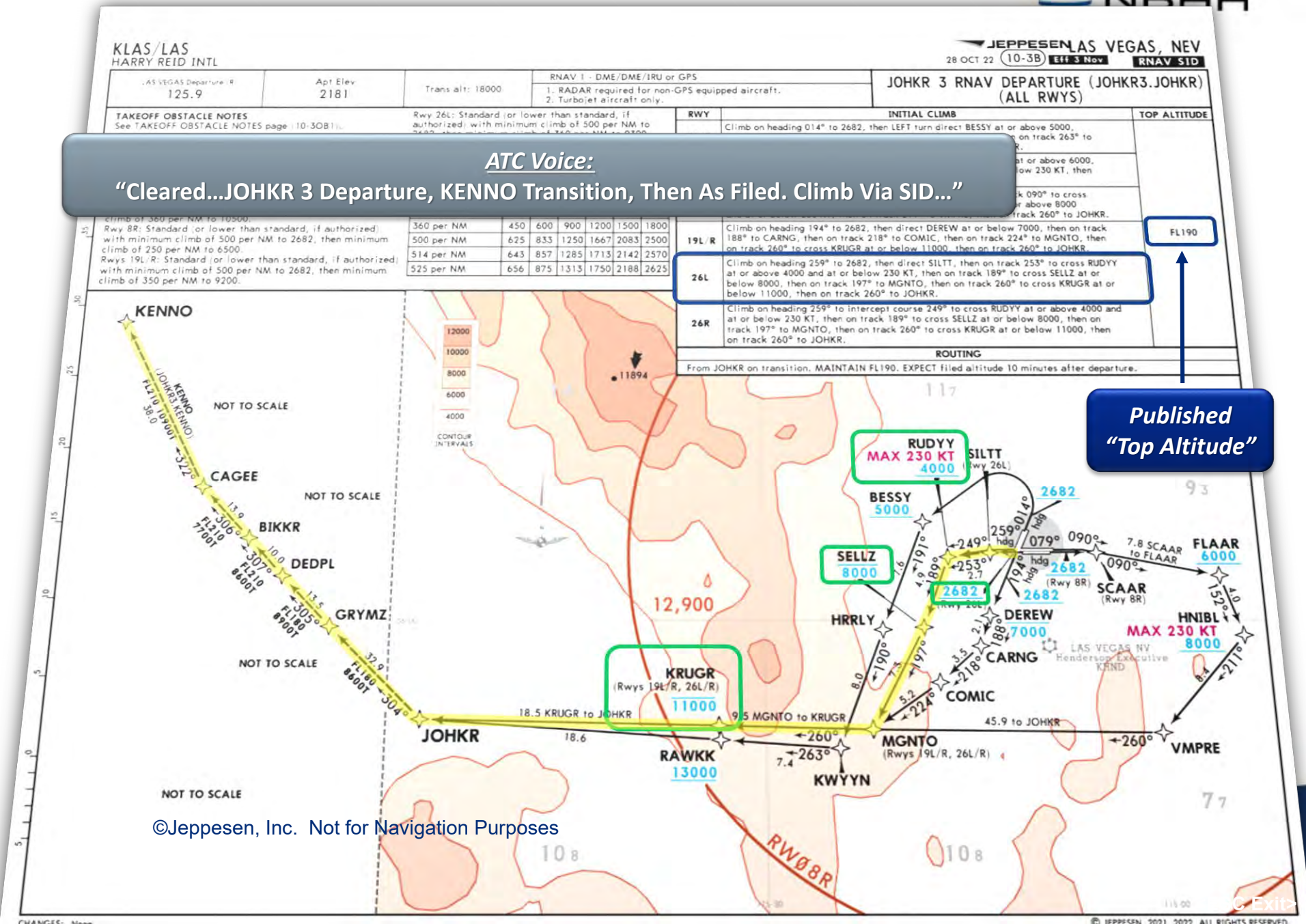
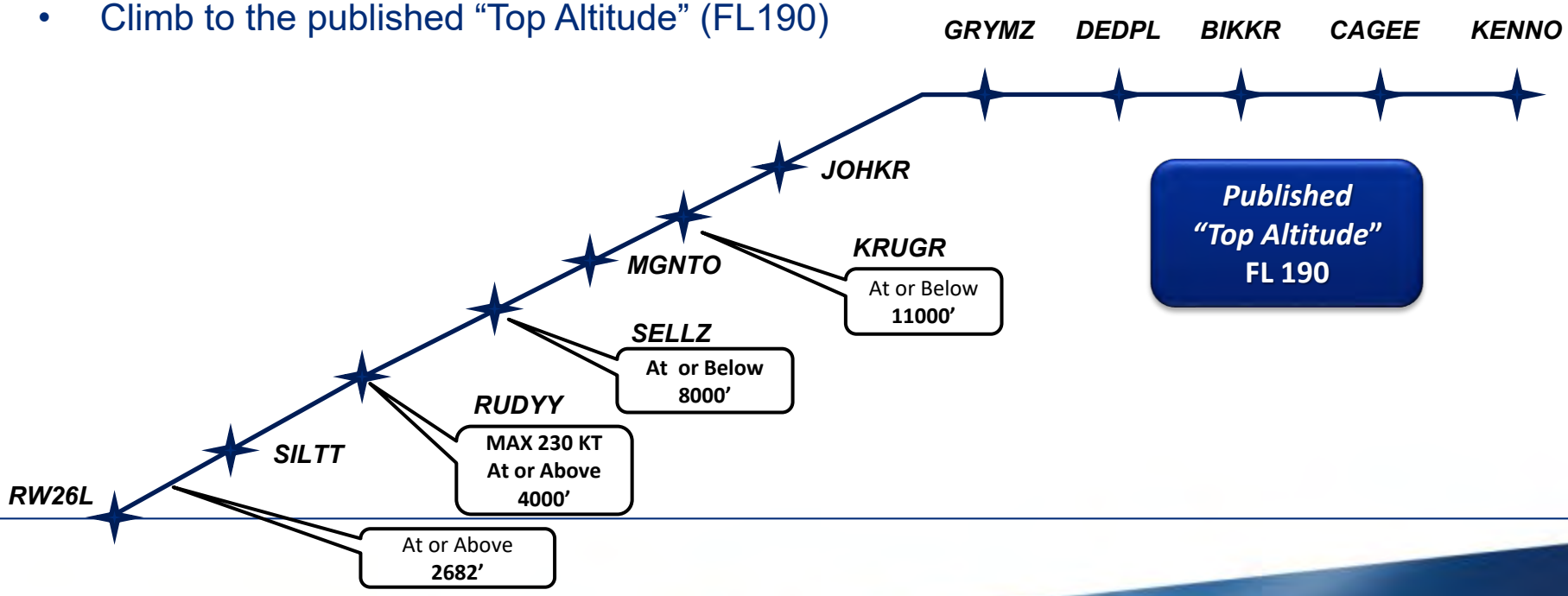
Climb Via – Operational Application



"Climb Via SID"

After Takeoff, The Pilot Should:

- Track the lateral path of the JOHKR3.KENNO
- Climb to meet all published altitude restrictions
- Comply with all speed restrictions
- Climb to the published "Top Altitude" (FL190)



Climb Via, Except Maintain…

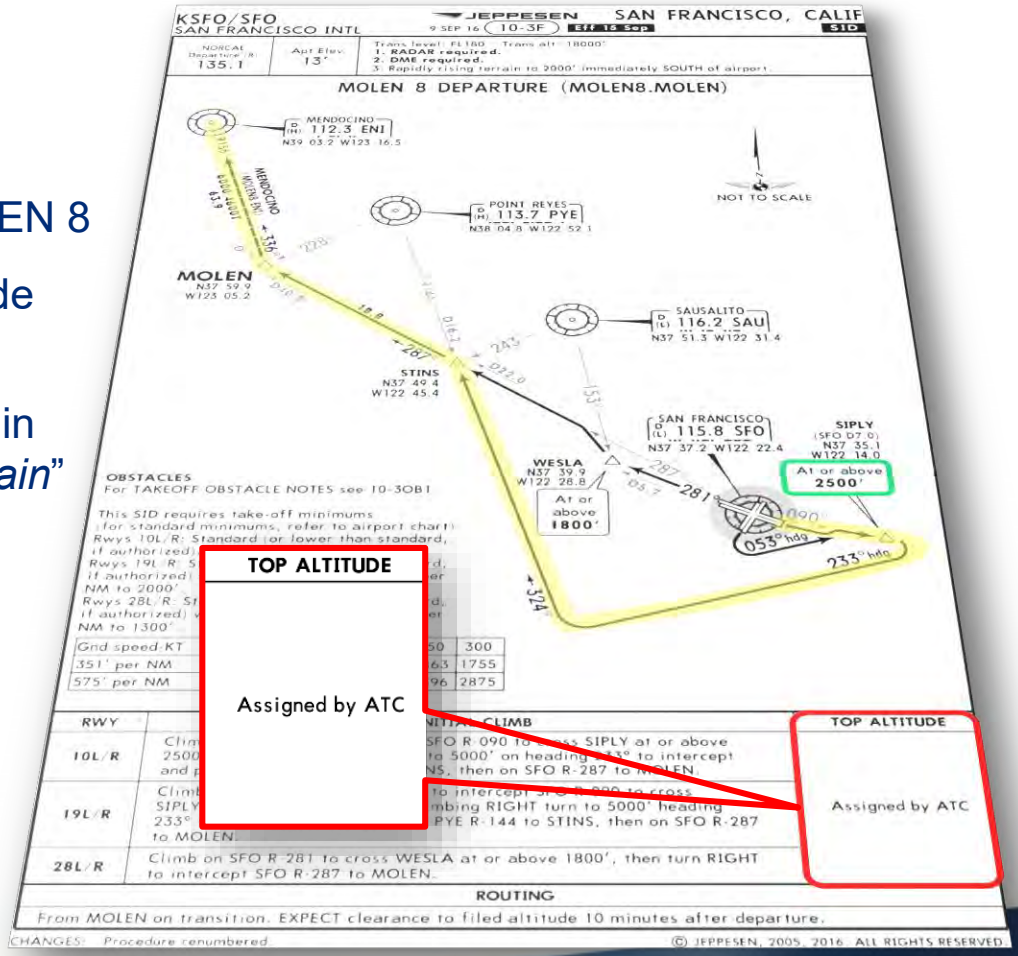
Used By ATC to Assign Or Amend The Top Altitude

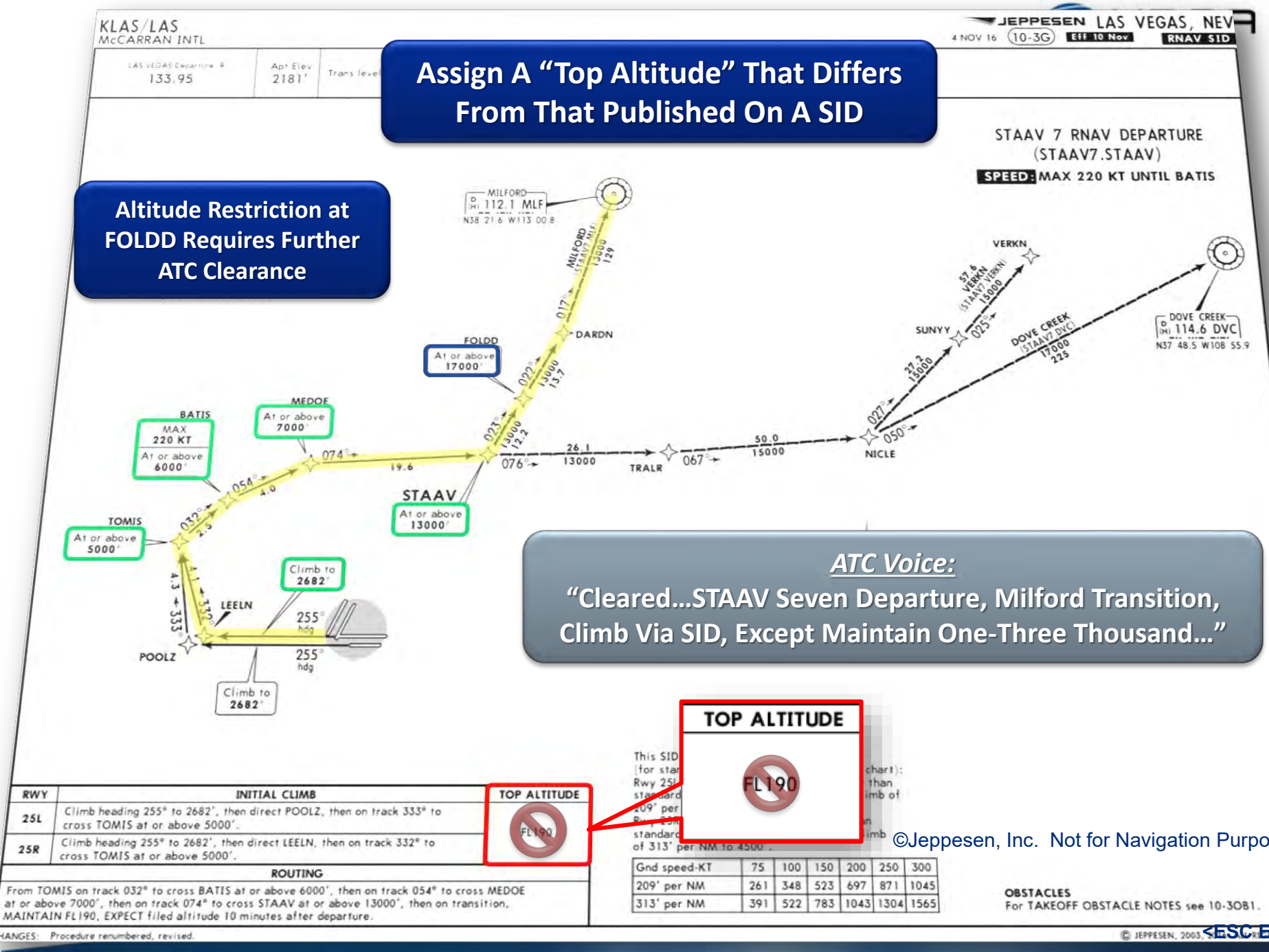
- When the “Top Altitude” is published as “Assigned by ATC”
- When ATC must assign a “Top Altitude” that differs from that published on a chart

Climb Via, Except Maintain…

After Takeoff, The Pilot Should:

- Track the lateral path of the MOLEN 8
- Climb to meet all published altitude restrictions
- Climb to the "Top Altitude" stated in the "*Climb Via SID, Except Maintain*" clearance





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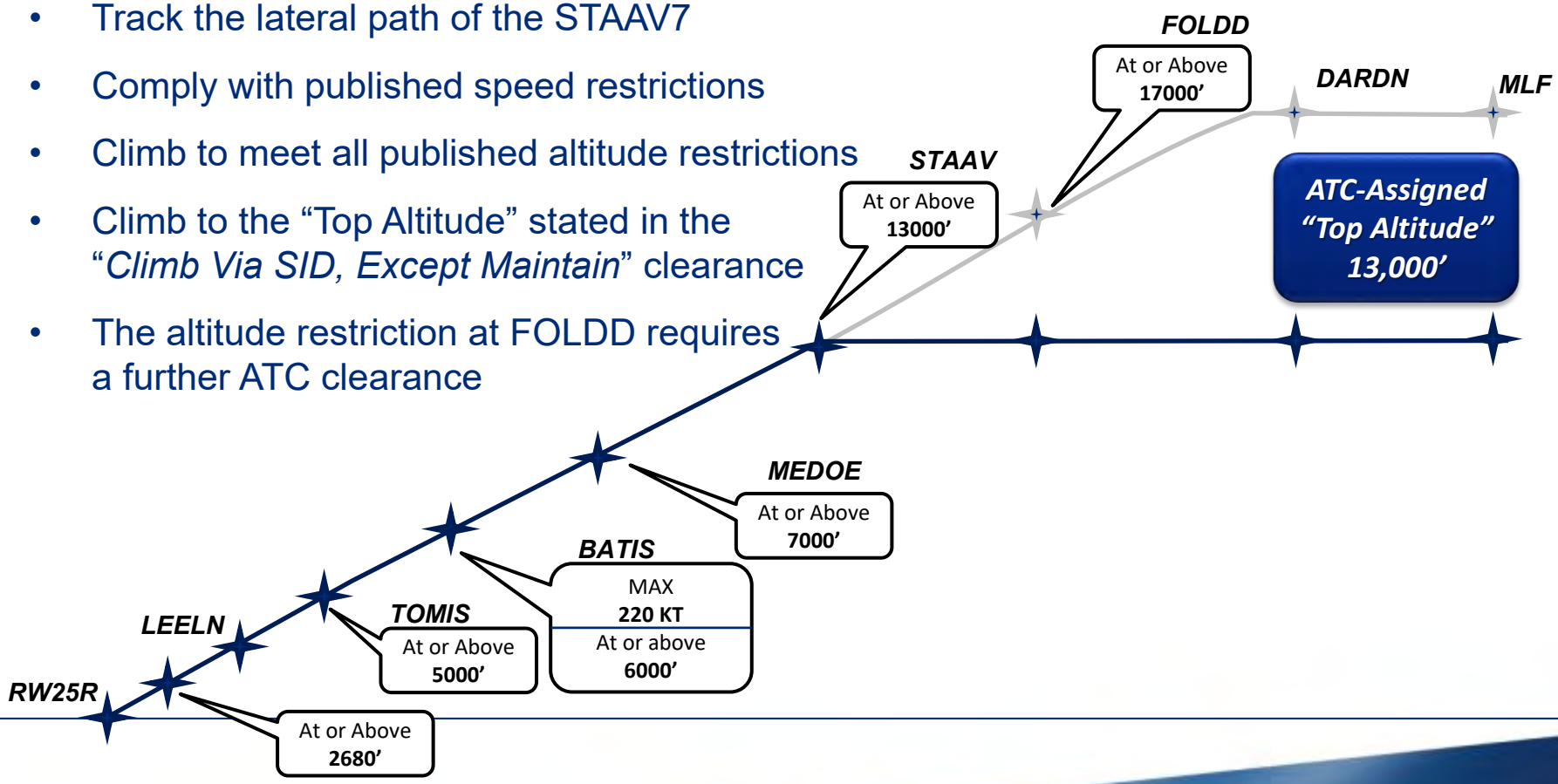
"Climb Via SID, Except Maintain…"

After Takeoff, The Pilot Should:

- Track the lateral path of the STAAV7
- Comply with published speed restrictions
- Climb to meet all published altitude restrictions
- Climb to the "Top Altitude" stated in the "*Climb Via SID, Except Maintain*" clearance
- The altitude restriction at FOLDD requires a further ATC clearance



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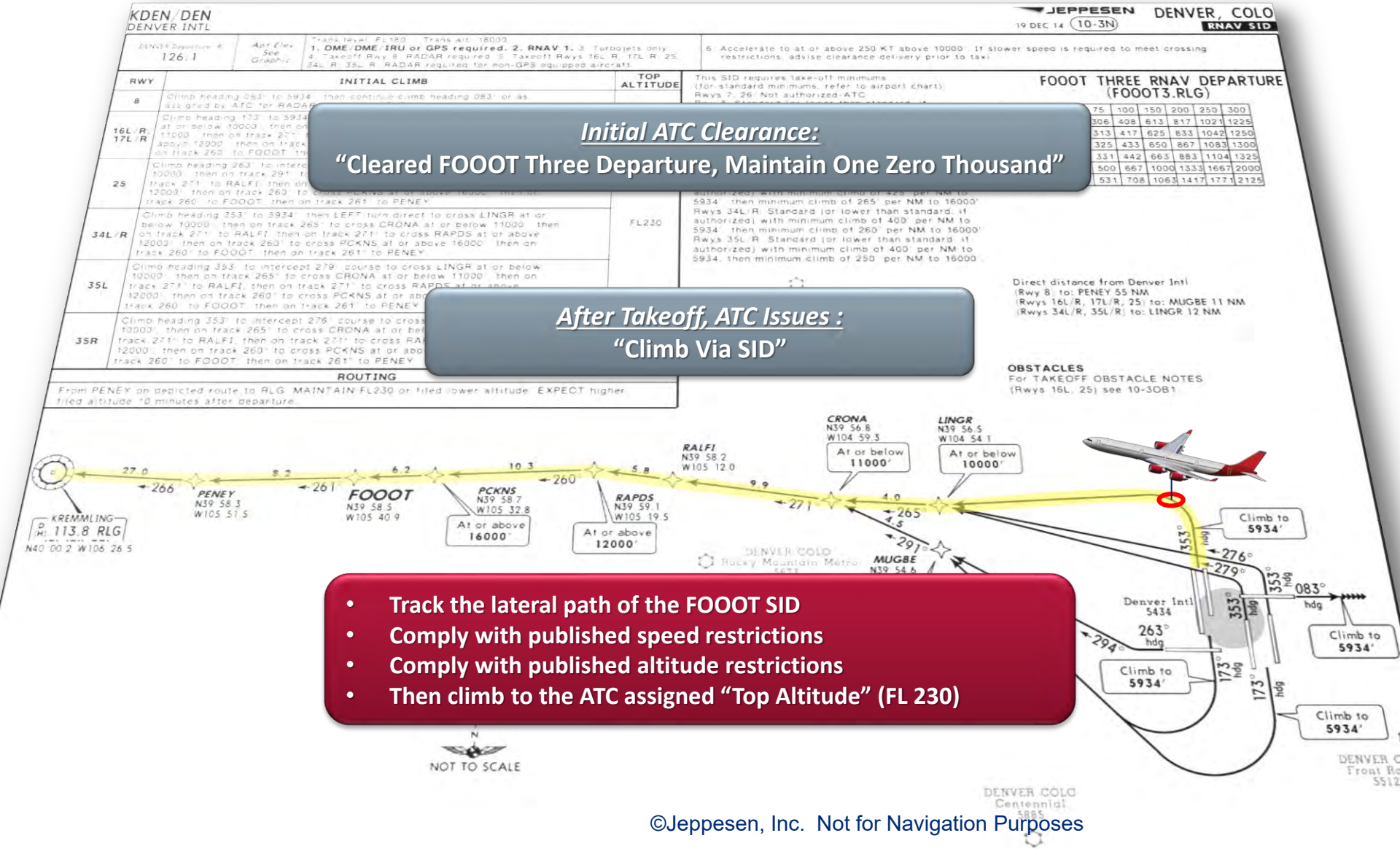
Pilot/Controller Initial Contact Phraseology

Pilot Must Provide The "Top Altitude" On Initial Contact When Climbing With A "*Climb Via, Except Maintain*" Altitude Assignment

"Las Vegas Departure, Gulfstream November One, Leaving Two Thousand Seven Hundred For One-Three Thousand, Climbing Via The STAAV Seven Departure"

"Gulfstream November One, Las Vegas Departure, Radar Contact"

"Climb Via" – Applications After Takeoff



- Track the lateral path of the FOOOT SID
- Comply with published speed restrictions
- Comply with published altitude restrictions
- Then climb to the ATC assigned "Top Altitude" (FL 230)

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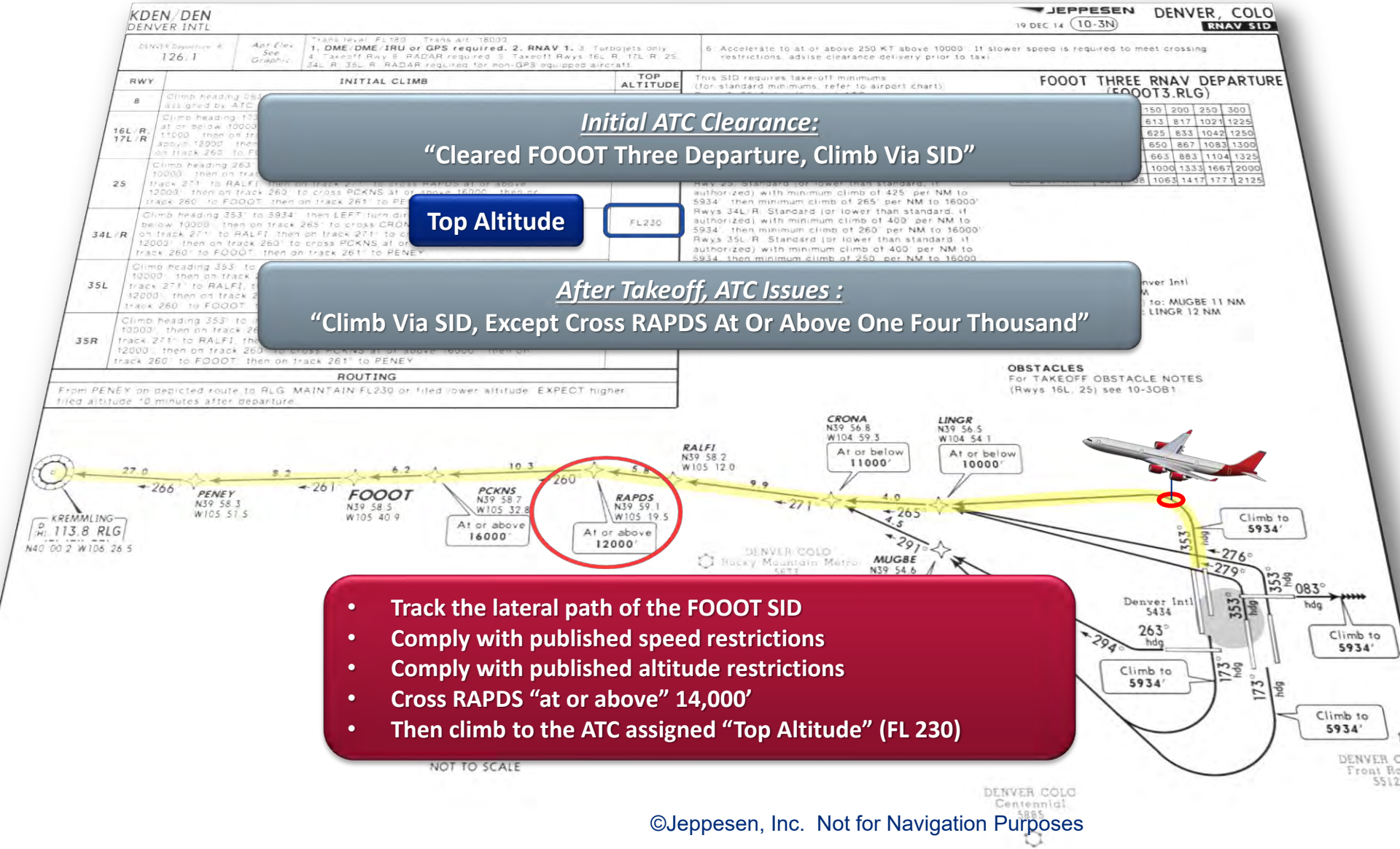
"Climb Via" – Applications After Takeoff



- Track the lateral path of the FOOOT SID
- Comply with published speed restrictions
- Comply with published altitude restrictions
- Cross RAPDS "at or above" 14,000'
- Then climb to the ATC assigned "Top Altitude" (FL 230)

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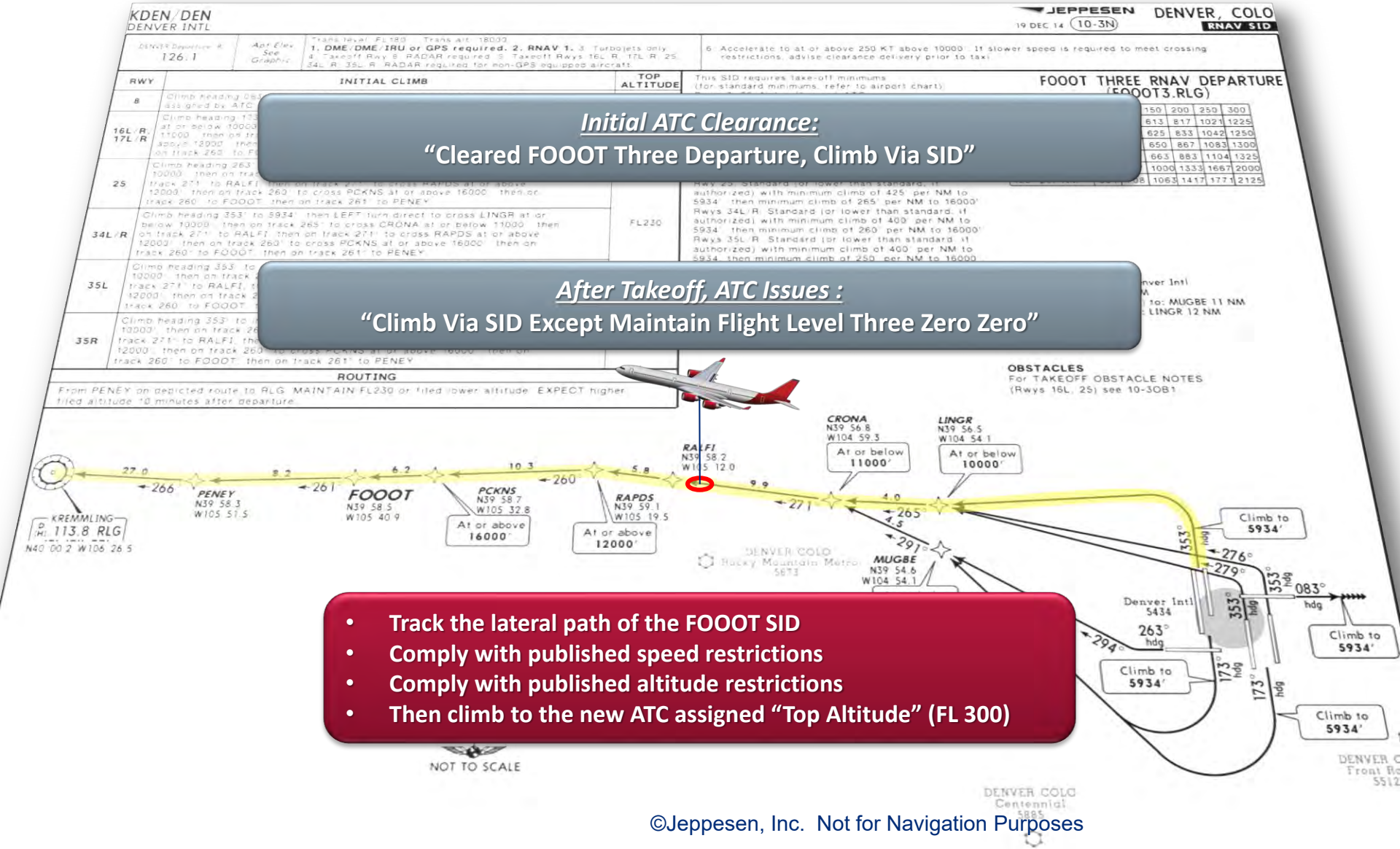
"Climb Via" – Applications After Takeoff



- Track the lateral path of the FOOOT SID
- Comply with published speed restrictions
- Comply with published altitude restrictions
- Then climb to the new ATC assigned "Top Altitude" (FL 300)

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ATC Intervention On A SID

- ATC will issue an altitude to maintain and all appropriate altitude restrictions when a radar vector will take the aircraft off an assigned procedure that contains altitude instructions or the previously issued clearance included crossing restrictions
- ATC must advise the pilot what to expect when the vector is completed
- Phraseology:
  - "*Lear Two Three Mike X-ray, Fly Heading One Five Zero, Vectors For Spacing, Maintain One Zero Thousand, Expect To Resume The EPPKE Two Departure*"
- Pilots may consider the SID canceled, unless the controller adds "*expect to resume [SID name] departure*", in which case pilots should be prepared to rejoin the SID at a subsequent fix or procedure leg

ATC Intervention On A SID

- If ATC interrupts lateral/vertical navigation while an aircraft is flying a SID, ATC must ensure obstacle clearance
- When issuing a “climb via” clearance to join a procedure, ATC must ensure obstacle clearance until the aircraft is established on the lateral and vertical path of the SID
- ATC will assign an altitude to cross if no altitude is depicted at a waypoint/fix, or when otherwise necessary/required, for an aircraft on a direct route to a waypoint fix where the SID will be joined or resumed

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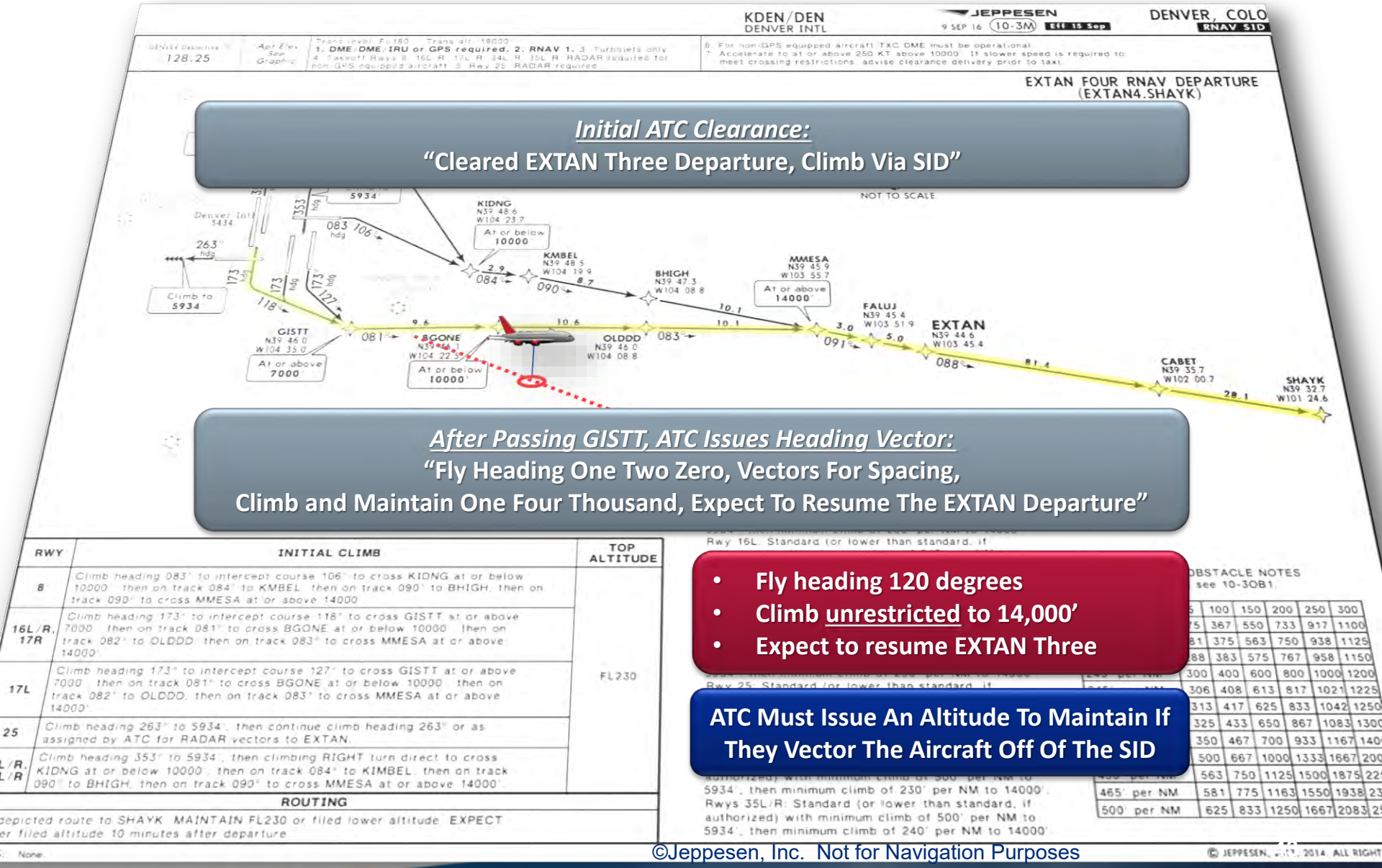
KDEN/DEN
DENVER INTL
JEPPESEN
9 SEP 16
10-3M
Eff 15 Sep
DENVER, COLO
RNAV SID
EXTAN FOUR RNAV DEPARTURE
(EXTAN4.SHAYK)
NOT TO SCALE
KIDNG
N39 48.6
W104 23.7
At or below
10000
KMBEL
N39 48.5
W104 19.9
BHIGH
N39 47.3
W104 08.8
MMESA
N39 45.9
W103 55.7
At or above
14000
FALUJ
N39 45.4
W103 51.9
EXTAN
N39 44.6
W103 45.4
CABET
N39 35.7
W102 00.7
SHAYK
N39 32.7
W101 24.6
GISTT
N39 46.0
W104 35.0
At or above
7000
BGONE
N39 46.1
W104 22.5
At or below
10000
OLDDD
N39 46.0
W104 08.8
Climb to
5934
Initial ATC Clearance:
"Cleared EXTAN Three Departure, Climb Via SID"
After Passing GISTT, ATC Issues Heading Vector:
"Fly Heading One Two Zero, Vectors For Spacing,
Climb and Maintain One Four Thousand, Expect To Resume The EXTAN Departure"
RWY
INITIAL CLIMB
TOP ALTITUDE
8
Climb heading 083° to intercept course 106° to cross KIDNG at or below 10000', then on track 084° to KMBEL, then on track 090° to BHIGH, then on track 090° to cross MMESA at or above 14000'
16L/R, 17R
Climb heading 173° to intercept course 118° to cross GISTT at or above 7000', then on track 081° to cross BGONE at or below 10000', then on track 082° to OLDDD, then on track 083° to cross MMESA at or above 14000'
17L
Climb heading 173° to intercept course 127° to cross GISTT at or above 7000', then on track 081° to cross BGONE at or below 10000', then on track 082° to OLDDD, then on track 083° to cross MMESA at or above 14000'
FL230
25
Climb heading 263° to 5934', then continue climb heading 263° or as assigned by ATC for RADAR vectors to EXTAN.
L/R, L/R
Climb heading 353° to 5934', then climbing RIGHT turn direct to cross KIDNG at or below 10000', then on track 084° to KIMBEL, then on track 090° to BHIGH, then on track 090° to cross MMESA at or above 14000'
ROUTING
depicted route to SHAYK. MAINTAIN FL230 or filed lower altitude. EXPECT
er filed altitude 10 minutes after departure.
None.
• Fly heading 120 degrees
• Climb unrestricted to 14,000'
• Expect to resume EXTAN Three
ATC Must Issue An Altitude To Maintain If They Vector The Aircraft Off Of The SID
OBSTACLE NOTES
see 10-30B1.
5934', then minimum climb of 230' per NM to 14000'.
Rwys 35L/R: Standard (or lower than standard, if authorized) with minimum climb of 500' per NM to 5934', then minimum climb of 240' per NM to 14000'
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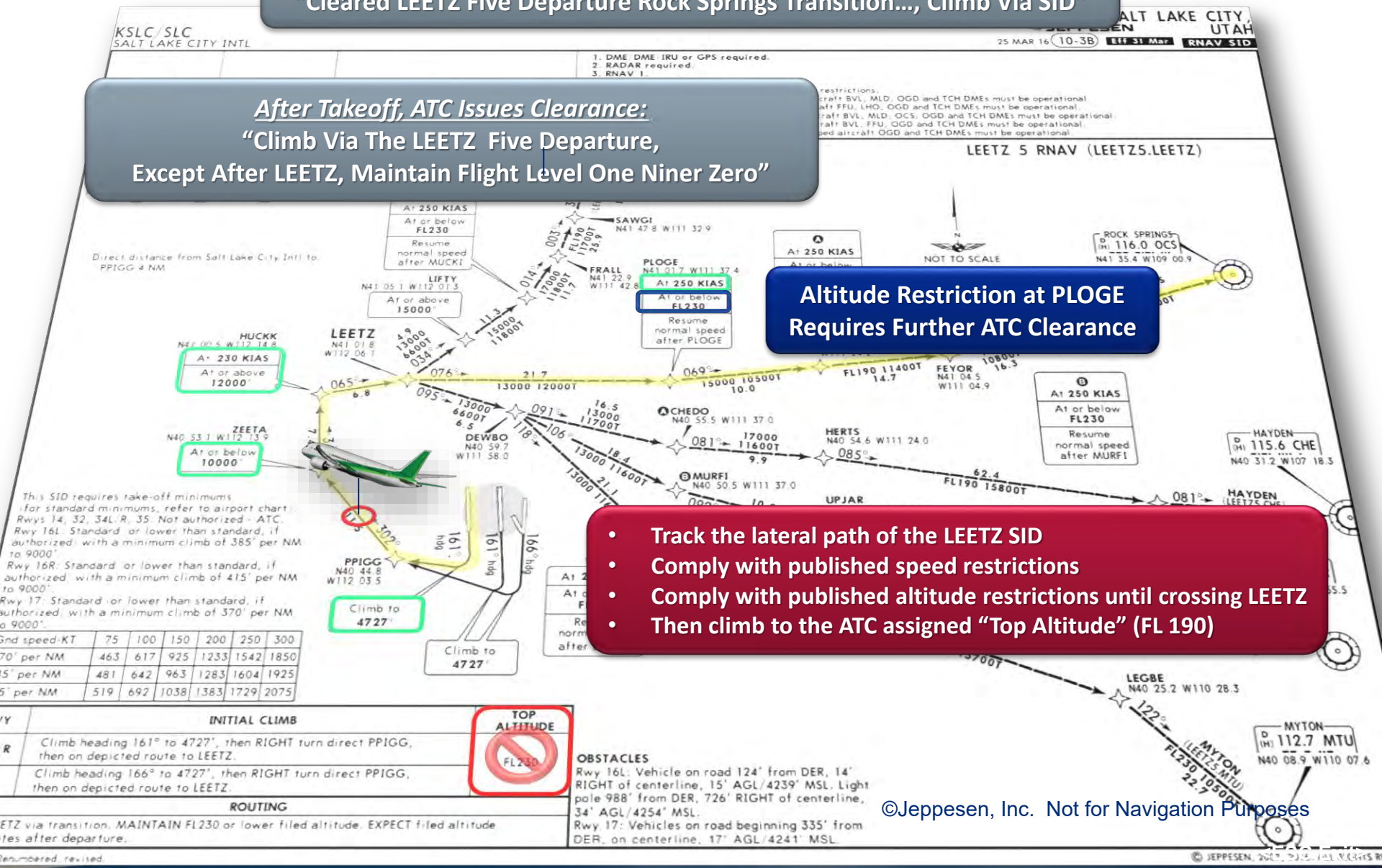
Initial ATC Clearance:

"Cleared LEETZ Five Departure Rock Springs Transition…, Climb Via SID"

After Takeoff, ATC Issues Clearance:

"Climb Via The LEETZ Five Departure,
Except After LEETZ, Maintain Flight Level One Niner Zero"



Altitude Restriction at PLOGE Requires Further ATC Clearance

- **Track the lateral path of the LEETZ SID**
- **Comply with published speed restrictions**
- **Comply with published altitude restrictions until crossing LEETZ**
- **Then climb to the ATC assigned "Top Altitude" (FL 190)**

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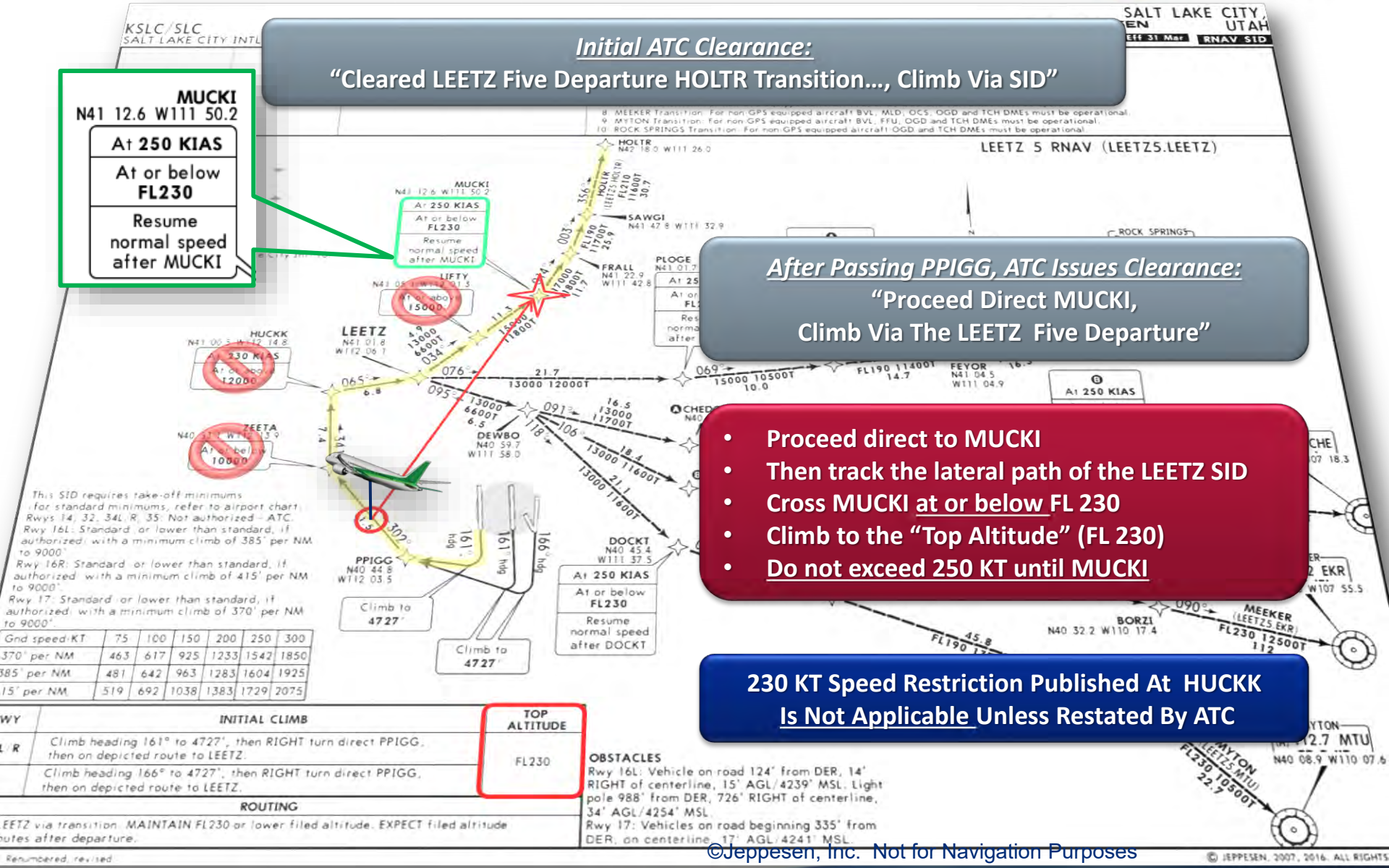

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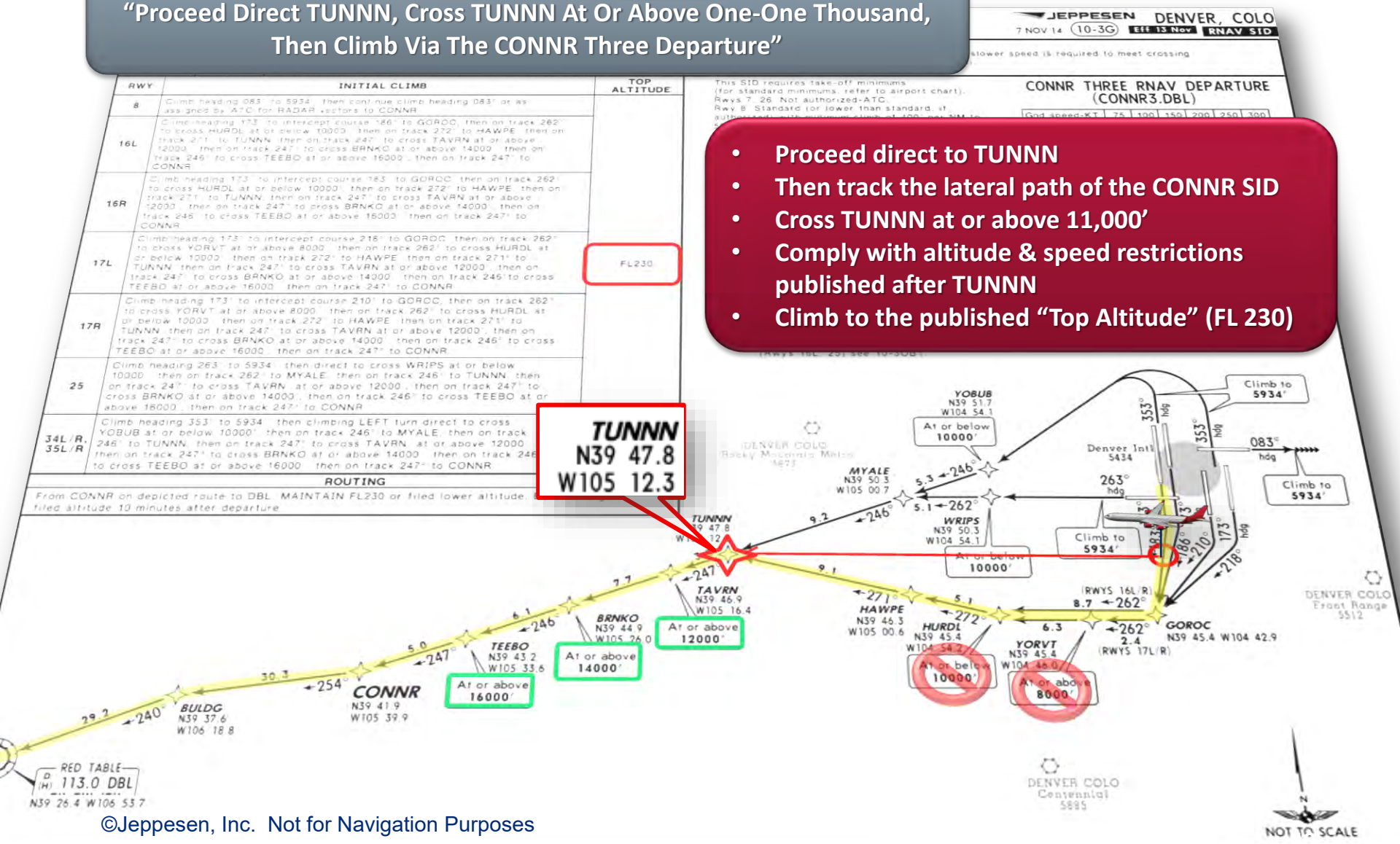
After Takeoff, ATC Issues Clearance:

"Proceed Direct TUNNN, Cross TUNNN At Or Above One-One Thousand, Then Climb Via The CONNR Three Departure"

- Proceed direct to TUNNN
- Then track the lateral path of the CONNR SID
- Cross TUNNN at or above 11,000'
- Comply with altitude & speed restrictions published after TUNNN
- Climb to the published "Top Altitude" (FL 230)



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Weather Deviation

Established on a SID with a Climb Via Clearance

- If a deviation from the lateral track of a SID is requested & approved by ATC for any reason, the climb via clearance is canceled.
  - (e.g., for weather),
- If ATC does not assign an altitude to maintain with approval to deviate from the SID's lateral track, pilots should request an altitude to maintain from the controller.
- Published speed restrictions on the SID, including a speed limit chart note, are canceled. ATC must re-issue any applicable speed restrictions.

"Forth Worth Center, Gulfstream Two Three Yankee, unable climb via, request an altitude to maintain in the climb"

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Unrestricted Climb

Phraseology: “Maintain” or “Climb & Maintain”

- Initial IFR clearance:
  - *“Cleared To …, LOOP Six Departure, As Filed, Maintain Four Thousand”*
- After initial IFR clearance, but prior to or after takeoff:
  - *“Hawker Two Three Yankee, Climb And Maintain One-two Thousand”*
- Receipt of a “Maintain” or “Climb & Maintain” altitude clearance means:
  - All Published Altitude Restrictions ***Are Canceled***
  - All Published Speed Restrictions ***Remain In Effect***

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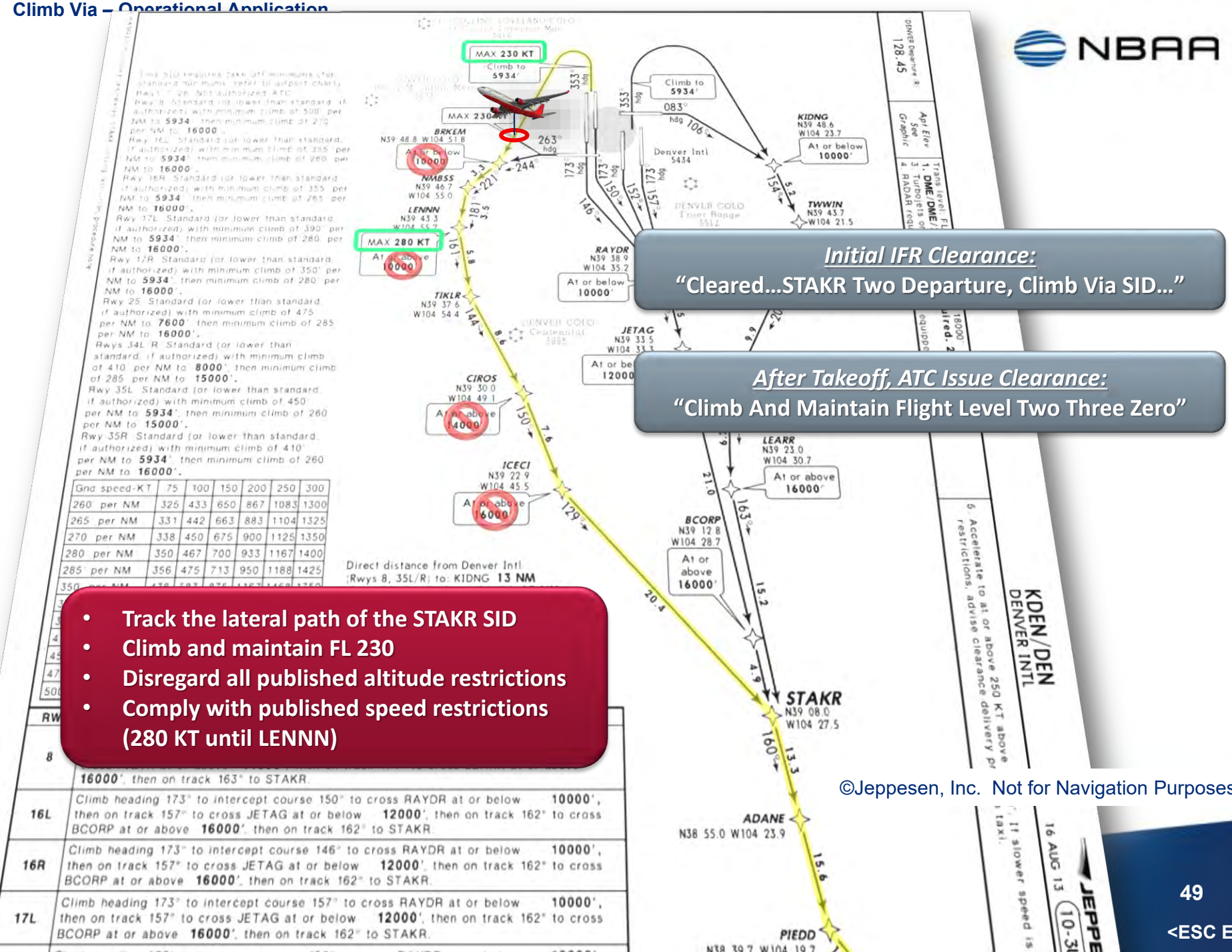

Initial IFR Clearance:

"Cleared…STAKR Two Departure, Climb Via SID…"

After Takeoff, ATC Issue Clearance:

"Climb And Maintain Flight Level Two Three Zero"

- **Track the lateral path of the STAKR SID**
- **Climb and maintain FL 230**
- **Disregard all published altitude restrictions**
- **Comply with published speed restrictions (280 KT until LENNN)**

Gnd speed-KT	75	100	150	200	250	300
260 per NM	325	433	650	867	1083	1300
265 per NM	331	442	663	883	1104	1325
270 per NM	338	450	675	900	1125	1350
280 per NM	350	467	700	933	1167	1400
285 per NM	356	475	713	950	1188	1425

RW	
8	16000', then on track 163° to STAKR.
16L	Climb heading 173° to intercept course 150° to cross RAYDR at or below 10000', then on track 157° to cross JETAG at or below 12000', then on track 162° to cross BCORP at or above 16000', then on track 162° to STAKR.
16R	Climb heading 173° to intercept course 146° to cross RAYDR at or below 10000', then on track 157° to cross JETAG at or below 12000', then on track 162° to cross BCORP at or above 16000', then on track 162° to STAKR.
17L	Climb heading 173° to intercept course 157° to cross RAYDR at or below 10000', then on track 157° to cross JETAG at or below 12000', then on track 162° to cross BCORP at or above 16000', then on track 162° to STAKR.

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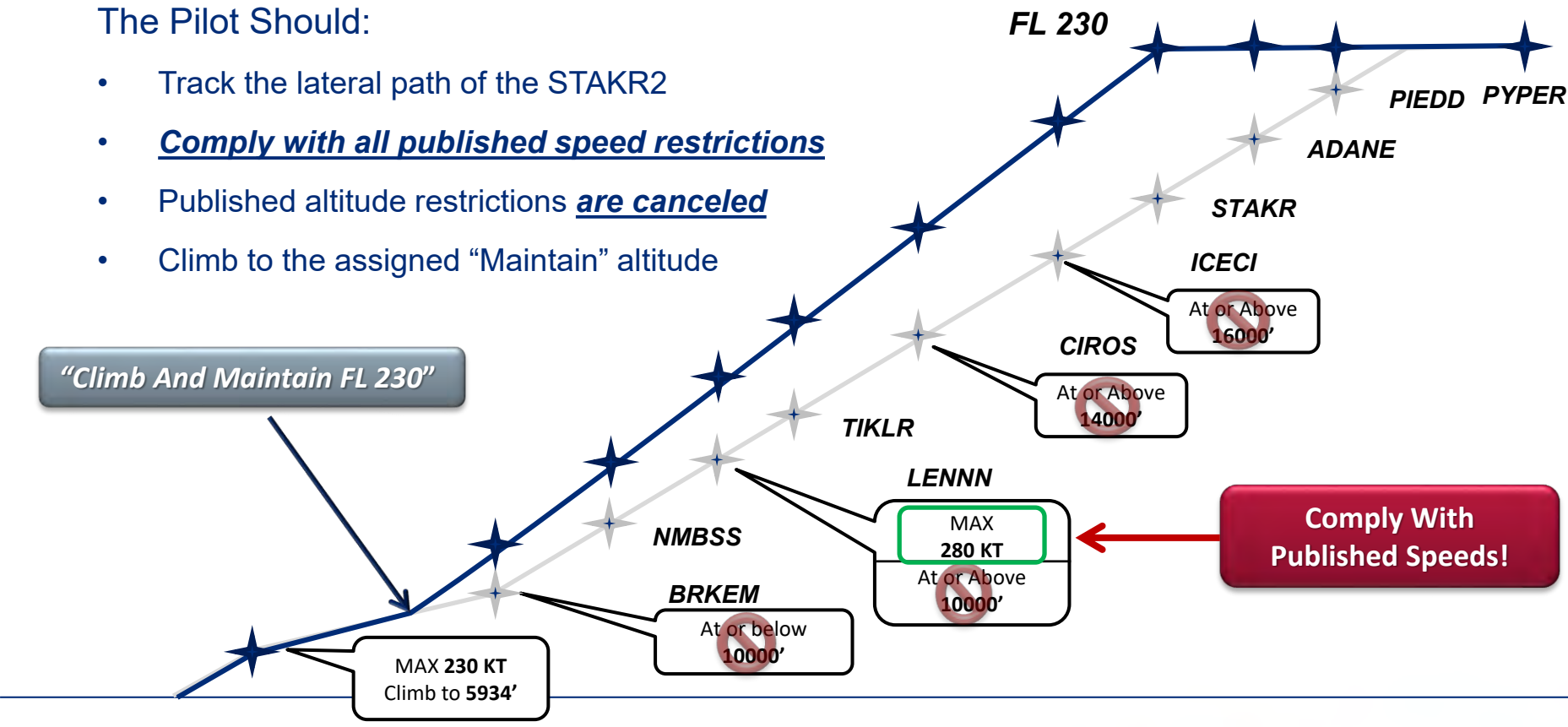
“Maintain” or “Climb & Maintain…”

The Pilot Should:

- Track the lateral path of the STAKR2
- ***Comply with all published speed restrictions***
- Published altitude restrictions ***are canceled***
- Climb to the assigned “Maintain” altitude



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Speed Restrictions Published On A SID

- When cleared along a route or procedure that contains published speed restrictions, pilots must comply with those speed restrictions **independent of a "Climb Via" or "Climb & Maintain" clearance**
- ATC anticipates pilots will begin accelerating after passing a speed restriction commensurate with normal aircraft operations, but will not exceed the next speed restriction, if any, published on the SID
- If vectored off of a SID route segment where published speeds apply, the published speeds are cancelled and speed is at pilot's discretion unless ATC has assigned a speed
  - This includes any speed limit or speed restriction published as a chart note on the SID, e.g., "Turbojet departures at/above 10000 maintain 280K until advised by ATC"
- Absent any qualifying instructions, issuance of a "Climb Via" clearance cancels a previously issued ATC speed adjustment and provides pilot discretion to adjust speed while requiring compliance with upcoming restrictions
- ATC may require compliance with previously issued speed adjustments using phraseology:
  - *"Proceed to (WP name), then climb via..."*
  - *"Maintain (speed) until (WP name), then climb via..."*
  - *"Cross (WP name) at (speed) then climb via...."*
- Where there are no upcoming speed restrictions, issuance of a *"Proceed direct (WP name), climb via ...."* cancels a previously issued speed adjustment and authorizes speed at pilot's discretion as appropriate for the phase of flight, ensuring compliance with 14 CFR 91.117

Pre-Departure Clearances (PDC)

IFR Clearance Received Via ACARS Service

- PDC “REMARKS” section will contain:
  - ATC assigned departure (SID or ODP)
  - “Climb Via” clearance
- The “FILED FLIGHT PLAN” section may list the filed departure procedure
- The ATC assigned departure ***may differ*** from that filed in the IFR flight plan
- ***Fly the ATC-assigned departure, not the departure that was filed!***
- Ensure the filed departure procedure is uplinked to the FMS
- Verify the correct departure procedure in the FMS

* Note: The “Route” & “Remarks” sections are generic descriptions of the elements of a typical the PDC message. They are not necessarily specific sections in the PDC as the format of these messages will vary with FOC or service provider

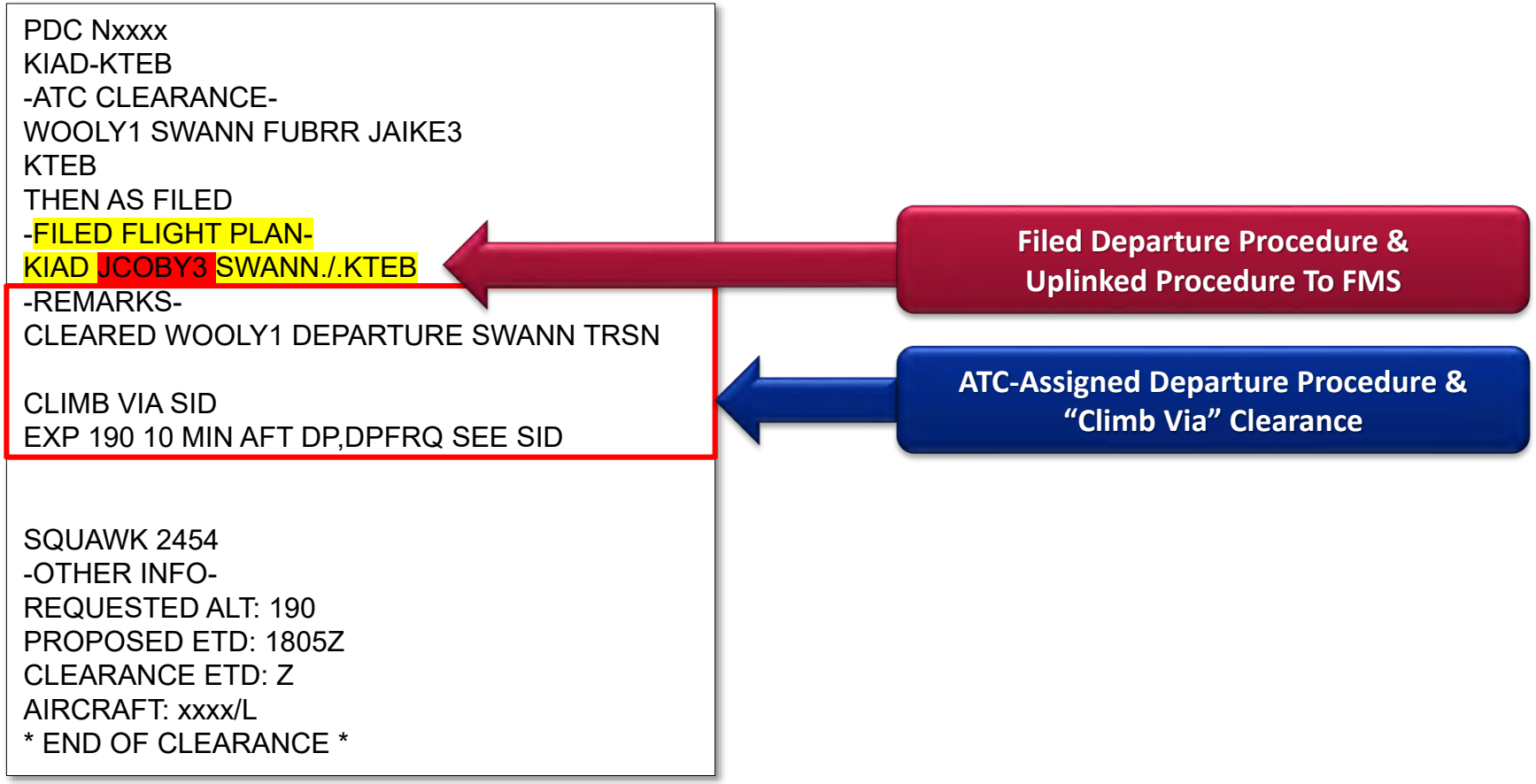
PDC Nxxxx
KIAD-KICT
-ATC CLEARANCE-
CLR AS FILED
-FILED FLIGHT PLAN-
KIAD RNLDI4 OTTTO COLNS J134
FLM CASSO KICT
-REMARKS-
CLEARED RNLDI4 DEPARTURE OTTTO TRSN

CLIMB VIA SID
EXP 400 10 MIN AFT DP,DPFRQ SEE SID

SQUAWK 1367
-OTHER INFO-
REQUESTED ALT: 400
PROPOSED ETD: 1930Z
CLEARANCE ETD: Z
AIRCRAFT: xxxx/L
* END OF CLEARANCE *

ATC-Assigned Departure Procedure & "Climb Via" Clearance

Note: PDC Format Varies With AOC or Service Provider

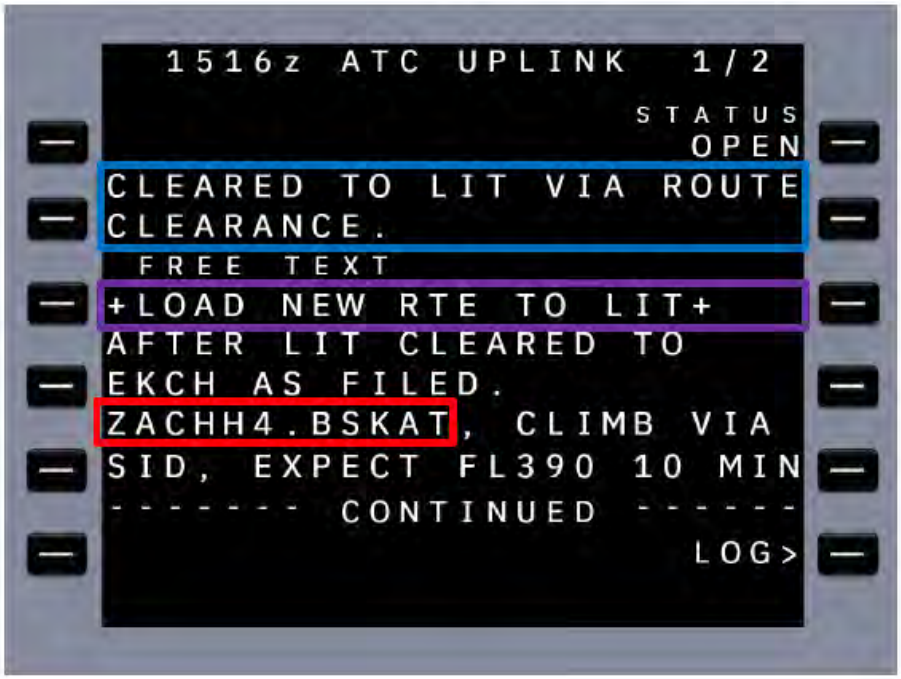


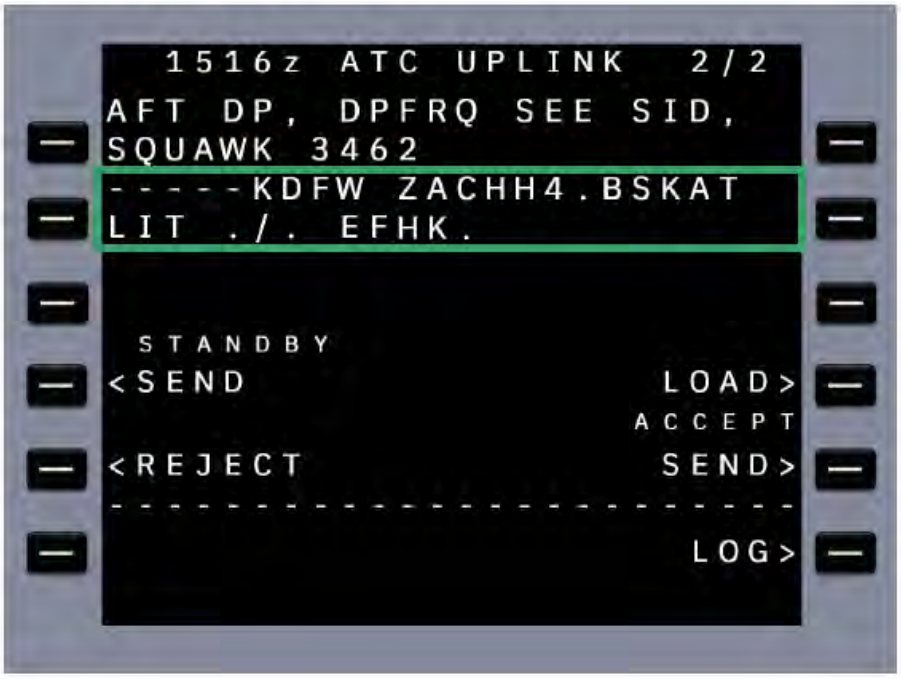
Note: PDC Format Varies With AOC or Service Provider

Datalink Clearance (DCL)

- CPDLC is used by ATC to send the IFR clearance, along with route revisions to the FMS using FANS.
- A “Climb Via SID”, “Climb Via SID, Except Maintain <*altitude*>” or “Maintain <*altitude*>” element is included in the DCL message.
- Route changes with DCL:
  - When ATC issues a new route or revised route – use the PUSH-TO-LOAD function to load the new or revised route into the FMS.
  - The SID is **NEVER** included in the new or revised route upload. The SID **MUST** be manually loaded when a new or revised route is sent by ATC.
    - The revised route may be just the SID itself or the runway of departure
- Verify the SID and departure runway is in the FMS after loading the new or revised route.
- ***Fly the ATC-assigned departure, not the departure that was filed!***

(Generic example similar to B737 U13 or earlier)





1 Loadable portion of the clearance

2 Awareness phrase that the clearance contains loadable information that must be inserted into the FMS

3 Departure procedure that must be manually inserted into the FMS

4 Route free text (*note: contains departure procedure*)

Using DCL

For further information on using DCL, please see the guidance on the L3Harris or FAA websites:

L3Harris DCL Demonstration Video:
https://youtu.be/W_oBhj_RN6A?si=npyTbm8B6NWs8uM5

Federal Aviation Administration (FAA) Data Communications (Data Comm) User Information | L3Harris® Fast. Forward.

Data Communication Program (DataComm) | Federal Aviation Administration (faa.gov)

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CLIMB VIA DEPARTURE PHRASEOLOGY

PHASE OF FLIGHT		SCENARIO	CONTROLLER ACTION	CONTROLLER PHRASEOLOGY	PILOT ACTION	PILOT PHRASEOLOGY
INITIAL IFR CLEARANCE		Assign a SID or ODP with the initial IFR clearance.	• Assign a SID or ODP • Assigned an altitude when a "Top Altitude" is **not published** in the SID route description.	"American Two, Cleared To Reynolds Airport; DAVID Two Departure, Kingham Transition; Then, As Filed, Maintain Niner Thousand…."	• Comply with the lateral path of the DAVID Two SID, Kingham transition. • Climb **unrestricted** up to and then maintain 9000' MSL. • Comply with any published speed restrictions.	On initial contact "American Two, Leaving Six Hundred, Climbing To Niner Thousand".
			• Assign a SID with a "Top Altitude" published in the SID route description. The assigned altitude may be omitted and pilots instructed to "climb via SID" when a "Top Altitude" is published in the SID route description.	"American Two, Cleared To Reynolds Airport; DAVID Two Departure, Kingham Transition; Then, As Filed, **Climb Via SID…**"	• Comply with the lateral path of the DAVID Two SID, Kingham transition • Comply with all published speed & altitude restrictions while climbing to the SID's published "Top Altitude" (e.g. FL 240).	On initial contact: "American Two, Leaving Six Hundred, Climbing Via The DAVID Two Departure."
			• Assign a SID that has published altitude restrictions but the "Top Altitude" **is not published or must be changed**. • Use the phrase "climb via SID except maintain" to assign the "Top Altitude".	"American Two, Cleared To Reynolds Airport; DAVID Two Departure, Kingham Transition; Then, As Filed, **Climb Via SID Except Maintain Flight Level Two Zero Zero**…."	• Comply with the lateral path of the DAVID Two SID, Kingham transition. • Comply with any published speed & altitude restrictions. • Climb to the ATC issued "Top Altitude" (FL 200) instead of the SID's published "Top Altitude" (e.g. FL 240).	On initial contact with departure control: "American Two, Leaving Six Hundred For Flight Level Two Zero Zero Climbing Via The DAVID Two Departure."
AFTER TAKEOFF	ALTITUDE	ATC desires an unrestricted climb-out and cancels all altitude restrictions.	• Clear aircraft for unrestricted climb • Cancel all published altitude restrictions.	"American Two, Climb And Maintain Flight Level Two Four Zero"	• Track the lateral path of the SID. • Climb from the current altitude to FL 240. • All published altitude restrictions are canceled. **Speed restrictions remain in effect unless the controller explicitly cancels the speed restrictions.**	"American Two, Climb And Maintain Flight Level Two Four Zero"
		ATC must interrupt the climb and assign an interim altitude to maintain while the aircraft continues to follow the SID's lateral path.	• Issue an altitude to maintain. • ATC must ensure obstacle clearance until the aircraft is re-established on the vertical path of the SID.	"American Two, Climb And Maintain Niner Thousand"	• Track the lateral path of the SID. • Climb from the current altitude to 9000'. • All published altitude restrictions are canceled. **Speed restrictions remain in effect unless the controller explicitly cancels the speed restrictions.**	"American Two, Climb And Maintain Niner Thousand"
		ATC desires that the aircraft resume climb to the original "Top Altitude" while complying with all published altitude and speed restrictions on the SID.	• Instruct aircraft to resume climb & to comply with published altitude and speed restrictions.	"American Two, Climb Via SID"	• Track the lateral path of the SID. • Begin climb from the last assigned altitude to comply with all published altitude restrictions. • Comply with published speed restrictions.	"American Two, Climb Via SID"
		During the climb, ATC must assign an interim "Top Altitude" or assign a "Top Altitude" **that differs** from that published on the SID.	• Instruct aircraft to climb via the SID to a specific fix published on the SID, • Then assign the new "Top Altitude".	"American Two, Climb Via SID Except After BARET, Maintain Flight Level One Niner Zero"	• Track the lateral path of the SID. • Comply with published speed restrictions. • Comply with published altitude restrictions up to BARET, then climb & maintain the ATC-assigned "Top Altitude".	"American Two, Climb Via SID Except After BARET, Maintain Flight Level One Niner Zero"
		Established on the SID, ATC must assign an altitude at a waypoint/fix **that differs** from the altitude restriction published on a SID.	• Instruct aircraft to climb via the SID. • Amend the altitude restriction at the desired waypoint/fix.	"American Two, Climb via SID Except Cross MKALA At Or Above Seven Thousand."	• Track the lateral path of the SID. • Comply with published speed restrictions. • Comply with published altitude restrictions, except cross MKALA at or above 7000'.	"American Two, Climb via SID Except Cross MKALA At Or Above Seven Thousand."

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CLIMB VIA DEPARTURE PHRASEOLOGY

PHASE OF FLIGHT		SCENARIO	CONTROLLER		PILOT	
			ACTION	PHRASEOLOGY	ACTION	PHRASEOLOGY
AFTER TAKEOFF	SPEED	ATC must assign a speed restriction to a departing aircraft climbing in conjunction with a "climb via" clearance.	• Assign a speed to maintain until a waypoint/fix on the SID. • Then instruct aircraft to climb via the SID. Issuing speed adjustments to aircraft flying procedures with published speed restrictions may impact the pilot's ability to fly the intended flight profile of the procedure	"American Two, Cross ALISA At Two Two Zero Knots Then Climb Via The DAVID Two Departure."	• Track the lateral path of the SID. • Maintain speed 220 KT until crossing ALISA, then comply with published speed restrictions. • Climb to comply with all published altitude restrictions.	"American Two, Cross ALISA At Two Two Zero Knots Then Climb Via The DAVID Two Departure."
		ATC must amend the altitude restriction published at a waypoint/fix, after which the aircraft is to continue climb and comply with published altitude restrictions. In addition, ATC must assign a speed to maintain during the climb instead of the published speeds on the SID.	• Assign an altitude to cross the waypoint/fix. • Then issue "Climb Via" clearance; however, assign a speed to maintain in place of the published speed restrictions.	"American two, Cross ALISA At One Zero Thousand, Then Climb Via The DAVID Two Departure, Except Maintain Two Two Zero Knots."	• Track the lateral path of the SID. • Climb to cross ALISA at 10,000', then comply with published altitude restrictions. • Maintain speed 220 KT • Published speed restrictions are canceled.	"American Two, Cross ALISA At One Zero Thousand, Then Climb Via The DAVID Two Departure, Except Maintain Two Two Zero Knots."
	ROUTE	ATC must issue a heading and vector the aircraft off the lateral path of a SID with altitude restrictions.	• Assign a heading to maintain. • State the purpose of the vector. • Assign an altitude to maintain. • Advise pilot to expect to resume SID.	"American Two, Fly Heading Zero Niner Zero, Vectors To Spacing. Maintain Eight Thousand. Expect To Resume The DAVID Two Departure"	• Fly heading 090. • Maintain 8000' • Be prepared to resume the DAVID Two SID. Do not sequence FMS beyond the SID.	American Two, Fly Heading Zero Niner Zero. Maintain Eight Thousand."
		Clear an aircraft to re-join the SID at a waypoint/fix with a published altitude restriction then to comply with published altitude & speed restrictions.	• Clear the aircraft to a waypoint/fix with a published restriction. • Instruct the aircraft to climb via SID. • Ensure obstacle clearance until the aircraft is established on the lateral and vertical path of the SID.	"American Two, Proceed Direct DVINE, Climb Via The DAVID Two Departure"	• Proceed direct to DVINE & resume the DAVID Two SID. • Climb to comply with the altitude published at DVINE. • Climb to comply with the published altitude & speed restrictions.	"American Two, Proceed Direct DVINE, Climb Via The DAVID Two Departure"
		Clear an aircraft to re-join the SID at a waypoint/fix without a published altitude restriction, and then to comply with published altitude & speed restrictions.	• Clear the aircraft to a waypoint fix & assign an altitude to cross waypoint/fix. • Instruct the aircraft to climb via SID. • Ensure obstacle clearance until the aircraft is established on the lateral and vertical path of the SID.	"American Two Proceed Direct DENIS, Cross DENIS At Or Above One Zero Thousand, Then Climb Via The DAVID Two Departure"	• Proceed direct to DENIS & resume the DAVID Two SID. • Climb to cross DENIS at or above 10,000' • Climb to comply with the published altitude & speed restrictions.	"American Two Proceed Direct DENIS, Cross DENIS At Or Above One Zero Thousand, Then Climb Via The DAVID Two Departure"
	GENERAL	Instruct an aircraft to resume SID that contains speed and/or altitude restrictions	• Issue/reissue all applicable restrictions. • Advise aircraft to comply with restrictions or resume published speed.	"American Two , Resume DAVID Two Departure, Comply With Restrictions"	• Comply with the altitude & speed restrictions published on the DAVID Two SID.	"American Two, Resume DAVID Two Departure, Comply With Restrictions"

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Descend Via:

An abbreviated ATC clearance that requires compliance with a published procedure lateral path and associated speed restrictions and provides a pilot-discretion descent to comply with published altitude restrictions.

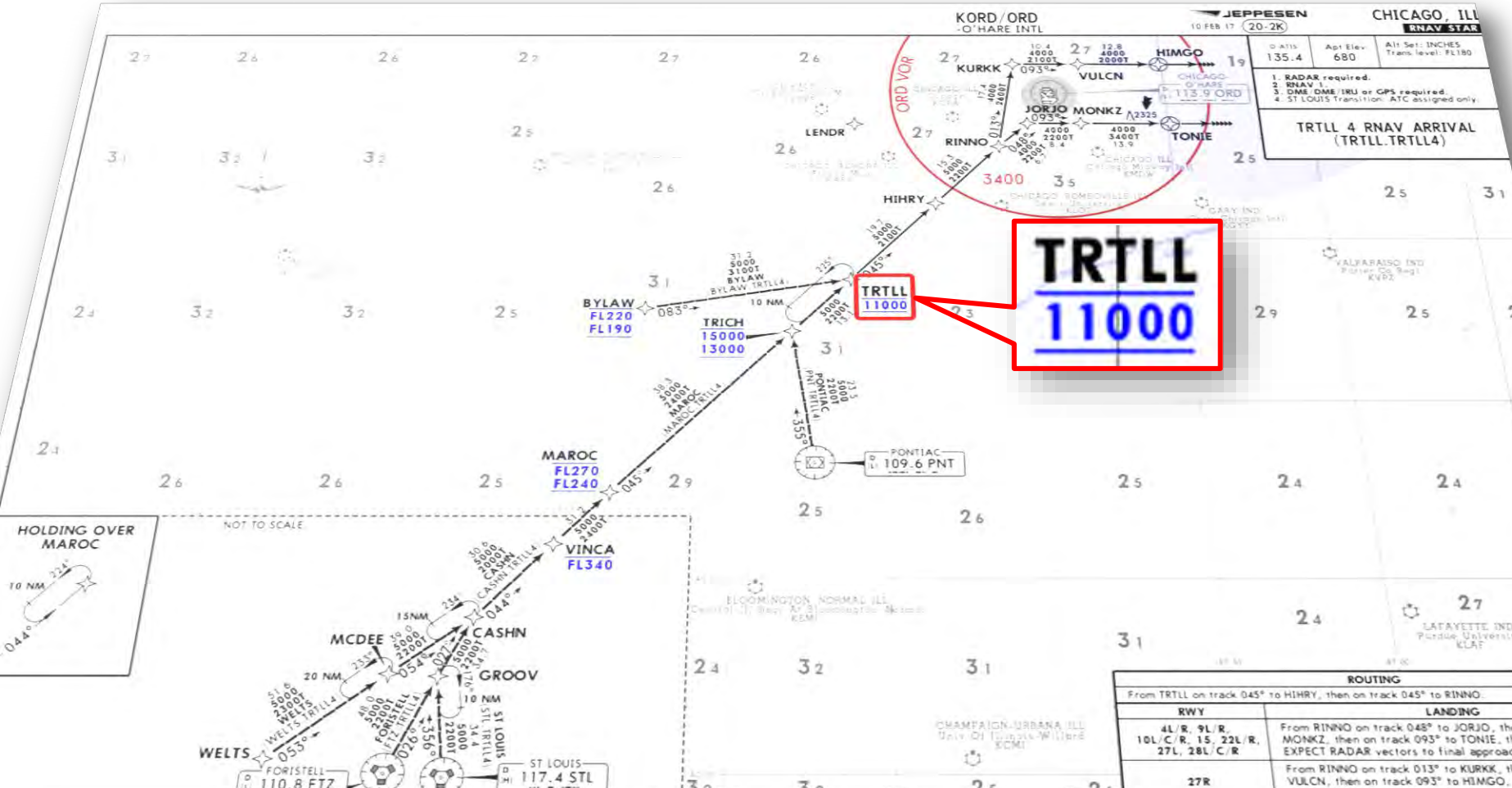
Descend Via (AIM 5-4-1 a 2)

Authorizes The Pilot To

- Descend at pilot's discretion to meet published restrictions and laterally navigate on a STAR
- When cleared to a waypoint depicted on a STAR, to descend from a previously assigned altitude at pilot's discretion to the altitude depicted at the waypoint
- Once established on the depicted arrival, to descend and to meet all published or assigned altitude and/or speed restrictions

Bottom Altitude:

In reference to published altitude restrictions on a STAR or STAR runway transition, the lowest altitude authorized.



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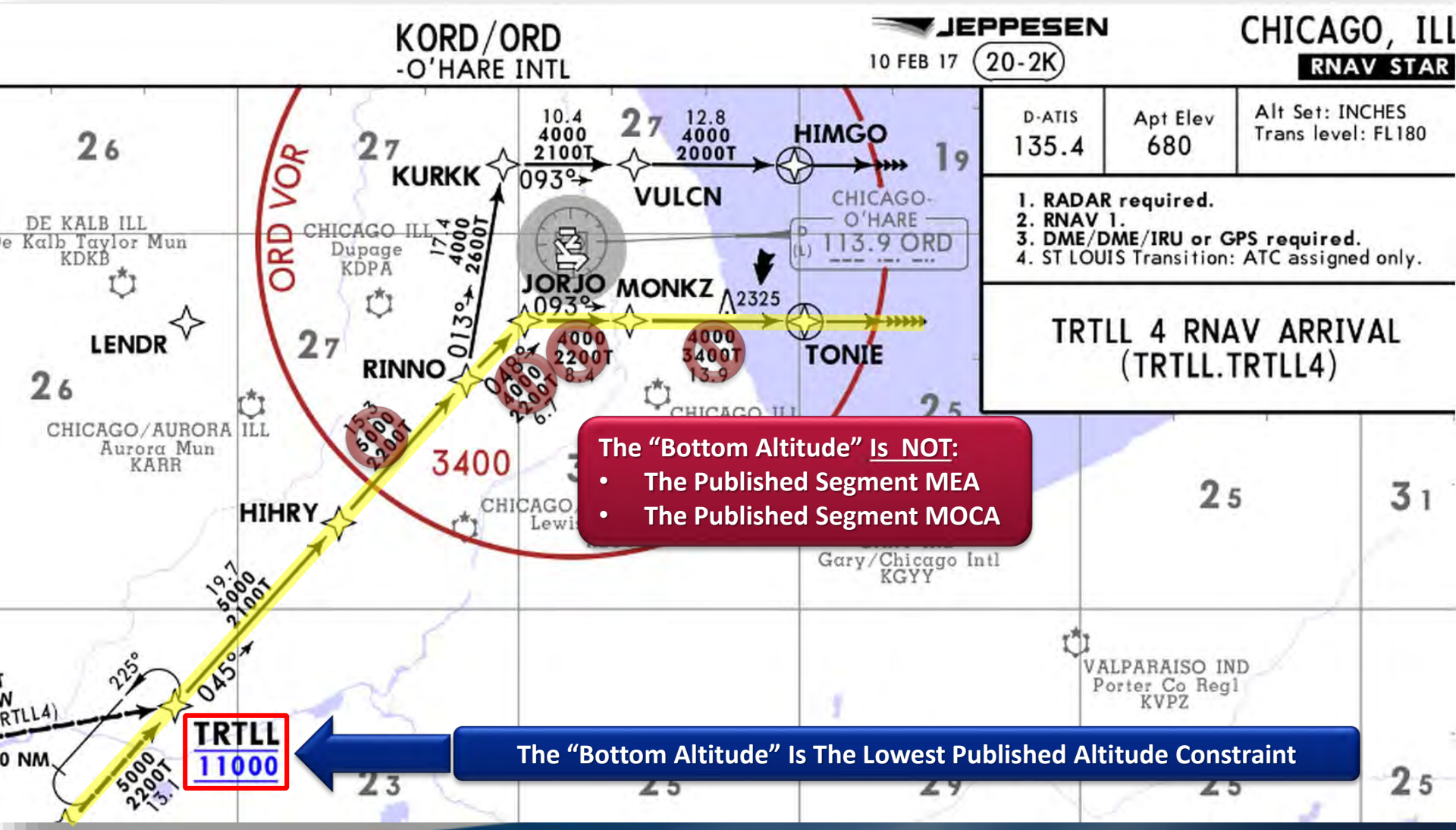
Bottom Altitude



Bottom Altitude

In reference to published altitude restrictions on a STAR or STAR runway transition, the lowest altitude authorized.

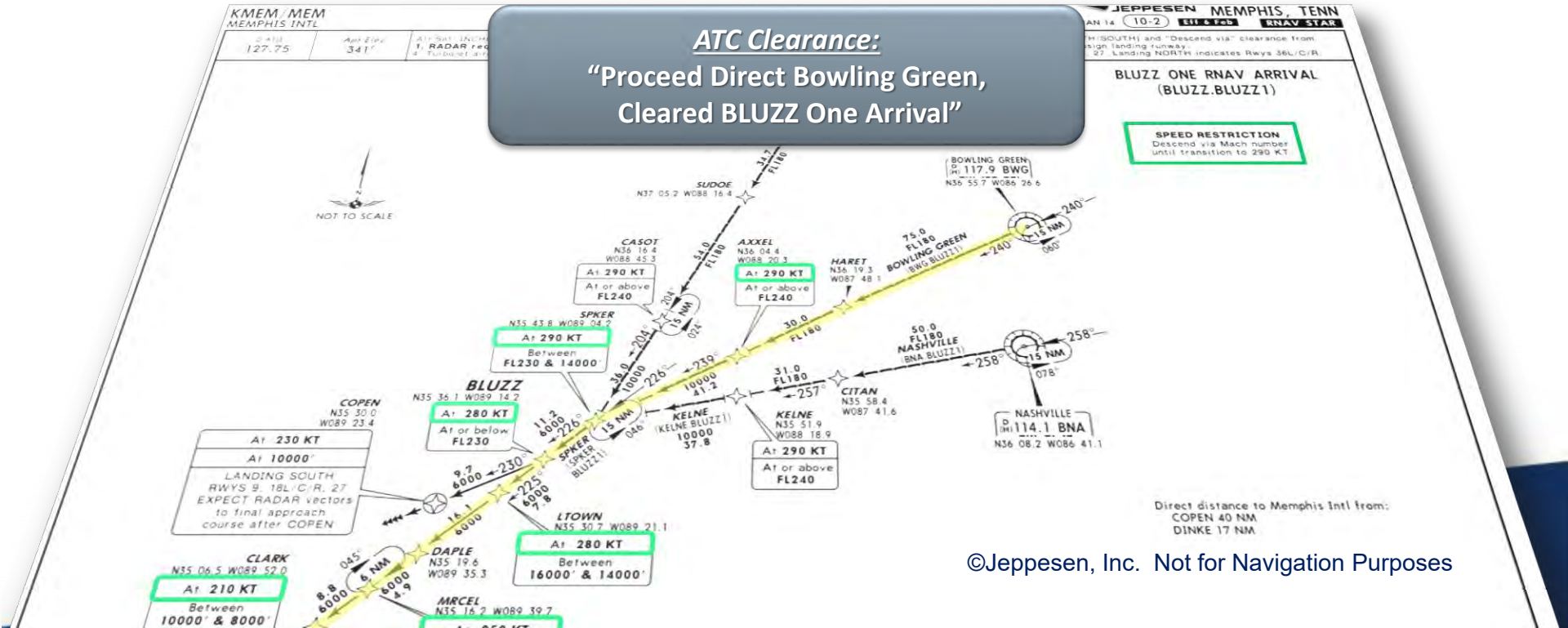
- Runway transition or landing direction may be provided by ARTCC
  - An advisory note may be included on the chart:

> 5. EXPECT "descend via" clearance and landing direction assignment (NORTH or SOUTH) by ARTCC. Charlotte approach will assign landing runway.

- Otherwise, landing runway must be assigned by Arrival Controller on initial contact or as soon a practical thereafter, and no later than 10 miles prior to the runway transition waypoint
- Landing runway in use broadcast by the ATIS may be used to determine anticipated STAR transition *for planning purposes*

ATC Clearance That Includes A STAR:

- Is a clearance to fly the depicted route & assigned transition
- Is a clearance requiring compliance with published speed restrictions
- A chart note used to transition from Mach to IAS applies once the aircraft is established on the published lateral path of the STAR
- ***<u>However, altitude assignment & vertical navigation is a separate clearance!</u>***



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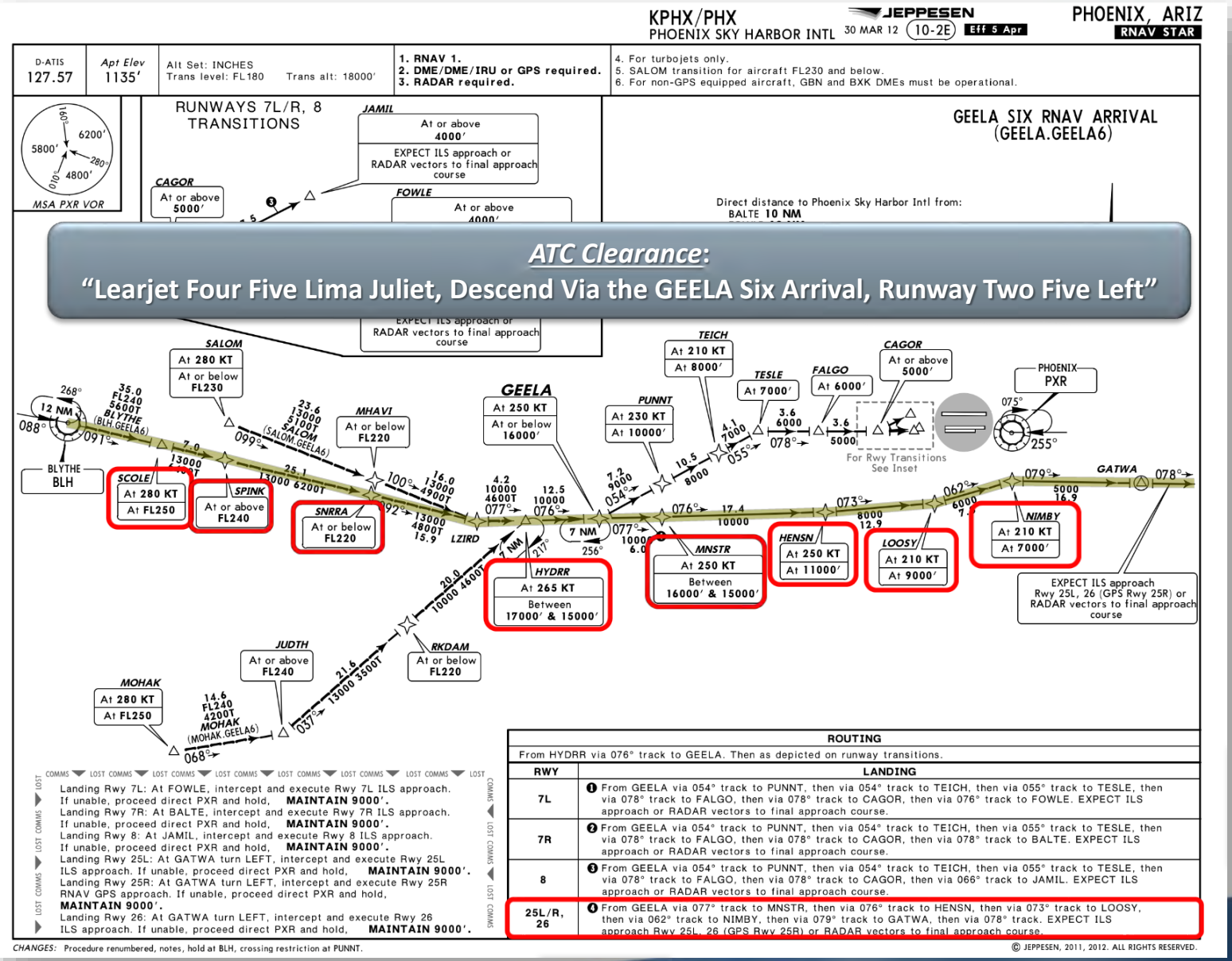

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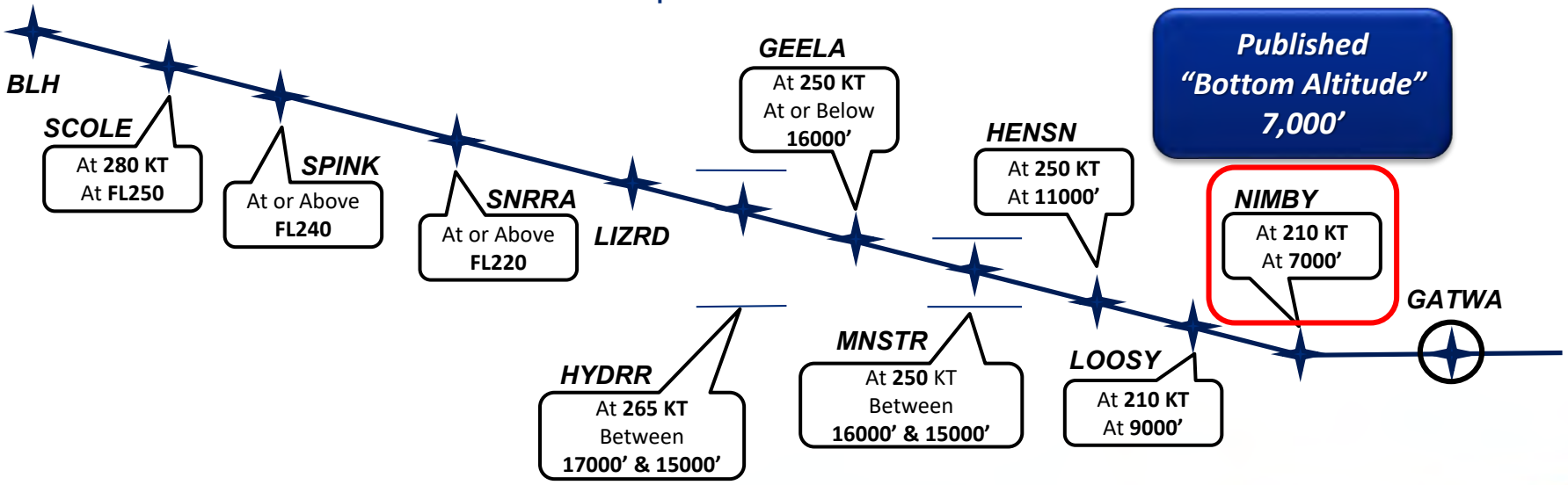
“Descend Via” Clearance

The Pilot Should:

- Track the lateral path of the GEELA6
- Comply with published speed restrictions
- Descend at pilot’s discretion to comply with all published altitude restrictions
- Descend to the “Bottom Altitude” published on the STAR



Pilot/Controller Initial Contact Phraseology

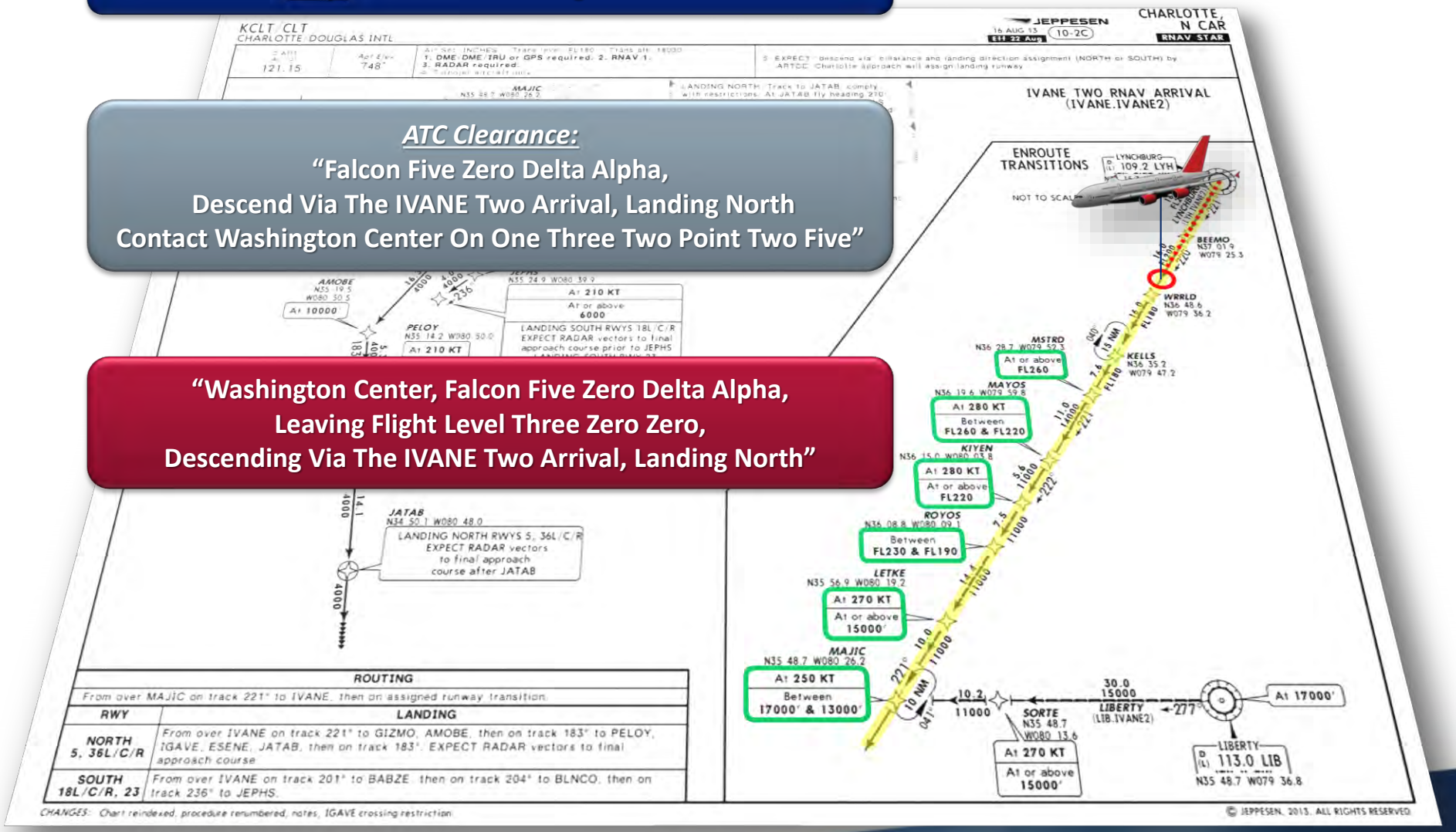
"Phoenix Approach, Learjet Four Five Lima Juliet,
Leaving Flight Level Two Eight Zero,
Descending Via The GEELA Six Arrival,
Runway Two Five Left, Information Alpha"

"Learjet Four Five Lima Juliet, Phoenix Approach,
Expect I-L-S Two Five Left Approach"

A "Descend Via" Clearance From The Center (ARTCC)
May **Include The Landing Direction**

ATC Clearance:
"Falcon Five Zero Delta Alpha,
Descend Via The IVANE Two Arrival, Landing North
Contact Washington Center On One Three Two Point Two Five"

"Washington Center, Falcon Five Zero Delta Alpha,
Leaving Flight Level Three Zero Zero,
Descending Via The IVANE Two Arrival, Landing North"



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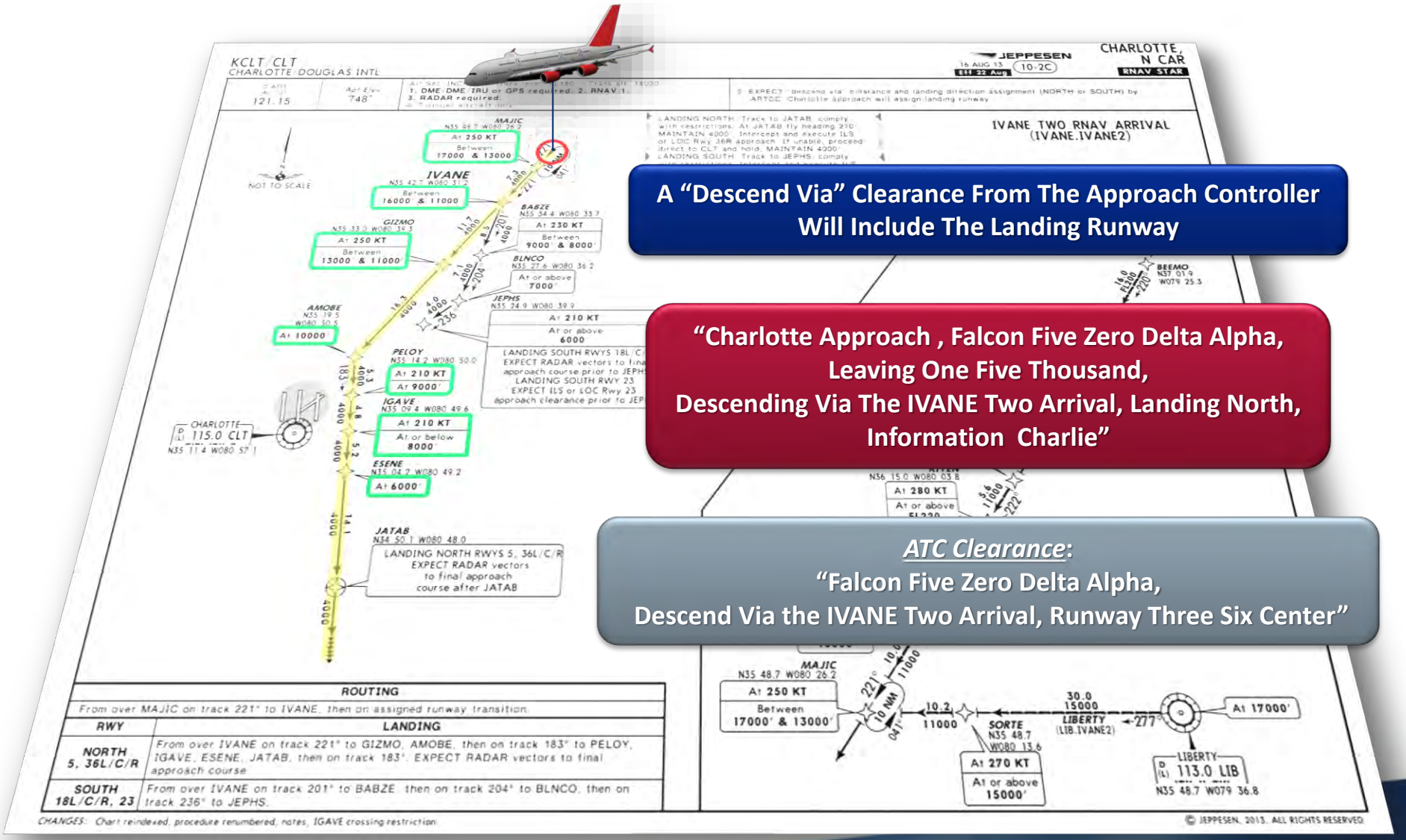
KCLT/CLT
CHARLOTTE/DOUGLAS INTL
JEPPESEN
16 AUG 13
10-2C
CHARLOTTE, N CAR
RNAV STAR
IVANE TWO RNAV ARRIVAL
(IVANE.IVANE2)
A Descend Via" Clearance From The Approach Controller Will Include The Landing Runway
"Charlotte Approach , Falcon Five Zero Delta Alpha, Leaving One Five Thousand, Descending Via The IVANE Two Arrival, Landing North, Information Charlie"
ATC Clearance:
"Falcon Five Zero Delta Alpha, Descend Via the IVANE Two Arrival, Runway Three Six Center"
MAJIC
IVANE
BABZE
GIZMO
BLNCO
JEPHS
AMOBE
PELOY
IGAVE
ESENE
JATAB
SORTE
LIBERTY
ROUTING
RWY
LANDING
NORTH 5, 36L/C/R
From over IVANE on track 221° to GIZMO, AMOBE, then on track 183° to PELOY, IGAVE, ESENE, JATAB, then on track 183°. EXPECT RADAR vectors to final approach course
SOUTH 18L/C/R, 23
From over IVANE on track 201° to BABZE, then on track 204° to BLNCO, then on track 236° to JEPHS.
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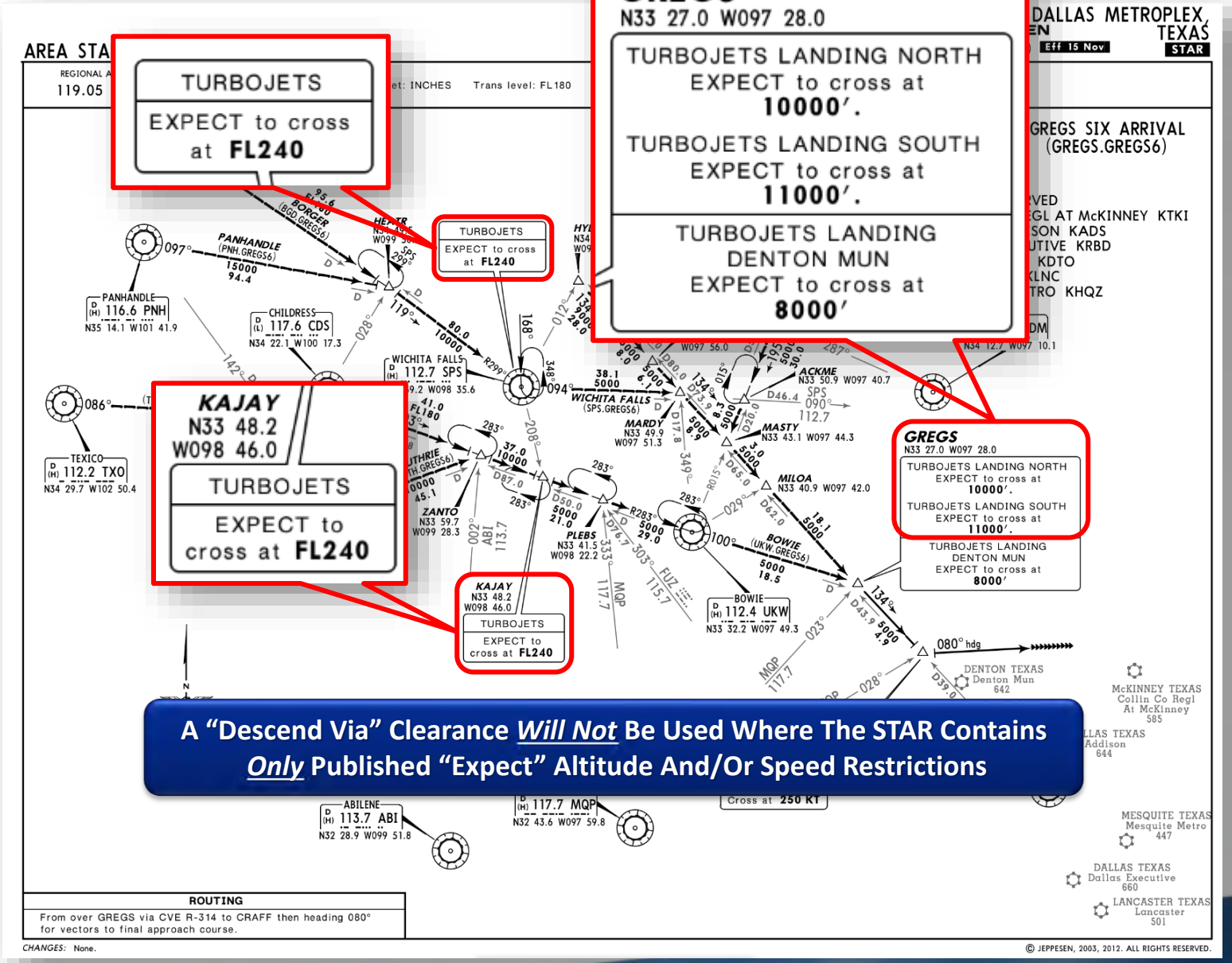

A "Descend Via" Clearance *Will Not* Be Used Where The STAR Contains *Only* Published "Expect" Altitude And/Or Speed Restrictions

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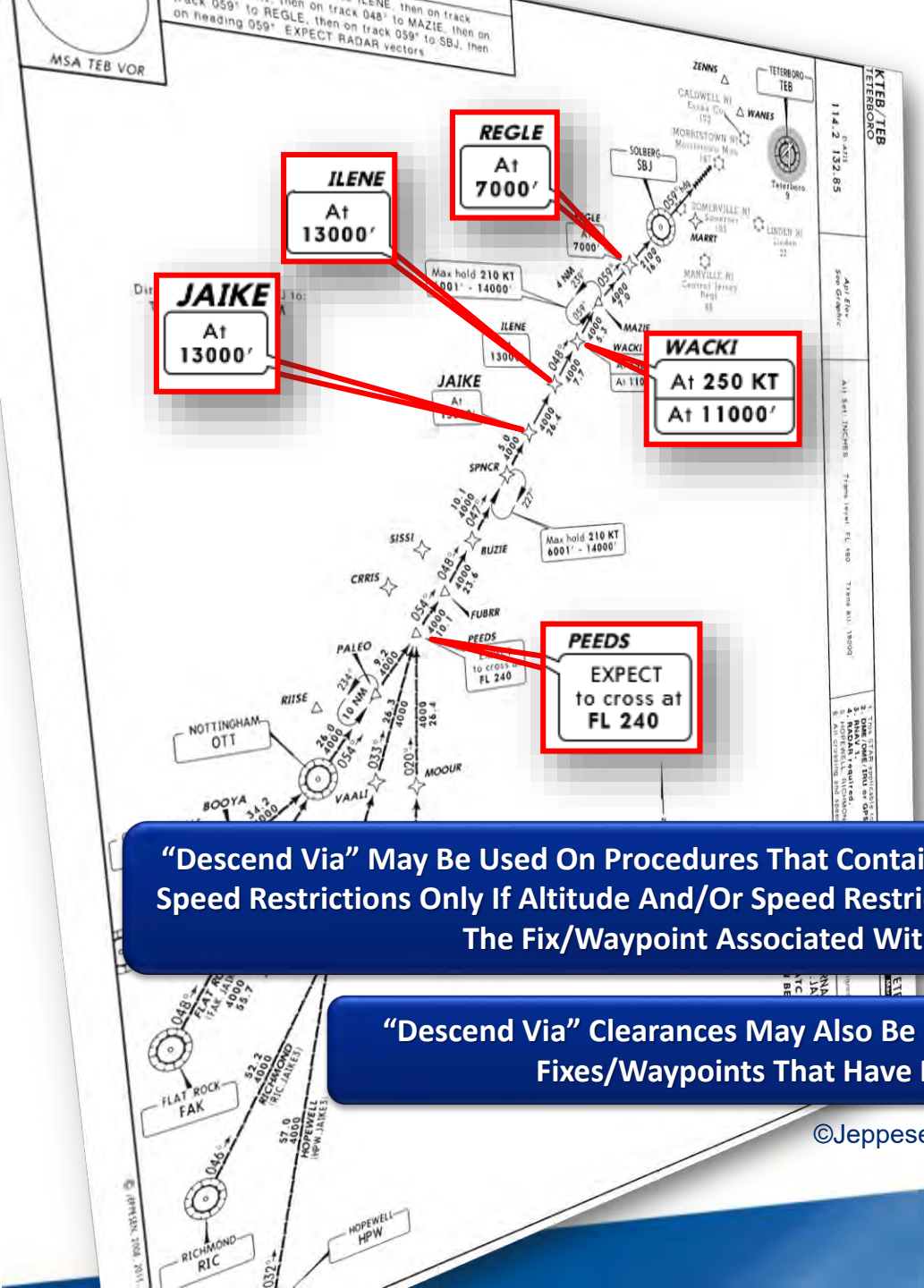

ATC Clearance:

**"Gulfstream Two Three Echo,
Cross PEEDS At Flight Level Two Four Zero,
Then Descend Via The JAIKE Three Arrival"**

"Descend Via" May Be Used On Procedures That Contain Both "EXPECT" And REQUIRED Altitude And Speed Restrictions Only If Altitude And/Or Speed Restrictions Or Alternate Restrictions Are Issued For The Fix/Waypoint Associated With All Expect Restrictions

"Descend Via" Clearances May Also Be Issued If An Aircraft Is Past All Fixes/Waypoints That Have Expect Restrictions

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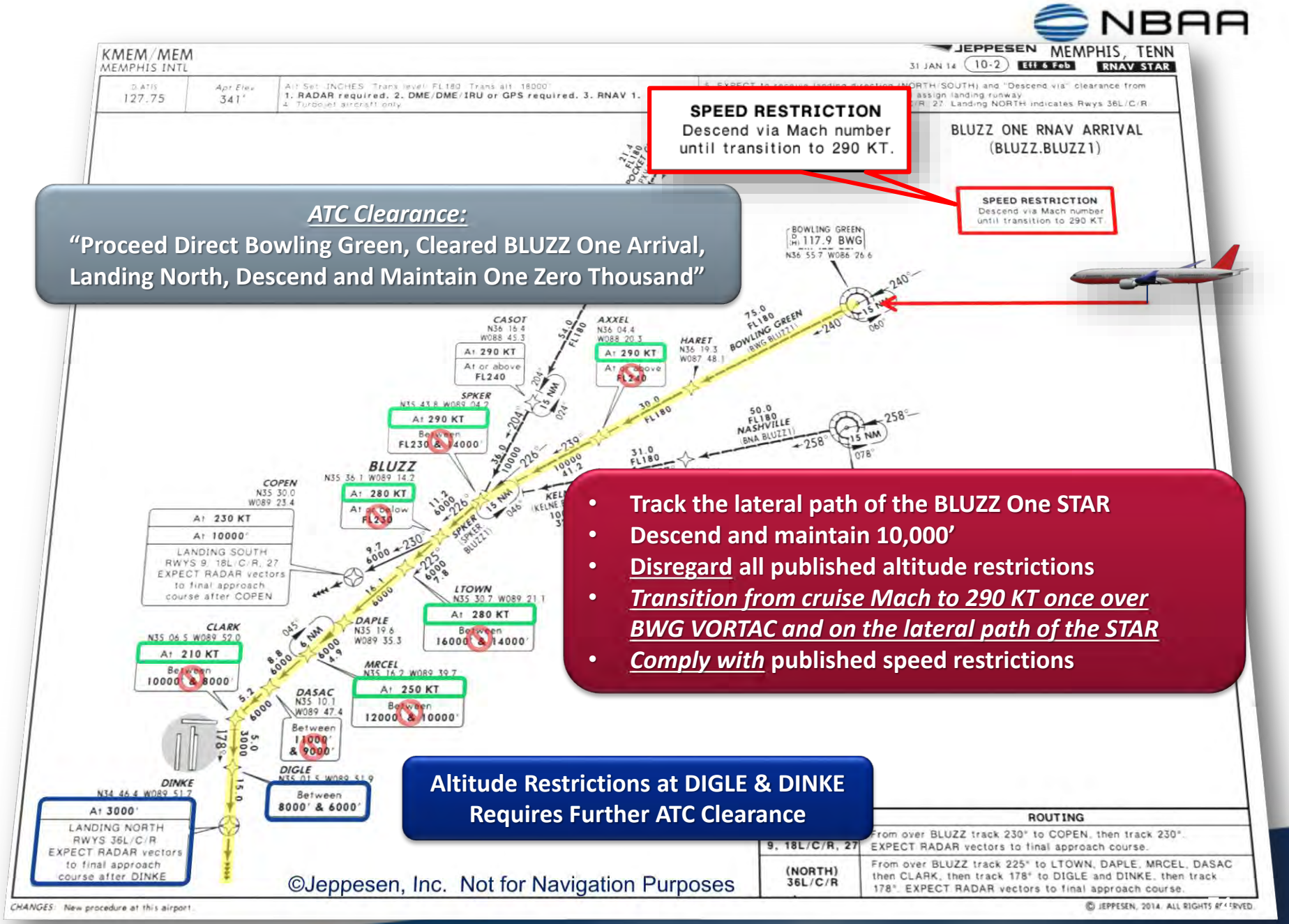
STARs

ATC Clearances

- Lateral/Routing Clearance:
  - "*Cleared TYLER One Arrival*"
    - **No descent authorized**
    - **Comply with published speed restrictions**
    - **Comply with the Mach to IAS transition note once established on the published lateral path of the STAR**
- Lateral Route & Unrestricted Descent:
  - *"Cleared TYLER One Arrival, Descend At Pilot's Discretion, Maintain One Zero Thousand"*
    - Initiate descent at pilot's discretion to 10,000'
    - All published altitude restrictions ***are canceled***
    - All published speed restrictions and the Mach to IAS transition note ***remain in effect***



- Track the lateral path of the BLUZZ One STAR
- Descend and maintain 10,000'
- Disregard all published altitude restrictions
- *Transition from cruise Mach to 290 KT once over BWG VORTAC and on the lateral path of the STAR*
- *Comply with* published speed restrictions

Altitude Restrictions at DIGLE & DINKE Requires Further ATC Clearance

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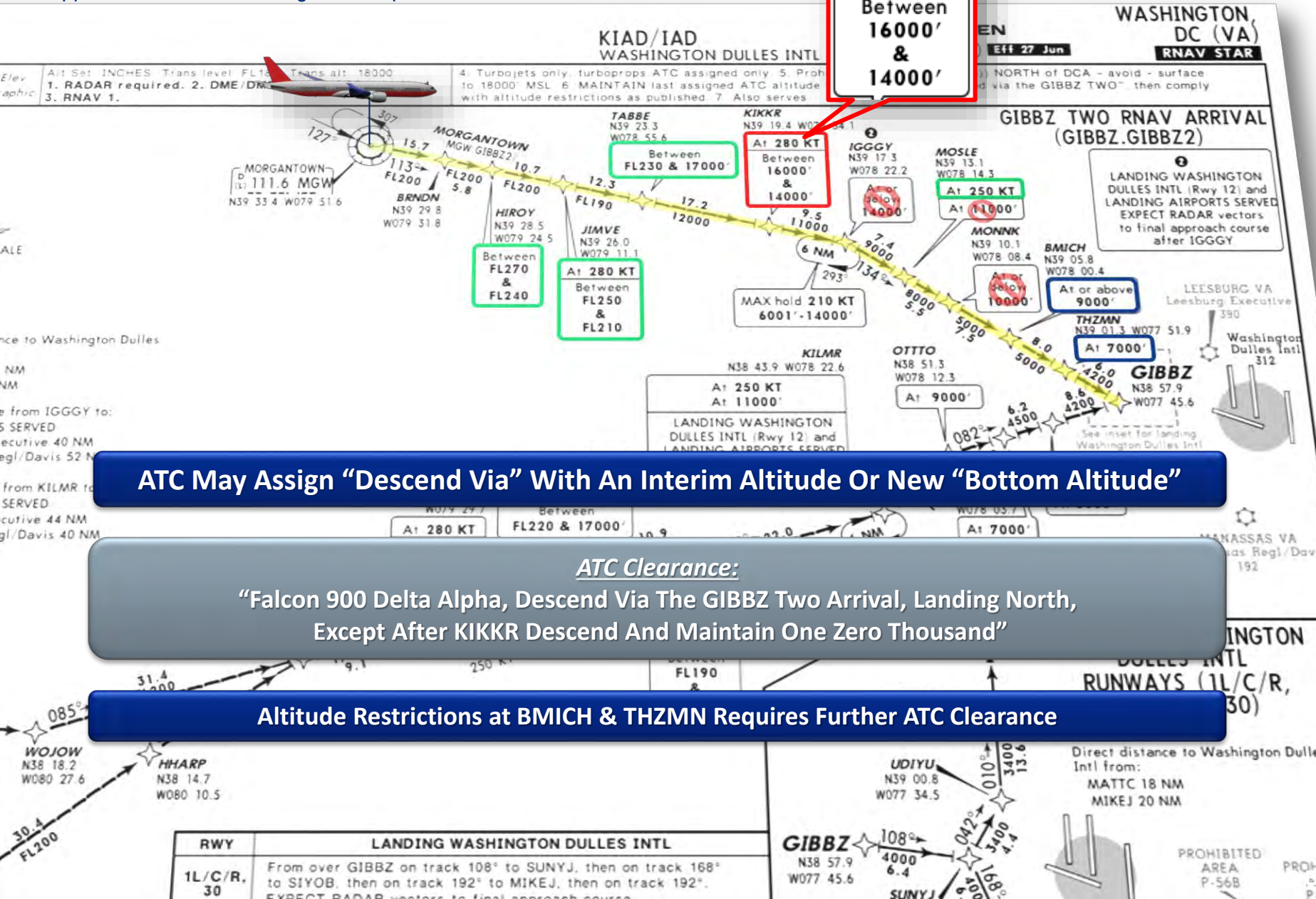


ATC May Assign "Descend Via" With An Interim Altitude Or New "Bottom Altitude"

ATC Clearance:

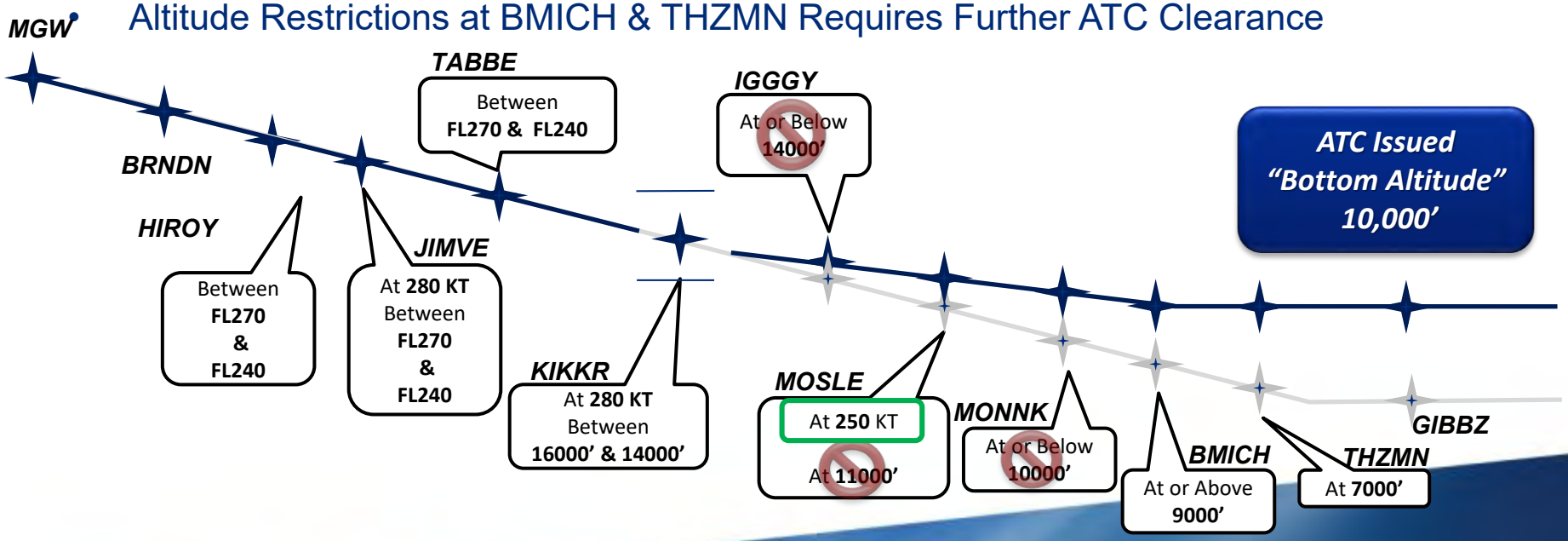
"Falcon 900 Delta Alpha, Descend Via The GIBBZ Two Arrival, Landing North, Except After KIKKR Descend And Maintain One Zero Thousand"

Altitude Restrictions at BMICH & THZMN Requires Further ATC Clearance

"Descend Via" With An Interim Altitude Or Revised Bottom Altitude

The Pilot Should:

- Track the lateral path of the GIBBZ2, Runway 1 Center transition
- Descend at pilot's discretion to comply with published altitude restrictions until KIKKR
- Then descend unrestricted and at a optimum rate to 10,000'
- Comply with all published speed restrictions (e.g., 250 KT at MOSLE)
- Altitude Restrictions at BMICH & THZMN Requires Further ATC Clearance



Pilot/Controller Initial Contact Phraseology

"Potomac Approach,
Falcon Nine Zero Zero Delta Alpha,
Leaving Flight Level Two Four Zero
For One Zero Thousand,
Descending Via The GIBBZ Two Arrival,
Landing North, Information Bravo"

"Falcon Nine Zero Zero Delta Alpha,
Potomac Approach,
Expect RNAV Zulu Runway One Center"

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ATC Intervention On A STAR

- ATC will issue an altitude to maintain and all appropriate altitude restrictions when the vector will take the aircraft off an assigned procedure that contains altitude instructions or the previously issued clearance included crossing restrictions
- ATC must advise the pilot what to expect when the vector is completed
- Phraseology:
  - *"Citation Two Charlie Alpha, Fly Heading Zero Niner Zero, Vector For Spacing, Descend And Maintain Flight Level Two Niner Zero, Expect To Resume The BRBBQ One Arrival"*
- Air traffic will assign an altitude to cross the waypoint/fix, if no altitude is depicted at the waypoint/fix, for aircraft on a direct routing to a STAR
- Air traffic must ensure obstacle clearance when issuing a "Descend Via" instruction to the pilot
- The chart note used to transition from Mach to IAS is canceled

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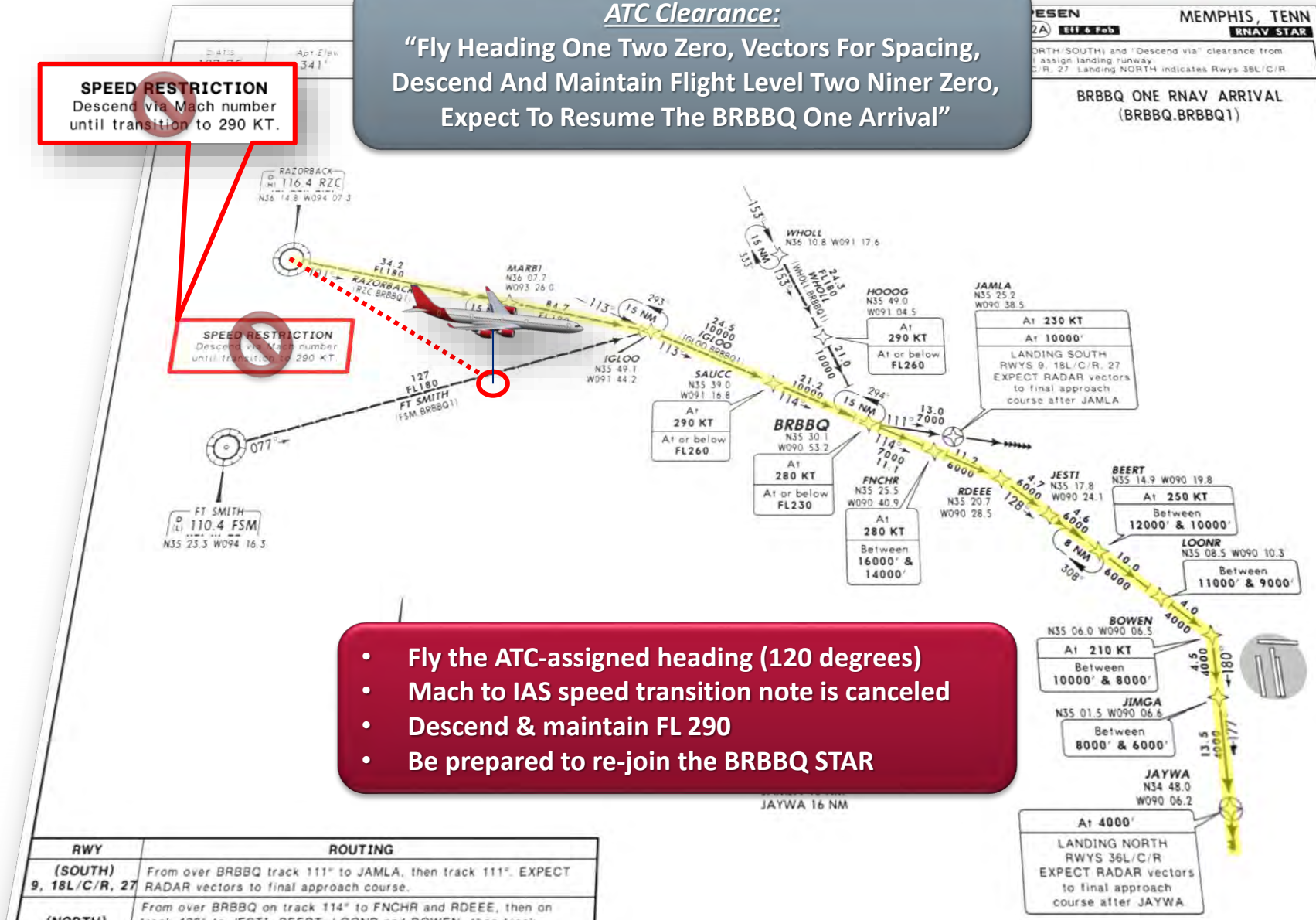
ATC Clearance:

"Fly Heading One Two Zero, Vectors For Spacing, Descend And Maintain Flight Level Two Niner Zero, Expect To Resume The BRBBQ One Arrival"

SPEED RESTRICTION
Descend via Mach number until transition to 290 KT.



- Fly the ATC-assigned heading (120 degrees)
- Mach to IAS speed transition note is canceled
- Descend & maintain FL 290
- Be prepared to re-join the BRBBQ STAR

RWY	ROUTING
(SOUTH) 9, 18L/C/R, 27	From over BRBBQ track 111° to JAMLA, then track 111°. EXPECT RADAR vectors to final approach course.
(NORTH) 36L/C/R	From over BRBBQ on track 114° to FNCHR and RDEEE, then on track 128° to JESTI, BEERT, LOONR and BOWEN, then track 180° to JIMGA, track 177° to JAYWA, then track 177°. EXPECT RADAR vectors to final approach course.

CHANGES: New procedure at this airport.

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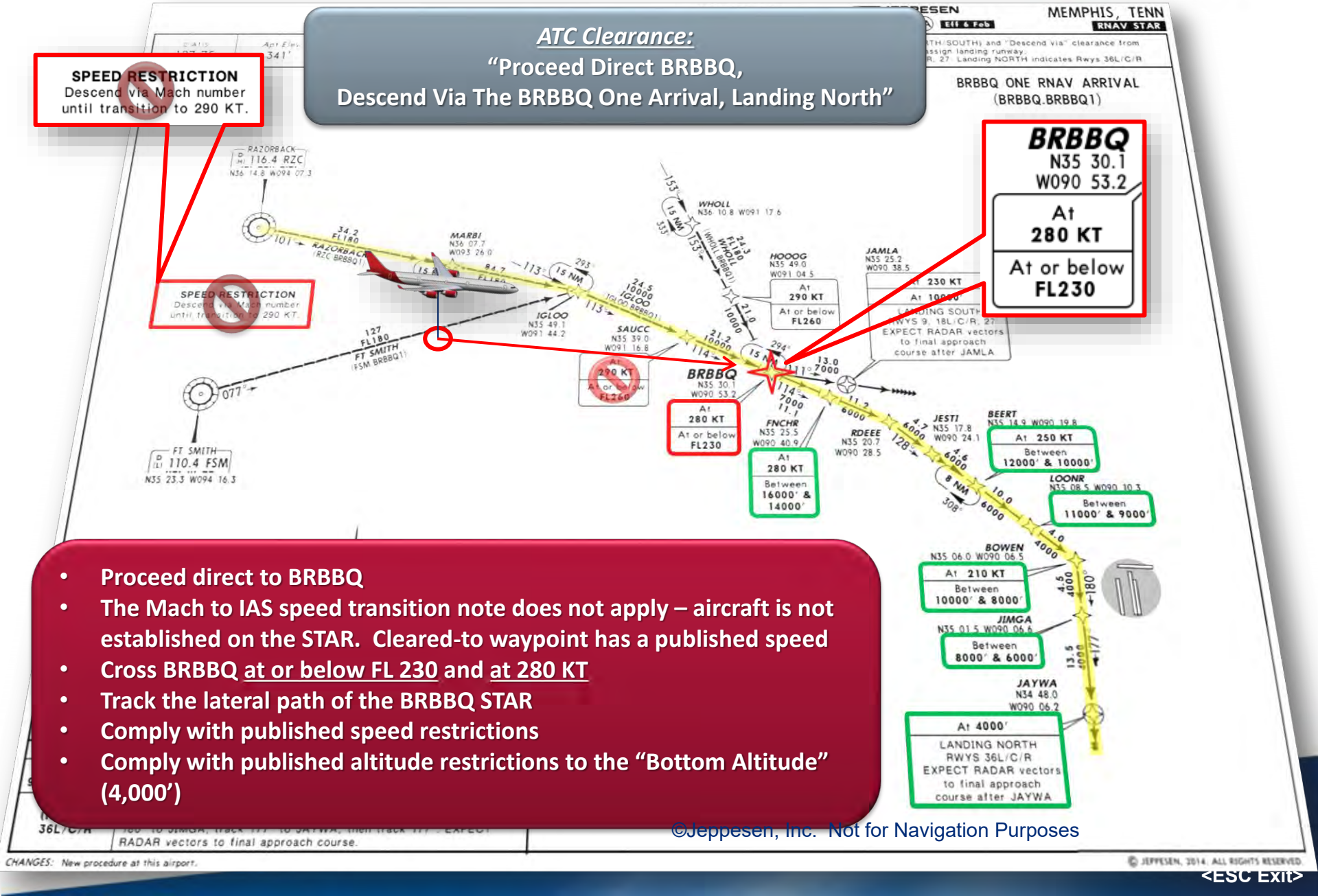

- Proceed direct to BRBBQ
- The Mach to IAS speed transition note does not apply – aircraft is not established on the STAR. Cleared-to waypoint has a published speed
- Cross BRBBQ at or below FL 230 and at 280 KT
- Track the lateral path of the BRBBQ STAR
- Comply with published speed restrictions
- Comply with published altitude restrictions to the "Bottom Altitude" (4,000')

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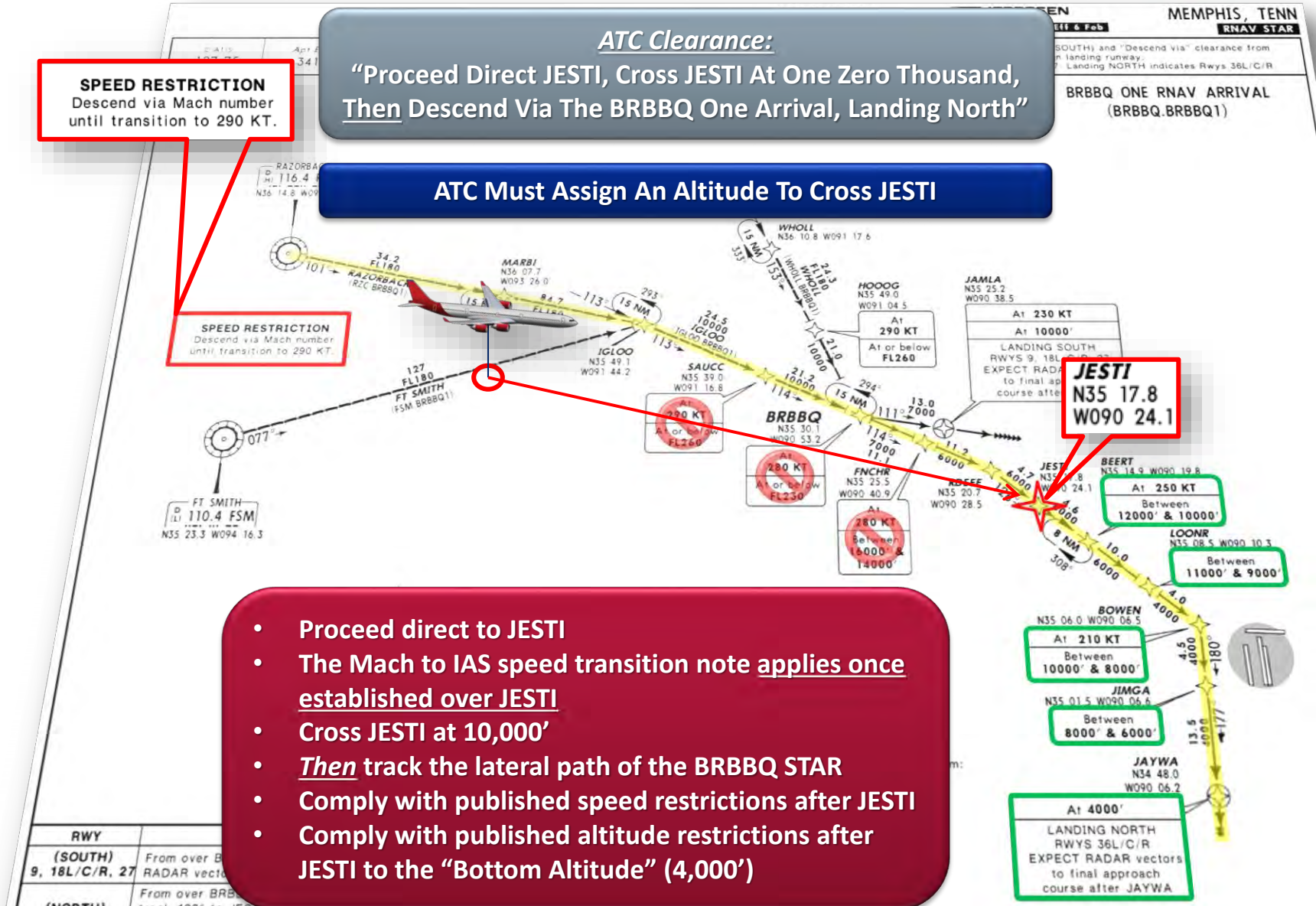

- Proceed direct to JESTI
- The Mach to IAS speed transition note applies once established over JESTI
- Cross JESTI at 10,000'
- *Then* track the lateral path of the BRBBQ STAR
- Comply with published speed restrictions after JESTI
- Comply with published altitude restrictions after JESTI to the "Bottom Altitude" (4,000')

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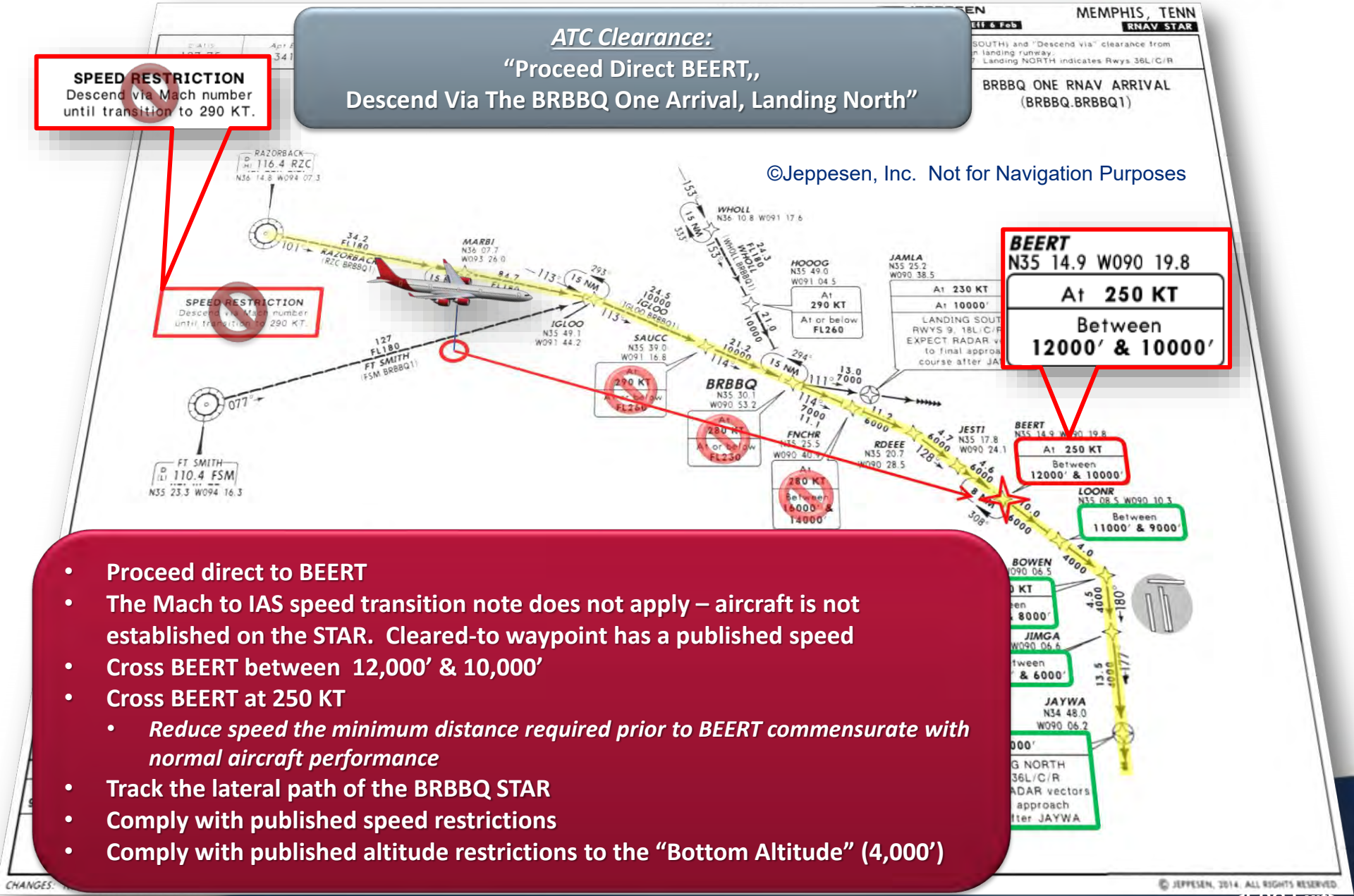

- Proceed direct to BEERT
- The Mach to IAS speed transition note does not apply – aircraft is not established on the STAR. Cleared-to waypoint has a published speed
- Cross BEERT between 12,000' & 10,000'
- Cross BEERT at 250 KT
  - *Reduce speed the minimum distance required prior to BEERT commensurate with normal aircraft performance*
- Track the lateral path of the BRBBQ STAR
- Comply with published speed restrictions
- Comply with published altitude restrictions to the "Bottom Altitude" (4,000')

Weather Deviation

Established on a STAR with a Descend Via Clearance

- If a deviation from the lateral track of a STAR is requested & approved by ATC for any reason, the descend via clearance is canceled.
  - (e.g. for weather),
- If ATC does not assign an altitude to maintain with approval to deviate from the STAR's lateral track, pilots should request an altitude to maintain from the controller.
- Published speed restrictions on the STAR, including a Mach-to-IAS speed transition chart note, are canceled. ATC must re-issue any applicable speed restrictions.

"Forth Worth Center, American 123, unable descend via, request an altitude to maintain in the descent"

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Speed Restrictions Published On A STAR

- When otherwise cleared along a route or procedure that contains published speed restrictions, the pilot must comply with those speed restrictions **independent of a "Descend Via" or "Descend & Maintain" clearance**
- ATC anticipates pilots will begin adjusting speed the minimum distance necessary prior to a published speed restriction, commensurate with normal aircraft deceleration, to cross the waypoint/fix at the published speed
- Once at the published speed, ATC expects pilots will maintain the published speed until additional adjustment is required to comply with further published or ATC assigned speed restrictions or as required to ensure compliance with 14 CFR Section 91.117
- If vectored off of a STAR route segment where published speeds apply, these published speeds including the Mach-to-IAS speed transition chart note are cancelled, and speed is at pilot's discretion unless ATC has assigned a speed
- Absent any qualifying instructions, issuance of a "Descend Via" clearance cancels a previously issued ATC speed adjustment and provides pilot discretion to adjust speed while requiring compliance with upcoming restrictions
- ATC may require compliance with previously issued speed adjustments using phraseology:
  - *"Proceed to (WP name), then descend via...",*
  - *"Maintain (speed) until (WP name), then descend via..."*
  - *"Cross (WP name) at (speed) then descend via...."*
- Where there are no upcoming speed restrictions, issuance of a *"Proceed direct (WP name), descend via ...."* cancels a previously issued speed adjustment and authorizes speed at pilot's discretion as appropriate for the phase of flight, ensuring compliance with 14 CFR 91.117

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DESCEND VIA ARRIVAL PHRASEOLOGY

PHASE OF FLIGHT		SCENARIO	CONTROLLER		PILOT	
			ACTION	PHRASEOLOGY	ACTION	PHRASEOLOGY
ENROUTE		STAR was filed IFR flight plan & aircraft was cleared "as filed."	• None required.	NA	• Track the lateral path of the STAR. • Comply with published speed restrictions. • Maintain last assigned altitude.	NA
		Assign a STAR to an IFR aircraft.	• Clear aircraft to a fix on STAR, if required. • Assign the STAR.	*[A]merican Two, Proceed Direct Charleston VORTAC, Cleared TYLER Two Arrival.[1]*	• Track the lateral path of the STAR. • Comply with published speed restrictions. • Maintain last assigned altitude.	*[A]merican Two, Proceed Direct Charleston VORTAC, Cleared TYLER Two Arrival.[1]*
DESCENT	ALTITUDE	Initiate a descent to an aircraft on a STAR. Issue descent at pilot's discretion, if required.	• Issue the altitude to maintain. • Issue the altitude to maintain with descent at pilot's discretion.	*American Two Descend Now To Flight Level Three One Zero, Then Descend at Pilot's Discretion Maintain Flight Level Two Four Zero.[1]*	• Track the lateral path of the STAR. • Comply with published speed restrictions. • Begin descend now to FL 310. • Then, descend at pilot's discretion to FL 240.	*[A]merican Two, Descend Now To Flight Level Three One Zero, Then Descend at Pilot's Discretion Maintain Flight Level Two Four Zero.[1]*
		[ENROUTE CONTROLLER] Instruct an aircraft to descend and comply with all restrictions published on a STAR.	• Instruct aircraft to descend via the STAR. • Advise of landing direction, if applicable.	*[A]merican Two, Descend Via The TYLER Two Arrival, Landing North[1]*	• Track the lateral path of the STAR. • Comply with published speed restrictions. • Descend at pilot's discretion from the last assigned altitude to comply with all published altitude restrictions.	*[A]merican Two, Descend Via, The TYLER Two Arrival, Landing North[1]*
		[TERMINAL CONTROLLER] Instruct an aircraft to descend and comply with all restrictions published on a STAR.	• Instruct aircraft to descend via the STAR. • Advise of landing runway, if applicable.	*[A]merican Two, Descend Via The TYLER Two Arrival, Runway One Center[1]*	• Track the lateral path of the STAR. • Comply with published speed restrictions. • Descend at pilot's discretion from the last assigned altitude to comply with all published altitude restrictions.	*[A]merican Two, Descend Via, The TYLER Two Arrival, Runway One Center[1]*
		Assign a waypoint altitude restriction, and then instruct an aircraft to descend and comply with all restrictions published on a STAR.	• Issue the altitude crossing clearance. • Then, instruct aircraft to descend via the STAR.	*[A]merican Two, Cross GARYM At Flight Level Two Four Zero, Then Descend Via The TYLER Two Arrival.[1]*	• Track the lateral path of the STAR. • Comply with published speed restrictions. • Descend at pilot's discretion to cross GARYM at FL 240. • Then, descend at pilot's discretion to comply with all published altitude restrictions.	*[A]merican Two, Cross GARYM At Flight Level Two Four Zero, Then Descend Via The TYLER Two Arrival[1]*
		Instruct an aircraft to descend and comply with all restrictions published on a STAR, but assign "Bottom Altitude" that differs from that published on the STAR.	• Instruct aircraft to descend via the STAR. • Specify the fix after which the new "Bottom Altitude will apply. • There should be no published altitude restrictions between this fix and the new "Bottom Altitude". • Assign the new "Bottom Altitude".	*[A]merican Two Descend Via The TYLER Two Arrival Except After ARGHI Maintain Seven Thousand.[1]*	• Track the lateral path of the STAR. • Comply with published speed restrictions. • Comply with published altitude restrictions until ARGHI, then descend & maintain the ATC-assigned "Bottom Altitude".	*American Two, Descend Via The TYLER Two Arrival Except After ARGHI Maintain Seven Thousand.[1]*
		Instruct an aircraft to descend and comply with all restrictions published on a STAR, but assign an altitude restriction at a waypoint that differs from that published at that waypoint on the STAR.	• Instruct aircraft to descend via the STAR. • Amend the waypoint's altitude restriction.	*[A]merican Two, Descend Via The TYLER Two Arrival, Except Cross ARGHI At One Zero Thousand.[1]*	• Track the lateral path of the STAR. • Comply with published speed restrictions. • Comply with published altitude restrictions except cross ARGH at the ATC-assigned altitude.	*[A]merican Two, Descend Via The TYLER Two Arrival, Except Cross ARGHI At One Zero Thousand[1]*

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DESCEND VIA ARRIVAL PHRASEOLOGY

PHASE OF FLIGHT		SCENARIO	CONTROLLER		PILOT	
			ACTION	PHRASEOLOGY	ACTION	PHRASEOLOGY
DESCENT	SPEED	Instruct an aircraft to descend and comply with altitude restrictions published on a STAR, but issue a speed to maintain during the descent.	• Instruct aircraft to descend via the STAR. • Issue a speed to be maintained in the descent.	"American Two, Descend Via The TYLER Two Arrival, Landing North, Except Maintain Three Zero Zero Knots."	• Track the lateral path of the STAR. • Descend at pilot's discretion from the last assigned altitude to comply with all published altitude restrictions. • Delete speed restrictions published on the STAR. • Maintain speed 300 KIAS until required to slow to 250 KIAS below 10,000' (ref 14 CFR 91.117).	"American Two, Descend Via The TYLER Two Arrival Landing North, Except Maintain Three Zero Zero Knots."
		Issue an altitude to cross a waypoint, then instruct aircraft to descend and comply with the altitude restrictions published on the STAR, but assign a speed to maintain instead of complying with the published speed restrictions on the STAR.	• Assign the waypoint's altitude restriction. • Then, instruct aircraft to descend via the STAR. • Issue the speed to be maintained.	"American Two, Cross LIMOND At Or Above One Seven Thousand, Then Descend Via TYLER Two Arrival, Except Maintain Three Zero Zero Knots"	• Track the lateral path of the STAR. • Cross LIMOND at 17,000', • Then descend at pilot's discretion to comply with all published altitude restrictions. • Delete speed restrictions published on the STAR. • Maintain speed 300 KIAS until required to slow to 250 KIAS below 10,000' (ref 14 CFR 91.117).	"American Two, Cross LIMOND At Or Above One Seven Thousand, Then Descend Via TYLER Two Arrival, Except Maintain Three Zero Zero Knots"
	ROUTE	ATC must vector an aircraft away from the lateral path of a STAR with altitude restrictions.	• Assign a heading to maintain. • State the purpose of the vector. • Assign an altitude to maintain. • Advise pilot to expect to resume STAR.	"American Two, Fly Heading Zero Niner Zero, Vectors For Spacing. Descend And Maintain Niner Thousand. Expect to resume the TYLER Two Arrival"	• Fly heading 090. • Descend and maintain 9,000' • Be prepared to resume the TYLER Two STAR. Do not sequence FMS beyond the STAR.	"American Two, Fly Heading Zero Niner Zero. Descend And Maintain Niner Thousand."
		Clear an aircraft to re-join the STAR at a waypoint with a published altitude restriction, then instruct the aircraft to descend and comply with all published restrictions on the STAR.	• Clear the aircraft to the waypoint with a published altitude restriction. • Instruct aircraft to descend via the STAR. • Ensure obstacle clearance until the aircraft is established on the lateral and vertical path of the STAR.	"American Two, Proceed Direct GARYY, Descend Via TYLER Two Arrival"	• Proceed direct to GARYY & resume the STAR. • Comply with any speed restriction, if published, at GARYY. • Descend at pilot's discretion to comply with the altitude restriction published at GARYY. • Descend & comply with all restrictions published on the remainder of the STAR.	"American Two, Proceed Direct GARYY, Descend Via TYLER Two Arrival"
		Clear an aircraft to re-join the STAR at a waypoint that does not have a published altitude restriction, then instruct the aircraft to descend and comply with all published restrictions on the STAR.	• Clear the aircraft to the waypoint. • Assign an altitude to cross the waypoint. • Then, instruct aircraft to descend via the STAR. • Ensure obstacle clearance until the aircraft is established on the lateral and vertical path of the STAR.	"American Two, Proceed Direct BTOWN, Cross BTOWN At Or Above One Zero Thousand, Then Descend Via TYLER Two Arrival"	• Proceed direct to BTOWN & resume the STAR. • Comply with any speed restriction, if published, at BTOWN. • Descend at pilot's discretion to cross BTOWN at or above 10,000'. • Then, descend & comply with all restrictions published on the remainder of the STAR.	"American Two, Proceed Direct BTOWN, Cross BTOWN At Or Above One Zero Thousand, Then Descend Via TYLER Two Arrival"
	GENERAL	Aircraft has been issued a descend via clearance with no change to the STAR's "Bottom Altitude". Aircraft is making the initial contact following a frequency change.	NA	NA	NA	"American Two, Flight Level One Eight Zero, Descending Via The TYLER Two Arrival, Landing North."
		Aircraft has been issued a descend via clearance but with an ATC-assigned "Bottom Altitude" of 7,000'. Aircraft is making the initial contact following a frequency change.	NA	NA	NA	"American Two, Flight Level One Eight Zero For Seven Thousand, Descending Via The TYLER Two Arrival, Landing North."

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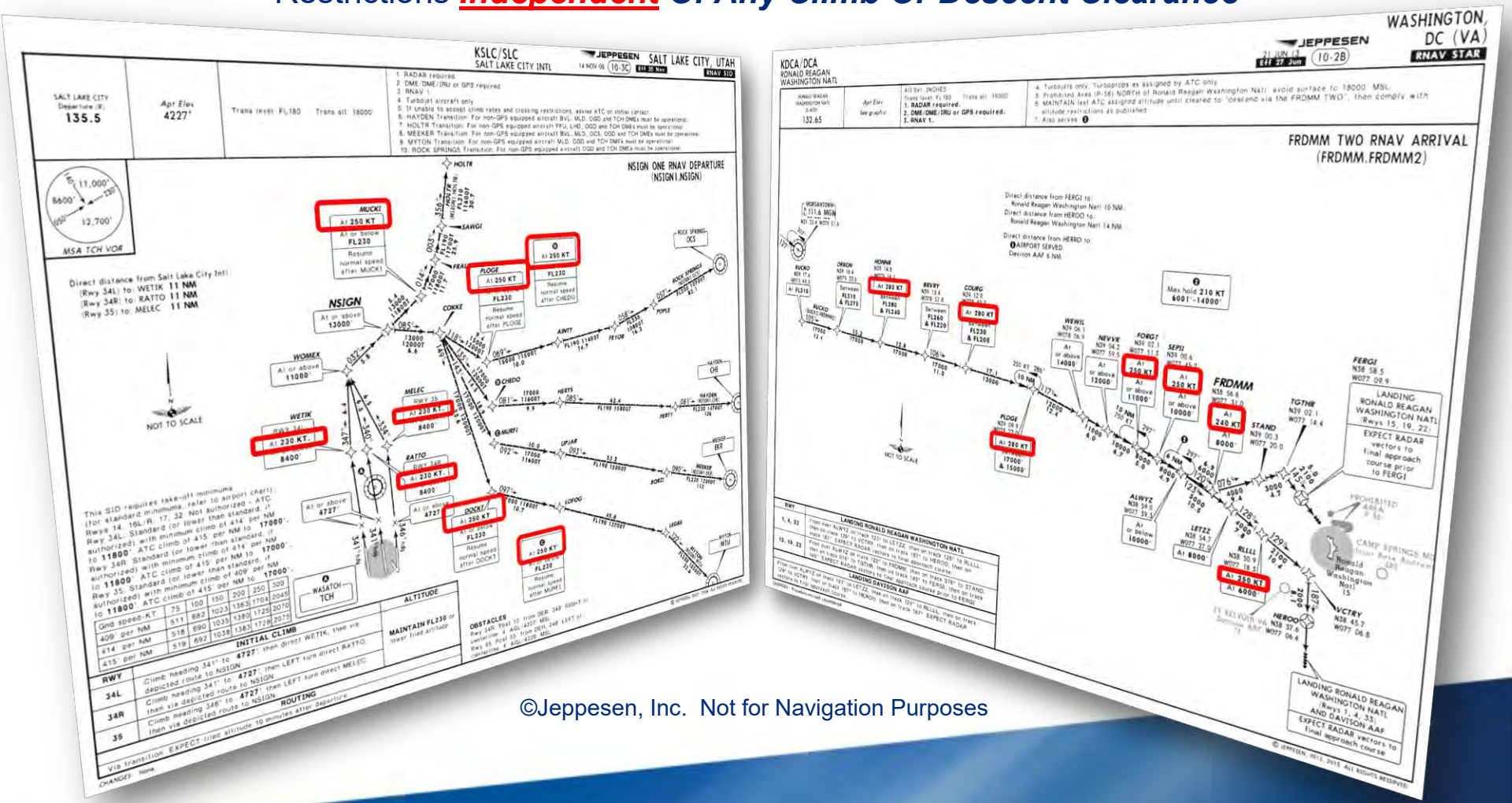
Published Speeds On SIDs & STARs

Unless Otherwise Assigned By ATC, Pilots Must Comply With Published Speed Restrictions ***Independent*** ***Of Any Climb Or Descent Clearance***



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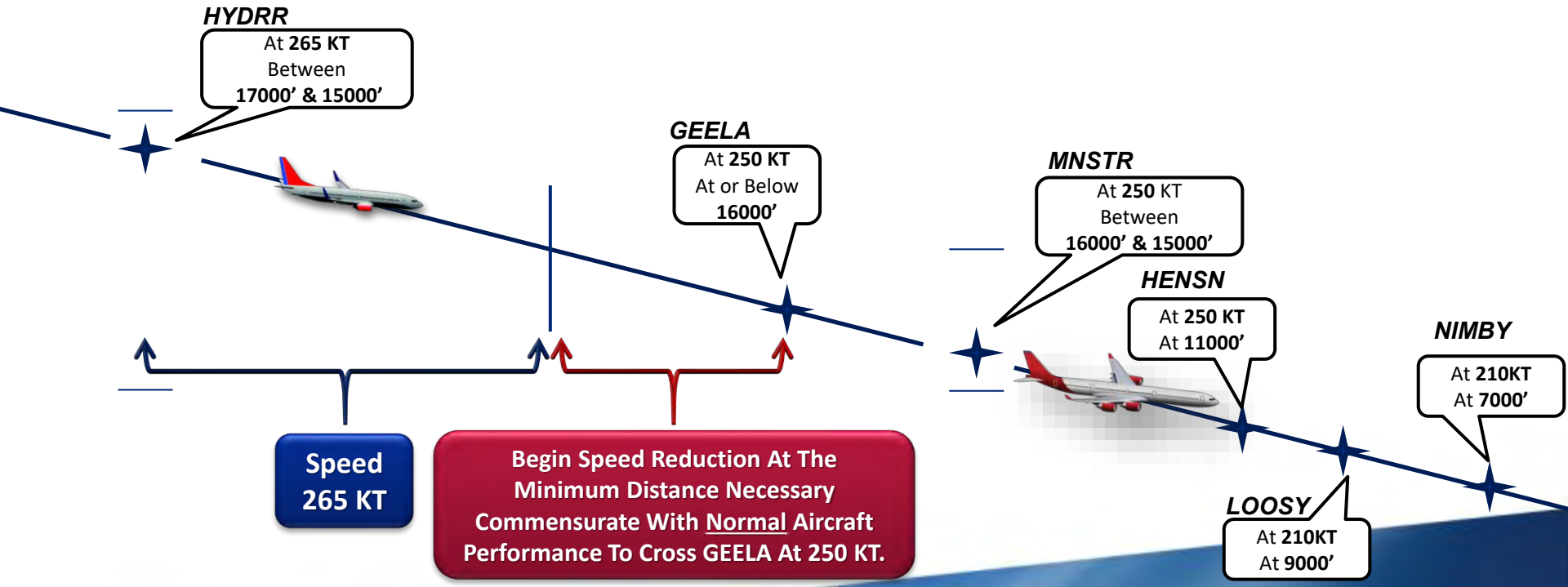
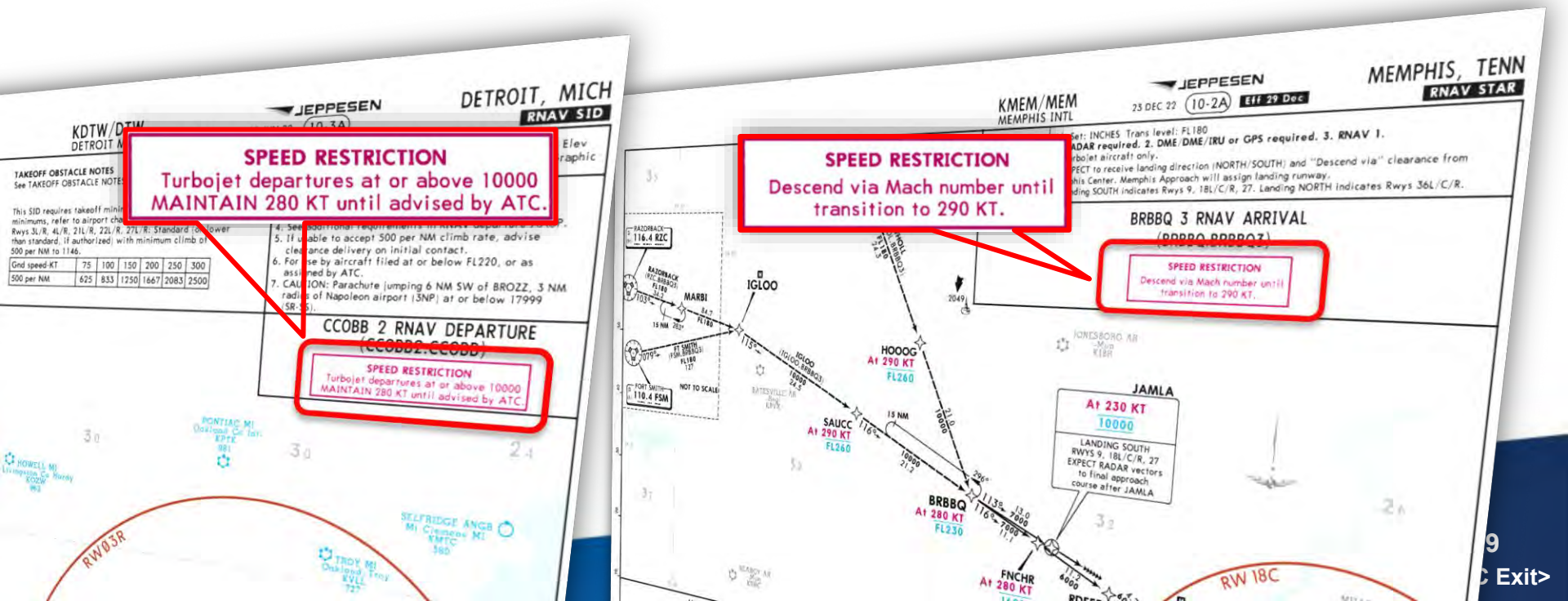
SID & STAR Published Speed Restrictions

- Strict compliance with published speed restrictions is necessary to maintain lateral & longitudinal spacing and to prevent “compression” of the sequential aircraft flow
- Where a speed reduction is required, ATC anticipates pilots will begin adjusting speed the minimum distance necessary, commensurate with normal aircraft performance, prior to a published speed restriction so as to cross the waypoint/fix at the published speed
- Once at the published speed, ATC expects pilots will maintain the published speed until additional adjustment is required to comply with further published or ATC assigned speed restrictions or as required to ensure compliance with 14 CFR Section 91.117



Speed Chart Notes

- Speed Restrictions chart notes on SIDs and Mach-to-IAS Speed Transition charts notes on STARs apply only while the aircraft is established on the lateral path of the SID or STAR.
- If ATC vectors the aircraft off of the procedure, they must assign a speed to maintain. Otherwise, speed is at the pilot's discretion.



Speed Adjustments

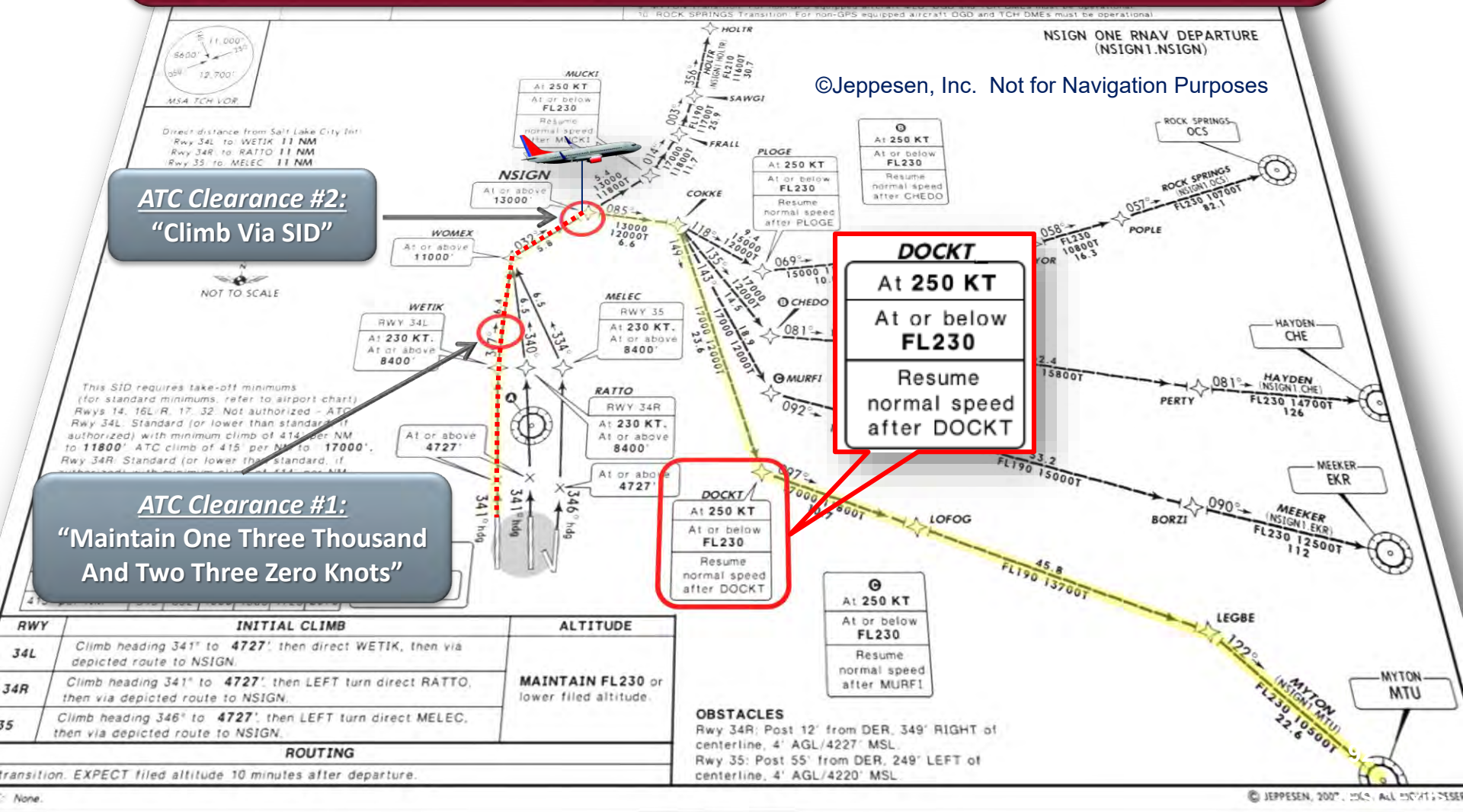
- However, ATC may issue speed adjustments to address tactical requirements necessary for the separation & spacing of aircraft
- ATC uses the phraseology "*Maintain (Speed) Knots*" to assign a speed to be maintained:
  - *"Learjet Four Five Lima Juliet, Maintain Two Five Zero Knots"*
- It is recommended that pilots provide the ATC-assigned speed on subsequent frequency changes
  - (ref: AIM 4-4-12. Speed Adjustments)
- ATC-assigned speeds remain in effect until canceled by ATC
- When issuing speed adjustments to aircraft cleared on procedures with published speed restrictions, ATC will specify the point at which the issued restriction ***begins, ends, or changes*** the published restrictions using the methods described on the following slides to cancel or amend speed assignments

Phraseology

"Climb Via" & "Descend Via"

- Absent any qualifying instructions, issuance of a climb or descend via clearance **cancels** a previously issued **ATC speed** adjustment and provides pilot discretion to adjust speed while requiring compliance with upcoming restrictions'
- ATC **may require** compliance with previously issued speed adjustments using phraseology such as
  - *"Proceed To (WP Name), Then Climb/Descend Via..."*
  - *"Maintain (Speed) Until (WP Name), Then Climb/Descend Via..."*
  - *"Cross (WP Name) At (Speed) Then Climb/Descend Via...."*
- Where there are no upcoming speed restrictions, issuance of a *"Proceed Direct (WP Name), Climb/Descend Via ...."* cancels a previously issued speed adjustment and authorizes speed at pilot's discretion as appropriate for the phase of flight, ensuring compliance with 14 CFR 91.117

- Resume climb & comply with published altitude restrictions to the “Top Altitude” (FL 230)
- The last ATC-assigned speed (230 KT) is canceled
- Pilot may adjust speed at their discretion in compliance with 14 CFR 91.117, not to exceed the 250 KT speed restriction at DOCKT



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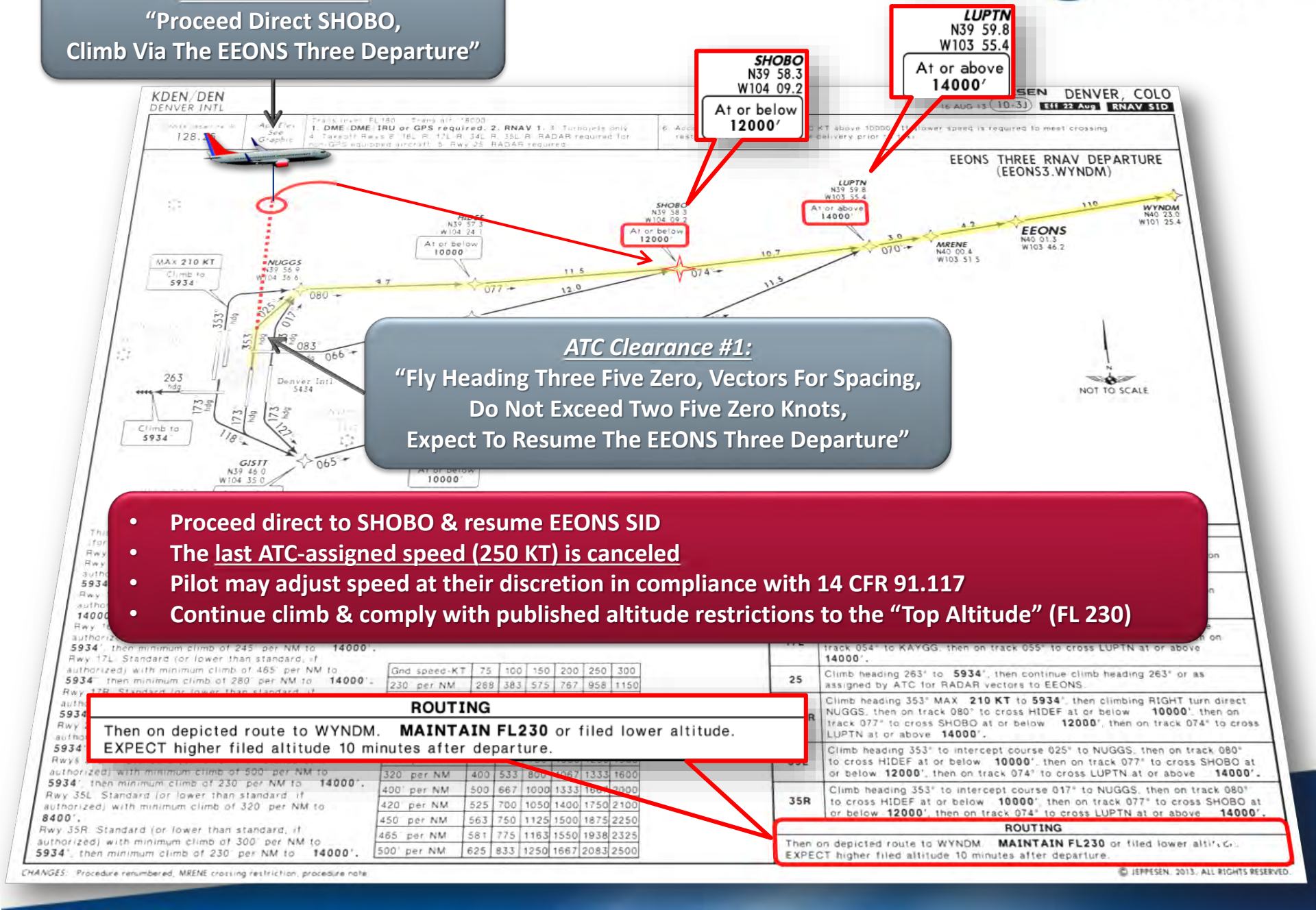
ATC Clearance #2:
**"Proceed Direct SHOBO,
Climb Via The EEONS Three Departure"**



ATC Clearance #1:
**"Fly Heading Three Five Zero, Vectors For Spacing,
Do Not Exceed Two Five Zero Knots,
Expect To Resume The EEONS Three Departure"**

- **Proceed direct to SHOBO & resume EEONS SID**
- **The last ATC-assigned speed (250 KT) is canceled**
- **Pilot may adjust speed at their discretion in compliance with 14 CFR 91.117**
- **Continue climb & comply with published altitude restrictions to the "Top Altitude" (FL 230)**

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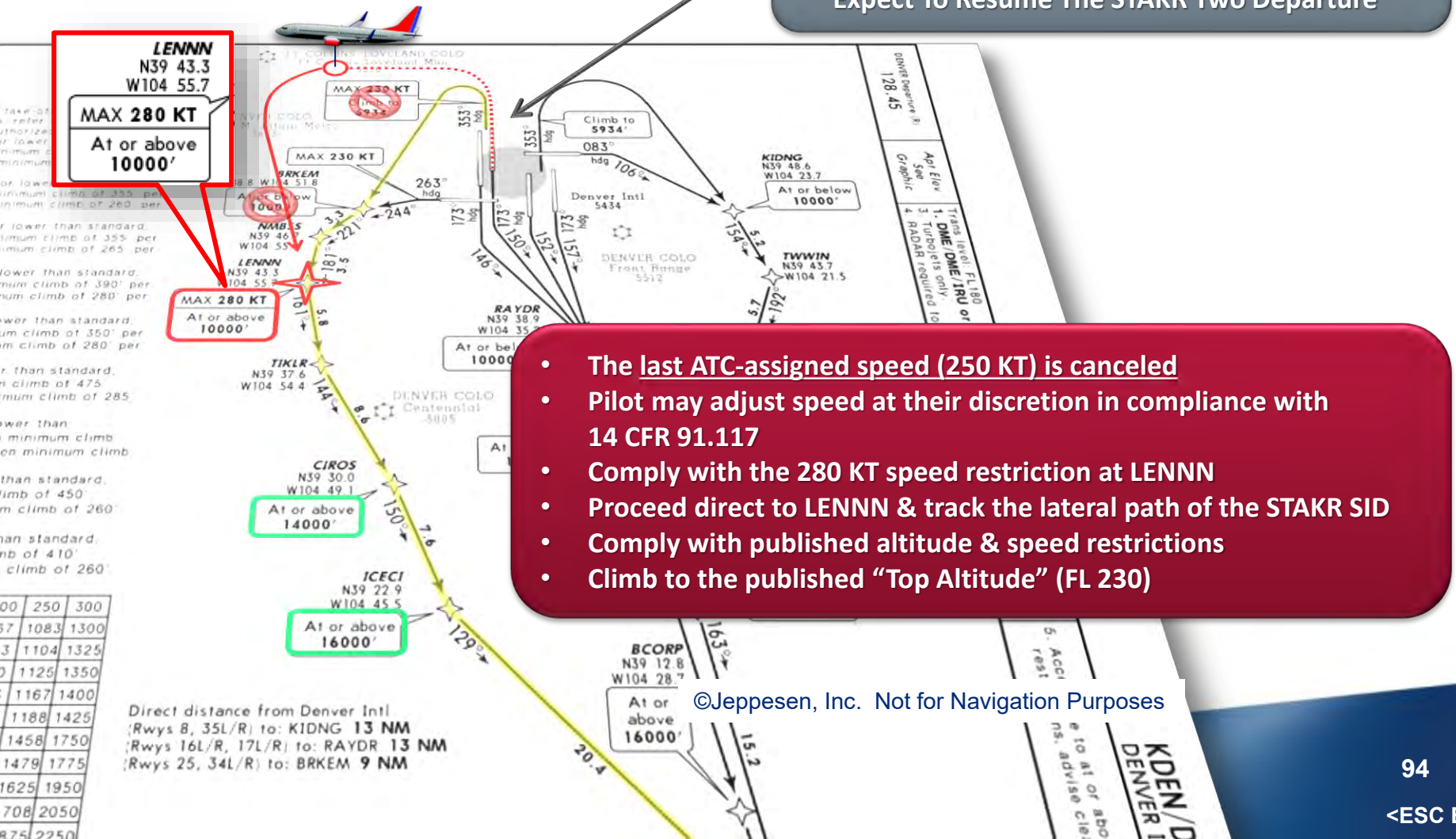
ATC Clearance #2:
**"Proceed Direct LENNN,
Climb Via The STAKR Two Departure"**

ATC Clearance #1:
**"Fly Heading Two Seven Zero, Vectors for Spacing,
Maintain Two Five Zero Knots,
Expect To Resume The STAKR Two Departure"**



- The last ATC-assigned speed (250 KT) is canceled
- Pilot may adjust speed at their discretion in compliance with 14 CFR 91.117
- Comply with the 280 KT speed restriction at LENNN
- Proceed direct to LENNN & track the lateral path of the STAKR SID
- Comply with published altitude & speed restrictions
- Climb to the published "Top Altitude" (FL 230)

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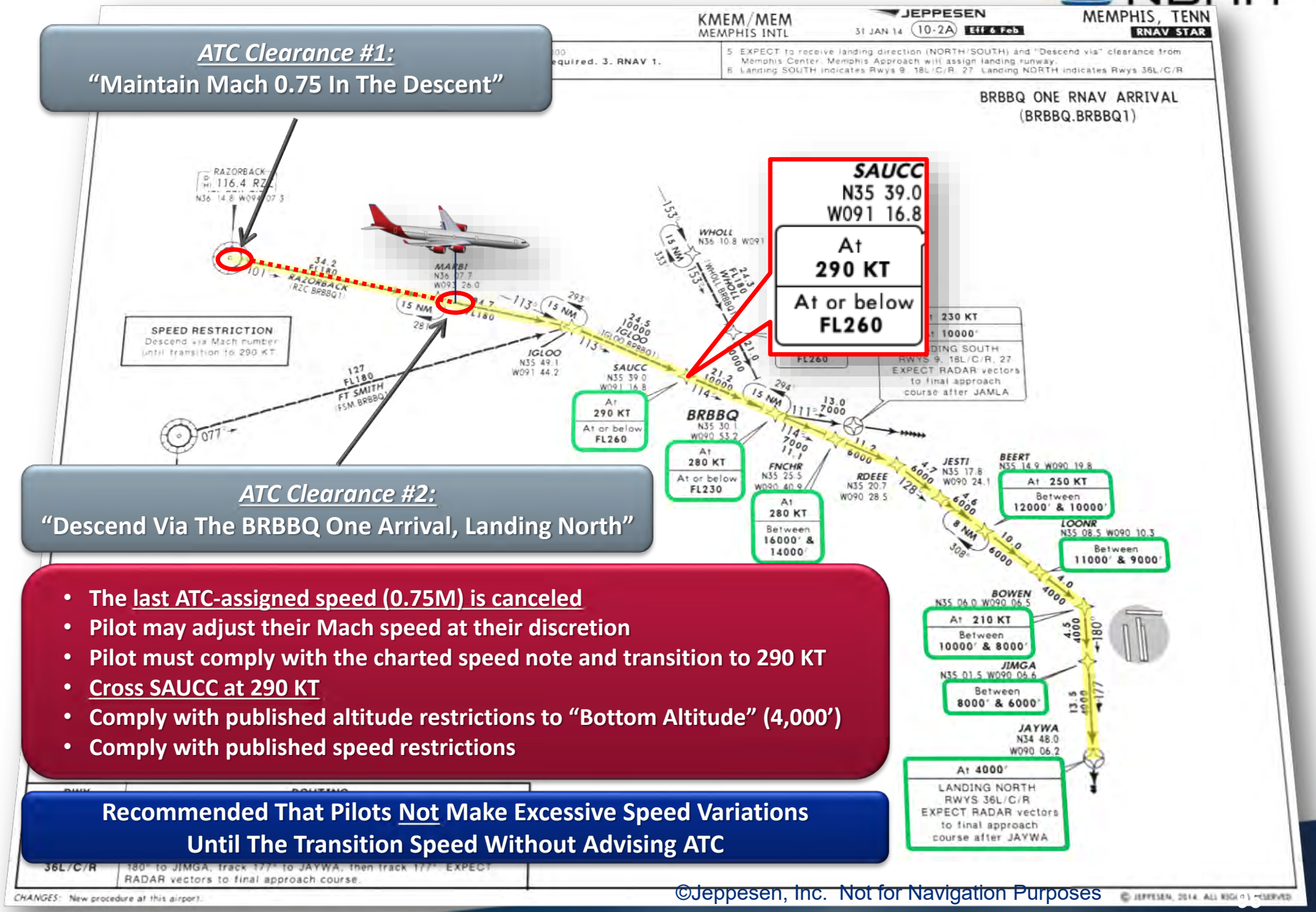

ATC Clearance #1:
"Maintain Mach 0.75 In The Descent"

ATC Clearance #2:
"Descend Via The BRBBQ One Arrival, Landing North"

- **The last ATC-assigned speed (0.75M) is canceled**
- **Pilot may adjust their Mach speed at their discretion**
- **Pilot must comply with the charted speed note and transition to 290 KT**
- **Cross SAUCC at 290 KT**
- **Comply with published altitude restrictions to "Bottom Altitude" (4,000')**
- **Comply with published speed restrictions**

Recommended That Pilots Not Make Excessive Speed Variations Until The Transition Speed Without Advising ATC

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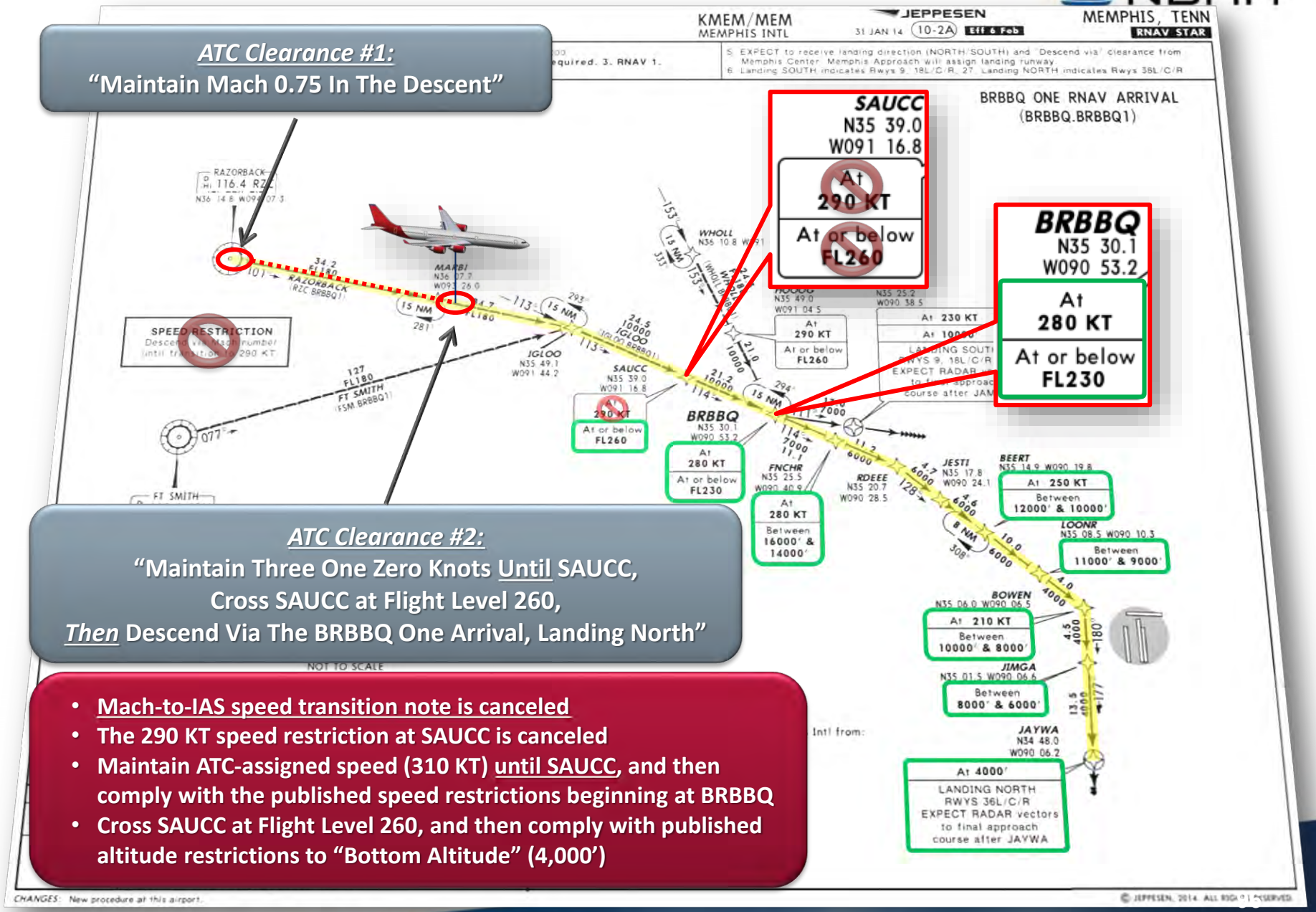


ATC Clearance #1:
"Maintain Mach 0.75 In The Descent"

ATC Clearance #2:
**"Maintain Three One Zero Knots Until SAUCC,
Cross SAUCC at Flight Level 260,
Then Descend Via The BRBBQ One Arrival, Landing North"**

- **Mach-to-IAS speed transition note is canceled**
- **The 290 KT speed restriction at SAUCC is canceled**
- **Maintain ATC-assigned speed (310 KT) until SAUCC, and then comply with the published speed restrictions beginning at BRBBQ**
- **Cross SAUCC at Flight Level 260, and then comply with published altitude restrictions to "Bottom Altitude" (4,000')**

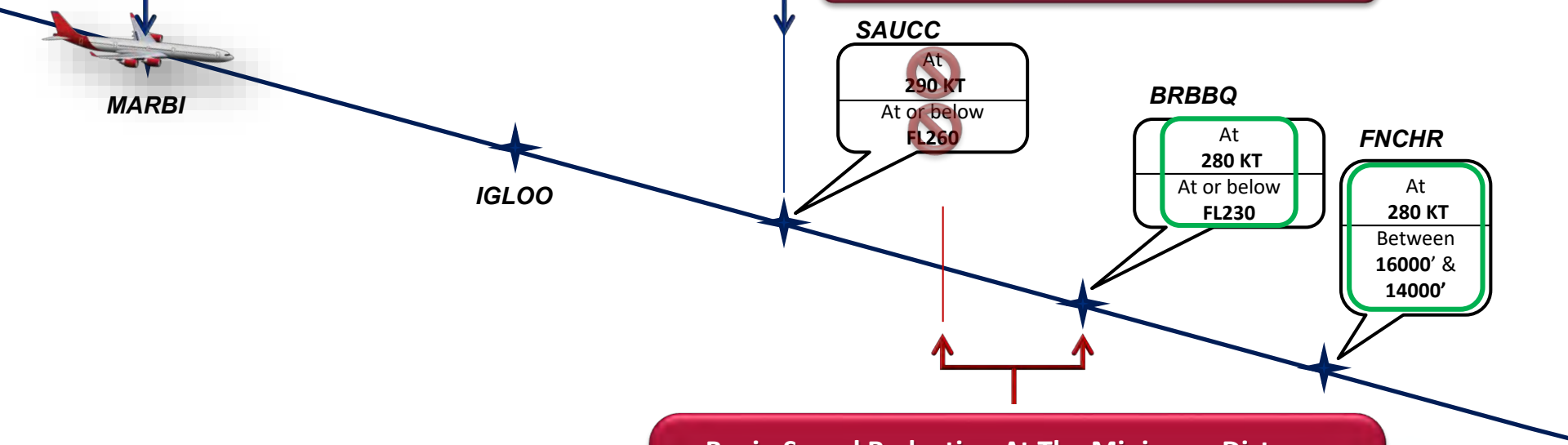
NBAA

ATC Clearance #2:
**"Maintain Three One Zero Knots Until SAUCC,
Cross SAUCC at Flight Level 260,
Then Descend Via The BRBBQ One Arrival, Landing North"**

**ATC-Assigned Speed
310 KT Until SAUCC**

Speed Restriction at SAUCC is Canceled

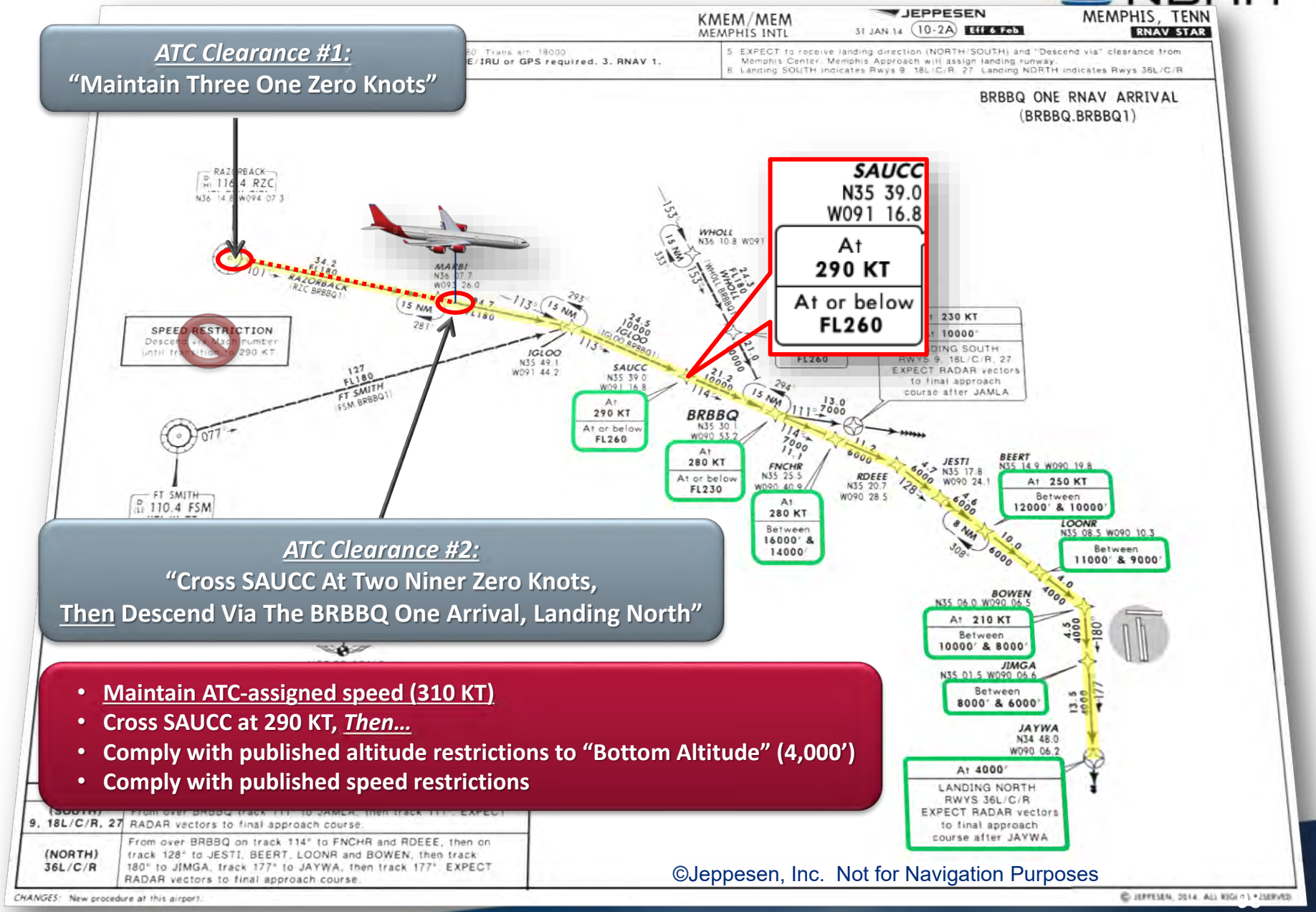
Cross SAUCC at FL 260, Then Descend Via the BRBBQ One STAR



Begin Speed Reduction At The Minimum Distance Necessary Commensurate With Normal Aircraft Performance To Comply With The Next Published Speed Restriction (BRBBQ At 280 KT)

NBAA

ATC Clearance #1:
"Maintain Three One Zero Knots"



ATC Clearance #2:
"Cross SAUCC At Two Niner Zero Knots,
Then Descend Via The BRBBQ One Arrival, Landing North"

- Maintain ATC-assigned speed (310 KT)
- Cross SAUCC at 290 KT, *Then…*
- Comply with published altitude restrictions to "Bottom Altitude" (4,000')
- Comply with published speed restrictions

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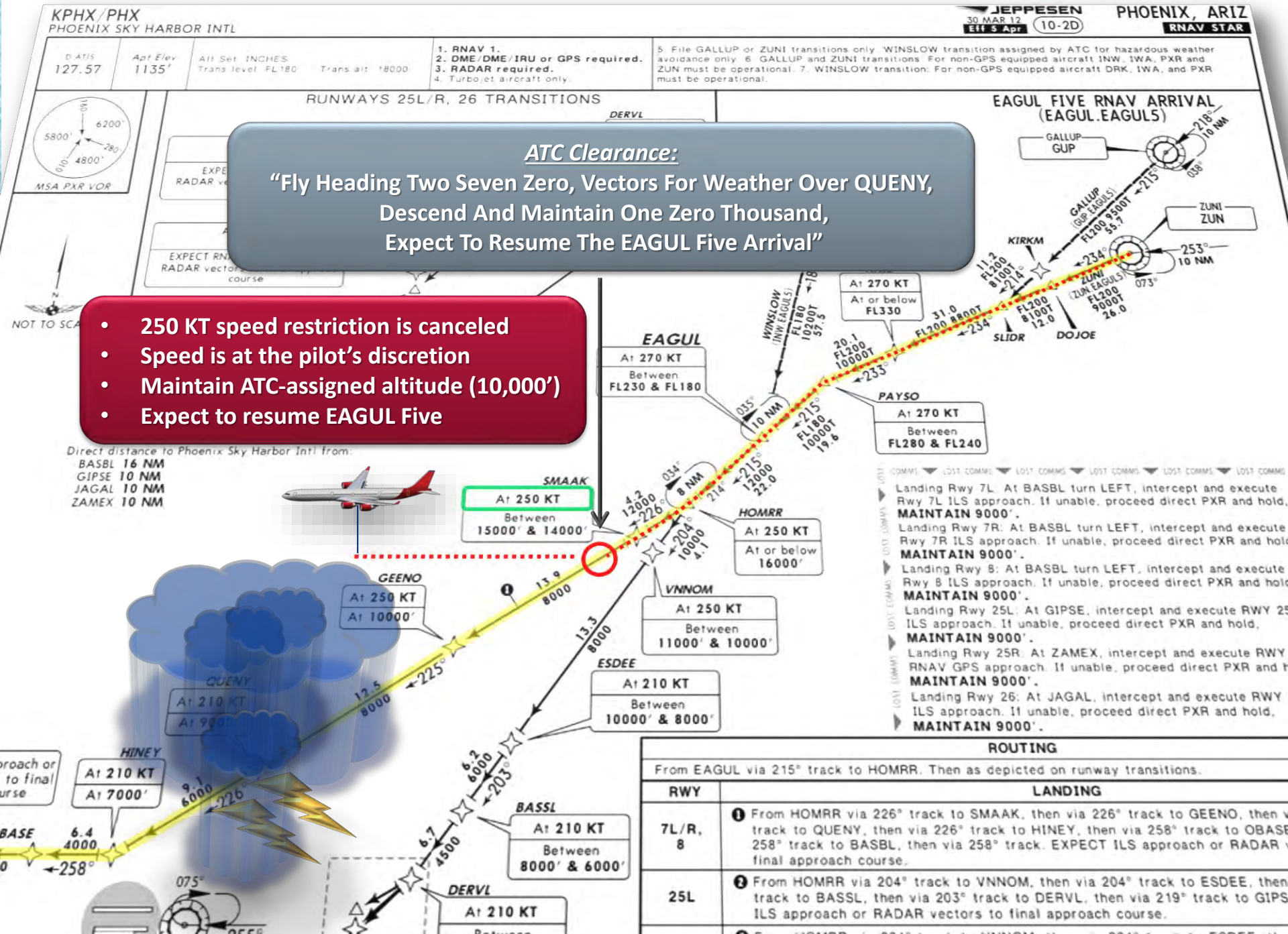
Speed Adjustments



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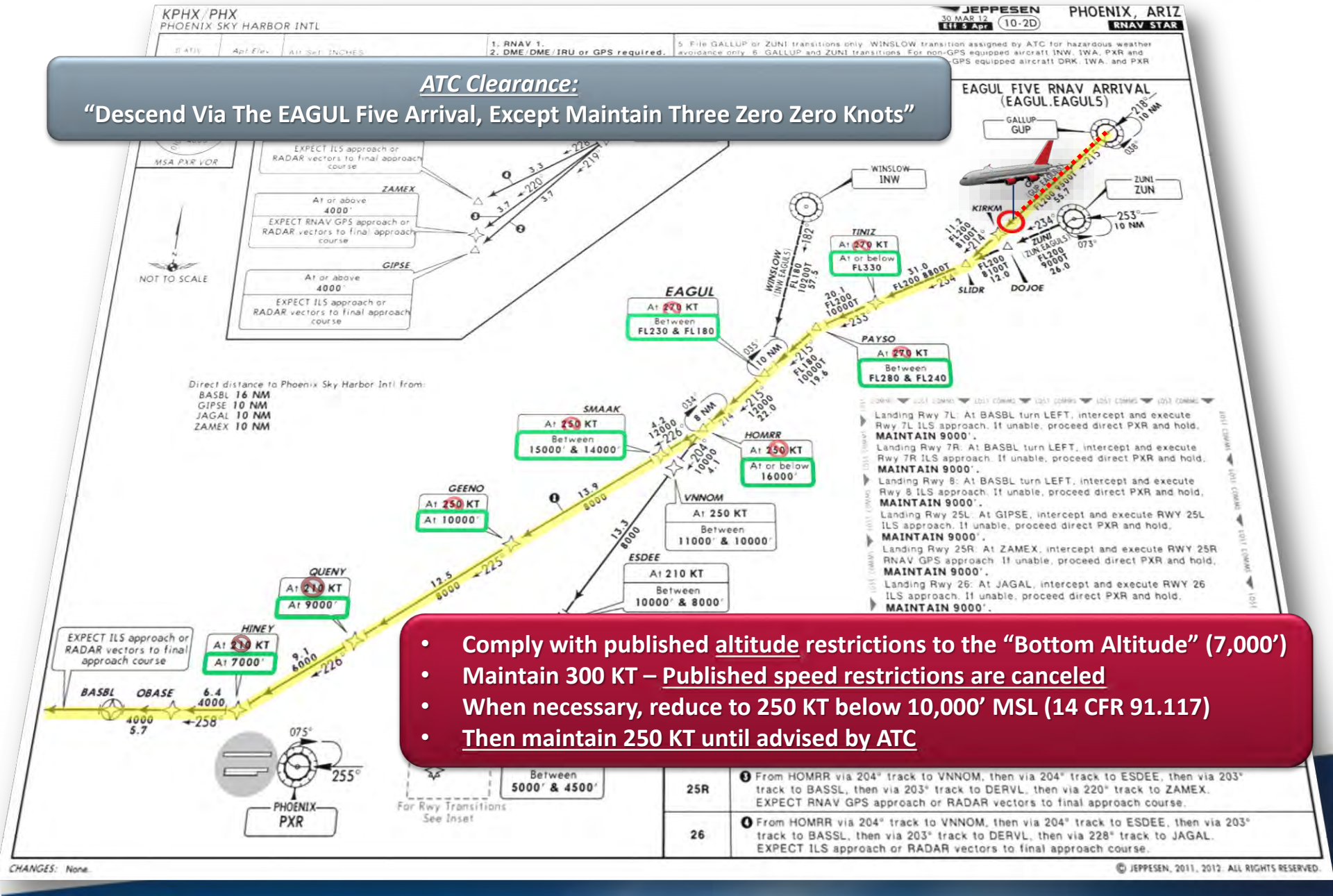


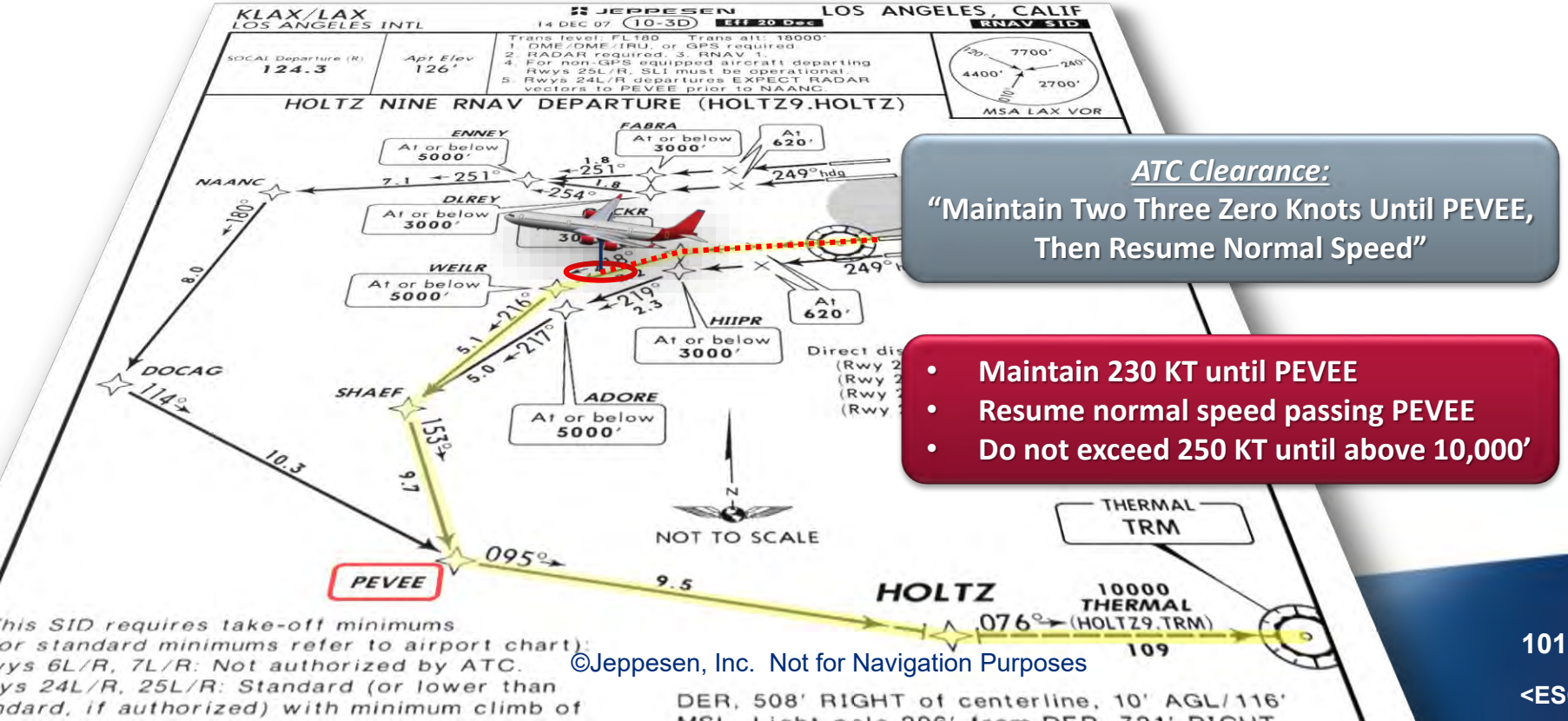
- Comply with published altitude restrictions to the "Bottom Altitude" (7,000')
- Maintain 300 KT – Published speed restrictions are canceled
- When necessary, reduce to 250 KT below 10,000' MSL (14 CFR 91.117)
- Then maintain 250 KT until advised by ATC

NBAA

Phraseology

"Resume Normal Speed"

- Used to terminate ATC assigned speed adjustments on segments <u>where no published speed restrictions apply</u>
- It does not delete speed restrictions on upcoming segments of flight and does not relieve the pilot of those speed restrictions which are applicable to 14 CFR Section 91.117



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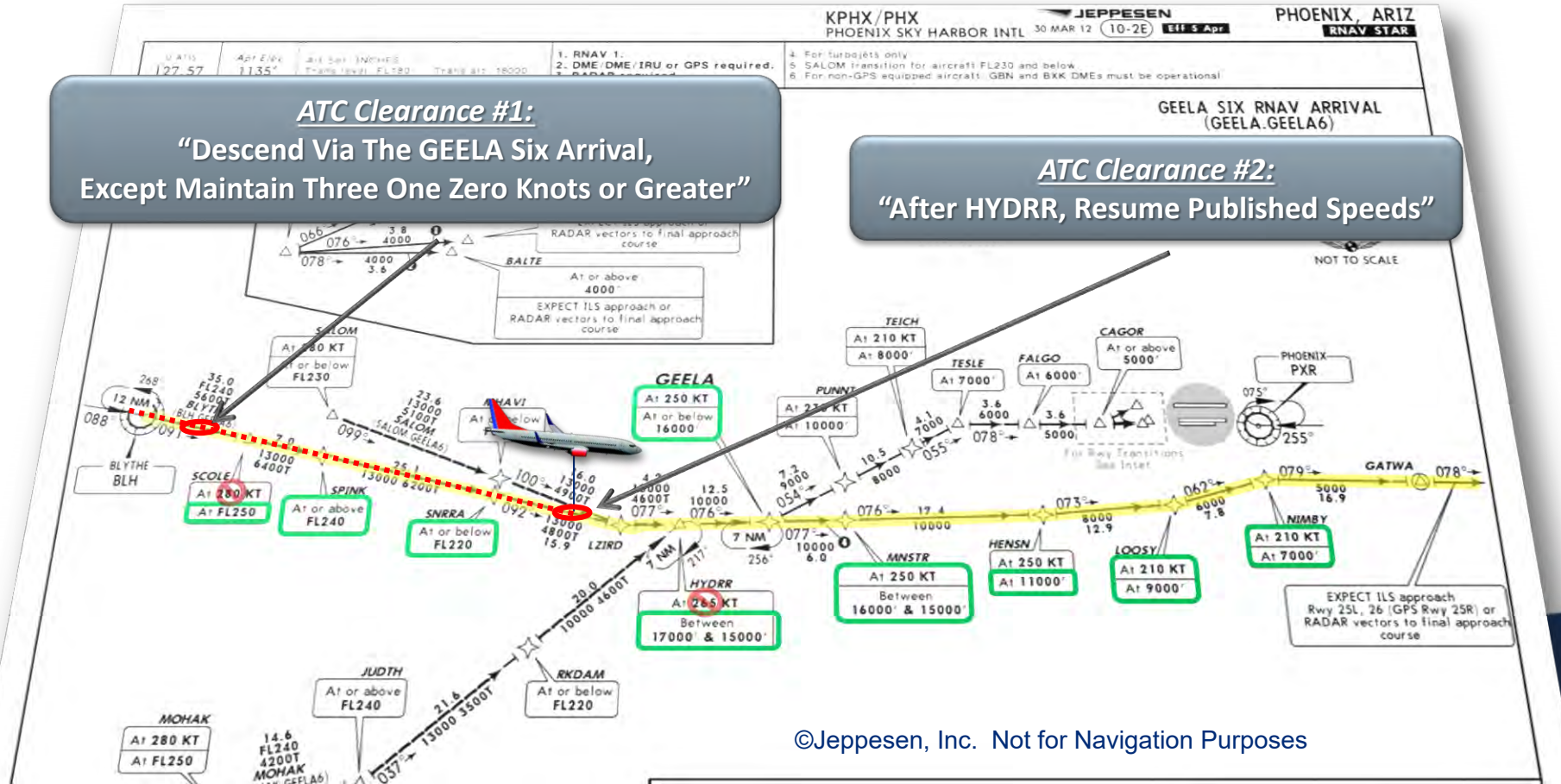
Phraseology
"Resume Published Speed"

- Used by ATC to terminate a speed adjustment where speed restrictions <u>are published</u> on a charted procedure



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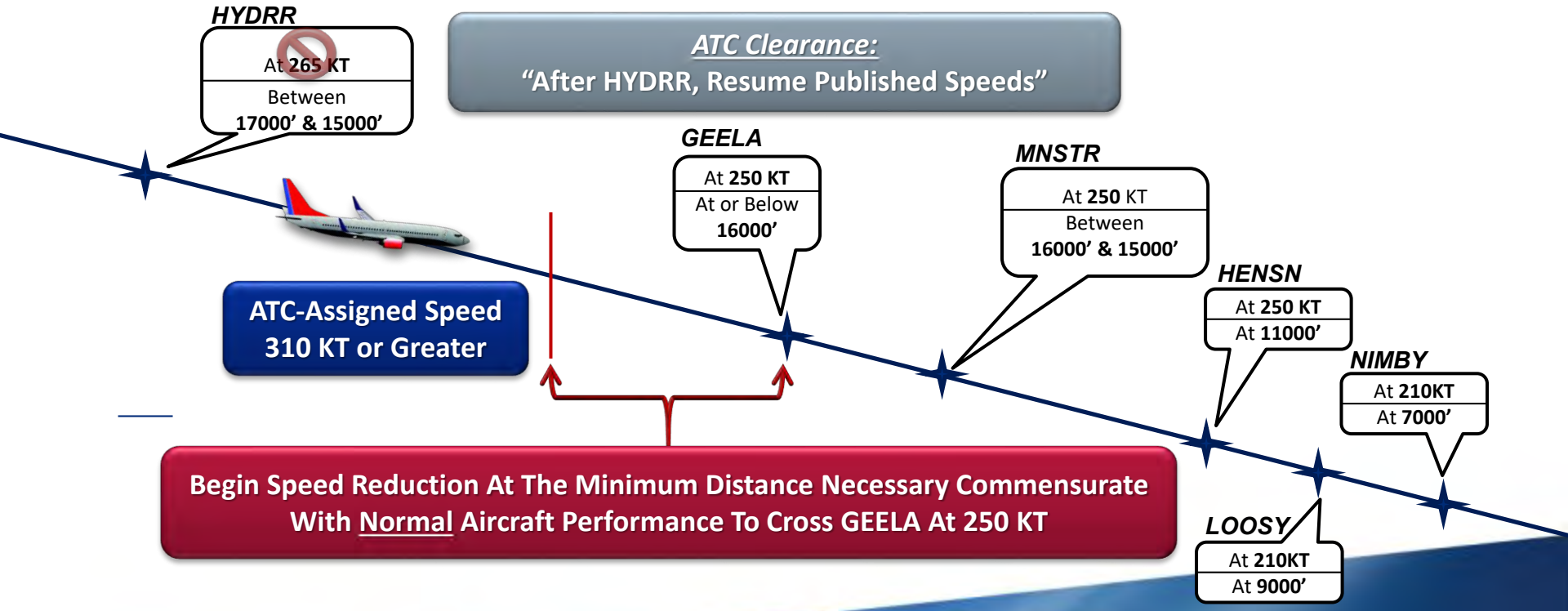
NBAA

Complying With Speed Restrictions

- When instructed to “resume published speed,” ATC anticipates pilots will begin adjusting speed the minimum distance necessary prior to a published speed restriction so as to cross the waypoint/fix at the published speed
- Once at the published speed, ATC expects pilots will maintain the published speed until additional adjustment is required to comply with further published or ATC assigned speed restrictions or as required to ensure compliance with 14 CFR Section 91.117

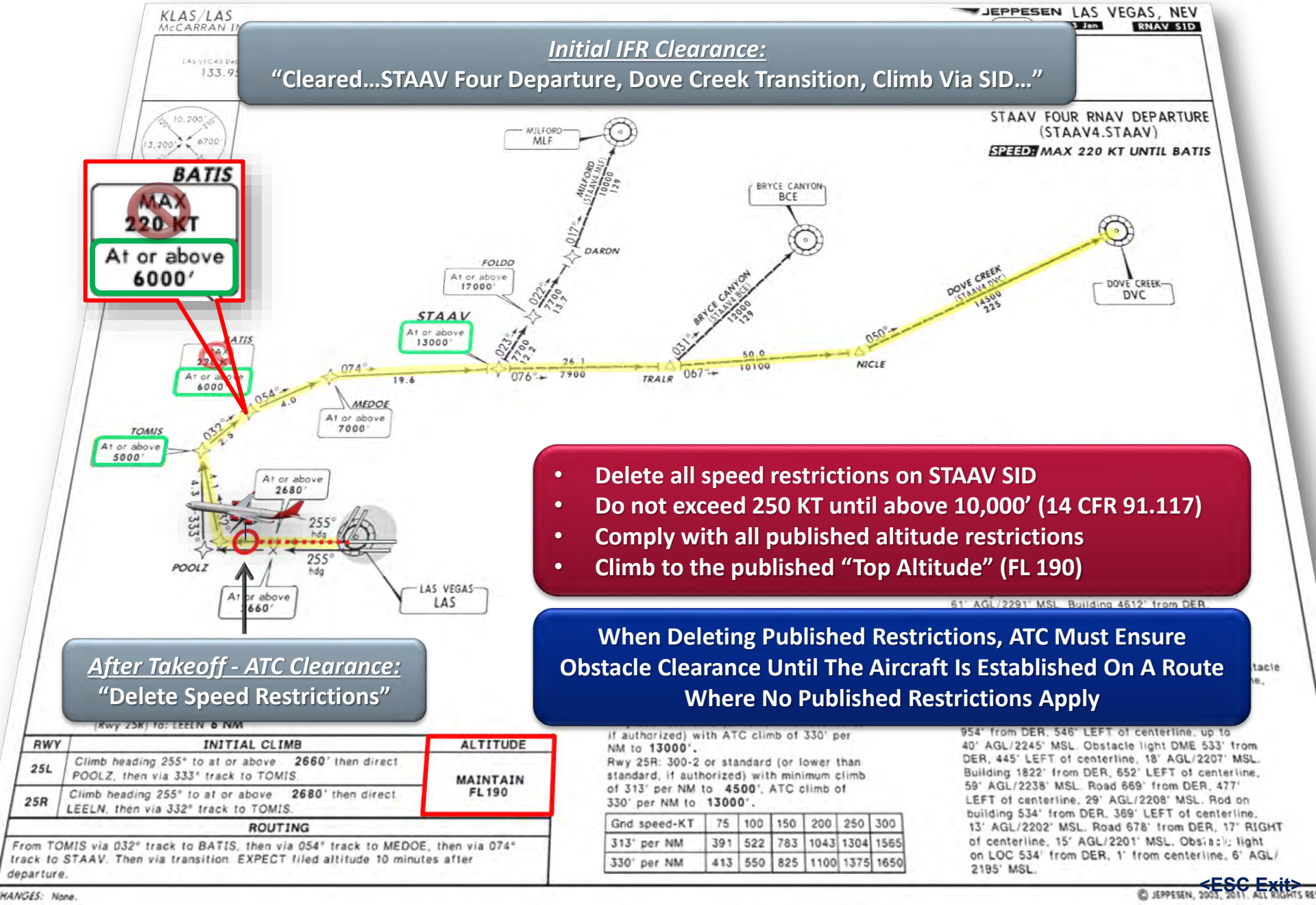


Phraseology

"*Delete Speed Restrictions*"

- ATC will advise the pilot to "*Delete Speed Restrictions*" when ***either*** ATC assigned or published speed restrictions on a charted procedure are no longer required
- When deleting published restrictions, ATC must ensure obstacle clearance until aircraft are established on a route where no published restrictions apply
- This does not relieve the pilot of those speed restrictions which are applicable to 14 CFR Section 91.117

NBAA



<ESC Exit>

ICAO

Previous Standard

- Procedures for Air Navigation Services (PANS) – Air Traffic Management (ATM) Document 4444 is the ICAO Standard & Recommended Practices (SARP) for air traffic control
- Until recently, PANS-ATM 4444 required compliance with published altitude and speed restrictions on SIDs and STARs when the aircraft was cleared to climb or descend on the departure or arrival:
  - SIDs:

    When a departing aircraft on a SID is cleared to climb to a level higher than the initially cleared level or the level(s) specified in a SID, the aircraft shall follow the published vertical profile of a SID, unless such restrictions are explicitly cancelled by ATC

  - STARs:

    When an arriving aircraft on a STAR is cleared to descend to a level lower than the level or the level(s) specified in a STAR, the aircraft shall follow the published vertical profile of a STAR, unless such restrictions are explicitly cancelled by ATC. Published minimum levels based on terrain clearance shall always be applied.

ICAO Climb Via SID & Descend Via STAR

Effective 10 November 2016 Revision To PANS-ATM 4444

- SID/STAR phraseology allows ATC and aircrew to communicate and understand detailed clearance information that would otherwise require long and potentially complex transmissions.
- Over time, these benefits have been eroded through the development of non-harmonized practices and different meanings being attached to certain elements of SID/STAR phraseology.
- Consequently, there may be a mismatch between ATC and aircrew expectations when SID/STAR phraseology is used, and what certain terms may mean. This presents a safety risk that requires a renewed effort to adopt harmonized SID/STAR phraseology

ICAO Core Phraseology

Effective 10 November 2016

The core phraseologies are:

- CLIMB VIA SID TO (level)
- DESCEND VIA STAR TO (level)

These require the aircraft to:

1. Climb/descend to the cleared level in accordance with published level restrictions;
2. Follow the lateral profile of the procedure; and
3. Comply with published speed restrictions or ATC-issued speed control instructions as applicable.

Phraseologies for removal of speed or level restrictions:

- CLIMB VIA SID TO (level), CANCEL SPEED RESTRICTION(S)
- DESCEND VIA STAR TO (level), CANCEL LEVEL RESTRICTION(S) AT (point(s))

These phraseologies mean that:

1. The lateral profile of the procedure continue to apply and
2. Speed or level restrictions which have not been referred to will continue to apply.

ICAO Core Phraseology

Effective 10 November 2016

Phraseologies for variations to lateral profile of the SID/STAR:

- PROCEED DIRECT (waypoint), or
- VECTORING

These phraseologies mean that:

Speed and level restrictions associated with the bypassed waypoints are cancelled.

Phraseology to return to SID/STAR:

- REJOIN SID/STAR

This phraseology means that:

Speed and level restrictions associated with the waypoint where the rejoin occurs, as well as those associated with all subsequent waypoints must be complied with.

What Has Not Changed

- Use of CANCEL SPEED RESTRICTION applies only to the speed restrictions associated with the SID or STAR procedure. It does not cancel other speed restrictions such as the speed limits detailed at ICAO Annex 11 Chapter 2 and Appendix 4
- The requirement for a QNH altimeter setting to be included in the descent clearance when first cleared to an altitude below the transition level, except when it is known that the aircraft has already received the information (PANS-ATM 4.10.4.5 refers), does not change.
- The terrain clearance responsibilities prescribed in ICAO Doc 4444 (PANS-ATM) 8.6.5.2 do not change
- And finally, while pilots and ATS providers are expected to comply with the revised phraseology, in unusual or unforeseen circumstances it may not be possible to apply the phraseology as intended. Should this happen, pilots and ATS personnel are still expected to use plain language, which must be as clear and concise as possible.

ICAO Climb Via SID & Descend Via STAR

The Purposes Of This Change

- Provide core phraseology that positively reinforces that the lateral, vertical and speed requirements embedded in a SID or STAR will continue to apply, unless explicitly cancelled or amended by the controller;
- Provide supplementary phraseology that enables any level and/or speed restrictions as local circumstances, practice or procedures permit;
- Harmonize through appropriate phraseology the means by which aircraft must be cleared where variations to the lateral profile are required, such as where waypoints along the procedure are bypassed.

Global State Of Implementation

- Global adoption
- Several States have already implemented
- Additional States will follow in 2017

Click For ICAO Climb Via/Descend Via Webpage

ICAO Climb Via SID & Descend Via STAR

Pilots Take Note…

- The use of a SID designator in a clearance without a cleared level **does not** authorize the aircraft to climb on the SID vertical profile
- The use of a STAR designator in a clearance without a cleared level **does not** authorize the aircraft to descend on the STAR vertical profile
- Pilots must receive a "*Climb Via SID*" or "*Descend Via STAR*" clearance to climb/descend on the SID/STAR vertical profile

NBAA

Pilot Readback

"*Climb Via SID*" or "*Descend Via STAR*"

- Controllers must get a readback if specifying "*Climb Via SID*" or "*Descend Via STAR*."
- Readback of "*Via STAR*" or "*Via SID*" may result in a different flight path than a "*Descend To*" or "*Climb To*" clearance

ICAO Climb Via SID & Descend Via STAR Briefing Topics

ICAO Climb Via SID

ICAO Descend Via STAR

Additional Information & Differences

Briefings topics provide scenarios and significant differences between FAA, ICAO, and Canada Climb Via/Descend Via clearances

Please click on the above picture to access the program pertaining to “Climb Via SID”, “Descend Via STAR”, or Additional Information. Within each briefing, you will have the option to return to this menu.

Exit Program

Return To Briefing Topic Main Menu

ICAO Climb Via SID

"Clearances to aircraft on a SID with remaining published level and/or speed restrictions shall indicate if such restrictions are to be followed or are cancelled."

The Use Of A SID Designator Without A Cleared Level
Does Not Authorize The Aircraft To Climb On The SID Vertical Profile

<ESC Exit>

ICAO Climb Via SID

Initial IFR Clearance – On Ground

Standard clearances for departing aircraft shall contain the following items:

- Aircraft identification;
- Clearance limit, normally destination aerodrome;
- Designator of the assigned SID, if applicable;
- Cleared level;
- Allocated SSR code;
- Any other necessary instructions or information not contained in the SID description, (e.g. instructions relating to change of frequency)

ATC	*"FASTAIR 345 CLEARED TO XXX, FLIGHT PLANNED ROUTE, DEPART RUNWAY 27, CLIMB VIA XXX DEPARTURE TO 5000 FEET, SQUAWK (CODE), WHEN AIRBORNE CONTACT DEPARTURE ON 128.17"*
Pilot	*"FASTAIR 345 CLEARED TO XXX, FLIGHT PLANNED ROUTE, DEPART RUNWAY 27, CLIMB VIA XXX DEPARTURE TO 5000 FEET, SQUAWK (CODE) , WHEN AIRBORNE CONTACT DEPARTURE ON 128.17"*

ICAO Climb Via SID

SID With Altitude Restrictions

Initial ATC Clearance:

"FASTAIR 345 CLEARED TO XXX, (SID NAME) DEPARTURE FLIGHT PLANNED ROUTE, ***CLIMB VIA SID*** *[TO] (ALTITUDE),DEPART RUNWAY TWO-SEVEN, SQUAWK (CODE), WHEN AIRBORNE CONTACT DEPARTURE ON 128.17"*

SID Without Altitude Restrictions

Initial ATC Clearance:

"FASTAIR 345 CLEARED TO XXX, (SID NAME) DEPARTURE FLIGHT PLANNED ROUTE ***CLIMB [TO] (ALTITUDE)****, DEPART RUNWAY TWO-SEVEN, SQUAWK (CODE), WHEN AIRBORNE CONTACT DEPARTURE ON 128.17"*

FAA – ICAO Differences

FAA

- Altitude is not issued if "Top Altitude" is published on the SID and pilot is expected to climb to the published "Top Altitude"
  - *"Climb Via CONNR Three departure"*
- ATC will issue an altitude with the Climb Via clearance only when necessary to issue a different "Top Altitude"
  - *"Climb Via CONNR Three departure except maintain one zero thousand"*

ICAO

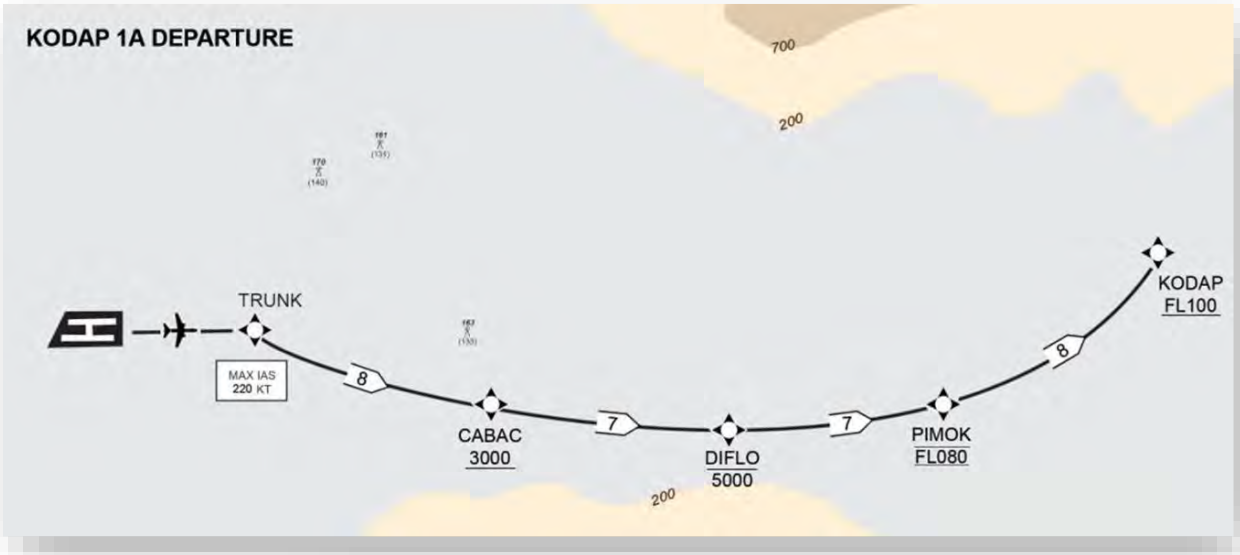
- Cleared "level" **is always** included with a Climb Via clearance
- "Top Altitude" concept is not used
- "VIA" will no longer be used to describe the lateral route clearance
  - FASTAIR 1234, cleared to the Heathrow airport ~~via~~…
  - Avoid confusion with "Climb Via SID" clearance

ICAO Climb Via SID

Airborne - Climb On A SID With Charted Restrictions

CLIMB VIA SID TO (level):

- Climb to the cleared level and comply with published level restrictions
- Follow the lateral profile of the SID
- Comply with published speed restrictions or ATC-issued speed control instructions as applicable



Context: FASTAIR 345 has been provided with ATC clearance and assigned SID KODAP 1A. FASTAIR 345 is airborne and climbing via SID to 5 000 feet.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 CLIMB VIA SID TO FL 100"*
Pilot	*"CLIMB VIA SID TO FL 100 FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will climb to FL 100 and comply with all the published speed and level restrictions at or below FL 100.

FAA – ICAO Differences

FAA

- Altitude is not issued if “Top Altitude” is published on the SID and pilot is expected to climb to the published “Top Altitude”
  - *“Climb Via CONNR Three departure”*
- ATC will issue an altitude with the Climb Via clearance only when necessary to issue a different “Top Altitude”
  - *“Climb Via CONNR Three departure except maintain one zero thousand”*

ICAO

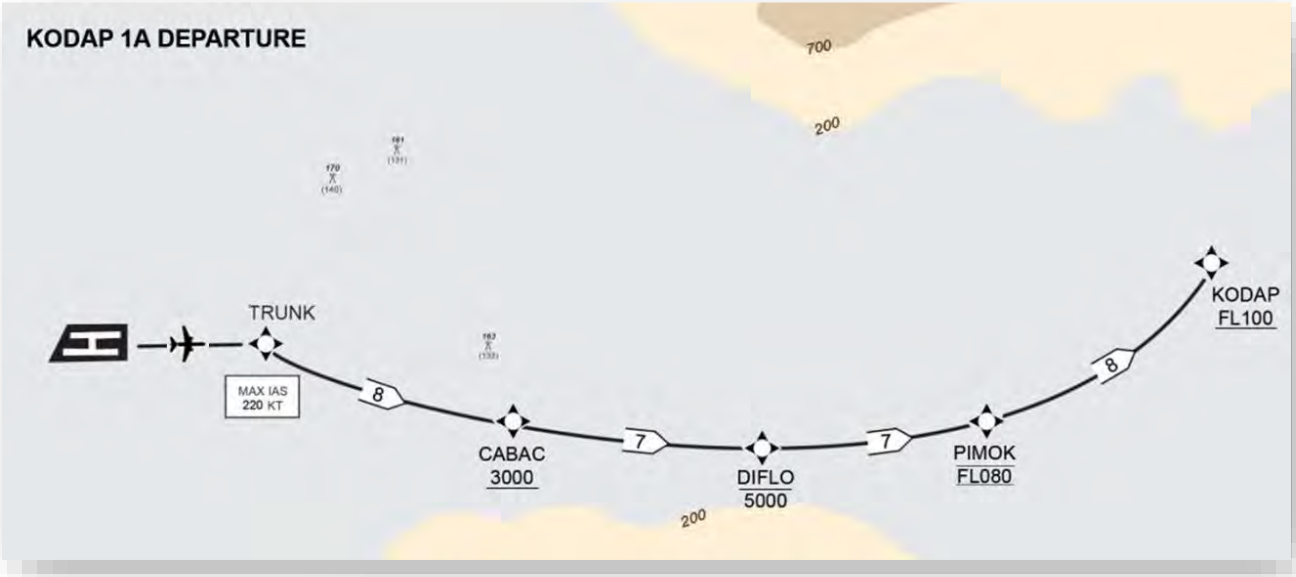
- Cleared “level” **is always** included with a Climb Via clearance
- “Top Altitude” concept is not used

ICAO Climb Via SID

Tactical Cancellation Of A Speed Restriction

CLIMB VIA SID TO *(level),* CANCEL SPEED RESTRICTION(S) AT (*point(s)*):

- Climb to the cleared level and comply with published level restrictions
- Follow the lateral profile of the SID
- Published speed restrictions are cancelled at the specified point(s).



Context: FASTAIR 345 has been provided with ATC clearance and assigned SID KODAP 1A. FASTAIR 345 is airborne and climbing via SID to 5 000 feet.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 CLIMB VIA SID TO FL 080 CANCEL SPEED RESTRICTION AT TRUNK"*
Pilot	*"CLIMB VIA SID TO FL 080 CANCEL SPEED RESTRICTION AT TRUNK FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will climb to FL 080 while complying with all the restrictions on the SID at or below FL 080, with the exception of the SPEED restriction at TRUNK.

FAA – ICAO Differences

FAA

- Uses "*Climb Via, Except*" to delete a published speed restriction at a fix.
  - *Climb via LEETZ Five departure, except delete speed restriction at HUCKK*"

ICAO

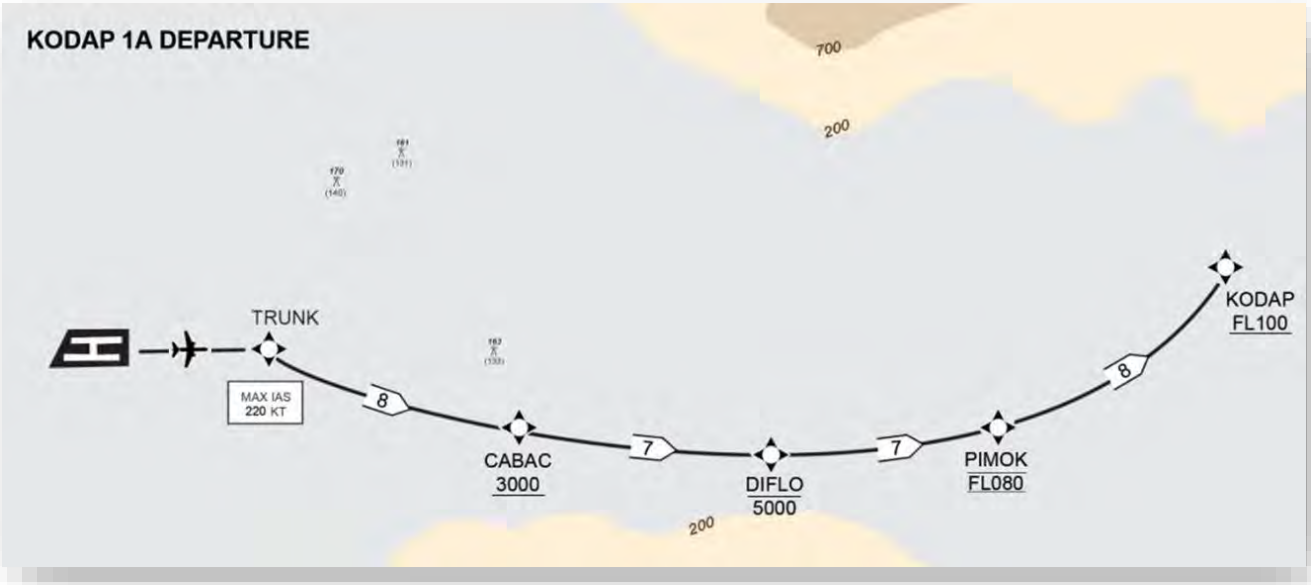
- Cleared "level" **is always** included with a Climb Via clearance
- ICAO uses "*CANCEL*" vs. "*DELETE*"
- ICAO uses "AT (point)" to designate the fix where the speed restriction is canceled

ICAO Climb Via SID

Tactical Cancellation Of A Level Restriction

CLIMB VIA SID TO *(level)*, CANCEL LEVEL RESTRICTION(S) AT (*point(s)*):

- Climb to the cleared level, published level restriction(s) at the specified point(s) are cancelled
- Follow the lateral profile of the SID
- Comply with published speed restrictions or ATC-issued speed control instructions as applicable



Context: FASTAIR 345 has been provided with ATC clearance and assigned SID KODAP 1A. FASTAIR 345 is airborne and climbing via SID to 5 000 feet.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 CLIMB VIA SID TO FL 070 CANCEL LEVEL RESTRICTION AT DIFLO"*
Pilot	*"CLIMB VIA SID TO FL 070 CANCEL LEVEL RESTRICTION AT DIFLO FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will climb to FL 070 and comply with all speed and level restrictions on the SID at or below FL 070, with the exception of the LEVEL restriction at DIFLO.

FAA – ICAO Differences

FAA

- Uses "*Climb Via, Except*" to delete a published altitude restriction at a fix.
  - *Climb via LEETZ Five departure, except delete altitude restriction at ZEETA*"

ICAO

- Cleared "level" **is always** included with a Climb Via clearance
- ICAO uses "*CANCEL*" vs. "*DELETE*"
- ICAO uses "AT (point)" to designate the fix where the level restriction is canceled

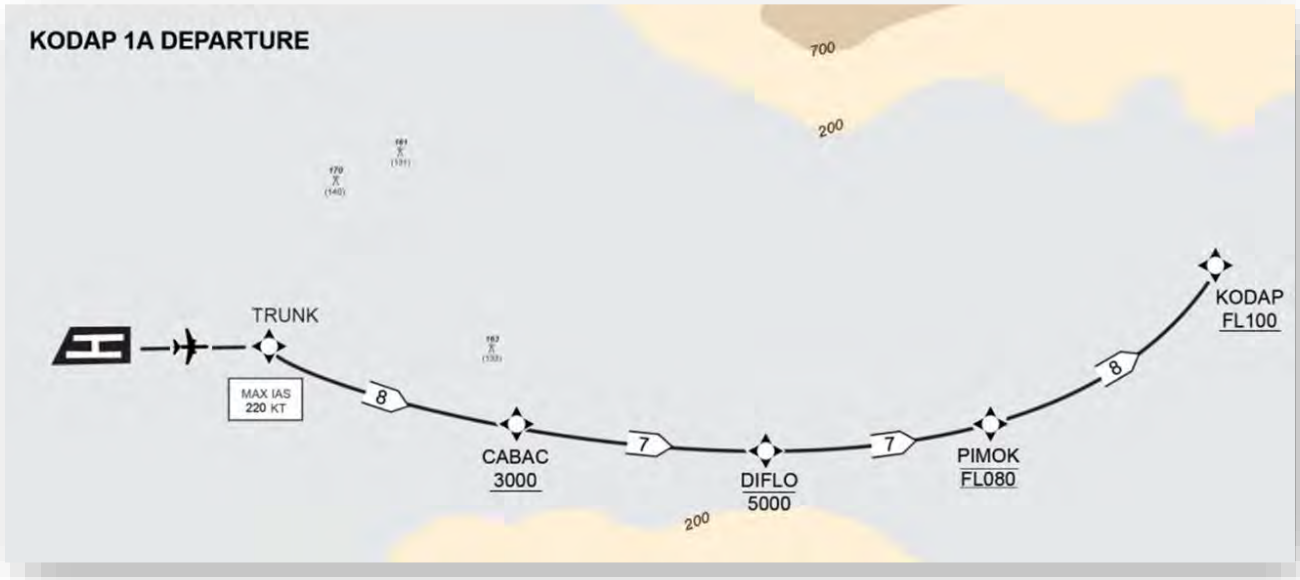
ICAO Climb Via SID

Cancellation of all restrictions below the cleared level

CLIMB UNRESTRICTED TO *(level)* **or**

CLIMB TO *(level)*, CANCEL LEVEL AND SPEED RESTRICTION(S):

- Climb to the cleared level, published level restrictions are cancelled
- Follow the lateral profile of the SID
- Published speed restrictions and ATC-issued speed control instructions are cancelled



Context: FASTAIR 345 has been provided with ATC clearance and assigned SID KODAP 1A. FASTAIR 345 is airborne and climbing via SID to 5 000 feet.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 CLIMB UNRESTRICTED TO FL 070"* or *"FASTAIR 345 CLIMB TO FL 070 CANCEL LEVEL AND SPEED RESTRICTIONS"*
Pilot	*"CLIMB UNRESTRICTED TO FL 070 FASTAIR 345"* or *"CLIMB TO FL 070 CANCEL LEVEL AND SPEED RESTRICTIONS FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will climb to FL 070 and is not required to meet the restrictions at FL 070 feet or below.

NBAA

FAA – ICAO Differences

FAA

- "*Climb And Maintain*" clearance, pilot is expected to vacate current altitude and commence an unrestricted climb to comply with the clearance. For aircraft already climbing via a SID, published altitude restrictions are deleted unless reissued by ATC. Pilots must comply with published speed restrictions
- "Delete Speed Restrictions" cancels ATC assigned or published speed restrictions
- FAA equivalent clearance: "*Climb and maintain six thousand, delete speed restrictions*"

ICAO

- Two separate options for phraseology:
  - CLIMB UNRESTRICTED TO *(level)* or
  - CLIMB TO *(level)*, CANCEL LEVEL AND SPEED RESTRICTION(S)
- Cancels both published level and published/ATC-assigned speed restrictions
- Cleared "level" **is always** included with a Climb Via clearance

ICAO Climb Via SID

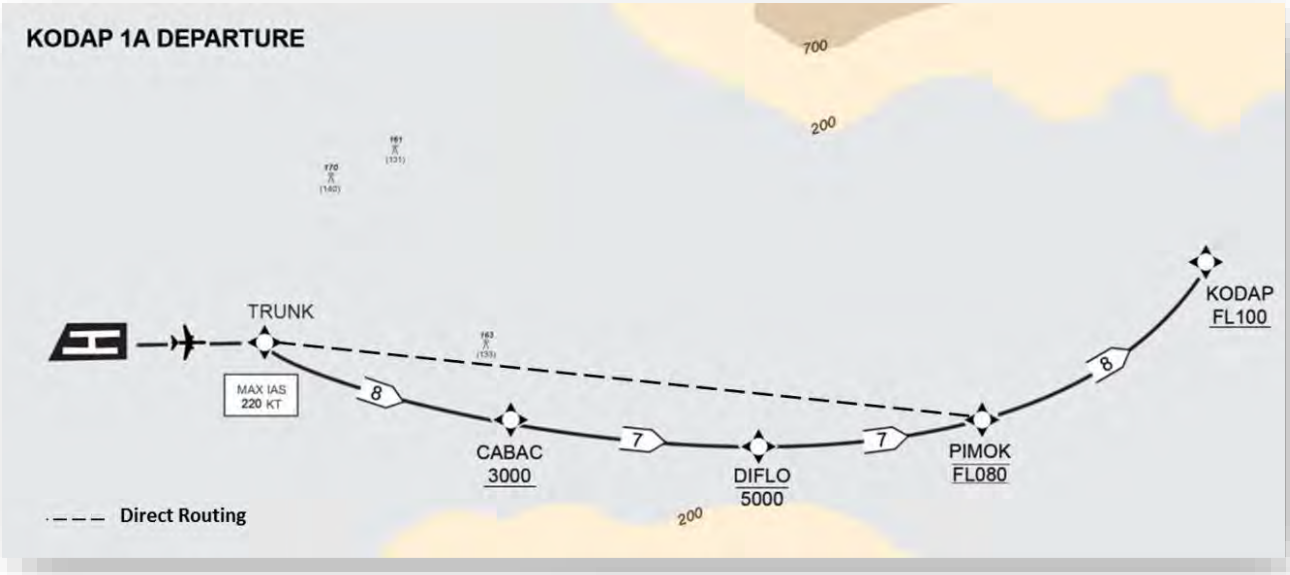
Climb To <Level>

- When no charted restrictions exist, or when there are no other remaining published restrictions, nor remaining level or speed restrictions on the SID, the phrase “CLIMB TO (Level)” or should be used

ICAO Climb Via SID

Proceeding direct to a point on SID

When a departing aircraft is cleared to proceed direct to a published waypoint on the SID, the speed and level restrictions associated with the bypassed waypoints are cancelled. All remaining published speed and level restrictions shall remain applicable.



Context: FASTAIR 345 has been provided with ATC clearance and assigned SID KODAP 1A. FASTAIR 345 is airborne and climbing via SID to 5 000 feet.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 PROCEED DIRECT PIMOK CLIMB VIA SID TO FL 120"*
Pilot	*"PROCEED DIRECT PIMOK CLIMB VIA SID TO FL 120 FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will proceed direct to PIMOK and climb to FL 120. FASTAIR 345 is not required to comply with the published level or speed restrictions at waypoints being by-passed.

FASTAIR 345 must however comply with all the published level and speed restrictions at and after PIMOK.

FAA – ICAO Differences

FAA

- If the fix has a published altitude restriction:
  - *"Proceed direct DVINE, climb via the Suzan Two departure."*
  - Comply with published restriction at DIVNE
- If the fix does not have a published altitude restriction, ATC will assign an altitude to cross the fix:
  - "*Proceed direct ROCKR, cross ROCKR at or above one-zero thousand, climb via the BIZEE Two departure*."
- "Top Altitude" is not stated unless changed by ATC:
  - "*Proceed direct ROCKR, cross ROCKR at or above one-zero thousand, climb via the BIZEE Two departure, except maintain flight level two three zero*"

ICAO

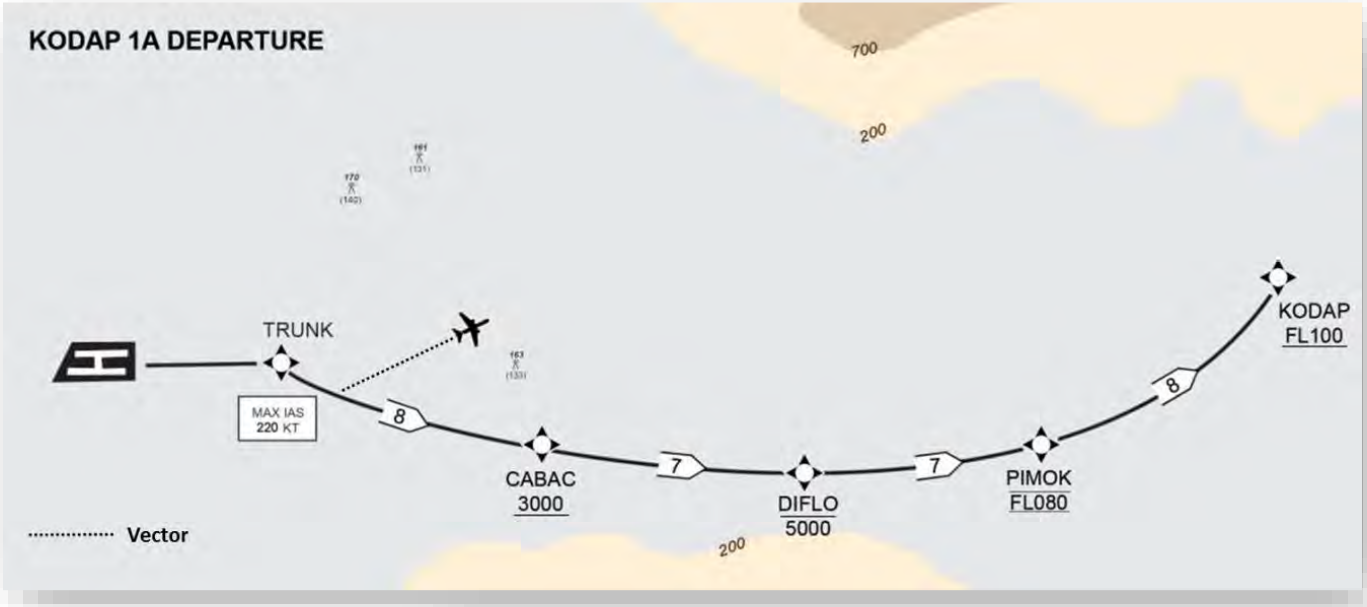
- Uses "Climb Via SID". Will not include procedure by name
- Cleared "level" **is always** included with a Climb Via clearance

ICAO Climb Via SID

Vector flight off a SID

When a departing aircraft is vectored or cleared to proceed to a point that is not on the SID, all the published speed and level restrictions of the SID are cancelled and the controller shall:

- Reiterate the cleared level
- Provide speed and level restrictions as necessary
- Notify the pilot if it is expected that the aircraft will be instructed to subsequently rejoin the SID



Context: FASTAIR 345 has previously been cleared to climb via SID KODAP 1A to 5 000 feet and ATC vectors FASTAIR 345 off the SID. ATC intends that FASTAIR 345 to rejoin the SID.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 TURN LEFT HEADING 0-6-0 DUE TRAFFIC CLIMB TO FL 080 EXPECT TO REJOIN SID"*
Pilot	*"TURN LEFT HEADING 0-6-0 CLIMB TO FL 080 FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will turn left heading 060° and climb to FL 080. All SID restrictions are cancelled. The pilot will retain the SID in the FMS for future rejoin instructions.

<ESC Exit>

FAA – ICAO Differences

FAA

- Phraseology:
  - *"Lear four five lima juliet, fly heading zero-two-zero, maintain one two thousand, expect to resume the LEETZ Four departure"*
  - *"Lear four five lima juliet, deviations left of course approved , maintain one two thousand, expect to resume the LEETZ Four departure at LEETZ"*

ICAO

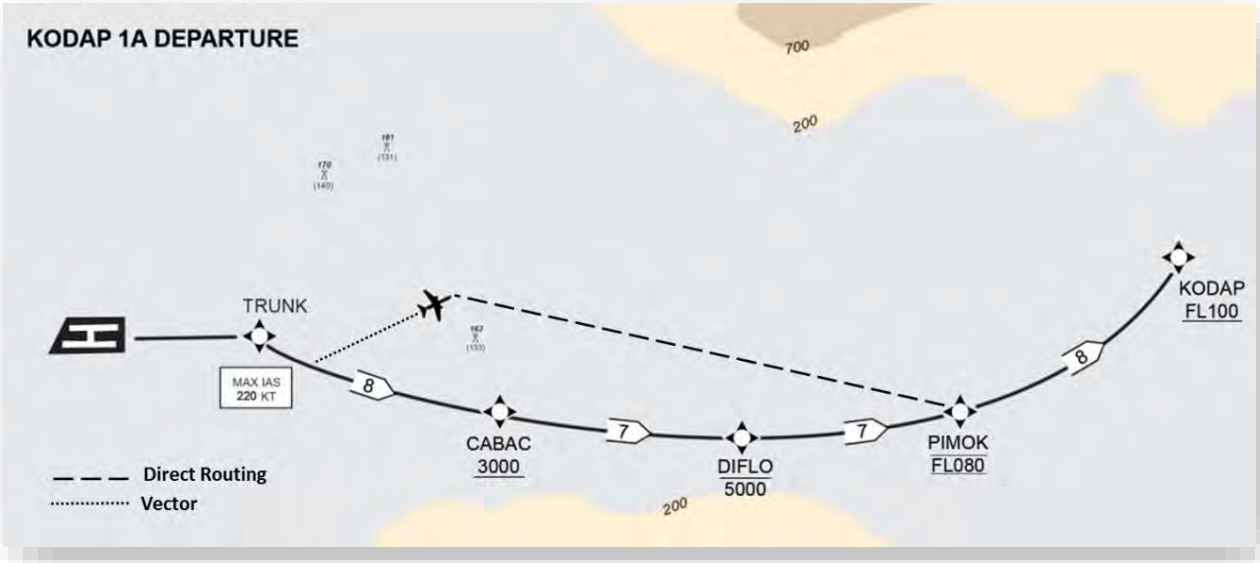
- ICAO phraseology "*EXPECT TO REJOIN SID"*
- Omits the SID procedure name

ICAO Climb Via SID

SID Rejoin Instructions

ATC instructions to an aircraft to rejoin a SID shall include:

- The designator of the SID to be rejoined *unless* advance notification of rejoin has been provided
- The cleared level
- The position at which it is expected to rejoin the SID



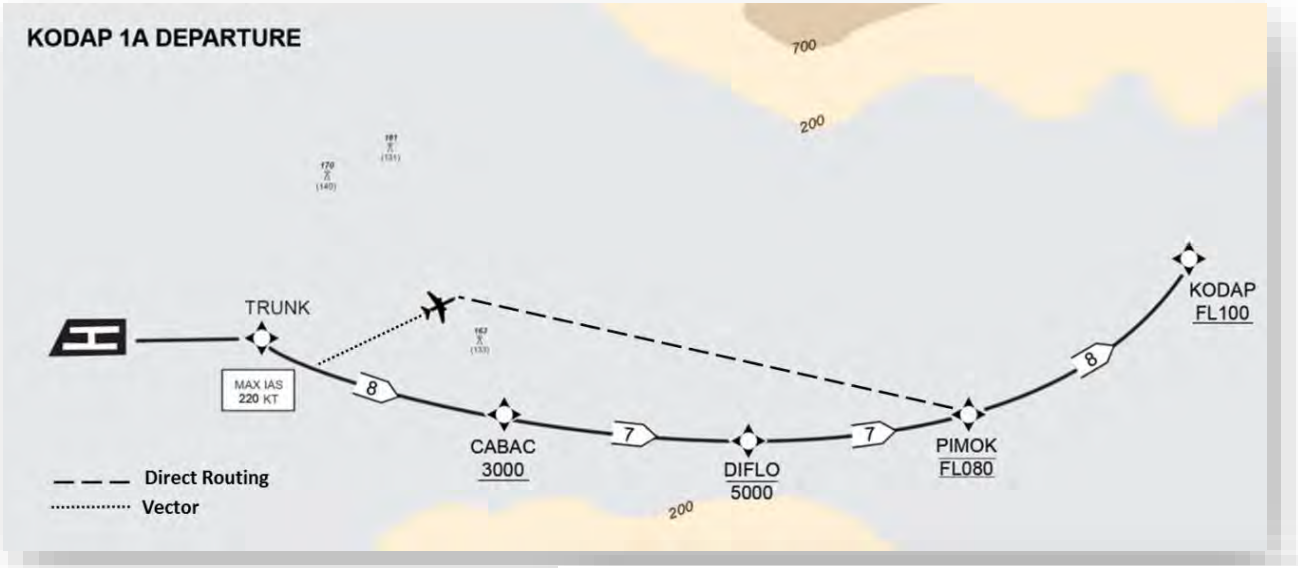
Context: FASTAIR 345 has been provided with ATC clearance and assigned SID KODAP 1A. FASTAIR 345 is airborne and climbing via SID to 5 000 feet.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 TURN LEFT HEADING 0-6-0 DUE TRAFFIC CLIMB TO FL 080"*
Pilot	*"TURN LEFT HEADING 0-6-0 CLIMB TO FL 080 FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will turn left heading 060° and climb to FL 080. All SID restrictions are cancelled.



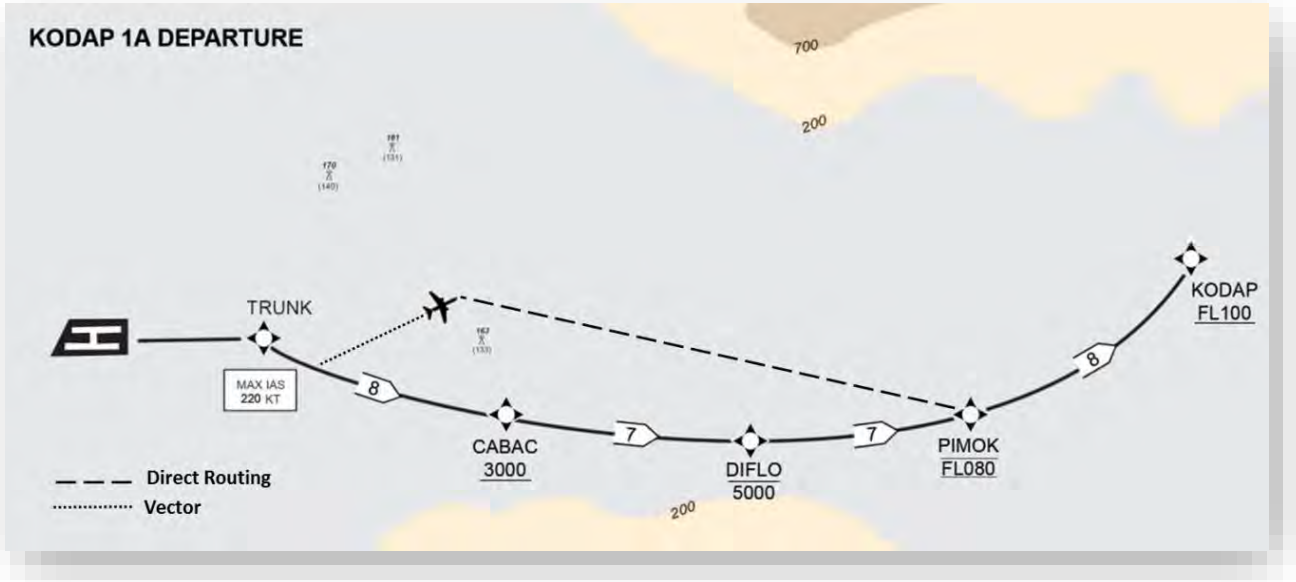
Context: FASTAIR 345 was vectored off the SID and was not advised to expect to rejoin SID KODAP 1A. FASTAIR 345 is flying on heading 060° and climbing to FL 080 when ATC instructs FASTAIR 345 to rejoin SID KODAP 1A at PIMOK.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 PROCEED DIRECT PIMOK REJOIN KODAP 1A DEPARTURE CLIMB VIA SID TO FL 120"*
Pilot	*"PROCEED DIRECT PIMOK REJOIN KODAP 1A DEPARTURE CLIMB VIA SID TO FL 120, FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will climb to FL 080, proceed direct to PIMOK to REJOIN KODAP 1A DEPARTURE and comply with all published level and speed restrictions at and after PIMOK. Complying with the restrictions, FASTAIR 345 will climb to FL 120 **after** PIMOK.



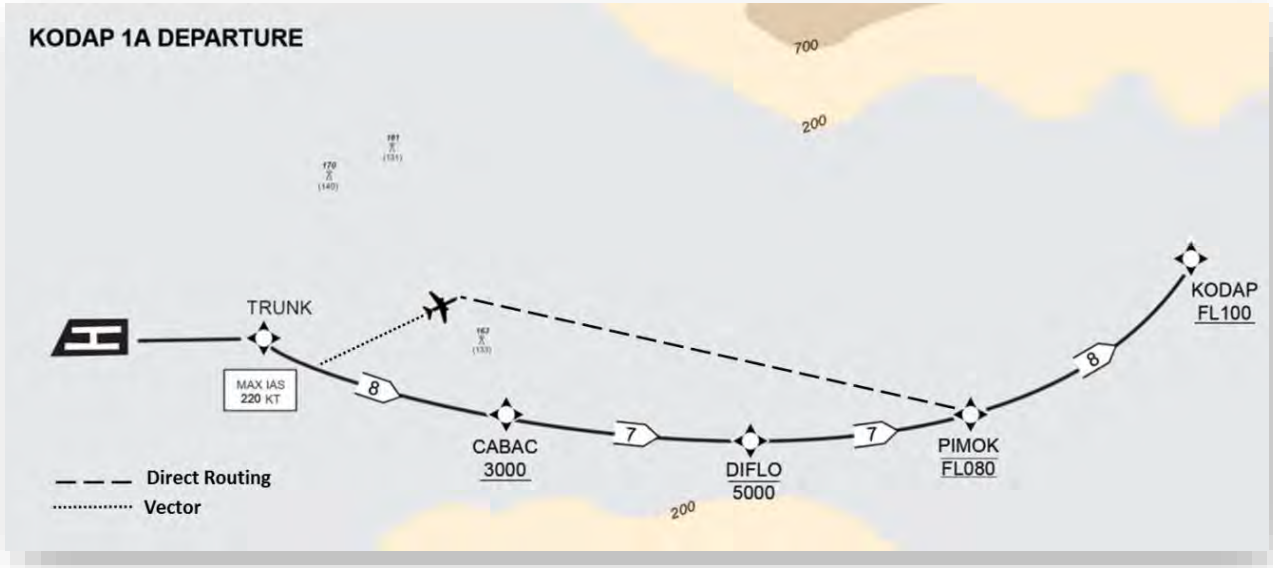
Context: FASTAIR 345 has been provided with ATC clearance and assigned SID KODAP 1A. FASTAIR 345 is airborne and climbing via SID to 5 000 feet.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 TURN LEFT HEADING 0-6-0 DUE TRAFFIC CLIMB TO FL080 EXPECT REJOIN SID"*
Pilot	*"TURN LEFT HEADING 0-6-0 CLIMB TO FL 080, FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will turn left heading 060° and climb to FL 080. All SID restrictions are cancelled.



Context: FASTAIR 345 was vectored off the SID and was advised to expect to rejoin SID. FASTAIR 345 is flying on 060° and climbing to FL 080 when ATC instructs FASTAIR 345 to rejoin SID at PIMOK.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 PROCEED DIRECT PIMOK REJOIN SID CLIMB VIA SID TO FL 120"*
Pilot	*"PROCEED DIRECT PIMOK REJOIN SID CLIMB VIA SID TO FL 120 FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will climb to FL 080, proceed direct to PIMOK to REJOIN SID and comply with all published level and speed restrictions at and after PIMOK. Complying with the restrictions, FASTAIR 345 will climb to FL 120 after PIMOK.

FAA – ICAO Differences

FAA

- FAA does not use "*Rejoin*" or "*Resume*" phraseology in conjunction with a "*Climb Via*…" clearance.
- "*Climb Via*" is a clearance to rejoin the SID's lateral path.
- An altitude will not be issued unless it is necessary to change the "Top Altitude":
  - *"Proceed direct ROCKR, cross ROCKR at or above one-zero thousand, climb via the BIZEE Two departure, except maintain flight level two three zero*"

ICAO

- Both "*Rejoin SID" & Climb Via SID"* used in the clearance
- If aircraft was not told to expect to rejoin SID, name of the procedure will be included in the clearance:
  - "*Proceed Direct PIMOK, Rejoin KODAP 1A Departure, Climb Via SID To FL 120*"
- If aircraft was told to expect to rejoin, procedure name is excluded:
  - *"Proceed Direct PIMOK Rejoin SID, Climb Via SID To FL 120"*
- A **level will always** be issued with the "Climb Via SID" clearance

ICAO Descend Via STAR

"Clearances to aircraft on a STAR with remaining published level and/or speed restrictions shall indicate if such restrictions are to be followed or are cancelled. The following phraseologies shall be used with the following meaning."

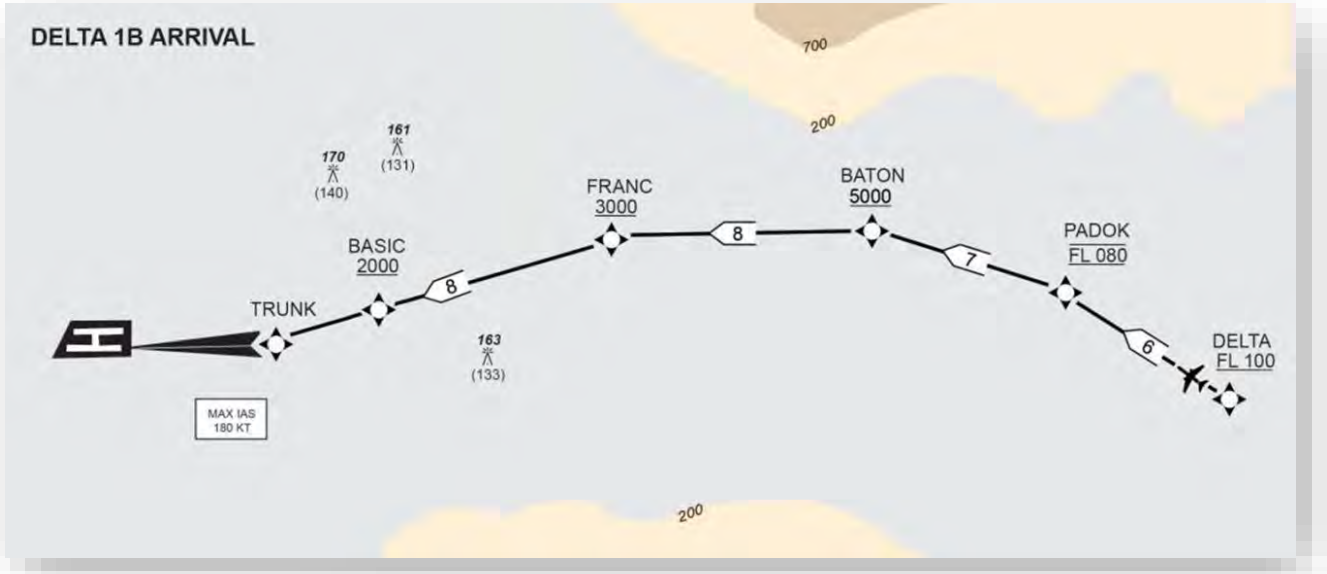
ICAO Descend Via STAR

Descent Via A STAR With Charted Restrictions

DESCEND VIA STAR TO (level):

- Descend to the cleared level and comply with published level restrictions
- Follow the lateral profile of the STAR
- Comply with published speed restrictions or ATC-issued speed control instructions as applicable

"Descend Via STAR To (Level)" Is NOT A Pilot's Discretion Descent.
Pilots Must Commence Descent Upon Receipt of Clearance.



Context: FASTAIR 345 has previously been cleared to descend via STAR DELTA 1B to FL 080 and complying with the charted restrictions.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 DESCEND VIA STAR TO 3 000 FEET"*
Pilot	*"DESCEND VIA STAR TO 3 000 FEET FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will descend to 3 000 feet and comply with all the speed and level restrictions at or above 3 000 feet.

FAA – ICAO Differences

FAA

- "*Descend Via*" authorizes the pilot to descend at pilot's discretion to meet published restrictions and laterally navigate on a STAR
- "*Descend Via*" includes the name of the arrival
- "Bottom Altitude" is not provided in the "*Descend Via*" clearance unless ATC assigns a new "Bottom Altitude"

ICAO

- Cleared **level is always** assigned in the "*Descend Via STAR*" clearance
- Procedure name is not included in the clearance
- "*Descend Via STAR*" is not a pilot's discretion descent clearance. Pilot's must begin descent and vacate previously assigned altitude upon acknowledgment of the clearance
  - EXCEPTION CANADA – Canada is harmonizing with FAA's application of "Descend Via STAR"

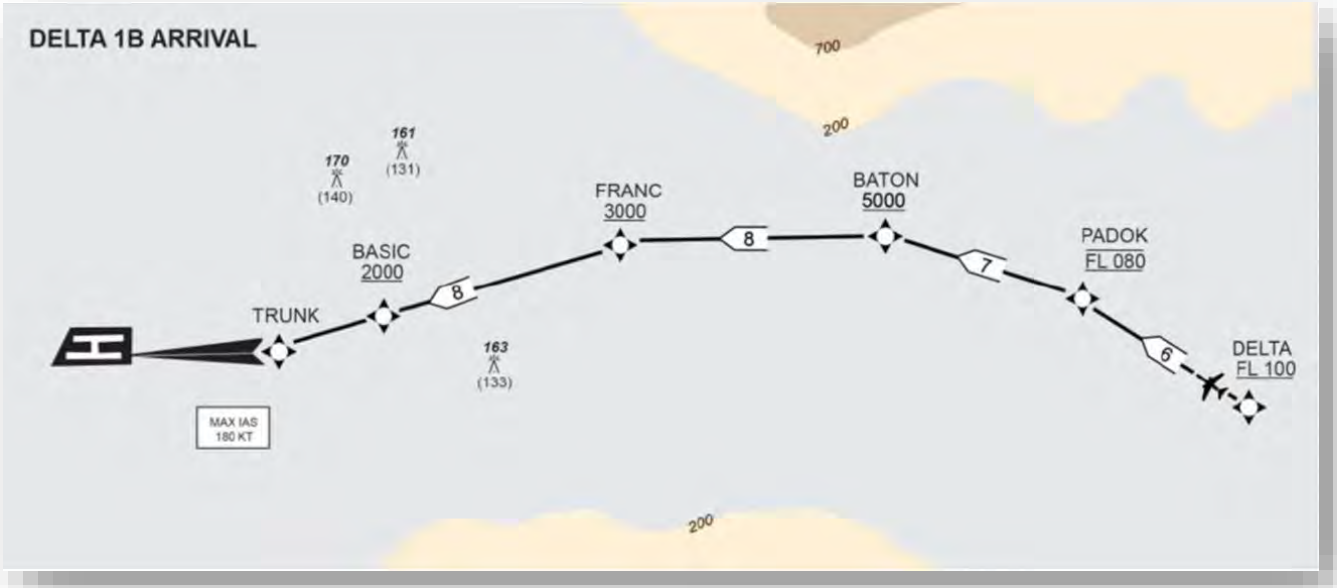
ICAO Descend Via STAR

Descent Via A STAR With Charted Restrictions

WHEN READY DESCEND VIA STAR TO (level):

- Descend to the cleared level and comply with published level restrictions
- Follow the lateral profile of the STAR
- Comply with published speed restrictions or ATC-issued speed control instructions as applicable

The Addition of "When Ready" To The Descend Via STAR Clearance Authorizes A Descent At Pilot's Discretion



ATC clearance and pilot read back

ATC	*"FASTAIR 345 WHEN READY, DESCEND VIA STAR TO 5 000 FEET"*
Pilot	*"WHEN READY DESCEND VIA STAR TO 5 000 FEET FASTAIR 345"*

Subsequently...

ATC	*"FASTAIR 345 DESCEND VIA STAR TO 3 000 FEET"*
Pilot	*"DESCEND VIA STAR TO 3 000 FEET FASTAIR 345"*

Pilot anticipated action

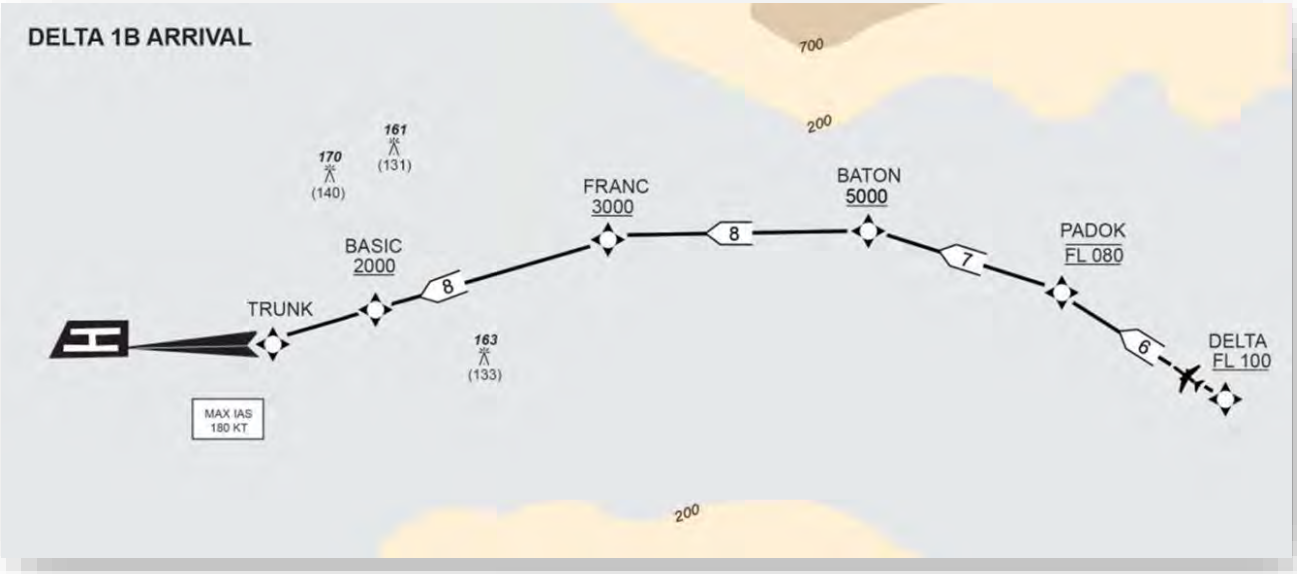
FASTAIR 345 will descend to 5 000 feet when ready while complying with all the speed and level restrictions at 5 000 feet or above. Subsequently, FASTAIR 345 will descend to 3 000 feet and comply with all the speed and level restrictions at or above 3 000 feet.

ICAO Descend Via STAR

Tactical Cancellation Of A Speed Restriction

DESCEND VIA STAR TO *(level)*, CANCEL SPEED RESTRICTION(S) AT (*point(s)*):

- Descend to the cleared level and comply with published level restrictions
- Follow the lateral profile of the STAR
- Published speed restrictions are cancelled at the specified point(s)



Context: FASTAIR 345 has previously been cleared to descend via STAR DELTA 1B to FL 080 and complying with the charted restrictions.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 DESCEND VIA STAR TO 2 000 FEET CANCEL SPEED RESTRICTION AT TRUNK"*
Pilot	*"DESCEND VIA STAR TO 2 000 FEET CANCEL SPEED RESTRICTION AT TRUNK FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will descend to 2 000 feet while complying with all the restrictions on the STAR, with the exception of the SPEED restriction at TRUNK.

FAA – ICAO Differences

FAA

- FAA uses "*Delete Speed Restriction at <waypoint>"* to deleted a speed restriction at a single waypoint
- When either ATC assigned speed adjustments or published speed restrictions are no longer required, ATC will state "*Delete Speed Restrictions*", which deletes all published & ATC-assigned speed restrictions

ICAO

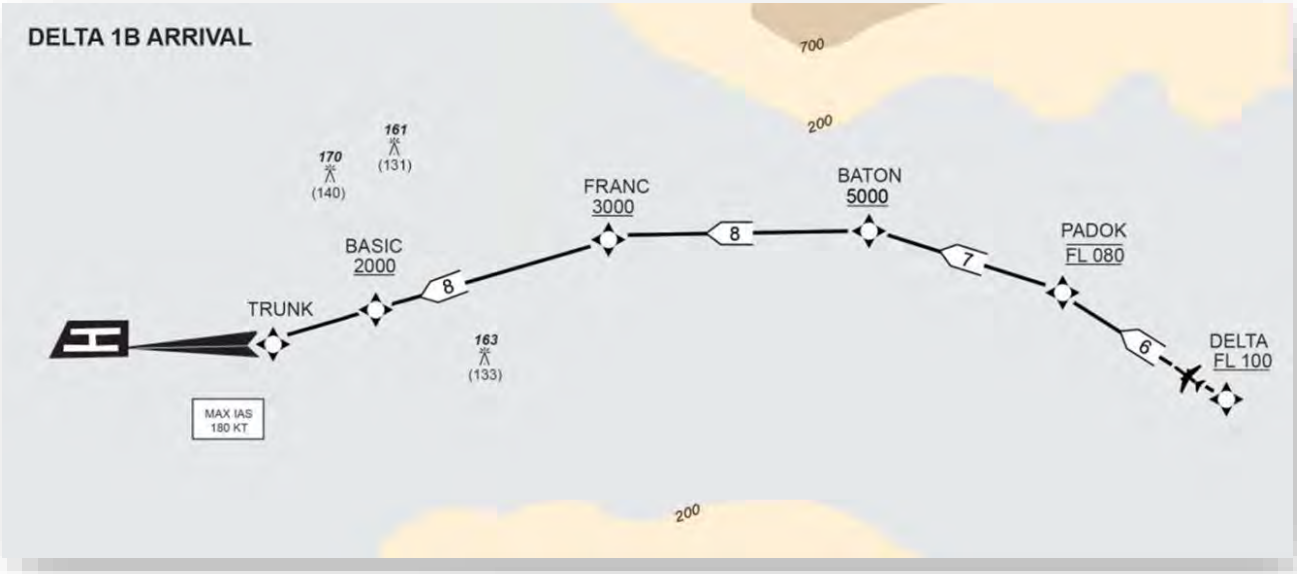
- Uses "Cancel" instead of "Delete"

ICAO Descend Via STAR

Tactical Cancellation Of A Level Restriction

DESCEND VIA STAR TO *(level)*, CANCEL LEVEL RESTRICTION(S) AT (*point(s)*):

- Descend to the cleared level, published level restriction(s) at the specified point(s) are cancelled;
- Follow the lateral profile of the STAR; and
- Comply with published speed restrictions or ATC-issued speed control instructions as applicable



Context: FASTAIR 345 has previously been cleared to descend via STAR DELTA 1B to FL 080 and complying with the charted restrictions.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 DESCEND VIA STAR TO 2 000 FEET CANCEL LEVEL RESTRICTION AT BATON"*
Pilot	*"DESCEND VIA STAR TO 2 000 FEET CANCEL LEVEL RESTRICTION AT BATON FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will descend to 2 000 feet while complying with all the restrictions on the STAR, with the exception of the LEVEL restriction at BATON.

FAA – ICAO Differences

FAA

- FAA uses "*Delete Altitude Restriction at <waypoint>"*
- ATC will restate "*Descend Via*" and then use "*except*" or "*except maintain*" phraseology to modify published restrictions or assign a new bottom altitude
- If altitude restrictions are no longer applicable, the controller issues an amended clearance as follows "*Descend and maintain one four thousand*"

ICAO

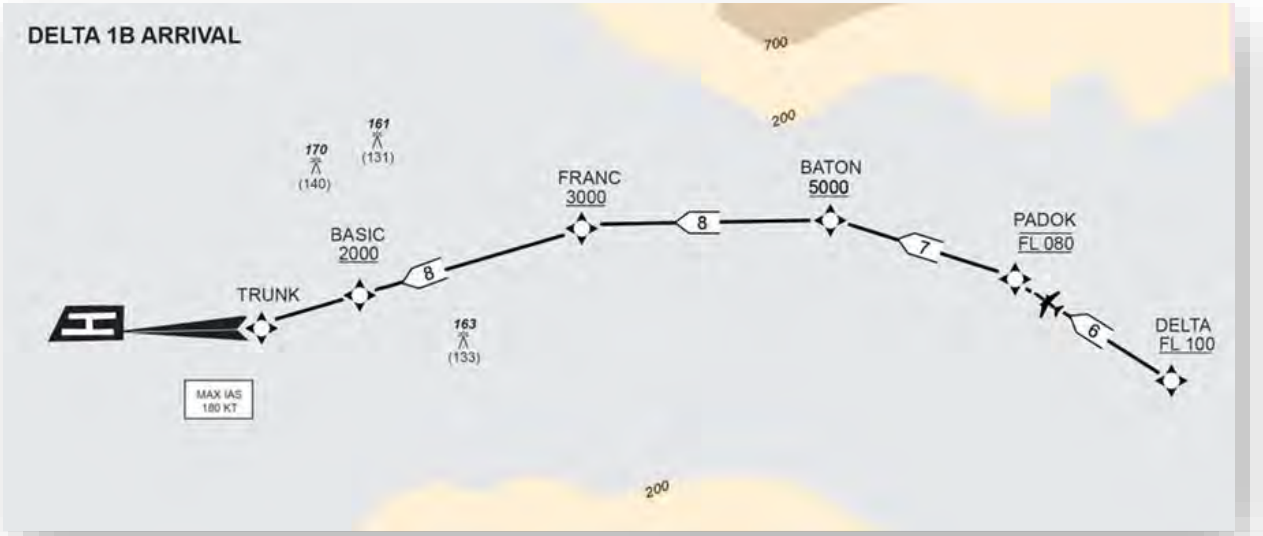
- Uses "Cancel" instead of "Delete"

ICAO Descend Via STAR

Cancellation Of All Restrictions Above The Cleared Level

DESCEND UNRESTRICTED TO *(level)* or DESCEND TO *(level)*, CANCEL LEVEL AND SPEED RESTRICTION(S):

- Descend to the cleared level, published level restrictions are cancelled
- Follow the lateral profile of the STAR
- Published speed restrictions and ATC-issued speed control instructions are cancelled



Context: FASTAIR 345 has previously been cleared to descend via STAR DELTA 1B to FL 080 and complying with the charted restrictions.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 DESCEND UNRESTRICTED TO 4 000 FEET"* *or* *"FASTAIR 345 DESCEND TO 4 000 FEET CANCEL LEVEL AND SPEED RESTRICTIONS"*
Pilot	*"DESCEND UNRESTRICTED TO 4 000 FEET FASTAIR 345"* *or* *"DESCEND TO 4 000 FEET CANCEL LEVEL AND SPEED RESTRICTIONS FASTAIR 345"*

Subsequently…

ATC	*"FASTAIR 345 DESCEND VIA STAR TO 3 000 FEET"*
Pilot	*"DESCEND VIA STAR TO 3 000 FEET FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will descend unrestricted to 4 000 feet and is not required to meet the level and speed restrictions above 4 000 feet.

FAA – ICAO Differences

FAA

- "*Descend And Maintain*" clearance, pilot is expected to vacate current altitude and commence an unrestricted descent to comply with the clearance. For aircraft already descending via a STAR, published altitude restrictions are deleted unless reissued by ATC. Pilots must comply with published speed restrictions
- "*Delete Speed Restrictions*" cancels ATC assigned or published speed restrictions
- FAA equivalent clearance: "*Descend and maintain six thousand, delete speed restrictions*"

ICAO

- Two separate options for phraseology:
  - *DESCEND UNRESTRICTED TO (level) or*
  - *DESCEND TO (level), CANCEL LEVEL AND SPEED RESTRICTION(S)*
- Clearance cancels both published altitude restrictions and published/ATC-assigned speed restrictions

ICAO Descend Via STAR

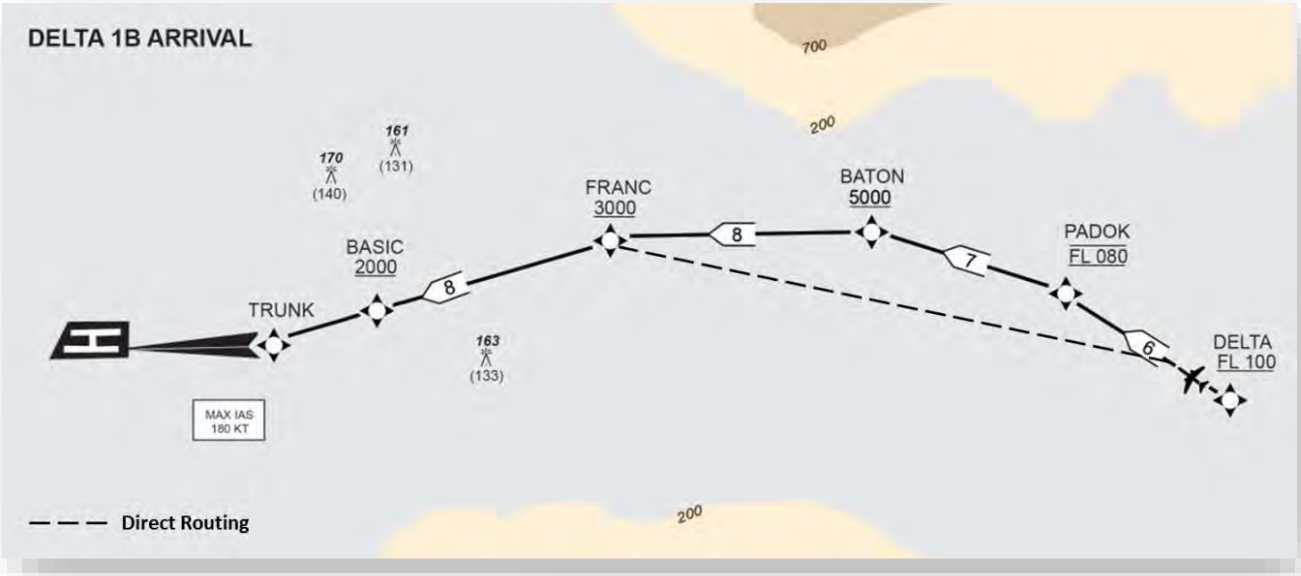
Descend To <Level>

- When no charted restrictions exist, or when there are no other remaining published restrictions, nor remaining level or speed restrictions on the STAR, the phrase or “DESCEND TO (Level)” should be used

ICAO Descend Via STAR

Proceeding Direct To A Point On STAR

When an arriving aircraft is cleared to proceed direct to a published waypoint on the STAR, the speed and level restrictions associated with the bypassed waypoints are cancelled. All remaining published speed and level restrictions shall remain applicable



Context: FASTAIR 345 has previously been cleared to descend via STAR DELTA 1B to FL 080 and complying with the charted restrictions.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 PROCEED DIRECT FRANC DESCEND VIA STAR TO 3 000 FEET"*
Pilot	*"PROCEED DIRECT FRANC DESCEND VIA STAR TO 3 000 FEET FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will proceed direct to FRANC and descend to 3 000 feet. FASTAIR 345 is not required to comply with the published level or speed restrictions at waypoints being bypassed.

FASTAIR 345 must however comply with all published level and speed restrictions at and after FRANC.

FAA – ICAO Differences

FAA

- FAA uses the STAR arrival name
- An altitude is not included in the "Descend Via" clearance unless the "Bottom Altitude" is changed by ATC
- An altitude will be assigned to cross the fix that the aircraft is cleared direct to if no altitude restriction is published at the fix:
  - *"Proceed direct Denis, cross Denis at or above flight level two zero zero, then descend via the MMELL One arrival."*

ICAO

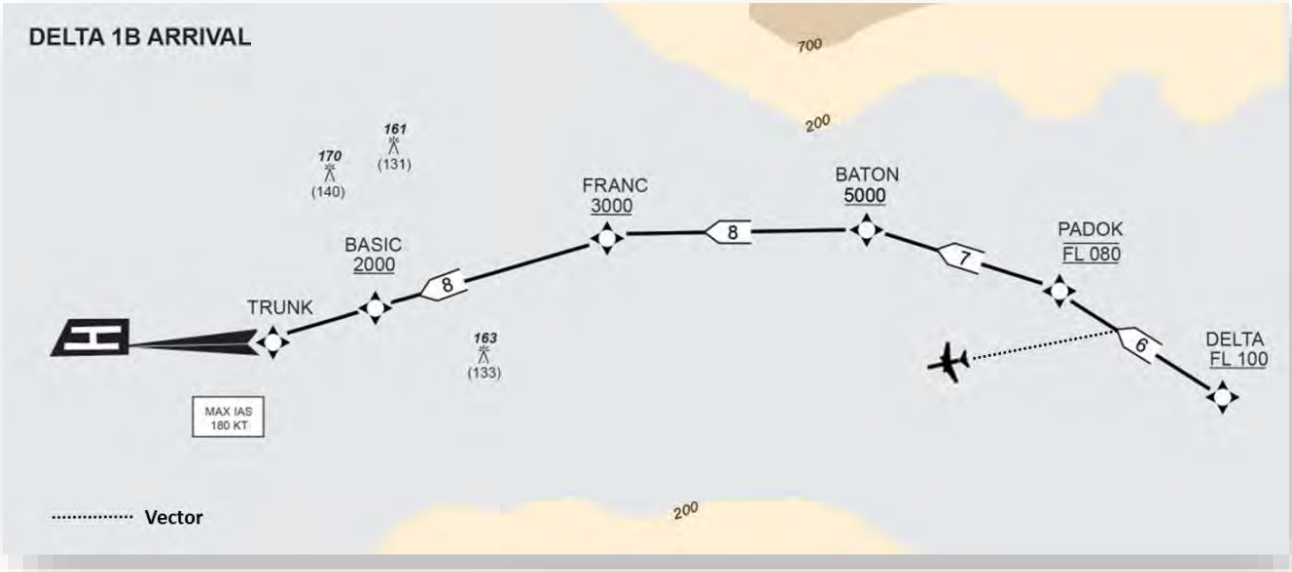
- Cleared **level is always** assigned in the "*Descend Via STAR*" clearance

ICAO Descend Via STAR

Vector Flight Off A STAR

When an arriving aircraft is vectored or cleared to proceed to a point that is not on the STAR, all the published speed and level restrictions of the STAR are cancelled and the controller shall:

- Reiterate the cleared level
- Provide speed and level restrictions as necessary
- Notify the pilot if it is expected that the aircraft will be instructed to subsequently rejoin the STAR



Context: FASTAIR 345 has previously been cleared to descend via STAR DELTA 1B to FL 080 and ATC vectors FASTAIR 345 off the STAR. ATC intends that FASTAIR 345 will rejoin the STAR.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 TURN LEFT HEADING 2-6-0 DUE TRAFFIC DESCEND TO 5 000 FEET EXPECT TO REJOIN STAR AT FRANC"*
Pilot	*"TURN LEFT HEADING 2-6-0 DESCEND TO 5 000 FEET FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will turn left heading 260° and descend to 5 000 feet. All the STAR restrictions are cancelled. The pilot will retain the STAR in the FMS for future rejoin instructions.

FAA – ICAO Differences

FAA

- FAA states the procedure by name:
  - *"Gulfstream one echo mike, fly heading one eight zero, descend and maintain one two thousand, expect to resume the DYAMD Three arrival"*
  - *"Gulfstream one echo mike, deviations left of course approved, descend and maintain one two thousand, expect to resume the DYAMD Three arrival"*

ICAO

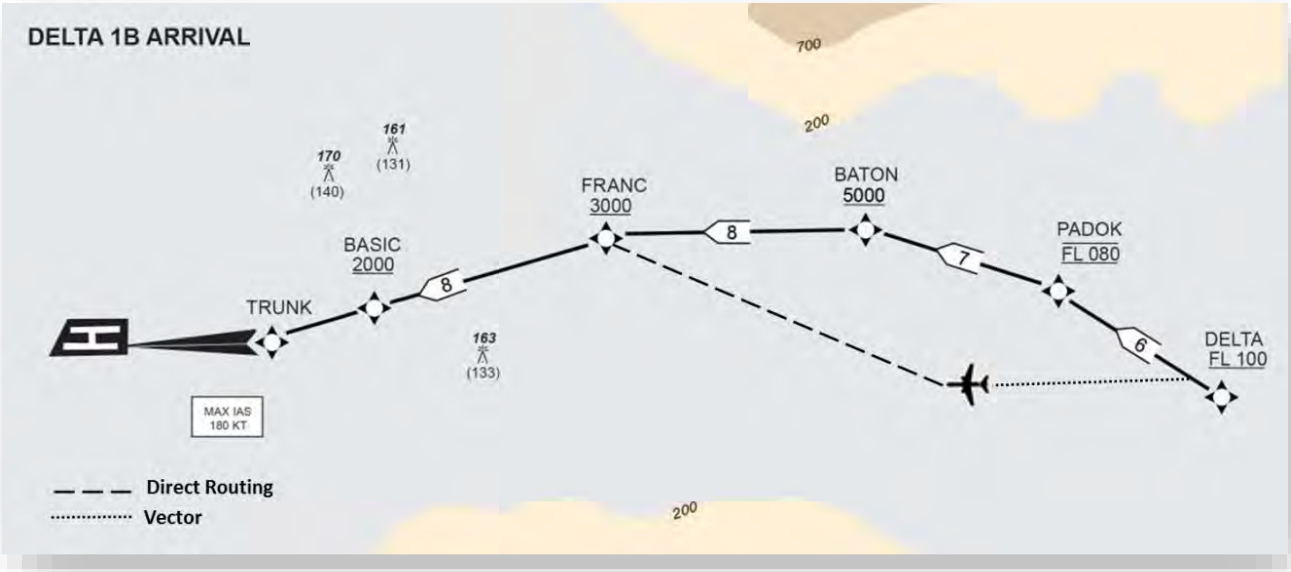
- ICAO phraseology "EXPECT TO REJOIN STAR"
- STAR <Name> is not used

ICAO Descend Via STAR

STAR Rejoin Instruction

ATC instructions to an aircraft to rejoin a STAR shall include:

- The designator of the STAR to be rejoined, unless advance notification of rejoin has been provided
- The cleared level on rejoining the STAR
- The position at which it is expected to rejoin the STAR.



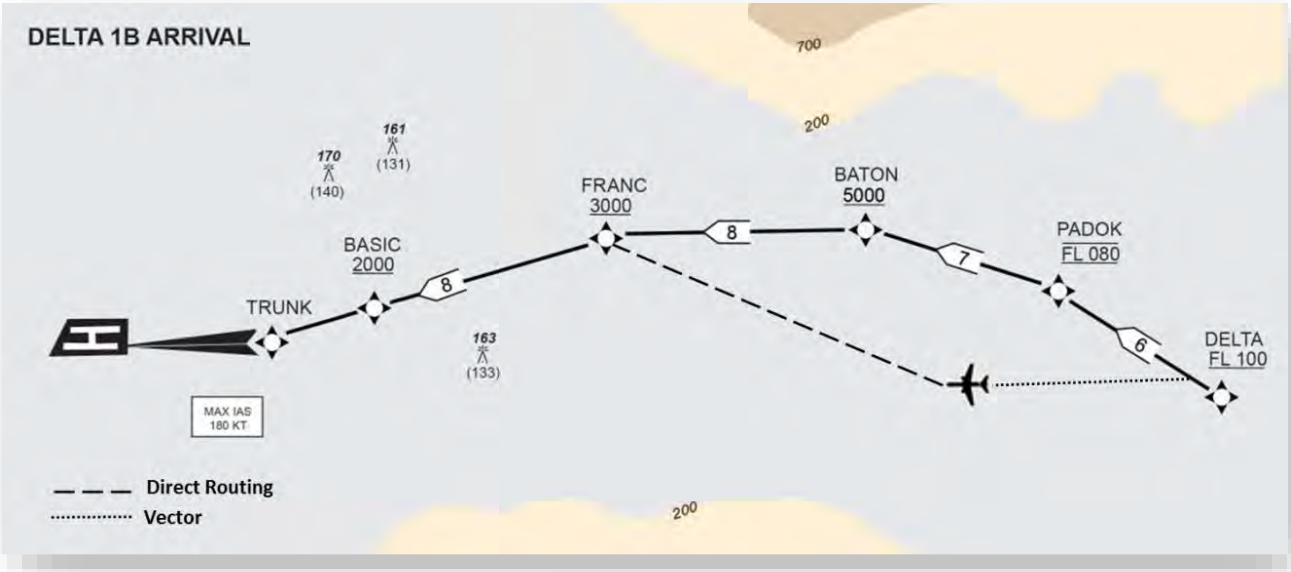
Context: FASTAIR 345 has previously been cleared to descend via STAR DELTA 1B to FL 080 and complying with the charted restrictions.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 TURN LEFT HEADING 2-7-0 DUE TRAFFIC DESCEND TO 5 000 FEET"*
Pilot	*"TURN LEFT HEADING 2-7-0 DESCEND TO 5 000 FEET FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will turn left heading 270° and descend to 5 000 feet. All the STAR restrictions are cancelled.



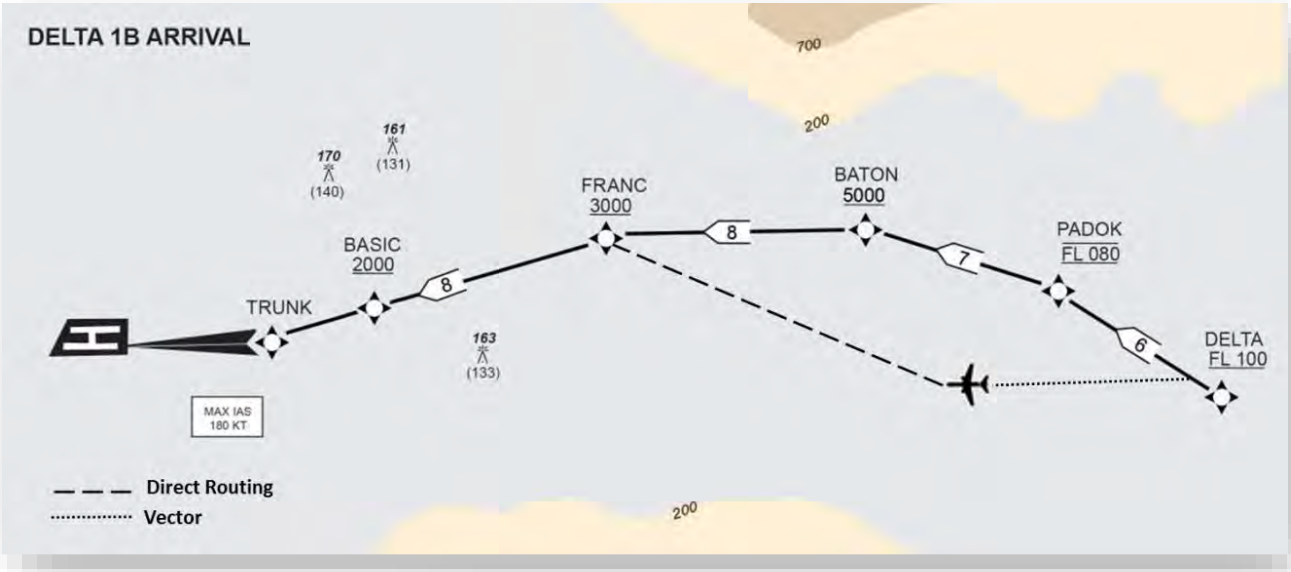
Context: FASTAIR 345 was vectored off the STAR and was not advised to expect to rejoin DELTA 1B Arrival. FASTAIR 345 is currently flying on heading 270° and descending to 5 000 feet when ATC instructs FASTAIR 345 to rejoin STAR DELTA 1B at FRANC.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 PROCEED DIRECT FRANC REJOIN DELTA 1B ARRIVAL DESCEND VIA STAR TO 2 000 FEET"*
Pilot	*"PROCEED DIRECT FRANC REJOIN DELTA 1B ARRIVAL DESCEND VIA STAR TO 2 000 FEET FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will descend to 3 000 feet, proceed direct to FRANC to REJOIN DELTA 1B Arrival and comply with the published level and speed restrictions at and after FRANC. Complying with the restrictions, FASTAIR 345 will descend to 2 000 feet **after** FRANC.



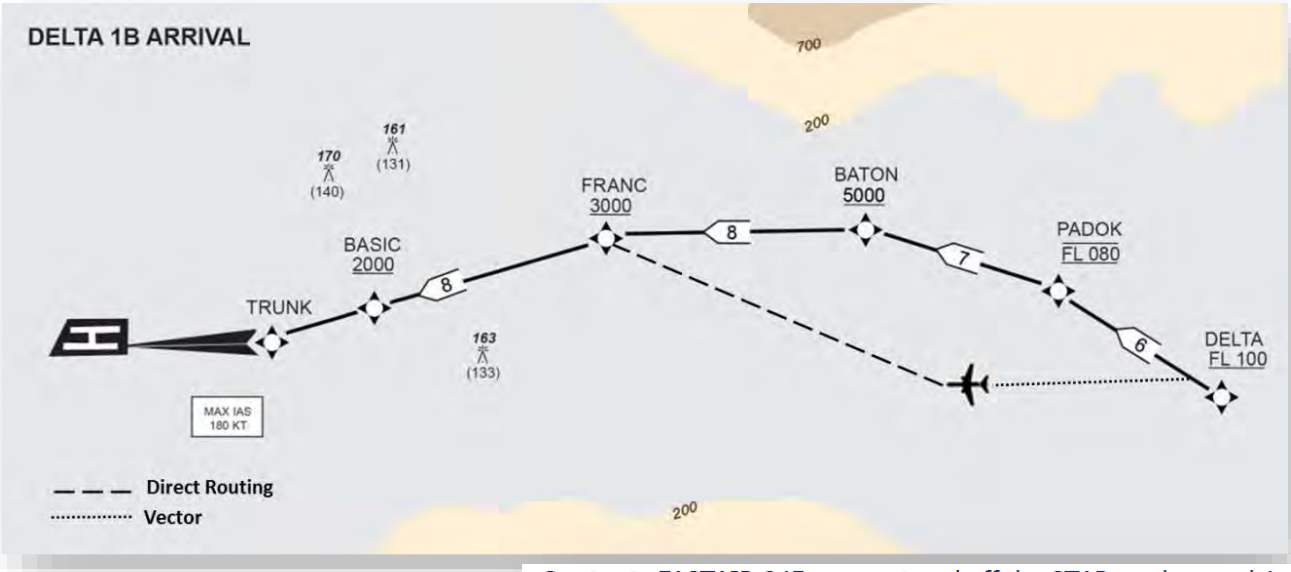
Context: FASTAIR 345 has previously been cleared to descend via STAR DELTA 1B to FL 080 and complying with the charted restrictions.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 DUE TRAFFIC TURN LEFT HEADING 2-7-0 DESCEND TO 5 000 FEET EXPECT TO REJOIN STAR"*
Pilot	*"TURN LEFT HEADING 2-7-0 DESCEND TO 5 000 FEET FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will turn left heading 270° and descend to 5 000 feet. All the STAR restrictions are cancelled.



Context: FASTAIR 345 was vectored off the STAR, and was advised to expect to rejoin STAR. FASTAIR 345 is currently flying on heading 270° and descending to 5 000 feet when ATC instructs FASTAIR 345 to rejoin STAR at FRANC.

ATC clearance and pilot read back

ATC	*"FASTAIR 345 PROCEED DIRECT FRANC REJOIN STAR DESCEND VIA STAR TO 2 000 FEET"*
Pilot	*"PROCEED DIRECT FRANC REJOIN STAR DESCEND VIA STAR TO 2 000 FEET FASTAIR 345"*

Pilot anticipated action

FASTAIR 345 will descend to 3 000 feet, proceed direct to FRANC to REJOIN STAR and comply with the published level and speed restrictions at and after FRANC. Complying with the restrictions, FASTAIR 345 will descend to 2 000 feet **after** FRANC.

NBAA

FAA – ICAO Differences

FAA

- FAA does not use “Rejoin” or “Resume” phraseology in conjunction with a “Descend Via” clearance.
- A “Descend Via” authorizes the aircraft to rejoin the STAR’s lateral path.
- An altitude will not be issued unless it is necessary to change the “Bottom Altitude”:
  - *“Proceed direct DENIS, cross DENIS at or above flight level two zero zero, then descend via the MMELL One arrival”*

ICAO

- Both “Rejoin STAR” & Descend Via STAR” used in the clearance
- If aircraft was not told to expect to rejoin STAR, name of the procedure will be included in the clearance:
  - *“FASTAIR 345 proceed direct FRANC rejoin DELTA 1b arrival descend via STAR to 2 000 feet”*
- If aircraft was told to expect to rejoin, procedure name is excluded:
  - *“FASTAIR 345 proceed direct FRANC rejoin STAR descend via star to 2 000 feet”*
- A level **will always** be issued with the ”Descend Via STAR” clearance

ICAO

Use of “Via” Phraseology

- To avoid potential confusion, “Via” will only be used in conjunction with a “Climb Via SID” or “Descend Via STAR” clearance
- The word “Via” will not be used in any other context for airborne clearance
- The word VIA will no longer be used in conjunction with the route. For example, controllers will no longer say:

“Cleared To The London Heathrow Airport Via …”

The word “VIA” will still appear in Controller-Pilot Data Link Communications (CPDLC) messages, however, it is not use it in Direct Controller Pilot Communication (DCPC).

FAA vs. ICAO

ATC-Assigned Speeds – **Significant Difference**

- ICAO:
  - ICAO PANS-ATM 4.6.1.2 Speed control instructions shall remain in effect unless explicitly cancelled or amended by the controller.
  - "Climb Via SID" or "Descend Via STAR" **does not cancel** a previously issued ATC-assigned speed restriction:

- FAA:
  - "Climb Via SID" or "Descend Via <name> arrival" **deletes** any previously issued ATC-assigned speed restriction. Published speeds now apply

FAA vs. Canada

ATC-Assigned Speeds

- Canada Examples:

  A controller applies a speed reduction to 230K. or less, and then subsequently clears an arrival "VIA STAR." If the first speed restriction on the STAR is 250K at a fix, the 230K ATC speed restriction still applies.

  Or…

  A controller applies a speed restriction to maintain 300K, and then subsequently clears an arrival "VIA STAR." If the first speed restriction on the STAR is 250K at a fix, the 300K ATC speed restriction still applies until CARs supersedes this speed assignment.

- In Canada, pilots should inform ATC when they start to reduce speed to conform to the Canadian Aviation Regulations (CARs)

FAA vs. Canada Only

"Resume Normal Speed"

- Canada:
  - To cancel an ATC-assigned speed restriction, ATC will inform the pilot to "*Resume Normal Speed"*.
  - This will **ensure that upcoming speed restrictions on the SID/STAR will be adhered to**. When applicable, normal speed implies "published" speeds.
  - SID/STAR published speeds apply after "Resume Normal Speed"

- FAA:
  - Cancels ATC issued speed restrictions and instructs pilot to return to normal aircraft speed **where no restrictions are published**. This does not relieve the pilot of those speed restrictions which are applicable to 14 CFR Section 91.117.

FAA vs. ICAO

Additional Differences

Initial Contact Phraseology

- ICAO:
  - Pilots must provide the phrase “Climb Via SID” or “Descend Via STAR” and the cleared level on initial contact
- FAA:
  - Pilots must only provide the cleared altitude/flight level when any ATC-assigned restrictions are not published on the procedure
  - If ATC does not assign an altitude with a “Climb Via” or “Descend Via” clearance, the assigned level is not used on initial contact

ICAO vs. FAA

Additional Differences

- ICAO:
  - Climb Via SID and Descend Via STAR are not “when ready” or “at pilot’s discretion” instructions
  - Pilots must vacate previously assigned altitudes and climb/descend to meet the next published restriction
- FAA
  - Climb Via and Descend Via are “pilot’s discretion” clearances
  - Pilots may begin climb/descend at their discretion

Off Published Routes

PANS-ATM 4444

8.6.5.2 When vectoring an IFR flight and when giving an IFR flight a direct routing which takes the aircraft off an ATS route, the controller shall issue clearances such that the prescribed obstacle clearance will exist at all times until the aircraft reaches the point where the pilot will resume own navigation. When necessary, the relevant minimum vectoring altitude shall include a correction for low temperature effect.

8.6.5.5 In terminating vectoring of an aircraft, the controller shall instruct the pilot to resume own navigation, giving the pilot the aircraft's position and appropriate instructions, as necessary, in the form prescribed in 8.6.4.2 b), if the current instructions had diverted the aircraft from a previously assigned route.

NBAA

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