VT-10
VNAV PLANNING GUIDE
Updated: 5 October 2017

CONTENTS

1. STUDENT INFORMATION
2. SIMULATOR EVENT INFO
3. T-6A VISUAL NAVIGATION ROUTES
4. T-6A CHART STANDARDS
5. JMPS PLANNING CHECKLIST
STUDENT INFORMATION

1. Introduction

This supplement presents the most current route information available and also includes detailed planning standards, chart-making checklists and JMPS instruction.

2. Integrity

- No sharing of JMPS files.
- Do your own work. You shall create and print your own products. Crosschecking is encouraged – copying is not!
- Dishonest or deceitful behavior will result in attrition.
- Live by the gouge, die by the gouge.

3. Notes

- Be familiar with this guide prior to JMPS class, but do not plan routes until after the JMPS class.
- Ground school instructors will discuss materials to purchase. Strip chart book materials can be purchased for $8.00 for two books of 18 pages each (5.5” x 5.5”) from Blue Angel UPS store or Barrancas UPS.
- Bring all route books for the block to the brief for weather contingencies. (all VNAV or MTR charts)
- All charts shall be turned in to the STAN office at the completion of the block checkride.

4. JMPS Lab on Flight Side

- Build your routes initially at Griffith Hall JMPS lab because the preferences are set to VT-10 Standards.
- After completing your routes, burn all the JRT files to a CD. George Shipman at Griffith Hall book issue has disks.
- VT-10 has a Satellite JMPS lab located in the Student Study Room on the 1st floor of the Squadron Spaces. Students may flight plan with their disks in the flight side JMPS lab.
SIMULATOR EVENT INFO

This section provides guidance for the Visual Navigation (VNAV) simulator events. Included are administrative notes, event profiles, and a checklist for completion of ground procedures during VNAV simulator events. Bring the underlined items to each simulator event.

1. Administrative

- **Gloves** shall be worn, but helmets, oxygen masks, G-suits, and harnesses are not required.

- The NATOPS Pilot’s **Pocket Checklist** shall be readily available during the brief, flight, and debrief.

- Bring applicable (IFR and VFR) enroute charts, IAP booklets, a FIH and an IFR Supplement for each simulator event (as you would in the airplane)

- A kneeboard with scratch pad and attached writing utensil will be brought to each simulator event.

- **DD-175**: A DD-175 flight plan will be prepared for each of your simulator events. The necessary information is provided in the “Event Profiles” section of this document. We have provided weather at your destination and a qualifying alternate. Determine if your destination is VFR or IFR. Then calculate proper divert fuels via FTI divert procedures. You must utilize knowledge from the Visual Navigation class, the Visual Navigation FTI, and Chapter 4 of the General Planning publication to properly prepare flight plans for these missions. **Provide a copy of the DD-175 to the instructor.**

  Jet Log: A JMPS generated Jet Log shall be prepared as per the FTI and your VNAV class. Winds for the route will be “light and variable”. Therefore, it is not necessary to wind either your jet log or VNAV chart. **Provide a copy of the jet log to the instructor.**

- **VNAV Strip Chart**: VNAV Strip Charts shall be prepared as per the FTI, your VNAV class, and the VT-10 T-6A Chart Standards provided in this document. Winds are planned for “light and variable”; therefore, no pre-flight planning for winds is necessary.

- **Bring AHAS Route Conditions** for the day of the event (http://www.usahas.com/)

- **Ground Procedures**: Due to limited time available in the simulator, abbreviated ground procedures will be utilized to get the airborne portion of the event going as quickly as possible. The attached ground procedures checklist will be used to facilitate completion of preflight items in the simulator. While conducting simulator events, students will imagine themselves to be in the rear cockpit, allowing the instructor to make appropriate front cockpit responses. Bring a copy of the checklist to the event.

- **Gouge**: The following items are considered gouge that is not permissible during any VNAV event.

  - **Calculators**
  - **Tab Charts/Tables not part of the CTW-6 In-Flight Guide**
  - ** Anything on Enroute Charts other than scheduled Primary or Secondary route marked in a temporary way.**
  - **Anything on Approach Plates other than NOTAMS or Calculated VDPs**
2. Event Profiles

- N3101 will be flown on **VNAV 5**: Discuss
  a. CTS for the block.
  b. Time and Course corrections.
  c. VNAV Turn Point Procedures.
  d. FACCU Process

<table>
<thead>
<tr>
<th>Departure:</th>
<th>Altitude:</th>
<th>True Airspeed:</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNPA 25L/R</td>
<td>4,500' MSL</td>
<td>180 kts.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Route:</th>
<th>Destination:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPA-627</td>
<td>K1R8</td>
</tr>
<tr>
<td>VFR to Pt. A-G. VFR to 1R8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approaches:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vectors Final RNAV RWY 26 @ K1R8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weather:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bay Minette (K1R8) 27010 10SM SCT080 19/16 A2990</td>
</tr>
<tr>
<td>Mobile Downtown (KBFM) 35010 10SM SCT060 19/16 A2990</td>
</tr>
</tbody>
</table>

- N3102 will be flown on **VNAV 1**: Discuss
  a. Same discuss items in N3101
  b. Differences in IFR/VFR clearances.

<table>
<thead>
<tr>
<th>Departure:</th>
<th>Altitude:</th>
<th>True Airspeed:</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNPA 25L/R</td>
<td>10,000' MSL</td>
<td>240 kts.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Route:</th>
<th>Destination:</th>
</tr>
</thead>
<tbody>
<tr>
<td>DD-175</td>
<td>KNPA</td>
</tr>
<tr>
<td>IFR to TEEZY, TRADR</td>
<td></td>
</tr>
<tr>
<td>VFR from TRADR to Pt. A-G.</td>
<td></td>
</tr>
<tr>
<td>IFR from Pt. G. to SIDNY</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approaches:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAR Rwy 7L @ KNPA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weather:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAS Pensacola (KNPA) 01010 2SM BKN008 19/16 A2990</td>
</tr>
<tr>
<td>Mobile Downtown (KBFM) 35010 3SM BKN012 19/16 A2990</td>
</tr>
</tbody>
</table>
3. Simulator Ground Procedures Checklist

**T-6 VNAV Simulator Event**
**Ground Procedures Checklist**

**Before Taxi**
9. Standby Attitude Indicator.......................... Uncaged, Adjust (BOTH)
14. GPS................................................................. On & Set
15. Flight Instruments........................................... Checked (BOTH)
16. RMU
   a. UHF COMM......................................................... Set
   b. VHF COMM....................................................... Set
   c. Transponder...................................................... Set
   d. VHF NAV........................................................... Set
17. Altimeters.................................................... XX.XX Set (BOTH)

**Copy ATIS and Clearance**

**Skip Taxi Checklist & Call to Ground**

**Instrument Checklist**
7. EFIS Control Panel........................................ Set
9. CLOCK........................................................... Set, Time Is ____

**Skip Overspeed Governor Checklist**

**Before Takeoff Checklist**
1. Min Power at 60 KIAS............................................ Compute
9. Seat Safety Pin.............................................. Removed & Stowed (BOTH)

**Departure Brief**

**Time Hack** (For IFR departure only. Elapsed Timer selected and reset to 00+00 for VFR Departure)

**Skip call to base**

**Contact Tower for Takeoff**

**Lineup Check**
1. Caution & Warning Panel............................... Clear (BOTH)
2. Probes Anti-ice................................................ On
3. Transponder....................................................... Squawking ____ Altitude
4. TAS STBY/NORM/TEST Switch....................... NORM
5. Exterior Lights.................................................. On
6. Nose Wheel Steering........................................ Off
# T-6A VISUAL NAVIGATION ROUTES

## 1. VNAV 1 Route

<table>
<thead>
<tr>
<th>Altitude</th>
<th>Point</th>
<th>Fac/Rad/DME</th>
<th>Lat/Long</th>
</tr>
</thead>
<tbody>
<tr>
<td>As assigned to</td>
<td>A-PWR PLT</td>
<td>SJI 040025</td>
<td>N3100.4/W8800.6</td>
</tr>
<tr>
<td>2500’ MSL to</td>
<td>B-PWR PLT</td>
<td>GCV 062027</td>
<td>N3116.7/W8800.1</td>
</tr>
<tr>
<td>2500’ MSL to</td>
<td>C-RD/RR BR</td>
<td>MVC 298021</td>
<td>N3138.8/W8742.1</td>
</tr>
<tr>
<td>2500’ MSL to</td>
<td>D-MICROWAVE TWR</td>
<td>MVC 345012</td>
<td>N3139.4/W8723.9</td>
</tr>
<tr>
<td>2500’ MSL to</td>
<td>E-SAWMILL</td>
<td>MVC 229004</td>
<td>N3125.4/W8724.7</td>
</tr>
<tr>
<td>2500’ MSL to</td>
<td>F-LAKE</td>
<td>MVC 221025</td>
<td>N3109.8/W8742.0</td>
</tr>
<tr>
<td>2500’ MSL to</td>
<td>G RD INTX</td>
<td>BFM 032026</td>
<td>N3058.1/W8745.4</td>
</tr>
</tbody>
</table>

## 2. VNAV 2 Route

<table>
<thead>
<tr>
<th>Altitude</th>
<th>Point</th>
<th>Fac/Rad/DME</th>
<th>Lat/Long</th>
</tr>
</thead>
<tbody>
<tr>
<td>As assigned to</td>
<td>A-WHITE WTR TWR IN MCCULLOUGH</td>
<td>MVC 200020</td>
<td>N3110.0/W8731.6</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>B-BLACK SILO</td>
<td>MVC 264006</td>
<td>N3127.4/W8727.8</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>C-RR/DIRT RD INTX</td>
<td>MVC 004015</td>
<td>N3142.9/W8718.5</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>D-TWR &amp; GRAIN SILOS</td>
<td>MVC 068020</td>
<td>N3134.1/W8658.6</td>
</tr>
<tr>
<td>2500’ MSL to</td>
<td>E-TRAILER BY SMALL LK</td>
<td>MVC 093030</td>
<td>N3123.8/W8646.0</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>F-5 GRAIN SILOS</td>
<td>CEW 347013</td>
<td>N3102.0/W8643.4</td>
</tr>
</tbody>
</table>

## 3. VNAV 3 Route

<table>
<thead>
<tr>
<th>Altitude</th>
<th>Point</th>
<th>Fac/Rad/DME</th>
<th>Lat/Long</th>
</tr>
</thead>
<tbody>
<tr>
<td>As assigned to</td>
<td>A-RD/RVR BR</td>
<td>SJI 240016</td>
<td>N3036.7/W8838.5</td>
</tr>
<tr>
<td>2500’ MSL to</td>
<td>B-RD INTX</td>
<td>SJI 265029</td>
<td>N3043.8/W8855.0</td>
</tr>
<tr>
<td>2500’ MSL to</td>
<td>C-LK</td>
<td>GPT 327019</td>
<td>N3040.7/W8915.8</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>D-RD/PL INTX</td>
<td>LBY 175025</td>
<td>N3100.0/W8920.5</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>E-HOUSES ON LK</td>
<td>LBY 210009</td>
<td>N3117.7/W8926.1</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>F-MIDDLE CHICKEN RANCH</td>
<td>LBY 065010</td>
<td>N3128.7/W8908.9</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>G-CHURCH</td>
<td>LBY 074028</td>
<td>N3130.4/W8848.2</td>
</tr>
</tbody>
</table>

## 4. VNAV 4 Route

<table>
<thead>
<tr>
<th>Altitude</th>
<th>Point</th>
<th>Fac/Rad/DME</th>
<th>Lat/Long</th>
</tr>
</thead>
<tbody>
<tr>
<td>As assigned to</td>
<td>A-MON LOUIS BAY BR</td>
<td>BFM 191011</td>
<td>N3026.6/W8806.8</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>B-HWY CPA</td>
<td>SJI 183016</td>
<td>N3028.4/W8824.2</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>C-RD/RVR BR</td>
<td>SJI 275021</td>
<td>N3046.8/W8845.8</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>D-RD/PL INTX</td>
<td>SJI 321014</td>
<td>N3055.5/W8830.9</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>E-RD BR S OF ESCATAWPA</td>
<td>GCV 019012</td>
<td>N3117.0/W8823.5</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>F-BALLPARK</td>
<td>GCV 024025</td>
<td>N3127.6/W8815.2</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>G-LK</td>
<td>MVC 221025</td>
<td>N3109.6/W8742.4</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>H-RD INTX</td>
<td>BFM 032026</td>
<td>N3057.9/W8745.6</td>
</tr>
</tbody>
</table>
5. VNAV 5 Route

<table>
<thead>
<tr>
<th>Altitude</th>
<th>Point</th>
<th>Fac/Rad/DME</th>
<th>Lat/Long</th>
</tr>
</thead>
<tbody>
<tr>
<td>As assigned to</td>
<td>A-RR /PL INTX</td>
<td>BFM 038024</td>
<td>N3054.7/W8744.3</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>B-LK</td>
<td>SIJ 041021</td>
<td>N3058.5/W8803.3</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>C-RD/RVR BR</td>
<td>GCV 141008</td>
<td>N3059.2/W8824.2</td>
</tr>
<tr>
<td>2500’ MSL to</td>
<td>D-BLUE WTR TWR</td>
<td>GCV 033020</td>
<td>N3121.7/W8814.9</td>
</tr>
<tr>
<td>2500’ MSL to</td>
<td>E-RD/RVR BR</td>
<td>MVC 274030</td>
<td>N3131.4/W8756.1</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>F-GRAIN ELEVATOR</td>
<td>MVC 294010</td>
<td>N3132.2/W8731.7</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>G-MINE</td>
<td>MVC 319024</td>
<td>N3146.7/W8738.2</td>
</tr>
</tbody>
</table>

6. VNAV MAX Route

<table>
<thead>
<tr>
<th>Altitude</th>
<th>Point</th>
<th>Fac/Rad/DME</th>
<th>Lat/Long</th>
</tr>
</thead>
<tbody>
<tr>
<td>As assigned to</td>
<td>A-SAWMILL</td>
<td>MVC 080022</td>
<td>N3129.8/W8655.7</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>B-BR</td>
<td>MVC 090045</td>
<td>N3124.0/W8628.8</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>C-DAM</td>
<td>MGM 172034</td>
<td>N3139.0/W8616.2</td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>D- I-65 RD BR</td>
<td>MGM 213023</td>
<td>N3154.6/W8635.3</td>
</tr>
<tr>
<td>2100’ MSL to</td>
<td>E-SOUTHERN LARGE WHITE</td>
<td>MVC 067033</td>
<td>N3138.1/W8644.5</td>
</tr>
<tr>
<td></td>
<td>BLDG IN GEORGIANA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000’ MSL to</td>
<td>F-555’ MICROWAVE TWR</td>
<td>MVC 023019</td>
<td>N3144.4/W8711.2</td>
</tr>
</tbody>
</table>

BR Bridge
CPA Closest Point of Approach
HWY Highway
INTX INTERSECTION
LK Lake
PL Power Line
PWRPLT Power Plant
RR Rail Road
RD Road
RVR River
TWR Tower
WTR Water
VT-10 T-6A CHART STANDARDS

1. Low-Level Route

- Chart scale – TPC, Zoom to 130%
- Turnpoint circles – Black, centered on the visual checkpoint
- IP – square, Target – Triangle
- Course line – Black
- Route Corridor – Yellow. 4nm either side of centerline for VNAVs. As required for MTRs.
- Turnpoint labels – White, with black background
  - Time and the TP letter – (example: 00+00 A)
- Time ticks – 1 min apart, every 3rd labeled
- Distance ticks – none
- Doghouses – 6 components, parallel to course line, located outside of route corridor
  1. Magnetic Course
  2. Leg Distance
  3. Leg Time
  4. Altitude (MSL) – per Planning Guide
  5. Mission Completion Fuel (MCF) - in pencil
  6. Nearest Emergency Divert Divert box – 3 letter ID, bearing, distance (example: 1R8 090 015)
- Chum – Blue, updated for current month
  - Only chum can be drawn inside turnpoint circle
  - Hazards within 500’ of altitude – Red circle, 1nm in diameter
  - Manually write in any updates after the initial printing instead of reprinting the chart.
- Crossing Routes – Green arrow on the side it is coming from. Labelled with name.
  - VNAVs – other VNAV routes
  - Section Low Levels – any MTR that crosses route
- Intermediate Checkpoints – Should have 1 per leg (not required on short leg (i.e. 4 min or less))
  - Handwritten on a margin of strip chart after printed out... OR... JPMS generated text box placed outside of route corridor, abeam the point prior to printing.
  - ICP’s also annotated on Jet Log (can be be handwritten). Should include time and deviation from centerline. ICP’s may be highlighted on strip charts.
- CTAF fields inside route corridor and emergency diverts – Yellow text box with black lettering
  - Placed outside route corridor
  - Include airfield name, 3 Letter ID, and CTAF/Tower freq in box
- Use JMPS to enter Name and Route name at the bottom of each page of the strip chart.

2. Overview Chart

- Scale – ONC, Zoom 100%. Entire route should fit on one page, with everything legible
- JMPS Overlays – Airports, Navaids, SUAS, Airspace Boundaries
- Must include route, takeoff airport, destination airport, 2 civilian diverts and 2 military diverts with gov’t/contract fuel
- Use the T-6 Overview drawing file which should include:
  - Diverts: Civilian/Emergency - Triangle  Military – Square
  - Emergency diverts along the route should include at a minimum:
    - The field’s three letter identifier
    - Tower or Common Traffic Advisory Frequency (CTAF)
- Class B,C,D airspace needs to have altitudes written near it in a text box.

3. Stripping the Chart (getting from JMPS to a route book)

- Use manila file folders as the base and cut them to size. The best adhesive to use is spray (i.e.3M Type 77). Rubber cement and other “wet” glues will cause the colors to bleed and render your chart unusable. Stick glue may also work.
- Book should be 5-1/2” wide by 11” tall. This gives enough room for the JMPS strip chart and a margin for leg notes. The final product should fit on a kneeboard or under an approach strap.
• Per the FTI, books are built from back to front (i.e. reverse order). Last page will be the Overview chart. Next will be from A to B, then B to C, and so on.
• Include on front cover of strip chart:
  Name/Class Number/ Route Name
  Copy of the VNAV Planning Guide or AP-1/B route description
• In margins for each leg:
  o Wind T’s
  o Wind compensations – preflighted crab and airspeed
  o MCF
  o Intermediate Checkpoints (description, distance off course, ETA)
• All writing neat and legible
• Bring ALL route charts to the brief because of weather (i.e. all VNAV or all MTRs).
• Have enough VFR Sectional or TPC coverage to navigate visually from the IFR cancellation point to the entry point.
Setting Up Master Permissions (Click apply after each update)

1. Select Graphical View (on the left side), select Options, Preferences and verify the following:
   a. Chart Tool
      i. Single Page
         1. Category - CADRG
         2. Scale - ONC 1:1M
         3. Non - Polar Projection – Equal arc
         4. Scale factor - 100%
         5. Labeling Options
            a. Deselect all checkmarks
      ii. Strip Chart
         1. Category - CADRG
         2. Scale - TPC 1:500K
         3. Orientation - Follow Route
         4. Non-Polar Projection – Equal arc
         5. Scale factor - 130%
         6. Page Overlap – 1.94in
         7. Virtual Page Setup:
            Rows-1, Columns-2, Horizontal and Vertical Spacing - 0.25, Landscape
         8. Labeling Options
            a. Deselect all checkmarks
   b. DAFIF
      i. Airports
         1. Min. Use Runway Length3000, Width-75
         2. Civ, Mil, Joint Use, Minimum Facilities - ON
         3. Hide airports above-1:1M
         4. Hide airport labels above-1:250K
      ii. Airspace Boundaries
         1. Airspace Type – NONE
         2. Airspace Class – B, C, D
         3. Polygon Type-Edged, Background-ON
         4. Enable Tooltip - ON
         5. Hide Airspace Boundaries above-1:2M
         6. Hide Airspace Boundaries Labels above-1:250K
      iii. Military Training Routes
         1. Deselect All Route Options
         2. Displayed Route Options
            a. Display Route Corridors-ON
            b. Display Route Centerline -OFF
         3. Center and Corridor line color boxes – Yellow
         4. Remove all Routes Displayed
         5. VR & IR Routes - ON
         6. Hide routes above - 1:500K
         7. Hide labels above - 1:250K
iv. Navaids

1. VOR - ON (only)
2. Hide Nav above-1:2M
3. Hide labels above-1:2M

v. SUAS Boundaries
1. SUAS Filter – Select MOA, Prohibited, Restricted, Temp, Warning
2. Polygon Type - Edged, Background
3. Display Threshold – Hide SUAS Boundary above 1:2M, Hide SUAS Boundary Labels above 1:250K

c. Electronic Chum
   i. Blue based icons and power lines
   ii. Line Width – Thin
   iii. Use height-specific icons – ON
   iv. Use Yellow Icons to Show Out of Synch Items - OFF
   v. Highlight New ECHUM - 2 Months
   vi. Hide CHUM labels above - 1:500K

d. Kneeboard Cards
   i. One-click Form Generation
      1. Deselect Always Prompt for Data Selection
      2. Add template from Master Template M: drive (T-6A VNAV.jxt) as required
      3. Remove all other templates

e. Manual Chum
   i. Blue based icons and power lines
   ii. Line Width – Thin
   iii. Hide Manual Chum above – 1:500K
   iv. Hide chum labels above – 1:500K

f. Route
   i. Arrival Gate Preferences
      1. Change Gate ID to KNPA/A
   ii. Calculate Point Displays
      1. Kneeboard – Clear All
      2. Graphical Editor – Clear All
      3. Tabular Editor – Clear All
   iii. Default Vehicle
      1. Change to Generic 03 Aircraft
   iv. Departure Point
      1. Change Point ID to KNPA/A
   v. Graphical Editor
      1. Corridor
         a. Hide above 1:500K
         b. Check Route Corridor-On, Clipping-ON
         c. Color – Yellow
         d. Line Thickness – 2
         e. Width – check Symmetrical, enter 4 nm
      2. Doghouses
         a. Hide Doghouses Above - 1:500K
         b. Doghouse, Dividing Line, Bind to leg - ON
         c. Side of Route – Outside of Turn
         d. Initial Distance Up Route Leg – ¼
         e. Color - White
         f. Shading – 69.9%
         g. Font - Arial, Regular, 20, Outline, Background Color White, Foreground Color Black
         h. Template – Copy (1) of VT-10 STAN
   3. General
      a. Deselect all under Route Point Labels
      b. Line Thickness - 3
      c. Leg Style - Solid
      d. Symbol Size - 40
      e. Route Colors – Path – Black
      f. Deselect Hide Route Legs and Points
      g. Select Hide Alt Paths
4. Rehearsal -- Deselect Route Rehearsal On

5. Tick Marks
   a. Display Threshold-1:500K
   b. Tick Mark Length - Full Right
      i. Distance Marks Tab
         1. Distance Marks ON - Deselected
      ii. Time Marks Tab
         1. Time Tick Marks ON - Selected
         2. Major Tick Spacing - 3 min (type in)
         3. Minor Tick Spacing - 1 min
         4. Side of Route - Right
         5. Font - Arial, Regular, 22, Background Outline, Background Color Black, Foreground Color White
         6. Type - Elapsed Time per Route

6. Time Hacks
   a. Display Threshold - 1:500K
   b. Time Hacks - ON
   c. Font – Arial, Regular, 72, Background Outline, Background Color White, Foreground Color Black
   d. Type - Clock Time
   e. Show ETA at End of Route Leg - OFF
   f. Lock Time Hack Labels – OFF

vi. Vehicle Preferences
   1. Generic 03 Aircraft
      a. Configuration Preferences
         1. Bingo – 0
         2. Recovery Fuel – 200
         3. Min Fuel – 200
         4. Climb/Descent Alt. Difference - 1,000
      b. FPM Preferences
         1. Climb- Manual, then Inputs – 600 pph, 2500 fpm, 140 KTAS
         2. Cruise – Manual, then Inputs - 450 pph
         3. Descent – Manual, then Inputs - 300 pph, 1500 fpm, 180 KTAS
      c. Standard Aircraft Preferences
         1. Minimum MSL – 0
         2. Max MSL – 31000
         3. Bank Angle – Enter 3G
         4. Airspeed – For VNAVs, enter 180G / For Form, enter 210G
      d. STTO Preferences
         1. Fuel – 50

g. Scale Bar
   i. Display Scales – BOTH
   ii. Font Size – Large
   iii. Units – Nautical Miles/Yards
   iv. Foreground – Black
   v. Background - White

h Session Preferences
   i. Coordinate Options Tab
      1. Coordinate Format
         a. Primary – Lat/Long H DD MM .M
   ii. TO SAVE ANY CHANGES TO PREFERENCES:
      *(If no changes were made, you may skip step ii)*
      1. Select General Tab
      2. Select Save Session Layout Automatically on Exit, Apply.
      3. Then exit out of JMPS
      4. Reopen JMPS and Deselect Save Session Layout Automatically on Exit, Apply.

i. View Preferences
   i. Map Background - Center – N 30 20.0 / W 087 18.0
   j. Click OK to close out Preferences.
Building a Chart in JMPS

Class Leader creates a class folder on the “S:/StudentFolder” drive.
Each student creates a new folder with last name in their class’s folder

1. Open a New Route: - File, New, Route, Select GENERIC 03 AIRCRAFT, Create, then go to Tabular View
   a. Enter the VNAV Route as defined in the VT-10 VNAV Planning Guide.
      i. Fix/Point Box, label your Point.
         You must put a “.” in front of your TP label (.A PWR PLT,. B BR, etc.)
      iii. Enter Lat/Long.
      ii. Do this for each TP.
   b. Delete KNPA line (Route should consist of Point A through target).
   c. Change Point Types for IP (initial point) and TGT (target)
   d. Verify airspeed, bank angle, and altitude
      i. Airspeed: VNAVs – 180G
      ii. Bank Angle is 3G, unless it is the first point on an MTR route or out of the target on a MTR route, then it is 0.
      iii. Enter MSL altitudes for each leg.
      iv. Double check your entries.
   e. Calculate your route and fix any errors
      i. Compare results with another student.
         ii. Do not continue if your route does not calculate properly!

2. Save your .jrt file
   a. File - Save As – S:/StudentFolder/(Your class number)/(Your folder)/ “Last Name VNAV X”.

3. Print a draft of your pilot card.
   a. Select “One-Click For Generation” Icon
   b. Open Excel form (should appear on bottom bar after generated)
   c. Print card
   d. Do not save. This is a draft copy of pilot card for note taking. Final version is printed later.
4. Build and Print an ONC Overview Chart
   a. Switch back to Graphical View
   b. Menu - Overlay
      i. Turn on - Scale Bar, Airports, Airspace Boundaries, NAVAIDs, and SUAS Boundaries
   c. Change route line thickness
      i. Overlay – Overlay Options – Select your .jrt file
      ii. Change Line Thickness to 6
      iii. Change Symbol Size to 20
   d. Brighten Map
      i. Ctrl <B> - Four times to brighten map.
   e. Open the Divert Drawing file
      i. File – Open – Drawing – OK – Ensure File Type is “.drw” – Select M:\Mastertemplates\OverviewT6.drw
   f. Set up Overlay Layers
      i. Overlay – Overlay Manager – Scale Bar on top, Drawing File second, remaining overlays in any order
   g. Print an Overview
      i. Select Chart Tool
      ii. Select Single Page Layout Tool
      iii. Click in the middle of your route. (Recommend dropping chart on the 1:2M scale to see placement).
      iv. Select Portrait/Landscape as appropriate from Print Setup button.
      vi. Select Print Preview and check your work before you print.
   h. Use Print/Print Preview from Chart Toolbar on right side.
   *** Include NPA, VNAV Route, two Military Diverts, and two Civilian Diverts. ***
      vii. Select Print
         1. Select Downgrade
            a. Check Suppress Classification on Printouts
         2. Print Banner – Override
         3. Print your overview
   i. viii. Remove the Chart file (.cht) from Open Planning Data (Left Side)
         1. Right Click – Remove from view or Close (Do not save)

5. Undo Things Specific to Overview Charts
   a. Turn OFF Scale Bar, Airports, and NAVAIDs
   b. Change route line thickness
      1. Overlay – Overlay Options – Select your .jrt file
      2. Change Line Thickness to 3
      3. Change Symbol Size to 40

6. Determine Nearest Emergency Divert for Each Turnpoint
   a. Center the screen on the turnpoint using Right click – Center Map, Use 1:500 TPC scale, Set Zoom - 100%
   b. Click on the Analysis Tool
      i. Click on the turnpoint and drag the mouse to the nearest Emergency Divert (Round to nearest degree and NM)
   c. Write down the airport 3 letter ID, bearing, and range FROM the turnpoint TO the field for step f.
   d. Repeat for all turnpoints.
   e. Switch to Tabular View
   f. In the Desc box, enter the divert info for each TP (ex: 1R8 022013). Hit enter after typing in the description.
   g. Remove the Analysis Tool file (.jat file) from Open Planning Data (Left Side)
      1. Right Click – Remove from view or Close (Do not save)
   e. Remove the Divert Drawing file (OverviewT6.drw file) from Open Planning Data (Left Side)
      1. Right Click – Remove from view or Close (Do not save)

7. Organize doghouses
   a. Zoom into TPC Scale and adjust the location of your Doghouses
      i. Select the Route Editor, Arrow Pointer
      ii. Move your Doghouse
   b. Save your .jrt file!
8. This step is optional, but WILL save time:
   a. Open M:/MasterTemplates/Master Drawing file.
   b. Save Master Drawing file as S:/StudentFolder/(Your class number)/(Your folder)/ “Last Name VNAV X”.
   c. Cut and paste from the provided drawings/textboxes.

9. Build Text Boxes for Turnpoint Labels and Times
   a. Select the Drawing Editor, Select the Text Tool and Draw a Text Box
   b. Right click on the Text Box and select Edit Properties for Drawing Text
   c. Type the required text (Use Ctrl+Enter to move to the next line)
      i. Enter the appropriate TP Labels and Times
         00+00 A   07+30 B   15+37 C
      ii. Get the times from your draft route card that was printed earlier
         Make sure you enter the correct times!
         If you change your route at all, these times will be wrong!
   d. Color White, Background Color Black
   e. Background: Outline
   f. Font: 36
   g. Angle: Heading of Previous Leg
   h. Scale to Map, Rotate With Map
   i. Position the Text Box outside your route corridor
   j. Copy and paste as required for each leg
   k. Save All!

10. Build Informational Text Boxes
    a. Used for MOA calls, FSS calls, conflicting CTAF fields, Emergency Diverts, and other applicable AP1B items
    b. Select the Drawing Editor, Select the Text Tool, and Draw a Text Box
    c. Right click on the Text Box and select Edit Properties for Drawing Text
    d. Type the required text (Use Ctrl+Enter to move to the next line)
    e. Color Black, Background Yellow
    f. Background: Solid Rectangle
    g. Font: 20
    h. Angle: Leg Heading
    i. Scale to Map, Rotate With Map
    j. Position the Text Box outside your route corridor
    k. Copy and paste as required
    l. Save All!

11. Build Ellipses
    a. Used for NSAs, Airfields, No Fly Areas, Hazards/Obstructions within 500’ of route altitude and any other applicable AP-1/B information.
    b. Select the Drawing Editor, Select the Ellipses Tool and Draw an Ellipse
    c. Right Click and Edit Properties for Drawing Ellipse
       i. Click Circle
       ii. Adjust size in NM as required (0.7 nm radius for airfields in route corridor or for hazards w/in 500’. 3.0 nm for noise sensitive areas)
       iii. Color – Red for airfields within corridor and Green for airfields outside corridor.
    e. Search entire route for hazards within 500’ of MSL altitude.
       i. Select Overlay – Overlay Manager – Select ECHUM.
       ii. Place a 1nm, red Ellipse (12c.) around any obstruction within 500’ of MSL altitude inside route corridor
       iv. Copy and paste as required
       v. Turn off ECHUM. Overlay – Overlay Manager – Deselect ECHUM.
    f. Save All!
12. Annotate Crossing Routes (used to draw a green arrow where the conflicting route crosses our route):
   a. (For VNAV flights) To find VNAV crossing routes, Select File – Open – Drawing File – M:\mastertemplates\VNAV Crossing Routes.drx
      i. Ensure your drawing file is on top. Your colors will be highlighted and Crossing Route will subdued.
      ii. Select Drawing Editor, Line Tool, Draw a line on the route center line of the conflicting route leading to your route corridor
      iii. Right Click on the line and Edit Properties for Drawing Line. Color Bright Green, Style Single Arrow (reverse if pointing the wrong direction), Scale to Map, Width – Select maximum thickness
      iv. Keep crossing route arrows outside of route corridor. The arrow should only be on the half the route crosses FROM and point in the direction the crossing route flows.
      v. Label the crossing route with a green background text box similar to previously used informational text boxes.
      vi. Copy and Paste as Required. To adjust the direction of the arrow after pasting, grab the tip or tail of the needle with the mouse and move it. Clicking on the center of the line will drop another point in the line.
      vii. When complete, right click VNAV Crossing Routes.drx in the Open Planning Data (left side), select Close. Do not Save.
   b. Save All!

13. Generate Strip Charts
   a. Zoom out to JNC (1:2M).
   b. Add one long extra route leg. This step ensures JMPS will create enough strip charts to cover all of the desired legs.
      i. Select Route Editor
      ii. Select your last Target
      iii. Add leg
   c. Select Chart Tool
      i. Select Generate Strip Charts
   d. Delete Extra Route Legs
      i. Select the Route Editor
      ii. Click on the extra TP and hit delete
   e. Move your Strip Charts
      ii. Select Snap to Route Leg
      iii. Select Align to Route Leg
      iv. Start from the front of your route and place a Strip on each leg
      v. Ensure you have a Strip for each leg
   f. Delete Extra Strip Charts if required
      i. Click on extra Strips and hit delete
   g. Dim Map if you brightened it after making your Overview ONC
      i. Ctrl <D> four times.
   h. ADD ECHUM NOW, select Overlay – Overlay Manager – Select ECHUM.
      i. Set up Overlay Layers
         i. Overly – Overlay Manager
         1. Set Overlays in the following order
            .cht file
            .jrt file
            .drx file
            Electronic Chum
            Airspace Boundaries
            SUAS Boundaries
j. Print Preview your Strip Charts
   i. Select Chart Tool
   ii. Select Print Preview
      1. Look at each leg and verify you have a strip for each leg and that you are able to view your Route Point
         Labels, Route Times, Doghouses and text boxes. The only items that can overlap are crossing routes, but
         they should extend outside the text box or doghouse.
            a. Double check each leg to make sure no information got cut off. Also check that each leg has
               some amount of chart displayed past the turnpoint.
            b. Double check to make sure you have the required items displayed on your chart.

k. Print Your Strip Charts
   i. **Select Print from the Print Preview Screen**
      1. Select Downgrade
      2. Check Suppress Classification on Printouts
      3. Print Banner - Override

l. Save your .cht file
   i. File - Save As - Save the drawing file as — “Last Name VNAV X”

m. Save All!

15. Opening your saved data
   a. Open your Saved .jrt, .drx, .cht files
      i. File – Open – Route – Select your .jrt file
      ii. File – Open – Draw – Select your .drx file
      iii. File – Open – Chart – Select your .cht file
   d. Avoid having multiple of the same type of files open at the same time
Creating a Jet log/Pilot Card

1. Enter Route Specific Information
   a. Insert all appropriate points for your route of flight. Example: KNPA-(VNAV 5)-RERME-K1R8 in Tabular data.
   b. Set Point type for your departure airfield as ST (similar to setting TGT for the target point).
   c. Select the row with your planned destination airfield then select Leg Editor from the top menu.
      i. Change the Command tab from Standard to Approach.
   d. Change airspeeds for your route of flight. Example: 240T (airspeed) to TEEZY and TRADR.
   e. Change for your route of flight. Example: 10000M (altitude) to TEEZY, TRADR, and RTB.
   f. Set route clock to zero at route entry
      i. Select TP ‘A’ line.
      ii. Click on the Clock button
      iii. Select TPT Clock, 00:00:00, Apply, Exit
   g. Calculate

2. Sanity Check all information! (Headings, distances, fuels, times, etc.)

3. Preparing Pilot Card for your event.
   a. Print your pilot card.
      i. Select “One-Click For Generation” Icon.
      ii. Open Excel form (should appear on bottom bar after generated).
   b. Calculate fuels.
      ii. Fill in Alternate row (use information from JMPS Tabular View and your Pilot Card)
         (1) IMC Divert = Fuel to Divert Field + 50# for Approach (if needed) + 125# on Deck
         (2) VMC Divert = Fuel to Divert + 120# on Deck OR 200#... Whichever is HIGHER
      iii. Fill out BINGO row
         (1) BINGO = Furthest Route Turn Point to Destination IAF + 50#/s + Divert Fuel
         (2) Add blank line after furthest Route Turn Point
         (3) Enter Destination IAF in blank line
         (4) Modify for 10,000’, 240KTAS, and winds at altitude
         (5) Calculate
         (6) Copy down leg fuel
         (7) Delete this line
         (8) Recalculate.
   iv. Calculate and enter MCFs
      (1) Determine spare fuel (Spare Fuel = EFR at Destination Airfield – Divert Fuel)
      (2) Enter Spare Fuel in the blank Spare Fuel cell at bottom right of spread sheet
         a. This automatically subtracts Spare fuel from EFR at each point
         b. MCF at Each Point = EFR at Each Point – Spare Fuel
   c. Manually enter remaining info before your event:
      i. Clear Cells after Destination line
      ii. Delete any extra lines after 14 legs (e.g. lines 36-41). This produces a perfectly sized pilot card.
      iii. Type your aircraft call sign, name, VNAV route, stereo flight plan, preflighted winds
      iv. Add your intermediate checkpoint information (typed or handwritten)
      v. Copy MCF’s to your strip charts.
      vi. Print 2 copies. Give 1 to the instructor.
   e. Save excel file. S:/StudentFolder/(Your class number)/(Your folder)/ “Last Name VNAV X”.