



**DEPARTMENT OF THE NAVY**

COMMANDER  
TRAINING AIR WING FIVE  
7480 USS ENTERPRISE STREET SUITE 205  
MILTON, FLORIDA 32570-6017

IN REPLY REFER TO:

COMTRAWINGFIVEINST 3710.19A CH-1  
Code N7  
29 Jan 16

COMTRAWINGFIVE INSTRUCTION 3710.19A CHANGE TRANSMITTAL 1

Subj: PERSONAL ELECTRONIC KNEEBOARD IN-FLIGHT AUTHORIZATION AND  
GUIDANCE

Encl: (3) Advanced Rotary-Wing Student Naval Aviator EKB Procedures

1. Purpose. To provide change 1 to enclosure (3) of basic instruction. Change 1 provides authorization of additional Advanced Helicopter flight events for Student Naval Aviator (SNA) Electronic Kneeboard (EKB) utilization.

2. Action. Replace Enclosure (3) to basic instruction.

  
G. A. KLING

Distribution: 5216.1U

List I (b), List II (a-c,e-g,i,k-t), List III (i)



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7480 USS ENTERPRISE STREET SUITE 205  
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COMTRAWINGFIVEINST 3710.19A  
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### COMTRAWINGFIVE INSTRUCTION 3710.19A

Subj: PERSONAL ELECTRONIC KNEEBOARD IN-FLIGHT AUTHORIZATION AND GUIDANCE

Ref: (a) COMNAVAIRSYSCOM PATUXENT RIVER MD 182006Z May 15  
(Multiplatform Interim Flight Clearance for Portable Electronic Tablets)  
(b) NAVAIR Electromagnetic Compatibility Safety of Flight Test Checklist: T-6B  
(c) NAVAIR Electromagnetic Compatibility Safety of Flight Test Checklist: TH-57 B/C

Encl: (1) TW-5 Electronic Kneeboard Best Practices Guide  
(2) Leg Strap Fit Check Criteria  
(3) Advanced Rotary-Wing Student Naval Aviator EKB Procedures

1. Purpose. To provide authorization and guidelines regarding the utilization of tablets as an Electronic Kneeboard (EKB) while airborne in Training Air Wing FIVE (TW-5) aircraft.

2. Cancellation. COMTRAWINGFIVEINST 3710.19.

3. Applicability. All T-6B and TH-57B/C Instructor Pilots (IPs), Contract pilots and Instructors-Under-Training (IUTs) are authorized to use personal electronic tablets as an EKB while airborne. TH-57 Advanced Helicopter Student Naval Aviators (SNAs) are permitted to use an EKB while operating in TW-5 aircraft and simulators as outlined in enclosure (3). T-6B SNAs are not permitted to use an EKB while in TW-5 aircraft or during simulator events.

4. Background. It is well documented within the aviation industry that tablet use in the cockpit, when used appropriately, can reduce pilot workload, increase efficiency, and improve situational awareness and safety. Until EKBs become a funded program, EKB usage will remain voluntary and all equipment and programs required will be personally procured and maintained. Reference (a) is the NAVAIR PMA-281 Interim Flight Clearance (IFC) which details the requirements regarding the safe in-flight use of an EKB. This instruction provides additional limitations as well as best practices that can be applied to increase user EKB effectiveness. The EKB can be an effective mission tool, however, it must be emphasized it is not a replacement for sound judgment and proper airmanship.

## 5. Limitations.

a. NAVAIR PMA-281 maintains the list of approved tablet models. Due to the space limitations in the T-6B and TH-57B/C cockpits, tablet width (when outside of case) shall not exceed 5.5 inches. Only those tablets that have been authorized for use by TW-5 are permitted to be used as an EKB. The TW-5 authorized tablet list can be found on the TW-5 website, under Site Index.

b. Per reference (a), all new tablets shall pass a one-time Electromagnetic Compatibility (EMC) Safety-Of-Flight-Test (SOFT) prior to being added to the TW-5 tablet authorization list. References (b) and (c) shall be used to conduct the EMC SOFT in TW-5 aircraft. All EMC SOFT events shall be coordinated and conducted by the TW-5 N7 Department.

c. Tablets must be in positive control at all times while in the aircraft. A tablet, when used as an EKB, shall be secured with a leg strap to either thigh or stowed during all critical phases of flight and during dynamic maneuvering. Commercial Off-the-Shelf (COTS) leg straps are authorized for use provided the secured tablet does not interfere with flight control movement or inhibit the ability to safely fly or egress from the aircraft. The TW-5 authorized leg-strap list is updated routinely and can be found on the TW-5 website, under Site Index. Enclosure (2) details the leg strap fit check criteria that shall be used to identify additional authorized leg straps.

d. All EKB users are required to maintain current electronic Flight Information Publications (FLIP) and ensure the tablet is in good working condition prior to inflight use. Additionally, only applications or programs directly related to the flight shall be used while in the aircraft. A list of authorized in-flight programs can be found on the TW-5 website, under Site Index.

e. As outlined in reference (a), EKBs are not authorized as the primary or sole means of air navigation. EKBs, however, may serve as the primary source of FLIP documents (approach plates, charts, etc.) provided paper FLIPs are readily available to all aircrew for the entire route of flight.

f. EKBs are authorized while wearing Night Vision Goggles provided a NAVAIR approved Night Vision (NVIS) filter is utilized. Reference (a) provides a list of approved NVIS filters.

g. All EKB users shall be familiar with and abide by the requirements of the most current IFC not addressed by this instruction. In addition, all EKB users shall familiarize themselves with all airframe related Warnings, Cautions, and Notes listed in the IFC. The most current IFC can be found on the TW-5 website, under Site Index.

6. Action. Instructor Training Units shall ensure all new IUTs are briefed on this program during IUT check in. Squadron Commanders shall ensure all squadron IPs using EKBs have read and abide with this instruction and enclosure (1). HT Squadron Commanders shall ensure all Advanced Rotary-Wing SNAs are familiar with this instruction and enclosure (1) and are in compliance with the limitations and procedures outlined in enclosure (3) prior to use in the simulator and aircraft.

  
G. A. KLING

Distribution: 5216.1T

List I (b), List II (a-c,e-g,i,k-t), List III (i)

## **TW-5 Electronic Kneeboard Best Practices Guide**

The Training Air Wing FIVE (TW-5) Electronic Kneeboard (EKB) Best Practices Guide is designed to provide EKB users useful and relevant information regarding the safe and effective utilization of personal tablets while airborne. Any questions or concerns regarding the EKB program may be addressed to your squadron EKB representative or TW-5 Training Department.

### **1. Authorized tablets.**

a. NAVAIR PMA-281 maintains a current list of approved tablets, however at TW-5, the authorized tablets must be: approved by NAVAIR, be less than 5.5" wide (outside of protective case) and have completed a successful Electromagnetic Compatibility (EMC) Safety-Of-Flight-Test (SOFT) conducted by TW-5 Training Department. The TW-5 authorized tablet list can be found on the TW-5 website, under Site Index.

b. Additional tablets may be added to the list. Submit new tablet authorization inquiries to your squadron EKB representative.

### **2. Tablet cases.**

a. It is highly recommended that you protect your tablet with a case. There are many to choose from however, ensure the leg strap you use is compatible with the case.

### **3. Authorized leg straps.**

a. Leg straps are required for all tablets and when attached to the thigh, the leg strap must not interfere with flight control movement or inhibit the ability to safely fly or egress from the aircraft.

b. The authorized leg strap list is updated routinely and is located on the TW-5 website, under Site Index. Additional leg straps may be authorized provided that they pass a fit check to ensure compatibility in the aircraft. See your squadron EKB representative for a fit check.

### **4. Authorized in-flight programs.**

a. A list of authorized in-flight programs is available on the TW-5 website, under Site Index. These programs are essentially designed to view Flight Information Publications (FLIP) and charts in an electronic format that can be viewed in flight. Speak to your fellow instructors, your squadron EKB representative or contact the program manufacturer for more information.

**5. Learn and understand the in-flight program.**

a. When you download one of the in-flight programs, ensure you read the program's application guide to thoroughly learn how to properly use the program. There may also be useful online tutorials available, use them. Contact your EKB representative for questions regarding these in-flight programs.

b. Practice with your tablet on the ground prior to using it in the aircraft. Know how to quickly bring up your electronic FLIP publications. Don't wait until you are in-flight to learn how to use the program.

c. Periodically, flight programs will provide updates to fix bugs, enhance the program, add new features, etc. After downloading the update, run the application before the flight to review for any program changes.

**6. Know your tablet before you fly.**

a. It is vital that you understand how to use your tablet. Avoid excessive "heads down" time while using the tablet in-flight. Know and understand your tablet functions and how to use them prior to executing a flight with an EKB. Avoid becoming oversaturated with too much information or confused as to how to properly operate the device. Remember your primary source of navigation is the aircraft. The tablet is simply an e-reader and is there to reference FLIP publications.

b. When a software update for your tablet is ready to download, ensure you check with your in-flight program to ensure the program is ready to update as well. Some programs may not work the same as they used to with updated tablet software. After a tablet software update, ensure you review the flight program before you use it on your next flight.

**7. Prevent glare on your tablet screen.**

a. Although not required, an anti-glare shield can be attached to the tablet screen to help minimize the amount of glare.

**8. Monitor for Electromagnetic Interference (EMI).**

a. EMI (electromagnetic interference) is defined as the disruption of an operation of an electronic device when it is in the vicinity of an electromagnetic field (EM field) in the radio frequency (RF) spectrum that is caused by another electronic device. EMI can occur with the aircraft systems, radios, or even with the tablet.

b. In the event the tablet or aircraft is affected by EMI while airborne, immediately turn off the device and then on post-flight

report the EMI occurrence to TW-5 N7. With the tablet off in-flight, default to your paper FLIP publications.

**9. Maintain the airworthiness of your tablet.**

a. Tablet airworthiness is the responsibility of the pilot.

b. Ensure your FLIPs are always current. A tablet is not to be used with expired publications. Update your tablet prior to the expiration date. If the publications are expired, you cannot use the tablet as a FLIP document source while in-flight. Use your paper FLIPs until the program is current.

c. Prior to launching on a CCX, ensure you have downloaded all of the necessary FLIPs for your entire route, including divers that may be located in a different state.

d. Prior to executing a flight with your tablet, ensure all of the local airport information is downloaded and available for quick access.

e. If the tablet program locks up in-flight, turn off the program or try rebooting the device. If on approach, immediately default to your paper FLIPs or discontinue the approach.

**10. Do not let your device distract you.**

a. Remember, this device is simply an e-reader. Do not allow the device to distract you from your primary in-flight responsibilities.

b. Do not use any unnecessary programs while in the aircraft.

**11. Night utilization.**

a. At night, dim your screen to the lowest level to prevent excessive light in the flight station. Set your device brightness first before using the flight applications dimming feature (if installed).

**12. Save your battery power.**

a. A minimum amount of battery power prior to flight is not required however, if the tablet's battery were to run out while in-flight, default to your paper FLIP publications. Recommend launching with at least 50 percent battery life for one leg, 75 percent for two.

b. When you are not using the tablet for an extended period of time, turn off the screen or place the tablet into standby mode to conserve battery power.

c. Prior to flying with your tablet, close all unnecessary programs that may be running in the background. This will help speed up the tablet's processing power and extend battery life.

d. Ensure the 3G/4G/LTE cellular data, Bluetooth and Wi-Fi are selected to off. Placing the tablet into airplane mode will also turn off the Global Positioning Satellite which is required for some in-flight program's geo-referencing features.

e. Consideration should be given to charging your tablet during stopovers to maximize your available in-flight battery power. While some Fixed Base Operators (FBO) are now equipped with battery chargers, recommend bringing along your own charger for quick re-charges between flights.

**13. Don't let the tablet overheat.**

a. Overheating is more likely when the tablet screen is facing directly into the sunlight. When not in use, keep the sun off the tablet screen by either closing the cover, aiming available air gaspers towards the tablet, securing the tablet in the map case or simply cover the tablet with a checklist or chart. If the tablet overheats, secure the device and default to your paper FLIPs.

**14. Avoid the unnecessary rotation of the screen.**

a. Use the rotation lock function on your tablet to prevent your screen content from rotating to landscape mode.

**15. Use authorized fingerless gloves.**

a. Only authorized fingerless gloves are allowed. See your squadron supply department for issuing. Self-made fingerless gloves are not permitted.

**16. Secure your tablet when complete with your flight.**

a. Keep your tablet under positive control at all times. Be mindful as to where you leave your tablet after your flight. If you are charging the tablet at a FBO, recommend that you don't let it out of your sight.

**17. The tablet is also a great source for all of your flight instructions.**

a. Download all of your necessary instructions, publications, forms, etc. for quick view on your tablet. With all of your FTIs available on your tablet, you can quickly access an FTI during briefs and debriefs. Curriculum guides are also available for download and can also be used during debriefs as a quick reference for grading criteria, maneuver standards, warmup criteria, discussion items, etc.

b. Remember that the tablet is not a replacement for your required in-flight paper publications including the NATOPS Pocket Checklist, etc.

**18. Record your flight event (if installed).**

a. Some of the available flight programs have an option to record the flight path which can be viewed after the flight and can be used as a debriefing tool.

**19. Filing with your tablet (with internet connection).**

a. Many flight programs are capable of filing a flight plan for you. This is a convenient tool as it provides an easy method of submitting a flight plan.

b. Keep in mind that for all flight events beginning at a military airfield, a DD-175 flight plan or approved canned route must still be submitted to Base Operations (including a DD-175-1 weather brief or CR weather brief).

**20. Moving map functions and GPS features.**

a. Many flight programs provide a moving map feature that uses the tablet's internal GPS to track the aircraft's current position. This is a great tool as it can give you a quick reference of your position relative to hazardous terrain, airspace, flight route, etc.

b. Recommend using at least a 1-2 nm buffer between you and any nearby airspace. This will help prevent you inadvertently entering airspace you have not been cleared into.

c. Some VFR sectional are overlaid on each other requiring you to zoom in to see the Terminal Area charts. In addition, zooming in too close can lead to you missing vital chart information located on the Sectional.

**21. Weather features.**

a. Many flight programs provide detailed weather briefs that can be used for preflight planning purposes. However, it is still the Pilot In Command's responsibility to comply with OPNAV 3710 weather briefing requirements.

b. Use the tablet's built-in screen capture tool to capture radar and/or satellite imagery.

## Leg Strap Fit Check Criteria

The leg strap fit check is designed to verify a specific Commercial-off-the-Shelf (COTS) leg strap properly secures an Electronic Kneeboard (EKB) to either thigh when positioned in a TW-5 aircraft. A list of authorized leg straps may be found on the TW-5 website, under Site Index. Those leg straps that are already on the list do not require additional fit checks provided the user ensures the leg strap adequately secures the tablet to the thigh. New leg straps that are not on the list must be first approved by a squadron EKB representative, TW-5 Training Department or the TW-5 Aeromedical Safety Officer.

### Fit Check

The fit check may be conducted outside of the aircraft, however, if there is any doubt of the compatibility of the leg strap then the check should be conducted in the assigned aircraft, with G-suit worn (T-6B).

1. Leg Strap attachment must fit securely around either thigh (including a G-suit).
2. A G-Suit strap is not to be used to secure a tablet to the thigh.
3. Velcro or plastic leg strap buckles are authorized. Metal leg strap buckles are not authorized.
4. Secured tablet must not be able to move or slide around excessively and remain physically secured to either thigh.
5. Secured tablet does not prevent full throw of all flight controls or prevent access or the visibility of side panels, power lever, circuit breakers, etc.
6. Leg strap does not have any potential FOD issues.
7. Leg strap is easy to remove in the event of an emergency egress from the aircraft.

Once a fit check is complete, the squadron EKB representative will submit the name of the leg strap and the fit check results to the TW-5 Training Department via email to be added to the list of authorized leg straps.

## Advanced Rotary-Wing SNA EKB Procedures

### *-Maintain and Review in HT Briefing Spaces-*

Advanced Rotary-Wing SNAs are permitted to use an EKB as outlined in the 3710.19 series and the following limitations and procedures outlined below while under IP discretion. The intent of this policy is to provide the Advanced Rotary-Wing SNA an opportunity to use and gain exposure to EKB technology prior to use in the Fleet. The primary purpose of the EKB for SNAs is to access FLIPs, specifically approach plates and charts. The EKB can be an effective training tool for the SNA. However, **the expectation is that the SNA shall be able to perform all maneuvers to MIF using paper FLIPs. The SNA shall not use the EKB to make up for insufficient situational awareness or proficiency in using paper FLIPs. If and when the IP has any doubt about the SNA's ability to do this, the IP should direct the SNA to secure their EKB.**

All HT squadrons and contract simulators shall maintain this enclosure at all briefing spaces and it is to be reviewed and briefed prior to any flight event when an EKB is to be used by an SNA.

### **Limitations**

1. SNA EKB use is permitted during the following CNATRA 1542.156 series syllabus events.
  - a. I3201-4C SIM
  - b. I3301-5C SIM
  - c. I3401-1C SIM
  - d. I4301-4 FLT
  - e. I4401-4 FLT
  - f. N4001-3 and N4101 FLTs
  - g. I4501-4 FLT
  - h. I4690 FLT
  - i. I4701 FLT (Only if the SNA has demonstrated proficiency with their EKB on graded events; this shall not be an SNA's first flight with an EKB.)

## **Advanced Rotary-Wing SNA EKB Procedures**

1. SNA shall provide and be prepared to use paper FLIPs at any time during the brief or flight.
2. SNA shall request to use the EKB during the brief.
3. SNA shall have read and be in compliance with the limitations and procedures as outlined in the TW-5 EKB Instruction, COMTRAWINGFIVEINST 3710.19 series, to include an understanding of all Notes-Cautions-Warnings as outlined in NAVAIR's most current Interim Flight Clearance (IFC). The most current IFC can be located on the TW-5 website, under Site Index, EKB program.
4. SNAs shall demonstrate to the IP sufficient knowledge of the functionality of their EKB and approved programs prior to the flight including the following:
  - a. Verify all EKB FLIPs are current and downloaded.
  - b. Flight program access and FLIP access to approach plates and charts.
  - c. Turning on/off geographical positional referencing (GPS).
  - d. Dimming tablet screen (Night Ops).
  - e. Turning on/off Airplane mode.
  - f. Utilization of the leg strap. (First flight only).
5. SNAs may use geographical positional referencing only if permitted by the IP.
6. IP has the discretion to direct the SNA to secure their EKB and default to paper FLIP publications at any time during the flight.
7. SNA observers may use EKBs during any flight in the syllabus to maintain situational awareness. Observers must understand that their primary duty is maintaining a see-and-avoid scan.
8. SNAs acting as copilots during the N4201 and I4701 student solos may use EKBs.