



THE TALON



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OPENING REMARKS

No matter how long you have instructed there is always something new to learn and always something that you can improve upon. The TALON has a long tradition at HT-18 for highlighting areas that may need additional clarification or emphasis. This issue of the TALON is no different. This quarter our focus is on low level navigation. Believe it or not, there are 13 visual navigation aircraft events in the advanced rotary syllabus. Only contact events exceed that number. Even more significantly, navigation events occur across three of the four stages of instruction (CATs II, III, and IV), and every IP in the squadron is eligible to teach them. However, you standardization department has noticed that experience and fleet application greatly influences the quality of instruction and level of knowledge for IPs teaching these events. This creates a situation that contributes to unintended and undesirable variance in instruction. Needless to say, our goal is to minimize this variance and promote a more standardized approach that strictly adheres to FTI procedures while exposing SNAs to Fleet practices and terminology.

Throughout this issue, the squadron stage managers identify current trends in navigation instruction and SNA performance and focus on techniques to reduce vari-

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ance in instruction. We hope that this issue of the TALON begins a healthy discussion on low level navigation in the advanced rotary syllabus. As part of our continual effort at syllabus improvement, we are looking for opportunities to modify the low level navigation events to more accurately reflect Fleet trends. So your input is critical.

As I approach the middle of my tour here in the Eagles' Nest it is a great feeling to work with a great group of professionals. We are doing an excellent job Eagles. Keep leading from the front!

- LCDR Scott "Scotty T" Thompson -

CAT II - Low Level Navigation

"Back to the basics, Back to the FTI"

Recently, some common trends have been noted during the Low Level Navigation stage resulting in a departure from Flight Training Instruction (FTI) procedures. The most notable deficiencies include chart preparation, smart packs, low level navigation brief, and fuel planning.

Chart Preparation

Most of the following is directly from the FTI. However, the deficiencies need to be corrected by the IP and should include amplifying information from the cadre of fleet experienced aviators. Chart updating via eCHUM, bingo and continuation fuels, proper doghouse placement and use, chart labels and course rules markings are all areas of concern and should be specifically clarified by the instructor when necessary.

Back in the day, charts were updated with a master

hazard chart (MHC) which was updated via wire checks flown monthly. JMPS provides the "next generation" MHC. The importance of an up to date chart with all the newest towers and obstacles needs to be impressed upon the next generation of students to ensure they understand this key aspect of chart preparation.

Go/No-Go fuel state, pulled from the route card, shall be included in the doghouses for each checkpoint (CP) to ensure proper fuel requirement considerations. Furthermore, the doghouses should not be positioned so close to the route that they cover important features.

Bingo fuel checkpoint labeling has also been insufficient with respect to FTI requirements. The Bingo Fuel CP circle must be highlighted in pink for easy recognition. The CP circle must have an arrow coming off of it pointing to the appropriate course rules arrival CP. A box next to the CP should be placed on the chart with the name of the

course rules CP, magnetic heading, distance, and time. This should be highlighted with pink highlighter as well, unless the chart is laminated.

All CP symbols are marked using a fine tip black marker. Students have commonly left off the Map changeover point (MCP) and triangle LZ markings. Another common trend is not labeling the course rules and route CPs. For example Deaton Bridge CP should be labeled "Deaton Bridge" beside the circle. Each route CP should be labeled the CP number and description, "1. McDavid Intersection". These small details will aid in the student's navigation and mission accomplish, and will instill good habits in our developing naval aviator.

A recommendation from CAT II Stan is to put time/distance/heading on the chart for each course rules CP up to CP 1 of the route to be flown. No doghouse is required as they may clutter the chart. The SNA is required to brief course rules from NASWF, or point of departure, to the route including time/distance/heading, airspeed and altitude. This information will aid the briefer during the brief and the flight. Another recommendation is to put any radio frequency and transponder changes on the chart where they occur. For example, at Pt Pond, off to the side write "1200, BT 9", indicating a squawk change to VFR, and UHF change to monitor Pace OLF. Again, this will aid in the brief and during navigation.

Smart Pack

The only requirement on N43 and N44 Low-Level Navigation syllabus events are the JMPS route card (NASWF-Course Rules-Route-NOLF-NASWF), kneeboard grade card and a completed weight and balance sheet. CAT II Stan recommendation is to add a cover sheet (smart card) and a route only route card (ie CP 1 to CP 10). Instructors, ensure the Smart Pack pages are numbered on the bottom center of each page for the smart pack inventory.

Briefing Expectations

Many different briefing styles and techniques are introduced due to an instructor corps made up of Navy, Marine Corps, Coast Guard, and International instructors. It is the content that needs to be standardized. The FTI establishes guidelines for the SNAs to build their low level navigation brief.

During the Execution section of the brief, following 'Concept of Operations', the SNA should simply name the route to be flown and altitude (ie "We will fly the Green Route forward at 500' AGL.") This is not the time to go into any detail of course rules or the route to be flown. That will come during the Scheme of Maneuver.

A common trend with SNAs is to gloss over, or insufficiently brief, course rules to the first CP of the route.

Specific course rules to the route shall be briefed in detail starting at the departure from NAS South Whiting Field. The course rules will include, but are not limited to, Time/Distance/Heading, airspeed and altitude. The SNA should brief, in chronological order, any radio frequency, transponder, airspeed, or altitude change during the Scheme of Maneuver.

Instructors need to reemphasize the importance of a good landing zone (LZ) brief. Often, aircrew will not see the LZ for the first time until on short final. A thorough pre-mission LZ study must be conducted and briefed in detail. Brief the terminal procedures on how to enter the landing pattern at the LZ. Also brief the NATOPS' Landing Site Evaluation, five major considerations in evaluating the landing area. (Acronym: HOST WE PAID)

1. Height of Obstacles
2. Size and topography of the Landing Zone
3. Possible Loss of Wind Effect
4. Power Available
5. Departure Route

As Low Level Navigation Instructors, we must coach the young officers to develop a battle rhythm to briefing a route. There is a skill to it which requires a template to be applied from checkpoint to checkpoint. Ensure students include clock code, back-up heading, distance, time, intermediate checkpoints, aim points, funneling features, and finally limiting features. If the SNA briefs each checkpoint using the same template, the flow of the brief and content will improve.

The last topic to discuss with regards to the brief is the recent trend of SNAs not having all checkpoints on a chart for the brief and the flight, to include the departure checkpoint, normally NASWF. The Munson 1:50,000 chart does not include NASWF, so the Pensacola JOGAIR chart is required to brief the entire route, including the map change over points.

Low Level Fuel Planning

As previously discussed, SNAs are not consistently using the fuel calculations from the route cards. In addition to including the running Go/No Go fuel in the dog houses, SNAs navigating must include fuel state in the 6 T's at each checkpoint. Current fuel quantity should be checked against the go/no go fuel to determine if the mission can be continued as briefed. If aircraft fuel load is below the running go/no go fuel (also referred to as the "ladder") at any point on the route, consideration to change the route or request an adjusted time on target must be made.

Go-No-Go is the minimum fuel necessary to complete the mission (course rules, route and landings at the NOLF) and land at NASWF with the NATOPS minimum of 10 gallons. Mission fuel is the fuel required by the mission commander to complete the mission (course rules, route and landings at the NOLF) and land at NASWF with the NATOPS minimum of

10 gallons plus extra fuel desired by the mission commander. An example would be extra contingency fuel to shoot an instrument approach if weather degrades. SNAs should be putting thought into their mission fuel calculations and not just using the SOP TH-57C fuel load of 70 gallons. Bingo fuel is the minimum calculated fuel state necessary to arrive at the closest fuel source with NATOPS minimum fuel. In the training command, bingo fuel is determined from the farthest checkpoint on the route to NASWF via VFR course rules entry point. Bingo fuel is calculated at 27 GPH fuel flow with Max Range Airspeed (approx. 115 KIAS). Finally, even if NATOPS minimum fuel is planned for,

oftentimes the go/no-go needs to be adjusted to remain above RWOP minimum fuel when leaving the OLF.

Low Level Navigation Conclusion

The common trend with all topics discussed above is the lack of attention to detail and adhering to procedures and guidelines published in the Navigation FTI. Instructors and Student Naval Aviators need to read the FTI and make it the foundation for planning, briefing, and executing low level navigation flights.

CAPT Peter "Jacko" Hughes &

LT Kevin "CheeEEse" Goettsche

CAT III - Form Low Level VFR Navigation

Formation and "C" Tactics Instructors,

In this edition of the TALON I will focus on the HELICOPTER FORMATION BRIEF (ref CNATRA P-459 (Rev. 04 -11) para 602.

The formation brief is a key element of the pre-mission planning process and lays the foundation for a successful flight. The Formation Stage maneuver item file for the Formation NATOPS/Mission Brief is a +4 item and the standard for this (straight out of the MPTS) is "Executes procedures IAW current FTI with minimal errors." Kind of subjective wouldn't you say? The SNAs have been given the tools to succeed if they made it through the low-level briefs and should already be capable of a +4. That being said listed below are some of their most common errors and things we as CAT III instructors should be looking for:

Presentation: Both SNAs should stand for the entire brief. Lead briefs 1st half (Orientation through IIMC) Wing briefs 2nd half (Lost contact through Command and Signal) ensure SNAs swap each day even if they don't fly to ensure SNAs are proficient with both portions of the brief. Critique on delivery and overall appearance: proper use of visual aids JOG, FORM Area MAP, Harold OLF diagram, use of verbal crutches (ummmm, ...) and nervous tics, eye contact or lack of (indicates familiarity with the material), speak too slow/fast, too loud/quiet, open zippers on flight suit, unpolished boots, laces out, and proper use of pointer: use it effectively then put it down to avoid distractions. Notes are acceptable, script is not. EPs shall be repeated verbatim per the FTI.

Time Hack shall be conducted during every brief with at least 30 sec prior IAW FTI.

Call signs should be "Politically Correct." A good measuring stick is to ask yourself would you feel comfortable

explaining your decision making process with the XO/CO?

Smart packs should be professional and neat in appearance: Smart Packet Inventory at a minimum: Cover page, grade sheet, and weight & balance; may add Formation Area Map and Harold OLF diagram. Standardize size of all sheets and one staple strategically placed in the upper left-hand corner, talk about all pen and ink changes if necessary and be sure to number all pages 1 of 4, 2 of 4, 3 of 4, etc...

The area brief should follow a logical sequence, for example: clockwise starting at the town of Harold ... For the obstacles brief, ensure the SNAs discuss ABCTRP and how they plan on mitigating each. Towers should be briefed in MSL for F4001-3 & in AGL for the F4101 (apple to apples).

Pet Peeve... It's "Scheme of Maneuver" not Scheme of Maneuvers. For training purposes make sure the SNAs utilize "T times" instead of planned takeoff times. The FALCON Method should be used IAW INST/NAV FTI. Brief each initially and only thereafter if it changes. i.e. Formation - Taxi from spots in trail to hold short, after cleared for T/O maneuver to the appropriate spot and set up in cruise formation for departure (wing on the wind).

Landing site Terminal Area Brief should be evaluated and briefed utilizing NATOPS CH 17. (HOSTWEPAID).

NATOPS by Exception: This will be separate from the mission brief; in the fleet during mixed operations this process is useful for the crews of varying platforms to address NATOPS/SOP issues specific to their airframe and community.

Let's continue to hold the SNAs to a high standard, give good feedback after the brief and encourage them to aim for the 5 by the end of the block. Next edition we'll tackle the nuances of the F4001 flight itself.

LT Andrew "Burnsides" Kirkpatrick

CAT IV - NVG Low Level VFR Navigation

VFR Low Level Navigation utilizing NVGs is a fundamental skill that each and every SNA must achieve, IAW MPTS, prior to the end of the NVG Stage. As with all VFR Navigation briefs, the briefer should endeavor to paint a picture for the audience as they brief the route from CP to CP. The most common error for SNAs in the NVG stage is to brief the route in the same manner as they did during the day. In fact, those students who incorporate the NVG Performance Factors of Illumination, Terrain Contrast, and Atmospheric Obscurements into their description of the route invariably have better success in the aircraft than those who do not. This, of course, requires the SNA to invest some time in “chair flying” the route utilizing that night’s SLAP data and weather forecast. The extra time spent with chart familiarization will pay dividends for the SNA in reducing the uncertainty that invariably springs up when the NVG scene does not appear exactly as they envisioned. Those moments of uncertainty, coupled with the added complication of trying to maintain chart-to-ground and ground-to-chart continuity in a dark cockpit, are most often the causes of disorientation during NVG Low Level Navigation.

Regarding CP and route selection, the FTI is clear: CPs should be easily identifiable from the air, and should be terrain features rather than man made. In order to fulfill this requirement, the NVG Performance Factors must be considered. IPs should encourage SNAs to attempt to utilize a wide range of CP types, both terrain and cultural, under various ambient conditions with the goal of exposing them to as much as possible prior to sending them off to the FRS. It is in this interest that at HT-18 we have typically placed an emphasis on having the SNA fly one Low Level Navigation route within an area with dense cultural lighting (typically to the West, south of I-10 around Foley and Fairhope, Alabama), and one route within an area devoid of cultural lighting (typically in the Eastern Operating Area north of the

town of Crestview). Further exposure to landing site evaluation in an urban environment can be achieved by adding the hospital fam to the V4003, following completion of the Green Route (hospital fam north to south, then RTB via the East Bay and Pt. Echo).

The most common deficiency in flight for SNAs is engine/transmission instrument awareness. In the NVG Stage, Groundspeed/Fuel Checks are not a specific graded item. So, can we deduce that there is no requirement for the SNA to know what his/her actual fuel burn rate is, or whether he/she has enough fuel to continue the mission at each CP? I have even been challenged on this point by SNAs who were aware Groundspeed/Fuel Checks were not on the card. Further, what is the planned fuel burn rate? The FTI states that Bingo Fuel is “calculated at 27gph fuel flow...” The fuel burn rate for *enroute* portions, however, must be derived from the appropriate NATOPS performance charts.

Keeping track of your fuel burn rate, and comparing that to the planned fuel burn rate is a basic aviator requirement. However, in the interest of standardization, and ensuring we stay within the bounds of MPTS and CTS, how, as an IP, do I grade this proficiency? Under CTS item number 78, VFR Navigation, the first standard is “Accomplishes mission IAW FTI and FAR/AIM.” Fuel requirements are defined on page 1-28 of the Instrument/Navigation FTI for Low Level Navigation. Additionally, if the SNA does not have awareness regarding fuel burn during the event, this degraded situational awareness could easily fall within the Headwork/Situational Awareness CTS, under the standard of “Foresees and avoids possible difficulties” (i.e., “I’m burning fuel at a faster rate than I planned, and now I don’t have enough fuel to complete the mission.”). Utilizing the 6Ts technique, modified if necessary, can prevent losing this SA.

LT Rob “Wrecks” Belflower

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